Gesamtkatalog Ventilatoren 2009

Ventilation Products for Building Services 2009

wolter

Weitere Produkte aus dem Wolter-Programm.
Additional products from the Wolter range.

Zentralabluftsystem ecoVent
ecoVent Central Air-exhaust System
Katalog / Catalogue W10

Special Application Fans

eVent Rahmenlose Kompakt-Klimageräte
Frameless Compact Air-Handling Units
Katalog / Catalogue K04

Impulsventilatorensysteme zur Tiefgaragenbelüftung
Car-park Jet Fans

Tunnel Strahlventilatoren
Tunnel Jet Fans
Katalog / Catalogue T14

Metro an Tunnel Ventilation

Garagenbelüftungsgeräte / Doppelstufige Axialventilatoren
Car-park Exhaust Fans / Double-stage Axial Fans
Katalog / Catalogue G05

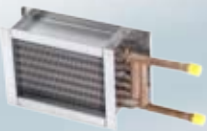
Keilriemengetriebene Radialventilatoren
Belt-driven Centrifugal Fans
Katalog / Catalogue M08

CHEM
Chemical-resistant Centrifugal Fans
Katalog / Catalogue R05

Zuluftgeräte
Slim Air-supply Units
Katalog / Catalogue K02

Wärmerückgewinnungsgeräte
Heat-recovery Units

WMF
Mixed-flow Fans



Gerätenormteile und lüftungstechnisches Zubehör
Standard Components
Katalog / Catalogue K02

Brandgas-Axialventilatoren
400° C/2h, 300° C/1h (D/N EN 12101-T3)
Smoke-extract Fans

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Irrtum und technische Änderungen vorbehalten. – Subject to change without prior notice.

Wolter - Ihr kompetenter Partner in der Luft- und Klimatechnik.
Your competent partner in ventilation and air-conditioning.

- Seit 1971 entwickelt und fertigt WOLTER Ventilatoren und lüftungstechnische Geräte für den internationalen Markt.
- Sowohl die konsequente Verbesserung bewährter Geräte als auch die grundlegende Neuentwicklung zahlreicher Baureihen kennzeichnen unsere Produkstrategie. Dabei stützen wir uns auf innovative Konstruktionswerkzeuge wie Computational Fluid Dynamics Analysen und die Verwendung neuartiger Materialien und Fertigungsprozesse.
- Unsere Geräte finden in der allgemeinen Gebäudetechnik und in verschiedenen industriellen Bereichen breit gefächerte Einsatzgebiete. Insbesondere die Fähigkeit zur flexiblen konstruktiven Umsetzung der Vorgaben unserer OEM Kunden zeichnen unser Unternehmen aus.
- Durch Niederlassungen und Vertriebspartner sind wir auf den maßgeblichen Exportmärkten präsent. Unsere Vertriebs- und Serviceorganisation unterstützt Sie bei Planung, Ausführung und im Kundendienst. Bereits in der Projektierungsphase sind wir Ihr kompetenter Partner in allen Bereichen der Luft- und Klimatechnik.

Werk und Hauptverwaltung Malsch

ZERTIFIKAT

DIN EN ISO 9001:2000

Wolter GmbH Maschinen- und Apparatebau KG

Qualitätssicherung

Unsere Fertigung ist nach DIN EN ISO 9001/2000 geprüft und zertifiziert und wird somit den hohen Qualitätsansprüchen unserer Kunden gerecht.

Manufacturing facility in Malsch

- Since 1971, WOLTER has been engaged in the design and manufacturing of fans and ventilation products for the international market.
- Our product strategy is characterised by the continued improvement of our well tried products as well as various new developments based on innovative design tools such as Computational Fluid Dynamics analysis, new materials and production technology.
- Wolter products are used both in general building services applications as well as various industrial areas. We are well prepared to custom-design adequate solutions for the differing needs of our OEM customers.
- Through subsidiaries and sales representations, WOLTER is present on all important export markets. Our local sales organisation will assist you during all stages of your project, from design to after-sales service.

CERTIFICATE

DIN EN ISO 9001:2000

Wolter GmbH Maschinen- und Apparatebau KG

Quality Assurance

Wolter is committed to quality assurance and is certified in accordance with DIN EN ISO 9001/2000.

Symbole und Formelzeichen
Symbols and Technical Formula Symbols

Symbol	Bedeutung / Meaning	Symbol	Bedeutung / Meaning	Symbol	Bedeutung / Meaning
	5-Stufen Steuergerät, transformatorisch 5 step transformer control		Drehzahlumschalter Speed control switch		Schaltplan Wiring diagram
	Steuergerät, stufenlos, transformatorisch Stepless transformer control		Geräteausschalter Off-switch		Explosionsschutz Explosion-proof design
	Steuergerät, stufenlos, elektronisch Stepless electronic control		Gewicht Weight	X	Abmessungen Dimensions
	Motorschutzschalter Motor protection switch		Schutzart Protection class		Zubehör Accessories

Symbol	Benennung	Designation	Einheit / Unit
A	Querschnittsfläche	cross-sectional area	m²
c	Strömungsgeschwindigkeit	velocity of flow	m/s
C_{400V}	Betriebskondensator	capacitor	µF
D_2	Durchmesser des Laufrades	impeller diameter	m
d	Rohrdurchmesser	tube diameter	m
d_g	gleichwertiger Durchmesser	equivalent diameter	m
g	Fallbeschleunigung	gravitational acceleration	m/s²
I_N	Nennstrom	rated current	A
I_A / I_N	Verhältnis Anlaufstrom zu Nennstrom	ratio of starting current to rated current	
ΔI	Stromanstieg bei Teilspannung	current increase in component voltage area	%
l	Kanal- bzw. Rohrlänge	duct or tube length	m
L_{PA}	A-bewerteter Schalldruckpegel	A-weighted sound pressure level	dB(A)
L_{WA}	A-bewerteter Schalleistungspegel	A-weighted sound power level	dB(A)
L_{WA2}	Schalleistungspegel zur Umgebung	sound power level to surrounding	dB(A)
L_{WA3}	Ansaugkanalschalleistungspegel	inlet sound power level in duct	dB(A)
L_{WA4}	Ausblaskanalschalleistungspegel	outlet sound power level in duct	dB(A)
L_{WA5}	Freiansaug-Schalleistungspegel	inlet sound power level unducted	dB(A)
L_{WA6}	Freiausblas-Schalleistungspegel	outlet sound power level unducted	dB(A)
n	Drehzahl	number of revolutions	1/min (bzw. 1/s)
P_1	Motoraufnahmeleistung	motor power consumption	kW (bzw. W)
p_{st} (p_{fa})	statischer Druck	static pressure	Pa
Δp_{st}	Differenz der statischen Drücke	static pressure Differential	Pa
$\Delta p_{fa\,min}$	erforderlicher statischer Mindestgegendruck	minimum required counter pressure	Pa
p_d	dynamischer Druck	dynamic pressure	Pa
p_{d2}	dynamischer Druck am Ventilatoraustritt	dynamic pressure at fan outlet	Pa
Δp_d	Differenz der statischen Drücke	dynamic pressure differential	Pa
p_t	Gesamtdruck	total pressure	Pa
Δp_t	Differenz der Gesamtdrücke	total pressure differential	Pa
T	Kelvin-Temperatur	temperature in Kelvin	K
t	Celsius-Temperatur	temperature in Celsius	°C
t_R	maximal zulässige Fördertemperatur	maximum permissable temperature of medium	°C
u_2	maximale Umfangsgeschwindigkeit des Laufrades	maximum circumferential speed of the impeller	m/s
$\dot{V}$	Volumenstrom	volume flow	m³/h (bzw. m³/s)
ρ	Dichte des Fördermediums	density of conveyed medium	kg/m³
η	Wirkungsgrad	efficiency	-
φ	Volumenzahl	volume number	-
ψ	Druckzahl	pressure number	-
ζ	Widerstandsbeiwert	coefficient of drag	-
λR	Kanal- bzw. Rohrreibungsbeiwert	coefficient of friction of duct or tube	-

Strömungstechnische Gesetzte für Ventilatoren

Fan Laws - Proportional Laws

Veränderte Drehzahl bei gleichem Laufraddurchmesser

Speed variation at constant impeller size

- Der Volumenstrom ändert sich proportional zum Drehzahlverhältnis.
- Δ Volume flow ≈ Δ rotational speed

$$\frac{\dot{V}_2}{\dot{V}_1} = \frac{n_2}{n_1}$$

- Die Drücke ändern sich in der 2. Potenz zum Drehzahlverhältnis.
- Δ all pressures ≈ (Δ rotational speed)^2

$$\frac{\Delta p_1}{\Delta p_2} = \left(\frac{n_1}{n_2}\right)^2 = \left(\frac{\dot{V}_1}{\dot{V}_2}\right)^2$$

- Der Kraftbedarf ändert sich in der 3. Potenz zum Drehzahlverhältnis.
- Δ power absorbed ≈ (Δ rotational speed)^3

$$\frac{P_1}{P_2} = \left(\frac{n_1}{n_2}\right)^3 = \left(\frac{\dot{V}_1}{\dot{V}_2}\right)^3$$

Veränderter Ventilatordurchmesser bei gleichbleibender Drehzahl (nur für geometrisch ähnliche Ventilatoren)

Variation of impeller diameter at constant speed (geometrically similar fans)

- Der Volumenstrom ändert sich in der 3. Potenz zum Durchmesserverhältnis
- Δ Volume flow ≈ (Δ impeller diameter)^3

$$\frac{\dot{V}_2}{\dot{V}_1} = \left(\frac{D_2}{D_1}\right)^3$$

- Die Drücke ändern sich in der 2. Potenz zum Durchmesserverhältnis.
- Δ Pressure ≈ (Δ impeller diameter)^2

$$\frac{\Delta p_1}{\Delta p_2} = \left(\frac{D_1}{D_2}\right)^2$$

- Der Kraftbedarf ändert sich in der 5. Potenz zum Durchmesserverhältnis.
- Δ Absorbed power ≈ (Δ impeller diameter)^5

$$\frac{P_1}{P_2} = \left(\frac{D_1}{D_2}\right)^5$$

Veränderung der Luftdichte bei unveränderter Drehzahl und gleichem Durchmesser

Density variation at constant speed and constant size

- Der Volumenstrom bleibt unverändert.
- The volume flow remains constant.

$$\dot{V} = \text{constant}$$

- Die Drücke ändern sich proportional zur veränderten Luftdichte.
- Δ Pressure ≈ Δ Density

$$\frac{\Delta p_1}{\Delta p_2} = \frac{\rho_1}{\rho_2} = \frac{T_2}{T_1}$$

- Der Kraftbedarf ändert sich proportional zur veränderten Luftdichte.
- Δ Power absorbed ≈ Δ Density

$$\frac{P_1}{P_2} = \frac{\rho_1}{\rho_2} = \frac{T_2}{T_1}$$

Druck

Pressure

- Dynamischer Druck [Pa]
- Dynamic pressure [Pa]

$$p_d = \frac{\rho}{2} \cdot v^2$$

wobei:

ρ = Luftdichte in [kg/m³]
v = Luftgeschwindigkeit im Ventilator in [m/s]

where:

ρ = air density [kg/m³]
v = air velocity in fan [m/s]

- Gesamtdruck
- Total pressure

$$p_t = p_{st} + p_d$$

Errechnung des Kraftbedarfs an der Welle

Calculation of shaft absorbed power in duty point

$$P_L\,[\text{kW}] = \frac{\dot{V}[\text{m}^3/\text{s}] \cdot \Delta p_t\,[\text{Pa}]}{\eta \cdot 1000}$$

Schallangaben
Acoustic data

Allgemeines

Beeinflußt wird der Geräuschpegel von der sorgfältigen Ventilatorauswahl, vom Ventilatorwirkungsgrad, der Ventilatorcharakteristik sowie insbesondere der Einbausituation. Es besteht eine strenge Wechselbeziehung zwischen der Schalleistung und dem dynamischen Druckverlust des Ventilators. Grundsätzlich läßt sich sagen, dass die Schalleistung eine Funktion von Volumenstrom und Totaldruck ist.

Dies wird durch folgende Näherungsformel zur Berechnung der Schalleistung zum Ausdruck gebracht:

General information

The sound power level depends on the careful selection of the fan with respect to duty point, efficiency and above all quality of installation. There is a strong correlation between sound power and aerodynamic loss of the fan. Generally speaking, the sound power level of a fan is a function of air volume and total pressure.

This is illustrated by the following approximation calculation:

$$L_{WG}\,[dB] = L_{WS} + 10 \cdot \lg\left(\dot{V}[m^3/s]\right) + 20 \cdot \lg\left(\Delta p_{tot}\,[Pa]\right) \pm 5$$

wobei:

L_{WG} = Gesamtschalleistung

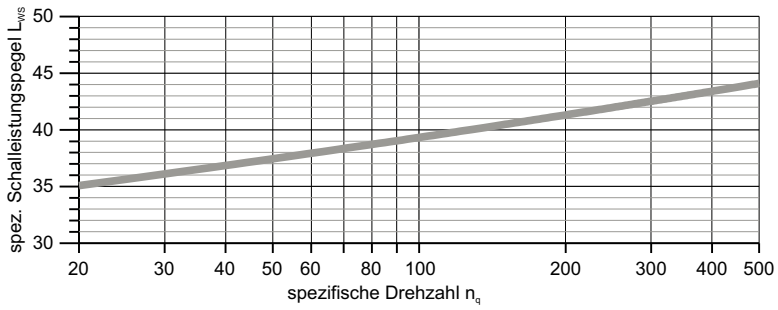
L_{WS} = drehzahlspezifischer Schallpegel gem. Abb. 1 ist.

where:

L_{WG} = total sound power

L_{WS} = specific sound power by speed (see fig. 1)

Abb. 1
fig. 1



$$nq = n[min\text{-}1] \cdot \frac{\sqrt{\dot{V}[m^3/s]}}{\left(\frac{\Delta p_{tot}\,[Pa]}{\rho_m\,[kg/m^3] \cdot 9{,}81}\right)^{3/4}}$$

Schalleistung

Die Schalleistung ist die Leistung welche durch die Schallquelle als Geräusch erzeugt wird. Der Schalleistungspegel wird in der Größeneinheit deciBel (dB) in Bezug auf 1 picoWatt angegeben. Die Schalleistung der Schallquelle bleibt immer gleich, ohne Berücksichtigung des Einflusses der Entfernung oder der Umgebung der Schallquelle auf den Geräuschempfänger.

Sound power levels

This term refers to the power which a source radiates as sound. Sound power levels are expressed in decibels with a reference level of 1 picoWatt. The sound power level of a source remains the same regardless of its environment and the distance to the listener.

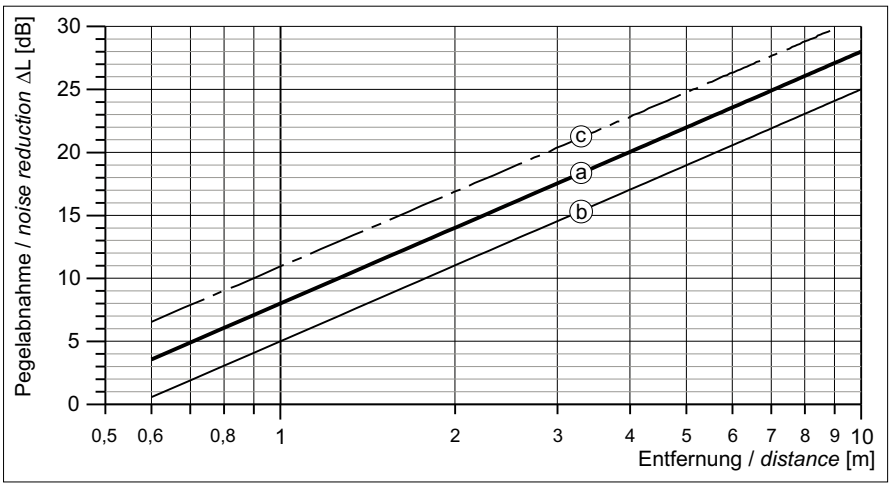
Schalldruck

Der Schalldruck ist die Druckschwankung, welche von der Geräuschquelle ausgeht. Die Größeneinheit ist deciBel (dB), in Bezug auf 20 µPa. Der Schalldruck variiert mit der Entfernung des Geräuschempfängers und mit der Umgebung, in der die Geräuschquelle aufgestellt ist.

Sound pressure level

These are pressure fluctuations generated by a source expressed in decibels with a reference level of 20 µPa. The sound pressure level varies with the distance of a sound source to the listener and its environment.

Abb. 2
fig. 2



Pegelabnahme halbkugel
Sound level reduction half sphere

a: ohne Reflexionen
without reflexion

b: mit Reflexionen
with reflexion

c: Vollkugel ohne Reflexionen
full sphere without reflexion

Frequenzen

Ein Geräusch setzt sich in der Regel aus Tönen verschiedener Frequenzen zusammen. Der Bereich des menschlichen Gehörs liegt zwischen 20 Hz und 20.000 Hz. In der technischen Praxis werden die Werte für die folgenden Oktavbänder angegeben:

(63,) 125, 250, 500, 1000, 2000, 4000 und 8000 Hz.

Jeder Ventilator hat eine eigene Geräuschverteilung über die verschiedenen Frequenzbänder, die als Korrekturwerte bei den Kennlinien angegeben sind. Zur Ermittlung der Schalleistung im Frequenzband wird vom Gesamtschalleistungspegel der Korrekturwert abgezogen.

Frequencies

Sound is split into different frequencies. Frequencies of human hearing range from about 20 cycles per second (Hz) to 20.000 cycles per second (Hz). For practical purposes, WOLTER publishes noise data in eight octave bands with the centre frequencies of

(63,) 125, 250, 500, 1000, 2000, 4000 and 8000 Hz.

Each fan has its own specific correction factor which is to be deducted from sound power according to the octave band and is shown on the buttom line of each perfomance curve.

A-Bewertung des Schalldrucks in dB(A)

Das menschliche Ohr ist in den unterschiedlichen Frequenzbereichen mehr oder weniger sensibel. Über die A-Bewertung wird versucht, den natürlichen Höreindruck nachzuempfinden. Für die A-Bewertung ist eine für jedes Frequenzband festgelegte Größenordnung in Abzug zu bringen. Die logarithmische Addition aller Frequenzbänder ergibt dann den A-bewerteten Gesamtschalldruck.

A-weighted sound pressure level in dB (A)

The human ear is more sensitive to sound in some frequencies than in others. The A-weighting is an attempt to reflect this natural perception of sound. The A-weighting is a set of figures which are applied to the sound pressure levels. The levels in each of the octave bands are added logarithmically to give a single figure. The A-weighting over the octave band is as follows:

Tabelle 1) *table 1)*

Frequenz [Hz]	63	125	250	500	1000	2000	4000	8000	frequency [Hz]
A-Bewertung [dB]	-26	-16	-9	-3	0	+1	+1	-1	A-weighting [dB]

Beispiel

Der Schalldruck eines Axialventilators soll berechnet werden. Der Ventilator erreicht eine Leistung von 3,8 m³/s bei 50 Pa statischer Druckerhöhung. Die Schallquelle befindet sich in einer Entfernung von 3,0 Metern Entfernung zum Hörer.

In der Ventilatorkennlinie ist ein Gesamtschalleistungspegel von 87 dB angegeben.

Example

The dB(A) level of an axial fan shall be calculated. The fan operates at a duty point of 3,8 m³/s at 50 Pa static pressure. The sound source is situated in 3 metres distance to the listener.

The fan performance curve gives a sound power of 87 dB.

Frequenzband [Hz]	**63**	**125**	**250**	**500**	**1000**	**2000**	**4000**	**8000**	frequency [Hz]
Schalleistung gesamt	87	87	87	87	87	87	87	87	total sound power level
1. abzügl. Korrekturfaktor aus Kennlinie	-5	-6	-5	-6	-7	-10	-15	-21	1) apply specific sound spectrum from fan curve
2. abzügl. Entfernung von 3,0 m aus Abb. 2	-20	-20	-20	-20	-20	-20	-20	-20	2) reduction for 3 m distance (fig. 2)
3. abzügl. A-Bewertung gem. Tabelle 1	-26	-16	-9	-3	0	1	1	-1	3) apply A-weighting as per table 1
	36	45	53	58	60	58	53	45	
4. logarithmische Addition gem. Tabelle 2	46		59		62		54		4) logarithmic addition of sound levels (compare table 2 below)
	59				63				
	64 dB(A)								

Tabelle 2) *table 2)*
Addieren von Geräuschpegeln Addition of sound levels

Unterschied zwischen zwei Geräuschwerten ***Difference between two sound levels*** **[dB]**	**Addieren zum höheren Pegelwert** ***Add to the higher level*** **[dB]**
0 - 1	3
2 - 3	2
4 - 9	1
≥10	0

$$L_{\Sigma} = 10 \cdot \lg\left(10^{0,1 \cdot L_1} + 10^{0,1 \cdot L_2} + \ldots + 10^{0,1 \cdot L_n}\right)$$

wobei:
L_1 = Pegel von Schallquelle 1
L_{Σ} = Summenpegel

where:
L_1 = sound level of a source 1
L_{Σ} = resulting summation sound level

Addition mehrer gleichartiger und gleich großer Geräuschpegel

Summation of several congeneric sound levels

$$L_{\Sigma} = L_1 + 10 \cdot \lg(z)$$

wobei:
z = Anzahl der Schallquellen
L_1 = Pegel einer Schallquelle allein
L_{Σ} = Summenpegel

where:
z = number of sources
L_1 = sound level of a single source
L_{Σ} = resulting summation sound level

WOLTER bietet ein großes Spektrum an verschiedenen Schalldämpfern an.

WOLTER offers a wide range of different silencers.

Kanalventilatoren

Duct Fans

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Kanalventilatoren
Duct Fans
EKN/DKN/EKNS/DKNS

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Kanalventilatoren
Duct Fans
EK/DK/EKS/DKS

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Zubehör
Accessories
EVK/JK/SDK/TFK

Typenschlüssel *Fan type code*

D KN S 225 - 4

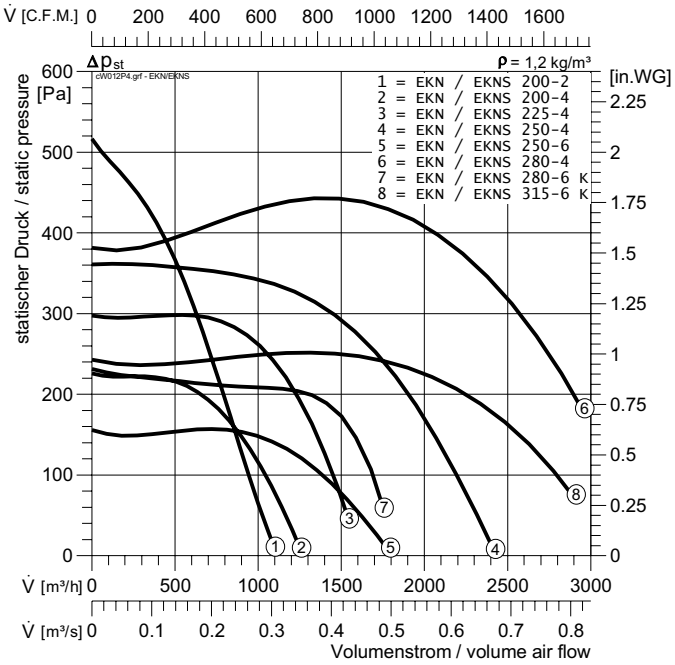
- Polzahl des Motors / *Number of poles*
- Nennweite / *Impeller diameter*
- S = Schalldämmung / *Sound insulation*
- Kanalventilator / *Duct fan*
- Motorversion / *Motor type*
  - E = Einphasenwechselstrom *Single-phase A.C.*
  - D = Drehstrom *Three-phase A.C.*

Relativer A-bewerteter OktavSchallleistungspegel *Relative octave sound power level A-weighted*

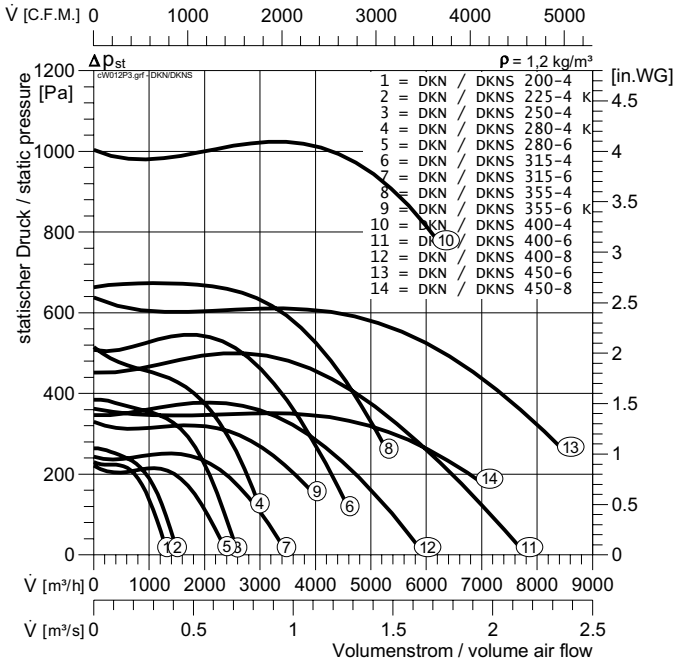
f_M [Hz]				LwA	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz
4-pol	L_{WA6rel} [dB(A)]	Ausblasseite	*Outlet side*	0	-16	-14	-8	-5	-6	-7	-17
	L_{WA5rel} [dB(A)]	Ansaugseite	*Inlet side*	-6	-13	-15	-6	-5	-7	-9	-18
	L_{WA2rel} [dB(A)]	Gehäuseabstr. EKN/DKN	*Casing* EKN/DKN	-17	-5	-7	-9	-7	-12	-17	-24
	L_{WA2rel} [dB(A)]	Gehäuseabstr. EKNS/DKNS	*Casing* EKNS/DKNS	-25	-30	-32	-34	-32	-37	-42	-49
6-pol	L_{WA6rel} [dB(A)]	Ausblasseite	*Outlet side*	0	-22	-13	-7	-6	-5	-7	-15
	L_{WA5rel} [dB(A)]	Ansaugseite	*Inlet side*	-6	-17	-15	-7	-6	-6	-7	-14
	L_{WA2rel} [dB(A)]	Gehäuseabstr. EKN/DKN	*Casing* EKN/DKN	-17	-10	-9	-4	-7	-9	-14	-21
	L_{WA2rel} [dB(A)]	Gehäuseabstr. EKNS/DKNS	*Casing* EKNS/DKNS	-25	-34	-34	-29	-32	-34	-39	-46

Schnellauswahl *Quick selection*

230 V, 1AC, 2- 4- 6-polig



400 V, 3AC, 4- 6- 8-polig



Vorteile

- schnelle Montage an 20 mm-Normflansch
- in allen Einbaulagen einsetzbar
- transformatorisch und elektronisch stufenlos regelbar
- serienmäßig mit Motorvollschutz durch Thermokontakte ausgerüstet (bei Ex-Motoren mit Kaltleitern)
- extrem niedriger Anlaufstrom
- kompakte, raumsparende Bauart

Eigenschaften und Ausführung

Der Kanalventilator vereinigt die Vorteile des Axialventilators - die gerade Durchströmung - mit der hohen Druckstabilität, dem niedrigen Schallniveau und dem ausgezeichneten Wirkungsgrad des Radialventilators.

Gehäuse

- EKN, DKN - Gehäuse aus verzinktem Stahlblech als rechteckiger Luftkanal ausgebildet, mit Norm-Luftkanalflanschen (20 mm breit) druck- und saugseitig.
- EKNS, DKNS - mit Gehäuserahmen aus Aluminiumstrangpreßprofil und Kunststoffecken aus glasfaserverstärktem Polyamid. Abdeckungen aus verzinktem Blech mit innenliegenden Schalldämmatten aus kaschierter Mineralfaser.

Laufrad

Vorwärts gekrümmte Radiallaufräder aus Stahlblech.

Die Laufräder sind direkt auf die Rotoren der Außenläufermotoren aufgebaut und zusammen mit diesen entsprechend Gütestufe G 2,5 nach DIN ISO 1940 auf zwei Ebenen gewuchtet.

Elektrischer Anschluss

Die Motoren sind auf einen außen am Gehäuse angebrachten Klemmkasten verdrahtet.

Luftleistungskennlinien

Die Kennlinien für diese Typenreihe wurden mit einem saugseitigen Kammerprüfstand entsprechend der DIN 24 163 in Einbauart D (saug- und druckseitig angeschlossen) gemessen und zeigen die statische Druckerhöhung Δp_{st} als Funktion des Volumenstroms. Die dynamische Druckerhöhung Δp_{d2} ist auf den Flanschquerschnitt des Ventilatorgehäuses bezogen.

Schallentwicklung

In den Luftleistungskennlinien ist der A-bewertete Freiausblas-Schallleistungspegel L_{WA6} angegeben.

Der A-bewertete Freiansaug-Schallleistungspegel L_{WA5} nach DIN 45 635, Teil 38 kann über die relativen Schallleistungspegel genau ermittelt werden, oder nach folgender Berechnung näherungsweise bestimmt werden:

$L_{WA5} \approx L_{WA6}$ **- 6 dB(A)**

Der A-bewertete Gehäuse-Schallleistungspegel L_{WA2} nach DIN 45 635, Teil 38 kann über die relativen Schallleistungspegel genau ermittelt werden, oder nach folgender Berechnung näherungsweise bestimmt werden:

$L_{WA2} \approx L_{WA6}$ **- 17 dB(A)** - für EKN oder DKN
$L_{WA2} \approx L_{WA6}$ **- 25 dB(A)** - für EKNS oder DKNS

Den A-bewerteten Schalldruckpegel L_{PA} in 1m Abstand erhält man annähernd, indem man vom A-Schallleistungspegel 7 db(A) abzieht:

$L_{PA(1m)} \approx L_{WA2}$ **- 7 dB(A)**

Um Körperschallübertragungen auf ein angeschlossenes Kanalsystem zu vermeiden empfehlen wir den Einsatz unserer flexiblen Kanalverbindungsstücke EVK/EVKN (siehe Seite 28). Für genauere Berechnungen bei Schallschutzmaßnahmen ist der Schallleistungspegel der Oktavbänder (A-bewertet) von Bedeutung, welcher wie folgt ermittelt wird:

$L_{WAokt} = L_{WA6} + L_{WArel}$

Die relativen A-bewerteten Oktav-Schallleistungspegel L_{WArel} bei den Oktav-Mittenfrequenzen sind der Tabelle auf der vorhergehenden Seite zu entnehmen, sie sind bei 0,5 x Vmax ermittelt worden.

Advantages

- easy installation via 20 mm standard flange
- fans can be installed in any position
- 100% speed controllable by auto transformer or electronic controller
- motor protection by thermal contacts as standard (Explosion-proof motors with PTC thermistors)
- extremely low starting currents
- compact design

Design features

Duct fans combine the advantages of axial fans, straight airflow and easy installation, with those of centrifugal fans, such as high pressure stability, low noise level and high efficiency.

Casing

- EKN, DKN - Casing made of galvanised sheet steel formed as a rectangular air duct, with standard tube flanges (20 mm width) at inlet and outlet sides.
- EKNS, DKNS - aluminium profile and plastic corners made from reinforced polyamide. Panels are made from galvanised sheet steel with sound absorbing insulation made of clad fibre glass.

Impeller

Forward-curved centrifugal impellers made of sheet steel or plastic.

The impellers are fitted directly onto the rotor of the external rotor motor. The motorized impellers are balanced at two levels according to G 2.5 (DIN ISO 1940).

Electrical connection

The motors are wired to an external terminal box.

Fan performance curves

The performance curves of these fans have been established using a test chamber according to DIN 24 163, mounting position D (connected at both sides). The curves indicate the static pressure increase Δp_{st} as a function of the volume flow. The dynamic pressure increase Δp_{d2} shown in the performance curves refers to the flange cross-sectional area of the fan housing.

Sound levels

The figures given in the performance curves represent the A-weighted sound power levels L_{WA6} in decibel at the outlet side in duct systems. The A-weighted sound power level at the inlet side L_{WA5}, according to DIN 45 635, part 38, can be calculated via the relative sound power levels or can be obtained by the following approximation calculation:

$L_{WA5} \approx L_{WA6}$ **- 6 dB(A)**

The A-weighted sound power level radiated from the casing L_{WA2}, according to DIN 45 635, part 38, can be calculated via the relative sound power levels (see below) or is obtained approximately as follows:

$L_{WA2} \approx L_{WA6}$ **- 17 dB(A)** - for EKN or DKN
$L_{WA2} \approx L_{WA6}$ **- 25 dB(A)** - for EKNS or DKNS

The A-weighted sound pressure level L_{PA} at a distance of 1 metre is obtained approximately by deducting 7 dB(A) from the A-weighted sound power level.:

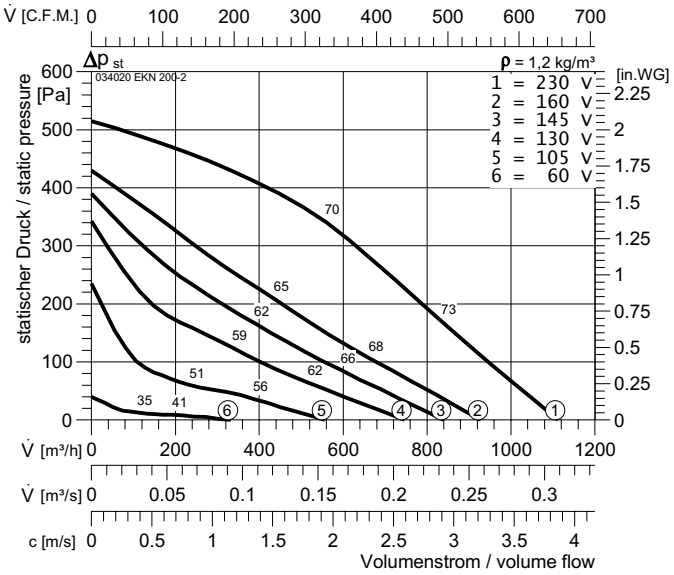
$L_{PA(1m)} \approx L_{WA2}$ **- 7 dB(A)**

It is important to note that reflexion and environmental characteristics as well as resonant frequencies influence the sound pressure levels in different ways. In order to avoid structure-borne noise transfer to a connected duct system we recommend the use of flexible connections EVK/EVKN (see page 28). The A-weighted octave sound power level is important for the choice of suitable sound attenuators. It is obtained as follows:

$L_{WAokt} = L_{WA6} + L_{WArel}$

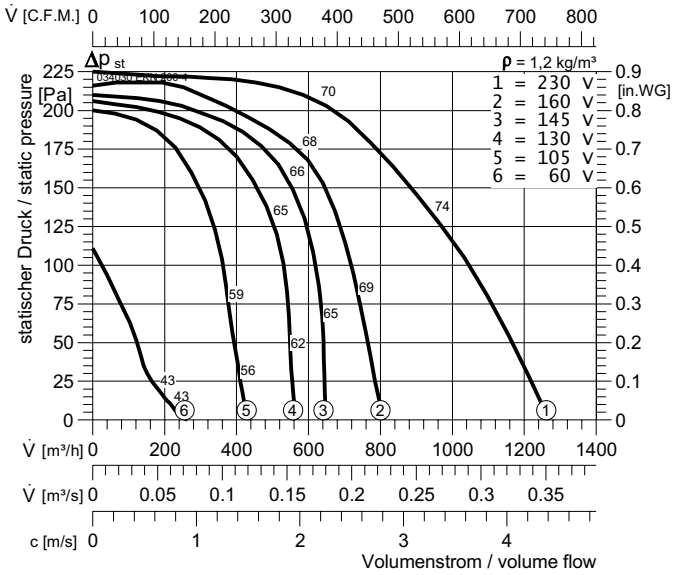
The relative A-weighted octave sound power level L_{WArel} at octave medium frequency can be taken from the table on the preceding page. These levels have been established at 0.5 x Vmax.

EKN / EKNS 200-2



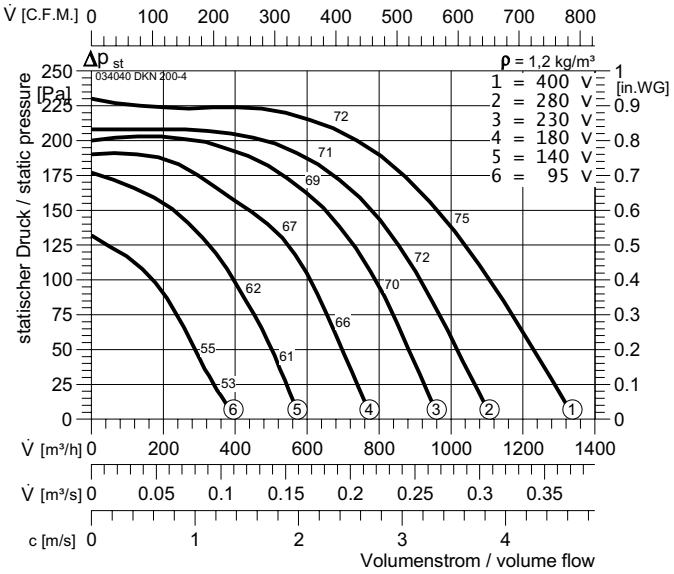
Typ	EKN 200-2		Art. Nr.	034020		11,9 kg
	EKNS 200-2			035020		18,7 kg
U :	230 V 50 Hz		t_R :	60	°C	IP 44
P_1 :	0,17	kW	$\Delta p_{fa\,min}$:	0		E13
I_N :	0,76	A	Δ I :	-		GS1
n :	2530	min^{-1}	I_A / I_N :	1,8		NE 1,5
C_{400V} :	5	µF				RPE 02

EKN / EKNS 200-4



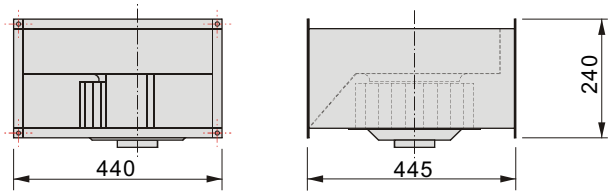
Typ	EKN 200-4		Art. Nr.	034030		13,2 kg
	EKNS 200-4			035030		22 kg
U :	230 V 50 Hz		t_R :	50	°C	IP 54
P_1 :	0,33	kW	$\Delta p_{fa\,min}$:	0		E13
I_N :	1,5	A	Δ I :	-		GS 1
n :	1190	min^{-1}	I_A / I_N :	2,1		NE 1,5
C_{400V} :	6	µF				RPE 06

DKN / DKNS 200-4

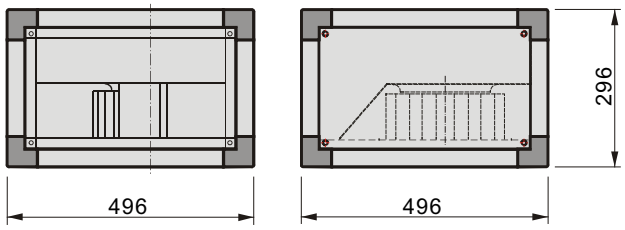


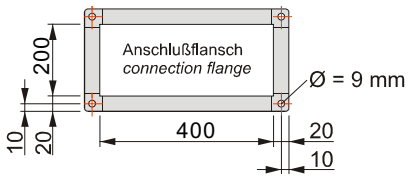
Typ	DKN 200-4		Art. Nr.	034040		13,2 kg
	DKNS 200-4			035040		19 kg
U :	400 V 50 Hz		t_R :	60	°C	IP 54
P_1 :	0,33	kW	$\Delta p_{fa\,min}$:	0		DD0b
I_N :	0,61	A	Δ I :	-		GS 2
n :	1270	min^{-1}	I_A / I_N :	2		RTD 1,2
C_{400V} :	-	µF				SAD9

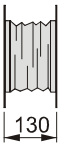
EKN / DKN



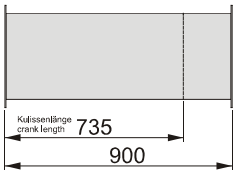
EKNS / DKNS







EVKN 200
041610
elast. Zwischenstück
elastic connection

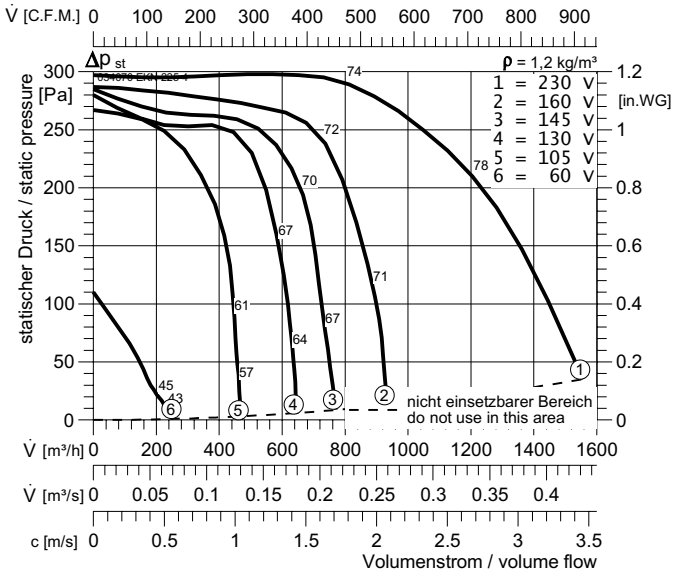


SDKN 200
043610
Schalldämpfer
silencer

EKNS/DKNS

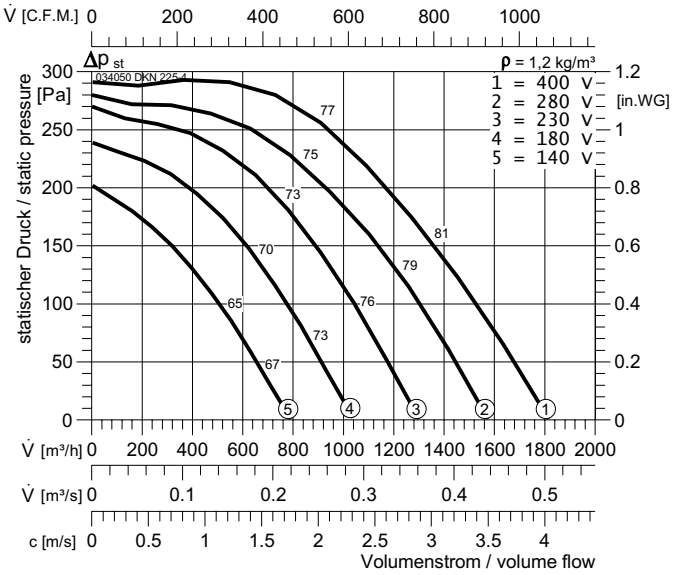
EKN/DKN

EKN / EKNS 225-4



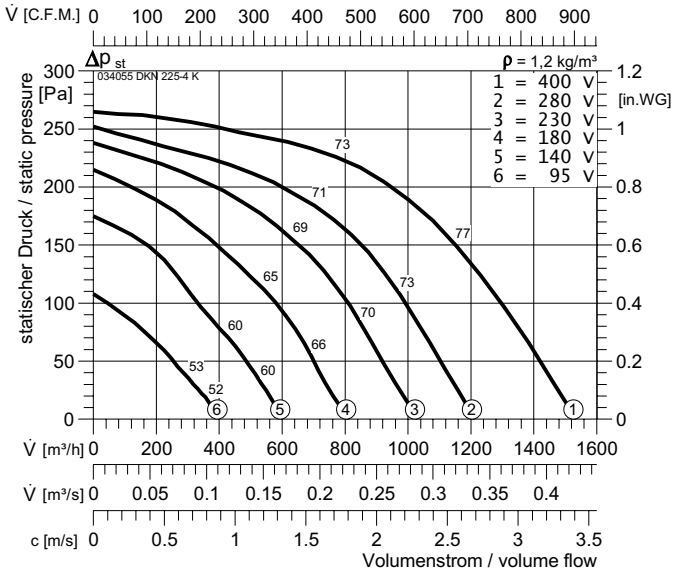
Typ	EKN 225-4	Art. Nr.	034070		19,5 kg
	EKNS 225-4		035070		26,2 kg
U :	230 V 50 Hz	t_R :	40 °C		IP 54
P_1 :	0,49 kW	$\Delta p_{fa\,min}$:	35		E13
I_N :	2,2 A	ΔI :	-		GS 2
n :	1220 min^{-1}	I_A / I_N :	1,7		NE 3,2
C_{400V} :	8 µF				RPE 06

DKN / DKNS 225-4



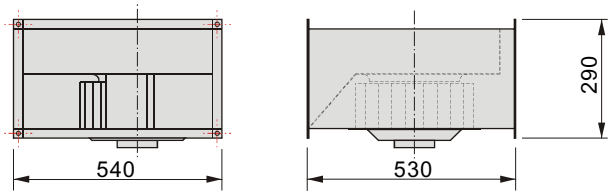
Typ	DKN 225-4	Art. Nr.	034050		19,35 kg
	DKNS 225-4		035050		27 kg
U :	400 V 50 Hz	t_R :	55 °C		IP44
P_1 :	0,51 kW	$\Delta p_{fa\,min}$:	0		DS1
I_N :	0,87 A	ΔI :	-		GS 2
n :	1190 min^{-1}	I_A / I_N :	2,9		RTD 1,2
C_{400V} :	- µF				SAD 9

DKN / DKNS 225-4 K

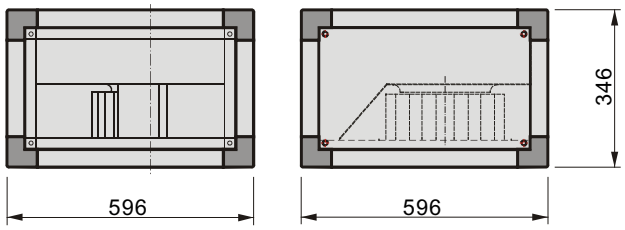


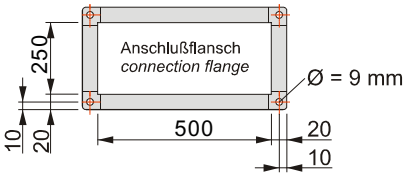
Typ	DKN 225-4 K	Art. Nr.	034055		18 kg
	DKNS 225-4 K		035055		24 kg
U :	400 V 50 Hz	t_R :	60 °C		IP 54
P_1 :	0,36 kW	$\Delta p_{fa\,min}$:	0		DD0b
I_N :	0,68 A	ΔI :	-		GS 2
n :	1140 min^{-1}	I_A / I_N :	1,8		RTD 1,2
C_{400V} :	- µF				SAD 9

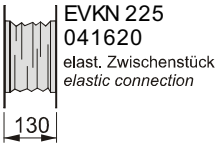
EKN / DKN



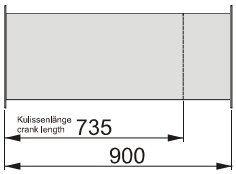
EKNS / DKNS





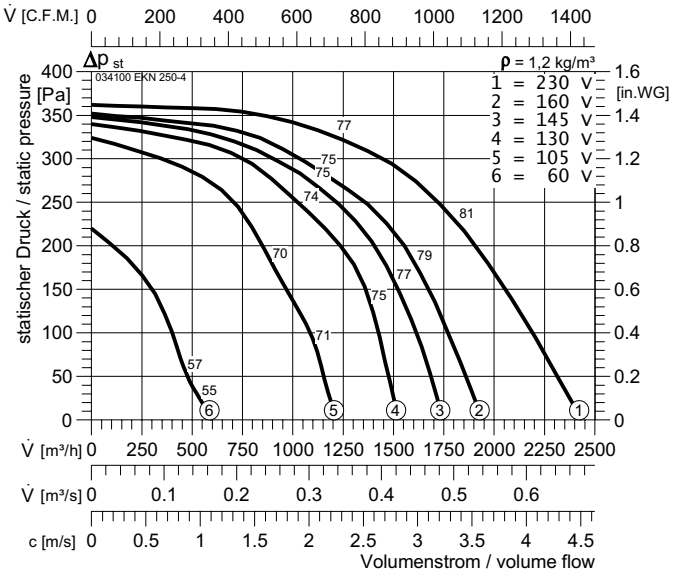


EVKN 225
041620
elast. Zwischenstück
elastic connection



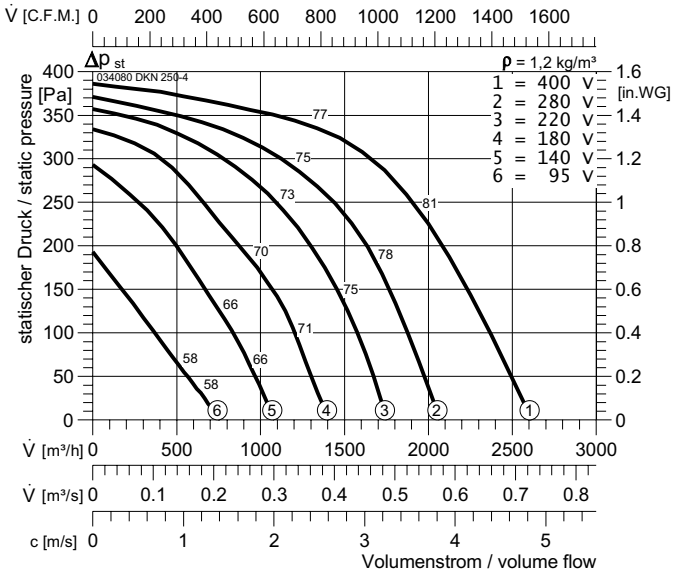
SDKN 225
043620
Schalldämpfer
silencer

EKN / EKNS 250-4



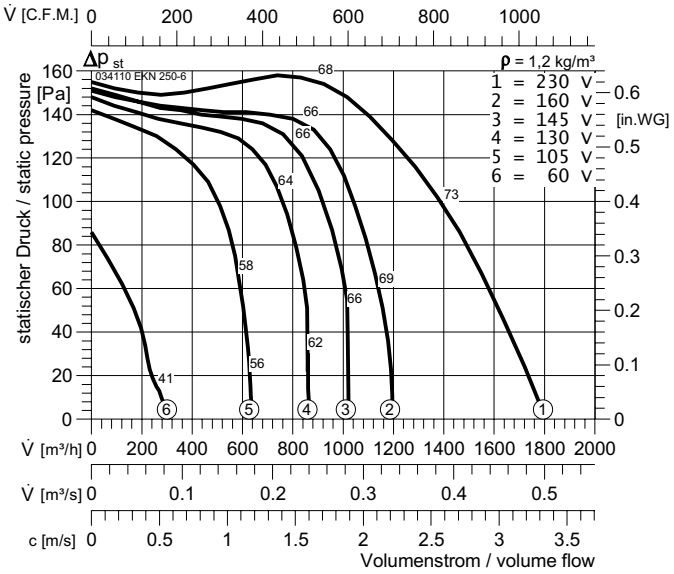
Typ	EKN 250-4	Art. Nr.	034100		25,5 kg
	EKNS 250-4		035100		32 kg
U :	230 V 50 Hz	t_R :	60 °C		IP 54
P_1 :	0,81 kW	$\Delta p_{fa\,min}$:	0		E13
I_N :	3,85 A	ΔI :	-		GS 2
n :	1240 min^{-1}	I_A / I_N :	2		NE 5
C_{400V} :	16 µF				RPE 09 A

DKN / DKNS 250-4



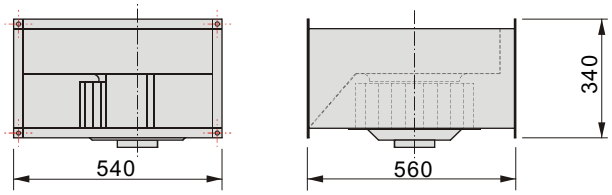
Typ	DKN 250-4	Art. Nr.	034080		23,5 kg
	DKNS 250-4		035080		30,5 kg
U :	400 V 50 Hz	t_R :	40 °C		IP 54
P_1 :	0,83 kW	$\Delta p_{fa\,min}$:	0		DD0b
I_N :	1,55 A	ΔI :	-		GS 2
n :	1210 min^{-1}	I_A / I_N :	2,2		RTD 2,5
C_{400V} :	- µF				SAD 9

EKN / EKNS 250-6

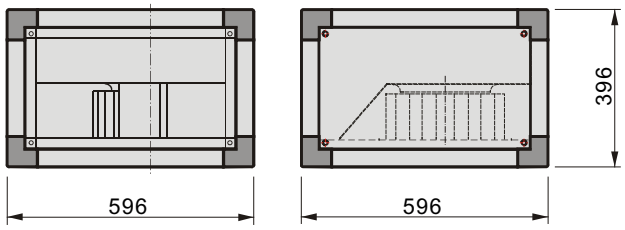


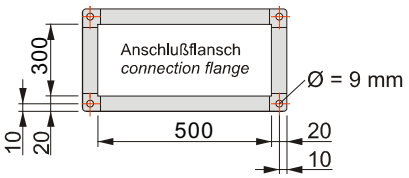
Typ	EKN 250-6	Art. Nr.	034110		24 kg
	EKNS 250-6		035110		28,8 kg
U :	230 V 50 Hz	t_R :	60 °C		IP 54
P_1 :	0,32 kW	$\Delta p_{fa\,min}$:	0		E13
I_N :	1,4 A	ΔI :	-		GS 2
n :	820 min^{-1}	I_A / I_N :	1,6		NE 1,5
C_{400V} :	5 µF				RPE 06

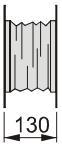
EKN / DKN



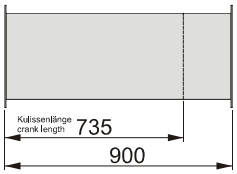
EKNS / DKNS







EVKN 250
041630
elast. Zwischenstück
elastic connection

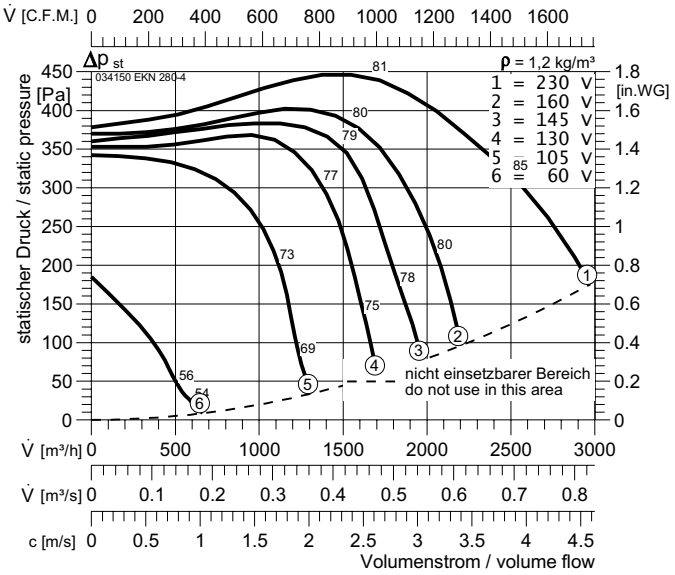


SDKN 250
043630
Schalldämpfer
silencer

EKNS/DKNS

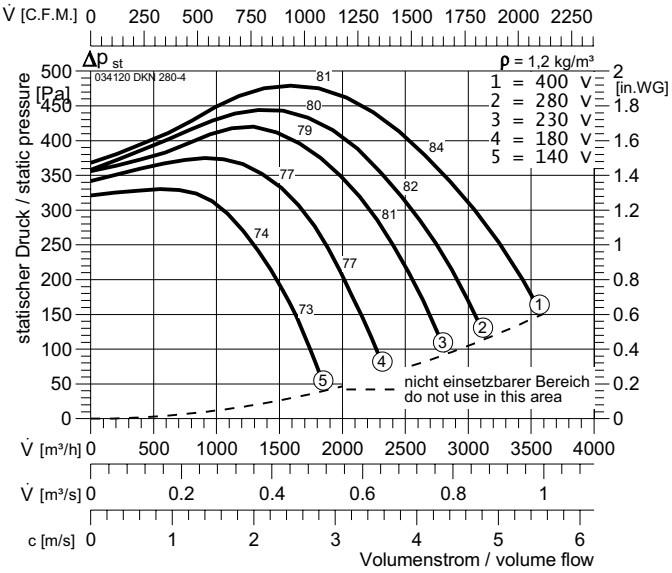
EKN/DKN

EKN / EKNS 280-4



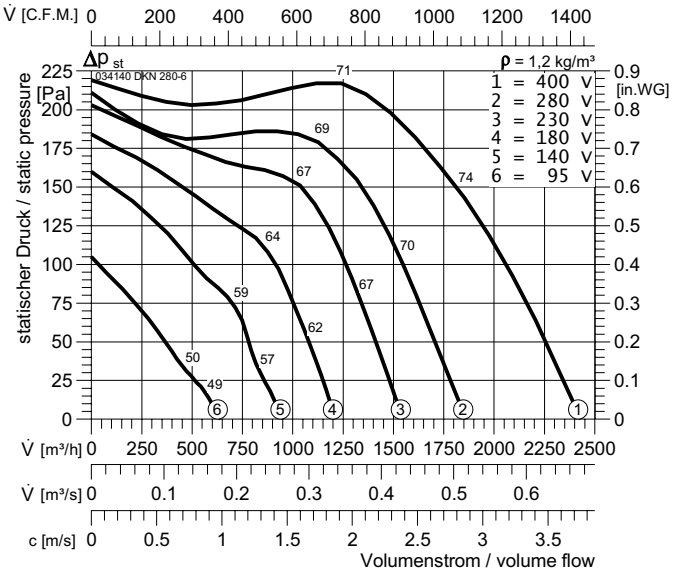
Typ	EKN 280-4	Art. Nr.	034150		28 kg
	EKNS 280-4		035150		44 kg
U :	230 V 50 Hz	t_R :	40 °C		IP 54
P_1 :	1,25 kW	$\Delta p_{fa\ min}$:	175		E13
I_N :	5,65 A	ΔI :	-		GS 2
n :	1240 min^{-1}	I_A / I_N :	1,9		NE 7,5
C_{400V} :	25 µF				SAE 7

DKN / DKNS 280-4



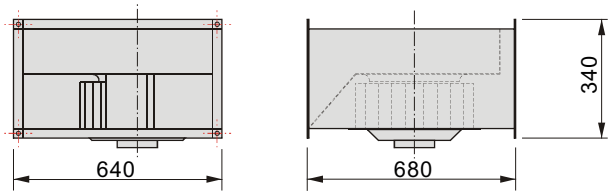
Typ	DKN 280-4	Art. Nr.	034120		38 kg
	DKNS 280-4		035120		41,4 kg
U :	400 V 50 Hz	t_R :	40 °C		IP 54
P_1 :	1,4 kW	$\Delta p_{fa\ min}$:	150		DD0b
I_N :	2,95 A	ΔI :	-		GS 2
n :	1310 min^{-1}	I_A / I_N :	3,6		RTD 2,5
C_{400V} :	- µF				SAD 9

DKN / DKNS 280-6

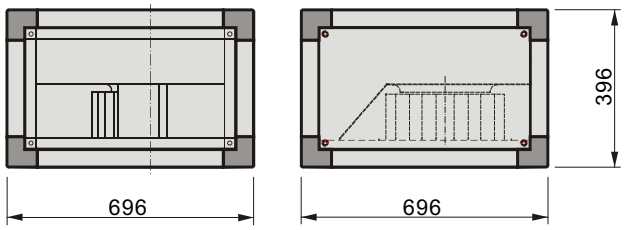


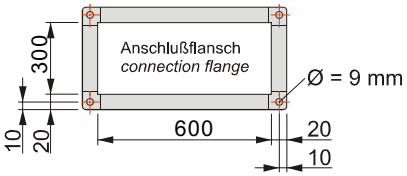
Typ	DKN 280-6	Art. Nr.	034140		28 kg
	DKNS 280-6		035140		40 kg
U :	400 V 50 Hz	t_R :	40 °C		IP 54
P_1 :	0,55 kW	$\Delta p_{fa\ min}$:	0		DD0b
I_N :	0,9 A	ΔI :	-		GS 2
n :	710 min^{-1}	I_A / I_N :	1,75		RTD 1,2
C_{400V} :	- µF				SAD 9

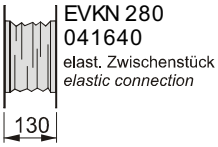
EKN / DKN



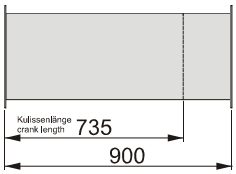
EKNS / DKNS





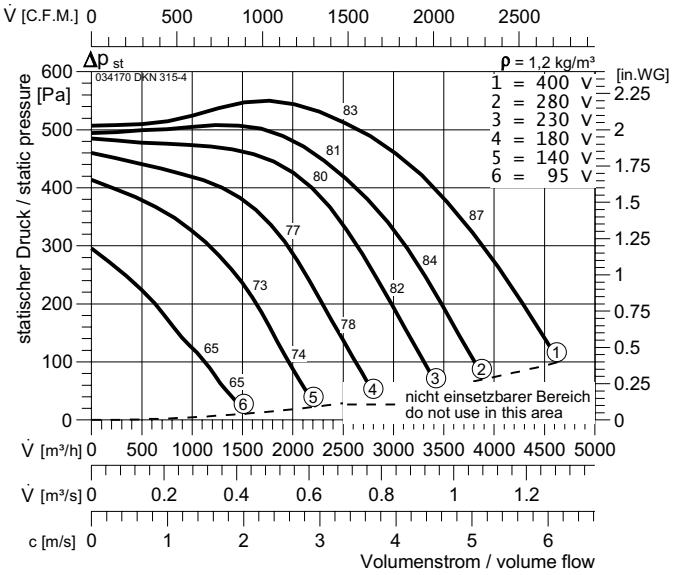


EVKN 280
041640
elast. Zwischenstück
elastic connection



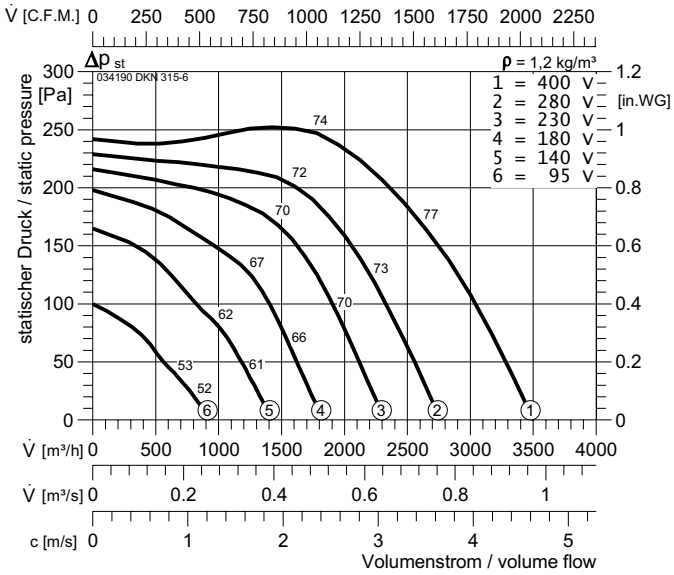
SDKN 280
043640
Schalldämpfer
silencer

DKN / DKNS 315-4



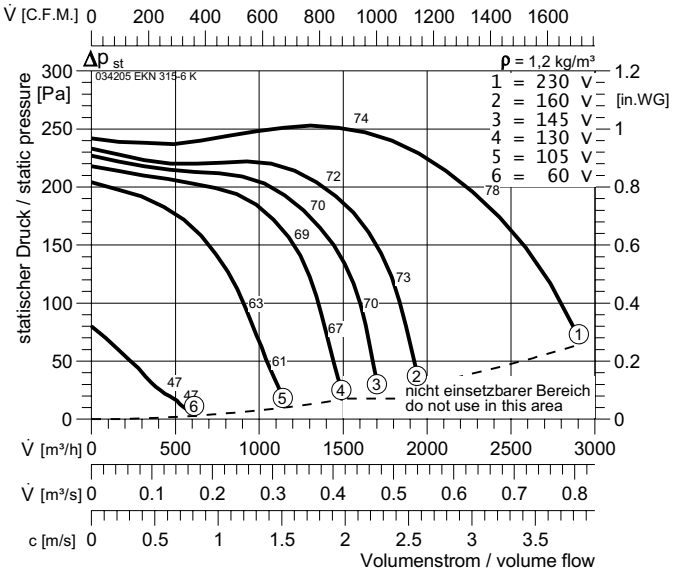
Typ	DKN 315-4	Art. Nr.	034170		48 kg
	DKNS 315-4		035170		49,8 kg
U :	400 V 50 Hz	t_R :	40 °C		IP 54
P_1 :	2,38 kW	$\Delta p_{fa\,min}$:	100		DD0b
I_N :	4,4 A	ΔI :	-		GS 2
n :	1300 min^{-1}	I_A / I_N :	2,9		RTD 3,8
C_{400V} :	- µF				SAD 9

DKN / DKNS 315-6



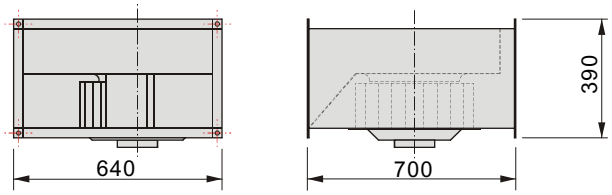
Typ	DKN 315-6	Art. Nr.	034190		36 kg
	DKNS 315-6		035190		66 kg
U :	400 V 50 Hz	t_R :	45 °C		IP 54
P_1 :	0,82 kW	$\Delta p_{fa\,min}$:	0		DD0b
I_N :	1,5 A	ΔI :	-		GS 2
n :	740 min^{-1}	I_A / I_N :	2,1		RTD 2,5
C_{400V} :	- µF				SAD 9

EKN / EKNS 315-6 K

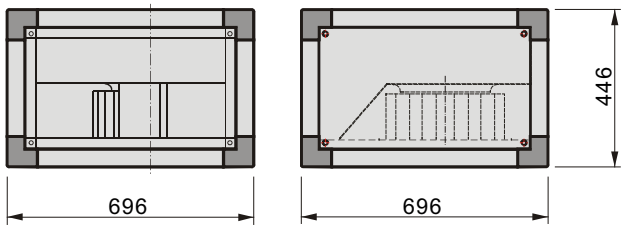


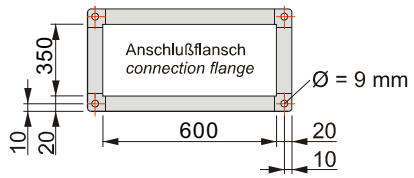
Typ	EKN 315-6 K	Art. Nr.	034205		34 kg
	EKNS 315-6 K		035205		42 kg
U :	230 V 50 Hz	t_R :	40 °C		IP 54
P_1 :	0,72 kW	$\Delta p_{fa\,min}$:	65		E13
I_N :	3,3 A	ΔI :	-		GS 1
n :	730 min^{-1}	I_A / I_N :	1,5		NE 5
C_{400V} :	12 µF				RPE 09

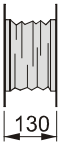
EKN / DKN



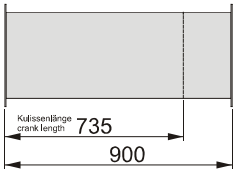
EKNS / DKNS







EVKN 315
041650
elast. Zwischenstück
elastic connection

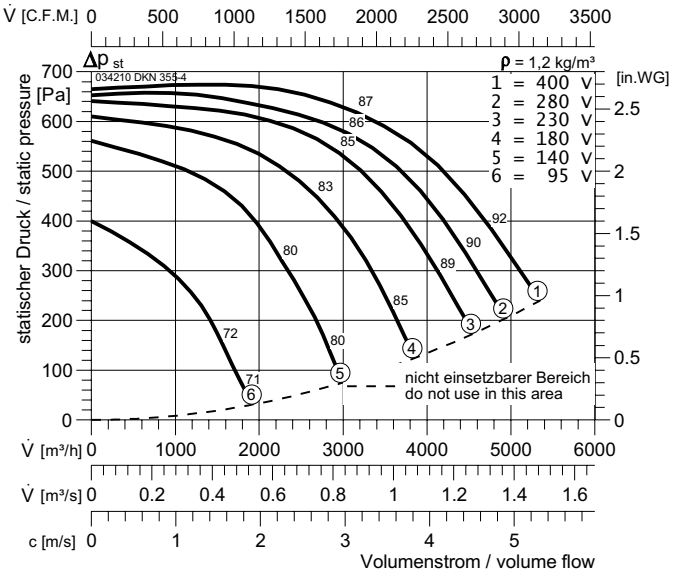


SDKN 315
043650
Schalldämpfer
silencer

EKNS/DKNS

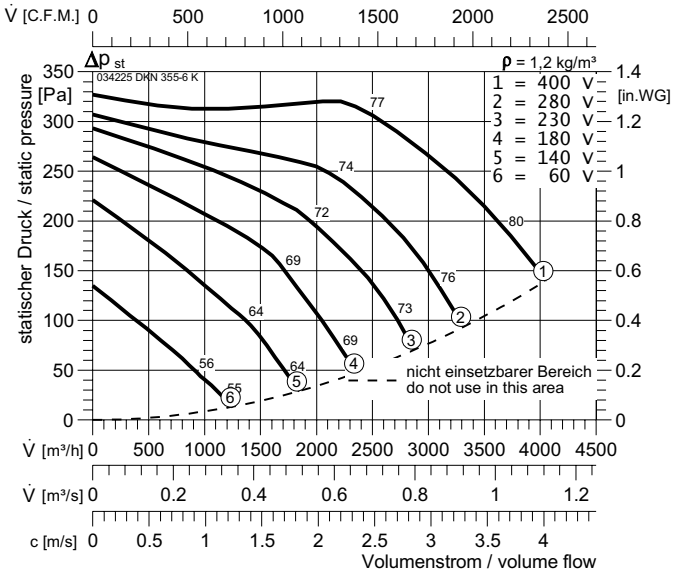
EKN/DKN

DKN / DKNS 355-4



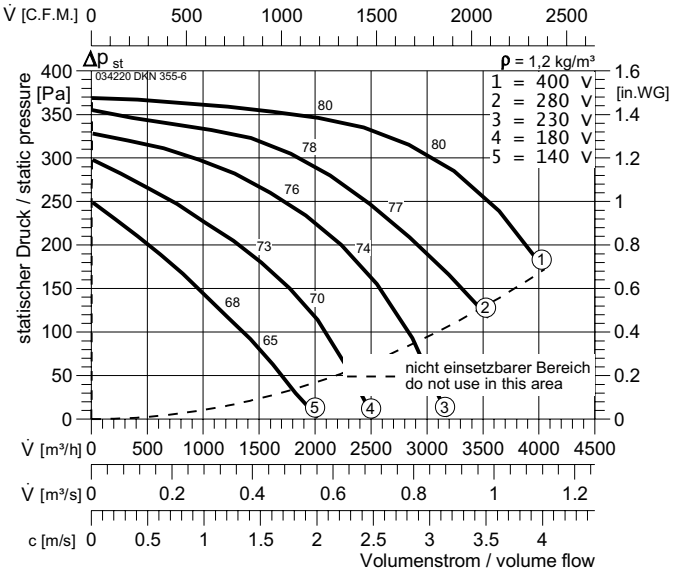
Typ	DKN 355-4	Art. Nr.	034210		58 kg
	DKNS 355-4		035210		72,5 kg
U :	400 V 50 Hz	t_R :	40 °C		IP 54
P_1 :	3,2 kW	$\Delta p_{fa\,min}$:	240		DD0b
I_N :	5,8 A	ΔI :	12		GS 2
n :	1405 min^{-1}	I_A / I_N :	5,2		RTD 7
C_{400V} :	- µF				SAD 9

DKN / DKNS 355-6 K



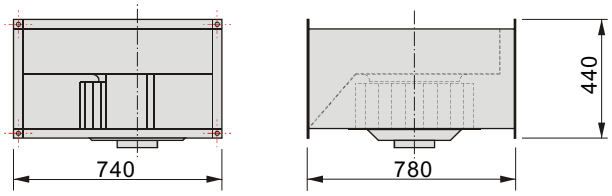
Typ	DKN 355-6 K	Art. Nr.	034225		50 kg
	DKNS 355-6 K		035225		58,5 kg
U :	400 V 50 Hz	t_R :	40 °C		IP 54
P_1 :	1,15 kW	$\Delta p_{fa\,min}$:	140		DD0b
I_N :	2,2 A	ΔI :	-		GS 2
n :	810 min^{-1}	I_A / I_N :	2,4		RTD 2,5
C_{400V} :	- µF				SAD 9

DKN / DKNS 355-6

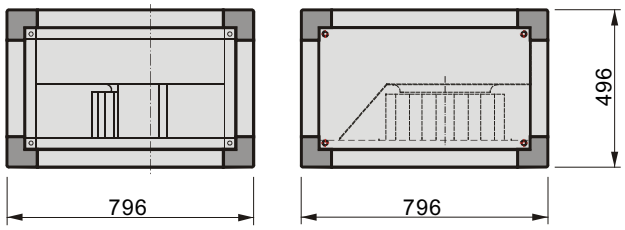


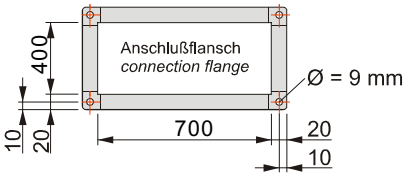
Typ	DKN 355-6	Art. Nr.	034220		55 kg
	DKNS 355-6		035220		58,5 kg
U :	400 V 50 Hz	t_R :	40 °C		IP44
P_1 :	1,1 kW	$\Delta p_{fa\,min}$:	180		DD0
I_N :	2 A	ΔI :	-		GS 2
n :	790 min^{-1}	I_A / I_N :	2,5		RTD 2,5
C_{400V} :	- µF				SAD 9

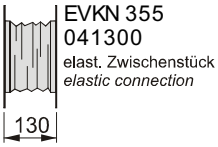
EKN / DKN



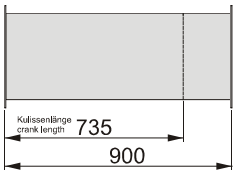
EKNS / DKNS





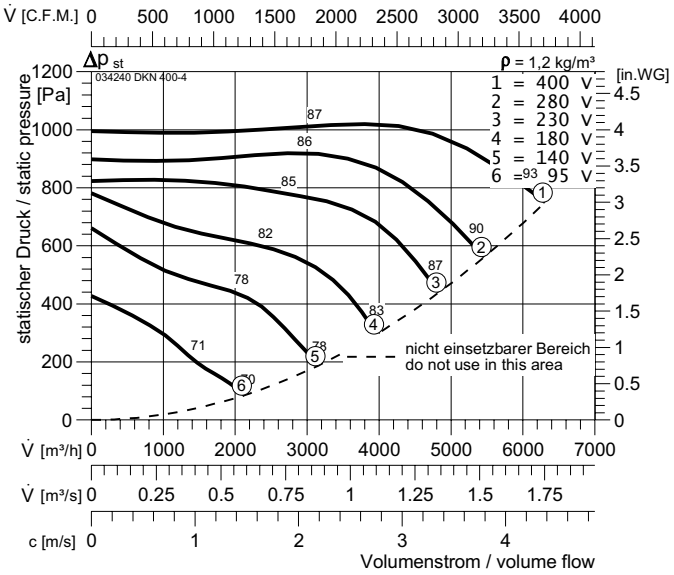


EVKN 355
041300
elast. Zwischenstück
elastic connection



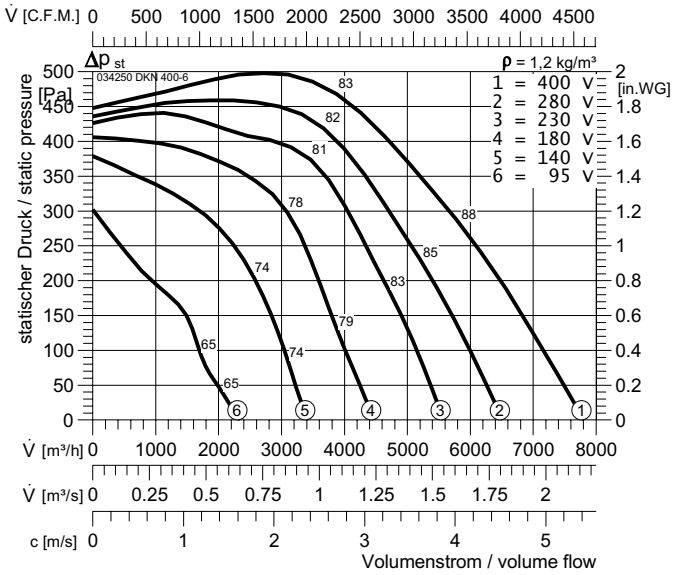
SDKN 355
043300
Schalldämpfer
silencer

DKN / DKNS 400-4



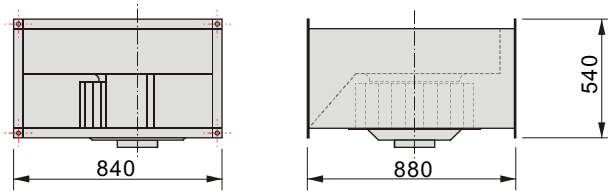
Typ	DKN 400-4		Art. Nr.	034240		86	kg
	DKNS 400-4			035240		96	kg
U :	400 V 50 Hz		t_R :	40	°C	IP 54	
P_1 :	4,25	kW	$\Delta p_{fa\ min}$:	750		DD0b	
I_N :	7,3	A	ΔI :	15		GS 2	
n :	1345	min^{-1}	I_A / I_N :	4		RTD 14	
C_{400V} :	-	µF				SAD 9	

DKN / DKNS 400-6

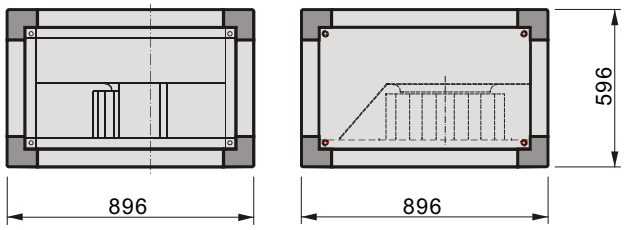


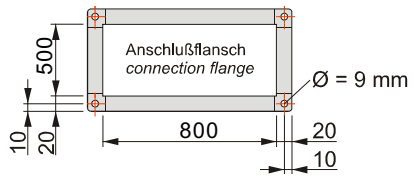
Typ	DKN 400-6		Art. Nr.	034250		82	kg
	DKNS 400-6			035250		88,6	kg
U :	400 V 50 Hz		t_R :	40	°C	IP 54	
P_1 :	2,8	kW	$\Delta p_{fa\ min}$:	50		DD0b	
I_N :	5,4	A	ΔI :	10		GS 2	
n :	865	min^{-1}	I_A / I_N :	3,3		RTD 5	
C_{400V} :	-	µF				SAD 9	

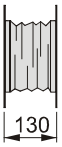
EKN / DKN



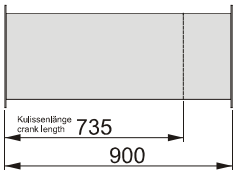
EKNS / DKNS







EVKN 400
041660
elast. Zwischenstück
elastic connection

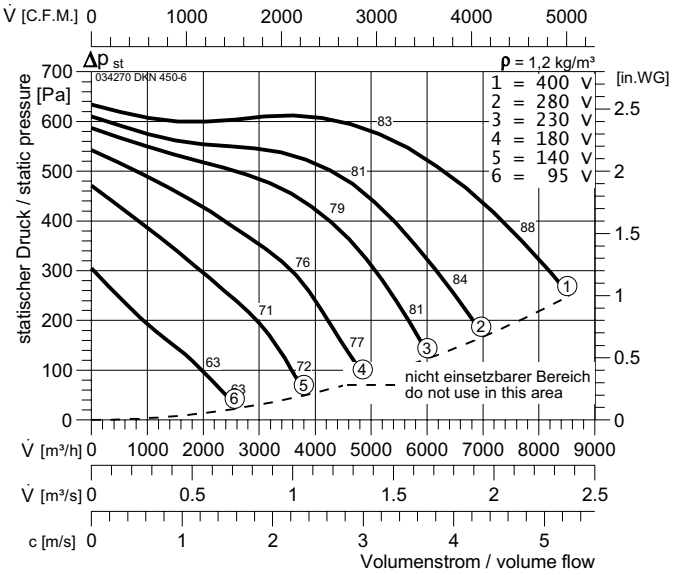


SDKN 400
043660
Schalldämpfer
silencer

EKNS/DKNS

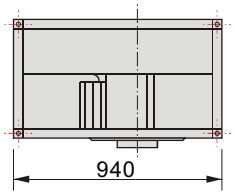
EKN/DKN

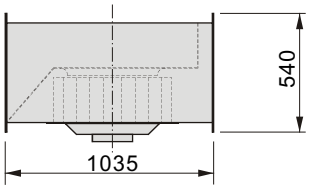
DKN / DKNS 450-6



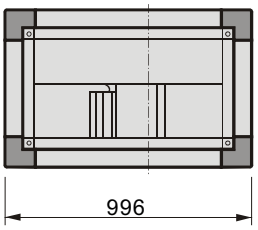
Typ	DKN 450-6		Art. Nr.	034270		97 kg
	DKNS 450-6			035270		107 kg
U :	400 V 50 Hz		t_R :	40	°C	IP 54
P_1 :	3,5	kW	$\Delta p_{fa\ min}$:	250		DD0b
I_N :	6,9	A	Δ I :	-		GS 2
n :	845	min^{-1}	I_A / I_N :	3,2		RTD 7,0
C_{400V} :	-	µF				SAD 9

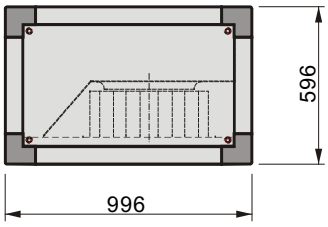
EKN / DKN

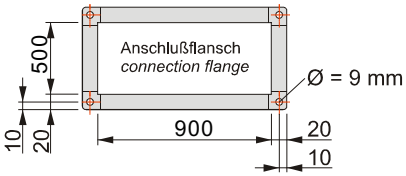




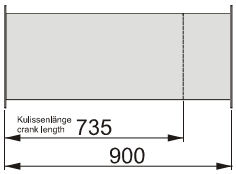
EKNS / DKNS







EVKN 450
041670
elast. Zwischenstück
elastic connection



SDKN 450
043670
Schalldämpfer
silencer

Kanalventilatoren
Duct Fans

Typenschlüssel — *Fan type code*

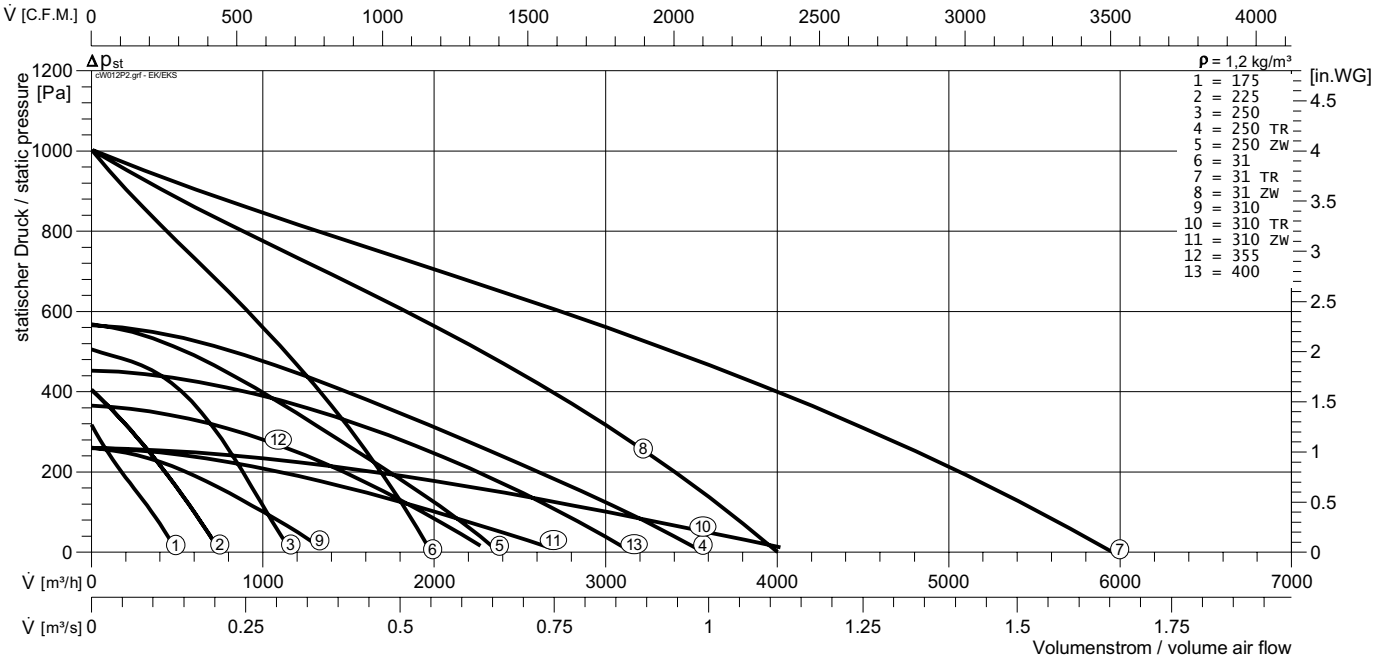
E K S 175 TR Ex Stb.

- **Stb.** — Drehzahlsteuerbar / *Speedcontrollable*
- **Ex** — Explosionsgeschützte Ausführung / *explosion-proof execution*
- **TR** — Parallelgeschaltete Ventilatoren für höheren Volumenstrom
  ZW = Zwilling / *Twin fan*
  TR = Drilling / *Tripple fan*
- **175** — Nennweite / *Impeller diameter*
  175...400
- **S** — Schalldämmung / *Sound insulation*
  S
- **K** — Kanalventilator / *Duct fan*
- **E** — Motorversion / *Motor type*
  E = Einphasenwechselstrom
  Single-phase A.C.
  D = Drehstrom
  Three-phase A.C.

Relativer A-bewerteter OktavSchallleistungspegel — *Relative octave sound power level A-weighted*

	f_M [Hz]			LwA	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz
2-pol	L_{WA6rel} [dB]	Ausblasseite	*Outlet side*	0	-21	-14	-13	-10	-9	-11	-14
	L_{WA5rel} [dB]	Ansaugseite	*Inlet side*	-2	-22	-15	-18	-12	-13	-16	-20
	L_{WA2rel} [dB]	Gehäuseabstr. EK/DK	*Casing* EK/DK	-10	-29	-22	-25	-30	-30	-36	-43
	L_{WA2rel} [dB]	Gehäuseabstr. EKS/DKS	*Casing* EKS/DKS	-18	-37	-30	-33	-38	-38	-44	-51
4-pol	L_{WA6rel} [dB]	Ausblasseite	*Outlet side*	0	-16	-14	-8	-5	-6	-7	-17
	L_{WA5rel} [dB]	Ansaugseite	*Inlet side*	-2	-15	-17	-8	-7	-9	-11	-20
	L_{WA2rel} [dB]	Gehäuseabstr. EK/DK	*Casing* EK/DK	-10	-15	-17	-19	-17	-22	-27	-34
	L_{WA2rel} [dB]	Gehäuseabstr. EKS/DKS	*Casing* EKS/DKS	-18	-23	-25	-27	-25	-30	-35	-42
6-pol	L_{WA6rel} [dB]	Ausblasseite	*Outlet side*	0	-13	-13	-7	-6	-5	-7	-15
	L_{WA5rel} [dB]	Ansaugseite	*Inlet side*	-2	-17	-17	-9	-8	-8	-9	-16
	L_{WA2rel} [dB]	Gehäuseabstr. EKN/DKN	*Casing* EK/DK	-10	-19	-19	-14	-17	-19	-24	-31
	L_{WA2rel} [dB]	Gehäuseabstr. EKNS/DKNS	*Casing* EKS/DKS	-18	-27	-27	-22	-25	-27	-32	-39

Schnellauswahl — *Quick selection*



EKS, DKS

EK, DK

Vorteile:

- schnelle Montage an 20 mm-Normflansch
- in allen Einbaulagen einsetzbar
- einfacher elektrischer Anschluß durch außenliegenden Klemmkasten in Schutzart IP54 (bei explosionsgeschützter Version mit ausgeführten Kabeln)
- transformatorisch und elektronisch100 % steuerbar
- serienmäßig mit Motorvollschutz durch Thermokontakte ausgerüstet (bei Ex-Motoren mit Kaltleitern)
- extrem niedriger Anlaufstrom
- kompakte, raumsparende Bauart

Eigenschaften und Ausführung:

Der Kanalventilator vereinigt die Vorteile des Axialventilators - die gerade Durchströmung - mit der hohen Druckstabilität, dem niedrigen Schallniveau und dem ausgezeichneten Wirkungsgrad des Radialventilators.

Gehäuse:

- EK, DK - Gehäuse aus verzinktem Stahlblech als rechteckiger Luftkanal ausgebildet, mit Norm-Luftkanalflanschen (20mm breit) druck- und saug-seitig.
- EKS, DKS - Gehäuserahmen aus Aluminiumstrangpreßprofil und Kunststoffecken aus glasfaserverstärktem Polyamid. Abdeckungen aus verzinktem Blech mit innenliegenden Schalldämmatten aus kaschierter Mineralfaser.

Laufrad

Rückwärts gekrümmte Radiallaufräder aus Stahlblech oder Kunststoff. Die Laufräder sind direkt auf die Rotoren der Außenläufermotoren aufgebaut und zusammen mit diesen entsprechend Gütestufe G 2,5 nach DIN ISO 1940 auf zwei Ebenen gewuchtet.

Elektrischer Anschluß

Die Motoren sind auf einen außen am Gehäuse angebrachten Klemmkasten verdrahtet.

Luftleistungskennlinien

Die Kennlinien für diese Typenreihe wurden mit einem saugseitigen Kammerprüfstand entsprechend der DIN 24 163 in Einbauart B (frei saugend, druckseitig angeschlossen) aufgenommen und zeigen die Gesamtdruckerhöhung Δp_t als Funktion des Volumenstroms. Der dynamische Druckerhöhung Δp_{d2} ist auf den Flanschquerschnitt des Ventilatorgehäuses bezogen.

Schallentwicklung

In den Luftleistungskennlinien ist der A-bewertete Freiausblas-Schallleistungspegel L_{WA6} angegeben. Der A-bewertete Freiansaug-Schallleistungspegel L_{WA5} nach DIN 45 635, Teil 38 kann über die relativen Schallleistungspegel genau ermittelt werden, oder nach folgender Berechnung näherungsweise bestimmt werden:

$L_{WA5} \approx L_{WA6}$ **- 2 dB(A)**

Der A-bewertete Gehäuse-Schallleistungspegel L_{WA2} nach DIN 45 635, Teil 38 kann über die relativen Schallleistungspegel genau ermittelt werden, oder nach folgender Berechnung näherungsweise bestimmt werden:

$L_{WA2} \approx L_{WA6}$ **- 10 dB(A)** - für EK oder DK
$L_{WA2} \approx L_{WA6}$ **- 18 dB(A)** - für EKS oder DKS

Den A-bewerteten Schalldruckpegel L_{PA} in 1m Abstand erhält man annähernd, indem man vom A-Schallleistungspegel 7 db(A) abzieht:

$L_{PA(1m)} \approx L_{WA2}$ **- 7 dB(A)**

Zu beachten ist, dass Reflexionen und Raumcharakteristik sowie Eigenfrequenzen die Größe des Schalldruckpegels unterschiedlich beeinflussen. Um Körperschallübertragungen auf ein angeschlossenes Kanalsystem zu vermeiden, empfehlen wir den Einsatz unserer flexiblen Kanalverbindungsstücke. Für genauere Berechnungen bei Schallschutzmaßnahmen ist der Schallleistungspegel der Oktavbänder (A-bewertete) von Bedeutung welcher wie folgt ermittelt wird:

$L_{WAokt} = L_{WA6} + L_{WArel}$

Die relativen A-bewerteten Oktav-Schallleistungspegel L_{WArel} bei den Oktav-Mittenfrequenzen sind folgender Tabelle zu entnehmen, sie sind bei 0,5 x Vmax ermittelt worden.

Advantages:

- easy installation via 20 mm standard flange
- fans can be installed in any position
- simple electrical connection via terminal box fitted to the outside, terminal box in protection class IP 54 (explosion-proof executions with wires led to the outside)
- 100% speed controllable by auto transformer or electronic controller
- motor protection by thermal contacts as standard (Explosion-proof motors with PTC thermistors)
- extremely low starting currents
- compact design

Design features:

Duct fans combine the advantages of axial fans, straight airflow and easy installation, with those of centrifugal fans, such as high pressure stability, low noise level and high efficiency.

Casing:

- DK, EK - Casing made of galvanised sheet steel formed as a rectangular air duct, with standard tube flanges (20 mm width) at inlet and outlet sides.
- DKS, EKS - aluminium profile and plastic corners made from reinforced polyamide. Panels are made from galvanised sheet steel with sound absorbing insulation made of clad fibre glass.

Motorized impeller

Backward-curved radial centrifugal made of sheet steel or plastic.

The impellers are fitted directly onto the rotor of the external rotor motor. The motorized impellers are balanced at two levels according to G 2.5 (DIN ISO 1940).

Electrical connection

The motors are wired to an external terminal box.

Fan Performance Curves

The performance curves of these fans have been established using a test chamber according to DIN 24 163, mounting position D (connected at both sides). The curves indicate the static pressure increase Δp_{st} as a function of the volume flow. The dynamic pressure increase Δp_{d2} shown in the performance curves refers to the flange cross-sectional area of the fan housing.

Sound levels

The figures given in the performance curves represent the A-weighted sound power levels L_{WA6} in decibel at the outlet side in duct systems. The A-weighted sound power level at the inlet side L_{WA5}, according to DIN 45 635, part 38, can be calculated via the relative sound power levels or can be obtained by the following approximation calculation:

$L_{WA5} \approx L_{WA6}$ **- 2 dB(A)**

The A-weighted sound power level radiated from the casing L_{WA2}, according to DIN 45 635, part 38, can be calculated via the relative sound power levels (see below) or is obtained approximately as follows:

$L_{WA2} \approx L_{WA6}$ **- 10 dB(A)** - for EK or DK
$L_{WA2} \approx L_{WA6}$ **- 18 dB(A)** - for EKS or DKS

The A-weighted sound pressure level L_{PA} at a distance of 1 metre is obtained approximately by deducting 7 dB(A) from the A-weighted sound power level:

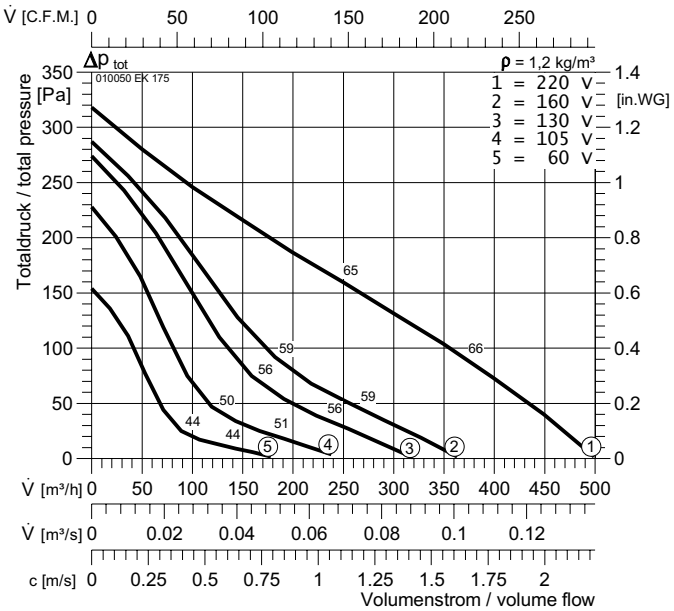
$L_{PA(1m)} \approx L_{WA2}$ **- 7 dB(A)**

It is important to note that reflexion and environmental characteristics as well as resonant frequencies influence the sound pressure levels in different ways. In order to avoid structure-borne noise transfer to a connected duct system we recommend the use of flexible duct connections EVK/EVKN (see page 28). The A-weighted octave sound power level is important for the choice of suitable sound attenuators. It is obtained as follows:

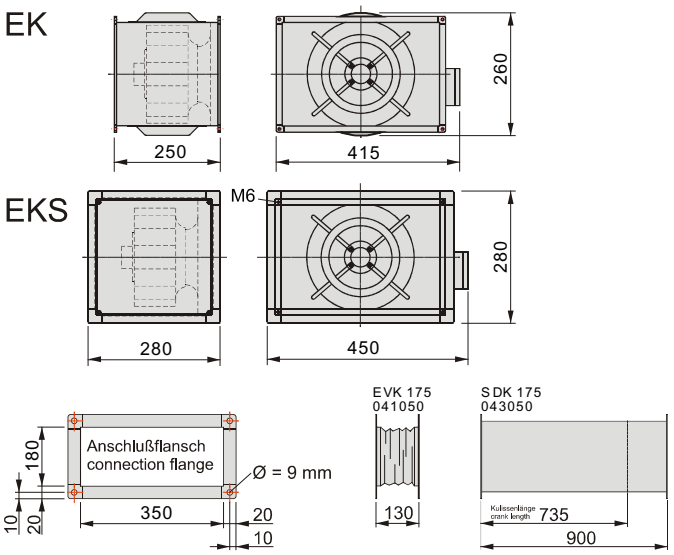
$L_{WAokt} = L_{WA6} + L_{WArel}$

The relative A-weighted octave sound power level L_{WArel} at octave medium frequency can be taken from the table on the preceding page. These levels have been established at 0.5 x Vmax.

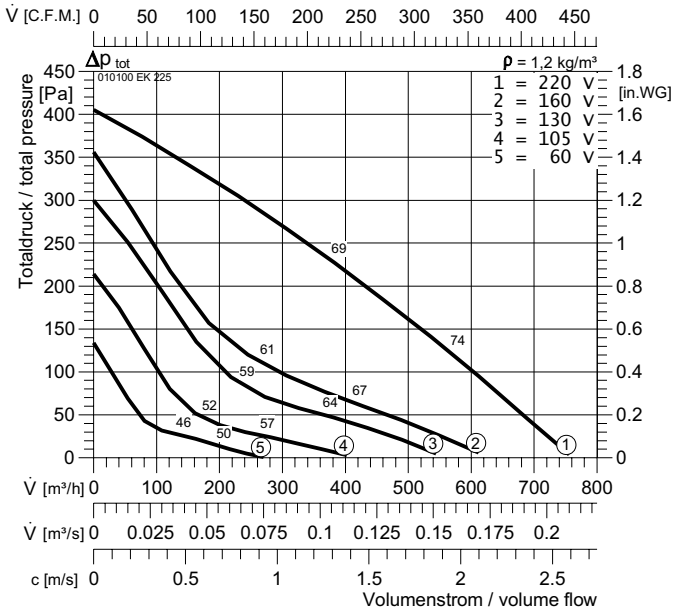
EK / EKS 175



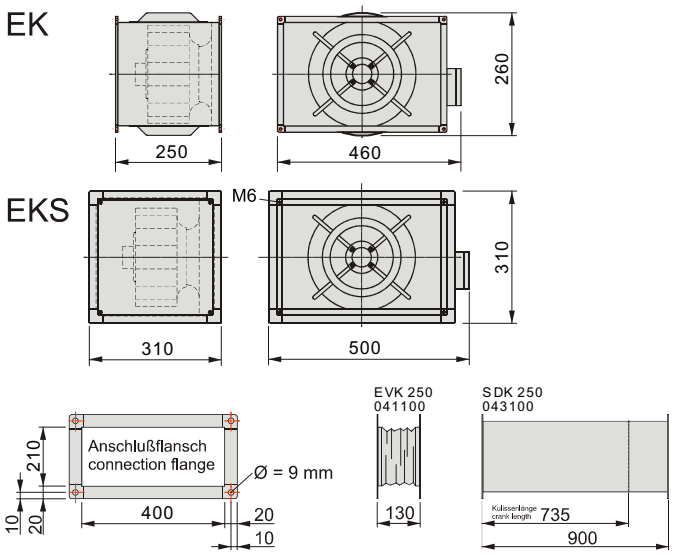
Typ :	EK/EKS 175
Art. Nr :	010050/020050
[kg]:	6/8
U :	230 V 50 Hz
P_1 [kW]:	0,058
I_N [A]:	0,26
n [min⁻¹]:	2500
C_{400V} [µF]:	2
t_R [°C]:	40
	IP44
	E11
	GS 1
	NE 1,5
	RPE 02 A



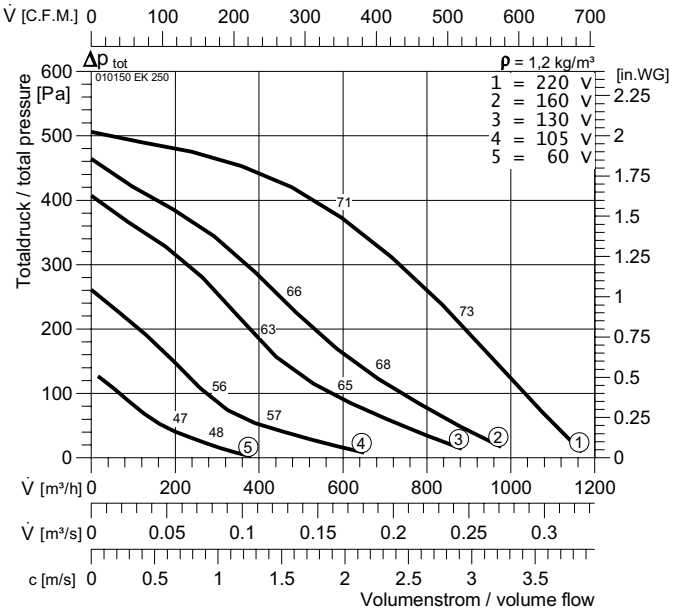
EK / EKS 225



Typ :	EK/EKS 225
Art. Nr :	010100/020100
[kg]:	7/10
U :	230 V 50 Hz
P_1 [kW]:	0,085
I_N [A]:	0,38
n [min⁻¹]:	2700
C_{400V} [µF]:	2,5
t_R [°C]:	40
	IP44
	E11
	GS 1
	NE 1,5
	RPE 02 A

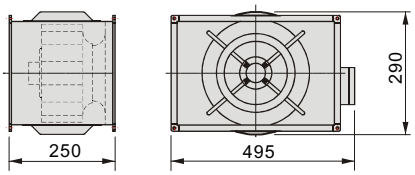


EK / EKS 250

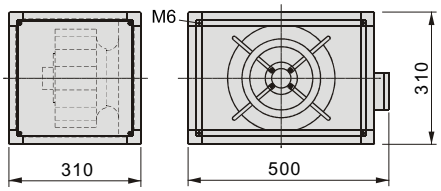


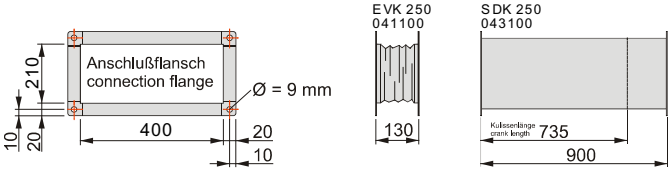
Typ :	EK/EKS 250
Art. Nr :	010150/020150
[kg]:	8/11
U :	230 V 50 Hz
P_1 [kW]:	0,135
I_N [A]:	0,6
n [min⁻¹]:	2650
C_{400V} [µF]:	4
t_R [°C]:	40
	IP44
	E11
	GS 1
	NE 1,5
	RPE 06 A

EK

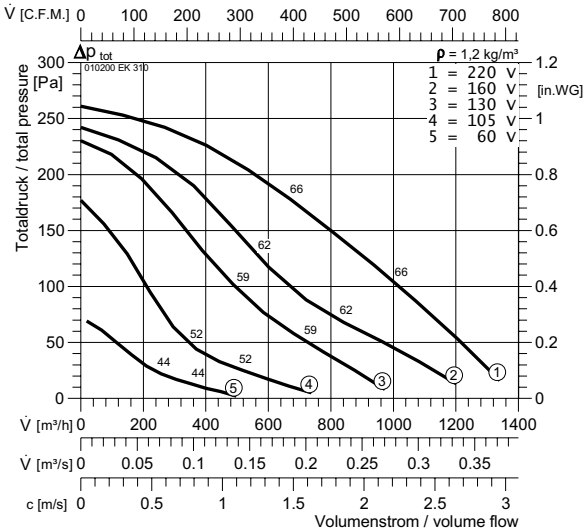


EKS



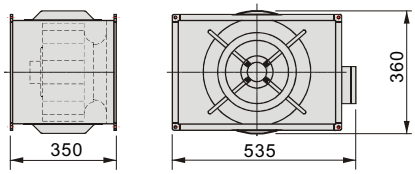


EK / EKS / DK / DKS 310

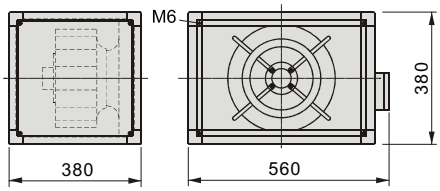


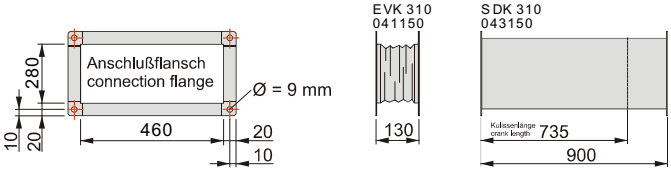
Typ :	EK/EKS 310	DK/DKS 310
Art. Nr :	010200/020200	010250/020250
[kg]:	12/16	13,4/14,2
U :	230 V 50 Hz	400 V 50 Hz
P_1 [kW]:	0,105	0,11
I_N [A]:	0,47	0,32
n [min⁻¹]:	1430	1400
C_{400V} [µF]:	4	-
t_R [°C]:	40	40
	IP44	IP44
	E12	DD0
	GS 2	GS 2
	NE 1,5	RTD1
	RPE 02 A	-

EK

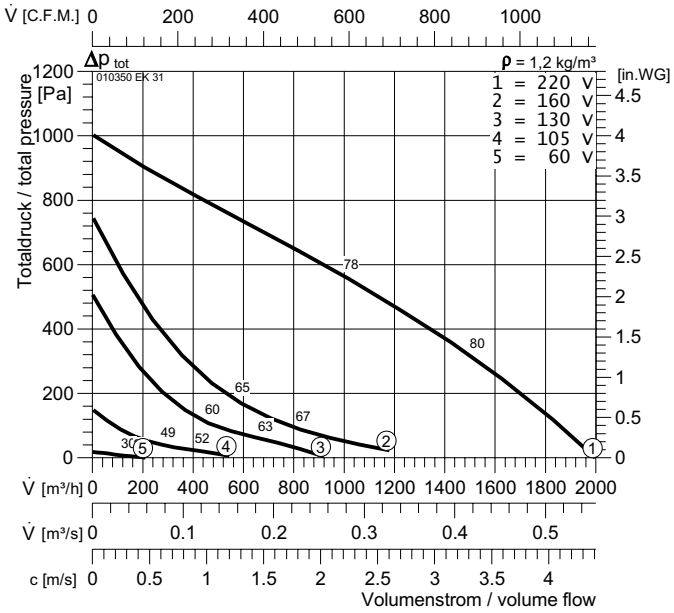


EKS

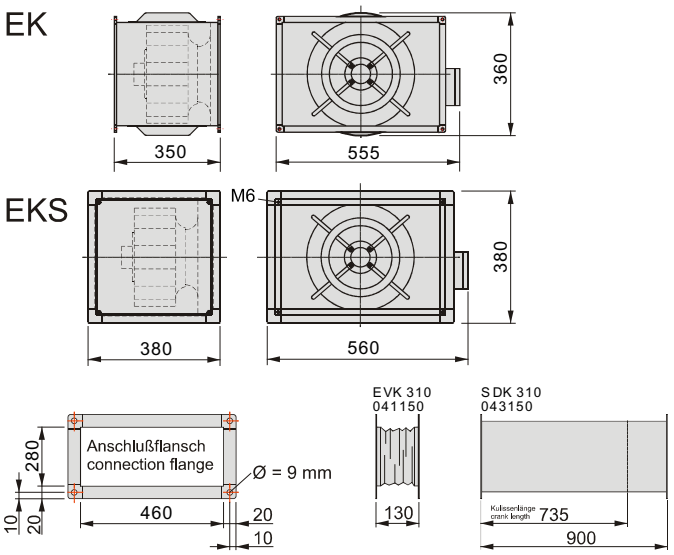




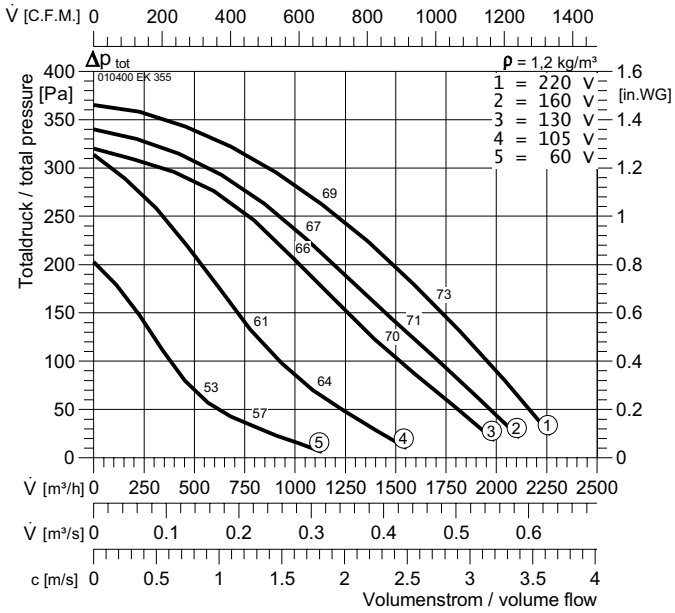
EK / EKS 31



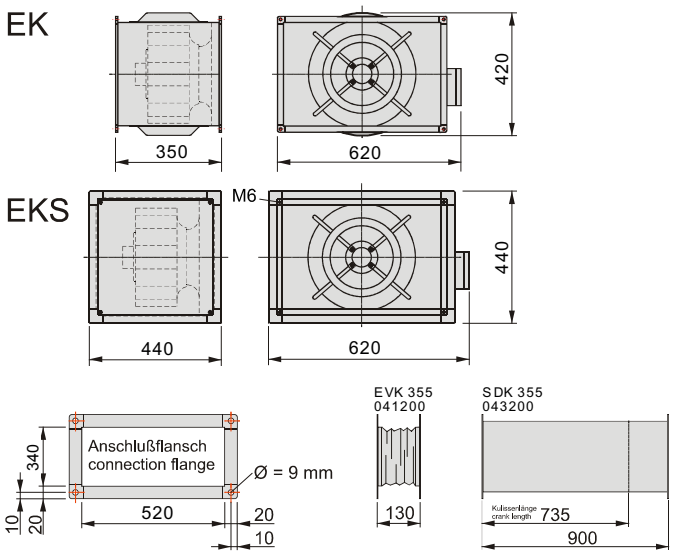
Typ :	EK/EKS 31
Art. Nr :	010350/020350
[kg]:	15,6/19
U :	230 V 50 Hz
P_1 [kW]:	0,65
I_N [A]:	3
n [min⁻¹]:	2465
C_{400V} [µF]:	12
t_R [°C]:	40
	IP54
	E12a
	GS 2
	NE 3,2
	RPE 09 A



EK / EKS / DK / DKS 355



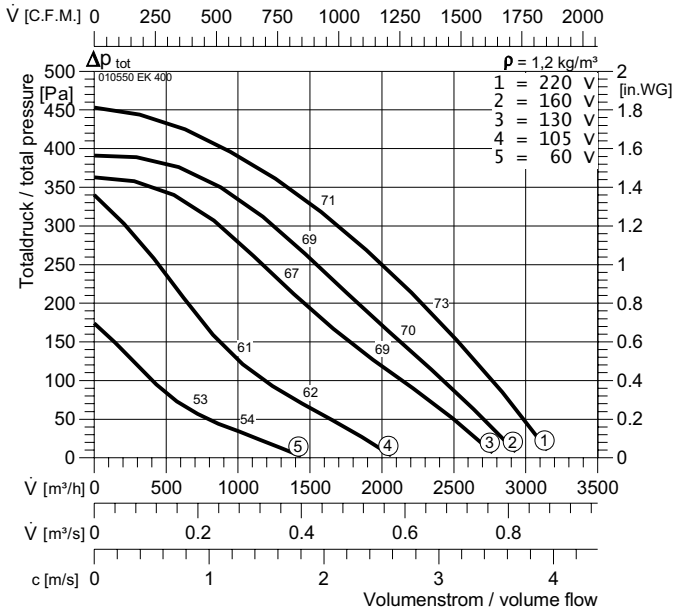
Typ :	EK/EKS 355	DK/DKS 355
Art. Nr :	010400/020400	010450/020450
[kg]:	13,6/18,8	16,6/18,2
U :	230 V 50 Hz	400 V 50 Hz
P_1 [kW]:	0,21	0,27
I_N [A]:	0,97	0,55
n [min⁻¹]:	1430	1310
C_{400V} [µF]:	7	-
t_R [°C]:	40	40
	IP44	IP44
	E12	DS0
	GS 2	GS 2
	NE 1,5	RTD 1,2
	RPE 06	SSD 9



EKS, DKS

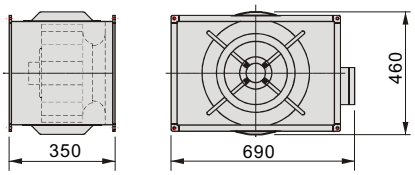
EK, DK

EK / EKS / DK / DKS 400

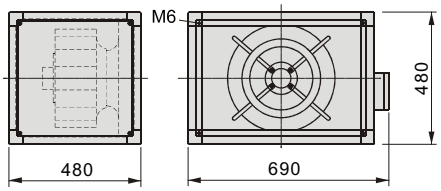


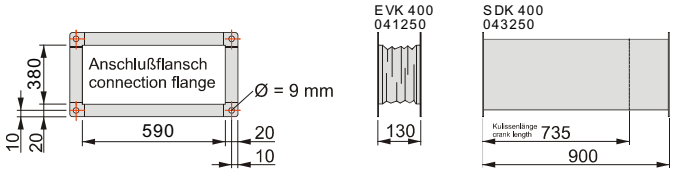
Typ :	EK/EKS 400	DK/DKS 400
Art. Nr :	010550/020550	010600/020600
[kg]:	19,4/25	18,2/24,9
U :	230 V 50 Hz	400 V 50 Hz
P_1 [kW]:	0,6	0,46
I_N [A]:	2,6	0,84
n [min^{-1}]:	1360	1340
C_{400V} [µF]:	12	-
t_R [°C]:	40	40
	IP54	IP44
	E12a	DD0
	GS 2	GS 2
	NE 3,2	RTD 1,2
	RPE 06 A	SSD 9

EK

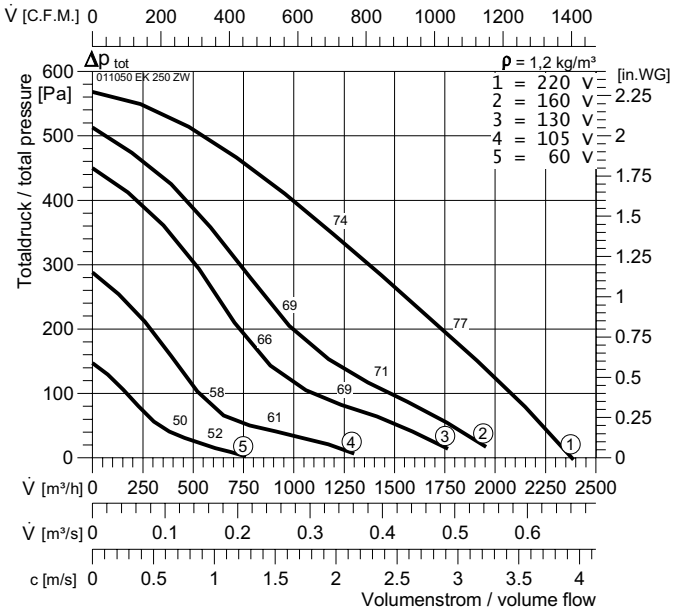


EKS



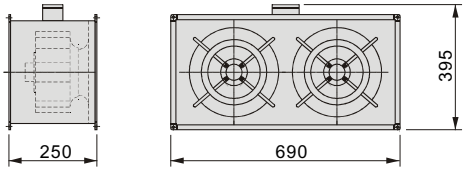


EK / EKS 250 ZW

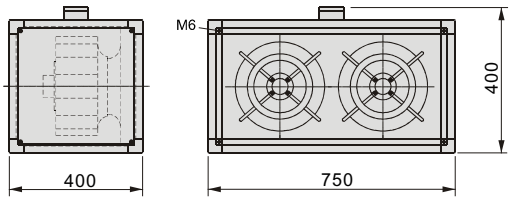


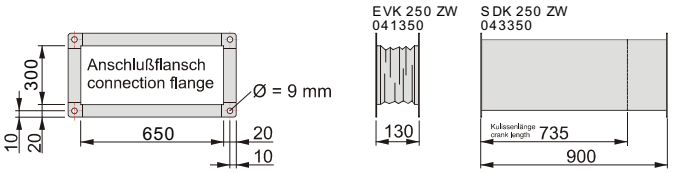
Typ :	EK/EKS 250 ZW
Art. Nr :	011050/021050
[kg]:	14/20
U :	230 V 50 Hz
P_1 [kW]:	2x0,135
I_N [A]:	2x0,6
n [min^{-1}]:	2650
C_{400V} [µF]:	2x4
t_R [°C]:	40
	IP44
	E21
	GS 1
	NE 3,2
	RPE 06

EK

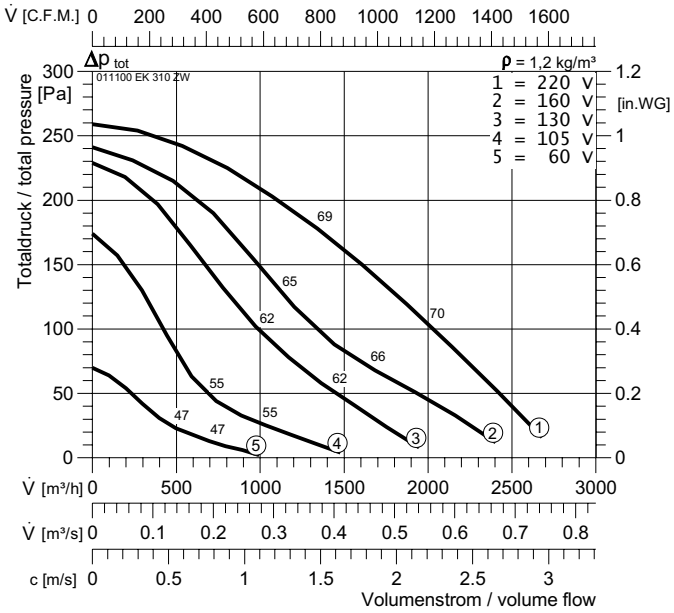


EKS



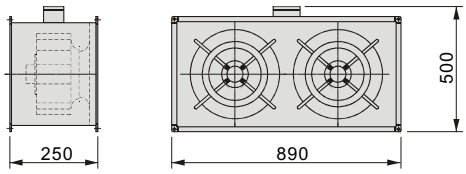


EK / EKS / DK / DKS 310 ZW

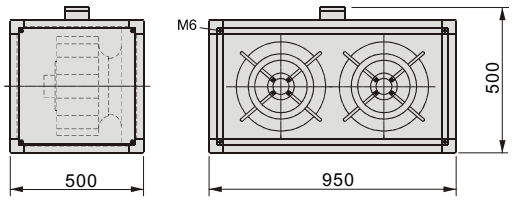


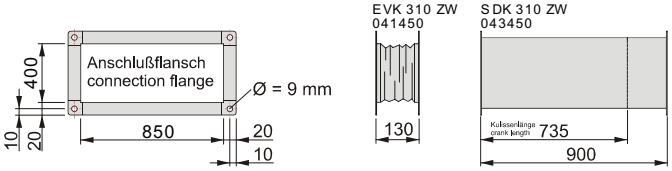
Typ :	EK/EKS 310 ZW	DK/DKS 310 ZW
Art. Nr :	011100/021100	011150/021150
[kg]:	19,4/26,6	20/26
U :	230 V 50 Hz	400 V 50 Hz
P_1 [kW]:	2x0,115	2x0,11
I_N [A]:	2x0,51	2x0,32
n [min⁻¹]:	1400	1400
C_{400V} [µF]:	2x5	-
t_R [°C]:	40	40
	IP44	IP44
	E22b	DD0
	GS 2	GS 2
	NE 3,2	RTD 1,2
	RPE 06	SAD 9

EK

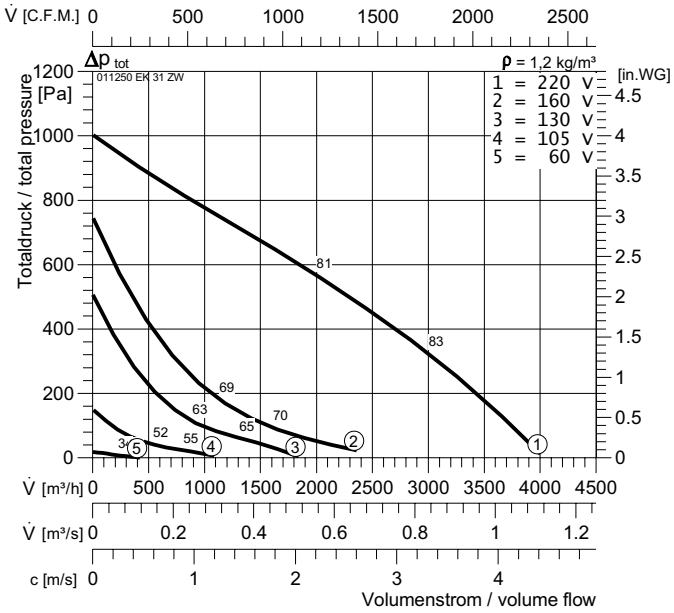


EKS



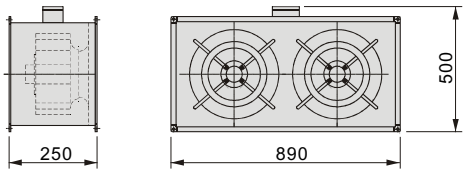


EK / EKS 31 ZW

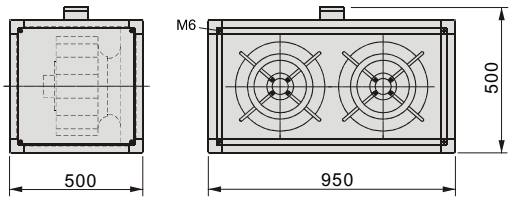


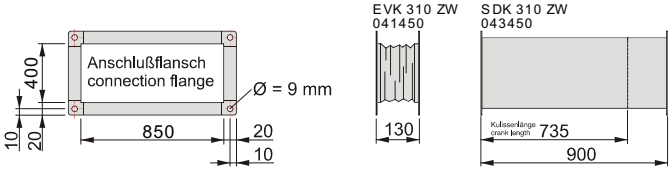
Typ :	EK/EKS 31 ZW
Art. Nr :	011250/021250
[kg]:	24,6/36
U :	230 V 50 Hz
P_1 [kW]:	2x0,65
I_N [A]:	2x3,0
n [min⁻¹]:	2465
C_{400V} [µF]:	2x12
t_R [°C]:	40
	IP54
	E22a
	GS 2
	NE 7,5
	SAE 7

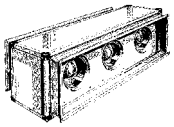
EK



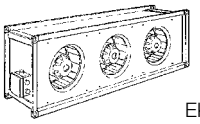
EKS





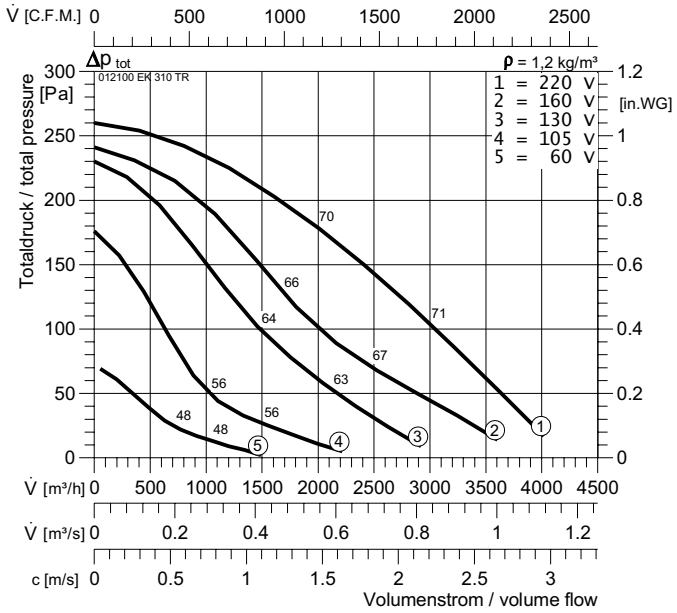


EKS, DKS

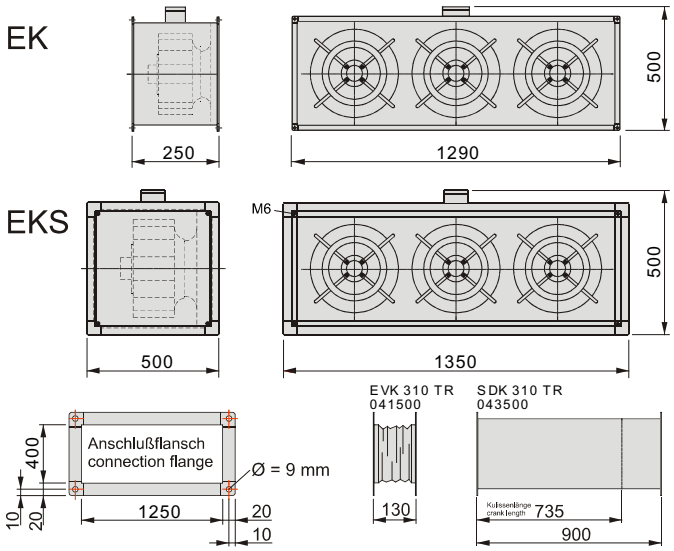


EK, DK

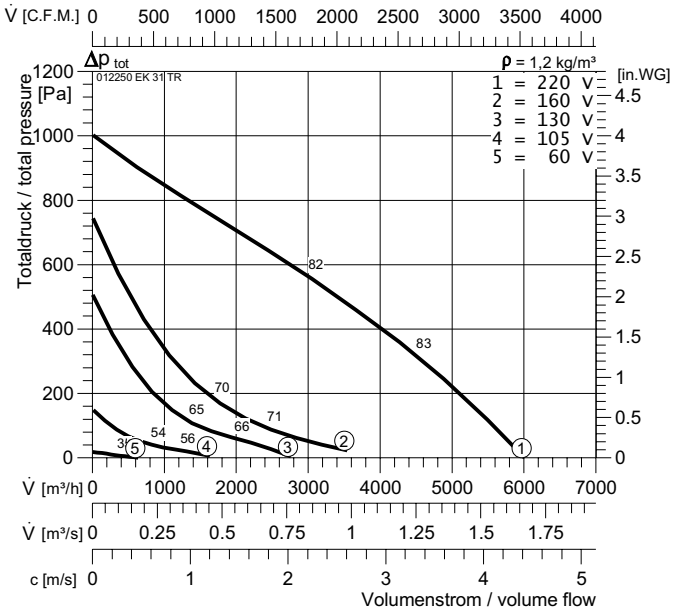
EK / EKS / DK / DKS 310 TR



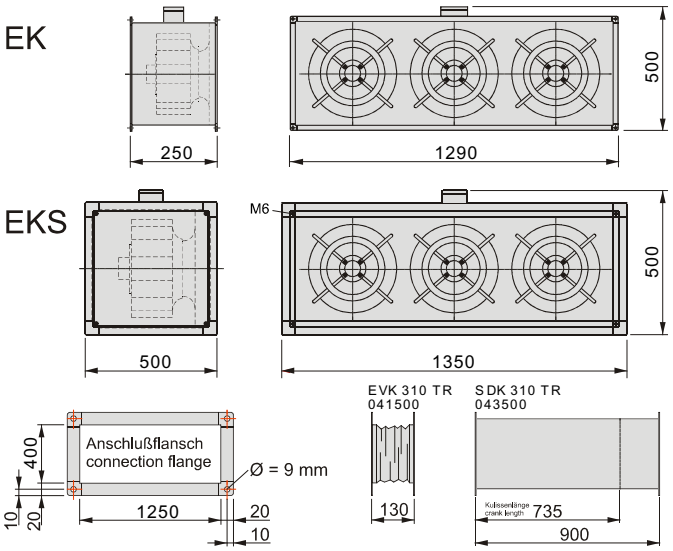
Typ :	EK/EKS 310 TR	DK/DKS 310 TR
Art. Nr :	012100/022100	012150/022150
[kg]:	28/38,4	35/45,4
U :	230 V 50 Hz	400 V 50 Hz
P_1 [kW]:	3x0,115	3x0,11
I_N [A]:	3x0,51	3x0,32
n [min^{-1}]:	1400	1400
C_{400V} [µF]:	3x5	-
t_R [°C]:	40	40
	IP44	IP44
	E31b/E32b	DD0
	GS 2	GS 2
	NE 3,2	RTD 1,2
	RPE 06	SAD 9

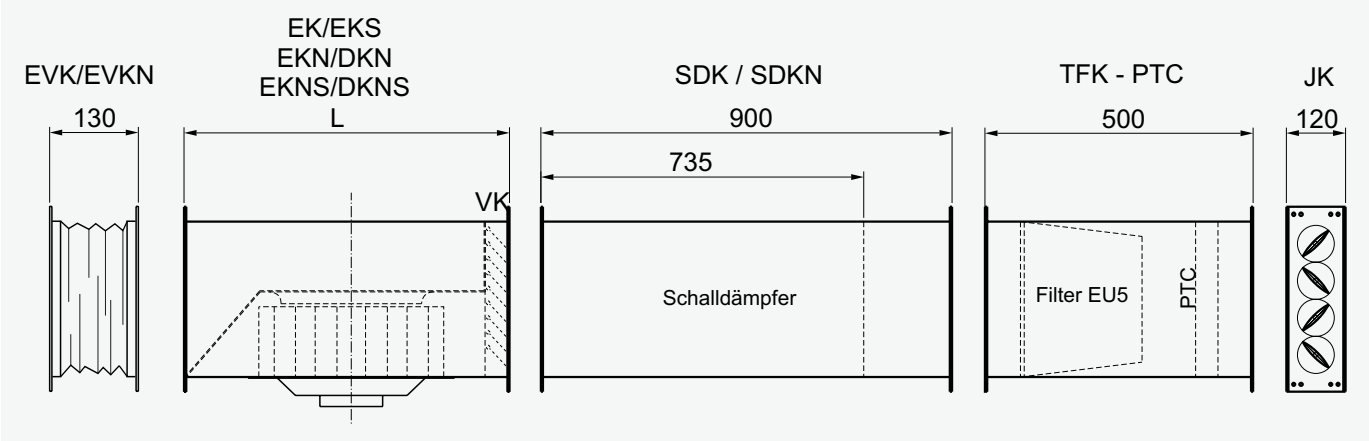


EK / EKS 31 TR

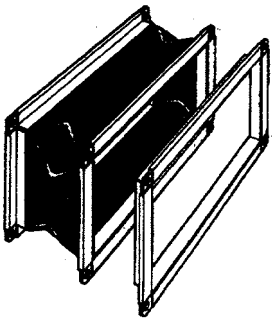


Typ :	EK/EKS 31 TR
Art. Nr :	012250/022250
[kg]:	40/45,8
U :	230 V 50 Hz
P_1 [kW]:	3x0,65
I_N [A]:	3x3,0
n [min^{-1}]:	2465
C_{400V} [µF]:	3x12
t_R [°C]:	40
	IP54
	E31a
	GS 2
	NE 10
	-





EVK / EVKN

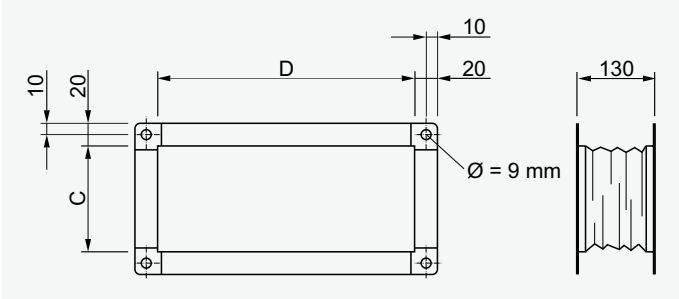


Elastische Verbindungsstutzen

für Kanalventilatoren, saug- und druckseitig einsetzbar. Maße des Querschnittes wie SDK.

Flexible connection

are suitable for duct fans on inlet and outlet. Dimensions of cross section are equal to SDK.



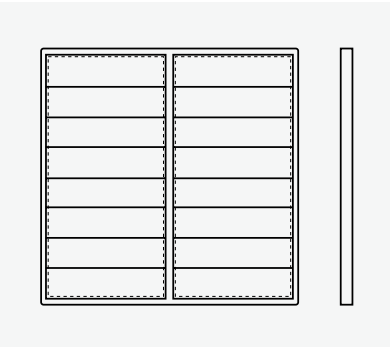
für Kanalventilatoren
for duct fans
EKN, DKN, EKNS, DKNS

Typ type	Art. Nr.	C [mm]	D [mm]
EVK 200-N	041610	200	400
EVK 225-N	041620	250	500
EVK 250-N	041630	300	500
EVK 280-N	041640	300	600
EVK 315-N	041650	350	600
EVK 355-N	041300	400	700
EVK 400-N	041660	500	800
EVK 450-N	041670	500	900

für Kanalventilatoren
for duct fans
EK, DK, EKS, DKS

Typ type	Art. Nr.	C [mm]	D [mm]
EVK 175	041050	180	350
EVK 225	041100	210	400
EVK 250	041100	210	400
EVK 310/31	041150	280	460
EVK 355	041200	340	520
EVK 400	041250	380	590
EVK 250 ZW	041350	300	650
EVK 310/31 ZW	041450	400	850
EVK 310/31 TR	041500	400	1250
EVK 250 TR	041400	300	1000

VK



Verschlußklappe

Selbsttätige Verschlußklappe aus wetterfestem Nylon hergestellt, zur Kombination mit Kanalventilatoren. Maximale Luftgeschwindigkeit 12 m/s.

Maße passend zu den jeweiligen Kanalventilatoren.

Louvre shutter

Self-operating shutter made of weatherproof nylon designed for duct fans. Maximum air velocity 12 m/s.

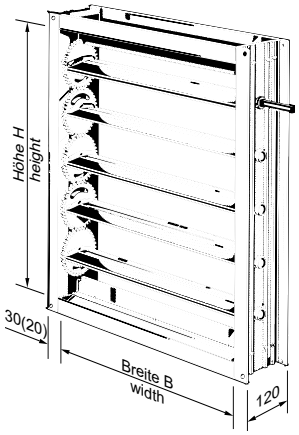
Dimensions correspond to the respective duct fans.

Typ type	Art. Nr.
VK 175	044050
VK 250	044100
VK 310	044150
VK 355	044200
VK 400	044250
VK 250 ZW	044350

Typ type	Art. Nr.
VK 250 TR	044400
VK 310 ZW	044450
VK 310 TR	044500
VK 200-N	044610
VK 225-N	044620
VK 250-N	044630

Typ type	Art. Nr.
VK 280-N	044640
VK 315-N	044650
VK 355-N	044300
VK 400-N	044660
VK 450-N	044670

JK



Jalousieklappen

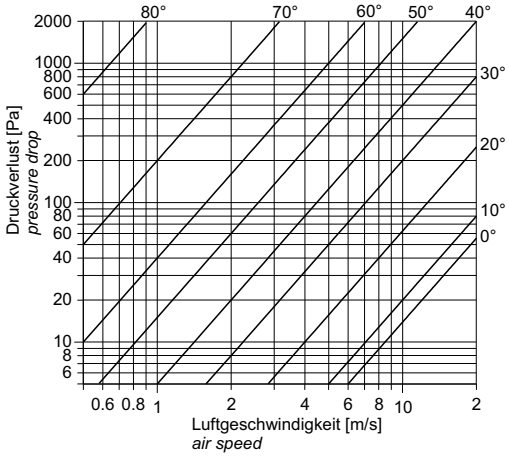
- Rahmen und Lamellen aus stabilen stranggepreßten Aluminiumprofilen
- Zahnräder aus hochwertigem alterungs- und temperaturbeständigem Polyamid
- hochflexible Silikondichtungen zwischen den einzelnen Lamellen
- niedrige Leckrate
- jede Abmessung bis 1,20 x 1,20 m mit oder ohne Flanschbohrungen lieferbar
- geringe Druckverluste, geräuscharm

Volume control damper

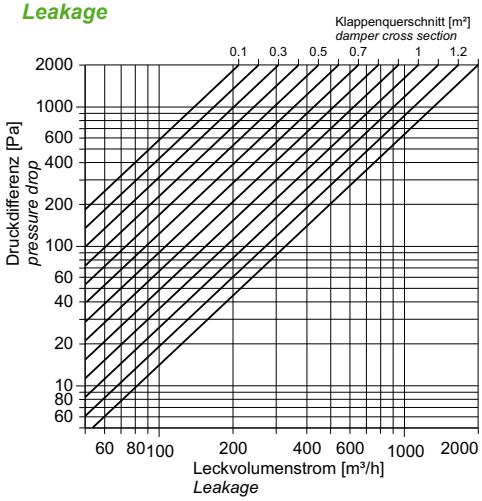
- frame and blades made of robust extruded aluminium profiles
- cogs made of high-quality age- and temperature-resistant polyamide
- highly flexible silicon sealings between the blades
- low leakage rate
- any dimension up to 1,20 x 1,20 m with or without flange drill-holes available
- low pressure loss, quiet

Maximale Abmessungen BxH	Maximum dimensions BxH	1200 x 1200 mm
Lamellenabstand	Blade distance	98 mm
Flanschmaß	Flange	30 (20) mm
Antriebsachse	Driving shaft	12 x 12 mm
Bauart	Construction	gegenläufig / Counter rotating
Öffnungswinkel	Opening angle	90 °
Material Rahmen	Frame material	Al Mg Si 0,5F22
Material Lamellen	Blade material	Al Mg Si 0,5F22
Material Zahnrad	Cog material	PA6
Dichtung	Sealing material	Silikonkautschuk Ø 6 mm Silicone rubber Ø 6 mm
Maximale Betriebstemperatur	Maximum operating temp.	95 °C

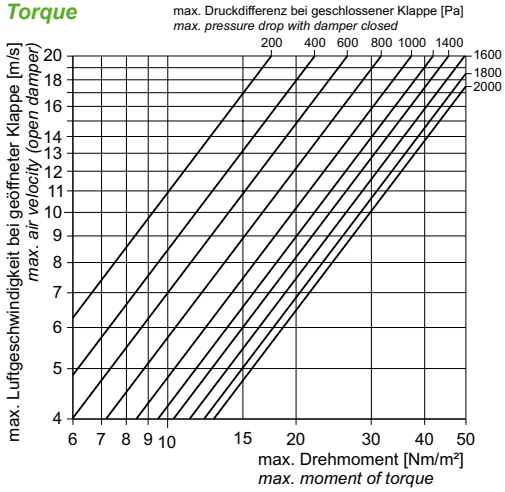
Druckverlust
Pressure loss



Leckvolumenstrom
Leakage



Drehmoment
Torque



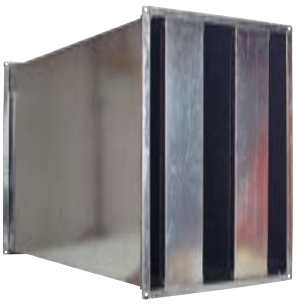
Beispiel für die Drehmomentermittlung

Klappenquerschnitt = Breite x Höhe = 0,6 m²
max. Luftgeschwindigkeit = 8 m/s
max. Druckdifferenz = 1000 Pa
aus Diagramm: max. Drehmoment = 15 Nm/m²
bezogen auf Klappenquerschnitt (0,6 m²):
max. Drehmoment = 15 Nm/m² x 0,6 m² = 9 Nm

Examplary Calculation

Cross-sectional area of damper =
width x height = 0,6 m²
max. air velocity = 8 m/s
max. pressure drop = 1.000 Pa
from diagram: max. moment of torque = 15 Nm/m²
in relation to cross-sectional area of damper:
15 Nm/m² x 0,6m² = 9 Nm

SDK / SDKN



Schalldämpfer für Kanalventilatoren

Anwendung

Die Kulissenschalldämpfer besitzen die gleichen Anschluß- und Querschnittsmaße wie die entsprechenden Kanalventilatoren. Sie können saug- oder druckseitig bzw. beidseitig an diese angeschlossen werden.

Ausführung

Rechteckiges Gehäuse aus sendzimirverzinktem Stahlblech mit beidseitigem Kanalflansch. Auf der Anschlußseite des Ventilators mit Luftverteilkammer. Kanalflansch 20 mm breit.

Silencers for duct fans

Application

All silencers have the same connecting dimensions as the corresponding duct fans and can be fitted either on inlet or outlet or on both sides.

Features

Silencer housing made of galvanised sheet steel with duct flanges on both sides. Air distribution box on the fan connecting side. Flange width: 20 mm.

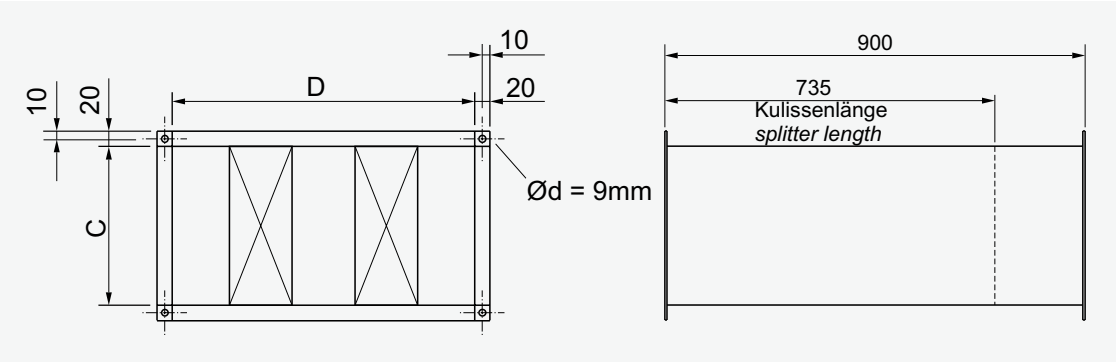
Typ *type*	Artikel Nr.	C [mm]	D [mm]	L [mm]	[kg]
SDK 200-N	043610	200	400	900	13
SDK 225-N	043620	250	500	900	17
SDK 250-N	043630	300	500	900	19
SDK 280-N	043640	300	600	900	21
SDK 315-N	043650	350	600	900	23
SDK 355-N	043300	400	700	900	27
SDK 400-N	043660	500	800	900	34
SDK 450-N	043670	500	900	900	45
SDK 175	043050	180	350	900	11
SDK 225	043100	210	400	900	12
SDK 250	043100	210	400	900	12

Typ *type*	Artikel Nr.	C [mm]	D [mm]	L [mm]	[kg]
SDK 310	043150	280	460	900	15
SDK 31	043150	280	460	900	15
SDK 355	043200	340	520	900	20
SDK 400	043250	380	590	900	24
SDK 250 ZW	043350	300	650	900	25
SDK 310 ZW	043450	400	850	900	34
SDK 310 TR	043500	400	1250	900	45
SDK 31 ZW	043450	400	850	900	34
SDK 31 TR	043500	400	1250	900	45
SDK 250 TR		300	1000	900	31

Dämpfung [dB] bei Frequenzband [Hz] Suppression						
125	250	500	1 k	2 k	4 k	8 k
8	13	19	28	15	12	9

Schalldämpfer mit höheren Dämpfungswerten auf Anfrage.

Silencers with higher duties on demand.



TFK
TFK-PTC

Filterkanal mit Taschenfilter / PTC-Heizkanal mit Filter für EKN/DKN/EKNS/DKNS

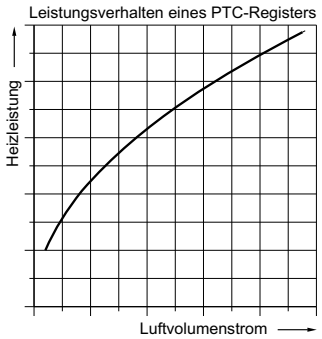
Kanalstück mit eingebautem Taschenfilter und PTC-Heizregister.

- Taschenfilter G3
- Gehäuse aus verzinktem Stahlblech
- angeschraubter, zur Filterentnahme abnehmbarer Deckel
- einsetzbar als Filter für höhere Ansprüche der Zuluftfiltration, z. Bsp. als Zuluftfilter für die Gebäudetechnik oder in der Industrie

Duct filter section / Duct filter section with PTC-heater for EKN/DKN/EKNS/DKNS

For rectangular ducts, with built-in bag filter and PTC-heating coil.

- bag filter type G3
- housing made of galvanised sheet steel
- screwed panels allow for easy acces to the filter or heating coil
- suitable as a prefilter for higher demands, e.g. as supply air filter for offices, apartments, warehouses, industry etc.



PTC-Heizregister

Das neu entwickelte sogenannte PTC-Heizregister ist mit Halbleiterelementen ausgestattet. Aufgrund der besonderen Widerstands-Temperatur-Charakteristik haben diese Elemente selbstregulierende Eigenschaften, die eine Überhitzung verhindern und die Heizleistung regeln. Die Oberflächentemperatur von maximal140 °C ist praktisch unabhängig vom Luftstrom und wird auch bei abgeschaltetem Ventilator nicht überschritten.

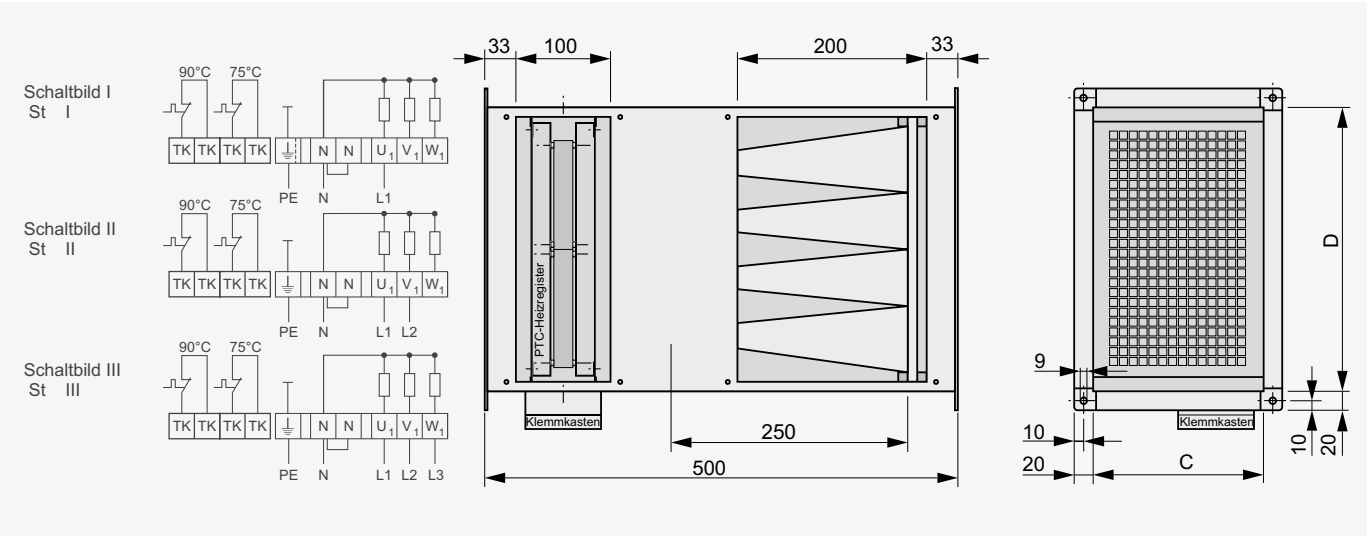
Das PTC-Heizregister senkt in diesem Fall die Heizleistung selbsttätig auf einen entsprechend kleinen Wert. Durch individuelle Verschaltung sind zahlreiche Schaltstufen möglich. Bei der erforderlichen Betriebsspannung von 230V können die Heizregister mit einer Heizleistung von bis zu 6 kW (Baugröße 200) bzw. 15 kW (Baugröße 450) bestückt werden.

PTC heating element

The newly developed PTC heating coil is equipped with semiconductors. Due to their temperature-resistance-characteristic, the heating elements are self-controlling. No overheating will occur and the heating power is controlled. The maximum surface temperature of 140 °C is irrespective of the airflow and will not be exceeded even when the fan is switched off. In this case, the PTC heater will automatically lower its heating power to an appropriate level. Individual contacting of the heating coils enables several power steps.

At the required line voltage of 230V the coil can be equipped with a heating power ranging from 6 kW (size 200) to 15 kW (size 450).

Baugröße *size*	Artikel Nr.		C [mm]	D [mm]	Mögliche Heizleistung mit 1 kW je Schaltstufe *heating capacity*	Widerstandsbeiwert ζ *coefficient of drag*	
	TFK (ohne PTC)	TFK-PTC (mit PTC)				ohne PTC	mit PTC
200	046500	046600	200	400	6 kW	29,5	99,1
225	046510	046610	250	500	8 kW	18,9	80
250	046520	046620	300	500	12 kW	15,7	39,1
280	046530	046630	300	600	12 kW	13,1	31,1
315	046540	046640	350	600	15 kW	11,2	25,8
355	046550	046650	400	700	15 kW	8,4	35,5
400	046560	046660	500	800	15 kW	5,9	27,6
450	046570	046670	500	900	15 kW	5,2	13



Rohrventilatoren

Tube Fans

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Schallgedämmte Rohrventilatoren
Silent Tube Fans
SDB

Seite / Page 34-61

Rohrventilatoren
Tube Fans
RFE/RF/RS/RK/ERM/DRM

Seite / Page 70-73

Zubehör
Accessories
RSV/RSG/RVE/RVK/WVK

2

Typenschlüssel — *Fan type code*

RF E 150

Nennweite / *Impeller diameter*
100, 125, 150

Motorversion / *Motor type*
E = Einphasenwechselstrom
Single-phase A.C.
G = Einphasengleichstrom
Single-phase D.C.

Eigenschaften und Ausführung

Die Rohrventilatoren der Baureihe RFE und RFG sind kompakte Mixed-Flow Ventilatoren mit integriertem Nachleitrad. Beide Seiten können direkt in die Rohrleitung eingesteckt und mit Schnellverbindern fixiert werden.

Gehäuse

Die Gehäuse bestehen aus gespritztem schwarzem Polypropylen. Sie sind in den Baureihen so aufgebaut, daß sich die nächst kleinere Baugröße durch Aufstecken von Übergangsflanschen auf das Gehäuse ergibt. Dadurch ist eine günstige Lagerhaltung möglich.

Die Ventilatoren entsprechen der Schutzart IP54.

Motor

RFE - Es werden 3-stufige Einphasen-Wechselstrom-Motoren eingesetzt.

RFG - Es werden elektronisch kommutierte Gleichstrommotoren mit geringer Stromaufnahme verwendet.

Regelgerät

RFE - Zur einfachen Regelung kann ein Stufenschalter eingesetzt werden. Für feinere Regelungen können die üblichen Regelgeräte für Einphasen-Wechselstrom verwendet werden.

Luftleistungskennlinien

Die Kennlinien in diesem Katalog wurden mittels einem saugseitigen Kammerprüfstand entsprechend der DIN 24 163 in Einbauart B aufgenommen und zeigen die statische Druckerhöhung Δp_{fa} als Funktion des Volumenstroms.

Montage

Die RFE/G-Ventilatoren werden direkt mit Rohrschnellverbindern in das Lüftungsrohr eingebaut. Durch ihre geringe Bauhöhe sind sie ideal für den Einbau in Zwischendecken geeignet.

Design features

Series RFE and RFG tube fans are Mixed-Flow fans fans with integrated guide vane. Both sides of the fan can be fitted into the tube and can be fixed with fastening clamps.

Casing

The housing is made of injection-mould black PP. The fan series is designed in a way that smaller diameters can be achieved by fitting reduction flanges to the standard diameter fans.

The fans have protection class IP 54

Motor

RFE - 3-step single-phase motors are fitted.

RFG - Fans are driven by electronically commutated DC-motors with low power consumption.

Control unit

RFE - For simple set-ups a step switch is sufficient. A more sensitive control can be achieved by standard controllers for single phase AC.

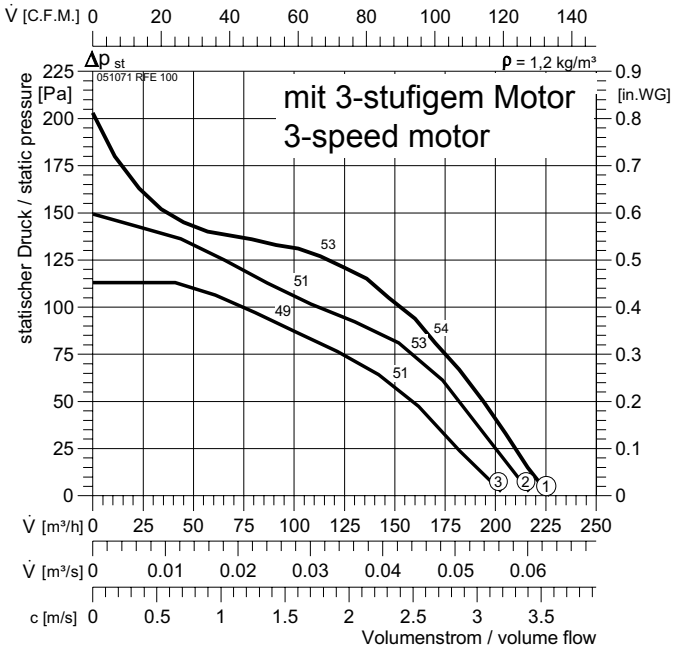
Fan performance curves

The performance curves in this catalogue have been established using the inlet test method in a test chamber according to DIN 24 163, mounting position B. The curves indicate the static pressure increase Δp_{fa} as a function of the volume flow.

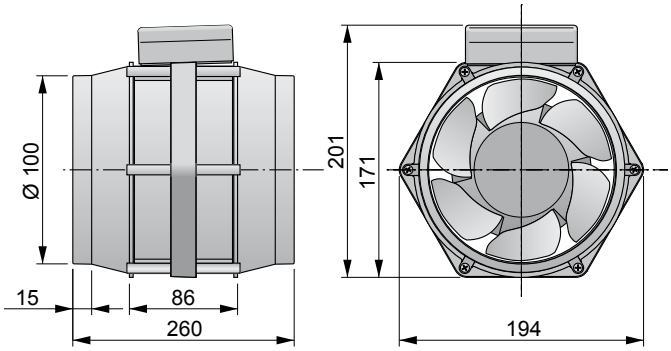
Installation

The RFE/G-type inline tube fans are directly mounted into the tube and fixed by clamps. Due to it's very low height the RF-type is ideal for use in false ceilings.

RFE 100

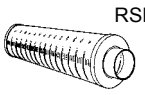


Typ :	RFE 100		IP54	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	051071		E19a	$L_{WA\,tot}$	-13	2	0
:	1,3	kg	GS 1	**125 Hz**	-21	-15	-15
U :	230 V 50 Hz		FWG-4	**250 Hz**	-19	-7	-7
P_1 :	0,035	kW	NE 0,5	**500 Hz**	-19	-3	-7
I_N :	0,15	A	RPE 02	**1 kHz**	-20	-4	-5
n :	2800	min^{-1}		**2 kHz**	-23	-4	-7
C_{400V} :	1	µF		**4 kHz**	-27	-12	-13
t_R :	40	°C		**8 kHz**	-36	-20	-22

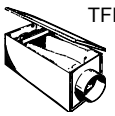


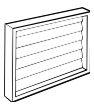
Zubehör Seite / *Accessories page 70-73*

RSV

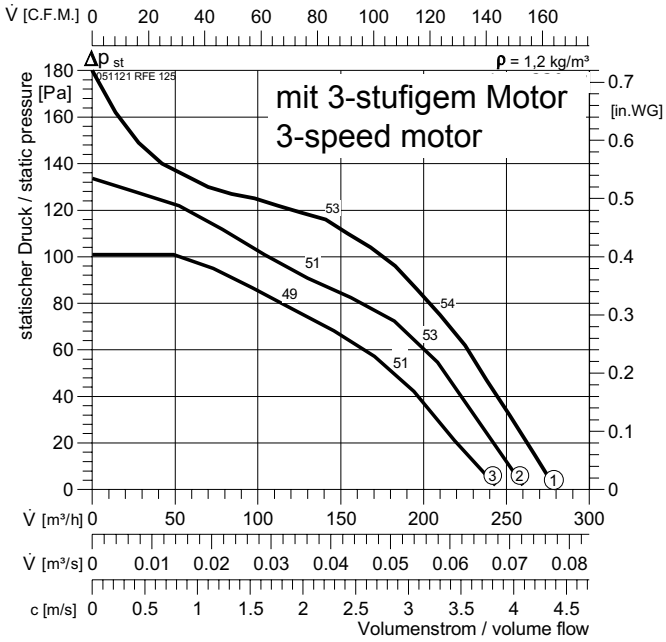

RSD

RVK

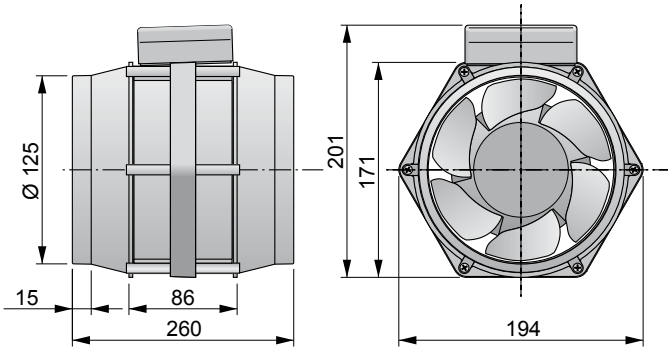

TFB-PTC


WVK

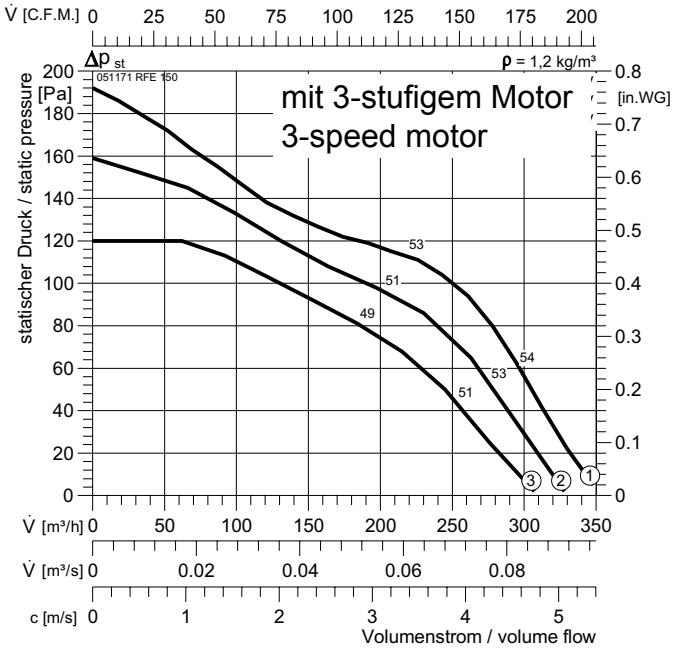
RFE 125



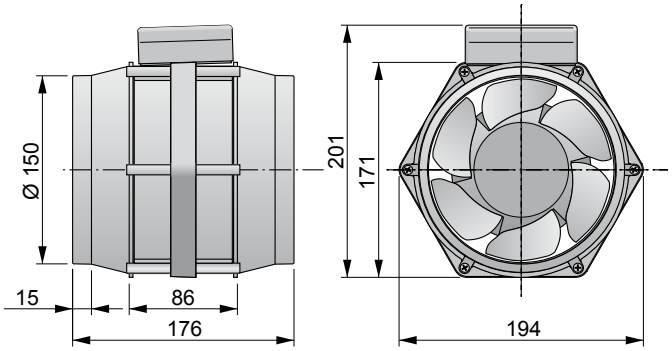
Typ :	RFE 125		IP54	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	051121		E19a	$L_{WA\,tot}$	-13	2	0
:	1,3	kg	GS 1	125 Hz	-21	-15	-15
U :	230 V 50 Hz		FWG-4	250 Hz	-19	-7	-7
P_1 :	-	kW	NE 0,5	500 Hz	-19	-3	-7
I_N :	0,15	A	RPE 02	1 kHz	-20	-4	-5
n :	2800	min^{-1}		2 kHz	-23	-4	-7
C_{400V} :	1	µF		4 kHz	-27	-12	-13
t_R :	40	°C		8 kHz	-36	-20	-22



RFE 150



Typ :	RFE 150		IP54	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	051171		E19a	$L_{WA\,tot}$	-13	2	0
:	1,3	kg	GS 1	125 Hz	-21	-15	-15
U :	230 V 50 Hz		FWG-4	250 Hz	-19	-7	-7
P_1 :	0,035	kW	NE 0,5	500 Hz	-19	-3	-7
I_N :	0,15	A	RPE 02	1 kHz	-20	-4	-5
n :	2800	min^{-1}		2 kHz	-23	-4	-7
C_{400V} :	1	µF		4 kHz	-27	-12	-13
t_R :	40	°C		8 kHz	-36	-20	-22



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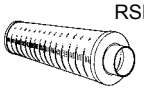
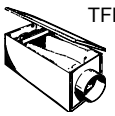
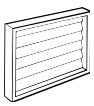
RSV


RSD

RVK


TFB-PTC


WVK

Rohrventilatoren
Tube Fans

Typenschlüssel
Fan type code

RF 150

Nennweite / *Impeller diameter*
100, 150

Rohrventilator / *Inline tube fan*

Eigenschaften und Ausführung

Rohrventilatoren der Baureihe RF sind Radial-Ventilatoren mit saug- und druckseitig rundem Rohranschluß. Beide Seiten können direkt in die Rohrleitung eingesteckt und mit Schnellverbindern fixiert werden.

Gehäuse

Die Gehäuse bestehen senzimierverzinktem Stahlblech.
Die Ventilatoren entsprechen der Schutzart IP44.

Motor

RF - Es werden 3-stufige Einphasen-Wechselstrom-Motoren eingesetzt.

Regelgerät

RF - Zur einfachen Regelung kann ein Stufenschalter eingesetzt werden. Für feinere Regelungen können die üblichen Regelgeräte für Einphasen-Wechselstrom verwendet werden.

Montage

Die RF-Ventilatoren werden direkt mit RSV Rohrschnellverbindern in das Lüftungsrohr eingebaut. Durch ihre geringe Bauhöhe sind sie ideal für den Einbau in Zwischendecken geeignet.

Luftleistungskennlinien

Die Kennlinien in diesem Katalog wurden mit einem saugseitigen Kammerprüfstand entsprechend der DIN 24 163 in Einbauart B aufgenommen und zeigen die statische Druckerhöhung Δp_{fa} als Funktion des Volumenstroms.

Schallentwicklung

In den Luftleistungskennlinien ist der A-bewertete Freiausblas-Schallleistungspegel L_{WA6} angegeben.

Der A-bewertete Freiansaug-Schallleistungspegel L_{WA5} nach DIN 45 635, Teil 38 kann über die relativen Schallleistungspegel genau ermittelt werden, oder nach folgender Berechnung näherungsweise bestimmt werden:
$L_{WA5} \approx L_{WA6}$ **- 6 dB**

Der A-bewertete Gehäuse-Schallleistungspegel L_{WA2} nach DIN 45 635, Teil 38 kann über die relativen Schallleistungspegel genau ermittelt werden, oder nach folgender Berechnung näherungsweise bestimmt werden:
$L_{WA2} \approx L_{WA6}$ **- 17 dB**

Den A-bewerteten Schalldruckpegel L_{PA} in 1 m Abstand erhält man annähernd indem man vom A-Schallleistungspegel 7 db(A) abzieht:
$L_{PA(1m)} \approx L_{WA2}$ **- 7 dB**

Zu beachten ist, dass Reflexionen und Raumcharakteristik sowie Eigenfrequenzen die Größe des Schalldruckpegels unterschiedlich beeinflussen. Um Körperschallübertragungen auf ein angeschlossenes Kanalsystem zu vermeiden, empfehlen wir den Einsatz unserer flexiblen Kanalverbindungsstücke.

Für genauere Berechnungen bei Schallschutzmaßnahmen ist der Schallleistungspegel der Oktavbänder (A-bewertet) von Bedeutung, welcher wie folgt ermittelt wird:
$L_{WAokt} = L_{WA6} + L_{WArel}$

Die relativen Oktav-Schallleistungspegel L_{WArel} bei den Oktav-Mittelfrequenzen sind den Leistungskurven des Ventilators zu entnehmen. Sie sind bei 0,5 x Vmax ermittelt worden.

Design features

RF-series tube fans are centrifugal fans with circular connections at inlet and outlet sides. Both sides can easily be fitted into the tube by means of RSV fastening clamps.

Casing

The housing is made of galvanized sheet steel.
The fans correspond to protection class IP 44

Motor

RF fans are fitted with a 3-step single-phase motor.

Control unit

For simple set-ups a step switch is sufficient. A more sensitive control can be achieved by standard controllers for single phase AC.

Installation

The RF-type inline tube fans are directly mounted into the tube and fixed by clamps. Due to it's very low height the RF-type is ideal for use in false ceilings.

Fan performance curves

The performance curves in this catalogue have been established using the inlet test method in the test chamber according to DIN 24 163, mounting position B. The curves indicate the static pressure increase Δp_{fa} as a function of the volume flow.

Sound levels

The figures quoted in the performance curves are the "A" decibel figures which are the sound power levels L_{WA6} at the outlet side in duct systems.

The "A" sound power level at the inlet side L_{WA5}, according to DIN 45 635, part 38, can be calculated via the relative sound power levels (see below) or is obtained approximately as follows:
$L_{WA5} \approx L_{WA6}$ **- 6 dB**

The "A" casing sound power level L_{WA2}, according to DIN 45 635, part 38, can be calculated via the relative sound power levels (see below) or is obtained approximately as follows:
$L_{WA2} \approx L_{WA6}$ **- 17 dB** - for EKN or DKN
$L_{WA2} \approx L_{WA6}$ **- 25 dB** - for EKNS or DKNS

The "A" sound pressure level L_{PA} at a distance of 1 metre is obtained approximately by deducting 7 dB(A) from the "A" sound power level.:
$L_{PA(1m)} \approx L_{WA2}$ **- 7 dB**

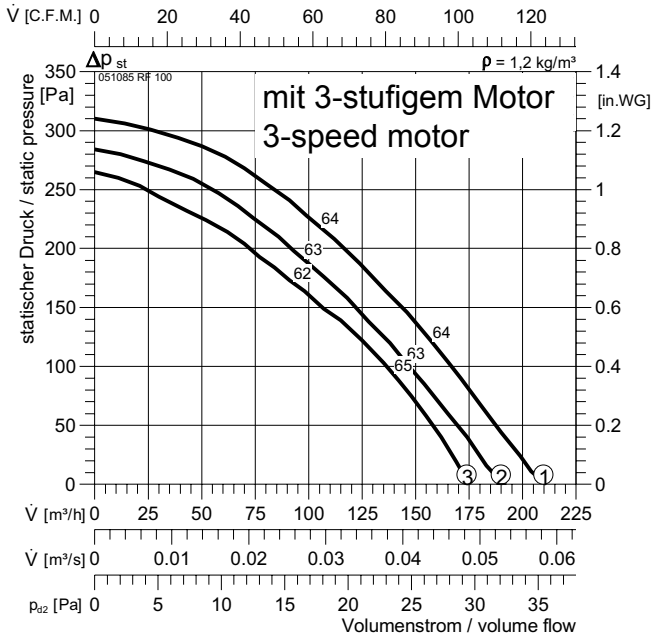
It is important to note that reflexion and environmental characteristic as well as natural frequencies differently influence the sound pressure levels In order to avoid structure-borne noise transfer to a connected duct system we recommend the use of flexible duct connection.

The A-weighted octave sound power level is important for the choice of suitable sound attenuators. It is obtained as follows:
$L_{WAokt} = L_{WA6} + L_{WArel}$

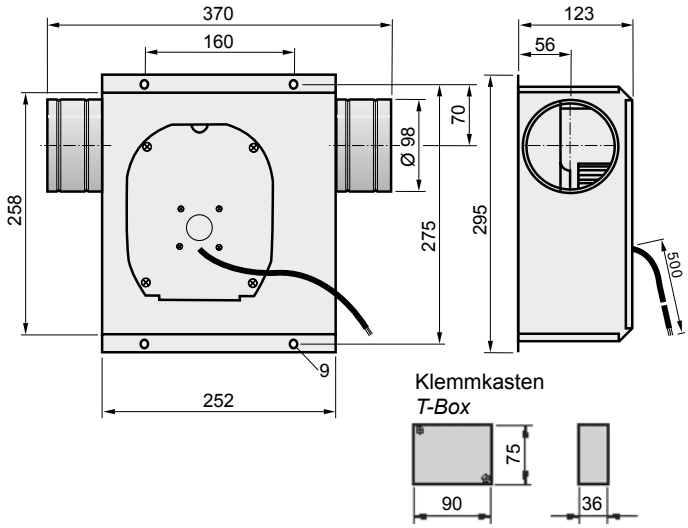
The relative octave sound power level L_{WArel} at octave medium frequency can be taken from the tables at respective fan. These levels has been established at 0.5 x Vmax.

RF

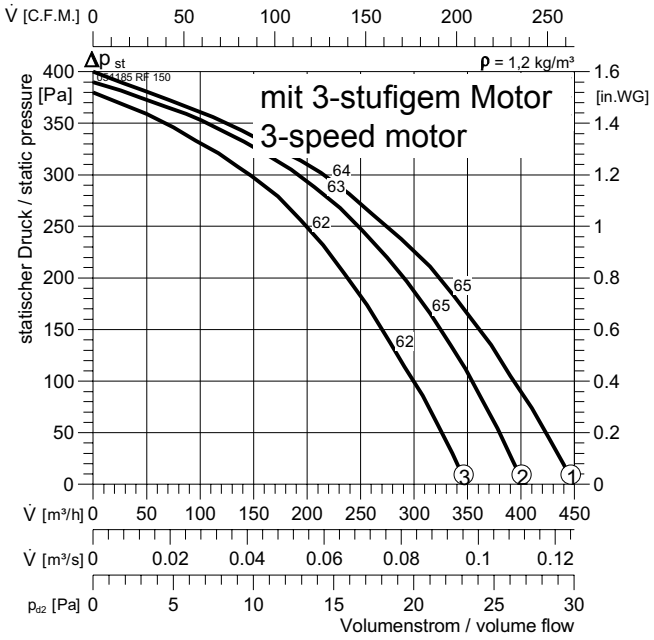
RF 100



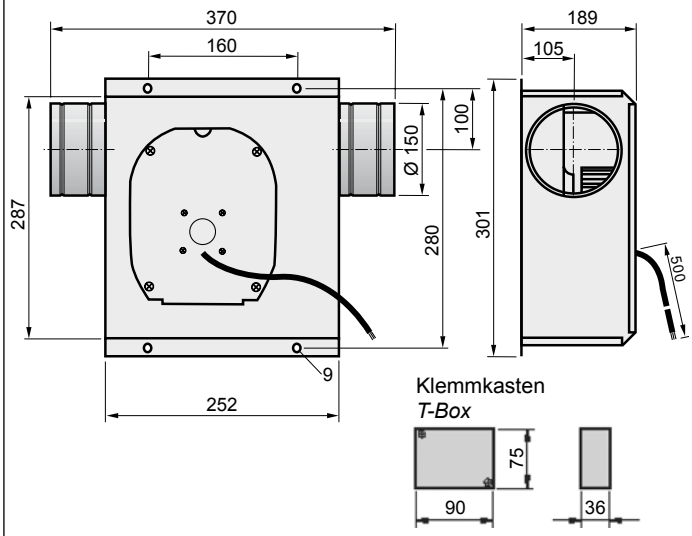
Typ :	RF 100		IP44	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	051085		E19b	$L_{WA\,tot}$	-17	-6	0
:	4,2	kg	GS 1	125 Hz	-22	-19	-16
U :	230 V 50 Hz		FWG 4	250 Hz	-24	-21	-14
P_1 :	0,073	kW	NE 0,5	500 Hz	-26	-12	-8
I_N :	0,31	A	RPE 02	1 kHz	-24	-11	-5
n :	2400	min^{-1}		2 kHz	-29	-13	-6
C_{400V} :	2	µF		4 kHz	-34	-15	-7
t_R :	50	°C		8 kHz	-41	-24	-17



RF 150



Typ :	RF 150		IP44	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	051185		E19b	$L_{WA\,tot}$	-17	-6	0
:	5,1	kg	GS 1	125 Hz	-22	-19	-16
U :	230 V 50 Hz		FWG 4	250 Hz	-24	-21	-14
P_1 :	0,137	kW	NE 1,5	500 Hz	-26	-12	-8
I_N :	0,59	A	RPE 02	1 kHz	-24	-11	-5
n :	2195	min^{-1}		2 kHz	-29	-13	-6
C_{400V} :	4	µF		4 kHz	-34	-15	-7
t_R :	50	°C		8 kHz	-41	-24	-17



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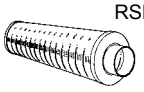
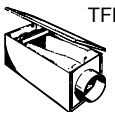
RSV



RSD

RVK



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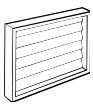


WVK

2

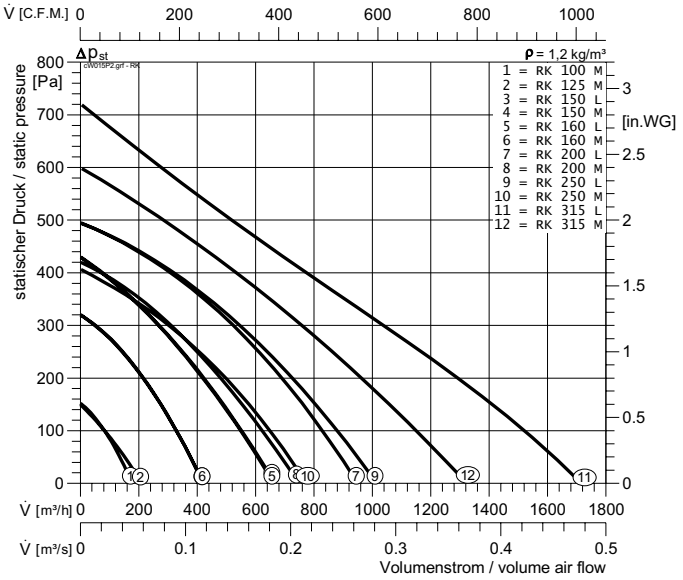
Typenschlüssel *Fan type code*

_ R K 100 M

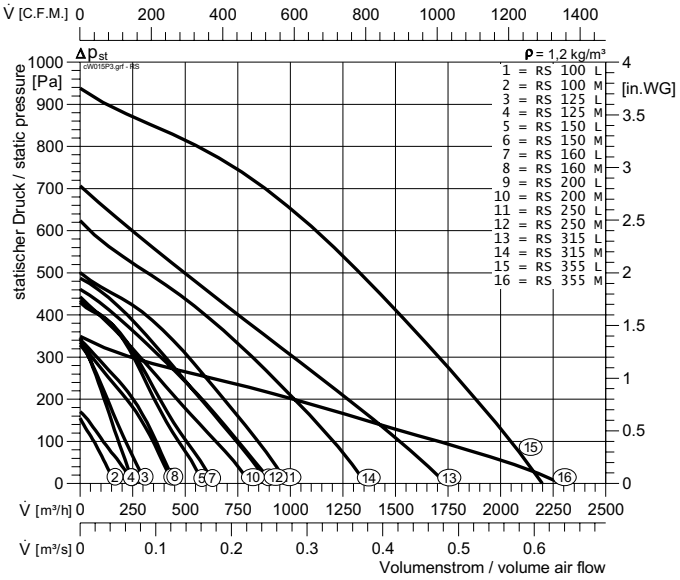
- **M** — Motorversion / *Motor type*
  M, L
- **100** — Nennweite / *Impeller diameter*
  100...500
- **K** — Gehäuse / *Casing*
  S = Stahl / *Steel*
  K = Kunststoff / *Plastic*
- **R** — Rohrventilator / *Inline tube fan*
- **_** — Motorversion / *Motor type*
  E = Einphasenwechselstrom / *Single-phase A.C. 220 V*
  D = Drehstrom / *Three-phase*

Schnellauswahl *Quick selection*

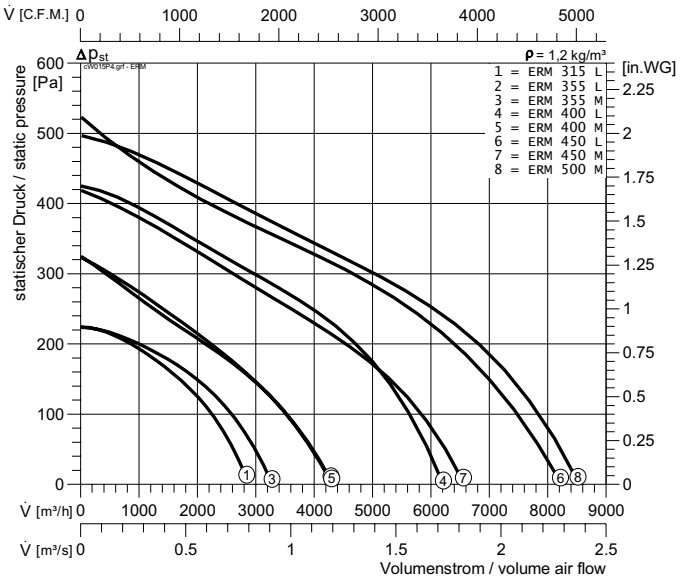
RK



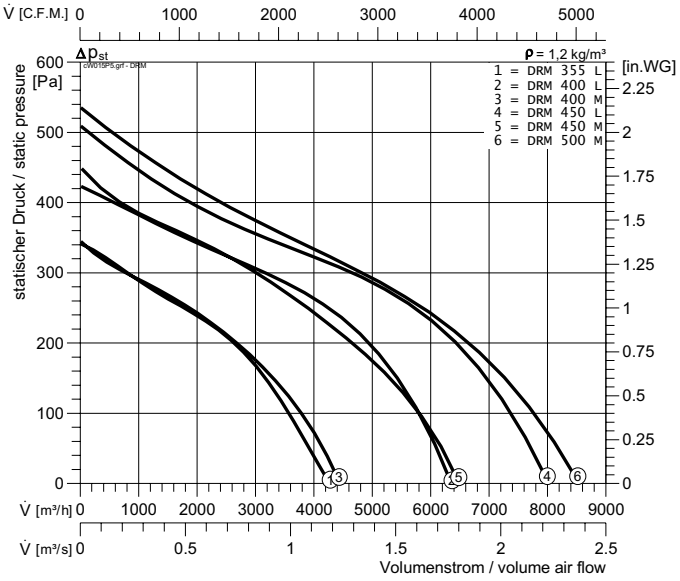
RS



ERM



DRM



Eigenschaften und Ausführung

Rohrventilatoren vereinen die Vorteile des Axialventilators - gerade Durchströmung und einfache Montage - mit der hohen Druckstabilität, niedrigem Schallniveau und ausgezeichnetem Wirkungsgrad des Radialventilators.

Gehäuse

Kunststoff-Ausführung:

Die Größen RK 100 - 315 haben ein formschönes, schlagfestes, schwer entflammbares, hellgraues Kunststoffgehäuse mit integriertem Klemmkasten in Schutzart IP44 und Nachleitwerk.

Stahl-Ausführung:

Die Größen RS 100 - 355 und ERM / DRM 315 - 500 haben ein pulverbeschichtetes Gehäuse aus Stahlblech.

Laufrad

Es werden rückwärts gekrümmte Radiallaufräder aus Stahlblech eingesetzt.

Die Laufräder sind direkt auf die Rotoren der Außenläufermotoren aufgebaut und zusammen mit diesen entsprechend Gütestufe G 2,5 nach DIN ISO 1940 auf zwei Ebenen gewuchtet.

Motor

Der Antrieb erfolgt durch einen im Radialrad eingebauten Außenläufermotor der Schutzart IP 44. Die elektrische Ausführung entspricht der VDE 0530, Isolierstoffklasse B mit zusätzlicher Feuchtschutzimprägnierung. Ab Größe RK 150 mit Temperaturwächter in der Wicklung verschaltet. Die Lieferung erfolgt montagebereit in Einzelkartons.

Elektrischer Anschluss

Die Motoren sind auf einen außen am Gehäuse angebrachten Klemmkasten verdrahtet.

Luftleistungskennlinien

Die Kennlinien für diese Typenreihe wurden in Einbauart B (frei ansaugend, druckseitig angeschlossen) aufgenommen und zeigen die statische Druckerhöhung Δp_{st} als Funktion des Volumenstroms. Der dynamische Druck p_{d2} ist auf den Flanschquerschnitt am Ventilatoraustritt bezogen.

Schallentwicklung

Die Ermittlung der Schallleistungspegel erfolgt nach dem Hüllflächenverfahren nach DIN 45 635, Teil 38.

In den Kennlinien ist der A-bewertete Freiblas-Schallleistungspegel L_{WA6} nach DIN 45635, Teil 38 angegeben. Der A-bewertete Freiansaug-Schallleistungspegel L_{WA5} nach DIN 45 635, Teil 38 wird wie folgt ermittelt:

$$L_{WA5} = L_{WA6} - 3\ dB(A)$$

Der für die Auslegung von Schalldämpfern maßgebende Schallleistungspegel in den einzelnen Oktavbereichen kann aus folgender Formel ermittelt werden:

$$L_{WAOkt} = L_{WA6} + L_{WArel}$$

Die relativen Oktav-Schallleistungspegel L_{WArel} bei den Oktav-Mittelfrequenzen sind den Tabellen des Ventilators zu entnehmen. Sie sind bei 0,5 x Vmax ermittelt worden.

Den A-bewerteten Schalldruckpegel L_{PA} in 1m Abstand erhält man annähernd, indem man vom A-Schallleistungspegel L_{WA} 7 dB (A) abzieht.

Zu beachten ist, dass Reflexionen und Raumcharakteristik sowie Eigenfrequenzen die Größe des Schalldruckpegels unterschiedlich beeinflussen.

Design features

Tube fans unite the advantages of the axial fan - straight airflow and easy installation - with the high pressure stability, low noise level and high efficiency of centrifugal fans.

Casing

Plastic casing:

The housing of the RK tube fans is made of a a sturdy and flame redardant light grey plastic material and is fitted with an integrated terminal box and guide vane.

Steel casing:

Casings of sizes RS 100-355 and ERM / DRM 315 - 500 are made of powder coated sheet metal.

Impeller

Backward-curved centrifugal impellers made of sheet steel or plastic. The impellers are fitted directly onto the external rotor motor. The motorized impeller unit is balanced in two planes to quality level G 2.5 (DIN ISO 1940).

Motor

WOLTER tube fans are driven by an external rotor motor of protection class IP 44, fitted within the radial impeller. The electrical connection is according to VDE 0530, insulation material class B with additional moisture impregnation. From size RK 150 up to size 315, all units are equipped with thermal contacts inserted in the motor winding. Fans are delivered ready for installation in individual boxes.

Electrical connection

The motors are wired to an external terminal box.

Fan performance curves

The performance curves for these fan types have been established in mounting position B (connected on the pressure side and open on the suction side) and show the static pressure rise Δp_{st} in reference to the volume air flow. The given dynamic pressure p_{d2} refers to the flange cross-sectional area at the outlet side of the fan.

Sound levels

The ascertaining of the sound level follows the enveloping surface method according to DIN 45 635 section 38.

The data tables show the A-weighted sound power level L_{WA6}, at the outlet side, unducted, in decibel figures.

The A-weighted sound power level at the inlet side L_{WA5} according to DIN 45 635, part 38, is obtained as follows:

$$L_{WA5} = L_{WA6} - 3\ dB(A)$$

The octave sound power level is important for the choice of suitable sound attenuators. It is obtained as follows.

$$L_{WAOkt} = L_{WA6} + L_{WArel}$$

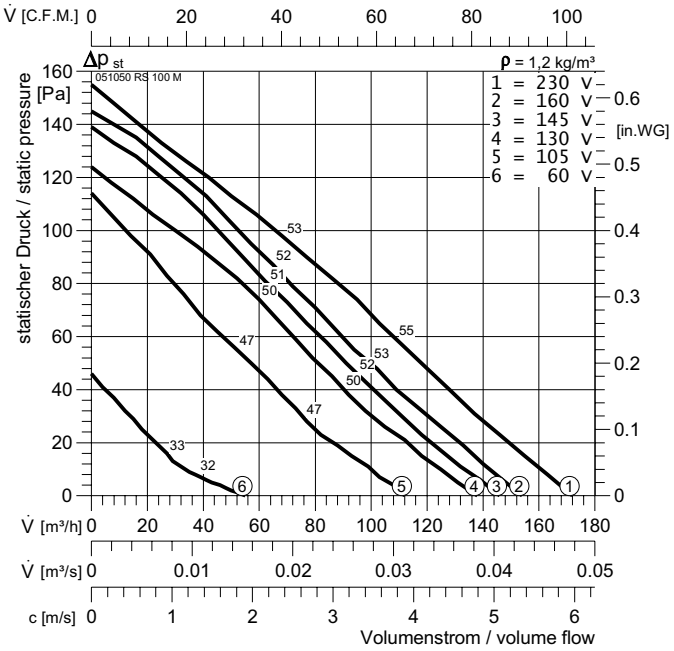
The relative octave sound power level L_{WArel} at octave medium frequency can be taken from the tables at respective fan. These levels has been established at 0.5 x Vmax.

The A-weighted sound pressure level L_{PA} at a distance of 1 metre is obtained approximately by deducting 7 dB(A) from the A-weighted sound power level L_{WA}.

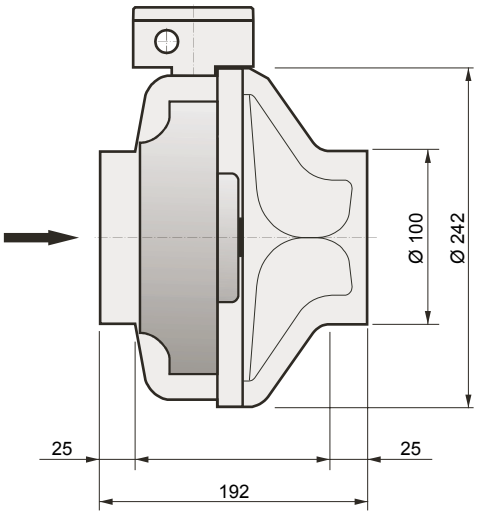
It is important to note that reflexion and room characteristics as well as natural frequencies differently influence the sound pressure levels.

2

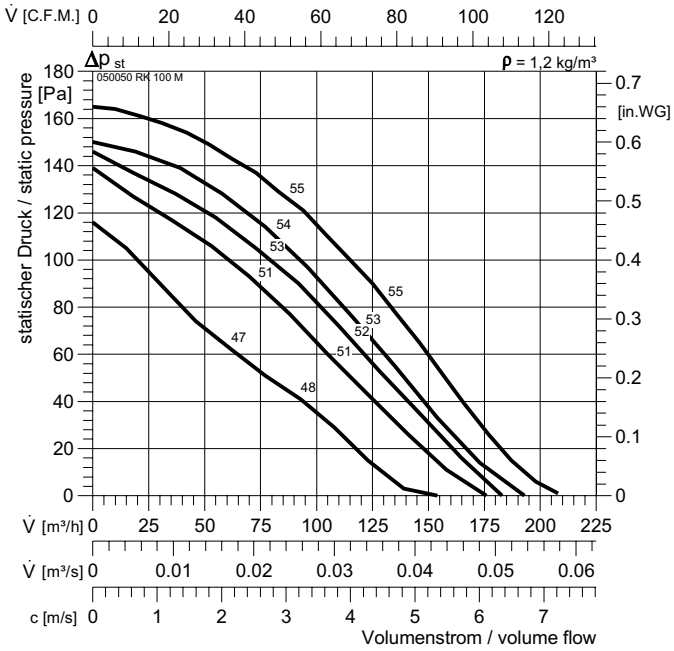
RS 100 M



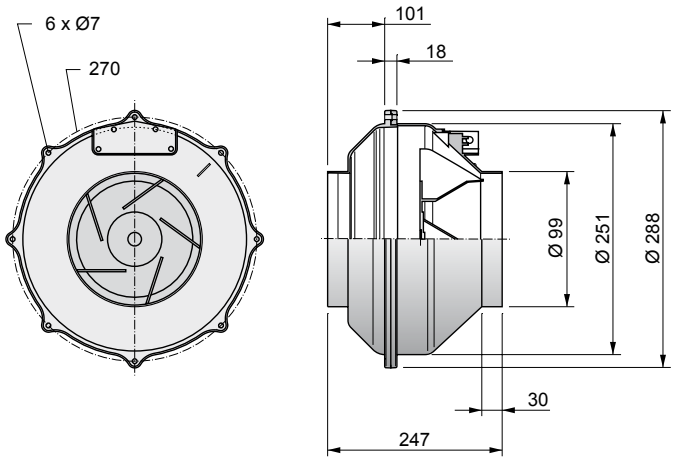
Typ :	RS 100 M		IP 44	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	051050		E11	$L_{WA\,tot}$	-15	-1	0
:	2,1	kg	GS 1	125 Hz	-24	-15	-15
U :	230 V 50 Hz		NE 1,5	250 Hz	-21	-7	-8
P_1 :	0,023	kW	RPE 02 A	500 Hz	-22	-6	-5
I_N :	0,11	A		1 kHz	-22	-7	-5
n :	2695	min^{-1}		2 kHz	-22	-10	-8
C_{400V} :	1	µF		4 kHz	-31	-19	-16
t_R :	70	°C		8 kHz	-36	-28	-26



RK 100 M



Typ :	RK 100 M		IP44	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	050050		E11	$L_{WA\,tot}$	-17	-1	0
:	1,95	kg	GS 1	125 Hz	-35	-15	-14
U :	230 V 50 Hz		NE 0,5	250 Hz	-27	-3	-2
P_1 :	0,023	kW	RPE 02	500 Hz	-22	-7	-6
I_N :	0,11	A		1 kHz	-24	-10	-9
n :	2695	min^{-1}		2 kHz	-25	-16	-15
C_{400V} :	1	µF		4 kHz	-29	-23	-22
t_R :	70	°C		8 kHz	-34	-31	-30



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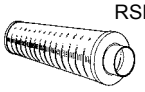
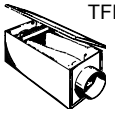
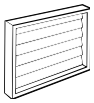
RSV

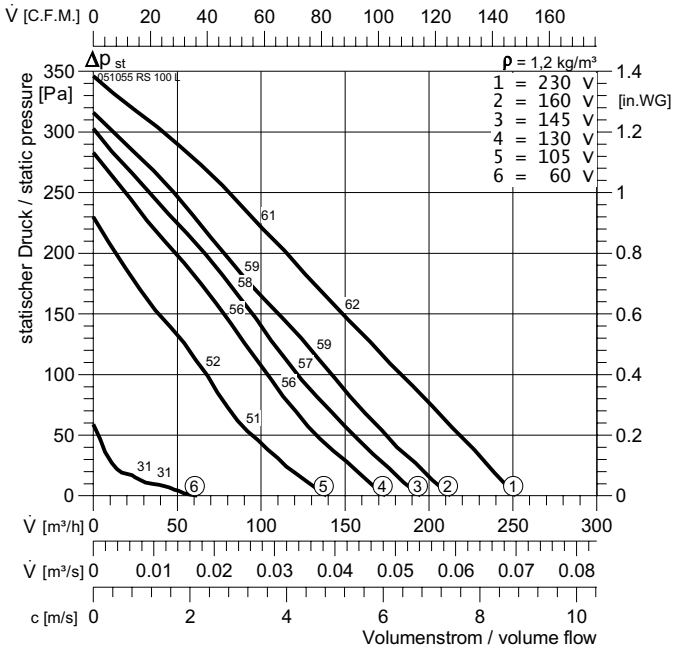

RSD

RVK

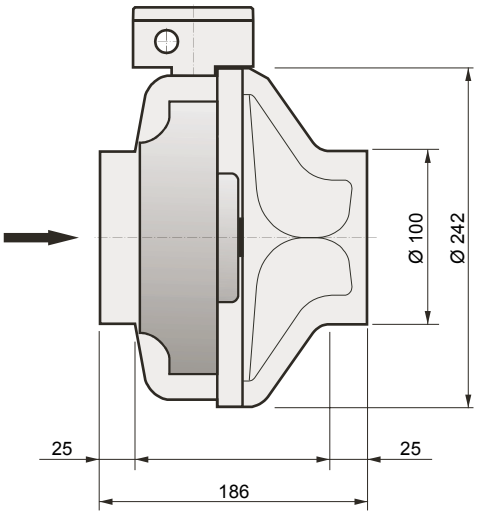

TFB-PTC


WVK

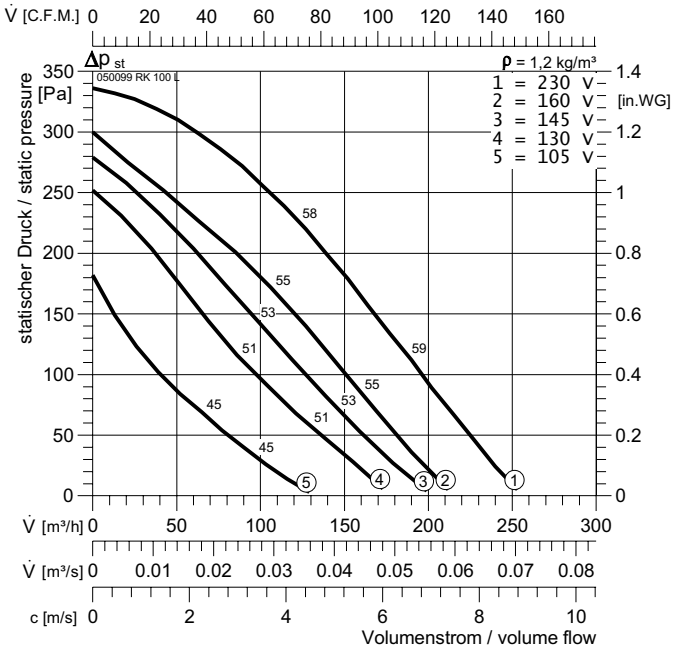
RS 100 L



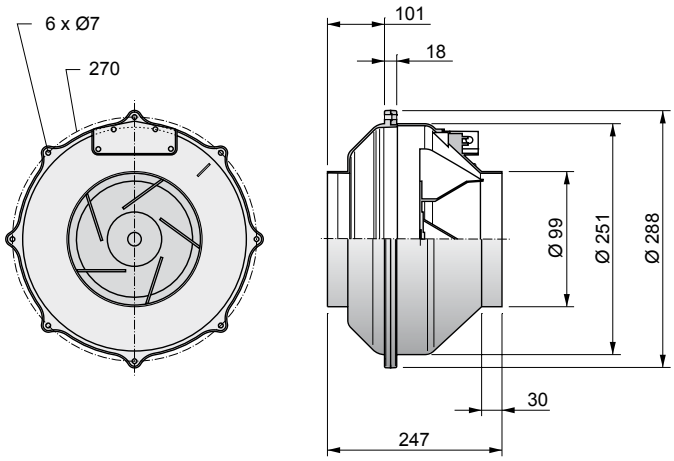
Typ :	RS 100 L		IP 44	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	051055		E11	$L_{WA\,tot}$	-14	0	0
:	3,3	kg	GS 1	125 Hz	-26	-17	-18
U :	230 V 50 Hz		NE 0,5	250 Hz	-20	-9	-8
P_1 :	0,065	kW	RPE 02	500 Hz	-21	-6	-6
I_N :	0,30	A		1 kHz	-20	-5	-5
n :	2470	min^{-1}		2 kHz	-21	-8	-7
C_{400V} :	2	µF		4 kHz	-29	-11	-12
t_R :	70	°C		8 kHz	-36	-21	-22



RK 100 L



Typ :	RK 100 L			$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	050099		IP44	$L_{WA\,tot}$	-17	-1	0
:	1,95	kg	E11	125 Hz	-35	-15	-14
U :	230 V 50 Hz			250 Hz	-27	-3	-2
P_1 :	0,058	kW		500 Hz	-22	-7	-6
I_N :	0,26	A		1 kHz	-24	-10	-9
n :	2670	min^{-1}		2 kHz	-25	-16	-15
C_{400V} :	2	µF		4 kHz	-29	-23	-22
t_R :	70	°C		8 kHz	-34	-31	-30



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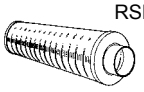
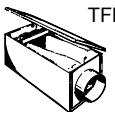
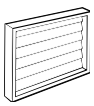
RSV


RSD

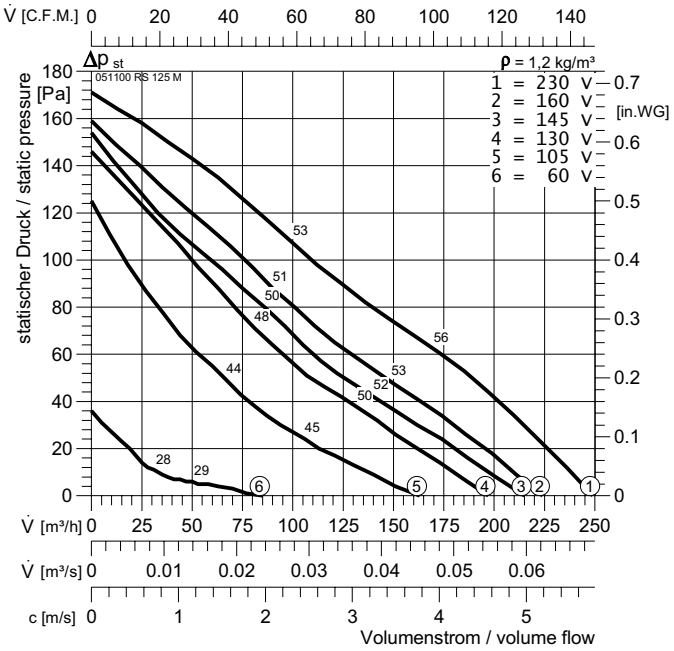
RVK


TFB-PTC

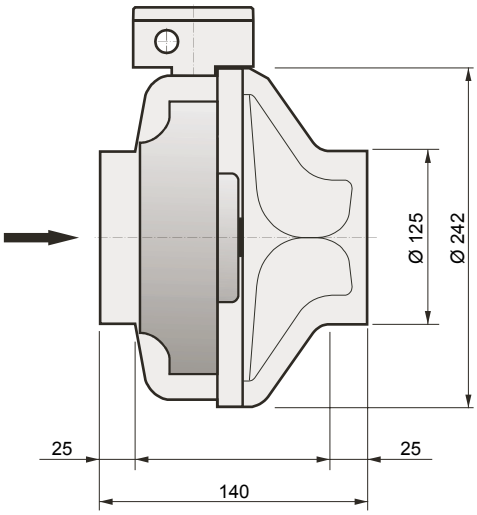

WVK

2

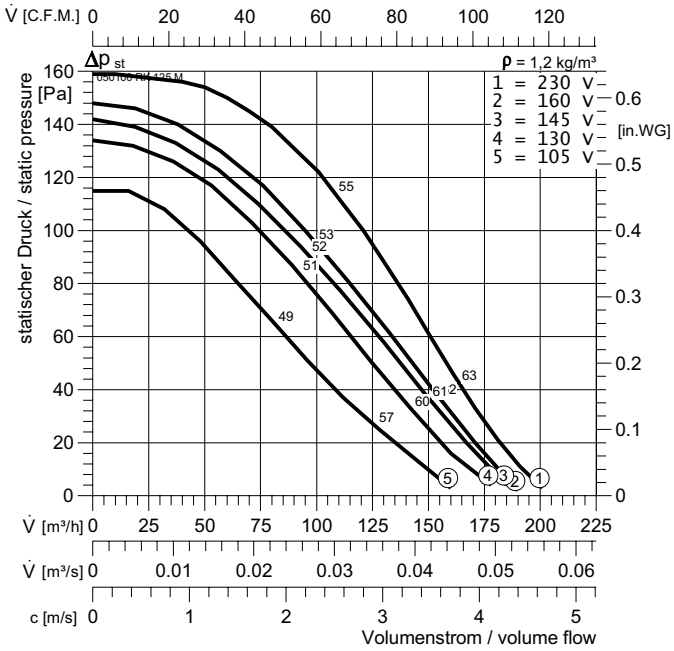
RS 125 M



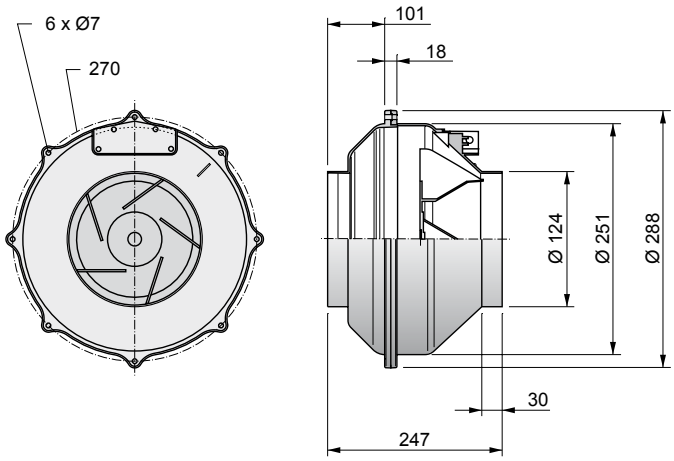
Typ :	RS 125 M		IP 44	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	051100		E11	$L_{WA\,tot}$	-15	-1	0
:	2,2	kg	GS 1	125 Hz	-24	-15	-15
U :	230 V 50 Hz		NE 0,5	250 Hz	-21	-7	-8
P_1 :	0,023	kW	RPE 02 A	500 Hz	-22	-6	-5
I_N :	0,11	A		1 kHz	-23	-7	-5
n :	2695	min^{-1}		2 kHz	-23	-10	-8
C_{400V} :	1	µF		4 kHz	-32	-19	-16
t_R :	70	°C		8 kHz	-37	-28	-26



RK 125 M



Typ :	RK 125 M		IP44	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	050100		E11	$L_{WA\,tot}$	-20	-1	0
:	2,05	kg	GS 1	125 Hz	-28	-13	-12
U :	230 V 50 Hz		NE 0,5	250 Hz	-31	-5	-4
P_1 :	0,023	kW	RPE 02	500 Hz	-27	-6	-5
I_N :	0,11	A		1 kHz	-27	-13	-12
n :	2695	min^{-1}		2 kHz	-26	-10	-9
C_{400V} :	1	µF		4 kHz	-31	-21	-20
t_R :	70	°C		8 kHz	-37	-27	-26



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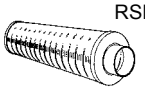
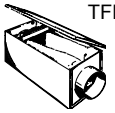
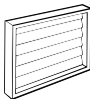
RSV

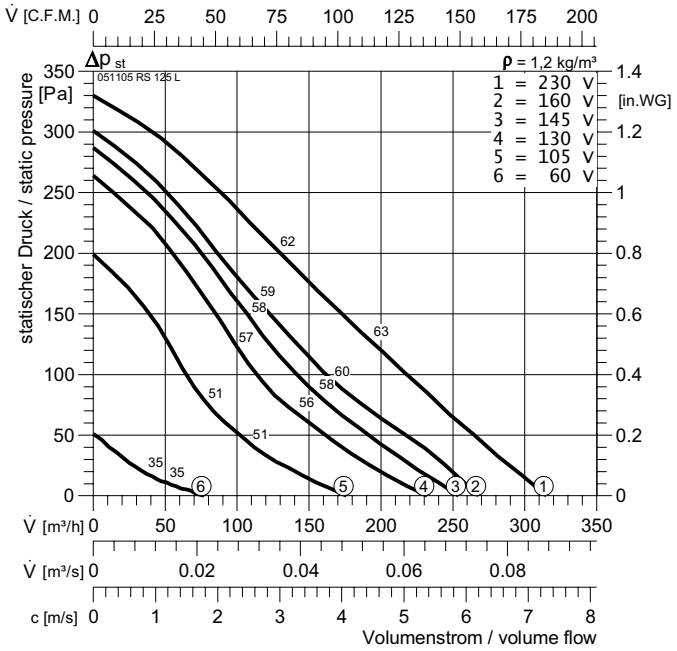

RSD

RVK

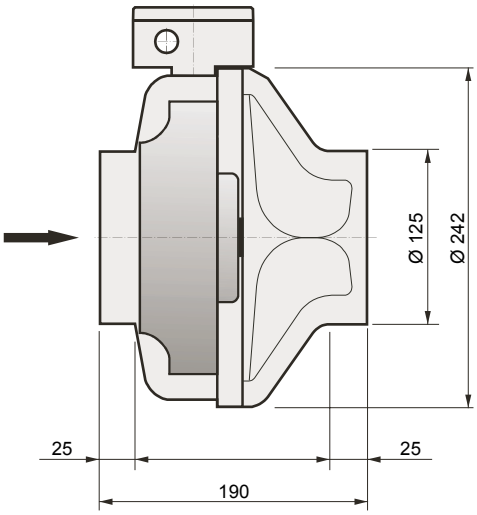

TFB-PTC


WVK

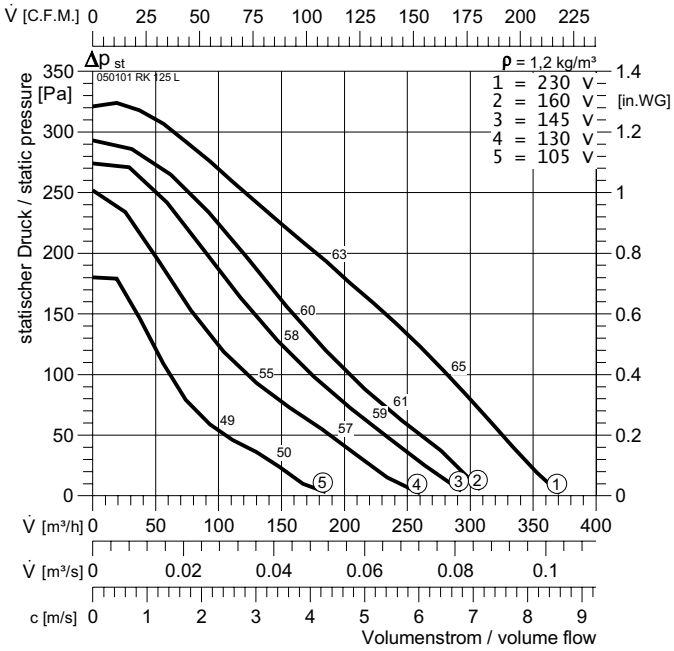
RS 125 L



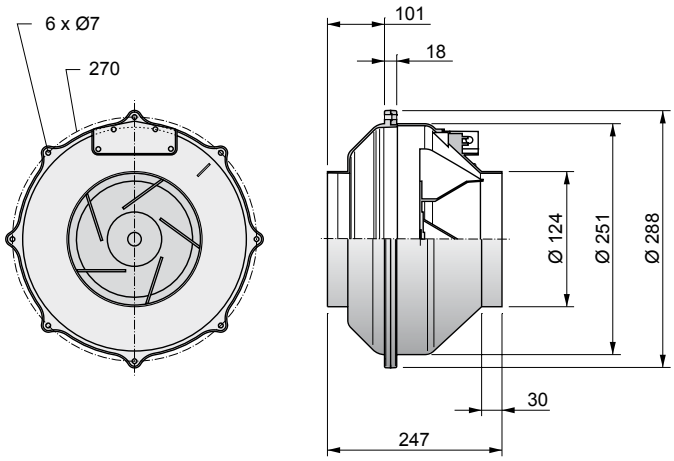
Typ :	RS 125 L		IP 44	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	051105		E11	$L_{WA\,tot}$	-14	0	0
:	3,3	kg	GS 1	125 Hz	-27	-15	-16
U :	230 V 50 Hz		NE 0,5	250 Hz	-21	-10	-8
P_1 :	0,065	kW	RPE 02 A	500 Hz	-21	-7	-7
I_N :	0,3	A		1 kHz	-20	-4	-5
n :	2480	min^{-1}		2 kHz	-20	-7	-7
C_{400V} :	2	µF		4 kHz	-27	-11	-10
t_R :	70	°C		8 kHz	-35	-20	-21



RK 125 L



Typ :	RK 125 L		IP54	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	050101		E11	$L_{WA\,tot}$	-20	-1	0
:	2,05	kg	GS 1	125 Hz	-28	-13	-12
U :	230 V 50 Hz		NE 0,5	250 Hz	-31	-5	-4
P_1 :	0,062	kW	RPE 02 A	500 Hz	-27	-6	-5
I_N :	0,29	A		1 kHz	-27	-13	-12
n :	2500	min^{-1}		2 kHz	-26	-10	-9
C_{400V} :	2	µF		4 kHz	-31	-21	-20
t_R :	70	°C		8 kHz	-37	-27	-26



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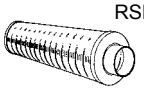
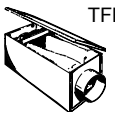
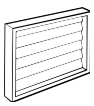
RSV

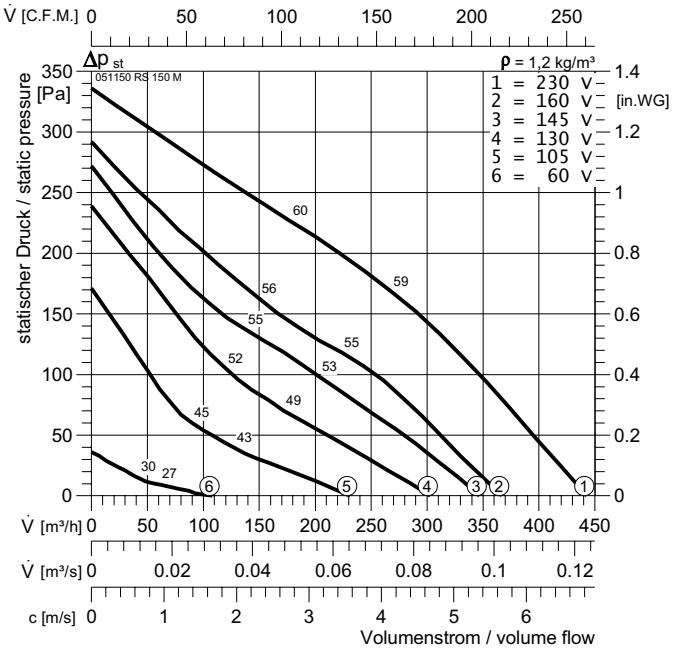

RSD

RVK

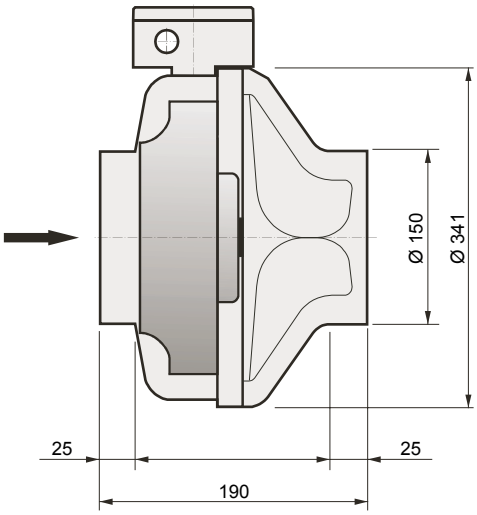

TFB-PTC


WVK

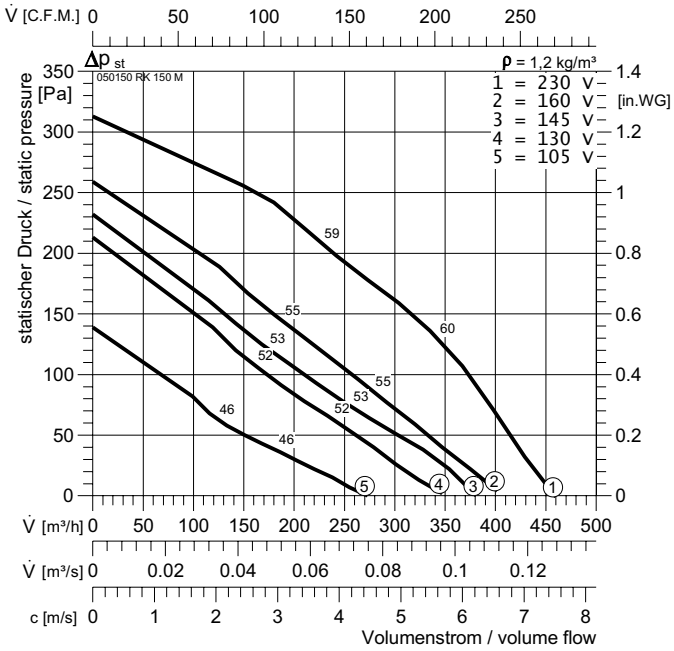
RS 150 M



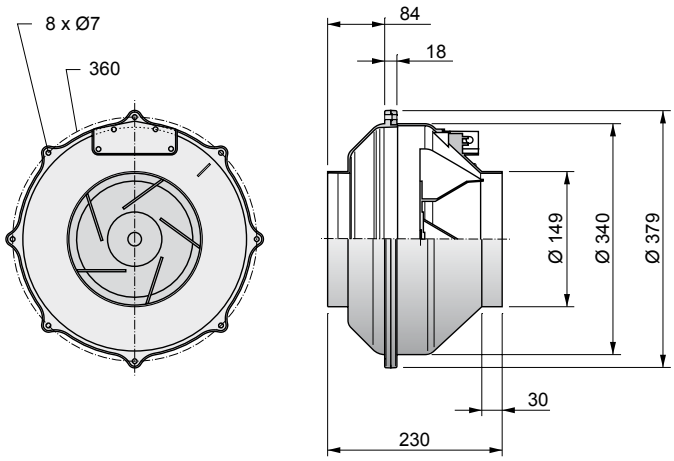
Typ :	RS 150 M		IP 44	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	051150		E11	$L_{WA\,tot}$	-10	2	0
:	3,7	kg	GS 1	125 Hz	-25	-17	-23
U :	230 V 50 Hz		NE 0,5	250 Hz	-19	-6	-10
P_1 :	0,07	kW	RPE 02	500 Hz	-15	-4	-9
I_N :	0,3	A		1 kHz	-16	-4	-6
n :	2420	min^{-1}		2 kHz	-16	-5	-4
C_{400V} :	2	µF		4 kHz	-26	-8	-9
t_R :	70	°C		8 kHz	-33	-15	-19



RK 150 M



Typ :	RK 150 M		IP44	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	050150		E11	$L_{WA\,tot}$	-14	-1	0
:	3,2	kg	GS 1	125 Hz	-31	-12	-11
U :	230 V 50 Hz		NE 1,5	250 Hz	-29	-5	-4
P_1 :	0,063	kW	RPE 02 A	500 Hz	-24	-7	-6
I_N :	0,28	A		1 kHz	-19	-10	-9
n :	2475	min^{-1}		2 kHz	-18	-12	-11
C_{400V} :	2	µF		4 kHz	-25	-17	-16
t_R :	70	°C		8 kHz	-29	-29	-28



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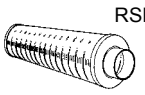
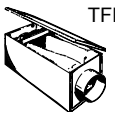
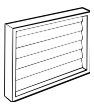
RSV

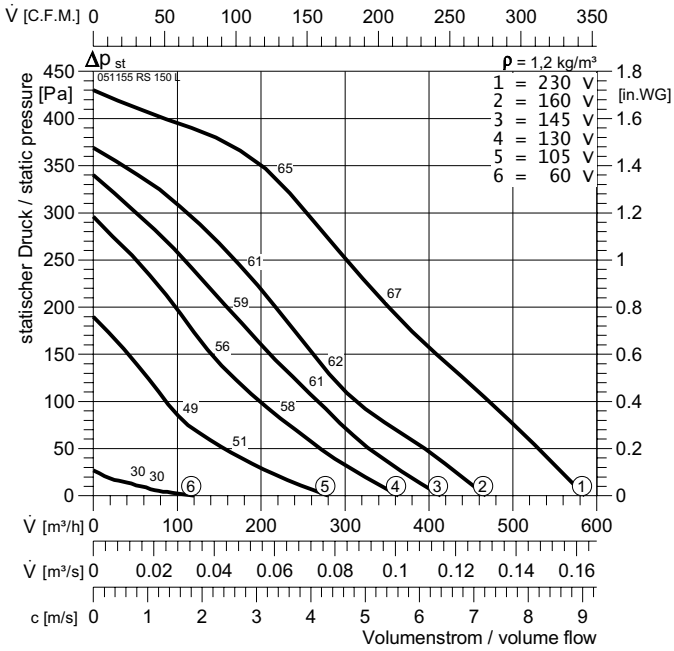

RSD

RVK

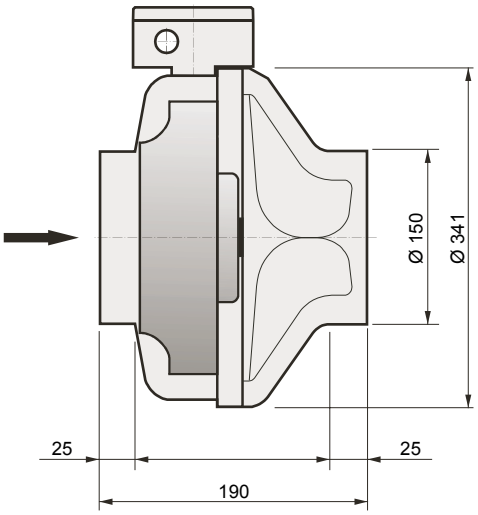

TFB-PTC


WVK

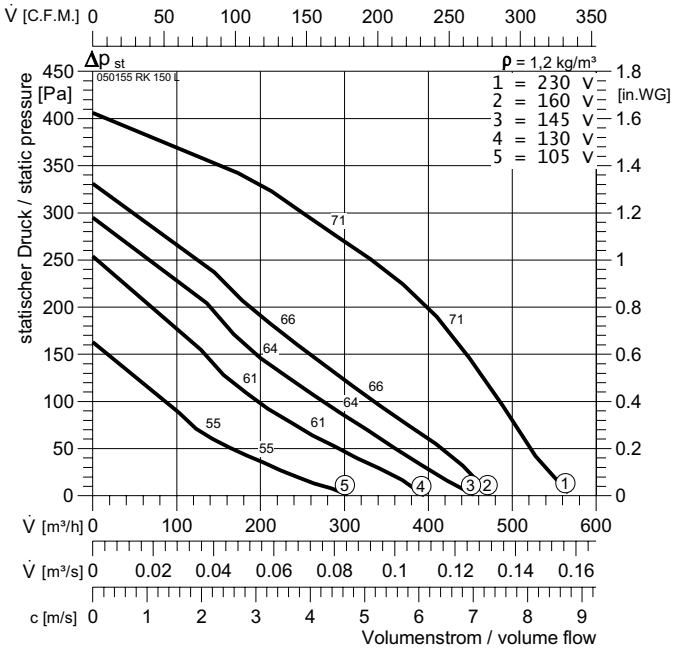
RS 150 L



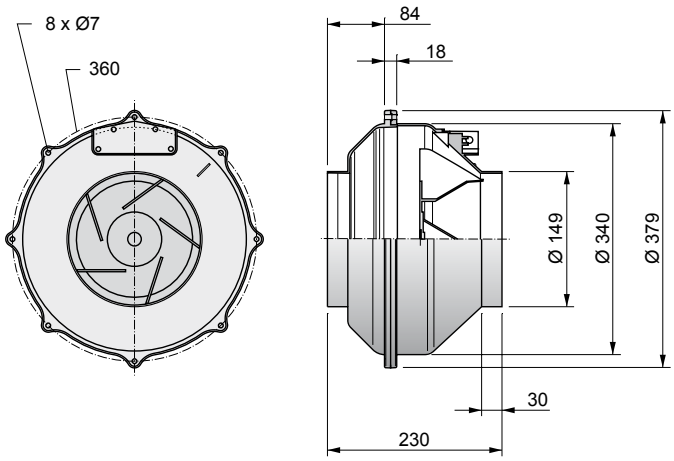
Typ :	RS 150 L		IP 44	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	051155		E11	$L_{WA\,tot}$	-10	2	0
:	4,8	kg	GS 1	125 Hz	-25	-17	-23
U :	230 V 50 Hz		NE 1,5	250 Hz	-19	-6	-10
P_1 :	0,1	kW	RPE 02 A	500 Hz	-15	-4	-9
I_N :	0,44	A		1 kHz	-16	-4	-6
n :	2585	min^{-1}		2 kHz	-16	-5	-4
C_{400V} :	3	µF		4 kHz	-26	-8	-9
t_R :	60	°C		8 kHz	-33	-15	-19



RK 150 L



Typ :	RK 150 L		IP44	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	050155		E11	$L_{WA\,tot}$	-13	-1	0
:	3,8	kg	GS 1	125 Hz	-35	-18	-17
U :	230 V 50 Hz		NE 1,5	250 Hz	-33	-5	-4
P_1 :	0,089	kW	RPE 02 A	500 Hz	-17	-6	-5
I_N :	0,39	A		1 kHz	-18	-7	-6
n :	2525	min^{-1}		2 kHz	-24	-13	-12
C_{400V} :	3	µF		4 kHz	-20	-18	-17
t_R :	70	°C		8 kHz	-24	-26	-25



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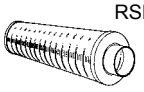
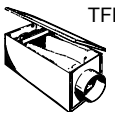
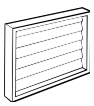
RSV

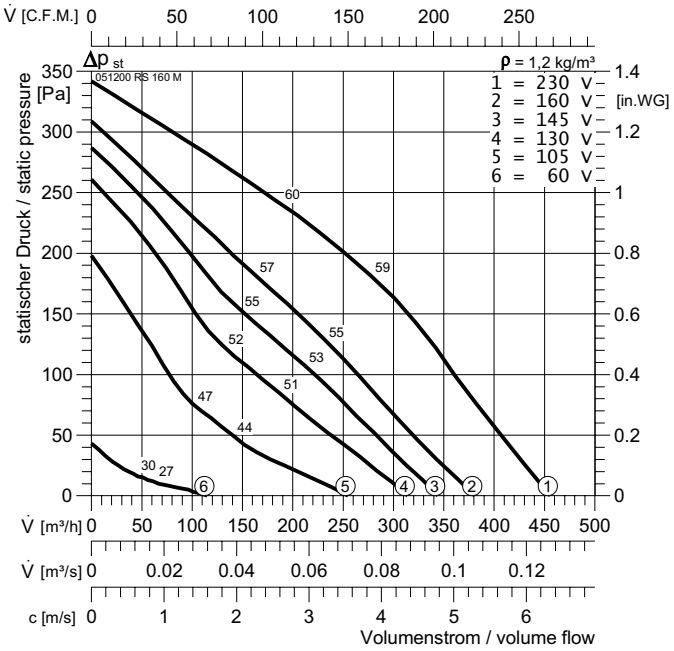

RSD

RVK

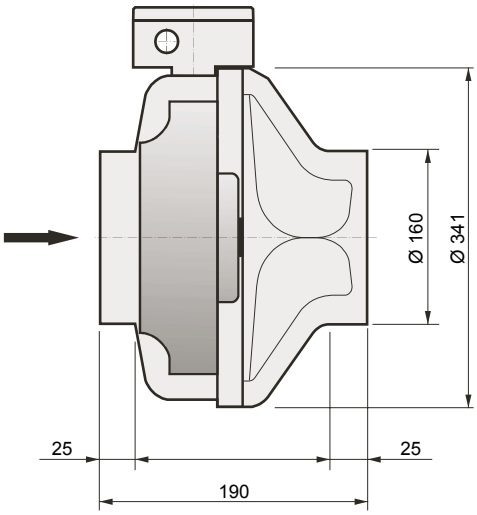

TFB-PTC


WVK

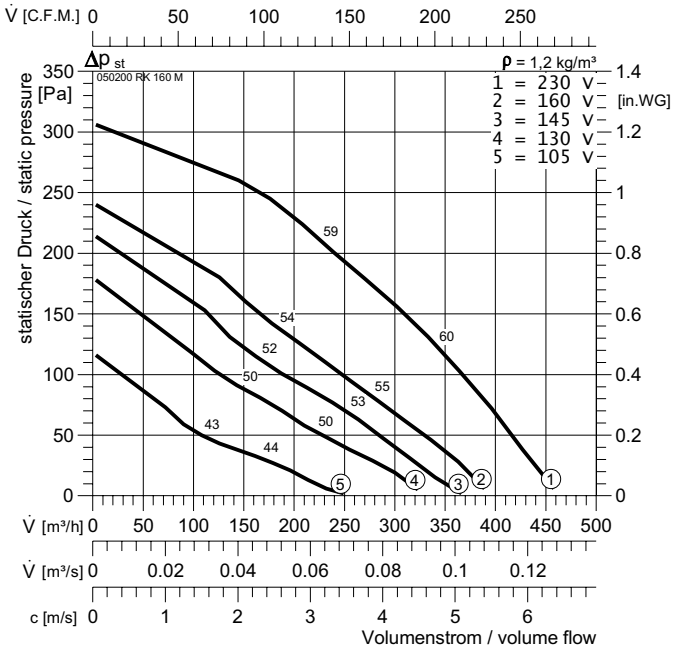
RS 160 M



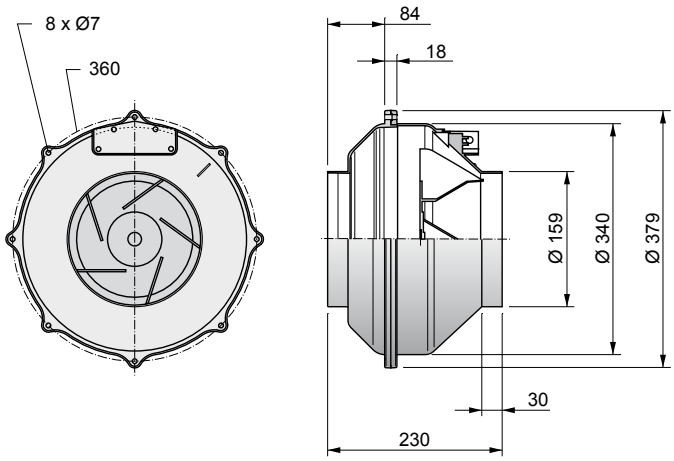
Typ :	RS 160 M		IP 44	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	051200		E11	$L_{WA\,tot}$	-13	2	0
:	3,7	kg	GS 1	125 Hz	-21	-15	-15
U :	230 V 50 Hz		NE 1,5	250 Hz	-19	-7	-7
P_1 :	0,063	kW	RPE 02 A	500 Hz	-19	-3	-7
I_N :	0,28	A		1 kHz	-20	-4	-5
n :	2475	min^{-1}		2 kHz	-23	-4	-7
C_{400V} :	2	µF		4 kHz	-27	-12	-13
t_R :	70	°C		8 kHz	-36	-20	-22



RK 160 M



Typ :	RK 160 M		IP54	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	050200		E11	$L_{WA\,tot}$	-14	-1	0
:	3,25	kg	GS 1	125 Hz	-31	-12	-11
U :	230 V 50 Hz		NE 1,5	250 Hz	-29	-5	-4
P_1 :	0,062	kW	RPE 02 A	500 Hz	-24	-7	-6
I_N :	0,29	A		1 kHz	-19	-10	-9
n :	2500	min^{-1}		2 kHz	-18	-12	-11
C_{400V} :	2	µF		4 kHz	-25	-17	-16
t_R :	70	°C		8 kHz	-29	-29	-28



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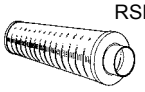
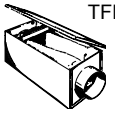
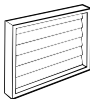
RSV

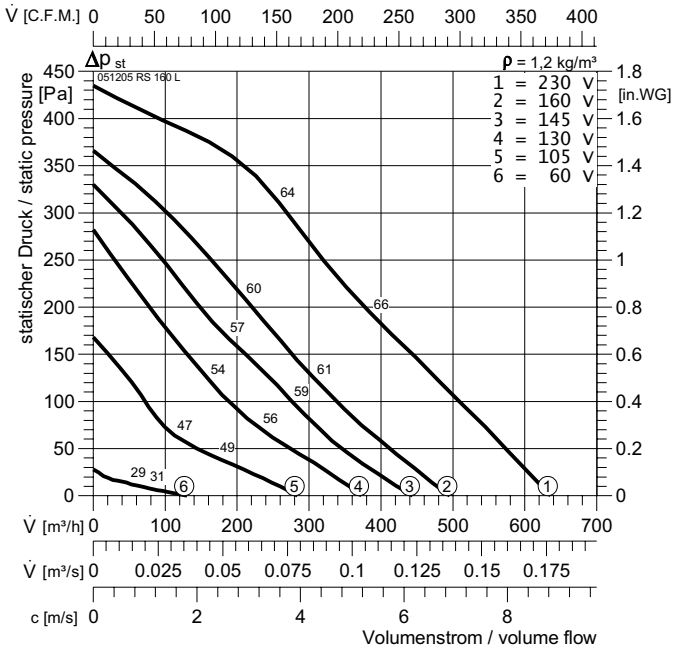

RSD

RVK

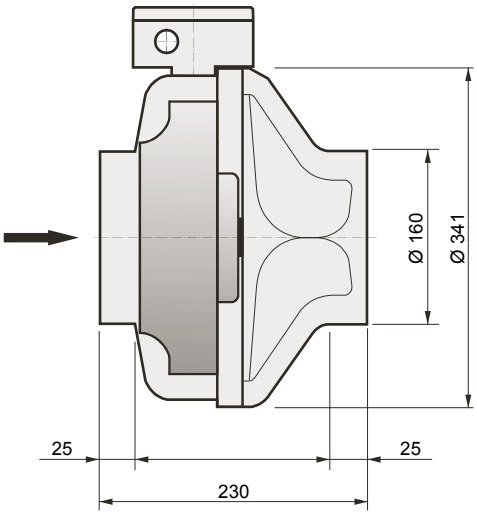

TFB-PTC


WVK

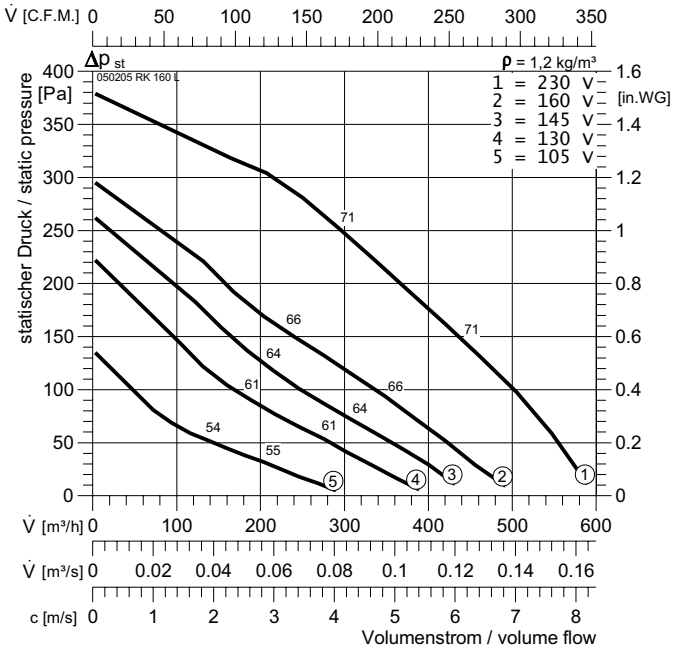
RS 160 L



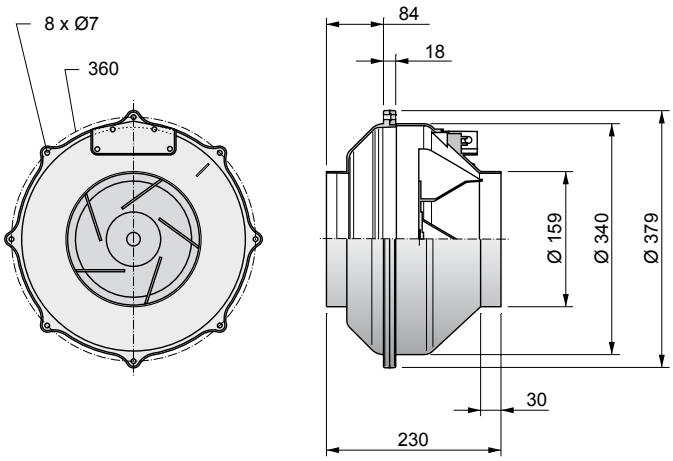
Typ :	RS 160 L		IP 44	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	051205		E11	$L_{WA\,tot}$	-13	2	0
:	4,8	kg	GS 1	125 Hz	-21	-15	-15
U :	230 V 50 Hz		NE 0,5	250 Hz	-19	-7	-7
P_1 :	0,11	kW	RPE 02	500 Hz	-19	-3	-7
I_N :	0,47	A		1 kHz	-20	-4	-5
n :	2500	min^{-1}		2 kHz	-23	-4	-7
C_{400V} :	3	µF		4 kHz	-27	-12	-13
t_R :	60	°C		8 kHz	-36	-20	-22



RK 160 L



Typ :	RK 160 L		IP44	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	050205		E11	$L_{WA\,tot}$	-13	-1	0
:	3,8	kg	GS 1	125 Hz	-35	-18	-17
U :	230 V 50 Hz		NE 1,5	250 Hz	-33	-5	-4
P_1 :	0,089	kW	RPE 02 A	500 Hz	-17	-6	-5
I_N :	0,39	A		1 kHz	-18	-7	-6
n :	2525	min^{-1}		2 kHz	-24	-13	-12
C_{400V} :	3	µF		4 kHz	-20	-18	-17
t_R :	70	°C		8 kHz	-24	-26	-25



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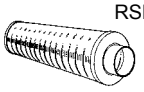
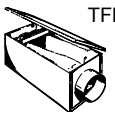
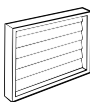
RSV


RSD

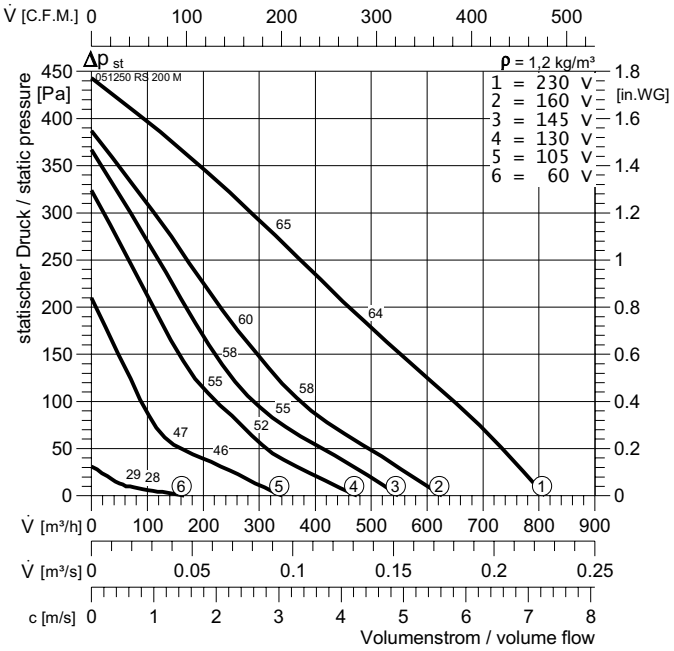
RVK


TFB-PTC

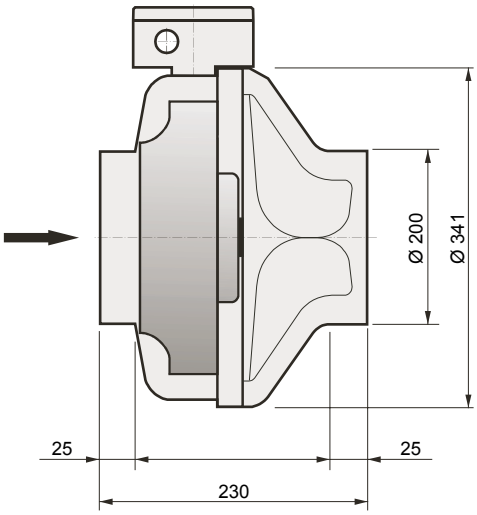

WVK

2

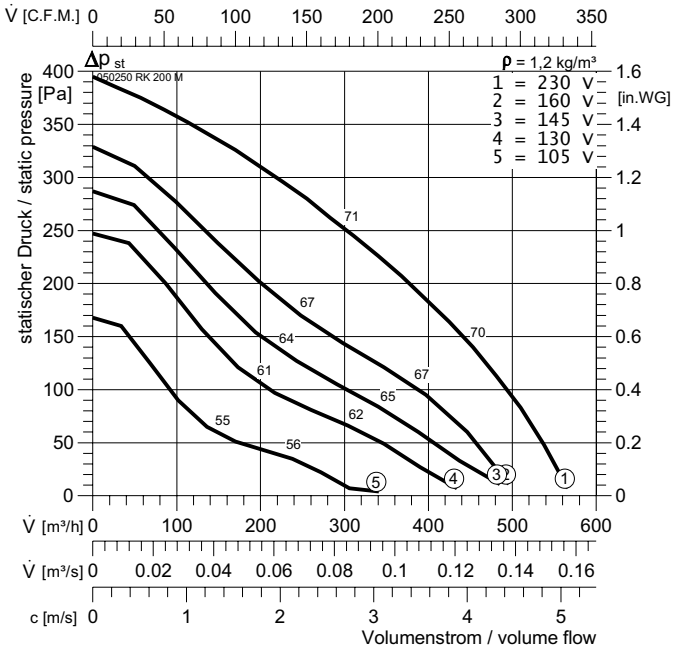
RS 200 M



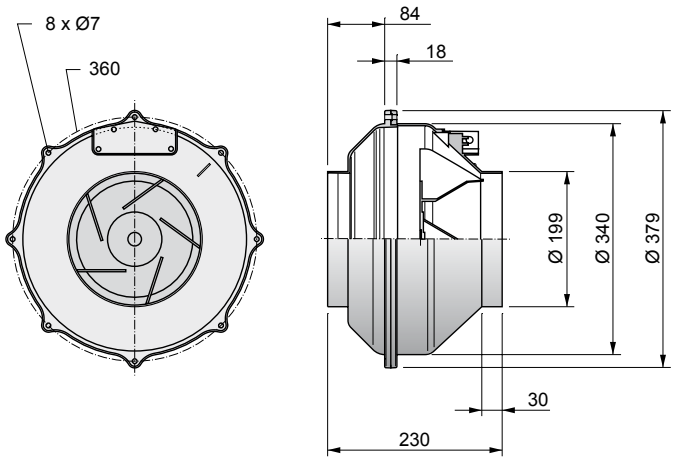
Typ :	RS 200 M		IP 44	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	051250		E11	$L_{WA\,tot}$	-13	2	0
:	4,8	kg	GS 1	125 Hz	-27	-20	-22
U :	230 V 50 Hz		NE 1,5	250 Hz	-19	-7	-11
P_1 :	0,101	kW	RPE 02 A	500 Hz	-20	-5	-11
I_N :	0,47	A		1 kHz	-19	-4	-5
n :	2595	min^{-1}		2 kHz	-19	-3	-4
C_{400V} :	3	µF		4 kHz	-27	-8	-10
t_R :	70	°C		8 kHz	-36	-17	-17



RK 200 M



Typ :	RK 200 M		IP44	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	050250		E11	$L_{WA\,tot}$	-15	-1	0
:	3,8	kg	GS 1	125 Hz	-38	-14	-13
U :	230 V 50 Hz		NE 1,5	250 Hz	-36	-8	-7
P_1 :	0,089	kW	RPE 02 A	500 Hz	-26	-6	-5
I_N :	0,39	A		1 kHz	-16	-9	-8
n :	2525	min^{-1}		2 kHz	-25	-9	-8
C_{400V} :	3	µF		4 kHz	-30	-13	-12
t_R :	70	°C		8 kHz	-39	-22	-21



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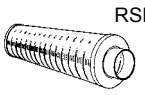
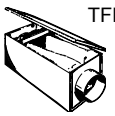
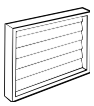
RSV

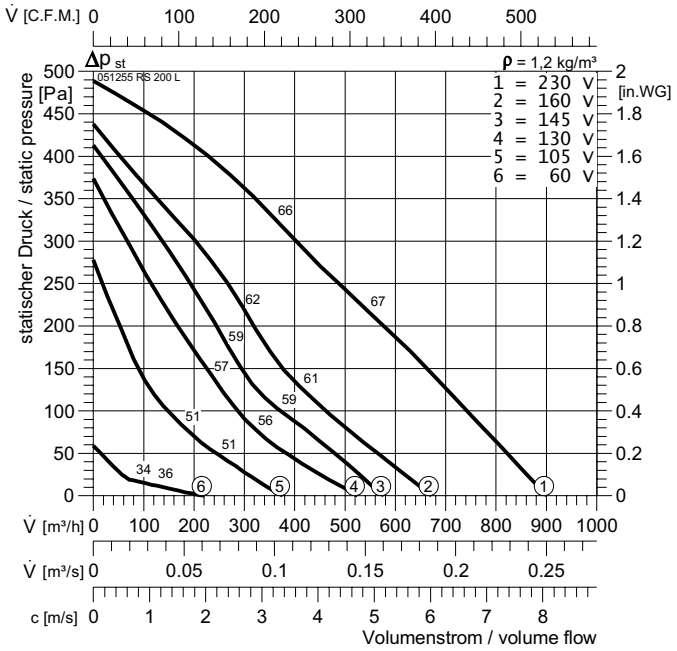

RSD

RVK

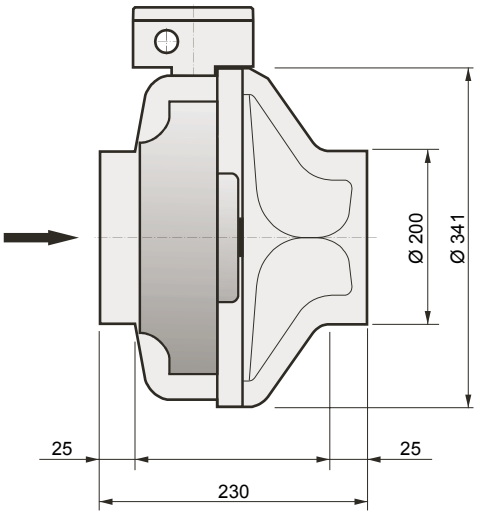

TFB-PTC


WVK

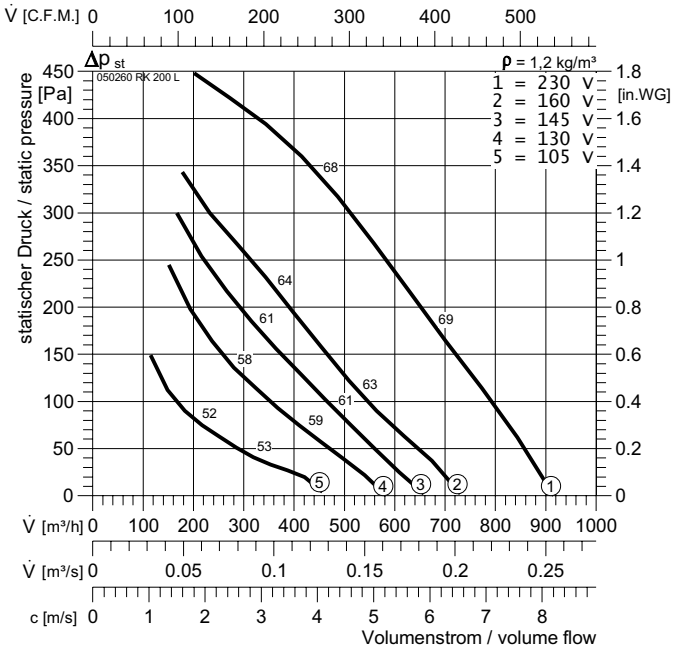
RS 200 L



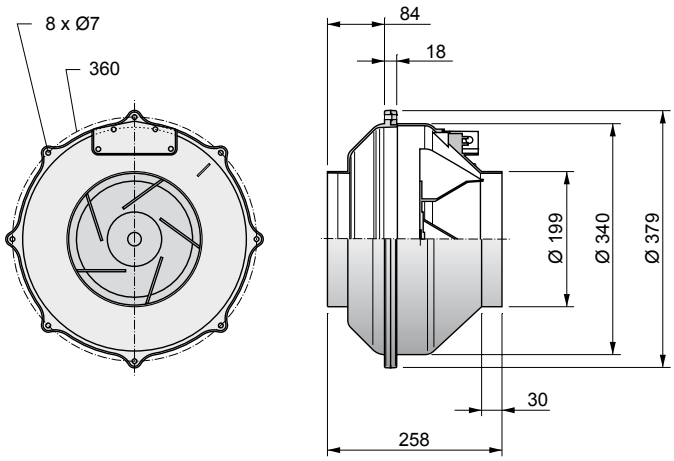
Typ :	RS 200 L		IP 44	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	051255		E11	$L_{WA\,tot}$	-13	2	0
:	5,5	kg	GS 1	125 Hz	-25	-17	-20
U :	230 V 50 Hz		NE 1,5	250 Hz	-18	-6	-10
P_1 :	0,17	kW	RPE 02 A	500 Hz	-19	-4	-9
I_N :	0,79	A		1 kHz	-18	-3	-5
n :	2410	min^{-1}		2 kHz	-21	-5	-5
C_{400V} :	5	µF		4 kHz	-27	-10	-10
t_R :	65	°C		8 kHz	-35	-17	-17



RK 200 L



Typ :	RK 200 L		IP44	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	050260		E11	$L_{WA\,tot}$	-15	-1	0
:	4,4	kg	GS 1	125 Hz	-38	-15	-14
U :	230 V 50 Hz		NE 1,5	250 Hz	-31	-8	-7
P_1 :	0,158	kW	RPE 02 A	500 Hz	-25	-5	-4
I_N :	0,69	A		1 kHz	-17	-8	-7
n :	2535	min^{-1}		2 kHz	-25	-10	-9
C_{400V} :	4	µF		4 kHz	-31	-15	-14
t_R :	70	°C		8 kHz	-39	-24	-23



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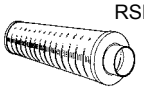
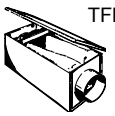
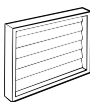
RSV


RSD

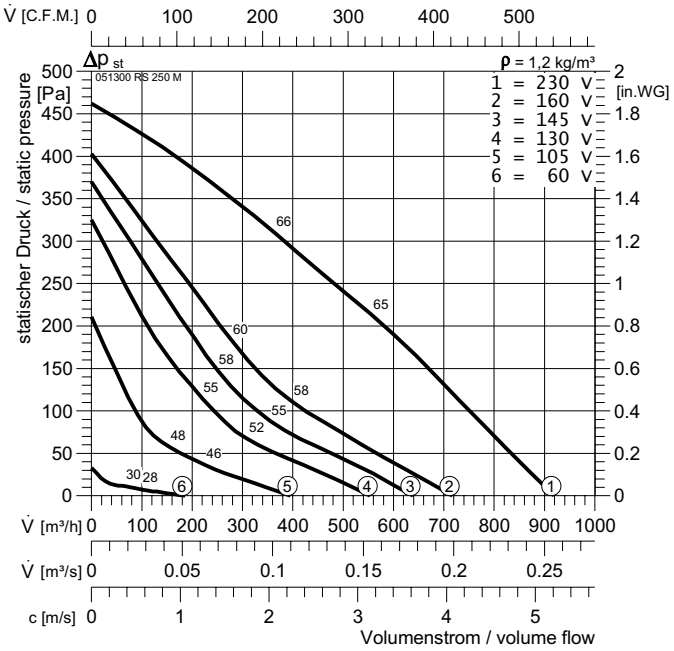
RVK


TFB-PTC

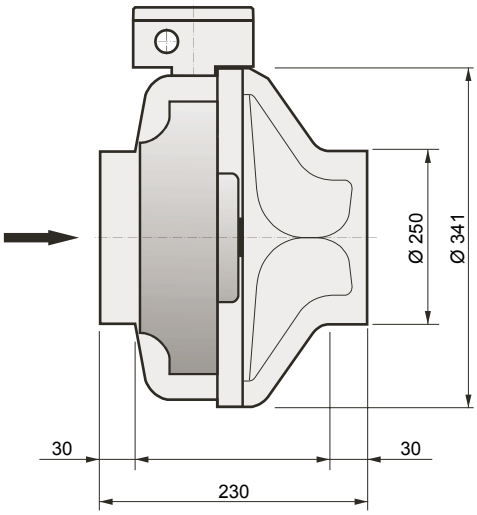

WVK

2

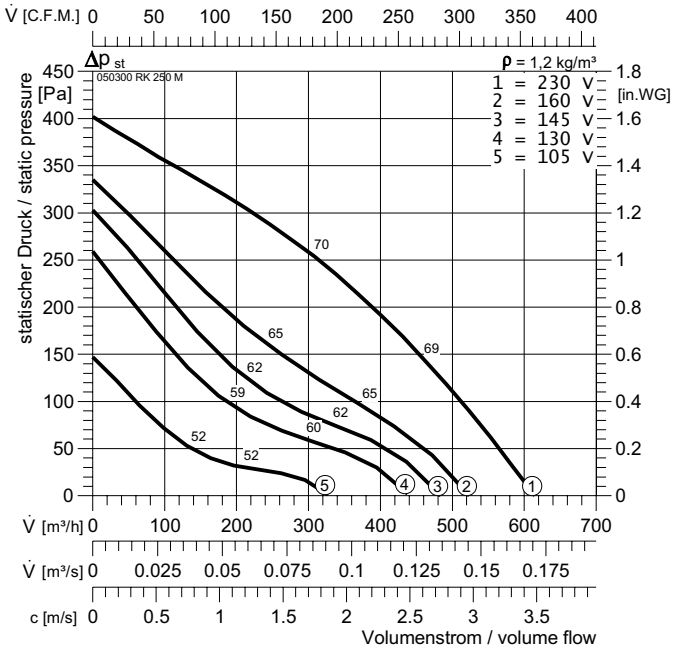
RS 250 M



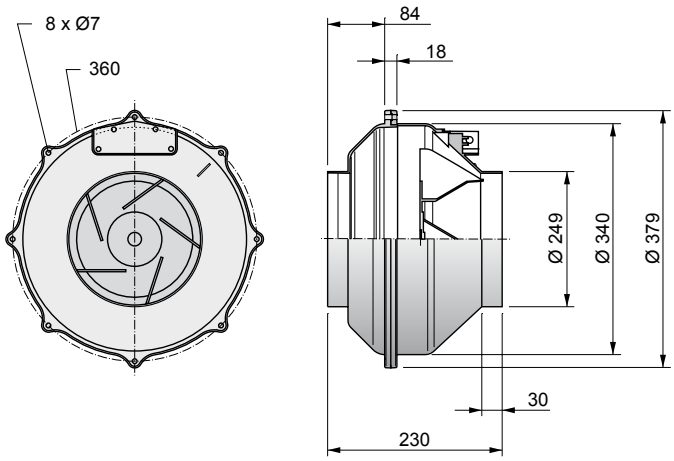
Typ :	RS 250 M		IP 44	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	051300		E11	$L_{WA\,tot}$	-13	0	0
:	4,8	kg	GS 1	125 Hz	-25	-21	-20
U :	230 V 50 Hz		NE 1,5	250 Hz	-18	-10	-9
P_1 :	0,101	kW	RPE 02 A	500 Hz	-20	-6	-7
I_N :	0,44	A		1 kHz	-18	-6	-6
n :	2595	min^{-1}		2 kHz	-24	-5	-5
C_{400V} :	3	µF		4 kHz	-29	-12	-10
t_R :	70	°C		8 kHz	-38	-19	-18



RK 250 M



Typ :	RK 250 M		IP44	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	050300		E11	$L_{WA\,tot}$	-15	-1	0
:	3,8	kg	GS 1	125 Hz	-15	-1	0
U :	230 V 50 Hz		NE 1,5	250 Hz	-28	-6	-5
P_1 :	0,089	kW	RPE 02 A	500 Hz	-26	-7	-6
I_N :	0,39	A		1 kHz	-17	-7	-6
n :	2525	min^{-1}		2 kHz	-22	-9	-8
C_{400V} :	3	µF		4 kHz	-27	-14	-13
t_R :	70	°C		8 kHz	-31	-16	-15



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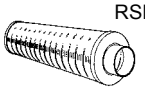
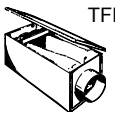
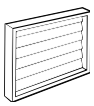
RSV

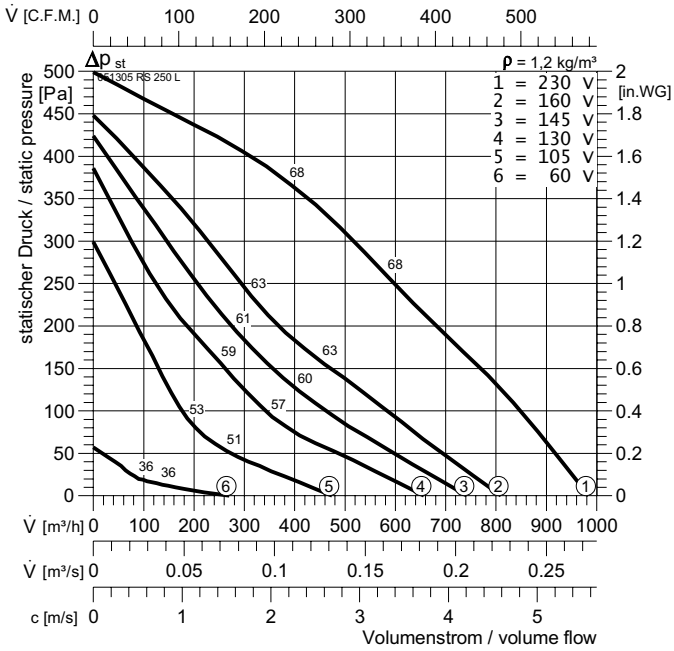

RSD

RVK

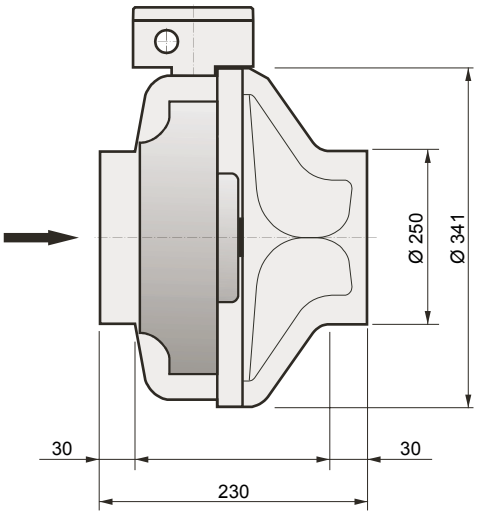

TFB-PTC


WVK

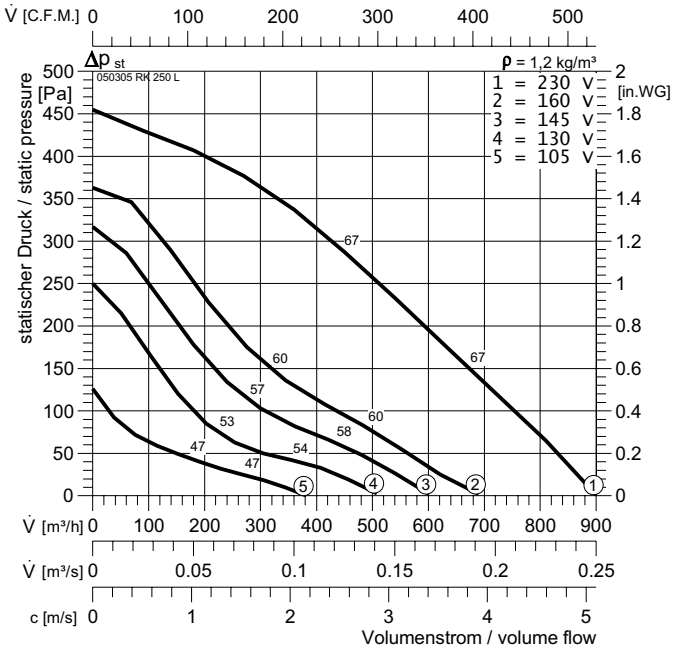
RS 250 L



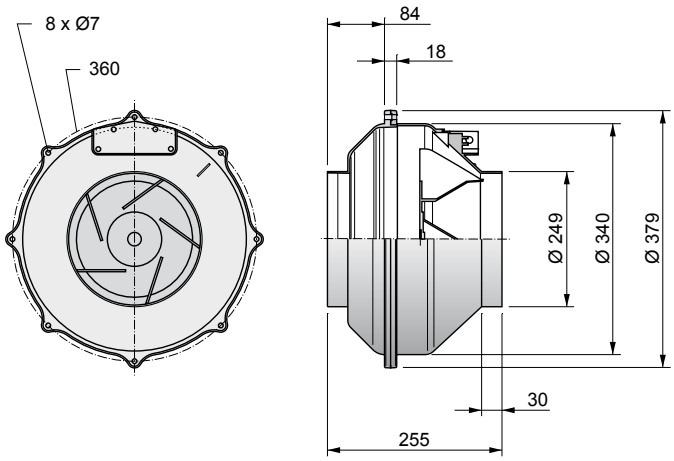
Typ :	RS 250 L		IP 44	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	051305		E11	$L_{WA\,tot}$	-13	2	0
:	5,3	kg	GS 1	125 Hz	-25	-20	-19
U :	230 V 50 Hz		NE 1,5	250 Hz	-23	-9	-9
P_1 :	0,158	kW	RPE 02 A	500 Hz	-21	-3	-9
I_N :	0,79	A		1 kHz	-17	-3	-5
n :	2410	min^{-1}		2 kHz	-20	-5	-5
C_{400V} :	5	µF		4 kHz	-24	-10	-10
t_R :	60	°C		8 kHz	-34	-19	-19



RK 250 L



Typ :	RK 250 L		IP44	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	050305		E11	$L_{WA\,tot}$	-14	-1	0
:	4,4	kg	GS 1	125 Hz	-14	-1	0
U :	230 V 50 Hz		NE 1,5	250 Hz	-31	-8	-7
P_1 :	0,158	kW	RPE 02 A	500 Hz	-21	-7	-6
I_N :	0,69	A		1 kHz	-16	-8	-7
n :	2535	min^{-1}		2 kHz	-21	-9	-8
C_{400V} :	4	µF		4 kHz	-28	-11	-10
t_R :	70	°C		8 kHz	-38	-15	-14



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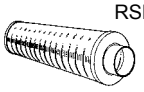
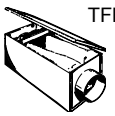
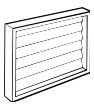
RSV


RSD

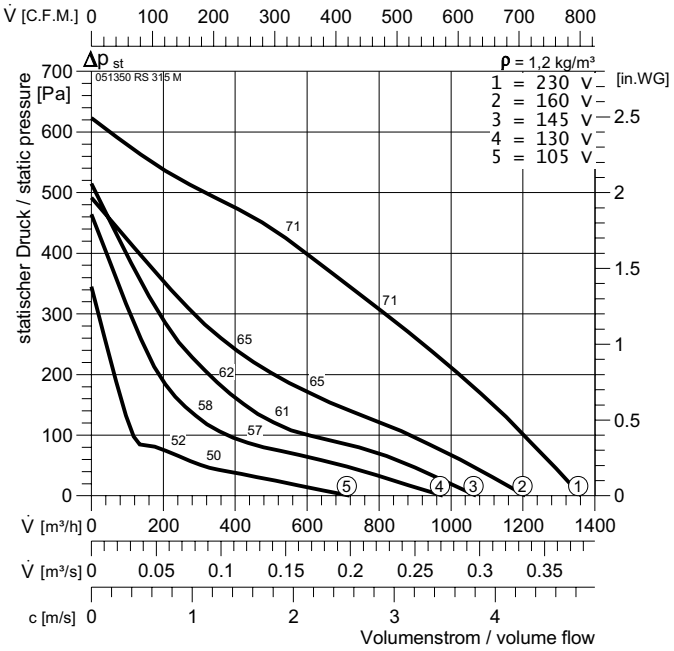
RVK


TFB-PTC

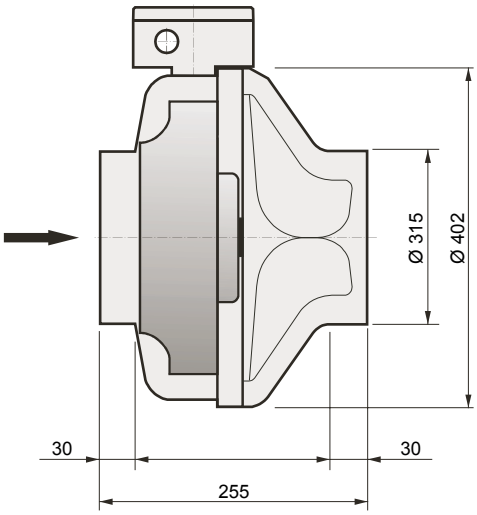

WVK

2

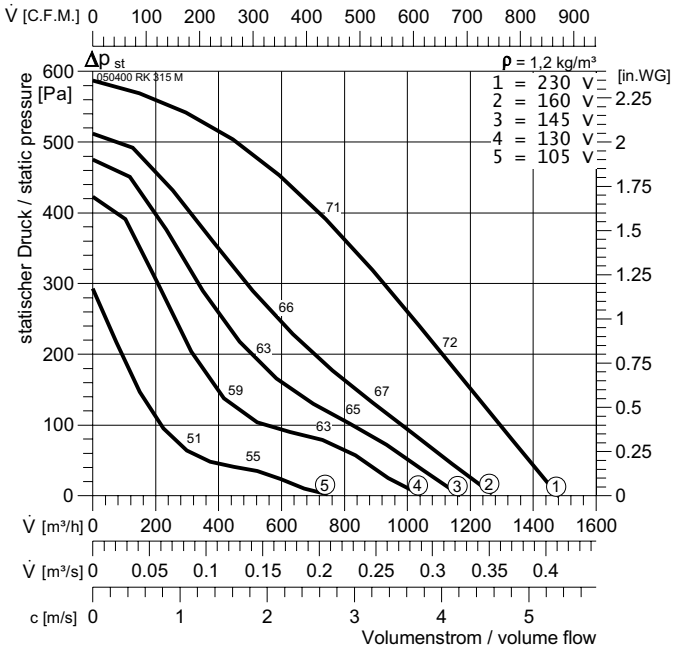
RS 315 M



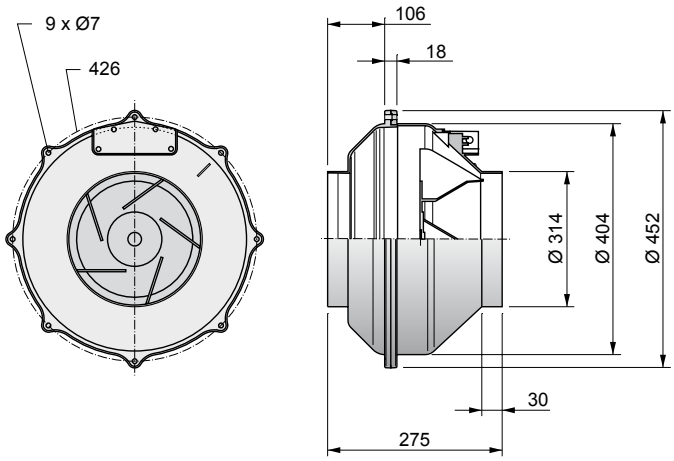
Typ :	RS 315 M		IP 44	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	051350		E11	$L_{WA\,tot}$	-16	0	0
:	7,2	kg	GS 1	125 Hz	-29	-23	-17
U :	230 V 50 Hz		NE 1,5	250 Hz	-25	-13	-12
P_1 :	0,181	kW	RPE 06 A	500 Hz	-22	-6	-10
I_N :	0,79	A		1 kHz	-21	-5	-5
n :	2715	min^{-1}		2 kHz	-23	-6	-5
C_{400V} :	7	µF		4 kHz	-28	-10	-8
t_R :	60	°C		8 kHz	-37	-15	-15



RK 315 M



Typ :	RK 315 M		IP44	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	050400		E11	$L_{WA\,tot}$	-17	-1	0
:	5,4	kg	GS 1	125 Hz	-40	-21	-20
U :	230 V 50 Hz		NE 1,5	250 Hz	-33	-14	-13
P_1 :	0,19	kW	RPE 06 A	500 Hz	-26	-13	-12
I_N :	0,83	A		1 kHz	-18	-7	-6
n :	2700	min^{-1}		2 kHz	-28	-5	-4
C_{400V} :	6	µF		4 kHz	-31	-8	-7
t_R :	60	°C		8 kHz	-41	-11	-10



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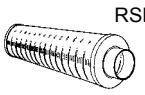
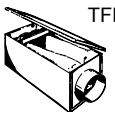
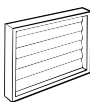
RSV

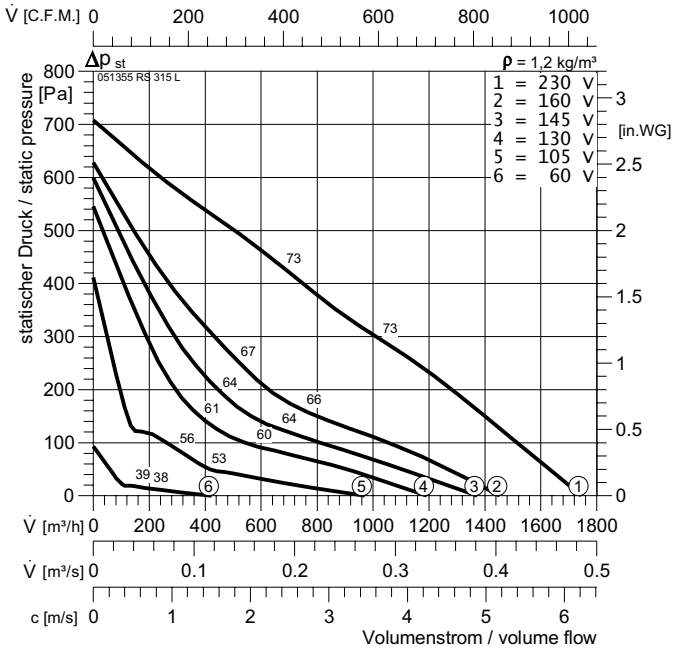

RSD

RVK

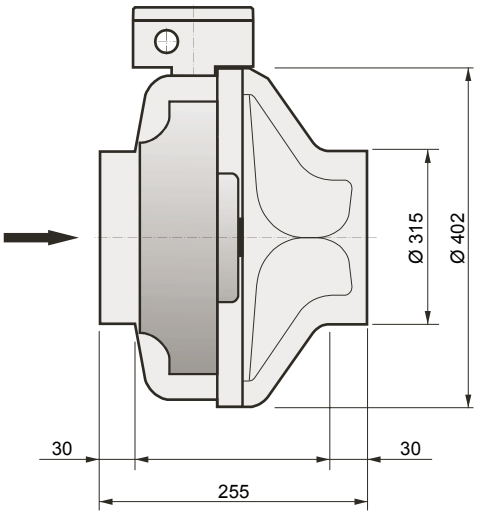

TFB-PTC


WVK

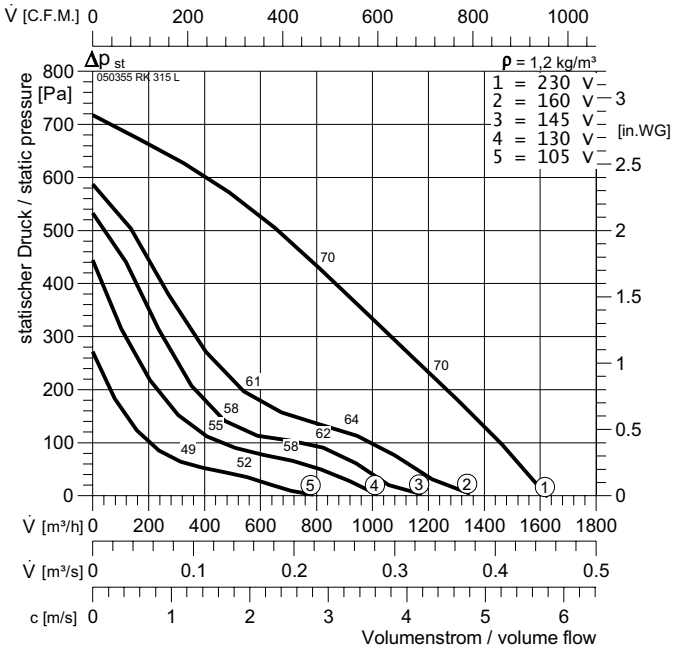
RS 315 L



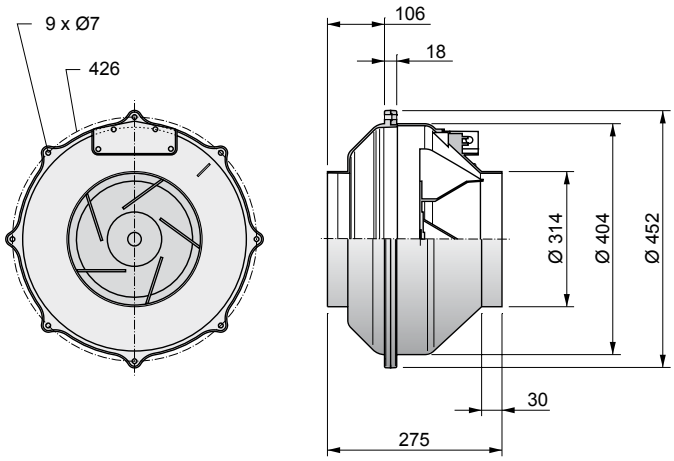
Typ :	RS 315 L		IP 44	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	051355		E11	$L_{WA\,tot}$	-16	1	0
:	8,7	kg	GS 1	125 Hz	-32	-26	-27
U :	230 V 50 Hz		NE 1,5	250 Hz	-24	-14	-15
P_1 :	0,225	kW	RPE 06 A	500 Hz	-22	-5	-11
I_N :	1,02	A		1 kHz	-22	-4	-5
n :	2655	min^{-1}		2 kHz	-23	-6	-5
C_{400V} :	8	µF		4 kHz	-26	-7	-8
t_R :	45	°C		8 kHz	-35	-12	-10



RK 315 L



Typ :	RK 315 L		IP44	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	050355		E11	$L_{WA\,tot}$	-20	-1	0
:	6,8	kg	GS 1	125 Hz	-48	-23	-22
U :	230 V 50 Hz		NE 1,5	250 Hz	-39	-14	-13
P_1 :	0,206	kW	RPE 06 A	500 Hz	-31	-11	-10
I_N :	0,99	A		1 kHz	-21	-8	-7
n :	2715	min^{-1}		2 kHz	-28	-7	-6
C_{400V} :	8	µF		4 kHz	-32	-9	-8
t_R :	50	°C		8 kHz	-39	-11	-10



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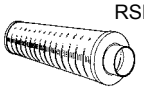
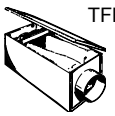
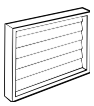
RSV

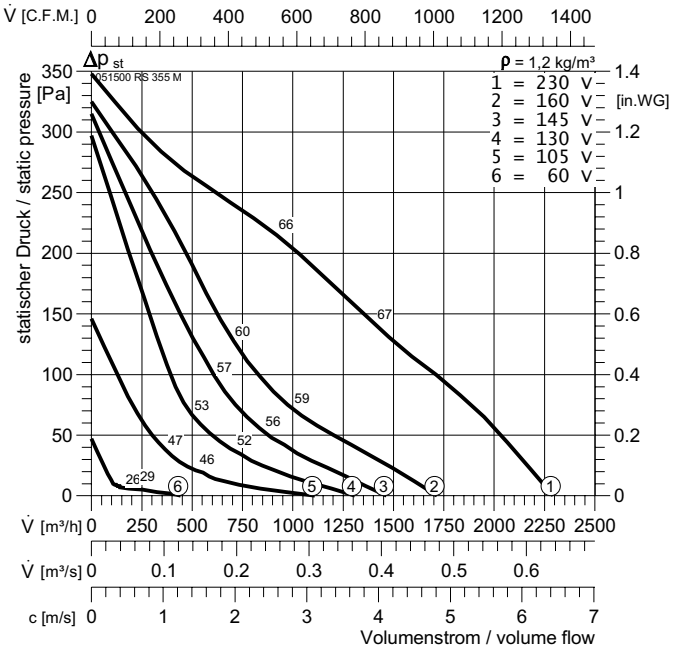

RSD

RVK

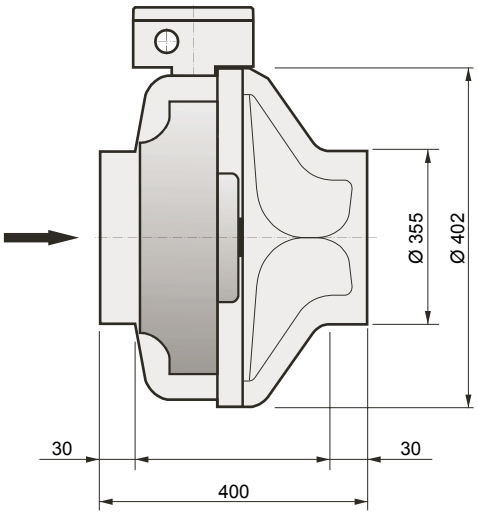

TFB-PTC


WVK

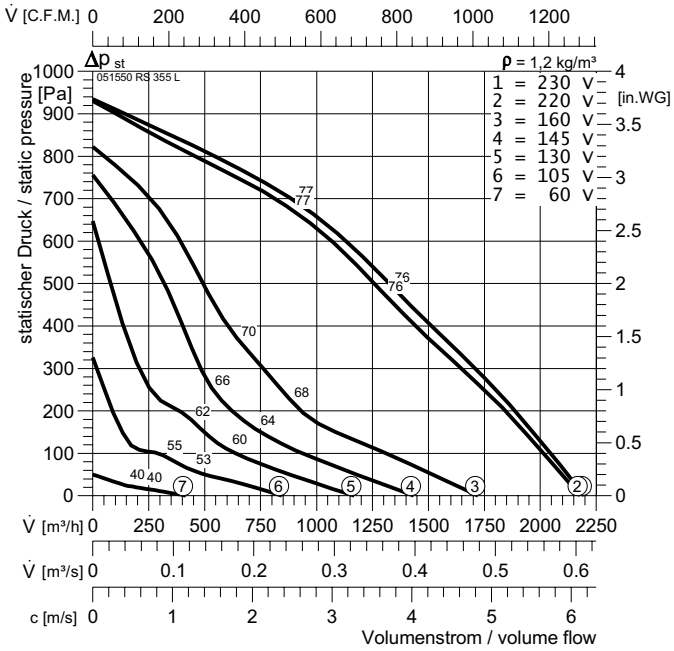
RS 355 M



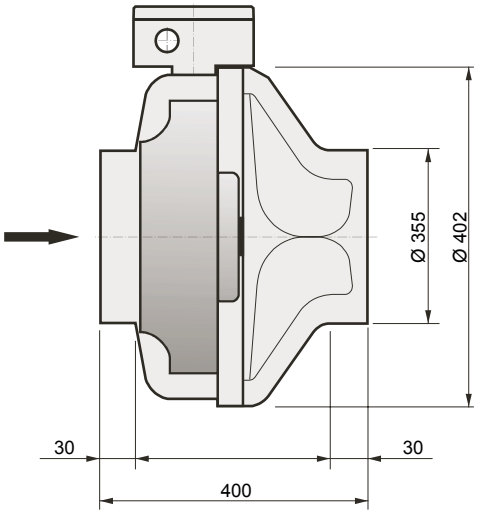
Typ :	RS 355 M		IP 54	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	051500		E13	$L_{WA\,tot}$	-12	-1	0
:	12,2	kg	GS 1	125 Hz	-18	-13	-13
U :	230 V 50 Hz		NE 1,5	250 Hz	-17	-6	-10
P_1 :	0,26	kW	RPE 06 A	500 Hz	-18	-6	-5
I_N :	1,15	A		1 kHz	-21	-8	-6
n :	1290	min^{-1}		2 kHz	-26	-12	-7
C_{400V} :	5	µF		4 kHz	-30	-15	-11
t_R :	45	°C		8 kHz	-42	-25	-20



RS 355 L



Typ :	RS 355 L		IP 54	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	051550		E13	$L_{WA\,tot}$	-11	0	0
:	14,2	kg	GS 1	125 Hz	-30	-7	-19
U :	230 V 50 Hz		NE 3,2	250 Hz	-20	-5	-16
P_1 :	0,65	kW	RPE 09 A	500 Hz	-19	-6	-7
I_N :	2,8	A		1 kHz	-15	-6	-4
n :	2460	min^{-1}		2 kHz	-18	-11	-6
C_{400V} :	12	µF		4 kHz	-21	-13	-10
t_R :	45	°C		8 kHz	-36	-21	-16



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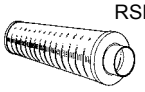
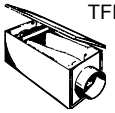
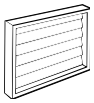
RSV

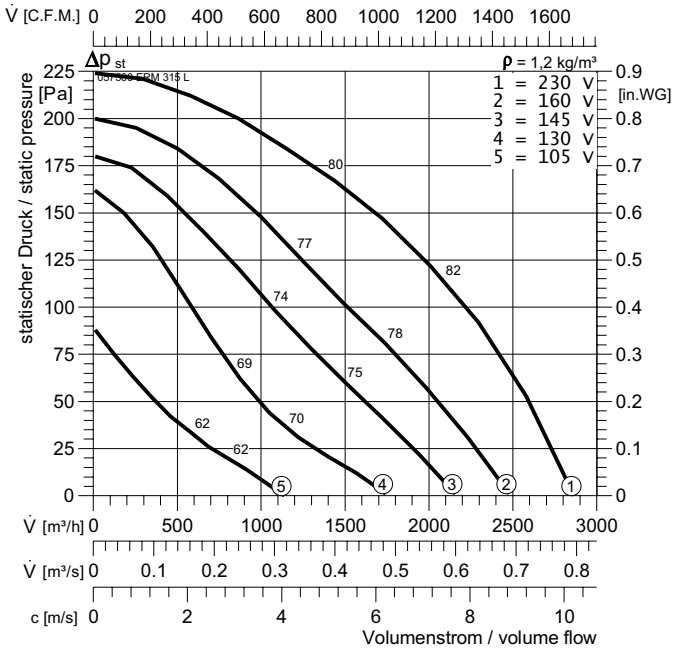

RSD

RVK

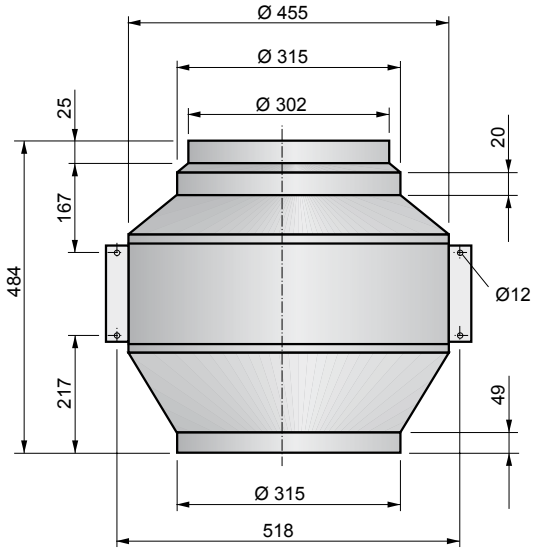

TFB-PTC


WVK

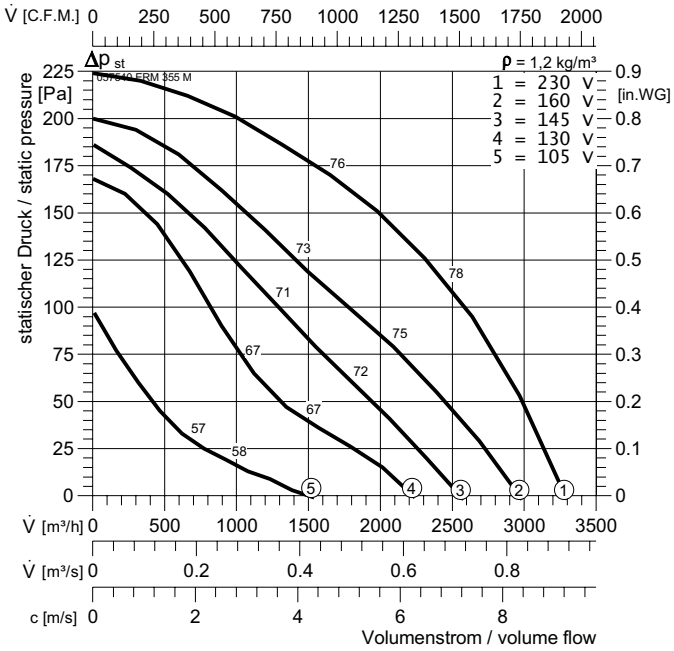
ERM 315 L



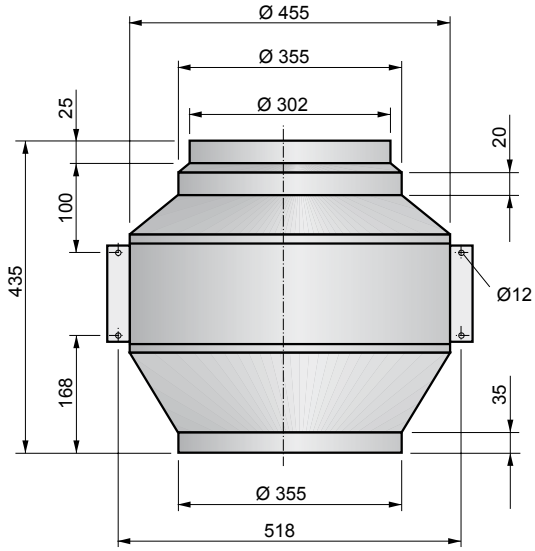
Typ :	ERM 315 L		IP 54	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	057500		E13	$L_{WA\,tot}$	-16	0	0
:	16	kg	GS 1	125 Hz	-34	-10	-5
U :	230 V 50 Hz		NE 1,5	250 Hz	-24	-6	-8
P_1 :	0,31	kW	RPE 06 A	500 Hz	-23	-5	-7
I_N :	1,35	A		1 kHz	-21	-7	-6
n :	1390	min^{-1}		2 kHz	-23	-14	-9
C_{400V} :	6	µF		4 kHz	-37	-19	-19
t_R :	40	°C		8 kHz	-48	-29	-28



ERM 355 M



Typ :	ERM 355 M		IP54	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	057540		E13	$L_{WA\,tot}$	-18	-2	0
:	15	kg	GS 1	125 Hz	-38	-8	-5
U :	230 V 50 Hz		NE 1,5	250 Hz	-28	-7	-8
P_1 :	0,31	kW	RPE 06 A	500 Hz	-24	-8	-6
I_N :	1,35	A		1 kHz	-22	-10	-6
n :	1390	min^{-1}		2 kHz	-26	-14	-10
C_{400V} :	6	µF		4 kHz	-37	-19	-19
t_R :	50	°C		8 kHz	-48	-29	-28



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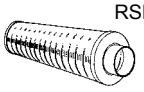
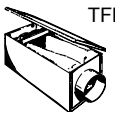
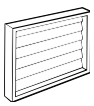
RSV


RSD

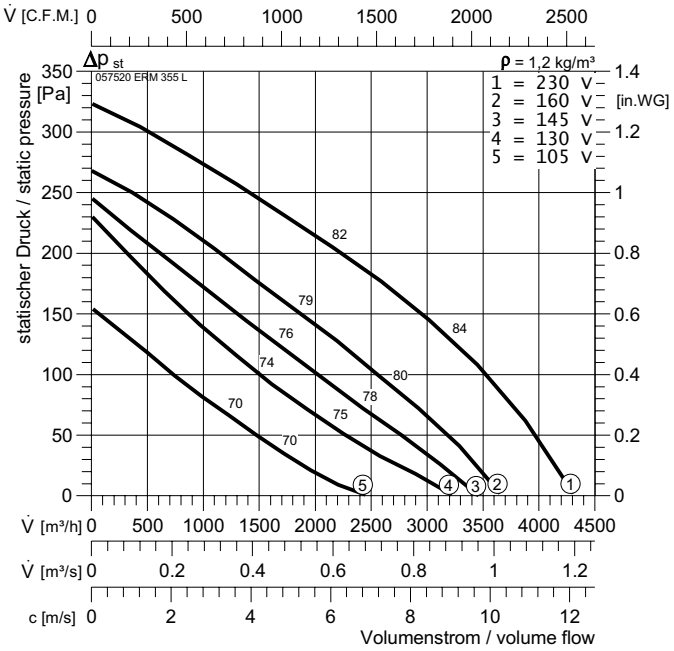
RVK


TFB-PTC

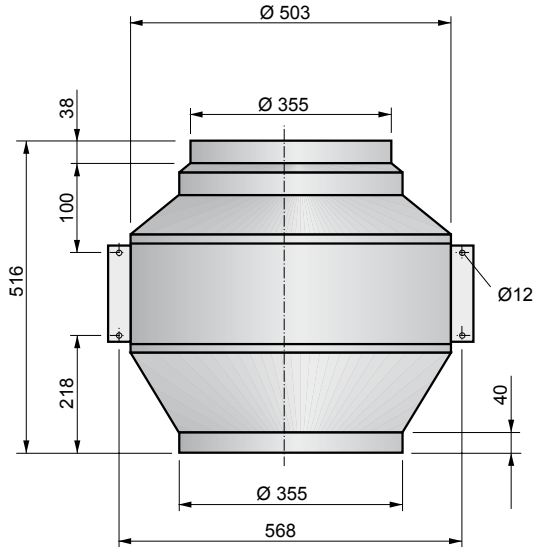

WVK

2

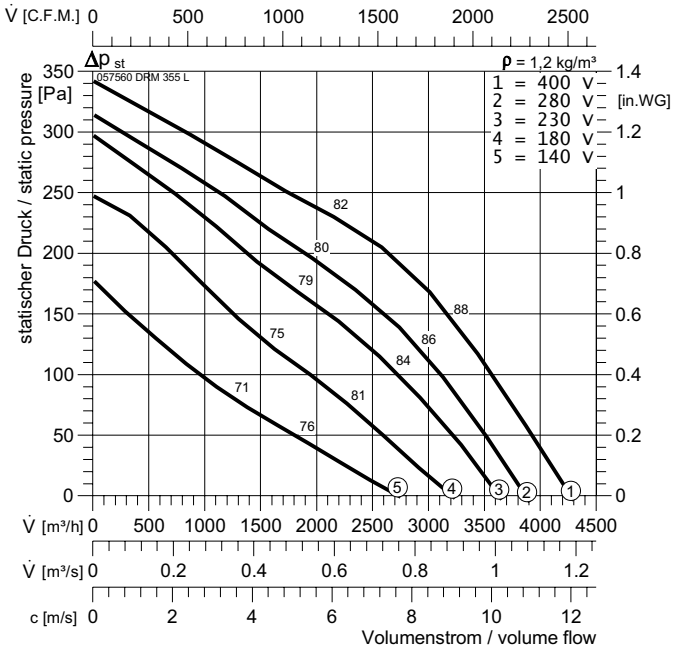
ERM 355 L



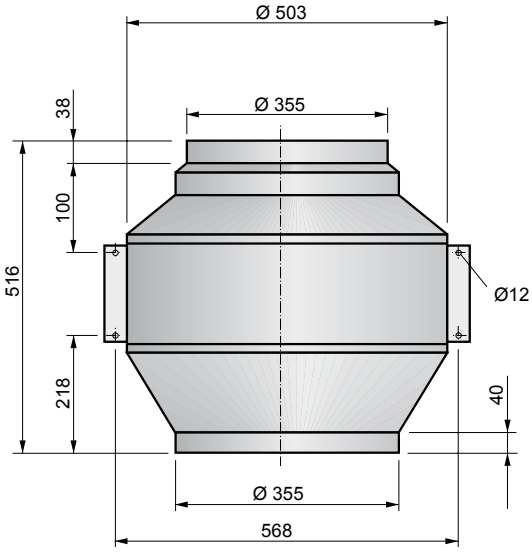
Typ :	ERM 355 L		IP54	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	057520		E13	$L_{WA\,tot}$	-19	-2	0
:	21	kg	GS 1	125 Hz	-35	-13	-5
U :	230 V 50 Hz		NE 3,2	250 Hz	-28	-8	-9
P_1 :	0,52	kW	RPE 06 A	500 Hz	-23	-6	-6
I_N :	2,2	A		1 kHz	-24	-12	-7
n :	1280	min^{-1}		2 kHz	-26	-14	-11
C_{400V} :	10	µF		4 kHz	-34	-20	-18
t_R :	40	°C		8 kHz	-44	-28	-24



DRM 355 L



Typ :	DRM 355 L		IP54	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	057560		DS1b	$L_{WA\,tot}$	-19	-3	0
:	19	kg	GS 2	125 Hz	-41	-13	-20
U :	400 V 50 Hz		RTD 1,2	250 Hz	-28	-8	-6
P_1 :	0,57	kW	SAD 9	500 Hz	-24	-7	-9
I_N :	1,05	A		1 kHz	-23	-12	-5
n :	1370	min^{-1}		2 kHz	-27	-13	-7
C_{400V} :	-	µF		4 kHz	-33	-20	-9
t_R :	60	°C		8 kHz	-43	-27	-18



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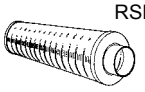
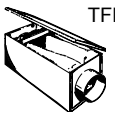
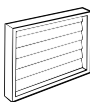
RSV

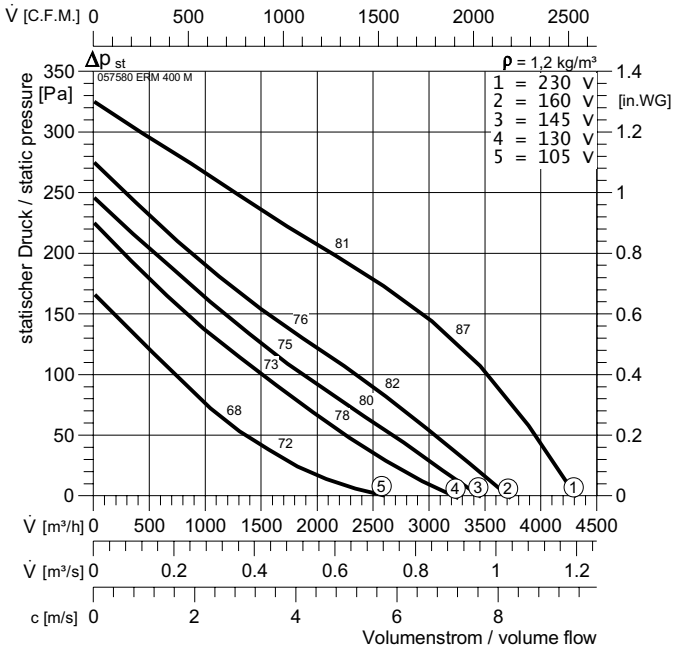

RSD

RVK

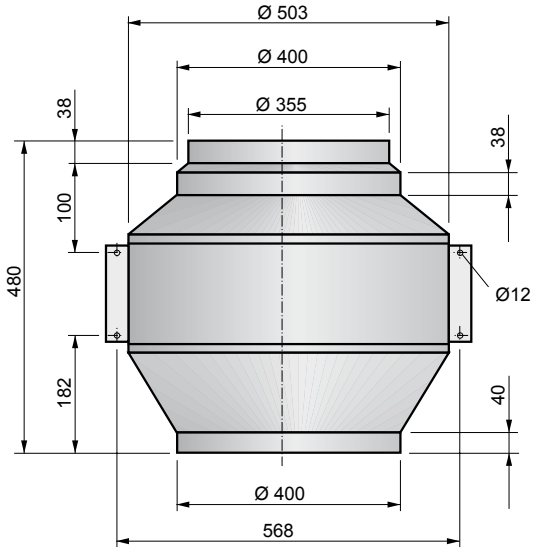

TFB-PTC


WVK

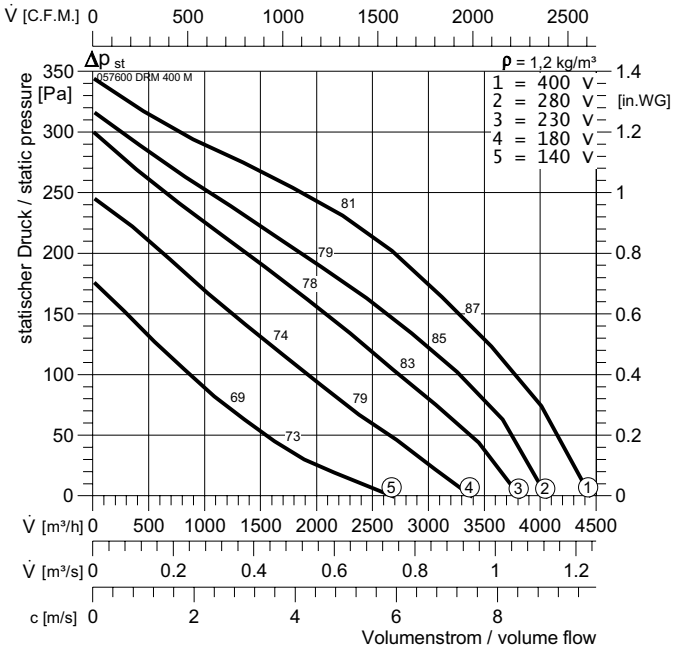
ERM 400 M



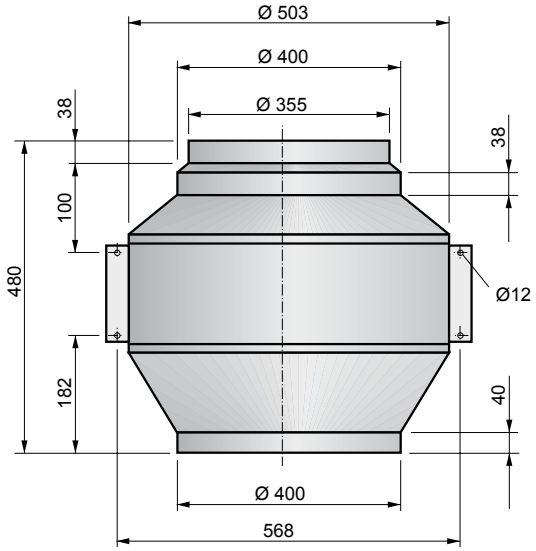
Typ :	ERM 400 M		IP54	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	057580		E13	$L_{WA\,tot}$	-19	-4	0
:	21	kg	GS 1	125 Hz	-33	-13	-8
U :	230 V 50 Hz		NE 3,2	250 Hz	-30	-11	-10
P_1 :	0,52	kW	RPE 06 A	500 Hz	-25	-9	-6
I_N :	2,2	A		1 kHz	-23	-13	-5
n :	1280	min^{-1}		2 kHz	-27	-14	-9
C_{400V} :	10	µF		4 kHz	-36	-21	-18
t_R :	45	°C		8 kHz	-44	-27	-25



DRM 400 M



Typ :	DRM 400 M		IP54	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	057600		DS1b	$L_{WA\,tot}$	-19	-4	0
:	19	kg	GS 2	125 Hz	-39	-12	-8
U :	400 V 50 Hz		RTD 1,2	250 Hz	-28	-10	-9
P_1 :	0,57	kW	SAD 9	500 Hz	-25	-9	-6
I_N :	1,05	A		1 kHz	-23	-13	-5
n :	1390	min^{-1}		2 kHz	-26	-14	-9
C_{400V} :	-	µF		4 kHz	-35	-20	-17
t_R :	65	°C		8 kHz	-44	-27	-24



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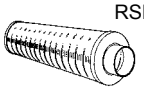
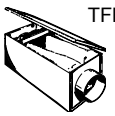
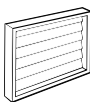
RSV


RSD

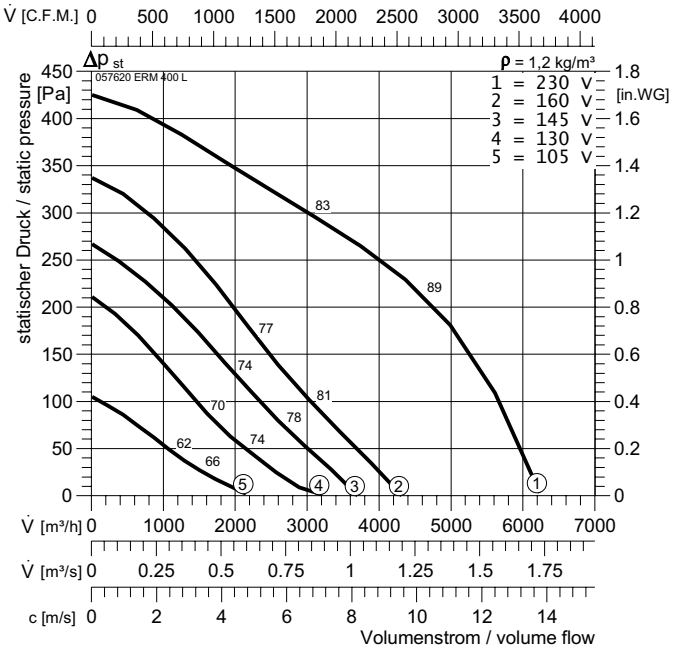
RVK


TFB-PTC

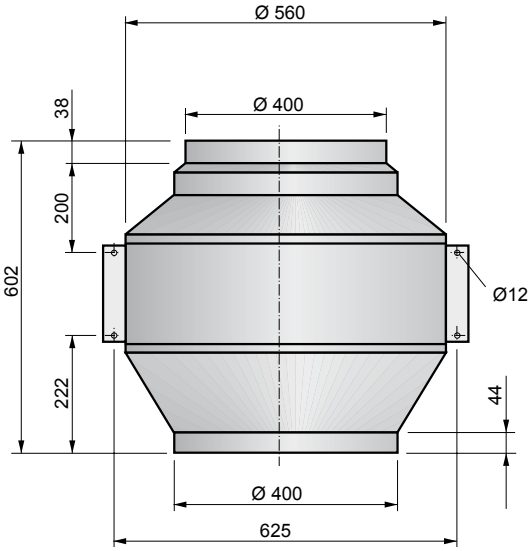

WVK

2

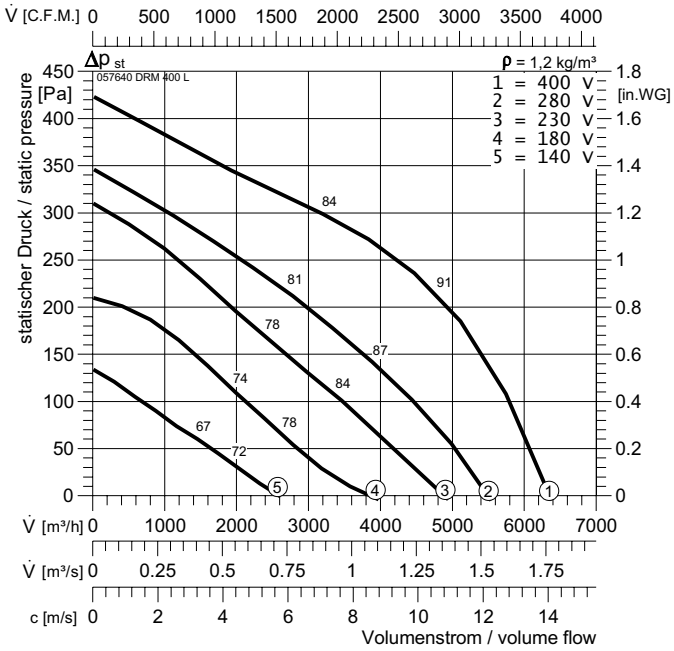
ERM 400 L



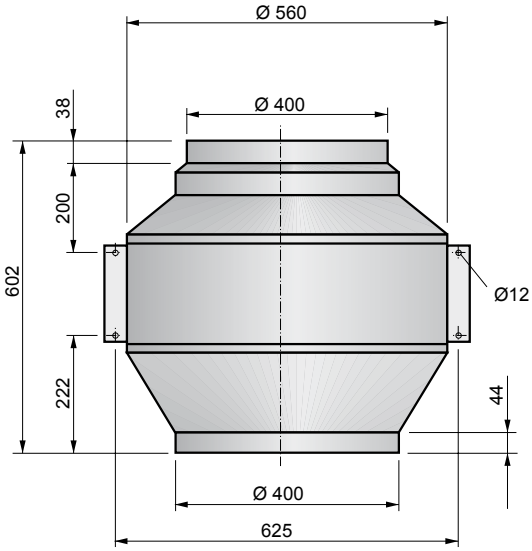
Typ :	ERM 400 L		IP54	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	057620		E13	$L_{WA\,tot}$	-18	-2	0
:	32	kg	GS 1	125 Hz	-42	-13	-7
U :	230 V 50 Hz		NE 5	250 Hz	-29	-8	-9
P_1 :	0,96	kW	RPE 09 A	500 Hz	-25	-8	-7
I_N :	4,3	A		1 kHz	-21	-9	-6
n :	1330	min^{-1}		2 kHz	-26	-12	-10
C_{400V} :	16	µF		4 kHz	-36	-19	-18
t_R :	40	°C		8 kHz	-45	-28	-26



DRM 400 L



Typ :	DRM 400 L		IP54	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	057640		DS1b	$L_{WA\,tot}$	-18	-2	0
:	29	kg	GS 2	125 Hz	-42	-13	-7
U :	400 V 50 Hz		RTD 2,5	250 Hz	-29	-8	-9
P_1 :	0,89	kW	SAD 9	500 Hz	-25	-8	-7
I_N :	1,65	A		1 kHz	-21	-9	-6
n :	1330	min^{-1}		2 kHz	-26	-12	-10
C_{400V} :	-	µF		4 kHz	-36	-19	-18
t_R :	50	°C		8 kHz	-45	-28	-26



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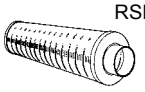
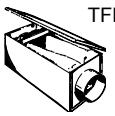
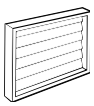
RSV

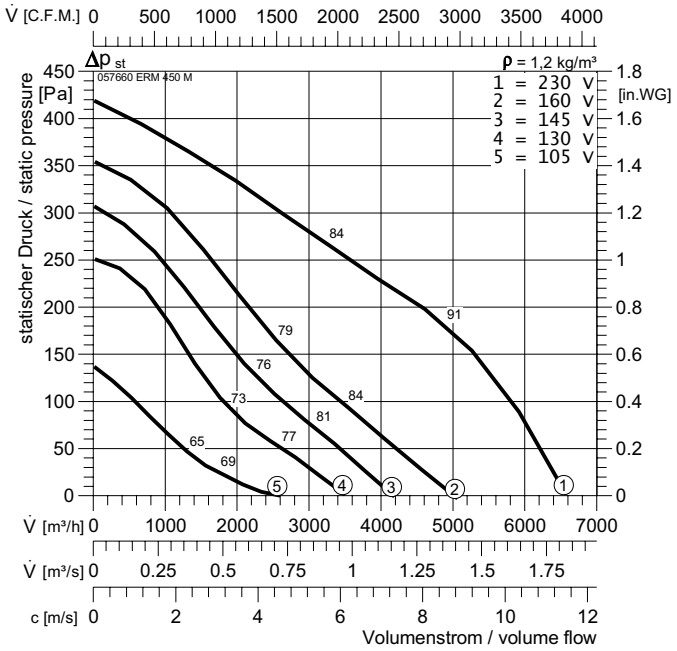

RSD

RVK

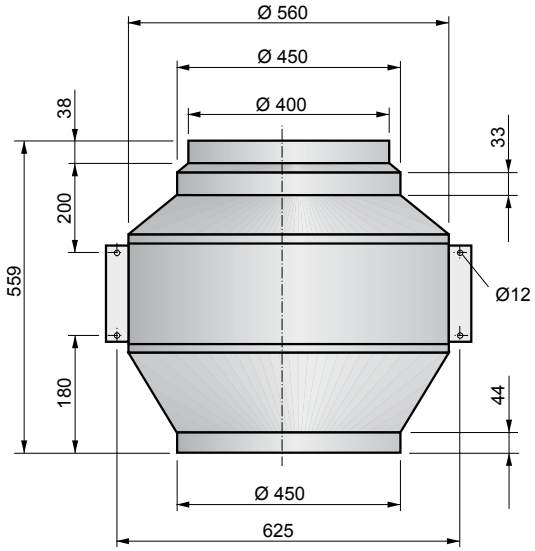

TFB-PTC


WVK

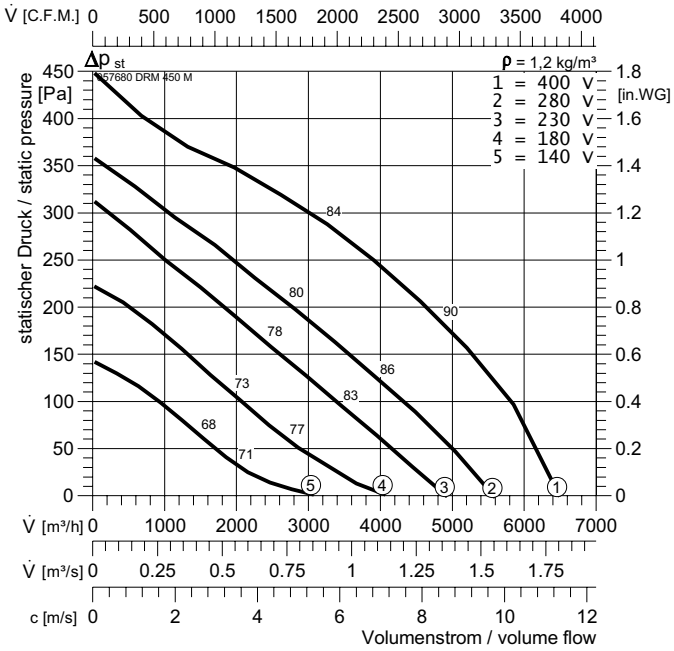
ERM 450 M



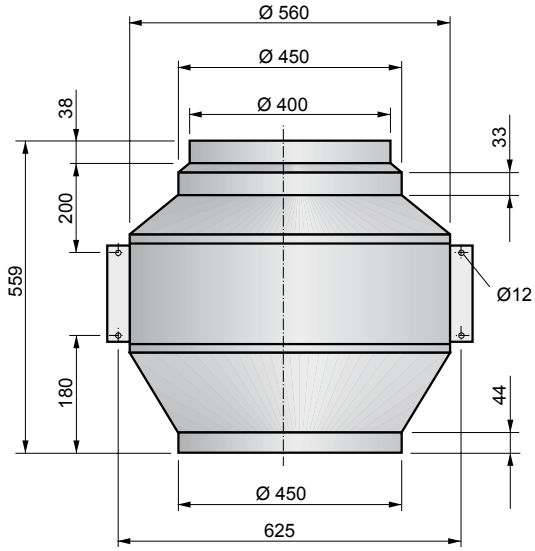
Typ :	ERM 450 M		IP54	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	057660		E13	$L_{WA\,tot}$	-15	-4	0
:	31	kg	GS 1	125 Hz	-40	-14	-10
U :	230 V 50 Hz		NE 5	250 Hz	-20	-9	-6
P_1 :	0,922	kW	RPE 09 A	500 Hz	-23	-10	-5
I_N :	4,67	A		1 kHz	-20	-12	-6
n :	1305	min^{-1}		2 kHz	-25	-15	-11
C_{400V} :	16	µF		4 kHz	-34	-21	-19
t_R :	40	°C		8 kHz	-43	-29	-26



DRM 450 M



Typ :	DRM 450 M		IP54	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	057680		DS1b	$L_{WA\,tot}$	-18	-2	0
:	29	kg	GS 2	125 Hz	-46	-14	-10
U :	400 V 50 Hz		RTD 2,5	250 Hz	-28	-7	-10
P_1 :	0,864	kW	SAD 9	500 Hz	-24	-8	-4
I_N :	1,62	A		1 kHz	-21	-11	-5
n :	1320	min^{-1}		2 kHz	-27	-13	-10
C_{400V} :	-	µF		4 kHz	-35	-18	-18
t_R :	50	°C		8 kHz	-44	-28	-25



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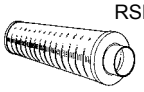
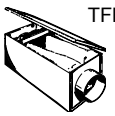
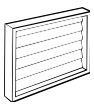
RSV

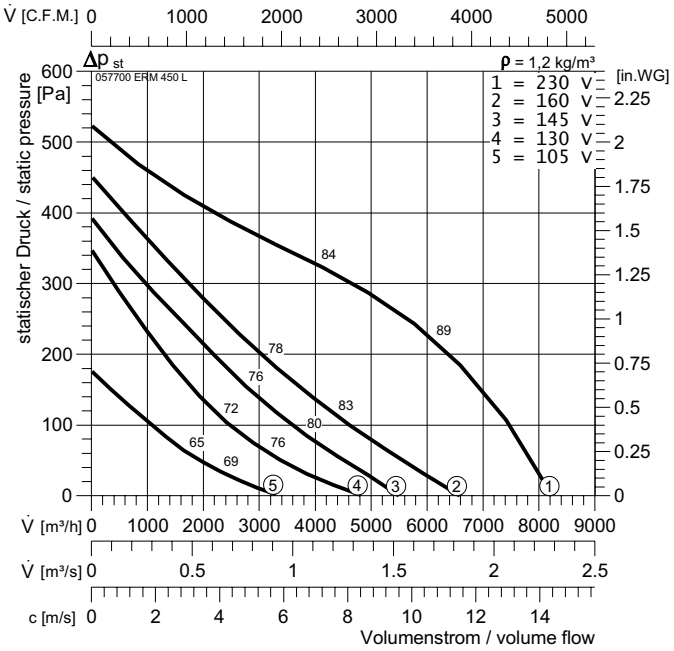

RSD

RVK

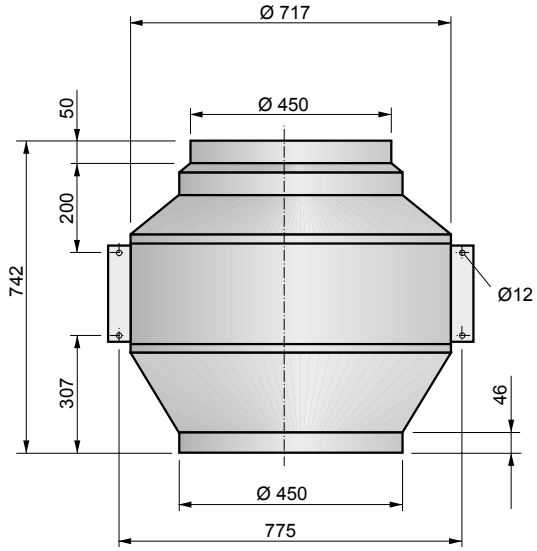

TFB-PTC


WVK

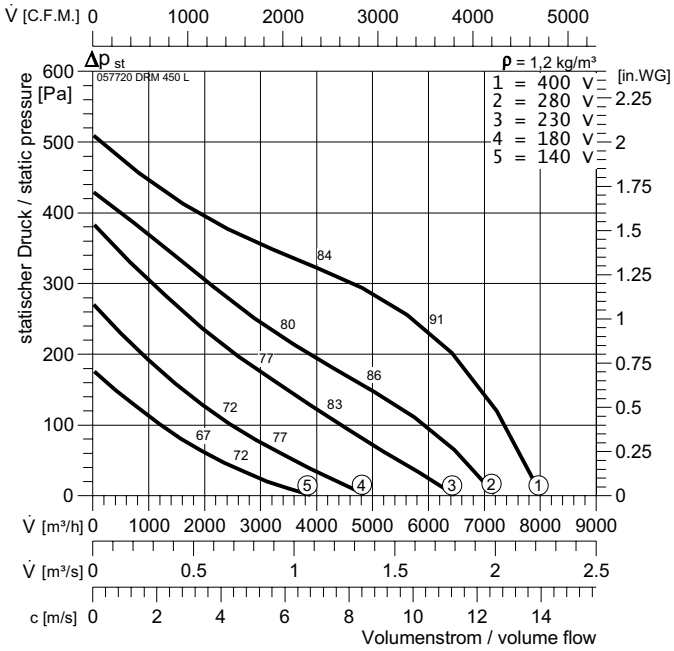
ERM 450 L



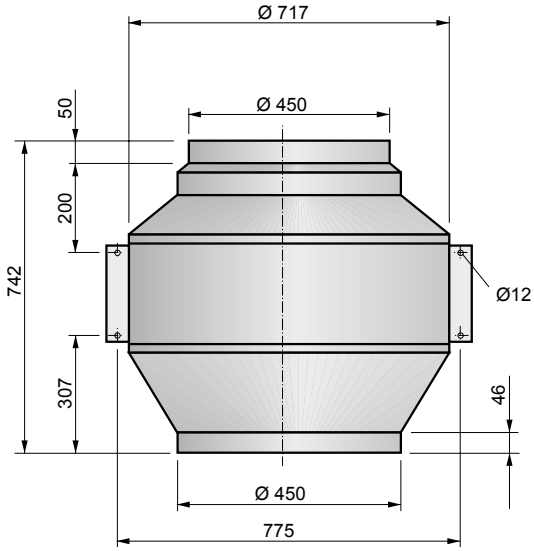
Typ :	ERM 450 L		IP54	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	057700		E13	$L_{WA\,tot}$	-16	0	0
:	42	kg	GS 1	125 Hz	-31	-10	-6
U :	230 V 50 Hz		NE 7,5	250 Hz	-26	-5	-10
P_1 :	1,398	kW	SAE 20	500 Hz	-24	-6	-6
I_N :	6,16	A		1 kHz	-20	-9	-6
n :	1290	min^{-1}		2 kHz	-22	-9	-10
C_{400V} :	30	µF		4 kHz	-34	-17	-14
t_R :	40	°C		8 kHz	-44	-26	-24



DRM 450 L



Typ :	DRM 450 L		IP54	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	057720		E13	$L_{WA\,tot}$	-16	0	0
:	38	kg	GS 2	125 Hz	-32	-11	-7
U :	400 V 50 Hz		RTD 2,5	250 Hz	-31	-5	-11
P_1 :	1,263	kW	SAD 9	500 Hz	-23	-6	-7
I_N :	2,21	A		1 kHz	-20	-8	-6
n :	1325	min^{-1}		2 kHz	-21	-9	-9
C_{400V} :	-	µF		4 kHz	-33	-16	-15
t_R :	75	°C		8 kHz	-45	-26	-25



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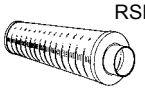
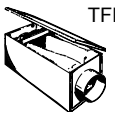
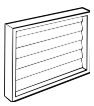
RSV

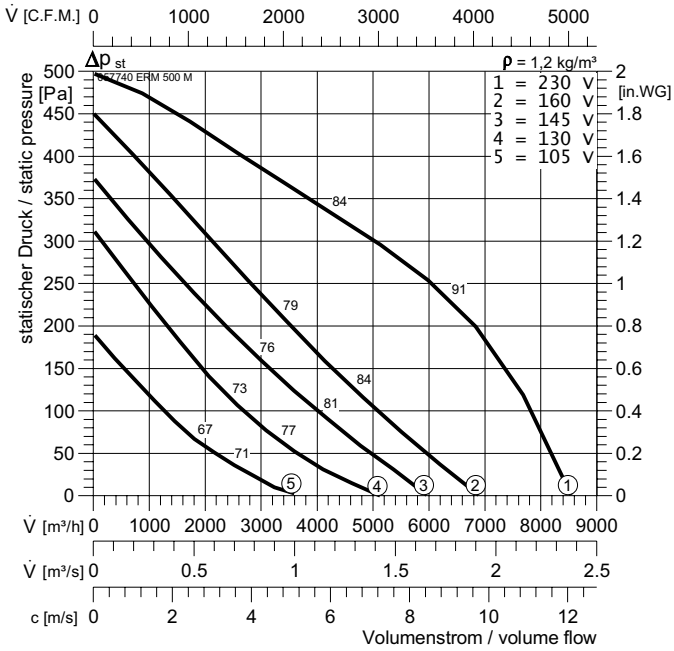

RSD

RVK

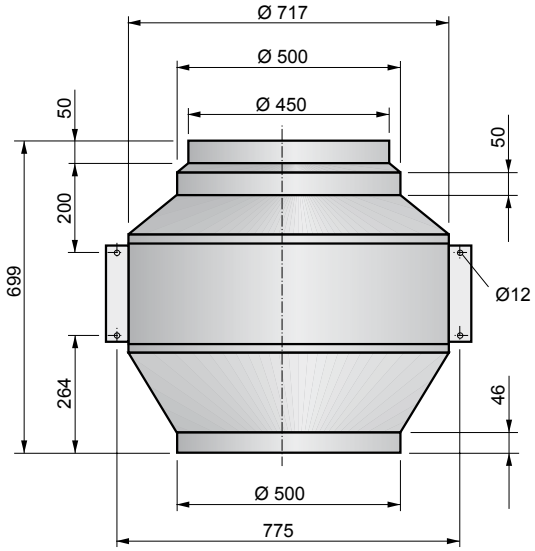

TFB-PTC


WVK

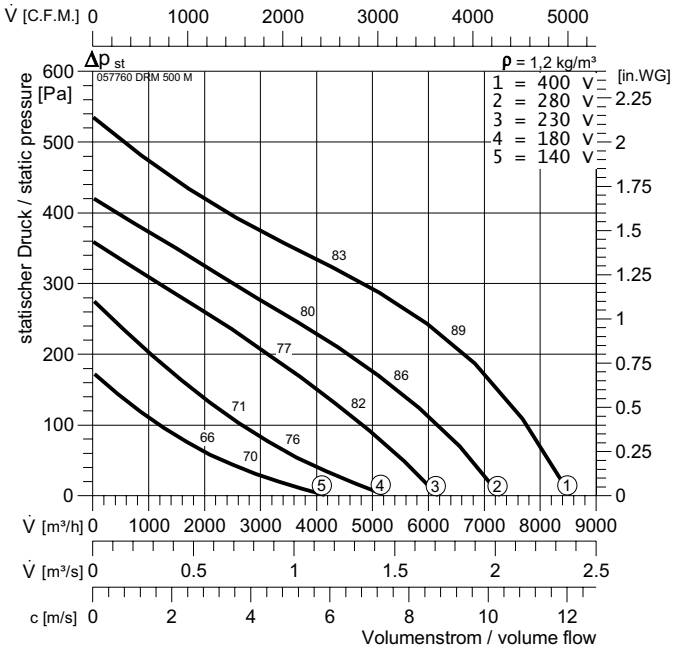
ERM 500 M



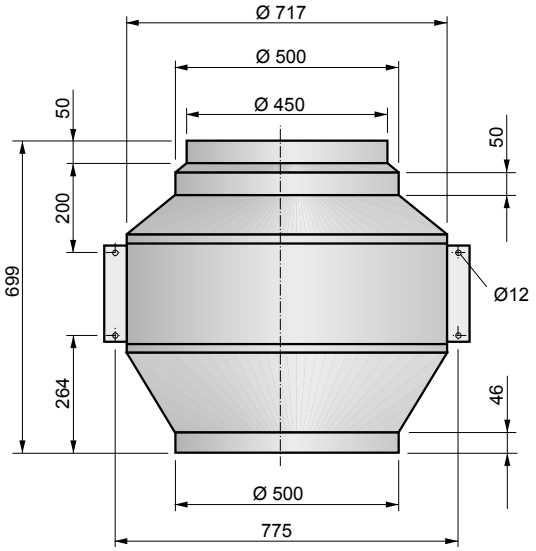
Typ :	ERM 500 M		IP54	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	057740		E13	$L_{WA\,tot}$	-18	-2	0
:	42	kg	GS 1	125 Hz	-33	-13	-7
U :	230 V 50 Hz		NE 7,5	250 Hz	-31	-7	-12
P_1 :	1,385	kW	SAE 20	500 Hz	-25	-8	-7
I_N :	6,1	A		1 kHz	-21	-10	-5
n :	1290	min^{-1}		2 kHz	-25	-11	-10
C_{400V} :	30	µF		4 kHz	-39	-18	-16
t_R :	40	°C		8 kHz	-47	-28	-26



DRM 500 M



Typ :	DRM 500 M		IP54	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	057760		DS1b	$L_{WA\,tot}$	-18	0	0
:	39	kg	GS 2	125 Hz	-39	-11	-8
U :	400 V 50 Hz		RTD 2,5	250 Hz	-32	-5	-11
P_1 :	1,267	kW	SAD 9	500 Hz	-25	-6	-7
I_N :	2,23	A		1 kHz	-21	-9	-4
n :	1330	min^{-1}		2 kHz	-24	-9	-9
C_{400V} :	-	µF		4 kHz	-37	-16	-16
t_R :	75	°C		8 kHz	-43	-26	-25



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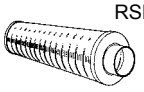
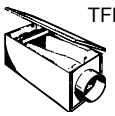
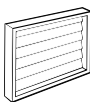
RSV


RSD

RVK


TFB-PTC


WVK

SD-Boxen
Silent Box

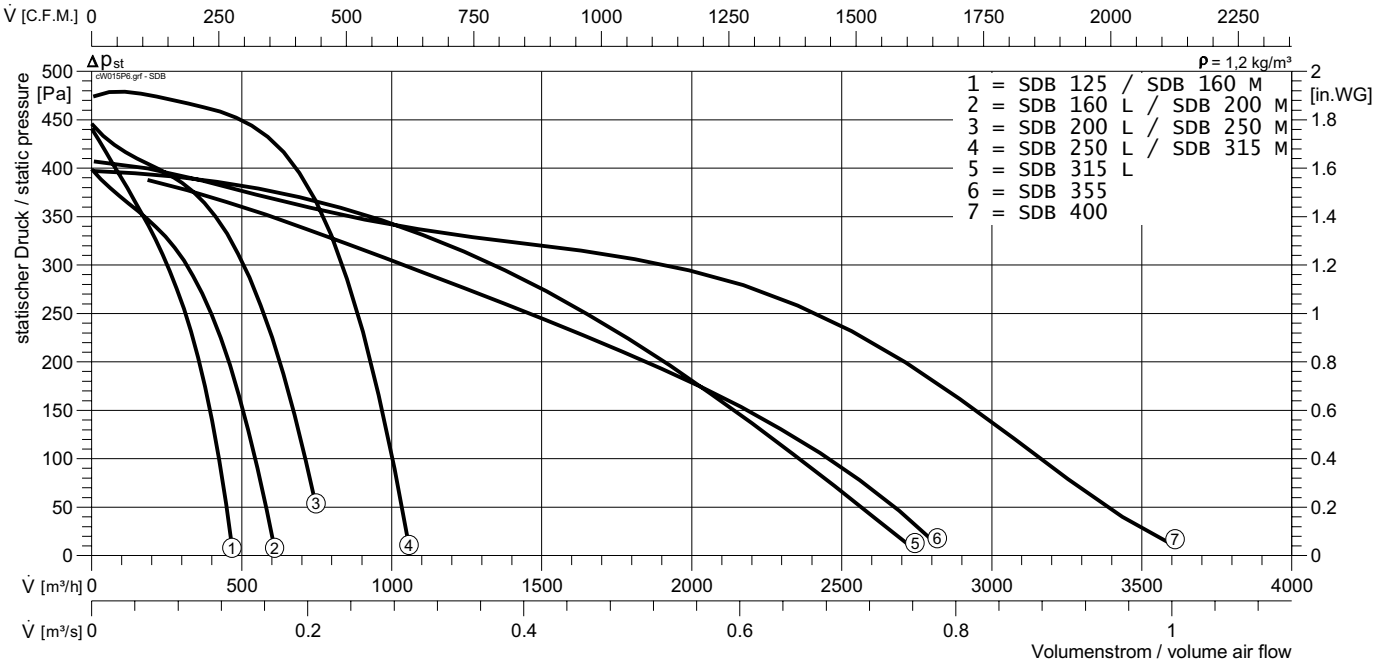
Typenschlüssel *Fan type code*

SDB 160 M

- Motorversion / *Motor type*: M, L
- Nennweite / *Impeller diameter*: 125...400
- Schalldämmbox / *Silent tube fan*

2.1

Schnellauswahl *Quick selection*



SDB 180°

SDB 90°

Eigenschaften und Ausführung

Die bewährten Schalldämmboxen SDB wurden vollständig überarbeitet und zeigen sich als formschöne Rahmenkonstruktion. Das isolierte Gehäuse aus verzinktem Stahlblech garantiert niedrige Geräuschpegel. Der Anschluß an DIN-Standardrohre erleichtert die Montage, die aufgeschraubten Paneele ermöglichen den einfachen Zugang zum Gebläse.

Vorteile

Das Paneel auf der Ansaugseite läßt sich mit dem Paneel auf der Deckelseite austauschen. Hierdurch kann die Box sowohl mit herkömmlicher gerader Durchströmung als auch mit 90°Umlenkung betrieben werden. Die Laufräder mit vorwärts gekrümmten Schaufeln ermöglichen höhere Drücke.

Gehäuse

Die Rahmenkonstruktion der SD-Boxen besteht aus Aluminiumstrangpressprofilen mit Kunststoffeckverbindern. Die Seitenplatten sind aus verzinktem Stahlblech gefertigt und besitzen eine Schallisolierung aus Mineralwolle.

Motor und Laufrad

Die SD-Boxen der Baugrößen 125 - 315M sind mit 4-stufigen Motoren ausgerüstet. Die Drehzahl kann daher mit Hilfe eines einfachen Stufenschalters variiert werden. Bitte beachten Sie, dass diese Motoren eine horizontale Lage der Motorwelle erfordern.

Der Antrieb der SD-Boxen 315 L - 400 erfolgt über drehzahlsteuerbare Außenläufermotoren in Schutzart IP 44 nach DIN 40 050, Isolierklasse B. Der Motorschutz ist durch die in die Wicklung eingelegte Thermokontakt gewährleistet.

Die Laufräder der Baugrößen 125 und 160M sind gemäß IEC 695 T2-2 und EN 60 335-2-31 aus Polypropylen. Alle anderen Baugrößen haben Laufräder aus verzinktem Stahlblech mit vorwärtsgekrümmten Schaufeln. Laufrad und Motor werden in einer Einheit dynamisch in zwei Ebenen nach VDI 2060, Güteklasse Q 2,5 gewuchtet. Die Kugellager sind wartungsfrei.

Elektrischer Anschluss

Die Motoren sind auf einen außen am Gehäuse angebrachten Klemmkasten verdrahtet. Eurospannung nach DIN IEC 38 230 V, 50 Hz.

Luftleistungskennlinien

Die Kennlinien für diese Typenreihe wurden in Einbauart B (frei ansaugend, druckseitig angeschlossen) aufgenommen und zeigen die statische Druckerhöhung Δp_{st} als Funktion des Volumenstroms. Der dynamische Druck p_{d2} ist auf den Flanschquerschnitt am Ventilatoraustritt bezogen.

Schallentwicklung

Die Ermittlung der Schallleistungspegel erfolgt nach dem Hüllflächenverfahren nach DIN 45635, Teil 38. In den Kennlinien ist der A-bewertete Freiblas-Schallleistungspegel L_{WA6} nach DIN 45635, Teil 38, angegeben.

Der A-bewertete Freiansaug-Schallleistungspegel L_{WA5} nach DIN 45 635, Teil 38 wird wie folgt ermittelt:

$$L_{WA5} = L_{WA6} - 11\ dB(A)$$

Der für die Auslegung von Schalldämpfern maßgebende Schallleistungspegel in den einzelnen Oktavbereichen kann aus folgender Formel ermittelt werden:

$$L_{WAOkt} = L_{WA6} + L_{WArel}$$

Die relativen Oktav-Schallleistungspegel L_{WArel} bei den Oktav-Mittelfrequenzen sind den Tabellen des Ventilators zu entnehmen. Sie sind bei 0,5 x Vmax ermittelt worden.

Den A-bewerteten Schalldruckpegel L_{PA} in 1m Abstand erhält man annähernd, indem man vom A-Schallleistungspegel L_{WA} 7 dB (A) abzieht. Zu beachten ist, dass Reflexionen und Raumcharakteristik sowie Eigenfrequenzen die Größe des Schalldruckpegels unterschiedlich beeinflussen.

Design features

- The top cover and the panel on the inlet side can be exchanged in order to allow either horizontal in-line airflow or a 90° deflection
- Casing made of galvanised sheet steel
- Mineral wool insulation
- Low noise levels
- Easily connected to DIN-standard tubes
- Forward curved impellers allow higher higher pressures
- Screwed panels allow easy access to the fan

Casing

The SDB frame construction is made of aluminium profiles connected by corners made of glass-fibre reinforced polyamide. The panels are made of galvanised sheet steel, insulated with sound absorbing mineral wool.

Motorized impellers

SDB fans of sizes 125-315M are fitted with 4 step motors. This allows speed adjustment by means of a simple step switch. Please note that these motors have to mounted with the motor shaft in a horizontal position.

SDB fans of sizes 315L - 400 are driven by a speed-controllable external rotor motor of protection class IP 44 according to DIN 40 050, insulation class B. Motor protection is ensured by thermal contacts inserted into the motor winding.

The forward-curved impellers of size 125 and 160M are made of polypropylen according to IEC 695 T2-2 and EN 60 335-2-31. All other impellers are made of made of galvanised sheet steel. The impeller is fixed directly onto the external rotor motor, the motorised impeller unit is dynamically balanced in two plains according to VDI 2060, quality class Q 2,5. The ball bearings are maintenance free.

Electrical connection

The motors are connected to an external terminal box. Euro-voltage according to DIN IEC 38 230 V, 50 Hz.

Fan performance curves

The performance curves of these fans have been established in mounting position B (installed on the pressure side, free suction) and indicate the static pressure increase Δp_{st} as a function of the volume flow. The dynamic pressure p_{d2} refers to the flange cross-sectional area at the outlet side of the fan.

Sound levels

The ascertaining of the sound level follows the enveloping surface method according to DIN 45635 section 38. The sound figures given in the performance curves represent the A-weighted sound power levels L_{WA6} in decibel at the outlet side, unducted.

The A-weighted sound power level at the inlet side L_{WA5} according to DIN 45 635, part 38, is obtained as follows:

$$L_{WA5} = L_{WA6} - 11\ dB(A)$$

The octave sound power level is important for the choice of suitable sound attenuators. It is obtained as follows.

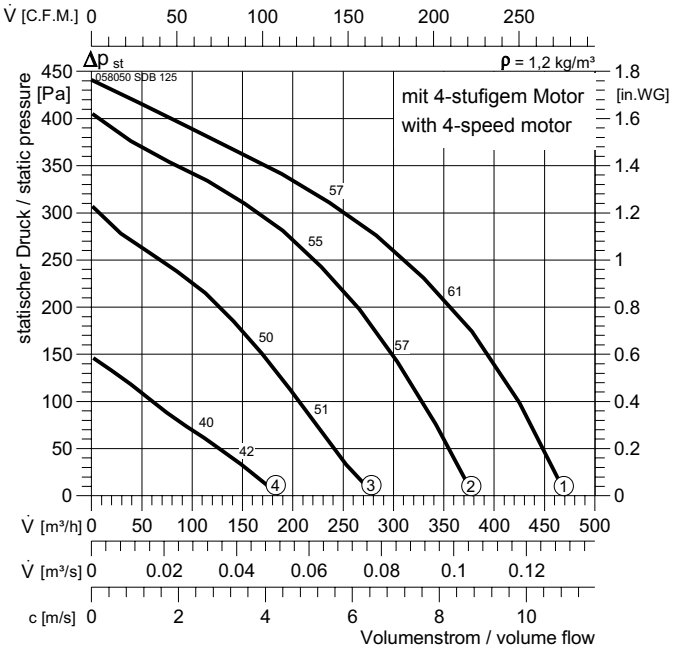
$$L_{WAOkt} = L_{WA6} + L_{WArel}$$

The relative octave sound power level L_{WArel} at octave medium frequency can be taken from the tables of the respective fan. These levels have been established at 0.5 x Vmax.

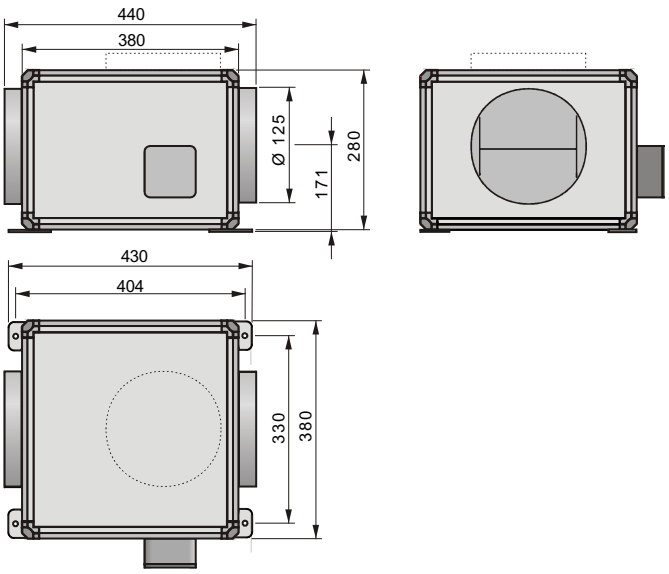
The A-weighted sound pressure level L_{PA} at a distance of 1 metre isobtained approximately by deducting 7 dB(A) from the A-weighted sound power level L_{WA}. It is important to note that reflexion and environmental characteristics as well as resonant frequencies influence the sound pressure levels in different ways.

2.1

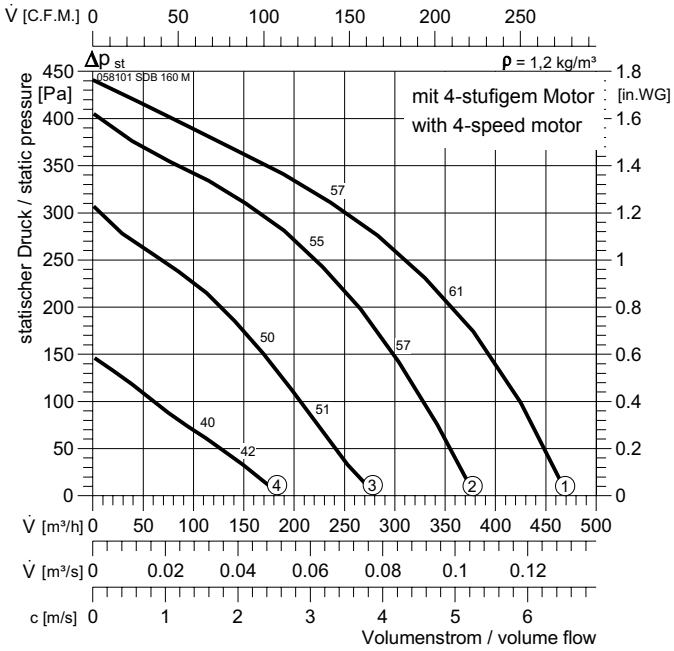
SDB 125



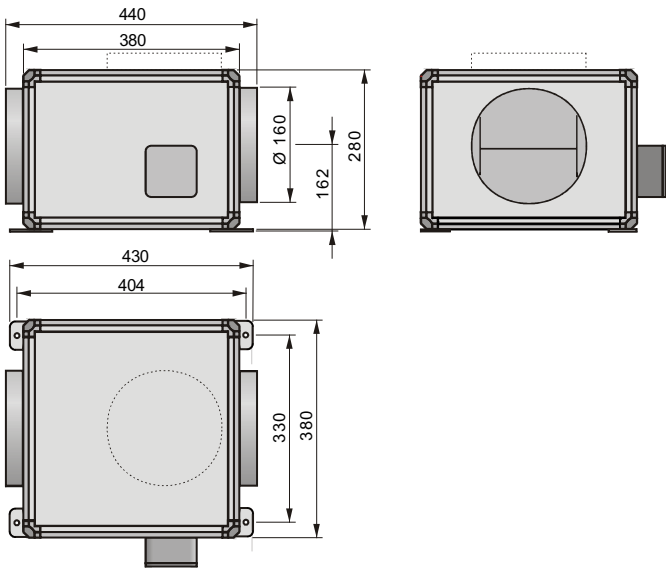
Typ :	SDB 125		IP44	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	058050		E16	$L_{WA\,tot}$	-16	-11	0
:	9	kg	FWG-5	125 Hz	-27	-18	-16
U :	230 V 50 Hz		NE 1,5	250 Hz	-22	-21	-19
P_1 :	0,13	kW	RPE 02	500 Hz	-23	-21	-13
I_N :	0,58	A		1 kHz	-24	-19	-6
n :	1150	min^{-1}		2 kHz	-27	-21	-9
C_{400V} :	2	µF		4 kHz	-26	-20	-12
t_R :	50	°C		8 kHz	-22	-16	-10



SDB 160 M



Typ :	SDB 160 M		IP44	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	058101		E16	$L_{WA\,tot}$	-16	-11	0
:	9,5	kg	FWG-5	125 Hz	-27	-18	-16
U :	230 V 50 Hz		NE 1,5	250 Hz	-22	-21	-19
P_1 :	0,13	kW	RPE 02	500 Hz	-23	-21	-13
I_N :	0,58	A		1 kHz	-24	-19	-6
n :	1150	min^{-1}		2 kHz	-27	-21	-9
C_{400V} :	2	µF		4 kHz	-26	-20	-12
t_R :	50	°C		8 kHz	-22	-16	-10



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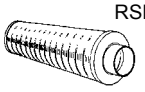
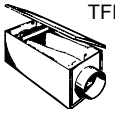
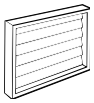
RSV


RSD

RVK

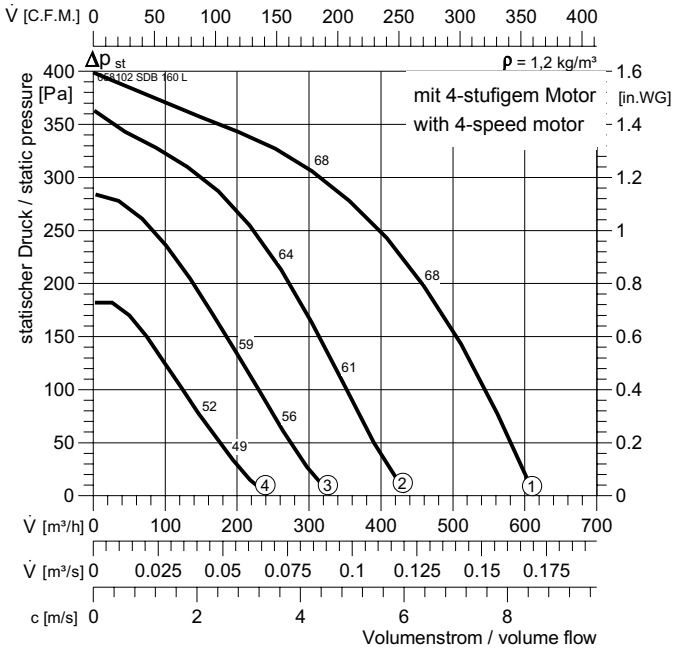

TFB-PTC


WVK

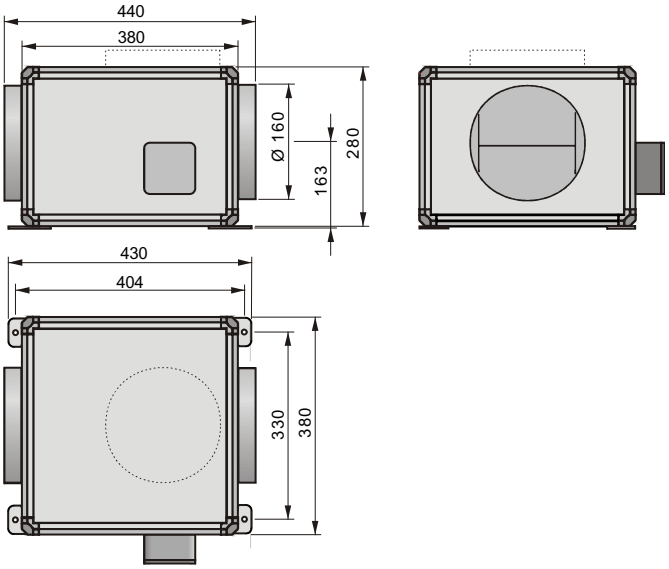
SDB 180°

SDB 90°

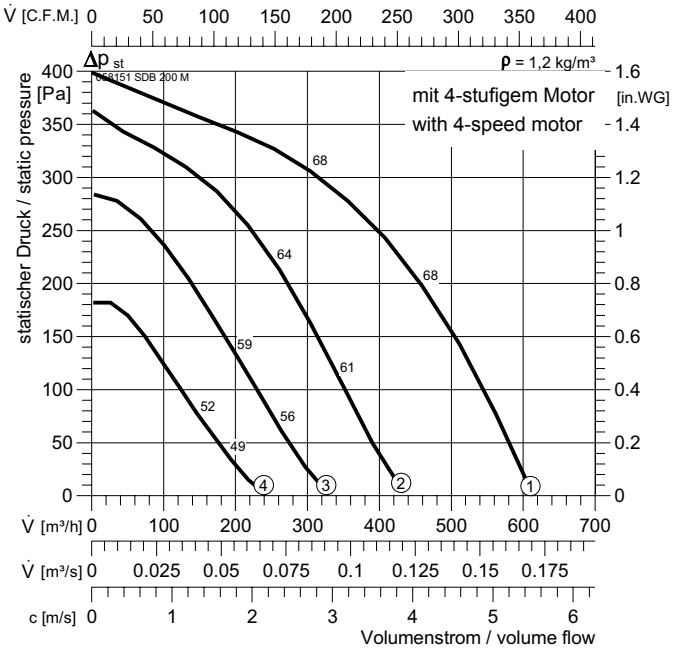
SDB 160 L



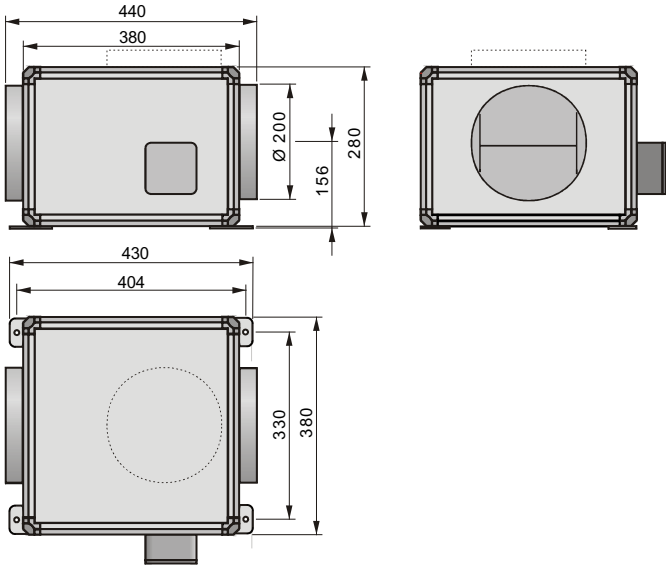
Typ :	SDB 160 L		IP44	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	058102		E16	$L_{WA\,tot}$	-16	-11	0
:	9,5	kg	FWG-5	125 Hz	-27	-18	-16
U :	230 V 50 Hz		NE 1,5	250 Hz	-22	-21	-19
P_1 :	0,15	kW	RPE 02	500 Hz	-23	-21	-13
I_N :	0,66	A		1 kHz	-24	-19	-6
n :	1050	min^{-1}		2 kHz	-27	-21	-9
C_{400V} :	4	µF		4 kHz	-26	-20	-12
t_R :	50	°C		8 kHz	-22	-16	-10



SDB 200 M



Typ :	SDB 200 M		IP44	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	058151		E16	$L_{WA\,tot}$	-16	-11	0
:	14,8	kg	FWG-5	125 Hz	-27	-18	-16
U :	230 V 50 Hz		NE 1,5	250 Hz	-22	-21	-19
P_1 :	0,15	kW	RPE 02	500 Hz	-23	-21	-13
I_N :	0,66	A		1 kHz	-24	-19	-6
n :	1050	min^{-1}		2 kHz	-27	-21	-9
C_{400V} :	4	µF		4 kHz	-26	-20	-12
t_R :	50	°C		8 kHz	-22	-16	-10



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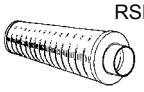
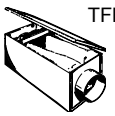
RSV

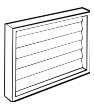


RSD

RVK



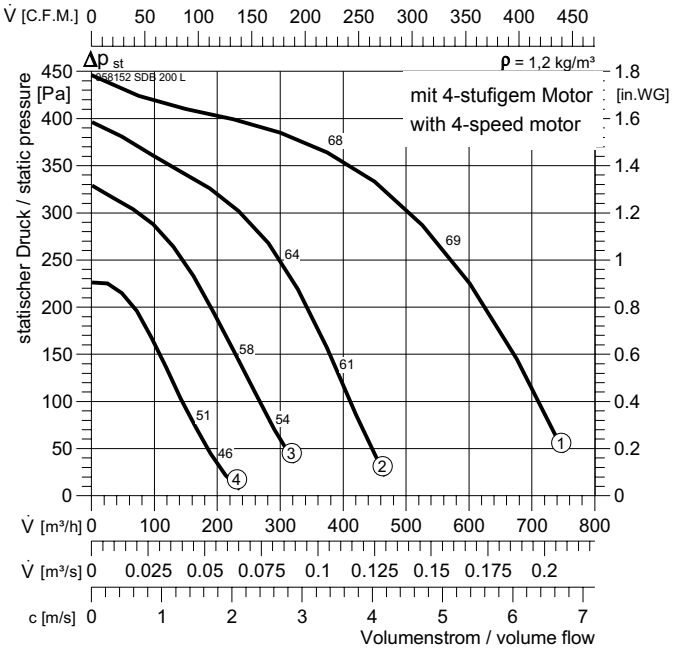
TFB-PTC



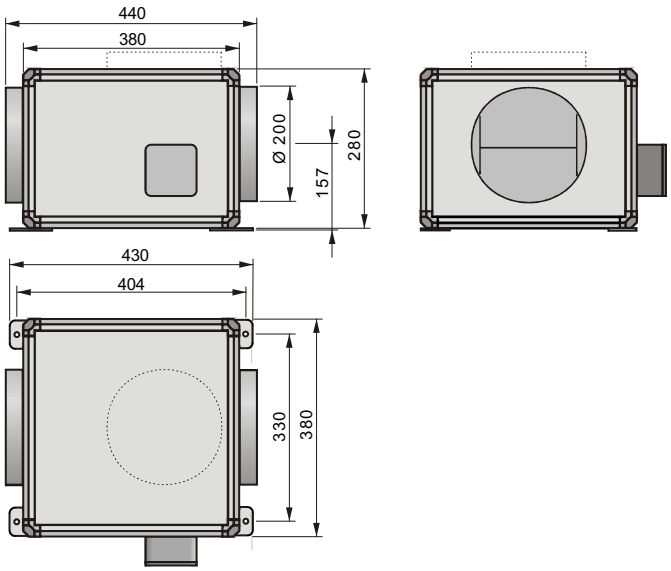
WVK

2.1

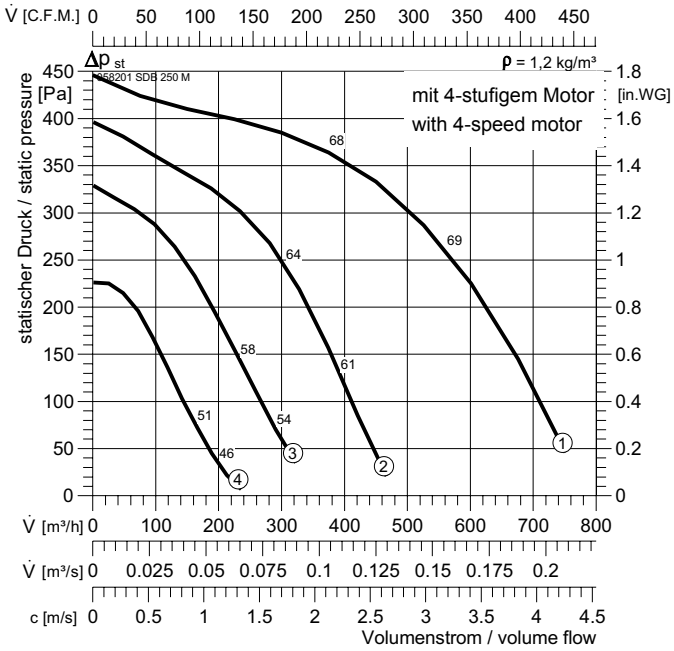
SDB 200 L



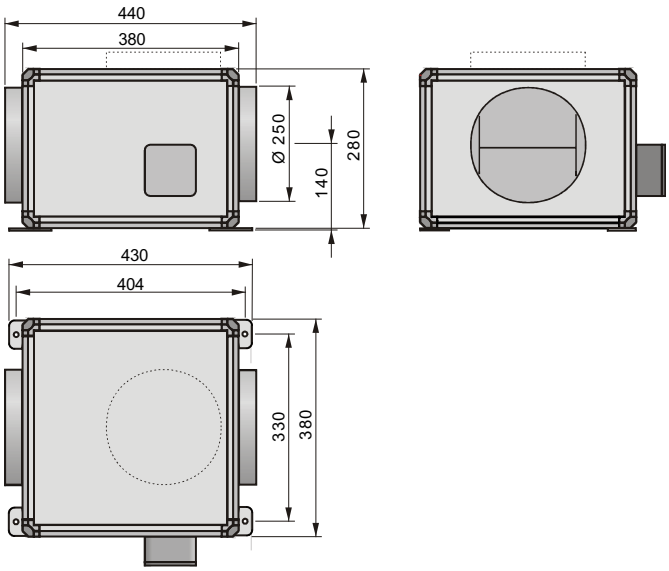
Typ :	SDB 200 L		IP44	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	058152		E16	$L_{WA\,tot}$	-17	-11	0
:	14,8	kg	FWG-5	125 Hz	-29	-21	-20
U :	230 V 50 Hz		NE 1,5	250 Hz	-29	-22	-16
P_1 :	0,2	kW	RPE 02	500 Hz	-25	-20	-12
I_N :	0,88	A		1 kHz	-25	-16	-7
n :	1450	min^{-1}		2 kHz	-25	-21	-7
C_{400V} :	5	µF		4 kHz	-23	-20	-10
t_R :	50	°C		8 kHz	-20	-18	-10



SDB 250 M



Typ :	SDB 250 M		IP44	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	058201		E16	$L_{WA\,tot}$	-17	-11	0
:	17,4	kg	GS 1	125 Hz	-29	-21	-20
U :	230 V 50 Hz		NE 1,5	250 Hz	-29	-22	-16
P_1 :	0,2	kW	RPE 02 A	500 Hz	-25	-20	-12
I_N :	0,88	A		1 kHz	-25	-16	-7
n :	1450	min^{-1}		2 kHz	-25	-21	-7
C_{400V} :	5	µF		4 kHz	-23	-20	-10
t_R :	50	°C		8 kHz	-20	-18	-10



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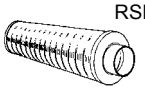
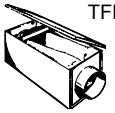
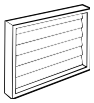
RSV


RSD

RVK

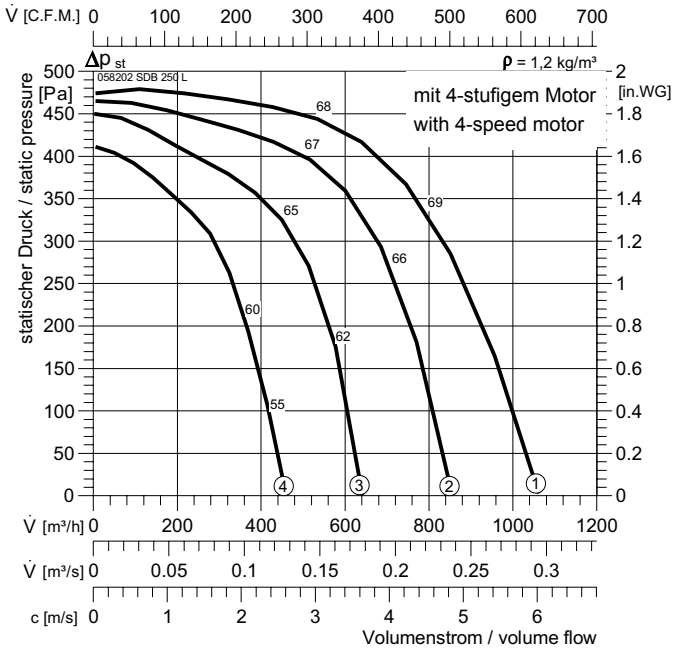

TFB-PTC


WVK

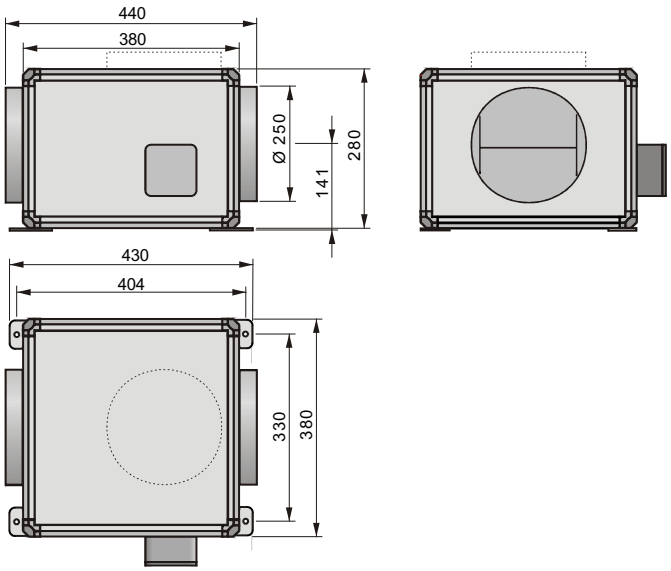
SDB 180°

SDB 90°

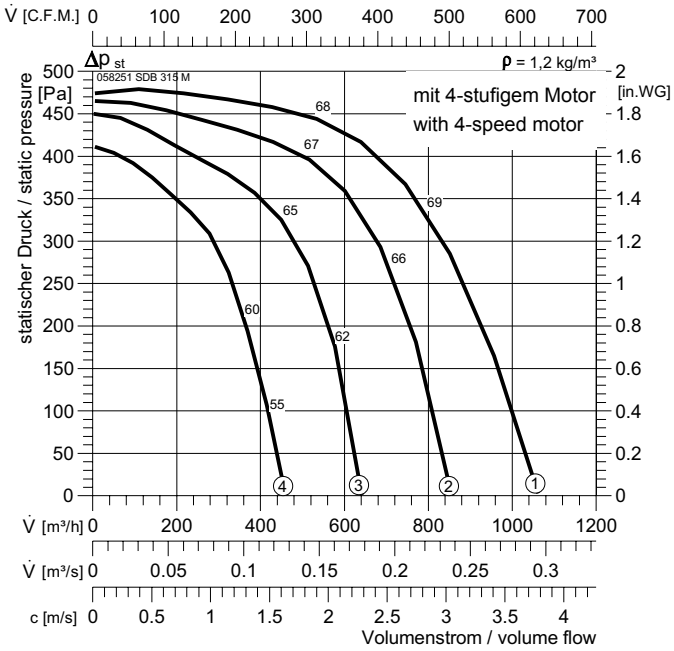
SDB 250 L



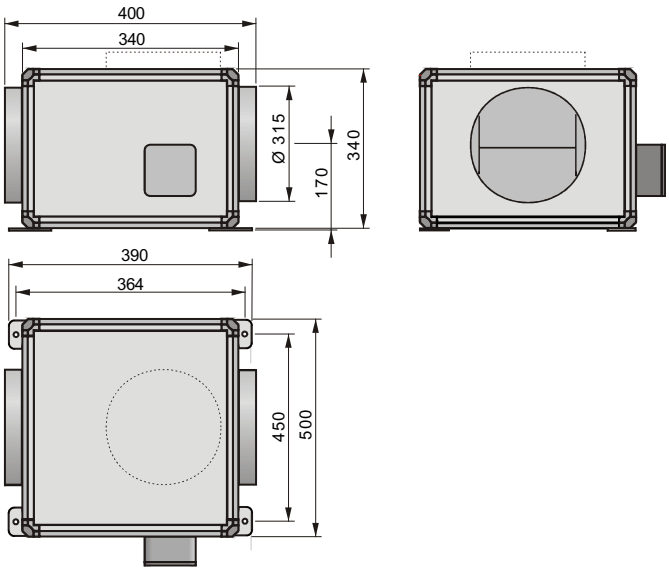
Typ :	SDB 250 L		IP44	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	058202		E16	$L_{WA\,tot}$	-15	-11	0
:	17,4	kg	FWG-5	125 Hz	-24	-15	-15
U :	230 V 50 Hz		NE 3,2	250 Hz	-21	-19	-15
P_1 :	0,355	kW	RPE 06	500 Hz	-21	-19	-9
I_N :	1,55	A		1 kHz	-24	-26	-6
n :	1850	min^{-1}		2 kHz	-29	-22	-6
C_{400V} :	8	µF		4 kHz	-27	-25	-8
t_R :	50	°C		8 kHz	-31	-28	-15



SDB 315 M



Typ :	SDB 315 M		IP44	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	058251		E16	$L_{WA\,tot}$	-15	-11	0
:	32,6	kg	FWG-5	125 Hz	-24	-15	-15
U :	230 V 50 Hz		NE 3,2	250 Hz	-21	-19	-15
P_1 :	0,355	kW	RPE 06	500 Hz	-21	-19	-9
I_N :	1,55	A		1 kHz	-24	-26	-6
n :	1850	min^{-1}		2 kHz	-29	-22	-6
C_{400V} :	8	µF		4 kHz	-27	-25	-8
t_R :	50	°C		8 kHz	-31	-28	-15



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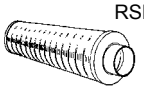
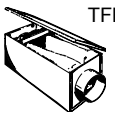
RSV

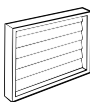


RSD

RVK



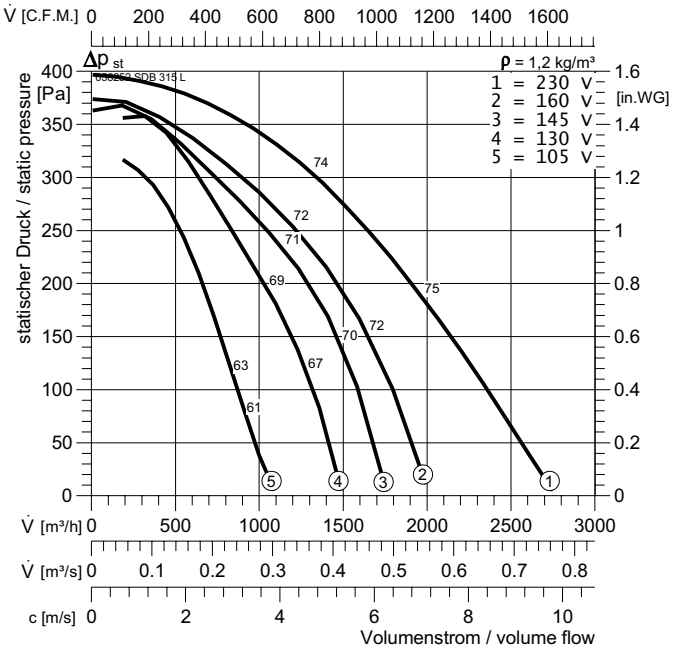
TFB-PTC



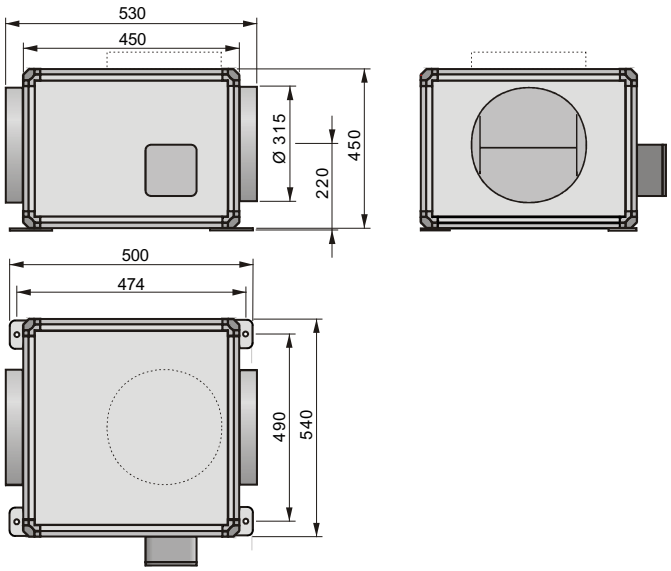
WVK

2.1

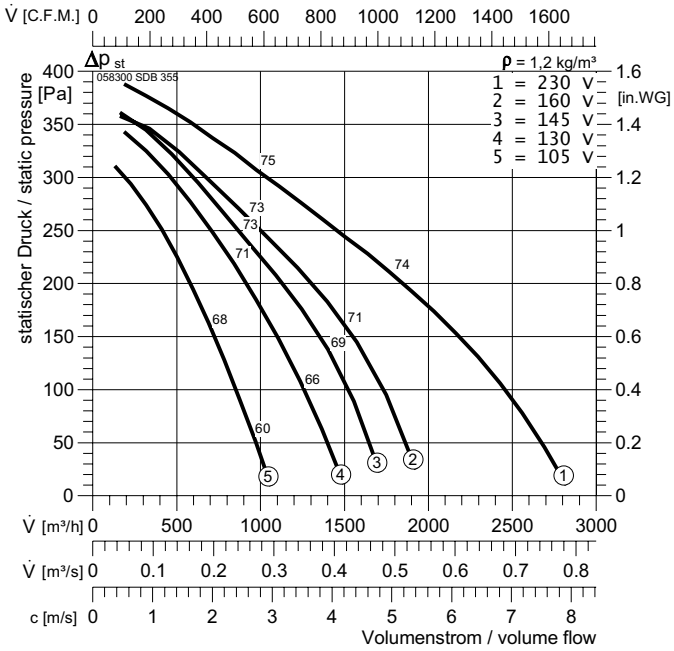
SDB 315 L



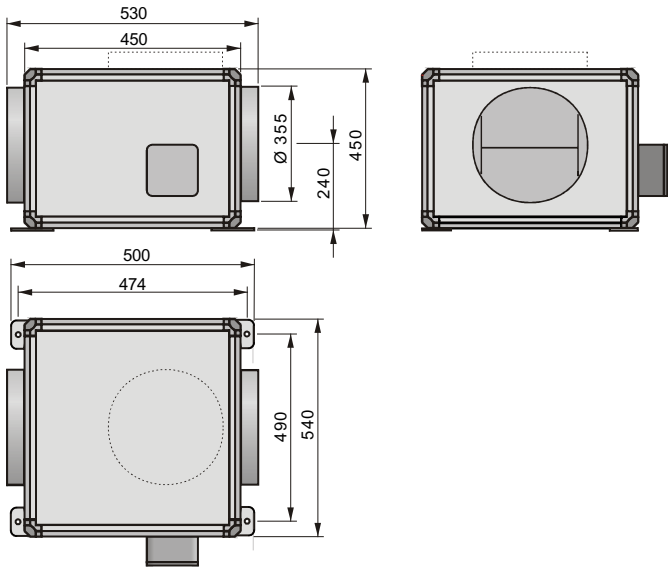
Typ :	SDB 315 L		IP44	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	058252		E12	$L_{WA\,tot}$	-15	-11	0
:	32,6	kg	GS 1	125 Hz	-24	-15	-15
U :	230 V 50 Hz		NE 5	250 Hz	-21	-19	-15
P_1 :	0,87	kW	RPE 09	500 Hz	-21	-19	-9
I_N :	3,8	A		1 kHz	-24	-26	-6
n :	1320	min^{-1}		2 kHz	-29	-22	-6
C_{400V} :	16	µF		4 kHz	-27	-25	-8
t_R :	40	°C		8 kHz	-31	-28	-15



SDB 355



Typ :	SDB 355		IP44	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	058300		E12	$L_{WA\,tot}$	-13	-11	0
:	33,4	kg	GS 1	125 Hz	-25	-14	-13
U :	230 V 50 Hz		NE 5	250 Hz	-18	-18	-14
P_1 :	0,87	kW	RPE 09	500 Hz	-20	-20	-8
I_N :	3,8	A		1 kHz	-23	-24	-6
n :	1320	min^{-1}		2 kHz	-24	-21	-7
C_{400V} :	16	µF		4 kHz	-22	-23	-8
t_R :	40	°C		8 kHz	-33	-29	-15



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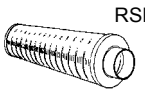
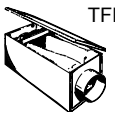
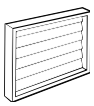
RSV

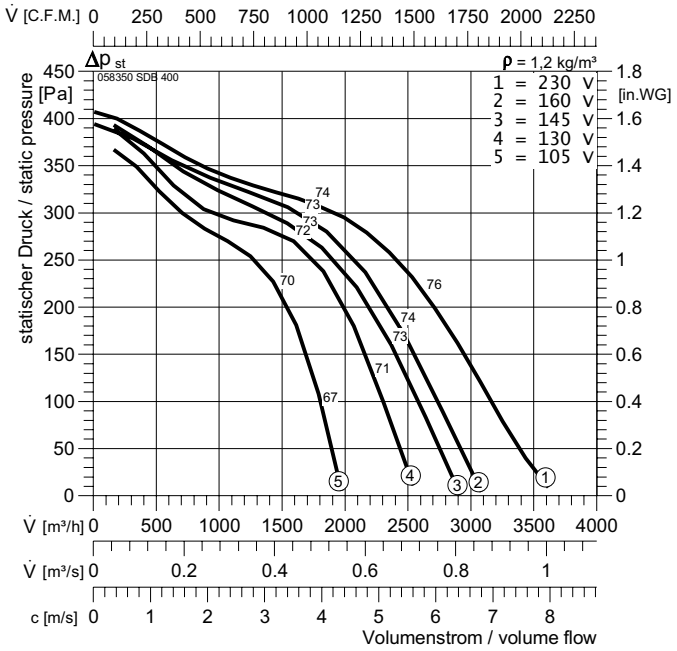

RSD

RVK

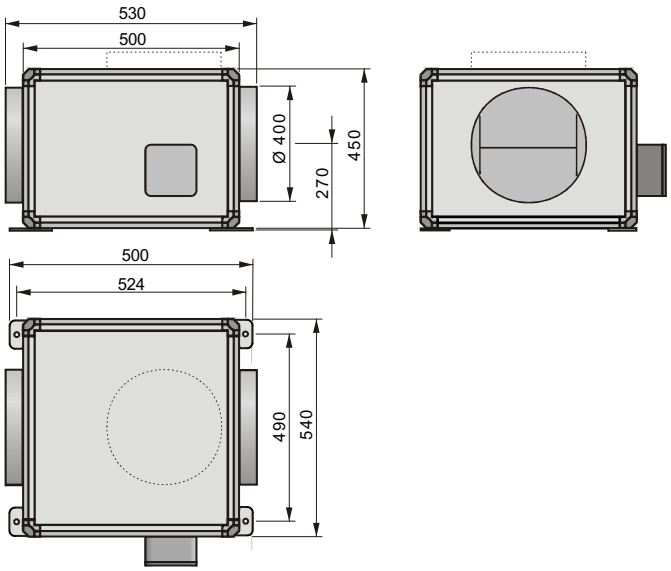

TFB-PTC


WVK

SDB 400



Typ :	SDB 400		IP44	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	058350		E12	$L_{WA\,tot}$	-13	-11	0
:	39	kg	GS 1	125 Hz	-25	-14	-13
U :	230 V 50 Hz		NE 7,5	250 Hz	-18	-18	-14
P_1 :	1,45	kW	SSE 20	500 Hz	-20	-20	-8
I_N :	6,3	A		1 kHz	-23	-24	-6
n :	1380	min^{-1}		2 kHz	-24	-21	-7
C_{400V} :	25	µF		4 kHz	-22	-23	-8
t_R :	40	°C		8 kHz	-33	-29	-15



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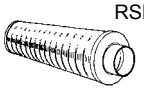
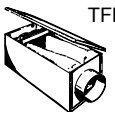
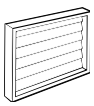
RSV

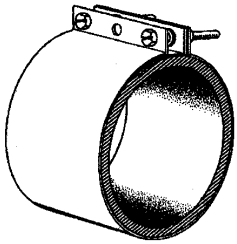

RSD

RVK


TFB-PTC


WVK

RSV

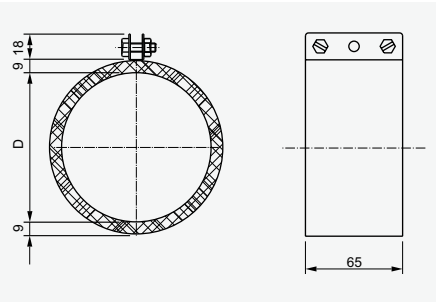


Schnellverbinder für Rohrventilatoren

RSV Rohrschnellverbinder ermöglichen die einfache Montage und Demontage des Ventilators bei Reinigungs- oder Wartungsarbeiten. Sie sind aus galvanisch verzinktem Stahlblech mit einer 10mm dicken Moosgummiauflage gefertigt. Diese Auflage hat sehr gute Schwingungs- und Geräusch-Dämpfungseigenschaften.

Fastening clamps for tube fans

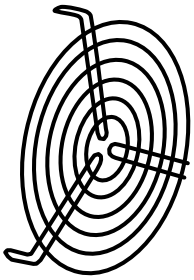
RSV clamps allow to easily install or disconnect the fans for service and cleaning. They are made from galvanised steel with a 10mm foam rubber lining glued to the steel. This pad serves both as a vibration and noise suppressor. The RSV clamp is securely fastened with two bolts.



Typ type	Artikel Nr.	ø D [mm]
RSV 100	052050	100
RSV 125	052100	125
RSV 150	052150	150
RSV 160	052200	160
RSV 200	052250	200
RSV 250	052300	250

Typ type	Artikel Nr.	ø D [mm]
RSV 315	052350	315
RSV 355	052400	355
RSV 400	052450	400
RSV 450	052460	450

RSG



Schutzgitter

Das RSG Schutzgitter ist verchromt und wird mit drei Schrauben am Ventilator montiert. Der Abstand zwischen den Ringen beträgt 8 mm.

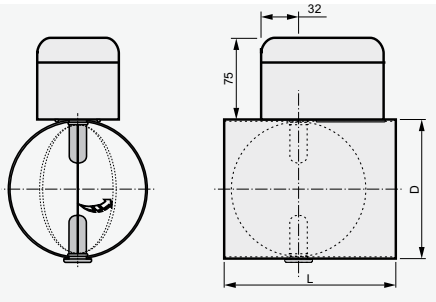
Protection guard for tube fans

The RSG protection guard is chromium plated and fastened to the fan with three screws. The mesh distance is 8 mm.

Typ type	Artikel Nr.	ø D [mm]
RSG 100	053050	100
RSG 125	053100	125
RSG 150	053150	150
RSG 160	053200	160
RSG 200	053250	200
RSG 250	053300	250

Typ type	Artikel Nr.	ø D [mm]
RSG 315	053350	315
RSG 355	053400	355
RSG 400	053450	400

RVE



Rohrverschlußklappe

- Rohr aus verzinktem Stahlblech
- drehbar gelagerte Drosselscheibe ebenfalls aus verzinktem Stahlblech
- elektrischer Antrieb 230 V, im Kunststoffgehäuse

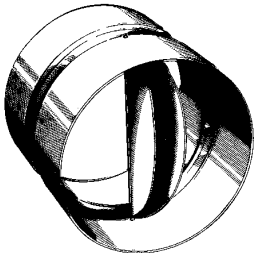
Motorized backdraft damper

- tube and damper blade made of galvanised sheet steel
- 230V electric drive in plastic casing

Typ type	Artikel Nr.	ø D [mm]	L [mm]
RVE 80	054495	79	200
RVE 100	054500	99	200
RVE 125	054505	124	200
RVE 150	054510	149	200

Typ type	Artikel Nr.	ø D [mm]	L [mm]
RVE 160	054515	159	200
RVE 200	054520	199	220
RVE 250	054525	249	260
RVE 315	054530	314	320

RVK

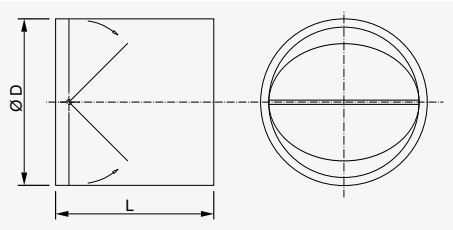


Selbsttätige Rohrverschlußklappe

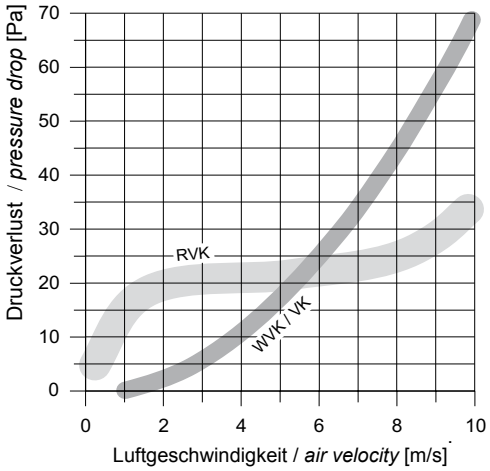
Die RVK Rückschlagklappe ist aus verzinktem Stahlblech hergestellt. Sie ist mit Schließfedern versehen und kann in jeder Lage montiert werden.

Circular backdraft dampers

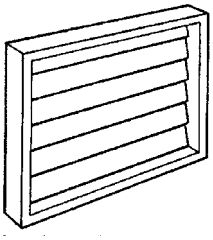
Manufactured in galvanised sheet steel. RVK is a butterfly circular damper, spring-operated, installation in any position.



Typ type	Artikel Nr.	ø D [mm]	L [mm]
RVK 100	054050	100	100
RVK 125	054100	125	100
RVK 150	054150	150	100
RVK 160	054200	160	100
RVK 200	054250	200	100
RVK 250	054300	250	120
RVK 315	054350	315	120
RVK 355	054400	355	120
RVK 400	054450	400	120



WVK

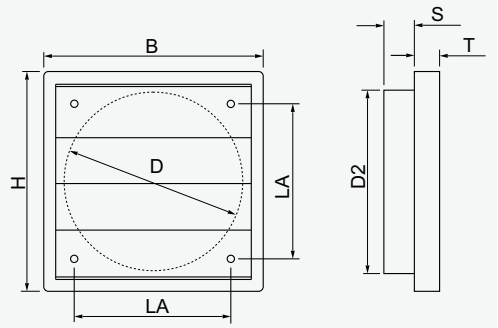


Wandverschlußklappe

Selbsttätige Verschlußklappe aus wetterfestem Nylon hergestellt. Die Montage sollte vertikal erfolgen. Maximale Luftgeschwindigkeit 12 m/s.

Air-operated shutter

Air-operated shutter made of weather proof nylon, mounted vertically on the outside wall. Maximum air velocity is 12 m/s.



Typ type	Artikel Nr.	D [mm]	H / B [mm]	LA [mm]	T [mm]	S [mm]	D2 [mm]
WVK 100	055050	93	123	90	12	13	98
WVK 125	055100	130	160	110	15	-	-
WVK 150/160	055150	160	194	140	22	-	-
WVK 200	055200	210	244	182	22	-	-
WVK 250	055250	260	294	232	26	-	-
WVK 315	055300	310	347	276	26	-	-
WVK 355	055350	360	397	310	26	-	-
WVK 400	055400	420	459	364	26	-	-
WVK 450	055450	460	501	395	31	-	-
WVK 500	055500	510	549	445	31	-	-

RK-H-100-315M-L

Befestigungsbügel für Kunststoff Rohrventilator RK

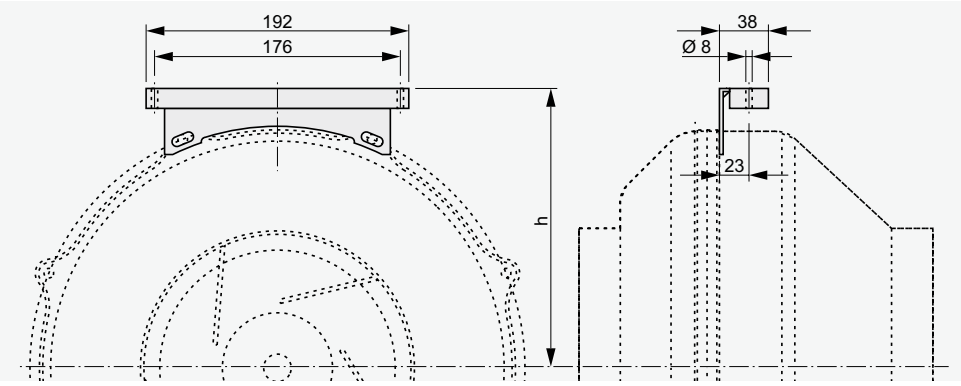
Bestehend aus einem Stahlblechwinkel und Anschraubschiene aus Kunststoff.

Bei der Montage kann die Kunststoffschiene an der gewünschten Position angeschraubt werden. Danach wird der Ventilator mit dem Blechwinkel in die Kunststoffschine eingerastet.

Mounting bracket for plastic tube fans RK

The bracket consists of a steel sheet angle and a plastic mounting rail.

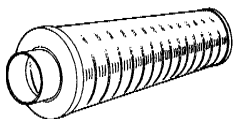
While mounting, the rail can be fitted in position before fan and angle is snaped on.



Abstand zu Decke
distance to ceiling

RK	Artikel Nr.	h [mm]
100-125	052051 + 052052	165
150-160		211
200-250		211
315		246

RSD



Rohrschalldämpfer

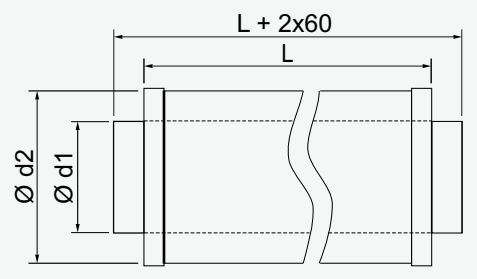
Wolter-Rohrschalldämpfer zeichnen sich durch ein hohes Dämpfungsmaß bei minimalen Druckverlusten aus. Insbesondere im für die Lüftungstechnik wichtigen Frequenzbereich unter 1000 Hz werden hohe Dämpfungswerte erreicht.

Der Schalldämpfer kann entweder direkt in das Lüftungsrohr (DIN 24145 u. DIN 24146) gesteckt werden oder der Anschluß erfolgt mit WOLTER-Schnellverbindern RSV.

Silencer for tube fans

Wolter silencers are characterised by high damping rates at low pressure losses. Especially in the frequency spectrum below 1000 Hz, important in air-conditioning technology, high damping rates are achieved.

The silencer can either be put directly into the tube or can be connected using WOLTER fastening clamps (RSV).



Type type	Artikel Nr.
RSD 100/6	056051
RSD 100/9	056052
RSD 125/6	056101
RSD 125/9	056102
RSD 150/6	056151
RSD 150/9	056152
RSD 160/6	056201
RSD 160/9	056202

Type type	Artikel Nr.
RSD 200/6	056251
RSD 200/9	056252
RSD 250/6	056302
RSD 250/9	056301
RSD 315/9	056351
RSD 355/9	056352
RSD 400/9	056353

Type type	L [mm]	ø d1 [mm]	ø d2 [mm]	[kg]	Dämpfung [dB] im Freq.-B. [Hz] *Suppression*						
					125	250	500	1000	2000	4000	8000
RSD 100/6	600	100	200	4,1	8	14	26	34	41	45	25
RSD 100/9	900	100	200	6,1	8	15	27	36	42	47	24
RSD 125/6	600	125	200	4,5	6	12	22	28	37	38	22
RSD 125/9	900	125	200	7,6	9	18	30	40	48	43	24
RSD 150/6	600	150	250	5,8	5	10	18	23	33	30	19
RSD 150/9	900	150	250	9,0	8	16	27	36	47	37	21
RSD 160/6	600	160	250	5,8	5	10	18	23	33	30	19
RSD 160/9	900	160	250	9,0	8	16	27	36	47	37	21
RSD 200/6	600	200	315	7,0	4	9	17	22	29	25	18
RSD 200/9	900	200	315	10,0	7	13	24	31	44	31	20
RSD 250/6	600	250	400	12,2	6	11	21	27	39	25	19
RSD 250/9	900	250	400	14,0	8	15	29	34	47	33	17
RSD 315/9	900	315	500	15,0	6	12	22	24	36	26	19
RSD 355/9	900	355	500	26,0	4	7	16	22	23	18	16
RSD 400/9	900	400	630	41,0	5	8	11	23	19	17	15
RSD 500/9	900	500	630	45,3	6	8	12	23	18	19	15

PFB

Filterbox

Wolter-Filterkassetten werden als Zu- und Abluftfilter in der Gebäudetechnik und der Industrie eingesetzt. Der empfohlene Enddruckverlust beträgt 170 Pa.

Merkmale:

- Vliesfiltermatte (EU 3)
- Gehäuse aus verzinktem Stahlblech
- Rohranschlüsse mit Gummidichtung
- abnehmbarem Deckel mit Schnappverschlüssen

Ersatzfilter sind als Zubehör erhältlich.

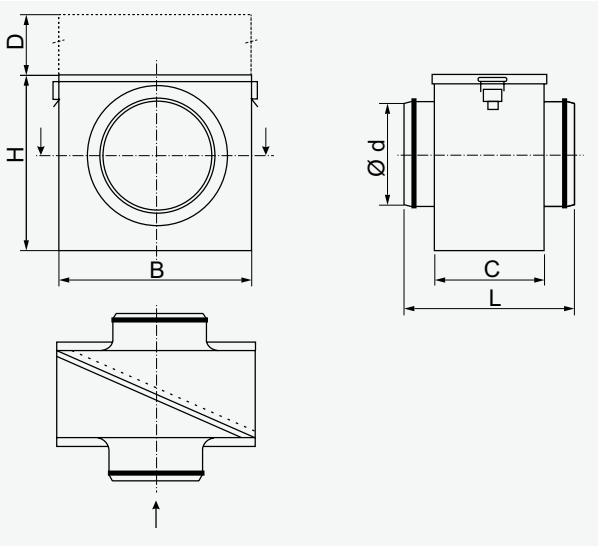
Filter box

Wolter filter boxes are used as a supply or exhaust filter in building services or industrial applications.

Features:

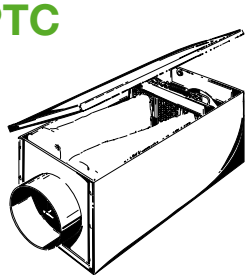
- standard filter type FM (EU3 class)
- housing made of galvanised steel sheet
- rubber-sealed circular connections
- cover panel with two locks

Spare filters separately available.



Type type	Artikel Nr.	ø d [mm]	B [mm]	H [mm]	C [mm]	D [mm]	L [mm]	Widerstands-beiwert ζ
PFB 100	057351	100	200	203	158	200	248	24,6
PFB 125	057352	125	200	203	158	200	248	34,8
PFB 150	057357	150	200	203	158	200	248	52,3
PFB 160	057353	160	200	203	158	200	248	52,3
PFB 200	057354	200	244	247	158	250	248	62,7
PFB 250	057355	250	294	297	158	300	288	51,3
PFB 315	057356	315	343	346	158	350	288	74,5

TFB
TFB-PTC



Filterbox
Filterbox mit PTC-Heizregister

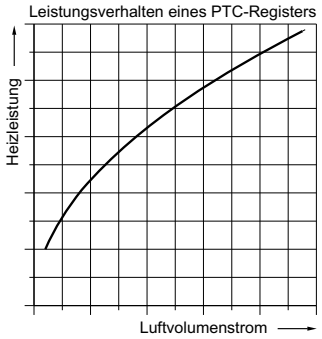
Filterbox mit eingebautem Taschenfilter und PTC-Heizregister.

- Taschenfilter G3
- Gehäuse aus verzinktem Stahlblech
- angeschraubter, zur Filterentnahme abnehmbarer Deckel
- einsetzbar als Filter für höhere Ansprüche der Zuluftfiltration, z. Bsp. als Zuluftfilter für die Gebäudetechnik oder in der Industrie

Filter box
Filter box with PTC-heating coil

Filter box with built-in bag filter and PTC-heating coil.

- bag filter type G3
- housing made of galvanised sheet steel
- screwed panels allow for easy acces to the filter or heating coil
- suitable as a prefilter for higher demands, e.g. as supply air filter for offices, apartments, warehouses, industry etc.



PTC-Heizregister

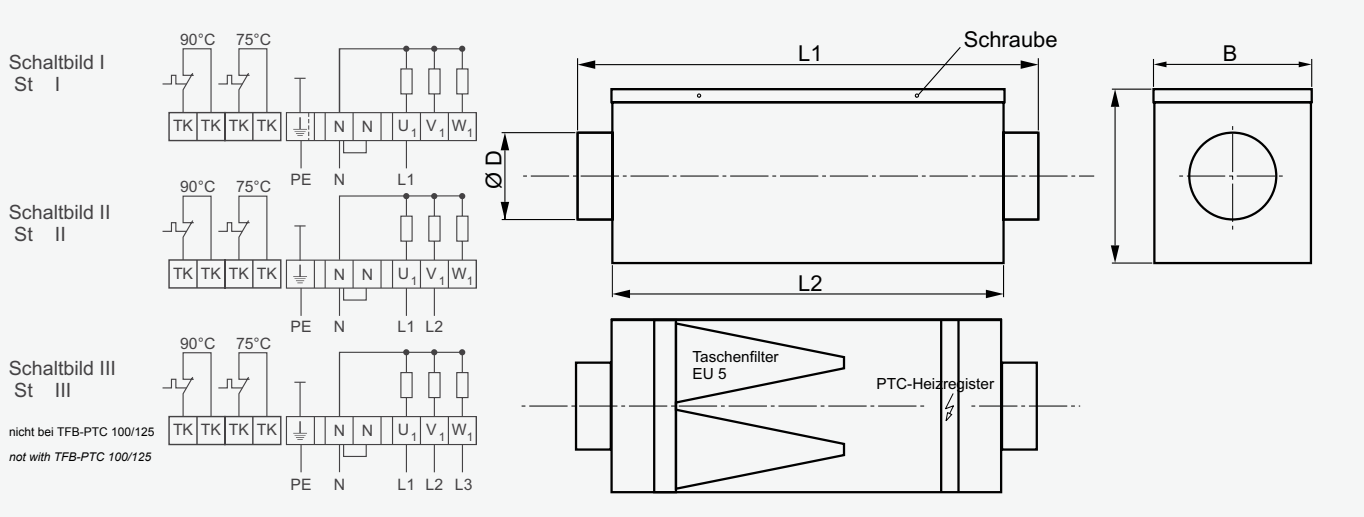
Das neu entwickelte sogenannte PTC-Heizregister ist mit Halbleiterelementen ausgestattet. Aufgrund der besonderen Widerstands-Temperatur-Charakteristik haben diese Elemente selbstregulierende Eigenschaften, die eine Überhitzung verhindern und die Heizleistung regeln. Die Oberflächentemperatur von maximal140 °C ist praktisch unabhängig vom Luftstrom und wird auch bei abgeschaltetem Ventilator nicht überschritten.

Das PTC-Heizregister senkt in diesem Fall die Heizleistung selbsttätig auf einen entsprechend kleinen Wert. Durch individuelle Verschaltung sind zahlreiche Schaltstufen möglich. Bei der erforderlichen Betriebsspannung von 230V können die Heizregister mit einer Heizleistung von bis zu 6 kW (Baugröße 100) bzw. 12 kW (Baugröße 400) bestückt werden.

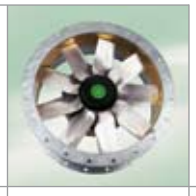
PTC heating element

The newly developed PTC heating coil is equipped with semiconductors. Due to their temperature-resistance-characteristic, the heating elements are self-controlling. No overheating will occur and the heating power is controlled. The maximum surface temperature of 140 °C is irrespective of the airflow and will not be exceeded even when the fan is switched off. In this case, the PTC heater will automatically lower its heating power to an appropriate level. Individual contacting of the heating coils enables several power steps.

At the required line voltage of 230V the coil can be equipped with a heating power ranging from 6 kW (size 100) to 12 kW (size 400).



Baugröße *size*	Artikel Nr.		B [mm]	H [mm]	D [mm]	L1 [mm]	L2 [mm]	Heizregister *heater type* PTC	Mögliche Heizleistung mit 1 kW je Schaltstufe *heating capacity*	Widerstandsbeiwert ζ *coefficient of drag*	
	ohne PTC	mit PTC								ohne PTC	mit PTC
100	057010	059000	200	210	100	530	450	1 x HR04	2 kW	10,5	72
125	057050	059050	200	210	125	530	450	1 x HR04	2 kW	16,4	112,4
150	057090	059090	245	275	150	530	450	2 x HR04	4 kW	9,2	43,8
160	057100	059100	245	275	160	530	450	2 x HR04	4 kW	10,5	49,8
200	057150	059150	245	275	200	530	450	2 x HR-A	6 kW	16,3	35,9
250	057200	059200	350	355	250	630	550	3 x HR-A	9 kW	7,5	21,1
315	057250	059250	350	355	315	630	550	3 x HR-A	9 kW	11,9	33,5
355	057300	059300	450	455	355	770	650	6 x HR04	12 kW	5,6	27,1
400	057350	059350	450	455	400	770	650	6 x HR04	12 kW	7,1	34,4



Axialventilatoren

Axial Flow Fans

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Axialventilatoren
Axial Flow Fans
AER/AEQ/ADR/ADQ

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Zubehör
Accessories

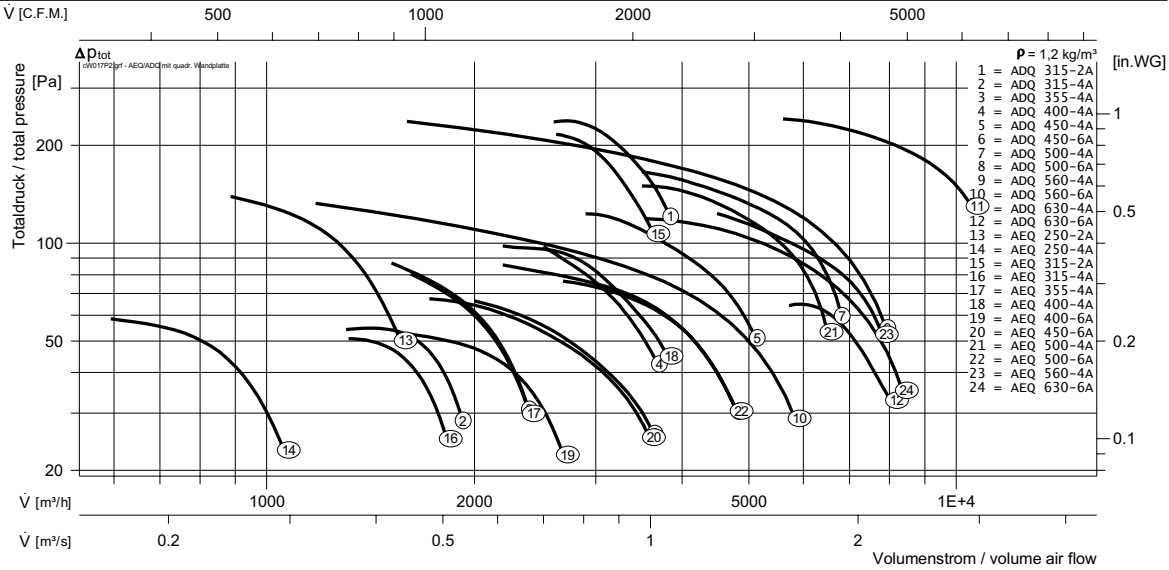
Axialventilatoren
Axial Flow Fans

Typenschlüssel — Fan type code

AER 200 -2

- Polzahl / *Number of poles*
- Nennweite / *Impeller diameter*
- Ausführung / *Type*
  - Q = quadratische Wandplatte / *Square wall plate*
  - R = Rohrflansch / *Duct flange*
- Motorversion / *Motor type*
  - E = Einphasenwechselstrom / *Single-phase A.C. 220 V*
  - D = Drehstrom / *Three-phase*
- Axialventilator / *Axial flow fan*

Schnellauswahl — *Quick selection*

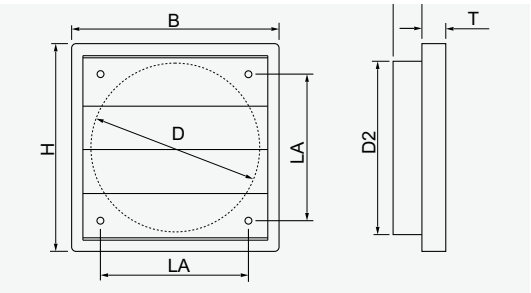


Zubehör — *Accessories*

Verschlußklappe WVK — Louvre shutter

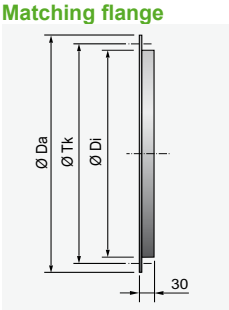
Selbsttätig, aus wetterfestem Nylon.

Made of nylon, air-operated.

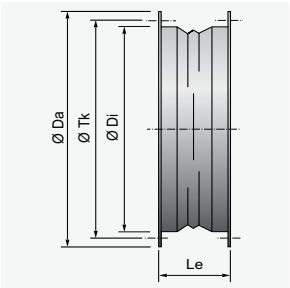


Typ *type*	Art. Nr.	D [mm]	H [mm]	B [mm]	LA [mm]	T [mm]	S [mm]	D2 [mm]
WVK 250	055250	260	294	294	232	26	-	-
WVK 315	055300	310	347	347	276	26	-	-
WVK 355	055350	360	397	397	310	26	-	-
WVK 400	055400	420	459	459	364	26	-	-
WVK 450	055450	460	501	501	395	31	-	-
WVK 500	055500	510	549	549	445	31	-	-
WVK 560	055550	565	605	605	522	28	-	-
WVK 630	055600	655	696	696	626	31	-	-

Gegenflansch — Matching flange



Flexibler Verbiner — Flexible connection



Typ *type*	Art. Nr.	Typ *type*	Art. Nr.	ø Da [mm]	ø Tk [mm]	ø Di [mm]
GL-AXR 250	118211	EV-AXR 250	118010	306	286	252
GL-AXR 315	118231	EV-AXR 315	118033	382	356	317
GL-AXR 350	118241	EV-AXR 350	118043	421	395	356
GL-AXR 400	118251	EV-AXR 400	118053	466	438	400
GL-AXR 450	118261	EV-AXR 450	118063	515	487	451
GL-AXR 500	118271	EV-AXR 500	118073	567	541	503
GL-AXR 560	118281	EV-AXR 560	118083	636	605	559
GL-AXR 630	118291	EV-AXR 630	118093	709	674	634

Vorteile

- geringe Bautiefe
- universell einsetzbar
- transformatorisch und elektronisch 100% stufenlos steuerbar
- schnelle Montage in jeder gewünschten Lage
- serienmäßig mit Motorvollschutz durch Thermokontakte ausgerüstet

Eigenschaften und Ausführung

Die Axialventilatoren mit Außenläufermotor werden überall dort eingesetzt, wo größere Luftmengen bei niedrigen bis mittleren Widerständen zu fördern sind.

Es sind zwei Gehäuseausführungen erhältlich:

- Die quadratische Wandplatte (AEQ/ADQ) wird sowohl in der Gebäudetechnik als auch in der Kälte- und Klimatechnik eingesetzt
- Doppelseitige Anbauflansche (AER, ADR) werden bevorzugt in Rohrleitungen oder Kanälen in Anlagen der Luft-, Klima- und Trocknungstechnik verwendet

Gehäuse

Die Gehäuse der Axialventilatoren werden aus feuerverzinktem Stahlblech gefertigt und erhalten eine elektrostatisch aufgetragene Pulverkunststoffbeschichtung.

Laufräder

Die Laufräder haben aerodynamisch geformte Flügel aus verzinktem und lackiertem Stahlblech. Sie sind direkt auf die Rotoren der Außenläufermotoren aufgebaut und zusammen mit diesen entsprechend Gütestufe G 2,5 nach DIN ISO 1940 ausgewuchtet.

Elektrischer Anschluß

Die Motoren sind auf einen aussenliegenden Klemmkasten in Schutzart IP44 verdrahtet.

Luftleistungskennlinien

Die Kennlinien für diese Typenreihe wurden in Einbauart A (frei ansaugend, frei ausblasend) aufgenommen und zeigen die Druckerhöhung Δp_{fa} als Funktion des Volumenstromes in der Ausführung mit Einströmdüse und ohne Berührungsschutzgitter.

Schallentwicklung

In den Luftleistungskennlinien ist der A-bewertete Freiausblas-Schallleistungspegel L_{WA6} angegeben. Dieser ist identisch dem A-bewerteten Frei-ansaug- Schallleistungspegel L_{WA5}.

Der A-bewertete Gehäuse-Schallleistungspegel L_{WA2} nach DIN 45 635, Teil 38 nach folgender Berechnung näherungsweise bestimmt werden:
$L_{WA2} \approx L_{WA6} - 8$ **dB** (nur für AER oder ADR)

Den A-bewerteten Schalldruckpegel L_{PA} in 1m Abstand erhält man annähernd, indem man vom A-Schallleistungspegel L_{WA} 7 dB (A) abzieht.
$L_{PA(1m)} \approx L_{WA2} - 7$ **dB**

Zu beachten ist, dass Reflexionen und Raumcharakteristik, sowie Eigenfrequenzen die Größe des Schalldruckpegels unterschiedlich beeinflussen.

Für genauere Berechnungen bei Schallschutzmaßnahmen ist der Schallleistungspegel der Oktavbänder (A-bewertet) von Bedeutung, der wie folgt ermittelt wird:

$L_{WAokt} = L_{WA6} + L_{WArel}$

Die relativen A-bewerteten Oktav-Schallleistungspegel L_{WArel} bei den Oktav-Mittenfrequenzen sind den Tabellen bei den Einzelventilatoren zu entnehmen, sie sind bei 0,8 x Vmax ermittelt worden.

Advantages

- low installation depth
- ideal for many applications in air-conditioning and cooling
- 100 % speed controllable by transformers or electronic controls
- motor protection by thermal contacts as standard
- easy installation in any position

Design features

The high efficiency axial fans are used where large air volumes must be conveyed against low to medium pressures.

There are two housing versions available:

- Fans mounted on a square plate with inlet cone (AEQ/ADQ) are used for general ventilation, air-conditioning and cooling applications
- Fans with round casings (AER/ADR) are used in ducted systems of air conditioning, cooling and drying applications

Casing

The casings are made of powder-coated sheet steel.

Impeller

The axial fans have aerodynamically moulded blades made from galvanised and painted sheet steel. The blades are mounted directly onto the external rotor motor. The motorised impeller is balanced in two planes according to quality level G 2.5 (DIN ISO 1940).

Electrical connection

The motors are connected to an external terminal box in protection class IP44.

Fan performance curves

The performance curves for these fans have been esatblished in mounting position A (free inlet, free outlet) and indicate the static pressure increase Δp_{fa} as a function of the volume flow (measured with inlet cone and without protection guards).

Noise levels

The fan curve gives the A-weighted sound power level L_{WA6} on the outlet side in decibel. The A-weighted sound power level at the inlet side L_{WA5} is identical to L_{WA6}.

The A-weighted sound power level radiated from the casing (L_{WA2}) according to DIN 45 635, part 38, is obtained approximately as follows:
$L_{WA2} \approx L_{WA6} - 8$ **dB** (for AER or ADR).

The A-weighted sound pressure level L_{PA} at a distance of 1 metre is obtained approximately by deducting 7 dB(A) from the A-weighted sound power level:

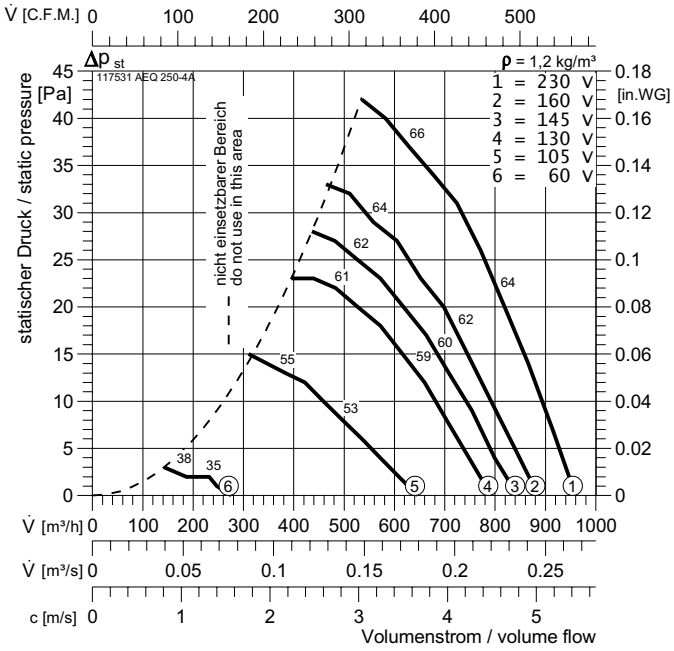
$L_{PA(1m)} \approx L_{WA2} - 7$ **dB**

It is important to note that reflexion and environmental characteristics as well as resonant frequencies influence the sound pressure levels in different ways. The A-weighted octave sound power level is important for the choice of suitable sound attenuators. It is obtained as follows:

$L_{WAokt} = L_{WA6} + L_{WArel}$

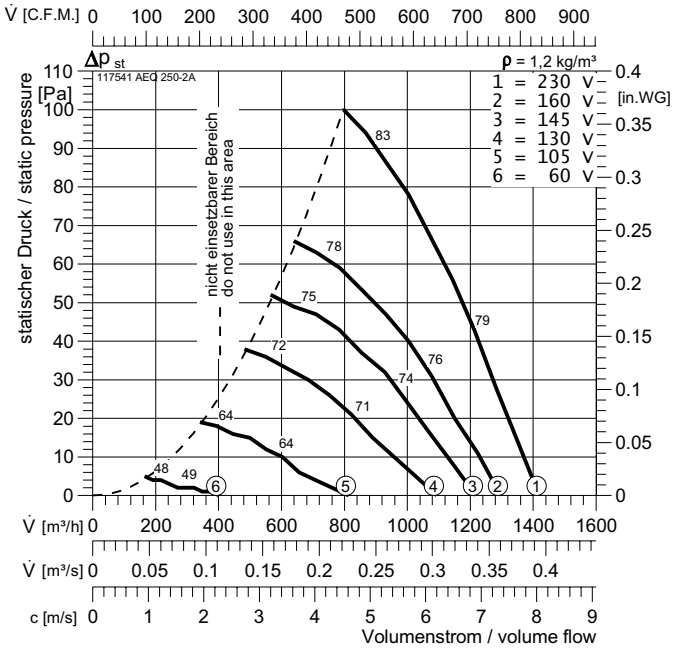
The relative A-weighted octave sound power level L_{WArel} at octave medium frequency can be taken from the following tables. These levels have been established at 0.8 x Vmax

AEQ / AER 250-4A

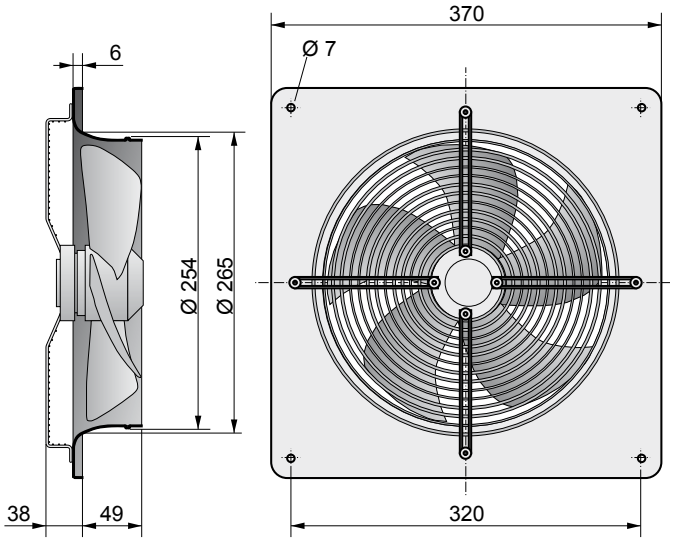


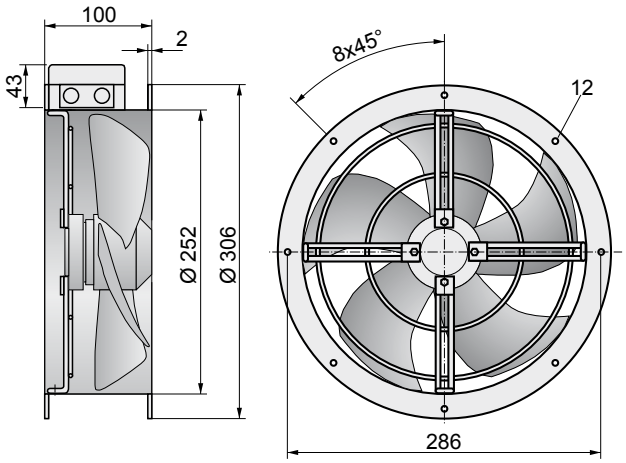
Typ :	AEQ / AER 250-4A		I_A/I_N :	2,2	ΔdB	L_{WA5}	L_{WA6}
Art.Nr.:	117531 / 117031			IP 44	$L_{WA\,tot}$	0	0
:	3,7/4,2	kg		E11	125 Hz	-32	-32
U :	230 V 50 Hz			GS 1	250 Hz	-19	-19
P_1 :	0,03	kW		NE 0,5	500 Hz	-10	-10
I_N :	0,13	A		RPE 02 A	1 kHz	-6	-6
n :	1430	min^{-1}			2 kHz	-4	-4
C_{400V} :	1	µF			4 kHz	-9	-9
t_R :	50	°C			8 kHz	-22	-22

AEQ / AER 250-2A



Typ :	AEQ / AER 250-2A		I_A/I_N :	2,2	ΔdB	L_{WA5}	L_{WA6}
Art.Nr.:	117541 / 117041			IP 44	$L_{WA\,tot}$	0	0
:	3,9/4,35	kg		E11	125 Hz	-43	-43
U :	230 V 50 Hz			GS 1	250 Hz	-20	-20
P_1 :	0,15	kW		NE 1,5	500 Hz	-8	-8
I_N :	0,65	A		RPE 02 A	1 kHz	-6	-6
n :	2450	min^{-1}			2 kHz	-6	-6
C_{400V} :	4	µF			4 kHz	-8	-8
t_R :	50	°C			8 kHz	-17	-17





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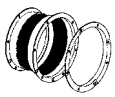
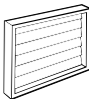
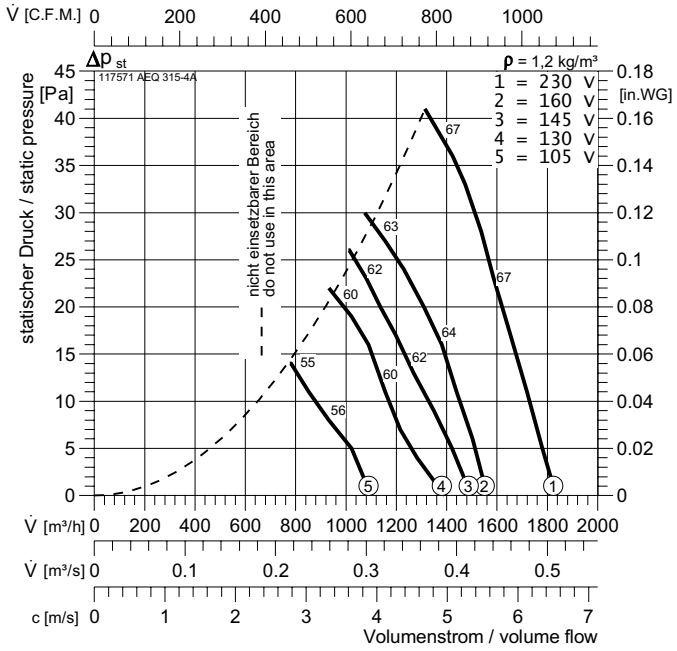


EV-AXR
GL-AXR

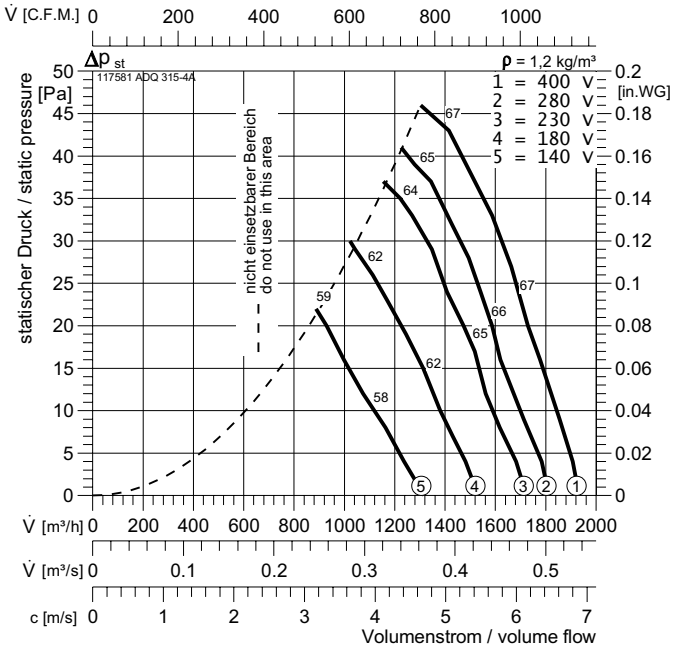


WVK

AEQ / AER 315-4A

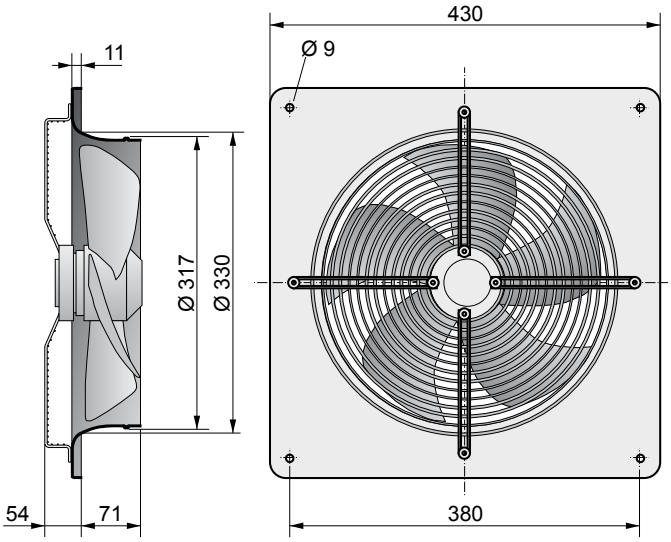


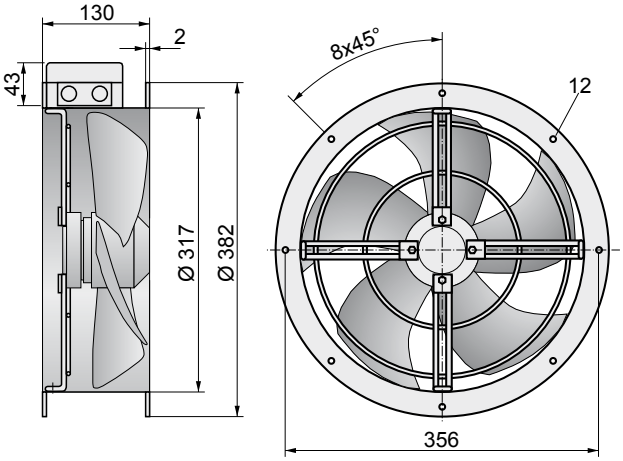
ADQ / ADR 315-4A



Typ :	AEQ / AER 315-4A		I_A/I_N :	2,1	ΔdB	L_{WA5}	L_{WA6}
Art.Nr.:	117571 / 117071			IP 44	$L_{WA\,tot}$	0	0
:	6,8/5,6	kg		E13	125 Hz	-36	-36
U :	230 V 50 Hz			GS 2	250 Hz	-17	-17
P_1 :	0,09	kW		NE 0,5	500 Hz	-8	-8
I_N :	0,38	A		RPE 02 A	1 kHz	-7	-7
n :	1370	min^{-1}			2 kHz	-6	-6
C_{400V} :	3	µF			4 kHz	-9	-9
t_R :	50	°C			8 kHz	-19	-19

Typ :	ADQ / ADR 315-4A		I_A/I_N :	2,33	ΔdB	L_{WA5}	L_{WA6}
Art.Nr.:	117581 / 117081			IP 44	$L_{WA\,tot}$	0	0
:	3,2/3,2	kg		DD0b	125 Hz	-28	-38
U :	400 V 50 Hz			GS 2	250 Hz	-18	-23
P_1 :	0,105	kW		RTD 1,2	500 Hz	-12	-11
I_N :	0,3	A		SAD9	1 kHz	-6	-6
n :	1385	min^{-1}			2 kHz	-5	-4
C_{400V} :	-	µF			4 kHz	-7	-6
t_R :	50	°C			8 kHz	-17	-17





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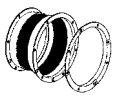
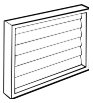
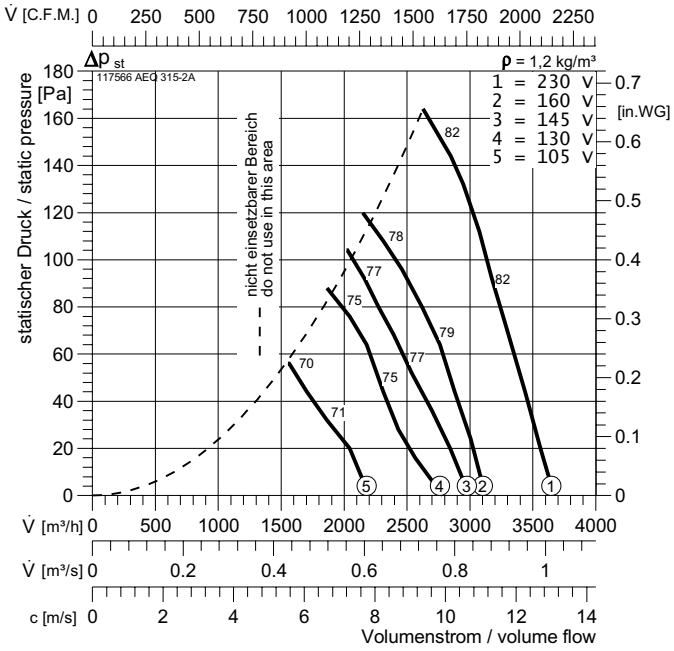


EV-AXR
GL-AXR



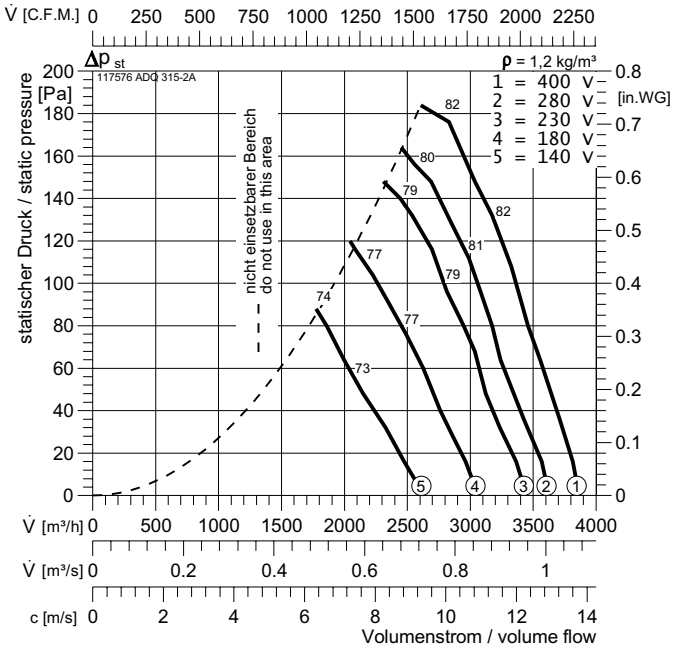
WVK

AEQ / AER 315-2A

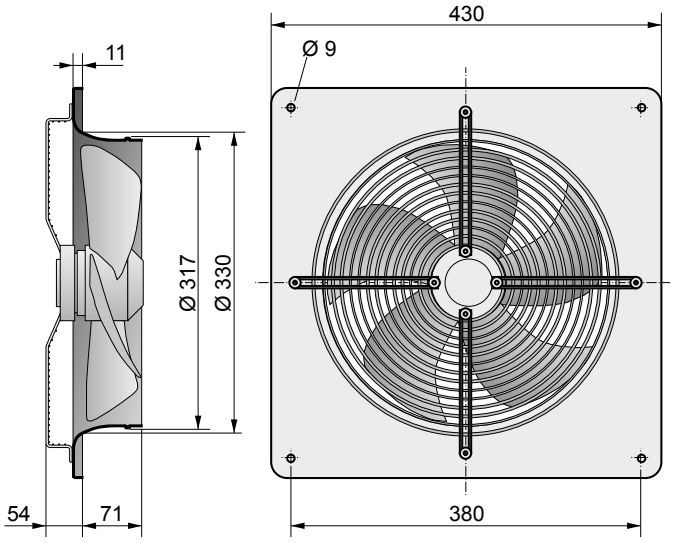


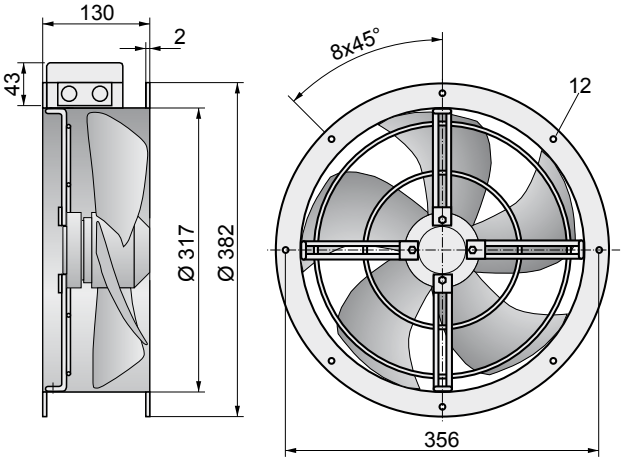
Typ :	AEQ / AER 315-2A		I_A/I_N :	2,4	ΔdB	L_{WA5}	L_{WA6}
Art.Nr.:	117566 / 117066			IP 44	$L_{WA\,tot}$	0	0
:	11,4/10,9	kg		E13	125 Hz	-42	-42
U :	230 V 50 Hz			GS 2	250 Hz	-24	-24
P_1 :	0,25	kW		NE 1,5	500 Hz	-11	-11
I_N :	1,08	A		RPE 06 A	1 kHz	-5	-5
n :	2580	min^{-1}			2 kHz	-4	-4
C_{400V} :	6	µF			4 kHz	-7	-7
t_R :	50	°C			8 kHz	-18	-18

ADQ / ADR 315-2A



Typ :	ADQ / ADR 315-2A		I_A/I_N :	2,4	ΔdB	L_{WA5}	L_{WA6}
Art.Nr.:	117576 / 117076			IP 44	$L_{WA\,tot}$	0	0
:	11,4/10,9	kg		DD0b	125 Hz	-42	-42
U :	400 V 50 Hz			GS 2	250 Hz	-24	-24
P_1 :	0,135	kW		RTD 1,2	500 Hz	-11	-11
I_N :	0,34	A		SAD 9	1 kHz	-5	-5
n :	2600	min^{-1}			2 kHz	-4	-4
C_{400V} :	-	µF			4 kHz	-7	-7
t_R :	50	°C			8 kHz	-18	-18





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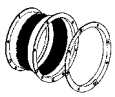
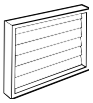
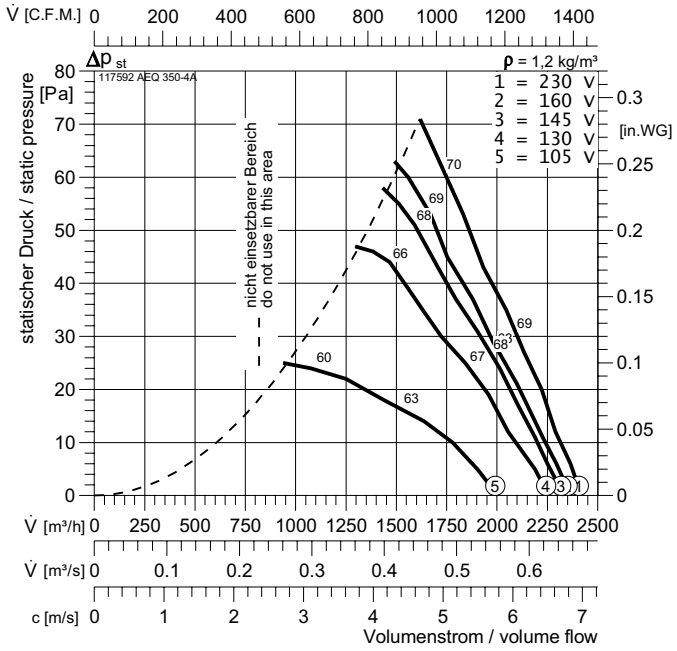


EV-AXR
GL-AXR



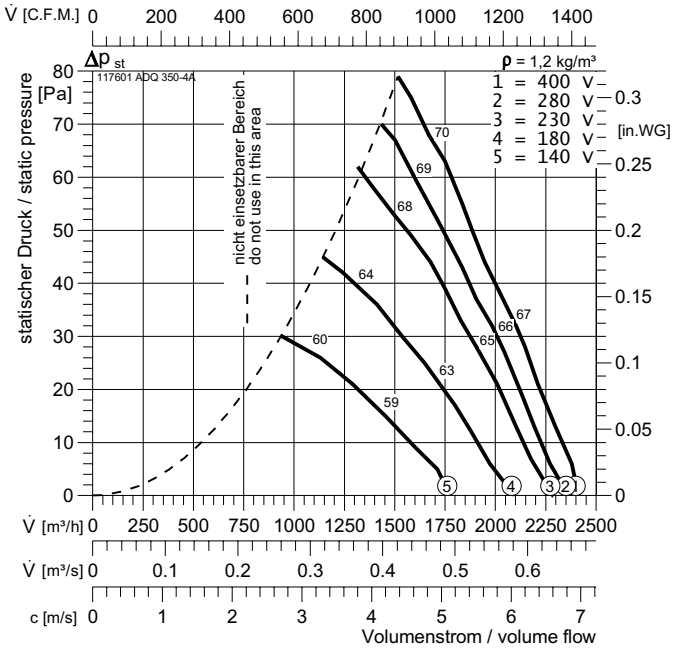
WVK

AEQ / AER 350-4A

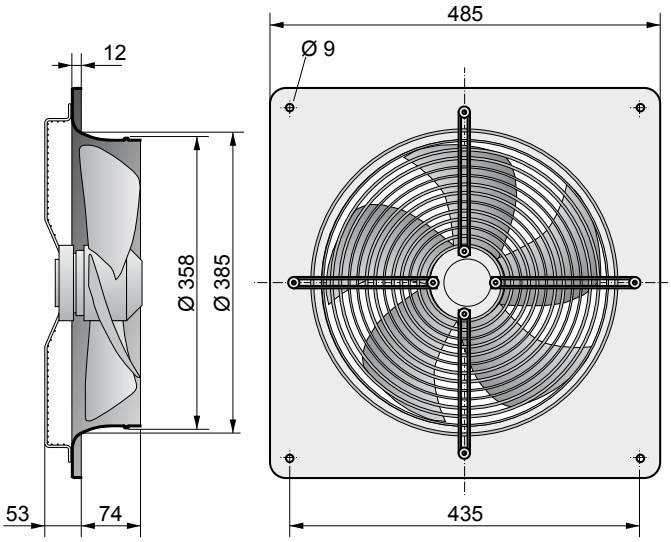


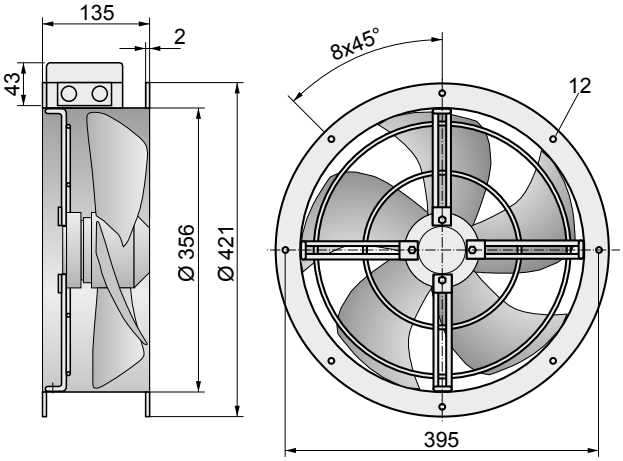
Typ :	AEQ / AER 350-4A		I_A/I_N :	2,4	ΔdB	L_{WA5}	L_{WA6}
Art.Nr.:	117592 / 117091			IP 44	$L_{WA\ tot}$	0	0
:	8,5/7,8	kg		-	125 Hz	-38	-38
U :	230 V 50 Hz			GS 2	250 Hz	-23	-23
P_1 :	0,14	kW		NE 1,5	500 Hz	-11	-11
I_N :	0,63	A		RPE 02 A	1 kHz	-6	-6
n :	1390	min^{-1}			2 kHz	-4	-4
C_{400V} :	4	µF			4 kHz	-6	-6
t_R :	50	°C			8 kHz	-17	-17

ADQ / ADR 350-4A



Typ :	ADQ / ADR 350-4A		I_A/I_N :	2,3	ΔdB	L_{WA5}	L_{WA6}
Art.Nr.:	117601 / 117101			IP 44	$L_{WA\ tot}$	0	0
:	8/7	kg		DD0b	125 Hz	-38	-38
U :	400 V 50 Hz			GS 2	250 Hz	-23	-23
P_1 :	0,142	kW		RTD 1,2	500 Hz	-11	-11
I_N :	0,4	A		SAD9	1 kHz	-6	-6
n :	1400	min^{-1}			2 kHz	-4	-4
C_{400V} :	-	µF			4 kHz	-6	-6
t_R :	50	°C			8 kHz	-17	-17





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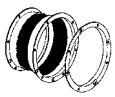
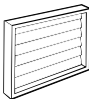
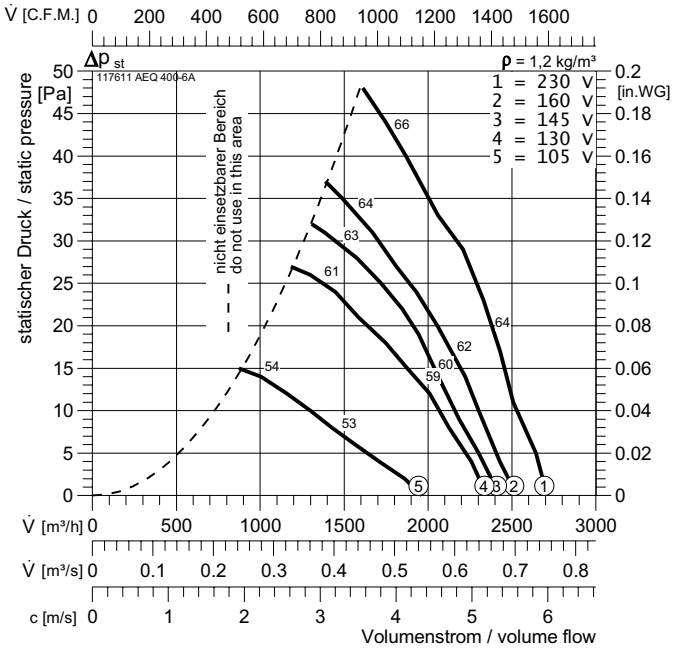


EV-AXR
GL-AXR



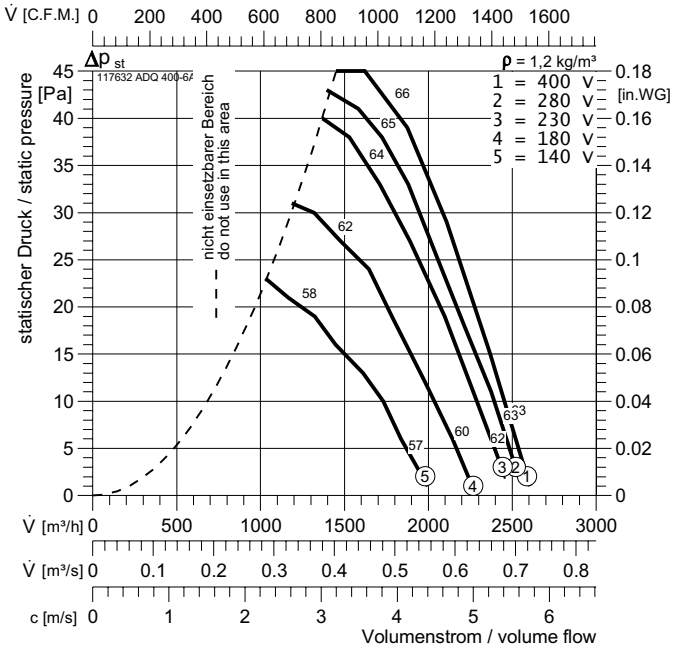
WVK

AEQ / AER 400-6A

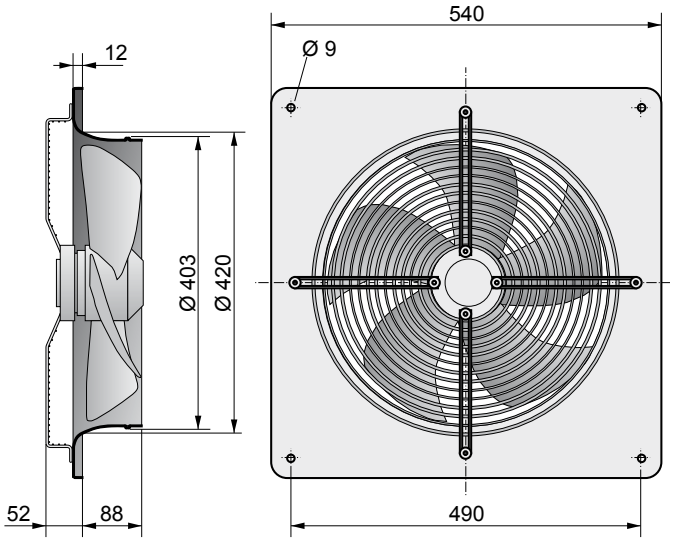


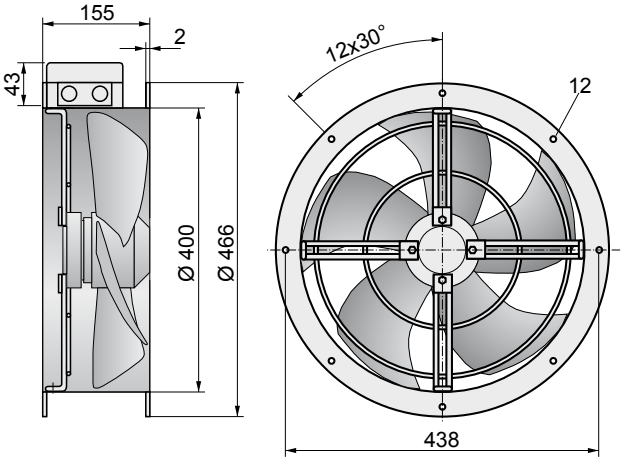
Typ :	AEQ / AER 400-6A		I_A/I_N :	1,7	ΔdB	L_{WA5}	L_{WA6}
Art.Nr.:	117611 / 117111			IP 44	$L_{WA\,tot}$	0	0
:	9/9	kg		E13	125 Hz	-24	-24
U :	230 V 50 Hz			GS 2	250 Hz	-16	-16
P_1 :	0,125	kW		NE 1,5	500 Hz	-10	-10
I_N :	0,6	A		RPE 02 A	1 kHz	-7	-7
n :	920	min^{-1}			2 kHz	-4	-4
C_{400V} :	3	µF			4 kHz	-9	-9
t_R :	50	°C			8 kHz	-19	-19

ADQ / ADR 400-6A



Typ :	ADQ / ADR 400-6A		I_A/I_N :	1,8	ΔdB	L_{WA5}	L_{WA6}
Art.Nr.:	117632 / 117132			IP 44	$L_{WA\,tot}$	0	0
:	9/9	kg		DD0b	125 Hz	-24	-24
U :	400 V 50 Hz			GS 2	250 Hz	-16	-16
P_1 :	0,135	kW		RTD 1,2	500 Hz	-10	-10
I_N :	0,38	A		SAD 9	1 kHz	-7	-7
n :	945	min^{-1}			2 kHz	-4	-4
C_{400V} :	-	µF			4 kHz	-9	-9
t_R :	50	°C			8 kHz	-19	-19





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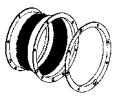
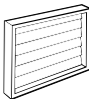
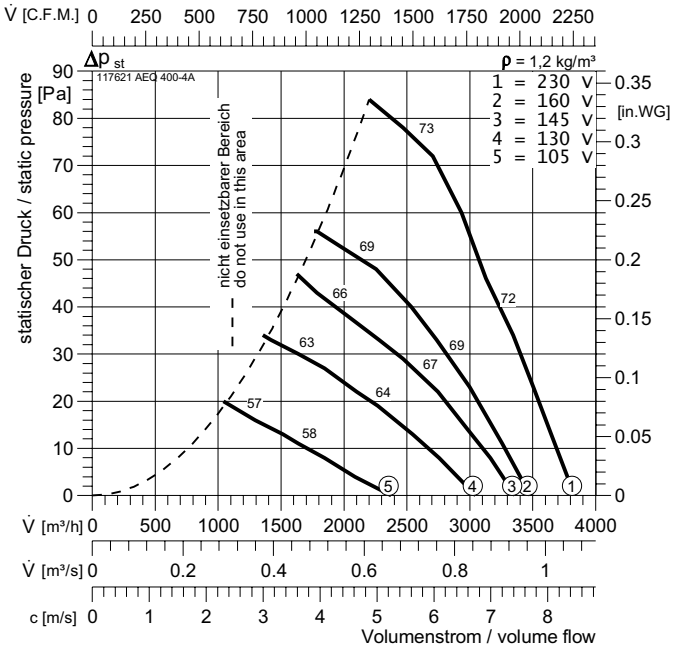


EV-AXR
GL-AXR



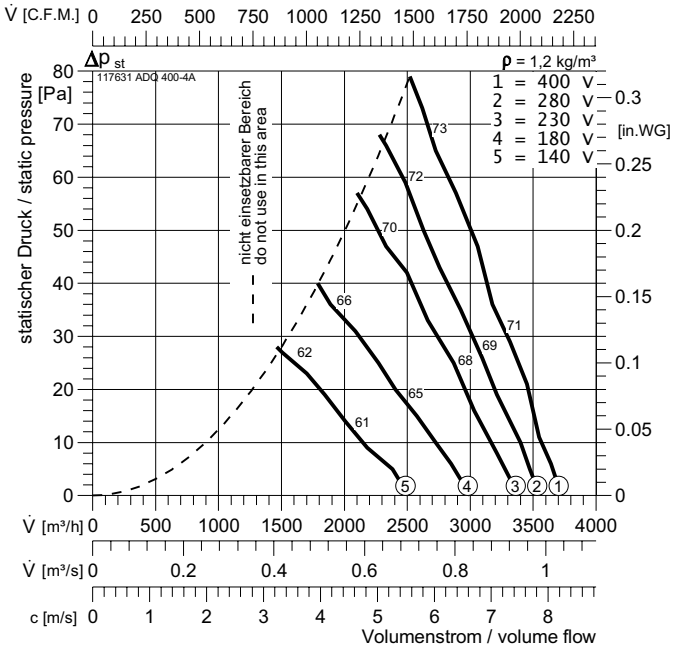
WVK

AEQ / AER 400-4A

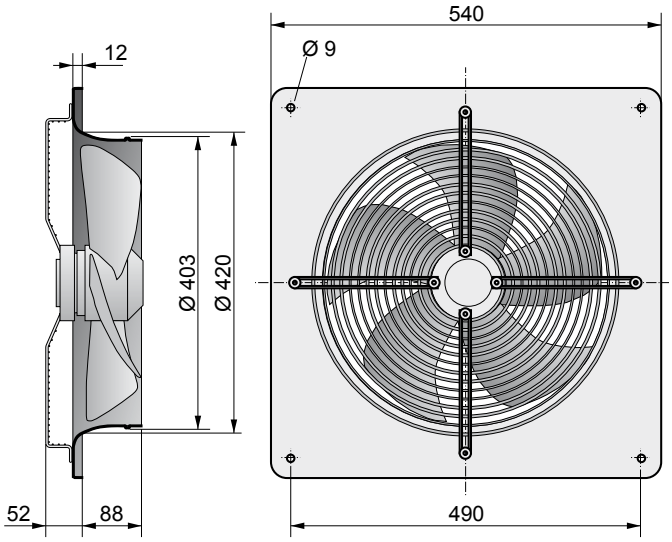


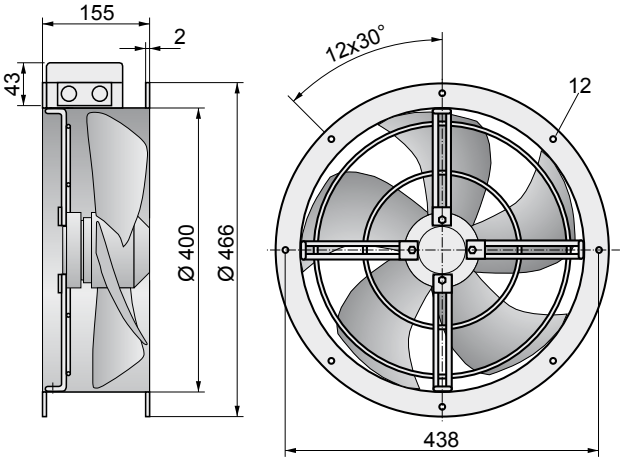
Typ :	AEQ / AER 400-4A		I_A/I_N :	3,2	ΔdB	L_{WA5}	L_{WA6}
Art.Nr.:	117621 / 117121			IP 44	$L_{WA\,tot}$	0	0
:	9,4/8,8	kg		E13	125 Hz	-36	-36
U :	230 V 50 Hz			GS 2	250 Hz	-24	-24
P_1 :	0,17	kW		NE 1,5	500 Hz	-9	-9
I_N :	0,75	A		RPE 02 A	1 kHz	-6	-6
n :	1395	min^{-1}			2 kHz	-4	-4
C_{400V} :	6	µF			4 kHz	-8	-8
t_R :	50	°C			8 kHz	-19	-19

ADQ / ADR 400-4A



Typ :	ADQ / ADR 400-4A		I_A/I_N :	3	ΔdB	L_{WA5}	L_{WA6}
Art.Nr.:	117631 / 117131			IP 44	$L_{WA\,tot}$	0	0
:	9/9	kg		DD0b	125 Hz	-36	-36
U :	400 V 50 Hz			GS 2	250 Hz	-24	-24
P_1 :	0,165	kW		RTD 1,2	500 Hz	-9	-9
I_N :	0,43	A		SAD 9	1 kHz	-6	-6
n :	1390	min^{-1}			2 kHz	-4	-4
C_{400V} :	-	µF			4 kHz	-8	-8
t_R :	50	°C			8 kHz	-19	-19





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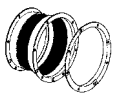
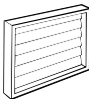
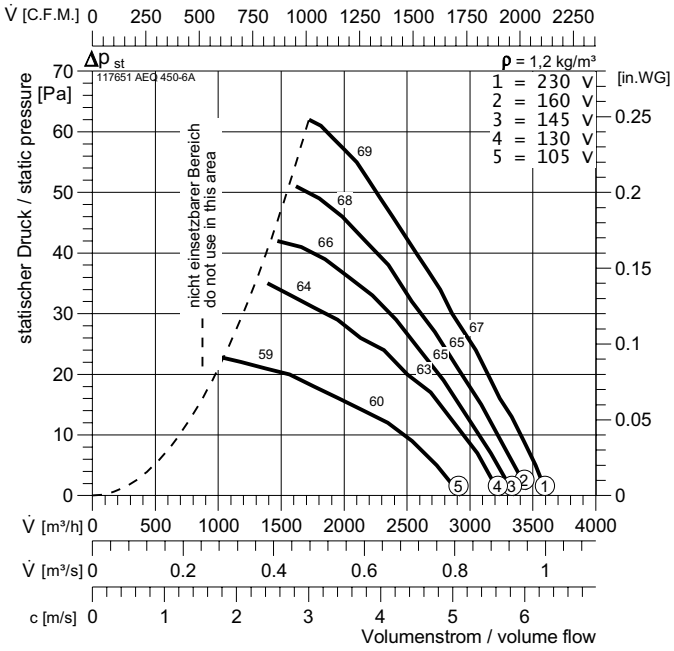


EV-AXR
GL-AXR



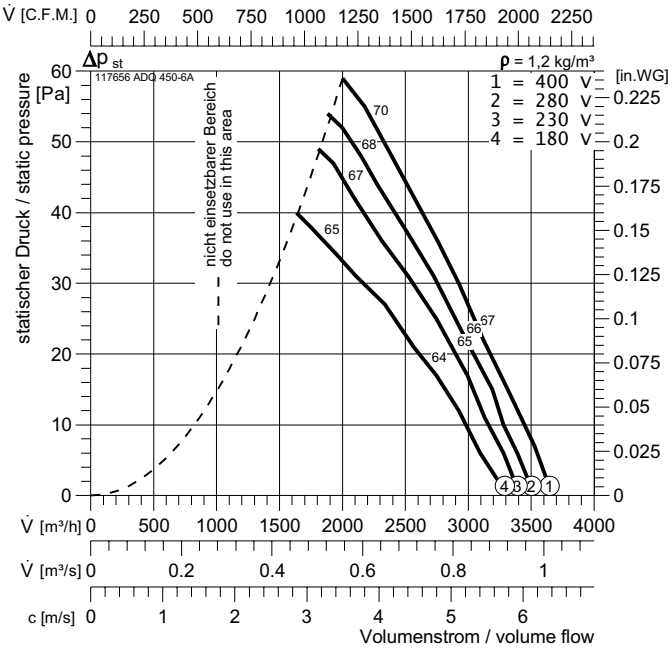
WVK

AEQ / AER 450-6A

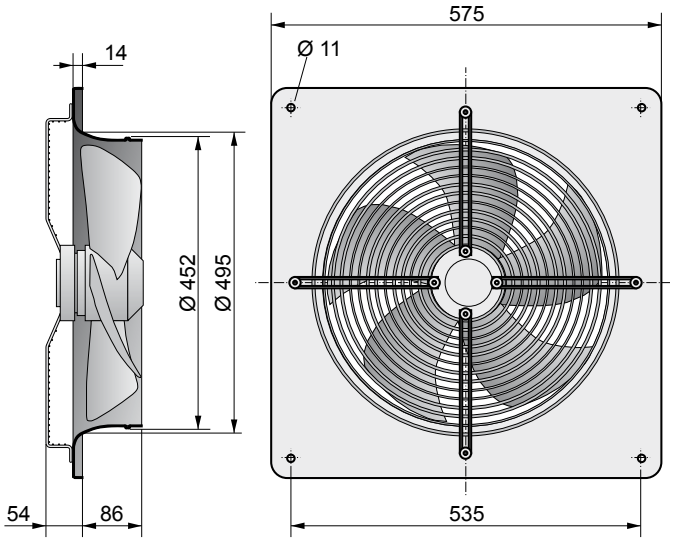


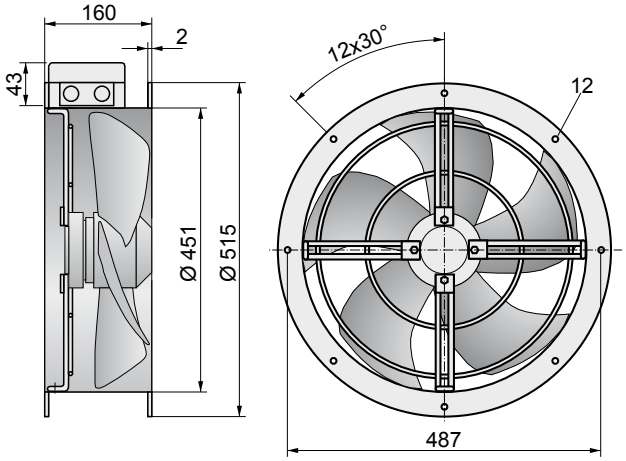
Typ :	AEQ / AER 450-6A		I_A/I_N :	2,9	ΔdB	L_{WA5}	L_{WA6}
Art.Nr.:	117651 / 117151			IP 44	$L_{WA\,tot}$	0	0
:	12,4/13	kg		E13	125 Hz	-35	-35
U :	230 V 50 Hz			GS 2	250 Hz	-17	-17
P_1 :	0,12	kW		NE 1,5	500 Hz	-10	-10
I_N :	0,56	A		RPE 02 A	1 kHz	-7	-7
n :	940	min^{-1}			2 kHz	-4	-4
C_{400V} :	4	µF			4 kHz	-9	-9
t_R :	50	°C			8 kHz	-19	-19

ADQ / ADR 450-6A



Typ :	ADQ / ADR 450-6A		I_A/I_N :	2,9	ΔdB	L_{WA5}	L_{WA6}
Art.Nr.:	117656 / 117162			IP 44	$L_{WA\,tot}$	0	0
:	12,4/13	kg		E13	125 Hz	-35	-35
U :	400 V 50 Hz			GS 2	250 Hz	-17	-17
P_1 :	0,16	kW		RTD 1,2	500 Hz	-10	-10
I_N :	0,47	A		SAD 9	1 kHz	-7	-7
n :	950	min^{-1}			2 kHz	-4	-4
C_{400V} :	-	µF			4 kHz	-9	-9
t_R :	50	°C			8 kHz	-19	-19





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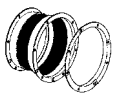
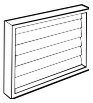
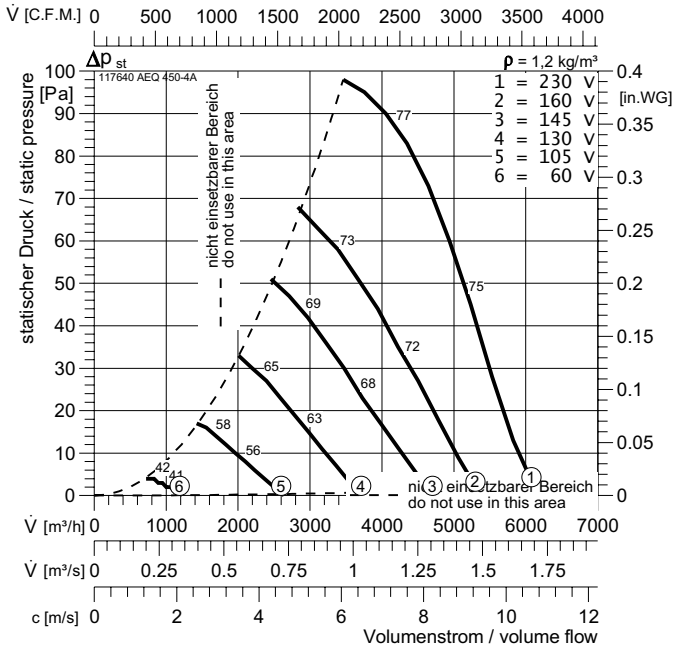


EV-AXR
GL-AXR

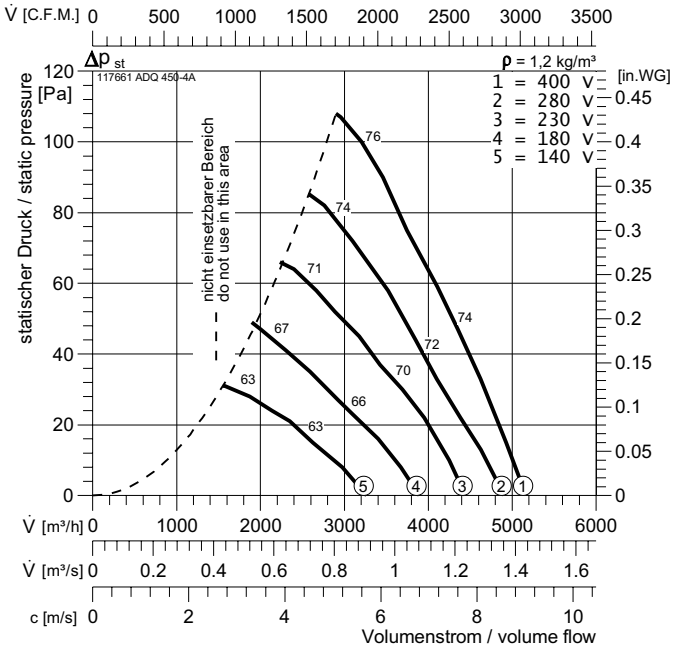


WVK

AEQ / AER 450-4A

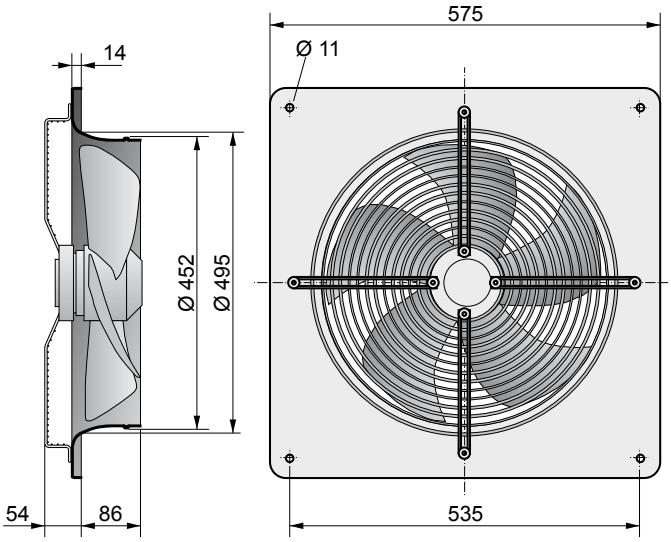


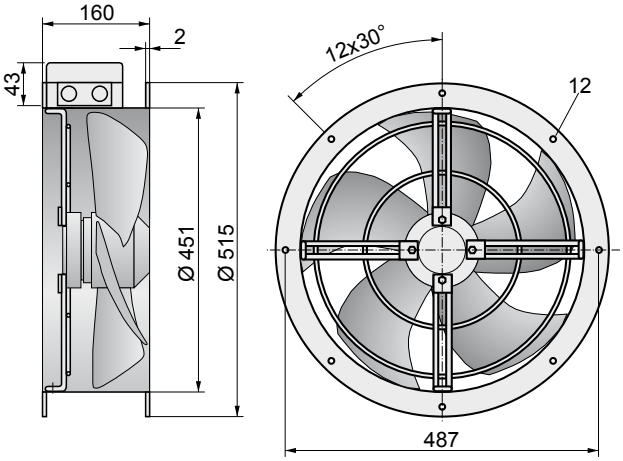
ADQ / ADR 450-4A



Typ :	AEQ / AER 450-4A		I_A/I_N :	3,2	ΔdB	L_{WA5}	L_{WA6}
Art.Nr.:	117640 / 117141			IP 44	$L_{WA\,tot}$	0	0
:	10,5/12	kg		E13	125 Hz	-21	-21
U :	230 V 50 Hz			GS 2	250 Hz	-11	-11
P_1 :	0,24	kW		NE 1,5	500 Hz	-8	-8
I_N :	1	A		RPE 06 A	1 kHz	-6	-6
n :	1390	min^{-1}			2 kHz	-5	-5
C_{400V} :	8	µF			4 kHz	-8	-8
t_R :	50	°C			8 kHz	-15	-15

Typ :	ADQ / ADR 450-4A		I_A/I_N :	3,1	ΔdB	L_{WA5}	L_{WA6}
Art.Nr.:	117661 / 117161			IP 44	$L_{WA\,tot}$	0	0
:	12,8/13	kg		DD0b	125 Hz	-16	-16
U :	400 V 50 Hz			GS 2	250 Hz	1	1
P_1 :	0,19	kW		RTD 1,2	500 Hz	10	10
I_N :	0,5	A		SAD 9	1 kHz	15	15
n :	1390	min^{-1}			2 kHz	17	17
C_{400V} :	-	µF			4 kHz	14	14
t_R :	50	°C			8 kHz	5	5





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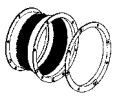
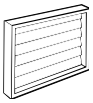
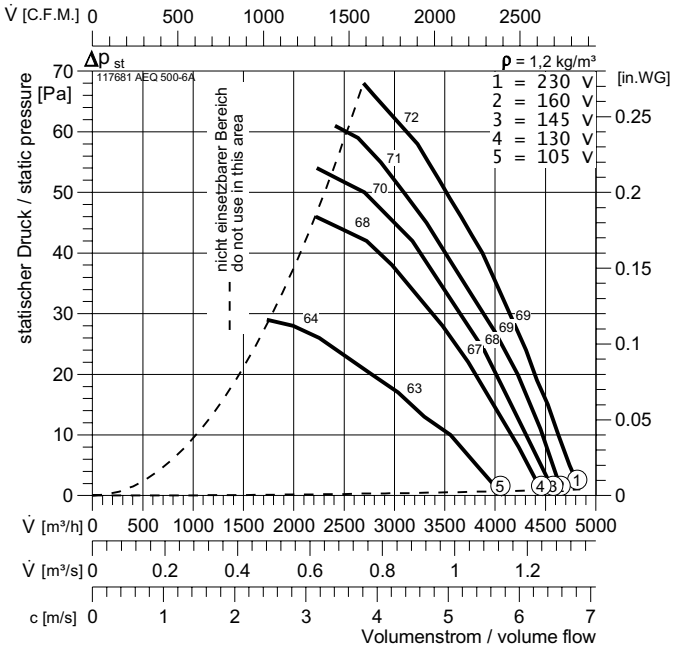


EV-AXR
GL-AXR



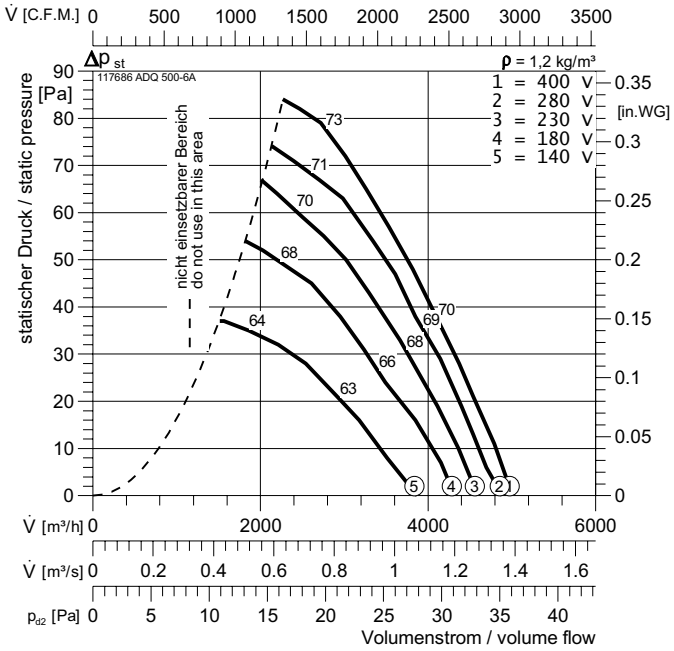
WVK

AEQ / AER 500-6A

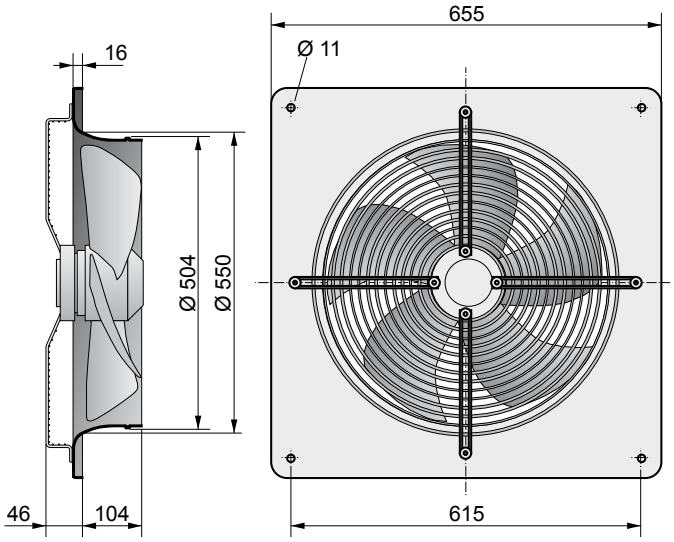


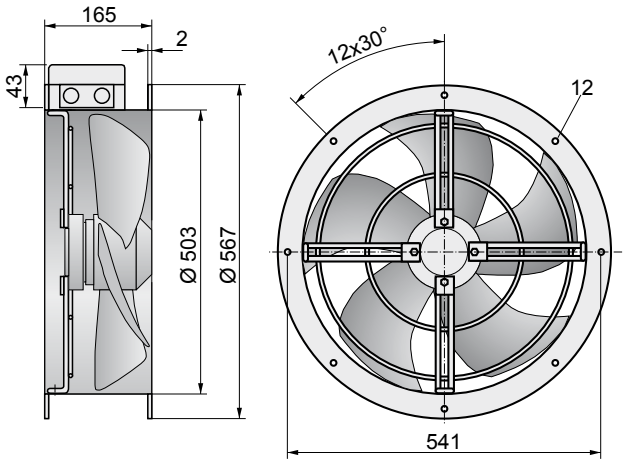
Typ :	AEQ / AER 500-6A		I_A/I_N :	1,9	ΔdB	L_{WA5}	L_{WA6}
Art.Nr.:	117681 / 117181			IP 44	$L_{WA\,tot}$	0	0
:	17,4/18	kg		E13	125 Hz	-36	-36
U :	230 V 50 Hz			GS 2	250 Hz	-17	-17
P_1 :	0,21	kW		NE 1,5	500 Hz	-10	-10
I_N :	1,03	A		RPE 02 A	1 kHz	-7	-7
n :	950	min^{-1}			2 kHz	-4	-4
C_{400V} :	6	µF			4 kHz	-9	-9
t_R :	50	°C			8 kHz	-19	-19

ADQ / ADR 500-6A



Typ :	ADQ / ADR 500-6A		I_A/I_N :	2,9	ΔdB	L_{WA5}	L_{WA6}
Art.Nr.:	117692 / 117192			IP 44	$L_{WA\,tot}$	0	0
:	9,5/9,5	kg		E13	125 Hz	-36	-36
U :	400 V 50 Hz			GS 2	250 Hz	-17	-17
P_1 :	0,22	kW		RTD 1,2	500 Hz	-10	-10
I_N :	0,65	A		SAD 9	1 kHz	-7	-7
n :	950	min^{-1}			2 kHz	-4	-4
C_{400V} :	-	µF			4 kHz	-9	-9
t_R :	50	°C			8 kHz	-19	-19





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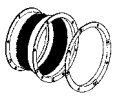
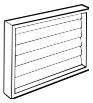
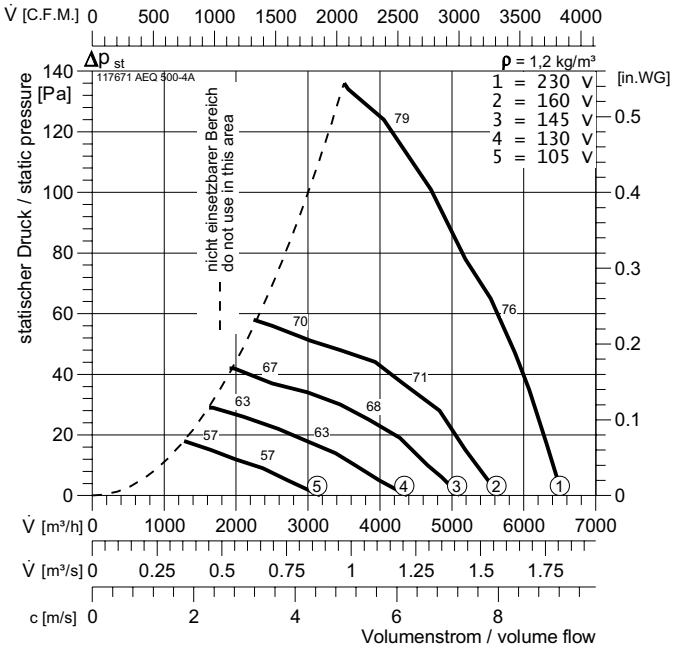


EV-AXR
GL-AXR



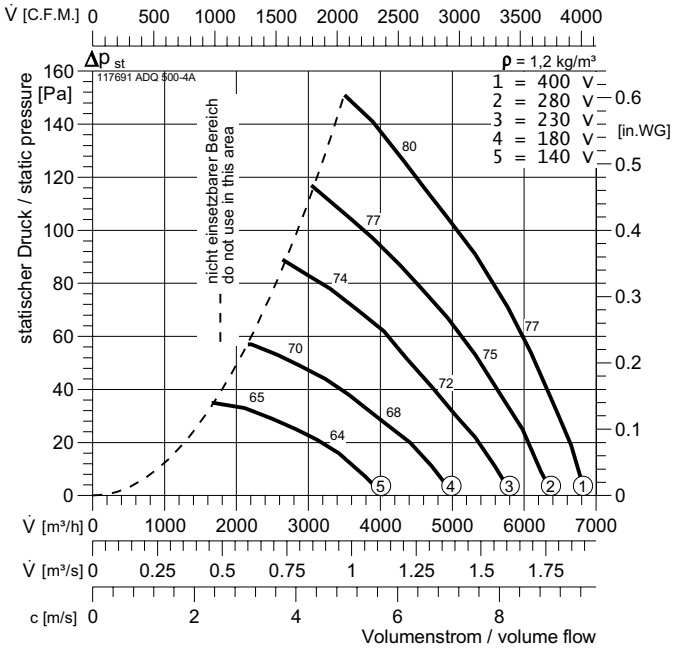
WVK

AEQ / AER 500-4A

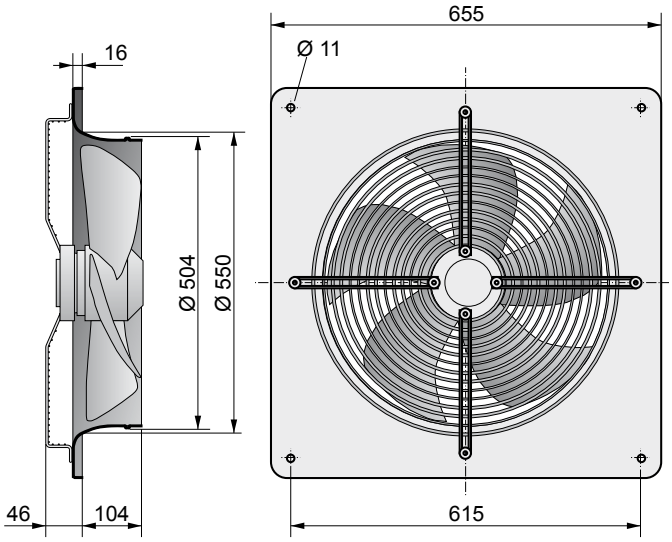


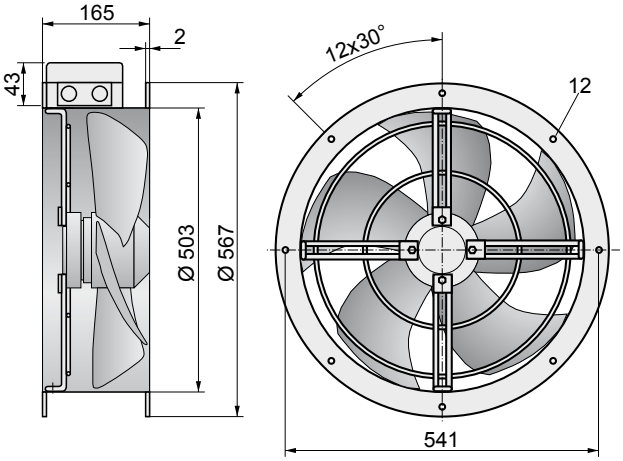
Typ :	AEQ / AER 500-4A		I_A/I_N :	3,3	ΔdB	L_{WA5}	L_{WA6}
Art.Nr.:	117671 / 117171			IP 44	$L_{WA\,tot}$	0	0
:	16,2/16,2	kg		E13	125 Hz	-37	-37
U :	230 V 50 Hz			GS 2	250 Hz	-20	-20
P_1 :	0,4	kW		NE 3,2	500 Hz	-9	-9
I_N :	1,73	A		RPE 06 A	1 kHz	-6	-6
n :	1370	min^{-1}			2 kHz	-5	-5
C_{400V} :	12	µF			4 kHz	-8	-8
t_R :	50	°C			8 kHz	-16	-16

ADQ / ADR 500-4A



Typ :	ADQ / ADR 500-4A		I_A/I_N :	3,4	ΔdB	L_{WA5}	L_{WA6}
Art.Nr.:	117691 / 117191			IP 44	$L_{WA\,tot}$	0	0
:	17,5/17,4	kg		DD0b	125 Hz	-37	-37
U :	400 V 50 Hz			GS 2	250 Hz	-20	-20
P_1 :	0,32	kW		RTD 1,2	500 Hz	-9	-9
I_N :	0,83	A		SAD 9	1 kHz	-6	-6
n :	1365	min^{-1}			2 kHz	-5	-5
C_{400V} :	-	µF			4 kHz	-8	-8
t_R :	50	°C			8 kHz	-16	-16





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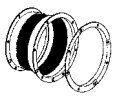
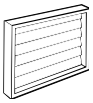
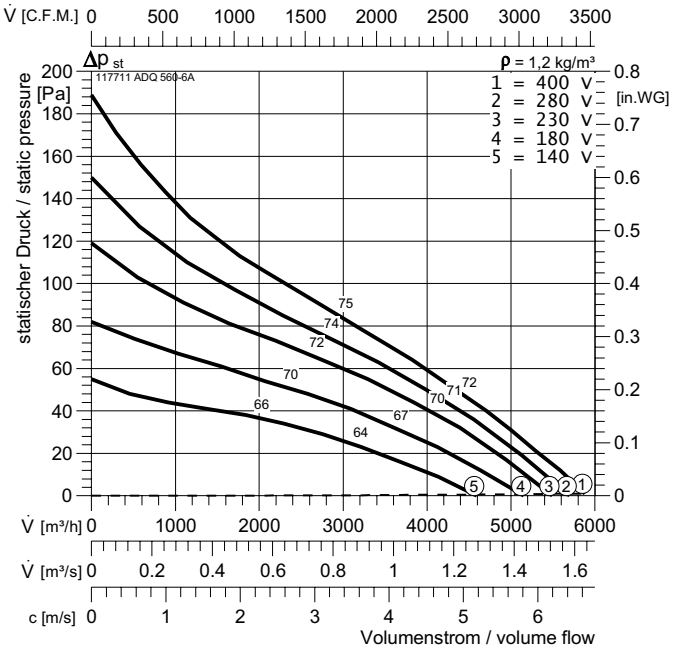


EV-AXR
GL-AXR



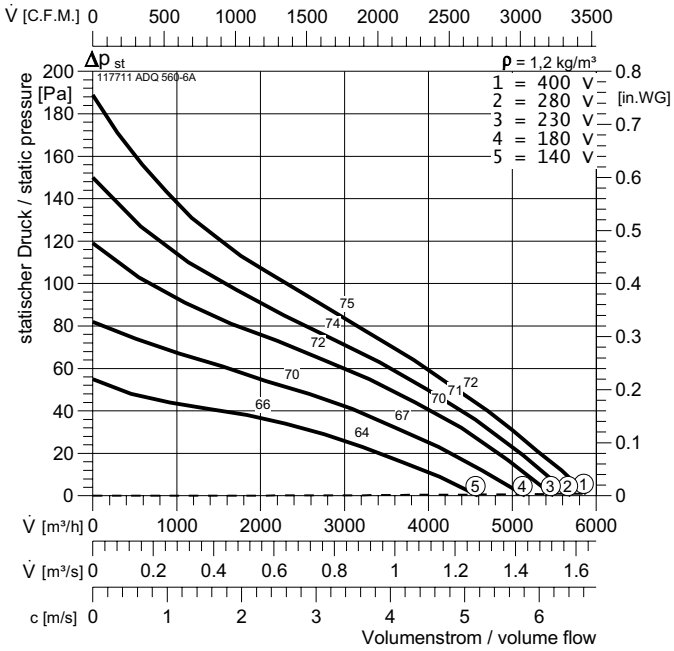
WVK

AEQ / AER 560-6A

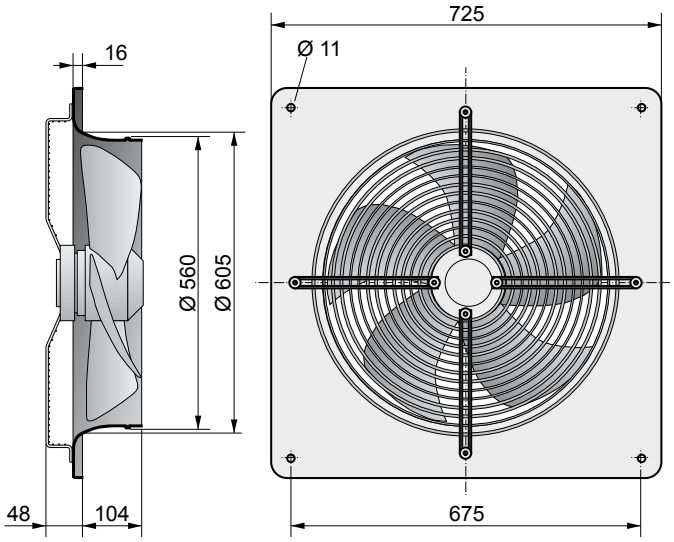


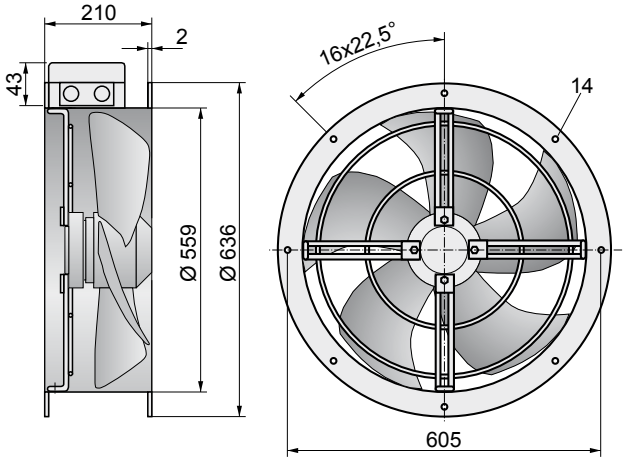
Typ :	AEQ / AER 560-6A		I_A/I_N :	2,8	ΔdB	L_{WA5}	L_{WA6}
Art.Nr.:	117701 / 117201			IP 44	$L_{WA\,tot}$	0	0
:	20,6/19	kg		E13	125 Hz	-36	-36
U :	230 V 50 Hz			GS 2	250 Hz	-17	-17
P_1 :	0,245	kW		NE 3,2	500 Hz	-10	-10
I_N :	1,17	A		RPE 06 A	1 kHz	-7	-7
n :	945	min^{-1}			2 kHz	-4	-4
C_{400V} :	7	µF			4 kHz	-9	-9
t_R :	50	°C			8 kHz	-19	-19

ADQ / ADR 560-6A



Typ :	ADQ / ADR 560-6A		I_A/I_N :	2,7	ΔdB	L_{WA5}	L_{WA6}
Art.Nr.:	117711 / 117211			IP 44	$L_{WA\,tot}$	0	0
:	20,6/19	kg		DD0b	125 Hz	-36	-36
U :	400 V 50 Hz			GS 2	250 Hz	-17	-17
P_1 :	0,245	kW		RTD 1,2	500 Hz	-10	-10
I_N :	0,69	A		SAD 9	1 kHz	-7	-7
n :	945	min^{-1}			2 kHz	-4	-4
C_{400V} :	-	µF			4 kHz	-9	-9
t_R :	50	°C			8 kHz	-19	-19





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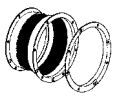
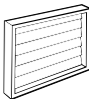
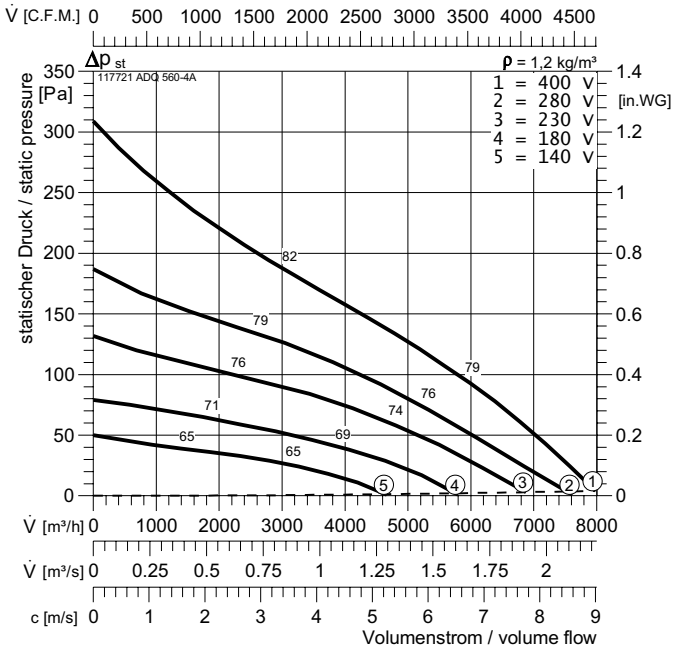


EV-AXR
GL-AXR



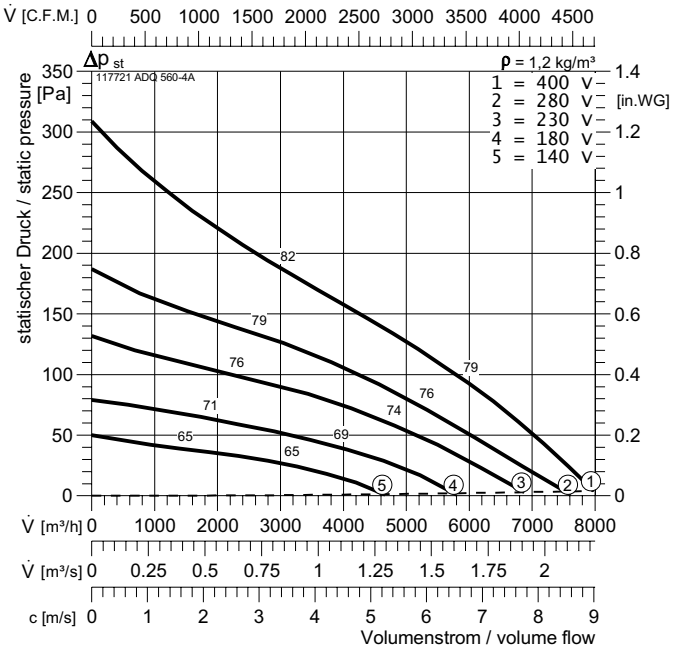
WVK

AEQ / AER 560-4A

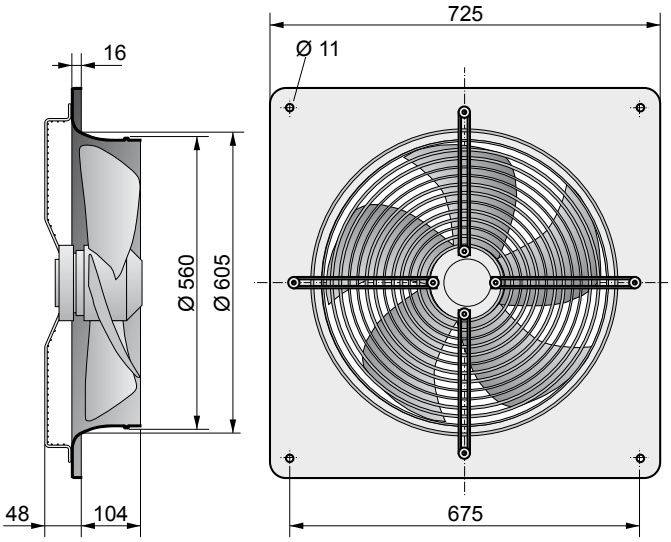


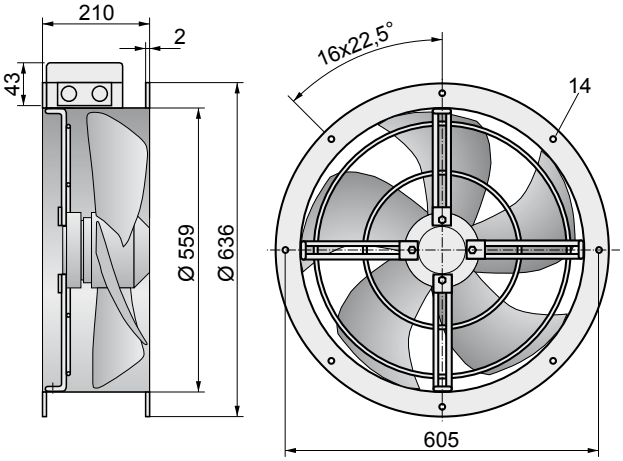
Typ :	AEQ / AER 560-4A		I_A/I_N :	3,3	ΔdB	L_{WA5}	L_{WA6}
Art.Nr.:	117706 / 117206			IP 44	$L_{WA\ tot}$	0	0
:	20,6/29	kg		E13a	125 Hz	-37	-37
U :	230 V 50 Hz			GS 2	250 Hz	-19	-19
P_1 :	0,67	kW		NE 3,2	500 Hz	-9	-9
I_N :	2,8	A		RPE 06 A	1 kHz	-6	-6
n :	1330	min^{-1}			2 kHz	-8	-8
C_{400V} :	16	µF			4 kHz	-12	-12
t_R :	50	°C			8 kHz	-21	-21

ADQ / ADR 560-4A



Typ :	ADQ / ADR 560-4A		I_A/I_N :	3,5	ΔdB	L_{WA5}	L_{WA6}
Art.Nr.:	117721 / 117221			IP 44	$L_{WA\ tot}$	0	0
:	22,5/29	kg		DD0b	125 Hz	-37	-37
U :	400 V 50 Hz			GS 2	250 Hz	-19	-19
P_1 :	0,62	kW		RTD 2,5	500 Hz	-9	-9
I_N :	1,6	A		SAD 9	1 kHz	-6	-6
n :	1390	min^{-1}			2 kHz	-8	-8
C_{400V} :	-	µF			4 kHz	-12	-12
t_R :	50	°C			8 kHz	-21	-21





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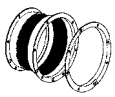
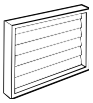
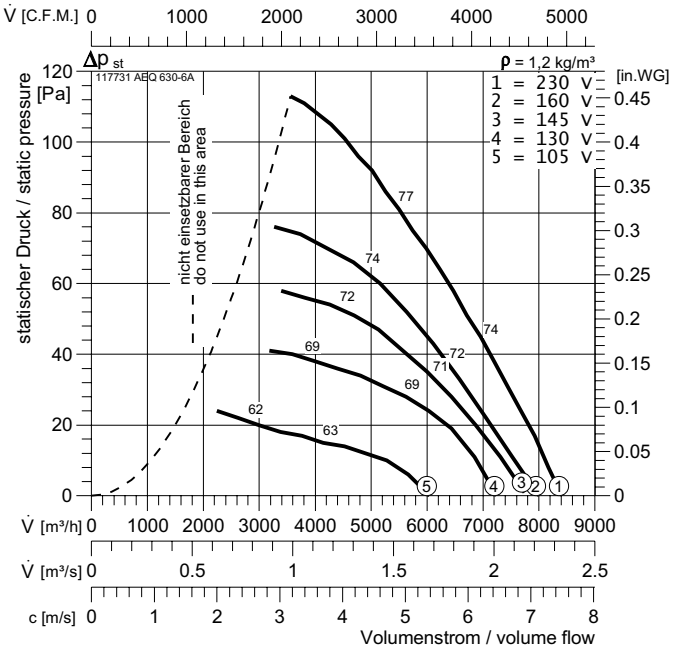


EV-AXR
GL-AXR



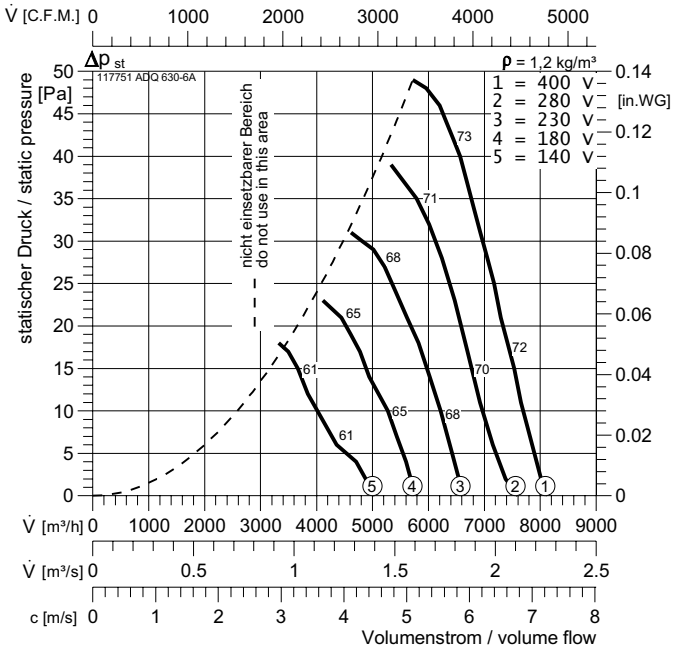
WVK

AEQ / AER 630-6A

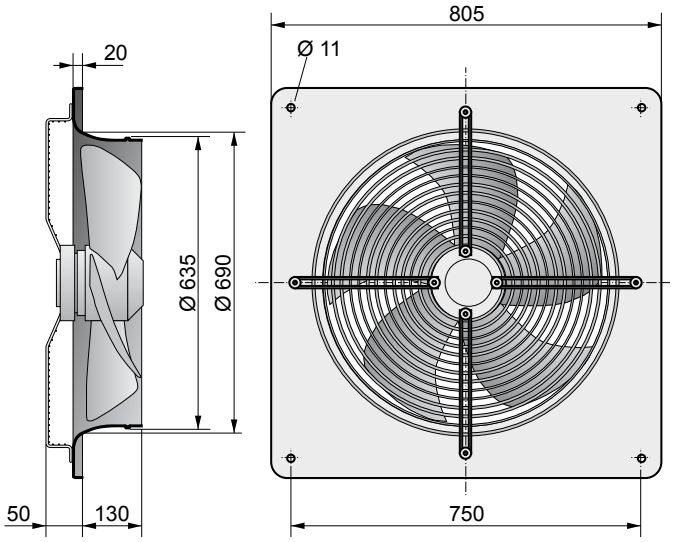


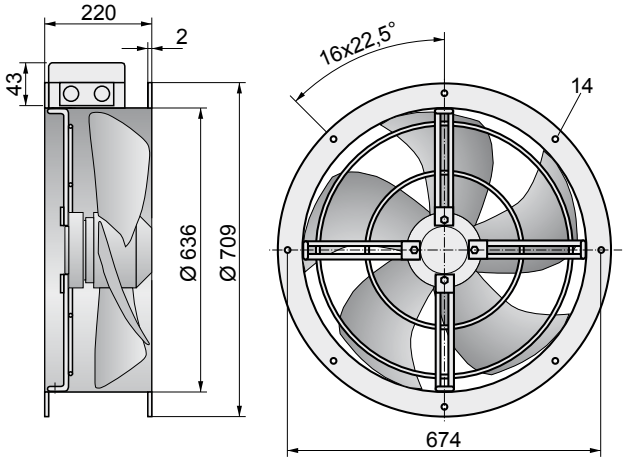
Typ :	AEQ / AER 630-6A		I_A/I_N :	2,3	ΔdB	L_{WA5}	L_{WA6}
Art.Nr.:	117731 / 117231			IP 44	$L_{WA\,tot}$	0	0
:	25,2/26	kg		E13	125 Hz	-39	-39
U :	230 V 50 Hz			GS 2	250 Hz	-21	-21
P_1 :	0,32	kW		NE 3,2	500 Hz	-11	-11
I_N :	1,44	A		RPE 06 A	1 kHz	-7	-7
n :	930	min^{-1}			2 kHz	-3	-3
C_{400V} :	8	µF			4 kHz	-7	-7
t_R :	50	°C			8 kHz	-18	-18

ADQ / ADR 630-6A



Typ :	ADQ / ADR 630-6A		I_A/I_N :	3,1	ΔdB	L_{WA5}	L_{WA6}
Art.Nr.:	117751 / 117251			IP 44	$L_{WA\,tot}$	0	0
:	25,2/26	kg		DD0b	125 Hz	-39	-39
U :	400 V 50 Hz			GS 2	250 Hz	-21	-21
P_1 :	0,28	kW		RTD 1,2	500 Hz	-11	-11
I_N :	0,78	A		SAD 9	1 kHz	-7	-7
n :	915	min^{-1}			2 kHz	-3	-3
C_{400V} :	-	µF			4 kHz	-7	-7
t_R :	50	°C			8 kHz	-18	-18





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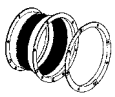
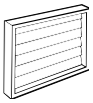


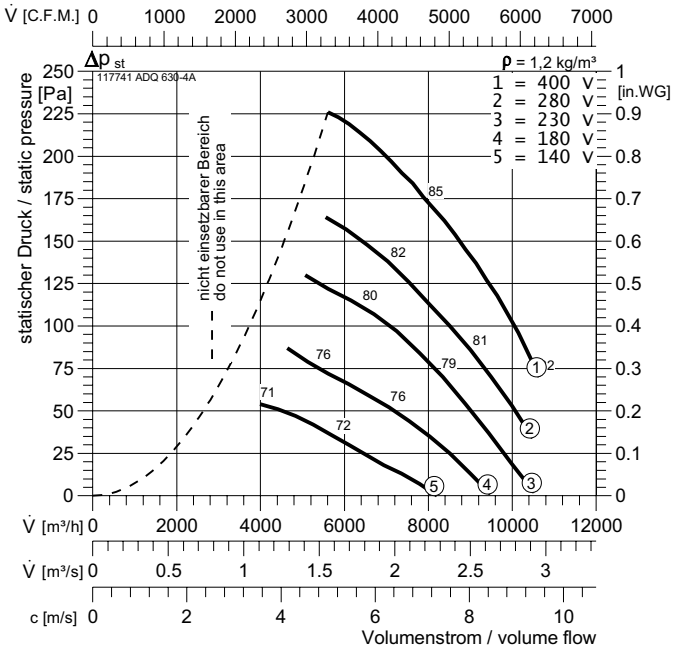
EV-AXR
GL-AXR



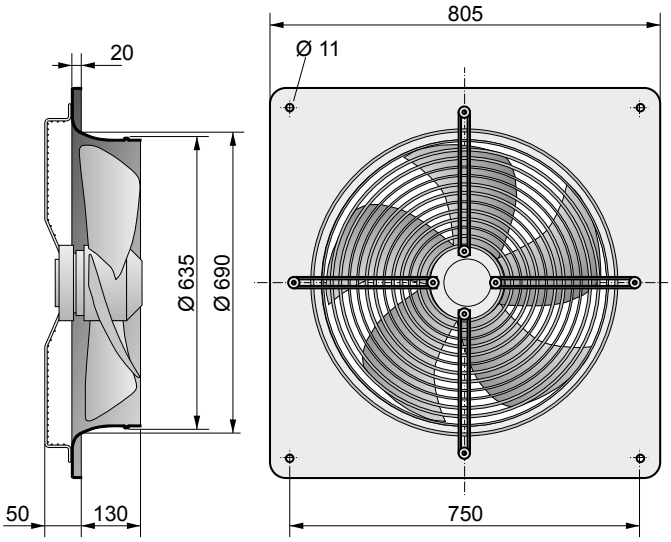
WVK

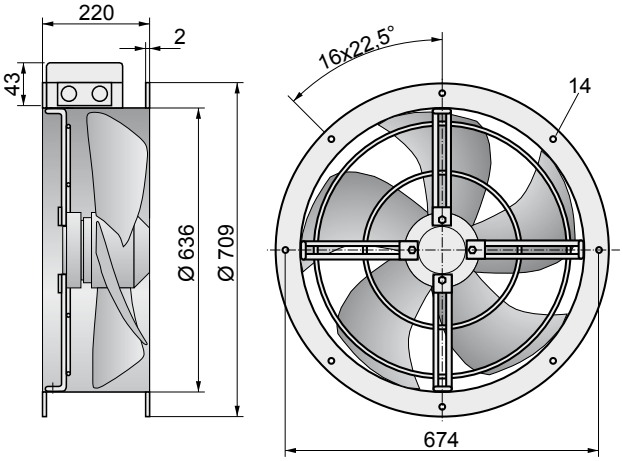
ADQ / ADR 630-4A

ADQ / ADR 630-4A



Typ :	ADQ / ADR 630-4A		I_A/I_N :	3,5	ΔdB	L_{WA5}	L_{WA6}
Art.Nr.:	117741 / 117241			IP 44	$L_{WA\,tot}$	0	0
:	25,2/26	kg		DD0b	125 Hz	-35	-35
U :	400 V 50 Hz			GS 2	250 Hz	-20	-20
P_1 :	0,72	kW		RTD 2,5	500 Hz	-10	-10
I_N :	1,82	A		SAD 9	1 kHz	-5	-5
n :	1380	min^{-1}			2 kHz	-5	-5
C_{400V} :	-	µF			4 kHz	-8	-8
t_R :	50	°C			8 kHz	-19	-19





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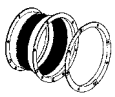
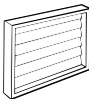


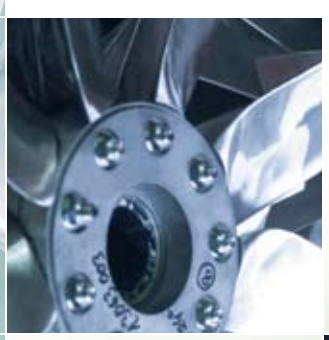
EV-AXR
GL-AXR



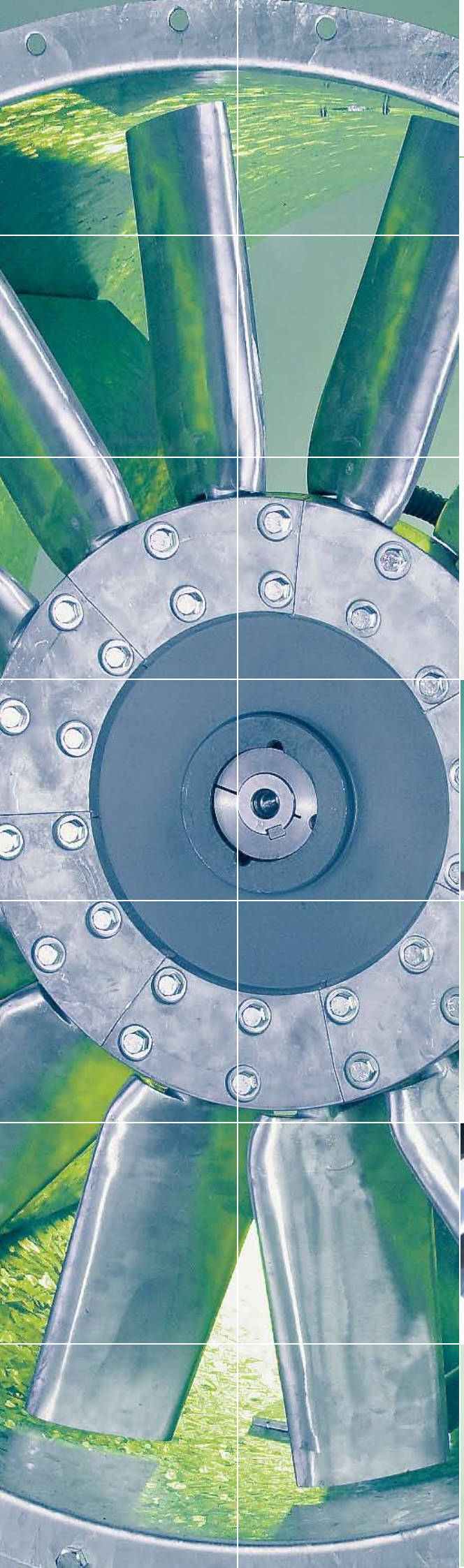
WVK

Your requirements - our fans:

individual solutions.

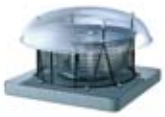


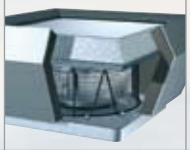
We move **air.**



Dachventilatoren

Roof Fans





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Dachventilatoren
Roof Fans
RH/RV/RVS

Seite / Page 206-219

Dachventilatoren
Roof Fans
RVH

Typenschlüssel *Fan type code*

RVS 225 -2/2 E

- **E** — Motorversion / *Motor type*
  - E = Einphasenwechselstrom *Single-phase A.C.*
  - D = Drehstrom *Three-phase A.C.*
- **-2/2** — Polzahl / *Number of poles*
- **225** — Nennweite *Impeller diameter*
- **S** — mit integrierter Schalldämmhaube *with built-in sound attenuation hood*
- **V** — Ausführung / *Discharge orientation*
  - H = Horizontal ausblasend *horizontal discharge*
  - V = vertikal ausblasend *vertical discharge*
- **R** — Dachventilator / *Roof fan*

4

Eigenschaften und Ausführung

Wolter Dachventilatoren eignen sich zum Aufbau auf Flach-, Pult-, Sattel-, Bogen- und Shed-Dächern. Man unterscheidet zwischen:

- **horizontal ausblasenden Dach-Ventilatoren RH** für die Absaugung weniger stark verunreinigter Luft und
- **vertikal ausblasenden Dach-Ventilatoren RV** für die Absaugung stärker verschmutzter Luft

Gehäuse

RH Haube bis Baugröße 500 aus seewasserbeständigem Aluminium, ab Baugröße 560 aus verzinktem Stahlblech.

RV Gehäuse aus seewasserbeständigem Aluminium.

RVS mit integrierter Schalldämmhaube.

Laufrad

Die rückwärtsgekrümmten Laufräder sind direkt auf die Rotoren der Außenläufermotoren aufgebaut und zusammen mit diesen entsprechend der Gütestufe G 2,5 nach DIN ISO 1940 auf 2 Ebenen gewuchtet.

Motor

Spannungssteuerbare Aussenläufermotoren in Schutzart IP44 (bis Baugröße 310L) bzw. IP 54 (ab Baugröße 355) mit Feuchteschutzimprägnierung und mit in der Wicklung eingebauten Thermokontakten.

Elektrischer Anschluß

Die Antriebsmotoren sind mit einem aufgebauten Anschlußkasten in Schutzart IP54 versehen, der für den elektrischen Anschluß nach Abnahme der Regenschutzhaube leicht zugänglich ist.

Montage

Wolter Dachventilatoren werden montagebereit ausgeliefert, jeweils in Einzelversandkartons oder Verschlägen.

Empfohlen wird die Verwendung von Flachdachsockeln aus unserem Zubehör-Programm. Sie sparen sich dadurch Kosten bei der Planung, bei der Ausführung und Montage. Sofern die Sockel bauseitig erstellt werden, so sind die von uns angegebenen Maße einzuhalten. Auf waagerechten Einbau und einwandfreie Abdichtung der Dachkante ist zu achten. Gegebenenfalls müssen Unebenheiten durch Distanzscheiben, Moosgummi oder ähnlich dichtendes Material behoben werden.

Luftleistungskennlinien

Die Kennlinien für diese Typenreihe wurden mittels einem saugseitigen Kammerprüfstand entsprechend der DIN 24 163 in der Einbauart A (frei ansaugend, frei ausblasend) aufgenommen. Sie zeigen die statische Druckerhöhung Δp_{st} (statisch, frei ausblasend) in Abhängigkeit des Volumenstroms. Die Bezugsdichte ist 1,2 kg/m³.

Schallentwicklung

Die Messung und deren Darstellung erfolgt nach DIN 45 635, Teil 38, gemäß dem dort beschriebenen Hüllflächenverfahren, nach dem über eine quaderförmige Meßfläche mehrere Meßpunkte erfasst werden. In den Kennlinienfeldern ist der **A-bewerteten Schallleistungspegel L_{WA}** in dB(A) angegeben, der dem **Frei-Ausblas-Schallleistungspegel L_{WA8}** entspricht.

Die Katalogangaben beziehen sich auf die Dachlüfter der Typenreihe **RH**. Bei den Ventilatoren der Typenreihe **RV** sind von den angegebenen Werten 2 dB(A) zu subtrahieren. Der Freiansaug-Schallleistungspegel L_{WA5} kann über die relativen Schallleistungspegel genau ermittelt, oder nach folgender Formel näherungsweise bestimmt werden:

$$L_{WA5} = L_{WA} - 3\ dB$$

Für genauere Berechnungen bei Schallschutzmaßnahmen ist der Schallleistungspegel der Oktavbänder von Bedeutung:

$$L_{Wokt} = L_{WA} + L_{Wrel}$$

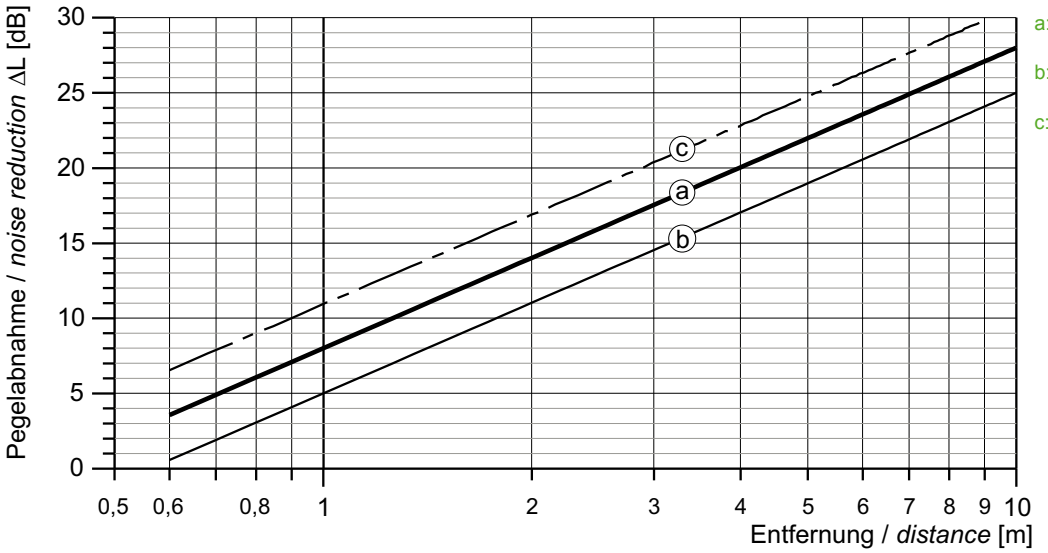
Der austrittseitige zu erwartende A-bewertete Schalldruckpegel kann nur annähernd ermittelt werden, da die Umgebungseinflüsse zu starken Abweichungen führen können:

$$L_{PA} = L_{WA} - \Delta L$$

Bei ungünstigen Verhältnissen kann das in der Anlage zustande kommende Geräusch von den Katalogangaben abweichen, etwa durch unterschiedliche Schallabsorption oder durch ungünstige Körperschallübertragung auf die Dachkonstruktion.

Pegelabnahme Halbkugel

Sound level reduction half sphere



a: ohne Reflexionen
without reflexion

b: mit Reflexionen
with reflexion

c: Vollkugel ohne Reflexionen
full sphere without reflexion

Types and design features

Wolter roof fan units are suitable for mounting on different roof types. There are two versions available:

- **Type RH with horizontal discharge**
  for the exhaust of mildly polluted air
- **Type RV with vertical discharge**
  for the exhaust of more heavily polluted air

Casing

RH up to size 500, the cowl is made of salt-water proof aluminium, from size 560 onwards, the cowl is manufactured from galvanised sheet steel

RV housing is made of salt-water proof aluminium

RVS with built-in sound attenuation hood

Impeller

The backward-curved impellers are mounted directly onto the rotor of the external rotor motors. The motorised impeller unit is balanced in two plains according to G 2,5 (DIN ISO 1940.)

Motor

Speed controllable external rotor motor, protection class IP44 (up to size 310L) or IP54 (from size 355), moisture-proof impregnation, thermal contacts mounted in motor winding.

Electrical connection

The motors are connected to a terminal box of protection class IP54, easily accessible after disassembly of the cowl.

Installation

All fans are delivered ready for installation and are packed in separate boxes or crates. We recommend the use of matching Wolter roof sockets. If other roof sockets are used, dimensions given in our catalogue should be followed to achieve proper sealing and avoid air-leakage.

Fan performance curves

The performance curves for these roof fans have been tested according to DIN 24 163. The curves indicate the static pressure increase Δp_{st} (static, free outlet) as a function of the volume flow. The reference air density is 1,2 kg/m³.

Sound levels

The sound data was measured according to DIN 45 635, part 38. The figures shown in the performance curves are the **A-weighted sound power levels (L_{WA})** in dB(A). They are equal to the **free outlet sound power level L_{WA8}**.

The catalogue data is valid for RH-type fans. In order to obtain the noise levels of **RV** series fans, reduce listed noise levels by **2 dB(A).** The free inlet **sound power level L_{WA5}** can be calculated by the following approximation formula:

$$L_{WA5} = L_{WA} - 3\ dB$$

If sound protection measures require exact calculation, it is important to know the the sound power level of the octave band:

$$L_{Wokt} = L_{WA} + L_{Wrel}$$

The A-weighted sound pressure level at the outlet side can only be approximated, since environmental conditions will affect noise levels.

$$L_{PA} = L_{WA} - \Delta L$$

The actual noise levels will vary, depending on system characteristics such as reflexion, resonant frequencies or structure-borne noise transfer.

Sockelschalldämpfer SD

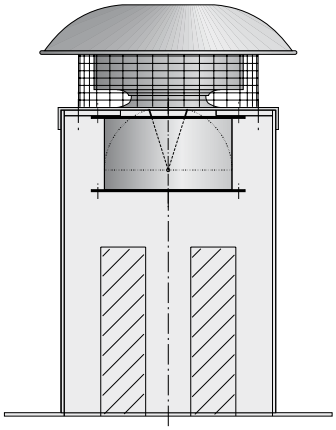
Der Sockelschalldämpfer kann anstelle des Flachdachsockels für die Montage des Lüfters verwendet werden. Er reduziert den Schallpegel im saugseitigen Kanalsystem.

Bei der Verwendung eines Sockelschalldämpfers sind die zusätzlichen Druckverluste zu berücksichtigen. Diese sind aus der nebenstehenden Grafik ersichtlich.

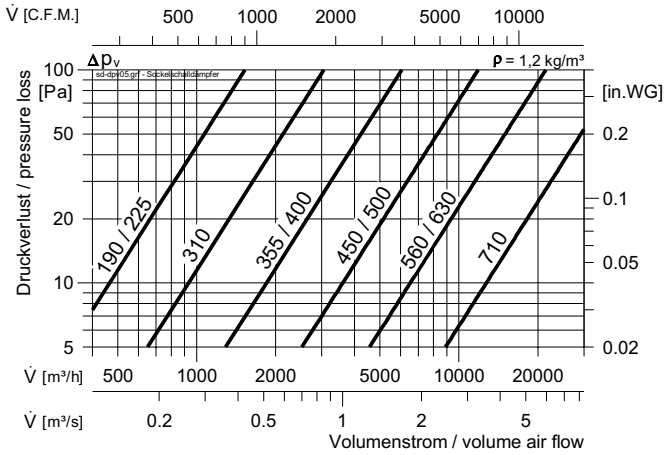
Socket silencer SD

A socket silencer can be used instead of the flat roof socket for mounting the fan. It reduces the sound propagation on the suction side.

When a socket silencer is used, additional pressure loss has to be taken into account. These can be found in the following diagram.



Druckverluste **Pressure losses**



Dämpfungswerte **Attenuation capacity**

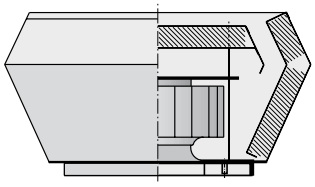
Typ SD	Dämpfung [dB] bei Mittenfrequenz [Hz] Attenuation [dB] at medium frequency [Hz]						
	125	250	500	1k	2k	4k	8k
190 / 225	5	8	12	18	22	20	14
310K / 310L	5	8	12	19	23	21	15
355 / 400	5	8	12	19	21	21	15
450 / 500	5	8	13	20	22	21	15
560 / 630	5	7	12	18	21	20	14
710	5	7	11	18	20	19	13

Integrierte Schalldämmhaube LVS

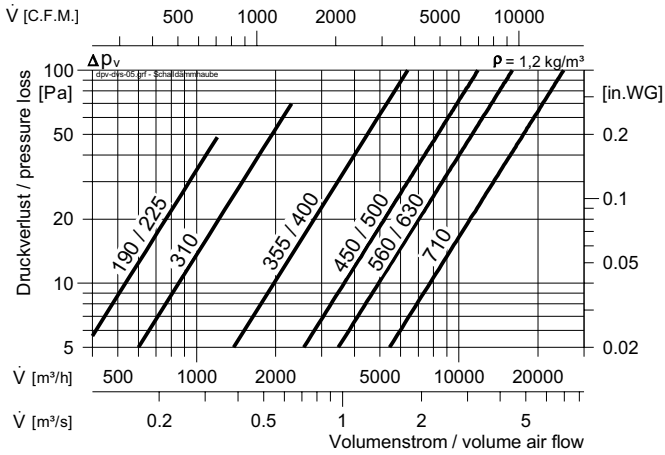
Die integrierte Schalldämmhaube der Lüfterbaureihe RVS ermöglicht es, den druckseitigen Schallpegel zu verringern. Diese Lüfterhaube hat im Vergleich zur normalen ungedämmten Haube (RV) etwas erhöhte Widerstände. Für exakte Berechnungen sind diese hier als Diagramm dargestellt.

Insulated sound attenuation cowl LVS

In order to reduce the sound emissions radiated from the roof fan, the use of a RVS attenuation cowl is recommended. Compared to the non-attenuated roof fan cowl (RV), the RVS cowl has slightly higher pressure losses. For exact calculations, these additional losses are shown in the following diagram.



Druckverluste **Pressure losses**



Dämpfungswerte **Attenuation capacity**

Typ RVS / RHS	Dämpfung [dB] bei Mittenfrequenz [Hz] Attenuation [dB] at medium frequency [Hz]						
	125	250	500	1k	2k	4k	8k
190 / 225	5	8	12	16	20	17	13
310K / 310L	5	8	12	17	20	17	14
355 / 400	5	8	11	16	19	16	13
450 / 500	5	8	12	17	20	17	14
560 / 630	5	8	11	16	19	16	13
710	5	7	10	16	18	16	12

RH

RV, RVS

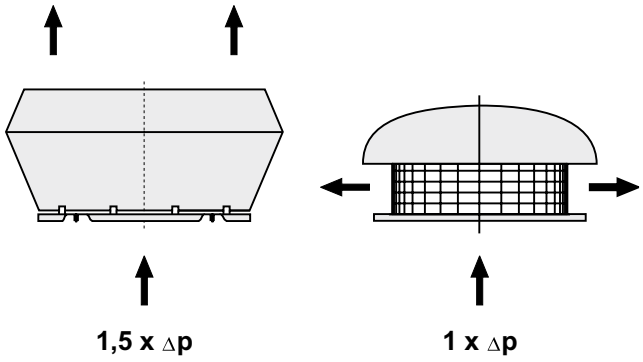
Dachhaube without motorised impeller LH / LV

Die leere Dachhaube kann zum Abschluß eines Kanalsystems verwendet werden. Sie hat je nach Luftrichtung unterschiedliche Druckverluste.

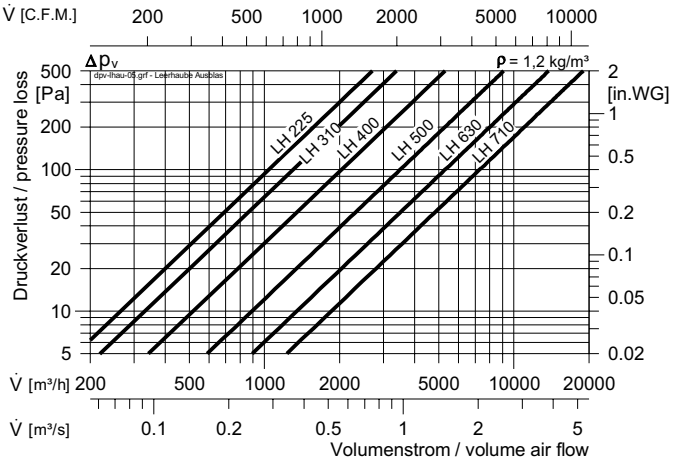
Roof cowl without motor LH / LV

The empty roof cowl can be used to close a ducted system on the inlet or outlet side. Depending on the direction of air flow, it has different pressure losses.

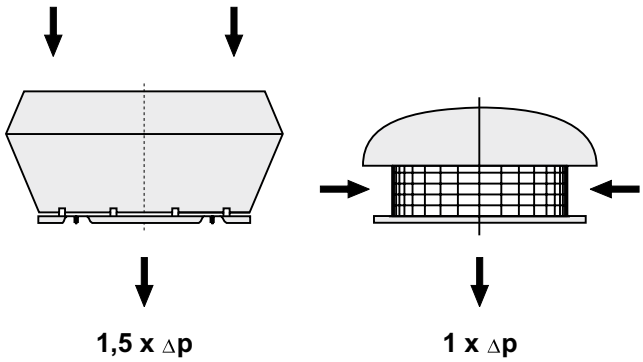
Ausblashaube / Outlet cowl



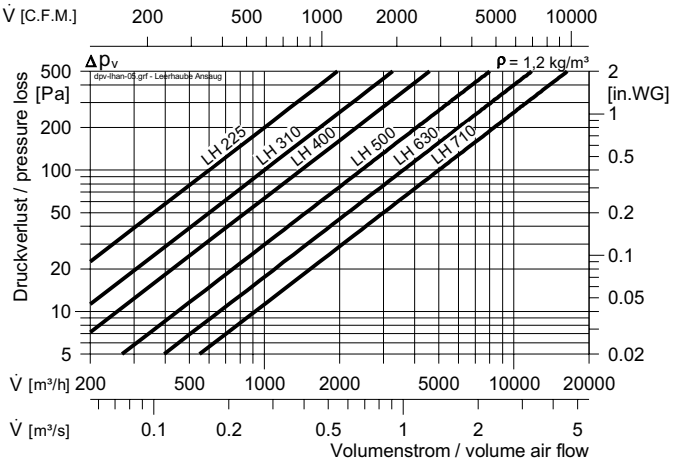
Druckverluste / Pressure losses



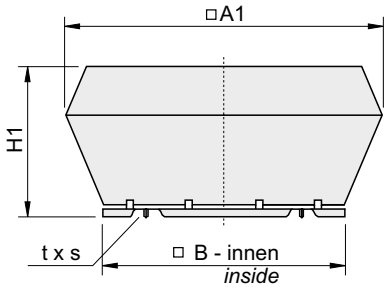
Ansaughaube / Inlet cowl



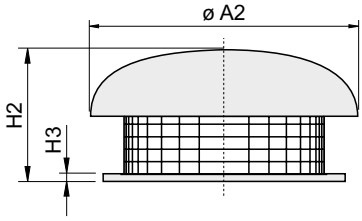
Druckverluste / Pressure losses



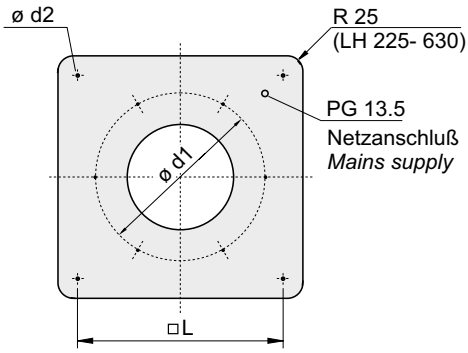
Abmessungen / Dimensions



LV

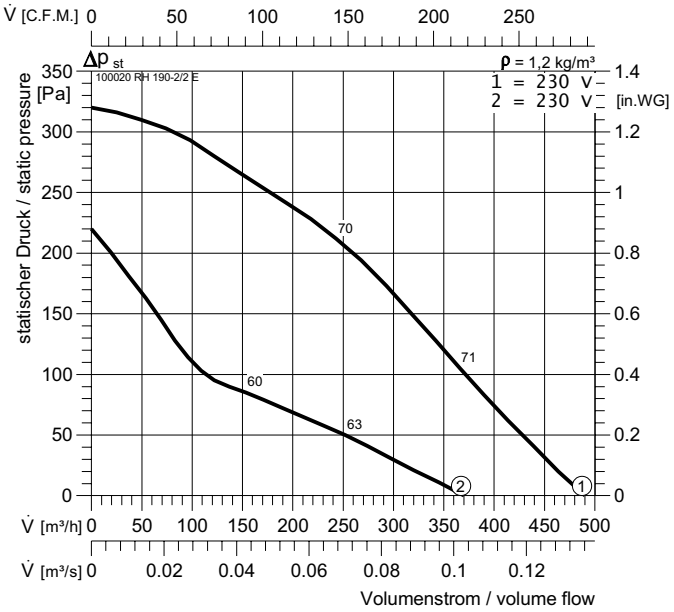


LH

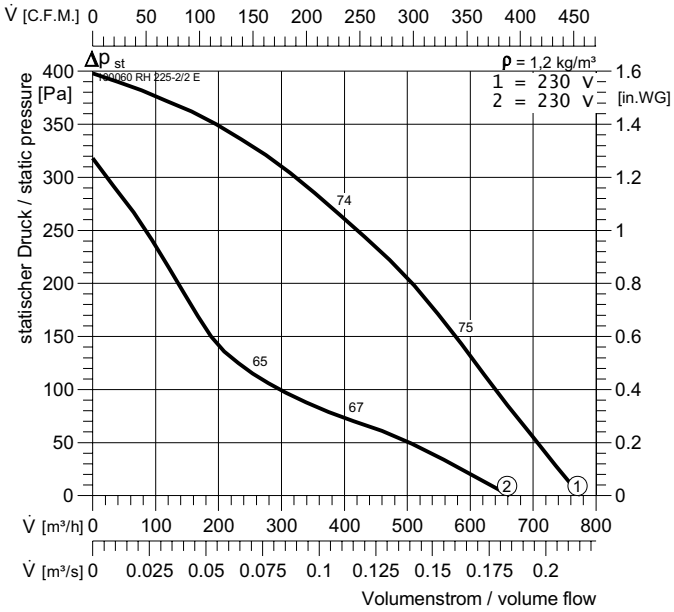


Größe size	A1 [mm]	A2 [mm]	H1 [mm]	H2 [mm]	H3 [mm]	B [mm]	L [mm]	d1 [mm]	d2 [mm]	t x s
225	370	370	170	140	30	335	245	213	10	6xM6
310	560	550	330	260	30	435	330	286	10	6xM6
400	720	720	400	340	30	595	450	438	12	6xM6
500	900	820	450	390	30	665	535	438	12	6xM6
630	1150	1100	570	460	30	939	750	605	14	8xM8
710	1350	-	680	-	40	1035	840	674	14	8xM8

RH / RV / RVS 190-2/2 E

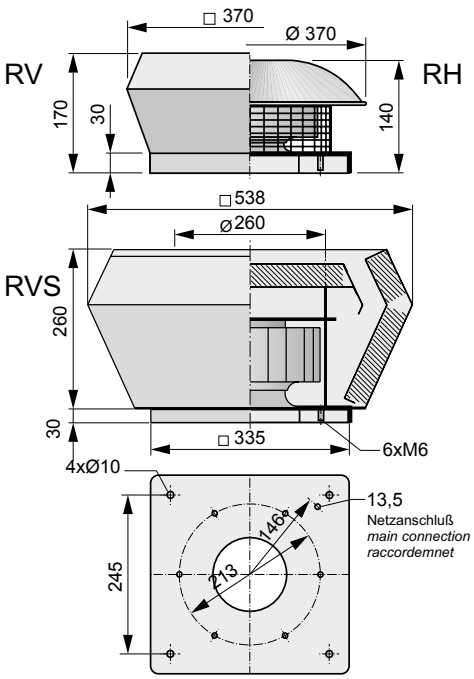


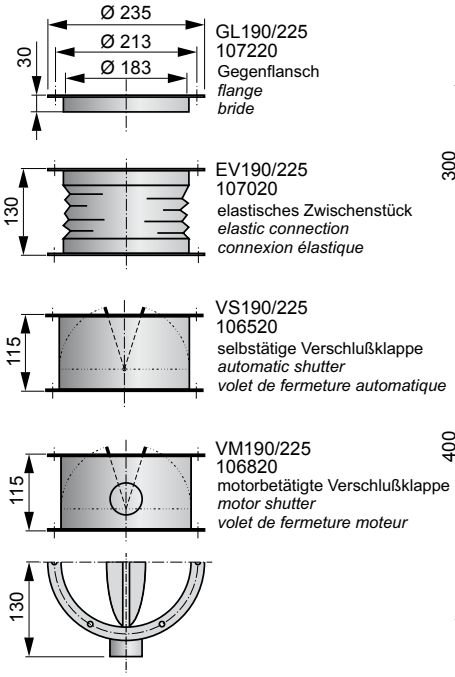
RH / RV / RVS 225-2/2 E

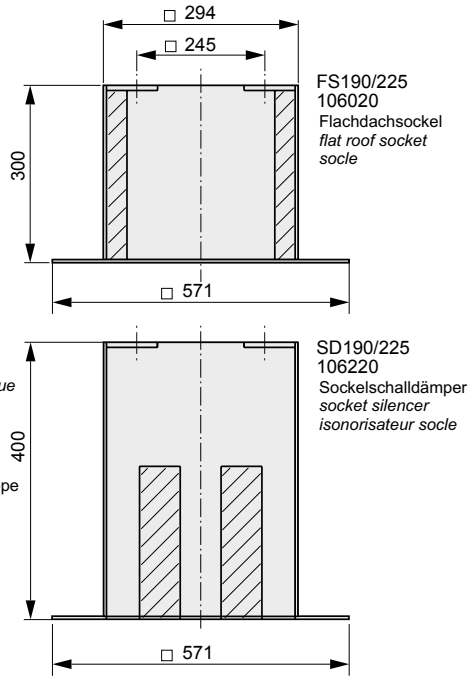


Typ	ArtNr		$L_{WA\,rel}$ ΔdB	L_{WA5}	L_{WA8}
RH 190-2/2 E	100020	5 kg	$L_{WA\,tot}$	-2	0
RV 190-2/2 E	102500	5,4 kg	125 Hz	-22	-22
RVS 190-2/2 E	100025	9,15 kg	250 Hz	-11	-9
U : 230 V 50 Hz	I_A / I_N :	1,4	500 Hz	-7	-6
P_1 : 0,07/0,04 kW		IP 44	1 kHz	-7	-6
I_N : 0,3/0,2 A		E14	2 kHz	-11	-6
n : 2420/1520 min^{-1}		GS 1	4 kHz	-13	-11
C_{400V} : 2 µF		NE 0,5	8 kHz	-19	-15
t_R : 60 °C		RPE 02 A			

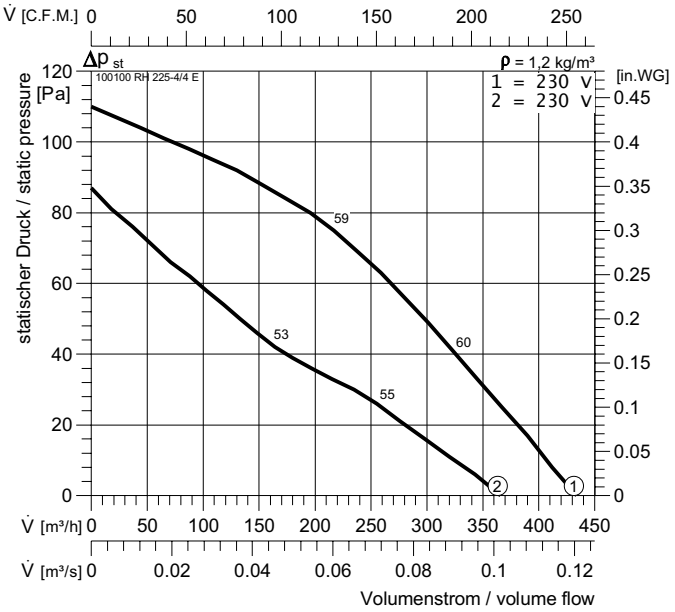
Typ	ArtNr		$L_{WA\,rel}$ ΔdB	L_{WA5}	L_{WA8}
RH 225-2/2 E	100060	5,6 kg	$L_{WA\,tot}$	-2	0
RV 225-2/2 E	102540	5,8 kg	125 Hz	-22	-22
RVS 225-2/2 E	100065	7,5 kg	250 Hz	-11	-9
U : 230 V 50 Hz	I_A / I_N :	1,7	500 Hz	-7	-6
P_1 : 0,11/0,08 kW		IP 44	1 kHz	-7	-6
I_N : 0,51/0,36 A		E14	2 kHz	-11	-6
n : 2580/1620 min^{-1}		GS 1	4 kHz	-13	-11
C_{400V} : 3 µF		NE 1,5	8 kHz	-19	-15
t_R : 50 °C		RPE 02 A			



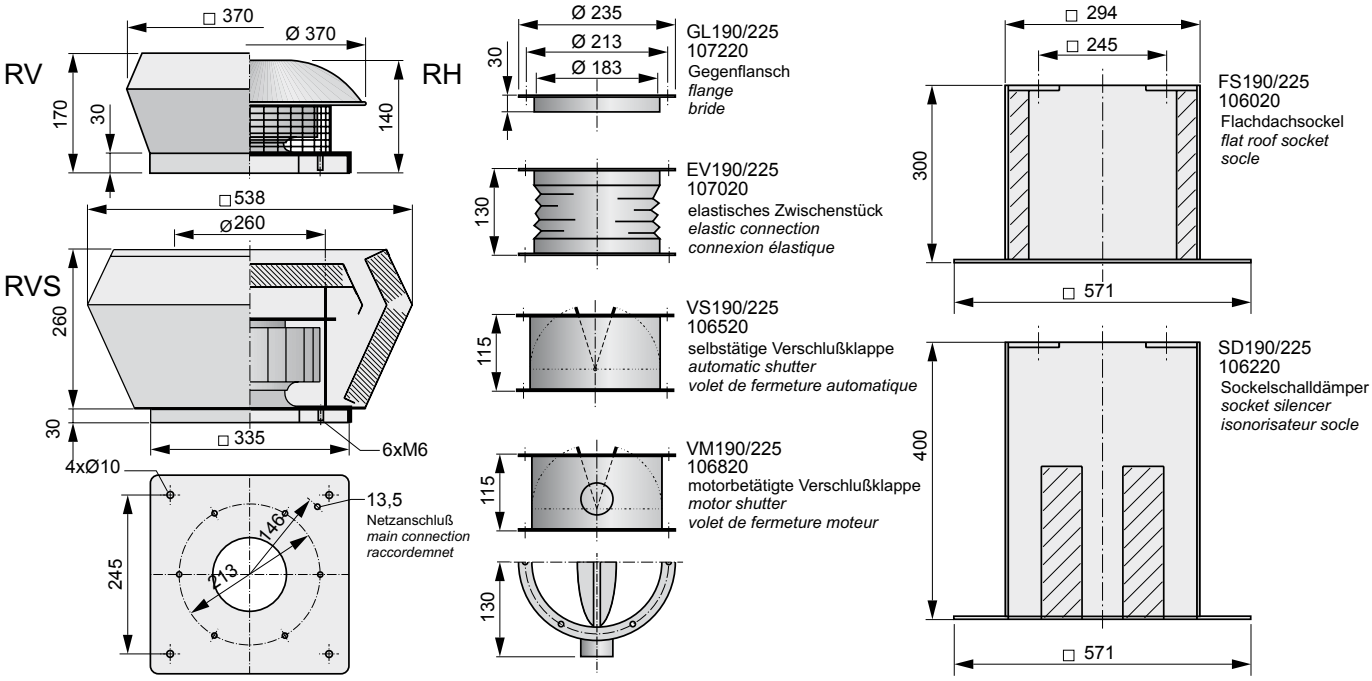




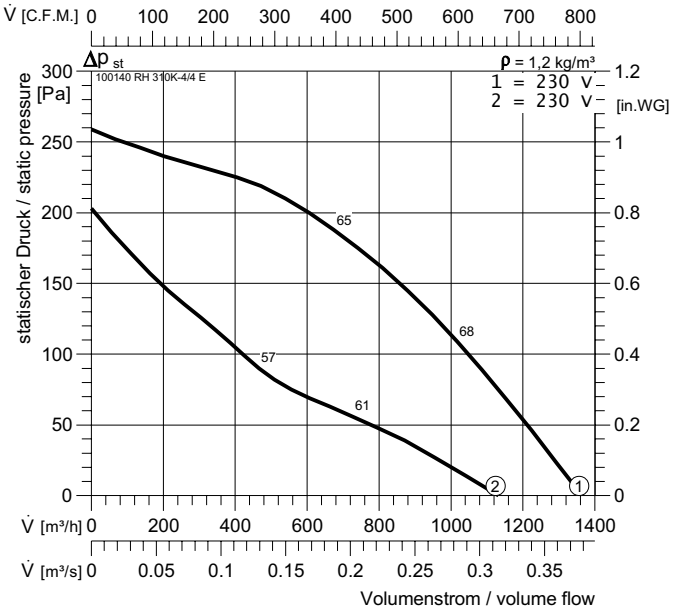
RH / RV / RVS 225-4/4 E



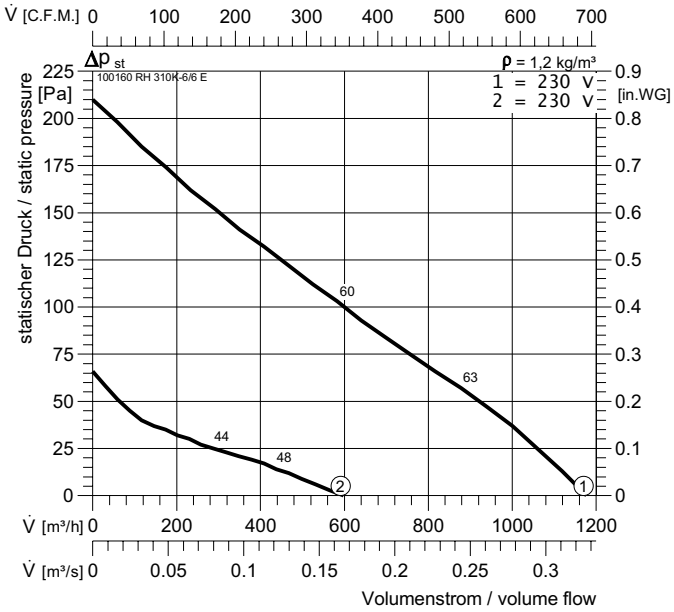
Typ	ArtNr			$L_{WA\,rel}$ ΔdB	L_{WA5}	L_{WA8}
RH 225-4/4 E	100100	4,1	**kg**	$L_{WA\,tot}$	-2	0
RV 225-4/4 E	102580	4,7	**kg**	**125 Hz**	-22	-22
RVS 225-4/4 E	100105	7,5	**kg**	**250 Hz**	-11	-9
U : 230 V 50 Hz	I_A / I_N :	1,4		**500 Hz**	-7	-6
P_1 : 0,04/0,02 **kW**		IP 44		**1 kHz**	-7	-6
I_N : 0,16/0,1 **A**		E14		**2 kHz**	-11	-6
n : 1320/1000 **min⁻¹**		GS 1		**4 kHz**	-13	-11
C_{400V} : 1,5 **µF**		NE 0,5		**8 kHz**	-19	-15
t_R : 60 **°C**		RPE 02 A				



RH / RV / RVS 310K-4/4 E

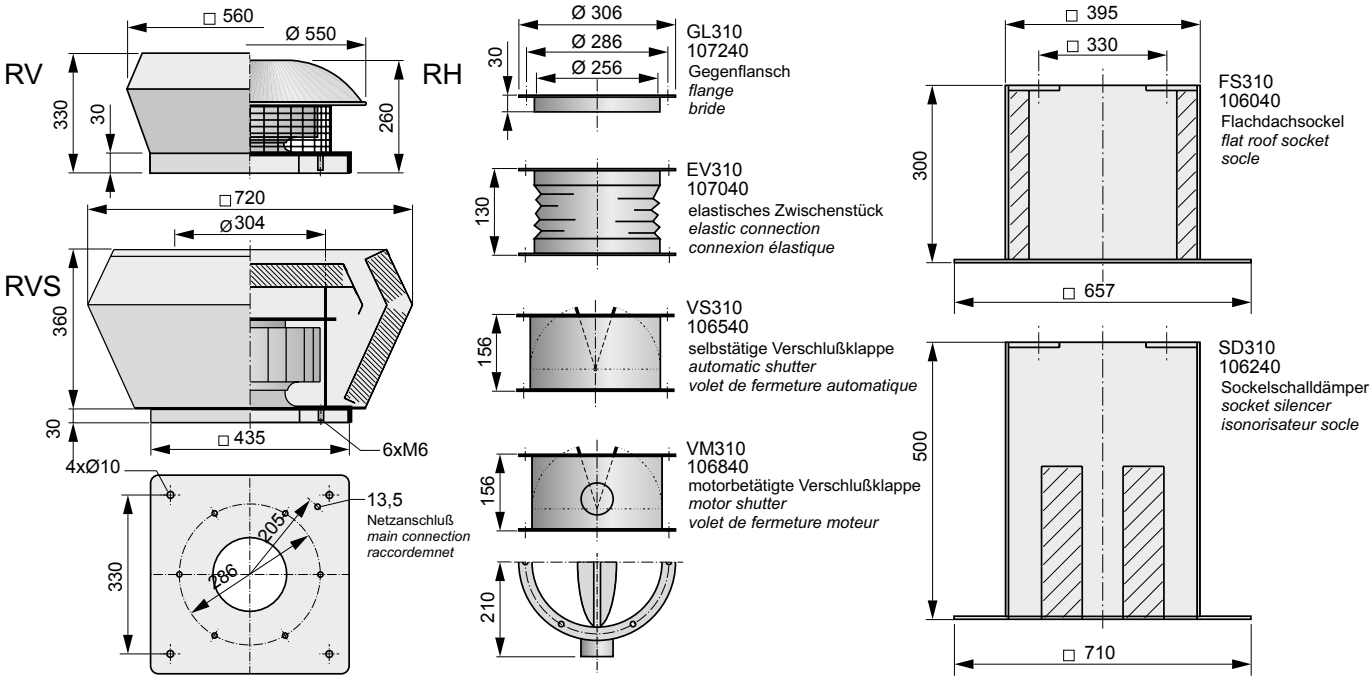


RH / RV / RVS 310K-6/6 E



Typ		ArtNr			$L_{WA\,rel}$ ΔdB	L_{WA5}	L_{WA8}
RH 310K-4/4 E		100140	12,8	**kg**	$L_{WA\,tot}$	-2	0
RV 310K-4/4 E		102620	15,2	**kg**	**125 Hz**	-16	-20
RVS 310K-4/4 E		100145	19,4	**kg**	**250 Hz**	-10	-11
U :	230 V 50 Hz	I_A / I_N :	2		**500 Hz**	-10	-6
P_1 :	0,12/0,08 **kW**		IP 44		**1 kHz**	-7	-4
I_N :	0,6/0,4 **A**		E14		**2 kHz**	-8	-7
n :	1360/940 **min⁻¹**		GS 1		**4 kHz**	-14	-13
C_{400V} :	4 **µF**		NE 1,5		**8 kHz**	-21	-19
t_R :	40 **°C**		RPE 02 A				

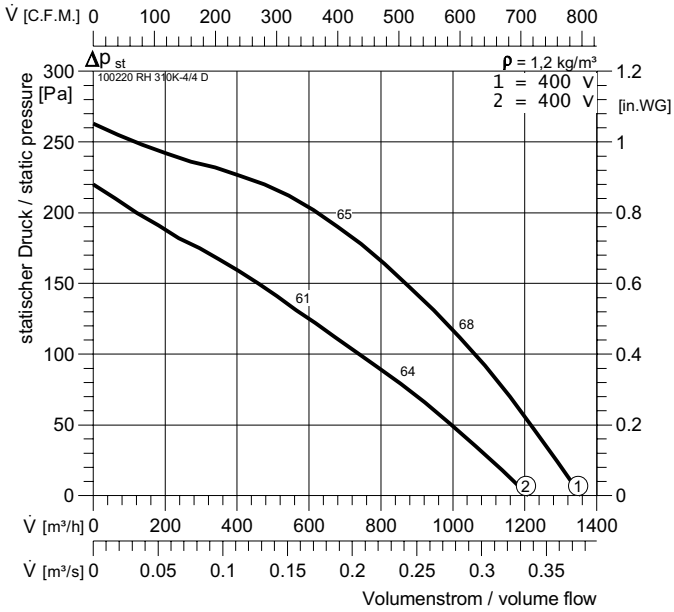
Typ		ArtNr			$L_{WA\,rel}$ ΔdB	L_{WA5}	L_{WA8}
RH 310K-6/6 E		100160	11,2	**kg**	$L_{WA\,tot}$	-2	0
RV 310K-6/6 E		102640	14,6	**kg**	**125 Hz**	-16	-20
RVS 310K-6/6 E		100165	19,4	**kg**	**250 Hz**	-10	-11
U :	230 V 50 Hz	I_A / I_N :	1,3		**500 Hz**	-10	-6
P_1 :	0,08/0,04 **kW**		IP 44		**1 kHz**	-7	-4
I_N :	0,35/0,16 **A**		E14		**2 kHz**	-8	-7
n :	1050/480 **min⁻¹**		GS 1		**4 kHz**	-14	-13
C_{400V} :	1,5 **µF**		NE 0,5		**8 kHz**	-21	-19
t_R :	60 **°C**		RPE 02 A				



RH

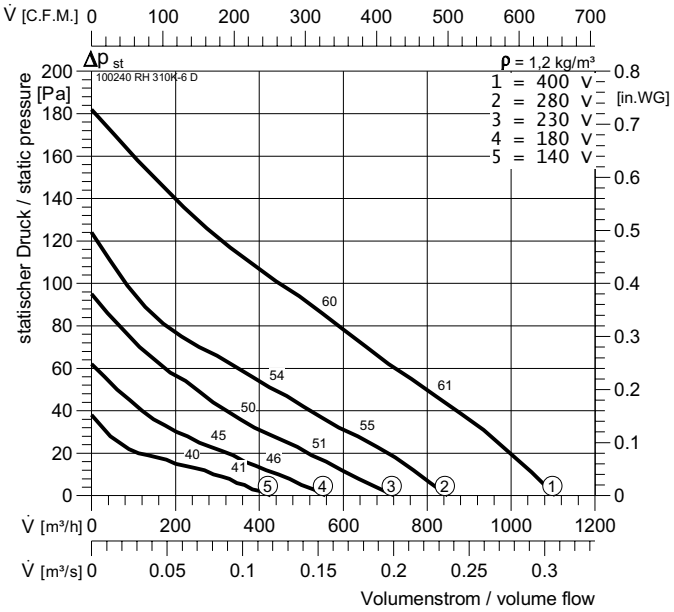
RV, RVS

RH / RV / RVS 310K-4/4 D

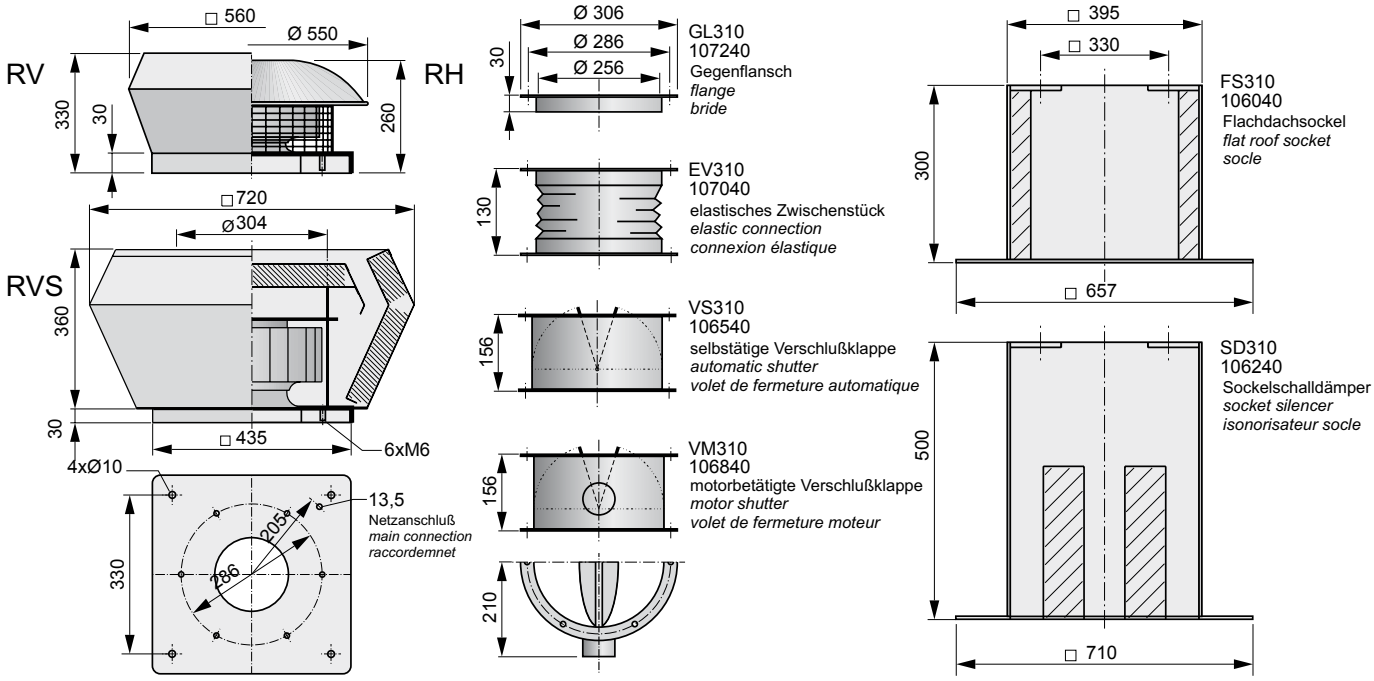


Typ		ArtNr			$L_{WA\,rel}$ ΔdB	L_{WA5}	L_{WA8}
RH 310K-4/4 D		100220	12	**kg**	$L_{WA\,tot}$	-2	0
RV 310K-4/4 D		102700	13	**kg**	**125 Hz**	-16	-20
RVS 310K-4/4 D		100225	19,4	**kg**	**250 Hz**	-10	-11
U :	400 V 50 Hz	I_A / I_N :	2,1		**500 Hz**	-10	-6
P_1 :	0,12/0,08 **kW**		IP 44		**1 kHz**	-7	-4
I_N :	0,3/0,13 **A**		DU3		**2 kHz**	-8	-7
n :	1370/1150 **min⁻¹**		GS 2		**4 kHz**	-14	-13
C_{400V} :	- **µF**		RTD 1,2		**8 kHz**	-21	-19
t_R :	55 **°C**		SAD 9				

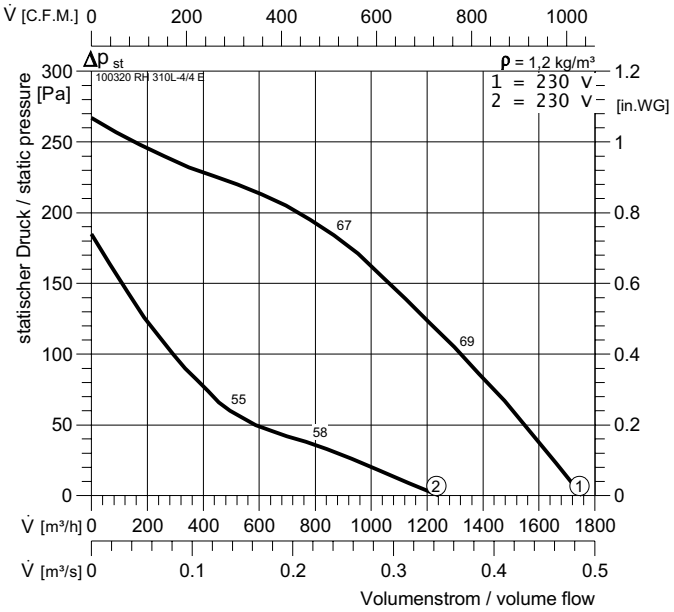
RH / RV / RVS 310K-6 D



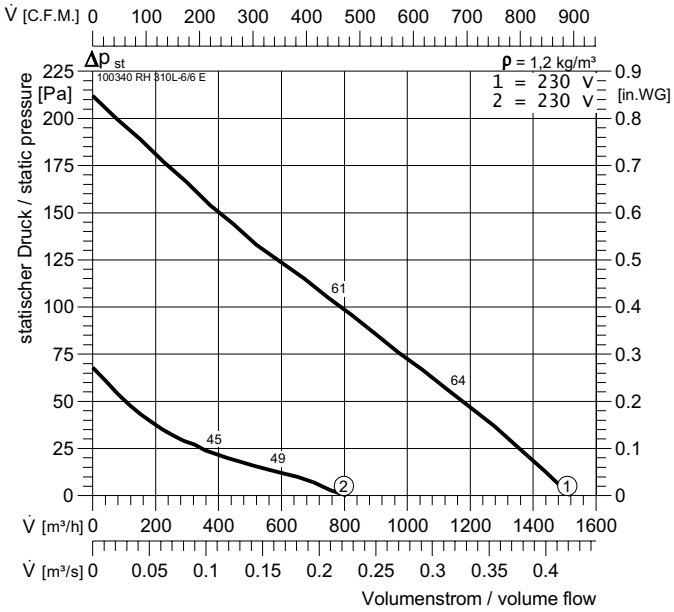
Typ		ArtNr			$L_{WA\,rel}$ ΔdB	L_{WA5}	L_{WA8}
RH 310K-6 D		100240	11,5	**kg**	$L_{WA\,tot}$	-2	0
RV 310K-6 D		102720	14	**kg**	**125 Hz**	-16	-20
RVS 310K-6 D		100245	14	**kg**	**250 Hz**	-10	-11
U :	400 V 50 Hz	I_A / I_N :	2,5		**500 Hz**	-10	-6
P_1 :	0,070 **kW**		IP 44		**1 kHz**	-7	-4
I_N :	0,12 **A**		DD0b		**2 kHz**	-8	-7
n :	970 **min⁻¹**		GS 2		**4 kHz**	-14	-13
C_{400V} :	- **µF**		RTD 1,2		**8 kHz**	-21	-19
t_R :	60 **°C**		SAD 9				



RH / RV / RVS 310L-4/4 E

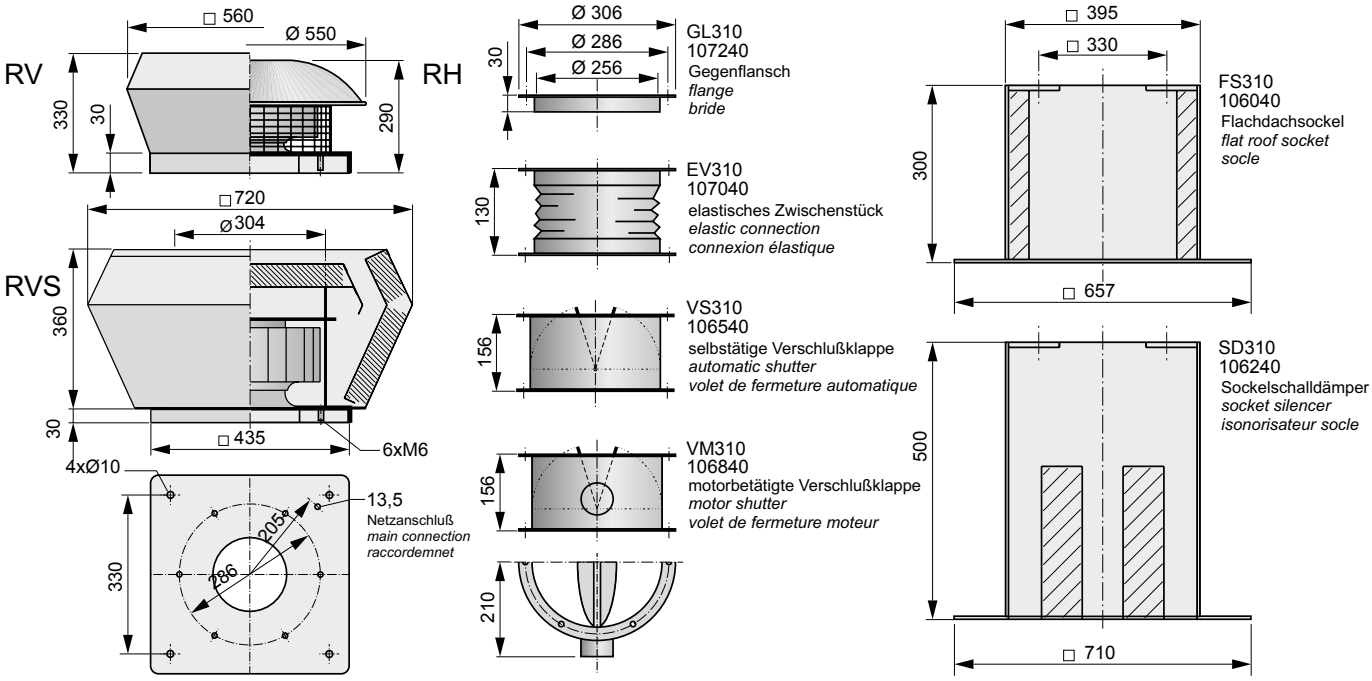


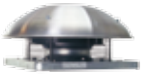
RH / RV / RVS 310L-6/6 E



Typ	ArtNr		$L_{WA\,rel}$ ΔdB	L_{WA5}	L_{WA8}
RH 310L-4/4 E	100320	13 kg	$L_{WA\,tot}$	-2	0
RV 310L-4/4 E	102800	15,4 kg	**125 Hz**	-16	-20
RVS 310L-4/4 E	100325	19,5 kg	**250 Hz**	-10	-11
U : 230 V 50 Hz	I_A / I_N :	1,8	**500 Hz**	-10	-6
P_1 : 0,15/0,07 kW		IP 44	**1 kHz**	-7	-4
I_N : 0,66/0,46 A		E14	**2 kHz**	-8	-7
n : 1300/740 min^{-1}		GS 1	**4 kHz**	-14	-13
C_{400V} : 4 µF		NE 1,5	**8 kHz**	-21	-19
t_R : 50 °C		RPE 02			

Typ	ArtNr		$L_{WA\,rel}$ ΔdB	L_{WA5}	L_{WA8}
RH 310L-6/6 E	100340	11,6 kg	$L_{WA\,tot}$	-2	0
RV 310L-6/6 E	102820	15 kg	**125 Hz**	-16	-20
RVS 310L-6/6 E	100345	19,4 kg	**250 Hz**	-10	-11
U : 230 V 50 Hz	I_A / I_N :	-	**500 Hz**	-10	-6
P_1 : 0,1/0,055 kW		IP 44	**1 kHz**	-7	-4
I_N : 0,5/0,26 A		E14	**2 kHz**	-8	-7
n : 1020/500 min^{-1}		GS 1	**4 kHz**	-14	-13
C_{400V} : 2 µF		NE 0,5	**8 kHz**	-21	-19
t_R : 60 °C		RPE 02 A			

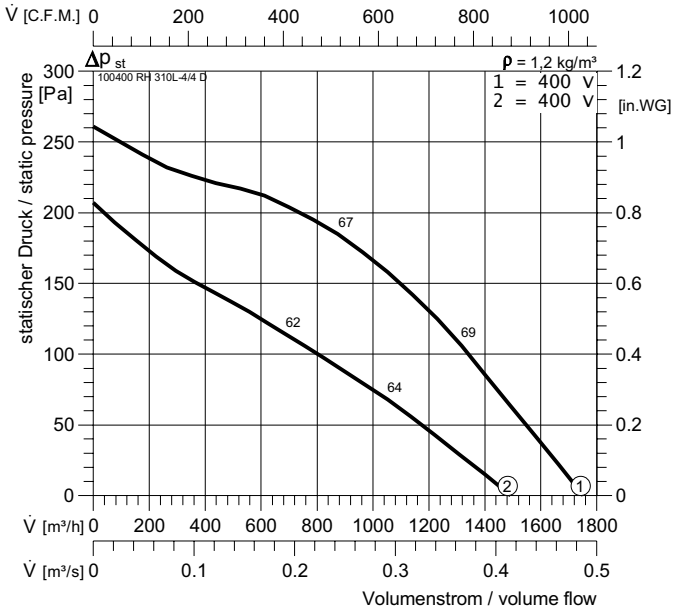




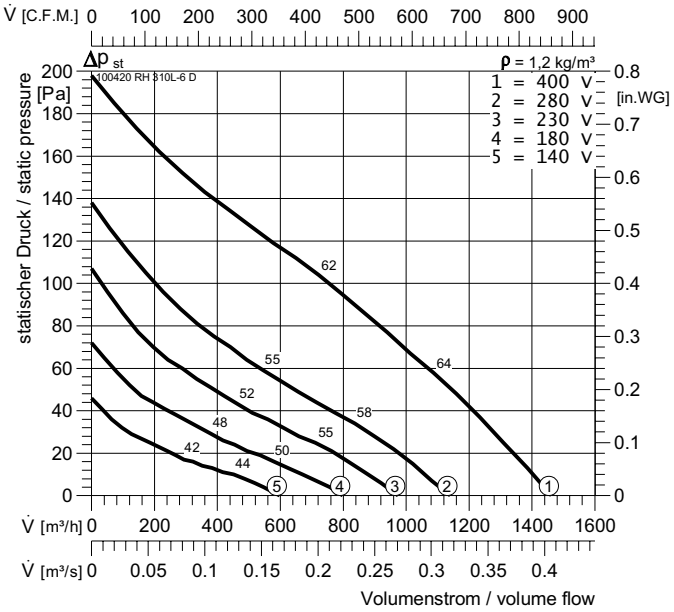
RH

RV, RVS

RH / RV / RVS 310L-4/4 D

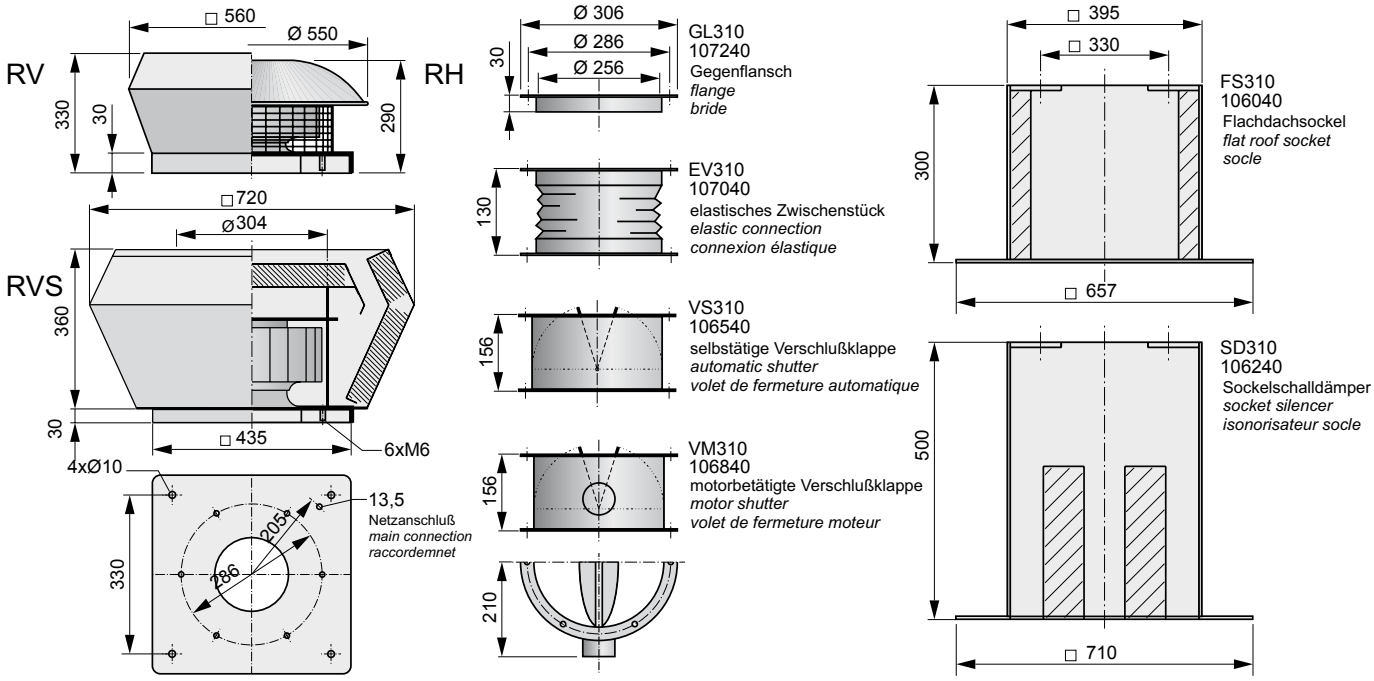


RH / RV / RVS 310L-6 D

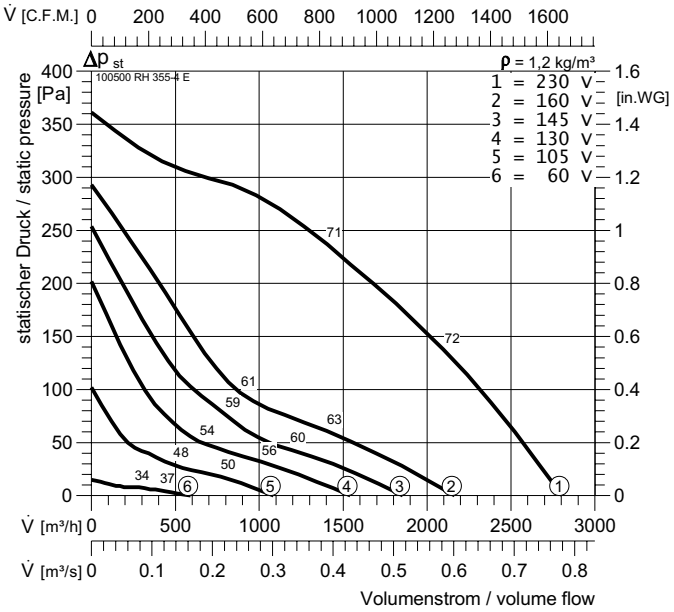


Typ		ArtNr			$L_{WA\,rel}$ ΔdB	L_{WA5}	L_{WA8}
RH 310L-4/4 D		100400	12,8	**kg**	$L_{WA\,tot}$	-2	0
RV 310L-4/4 D		102880	13	**kg**	**125 Hz**	-16	-20
RVS 310L-4/4 D		100405	19,4	**kg**	**250 Hz**	-10	-11
U :	400 V 50 Hz	I_A / I_N :	2,3		**500 Hz**	-10	-6
P_1 :	0,15/0,09 **kW**		IP 44		**1 kHz**	-7	-4
I_N :	0,32/0,16 **A**		DU3		**2 kHz**	-8	-7
n :	1320/1030 **min⁻¹**		GS 2		**4 kHz**	-14	-13
C_{400V} :	- **µF**		RTD 1,2		**8 kHz**	-21	-19
t_R :	50 **°C**		SAD 9				

Typ		ArtNr			$L_{WA\,rel}$ ΔdB	L_{WA5}	L_{WA8}
RH 310L-6 D		100420	11,8	**kg**	$L_{WA\,tot}$	-2	0
RV 310L-6 D		102900	14	**kg**	**125 Hz**	-16	-20
RVS 310L-6 D		100425	14	**kg**	**250 Hz**	-10	-11
U :	400 V 50 Hz	I_A / I_N :	1,6		**500 Hz**	-10	-6
P_1 :	0,09 **kW**		IP 44		**1 kHz**	-7	-4
I_N :	0,16 **A**		DD0b		**2 kHz**	-8	-7
n :	1000 **min⁻¹**		GS 2		**4 kHz**	-14	-13
C_{400V} :	- **µF**		RTD 1,2		**8 kHz**	-21	-19
t_R :	50 **°C**		SAD 9				

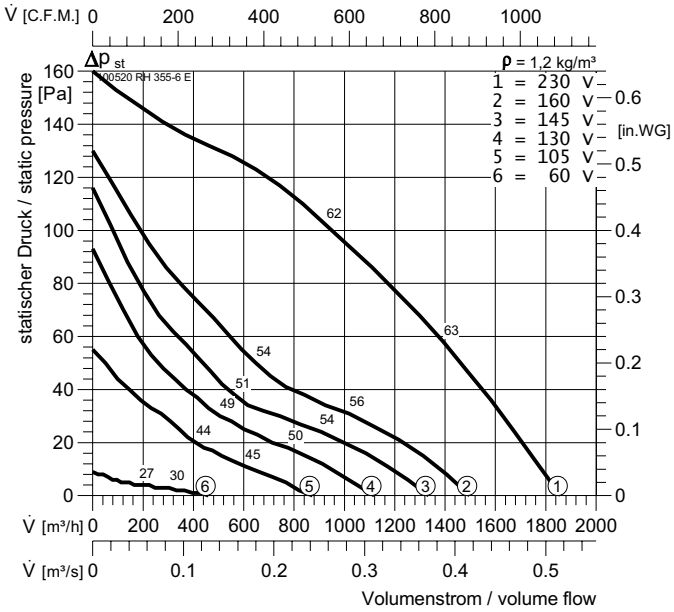


RH / RV / RVS 355-4 E

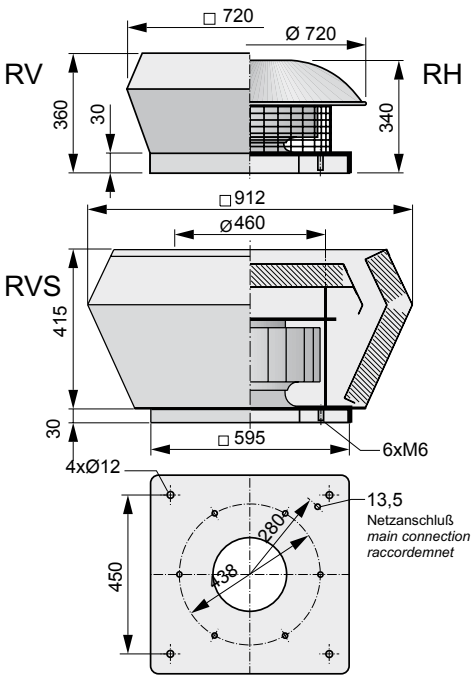


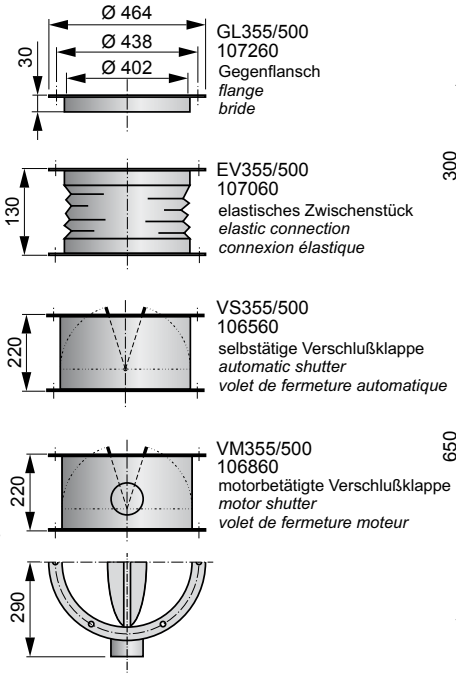
Typ			ArtNr			$L_{WA\,rel}$ ΔdB	L_{WA5}	L_{WA8}
RH 355-4 E			100500	23,8	kg	$L_{WA\,tot}$	-2	0
RV 355-4 E			102980	24,2	kg	125 Hz	-16	-20
RVS 355-4 E			100505	28	kg	250 Hz	-10	-11
U :	230 V 50 Hz		I_A / I_N :	1,8		500 Hz	-10	-6
P_1 :	0,28	kW		IP 54		1 kHz	-7	-4
I_N :	1,25	A		E13		2 kHz	-8	-7
n :	1255	min^{-1}		GS 1		4 kHz	-14	-13
C_{400V} :	5	µF		NE 1,5		8 kHz	-21	-19
t_R :	60	°C		RPE 06				

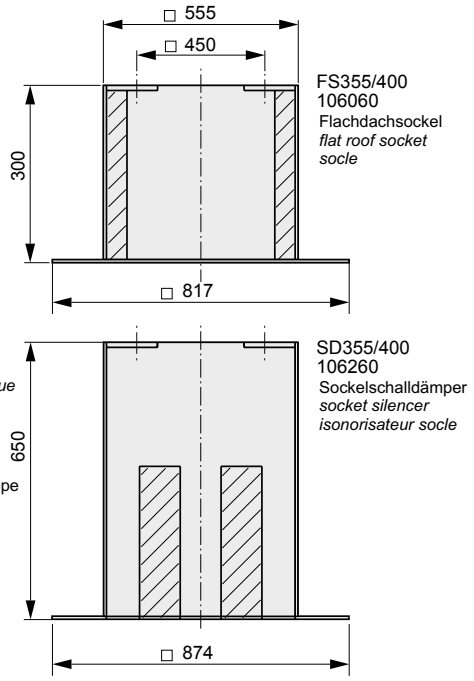
RH / RV / RVS 355-6 E

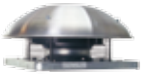


Typ			ArtNr			$L_{WA\,rel}$ ΔdB	L_{WA5}	L_{WA8}
RH 355-6 E			100520	21,6	kg	$L_{WA\,tot}$	-2	0
RV 355-6 E			103000	25,8	kg	125 Hz	-16	-20
RVS 355-6 E			100525	28	kg	250 Hz	-10	-11
U :	230 V 50 Hz		I_A / I_N :	1,3		500 Hz	-10	-6
P_1 :	0,11	kW		IP 54		1 kHz	-7	-4
I_N :	0,50	A		E13		2 kHz	-8	-7
n :	830	min^{-1}		GS 1		4 kHz	-14	-13
C_{400V} :	2	µF		NE 0,5		8 kHz	-21	-19
t_R :	60	°C		RPE 02				





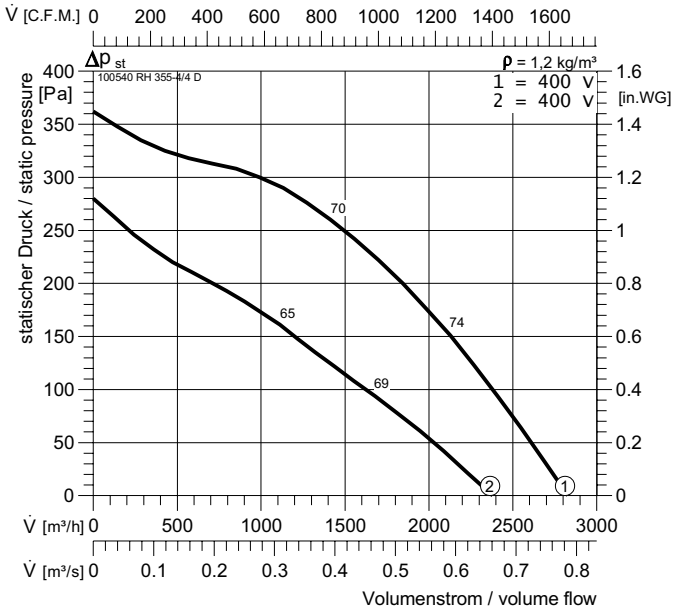




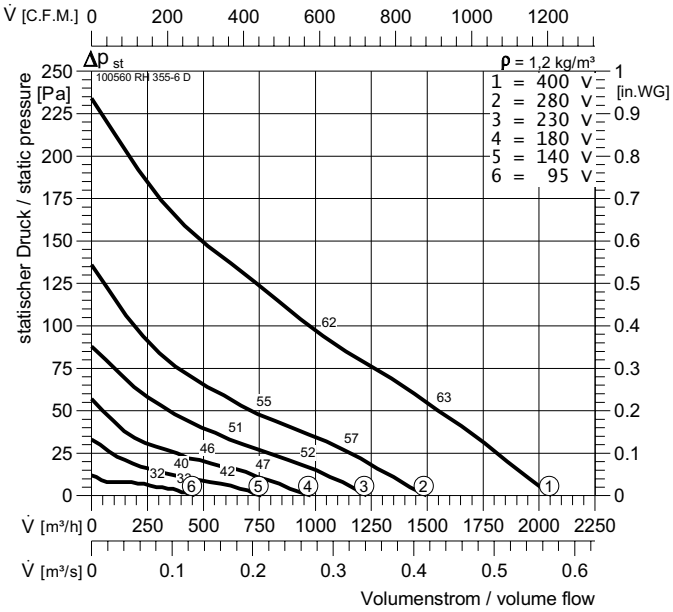
RH

RV, RVS

RH / RV / RVS 355-4/4 D

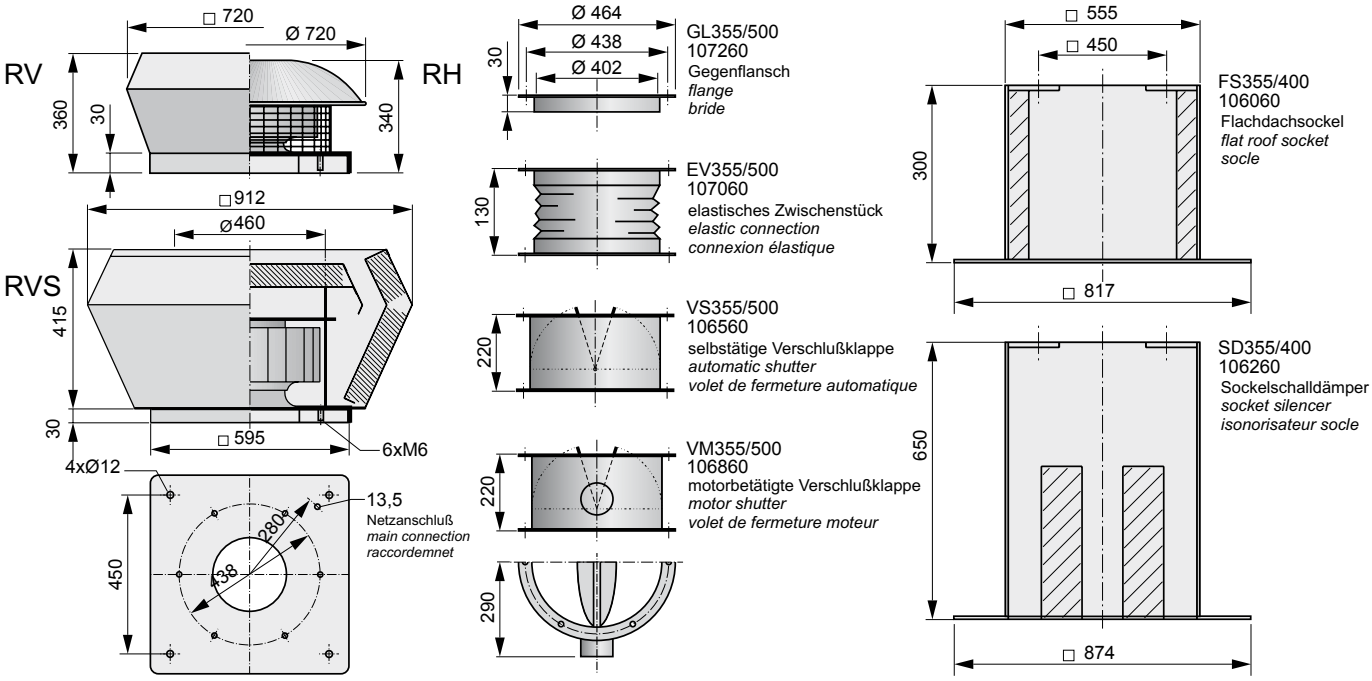


RH / RV / RVS 355-6 D

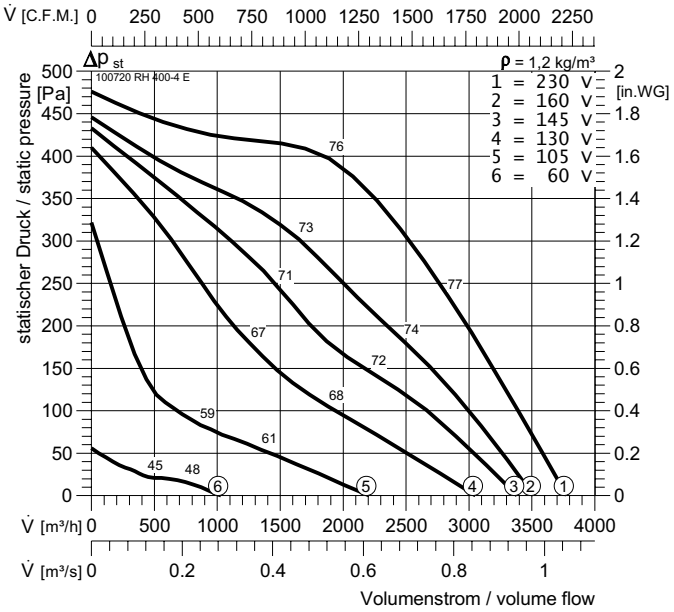


Typ		ArtNr			$L_{WA\,rel}$ ΔdB	L_{WA5}	L_{WA8}
RH 355-4/4 D		100540	22,2	kg	$L_{WA\,tot}$	-2	0
RV 355-4/4 D		103020	21	kg	125 Hz	-16	-20
RVS 355-4/4 D		100545	28	kg	250 Hz	-10	-11
U :	400 V 50 Hz	I_A / I_N :	2,7		500 Hz	-10	-6
P_1 :	0,27/0,18 kW		IP 54		1 kHz	-7	-4
I_N :	0,55/0,3 A		DU3		2 kHz	-8	-7
n :	1310/1040 min^{-1}		GS 2		4 kHz	-14	-13
C_{400V} :	- µF		RTD 1,2		8 kHz	-21	-19
t_R :	60 °C		SAD 9				

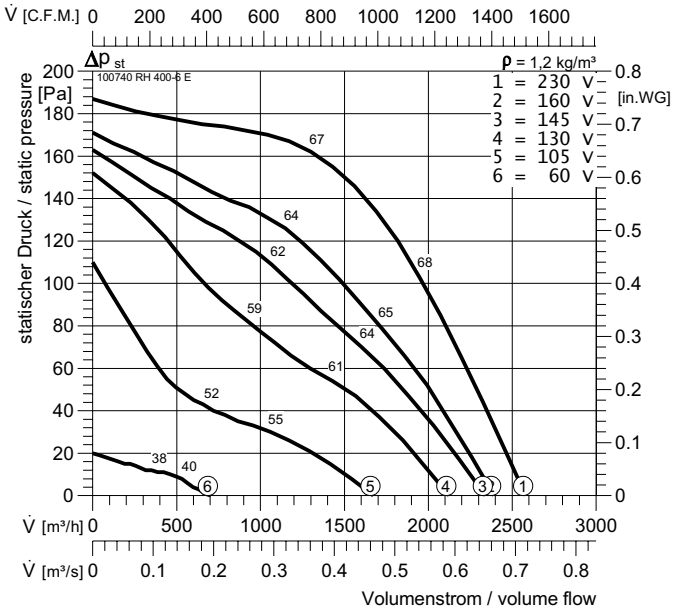
Typ		ArtNr			$L_{WA\,rel}$ ΔdB	L_{WA5}	L_{WA8}
RH 355-6 D		100560	21,6	kg	$L_{WA\,tot}$	-2	0
RV 355-6 D		103040	20,4	kg	125 Hz	-16	-20
RVS 355-6 D		100565	28	kg	250 Hz	-10	-11
U :	400 V 50 Hz	I_A / I_N :	-		500 Hz	-10	-6
P_1 :	0,18 kW		IP 54		1 kHz	-7	-4
I_N :	0,3 A		DD0b		2 kHz	-8	-7
n :	1040 min^{-1}		GS 2		4 kHz	-14	-13
C_{400V} :	- µF		RTD 1,2		8 kHz	-21	-19
t_R :	60 °C		SAD 9				



RH / RV / RVS 400-4 E

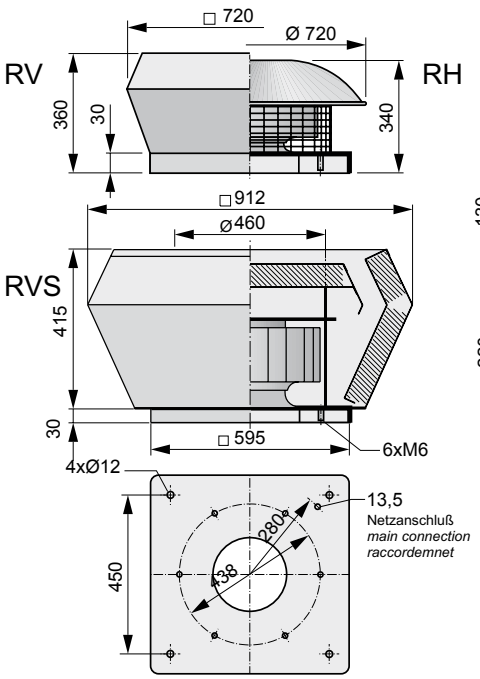


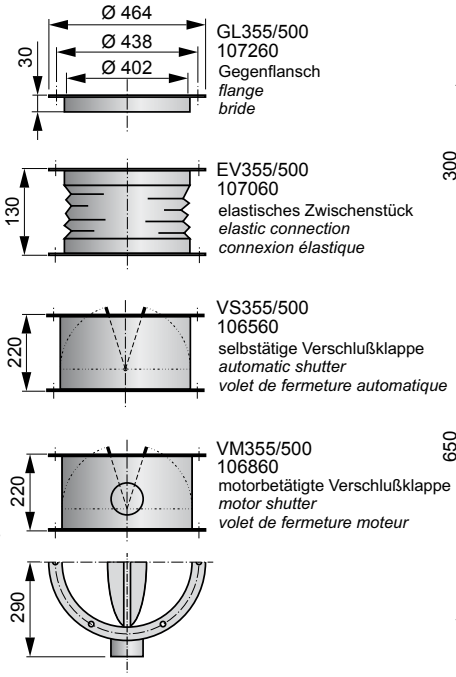
RH / RV / RVS 400-6 E

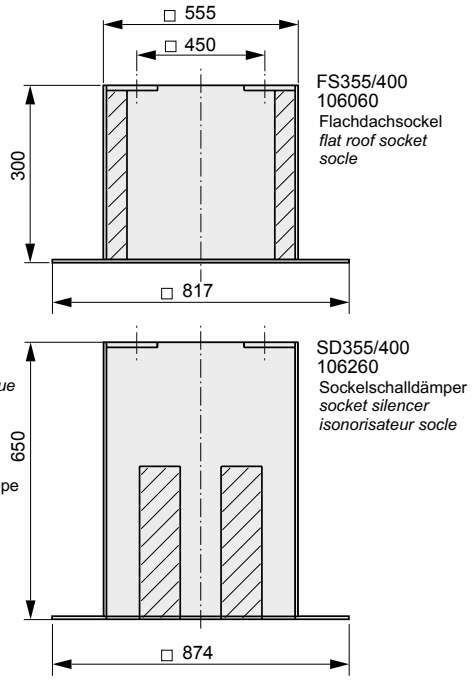


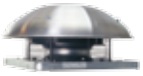
Typ			ArtNr			$L_{WA\,rel}$ ΔdB	L_{WA5}	L_{WA8}
RH 400-4 E			100720	27	kg	$L_{WA\,tot}$	-3	0
RV 400-4 E			103200	30,8	kg	125 Hz	-18	-16
RVS 400-4 E			100725	32	kg	250 Hz	-13	-10
U :	230 V 50 Hz		I_A / I_N :	2,65		500 Hz	-12	-6
P_1 :	0,52	kW		IP 54		1 kHz	-9	-5
I_N :	2,43	A		E13		2 kHz	-7	-6
n :	1385	min^{-1}		GS 2		4 kHz	-14	-13
C_{400V} :	12	µF		NE 3,2		8 kHz	-21	-22
t_R :	45	°C		RPE 06				

Typ			ArtNr			$L_{WA\,rel}$ ΔdB	L_{WA5}	L_{WA8}
RH 400-6 E			100740	22	kg	$L_{WA\,tot}$	-3	0
RV 400-6 E			103220	24,8	kg	125 Hz	-18	-16
RVS 400-6 E			100745	35	kg	250 Hz	-13	-10
U :	230 V 50 Hz		I_A / I_N :	2,5		500 Hz	-12	-6
P_1 :	0,19	kW		IP 54		1 kHz	-9	-5
I_N :	0,88	A		E13		2 kHz	-7	-6
n :	920	min^{-1}		GS 2		4 kHz	-14	-13
C_{400V} :	4	µF		NE 1,5		8 kHz	-21	-22
t_R :	60	°C		RPE 02				





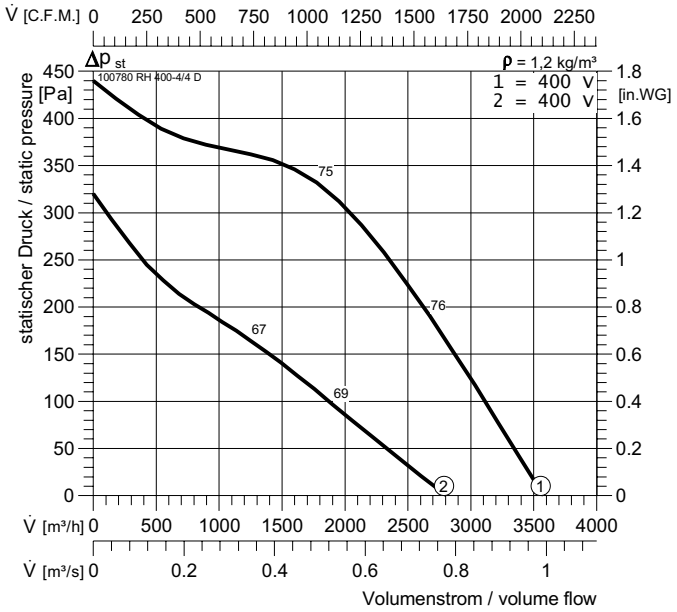




RH

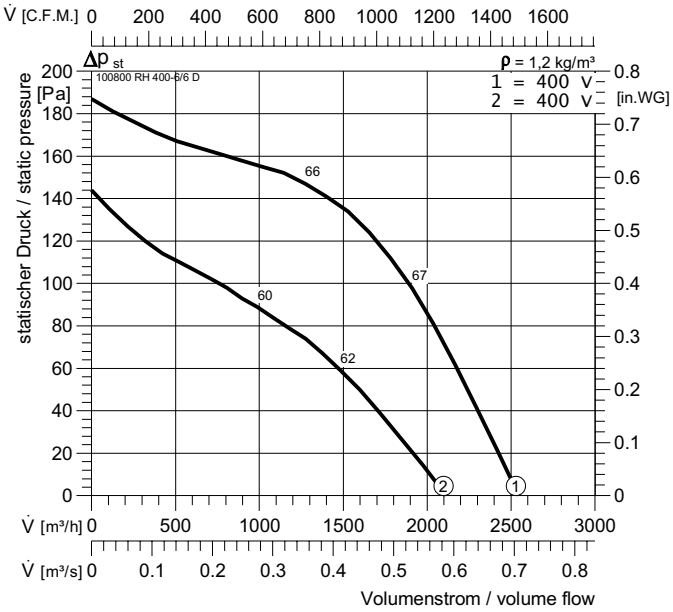
RV, RVS

RH / RV / RVS 400-4/4 D

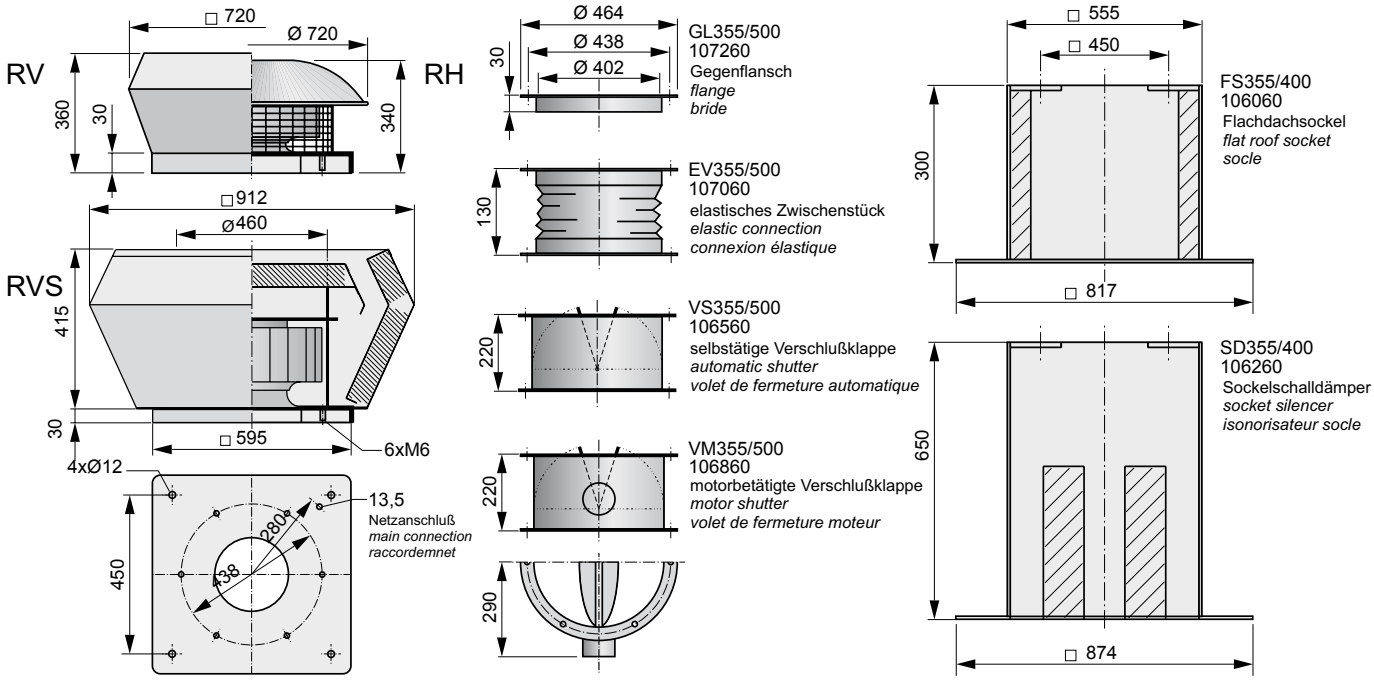


Typ		ArtNr			$L_{WA\,rel}$ ΔdB	L_{WA5}	L_{WA8}
RH 400-4/4 D		100780	26,2	**kg**	$L_{WA\,tot}$	-3	0
RV 400-4/4 D		103260	29,2	**kg**	**125 Hz**	-18	-16
RVS 400-4/4 D		100785	32	**kg**	**250 Hz**	-13	-10
U :	400 V 50 Hz	I_A / I_N :	2,6		**500 Hz**	-12	-6
P_1 :	0,43/0,27 **kW**		IP 54		**1 kHz**	-9	-5
I_N :	0,74/0,45 **A**		DU3		**2 kHz**	-7	-6
n :	1275/895 **min⁻¹**		GS 2		**4 kHz**	-14	-13
C_{400V} :	- **µF**		RTD 1,2		**8 kHz**	-21	-22
t_R :	40 **°C**		SAD 9				

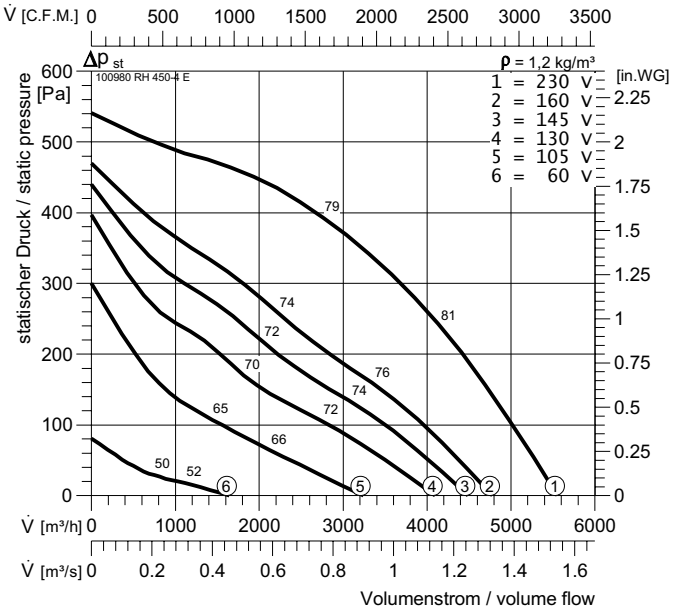
RH / RV / RVS 400-6/6 D



Typ		ArtNr			$L_{WA\,rel}$ ΔdB	L_{WA5}	L_{WA8}
RH 400-6/6 D		100800	21	**kg**	$L_{WA\,tot}$	-3	0
RV 400-6/6 D		103280	24,7	**kg**	**125 Hz**	-18	-16
RVS 400-6/6 D		100805	32	**kg**	**250 Hz**	-13	-10
U :	400 V 50 Hz	I_A / I_N :	2,8		**500 Hz**	-12	-6
P_1 :	0,15/0,1 **kW**		IP 54		**1 kHz**	-9	-5
I_N :	0,29/0,16 **A**		DU3		**2 kHz**	-7	-6
n :	880/680 **min⁻¹**		GS 2		**4 kHz**	-14	-13
C_{400V} :	- **µF**		RTD 1,2		**8 kHz**	-21	-22
t_R :	60 **°C**		SAD 9				

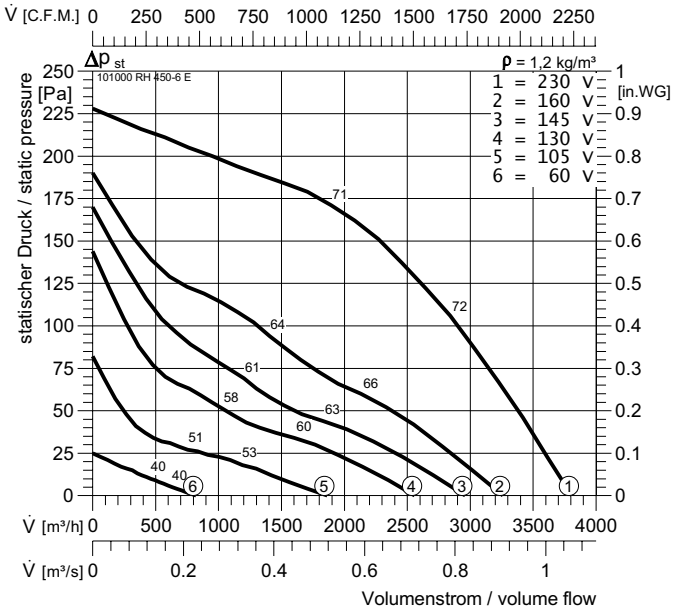


RH / RV / RVS 450-4 E

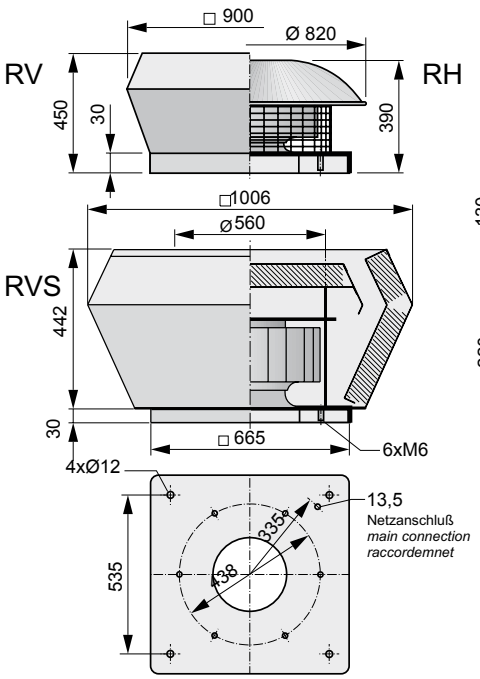


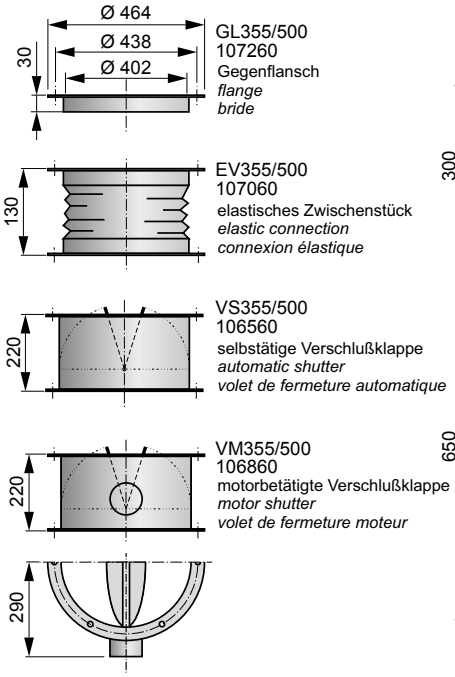
Typ			ArtNr			$L_{WA\,rel}$ ΔdB	L_{WA5}	L_{WA8}
RH 450-4 E			100980	48	kg	$L_{WA\,tot}$	-3	0
RV 450-4 E			103460	33,2	kg	125 Hz	-18	-16
RVS 450-4 E			100985	56	kg	250 Hz	-13	-10
U :	230 V 50 Hz		I_A / I_N :	2,0		500 Hz	-12	-6
P_1 :	0,8	kW		IP 54		1 kHz	-9	-5
I_N :	3,74	A		E13		2 kHz	-7	-6
n :	1240	min^{-1}		GS 2		4 kHz	-14	-13
C_{400V} :	16	µF		NE 5		8 kHz	-21	-22
t_R :	50	°C		RPE 09				

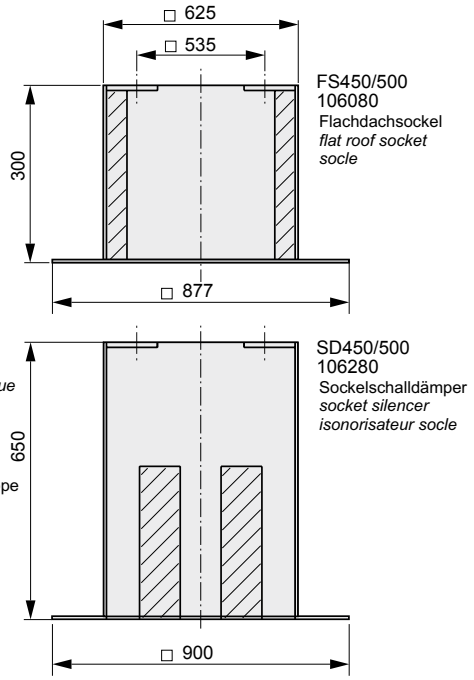
RH / RV / RVS 450-6 E

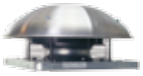


Typ			ArtNr			$L_{WA\,rel}$ ΔdB	L_{WA5}	L_{WA8}
RH 450-6 E			101000	40	kg	$L_{WA\,tot}$	-3	0
RV 450-6 E			103480	26	kg	125 Hz	-18	-16
RVS 450-6 E			101005	56	kg	250 Hz	-13	-10
U :	230 V 50 Hz		I_A / I_N :	1,8		500 Hz	-12	-6
P_1 :	0,27	kW		IP 54		1 kHz	-9	-5
I_N :	1,2	A		E13		2 kHz	-7	-6
n :	860	min^{-1}		GS 2		4 kHz	-14	-13
C_{400V} :	5	µF		NE 1,5		8 kHz	-21	-22
t_R :	50	°C		RPE 06				





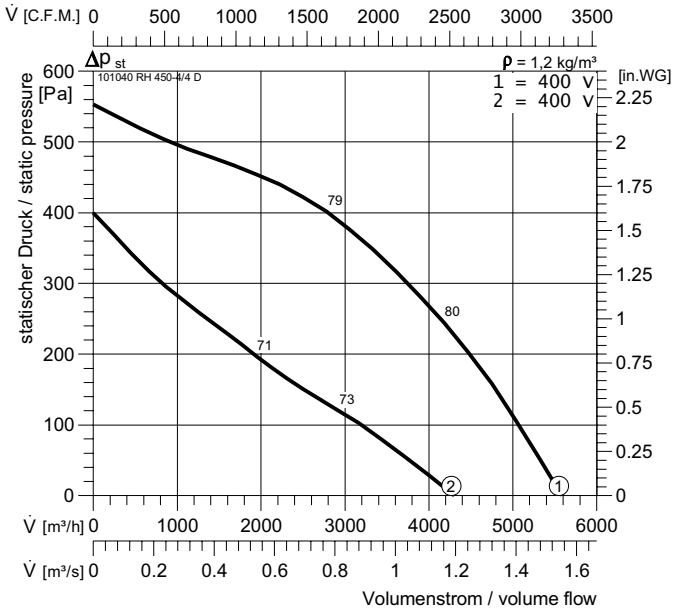




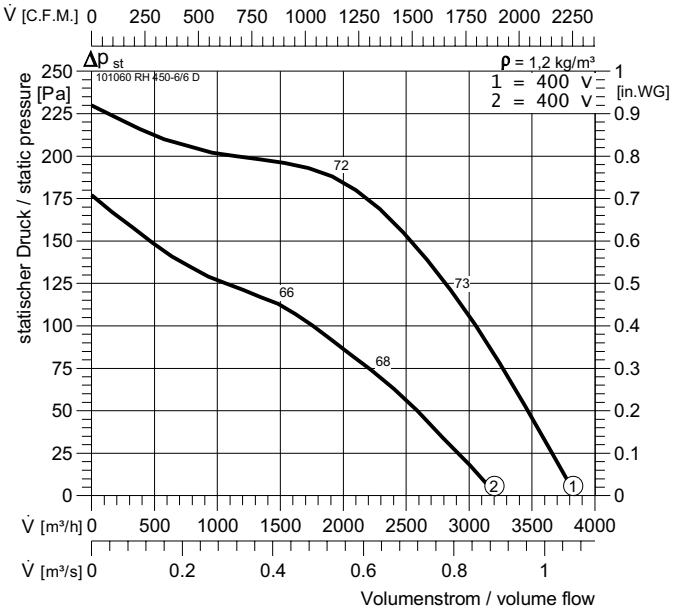
RH

RV, RVS

RH / RV / RVS 450-4/4 D

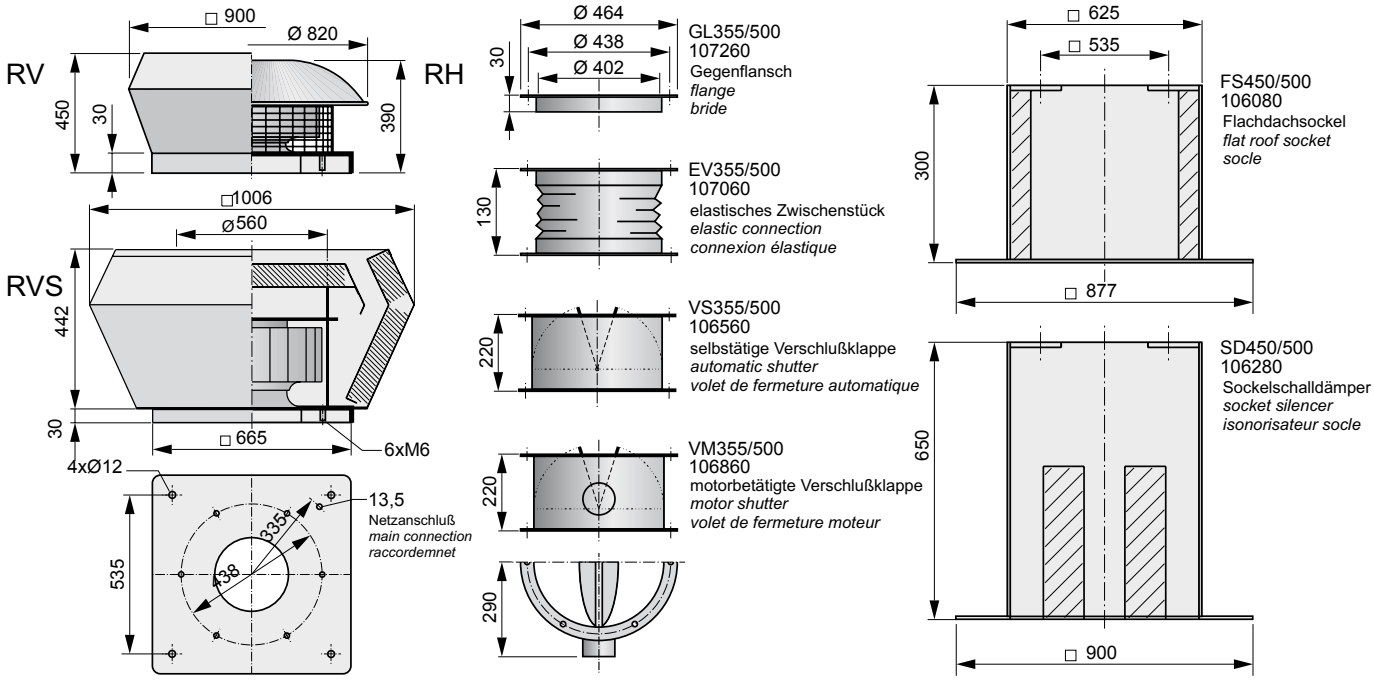


RH / RV / RVS 450-6/6 D

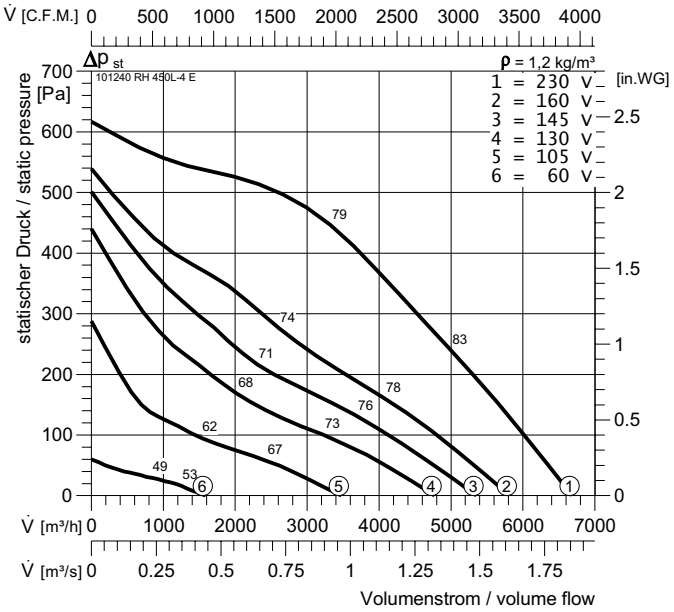


Typ	ArtNr			$L_{WA\,rel}$ ΔdB	L_{WA5}	L_{WA8}
RH 450-4/4 D	101040	48,4	**kg**	$L_{WA\,tot}$	-3	0
RV 450-4/4 D	103520	33	**kg**	**125 Hz**	-18	-16
RVS 450-4/4 D	101045	56	**kg**	**250 Hz**	-13	-10
U : 400 V 50 Hz		I_A / I_N :	2,4	**500 Hz**	-12	-6
P_1 : 0,74/0,39	**kW**		IP 54	**1 kHz**	-9	-5
I_N : 1,46/0,75	**A**		DU3	**2 kHz**	-7	-6
n : 1240/855	**min⁻¹**		GS 2	**4 kHz**	-14	-13
C_{400V} : -	**µF**		RTD 2,5	**8 kHz**	-21	-22
t_R : 40	**°C**		SAD 9			

Typ	ArtNr			$L_{WA\,rel}$ ΔdB	L_{WA5}	L_{WA8}
RH 450-6/6 D	101060	26	**kg**	$L_{WA\,tot}$	-3	0
RV 450-6/6 D	103540	26	**kg**	**125 Hz**	-18	-16
RVS 450-6/6 D	101065	56	**kg**	**250 Hz**	-13	-10
U : 400 V 50 Hz		I_A / I_N :	2,9	**500 Hz**	-12	-6
P_1 : 0,27/0,18	**kW**		IP 54	**1 kHz**	-9	-5
I_N : 0,56/0,31	**A**		DU3	**2 kHz**	-7	-6
n : 895/710	**min⁻¹**		GS 2	**4 kHz**	-14	-13
C_{400V} : -	**µF**		RTD 1,2	**8 kHz**	-21	-22
t_R : 60	**°C**		SAD 9			

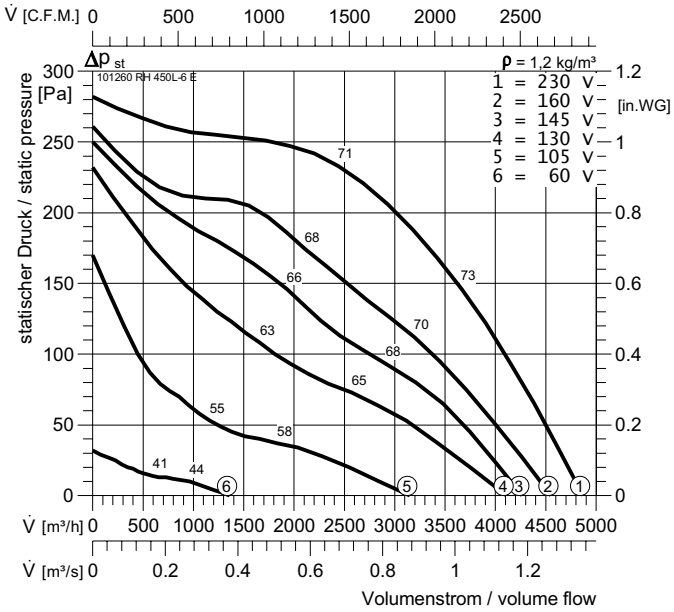


RH / RV / RVS 450L-4 E

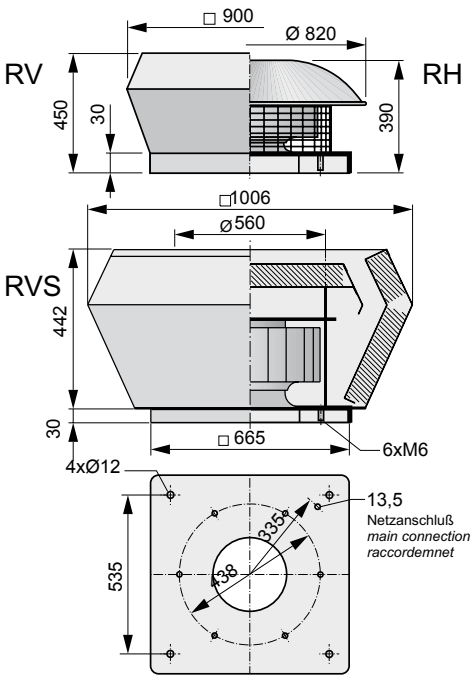


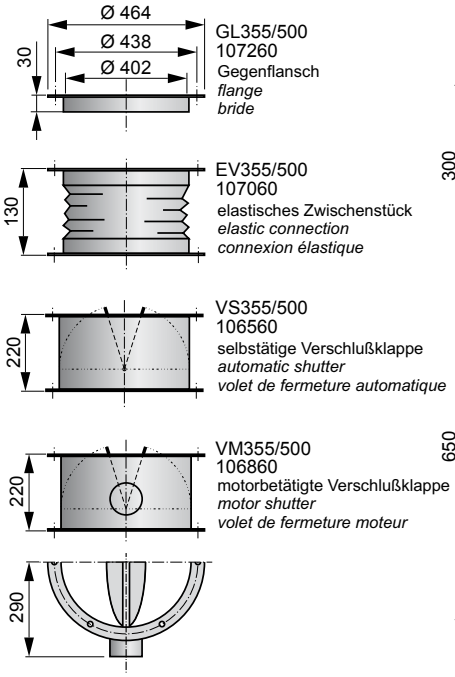
Typ			ArtNr			$L_{WA\,rel}$ ΔdB	L_{WA5}	L_{WA8}
RH 450L-4 E			101240	34,8	kg	$L_{WA\,tot}$	-3	0
RV 450L-4 E			103720	39,4	kg	125 Hz	-18	-16
RVS 450L-4 E			101245	56	kg	250 Hz	-13	-10
U :	230 V 50 Hz		I_A / I_N :	2,1		500 Hz	-12	-6
P_1 :	1,1	kW		IP 54		1 kHz	-9	-5
I_N :	5,0	A		E13		2 kHz	-7	-6
n :	1310	min^{-1}		GS 2		4 kHz	-14	-13
C_{400V} :	25	µF		NE 5		8 kHz	-21	-22
t_R :	50	°C		RPE 09				

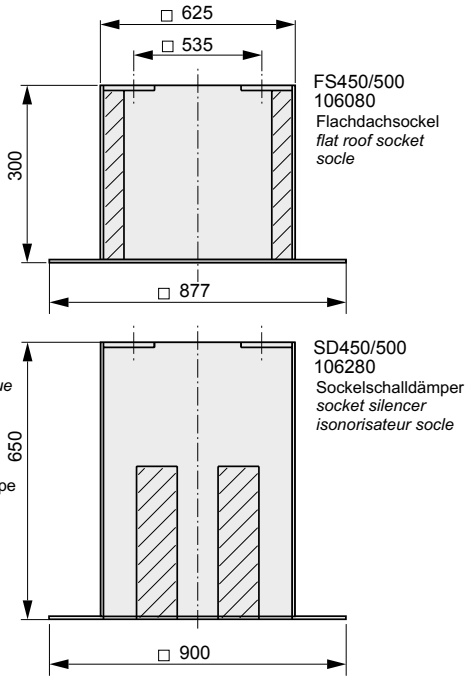
RH / RV / RVS 450L-6 E

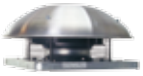


Typ			ArtNr			$L_{WA\,rel}$ ΔdB	L_{WA5}	L_{WA8}
RH 450L-6 E			101260	27,1	kg	$L_{WA\,tot}$	-3	0
RV 450L-6 E			103740	45	kg	125 Hz	-18	-16
RVS 450L-6 E			101265	56	kg	250 Hz	-13	-10
U :	230 V 50 Hz		I_A / I_N :	2,4		500 Hz	-12	-6
P_1 :	0,43	kW		IP 54		1 kHz	-9	-5
I_N :	2,0	A		E13		2 kHz	-7	-6
n :	920	min^{-1}		GS 2		4 kHz	-14	-13
C_{400V} :	10	µF		NE 3,2		8 kHz	-21	-22
t_R :	40	°C		RPE 06				





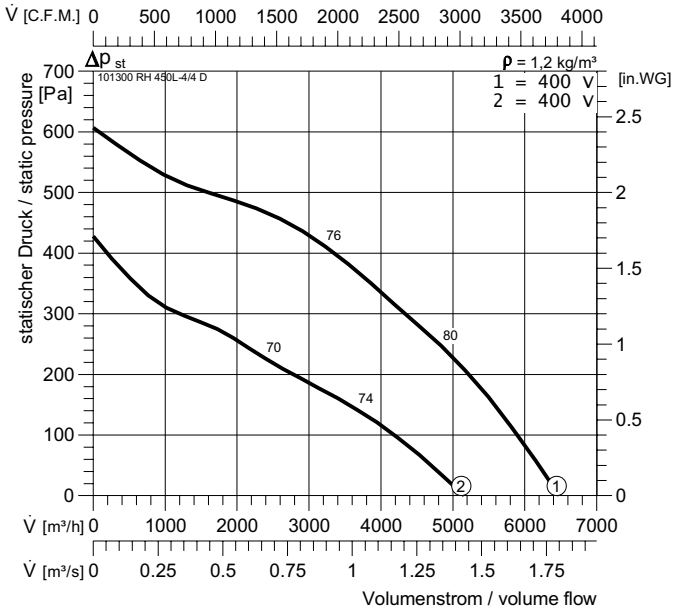




RH

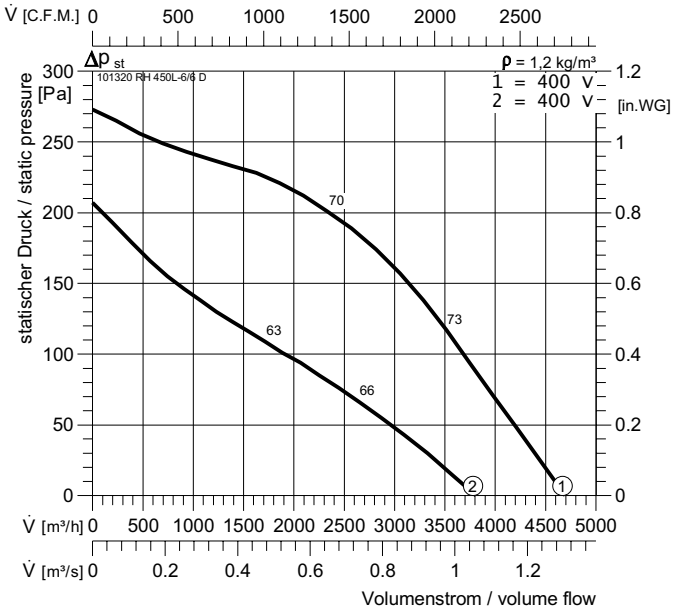
RV, RVS

RH / RV / RVS 450L-4/4 D

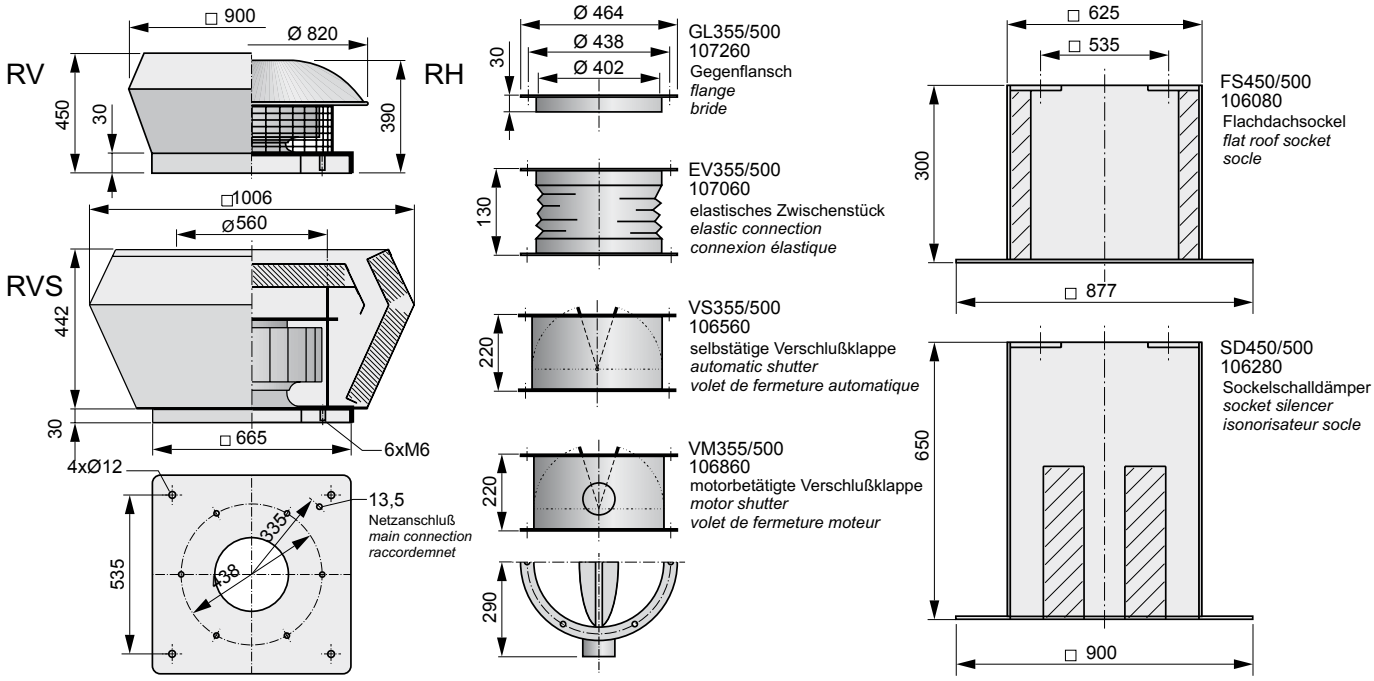


Typ		ArtNr			$L_{WA\,rel}$ ΔdB	L_{WA5}	L_{WA8}
RH 450L-4/4 D		101300	30,5	**kg**	$L_{WA\,tot}$	-3	0
RV 450L-4/4 D		103780	56,8	**kg**	**125 Hz**	-18	-16
RVS 450L-4/4 D		101305	56	**kg**	**250 Hz**	-13	-10
U :	400 V 50 Hz	I_A / I_N :	2,6		**500 Hz**	-12	-6
P_1 :	0,9/0,5 **kW**		IP 54		**1 kHz**	-9	-5
I_N :	1,78/0,86 **A**		DU3		**2 kHz**	-7	-6
n :	1185/885 **min⁻¹**		GS 2		**4 kHz**	-14	-13
C_{400V} :	- **µF**		RTD 2,5		**8 kHz**	-21	-22
t_R :	40 **°C**		SAD 9				

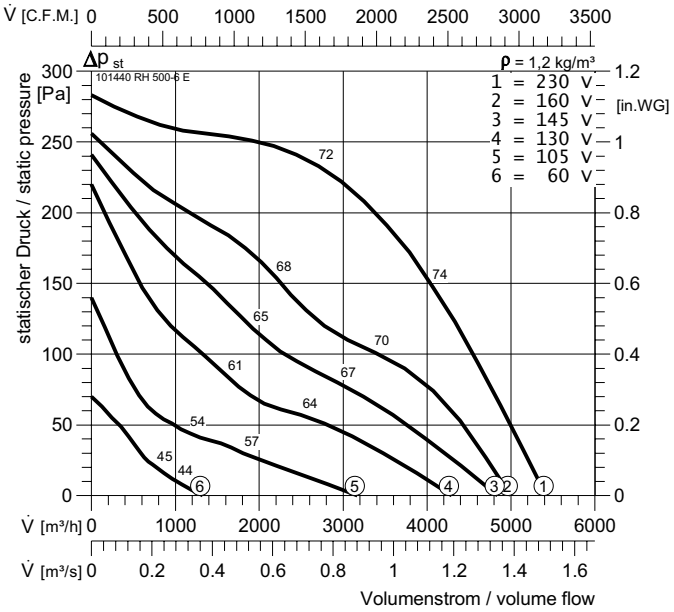
RH / RV / RVS 450L-6/6 D



Typ		ArtNr			$L_{WA\,rel}$ ΔdB	L_{WA5}	L_{WA8}
RH 450L-6/6 D		101320	41	**kg**	$L_{WA\,tot}$	-3	0
RV 450L-6/6 D		103800	41	**kg**	**125 Hz**	-18	-16
RVS 450L-6/6 D		101325	56	**kg**	**250 Hz**	-13	-10
U :	400 V 50 Hz	I_A / I_N :	2,7		**500 Hz**	-12	-6
P_1 :	0,35/0,22 **kW**		IP 54		**1 kHz**	-9	-5
I_N :	0,64/0,35 **A**		DU3		**2 kHz**	-7	-6
n :	855/620 **min⁻¹**		GS 2		**4 kHz**	-14	-13
C_{400V} :	- **µF**		RTD 1,2		**8 kHz**	-21	-22
t_R :	60 **°C**		SAD 9				

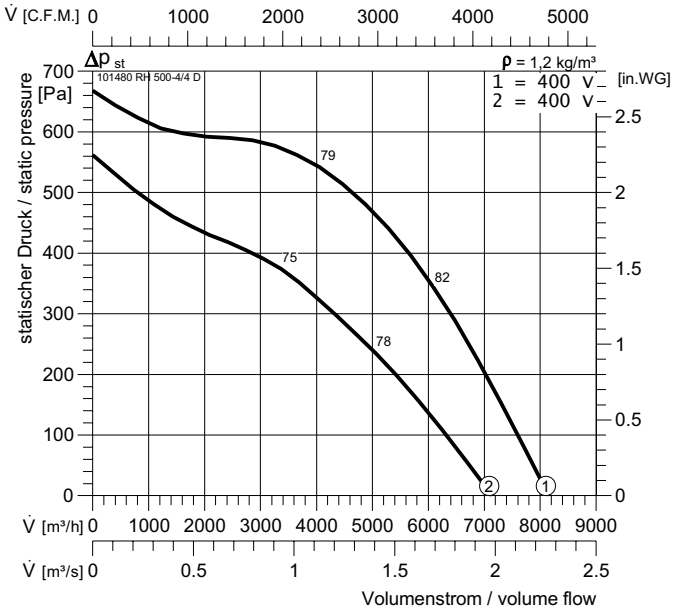


RH / RV / RVS 500-6 E

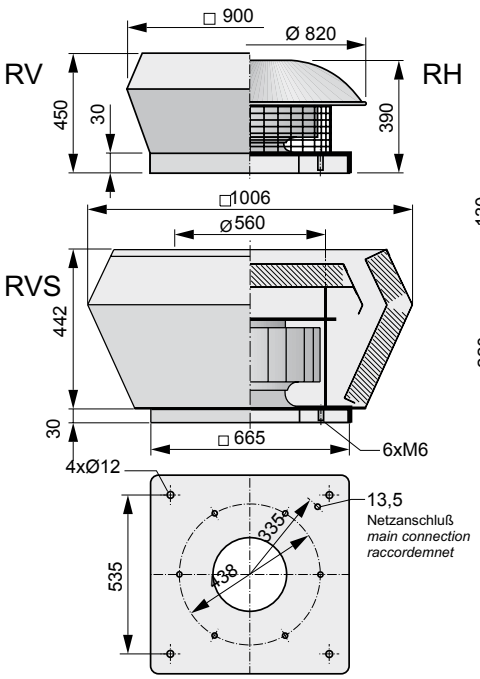


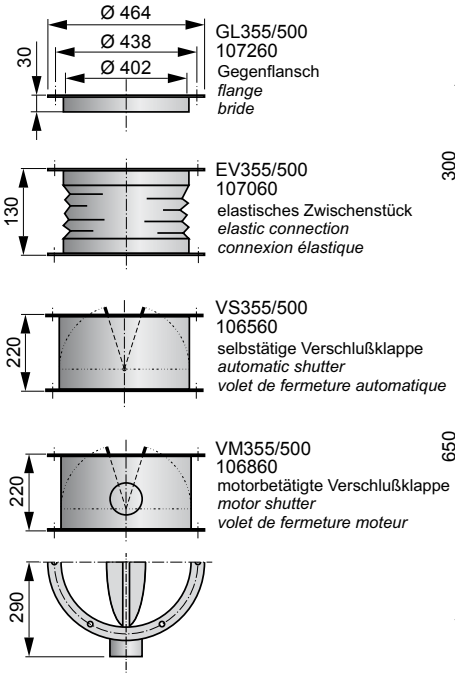
Typ		ArtNr			$L_{WA\ rel}$ ΔdB	L_{WA5}	L_{WA8}
RH 500-6 E		101440	27	kg	$L_{WA\ tot}$	-3	0
RV 500-6 E		103920	36	kg	**125 Hz**	-17	-16
RVS 500-6 E		101445	68	kg	**250 Hz**	-11	-8
U :	230 V 50 Hz	I_A / I_N :	2,1		**500 Hz**	-11	-6
P_1 :	0,49 kW		IP 54		**1 kHz**	-8	-5
I_N :	2,2 A		E13		**2 kHz**	-9	-8
n :	900 min^{-1}		GS 2		**4 kHz**	-15	-14
C_{400V} :	10 µF		NE 3,2		**8 kHz**	-21	-23
t_R :	40 °C		RPE 06				

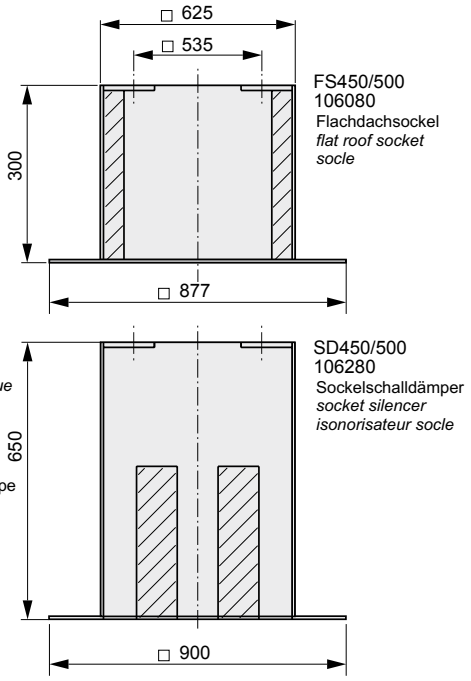
RH / RV / RVS 500-4/4 D



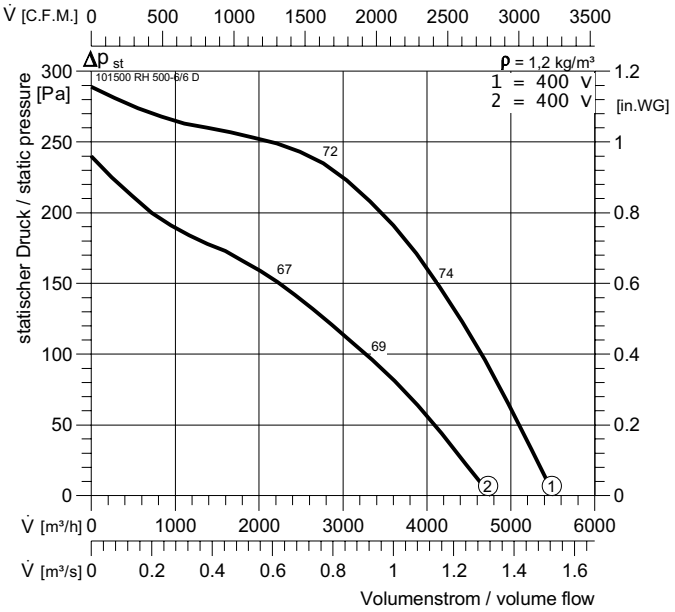
Typ		ArtNr			$L_{WA\ rel}$ ΔdB	L_{WA5}	L_{WA8}
RH 500-4/4 D		101480	46	kg	$L_{WA\ tot}$	-3	0
RV 500-4/4 D		103960	51	kg	**125 Hz**	-17	-16
RVS 500-4/4 D		101485	51	kg	**250 Hz**	-11	-8
U :	400 V 50 Hz	I_A / I_N :	3,9		**500 Hz**	-11	-6
P_1 :	1,35/0,97 kW		IP 54		**1 kHz**	-8	-5
I_N :	2,6/1,6 A		DU3		**2 kHz**	-9	-8
n :	1360/1130 min^{-1}		GS 2		**4 kHz**	-15	-14
C_{400V} :	- µF		RTD 3		**8 kHz**	-21	-23
t_R :	50 °C		SAD 9				



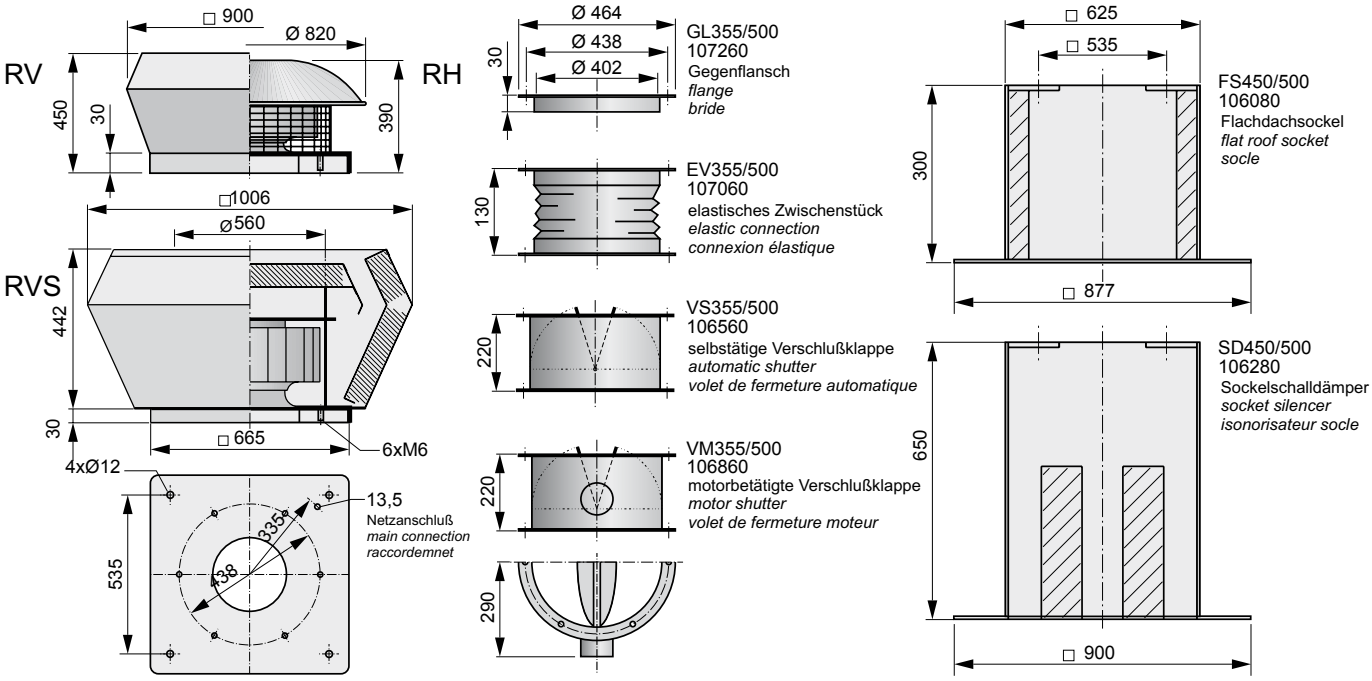




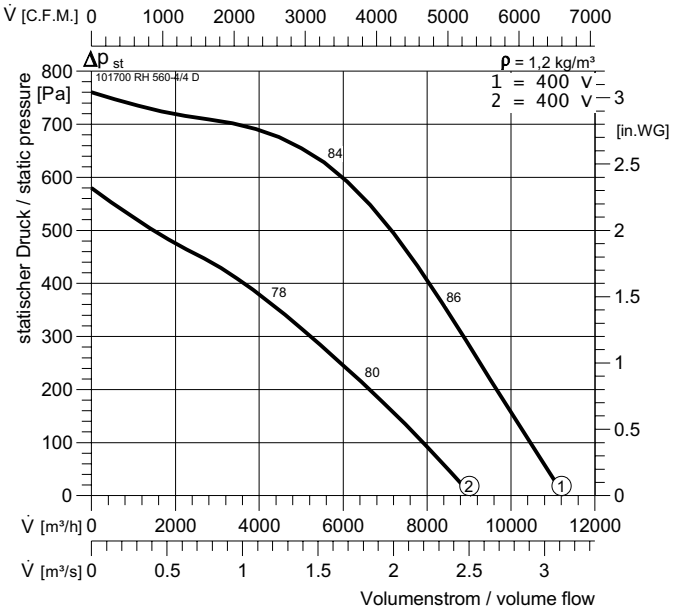
RH / RV / RVS 500-6/6 D



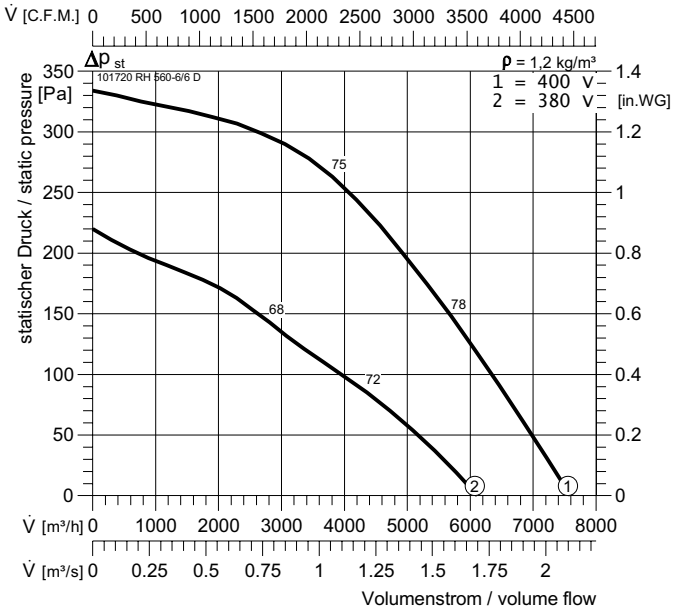
Typ		ArtNr		$L_{WA\,rel}$ ΔdB	L_{WA5}	L_{WA8}
RH 500-6/6 D		101500	42 kg	$L_{WA\,tot}$	-3	0
RV 500-6/6 D		103980	42 kg	**125 Hz**	-17	-16
RVS 500-6/6 D		101505	68 kg	**250 Hz**	-11	-8
U :	400 V 50 Hz	I_A / I_N :	2,9	**500 Hz**	-11	-6
P_1 :	0,44/0,31 kW		IP 54	**1 kHz**	-8	-5
I_N :	0,86/0,52 A		DU3	**2 kHz**	-9	-8
n :	900/710 min^{-1}		GS 2	**4 kHz**	-15	-14
C_{400V} :	- µF		RTD 1,2	**8 kHz**	-21	-23
t_R :	60 °C		SAD 9			



RH / RV / RVS 560-4/4 D

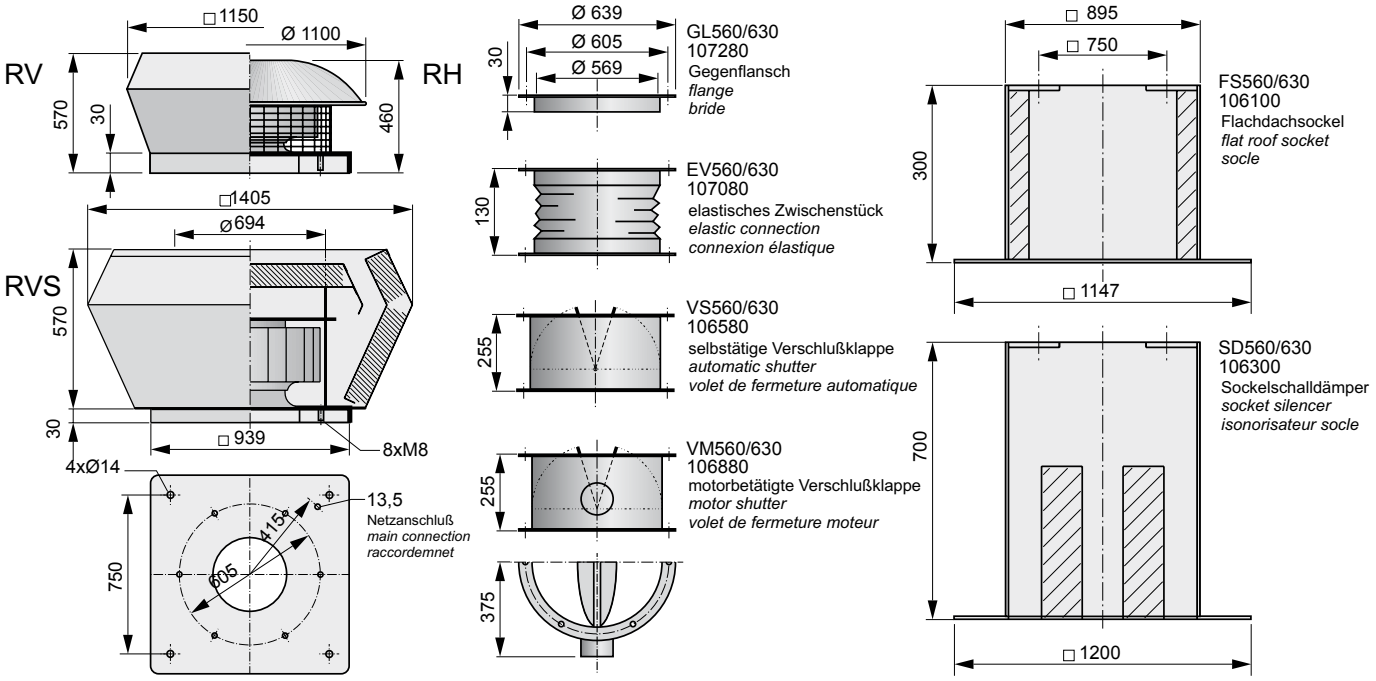


RH / RV / RVS 560-6/6 D

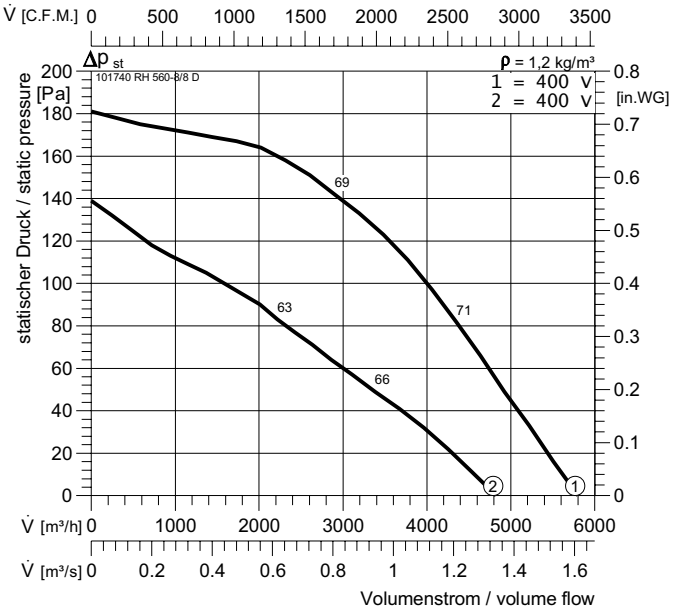


Typ	ArtNr			$L_{WA\,rel}$ ΔdB	L_{WA5}	L_{WA8}
RH 560-4/4 D	101700	64	kg	$L_{WA\,tot}$	-3	0
RV 560-4/4 D	104180	64	kg	**125 Hz**	-17	-16
RVS 560-4/4 D	101705	97	kg	**250 Hz**	-11	-8
U : 400 V 50 Hz		I_A / I_N :	3,1	**500 Hz**	-11	-6
P_1 : 2,16/1,35	kW		IP 54	**1 kHz**	-8	-5
I_N : 4,1/2,3	A		DU3	**2 kHz**	-9	-8
n : 1305/985	min^{-1}		GS 2	**4 kHz**	-15	-14
C_{400V} : -	µF		RTD 5	**8 kHz**	-21	-23
t_R : 40	°C		SAD 9			

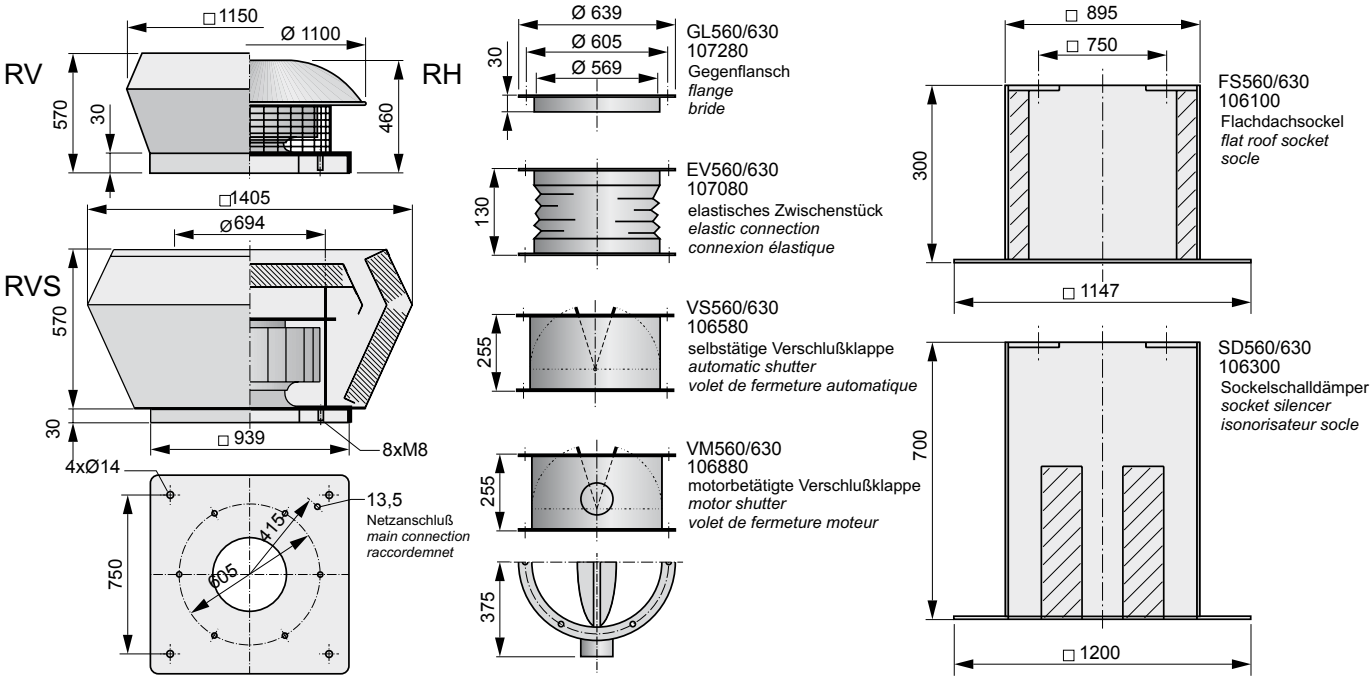
Typ	ArtNr			$L_{WA\,rel}$ ΔdB	L_{WA5}	L_{WA8}
RH 560-6/6 D	101720	80	kg	$L_{WA\,tot}$	-3	0
RV 560-6/6 D	104200	81,4	kg	**125 Hz**	-17	-16
RVS 560-6/6 D	101725	87	kg	**250 Hz**	-11	-8
U : 400 V 50 Hz		I_A / I_N :	2,8	**500 Hz**	-11	-6
P_1 : 0,7/0,44	kW		IP 54	**1 kHz**	-8	-5
I_N : 1,4/0,77	A		DU3	**2 kHz**	-9	-8
n : 870/650	min^{-1}		GS 2	**4 kHz**	-15	-14
C_{400V} : -	µF		RTD 2,5	**8 kHz**	-21	-23
t_R : 40	°C		SAD 9			



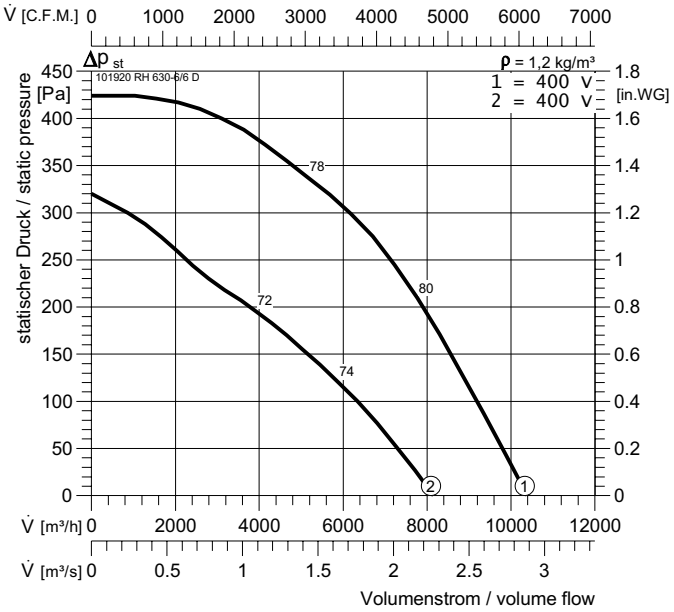
RH / RV / RVS 560-8/8 D



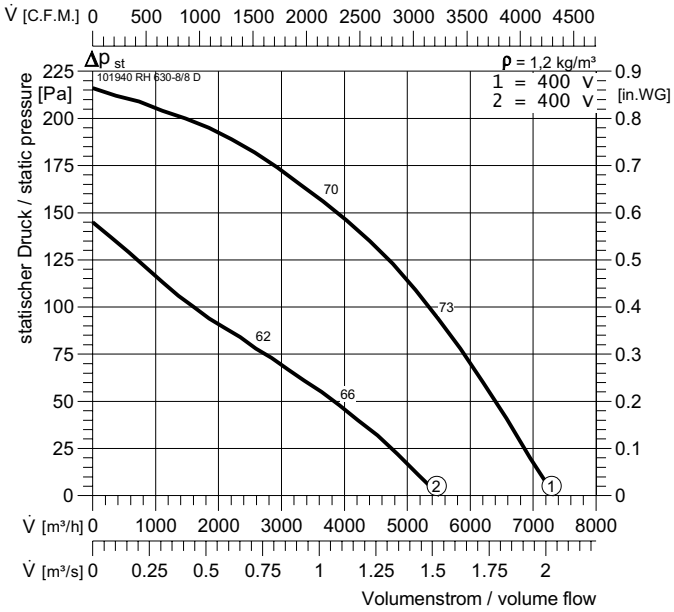
Typ		ArtNr		$L_{WA\,rel}$ ΔdB	L_{WA5}	L_{WA8}
RH 560-8/8 D		101740	68 kg	$L_{WA\,tot}$	0	-23
RV 560-8/8 D		104220	68 kg	**125 Hz**	-28	-3
RVS 560-8/8 D		101745	87 kg	**250 Hz**	-16	-23
U :	400 V 50 Hz	I_A / I_N :	2,3	**500 Hz**	-8	-17
P_1 :	0,32/0,19 kW		IP 54	**1 kHz**	-6	-12
I_N :	0,77/0,37 A		DU3	**2 kHz**	-5	-11
n :	645/475 min^{-1}		GS 2	**4 kHz**	-8	-8
C_{400V} :	- µF		RTD 2,5	**8 kHz**	-15	-9
t_R :	40 °C		SAD 9			



RH / RV / RVS 630-6/6 D

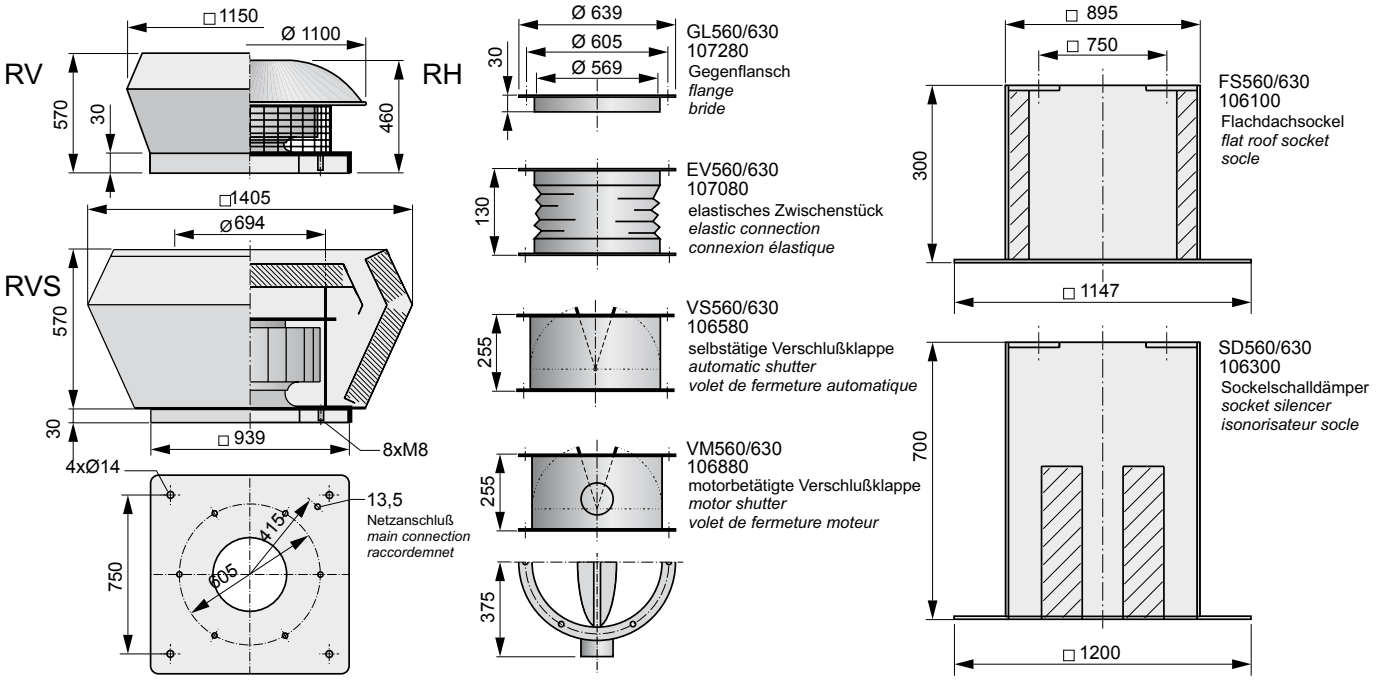


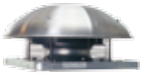
RH / RV / RVS 630-8/8 D



Typ	ArtNr			$L_{WA\,rel}$ ΔdB	L_{WA5}	L_{WA8}
RH 630-6/6 D	101920	65	kg	$L_{WA\,tot}$	-3	0
RV 630-6/6 D	104400	65	kg	125 Hz	-18	-16
RVS 630-6/6 D	101925	97	kg	250 Hz	-13	-9
U : 400 V 50 Hz	I_A / I_N :	3,3		500 Hz	-12	-5
P_1 : 1,1/0,66 kW		IP 54		1 kHz	-7	-5
I_N : 2,1/1,15 A		DU3		2 kHz	-9	-8
n : 860/670 min^{-1}		GS 2		4 kHz	-14	-13
C_{400V} : - µF		RTD 2,5		8 kHz	-22	-21
t_R : 50 °C		SAD 9				

Typ	ArtNr			$L_{WA\,rel}$ ΔdB	L_{WA5}	L_{WA8}
RH 630-8/8 D	101940	65	kg	$L_{WA\,tot}$	-3	0
RV 630-8/8 D	104420	65	kg	125 Hz	-18	-16
RVS 630-8/8 D	101945	97	kg	250 Hz	-13	-9
U : 400 V 50 Hz	I_A / I_N :	-		500 Hz	-12	-5
P_1 : 0,47/0,24 kW		IP 54		1 kHz	-7	-5
I_N : 1,25/0,52 A				2 kHz	-9	-8
n : 600/430 min^{-1}		GS 2		4 kHz	-14	-13
C_{400V} : - µF		RTD 2,5		8 kHz	-22	-21
t_R : 50 °C		SAD 9				

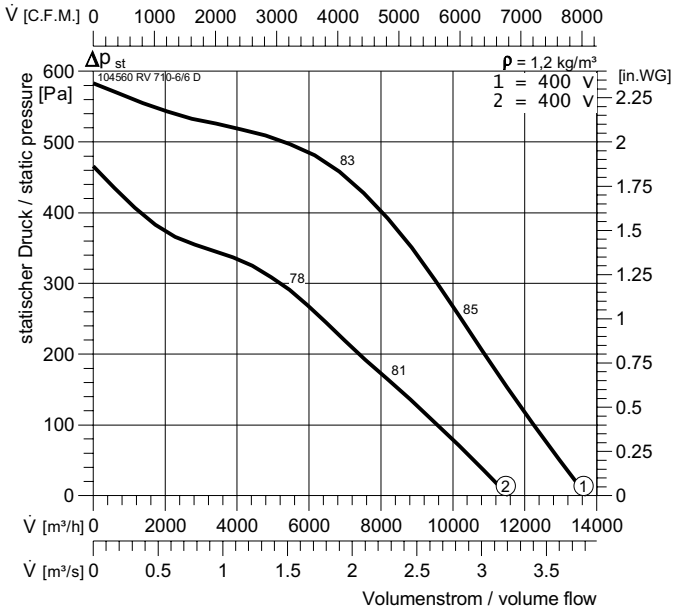




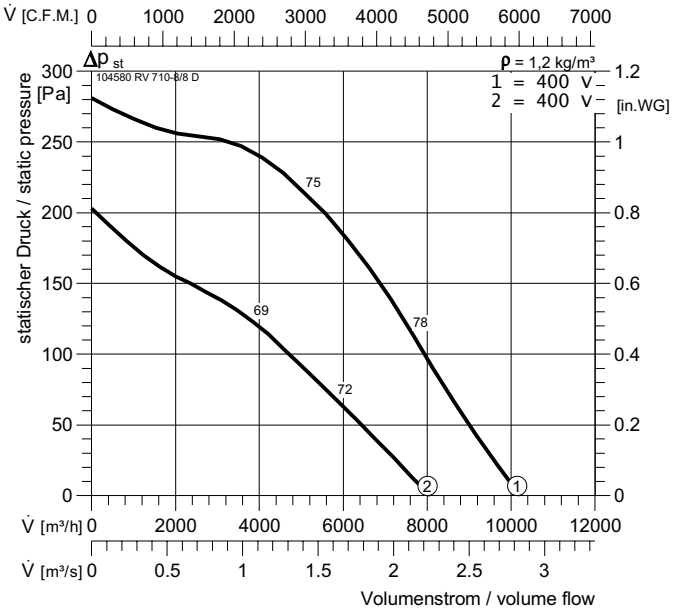
RH

RV, RVS

RV / RVS 710-6/6 D

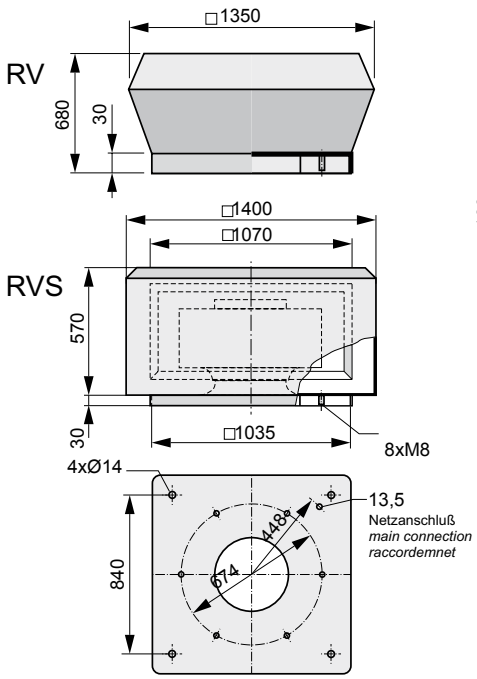


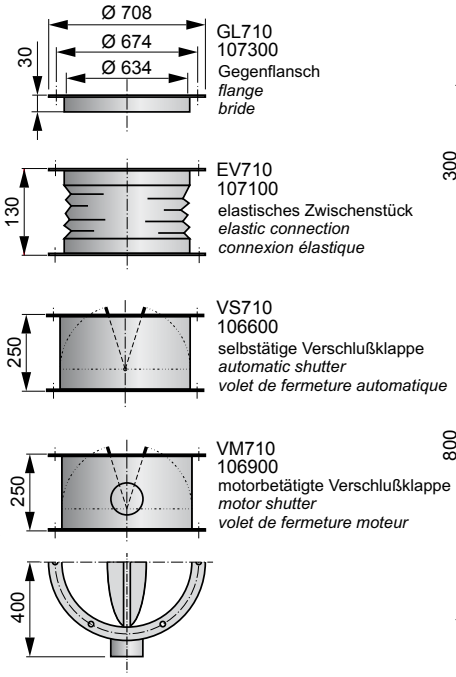
RV / RVS 710-8/8 D

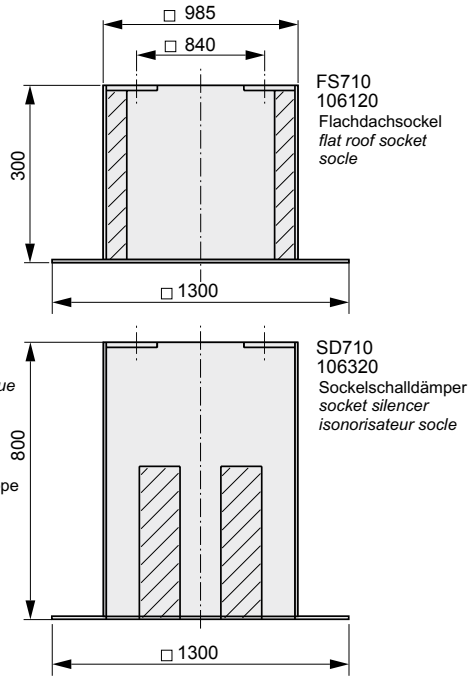


Typ		ArtNr			$L_{WA\,rel}$ ΔdB	L_{WA5}	L_{WA8}
RV 710-6/6 D		104560	110	**kg**	$L_{WA\,tot}$	0	-20
RVS 710-6/6 D		102035	132	**kg**	**125 Hz**	-30	-2
				kg	**250 Hz**	-16	-23
U :	400 V 50 Hz	I_A / I_N :	4,6		**500 Hz**	-9	-17
P_1 :	2,1/1,4 **kW**		IP 54		**1 kHz**	-4	-12
I_N :	4,1/2,6 **A**		DD0b		**2 kHz**	-5	-11
n :	910/715 **min⁻¹**		GS 2		**4 kHz**	-8	-7
C_{400V} :	- **µF**		RTD 5		**8 kHz**	-14	-8
t_R :	60 **°C**		SAD 9				

Typ		ArtNr			$L_{WA\,rel}$ ΔdB	L_{WA5}	L_{WA8}
RV 710-8/8 D		104580	82	**kg**	$L_{WA\,tot}$	0	-20
RVS 710-8/8 D		102045	132	**kg**	**125 Hz**	-30	-2
				kg	**250 Hz**	-16	-23
U :	400 V 50 Hz	I_A / I_N :	2,4		**500 Hz**	-9	-17
P_1 :	0,86/0,50 **kW**		IP 54		**1 kHz**	-4	-12
I_N :	1,92/0,95 **A**		DU3		**2 kHz**	-5	-11
n :	635/480 **min⁻¹**		GS 2		**4 kHz**	-8	-7
C_{400V} :	- **µF**		RTD 2,5		**8 kHz**	-14	-8
t_R :	50 **°C**		SAD 9				







Dachventilatoren mit Motor ausserhalb des Luftstroms

Roof Fans with motor out of air stream

Preisliste Seite / Price List Page 24, 25

Typenschlüssel *Fan type code*

RVH 355 -4 E

- **E** — Motorversion / *Motor type*
  - E = Einphasenwechselstrom *Single-phase A.C.*
  - D = Drehstrom *Three-phase A.C.*
- **-4** — Polzahl / *Number of poles*
- **355** — Nennweite / *Impeller diameter*
- **RVH** — für Fördertemperaturen bis 120°C / *for temperatures of up to 120°C*
- Ausführung / *Discharge orientation*
  - V = vertikal ausblasend *vertical discharge*
- Dachventilator / *Roof fan*

Eigenschaften und Ausführung

Wolter Dachventilatoren eignen sich zum Aufbau auf Flach-, Pult-, Sattel-, Bogen- und Shed-Dächern. Durch den außerhalb des Luftstroms gelegenen Antriebsmotor, können die Dachventilatoren der Baureihe RVH bei einer **Fördermitteltemperatur von bis zu 120°C** (bei Drehzahlsteuerung bis 80°C, 50°C ab RVH 800) betrieben werden.

Gehäuse

Die Gehäuseseitenbleche und die Motorabdeckung werden aus seewasserbeständigem Aluminium gefertigt. Die Grundplatte mit integrierter Einströmdüse wird aus verzinktem Stahlblech hergestellt.

Laufrad

Die rückwärtsgekrümmten Laufräder aus Aluminiumblech werden zusammen mit der Laufradnabe entsprechend der Gütestufe G 6,3 nach DIN ISO 1940 statisch und dynamisch gewuchtet.

Motor

IEC-Drehstrom-Normmotoren in Bauform IMB5, Schutzart IP55, 1~230V/50Hz bzw. 3~400V/50Hz, Wärmeklasse F. Die Motoren der Standardventilatoren bis Baugröße 500 sind spannungssteuerbar.

Elektrischer Anschluß

Der Motorklemmenkasten ist unter der Motorabdeckung leicht zugänglich. Der Anschluß des Motors an die Spannungsversorgung muß entsprechend dem Klemmbrettschaltbild des Motors erfolgen. Dabei sind die jeweils geltenden Bestimmungen zu beachten.

Montage

Wolter Dachventilatoren werden montagebereit ausgeliefert, jeweils in Einzelversandkartons oder Verschlägen.

Empfohlen wird die Verwendung von Flachdachsockeln aus unserem Zubehör-Programm. Sie sparen sich dadurch Kosten bei der Planung, bei der Ausführung und Montage. Sofern die Sockel bauseitig erstellt werden, so sind die von uns angegebenen Maße einzuhalten. Auf waagerechten Einbau und einwandfreie Abdichtung der Dachkante ist zu achten. Gegebenenfalls müssen Unebenheiten durch Distanzscheiben, Moosgummi oder ähnlich dichtendes Material behoben werden.

Luftleistungskennlinien

Die Kennlinien für diese Typenreihe wurden mittels einem saugseitigen Kammerprüfstand entsprechend der DIN 24 163 in der Einbauart A (frei ansaugend, frei ausblasend) aufgenommen. Sie zeigen die statische Druckerhöhung Δp_{st} (statisch, frei ausblasend) in Abhängigkeit des Volumenstroms. Die Bezugsdichte ist 1,2 kg/m³.

Schallentwicklung

Die Messung und deren Darstellung erfolgt nach DIN 45 635, Teil 38, gemäß dem dort beschriebenen Hüllflächenverfahren, nach dem über eine quaderförmige Meßfläche mehrere Meßpunkte erfasst werden. In den Kennlinienfeldern ist der **A-bewerteten Schallleistungspegel L_{WA}** in dB(A) angegeben, der dem **Frei-Ausblas-Schallleistungspegel L_{WA8}** entspricht.

Der Freiansaug-Schallleistungspegel L_{WA5} kann über die relativen Schallleistungspegel genau ermittelt, oder nach folgender Formel näherungsweise bestimmt werden:

$$L_{WA5} = L_{WA} - 3\ dB$$

Für genauere Berechnungen bei Schallschutzmaßnahmen ist der Schallleistungspegel der Oktavbänder von Bedeutung:

$$L_{Wokt} = L_{WA} + L_{Wrel}$$

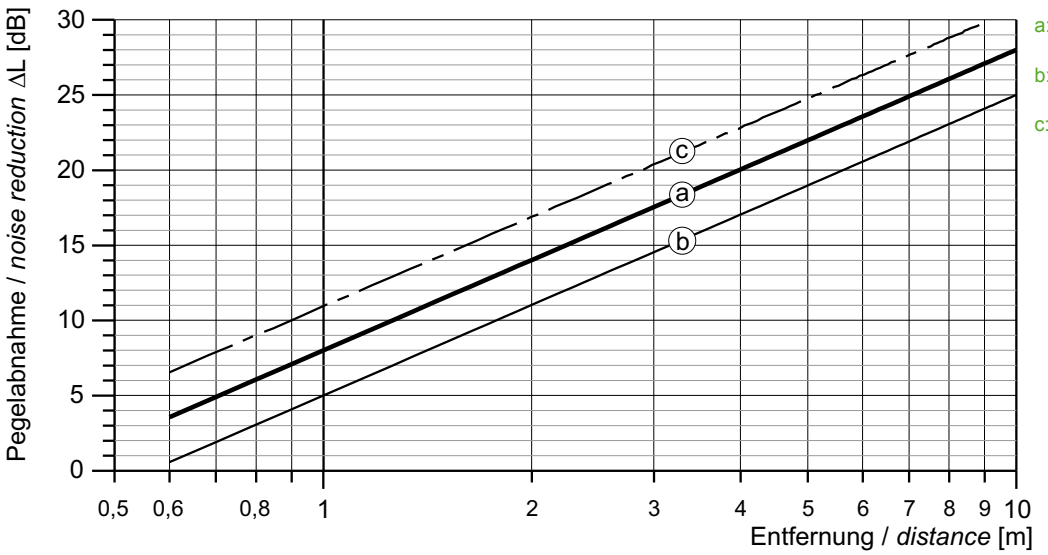
Der austrittseitige zu erwartende A-bewertete Schalldruckpegel kann nur annähernd ermittelt werden, da die Umgebungseinflüsse zu starken Abweichungen führen können:

$$L_{PA} = L_{WA} - \Delta L$$

Bei ungünstigen Verhältnissen kann das in der Anlage entstehende Geräusch von den Katalogangaben abweichen, etwa durch unterschiedliche Schallabsorption oder durch ungünstige Körperschallübertragung auf die Dachkonstruktion.

Pegelabnahme Halbkugel

Sound level reduction half sphere



a: ohne Reflexionen
without reflexion

b: mit Reflexionen
with reflexion

c: Vollkugel ohne Reflexionen
full sphere without reflexion

Design features

Wolter roof fan units are suitable for mounting on different roof types. As the motor is out of the air stream, **RVH series fans can be operated at temperatures of up to 120°C** (80°C if speed-controlled motors are used, 50°C for sizes RVH 800 and above.)

Casing

Discharge and motor cowl are made of salt-water proof aluminium. The base plate with its integrated inlet cone is made of galvanised sheet steel.

Impeller

The backward-curved impellers are made of aluminium and are balanced statically and dynamically according to G 6.3 of (DIN ISO 1940).

Motors

Standard IEC motor in frame type IMB5, protection class IP55, 1~230V/50Hz or 3~400V/50Hz, insulation class F. Motors of fans up to size 500 are suitable for transformer-type speed control.

Electrical connection

The motor terminal box is easily accessible after removal of the fan cowl. The motor has to be connected according to the provided wiring diagram in accordance with locally applicable regulations.

Installation

All fans are delivered ready for installation and are packed in separate boxes or crates. We recommend the use of matching Wolter roof sockets. If other roof sockets are used, dimensions given in our catalogue should be followed to achieve proper sealing and avoid air-leakage.

Fan performance curves

The performance curves for these roof fans have been tested according to DIN 24 163. The curves indicate the static pressure increase Δp_{st} (static, free outlet) as a function of the volume flow. The reference air density is 1,2 kg/m³.

Sound levels

The sound data was measured according to DIN 45 635, part 38. The figures shown in the performance curves are the **A-weighted sound power levels (L_{WA})** in dB(A). They are equal to the **free outlet sound power level L_{WA8}**.

The free inlet **sound power level L_{WA5}** can be calculated by the following approximation formula:

$$L_{WA5} = L_{WA} - 3\ dB$$

If sound protection measures require exact calculation, it is important to know the the sound power level of the octave band:

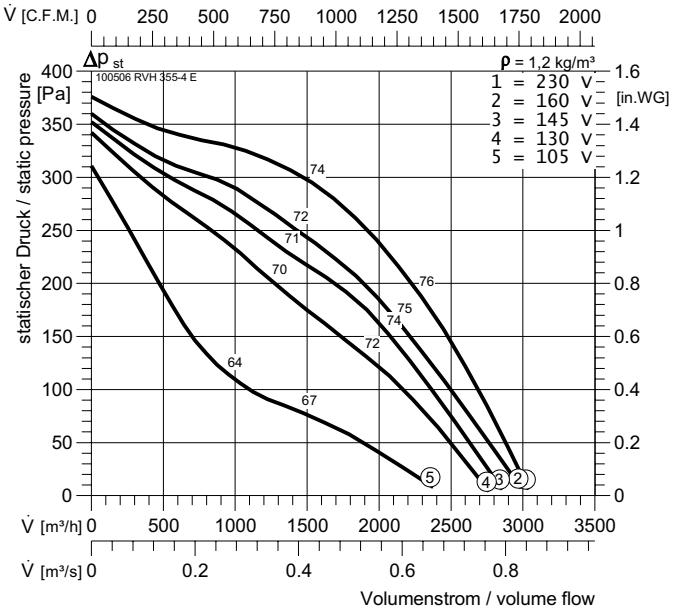
$$L_{Wokt} = L_{WA} + L_{Wrel}$$

The A-weighted sound pressure level at the outlet side can only be approximated, since environmental conditions will affect noise levels.

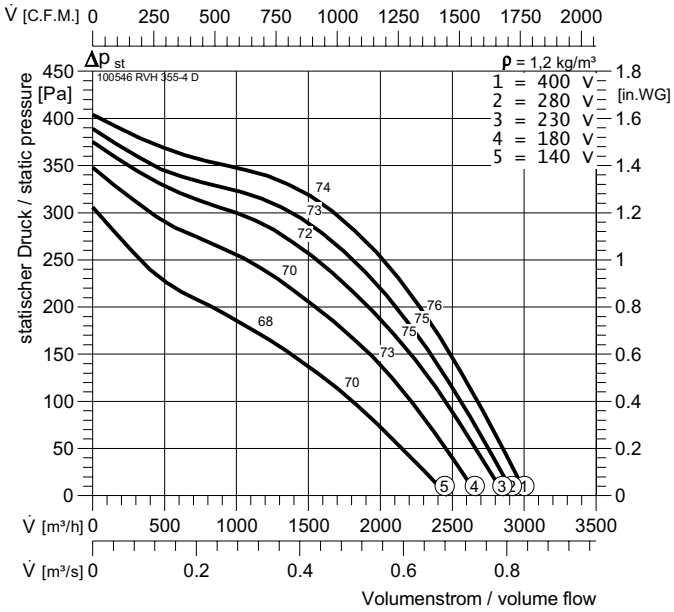
$$L_{PA} = L_{WA} - \Delta L$$

The actual noise levels will vary, depending on system characteristics such as reflexion, resonant frequencies or structure-borne noise transfer.

RVH 355-4 E, 80/120°C



RVH 355-4 D, 80/120°C

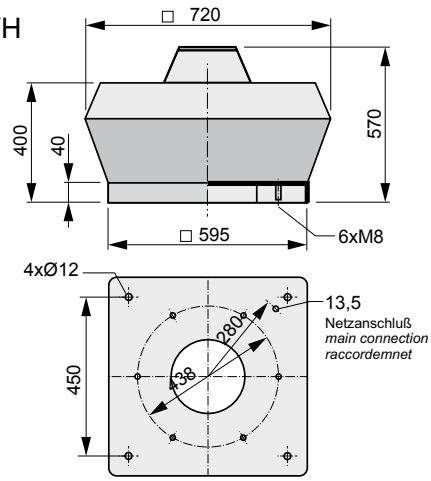


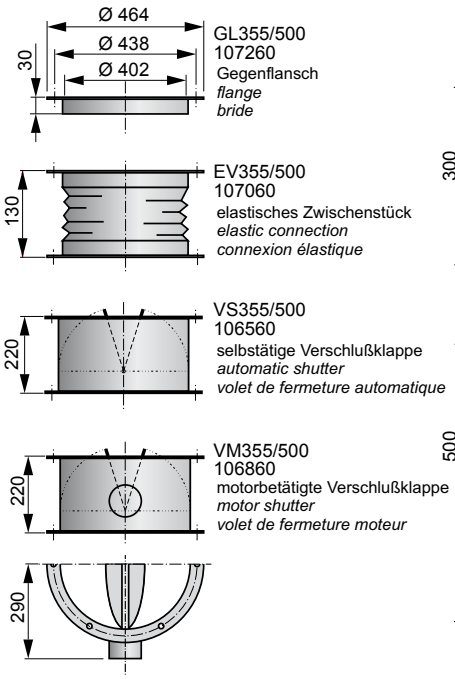
Typ			ArtNr		$L_{WA\,rel}$ ΔdB	L_{WA5}	L_{WA8}
RVH 355-4 E			100506	30 kg	$L_{WA\,tot}$	-3	0
U :	230 V 50 Hz		Δ $p_{fa\,min}$:	0	**125 Hz**	-15	-19
P_1 :	0,36	**kW**	Δ I :	26	**250 Hz**	-12	-10
I_N :	2,1	**A**	I_A / I_N :	3,1	**500 Hz**	-9	-6
n :	1405	**min^{-1}**		IP 55	**1 kHz**	-8	-4
C_{400V} :	6	**µF**		E13	**2 kHz**	-12	-7
t_R :	80/120	**°C**		GS 1	**4 kHz**	-13	-15
				NE 3,2	**8 kHz**	-20	-18
				RPE 06			

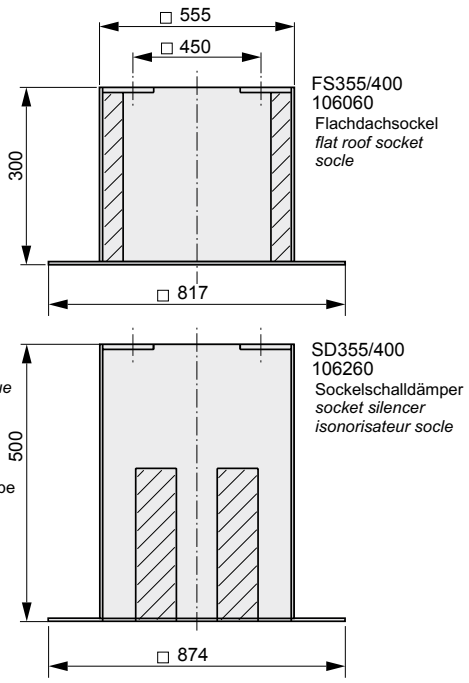
Typ			ArtNr		$L_{WA\,rel}$ ΔdB	L_{WA5}	L_{WA8}
RVH 355-4 D			100546	29 kg	$L_{WA\,tot}$	-3	0
U :	400 V 50 Hz		Δ $p_{fa\,min}$:	0	**125 Hz**	-15	-19
P_1 :	0,35	**kW**	Δ I :	-	**250 Hz**	-12	-10
I_N :	1,1	**A**	I_A / I_N :	5,3	**500 Hz**	-9	-6
n :	1435	**min^{-1}**		IP 55	**1 kHz**	-8	-4
C_{400V} :	-	**µF**		DD0-K	**2 kHz**	-12	-7
t_R :	80/120	**°C**		GS 2	**4 kHz**	-13	-15
				RTD 1,2	**8 kHz**	-20	-18
				SAD 9			

4.1

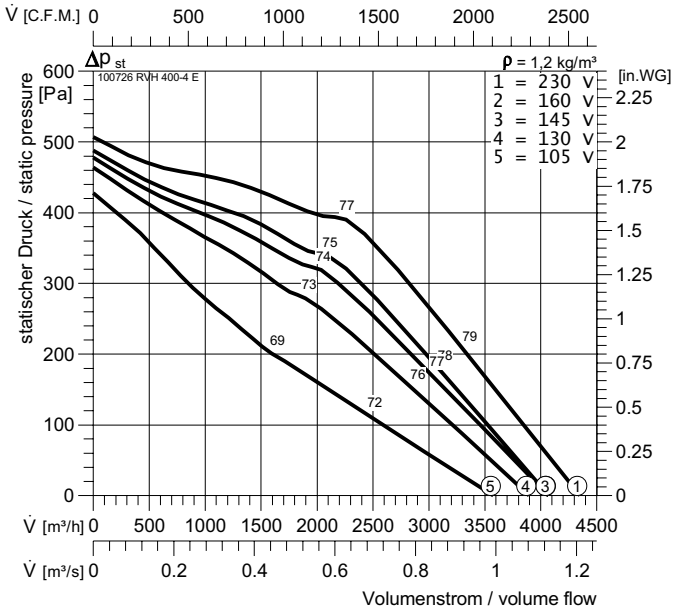
RVH





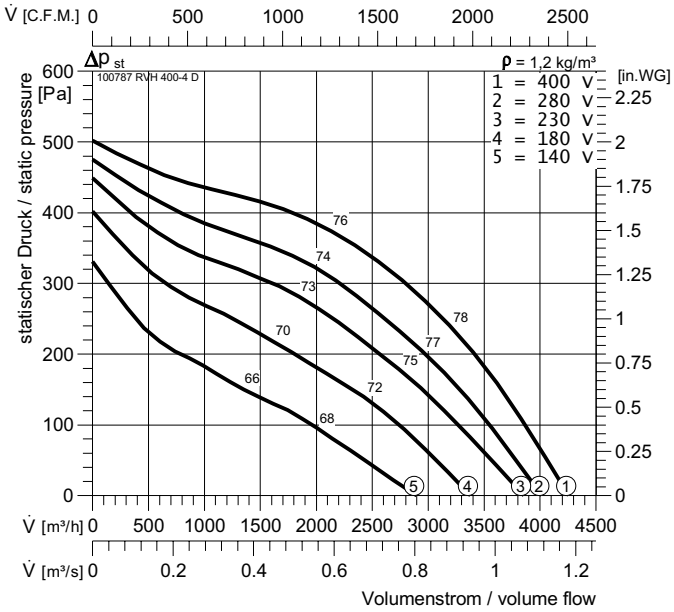


RVH 400-4 E, 80/120°C

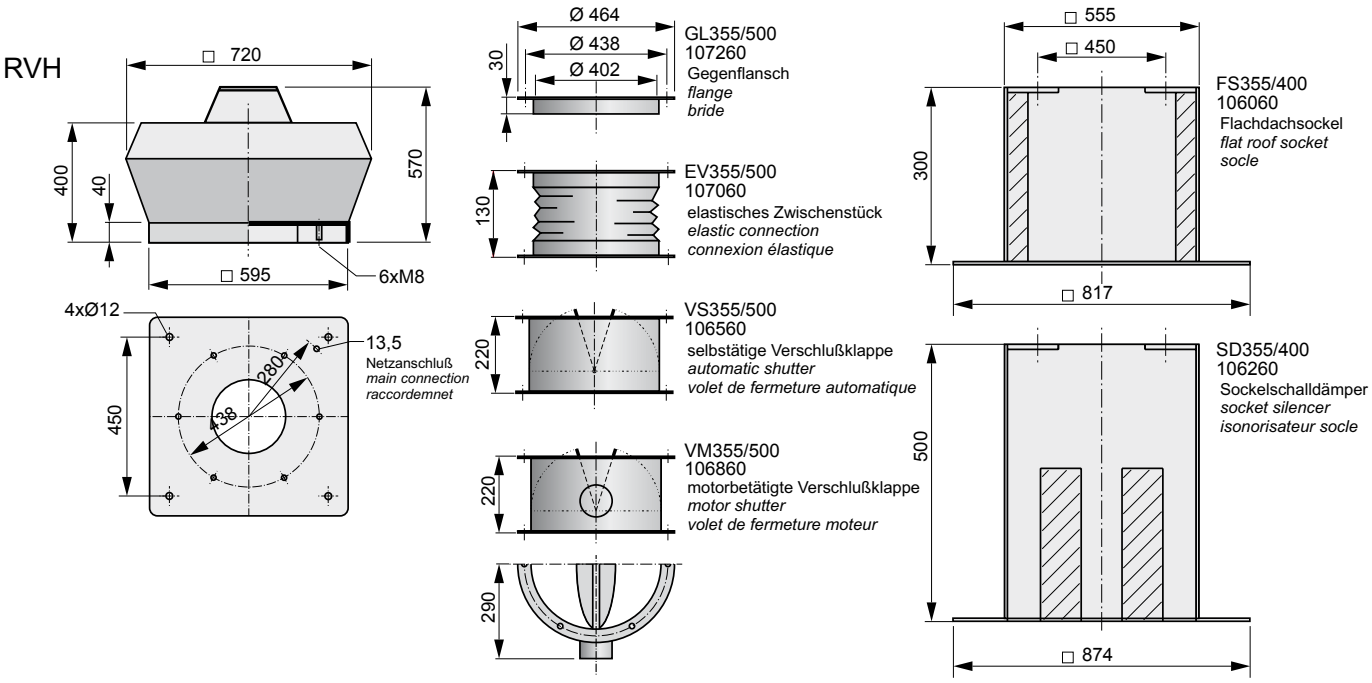


Typ			ArtNr		$L_{WA\,rel}$ ΔdB	L_{WA5}	L_{WA8}
RVH 400-4 E			100726	32 kg	$L_{WA\,tot}$	-3	0
U :	230 V 50 Hz		$\Delta p_{fa\,min}$:	0	**125 Hz**	-13	-19
P_1 :	0,64	**kW**	Δ I :	40	**250 Hz**	-15	-9
I_N :	3,2	**A**	I_A / I_N :	4	**500 Hz**	-10	-5
n :	1410	**min^{-1}**		IP 55	**1 kHz**	-11	-4
C_{400V} :	16	**µF**		E13	**2 kHz**	-7	-8
t_R :	80/120	**°C**		GS 1	**4 kHz**	-14	-14
				NE 3,2	**8 kHz**	-21	-17
				RPE 09			

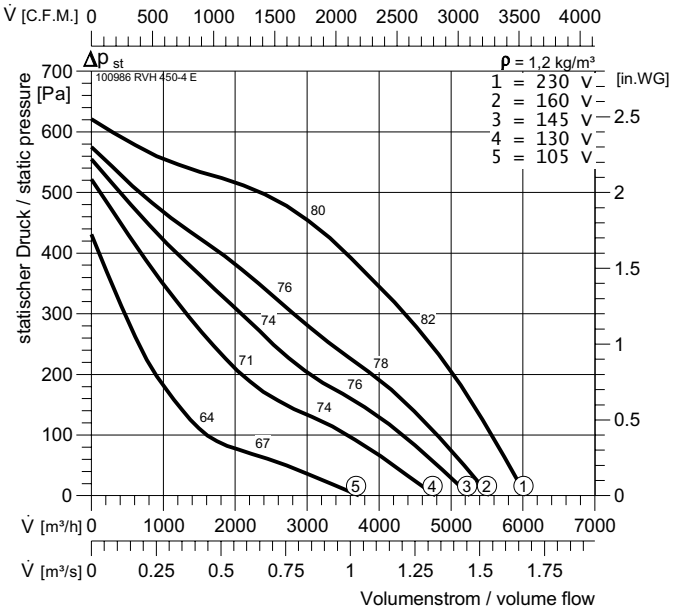
RVH 400-4 D, 80/120°C



Typ			ArtNr		$L_{WA\,rel}$ ΔdB	L_{WA5}	L_{WA8}
RVH 400-4 D			100787	30 kg	$L_{WA\,tot}$	-3	0
U :	400 V 50 Hz		$\Delta p_{fa\,min}$:	0	**125 Hz**	-13	-19
P_1 :	0,54	**kW**	Δ I :	-	**250 Hz**	-15	-9
I_N :	1,25	**A**	I_A / I_N :	4,7	**500 Hz**	-10	-5
n :	1390	**min^{-1}**		IP 55	**1 kHz**	-11	-4
C_{400V} :	-	**µF**		DD0-K	**2 kHz**	-7	-8
t_R :	80/120	**°C**		GS 2	**4 kHz**	-14	-14
				RTD 2,5	**8 kHz**	-21	-17
				SAD 9			

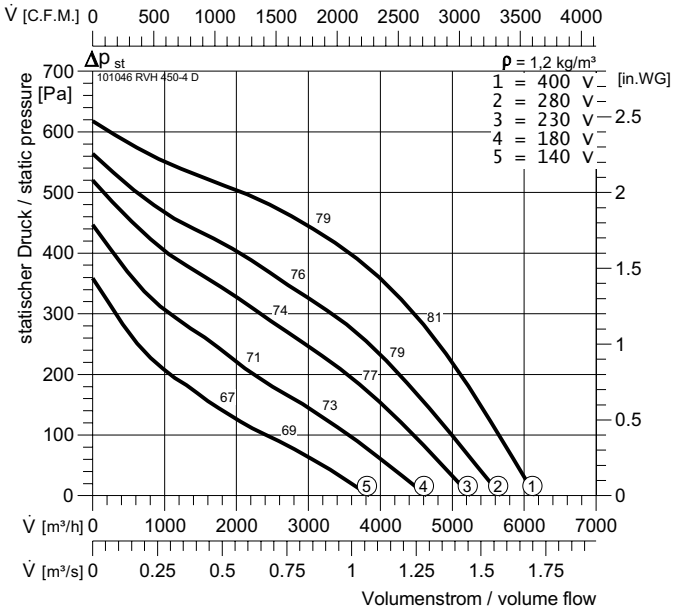


RVH 450-4 E, 80/120°C

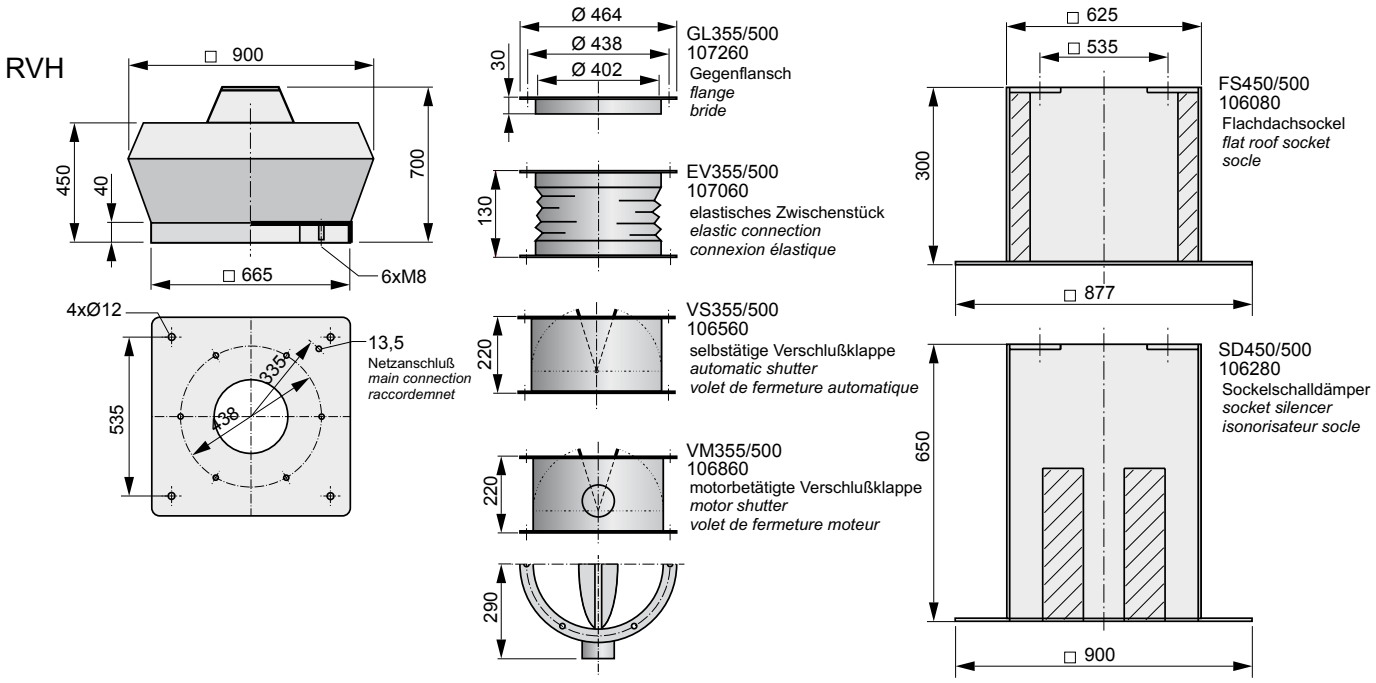


Typ			ArtNr			$L_{WA\,rel}$ ΔdB	L_{WA5}	L_{WA8}
RVH 450-4 E			100986	46	kg	$L_{WA\,tot}$	-3	0
U :	230 V 50 Hz		Δ $p_{fa\,min}$:	0		**125 Hz**	-13	-19
P_1 :	0,95	kW	Δ I :	19		**250 Hz**	-15	-9
I_N :	4,3	A	I_A / I_N :	2,9		**500 Hz**	-10	-5
n :	1330	min^{-1}		IP 55		**1 kHz**	-11	-4
C_{400V} :	16	µF		E13		**2 kHz**	-7	-8
t_R :	80/120	°C		GS 1		**4 kHz**	-14	-14
				NE 5		**8 kHz**	-21	-17
				RPE 09				

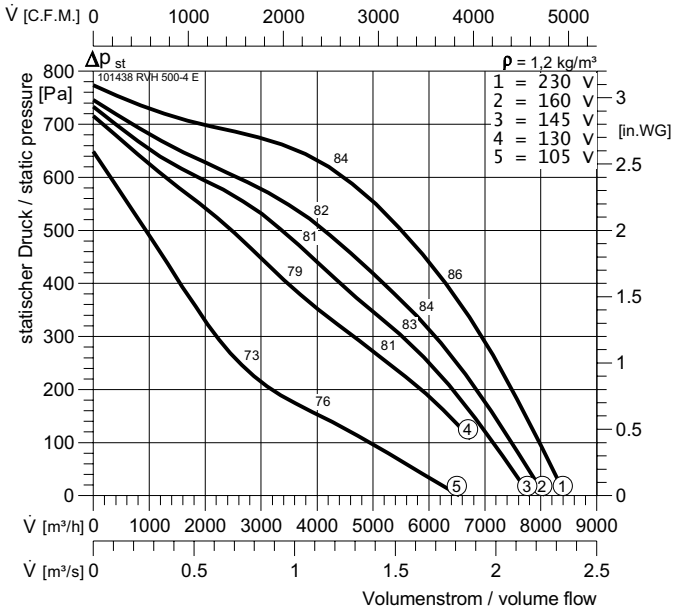
RVH 450-4 D, 80/120°C



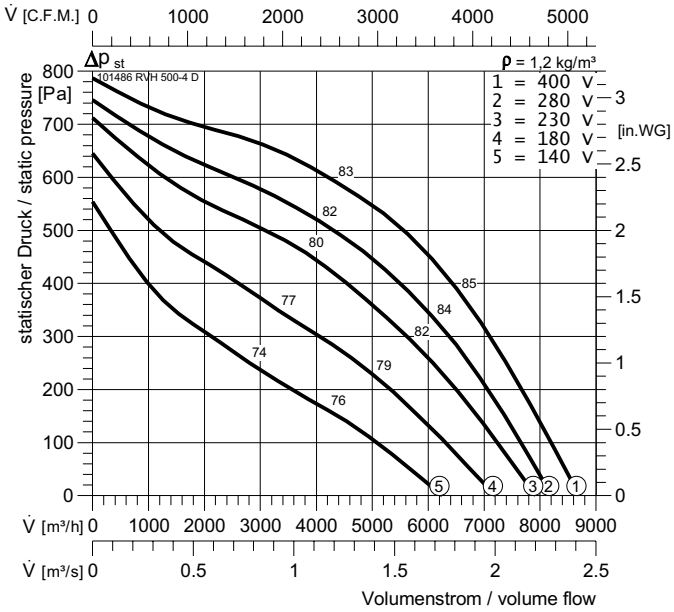
Typ			ArtNr			$L_{WA\,rel}$ ΔdB	L_{WA5}	L_{WA8}
RVH 450-4 D			101046	41	kg	$L_{WA\,tot}$	-3	0
U :	400 V 50 Hz		Δ $p_{fa\,min}$:	0		**125 Hz**	-13	-19
P_1 :	0,87	kW	Δ I :	12		**250 Hz**	-15	-9
I_N :	1,6	A	I_A / I_N :	4,3		**500 Hz**	-10	-5
n :	1335	min^{-1}		IP 55		**1 kHz**	-11	-4
C_{400V} :	-	µF		DD0-K		**2 kHz**	-7	-8
t_R :	80/120	°C		GS 2		**4 kHz**	-14	-14
				RTD 2,5		**8 kHz**	-21	-17
				SAD 9				



RVH 500-4 E, 80/120°C



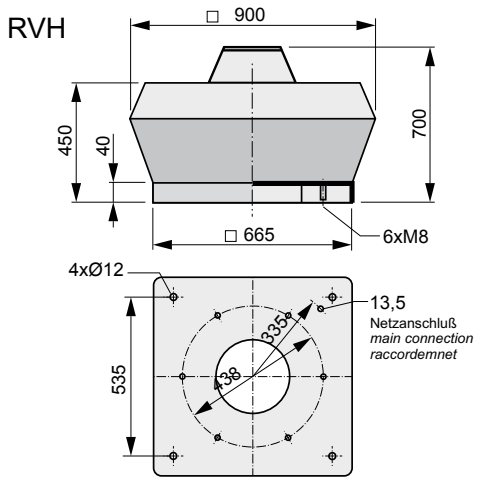
RVH 500-4 D, 80/120°C

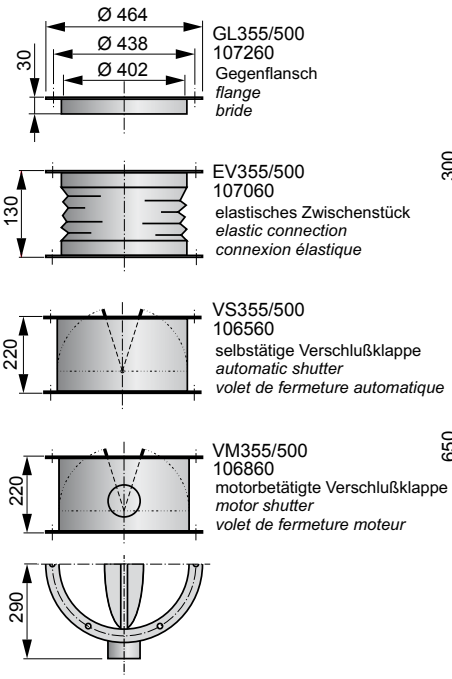


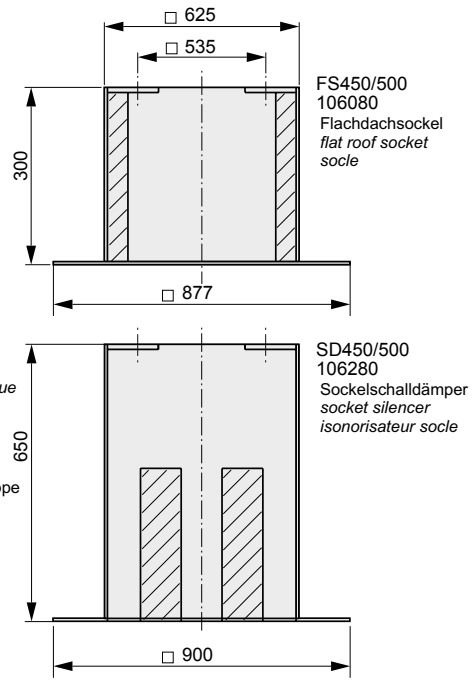
Typ			ArtNr		$L_{WA\,rel}$ ΔdB	L_{WA5}	L_{WA8}
RVH 500-4 E			101438	55 kg	$L_{WA\,tot}$	-3	0
U :	230 V 50 Hz		$\Delta p_{fa\,min}$:	0	**125 Hz**	-12	-21
P_1 :	1,76	**kW**	Δ I :	23	**250 Hz**	-14	-10
I_N :	8,7	**A**	I_A / I_N :	4,1	**500 Hz**	-9	-6
n :	1395	**min^{-1}**		IP 55	**1 kHz**	-10	-5
C_{400V} :	35	**µF**		E13	**2 kHz**	-9	-8
t_R :	80/120	**°C**		GS 1	**4 kHz**	-15	-14
				NE 10	**8 kHz**	-21	-17
				-			

Typ			ArtNr		$L_{WA\,rel}$ ΔdB	L_{WA5}	L_{WA8}
RVH 500-4 D			101486	52 kg	$L_{WA\,tot}$	-3	0
U :	400 V 50 Hz		$\Delta p_{fa\,min}$:	0	**125 Hz**	-12	-21
P_1 :	1,65	**kW**	Δ I :	5.5	**250 Hz**	-14	-10
I_N :	3,6	**A**	I_A / I_N :	4,1	**500 Hz**	-9	-6
n :	1400	**min^{-1}**		IP 55	**1 kHz**	-10	-5
C_{400V} :	-	**µF**		DD0-K	**2 kHz**	-9	-8
t_R :	80/120	**°C**		GS 2	**4 kHz**	-15	-14
				RTD 3,8	**8 kHz**	-21	-17
				SAD 9			

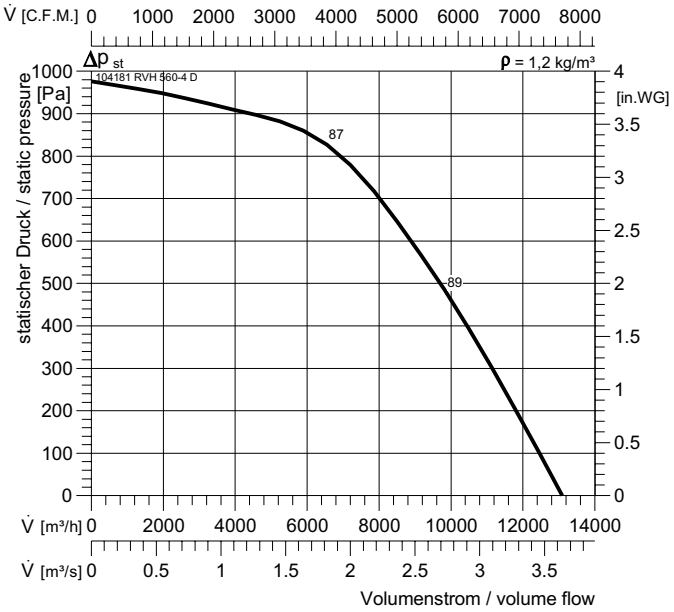
RVH







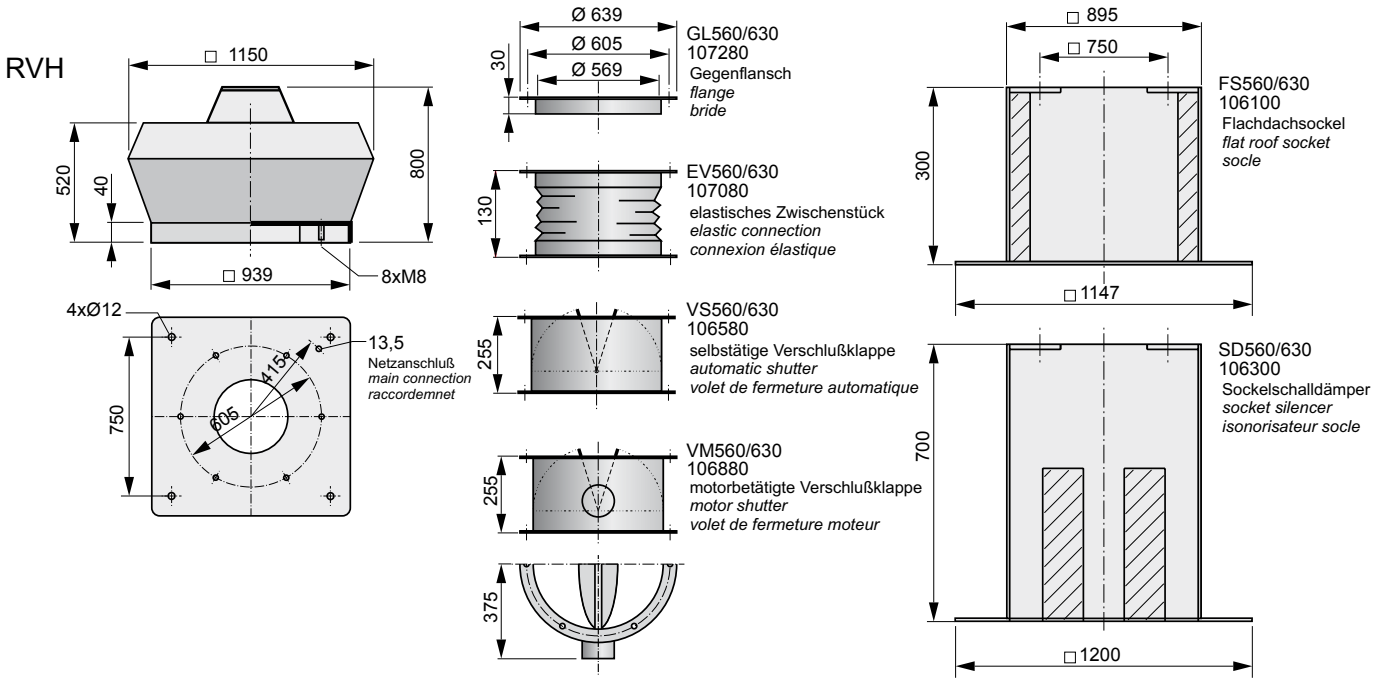
RVH 560-4 D, 80/120°C



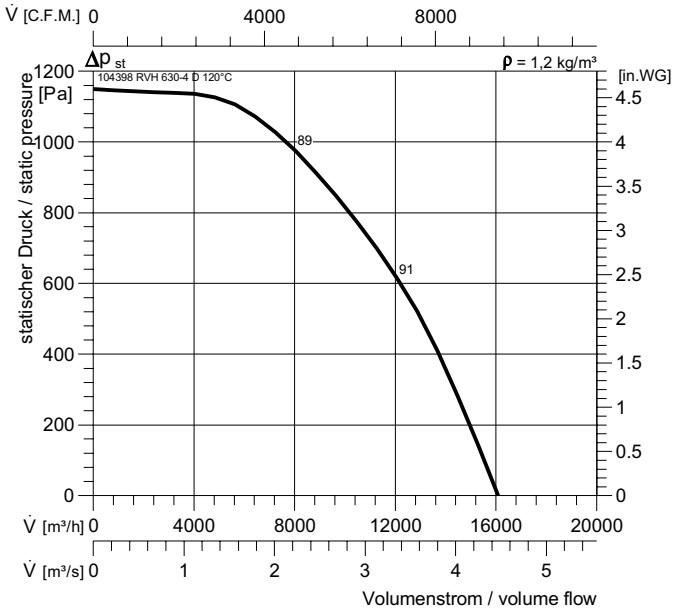
Typ			ArtNr		$L_{WA\,rel}$ ΔdB	L_{WA5}	L_{WA8}
RVH 560-4 D			104181	75 kg	$L_{WA\,tot}$	-3	0
U :	400 V 50 Hz		$\Delta p_{fa\,min}$:	0	**125 Hz**	-12	-21
P_1 :	3	kW	Δ I :	-	**250 Hz**	-14	-10
I_N :	6	A	I_A / I_N :	5,3	**500 Hz**	-9	-6
n :	1440	min^{-1}		IP 55	**1 kHz**	-10	-5
C_{400V} :	-	µF		DD0-K	**2 kHz**	-9	-8
t_R :	80/120	°C		GS 2	**4 kHz**	-15	-14
				-	**8 kHz**	-21	-17
				-			

4.1

RVH

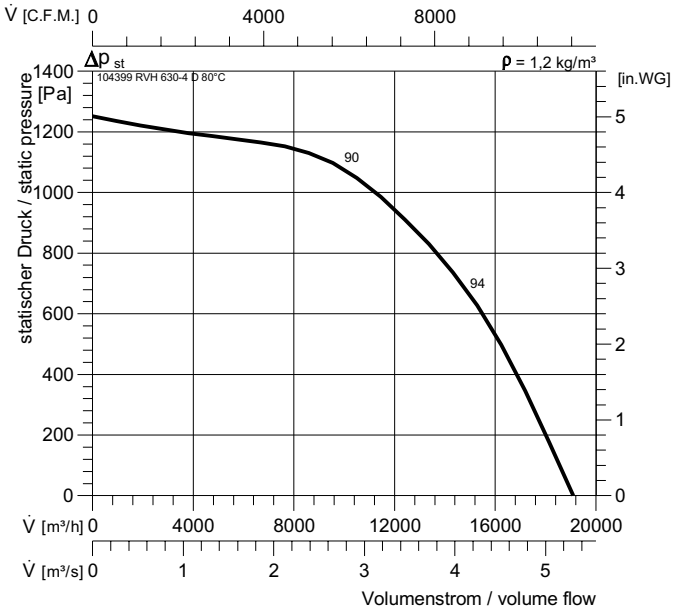


RVH 630-4 D 120°C



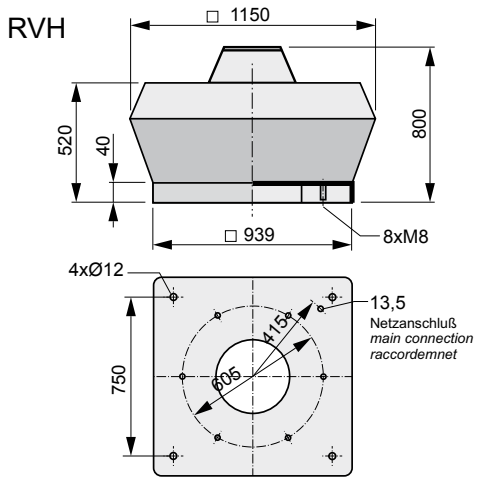
Typ			ArtNr		$L_{WA\,rel}$ ΔdB	L_{WA5}	L_{WA8}
RVH 630-4 D 120°C			104398	100 kg	$L_{WA\,tot}$	-3	0
U :	400 V 50 Hz		Δ $p_{fa\,min}$:	0	**125 Hz**	-12	-19
P_1 :	4,4	**kW**	Δ I :	-	**250 Hz**	-14	-9
I_N :	10,0	**A**	I_A / I_N :	5,9	**500 Hz**	-9	-4
n :	1475	**min^{-1}**		IP 55	**1 kHz**	-10	-5
C_{400V} :	-	**µF**		DD0-K	**2 kHz**	-8	-8
t_R :	120	**°C**		GS 2	**4 kHz**	-14	-13
				-	**8 kHz**	-22	-16
				-			

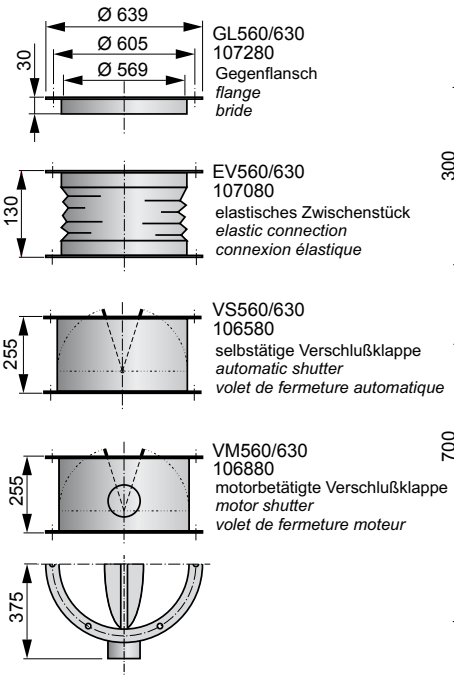
RVH 630-4 D 80°C

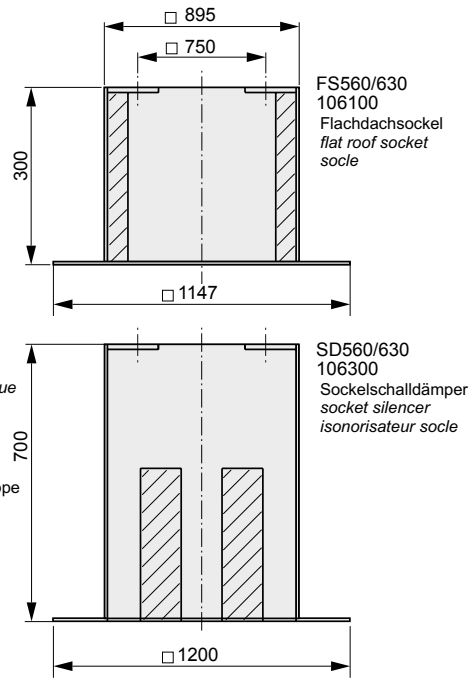


Typ			ArtNr		$L_{WA\,rel}$ ΔdB	L_{WA5}	L_{WA8}
RVH 630-4 D 80°C			104399	102 kg	$L_{WA\,tot}$	-3	0
U :	400 V 50 Hz		Δ $p_{fa\,min}$:	0	**125 Hz**	-12	-19
P_1 :	5,8	**kW**	Δ I :	-	**250 Hz**	-14	-9
I_N :	11,5	**A**	I_A / I_N :	5,9	**500 Hz**	-9	-4
n :	1460	**min^{-1}**		IP 55	**1 kHz**	-10	-5
C_{400V} :	-	**µF**		DD0-K	**2 kHz**	-8	-8
t_R :	80	**°C**		GS 2	**4 kHz**	-14	-13
				-	**8 kHz**	-22	-16
				-			

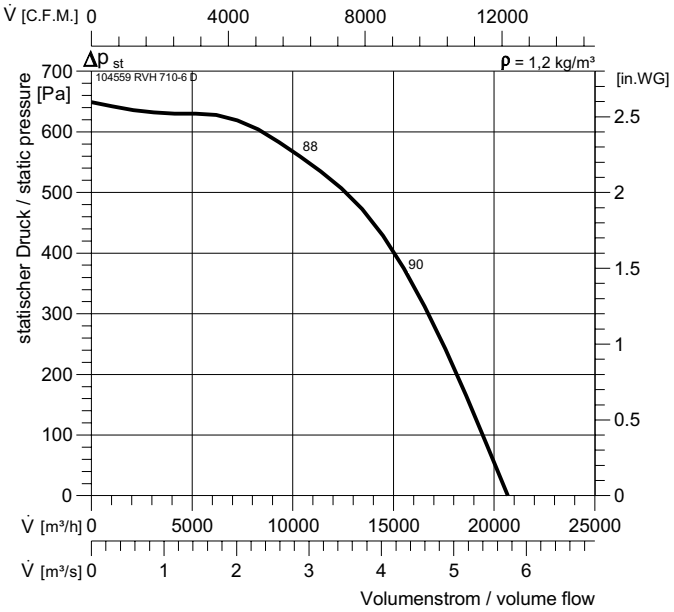
RVH





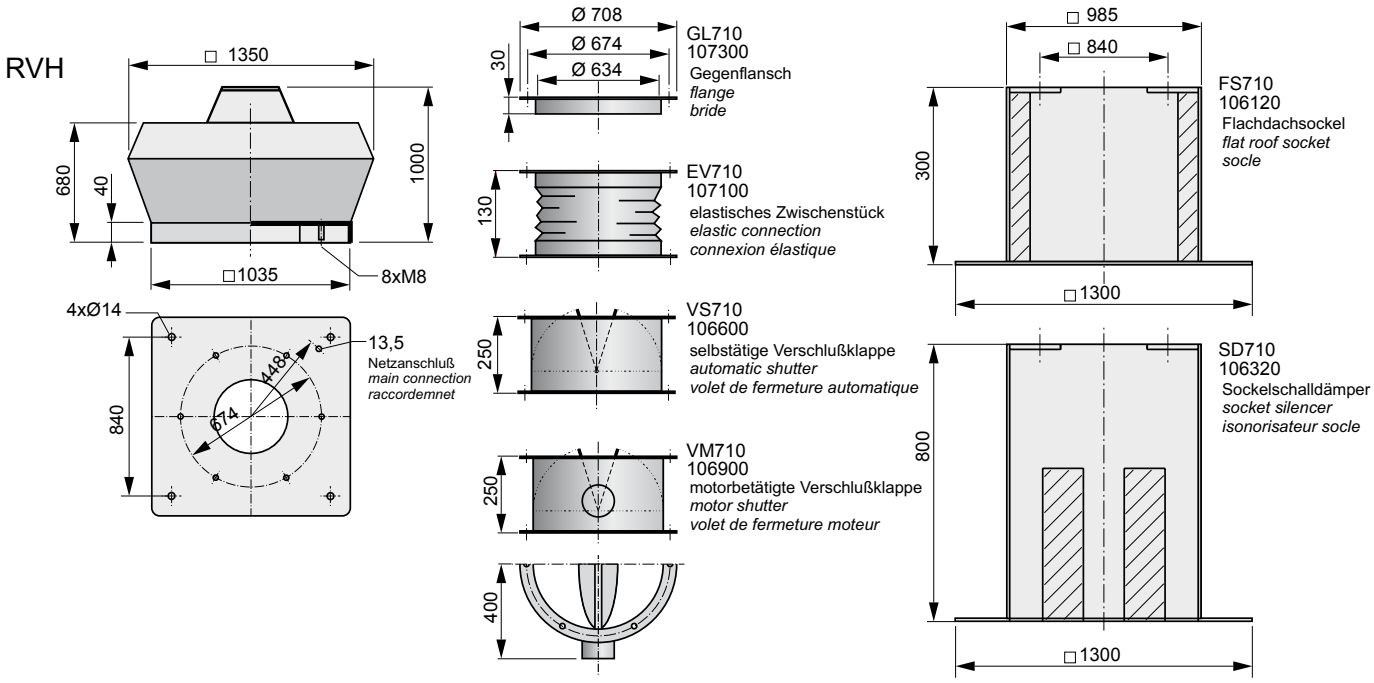


RVH 710-6 D, 80/120°C



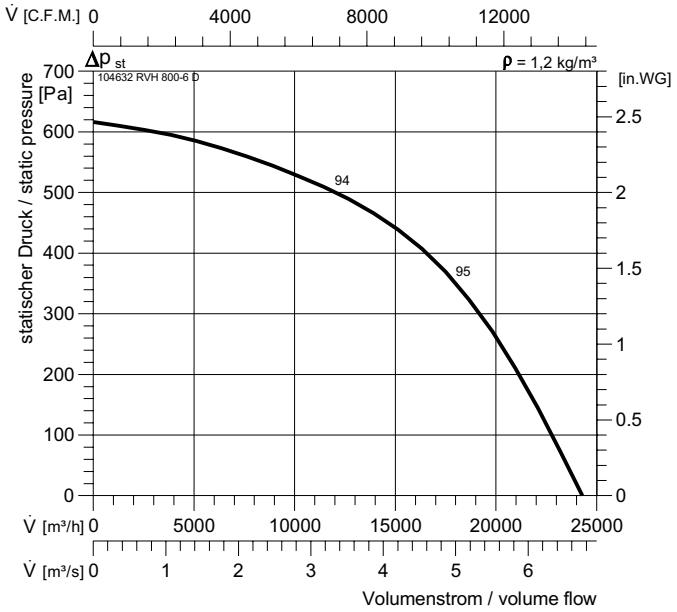
Typ			ArtNr		$L_{WA\,rel}$ ΔdB	L_{WA5}	L_{WA8}
RVH 710-6 D			104559	149 kg	$L_{WA\,tot}$	-3	0
U :	400 V 50 Hz		$\Delta p_{fa\,min}$:	0	**125 Hz**	-12	-19
P_1 :	3,4	kW	Δ I :	-	**250 Hz**	-14	-9
I_N :	10	A	I_A / I_N :	5,9	**500 Hz**	-9	-4
n :	980	min^{-1}		IP 55	**1 kHz**	-10	-5
C_{400V} :	-	µF		DD0-K	**2 kHz**	-8	-8
t_R :	80/120	°C		GS 2	**4 kHz**	-14	-13
				-	**8 kHz**	-22	-16
				-			

RVH

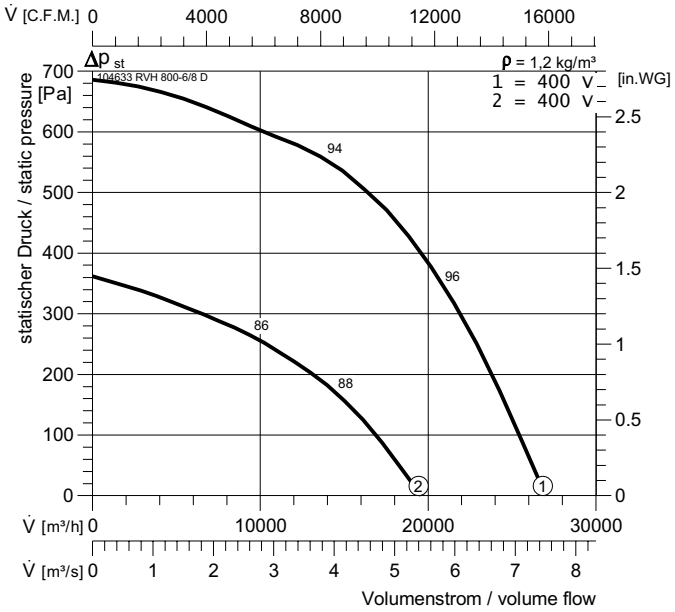


RVH

RVH 800-6 D, 50°C



RVH 800-6/8 D, 50°C

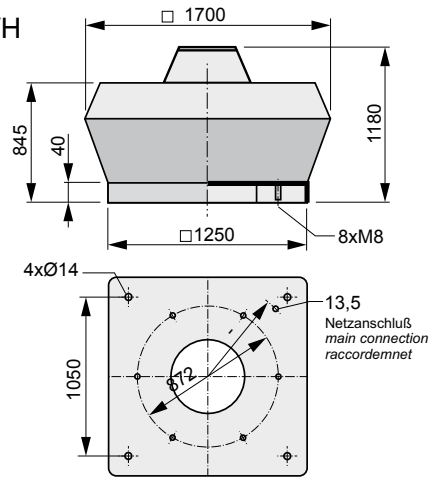


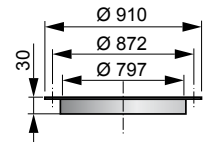
Typ			ArtNr			$L_{WA\,rel}$ ΔdB	L_{WA5}	L_{WA8}
RVH 800-6 D			104632	200	kg	$L_{WA\,tot}$	-3	0
U :	400 V 50 Hz		Δ $p_{fa\,min}$:	0		**125 Hz**	-15	-13
P_1 :	4	**kW**	Δ I :	-		**250 Hz**	-14	-8
I_N :	8,5	**A**	I_A / I_N :	-		**500 Hz**	-11	-7
n :	950	**min^{-1}**		IP 55		**1 kHz**	-8	-5
C_{400V} :	-	**µF**	★	DS4-K		**2 kHz**	-8	-7
t_R :	50	**°C**		GS 2		**4 kHz**	-15	-16
				-		**8 kHz**	-24	-25
				-				

Typ			ArtNr			$L_{WA\,rel}$ ΔdB	L_{WA5}	L_{WA8}
RVH 800-6/8 D			104633	233	kg	$L_{WA\,tot}$	-3	0
U :	400 V 50 Hz		Δ $p_{fa\,min}$:	0		**125 Hz**	-15	-13
P_1 :	1,8/4	**kW**	Δ I :	-		**250 Hz**	-14	-8
I_N :	5,3/10	**A**	I_A / I_N :	-		**500 Hz**	-11	-7
n :	720/950	**min^{-1}**		IP 55		**1 kHz**	-8	-5
C_{400V} :	-	**µF**	★	DD1-K		**2 kHz**	-8	-7
t_R :	50	**°C**		GS 2		**4 kHz**	-15	-16
				-		**8 kHz**	-24	-25
				-				

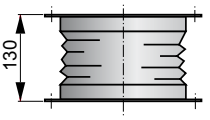
4.1

RVH

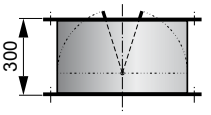




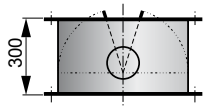
GL800/900
107320
Gegenflansch
flange
bride



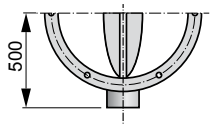
EV800/900
107120
elastisches Zwischenstück
elastic connection
connexion élastique

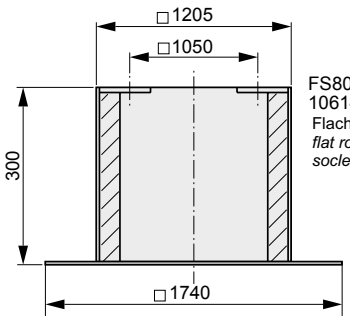


VS800/900
106620
selbstätige Verschlußklappe
automatic shutter
volet de fermeture automatique

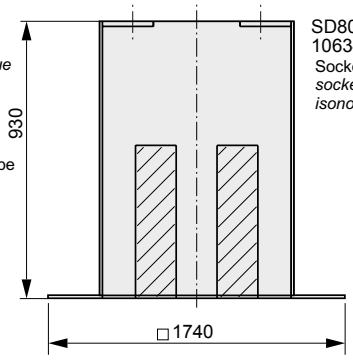


VM800/900
106920
motorbetätigte Verschlußklappe
motor shutter
volet de fermeture moteur



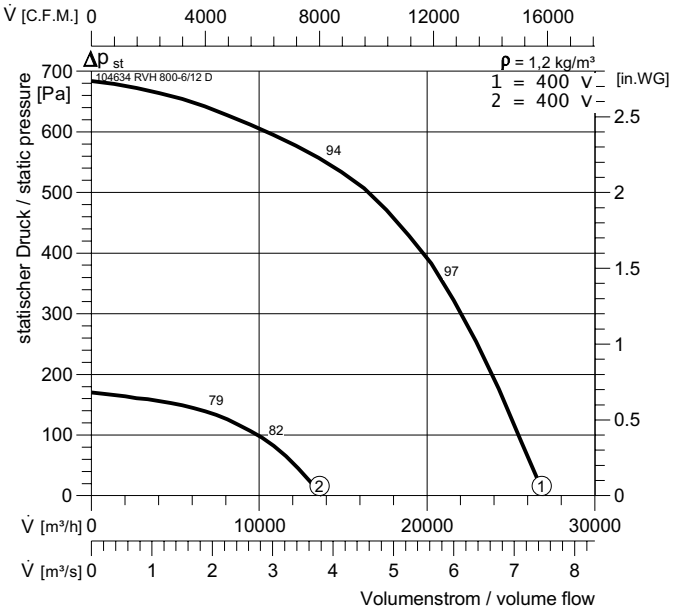


FS800/900
106140
Flachdachsockel
flat roof socket
socle

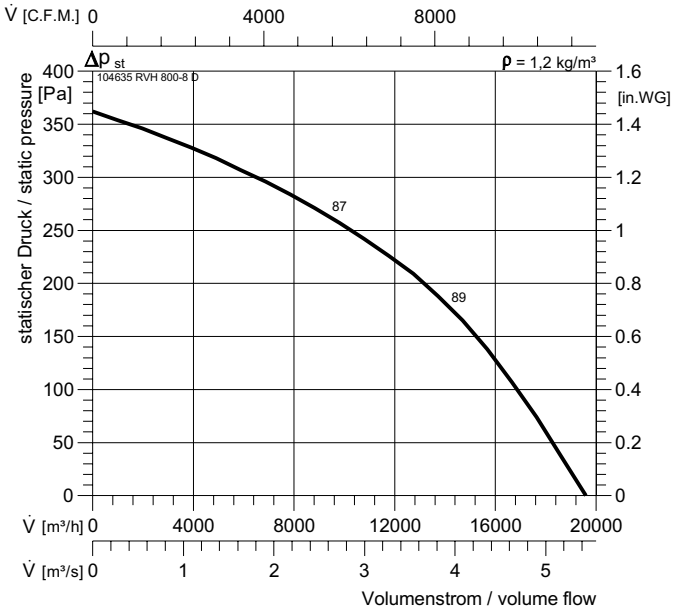


SD800/900
106340
Sockelschalldämper
socket silencer
isonorisateur socle

RVH 800-6/12 D, 50°C



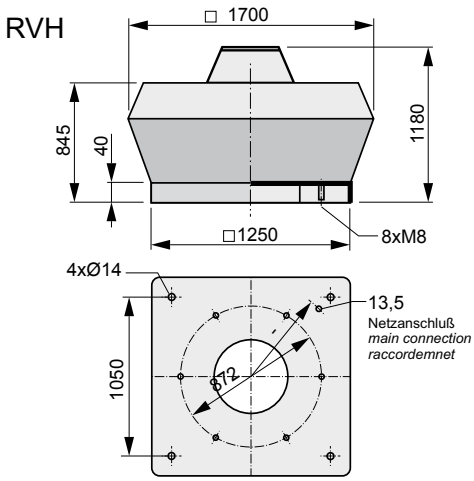
RVH 800-8 D, 50°C

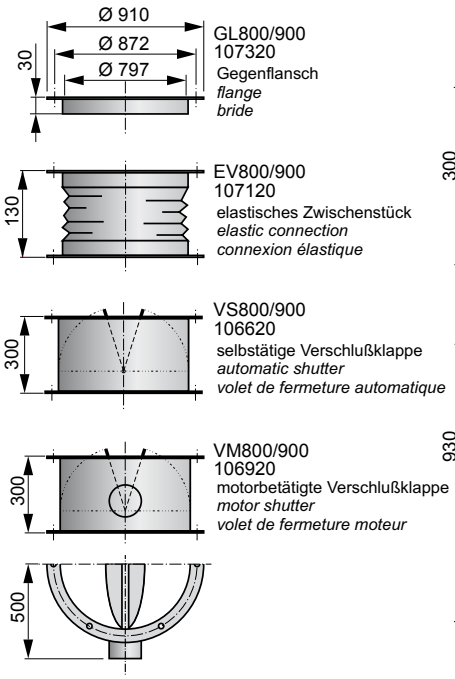


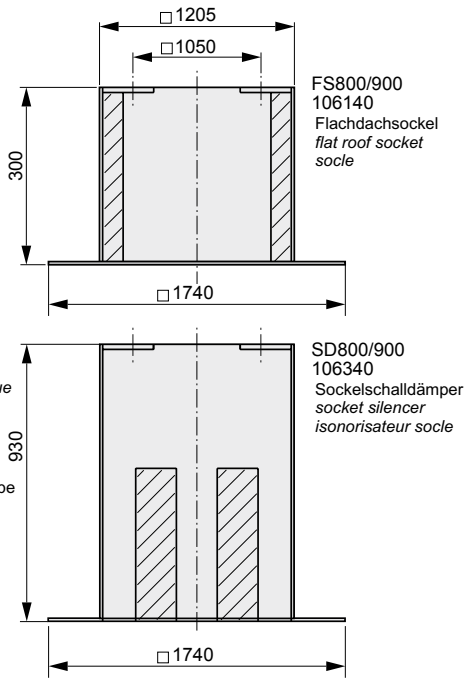
Typ			ArtNr			$L_{WA\,rel}$ ΔdB	L_{WA5}	L_{WA8}
RVH 800-6/12 D			104634	219	kg	$L_{WA\,tot}$	-3	0
U :	400 V 50 Hz		Δ $p_{fa\,min}$:	0		**125 Hz**	-15	-13
P_1 :	0,5/4	kW	Δ I :	-		**250 Hz**	-14	-8
I_N :	2,7/8	A	I_A / I_N :	-		**500 Hz**	-11	-7
n :	440/950	min^{-1}		IP 55		**1 kHz**	-8	-5
C_{400V} :	-	µF		DU4		**2 kHz**	-8	-7
t_R :	50	°C		GS 2		**4 kHz**	-15	-16
				-		**8 kHz**	-24	-25
				-				

Typ			ArtNr			$L_{WA\,rel}$ ΔdB	L_{WA5}	L_{WA8}
RVH 800-8 D			104635	195	kg	$L_{WA\,tot}$	-3	0
U :	400 V 50 Hz		Δ $p_{fa\,min}$:	0		**125 Hz**	-15	-13
P_1 :	2,2	kW	Δ I :	-		**250 Hz**	-14	-8
I_N :	5,9	A	I_A / I_N :	-		**500 Hz**	-11	-7
n :	705	min^{-1}		IP 55		**1 kHz**	-8	-5
C_{400V} :	-	µF		DS4-K		**2 kHz**	-8	-7
t_R :	50	°C		GS 2		**4 kHz**	-15	-16
				-		**8 kHz**	-24	-25
				-				

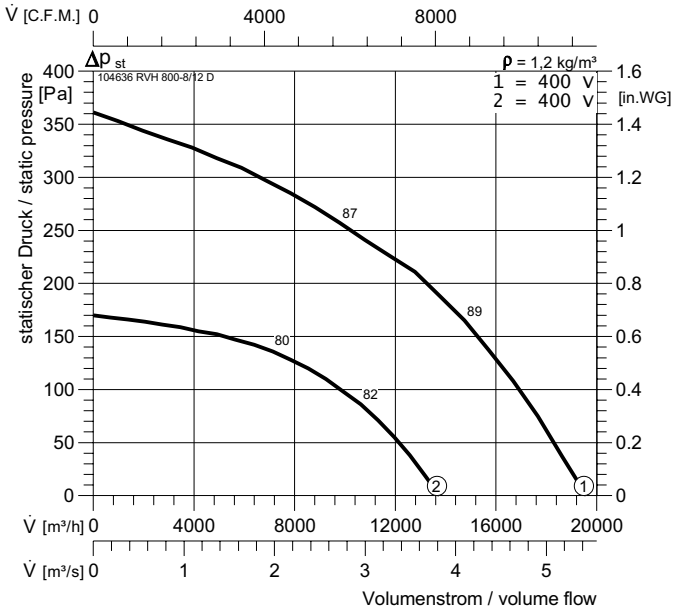
RVH





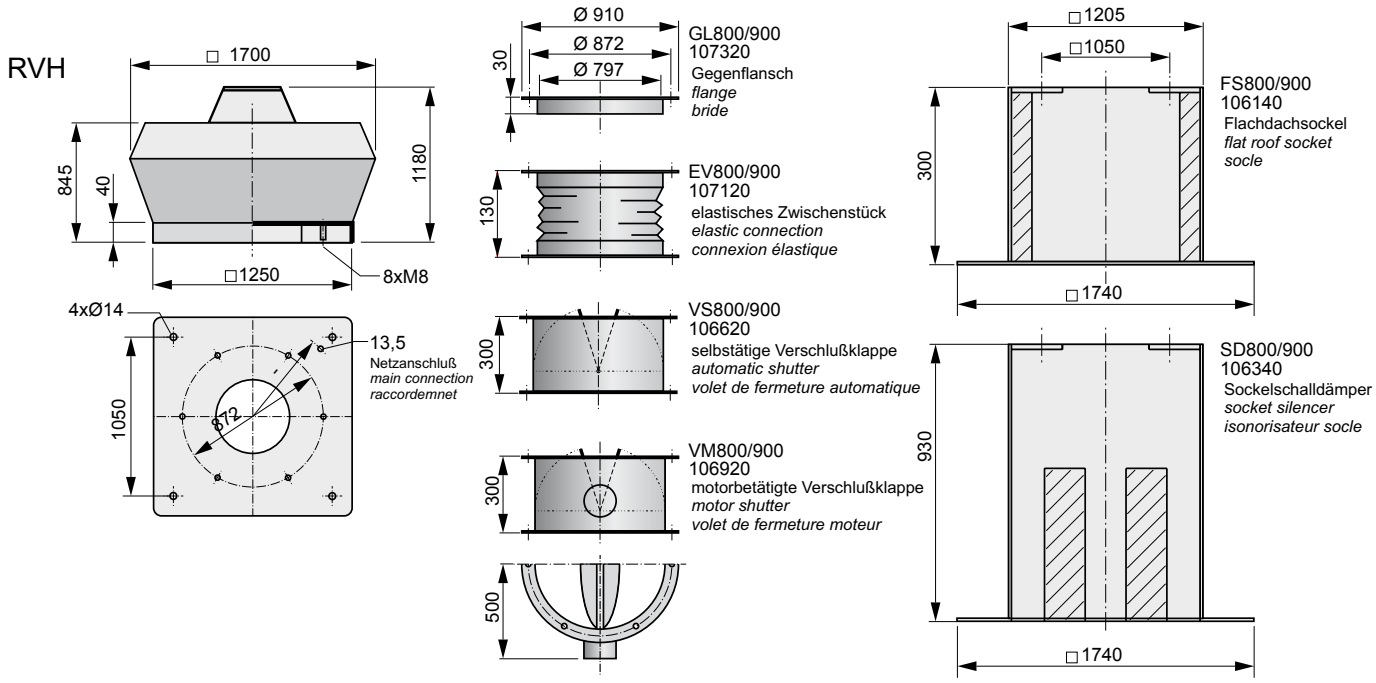


RVH 800-8/12 D, 50°C

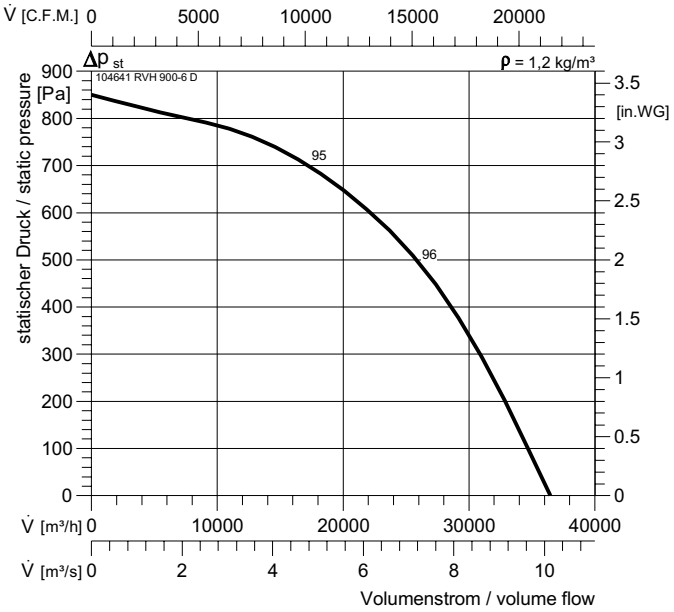


Typ			ArtNr		$L_{WA\,rel}$ ΔdB	L_{WA5}	L_{WA8}
RVH 800-8/12 D			104636	219 kg	$L_{WA\,tot}$	-3	0
U :	400 V 50 Hz		$\Delta p_{fa\,min}$:	0	**125 Hz**	-15	-13
P_1 :	0,7/2,2	**kW**	Δ I :	-	**250 Hz**	-14	-8
I_N :	3,2/6,8	**A**	I_A / I_N :	-	**500 Hz**	-11	-7
n :	500/750	**min^{-1}**		IP 55	**1 kHz**	-8	-5
C_{400V} :	-	**µF**		DD1-K	**2 kHz**	-8	-7
t_R :	50	**°C**		GS 2	**4 kHz**	-15	-16
				-	**8 kHz**	-24	-25
				-			

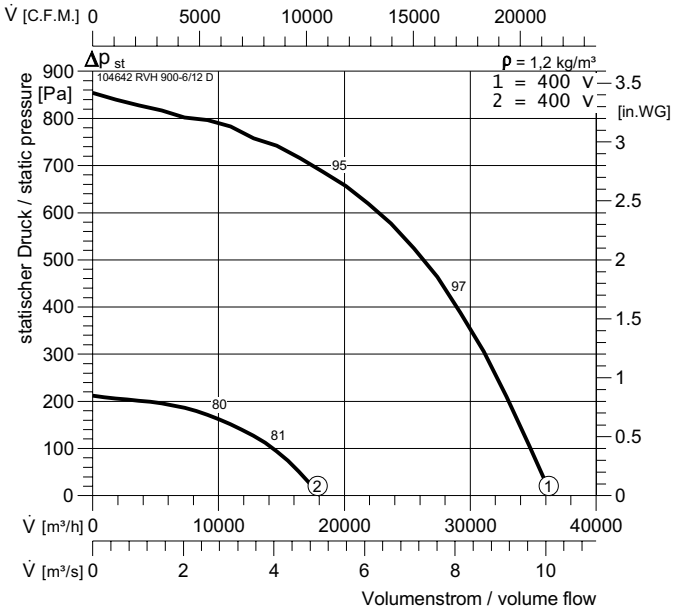
RVH



RVH 900-6 D, 50°C



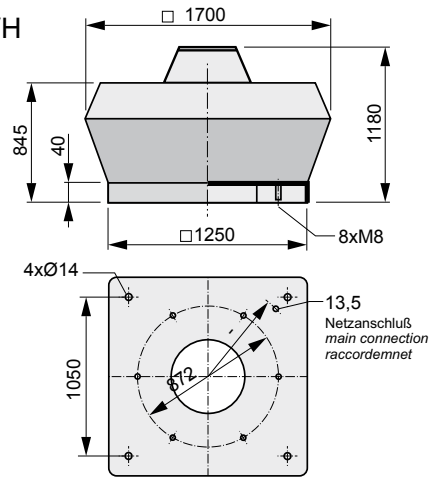
RVH 900-6/12 D, 50°C

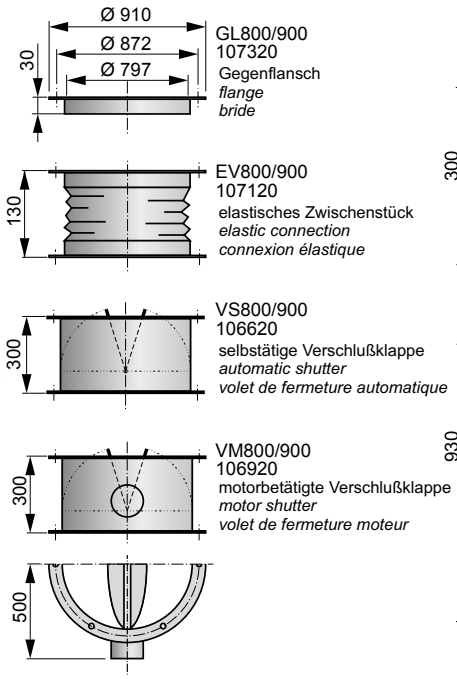


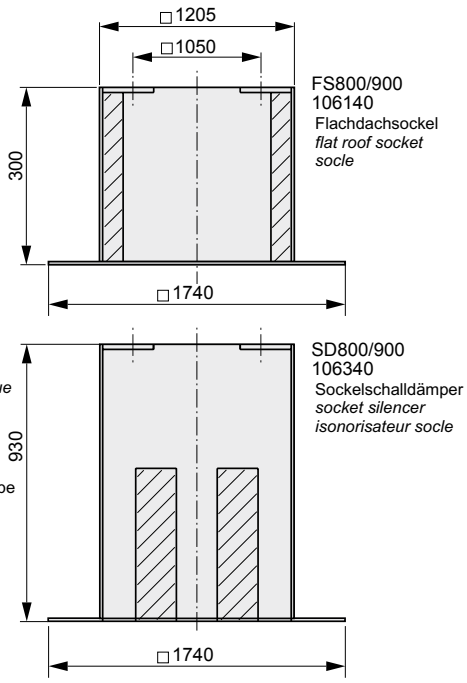
Typ			ArtNr			$L_{WA\,rel}$ ΔdB	L_{WA5}	L_{WA8}
RVH 900-6 D			104641	242	kg	$L_{WA\,tot}$	-3	0
U :	400 V 50 Hz		Δ $p_{fa\,min}$:	0		**125 Hz**	-15	-13
P_1 :	7,5	kW	Δ I :	-		**250 Hz**	-14	-8
I_N :	16,5	A	I_A / I_N :	-		**500 Hz**	-11	-7
n :	960	min^{-1}		IP 55		**1 kHz**	-8	-5
C_{400V} :	-	µF		DS4-K		**2 kHz**	-8	-7
t_R :	50	°C		GS 2		**4 kHz**	-15	-16
				-		**8 kHz**	-24	-25
				-				

Typ			ArtNr			$L_{WA\,rel}$ ΔdB	L_{WA5}	L_{WA8}
RVH 900-6/12 D			104642	275	kg	$L_{WA\,tot}$	-3	0
U :	400 V 50 Hz		Δ $p_{fa\,min}$:	0		**125 Hz**	-15	-13
P_1 :	1,5/7,5	kW	Δ I :	-		**250 Hz**	-14	-8
I_N :	5,9/16,5	A	I_A / I_N :	-		**500 Hz**	-11	-7
n :	470/960	min^{-1}		IP 55		**1 kHz**	-8	-5
C_{400V} :	-	µF		DU4		**2 kHz**	-8	-7
t_R :	50	°C		GS 2		**4 kHz**	-15	-16
				-		**8 kHz**	-24	-25
				-				

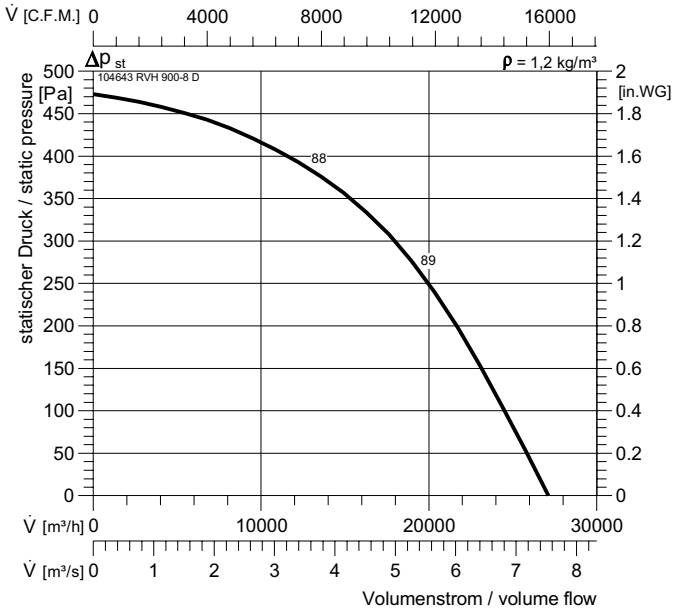
RVH



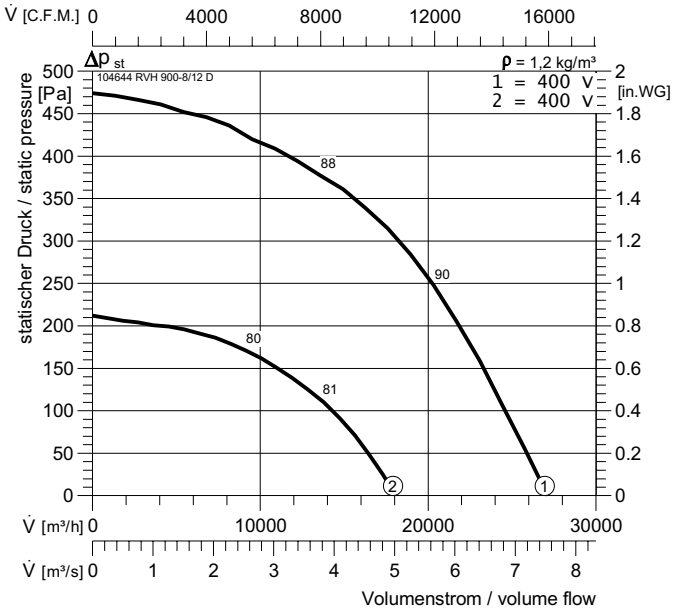




RVH 900-8 D, 50°C



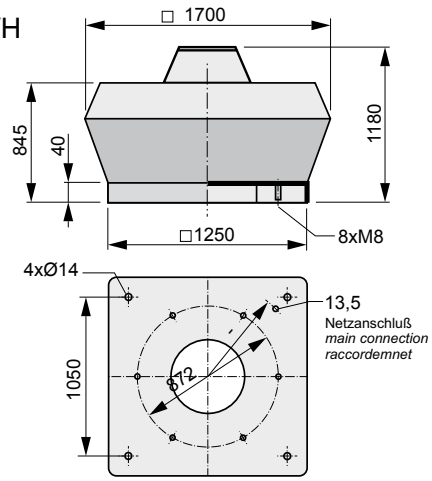
RVH 900-8/12 D, 50°C

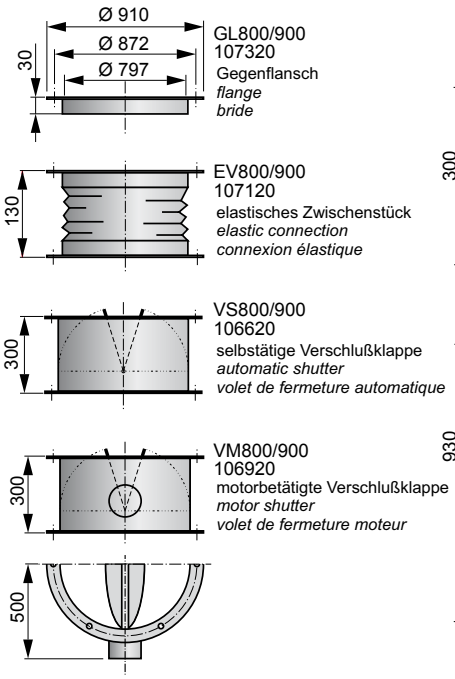


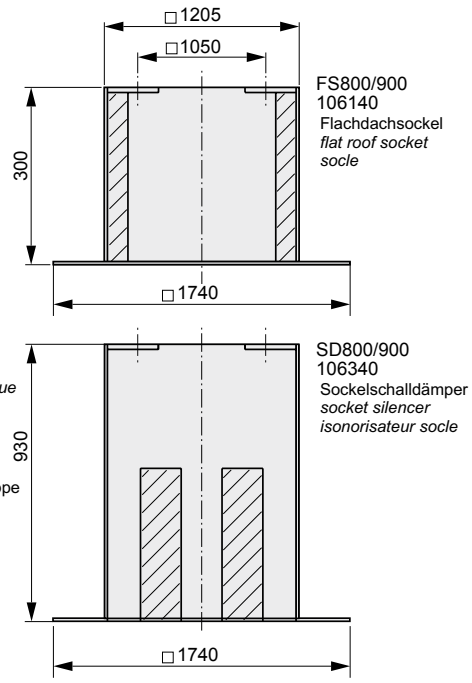
Typ			ArtNr			$L_{WA\,rel}$ ΔdB	L_{WA5}	L_{WA8}
RVH 900-8 D			104643	205	**kg**	$L_{WA\,tot}$	-3	0
U :	400 V 50 Hz		Δ $p_{fa\,min}$:	0		**125 Hz**	-15	-13
P_1 :	3	**kW**	Δ I :	-		**250 Hz**	-14	-8
I_N :	7,9	**A**	I_A / I_N :	-		**500 Hz**	-11	-7
n :	700	**min^{-1}**		IP 55		**1 kHz**	-8	-5
C_{400V} :	-	**µF**		DS4-K		**2 kHz**	-8	-7
t_R :	50	**°C**		GS 2		**4 kHz**	-15	-16
				-		**8 kHz**	-24	-25
				-				

Typ			ArtNr			$L_{WA\,rel}$ ΔdB	L_{WA5}	L_{WA8}
RVH 900-8/12 D			104644	229	**kg**	$L_{WA\,tot}$	-3	0
U :	400 V 50 Hz		Δ $p_{fa\,min}$:	0		**125 Hz**	-15	-13
P_1 :	1/3	**kW**	Δ I :	-		**250 Hz**	-14	-8
I_N :	4,6/9	**A**	I_A / I_N :	-		**500 Hz**	-11	-7
n :	500/750	**min^{-1}**		IP 55		**1 kHz**	-8	-5
C_{400V} :	-	**µF**		DU4		**2 kHz**	-8	-7
t_R :	50	**°C**		GS 2		**4 kHz**	-15	-16
				-		**8 kHz**	-24	-25
				-				

RVH







Direktgetriebene Radialventilatoren

Direct-driven centrifugal Fans

Seite / Page 222-246

Radialventilatoren
Centrifugal Fans
ERSE/ERSD/DRSE/DRSD

Seite / Page 248-260

Radialventilatoren mit Normmotor
Centrifugal Fans driven by Standard Motors
TNF/HNF/TNQ/HNQ

Seite / Page 262-279

Abluftboxen
Extract Fans
KAFE/KAFD/KATE/KATD

Seite / Page 280-295

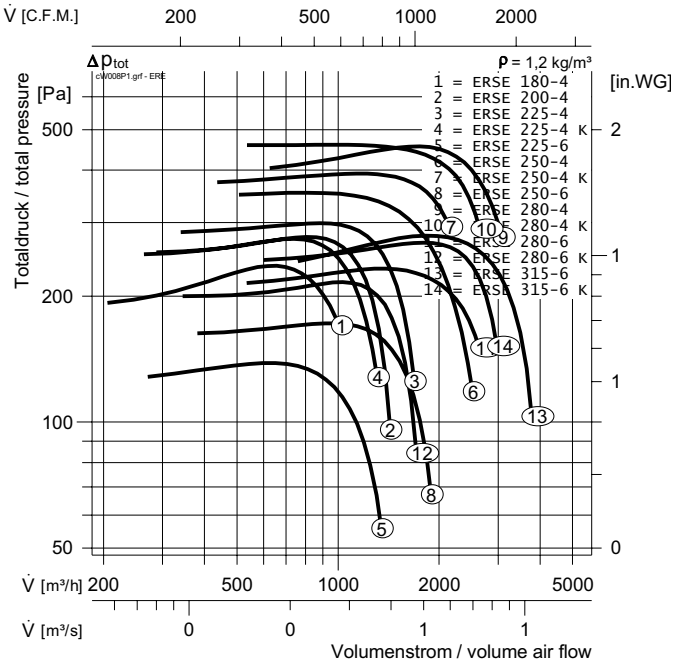
Chemieventilatoren
Chemical Resistant Centrifugal Fans
CHEM

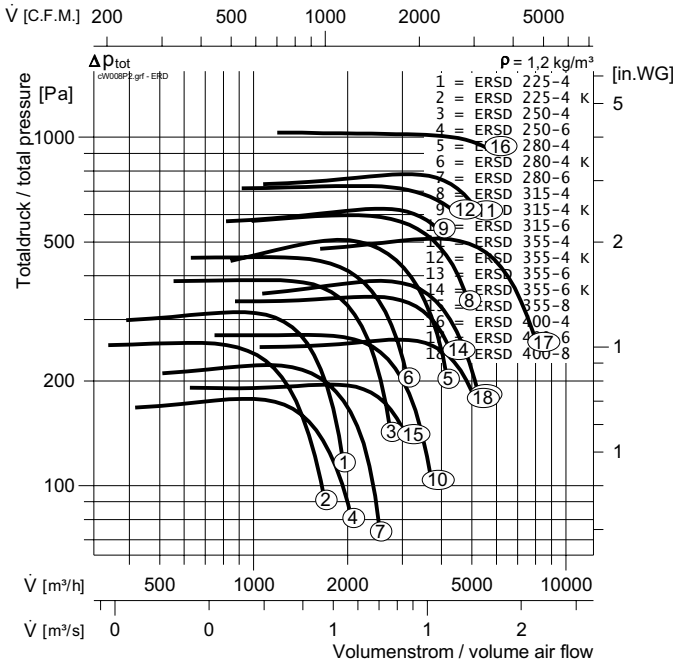
Typenschlüssel *Fan type code*

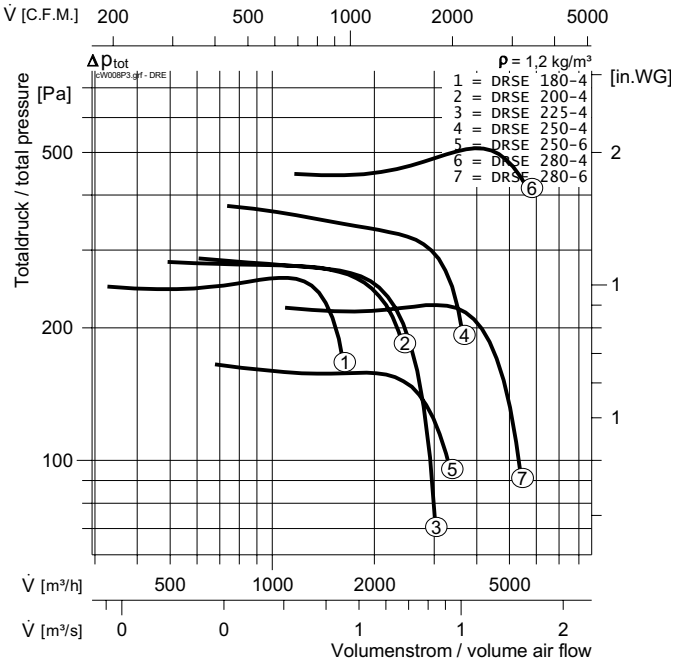
E R SE 225 - 4

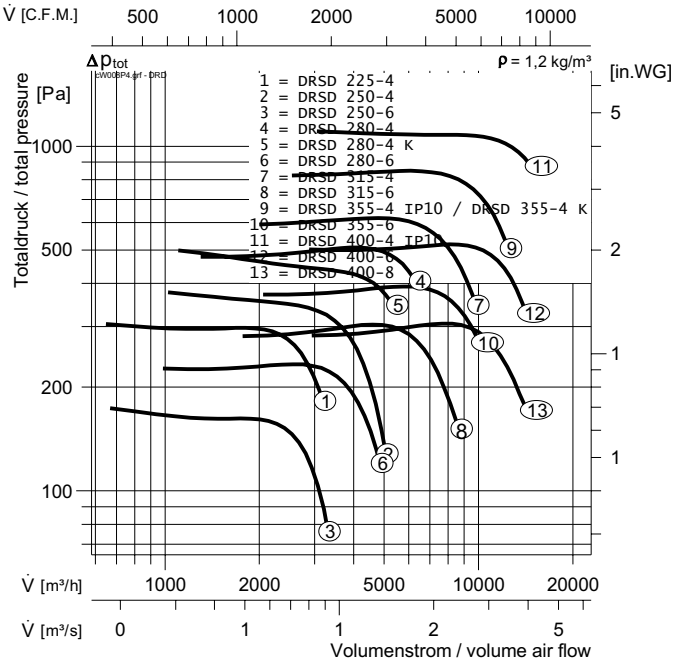
- Polzahl / *Number of poles*
- Nennweite / *Impeller diameter*
- Sondermotor / *Non-standard motor*
  - SE = Einphasenwechselstrom / *Single-phase A.C.*
  - SD = Drehstrom / *Three-phase A.C.*
- Radialventilator / *Centrifugal fan*
- E = einflutig / *single inlet*
  - D = zweiflutig / *double inlet*

Schnellauswahl *Quick selection*









Eigenschaften und Ausführung

Die Hochleistungs-Radialventilatoren der Serie ERS/DRS wurden speziell fur den Einsatz in modernen Lüftungs- und Klimaanlagen entwickelt und eignen sich zur Förderung von wenig staubhaltiger Luft und leicht aggressiven Gasen und Dämpfen. Die Baugrößen entsprechen der Normzahlenreihe R20 nach DIN 323. Die Größenbezeichnung entspricht dem Laufraddurchmesser.

Gehäuse

Die Gehäuse der Hochleistungs-Radialventilatoren werden aus verzinktem Stahlblech hergestellt, wobei die Gehäuseseitenteile durch eine Stehfalz mit dem Spiralleitblech verbunden sind. In den Seitenteilen befinden sich Bohrungen für die Befestigung von Füßen, die jeweils um 90° umgesetzt werden können.

Laufrad

Die Trommellaufräder aus verzinktem Stahlblech sind direkt auf die Rotoren der Außenläufermotoren aufgebaut und zusammen mit diesen entsprechend Gütestufe G 2,5 nach DIN ISO 1940 auf 2 Ebenen ausgewuchtet.

Elektrischer Anschluß

Die Antriebsmotoren besitzen ein ausgeführtes Kabel. Der elektrische Anschluss erfolgt durch einen lose beigefügten Anschlusskasten in Schutzart IP44. Bei Einphasen-Wechselstrom-Motoren werden an den Klemmkästen befestigte Kondensatoren mitgeliefert.

Drehrichtung

Die Drehrichtung bei der Ausführung ERS ist von der Ansaugseite aus gesehen rechtsdrehend, bei der Ausführung DRS von der Kabelausführungsseite aus gesehen linksdrehend.

Luftleistungskennlinien

Die Kennlinien für diese Typenreihe wurden in Einbauart B (frei ansaugend, druckseitig angeschlossen) aufgenommen und zeigen die statische Druckerhöhung Δp_{st} als Funktion des Volumenstroms. Der dynamische Druck p_{d2} ist auf den Flanschquerschnitt am Ventilatoraustritt bezogen.

Schallentwicklung

In den Luftleistungskennlinien ist der A-bewertete Freiausblas-Schalleistungspegel L_{WA6} angegeben. Der A-bewertete Freiansaug-Schallleistungspegel L_{WA5} nach DIN 45 635, Teil 38 wird wie folgt ermittelt:

$$L_{WA5} = L_{WA6} - 3\ dB(A)$$

Den A-bewerteten Schalldruckpegel L_{PA} in 1m Abstand erhält man annähernd, indem man vom A-Schalleistungspegel L_{WA} 7 dB (A) abzieht. Zu beachten ist, dass Reflexionen und Raumcharakteristik sowie Eigenfrequenzen die Größe des Schalldruckpegels unterschiedlich beeinflussen.

Zur Auslegung von Schalldämpfern ist der A-bewertete Oktav-Schalleistungspegel von Interesse, welcher wie folgt ermittelt wird:

$$L_{WAOkt} = L_{WA6} + L_{WArel}$$

Die relativen Oktav-Schalleistungspegel LWArel bei den Oktav-Mittelfrequenzen sind den Tabellen des Ventilators zu entnehmen. Sie sind bei 0,5 x Vmax ermittelt worden.

Design features

The high-efficiency ERS/DRS centrifugal fans have been developed for use in modern ventilation and air conditioning applications and are well suited to move air and lightly aggressive gas and vapours. The size comply with standard R20 in accordance to DIN 323. The designation of size corresponds to the outside diameter of the impeller.

Casing

The casing is manufactured from galvanised sheet steel. Side plate and scroll plate are joined together by a rolled seam. Mounting brackets can be fitted to the fan side plate in steps of 90°.

Impeller

The centrifugal impeller is made of galvanised sheet metal and is fitted directly to the external rotor motor. The motor-impeller-unit is balanced in two plains according to G 2,5 (DIN ISO 1940).

Electrical connection

Motors come with flying lead. The electrical connection is made via an IP44 terminal box, which is supplied loosely. Single-phase motors are delivered with the capacitor fixed to the terminal box.

Sense of rotation

The direction of rotation ERS type fans is clockwise, viewed from the inlet side. For DRS type fans it is counter-clockwise, viewed from the cable outlet side.

Fan performance curves

The performance curves for these fan types have been established in mounting position B (installed on the pressure side and open on the suction side) and represent the static pressure increase Δp_{st} as a function of the volume flow. The dynamic pressure p_{d2} refers to the flange cross-sectional area of the fan outlet.

Sound levels

The sound figures given in the fan performance curves are the A-weighted sound power levels L_{WA6} at the outlet side, unducted, in decibels. The A-weighted sound power level at the inlet side L_{WA5} according to DIN 45 635, part 38, is obtained as follows:

$$L_{WA5} = L_{WA6} - 3\ dB(A)$$

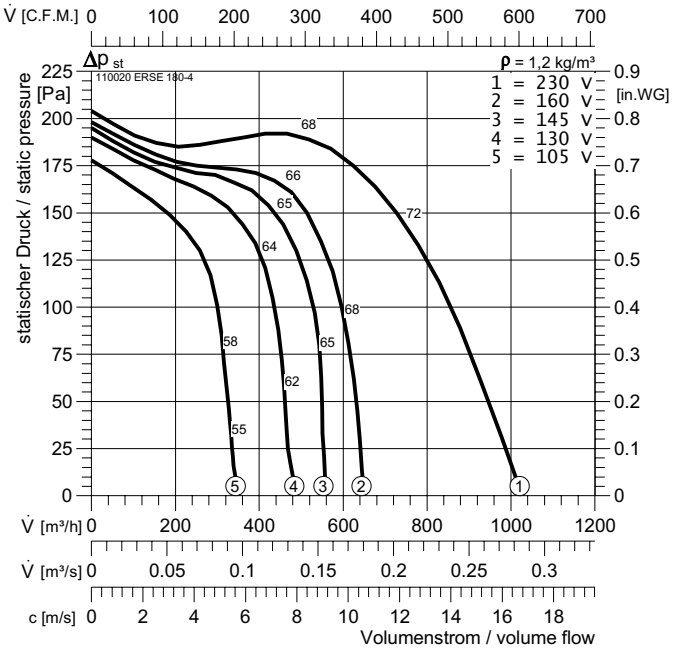
The A-weighted sound pressure level L_{PA} at a distance of 1 metre is obtained approximately by deducting 7 dB(A) from the A-weighted sound power level L_{WA}.

It is important to note that reflexion and environmental characteristics as well as resonant frequencies influence the sound pressure levels in different ways.The octave sound power level is important for the choice of suitable sound attenuators. It is obtained as follows.

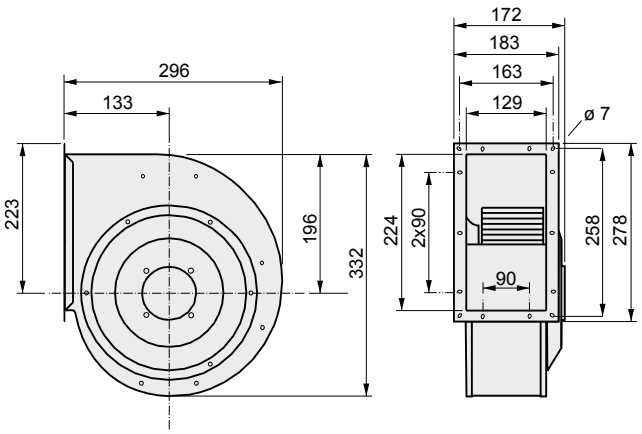
$$L_{WAOkt} = L_{WA6} + L_{WArel}$$

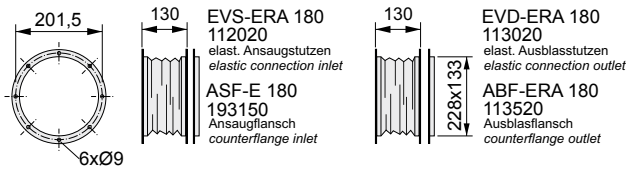
The relative octave sound power level LWArel at octave medium frequency can be taken from the tables at respective fan. These levels have been established at 0.5 x Vmax.

ERSE 180-4



Typ :	ERSE 180-4		Δ $p_{fa\ min}$:	0	$L_{WA\ rel}$ ΔdB	L_{WA5}	L_{WA6}
ArtNr :	110020		Δ I :	-	$L_{WA\ tot}$	-3	0
:	6	kg	I_A/I_N :	1,5	125 Hz	-22	-23
U :	230 V 50 Hz			IP 54	250 Hz	-14	-10
P_1 :	0,19	kW		E13	500 Hz	-14	-8
I_N :	0,85	A		GS 1	1 kHz	-8	-4
n :	1160	min^{-1}		NE 1,5	2 kHz	-8	-7
C_{400V} :	3	µF		RPE 02 A	4 kHz	-11	-9
t_R :	40	°C			8 kHz	-17	-16





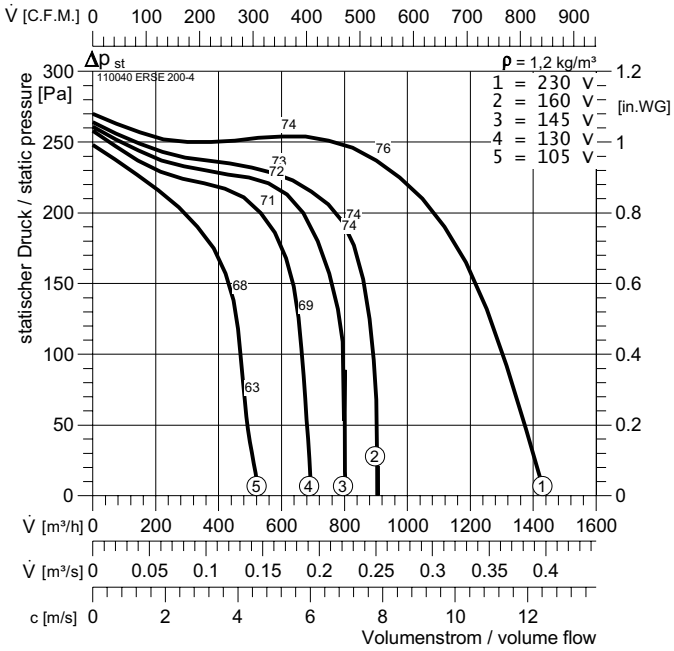
EVS-ERA 180
112020
elast. Ansaugstutzen
elastic connection inlet

ASF-E 180
193150
Ansaugflansch
counterflange inlet

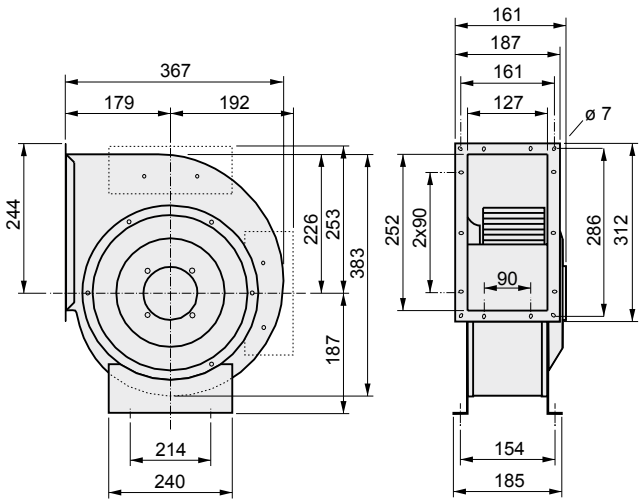
EVD-ERA 180
113020
elast. Ausblasstutzen
elastic connection outlet

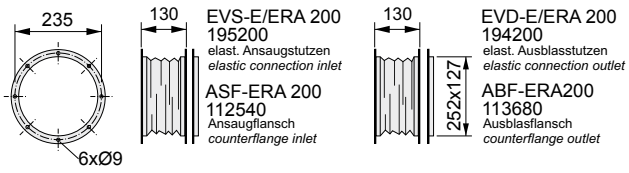
ABF-ERA 180
113520
Ausblasflansch
counterflange outlet

ERSE 200-4



Typ :	ERSE 200-4		Δ $p_{fa\ min}$:	50	$L_{WA\ rel}$ ΔdB	L_{WA5}	L_{WA6}
ArtNr :	110040		Δ I :	-	$L_{WA\ tot}$	-3	0
:	7,5	kg	I_A/I_N :	1,4	125 Hz	-22	-23
U :	230 V 50 Hz			IP 54	250 Hz	-14	-10
P_1 :	0,36	kW		E13	500 Hz	-14	-8
I_N :	1,6	A		GS 1	1 kHz	-8	-4
n :	1140	min^{-1}		NE 1,5	2 kHz	-8	-7
C_{400V} :	6	µF		RPE 06 A	4 kHz	-11	-9
t_R :	40	°C			8 kHz	-17	-16





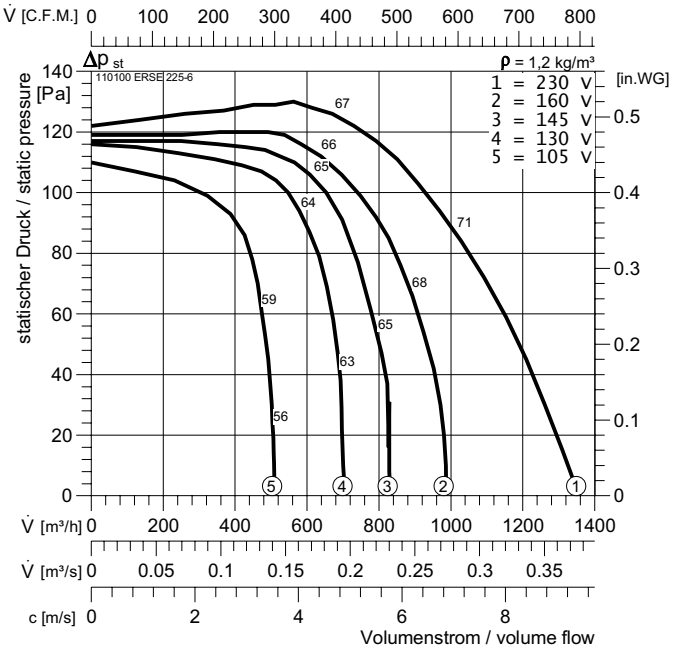
EVS-E/ERA 200
195200
elast. Ansaugstutzen
elastic connection inlet

ASF-ERA 200
112540
Ansaugflansch
counterflange inlet

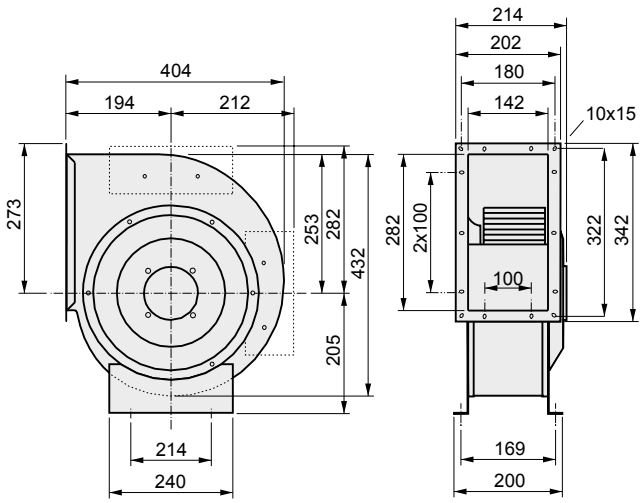
EVD-E/ERA 200
194200
elast. Ausblasstutzen
elastic connection outlet

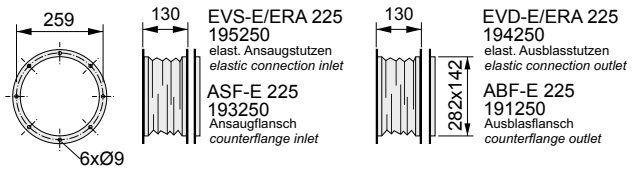
ABF-ERA200
113680
Ausblasflansch
counterflange outlet

ERSE 225-6

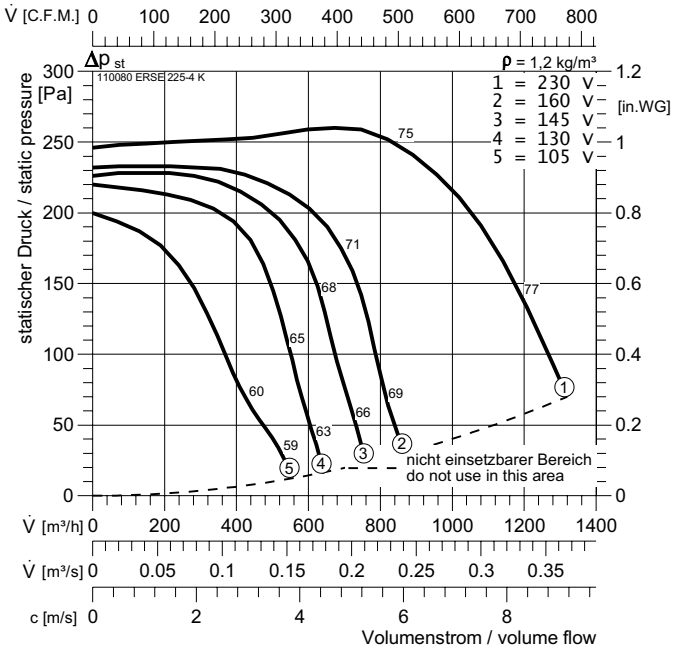


Typ :	ERSE 225-6		Δ $p_{fa\ min}$:	0	$L_{WA\ rel}$ ΔdB	L_{WA5}	L_{WA6}
ArtNr :	110100		Δ I :	-	$L_{WA\ tot}$	-3	0
:	14	kg	I_A/I_N :	1,8	125 Hz	-23	-23
U :	230 V 50 Hz			IP 54	250 Hz	-21	-10
P_1 :	0,2	kW		E13	500 Hz	-11	-6
I_N :	0,96	A		GS 2	1 kHz	-8	-6
n :	835	min^{-1}		NE 1,5	2 kHz	-8	-6
C_{400V} :	4	µF		RPE 02	4 kHz	-11	-8
t_R :	60	°C			8 kHz	-19	-15

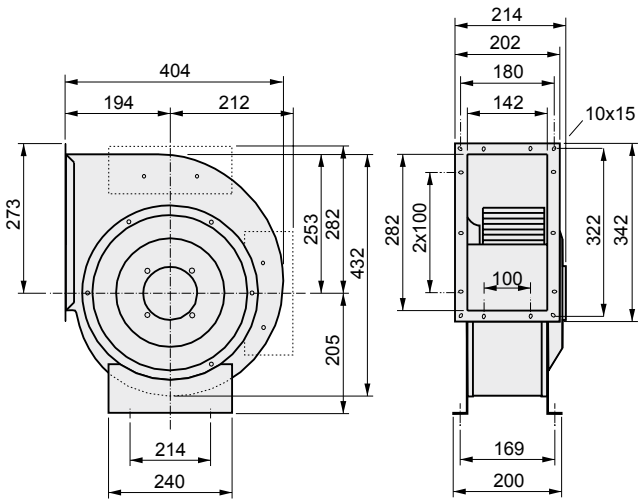


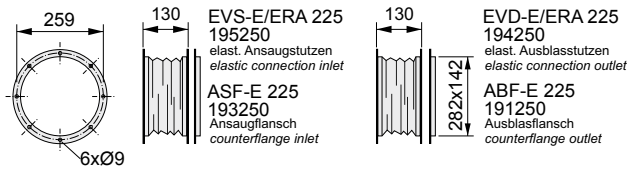


ERSE 225-4 K

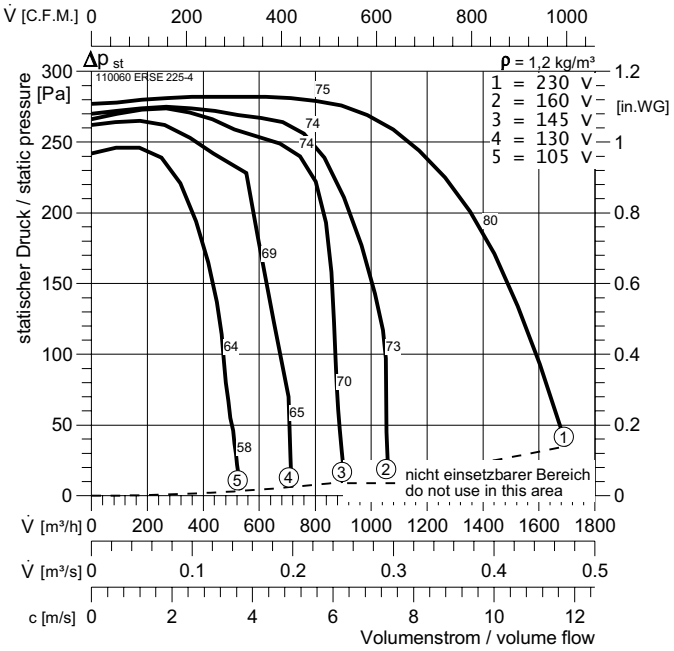


Typ :	ERSE 225-4 K		Δ $p_{fa\ min}$:	70	$L_{WA\ rel}$ ΔdB	L_{WA5}	L_{WA6}
ArtNr :	110080		Δ I :	-	$L_{WA\ tot}$	-3	0
:	10	kg	I_A/I_N :	1,3	125 Hz	-22	-23
U :	230 V 50 Hz			IP 54	250 Hz	-14	-10
P_1 :	0,37	kW		E13	500 Hz	-14	-8
I_N :	1,6	A		GS 2	1 kHz	-8	-4
n :	1070	min^{-1}		NE 3,2	2 kHz	-8	-7
C_{400V} :	6	µF		RPE 06	4 kHz	-11	-9
t_R :	40	°C			8 kHz	-17	-16

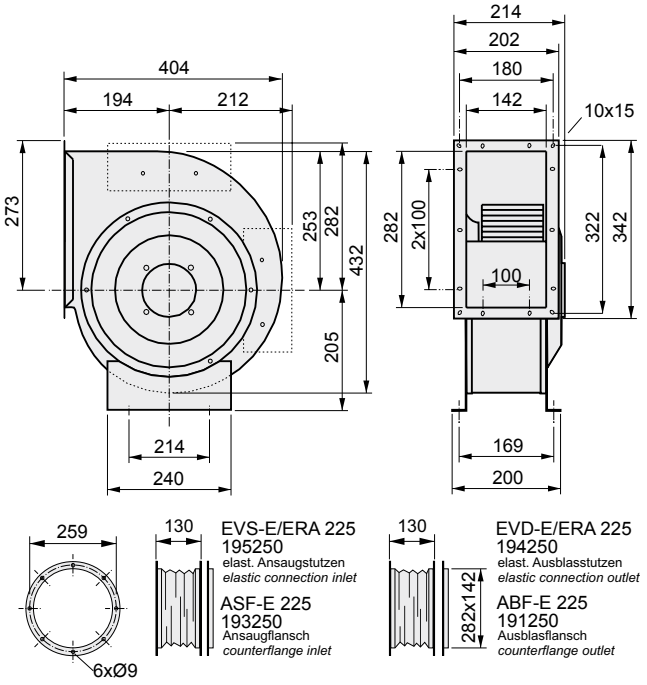




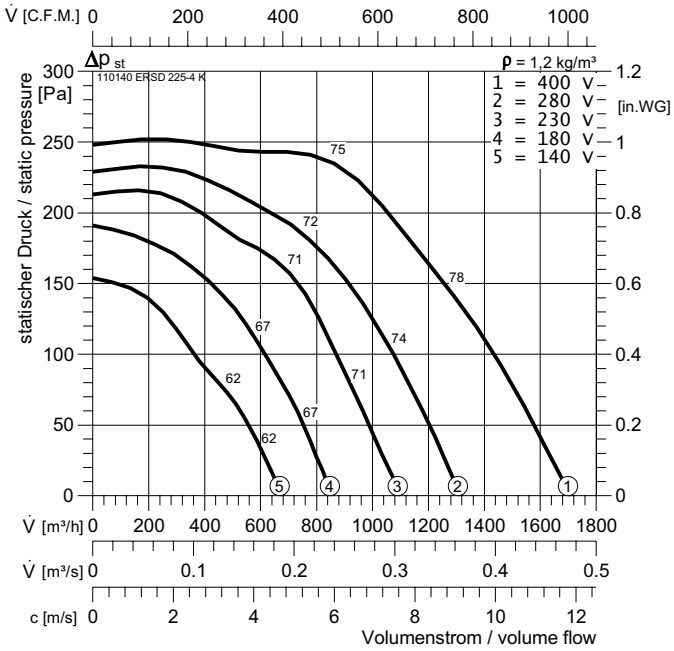
ERSE 225-4



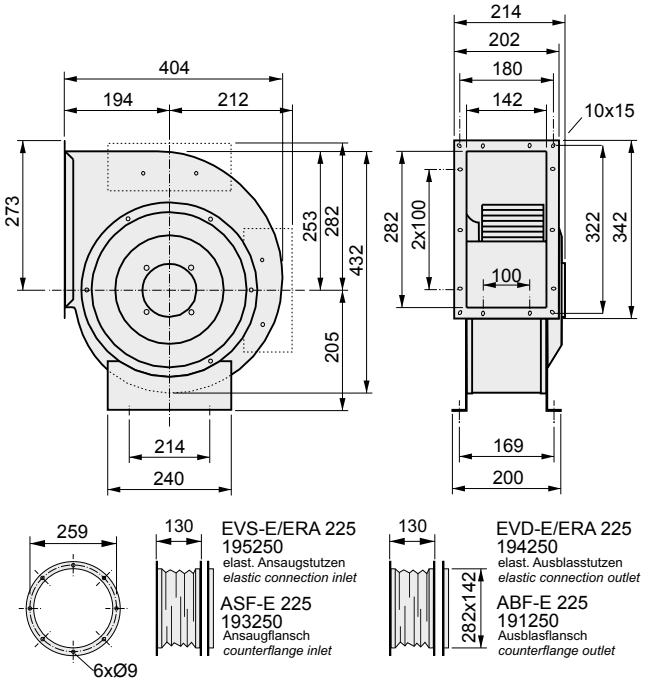
Typ :	ERSE 225-4		Δ $p_{fa\ min}$:	35	$L_{WA\ rel}$ ΔdB	L_{WA5}	L_{WA6}
ArtNr :	110060		Δ I :	-	$L_{WA\ tot}$	-3	0
:	14	kg	I_A/I_N :	1,7	125 Hz	-22	-23
U :	230 V 50 Hz			IP 54	250 Hz	-14	-10
P_1 :	0,49	kW		E13	500 Hz	-14	-8
I_N :	2,2	A		GS 2	1 kHz	-8	-4
n :	1200	min^{-1}		NE 3,2	2 kHz	-8	-7
C_{400V} :	8	µF		RPE 06	4 kHz	-11	-9
t_R :	40	°C			8 kHz	-17	-16



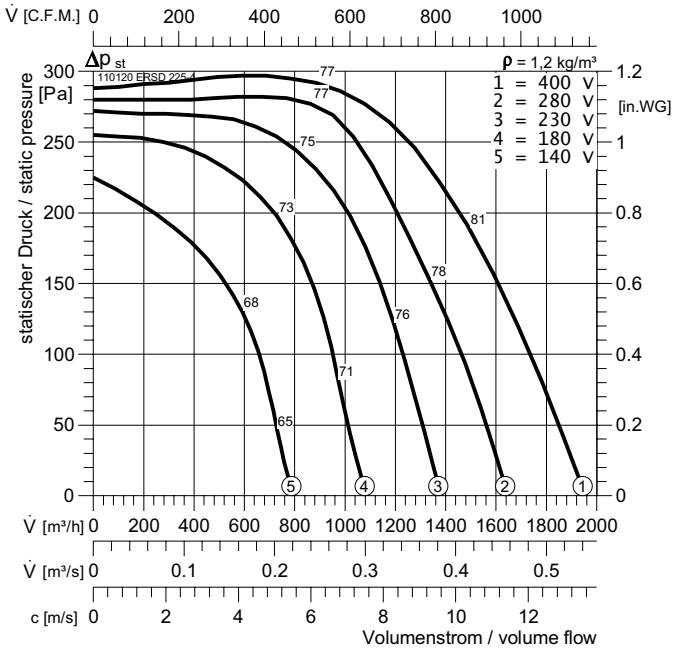
ERSD 225-4 K



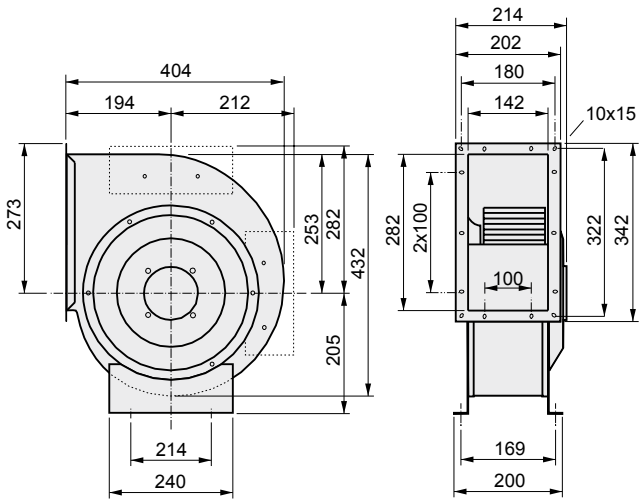
Typ :	ERSD 225-4 K		Δ $p_{fa\ min}$:	0	$L_{WA\ rel}$ ΔdB	L_{WA5}	L_{WA6}
ArtNr :	110140		Δ I :	-	$L_{WA\ tot}$	-3	0
:	10	kg	I_A/I_N :	1,8	125 Hz	-22	-23
U :	400 V 50 Hz			IP 54	250 Hz	-14	-10
P_1 :	0,40	kW		DD0b	500 Hz	-14	-8
I_N :	0,72	A		GS 2	1 kHz	-8	-4
n :	1090	min^{-1}		RTD 1,2	2 kHz	-8	-7
C_{400V} :	-	µF		SAD 9	4 kHz	-11	-9
t_R :	60	°C			8 kHz	-17	-16

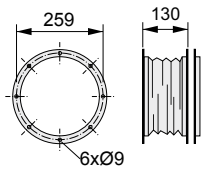


ERSD 225-4



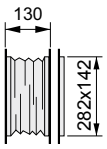
Typ :	ERSD 225-4		Δ $p_{fa\ min}$:	0	$L_{WA\ rel}$ ΔdB	L_{WA5}	L_{WA6}
ArtNr :	110120		Δ I :	6	$L_{WA\ tot}$	-3	0
:	14	kg	I_A/I_N :	2,6	125 Hz	-22	-23
U :	400 V 50 Hz			IP 54	250 Hz	-14	-10
P_1 :	0,57	kW		DD0b	500 Hz	-14	-8
I_N :	1,0	A		GS 2	1 kHz	-8	-4
n :	1290	min^{-1}		RTD 1,2	2 kHz	-8	-7
C_{400V} :	-	µF		SAD 9	4 kHz	-11	-9
t_R :	50	°C			8 kHz	-17	-16





EVS-E/ERA 225
195250
elast. Ansaugstutzen
elastic connection inlet

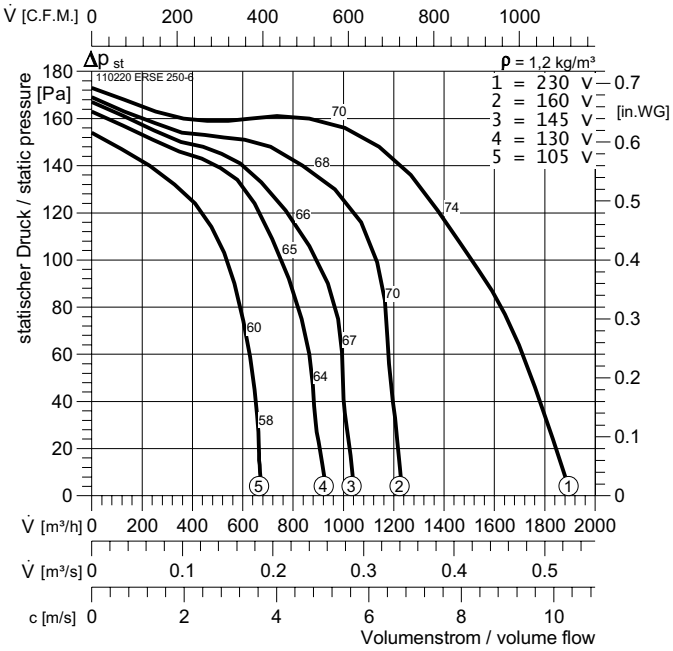
ASF-E 225
193250
Ansaugflansch
counterflange inlet



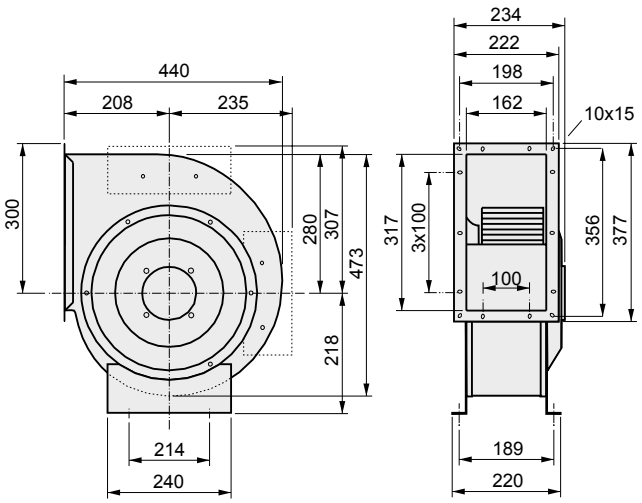
EVD-E/ERA 225
194250
elast. Ausblasstutzen
elastic connection outlet

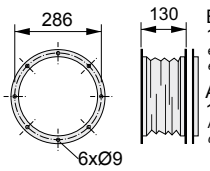
ABF-E 225
191250
Ausblasflansch
counterflange outlet

ERSE 250-6



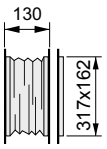
Typ :	ERSE 250-6		Δ $p_{fa\ min}$:	0	$L_{WA\ rel}$ ΔdB	L_{WA5}	L_{WA6}
ArtNr :	110220		Δ I :	-	$L_{WA\ tot}$	-3	0
:	16	kg	I_A/I_N :	1,45	125 Hz	-23	-23
U :	230 V 50 Hz			IP 54	250 Hz	-21	-10
P_1 :	0,34	kW		E13	500 Hz	-11	-6
I_N :	1,5	A		GS 2	1 kHz	-8	-6
n :	770	min^{-1}		NE 3,2	2 kHz	-8	-6
C_{400V} :	5	µF		RPE 06	4 kHz	-11	-8
t_R :	60	°C			8 kHz	-19	-15





EVS-E/ERA 250
195300
elast. Ansaugstutzen
elastic connection inlet

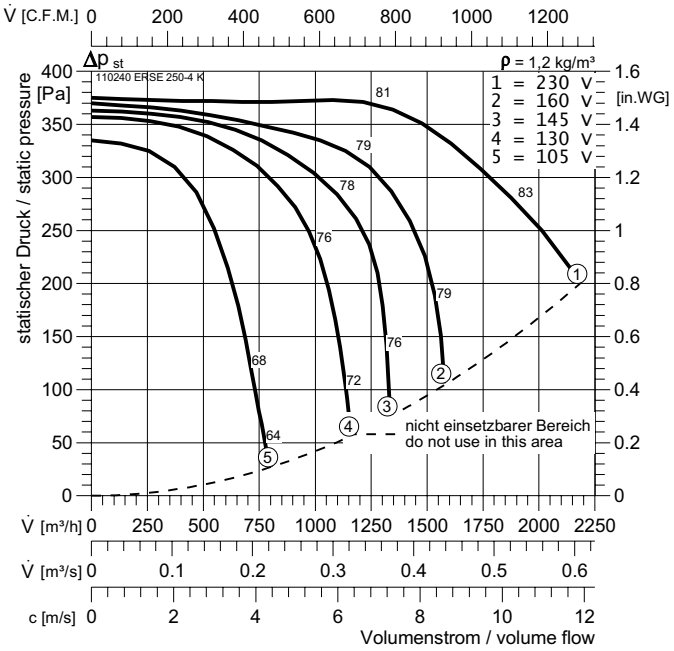
ASF-E 250
193300
Ansaugflansch
counterflange inlet



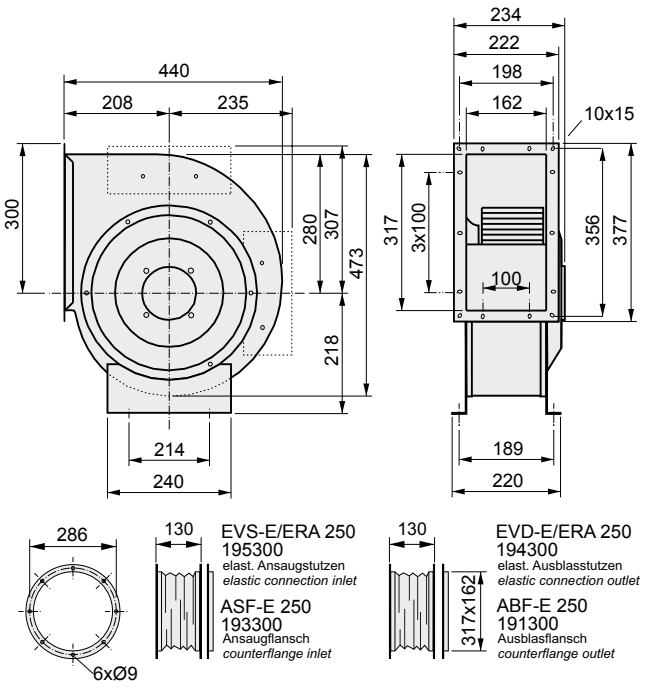
EVD-E/ERA 250
194300
elast. Ausblasstutzen
elastic connection outlet

ABF-E 250
191300
Ausblasflansch
counterflange outlet

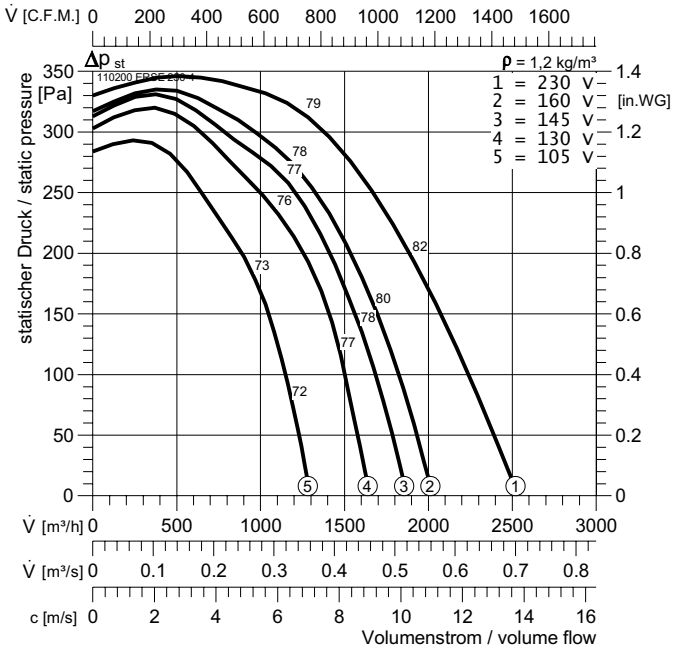
ERSE 250-4 K



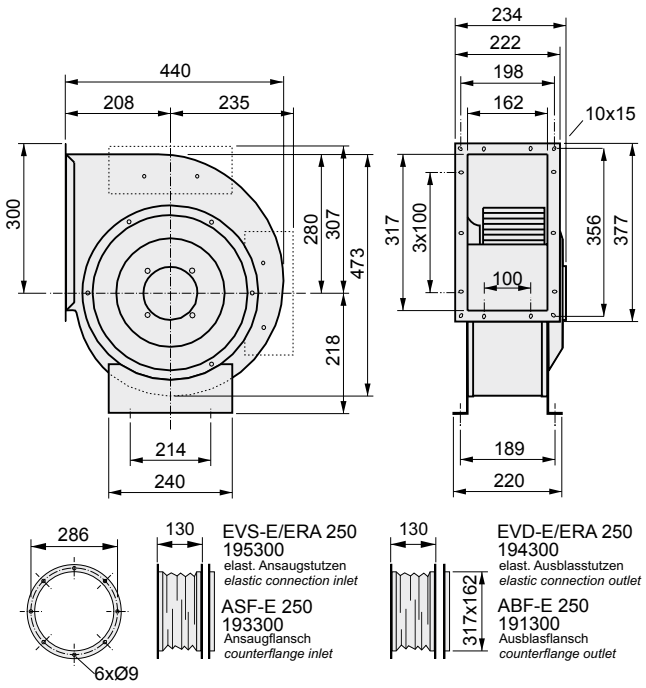
Typ :	ERSE 250-4 K		Δ $p_{fa\ min}$:	200	$L_{WA\ rel}$ ΔdB	L_{WA5}	L_{WA6}
ArtNr :	110240		Δ I :	9	$L_{WA\ tot}$	-3	0
:	17	kg	I_A/I_N :	2,1	125 Hz	-22	-23
U :	230 V 50 Hz			IP 54	250 Hz	-14	-10
P_1 :	0,67	kW		E13	500 Hz	-14	-8
I_N :	3,1	A		GS 2	1 kHz	-8	-4
n :	1330	min^{-1}		NE 5	2 kHz	-8	-7
C_{400V} :	12	µF		RPE 09	4 kHz	-11	-9
t_R :	40	°C			8 kHz	-17	-16



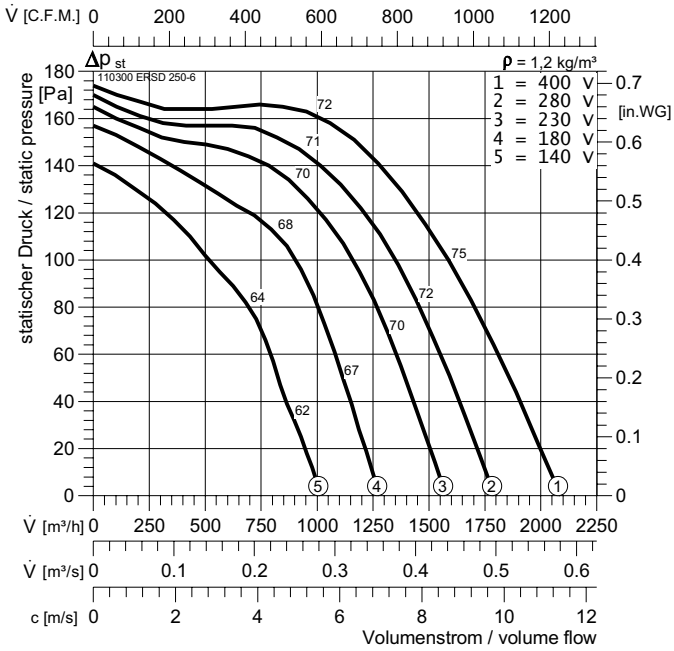
ERSE 250-4



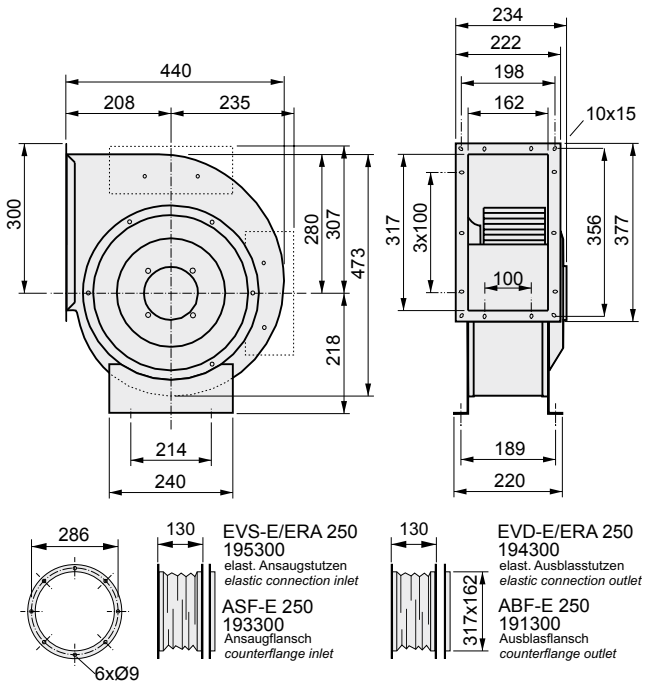
Typ :	ERSE 250-4		Δ $p_{fa\ min}$:	0	$L_{WA\ rel}$ ΔdB	L_{WA5}	L_{WA6}
ArtNr :	110200		Δ I :	-	$L_{WA\ tot}$	-3	0
:	17	kg	I_A/I_N :	1,9	125 Hz	-22	-23
U :	230 V 50 Hz			IP 54	250 Hz	-14	-10
P_1 :	0,81	kW		E13	500 Hz	-14	-8
I_N :	3,85	A		GS 2	1 kHz	-8	-4
n :	1240	min^{-1}		NE 5	2 kHz	-8	-7
C_{400V} :	16	µF		RPE 09	4 kHz	-11	-9
t_R :	60	°C			8 kHz	-17	-16



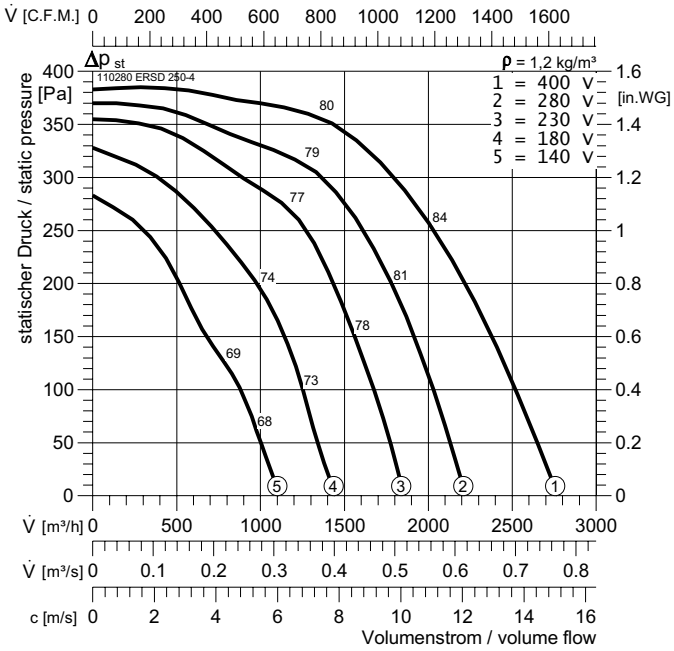
ERSD 250-6



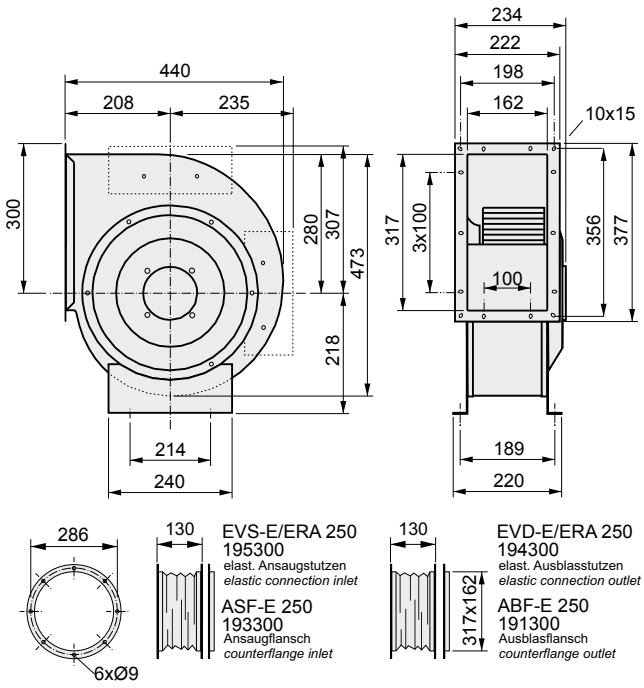
Typ :	ERSD 250-6		Δ $p_{fa\ min}$:	0	$L_{WA\ rel}$ ΔdB	L_{WA5}	L_{WA6}
ArtNr :	110300		Δ I :	-	$L_{WA\ tot}$	-3	0
:	16	kg	I_A/I_N :	2,7	125 Hz	-23	-23
U :	400 V 50 Hz			IP 54	250 Hz	-21	-10
P_1 :	0,34	kW		DD0b	500 Hz	-11	-6
I_N :	0,65	A		GS 2	1 kHz	-8	-6
n :	865	min^{-1}		RTD 1,2	2 kHz	-8	-6
C_{400V} :	-	µF		SAD 9	4 kHz	-11	-8
t_R :	60	°C			8 kHz	-19	-15



ERSD 250-4

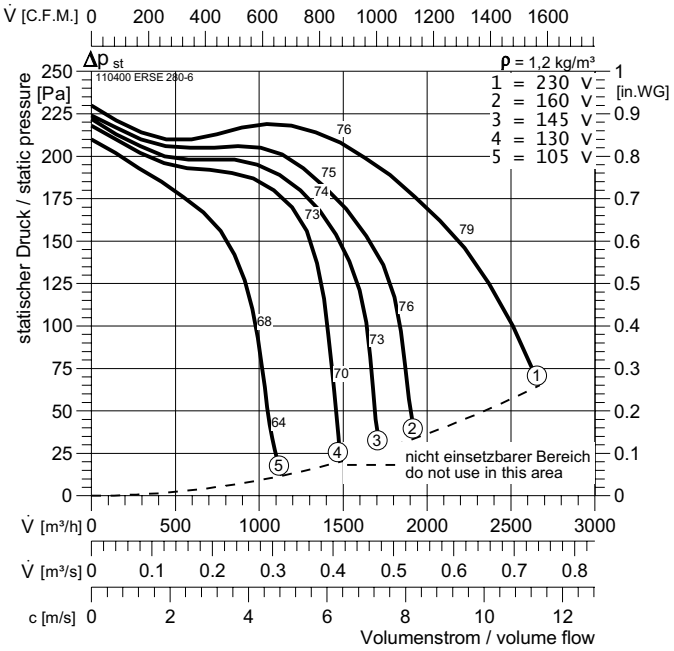


Typ :	ERSD 250-4		Δ $p_{fa\ min}$:	0	$L_{WA\ rel}$ ΔdB	L_{WA5}	L_{WA6}
ArtNr :	110280		Δ I :	-	$L_{WA\ tot}$	-3	0
:	17	kg	I_A/I_N :	2,3	125 Hz	-22	-23
U :	400 V 50 Hz			IP 54	250 Hz	-14	-10
P_1 :	0,84	kW		DD0b	500 Hz	-14	-8
I_N :	1,6	A		GS 2	1 kHz	-8	-4
n :	1210	min^{-1}		RTD 2,5	2 kHz	-8	-7
C_{400V} :	-	µF		SAD 9	4 kHz	-11	-9
t_R :	40	°C			8 kHz	-17	-16

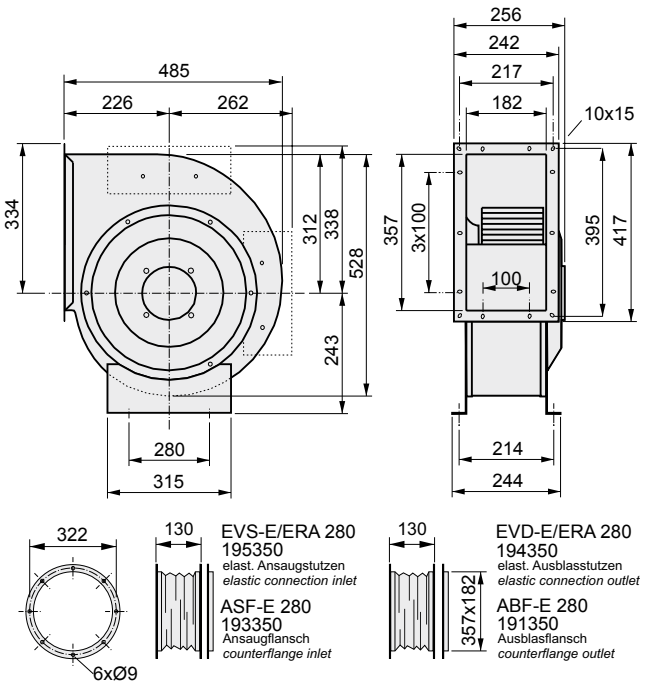


5

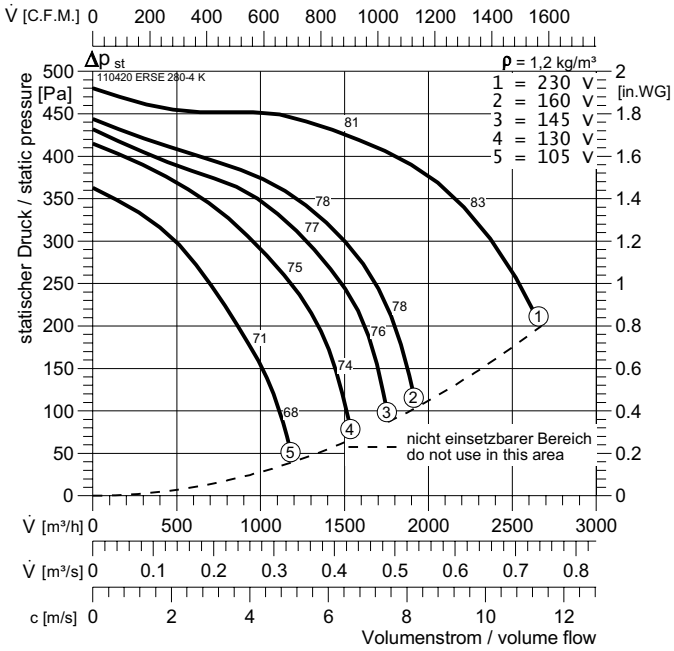
ERSE 280-6



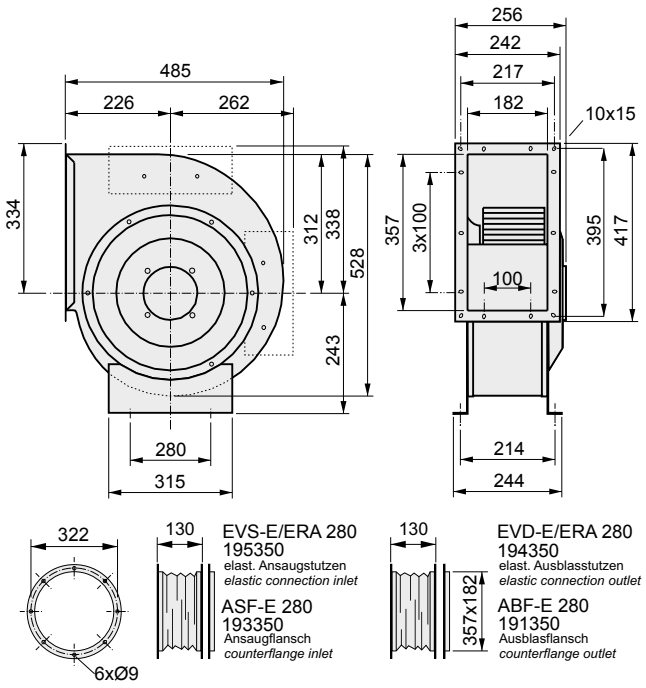
Typ :	ERSE 280-6		Δ $p_{fa\ min}$:	65	$L_{WA\ rel}$ ΔdB	L_{WA5}	L_{WA6}
ArtNr :	110400		Δ I :	8%	$L_{WA\ tot}$	-3	0
:	0	kg	I_A/I_N :	1,9	125 Hz	-23	-23
U :	230 V 50 Hz			IP 54	250 Hz	-21	-10
P_1 :	0,56	kW		E13	500 Hz	-11	-6
I_N :	2,5	A		GS 2	1 kHz	-8	-6
n :	870	min^{-1}		NE 3,2	2 kHz	-8	-6
C_{400V} :	10	µF		RPE 09 A	4 kHz	-11	-8
t_R :	40	°C			8 kHz	-19	-15



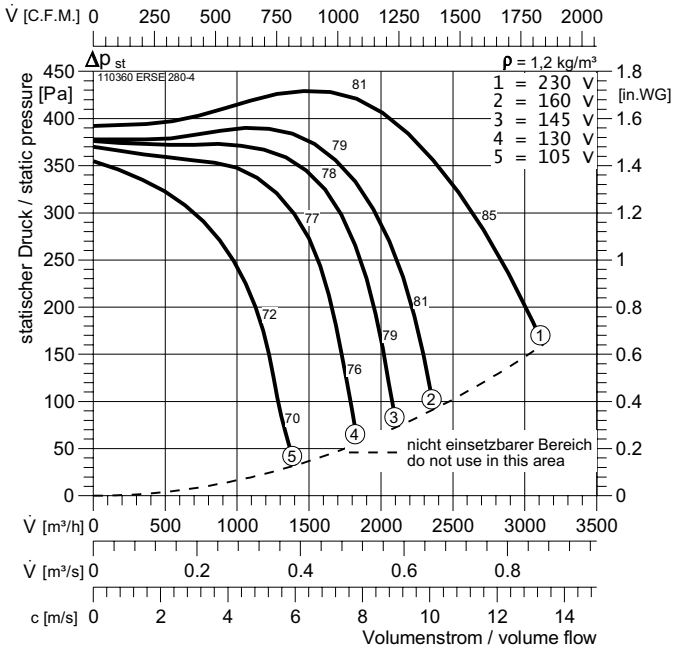
ERSE 280-4 K



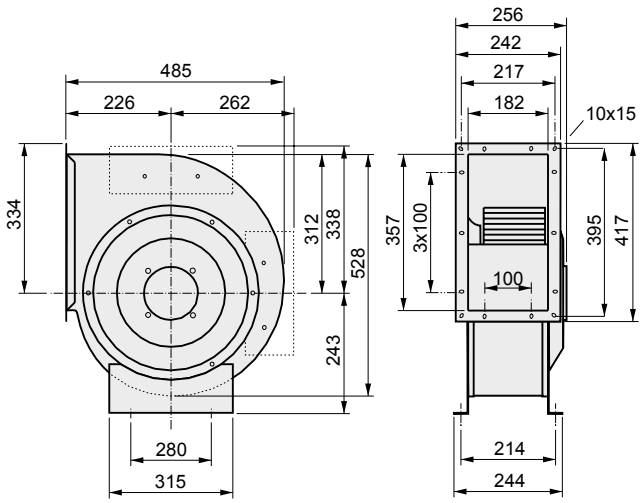
Typ :	ERSE 280-4 K		Δ $p_{fa\ min}$:	200	$L_{WA\ rel}$ ΔdB	L_{WA5}	L_{WA6}
ArtNr :	110420		Δ I :	-	$L_{WA\ tot}$	-3	0
:	20	kg	I_A/I_N :	1,7	125 Hz	-22	-23
U :	230 V 50 Hz			IP 54	250 Hz	-14	-10
P_1 :	0,95	kW		E13	500 Hz	-14	-8
I_N :	4,5	A		GS 2	1 kHz	-8	-4
n :	1155	min^{-1}		NE 5	2 kHz	-8	-7
C_{400V} :	16	µF		RPE 09	4 kHz	-11	-9
t_R :	40	°C			8 kHz	-17	-16

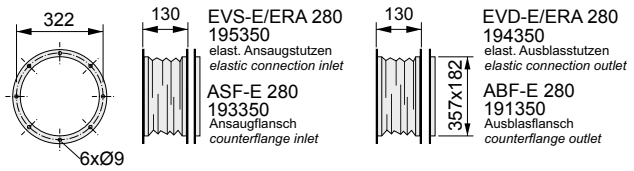


ERSE 280-4

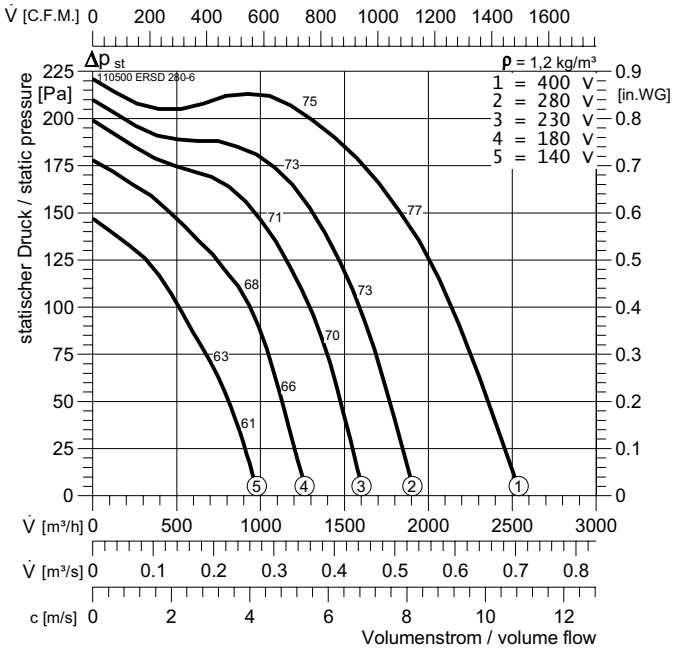


Typ :	ERSE 280-4		Δ $p_{fa\ min}$:	160	$L_{WA\ rel}$ ΔdB	L_{WA5}	L_{WA6}
ArtNr :	110360		Δ I :	-	$L_{WA\ tot}$	-3	0
:	21	kg	I_A/I_N :	1,9	125 Hz	-22	-23
U :	230 V 50 Hz			IP 54	250 Hz	-14	-10
P_1 :	1,25	kW		E13	500 Hz	-14	-8
I_N :	5,7	A		GS 2	1 kHz	-8	-4
n :	1220	min^{-1}		NE 7,5	2 kHz	-8	-7
C_{400V} :	25	µF		SAE 7	4 kHz	-11	-9
t_R :	40	°C			8 kHz	-17	-16

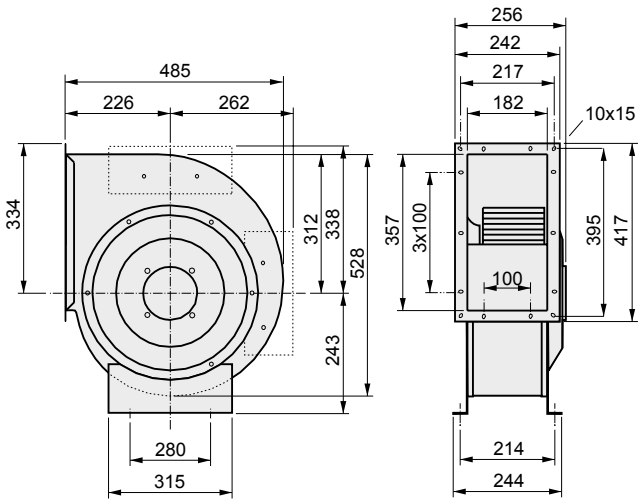


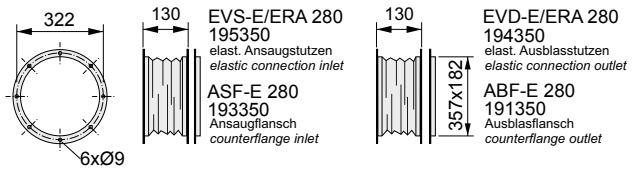


ERSD 280-6

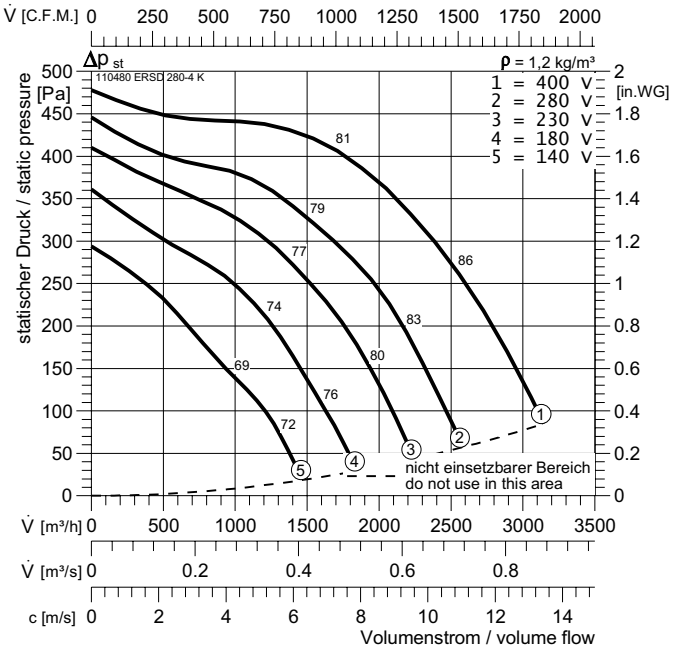


Typ :	ERSD 280-6		Δ $p_{fa\ min}$:	0	$L_{WA\ rel}$ ΔdB	L_{WA5}	L_{WA6}
ArtNr :	110500		Δ I :	-%	$L_{WA\ tot}$	-3	0
:	15,8	kg	I_A/I_N :	1,75	125 Hz	-23	-23
U :	400 V 50 Hz			IP 54	250 Hz	-21	-10
P_1 :	0,55	kW		DD0b	500 Hz	-11	-6
I_N :	0,9	A		GS 2	1 kHz	-8	-6
n :	710	min^{-1}		RTD 1,2	2 kHz	-8	-6
C_{400V} :	-	µF		SAD 9	4 kHz	-11	-8
t_R :	40	°C			8 kHz	-19	-15

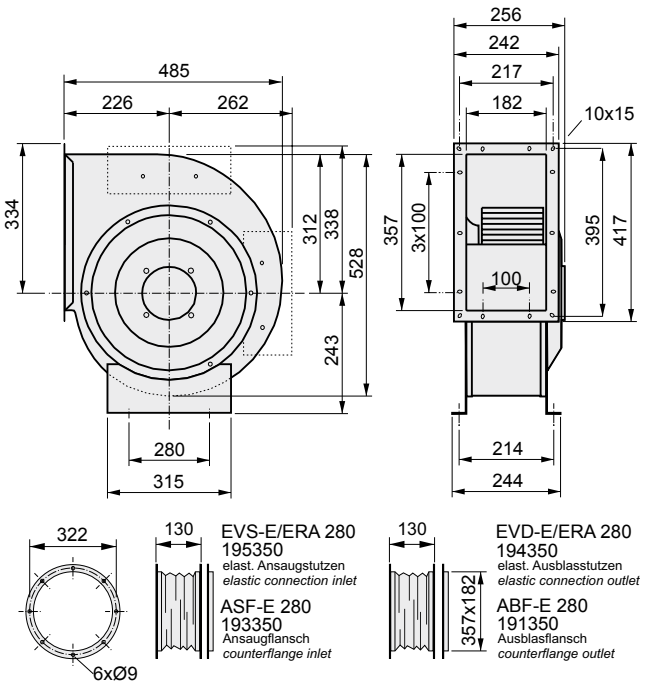




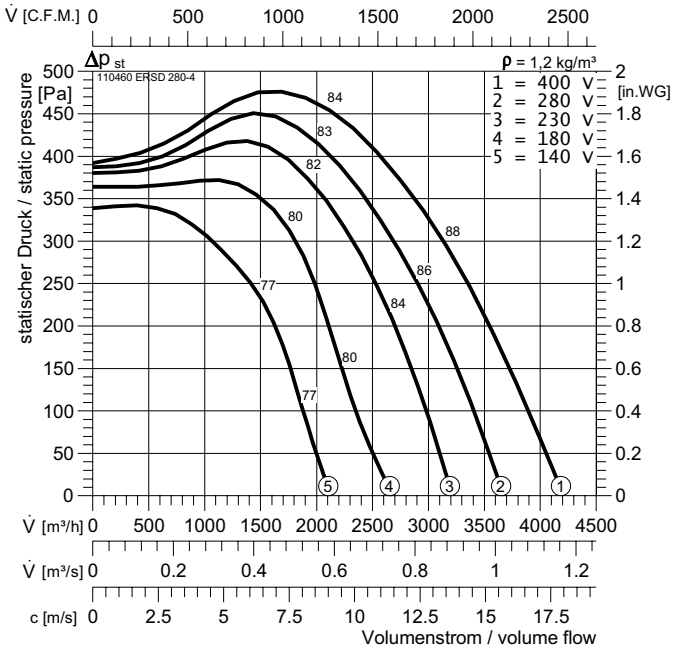
ERSD 280-4 K



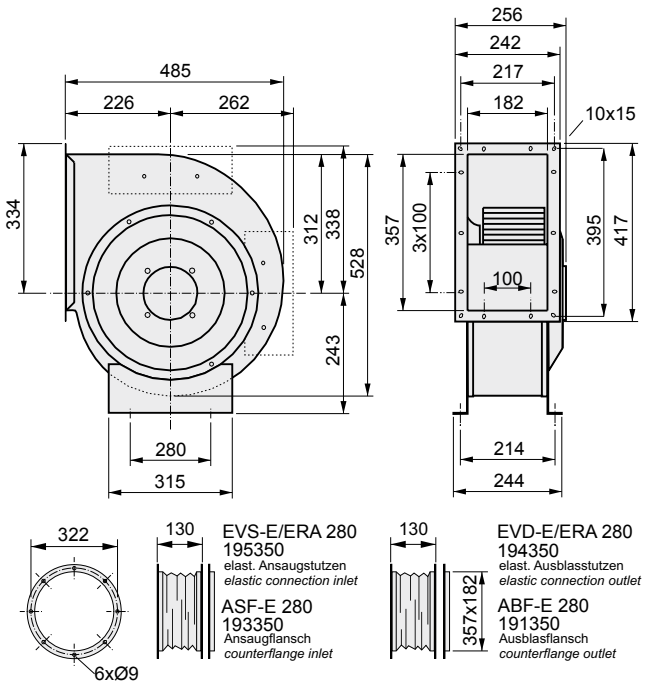
Typ :	ERSD 280-4 K		Δ $p_{fa\ min}$:	85	$L_{WA\ rel}$ ΔdB	L_{WA5}	L_{WA6}
ArtNr :	110480		Δ I :	-	$L_{WA\ tot}$	-3	0
:	23	kg	I_A/I_N :	2,1	125 Hz	-22	-23
U :	400 V 50 Hz			IP 54	250 Hz	-14	-10
P_1 :	1,08	kW		DD0b	500 Hz	-14	-8
I_N :	2,0	A		GS 2	1 kHz	-8	-4
n :	1100	min^{-1}		RTD 3	2 kHz	-8	-7
C_{400V} :	-	µF		SAD 9	4 kHz	-11	-9
t_R :	40	°C			8 kHz	-17	-16



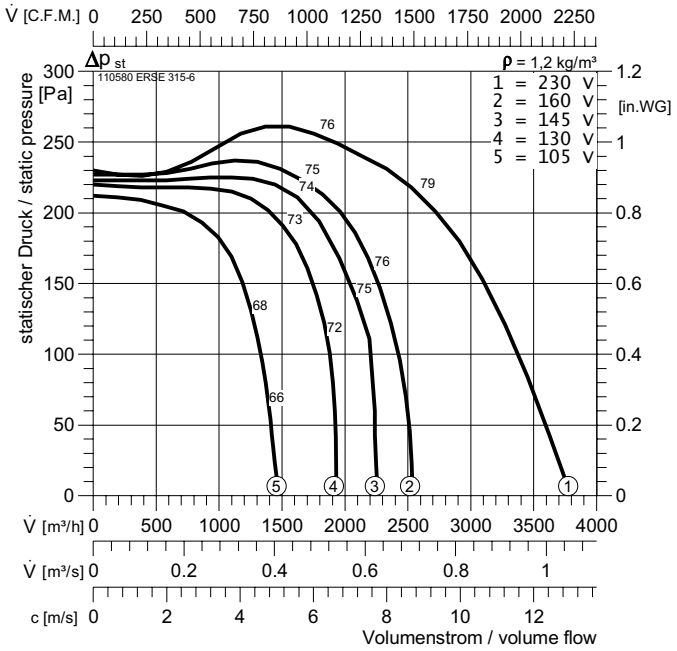
ERSD 280-4



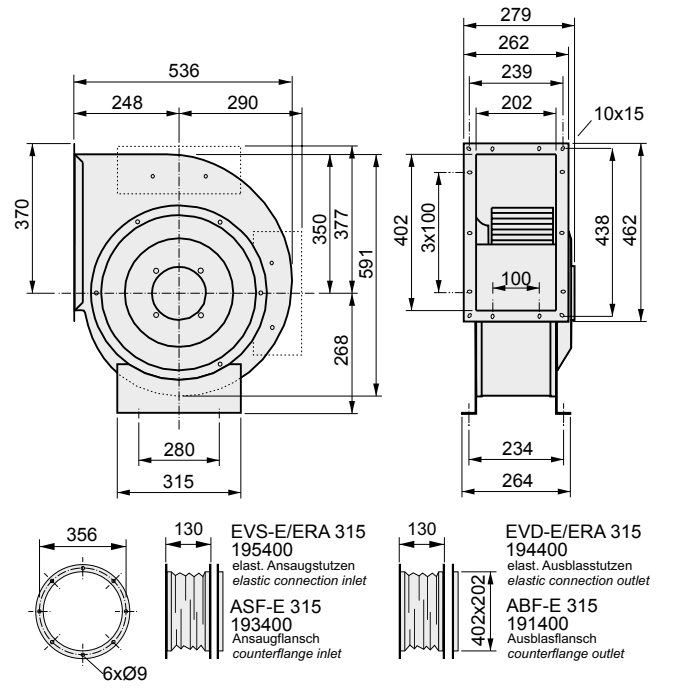
Typ :	ERSD 280-4		Δ $p_{fa\ min}$:	0	$L_{WA\ rel}$ ΔdB	L_{WA5}	L_{WA6}
ArtNr :	110460		Δ I :	7%	$L_{WA\ tot}$	-3	0
:	25	kg	I_A/I_N :	3,2	125 Hz	-22	-23
U :	400 V 50 Hz			IP 54	250 Hz	-14	-10
P_1 :	1,85	kW		DD0b	500 Hz	-14	-8
I_N :	3,2	A		GS 2	1 kHz	-8	-4
n :	1300	min^{-1}		RTD 3,8	2 kHz	-8	-7
C_{400V} :	-	µF		SAD 9	4 kHz	-11	-9
t_R :	40	°C			8 kHz	-17	-16



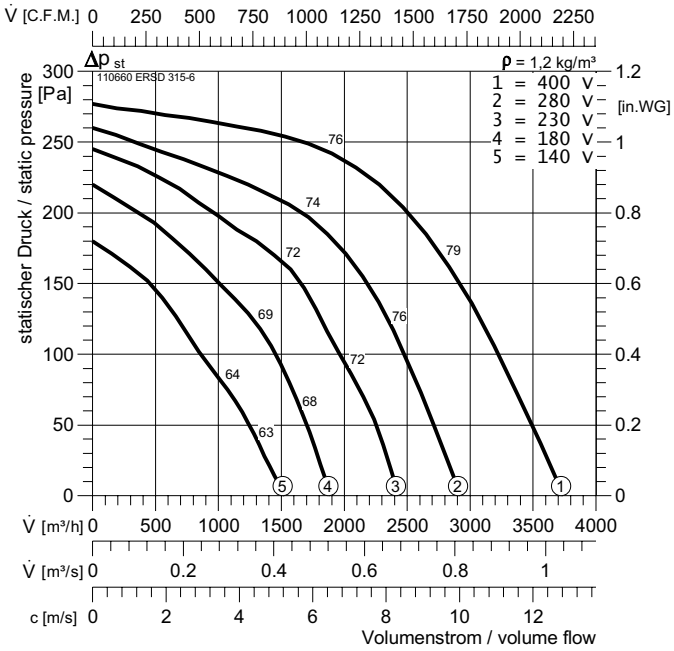
ERSE 315-6



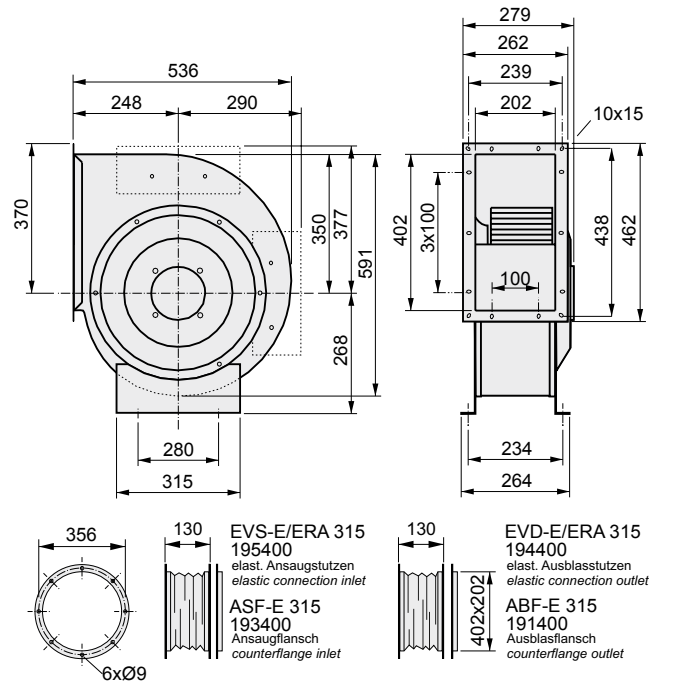
Typ :	ERSE 315-6		Δ $p_{fa\ min}$:	0	$L_{WA\ rel}$ ΔdB	L_{WA5}	L_{WA6}
ArtNr :	110580		Δ I :	-	$L_{WA\ tot}$	-3	0
:	30	kg	I_A/I_N :	1,7	125 Hz	-23	-23
U :	230 V 50 Hz			IP 54	250 Hz	-21	-10
P_1 :	0,93	kW		E13	500 Hz	-11	-6
I_N :	4,2	A		GS 2	1 kHz	-8	-6
n :	770	min^{-1}		NE 5	2 kHz	-8	-6
C_{400V} :	16	µF		RPE 09	4 kHz	-11	-8
t_R :	40	°C			8 kHz	-19	-15



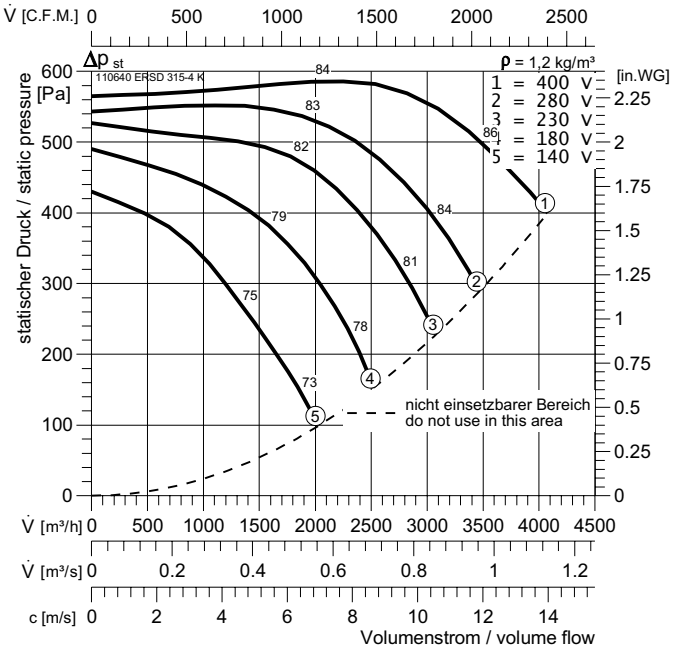
ERSD 315-6



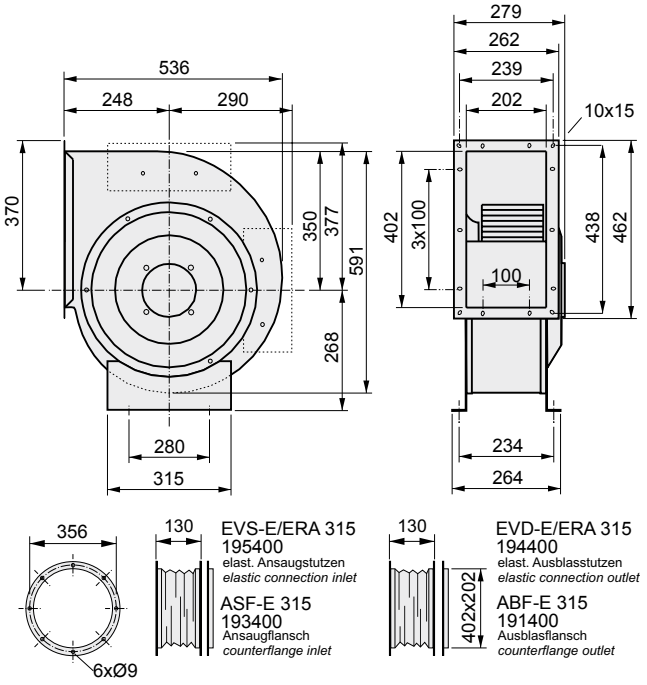
Typ :	ERSD 315-6		Δ $p_{fa\ min}$:	0	$L_{WA\ rel}$ ΔdB	L_{WA5}	L_{WA6}
ArtNr :	110660		Δ I :	-	$L_{WA\ tot}$	-3	0
:	29	kg	I_A/I_N :	2,0	125 Hz	-23	-23
U :	400 V 50 Hz			IP 54	250 Hz	-21	-10
P_1 :	0,82	kW		DD0b	500 Hz	-11	-6
I_N :	1,5	A		GS 2	1 kHz	-8	-6
n :	730	min^{-1}		RTD 2,5	2 kHz	-8	-6
C_{400V} :	-	µF		SAD 9	4 kHz	-11	-8
t_R :	45	°C			8 kHz	-19	-15



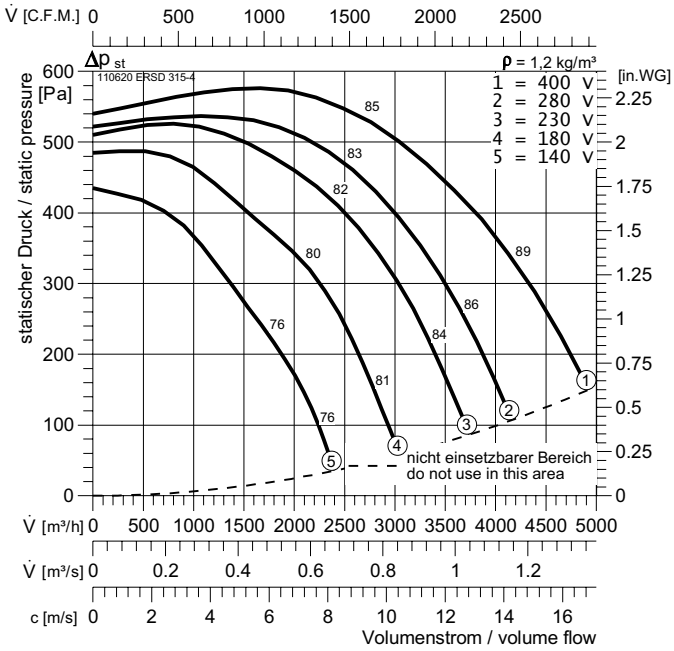
ERSD 315-4 K



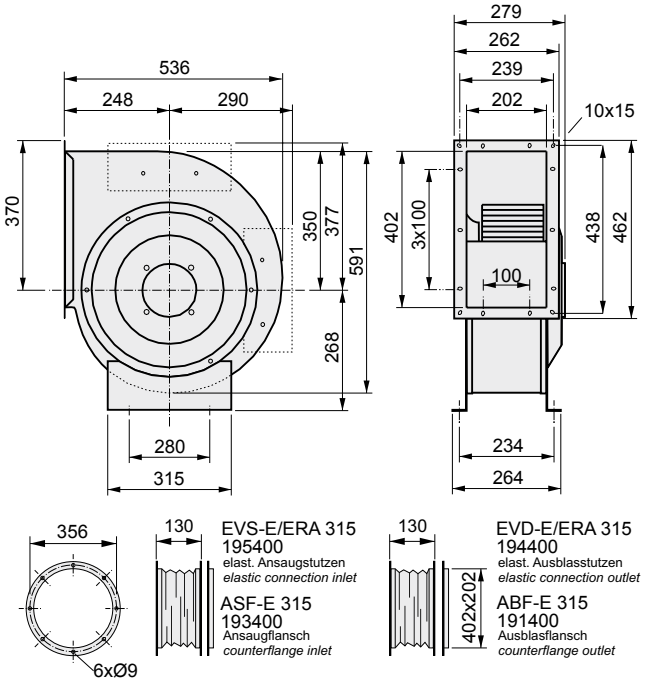
Typ :	ERSD 315-4 K		Δ $p_{fa\ min}$:	400	$L_{WA\ rel}$ ΔdB	L_{WA5}	L_{WA6}
ArtNr :	110640		Δ I :	4%	$L_{WA\ tot}$	-3	0
:	0	kg	I_A/I_N :	3,2	125 Hz	-22	-23
U :	400 V 50 Hz			IP 54	250 Hz	-14	-10
P_1 :	1,85	kW		DD0b	500 Hz	-14	-8
I_N :	3,2	A		GS 2	1 kHz	-8	-4
n :	1300	min^{-1}		RTD 3,8	2 kHz	-8	-7
C_{400V} :	-	µF		SAD 9	4 kHz	-11	-9
t_R :	40	°C			8 kHz	-17	-16



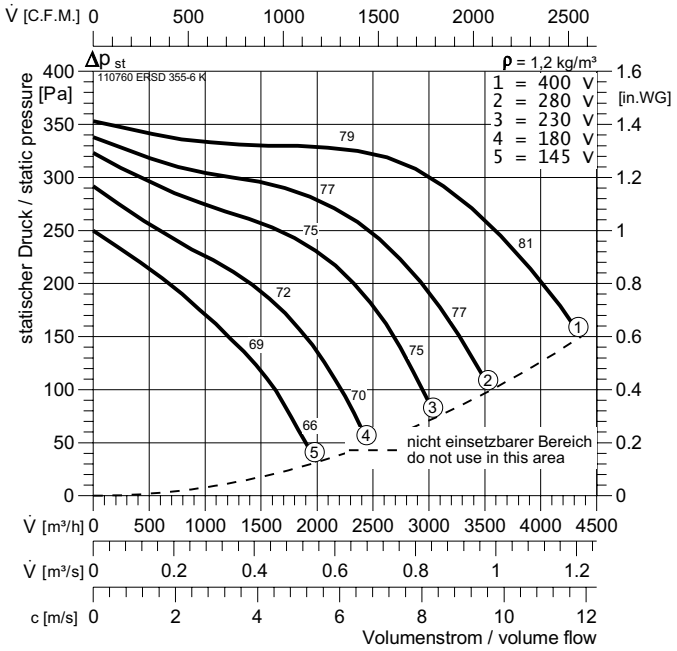
ERSD 315-4



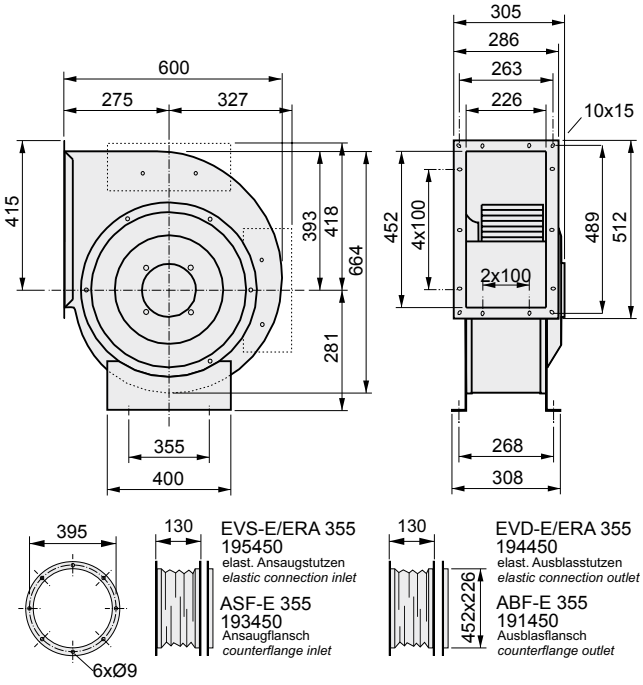
Typ :	ERSD 315-4		Δ $p_{fa\ min}$:	150	$L_{WA\ rel}$ ΔdB	L_{WA5}	L_{WA6}
ArtNr :	110620		Δ I :	-	$L_{WA\ tot}$	-3	0
:	35	kg	I_A/I_N :	2,9	125 Hz	-22	-23
U :	400 V 50 Hz			IP 54	250 Hz	-14	-10
P_1 :	2,38	kW		DD0b	500 Hz	-14	-8
I_N :	4,4	A		GS 2	1 kHz	-8	-4
n :	1300	min^{-1}		RTD 5	2 kHz	-8	-7
C_{400V} :	-	µF		SAD 9	4 kHz	-11	-9
t_R :	40	°C			8 kHz	-17	-16



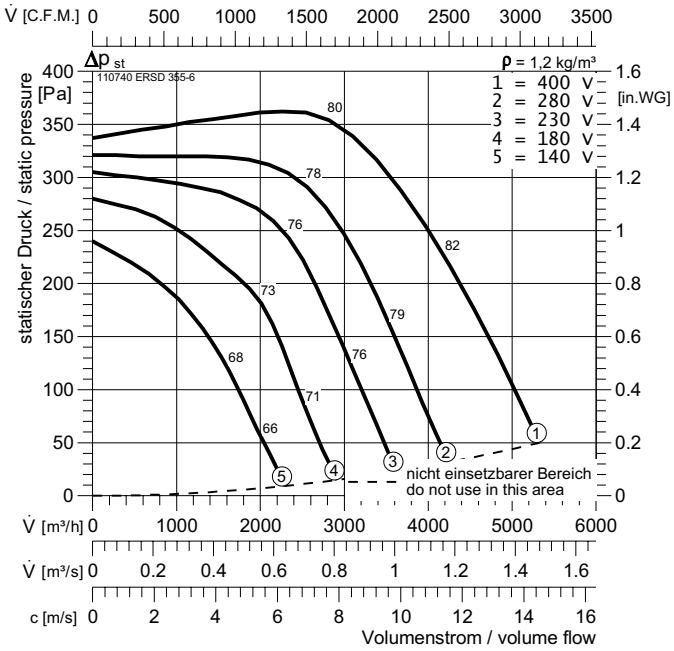
ERSD 355-6 K



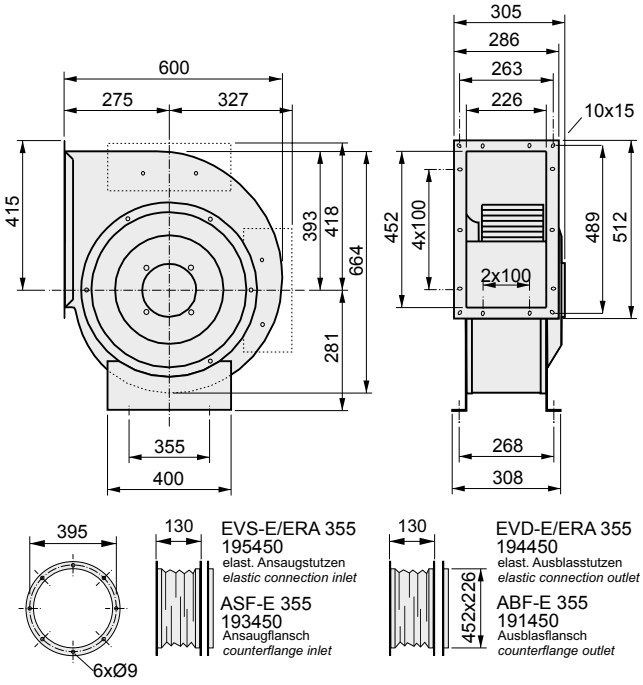
Typ :	ERSD 355-6 K		Δ $p_{fa\ min}$:	150	$L_{WA\ rel}$ ΔdB	L_{WA5}	L_{WA6}
ArtNr :	110760		Δ I :	-	$L_{WA\ tot}$	-3	0
:	36	kg	I_A/I_N :	2,4	125 Hz	-23	-23
U :	400 V 50 Hz			IP 54	250 Hz	-21	-10
P_1 :	1,15	kW		DD0b	500 Hz	-11	-6
I_N :	2,2	A		GS 2	1 kHz	-8	-6
n :	810	min^{-1}		RTD 2,5	2 kHz	-8	-6
C_{400V} :	-	µF		SAD 9	4 kHz	-11	-8
t_R :	40	°C			8 kHz	-19	-15



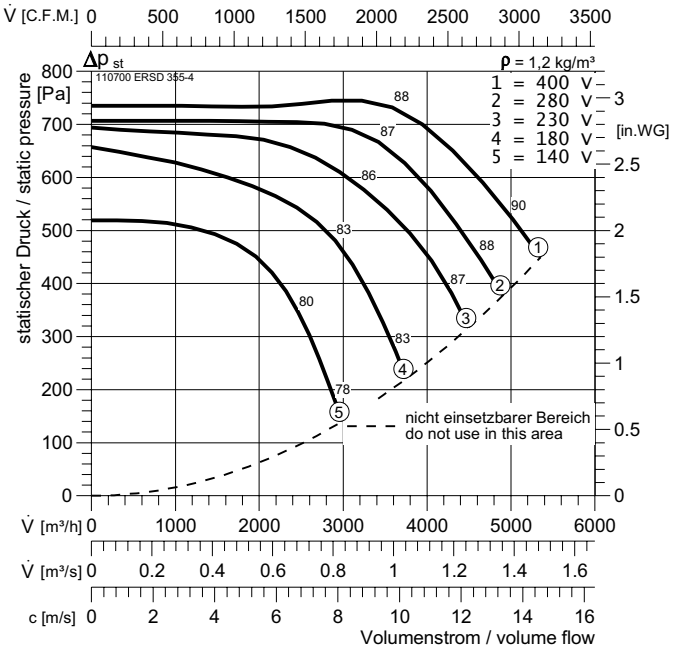
ERSD 355-6



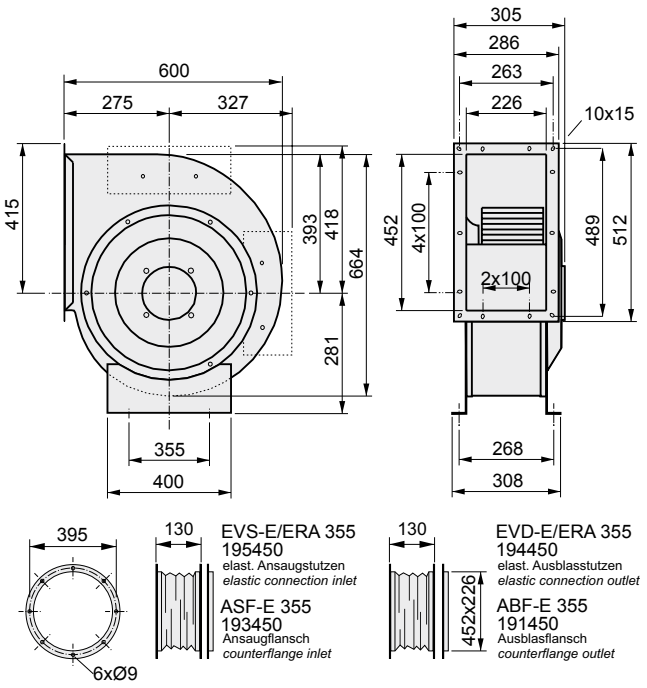
Typ :	ERSD 355-6		Δ $p_{fa\ min}$:	50	$L_{WA\ rel}$ ΔdB	L_{WA5}	L_{WA6}
ArtNr :	110740		Δ I :	-	$L_{WA\ tot}$	-3	0
:	40	kg	I_A/I_N :	2,5	125 Hz	-23	-23
U :	400 V 50 Hz			IP 54	250 Hz	-21	-10
P_1 :	1,6	kW		DD0b	500 Hz	-11	-6
I_N :	2,75	A		GS 2	1 kHz	-8	-6
n :	770	min^{-1}		RTD 3	2 kHz	-8	-6
C_{400V} :	-	µF		SAD 9	4 kHz	-11	-8
t_R :	40	°C			8 kHz	-19	-15



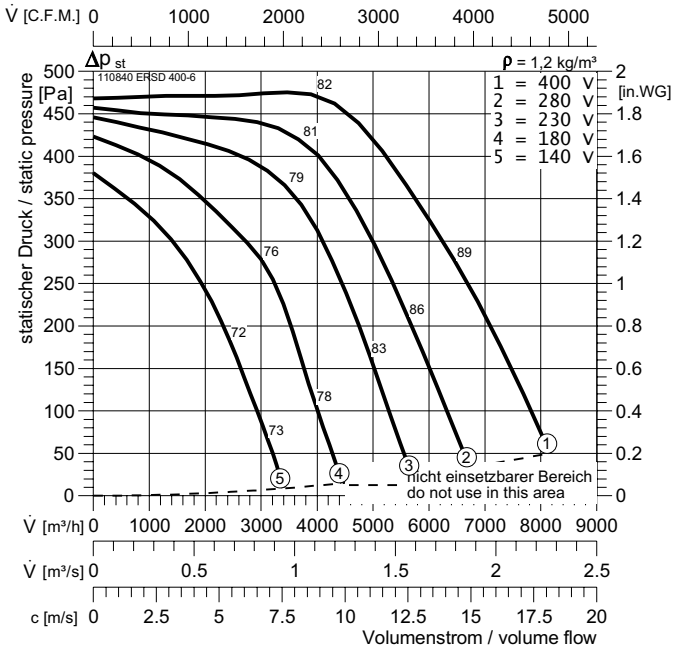
ERSD 355-4



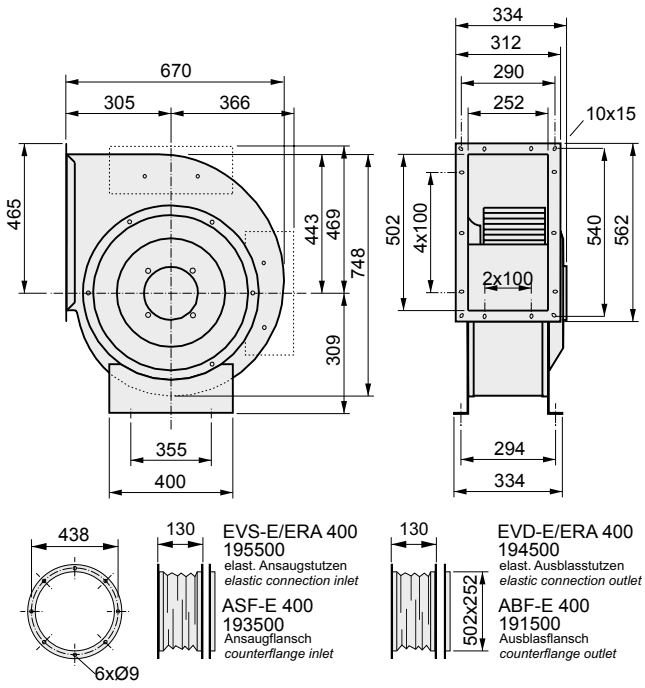
Typ :	ERSD 355-4		Δ $p_{fa\ min}$:	450	$L_{WA\ rel}$ ΔdB	L_{WA5}	L_{WA6}
ArtNr :	110700		Δ I :	29%	$L_{WA\ tot}$	-3	0
:	52	kg	I_A/I_N :	-	125 Hz	-22	-23
U :	400 V 50 Hz			IP 54	250 Hz	-14	-10
P_1 :	3,2	kW		DD0b	500 Hz	-14	-8
I_N :	5,9	A		GS 2	1 kHz	-8	-4
n :	1405	min^{-1}		RTD 7	2 kHz	-8	-7
C_{400V} :	-	µF		SAD 9	4 kHz	-11	-9
t_R :	40	°C			8 kHz	-17	-16



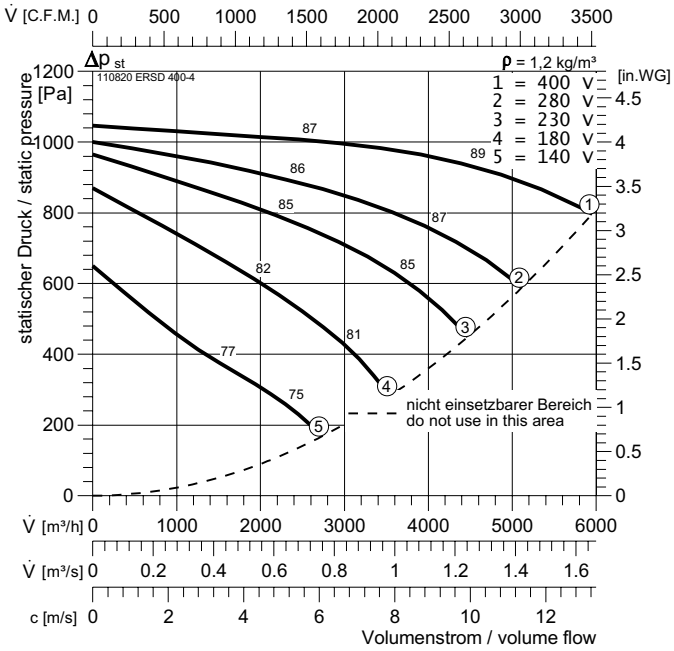
ERSD 400-6



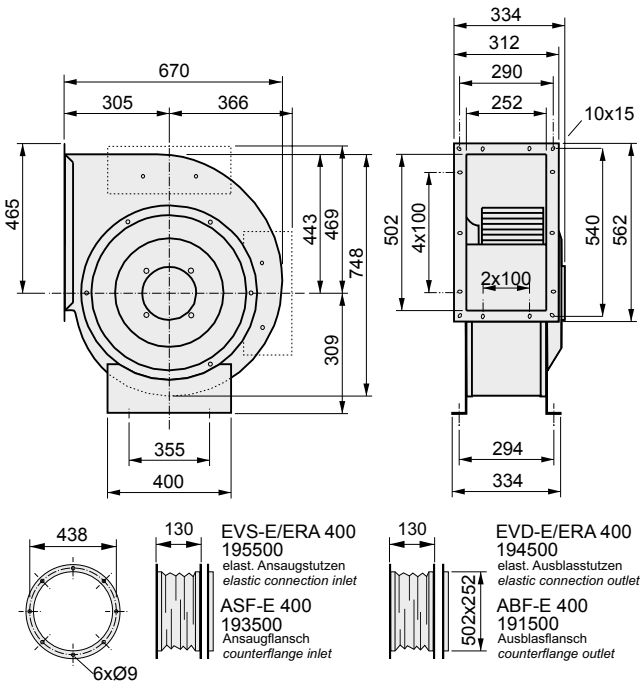
Typ :	ERSD 400-6		Δ $p_{fa\ min}$:	50	$L_{WA\ rel}$ ΔdB	L_{WA5}	L_{WA6}
ArtNr :	110840		Δ I :	3%	$L_{WA\ tot}$	-3	0
:	53	kg	I_A/I_N :	3,1	125 Hz	-23	-23
U :	400 V 50 Hz			IP 54	250 Hz	-21	-10
P_1 :	3	kW		DD0b	500 Hz	-11	-6
I_N :	5,5	A		GS 2	1 kHz	-8	-6
n :	860	min^{-1}		RTD 7	2 kHz	-8	-6
C_{400V} :	-	µF		SAD 9	4 kHz	-11	-8
t_R :	50	°C			8 kHz	-19	-15



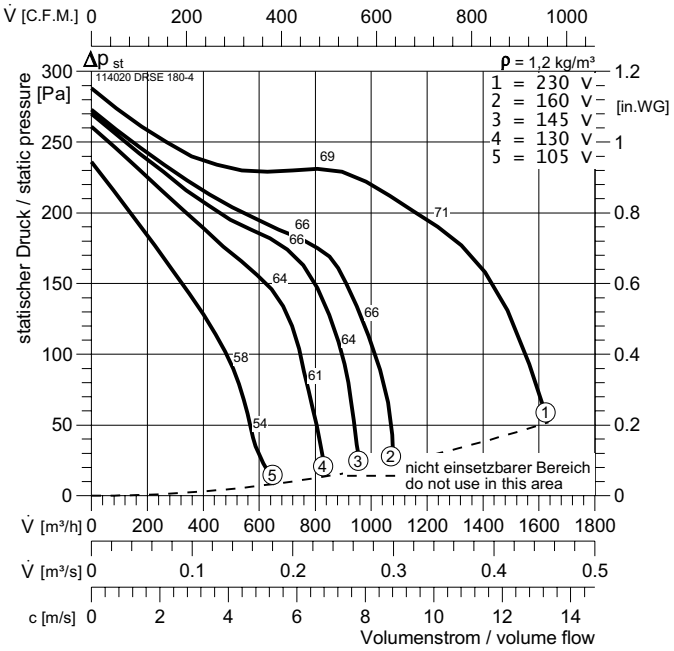
ERSD 400-4



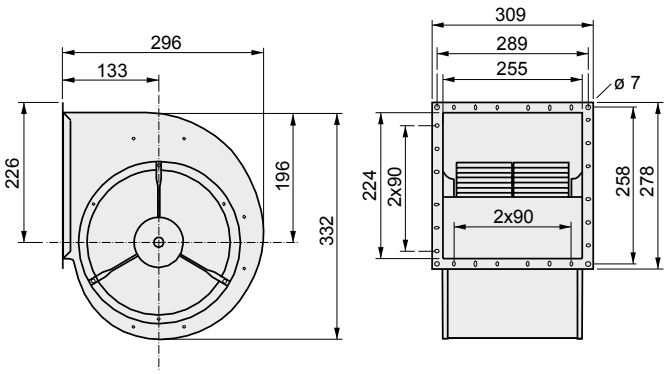
Typ :	ERSD 400-4		Δ $p_{fa\ min}$:	860	$L_{WA\ rel}$ ΔdB	L_{WA5}	L_{WA6}
ArtNr :	110820		Δ I :	18%	$L_{WA\ tot}$	-3	0
:	68	kg	I_A/I_N :	4	125 Hz	-22	-23
U :	400 V 50 Hz			IP 54	250 Hz	-14	-10
P_1 :	4,1	kW		DD0	500 Hz	-14	-8
I_N :	7,1	A		GS 2	1 kHz	-8	-4
n :	1360	min^{-1}		RTD 10	2 kHz	-8	-7
C_{400V} :	-	µF		SSD 16	4 kHz	-11	-9
t_R :	40	°C			8 kHz	-17	-16



DRSE 180-4



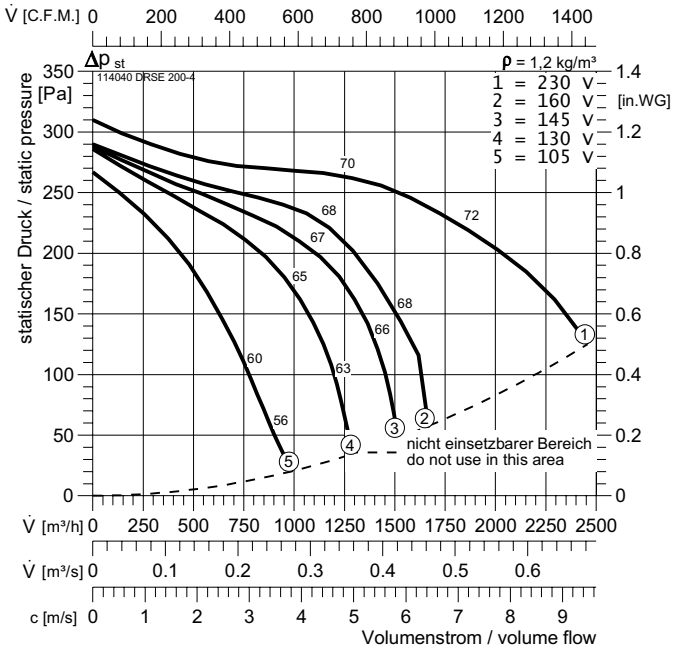
Typ :	DRSE 180-4		Δ $p_{fa\ min}$:	40	$L_{WA\ rel}$ ΔdB	L_{WA5}	L_{WA6}
ArtNr :	114020		Δ I :	-	$L_{WA\ tot}$	-3	0
:	8,5	kg	I_A/I_N :	1,3	125 Hz	-21	-21
U :	230 V 50 Hz			IP 54	250 Hz	-16	-13
P_1 :	33	kW		E13	500 Hz	-13	-8
I_N :	14	A		GS 1	1 kHz	-8	-4
n :	1080	min^{-1}		NE 1,5	2 kHz	-7	-7
C_{400V} :	6	µF		RPE 06 A	4 kHz	-13	-8
t_R :	40	°C			8 kHz	-19	-15



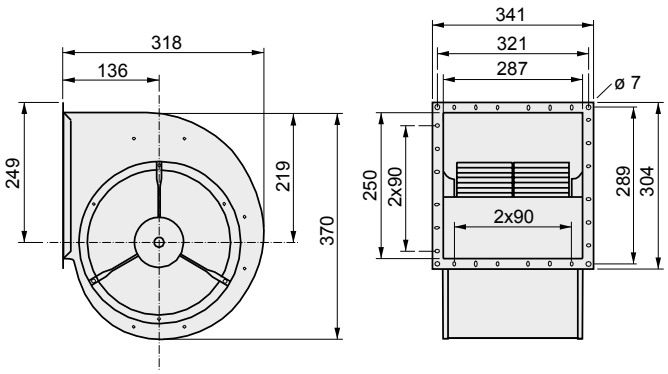
EVD-DRA 180
116020
elast. Ausblasstutzen
elastic connection outlet

ABF-DRA 180
116520
Ausblasflansch
counterflange outlet

DRSE 200-4



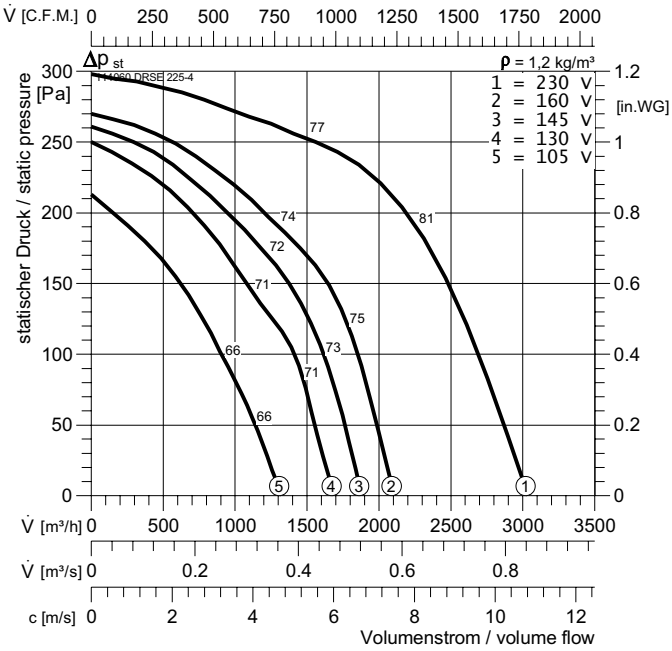
Typ :	DRSE 200-4		Δ $p_{fa\ min}$:	125	$L_{WA\ rel}$ ΔdB	L_{WA5}	L_{WA6}
ArtNr :	114040		Δ I :	-	$L_{WA\ tot}$	-3	0
:	10,7	kg	I_A/I_N :	1,6	125 Hz	-21	-21
U :	230 V 50 Hz			IP 54	250 Hz	-16	-13
P_1 :	0,49	kW		E13	500 Hz	-13	-8
I_N :	2,1	A		GS 1	1 kHz	-8	-4
n :	1230	min^{-1}		NE 3,2	2 kHz	-7	-7
C_{400V} :	10	µF		RPE 06	4 kHz	-13	-8
t_R :	40	°C			8 kHz	-19	-15



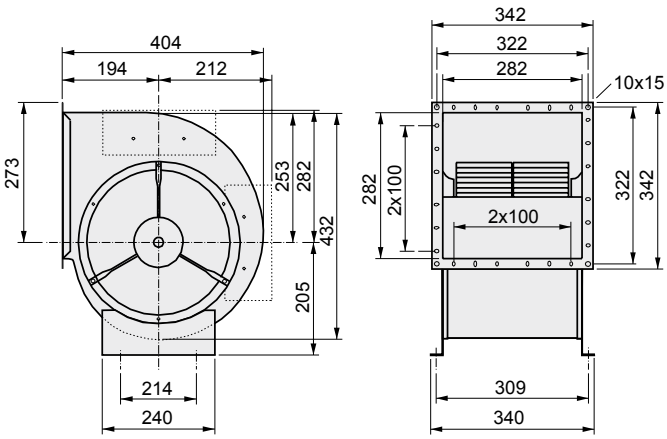
EVD-DRA 200
116040
elast. Ausblasstutzen
elastic connection outlet

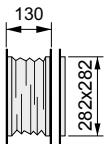
ABF-DRA 200
116540
Ausblasflansch
counterflange outlet

DRSE 225-4



Typ :	DRSE 225-4		Δ $p_{fa\ min}$:	0	$L_{WA\ rel}$ ΔdB	L_{WA5}	L_{WA6}
ArtNr :	114060		Δ I :	-	$L_{WA\ tot}$	-3	0
:	20	kg	I_A/I_N :	1,2	125 Hz	-21	-21
U :	230 V 50 Hz			IP 54	250 Hz	-16	-13
P_1 :	0,73	kW		E13	500 Hz	-13	-8
I_N :	3,25	A		GS 2	1 kHz	-8	-4
n :	950	min^{-1}		NE 5	2 kHz	-7	-7
C_{400V} :	12	µF		RPE 09	4 kHz	-13	-8
t_R :	40	°C			8 kHz	-19	-15

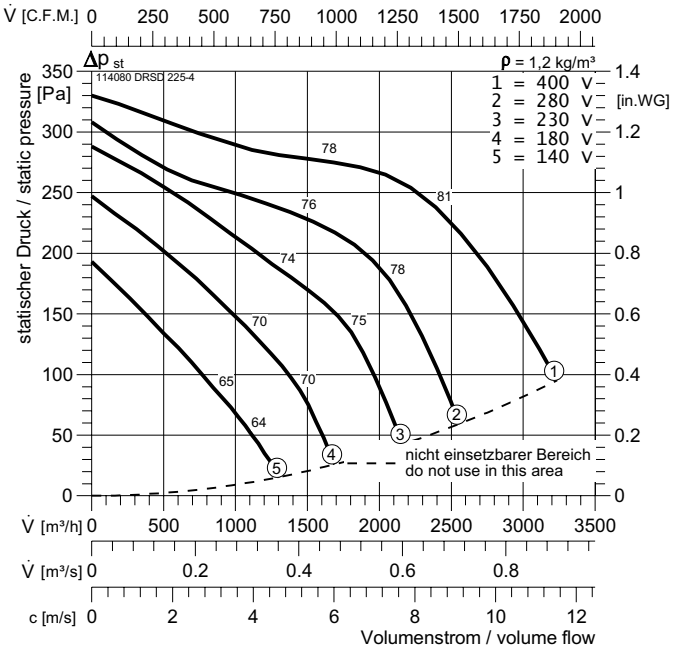




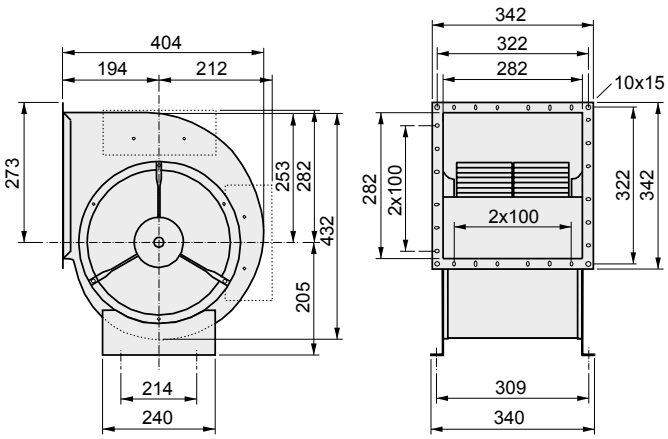
EVD-D225
177250
elast. Ausblasstutzen
elastic connection outlet

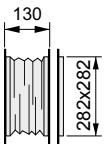
ABF-D225
171250
Ausblasflansch
counterflange outlet

DRSD 225-4



Typ :	DRSD 225-4		Δ $p_{fa\ min}$:	95	$L_{WA\ rel}$ ΔdB	L_{WA5}	L_{WA6}
ArtNr :	114080		Δ I :	-	$L_{WA\ tot}$	-3	0
:	18	kg	I_A/I_N :	2,1	125 Hz	-21	-21
U :	400 V 50 Hz			IP 54	250 Hz	-16	-13
P_1 :	0,8	kW		DD0b	500 Hz	-13	-8
I_N :	1,55	A		GS 2	1 kHz	-8	-4
n :	1130	min^{-1}		RTD 2,5	2 kHz	-7	-7
C_{400V} :	-	µF		SAD 9	4 kHz	-13	-8
t_R :	40	°C			8 kHz	-19	-15

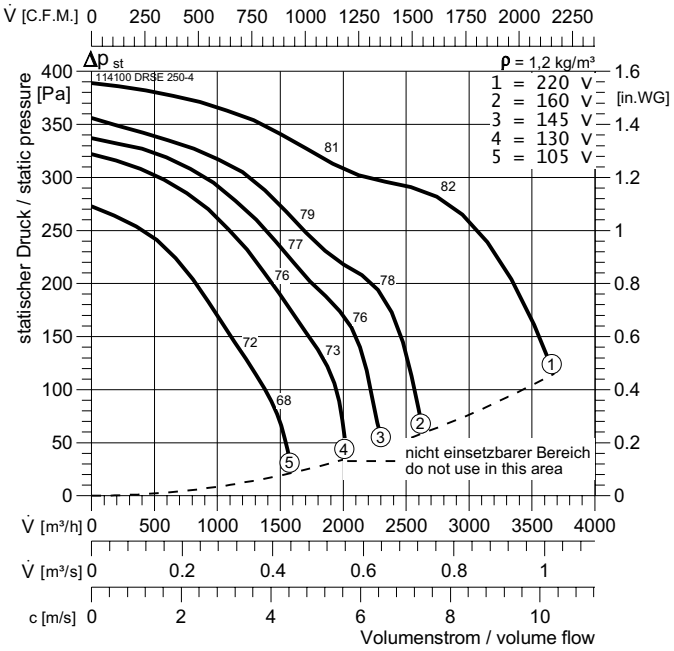




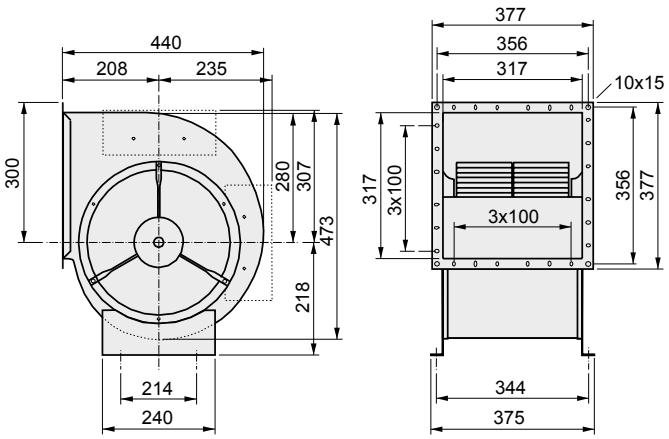
EVD-D225
177250
elast. Ausblasstutzen
elastic connection outlet

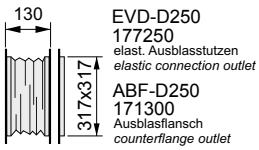
ABF-D225
171250
Ausblasflansch
counterflange outlet

DRSE 250-4



Typ :	DRSE 250-4		Δ $p_{fa\ min}$:	115	$L_{WA\ rel}$ ΔdB	L_{WA5}	L_{WA6}
ArtNr :	114100		Δ I :	-	$L_{WA\ tot}$	-3	0
:	29	kg	I_A/I_N :	1,5	125 Hz	-21	-21
U :	230 V 50 Hz			IP 54	250 Hz	-16	-13
P_1 :	1,15	kW		E13	500 Hz	-13	-8
I_N :	5,15	A		GS 2	1 kHz	-8	-4
n :	1080	min^{-1}		NE 7,5	2 kHz	-7	-7
C_{400V} :	16	µF		RPE 09	4 kHz	-13	-8
t_R :	40	°C			8 kHz	-19	-15

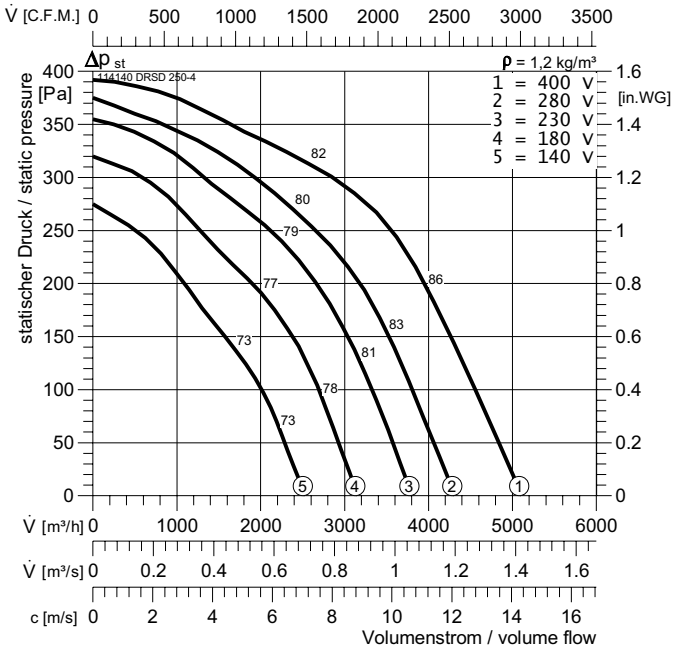




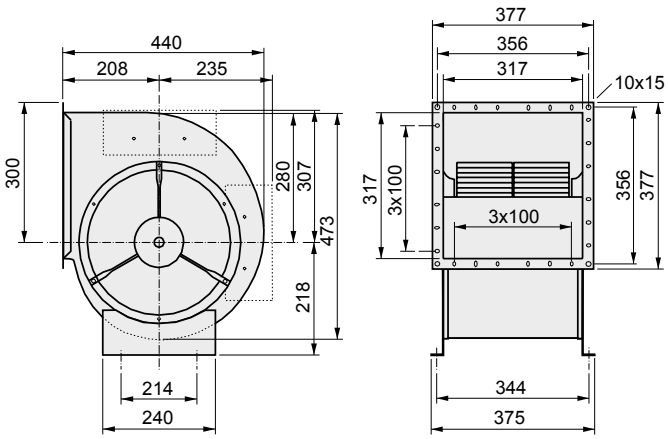
EVD-D250
177250
elast. Ausblasstutzen
elastic connection outlet

ABF-D250
171300
Ausblasflansch
counterflange outlet

DRSD 250-4



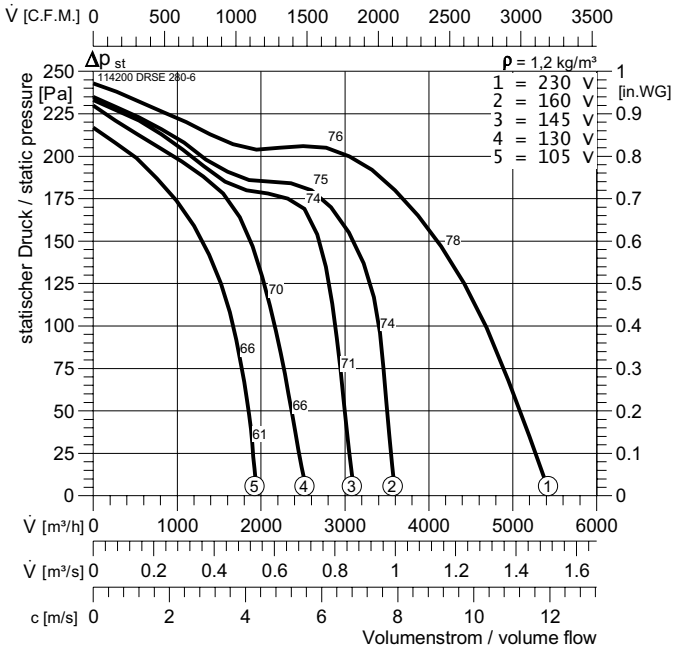
Typ :	DRSD 250-4		Δ $p_{fa\ min}$:	0	$L_{WA\ rel}$ ΔdB	L_{WA5}	L_{WA6}
ArtNr :	114140		Δ I :	-	$L_{WA\ tot}$	-3	0
:	26	kg	I_A/I_N :	2,5	125 Hz	-21	-21
U :	400 V 50 Hz			IP 54	250 Hz	-16	-13
P_1 :	1,6	kW		DD0b	500 Hz	-13	-8
I_N :	2,95	A		GS 2	1 kHz	-8	-4
n :	1200	min^{-1}		RTD 3	2 kHz	-7	-7
C_{400V} :	-	µF		SAD 9	4 kHz	-13	-8
t_R :	50	°C			8 kHz	-19	-15



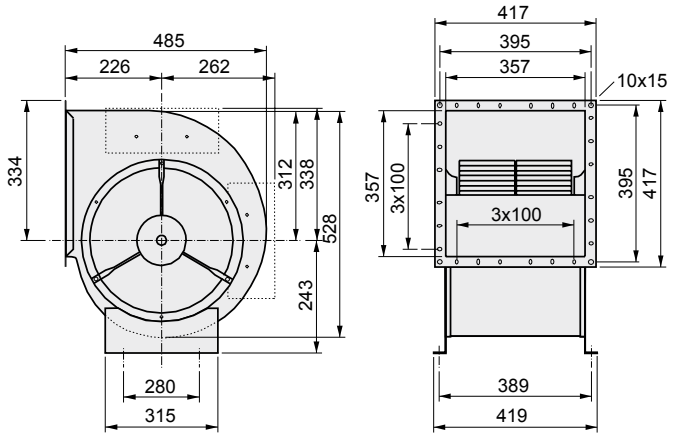
EVD-D250
177250
elast. Ausblasstutzen
elastic connection outlet

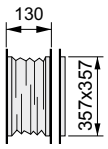
ABF-D250
171300
Ausblasflansch
counterflange outlet

DRSE 280-6



Typ :	DRSE 280-6		Δ $p_{fa\ min}$:	0	$L_{WA\ rel}$ ΔdB	L_{WA5}	L_{WA6}
ArtNr :	114200		Δ I :	2%	$L_{WA\ tot}$	-3	0
:	34	kg	I_A/I_N :	1,6	125 Hz	-21	-20
U :	230 V 50 Hz			IP 54	250 Hz	-15	-9
P_1 :	1,12	kW		E13	500 Hz	-10	-5
I_N :	5,15	A		GS 2	1 kHz	-8	-7
n :	820	min^{-1}		NE 7,5	2 kHz	-9	-7
C_{400V} :	25	µF		SAE 7	4 kHz	-12	-9
t_R :	40	°C			8 kHz	-19	-17

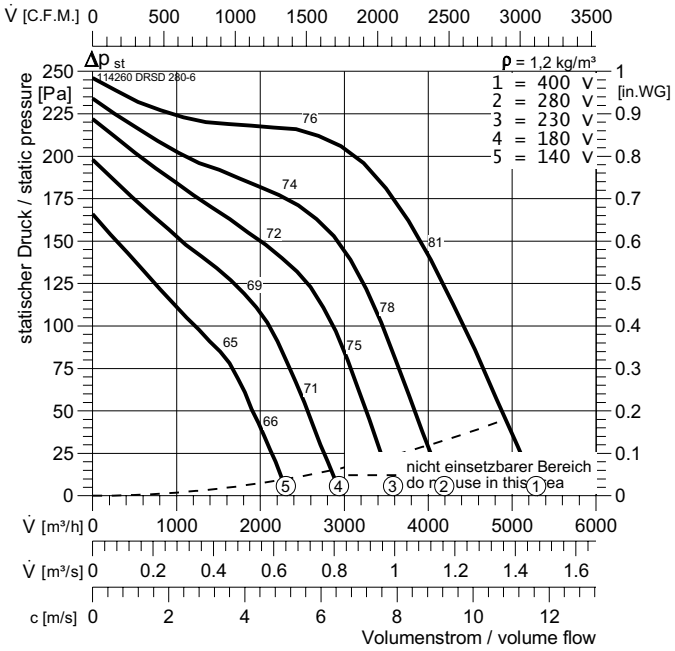




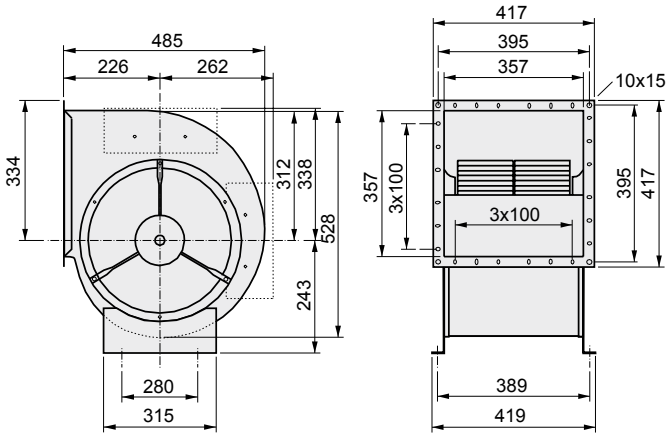
EVD-D280
177350
elast. Ausblasstutzen
elastic connection outlet

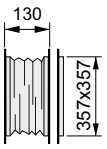
ABF-D280
171350
Ausblasflansch
counterflange outlet

DRSD 280-6



Typ :	DRSD 280-6		Δ $p_{fa\ min}$:	45	$L_{WA\ rel}$ ΔdB	L_{WA5}	L_{WA6}
ArtNr :	114260		Δ I :	-	$L_{WA\ tot}$	-3	0
:	34	kg	I_A/I_N :	2,2	125 Hz	-21	-20
U :	400 V 50 Hz			IP 54	250 Hz	-15	-9
P_1 :	1,1	kW		DD0b	500 Hz	-10	-5
I_N :	2,0	A		GS 2	1 kHz	-8	-7
n :	770	min^{-1}		RTD 3	2 kHz	-9	-7
C_{400V} :	-	µF		SAD 9	4 kHz	-12	-9
t_R :	40	°C			8 kHz	-19	-17

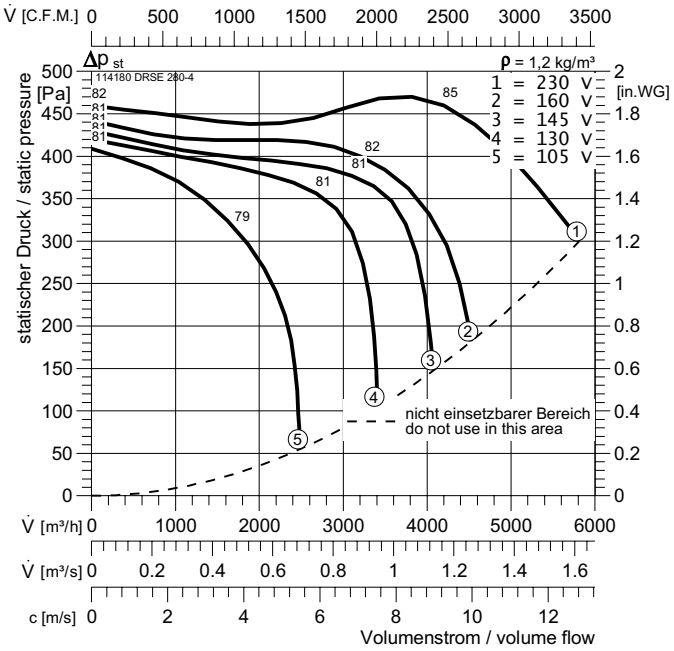




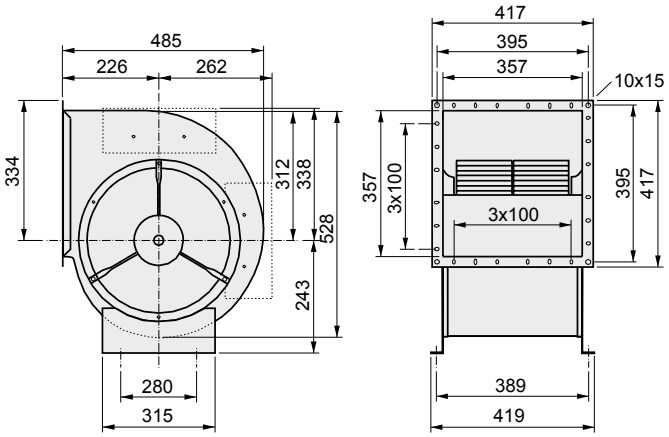
EVD-D280
177350
elast. Ausblasstutzen
elastic connection outlet

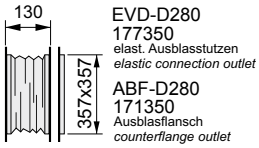
ABF-D280
171350
Ausblasflansch
counterflange outlet

DRSE 280-4



Typ :	DRSE 280-4		Δ $p_{fa\ min}$:	300	$L_{WA\ rel}$ ΔdB	L_{WA5}	L_{WA6}
ArtNr :	114180		Δ I :	30%	$L_{WA\ tot}$	-3	0
:	41	kg	I_A/I_N :	3	125 Hz	-21	-21
U :	230 V 50 Hz			IP 54	250 Hz	-16	-13
P_1 :	2,3	kW		E13	500 Hz	-13	-8
I_N :	10,2	A		GS 2	1 kHz	-8	-4
n :	1360	min^{-1}		RTE 20	2 kHz	-7	-7
C_{400V} :	40	µF		SAE 20	4 kHz	-13	-8
t_R :	40	°C			8 kHz	-19	-15

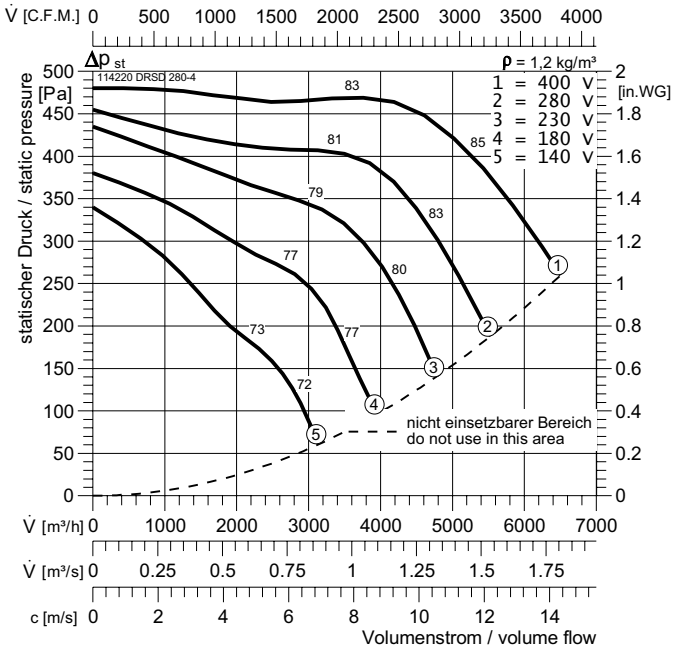




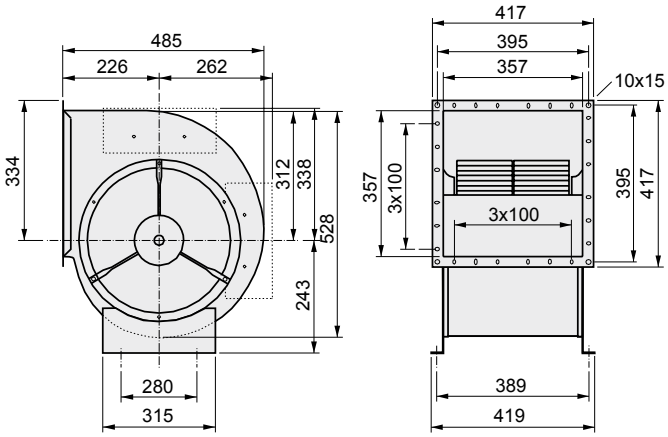
EVD-D280
177350
elast. Ausblasstutzen
elastic connection outlet

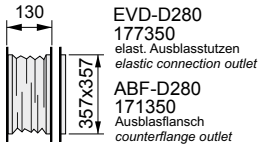
ABF-D280
171350
Ausblasflansch
counterflange outlet

DRSD 280-4



Typ :	DRSD 280-4		Δ $p_{fa\ min}$:	260	$L_{WA\ rel}$ ΔdB	L_{WA5}	L_{WA6}
ArtNr :	114220		Δ I :	35%	$L_{WA\ tot}$	-3	0
:	34	kg	I_A/I_N :	3,5	125 Hz	-21	-21
U :	400 V 50 Hz			IP 54	250 Hz	-16	-13
P_1 :	2,6	kW		DD0b	500 Hz	-13	-8
I_N :	4,4	A		GS 2	1 kHz	-8	-4
n :	1280	min^{-1}		RTD 5	2 kHz	-7	-7
C_{400V} :	-	µF		SAD 9	4 kHz	-13	-8
t_R :	40	°C			8 kHz	-19	-15

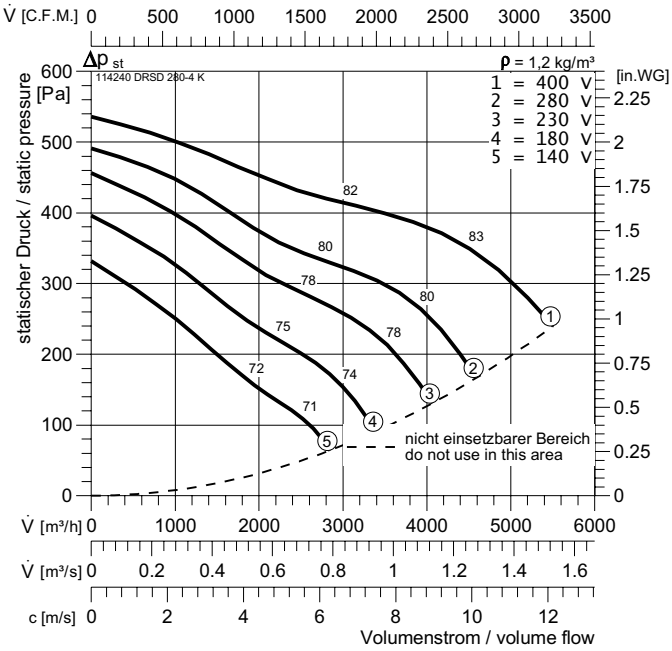




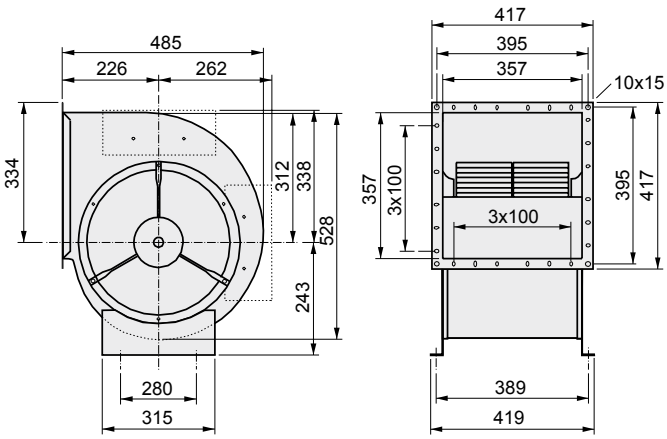
EVD-D280
177350
elast. Ausblasstutzen
elastic connection outlet

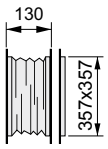
ABF-D280
171350
Ausblasflansch
counterflange outlet

DRSD 280-4 K



Typ :	DRSD 280-4 K		Δ $p_{fa\ min}$:	240	$L_{WA\ rel}$ ΔdB	L_{WA5}	L_{WA6}
ArtNr :	114240		Δ I :	-	$L_{WA\ tot}$	-3	0
:	34	kg	I_A/I_N :	2,72	125 Hz	-21	-21
U :	400 V 50 Hz			IP 54	250 Hz	-16	-13
P_1 :	1,95	kW		DD0b	500 Hz	-13	-8
I_N :	3,9	A		GS 2	1 kHz	-8	-4
n :	1200	min^{-1}		RTD 5	2 kHz	-7	-7
C_{400V} :	-	µF		SAD 9	4 kHz	-13	-8
t_R :	40	°C			8 kHz	-19	-15

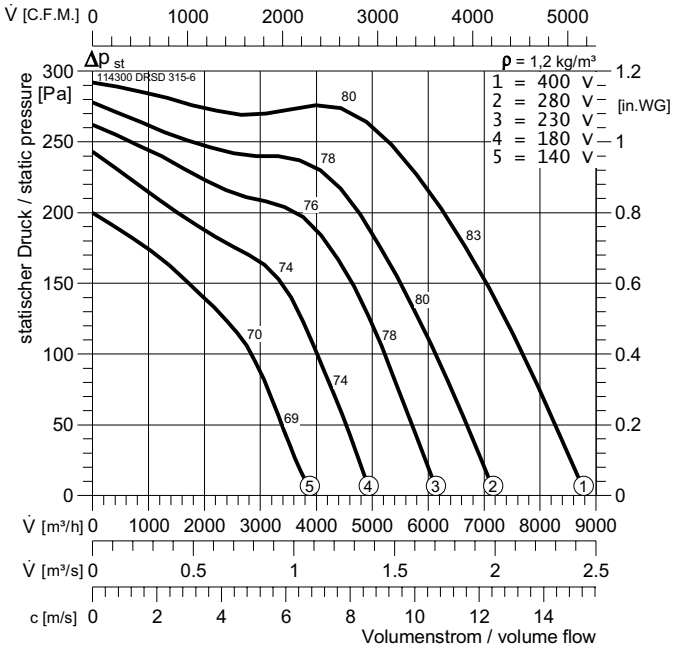




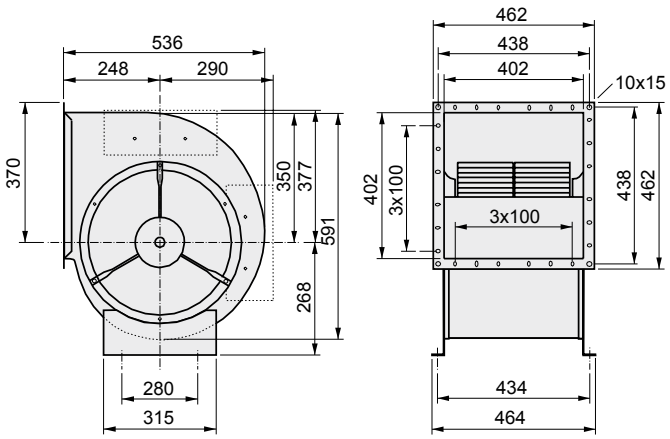
EVD-D280
177350
elast. Ausblasstutzen
elastic connection outlet

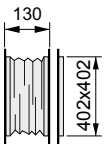
ABF-D280
171350
Ausblasflansch
counterflange outlet

DRSD 315-6



Typ :	DRSD 315-6		Δ $p_{fa\ min}$:	0	$L_{WA\ rel}$ ΔdB	L_{WA5}	L_{WA6}
ArtNr :	114300		Δ I :	-	$L_{WA\ tot}$	-3	0
:	38	kg	I_A/I_N :	2,6	125 Hz	-21	-20
U :	400 V 50 Hz			IP 54	250 Hz	-15	-9
P_1 :	2,1	kW		DD0b	500 Hz	-10	-5
I_N :	3,7	A		GS 2	1 kHz	-8	-7
n :	780	min^{-1}		RTD 5	2 kHz	-9	-7
C_{400V} :	-	µF		SAD 9	4 kHz	-12	-9
t_R :	60	°C			8 kHz	-19	-17

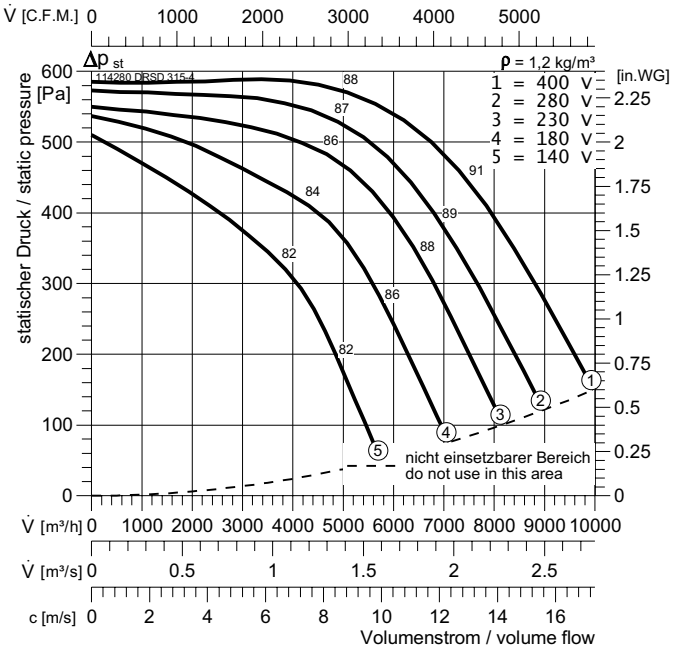




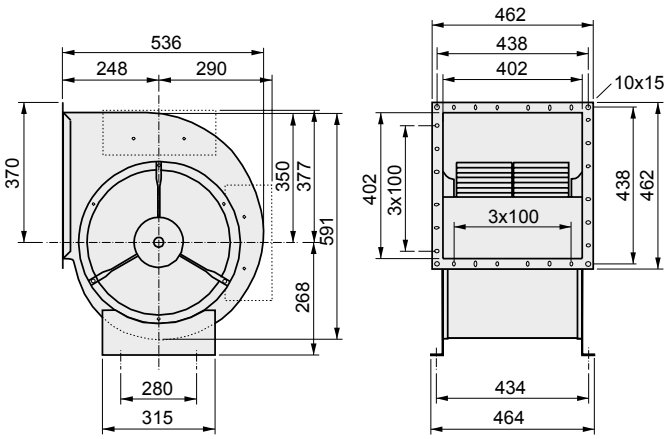
EVD-D315
177350
elast. Ausblasstutzen
elastic connection outlet

ABF-D315
171400
Ausblasflansch
counterflange outlet

DRSD 315-4



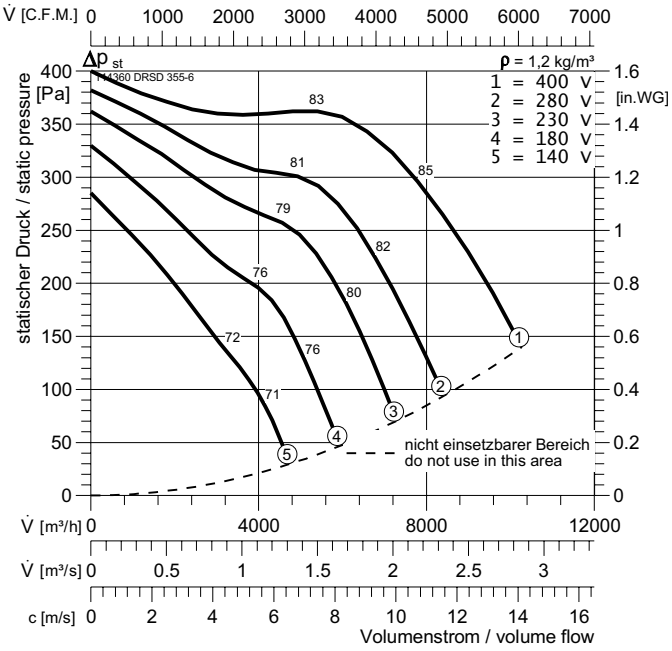
Typ :	DRSD 315-4		Δ $p_{fa\ min}$:	150	$L_{WA\ rel}$ ΔdB	L_{WA5}	L_{WA6}
ArtNr :	114280		Δ I :	8%	$L_{WA\ tot}$	-3	0
:	54	kg	I_A/I_N :	4,3	125 Hz	-21	-21
U :	400 V 50 Hz			IP 54	250 Hz	-16	-13
P_1 :	4,8	kW		DD0b	500 Hz	-13	-8
I_N :	8,9	A		GS 2	1 kHz	-8	-4
n :	1350	min^{-1}		RTD 10	2 kHz	-7	-7
C_{400V} :	-	µF		SAD 9	4 kHz	-13	-8
t_R :	40	°C			8 kHz	-19	-15



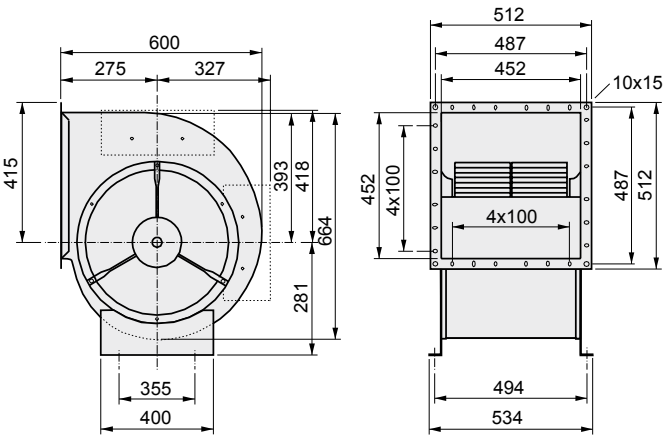
EVD-D315
177350
elast. Ausblasstutzen
elastic connection outlet

ABF-D315
171400
Ausblasflansch
counterflange outlet

DRSD 355-6



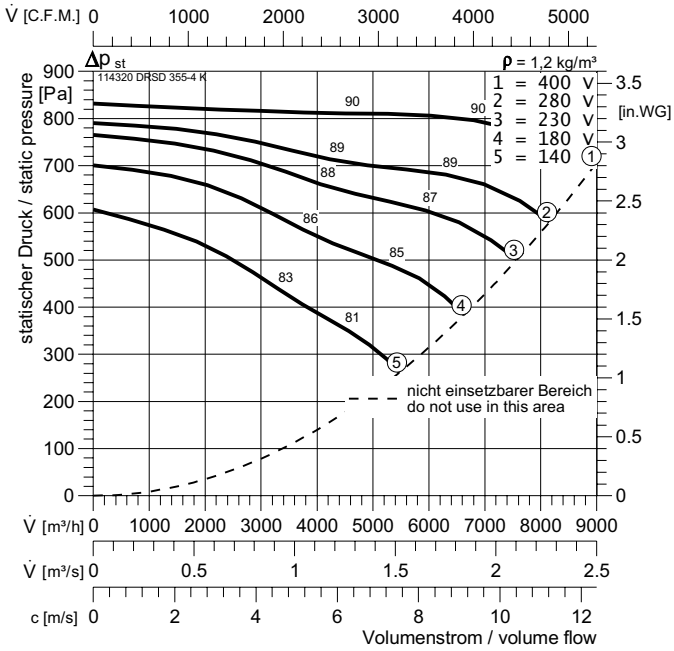
Typ :	DRSD 355-6		Δ $p_{fa\ min}$:	140	$L_{WA\ rel}$ ΔdB	L_{WA5}	L_{WA6}
ArtNr :	114360		Δ I :	-	$L_{WA\ tot}$	-3	0
:	50,5	kg	I_A/I_N :	3	125 Hz	-21	-20
U :	400 V 50 Hz			IP 54	250 Hz	-15	-9
P_1 :	2,95	kW		DD0b	500 Hz	-10	-5
I_N :	5,2	A		GS 2	1 kHz	-8	-7
n :	790	min^{-1}		RTD 7	2 kHz	-9	-7
C_{400V} :	-	µF		SAD 9	4 kHz	-12	-9
t_R :	40	°C			8 kHz	-19	-17



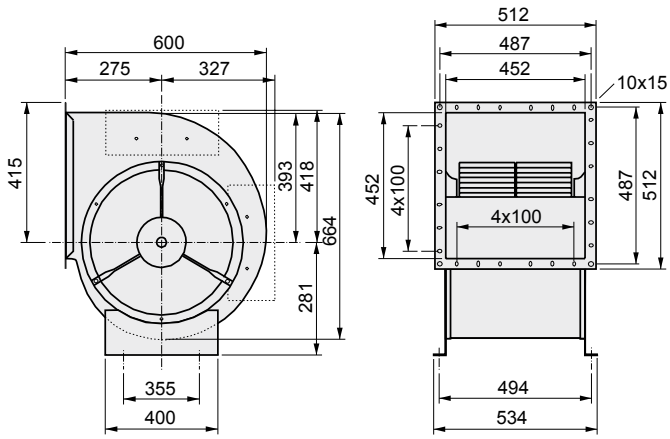
EVD-D355
177450
elast. Ausblasstutzen
elastic connection outlet

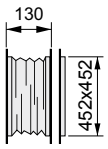
ABF-D355
171450
Ausblasflansch
counterflange outlet

DRSD 355-4 K



Typ :	DRSD 355-4 K		Δ $p_{fa\ min}$:	700	$L_{WA\ rel}$ ΔdB	L_{WA5}	L_{WA6}
ArtNr :	114320		Δ I :	2%	$L_{WA\ tot}$	-3	0
:	67,5	kg	I_A/I_N :	4,6	125 Hz	-21	-21
U :	400 V 50 Hz			IP 54	250 Hz	-16	-13
P_1 :	5	kW		DD0b	500 Hz	-13	-8
I_N :	10	A		GS 2	1 kHz	-8	-4
n :	1380	min^{-1}		RTD 14	2 kHz	-7	-7
C_{400V} :	-	µF		SAD 16	4 kHz	-13	-8
t_R :	40	°C			8 kHz	-19	-15

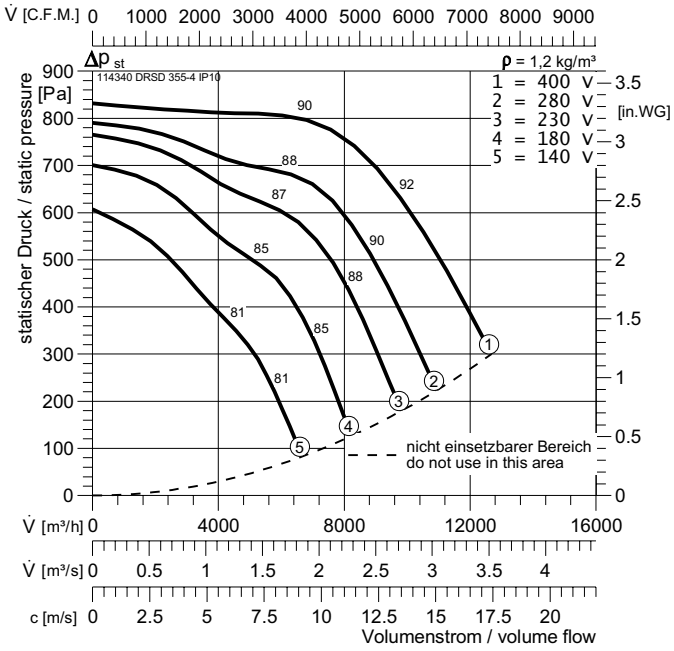




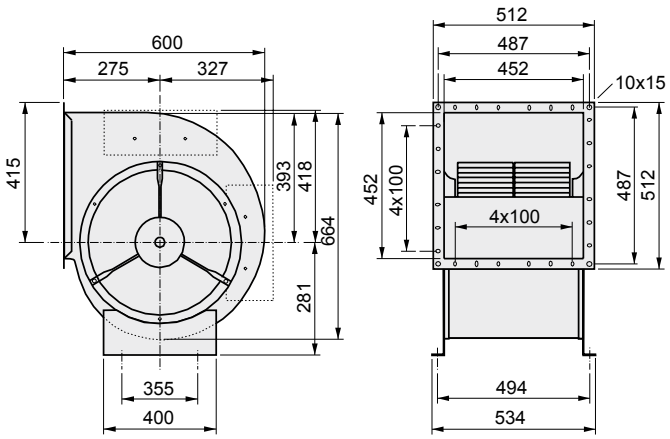
EVD-D355
177450
elast. Ausblasstutzen
elastic connection outlet

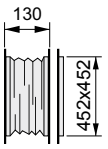
ABF-D355
171450
Ausblasflansch
counterflange outlet

DRSD 355-4 IP10



Typ :	DRSD 355-4 IP10		Δ $p_{fa\ min}$:	300	$L_{WA\ rel}$ ΔdB	L_{WA5}	L_{WA6}
ArtNr :	114340		Δ I :	2%	$L_{WA\ tot}$	-3	0
:	67,5	kg	I_A/I_N :	4,6	125 Hz	-21	-21
U :	400 V 50 Hz			IP 10	250 Hz	-16	-13
P_1 :	8	kW		DD0b	500 Hz	-13	-8
I_N :	14	A		GS 2	1 kHz	-8	-4
n :	1275	min^{-1}		RTD 14	2 kHz	-7	-7
C_{400V} :	-	µF		SAD 16	4 kHz	-13	-8
t_R :	40	°C			8 kHz	-19	-15

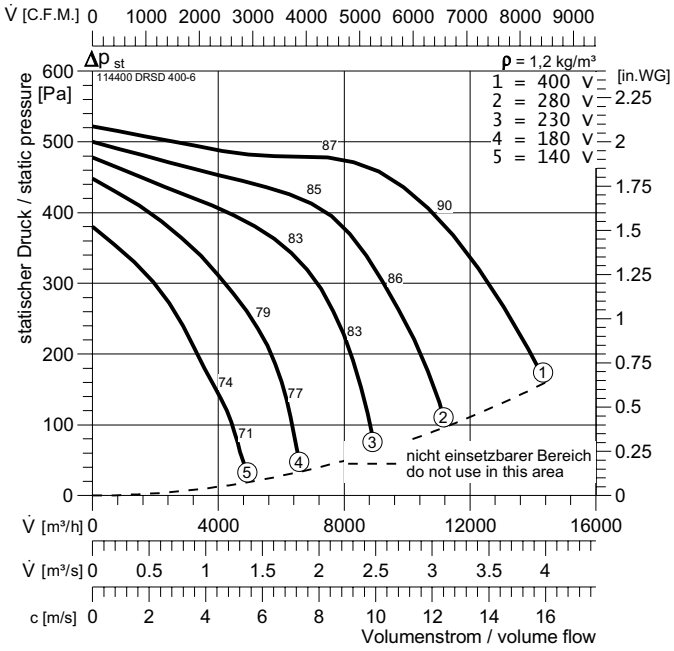




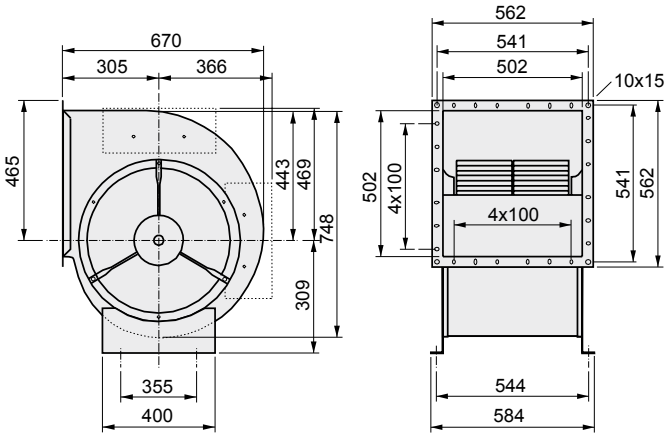
EVD-D355
177450
elast. Ausblasstutzen
elastic connection outlet

ABF-D355
171450
Ausblasflansch
counterflange outlet

DRSD 400-6



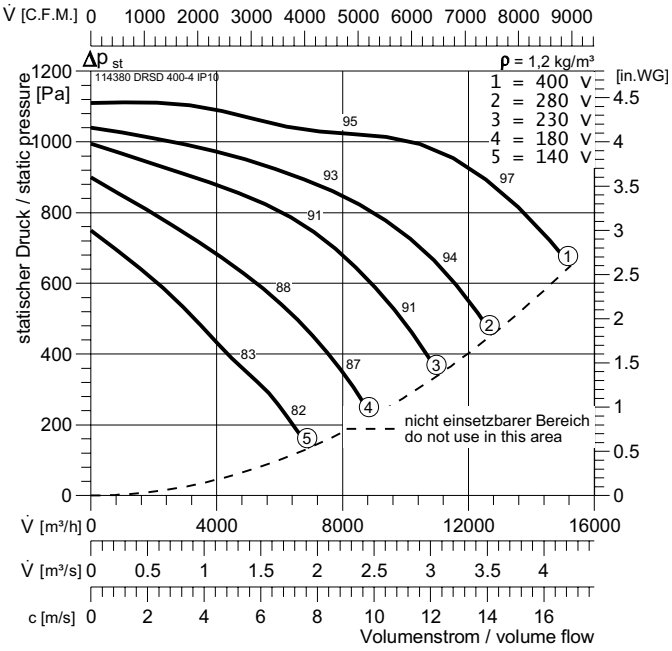
Typ :	DRSD 400-6		Δ $p_{fa\ min}$:	160	$L_{WA\ rel}$ ΔdB	L_{WA5}	L_{WA6}
ArtNr :	114400		Δ I :	3%	$L_{WA\ tot}$	-3	0
:	95	kg	I_A/I_N :	3,2	125 Hz	-21	-20
U :	400 V 50 Hz			IP 54	250 Hz	-15	-9
P_1 :	5,3	kW		DD0b	500 Hz	-10	-5
I_N :	10	A		GS 2	1 kHz	-8	-7
n :	845	min^{-1}		RTD 10	2 kHz	-9	-7
C_{400V} :	-	µF		SAD 9	4 kHz	-12	-9
t_R :	40	°C			8 kHz	-19	-17



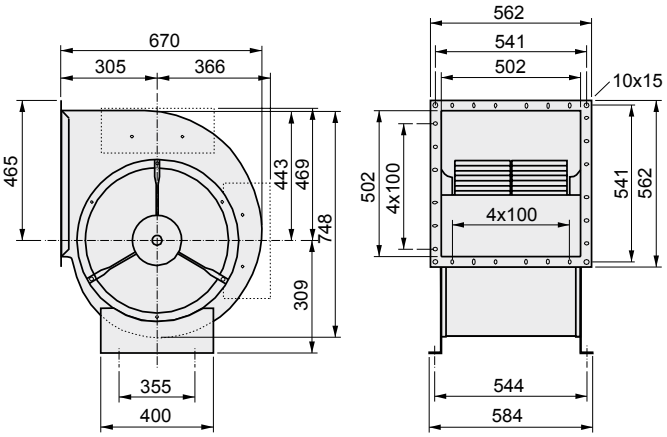
EVD-D400
177500
elast. Ausblasstutzen
elastic connection outlet

ABF-D400
171500
Ausblasflansch
counterflange outlet

DRSD 400-4 IP10



Typ :	DRSD 400-4 IP10		Δ $p_{fa\ min}$:	650	$L_{WA\ rel}$ ΔdB	L_{WA5}	L_{WA6}
ArtNr :	114380		Δ I :	18%	$L_{WA\ tot}$	-3	0
:	99	kg	I_A/I_N :	4	125 Hz	-21	-21
U :	400 V 50 Hz			IP 10	250 Hz	-16	-13
P_1 :	11	kW		DD0b	500 Hz	-13	-8
I_N :	19	A		GS 2	1 kHz	-8	-4
n :	1300	min^{-1}		RTD 19	2 kHz	-7	-7
C_{400V} :	-	µF			4 kHz	-13	-8
t_R :	40	°C			8 kHz	-19	-15



EVD-D400
177500
elast. Ausblasstutzen
elastic connection outlet

ABF-D400
171500
Ausblasflansch
counterflange outlet

Weitere Produkte aus dem Wolter-Programm.
Additional products from the Wolter range.

Zentralabluftsystem ecoVent
ecoVent Central Air-exhaust System
Katalog / Catalogue W10

Special Application Fans

eVent Rahmenlose Kompakt-Klimageräte
Frameless Compact Air-Handling Units
Katalog / Catalogue K04

Impulsventilatorensysteme zur Tiefgaragenbelüftung
Car-park Jet Fans

Tunnel Strahlventilatoren
Tunnel Jet Fans
Katalog / Catalogue T14

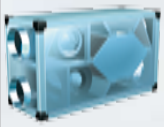
Metro an Tunnel Ventilation

Garagenbelüftungsgeräte / Doppelstufige Axialventilatoren
Car-park Exhaust Fans / Double-stage Axial Fans
Katalog / Catalogue G05

Keilriemengetriebene Radialventilatoren
Belt-driven Centrifugal Fans
Katalog / Catalogue M08

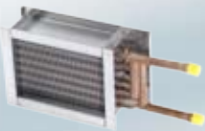
CHEM
Chemical-resistant Centrifugal Fans
Katalog / Catalogue R05

Zuluftgeräte
Slim Air-supply Units
Katalog / Catalogue K02



Wärmerückgewinnungsgeräte
Heat-recovery Units

WMF
Mixed-flow Fans



Gerätenormteile und lüftungstechnisches Zubehör
Standard Components
Katalog / Catalogue K02

Brandgas-Axialventilatoren
400° C/2h, 300° C/1h (DIN EN 12101-3)
Smoke-extract Fans

Typenschlüssel *Fan type code*

T N F D 400 - 4 RD90 / K

Zusatzbezeichnung / *Additional designation*
- /N für elektronisch regelbare Motoren / *electronically controllable motors*
- /K für kunststoffbeschichtete Ausführung / with *epoxy coating*

Ausblasstellung / *Discharge orientation*
- RD = rechtsdrehend von der Antriebsseite aus gesehen *clockwise rotation (viewed from the drive side)*
- LD = linksdrehend von der Antriebsseite aus gesehen *counter-clockwise rotation (viewed from the drive side)*

Polzahl des Antriebmotors / *Number of poles*
- -2, -4, -6

Nennweite / *Impeller diameter*

Motorversion / *Motor type*
- E = Einphasenwechselstrom / *Single-phase A.C. 220 V*
- D = Drehstrom / *Three-phase A.C.*

Gehäuseversion / *Casing type*
- F= Fußausführung mit Flanschmotor / *mounting feet and flange motor*
- Q = Rechteckausführung / *with rectangular side plate and foot motor*

Antriebsart / *Mode of driving*
- N = Normmotor / *Standard motor*
- S = Sondermotor / *Special motor*

Laufradtyp / *Impeller type*
- T = Trommellaufrad mit vorwärts gekrümmten Schaufeln *centrifugal impeller with forward-curved blades*
- H = Hochleistungslaufrad mit rückwärts gekrümmen Schaufeln *high efficiency impeller with backward-curved blades*

Eigenschaften und Ausführung

Die Ventilatoren der Baureihen TN und HN sind einseitig saugende Radialventilatoren für den leichten industriellen Einsatz. Sie eignen sich vorzugsweise für die Förderung von staubfreier oder leicht staubhaltiger Luft sowie nicht aggressiven Dämpfen und Gasen und werden vorwiegend in Entstaubungs-, Absaugungs- und Trocknungsanlagen sowie in der allgemeinen Luft- und Klimatechnik eingesetzt. Die Ventilatoren sind nicht gasdicht, die zulässige Fördermitteltemperatur liegt zwischen -30°C und +60°C.

Gehäuse

Die Gehäuse der TN/HN Radialventilatoren sind aus verzinktem Stahlblech hergestellt. Eine zusätzliche Kunststoffbeschichtung ist erhältlich.

- **TNF. / HNF.** - Bei der Version mit angeflanschtem Motor (Baugrößen 160 - 280) sind die Gehäuseseitenteile mittels Stehfalz mit dem Spiralleitblech verbunden. In den Seitenteilen befinden sich Bohrungen für die Befestigung von Füßen, die jeweils um 90° umgesetzt werden können.
- **TNQ. / HNQ.** - Bei der Version mit quadratischer Seitenwand (Baugrößen 200 - 630) sind die Motoren auf einer Konsole montiert. Die Seitenteile des Ventilatorgehäuses und das Spiralleitblech werden durch Nieten miteinander verbunden.

Gehäusestellung und Drehsinn der Laufräder entsprechen der Eurovent Richtlinie von 1975. Der Drehsinn wird hier von der Perspektive der Antriebsseite her definiert. Bei der Bestellung ist die genaue Ausblasstellung anzugeben.

Laufrad

- **TN** - Die vorwärts gekrümmten Laufräder (Trommellaufrad) sind aus sendzimirverzinktem Stahlblech gefertigt. Der stabile Aufbau ermöglicht hohe Umfangsgeschwindigkeiten. Je nach Baugröße werden Einströmdüsen aus glasfaserverstärktem Polyamid oder aus sendzimirverzinktem Stahlblech verwendet.
- **HN** - Die rückwärtsgekrümmten Konkavlaufräder sind vollständig aus Aluminium gefertigt. Die daraus resultierenden geringen Trägheitsmomente ermöglichen eine wirtschaftliche Dimensionierung der Antriebsmotoren. Die Einströmdüsen bestehen aus sendzimirverzinktem Stahlblech.

Die Laufräder werden statisch und dynamisch in zwei Ebenen ausgewuchtet. Die Wuchtgüte entspricht der Gütestufe G2,5 nach DIN ISO 1940. Die stabilen, aus Aluminiumdruckguß gefertigten Laufradnaben gewährleisten eine optimale Verbindung mit der Motorwelle.

Antrieb

Der Antrieb erfolgt durch Normmotoren in Flansch- (Typ TNF./HNF.) bzw. Fußausführung (Typ TNQ./HNQ.), Schutzart IP55, Isolationsklasse F. Die zulässige Umgebungstemperatur liegt zwischen zwischen -20°C und +40°C. Bis Motorbaugröße 100 können spannungsregelbare Motoren eingesetzt werden.

Drehzahlregelung

Für die Drehzahlregelung sind verschiedene Regelgeräte lieferbar. Angaben hierzu sind unter dem jeweiligen Kennlininenfeld des Ventilators zu finden. Nähere Beschreibungen dieser Regler finden Sie in Kapitel 7 ab Seite 332.

Luftleistungskennlinien

Die Kennlinien für diese Typenreihe wurden in Einbauart B (frei ansaugend, druckseitig angeschlossen) aufgenommen und zeigen die totale Druckerhöhung Δp_t als Funktion des Volumenstroms. Der dynamische Druck p_{d2} ist auf den Flanschquerschnitt am Ventilatoraustritt bezogen.

Schallentwicklung

Die Ermittlung der Schallleistungspegel erfolgt nach dem Hüllflächenverfahren nach DIN 45 635, Teil 38, bzw. nach dem Kanalverfahren gemäß DIN 45 635, Teil 9. In den Kennlinien ist der A-bewertete AusblaskanalSchallleistungspegel L_{WA4} nach DIN 45 635, Teil 38, angegeben.

Der A-bewertete Freiansaug-Schallleistungspegel L_{WA5} nach DIN 45 635, Teil 38 wird wie folgt ermittelt:

$$L_{WA5} = L_{WA4} - 3\ dB(A)$$

Der für die Auslegung von Schalldämpfern maßgebende Schallleistungspegel in den einzelnen Oktavbereichen kann aus folgender Formel ermittelt werden:

$$L_{WAOkt} = L_{WA4} - L_{WArel}$$

Die relativen Oktav-Schallleistungspegel L_{WArel} bei den Oktav-Mittelfrequenzen sind den Tabellen des Ventilators zu entnehmen. Sie sind bei 0,5 x Vmax ermittelt worden. Den A-bewerteten Schalldruckpegel L_{PA} in 1m Abstand erhält man annähernd, indem man vom A-Schallleistungspegel L_{WA} 7 dB(A) abzieht.

Zu beachten ist, dass Reflexionen und Raumcharakteristik sowie Eigenfrequenzen die Größe des Schalldruckpegels unterschiedlich beeinflussen.

TNF, HNF

TNQ, HNQ

Relativer A-bewerteter OktavSchallleistungspegel

Relative octave sound power level, A-weighted

TN... ΔdB(A)				LwA	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz
2-pol	L_{WA6rel} [dB]	Ausblasseite	Outlet side	0	-23	-11	-2	-5	-6	-12	-22
	L_{WA5rel} [dB]	Ansaugseite	Inlet side	-3	-18	-12	-7	-5	-9	-11	-20
4-pol	L_{WA6rel} [dB]	Ausblasseite	Outlet side	0	-18	-8	-8	-7	-12	-20	-26
	L_{WA5rel} [dB]	Ansaugseite	Inlet side	-3	-19	-13	-8	-10	-11	-18	-25
6-pol	L_{WA6rel} [dB]	Ausblasseite	Outlet side	0	-16	-10	-10	-9	-17	-23	-30
	L_{WA5rel} [dB]	Ansaugseite	Inlet side	-3	-19	-13	-10	-12	-14	-23	-31

HN... ΔdB(A)				LwA	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz
2-pol	L_{WA6rel} [dB]	Ausblasseite	Outlet side	0	-23	-15	-7	-2	-3	-7	-10
	L_{WA5rel} [dB]	Ansaugseite	Inlet side	-3	-19	-14	-10	-9	-7	-8	-14
4-pol	L_{WA6rel} [dB]	Ausblasseite	Outlet side	0	-22	-13	-5	-4	-7	-8	-15
	L_{WA5rel} [dB]	Ansaugseite	Inlet side	-3	-21	-16	-12	-8	-8	-12	-18
6-pol	L_{WA6rel} [dB]	Ausblasseite	Outlet side	0	-21	-12	-6	-7	-7	-9	-16
	L_{WA5rel} [dB]	Ansaugseite	Inlet side	-3	-22	-18	-12	-8	-8	-11	-19

Ausblasstellung Blickrichtung Antriebsseite

Discharge orientation viewed from drive side

RD 0 RD 90 RD 180 RD 270 LG 0 LG 90 LG 180 LG 270

Design features

TN/HN direct-driven fans are single-inlet fans for light industrial applications. They are used to convey clean or lightly polluted air and non-aggressive gases. TN model fans have forward-curved impellers, HN type fans are fitted with backward-curved impellers. The fan casings are not gas tight. The permissible temperature range of the conveyed medium is -30°C to +60°C.

Casing

The housing of the fans is made of galvanised sheet steel. Painted or powder coated casings are available.

- **TNF. / HNF.** - type fans are fitted with a B5 flange motor (fan sizes 160 - 280). The side plates and the scroll plate are joined together by a standing seam. The mounting feet are screwed to the fan casing The discharge orientation can therefore easily be changed in steps of 90°.
- **TNQ. / HNQ.** - type fans feature a square side plate (fan sizes 200 - 630) that allow the installation of a B3 foot motor. The side plates and scroll are riveted.

The designation of discharge orientation and direction of rotation correspond to the Eurovent guideline from 1975. The direction of rotation is seen from the drive side. When ordering, please indicate the exact discharge position.

Impeller

- **TN** - Forward-curved impellers are made of galvanised steel, designed for high circumferential speed. The inlet cones are manufactured from galvanised steel or glass fibre reinforced polyamide.
- **HN** - Backward-curved impellers are made of seawater proof aluminium. Their low mass moment of inertia allows to reduce motor sizes. The inlet cones are made of galvanised steel.

All fan impellers are statically and dynamically balanced in two plains to quality level G 2.5 (DIN ISO 1940).

Motors

All fans are equipped with standard IEC-motors of flange or foot type. Protection class IP55, isolation class F. The permissible ambient temperature range is -20°C to +40°C. Up to motor size 100, voltage-controllable motors are available.

Speed Control

Electronic and transformer-type controllers are available. Corresponding controllers are listed below each fan curve. For controller details, please refer to chapter 7 of this catalogue (p.332ff.).

Fan performance curves

The performance curves for these fan types have been established in mounting position B (installed on the pressure side with free inlet) and represent the total pressure increase Δp_t as a function of the volume flow. The dynamic pressure p_{d2} refers to the flange cross-sectional area of the fan outlet.

Sound levels

The ascertaining of the sound data follows the enveloping surface method according to DIN 45 635 section 38, or the channel technique as defined in DIN 45 635, section 9. The figures given in the fan performance curves are the A-weighted sound power levels L_{WA4} (in decibels) on the outlet side in a ducted system.

The A-weighted sound power level at the inlet side L_{WA5} according to DIN 45 635, part 38 is obtained as follows:

$$L_{WA5} = L_{WA4} - 3\ dB(A)$$

The octave sound power level is important for the choice of suitable sound attenuators. It is calculated as follows.

$$L_{WAOkt} = L_{WA4} - L_{WArel}$$

The relative octave sound power level L_{WArel} at octave medium frequency can be taken from the tables below each fan curve. These levels have been established at 0.5 x Vmax.

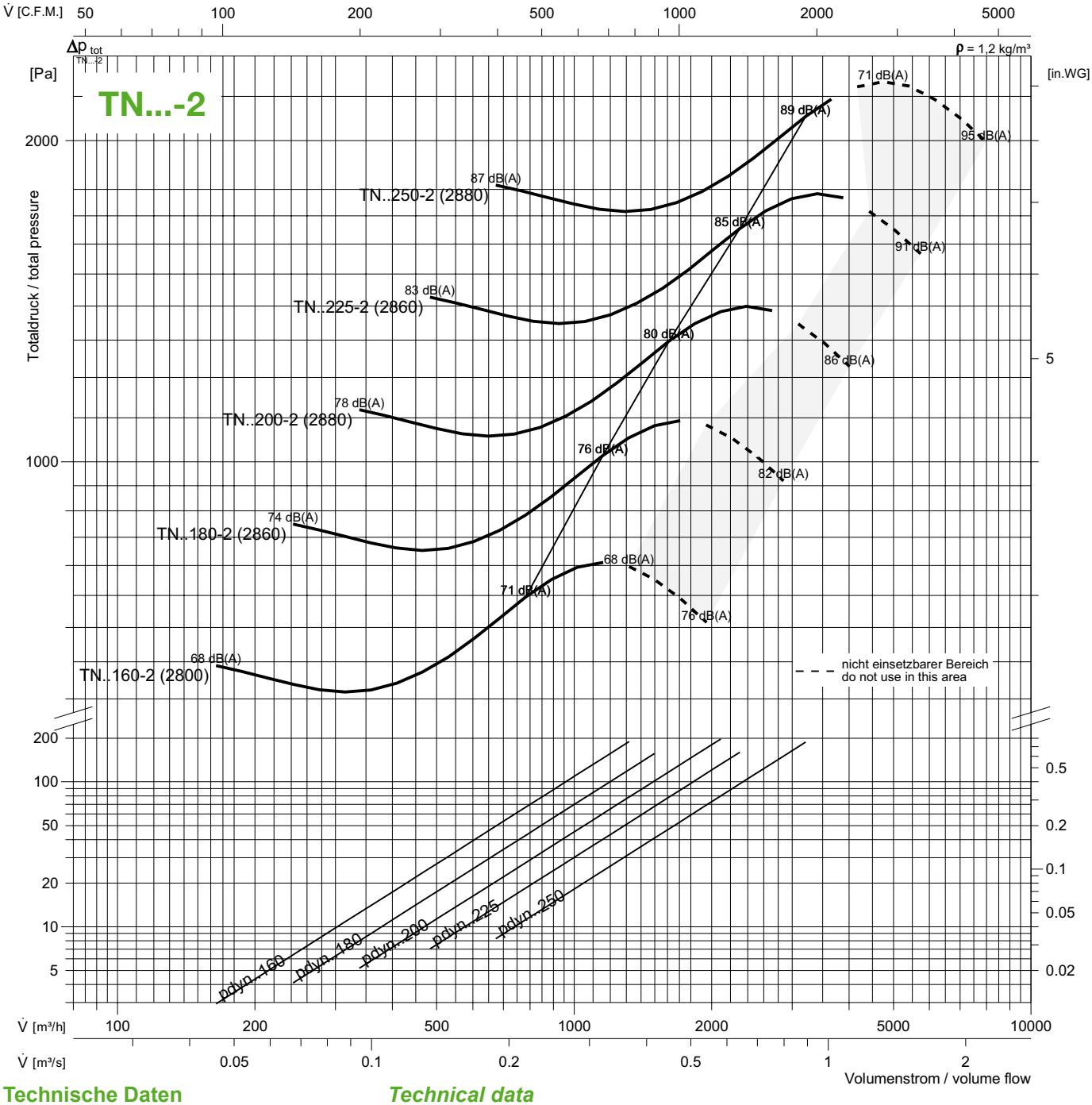
The A-weighted sound pressure level L_{PA} at a distance of 1 metre is obtained approximately by deducting 7 dB(A) from the A-weighted sound power level L_{WA}.

It is important to note that reflexion and environmental characteristics as well as resonant frequencies influence the sound pressure levels in different ways.

5.1

$$p_{d2} = \frac{\rho}{2} \cdot \left(\frac{\dot{V}}{A_2 \cdot 3600} \right)^2 \text{ [Pa]} \qquad c_1 = \frac{\dot{V}}{A_1 \cdot 3600} \text{ [m/s]} \qquad c_2 = \frac{\dot{V}}{A_2 \cdot 3600} \text{ [m/s]}$$

A_1 - Eintrittsquerschnitt in m² - *Cross section inlet in m²*
A_2 - Austrittsquerschnitt in m² - *Cross section outlet in m²*
c_1 - Strömungsgeschwindigkeit im Eintritt - *Flow speed inlet*
c_2 - Strömungsgeschwindigkeit im Austritt - *Flow speed outlet*
p_{d2} - dyn. Druck Austritt - *dynamic pressure outlet*
ρ - 1,2 kg/m³ Luftdichte - *1,2 kg/m³ Air density*



Technische Daten / *Technical data*

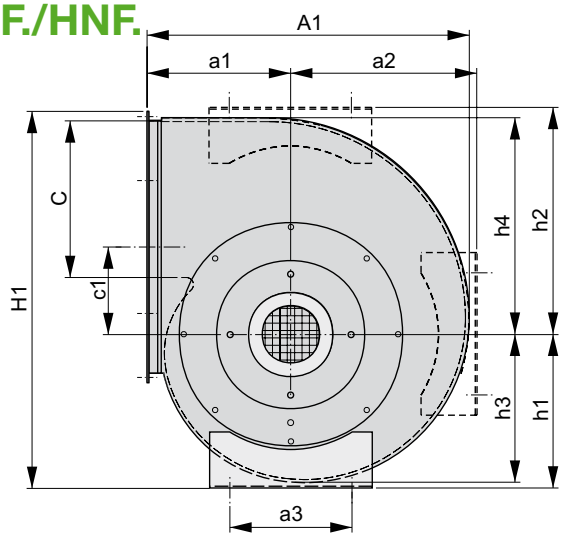
Baugröße *size*	Motor *motor*	U [V]	n [min⁻¹n]	P [kW]	I [A]	J [kg m²]	
160-2	71G2	230	2820	0,55	3,8	0,00245	RTE 5
	71K2	400 Y	2730	0,55	1,67	-"-	RTD 2,5
180-2	80G2	230	2820	1,1	6,3	0,00410	RTE 7,5
	80K2	400 Y	2670	1,1	2,6	-"-	RTD3

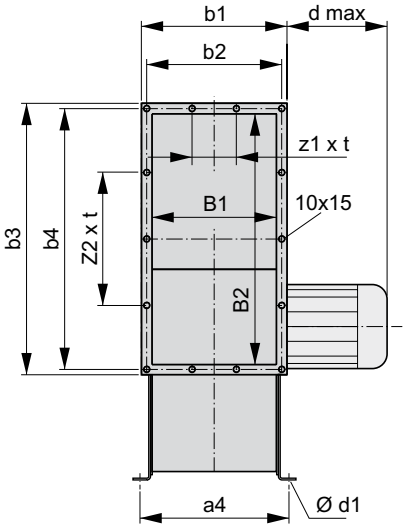
Baugröße *size*	Motor *motor*	U [V]	n [min⁻¹n]	P [kW]	I [A]	J [kg m²]	
200-2	90 L2	400 Δ	2860	2,2	4,8	0,00725	FUA 220
225-2	100 L2	400 Δ	2865	3,0	6,2	0,01425	FUA 400
250-2	112 M2	400 Δ	2895	4,0	8,2	0,02050	FUA 400

TNF, HNF

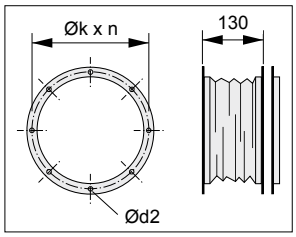
TNQ, HNQ

TNF./HNF.

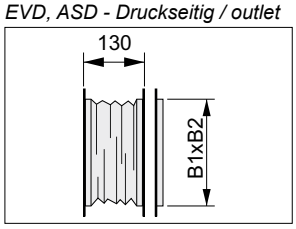




Ansaugstutzen und -flansch
elastic connection and flange
EVS, ASF - saugseitig / inlet

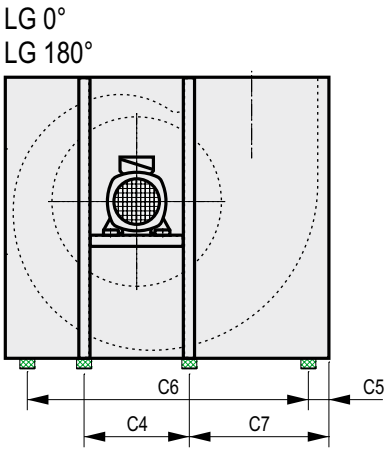


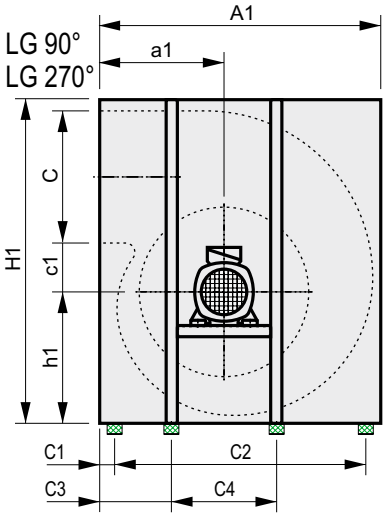
EVD, ASD - Druckseitig / outlet

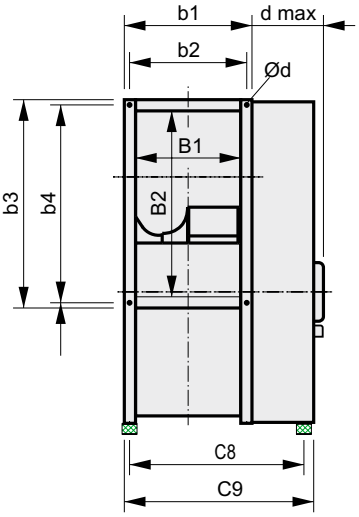


Größe	A1	a1	a2	a3	a4	B1	B2	b1	b2	b3	b4	C	c1	d max	ød1	H1	h1	h2	h3	h4	z1	z2	t
size	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]			[mm]
160	306	154	158	180	129	100	200	156	126	256	226	125	71	240	7	359	159	212	128	183	-	*	
180	337	467	172	180	141	112	224	168	138	280	250	142	81	269	7	394	172	232	143	204	-	*	

TNQ./HNQ.





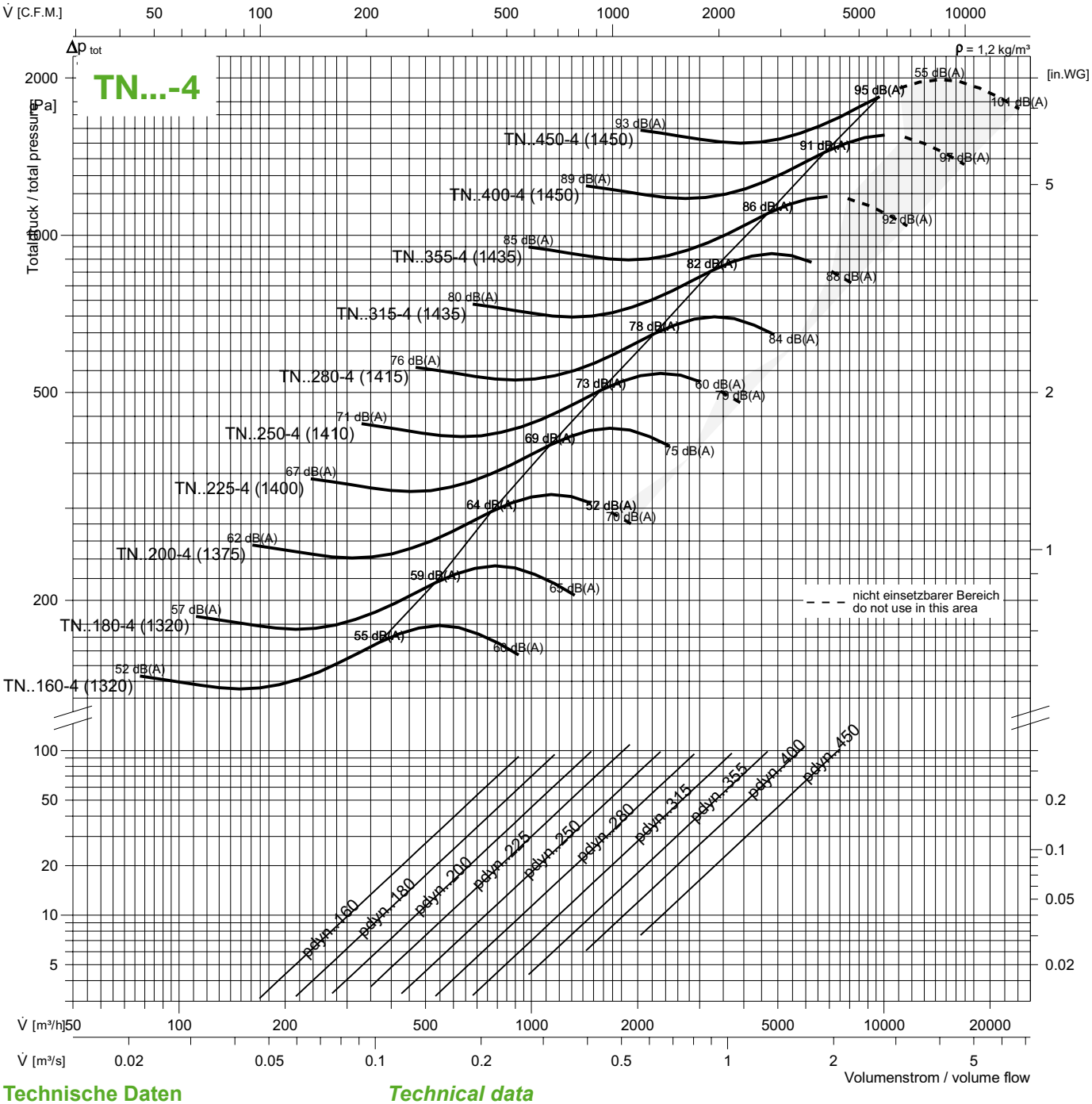


Größe	size	200	225	250
A1	[mm]	383	400	440
a1	[mm]	175	185	200
B1	[mm]	127	140	160
B2	[mm]	252	280	315
b1	[mm]	187	204	224
b2	[mm]	151	166	186
b3	[mm]	306	336	371
b4	[mm]	276	306	341
C	[mm]	160	175	195
C1	[mm]	75	101	118
C2	[mm]	233	220	220
C3	[mm]	63	72,5	67
C4	[mm]	224	224	265

Größe	size	200	225	250
C5	[mm]	75	138	163
C6	[mm]	283	220	220
C7	[mm]	144	161,5	169
C8	[mm]	263	298	318
C9	[mm]	307	345	365
d	[mm]	7	7	7
dmax	[mm]	326	371	371
H1	[mm]	433	466	512
h1	[mm]	177	192	210
k	[mm]	235	259	286
n		6	6	6
d2	[mm]	7	7	7

$$p_{d2} = \frac{\rho}{2} \cdot \left(\frac{\dot{V}}{A_2 \cdot 3600}\right)^2 \text{ [Pa]} \qquad c_1 = \frac{\dot{V}}{A_1 \cdot 3600} \text{ [m/s]} \qquad c_2 = \frac{\dot{V}}{A_2 \cdot 3600} \text{ [m/s]}$$

A_1 - Eintrittsquerschnitt in m² - *Cross section inlet in m²*
A_2 - Austrittsquerschnitt in m² - *Cross section outlet in m²*
c_1 - Strömungsgeschwindigkeit im Eintritt - *Flow speed inlet*
c_2 - Strömungsgeschwindigkeit im Austritt - *Flow speed outlet*
p_{d2} - dyn. Druck Austritt - *dynamic pressure outlet*
ρ - 1,2 kg/m³ Luftdichte - *1,2 kg/m³ Air density*



Technische Daten / *Technical data*

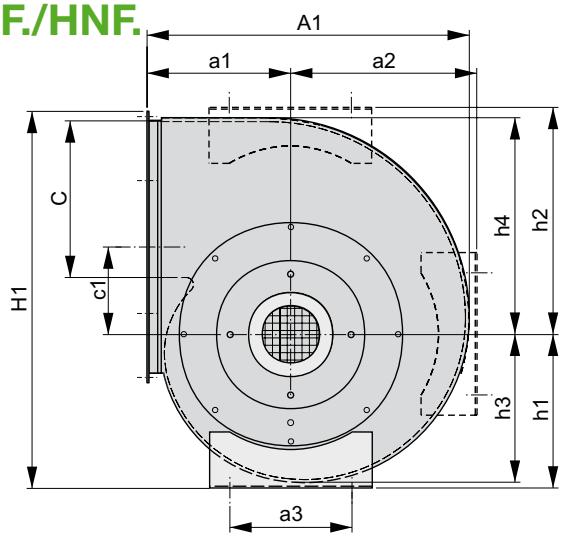
Baugröße *size*	Motor *motor*	U [V]	n [min⁻¹n]	P [kW]	I [A]	J [kg m²]	
160-4	71G4	230	1400	0,37	3,3	0,00240	RTE 5
	71K4	400 Y	1360	0,37	1,39	-"-	RTD 2,5
180-4	71G4	230	1400	0,37	3,3	0,00340	RTE 5
	71K4	400 Y	1360	0,37	1,39	-"-	RTD 2,5
200-4	71G4	230	1400	0,37	3,3	0,00605	RTE 5
	71K4	400 Y	1360	0,37	1,39	-"-	RTD 2,5
225-4	80G4	230	1370	0,75	5,1	0,01105	RTE 7,5
	80K4	400 Y	1350	0,75	2,5	-"-	RTD 2,5

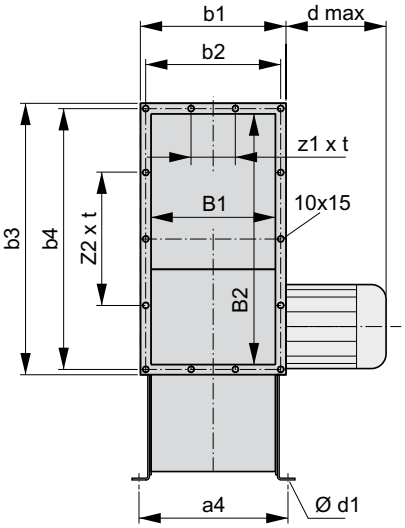
Baugröße *size*	Motor *motor*	U [V]	n [min⁻¹n]	P [kW]	I [A]	J [kg m²]	
250-4	90L4	230	1380	1,1	7,6	0,01780	RTE 10
	90SX4	400 Y	1350	1,1	3,3	-"-	RTD 3,8
280-4	100LK4	400Y	1415	2,2	5,5	0,0323	FUA 220
315-4	112 M4	400 Δ	1435	4	9,2	0,0523	FUA 550
355-4	112 M4	400 Δ	1435	4	9,2	0,0823	FUA 550
400-4	132 M	400	1450	7,5	15,6	0,1505	MM 305
450-4	132 M	400	1450	7,5	15,6	0,2155	MM 305

TNF, HNF

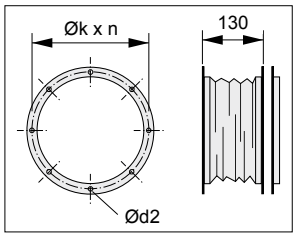
TNQ, HNQ

TNF./HNF.

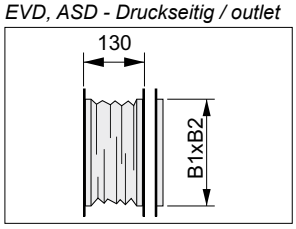




Ansaugstutzen und -flansch
elastic connection and flange
EVS, ASF - saugseitig / inlet

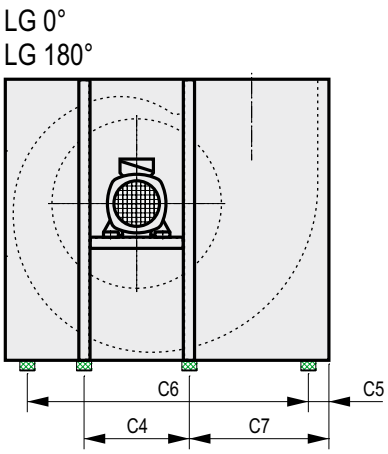


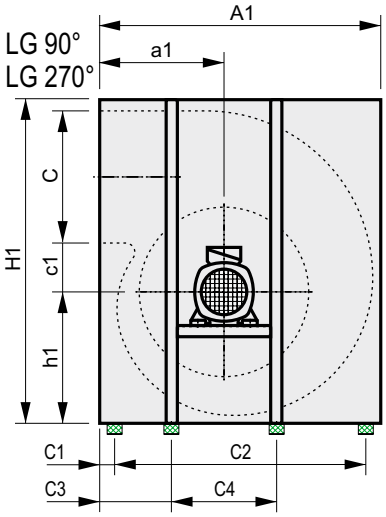
EVD, ASD - Druckseitig / outlet

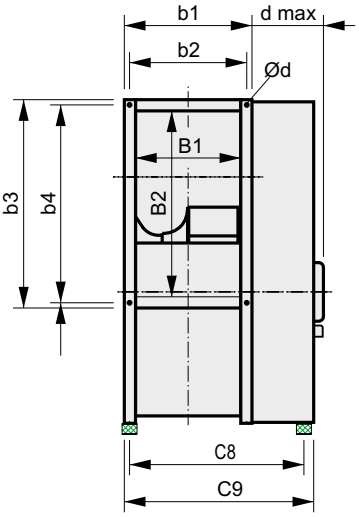


Größe	A1	a1	a2	a3	a4	B1	B2	b1	b2	b3	b4	C	c1	d	ød1	H1	h1	h2	h3	h4	z1	z2	t
size	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]					
160	306	154	158	180	129	100	200	156	126	256	226	125	71	210	7	359	159	212	128	183	-	*	
180	337	467	172	180	141	112	224	168	138	280	250	142	81	210	7	394	172	232	143	204	-	*	
200	367	179	196	214	154	125	250	181	151	306	276	157	89	210	7	433	189	253	157	226	*	*	
225	405	195	212	214	169	140	280	196	166	336	306	177	101	269	7	476	205	282	176	263	*	*	
250	442	211	235	214	187	160	315	216	186	371	341	196	111	326	7	515	218	307	194	279	*	1	125

TNQ./HNQ.





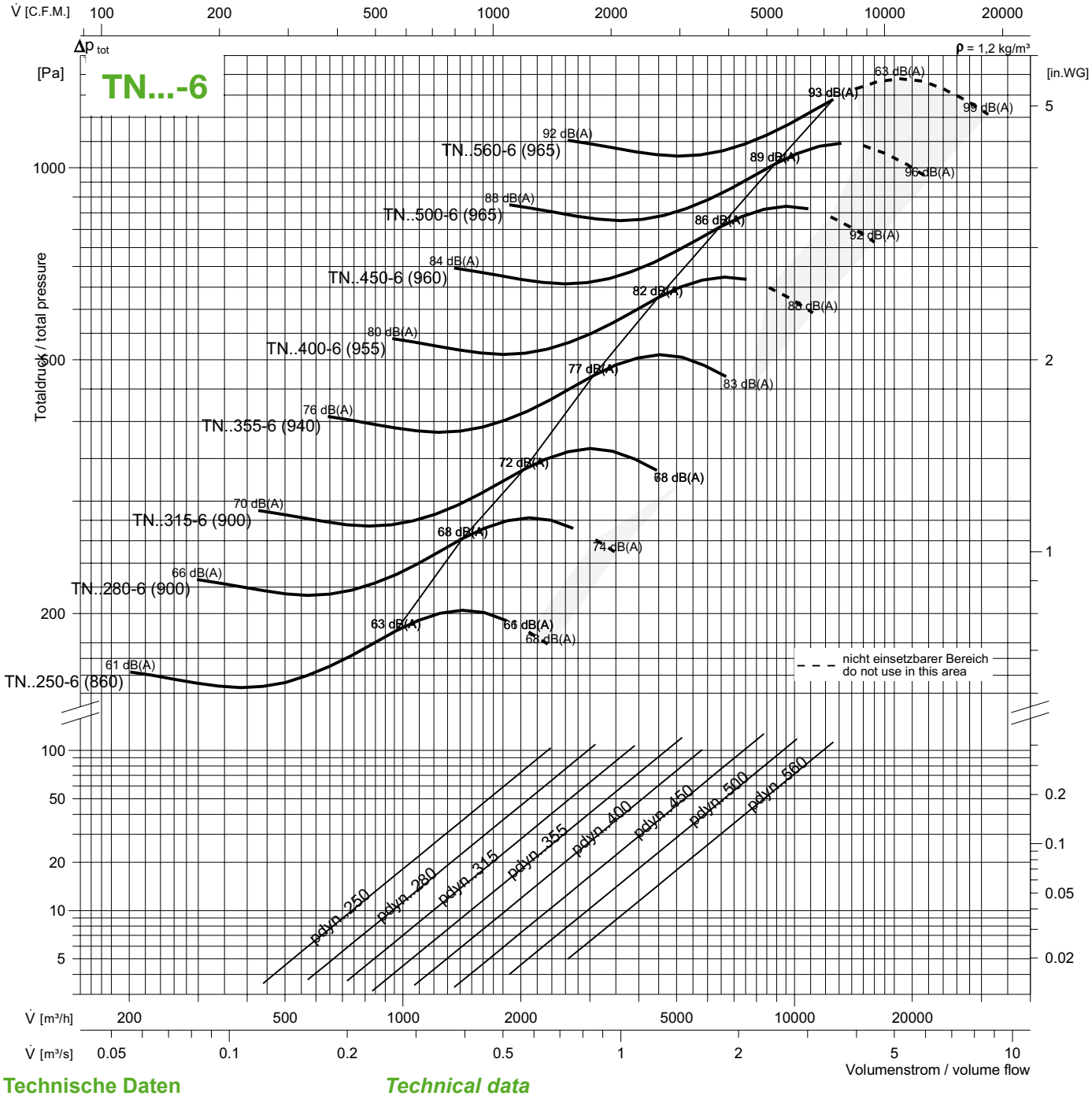


Größe	size	200	225	250	280	315	355	400	450
A1	[mm]	383	400	440	485	535	600	669	726
a1	[mm]	175	185	200	220	240	265	305	298
B1	[mm]	127	140	160	180	202	224	248	284
B2	[mm]	252	280	315	355	402	452	502	562
b1	[mm]	187	204	224	244	266	288	312	348
b2	[mm]	151	166	186	206	226	250	276	306
b3	[mm]	306	336	371	411	456	506	556	616
b4	[mm]	276	306	341	381	426	476	526	586
C	[mm]	160	175	195	220	245	280	315	355
C1	[mm]	75	101	118	50	52	80	126	111
C2	[mm]	233	220	220	400	440	440	417	503
C3	[mm]	63	72,5	67	80	100	137	152	146
C4	[mm]	224	224	265	280	280	255	305	305

Größe	size	200	225	250	280	315	355	400	450
C5	[mm]	75	138	163	84	118	159	126	111
C6	[mm]	283	220	220	440	440	440	498	605
C7	[mm]	144		169	194	233	288	299	333
C8	[mm]	263	298	318	338	384	406	430	518
C9	[mm]	307	345	365	385	432	457	482	562
d	[mm]	7	7	7	10	10	10	10	10
dmax	[mm]	326	371	371	382	371	371	410	410
H1	[mm]	433	466	512	566	630	700	750	828
h1	[mm]	177	192	210	232	257	285	299	342
k	[mm]	235	259	286	322	356	395	438	487
n		6	6	6	8	8	8	12	12
d2	[mm]	7	7	7	9,5	9,5	9,5	9,5	9,5

$$p_{d2} = \frac{\rho}{2} \cdot \left(\frac{\dot{V}}{A_2 \cdot 3600} \right)^2 \text{ [Pa]} \qquad c_1 = \frac{\dot{V}}{A_1 \cdot 3600} \text{ [m/s]} \qquad c_2 = \frac{\dot{V}}{A_2 \cdot 3600} \text{ [m/s]}$$

A_1 - Eintrittsquerschnitt in m² - *Cross section inlet in m²*
A_2 - Austrittsquerschnitt in m² - *Cross section outlet in m²*
c_1 - Strömungsgeschwindigkeit im Eintritt - *Flow speed inlet*
c_2 - Strömungsgeschwindigkeit im Austritt - *Flow speed outlet*
p_{d2} - dyn. Druck Austritt - *dynamic pressure outlet*
ρ - 1,2 kg/m³ Luftdichte - *1,2 kg/m³ Air density*



Technische Daten — *Technical data*

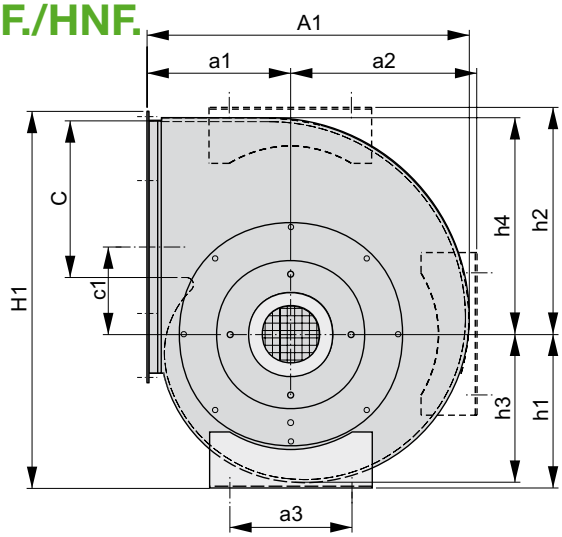
Baugröße *size*	Motor *motor*	U [V]	n [min⁻¹n]	P [kW]	I [A]	J [kg m²]	
250-6	71 A6	400 Y	860	0,25	0,88	0,0159	FUA 055
280-6	80G6	400 Y	840	0,55	2,0	0,0293	RTD 2,5
315-6	90LX6	400 Y	830	1,1	3,6	0,0447	RTD 3,8
355-6	112 M6	400 Y	940	2,2	5,9	0,0823	FUA 220

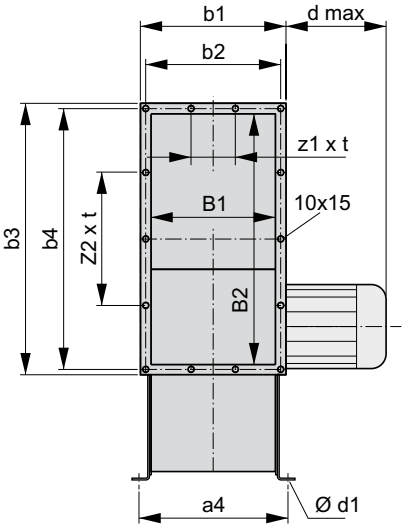
Baugröße *size*	Motor *motor*	U [V]	n [min⁻¹n]	P [kW]	I [A]	J [kg m²]	
400-6	132 S6	400 Δ	955	3,0	7,6	0,1425	FUA 400
450-6	132 M6	400 Δ	960	5,5	13,1	0,2225	FUA 550
500-6	160 M6	400 Δ	965	7,5	18,1	0,4600	FUA 750
560-6	160 M6	400 Δ	965	7,5	18,1	0,7325	FUA 750

TNF, HNF

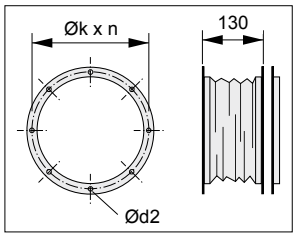
TNQ, HNQ

TNF./HNF.

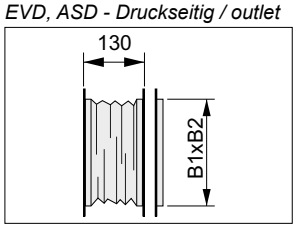




Ansaugstutzen und -flansch
elastic connection and flange
EVS, ASF - saugseitig / inlet

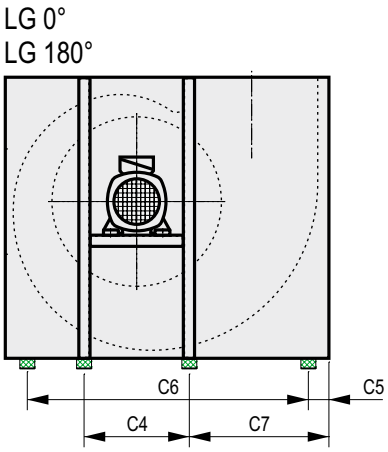


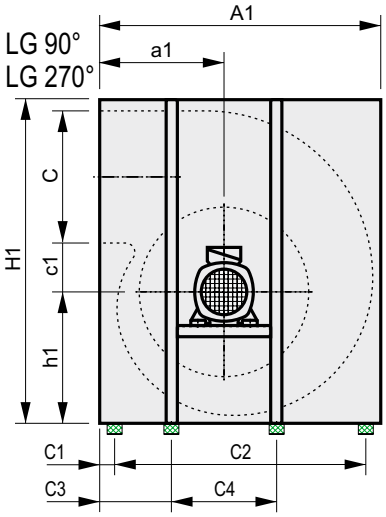
EVD, ASD - Druckseitig / outlet

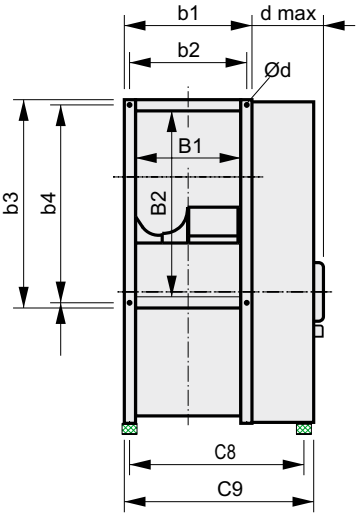


Größe	A1	a1	a2	a3	a4	B1	B2	b1	b2	b3	b4	C	c1	d	ød1	H1	h1	h2	h3	h4	z1	z2	t
size	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]					
250	442	211	235	214	187	160	315	216	186	371	341	196	111	210	7	515	218	307	194	279	*	1	125
280	487	229	262	280	212	180	355	236	206	411	381	220	123	269	10	573	243	338	216	312	*	1	125

TNQ./HNQ.





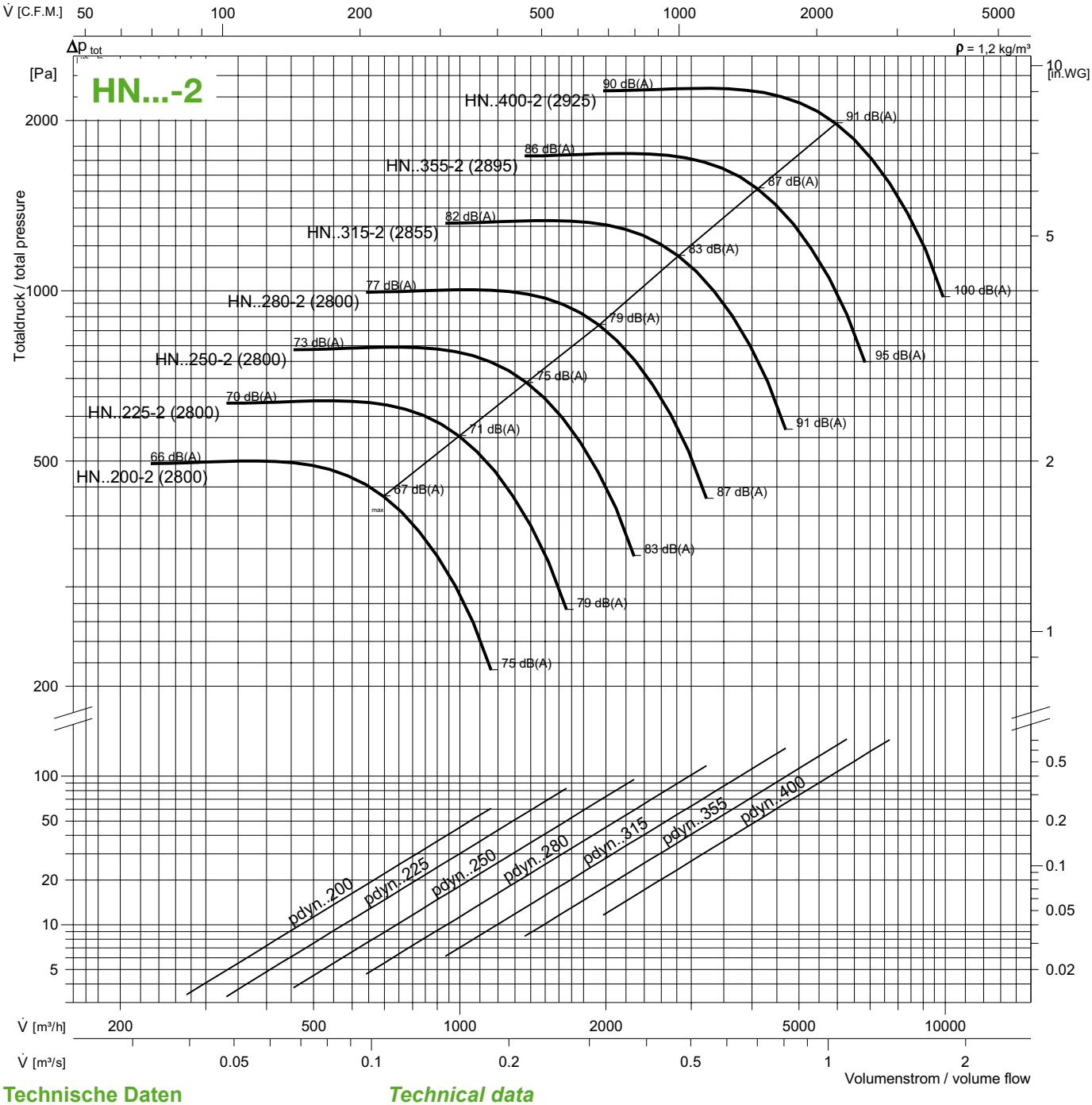


Größe	size	250	280	315	355	400	450	500	560
A1	[mm]	440	485	535	600	669	726	800	892
a1	[mm]	200	220	240	265	305	298	330	368
B1	[mm]	160	180	202	224	248	284	318	357
B2	[mm]	315	355	402	452	502	562	632	712
b1	[mm]	224	244	266	288	312	348	382	421
b2	[mm]	186	206	226	250	276	306	341	381
b3	[mm]	371	411	456	506	556	616	686	766
b4	[mm]	341	381	426	476	526	586	656	736
C	[mm]	195	220	245	280	315	355	395	440
C1	[mm]	118	50	52	80	126	111	152	169
C2	[mm]	220	400	440	440	417	503	496	554
C3	[mm]	67	80	100	137	152	146	177	216
C4	[mm]	265	280	280	255	305	305	305	305

Größe	size	250	280	315	355	400	450	500	560
C5	[mm]	163	84	118	159	126	111	152	169
C6	[mm]	220	440	440	440	498	605	614	692
C7	[mm]	169	194	233	288	299	333	387	443
C8	[mm]	318	338	384	406	430	518	552	591
C9	[mm]	365	385	432	457	482	562	597	637
d	[mm]	7	10	10	10	10	10	10	12
dmax	[mm]	371	382	371	371	410	410	518	518
H1	[mm]	512	566	630	700	750	828	918	1030
h1	[mm]	210	232	257	285	299	342	378	434
k	[mm]	286	322	356	395	438	487	541	605
n		6	8	8	8	12	12	12	16
d2	[mm]	7	9,5	9,5	9,5	9,5	9,5	9,5	11,5

$$p_{d2} = \frac{\rho}{2} \cdot \left(\frac{\dot{V}}{A_2 \cdot 3600}\right)^2 \text{ [Pa]} \qquad c_1 = \frac{\dot{V}}{A_1 \cdot 3600} \text{ [m/s]} \qquad c_2 = \frac{\dot{V}}{A_2 \cdot 3600} \text{ [m/s]}$$

A_1 - Eintrittsquerschnitt in m² - *Cross section inlet in m²*
A_2 - Austrittsquerschnitt in m² - *Cross section outlet in m²*
c_1 - Strömungsgeschwindigkeit im Eintritt - *Flow speed inlet*
c_2 - Strömungsgeschwindigkeit im Austritt - *Flow speed outlet*
p_{d2} - dyn. Druck Austritt - *dynamic pressure outlet*
ρ - 1,2 kg/m³ Luftdichte - *1,2 kg/m³ Air density*



Technische Daten / *Technical data*

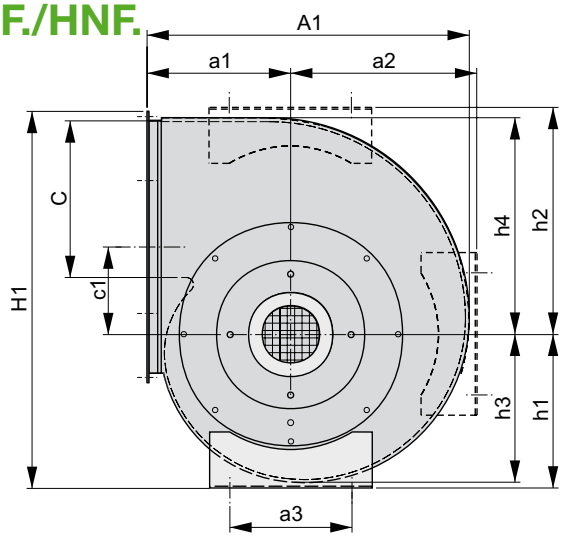
Baugröße *size*	Motor *motor*	U [V]	n [min⁻¹n]	P [kW]	I [A]	J [kg m²]	
200-2	71G2	230	2820	0,55	3,8	0,0044	RTE 5
	71K2	400 Y	2730	0,55	1,67	-"-	RTD 2,5
225-2	71G2	230	2820	0,55	3,8	0,0072	RTE 5
	71K2	400 Y	2730	0,55	1,67	-"-	RTD 2,5
250-2	80K2	230	2800	0,75	5,1	0,1170	RTE 7,5
	80SX2	400 Y	2740	0,75	1,96	-"-	RTD 2,5

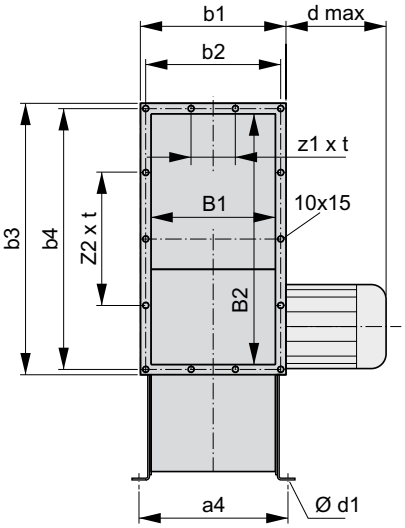
Baugröße *size*	Motor *motor*	U [V]	n [min⁻¹n]	P [kW]	I [A]	J [kg m²]	
280-2	80G2	230	2820	1,1	6,3	0,0206	RTE 7,5
	80K2	400 Y	2670	1,1	2,6	-"-	RTD3
315-2	90 S2	400 Y	2855	1,5	3,4	0,0311	FUA 150
355-2	100 L2	400 Δ	2895	3,0	6,4	0,0544	FUA 400
400-2	132 S2	400 Δ	2925	5,5	11,2	0,0889	FUA 550

TNF, HNF

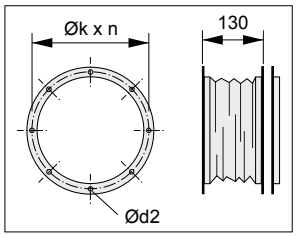
TNQ, HNQ

TNF./HNF.

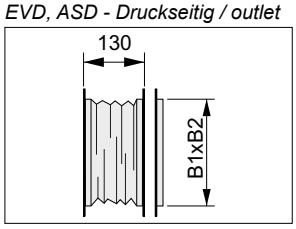




Ansaugstutzen und -flansch
elastic connection and flange
EVS, ASF - saugseitig / inlet

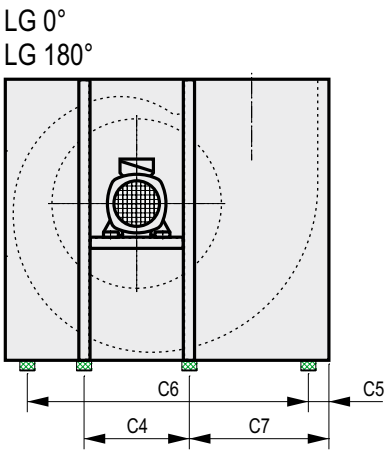


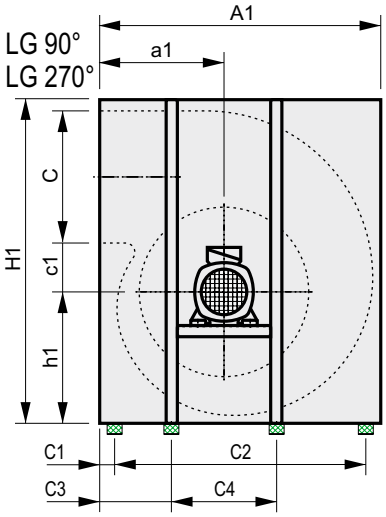
EVD, ASD - Druckseitig / outlet

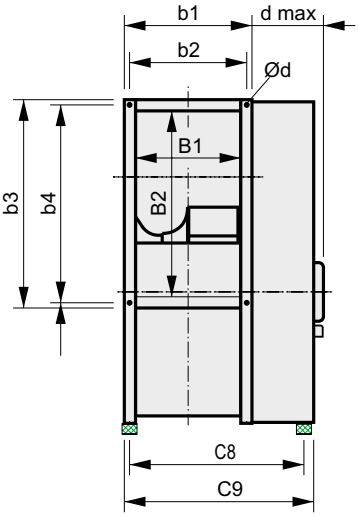


Größe	A1	a1	a2	a3	a4	B1	B2	b1	b2	b3	b4	C	c1	d	ød1	H1	h1	h2	h3	h4	z1	z2	t
size	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]					
200	367	179	196	214	154	125	250	181	151	306	276	157	89	210	7	433	189	253	157	226	*	*	
225	405	195	212	214	169	140	280	196	166	336	306	177	101	210	7	476	205	282	176	263	*	*	
250	442	211	235	214	187	160	315	216	186	371	341	196	111	269	7	515	218	307	194	279	*	1	125
280	487	229	262	280	212	180	355	236	206	411	381	220	123	269	10	573	243	338	216	312	*	1	125

TNQ./HNQ.





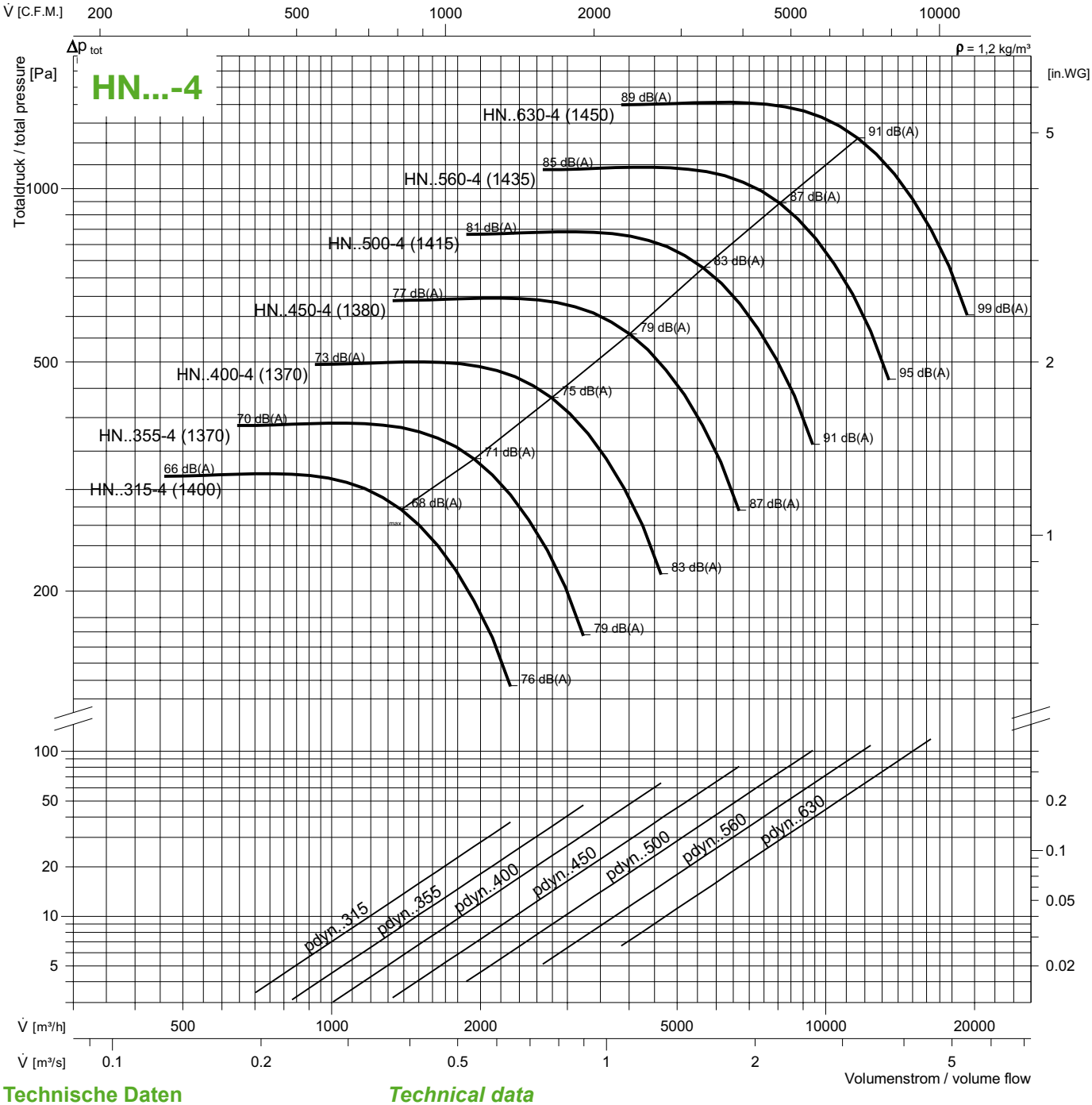


Größe	size	200	225	250	280	315	355	400
A1	[mm]	383	400	440	485	535	600	669
a1	[mm]	175	185	200	220	240	265	305
B1	[mm]	127	140	160	180	202	224	248
B2	[mm]	252	280	315	355	402	452	502
b1	[mm]	187	204	224	244	266	288	312
b2	[mm]	151	166	186	206	226	250	276
b3	[mm]	306	336	371	411	456	506	556
b4	[mm]	276	306	341	381	426	476	526
C	[mm]	160	175	195	220	245	280	315
C1	[mm]	75	101	118	50	52	80	126
C2	[mm]	233	220	220	400	440	440	417
C3	[mm]	63	72,5	67	80	100	137	152
C4	[mm]	224	224	265	280	280	255	305

Größe	size	200	225	250	280	315	355	400
C5	[mm]	75	138	163	84	118	159	126
C6	[mm]	283	220	220	440	440	440	498
C7	[mm]	144	161,5	169	194	233	288	299
C8	[mm]	263	298	318	338	384	406	430
C9	[mm]	307	345	365	385	432	457	482
d	[mm]	7	7	7	10	10	10	10
dmax	[mm]	326	371	371	382	371	371	410
H1	[mm]	433	466	512	566	630	700	750
h1	[mm]	177	192	210	232	257	285	299
k	[mm]	235	259	286	322	356	395	438
n		6	6	6	8	8	8	12
d2	[mm]	7	7	7	9,5	9,5	9,5	9,5

$$p_{d2} = \frac{\rho}{2} \cdot \left(\frac{\dot{V}}{A_2 \cdot 3600}\right)^2 \text{ [Pa]} \qquad c_1 = \frac{\dot{V}}{A_1 \cdot 3600} \text{ [m/s]} \qquad c_2 = \frac{\dot{V}}{A_2 \cdot 3600} \text{ [m/s]}$$

A_1 - Eintrittsquerschnitt in m² - *Cross section inlet in m²*
A_2 - Austrittsquerschnitt in m² - *Cross section outlet in m²*
c_1 - Strömungsgeschwindigkeit im Eintritt - *Flow speed inlet*
c_2 - Strömungsgeschwindigkeit im Austritt - *Flow speed outlet*
p_{d2} - dyn. Druck Austritt - *dynamic pressure outlet*
ρ - 1,2 kg/m³ Luftdichte - *1,2 kg/m³ Air density*



Technische Daten / *Technical data*

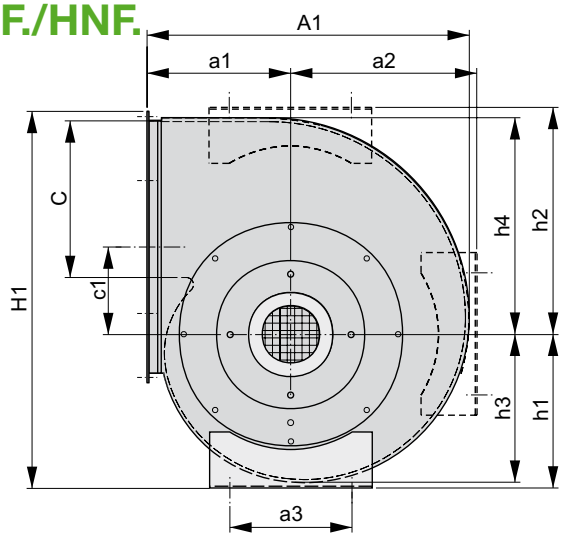
Baugröße *size*	Motor *motor*	U [V]	n [min⁻¹n]	P [kW]	I [A]	J [kg m²]	
315-4	71G4	230	1400	0,37	3,3	0,0311	RTE 5
	71K4	400 Y	1360	0,37	1,39	-"-	RTD 2,5
355-4	80G4	230	1370	0,75	5,1	0,0544	RTE 7,5
	80K4	400 Y	1350	0,75	2,5	-"-	RTD 2,5
400-4	80G4	230	1370	0,75	5,1	0,0889	RTE 7,5
	80K4	400 Y	1350	0,75	2,5	-"-	RTD 2,5

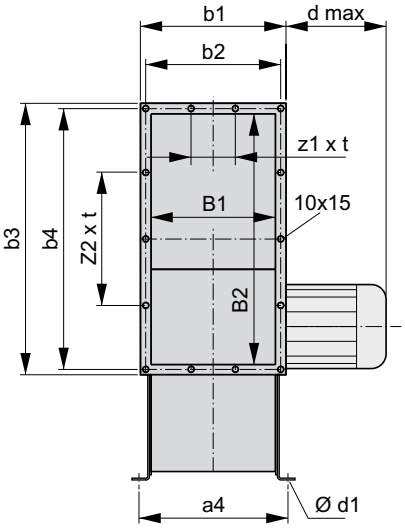
Baugröße *size*	Motor *motor*	U [V]	n [min⁻¹n]	P [kW]	I [A]	J [kg m²]	
450-4	90L4	230	1380	1,1	7,6	0,1439	RTE 10
	90SX4	400 Y	1350	1,1	3,3	-"-	RTD 3,8
500-4	100LK4	400Y	1415	2,2	5,5	0,3067	FUA 220
560-4	112 M4	400 Δ	1435	4,0	9,2	0,6200	FUA 400
630-4	132 M4	400 Δ	1450	7,5	15,6	0,8944	FUA 750

TNF, HNF

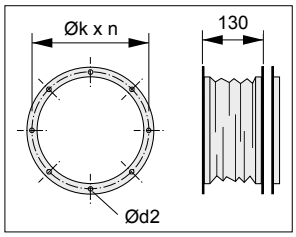
TNQ, HNQ

TNF./HNF.

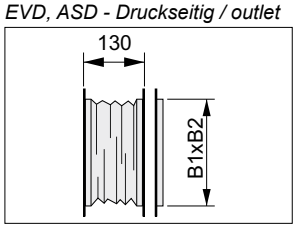




Ansaugstutzen und -flansch
elastic connection and flange
EVS, ASF - saugseitig / inlet

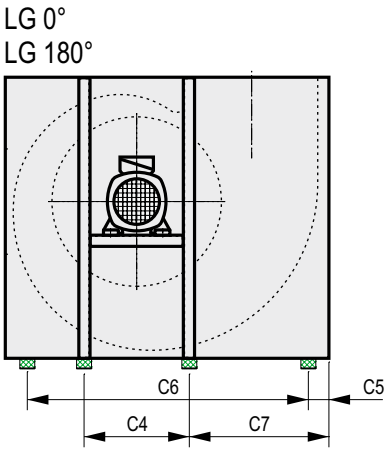


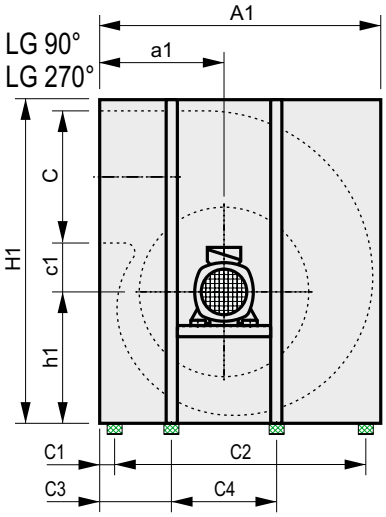
EVD, ASD - Druckseitig / outlet

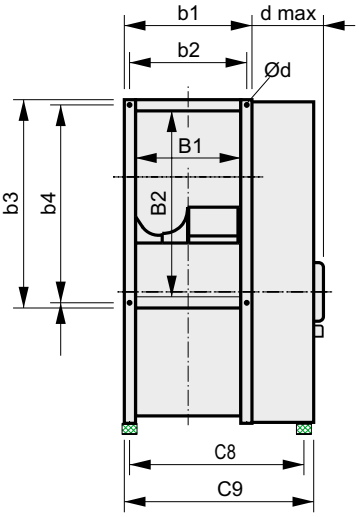


Größe	A1	a1	a2	a3	a4	B1	B2	b1	b2	b3	b4	C	c1	ød1	H1	h1	h2	h3	h4	z1	z2	t
size	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]					
315	540	251	290	280	234	200	400	256	226	456	426	245	138	10	635	268	377	241	350	*	1	125
355	601	276	327	355	268	224	450	280	250	506	476	280	156	10	692	281	418	271	393	*	3	125
400	670	306	366	355	294	250	500	306	276	556	526	315	180	10	768	309	469	304	441	*	3	125
450	746	337	415	450	324	280	560	336	306	616	586	355	204	12	879	346	528	341	495	*	3	125

TNQ./HNQ.





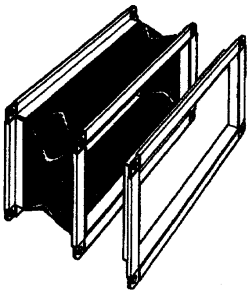


Größe	size	315	355	400	450	500	560	630
A1	[mm]	535	600	669	726	800	892	998
a1	[mm]	240	265	305	298	330	368	413
B1	[mm]	202	224	248	284	318	357	402
B2	[mm]	402	452	502	562	632	712	802
b1	[mm]	266	288	312	348	382	421	466
b2	[mm]	226	250	276	306	341	381	426
b3	[mm]	456	506	556	616	686	766	856
b4	[mm]	426	476	526	586	656	736	826
C	[mm]	245	280	315	355	395	440	495
C1	[mm]	52	80	126	111	152	169	146
C2	[mm]	440	440	417	503	496	554	700
C3	[mm]	100	137	152	146	177	216	261
C4	[mm]	280	255	305	305	305	305	305

Größe	size	315	355	400	450	500	560	630
C5	[mm]	118	159	126	111	152	169	186
C6	[mm]	440	440	498	605	614	692	780
C7	[mm]	233	288	299	333	387	443	490
C8	[mm]	384	406	430	518	552	591	636
C9	[mm]	432	457	482	562	597	637	682
d	[mm]	10	10	10	10	10	12	12
dmax	[mm]	371	371	410	410	518	518	410
H1	[mm]	630	700	750	828	918	1030	1158
h1	[mm]	257	285	299	342	378	434	515
k	[mm]	356	395	438	487	541	605	674
n		8	8	12	12	12	16	16
d2	[mm]	9,5	9,5	9,5	9,5	9,5	11,5	11,5

Radialventilatoren Zubehör
Accessories for Centrifugal Fans

EVD-E...
ABF-E...



Elastischer Ausblasstutzen EVD-...

für Radialventilatoren druckseitig einsetzbar. Gefertigt aus verzinktem Stahlblech mit Kunststoffecken. Das kaschierte hochreißfeste Gewebe im Mittelteil nimmt Vibrationen auf.

Ausführung -E für einseitigsaugende Ventilatoren, Ausführung -D für zweiseitig saugende Ventilatoren.

Flexible connection outlet EVD-...

fit the respective fan outlet. Made of galvanized sheet steel with plastic corners.

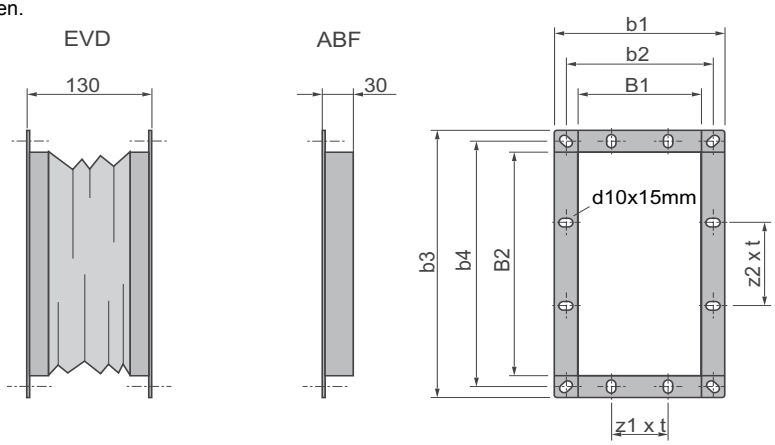
Version -E for single inlet fans,
Version -D for double inlet fans.

Ausblasflansch ABF-...

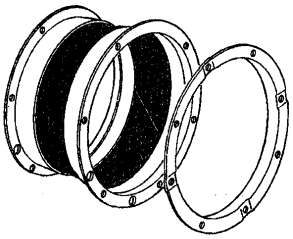
Universell einsetzbar, gefertigt aus verzinktem Stahlblech mit Kunststoffecken.

Outlet flange ABF-...

Made of galvanised sheet steel with plastic corners.



EVS-E...
ASF-E...



Elastische Ansaugstutzen EVS-E..

für Radialventilatoren saugseitig einsetzbar. Universell einsetzbar, gefertigt aus verzinktem Stahlblech. Das kaschierte hochreißfeste Gewebe im Mittelteil nimmt Vibrationen auf.

Flexible connections inlet EVS-E..

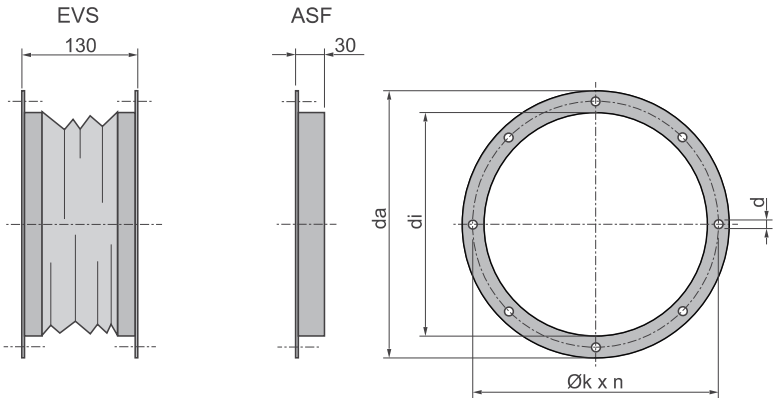
fit to the respective fan inlet. Made of galvanised sheet steel.

Ansaugflansch ASF-...

Universell einsetzbar, gefertigt aus verzinktem Stahlblech mit Kunststoffecken.

Inlet flange ASF-...

Made of galvanized sheet steel with plastic corners.



Baugröße size	B1 [mm]	B2 [mm]	b1 [mm]	b2 [mm]	b3 [mm]	b4 [mm]	ød [mm]	øda [mm]	ødi [mm]	kxn [mm]	z1xt	z2xt
160	100	200	156	126	256	226	7	214	164	194x6	-	-
180	112	224	168	138	280	250	7	233	183	213x6	-	-
200	125	250	181	151	306	276	7	255	205	235x6	-	-
225	140	280	196	166	336	306	7	279	229	259x6	-	-
250	160	315	216	186	371	341	7	306	256	286x6	-	125x1
280	180	355	236	206	411	381	9,5	348	288	322x8	-	125x1
315	200	400	256	226	456	426	9,5	382	322	356x8	-	125x1
355	225	450	281	251	506	476	9,5	421	361	395x8	-	125x3
400	250	500	306	276	556	526	9,5	464	404	438x12	-	125x3
450	280	560	336	306	616	586	9,5	513	453	487x12	-	125x3
500	315	630	371	341	686	656	9,5	567	507	541x12	125x1	125x3
560	355	710	411	381	766	736	11,5	639	569	605x16	125x1	125x5
630	400	800	456	426	856	826	11,5	708	638	674x16	125x1	125x5

ZERTIFIKAT

DIN EN ISO 9001:2000

bescheinigt hiermit, dass das Unternehmen

Wolter GmbH Maschinen- und Apparatebau KG

Bereiche:
Entwicklung, Herstellung und Vertrieb
von Ventilatoren und lüftungstechnischen Geräten

Standort:
Am Wasen 11 * D-76316 Malsch-Völkersbach

ein Qualitätsmanagementsystem entsprechend der oben genannten Norm (12/2000) eingeführt hat und dieses wirksam anwendet. Der Nachweis wurde im Rahmen des Zertifizierungs-Audits Bericht-Nr. A0305213 erbracht. Dieses Zertifikat ist nur in Verbindung mit der erfolgreichen Durchführung der Überwachungsaudits gültig.

Datum der Erstzertifizierung: 12.12.1997

Datum der letzten Zertifizierung: 09.01.2004

Zertifikat-Registrier-Nr.: 31100954/2 Duplikat

Reg.Nr.: TGA-ZM-05-91-00

Qualitätssicherung

Unsere Fertigung ist nach DIN EN ISO 9001/2000 geprüft und zertifiziert und wird somit den hohen Qualitätsansprüchen unserer Kunden gerecht.

Quality Assurance

Wolter is committed to quality assurance and certified in accordance with DIN EN ISO 9001/2000.

CERTIFICATE

DIN EN ISO 9001:2000

hereby certifies that the company

Wolter GmbH Maschinen- und Apparatebau KG

business field:
Development, production and sales
of ventilators and ventilation systems

location:
Am Wasen 11 * D-76316 Malsch-Völkersbach

has implemented and effectively applies a quality management system according to the standard (12/2000) mentioned above. The conformity was inspected during the certification audit documented in audit report no. A0305213. This certificate is only valid in connection with the successful performance of the surveillance audits.

Date of the first certification: 12.12.1997

Date of the last certification: 09.01.2004

Certificate-registration no.: 31100954/2 duplicate

Reg.Nr.: TGA-ZM-05-91-00

Typenschlüssel *Fan type code*

KA F D 200 - 4 Stb.

- Stb. — transformatorisch drehzahlregelbar / *speed-controllable by transformer*
- -2; -4 — Polzahl des Antriebsmotors / *Number of poles*
- 200 ... 450 — Nennweite / *Impeller diameter*
- D — Motorversion / *Motor type*
  - E = 1 x 230V/50 Hz
  - D = 3 x 400V/50 Hz
- F — Laufradtyp / *Impeller type*
  - T; F
- KA — Abluftbox / *Air-extract Box*

Eigenschaften und Ausführung

Die Wolter-Abluftbox eignet sich insbesondere zur Förderung stark verschmutzter Luft, wie sie zum Beispiel in Großküchen entsteht. Eine großzügig angelegte Gehäuseschalldämmung durch kunststoffbeschichtete Mineralfasermatten gewährleistet eine minimale Geräuschentwicklung. Der Antrieb erfolgt durch wartungsfreie, außenliegende Norm-Flanschmotoren in Einphasen- oder Drehstromausführung. Laufrad und Motor sind fest in der ausschwenkbaren Seitenwand montiert. Das abnehmbare Laufrad ermöglicht eine einfache Reinigung der im Luftstrom liegenden Teile.

Die zulässige Fördermitteltemperatur liegt zwischen -30°C und +120°C.

Antrieb

Der Antrieb erfolgt mit Normmotoren in Flanschausführung, Schutzart IP54 oder IP55, Isolationsklasse B. Bis Motorbaugröße 100 können spannungsregelbare Motoren verwendet werden.

Laufräder

WOLTER - Abluftboxen können sowohl mit Trommellaufrad als auch mit rückwärtsgekrümmten Hochleistungslaufrädern geliefert werden. Die Trommellaufräder bestehen aus sendzimirverzinktem Stahlblech, rückwärts gekrümmte Laufräder aus Aluminium. Beide Bauarten zeichnen sich durch hohe Wirkungsgrade bei minimaler Geräuschentwicklung aus.

- **KAT.** - vorwärtsgekrümmte Schaufeln mit Spiralgehäuse
- **KAF.** - rückwärtsgekrümmte Schaufeln ohne Spiralgehäuse

Gehäuse

Das Gehäuse der WOLTER - Abluftbox besteht aus einem verwindungssteifen Aluminiumrahmen mit stabilen Kunststoff-Eckverbindern. Die Beplankung erfolgt mit verzinkten Blechen mit innenliegender Schalldämmung aus Mineralfasermatten. Die strömungstechnisch optimierte Ventilatorspirale aus verzinktem Stahlblech gewährleistet beste Wirkungsgrade und somit einen wirschaftlichen Betrieb der Abluftbox. Die runden saug- und druckseitigen Anschlußstutzen entsprechen den genormten Kanaldurchmessern und erlauben den problemlosen Anschluß von Wickelfalz- oder Aluflexrohren mit entsprechenden Schnellverbindern. Zur schnellen und einfachen Reinigung lässt sich das Laufrad komplett ausschwingen und abnehmen.

Drehzahlregelung

Alle Geräte sind mittels Frequenzumformer regelbar. Die mit „Stb." gekennzeichneten Motoren sind zusätzlich auch transformatorisch drehzahlregelbar.

Luftleistungskennlinien

Die Kennlinien für diese Typenreihe wurden in Einbauart B (frei ansaugend, druckseitig angeschlossen) aufgenommen und zeigen die totale Druckerhöhung Δp_t als Funktion des Volumenstroms. Der dynamische Druck p_{d2} ist auf den Flanschquerschnitt am Ventilatoraustritt bezogen.

Geräusche

Die Ermittlung der Schallleistungspegel erfolgt nach dem Hüllflächenverfahren nach DIN 45 635, Teil 38. In den Kennlinien ist der A-bewertete GehäuseSchallleistungspegel L_{WA2} nach DIN 45 635, Teil 38, angegeben.

Der A-bewertete Freiausblas-Schallleistungspegel L_{WA6} nach DIN 45 635, Teil 38 wird näherungsweise wie folgt ermittelt:

$$L_{WA6} = L_{WA2} + 20\ dB(A)$$

Der A-bewertete Freiansaug-Schallleistungspegel L_{WA5} nach DIN 45 635, Teil 38 wird näherungsweise wie folgt ermittelt:

$$L_{WA5} = L_{WA6} - 3\ dB(A)$$

Der für die Auslegung von Schalldämpfern maßgebende Schallleistungspegel in den einzelnen Oktavbereichen kann aus folgender Formel ermittelt werden:

$$L_{WAOkt} = L_{WA} + L_{WArel}$$

Die relativen Oktav-Schallleistungspegel L_{WArel} bei den Oktav-Mittelfrequenzen sind den Tabellen zu entnehmen. Sie sind bei 0,5 x Vmax ermittelt worden. Den A-bewerteten Schalldruckpegel L_{PA} in 1m Abstand erhält man annähernd, indem man vom A-Schallleistungspegel L_{WA} 7 dB (A) abzieht.

Zu beachten ist, dass Reflexionen und Raumcharakteristik sowie Eigenfrequenzen die Größe des Schalldruckpegels unterschiedlich beeinflussen.

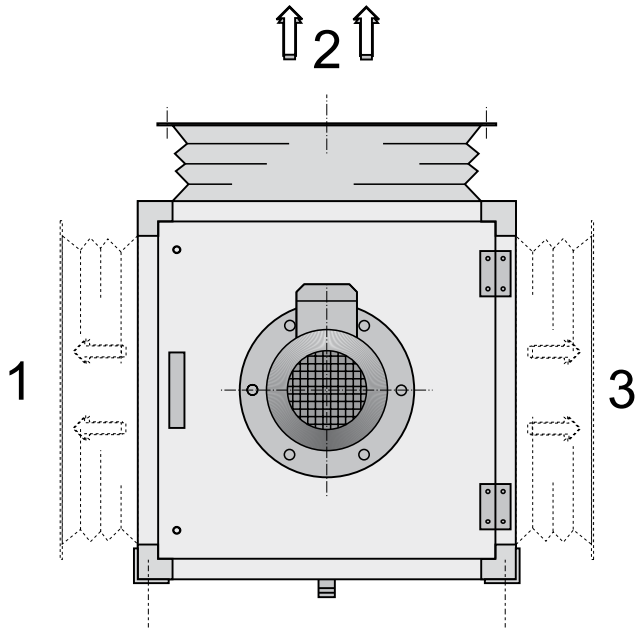
Zubehör

Passend zu den Ventilatoren sind erhältlich:

- Elastische Stutzen für Druck- und Saugseite
- Rohrschnellverbinder für runde Kanäle ohne Anschlußflansch
- Regelgeräte, nähere Beschreibungen dieser Regler finden Sie in Kapitel 7 ab Seite 332.

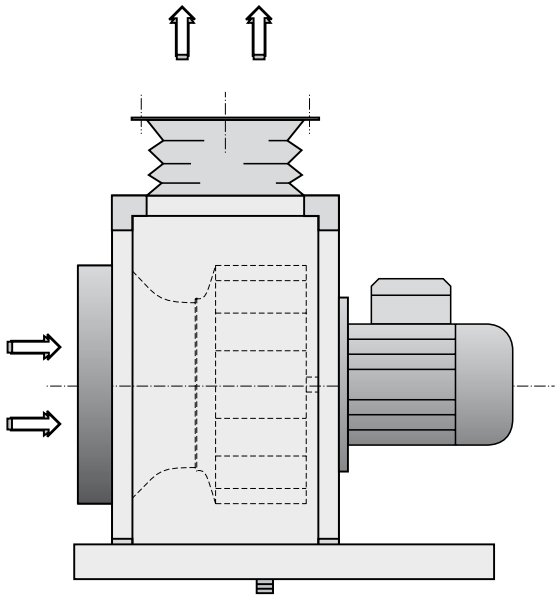
KAF.

Der Ausblas kann auf alle Seiten montiert werden, dadurch ist die Box äußerst variabel einsetzbar. Bei der Bestellung ist immer die Ausblasrichtung (1, 2 oder 3).



KAF.

The air-extract box allows multiple discharge positions. When ordering, please specify the required exhaust orientation (1, 2 or 3).



Design features

Wolter air-extract boxes are used to extract more heavily polluted air, for example from professional kitchens. A well-insulated housing keeps the noise level to a minimum. The impeller is driven by a standard flange-type motor, single or 3-phase supply, mounted outside of the airstream. Motors suitable for speed control are available. Impeller and motor are mounted on a swivel door. The impeller is easily dismounted for cleaning.

The permissible temperature range of the conveyed medium is -30°C to +120°C.

Motors

All fans are equipped with standard flange type IEC-motors. Protection class IP54, isolation class B. Up to motor size 100, voltage-controllable motors can be supplied.

Impeller

Wolter air-extract boxes are fitted with either forward-curved or backward-curved impellers. Forward-curved impellers are manufactured of galvanised sheet metal, backward-inclined impellers are made of aluminium. The design of both impeller types guarantees high efficiency and minimal noise emissions.

- **KAT.** - forward-curved impeller with scroll
- **KAF.** - backward-curved impeller without scroll

Casing

Wolter air-extract boxes have a torsion-resistant aluminium frame, joined by solid plastic corners. All side plates are made of galvanised sheet metal insulated with noise-absorbing mineral wool. The aerodynamically shaped scroll (KAT) guarantees high efficiency. KAF type fans are fitted with a plug fan impeller without scroll. The fan inlet and outlet can easily be connected to standard air ducts. Special connection clamps (RSV) are available.

Speed Control

All KAT./KAF. type fans are speed-controllable by frequency converter. All models marked „Stb.“ are also suitable for speed control by transformer.

Fan performance curves

The performance curves for these fan types have been established in mounting position B (installed on the pressure side and open on the suction side) and show the total pressure increase Δp_t as a function of the volume flow. The dynamic pressure p_{d2} refers to the flange cross-sectional area of the fan outlet.

Sound levels

The ascertaining of the sound level follows the enveloping surface method according to DIN 45 635 section 38. The figures in the air performance curves represent the A-weighted sound power level radiated to the surrounding (L_{WA2}) in decibels.

The A-weighted sound power level at the outlet side L_{WA6} according to DIN 45 635, part 38, is obtained approximately as follows:

$$L_{WA5} = L_{WA2} + 20 \text{ dB(A)}$$

The A-weighted sound power level at the inlet side L_{WA5} according to DIN 45 635, part 38, is obtained approximately as follows:

$$L_{WA5} = L_{WA6} - 3 \text{ dB(A)}$$

The octave sound power level is important for the choice of suitable sound attenuators. It is obtained as follows.

$$L_{WAOkt} = L_{WA} + L_{WArel}$$

The relative octave sound power level L_{WArel} at octave medium frequency can be taken from the tables. These levels has been established at 0.5 x Vmax.

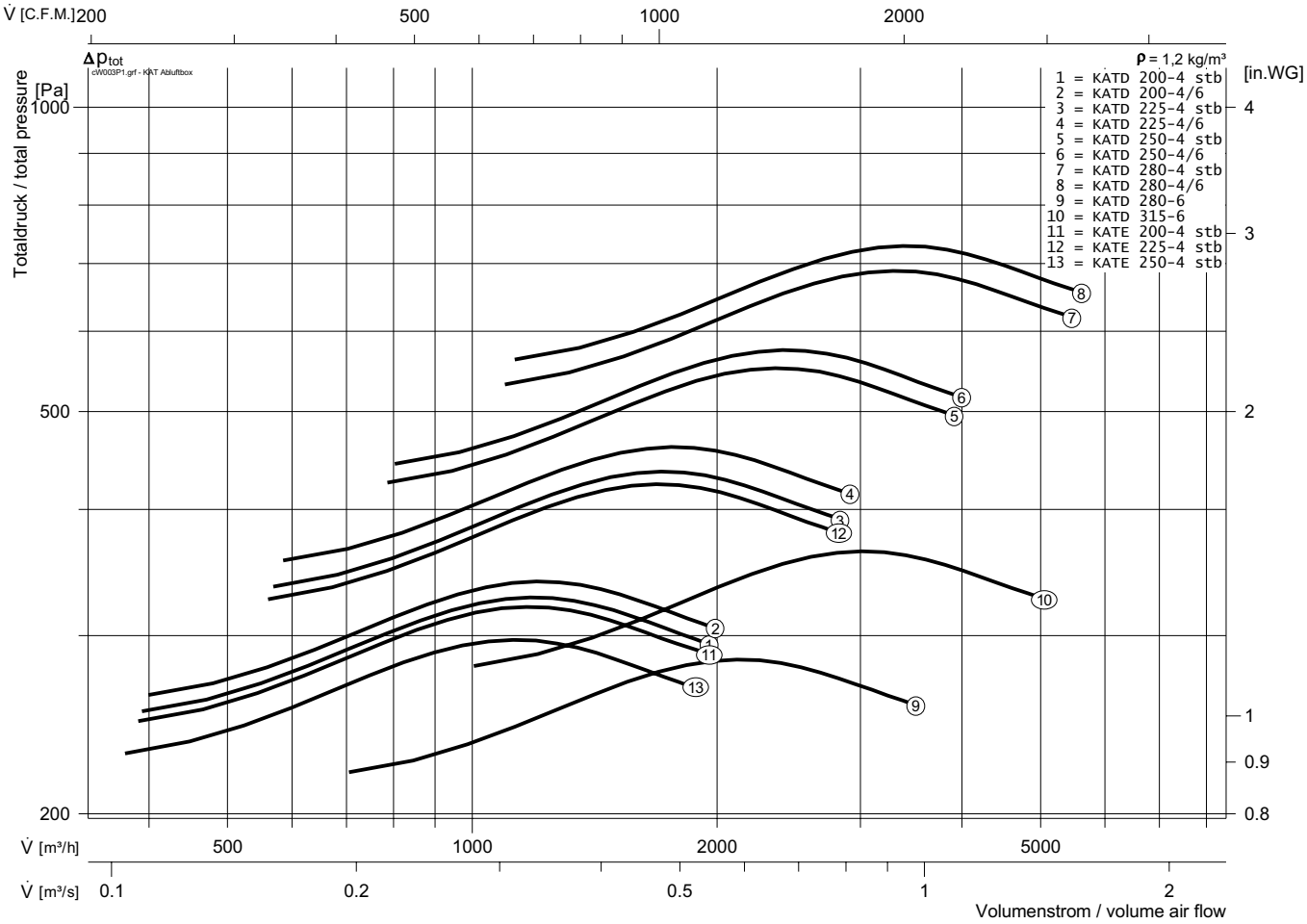
The A-weighted sound pressure level L_{PA} at a distance of 1 metre is obtained approximately by deducting 7 dB(A) from the A-weighted sound power level L_{WA}.

It is important to note that reflexion and environmental characteristics as well as resonant frequencies influence the sound pressure levels in different ways.

Accessories

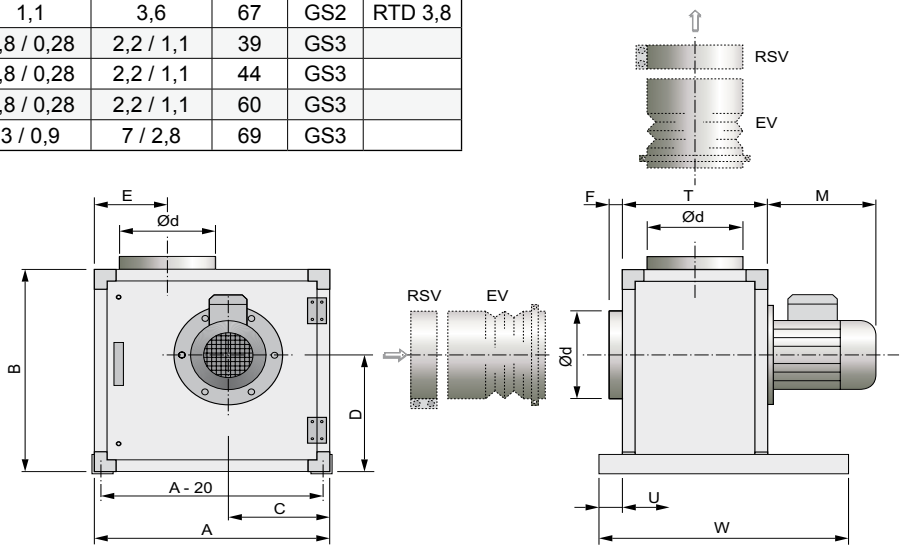
The following ancillary equipment is available:

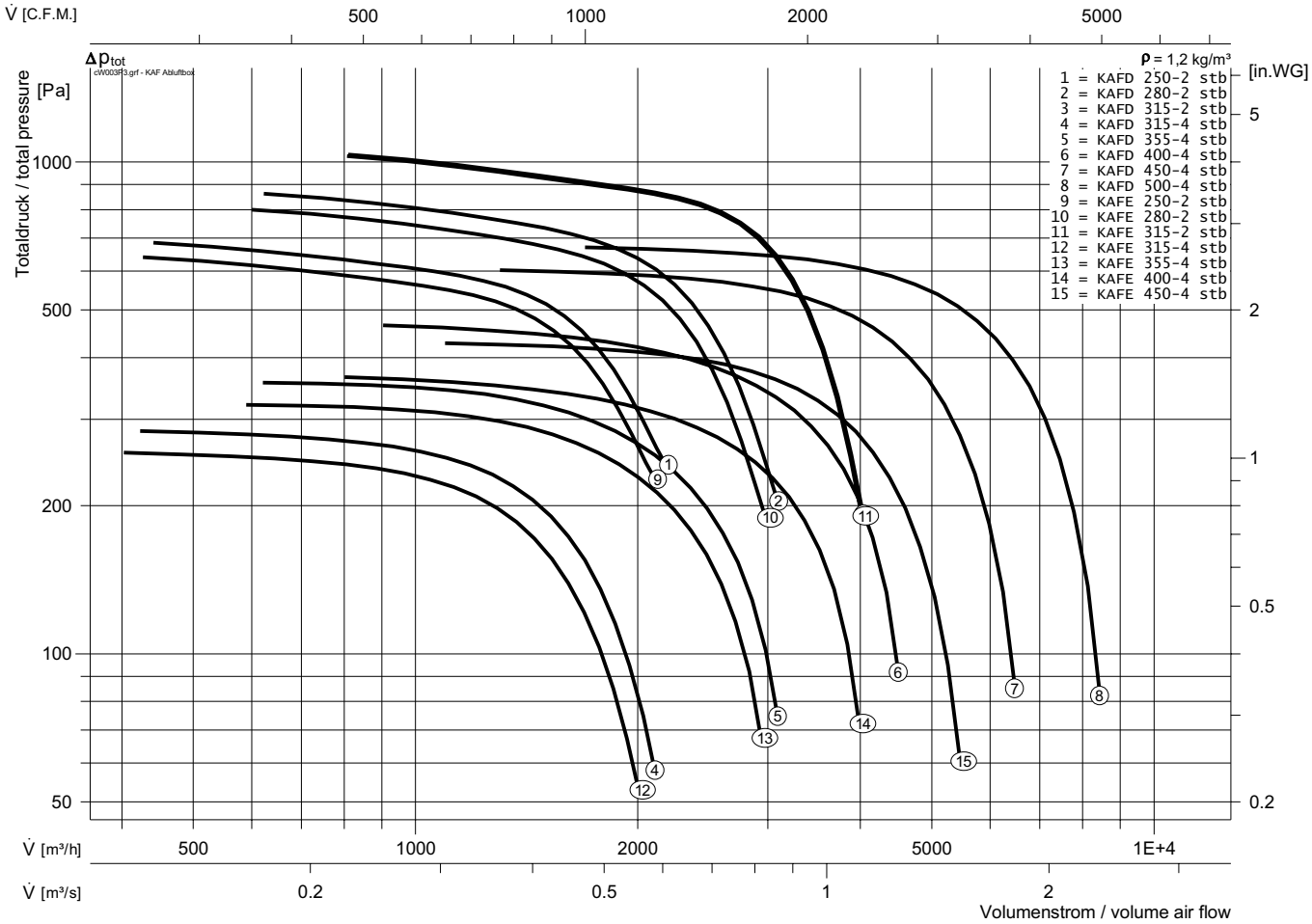
- inlet and outlet flexible connections
- RSV clamps to connect tubes without flanges
- Control units. For a more detailed description of control units, please refer to chapter 7 of this catalogue (page 332ff.)



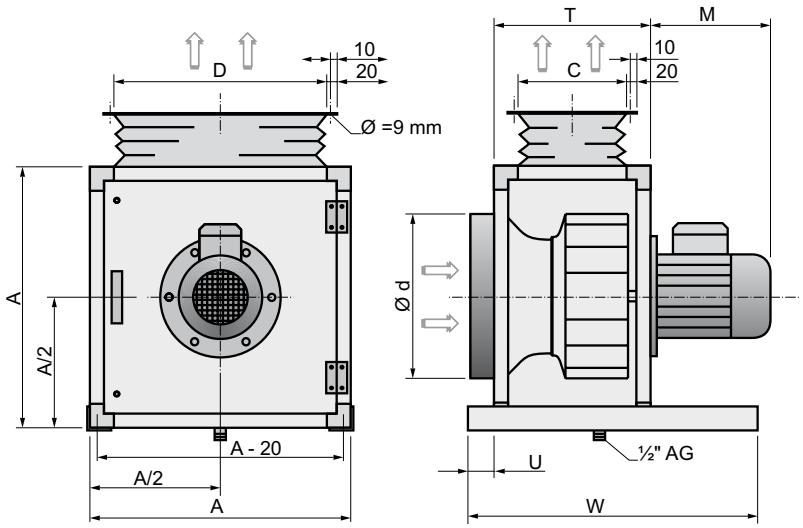
Baugröße *size*	Motor *motor*	n [l/min]	P_2 [kW]	I [A]	[kg]		
				(230 V)			
KATE 200-4 Stb.	80 K4	1240	0,48	3,3	39	GS2	RTE 5
KATE 225-4 Stb.	80 G4	1240	0,65	4,4	49	GS2	RTE 5
KATE 250-4 Stb.	90 L4	1180	0,96	6,7	69	GS2	RTE 7,5
				(400 V)			
KATD 200-4 Stb.	71 K4	1360	0,37	1,39	35	GS2	RTD 2,5
KATD 225-4 Stb.	80 K4	1350	0,75	2,5	42	GS2	RTD 2,5
KATD 250-4 Stb.	90 SX	830	1,1	3,6	50	GS2	RTD 3,8
KATD 280-4 Stb.	100 LX4	1330	2,2	5,8	66	GS2	RTD 7,0
KATD 280-6 Stb.	80 G6	840	0,55	2	58	GS2	RTD 2,5
KATD 315-6 Stb.	90 LX6	830	1,1	3,6	67	GS2	RTD 3,8
KATD 200-4/6	B5 90-4/6	1400 / 940	0,8 / 0,28	2,2 / 1,1	39	GS3	
KATD 225-4/6	B5 90-4/6	1440 / 940	0,8 / 0,28	2,2 / 1,1	44	GS3	
KATD 250-4/6	B5 90-4/6	1440 / 940	0,8 / 0,28	2,2 / 1,1	60	GS3	
KATD 280-4/6	B5 112-4/6	1440 / 940	3 / 0,9	7 / 2,8	69	GS3	

Größe	*size*	200	225	250	280	315
A	[mm]	500	550	590	650	710
B	[mm]	470	510	540	590	640
C	[mm]	215	238	252	279	301
D	[mm]	271,5	295,5	309,5	341,5	369,5
ød	[mm]	205	229	256	288	322
E	[mm]	155,5	155,5	181	199	216
F	[mm]	30	30	30	30	30
T	[mm]	310	320	340	360	380
M	[mm]	205	230	240	320	330
U	[mm]	50	50	50	50	50
W	[mm]	530	630	630	630	730



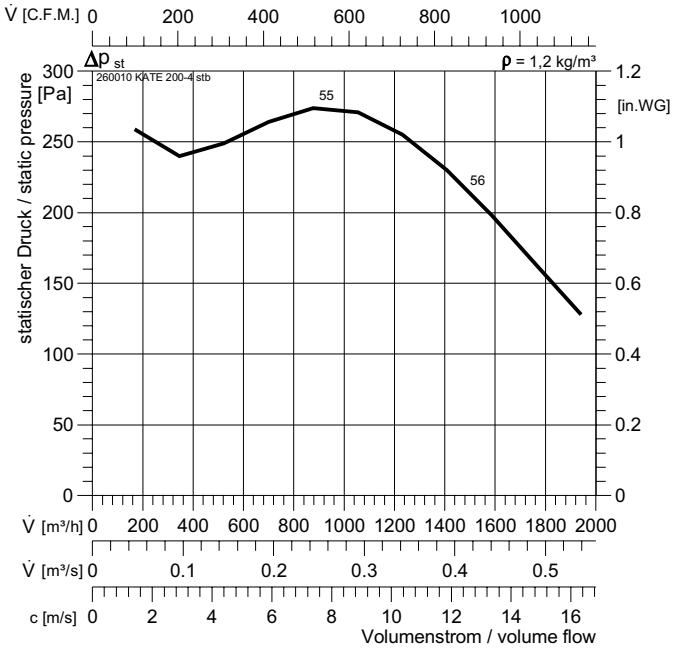


Baugröße *size*	Motor 230 V	n [1/min]	P_2 [kW]	I_N [A]		Baugröße *size*	Motor 400 V(Y)	n [1/min]	P_2 [kW]	I_N [A]		[kg]
KAFE 250-2	71 G2	2640	0,48	3,3	RTE 5	KAFD 250-2	71 K2	2730	0,55	1,67	RTD 2,5	28
KAFE 280-2	80 K2	2640	0,65	4,1	RTE 5	KAFD 280-2	80 SX2	2740	0,75	1,96	RTD 2,5	34
KAFE 315-2	80 G2	2660	0,95	6,2	RTE 7,5	KAFD 315-2	80 K2	2670	1,1	2,6	RTD 3,0	43
KAFE 315-4	71 G4	1330	0,3	2,1	RTE 3,2	KAFD 315-4	71 K4	1360	0,37	1,39	RTD 2,5	42
KAFE 355-4	71 G4	1330	0,3	2,1	RTE 3,2	KAFD 355-4	71 K4	1360	0,55	1,39	RTD 2,5	48
KAFE 400-4	80 G4	1240	0,65	4,4	RTE 5	KAFD 400-4	80 K4	1350	0,75	2,5	RTD 2,5	54
KAFE 450-4	90 L4	1180	0,96	6,7	RTE 7,5	KAFD 450-4	90 SX4	1350	1,1	3,3	RTD 3,8	61
						KAFD 500-4	90 L4	1330	1,5	4,3	RTD 5,0	68

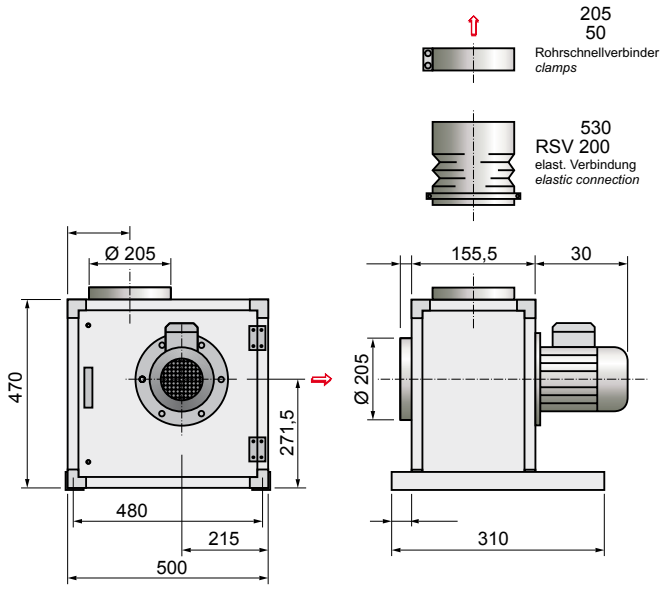


Größe *size*	A [mm]	T [mm]	d [mm]	C [mm]	D [mm]	M~ [mm]	W [mm]
250	400	200	228	105	305	180	450
280	450	240	254	145	345	210	530
315	520	260	288	165	425	210	530
355	600	285	320	185	505	250	530
400	650	320	359	225	555	230	630
450	700	350	401	255	605	230	630
500	800	385	450	290	705	250	630

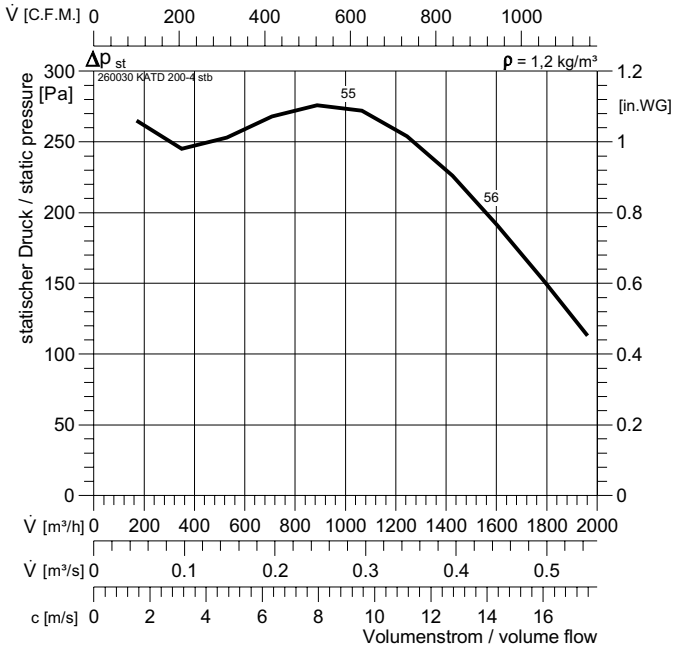
KATE 200-4 stb



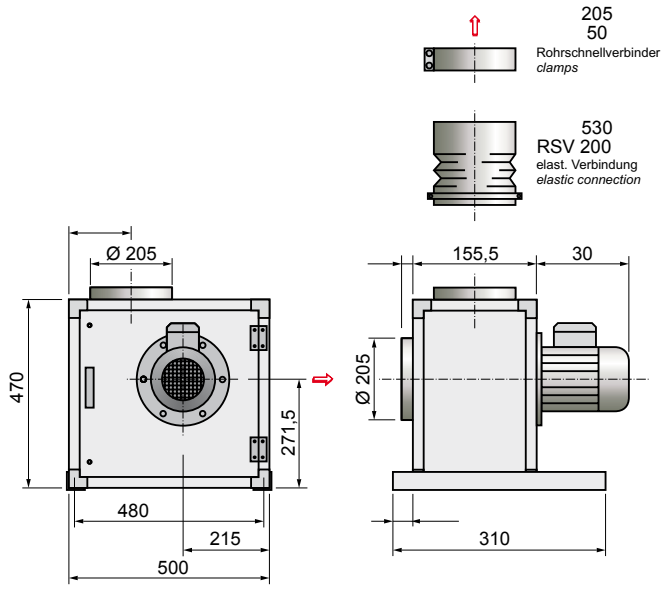
Typ :	KATE 200-4 stb		IP54	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	260010		E13	$L_{WA\,tot}$	0	9	12
:	39	kg	GS 2	125 Hz	-23	-9	-13
U :	230 V 50 Hz		RTE 5	250 Hz	-10	-1	-2
P_2 :	0,48	kW	-	500 Hz	-14	0	5
I_N :	3,3	A		1 kHz	-6	4	8
n :	1240	min^{-1}		2 kHz	-3	3	5
C_{400V} :	16	µF		4 kHz	-11	1	3
t_R :	120	°C		8 kHz	-19	-5	-3



KATD 200-4 stb

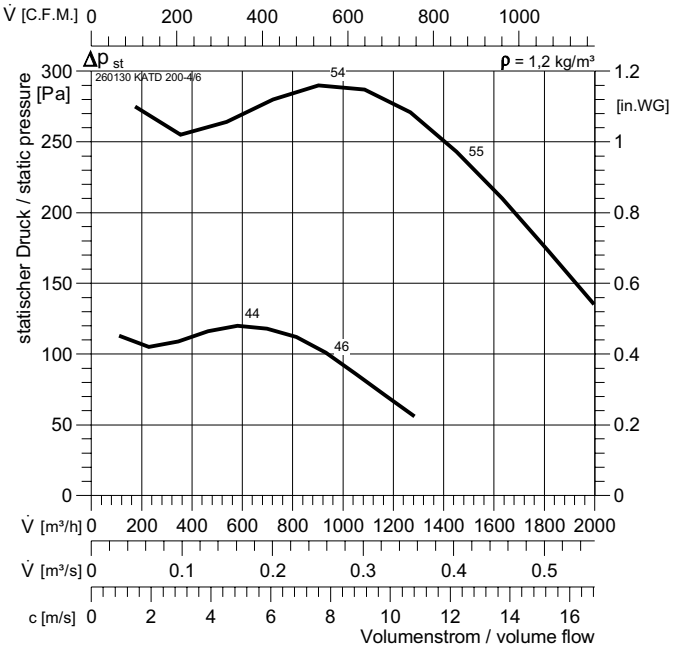


Typ :	KATD 200-4 stb		IP55	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	260030		DS1	$L_{WA\,tot}$	0	9	12
:	34,5	kg	GS2	125 Hz	-23	-9	-13
U :	400 V 50 Hz		RTD 2,5	250 Hz	-10	-1	-2
P_2 :	0,37	kW	-	500 Hz	-14	0	5
I_N :	1,39	A		1 kHz	-6	4	8
n :	1360	min^{-1}		2 kHz	-3	3	5
C_{400V} :	-	µF		4 kHz	-11	1	3
t_R :	120	°C		8 kHz	-19	-5	-3

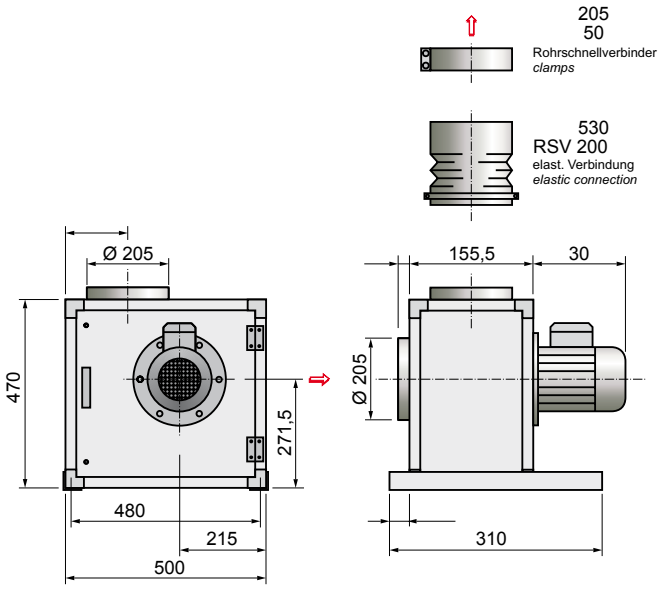


5.2

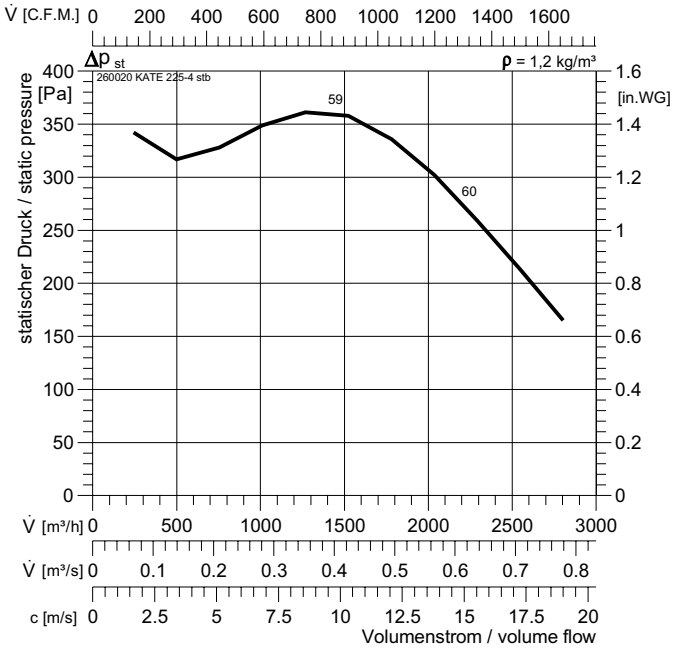
KATD 200-4/6



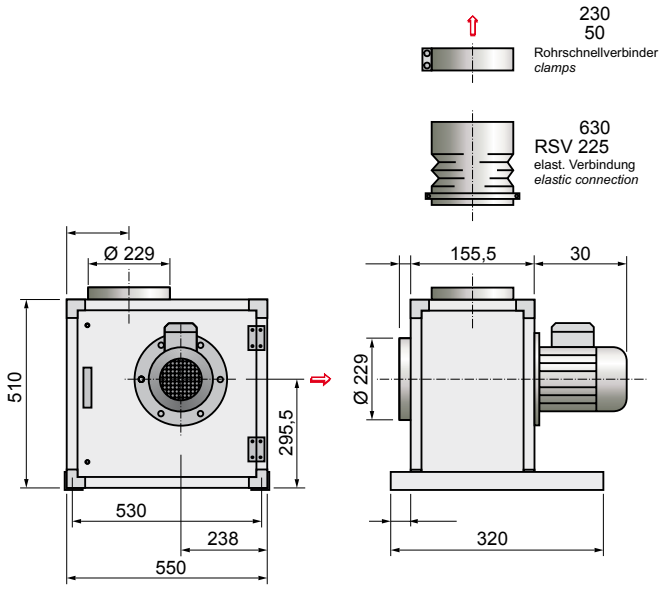
Typ :	KATD 200-4/6		IP54	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	260130		DU5	$L_{WA\,tot}$	0	9	12
:	39	kg	GS 3	125 Hz	-23	-9	-13
U :	400 V 50 Hz		RTD 2,5	250 Hz	-10	-1	-2
P_2 :	0,8/0,28	kW	-	500 Hz	-14	0	5
I_N :	2,1/1,07	A		1 kHz	-6	4	8
n :	1430/950	min^{-1}		2 kHz	-3	3	5
C_{400V} :	-	µF		4 kHz	-11	1	3
t_R :	120	°C		8 kHz	-19	-5	-3



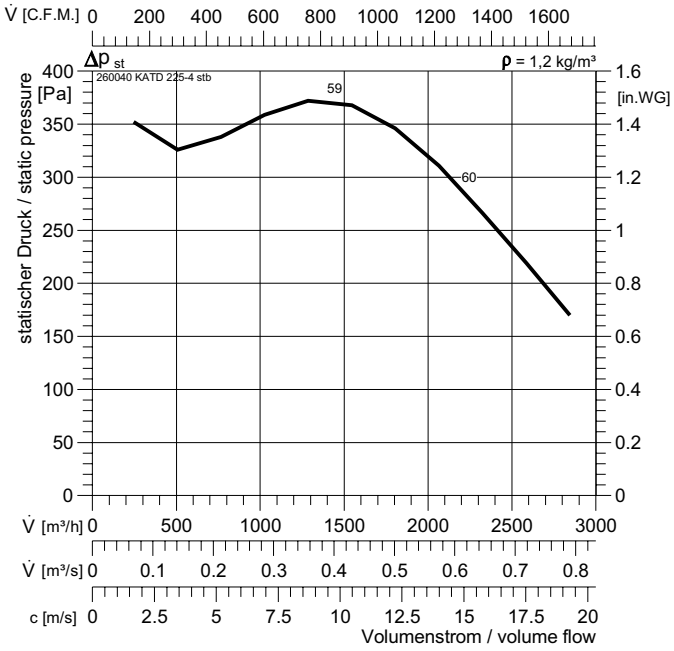
KATE 225-4 stb



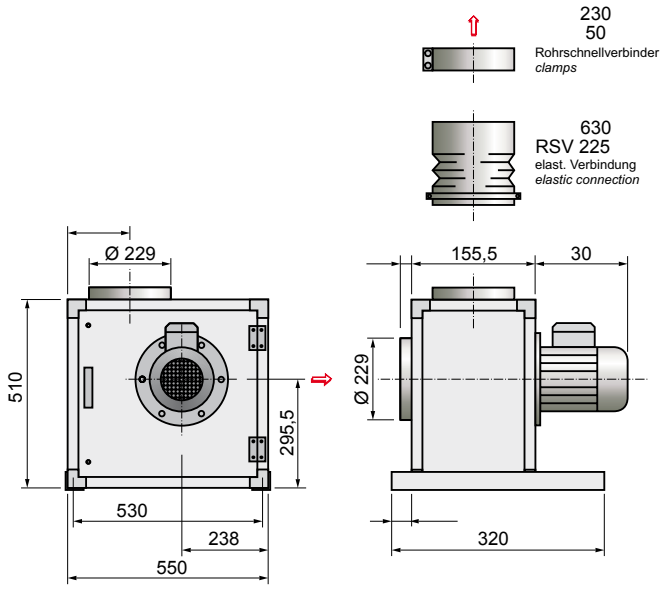
Typ :	KATE 225-4 stb		IP55	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	260020		E13	$L_{WA\,tot}$	0	9	13
:	38	kg	GS2	125 Hz	-23	-9	-12
U :	230 V 50 Hz		RTE 5	250 Hz	-10	-1	-1
P_2 :	0,65	kW	-	500 Hz	-14	0	6
I_N :	4,4	A		1 kHz	-6	4	9
n :	1240	min^{-1}		2 kHz	-3	3	6
C_{400V} :	20	µF		4 kHz	-11	1	4
t_R :	120	°C		8 kHz	-19	-5	-2



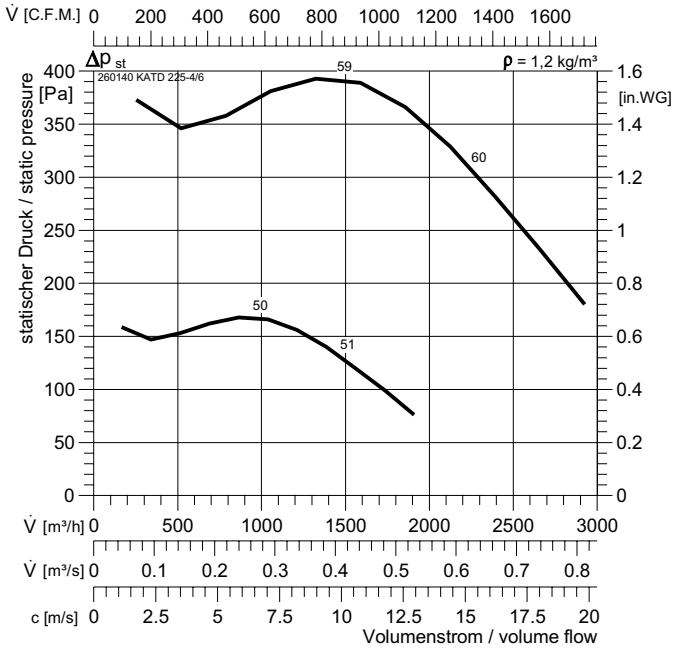
KATD 225-4 stb



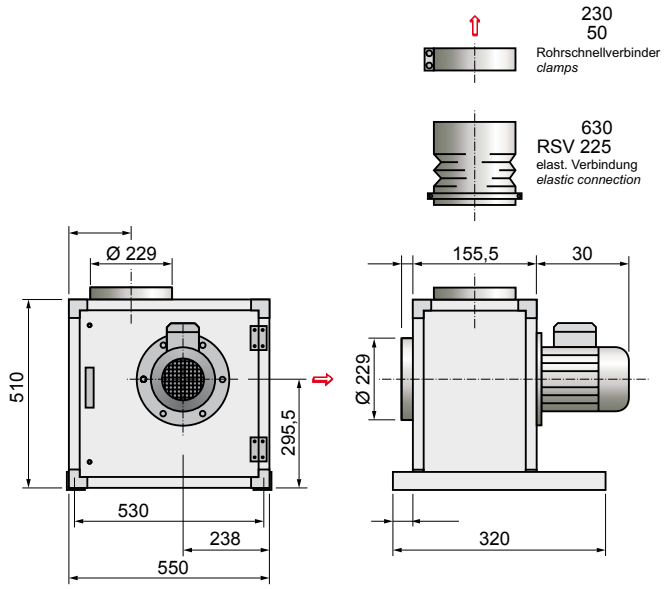
Typ :	KATD 225-4 stb		IP54	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	260040		DS1	$L_{WA\,tot}$	0	9	13
:	41,6	kg	GS 2	125 Hz	-23	-9	-12
U :	400 V 50 Hz		RTD 2,5	250 Hz	-10	-1	-1
P_2 :	0,75	kW	-	500 Hz	-14	0	6
I_N :	2,5	A		1 kHz	-6	4	9
n :	1350	min^{-1}		2 kHz	-3	3	6
C_{400V} :	-	µF		4 kHz	-11	1	4
t_R :	120	°C		8 kHz	-19	-5	-2



KATD 225-4/6

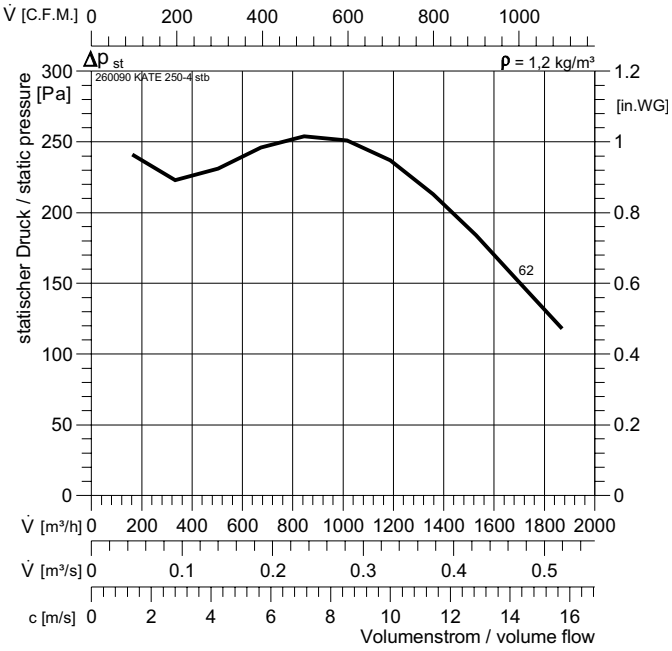


Typ :	KATD 225-4/6		IP54	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	260140		DU5	$L_{WA\,tot}$	0	9	13
:	44	kg	GS 3	125 Hz	-23	-9	-12
U :	400 V 50 Hz		-	250 Hz	-10	-1	-1
P_2 :	0,8/0,28	kW	-	500 Hz	-14	0	6
I_N :	2,1/1,07	A		1 kHz	-6	4	9
n :	1430/950	min^{-1}		2 kHz	-3	3	6
C_{400V} :	-	µF		4 kHz	-11	1	4
t_R :	120	°C		8 kHz	-19	-5	-2

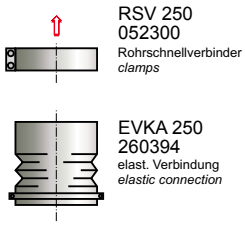


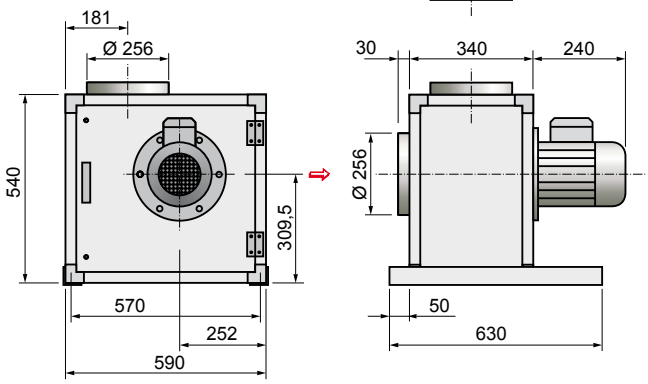
5.2

KATE 250-4 stb

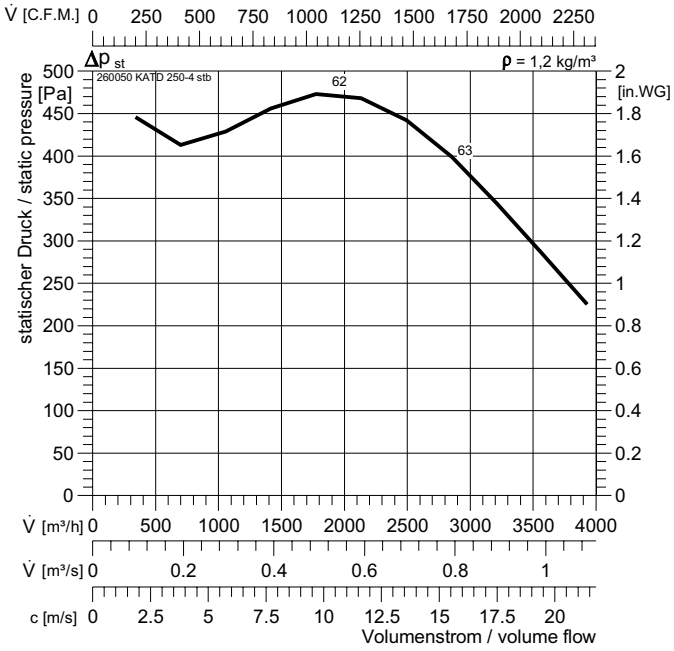


Typ :	KATE 250-4 stb		IP54	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	260090		E13	$L_{WA\,tot}$	0	7	12
:	54	kg	GS 2	125 Hz	-20	-10	-12
U :	230 V 50 Hz		RTE 7,5	250 Hz	-10	-5	0
P_2 :	0,96	kW	-	500 Hz	-13	-3	4
I_N :	6,7	A		1 kHz	-4	4	7
n :	1180	min^{-1}		2 kHz	-6	1	6
C_{400V} :	30	µF		4 kHz	-11	-2	4
t_R :	120	°C		8 kHz	-20	-7	-3

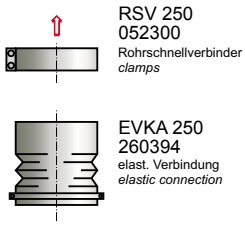


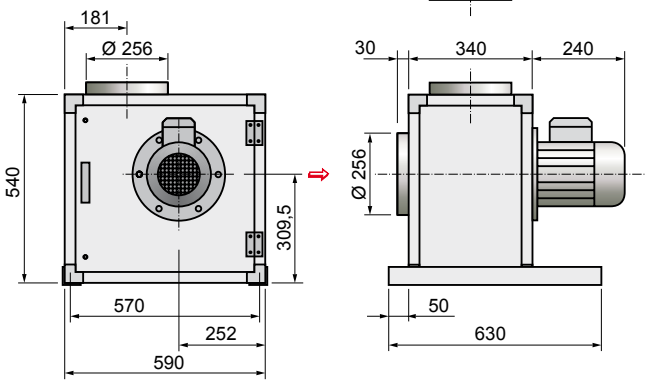


KATD 250-4 stb

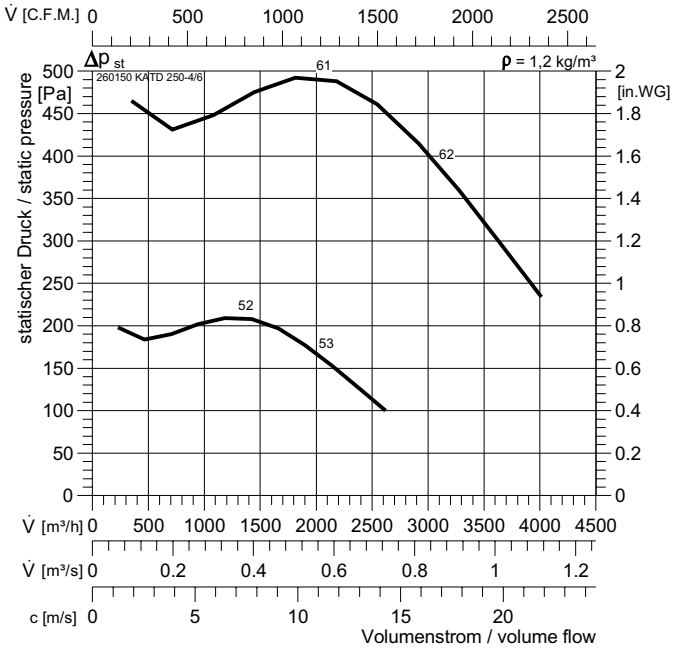


Typ :	KATD 250-4 stb		IP54	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	260050		DS1	$L_{WA\,tot}$	0	7	12
:	49,4	kg	GS 2	125 Hz	-20	-10	-12
U :	400 V 50 Hz		RTD 3	250 Hz	-10	-5	0
P_2 :	1,1	kW	-	500 Hz	-13	-3	4
I_N :	3,3	A		1 kHz	-4	4	7
n :	1360	min^{-1}		2 kHz	-6	1	6
C_{400V} :	-	µF		4 kHz	-11	-2	4
t_R :	120	°C		8 kHz	-20	-7	-3

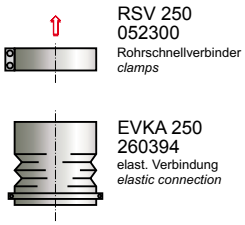




KATD 250-4/6

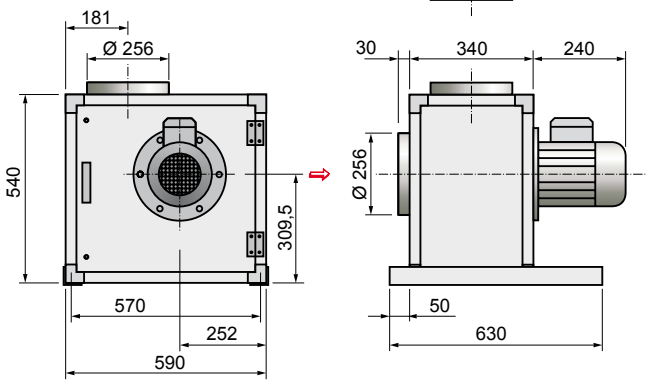


Typ :	KATD 250-4/6		IP54	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	260150		DU5	$L_{WA\,tot}$	0	7	12
:	67,6	kg	GS 3	125 Hz	-20	-10	-12
U :	400 V 50 Hz		-	250 Hz	-10	-5	0
P_2 :	0,8/0,28	kW	-	500 Hz	-13	-3	4
I_N :	2,2/1,1	A		1 kHz	-4	4	7
n :	1440/940	min^{-1}		2 kHz	-6	1	6
C_{400V} :	-	µF		4 kHz	-11	-2	4
t_R :	120	°C		8 kHz	-20	-7	-3

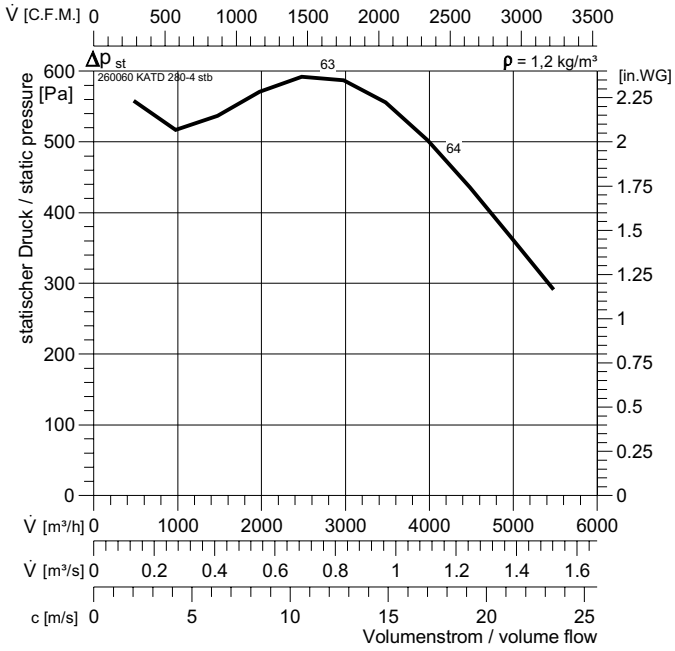


RSV 250
052300
Rohrschnellverbinder
clamps

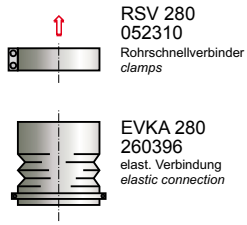
EVKA 250
260394
elast. Verbindung
elastic connection



KATD 280-4 stb

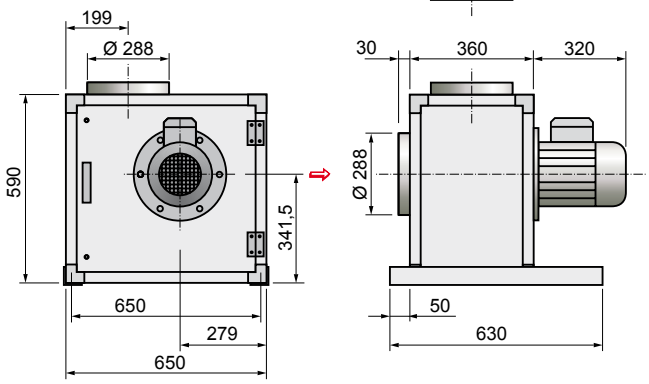


Typ :	KATD 280-4 stb		IP54	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	260060		DS1	$L_{WA\,tot}$	0	9	12
:	66	kg	GS 2	125 Hz	-20	-8	-12
U :	400 V 50 Hz		RTD 7	250 Hz	-10	-3	0
P_2 :	2,2	kW	-	500 Hz	-13	-1	4
I_N :	5,8	A		1 kHz	-4	6	7
n :	1330	min^{-1}		2 kHz	-6	3	6
C_{400V} :	-	µF		4 kHz	-11	0	4
t_R :	120	°C		8 kHz	-19	-5	-3



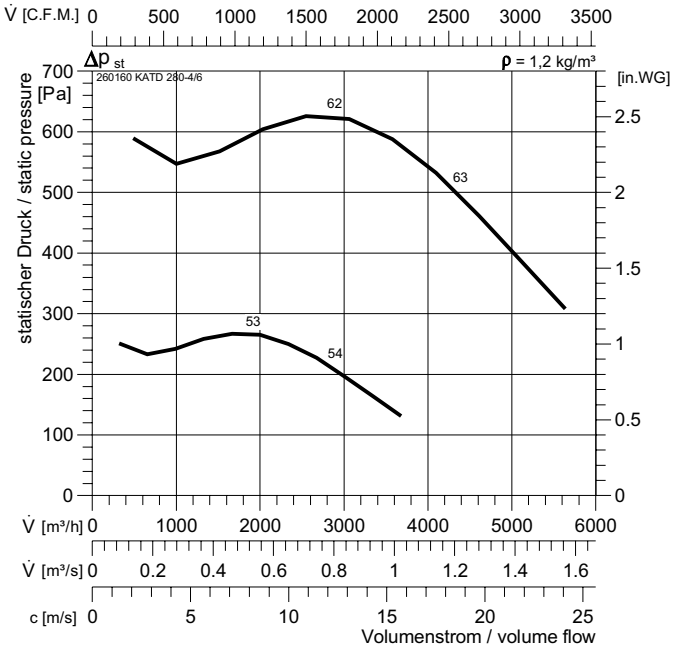
RSV 280
052310
Rohrschnellverbinder
clamps

EVKA 280
260396
elast. Verbindung
elastic connection

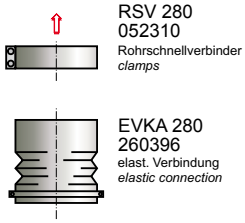


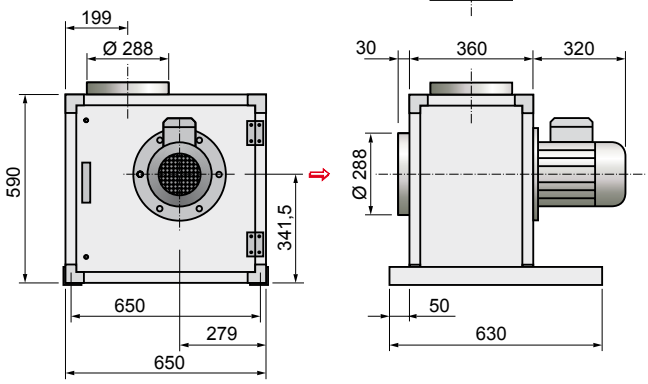
5.2

KATD 280-4/6

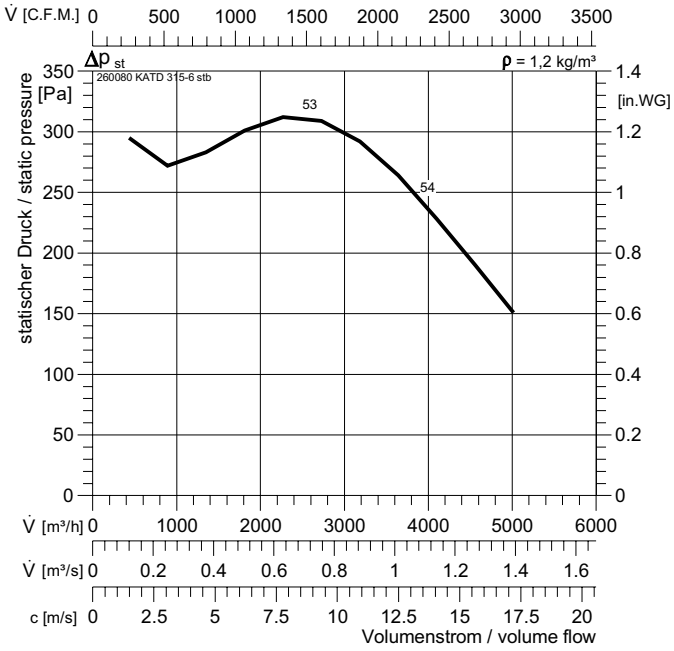


Typ :	KATD 280-4/6		IP55	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	260160		DU5	$L_{WA\,tot}$	0	9	12
:	66	kg	GS 3	125 Hz	-20	-8	-12
U :	400 V 50 Hz		-	250 Hz	-10	-3	0
P_2 :	3/0,9	kW	-	500 Hz	-13	-1	4
I_N :	6,7/3	A		1 kHz	-4	6	7
n :	1450/980	min^{-1}		2 kHz	-6	3	6
C_{400V} :	-	µF		4 kHz	-11	0	4
t_R :	120	°C		8 kHz	-19	-5	-3

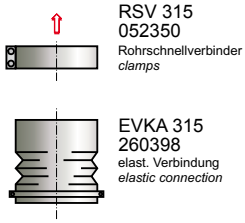


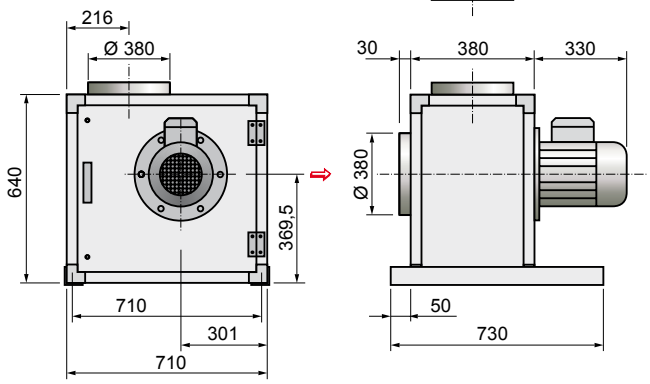


KATD 315-6 stb

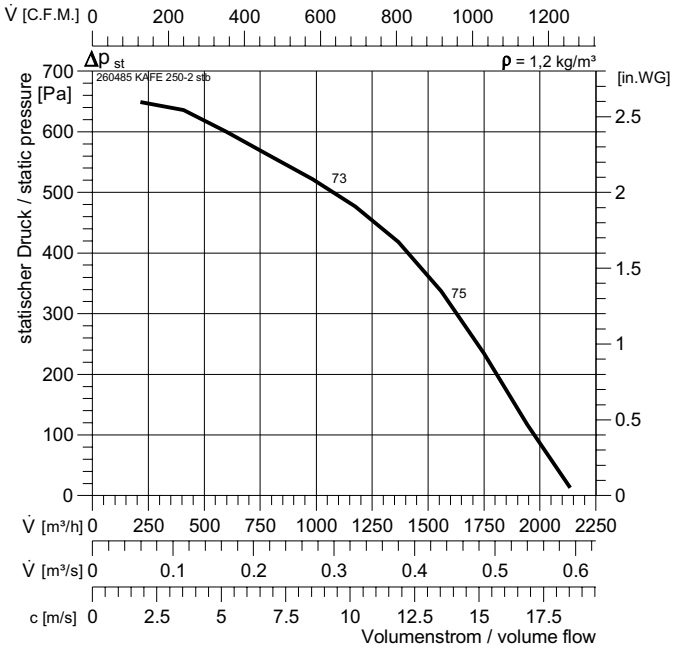


Typ :	KATD 315-6 stb		IP54	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	260080		DS1	$L_{WA\,tot}$	0	14	18
:	66,4	kg	GS 2	125 Hz	-19	-8	-6
U :	400 V 50 Hz		-	250 Hz	-12	4	7
P_2 :	1,1	kW	-	500 Hz	-11	11	14
I_N :	3,6	A		1 kHz	-3	5	12
n :	830	min^{-1}		2 kHz	-6	5	11
C_{400V} :	-	µF		4 kHz	-11	4	5
t_R :	120	°C		8 kHz	-18	0	0

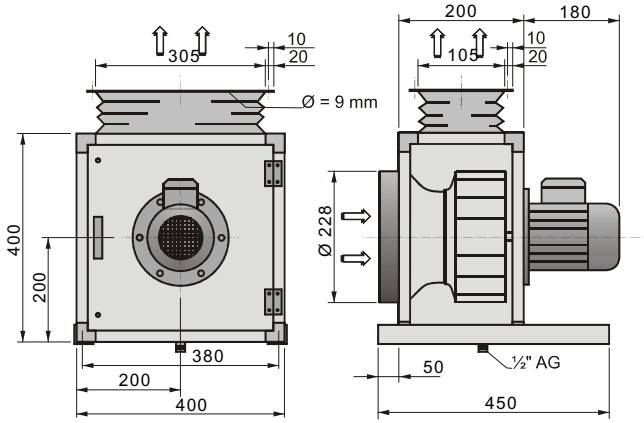




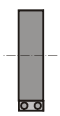
KAFE 250-2 stb



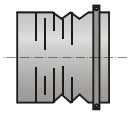
Typ :	KAFE 250-2 stb		IP54	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	260485		E13	$L_{WA\,tot}$	0	7	12
:	30	kg	GS 2	125 Hz	-20	-10	-12
U :	230 V 50 Hz		RTE 5	250 Hz	-10	-5	0
P_2 :	0,48	kW	-	500 Hz	-13	-3	4
I_N :	3,3	A		1 kHz	-4	4	7
n :	2640	min^{-1}		2 kHz	-6	1	6
C_{400V} :	12	µF		4 kHz	-11	-2	4
t_R :	120	°C		8 kHz	-20	-7	-3

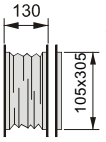


RSV 250
052100
Rohrschnellverbinder
clamps



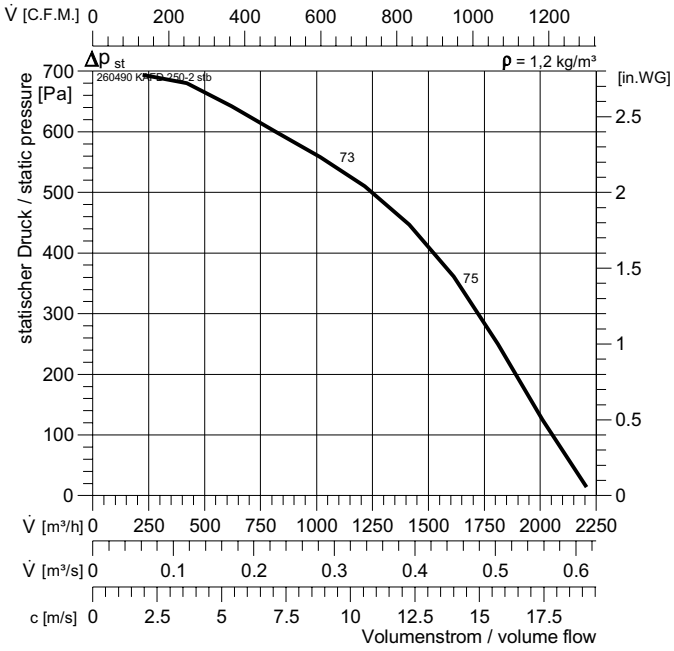
EVKA 225
260392
elast. Stutzen saugseitig
elastic connection inlet



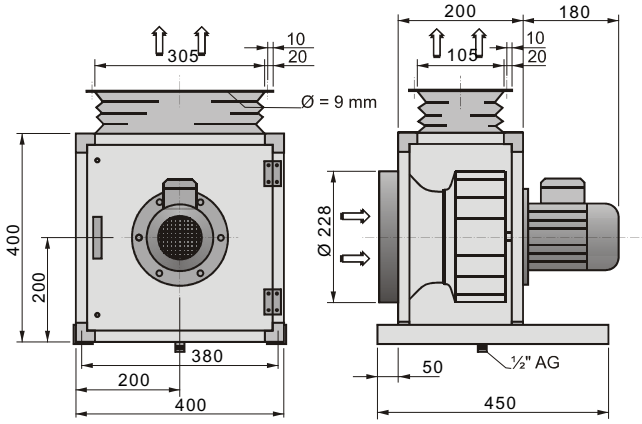


EVK 250-01
260820
elast. Ausblasstutzen
elastic connection outlet
-
-
Ausblasflansch
counterflange outlet

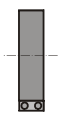
KAFD 250-2 stb



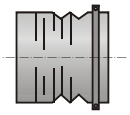
Typ :	KAFD 250-2 stb		IP54	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	260490		DS1	$L_{WA\,tot}$	0	7	12
:	28	kg	GS 2	125 Hz	-20	-10	-12
U :	400 V 50 Hz		RTD 2,5	250 Hz	-10	-5	0
P_2 :	0,55	kW	-	500 Hz	-13	-3	4
I_N :	1,67	A		1 kHz	-4	4	7
n :	2730	min^{-1}		2 kHz	-6	1	6
C_{400V} :	-	µF		4 kHz	-11	-2	4
t_R :	120	°C		8 kHz	-20	-7	-3

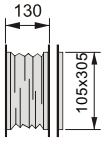


RSV 250
052100
Rohrschnellverbinder
clamps



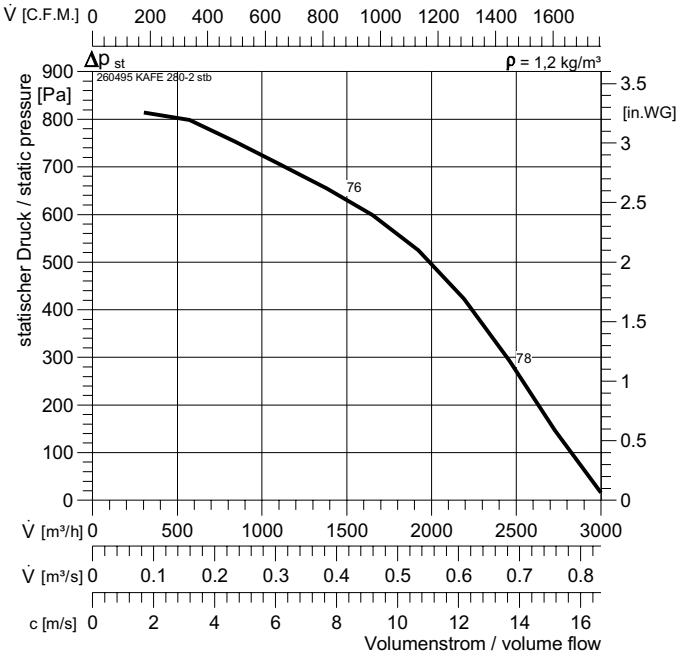
EVKA 225
260392
elast. Stutzen saugseitig
elastic connection inlet



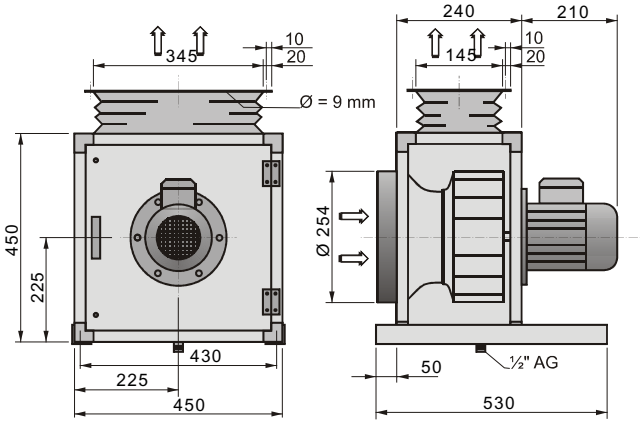


EVK 250-01
260820
elast. Ausblasstutzen
elastic connection outlet
-
-
Ausblasflansch
counterflange outlet

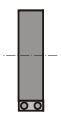
KAFE 280-2 stb



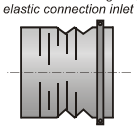
Typ :	KAFE 280-2 stb		IP54	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	260495		E13	$L_{WA\,tot}$	0	9	12
:	38	kg	GS 2	125 Hz	-20	-8	-12
U :	230 V 50 Hz		RTE 7,5	250 Hz	-10	-3	0
P_2 :	0,65	kW	-	500 Hz	-13	-1	4
I_N :	4,1	A		1 kHz	-4	6	7
n :	2640	min^{-1}		2 kHz	-6	3	6
C_{400V} :	16	µF		4 kHz	-11	0	4
t_R :	120	°C		8 kHz	-19	-5	-3

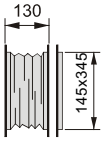


RSV 280
052100
Rohrschnellverbinder
clamps



EVKA 250
260394
elast. Stutzen saugseitig
elastic connection inlet





EVK 280-01
260700
elast. Ausblasstutzen
elastic connection outlet
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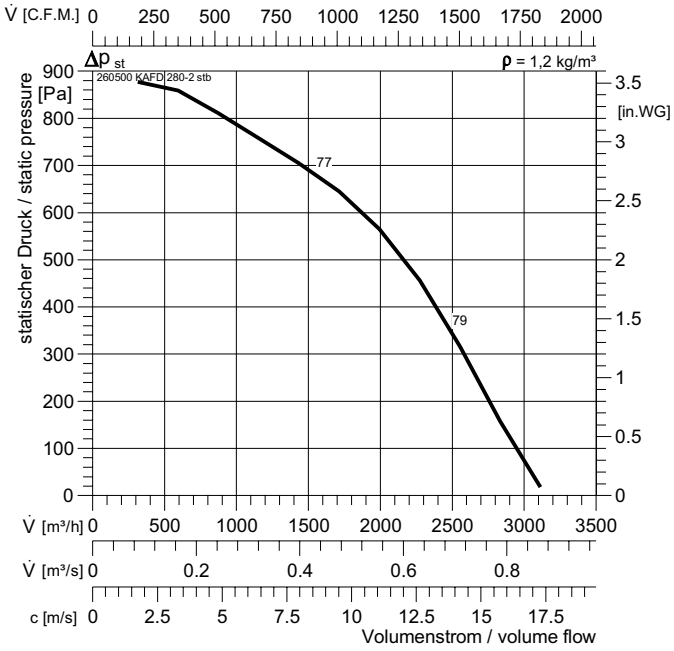
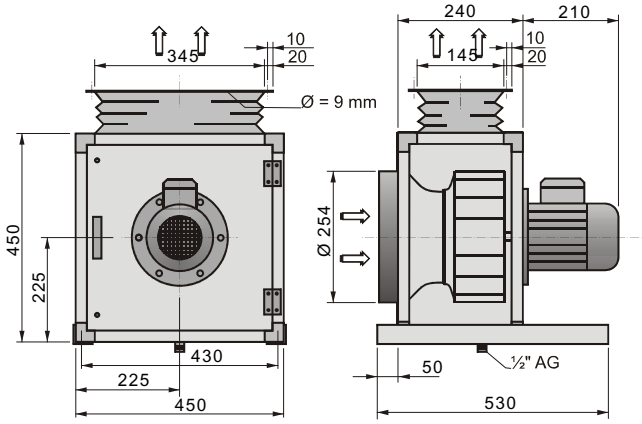
-
Ausblasflansch
counterflange outlet

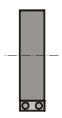
KAFD 280-2 stb



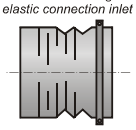
Typ :	KAFD 280-2 stb		IP54	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	260500		DS1	$L_{WA\,tot}$	0	9	12
:	36	kg	GS 2	125 Hz	-20	-8	-12
U :	400 V 50 Hz		RTD 2,5	250 Hz	-10	-3	0
P_2 :	0,75	kW	-	500 Hz	-13	-1	4
I_N :	1,96	A		1 kHz	-4	6	7
n :	2740	min^{-1}		2 kHz	-6	3	6
C_{400V} :	-	µF		4 kHz	-11	0	4
t_R :	120	°C		8 kHz	-19	-5	-3

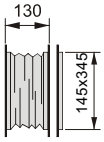


RSV 280
052100
Rohrschnellverbinder
clamps



EVKA 250
260394
elast. Stutzen saugseitig
elastic connection inlet





EVK 280-01
260700
elast. Ausblasstutzen
elastic connection outlet
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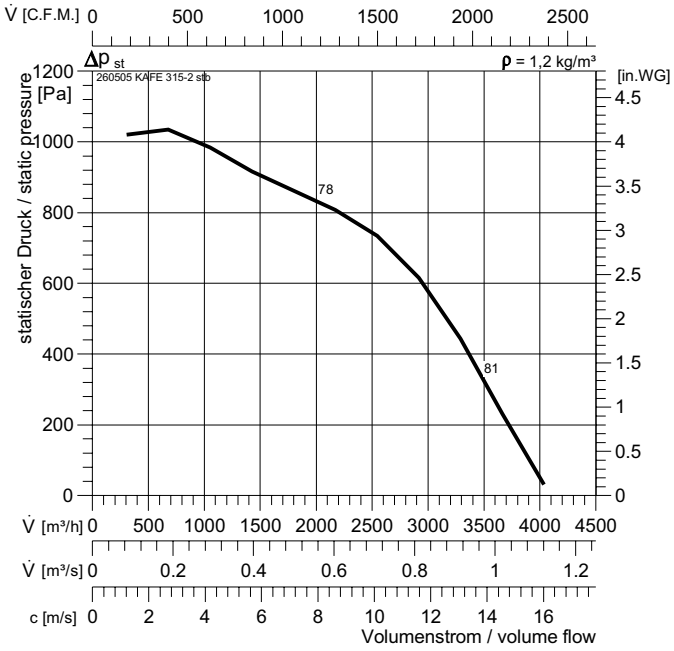
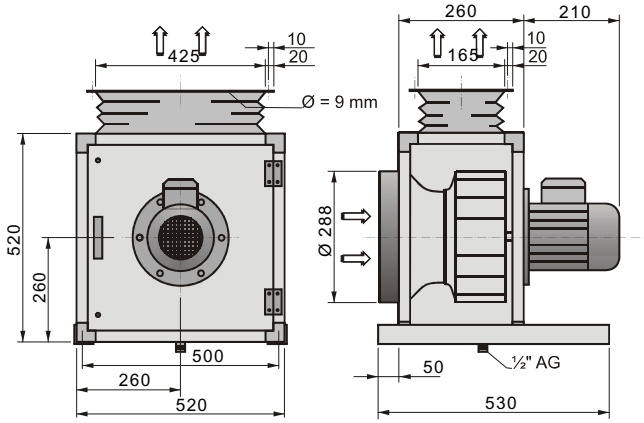
Ausblasflansch
counterflange outlet

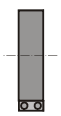
KAFE 315-2 stb



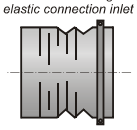
Typ :	KAFE 315-2 stb		IP54	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	260505		E13	$L_{WA\,tot}$	0	14	18
:	46	kg	GS 2	125 Hz	-19	-8	-6
U :	230 V 50 Hz		RTE 7,5	250 Hz	-12	4	7
P_2 :	0,95	kW	-	500 Hz	-11	11	14
I_N :	6,1	A		1 kHz	-3	5	12
n :	2660	min^{-1}		2 kHz	-6	5	11
C_{400V} :	25	µF		4 kHz	-11	4	5
t_R :	120	°C		8 kHz	-18	0	0

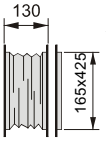


RSV 315
052100
Rohrschnellverbinder
clamps



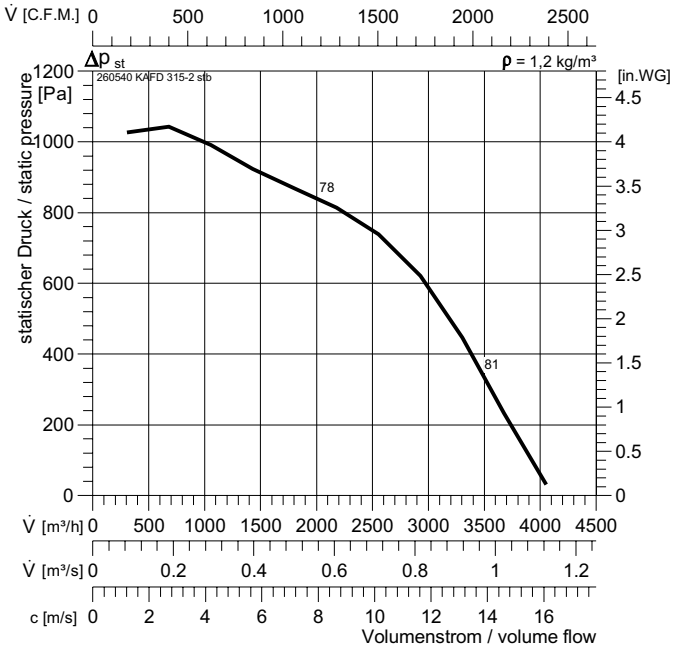
EVKA 280
260396
elast. Stutzen saugseitig
elastic connection inlet



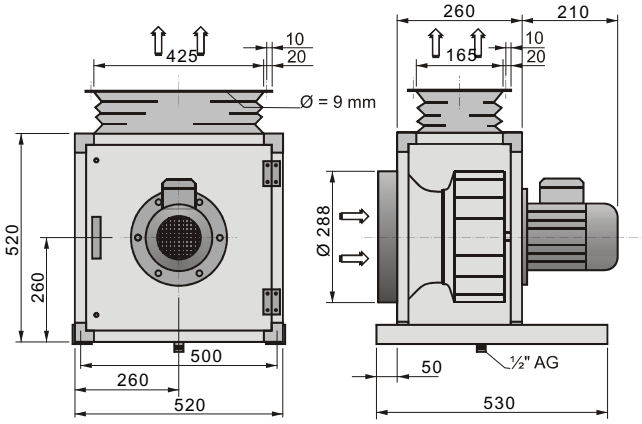


EVK 315-01
260720
elast. Ausblasstutzen
elastic connection outlet
-
-
Ausblasflansch
counterflange outlet

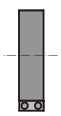
KAFD 315-2 stb



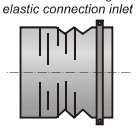
Typ :	KAFD 315-2 stb		IP54	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	260540		DS1	$L_{WA\,tot}$	0	14	18
:	44	kg	GS 2	125 Hz	-19	-8	-6
U :	400 V 50 Hz		RTD 3	250 Hz	-12	4	7
P_2 :	1,1	kW	-	500 Hz	-11	11	14
I_N :	2,6	A		1 kHz	-3	5	12
n :	2670	min^{-1}		2 kHz	-6	5	11
C_{400V} :	-	µF		4 kHz	-11	4	5
t_R :	120	°C		8 kHz	-18	0	0

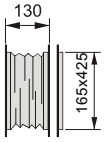


RSV 315
052100
Rohrschnellverbinder
clamps



EVKA 280
260396
elast. Stutzen saugseitig
elastic connection inlet





EVK 315-01
260720
elast. Ausblasstutzen
elastic connection outlet
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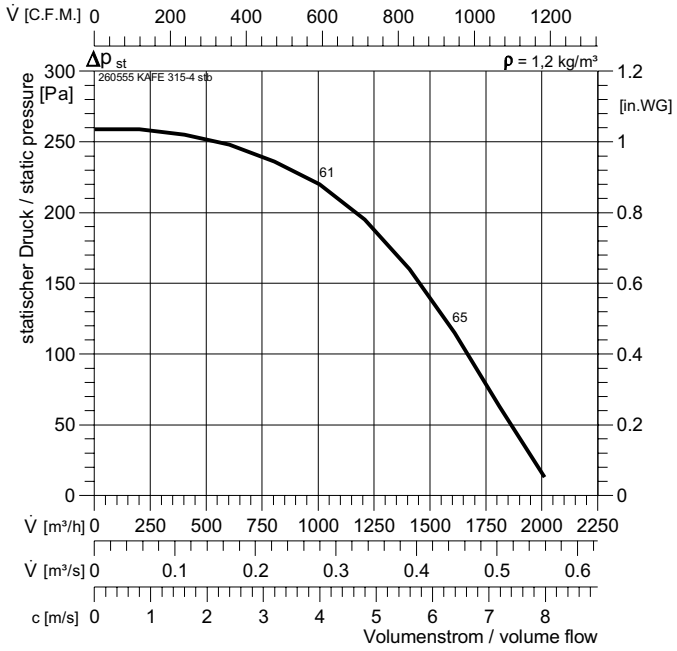
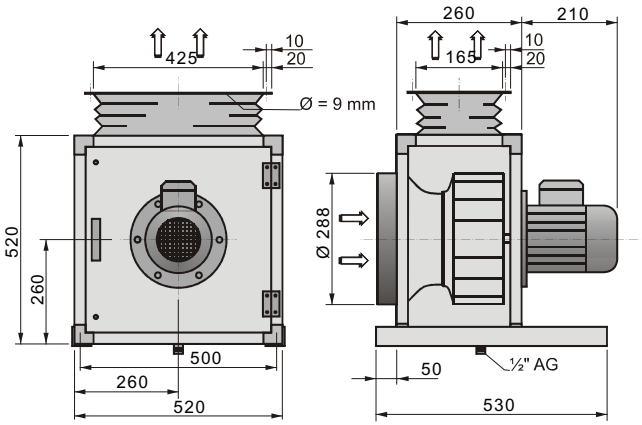
Ausblasflansch
counterflange outlet

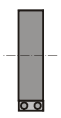
KAFE 315-4 stb



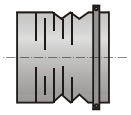
Typ :	KAFE 315-4 stb		IP54	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	260555		E13	$L_{WA\,tot}$	0	14	18
:	44	kg	GS 2	125 Hz	-19	-8	-6
U :	230 V 50 Hz		RTE 7,5	250 Hz	-12	4	7
P_2 :	0,3	kW	-	500 Hz	-11	11	14
I_N :	2,1	A		1 kHz	-3	5	12
n :	1330	min^{-1}		2 kHz	-6	5	11
C_{400V} :	12	µF		4 kHz	-11	4	5
t_R :	120	°C		8 kHz	-18	0	0

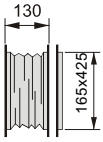


RSV 315
052100
Rohrschnellverbinder
clamps



EVKA 280
260396
elast. Stutzen saugseitig
elastic connection inlet





EVK 315-01
260720
elast. Ausblasstutzen
elastic connection outlet
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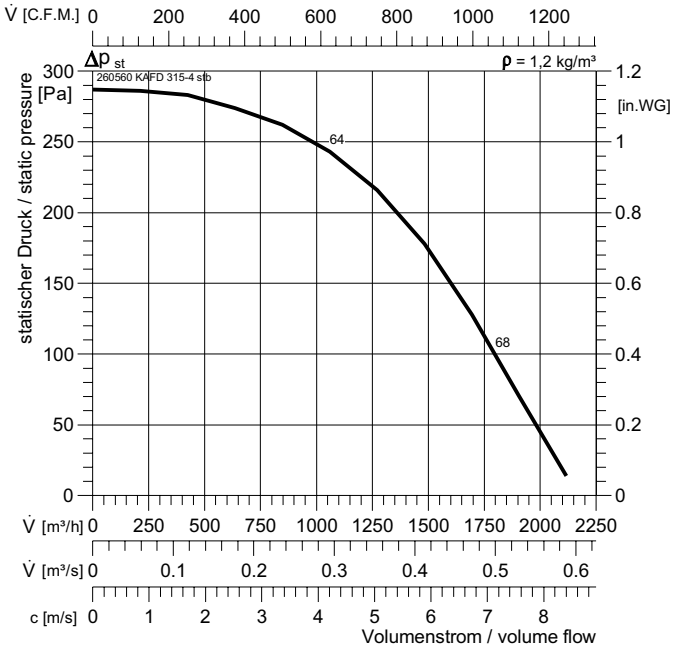
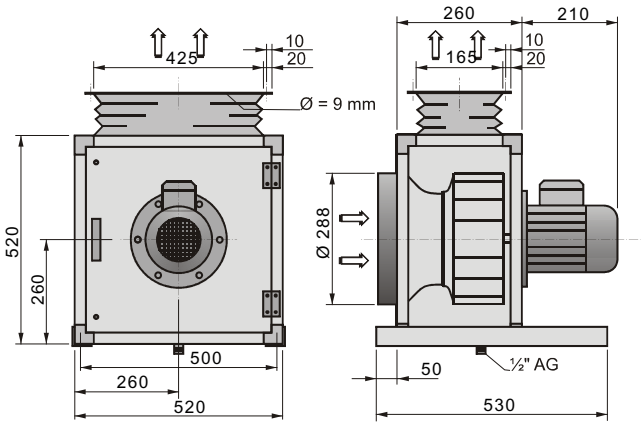
-
Ausblasflansch
counterflange outlet

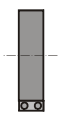
KAFD 315-4 stb



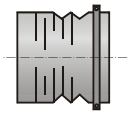
Typ :	KAFD 315-4 stb		IP54	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	260560		DS1	$L_{WA\,tot}$	0	14	18
:	42	kg	GS 2	125 Hz	-19	-8	-6
U :	400 V 50 Hz		RTD 1,2	250 Hz	-12	4	7
P_2 :	0,37	kW	-	500 Hz	-11	11	14
I_N :	1,39	A		1 kHz	-3	5	12
n :	1360	min^{-1}		2 kHz	-6	5	11
C_{400V} :	-	µF		4 kHz	-11	4	5
t_R :	120	°C		8 kHz	-18	0	0

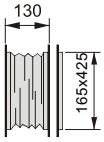


RSV 315
052100
Rohrschnellverbinder
clamps



EVKA 280
260396
elast. Stutzen saugseitig
elastic connection inlet





EVK 315-01
260720
elast. Ausblasstutzen
elastic connection outlet
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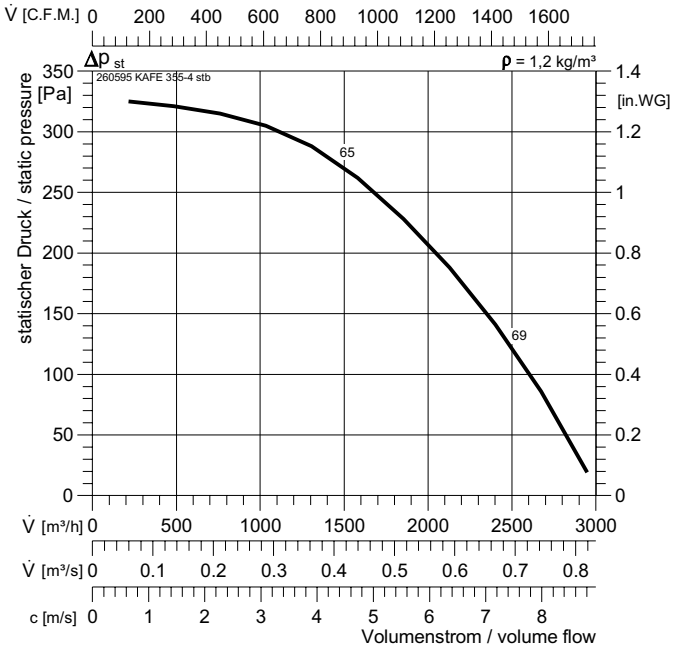
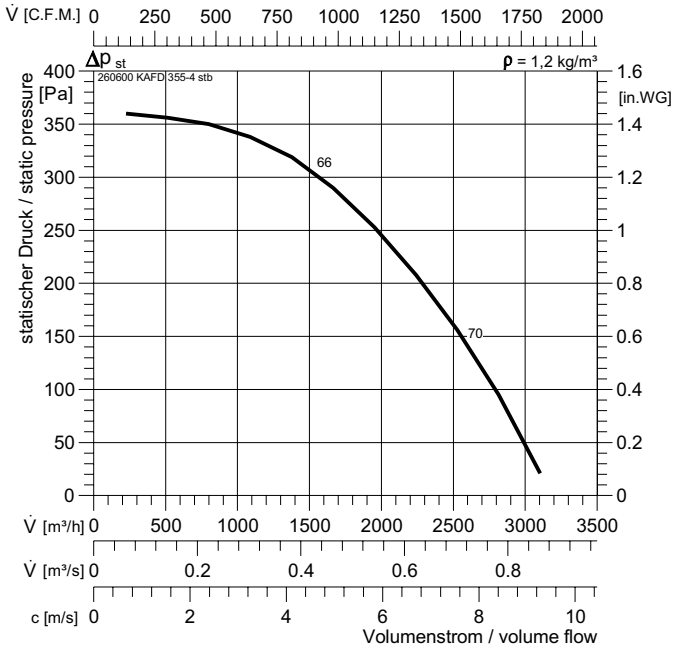
Ausblasflansch
counterflange outlet

KAFE 355-4 stb

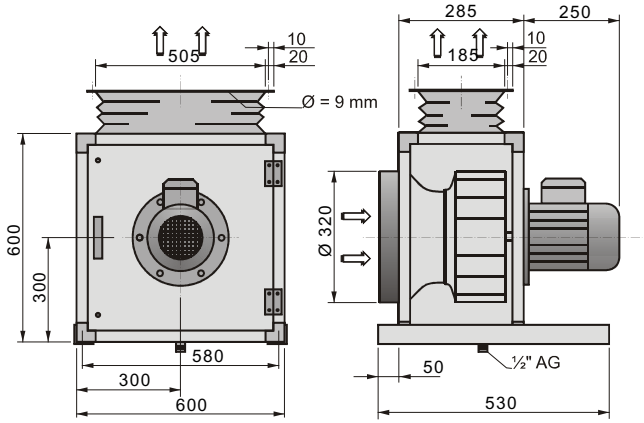


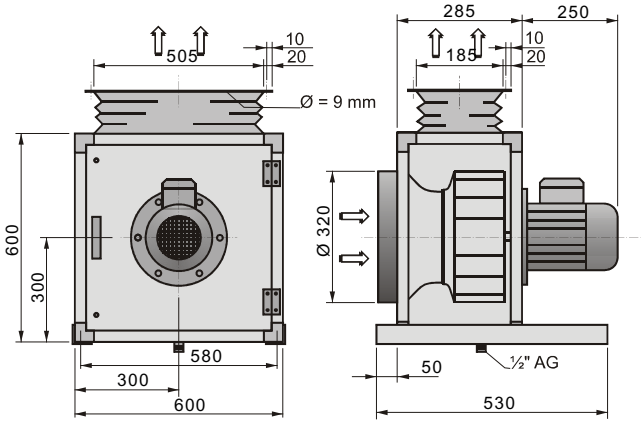
KAFD 355-4 stb



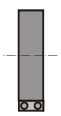
Typ :	KAFE 355-4 stb		IP54	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	260595		E13	$L_{WA\,tot}$	0	14	17
:	50	kg	GS 2	125 Hz	-20	-12	-11
U :	230 V 50 Hz		RTE 3,2	250 Hz	-12	4	4
P_2 :	0,3	kW	-	500 Hz	-10	12	14
I_N :	2,1	A		1 kHz	-3	4	12
n :	1330	min^{-1}		2 kHz	-6	4	10
C_{400V} :	12	µF		4 kHz	-12	2	0
t_R :	120	°C		8 kHz	-20	-3	-6

Typ :	KAFD 355-4 stb		IP54	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	260600		DS1	$L_{WA\,tot}$	0	14	17
:	48	kg	-	125 Hz	-20	-12	-11
U :	400 V 50 Hz		-	250 Hz	-12	4	4
P_2 :	0,55	kW	-	500 Hz	-10	12	14
I_N :	1,39	A		1 kHz	-3	4	12
n :	1360	min^{-1}		2 kHz	-6	4	10
C_{400V} :	-	µF		4 kHz	-12	2	0
t_R :	120	°C		8 kHz	-20	-3	-6

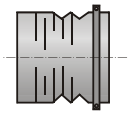


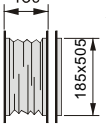


RSV 355
052100
Rohrschnellverbinder
clamps



EVKA 315
260398
elast. Stutzen saugseitig
elastic connection inlet





EVK 355-01
260740
elast. Ausblasstutzen
elastic connection outlet
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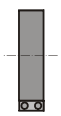
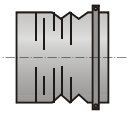
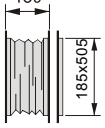
Ausblasflansch
counterflange outlet

RSV 355
052100
Rohrschnellverbinder
clamps



EVKA 315
260398
elast. Stutzen saugseitig
elastic connection inlet





EVK 355-01
260740
elast. Ausblasstutzen
elastic connection outlet
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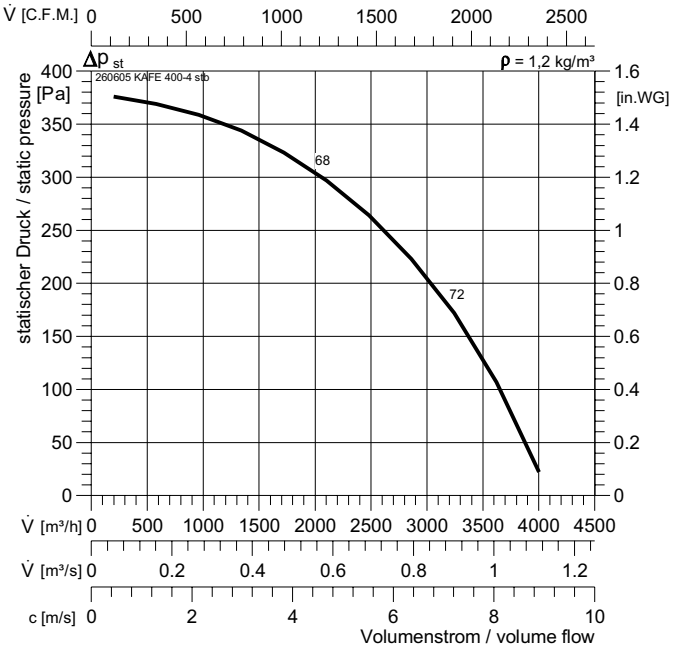
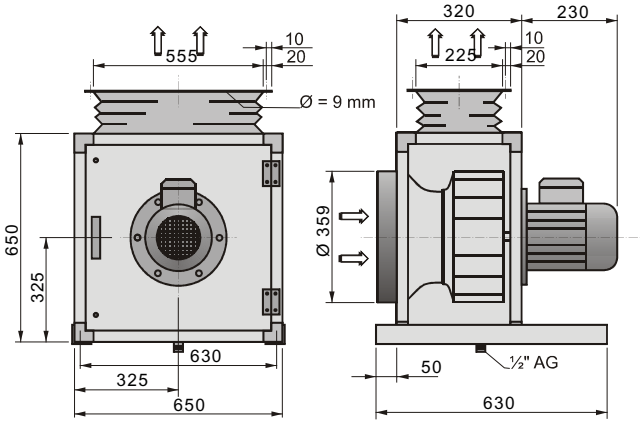
Ausblasflansch
counterflange outlet

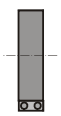
KAFE 400-4 stb



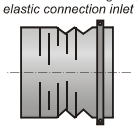
Typ :	KAFE 400-4 stb		IP54	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	260605		E13	$L_{WA\,tot}$	0	17	18
:	62	kg	GS 2	125 Hz	-20	-3	-3
U :	230 V 50 Hz		RTE 7,5	250 Hz	-10	7	10
P_2 :	0,65	kW	-	500 Hz	-12	14	15
I_N :	4,4	A		1 kHz	-4	9	10
n :	1250	min^{-1}		2 kHz	-6	8	9
C_{400V} :	20	µF		4 kHz	-11	2	3
t_R :	120	°C		8 kHz	-21	-6	-7

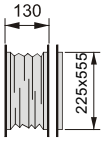


RSV 400
052100
Rohrschnellverbinder
clamps



EVKA 355
260393
elast. Stutzen saugseitig
elastic connection inlet





EVK 400-01
260760
elast. Ausblasstutzen
elastic connection outlet
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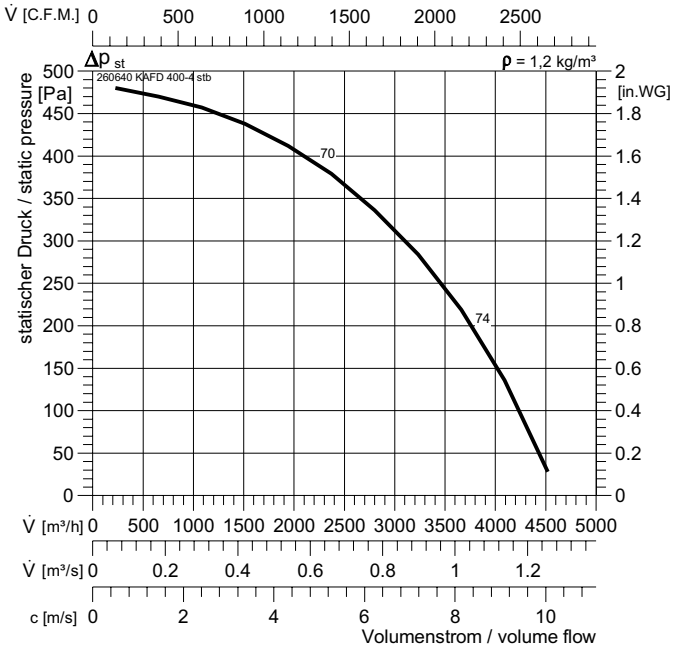
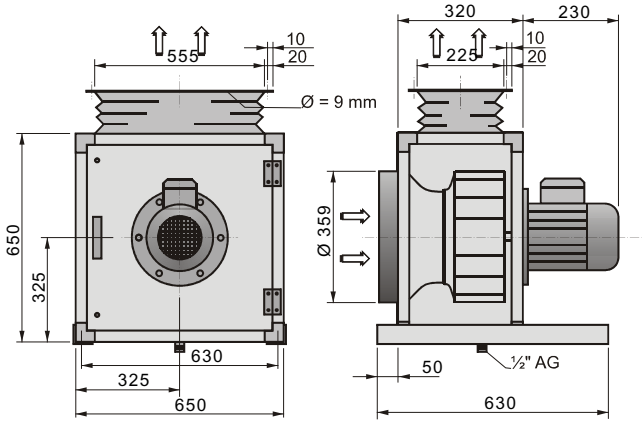
Ausblasflansch
counterflange outlet

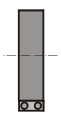
KAFD 400-4 stb



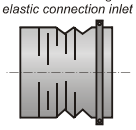
Typ :	KAFD 400-4 stb		IP54	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	260640		DS1	$L_{WA\,tot}$	0	17	18
:	53,4	kg	GS 2	125 Hz	-20	-3	-3
U :	400 V 50 Hz		RTD 2,5	250 Hz	-10	7	10
P_2 :	0,75	kW	-	500 Hz	-12	14	15
I_N :	2,5	A		1 kHz	-4	9	10
n :	1350	min^{-1}		2 kHz	-6	8	9
C_{400V} :	-	µF		4 kHz	-11	2	3
t_R :	120	°C		8 kHz	-21	-6	-7

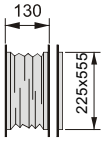


RSV 400
052100
Rohrschnellverbinder
clamps



EVKA 355
260393
elast. Stutzen saugseitig
elastic connection inlet





EVK 400-01
260760
elast. Ausblasstutzen
elastic connection outlet
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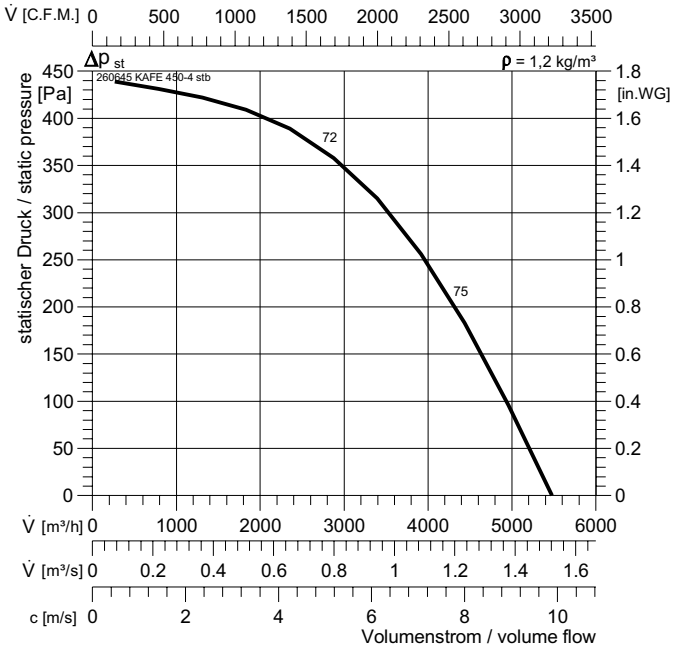
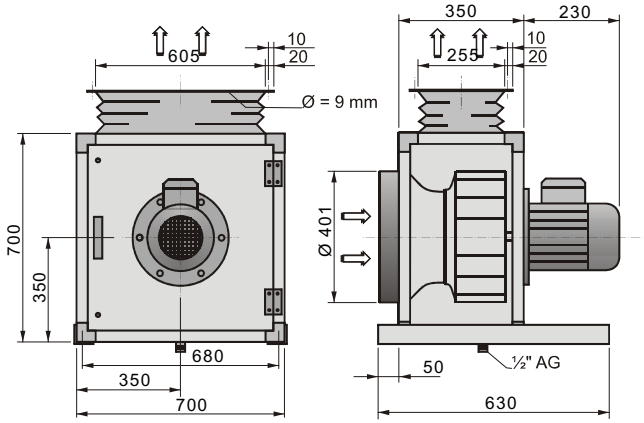
-
Ausblasflansch
counterflange outlet

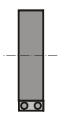
KAFE 450-4 stb



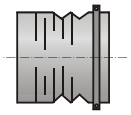
Typ :	KAFE 450-4 stb		IP54	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	260645		E13	$L_{WA\,tot}$	0	17	18
:	78	kg	GS 2	125 Hz	-20	-3	-3
U :	230 V 50 Hz		RTE 7,5	250 Hz	-10	7	10
P_2 :	0,96	kW	-	500 Hz	-12	14	15
I_N :	6,7	A		1 kHz	-4	9	10
n :	1180	min^{-1}		2 kHz	-6	8	9
C_{400V} :	30	µF		4 kHz	-11	2	3
t_R :	120	°C		8 kHz	-21	-6	-7

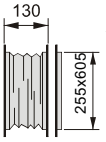


RSV 450
052100
Rohrschnellverbinder
clamps



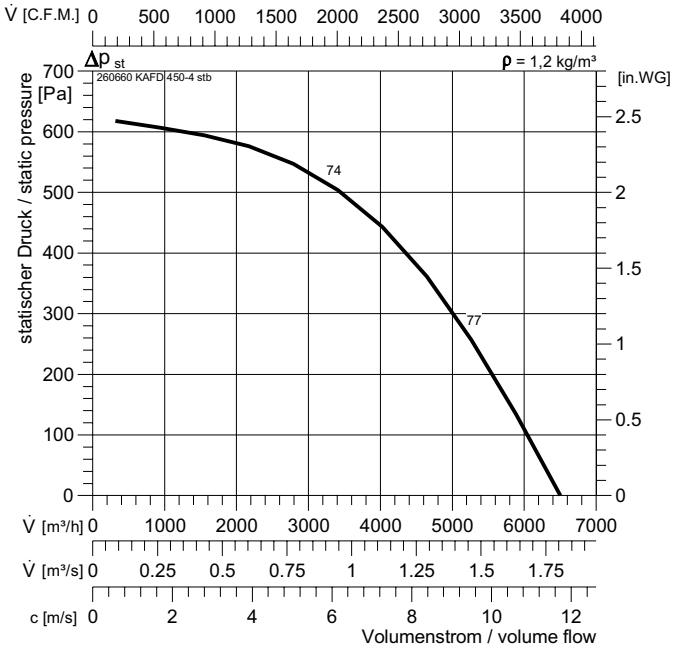
EVKA 400
260395
elast. Stutzen saugseitig
elastic connection inlet



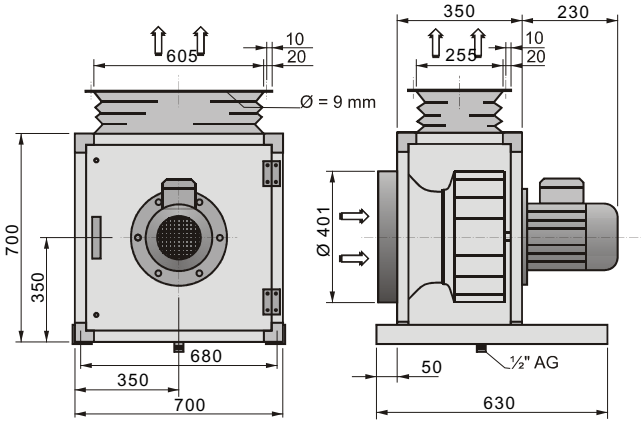


EVK 450-01
260780
elast. Ausblasstutzen
elastic connection outlet
-
-
Ausblasflansch
counterflange outlet

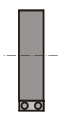
KAFD 450-4 stb



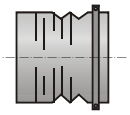
Typ :	KAFD 450-4 stb		IP54	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	260660		DS1	$L_{WA\,tot}$	0	17	18
:	76	kg	GS 2	125 Hz	-20	-3	-3
U :	400 V 50 Hz		RTD 3,8	250 Hz	-10	7	10
P_2 :	1,1	kW	-	500 Hz	-12	14	15
I_N :	3,3	A		1 kHz	-4	9	10
n :	1350	min^{-1}		2 kHz	-6	8	9
C_{400V} :	-	µF		4 kHz	-11	2	3
t_R :	120	°C		8 kHz	-21	-6	-7

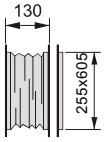


RSV 450
052100
Rohrschnellverbinder
clamps



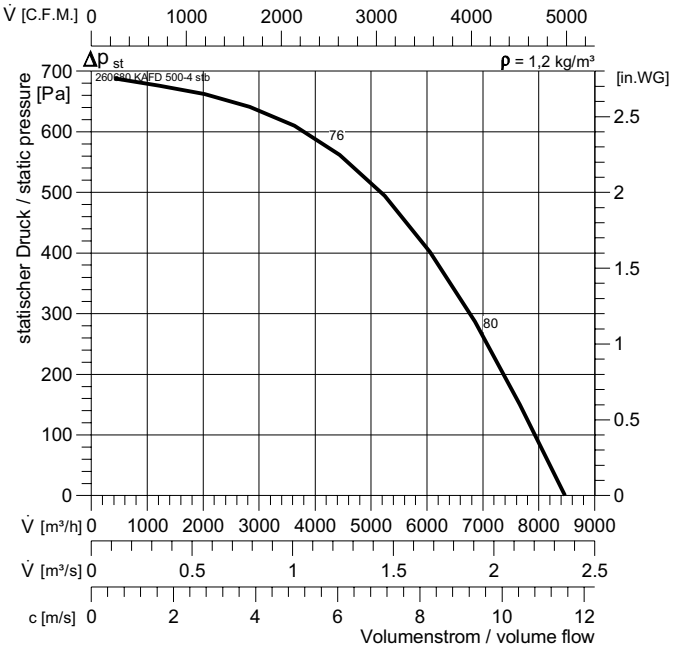
EVKA 400
260395
elast. Stutzen saugseitig
elastic connection inlet



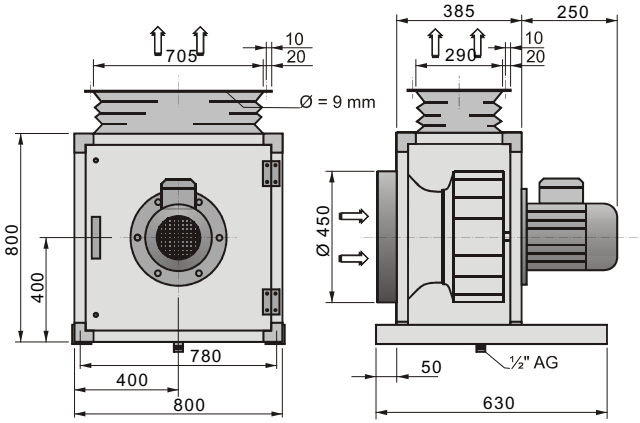


EVK 450-01
260780
elast. Ausblasstutzen
elastic connection outlet
-
-
Ausblasflansch
counterflange outlet

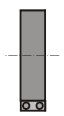
KAFD 500-4 stb



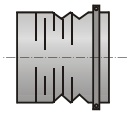
Typ :	KAFD 500-4 stb			IP54	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :	260680			DS1	$L_{WA\,tot}$	0	17	18
:	91	kg		GS 2	125 Hz	-20	-3	-3
U :	400 V 50 Hz			RTD 5	250 Hz	-10	7	10
P_2 :	1,5	kW		-	500 Hz	-12	14	15
I_N :	4,3	A			1 kHz	-4	9	10
n :	1330	min^{-1}			2 kHz	-6	8	9
C_{400V} :	-	µF			4 kHz	-11	2	3
t_R :	120	°C			8 kHz	-21	-6	-7

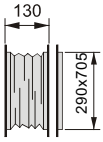


RSV 500
052100
Rohrschnellverbinder
clamps



EVKA 450
260397
elast. Stutzen saugseitig
elastic connection inlet





EVK 500-01
260800
elast. Ausblasstutzen
elastic connection outlet
-
-
Ausblasflansch
counterflange outlet

Radialventilatoren aus chemisch beständigem Kunststoff
Chemical-Resistant Centrifugal Fans

Preisliste Seite / Price List Page 72

Typenschlüssel *Fan type code*

CHEM 160 PP BD

- BD: Antriebsart / *Mode of driving*
  - BD = Riementrieb / *belt-driven*
  - DD = direktgetrieben / *direct-driven*
- PP: Material / *Material*
  - GFK / *GRP*
  - PP, PVC; PVE, PVDF
- 160: Nennweite / *Impeller diameter*
- CHEM: chemisch beständiger Radialventilator / *chemical-resistant centrifugal fan*

Chemisch beständige Radialventilatoren

Die Ventilatoren der Baureihe CHEM zeichnen sich durch einen hohen Wirkungsgrad, zuverlässiges Betriebsverhalten und hervorragende Korrosionsbeständigkeit aus. Sie können wartungsfrei betrieben werden. Mit diesem Typ bietet Wolter eine komplette Baureihe rückwärtsgekrümmter, direktgetriebener Radialventilatoren von hoher Qualität, sehr guter Leistungscharakteristik und niedrigem Geräuschpegel. Je nach Einsatzfall werden alternative Materialien verarbeitet, so daß eine Vielzal unterschiedlicher Prozeßluft-Medien gefördert werden kann. Alle Ventilatoren sind geprüft nach DIN 24163 und ISO 5801.

Eigenschaften und Ausführung

Das Ventilatorgehäuse ist entweder aus thermoplastischen Kunststoffen wie PP, PVC, PE, PVDF oder glasfaserverstärkten Kunststoffen der Polyvinylester-Klasse (GFK oder FFK) gefertigt. Das Ventilatorgehäuse ist als echte Spirale ausgeformt und verfügt über eine Hochleistungsansaugdüse, die eine gleichmäßige Luftverteilung über die volle Laufradbreite gewährleistet.

Die Typen CHEM 125 - 250 sind vollständig aus Spritz-Kunststoff gefertigt und sind sowohl für rechte als auch für linke Drehrichtung geeignet. Die Rückscheibe und Ansaugdüse, beide aus Spritzkunststoff, können leicht getauscht werden, um die Drehrichtung anzupassen oder um Wartungsarbeiten zu ermöglichen. Die Ventilatorgehäuse mit Ausblasflansch werden mit chemisch beständiger Dichtung zur Vermeidung von Luftleckage geliefert. Das Standardmaterial des Gehäuses ist PP.

Die Gehäuse der Typen CHEM 315 - 400 sind entweder aus GFK gefertigt oder vakuumgeformt und maschinell geschweißt. Die Rückscheibe und Ansaugdüse, beide aus Spritzkunststoff, können für Wartungsarbeiten leicht entfernt werden. Die Kunststoff-Ventilatorgehäuse mit Ausblasflansch werden mit chemisch beständiger Dichtung zur Vermeidung von Luftleckage geliefert. Die GFK Ventilatorgehäuse haben einen runden geraden Ausblas mit passendem elastischen Verbinder. **Die Baugrößen CHEM 75 und CHEM 90 sind in unserem Teilkatalog R05 beschrieben.**

Rückwärtsgekrümmtes Radiallaufrad

Wolter-Laufräder der CHEM-Baureihe sind als einflutige Radiallaufräder mit konstanter Breite (SISW) konstruiert. Die Herstellung erfolgt durch Präzisionsspritzguß mit eingegossener Metallnabe und anschließender maschineller Verschweißung. Sie entsprechen höchsten Qualitätsanforderungen und haben ausgezeichnete aerodynamische Eigenschaften.

Als Standard wird Polypropylen als Material für das Laufrad verwendet. Je nach Einsatzfall können auch PA, PC, PVC oder PVDF Verwendung finden. Entsprechend den Anforderung des Kunden an die Fördertemperatur, die UV-Beständigkeit oder den Schutz vor elektrostatischer Aufladung können die Laufräder auch aus einem thermoplastischen Material vermengt mit Füllstoffen sein. Jedes Laufrad ist nach Q2,5 (VDI 2060) statisch und dynamisch in zwei Ebenen gewuchtet. Die Laufräder sind für die Verwendung von Taperlock-Naben vorgesehen. Dies gewährleistet einen zuverlässigen Lauf auch bei hoher Umfangsgeschwindigkeit.

Ventilatorbock und Lager

Die Ventilatorböcke und Grundrahmen sind aus Walzstahlprofilen hergestellt und feuerverzinkt. Dies bietet besten Schutz gegen widrige Bedingungen. Spezielle Oberflächenbehandlungen sind auf Wunsch möglich. Der Ventilator kann in verschiedenen Ausblasrichtungen installiert werden.

Welle und Lager

Es werden abgedrehte Präzisionswellen nach DIN 17210 - C45 mit einem glatten Anstrich verwendet. Beide Wellenenden haben Norm-Durchmesser nach DIN 748, Blatt 1 und Nuten nach DIN 6885, Blatt 1. Die Wellen sind zur Vermeidung von Korrosion chemisch widerstandsfähig beschichtet. Auf Anfrage können auch Wellen aus rostfreiem Stahl geliefert werden.

Die riemengetreibenen Ventilatoren der Typen CHEM 125 - 400 besitzen Flanschlager aus Gußaluminium. Die Antriebswelle hat zwei spielfreie Standard-Rillenkugellager mit säurebeständiger Dichtung. Diese Konstruktion sichert störungsfreien Betrieb, ruhigen Lauf und minimale Schwingungen.

Antrieb

Es werden präzise gewuchtete Keilriemenscheiben mit Spannhülse nach ISO 4183-1980 verwendet. Alle Keilriemen entsprechen ISO 4148. Der Riementrieb sowie alle rotierende Teile sind mit einem Schutzgitter versehen.

Motor

Je nach Anwendung sind Norm-Motoren in verschiedenen Schutzarten lieferbar. Alle Motoren sind vollständig geschlossen und luftgekühlt. Einphasige Motoren und Sonderspannungen auf sind Anfrage erhältlich.

Standard-Farben

Geäusematerial PP - PANTONE warm grau 1C

Gehäusematerial GFK - PANTONE 430

Andere Farben sind auf Anfrage lieferbar.

Zubehör

- Feder-Schwingungsdämpfer
- Kondensatablaufstutzen mit Verschluß
- Motor, Motorschutz, Spannschlitten-Schienen, Riemenschutz, Riemenantrieb
- Abdeckung für Lager und Welle
- Ventilatorgrundrahmen
- Ansaugflansch, Ansaugmanschette mit Klemmband
- Splitterschutzgitter

Optionale Ausführungen

- Sonderfarben
- flammhemmende Ausführung
- temperaturbeständige Ausführung
- UV-beständiges Gehäusematerial

Thermische Beständigkeit

Die Temperatur der geförderten Medien darf den für den Werkstoff angegeben Maximalwert nicht überschreiten:

Werkstoff	max. Temp. [°C]
PVC	60
PP	80
GFK	100
PVDF	120

Chemical-resistant centrifugal fan

The CHEM series of fans is characterised by high-efficiency impellers, reliable, maintenance-free operation as well as excellent corrosion-resistance. With the CHEM range, Wolter offers a complete series of high-quality backward-curved centrifugal fans with superior performance and low noise emissions. Different materials can be processed in order to meet the demands of a multitude of applications in the chemical industry and to convey different types of process air or gases. All fans are tested and rated in accordance with DIN 24163 and ISO 5801.

Casing

The fan casing is either made from thermoplastics such as PP, PVC, PE, PVDF or glass-reinforced polyvinyl-ester material (GRP or FRP). The fan casing is formed as a true spiral and has a high-efficiency inlet cone to ensure an even distribution of air over the full width of the impeller.

The models CHEM 125 - 250 are completely made of injection-moulded plastic and can be operated in either LG or RD rotational sense. The plastic injection-moulded backplate or inlet cover can easily be removed in order to change the direction of rotation or for maintenance purposes. Fan casings with outlet flange are fitted with a chemical-resisant seal to prevent air leakage. The standard casing material is PP.

The casings of types CHEM 315 to 400 are either made of GRP material or vacuum-formed and machine-welded. The plastic injection-mould backplate can easily be removed for maintenance and service purposes. Thermoplastic fan casings with outlet flange are fitted with a chemical-resistant seal to prevent air leakage. The GRP fan casing has a round outlet. Suitable flexible connectors are available.

Centrifugal backward-curved impeller

Wolter CHEM range fan impellers are designed as single-inlet, single-width (SISW) type. Impellers are made of precision plastic injection-mould parts with cast-in steel hub, which are subsequently mechanically welded.

Standard impeller material is PP. Depending on the type of application, different materials such as PA, PC, PVC or PVDF can be processed. If the application calls for high temperature resistance, flame-retardant properties, UV durability or protection against electrostatic discharge, special reinforced compound materials can be used. Each impeller is statically and dynamically balanced in two planes in accordance with Q2.5 of VDI 2060. The impellers are designed for use with taper-bushes and are made of high-grade cast disks guaranteeing solidity at high peripheral speed. **For a description of models CHEM 75 and CHEM 90, please refer to our partial catalogue R05.**

Fan base and support

The supporting steel stands and fan bases are manufactured from heavy gauge mild steel and are hot-dip galvanised or powder coated to provide protection even in the most adverse conditions. Special surface treatments can be applied on request. Fans can be mounted in different discharge positions.

Drive shaft and bearing

All shafts comply to DIN 17210 - C45, they are trued and have a smooth finish. Both shaft ends comply with DIN 748, Sheet 1 and are grooved in accordance with DIN 6885, Sheet 1. A protective coating is applied on the shaft in order to prevent corrosion. If needed, stainless steel shafts can be provided.

CHEM 125 to CHEM 400 belt-driven fans are fitted with cast aluminium flanged grooved ball bearings with an acid-proof seal, ensuring minimum vibration.

Drive

Precisely balanced pulleys with tension sleeve are used. All belts comply with ISO 4148. The belt-drive and all other rotating parts are fitted with a protection guard.

Motor

If the application requires, motors of different protection classes can be supplied. On direct-driven fans, B5 flange-type motors are mounted. All motors are totally enclosed and air-cooled. Single-phase motors or motors with non-standard voltages can be supplied upon request

Standard colours

All PP fans - PANTONE Warm Grey 1C

All GRP fans - PANTONE 430

If required, other colours can be supplied.

Ancillary equipment

- Spring anti-vibration mounts
- Condensate drain plug
- Fan and motor support base frame
- Shaft and bearing cover
- Inlet flanges, flexible connections with clamps
- Splinter shield

Options

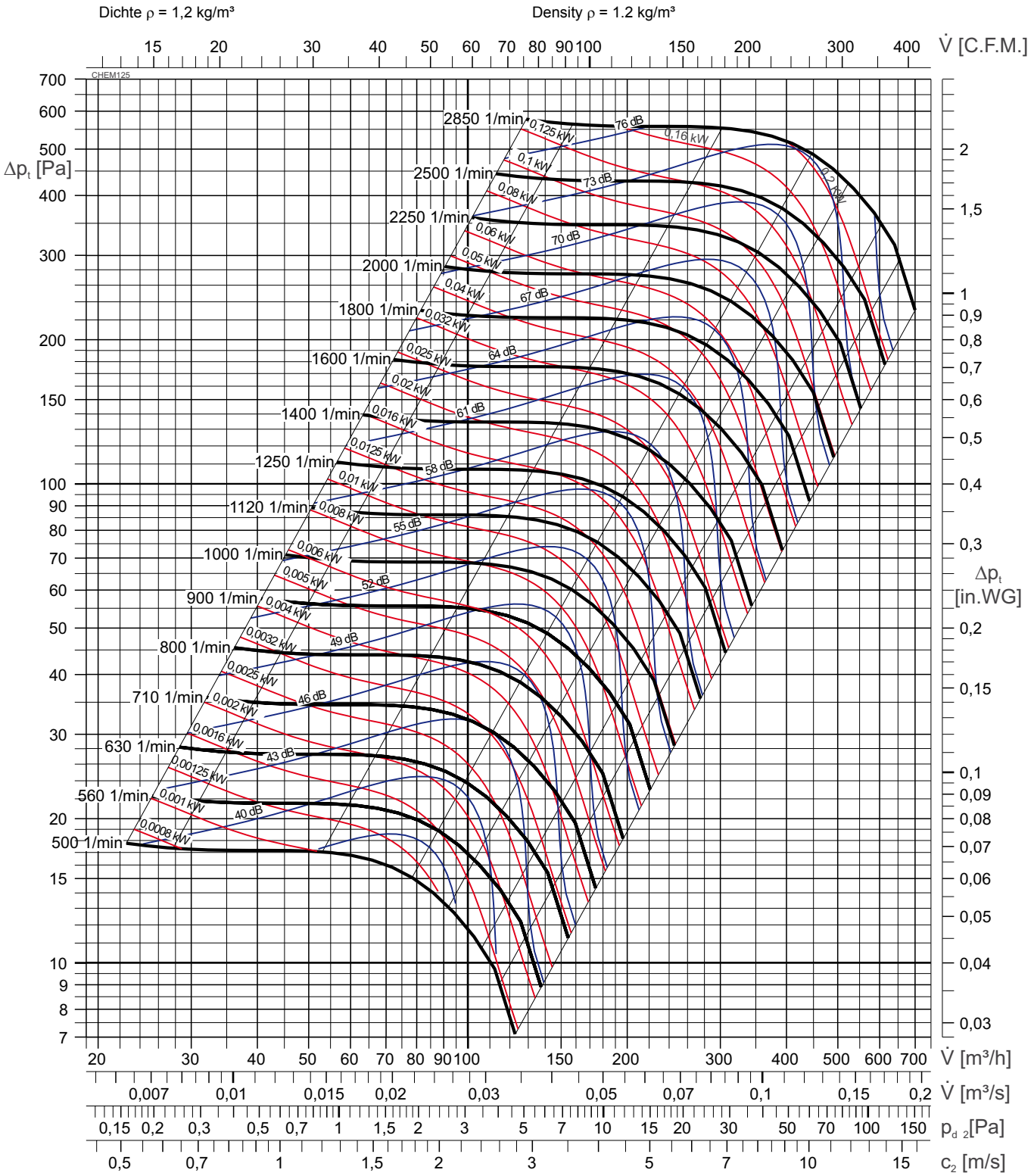
- variational colouring
- flame-retardant and temperature-resistant material
- Anti-static material
- UV-proof material

Permissible temperature range

The temperature of the conveyed gases must not exceed the following limits:

Material	max. Temp. [°C]
PVC	60
PP	80
GRP	100
PVDF	120

CHEM 125



Im Kennfeld ist der A-bewertete Schallleistungspegel L_{WA} angegebenen.

The performance curve gives the A-weighted sound power level L_{WA}.

Schalldruckpegel L_{PA} in 1 m Entfernung:

A-weighted sound pressure level L_{PA} in 1 metre distance:

$$L_{PA}\,[dB(A)] = L_{WA}\,[dB(A)] - 7\,[dB]$$

Oktavpegel L_{Wokt}:

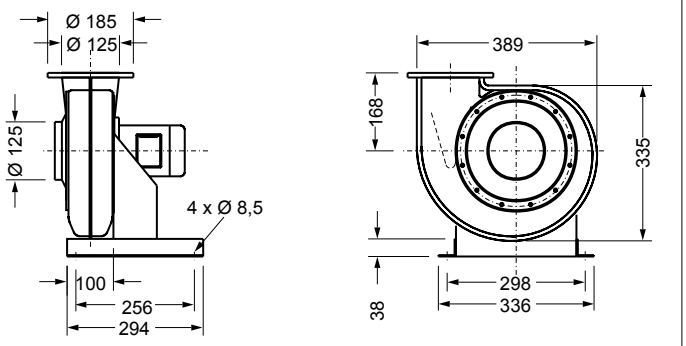
Octave sound power level L_{Wokt}:

$$L_{Wokt}\,[dB] = L_{WA}\,[dB(A)] + L_{WArel}\,[dB]$$

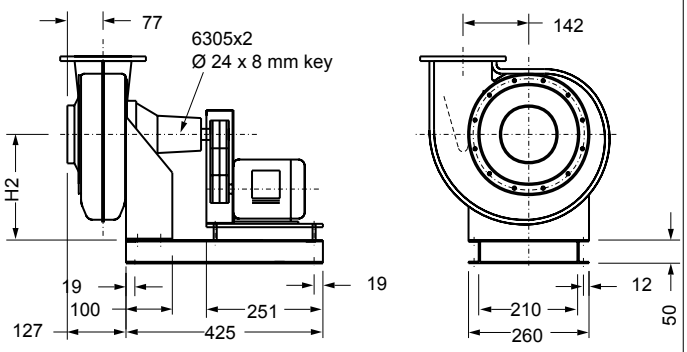
Relative Frequenzspektren
relative frequency spectrum L_{WArel} **in ΔdB/Okt**

n [1/min]	Oktavb.-Mittenfreq. / *Octave band. mid freq.* [Hz]							
rpm	63	125	250	500	1k	2k	4k	8k
500 - 1800	3,2	4,2	1,8	-1,6	-5,8	-11,3	-17,5	-23,0
2000 - 3500	-1,3	2,2	2,9	-0,6	-7,8	-11,8	-19,6	-28,3

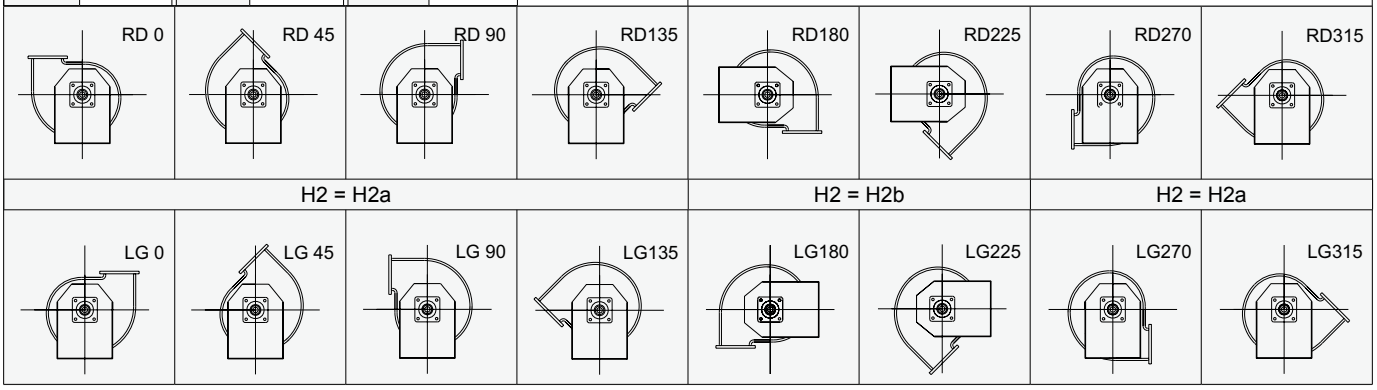
CHEM 125 PP DD



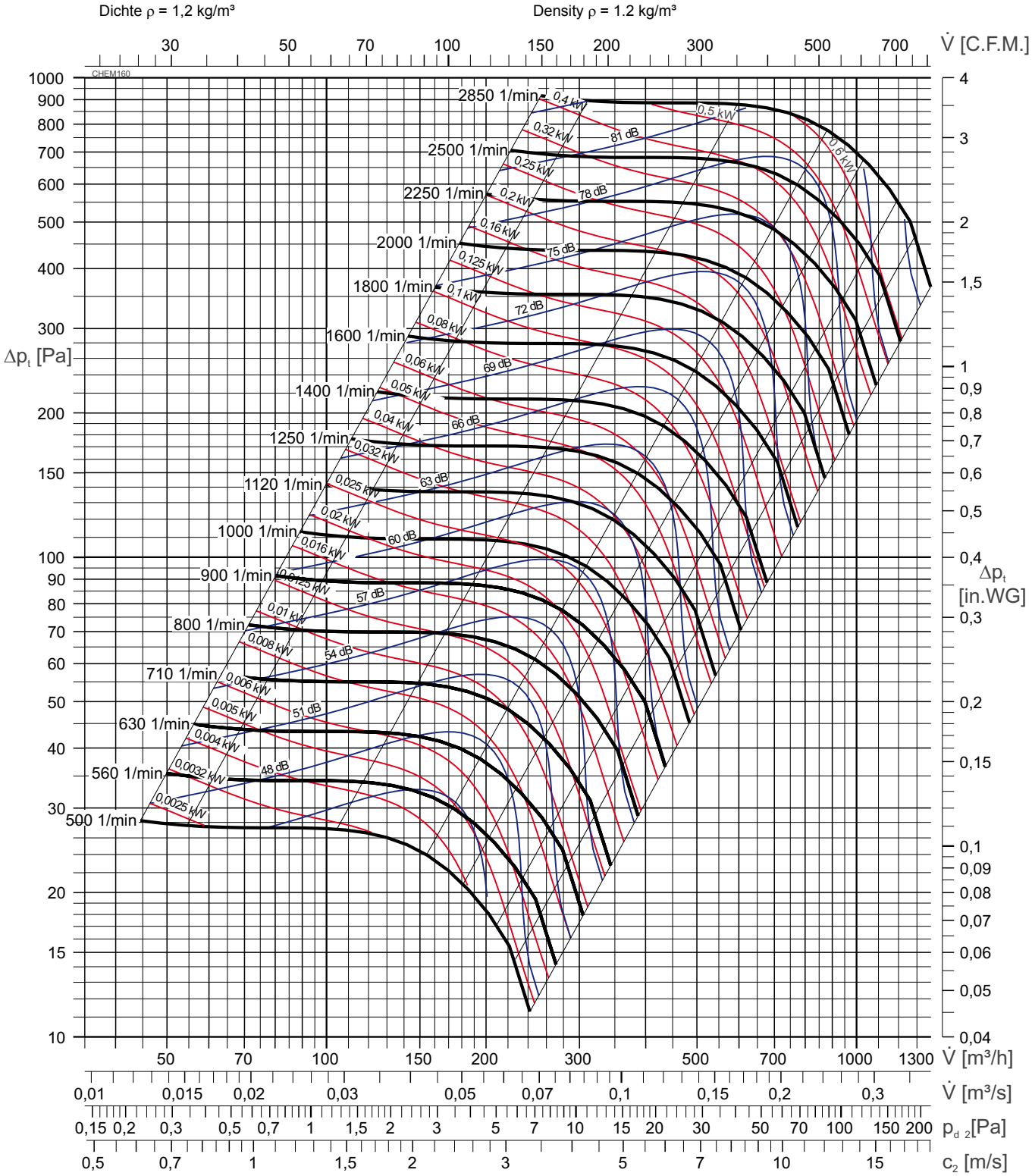
CHEM 125 PP BD



H2a	228	H2b	308	[kg]	18



CHEM 160



Im Kennfeld ist der A-bewertete Schallleistungspegel L_{WA} angegebenen.

The performance curve gives the A-weighted sound power level L_{WA}.

Schalldruckpegel L_{PA} in 1 m Entfernung:

A-weighted sound pressure level L_{PA} in 1 metre distance:

$$L_{PA}\,[dB(A)] = L_{WA}\,[dB(A)] - 7\,[dB]$$

Oktavpegel L_{Wokt}:

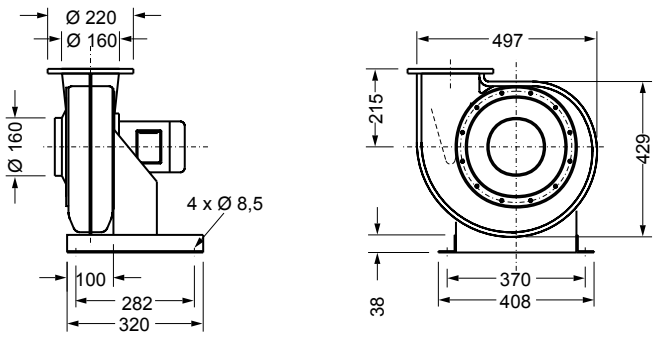
Octave sound power level L_{Wokt}:

$$L_{Wokt}\,[dB] = L_{WA}\,[dB(A)] + L_{WArel}\,[dB]$$

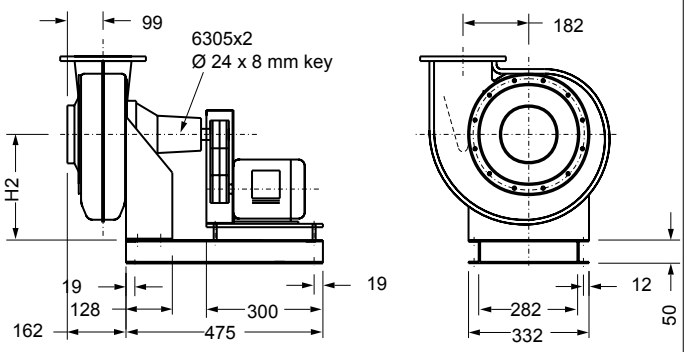
Relative Frequenzspektren
relative frequency spectrum L_{WArel} **in ΔdB/Okt**

n [1/min]	Oktavb.-Mittenfreq. / *Octave band. mid freq.* [Hz]							
rpm	63	125	250	500	1k	2k	4k	8k
500 - 1800	1,2	5,4	0,2	-0,9	-6,6	-9,6	-22,1	-33,0
2000 - 3500	-1,6	8,3	0,8	-2,9	-5,6	-9,9	-19,4	-28,6

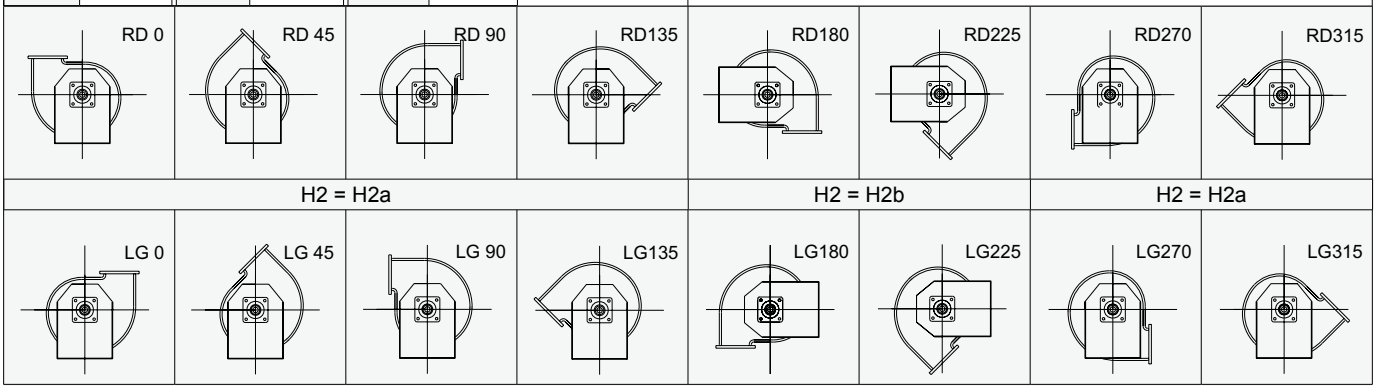
CHEM 160 PP DD



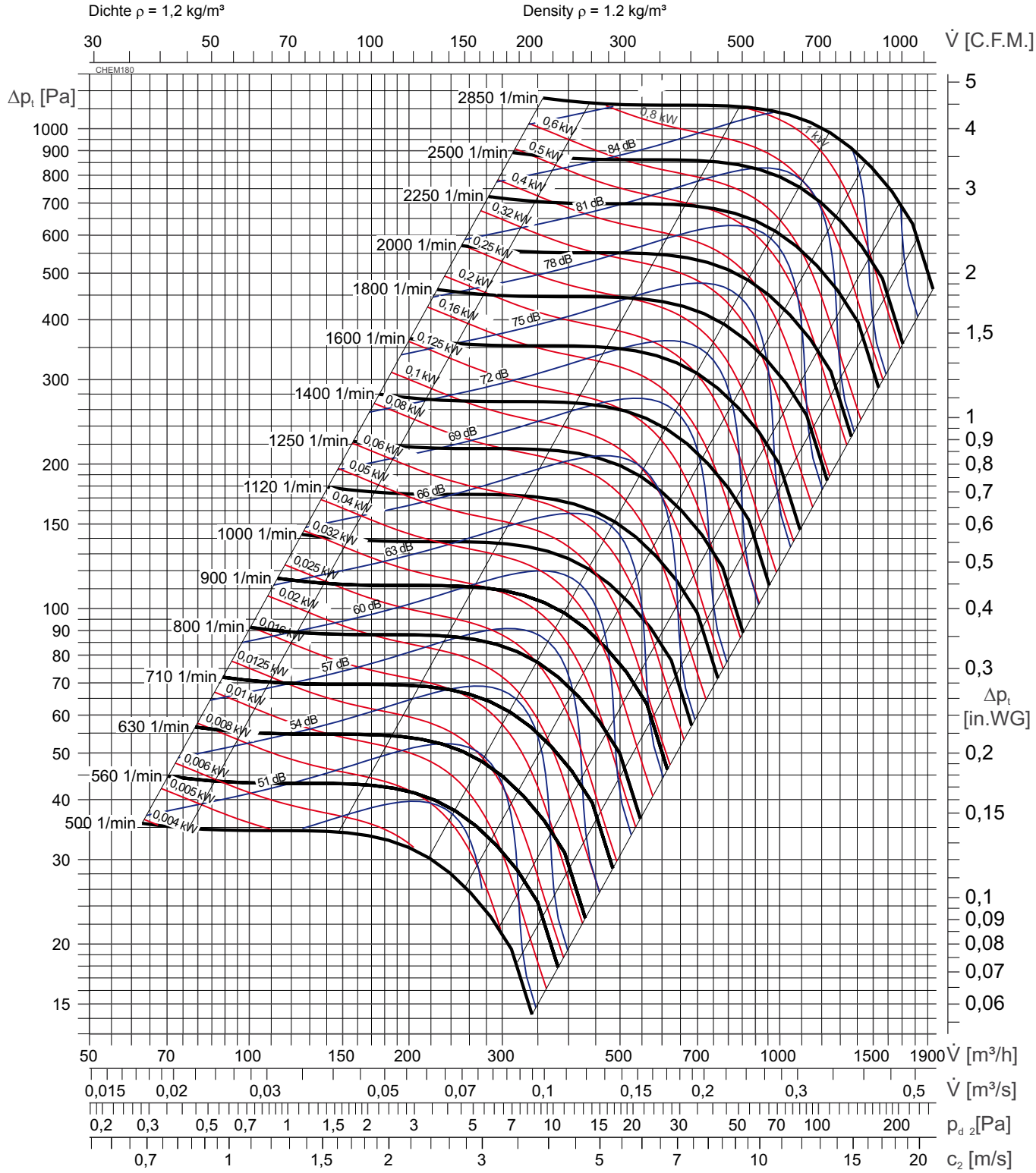
CHEM 160 PP BD



H2a	291	H2b	396	[kg]	32



CHEM 180



Im Kennfeld ist der A-bewertete Schallleistungspegel L_{WA} angegebenen.

The performance curve gives the A-weighted sound power level L_{WA}.

Schalldruckpegel L_{PA} in 1 m Entfernung:

A-weighted sound pressure level L_{PA} in 1 metre distance:

$$L_{PA}\,[dB(A)] = L_{WA}\,[dB(A)] - 7\,[dB]$$

Oktavpegel L_{Wokt}:

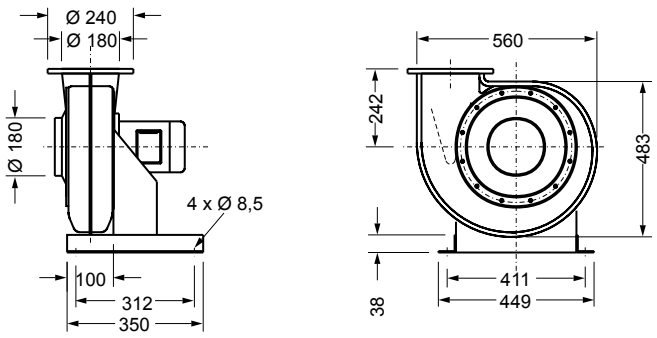
Octave sound power level L_{Wokt}:

$$L_{Wokt}\,[dB] = L_{WA}\,[dB(A)] + L_{WArel}\,[dB]$$

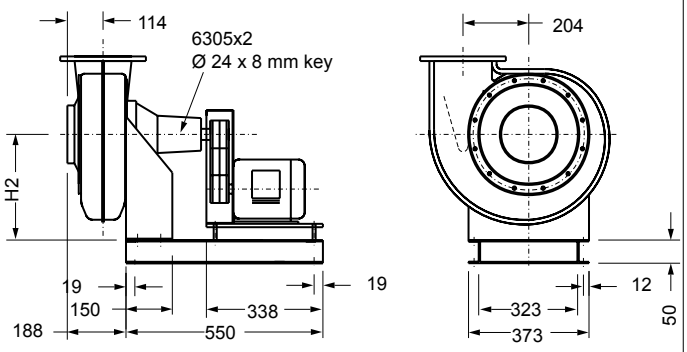
Relative Frequenzspektren
relative frequency spectrum L_{WArel} **in ΔdB/Okt**

n [1/min]	Oktavb.-Mittenfreq. / *Octave band. mid freq.* [Hz]							
rpm	63	125	250	500	1k	2k	4k	8k
500 - 1600	2,1	5,6	1,6	-2,2	-4,9	-12,0	-21,4	-30,4
1800 - 3500	0,3	3,3	1,3	-3,1	-4,3	-10,1	-18,3	-27,7

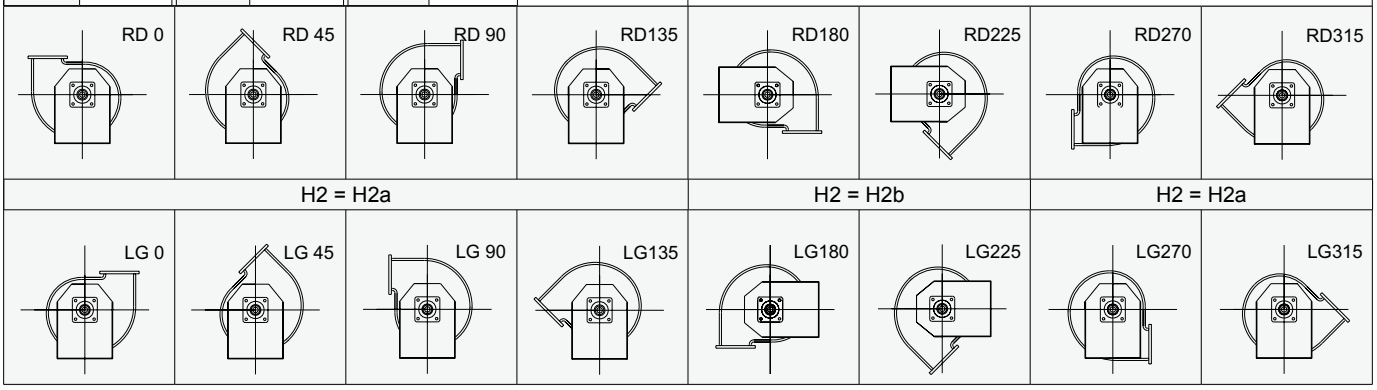
CHEM 180 PP DD



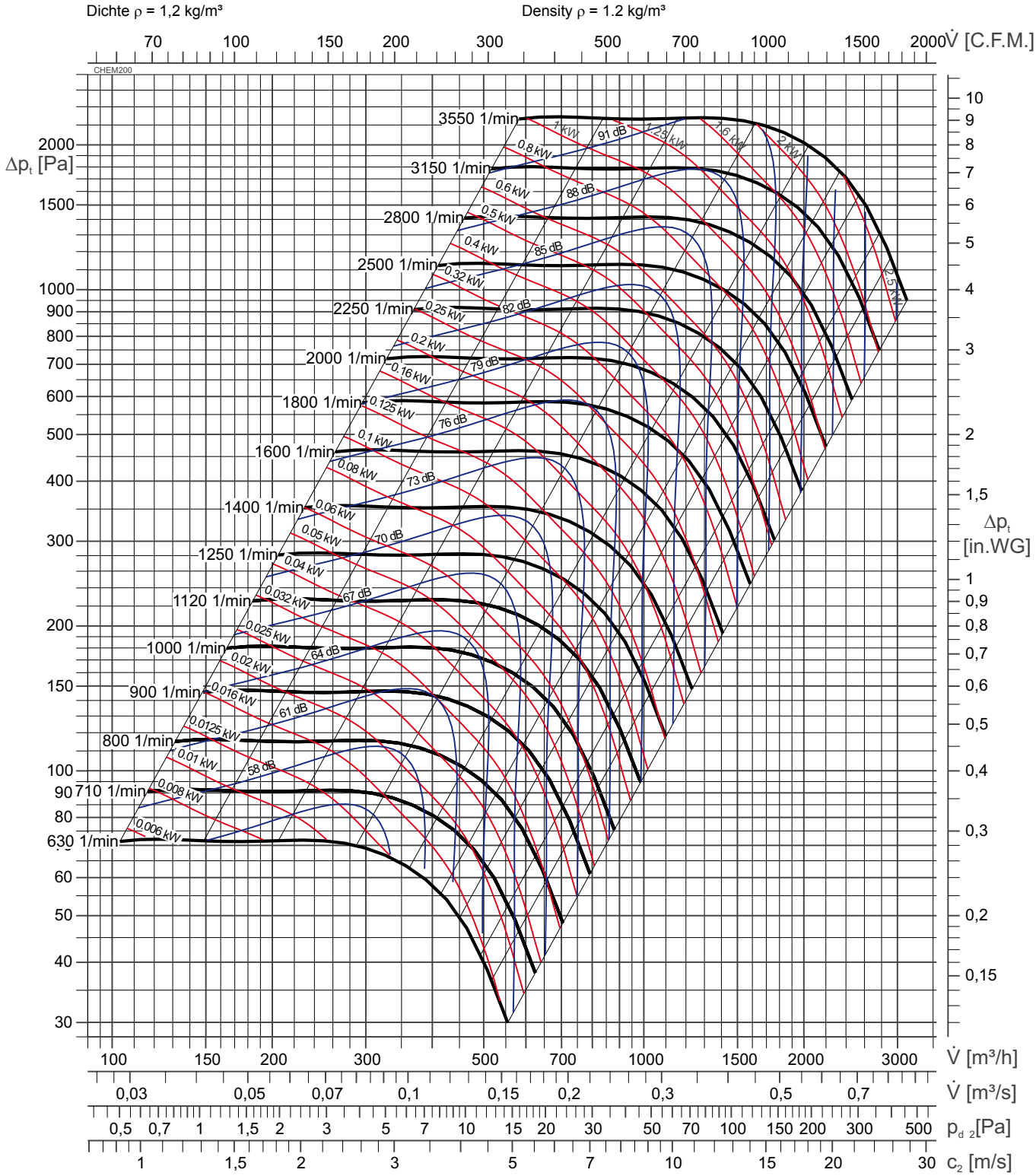
CHEM 180 PP BD



H2a	327	H2b	440	[kg]	38



CHEM 200



Im Kennfeld ist der A-bewertete Schallleistungspegel L_{WA} angegebenen.

The performance curve gives the A-weighted sound power level L_{WA}.

Schalldruckpegel L_{PA} in 1 m Entfernung:

A-weighted sound pressure level L_{PA} in 1 metre distance:

$$L_{PA}\,[dB(A)] = L_{WA}\,[dB(A)] - 7\,[dB]$$

Oktavpegel L_{Wokt}:

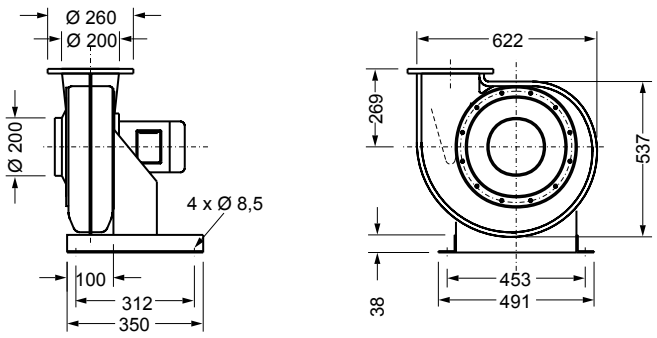
Octave sound power level L_{Wokt}:

$$L_{Wokt}\,[dB] = L_{WA}\,[dB(A)] + L_{WArel}\,[dB]$$

Relative Frequenzspektren
relative frequency spectrum L_{WArel} **in ΔdB/Okt**

n [1/min]	Oktavb.-Mittenfreq. / *Octave band. mid freq.* [Hz]							
rpm	63	125	250	500	1k	2k	4k	8k
630 - 1600	-2,7	-1,3	-3,8	-1,2	-7,8	-13,5	-23,7	-35,0
1800 - 3550	-0,8	-0,4	-1,4	-2,4	-7,8	-10,6	-20,0	-30,4

CHEM 200 PP DD



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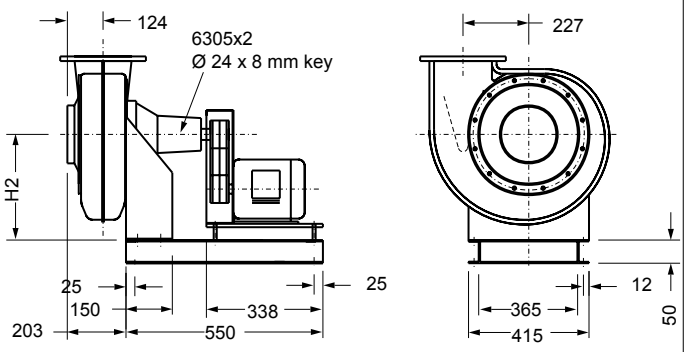
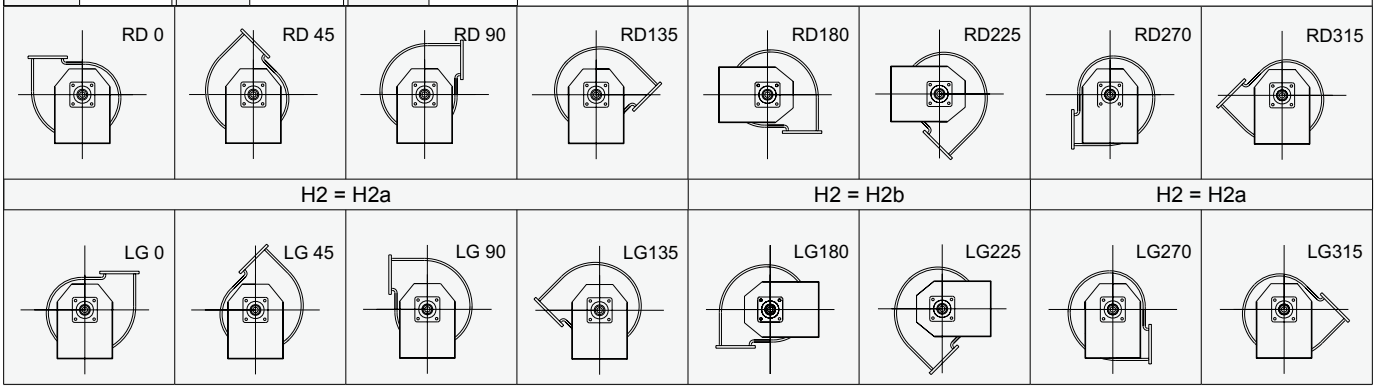
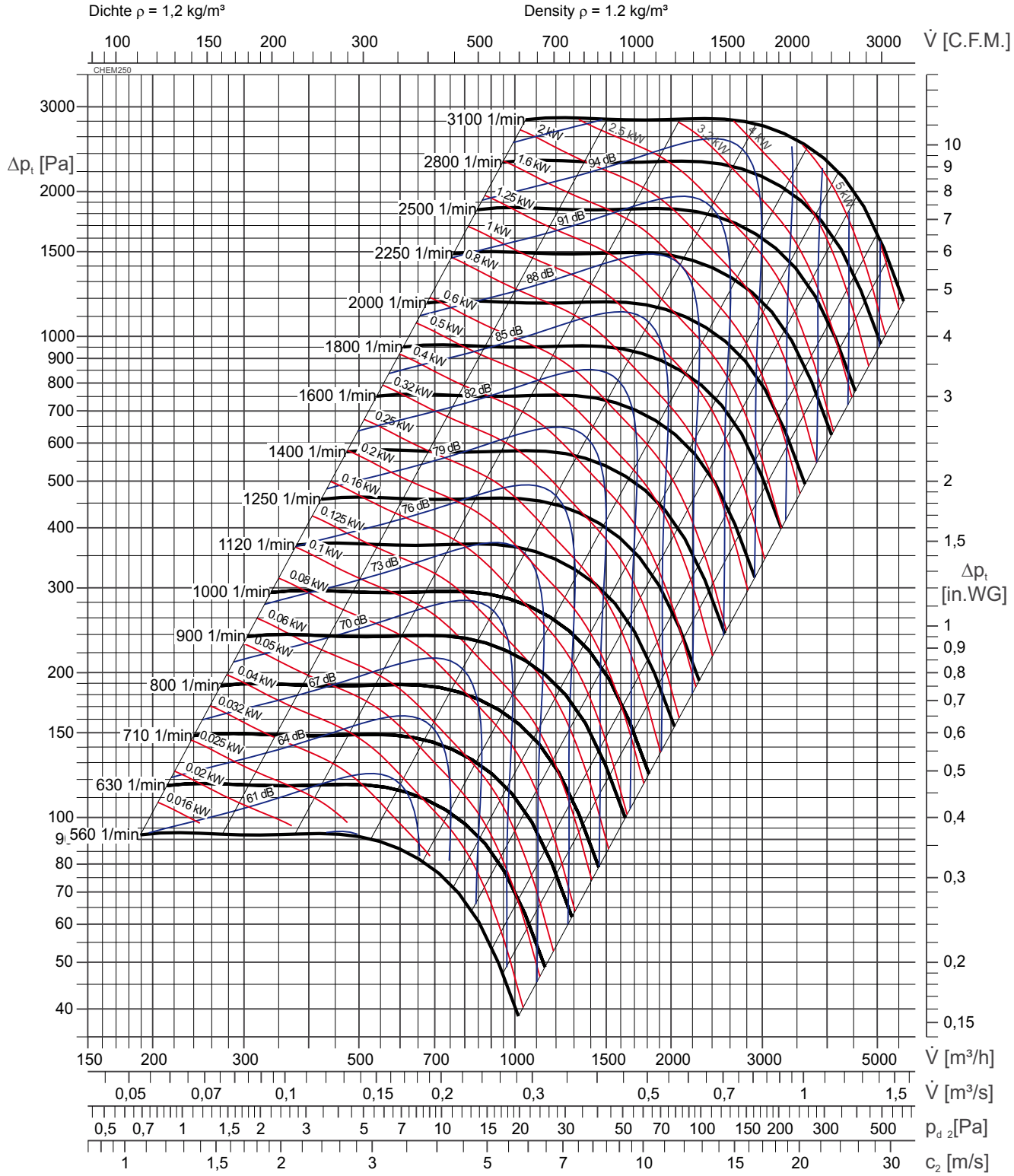


H2a	364	H2b	500	[kg]	43



CHEM 250



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Schalldruckpegel L_{PA} in 1 m Entfernung:

A-weighted sound pressure level L_{PA} in 1 metre distance:

$$L_{PA}\,[dB(A)] = L_{WA}\,[dB(A)] - 7\,[dB]$$

Oktavpegel L_{Wokt}:

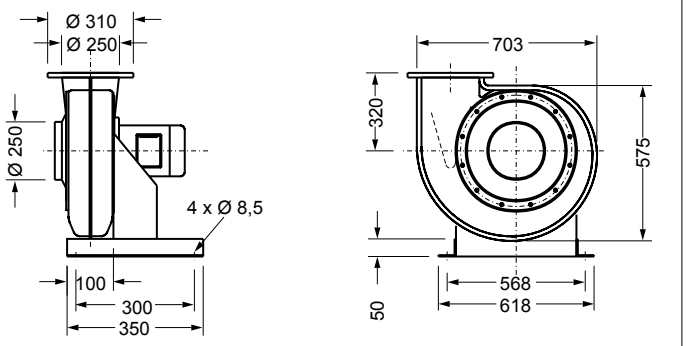
Octave sound power level L_{Wokt}:

$$L_{Wokt}\,[dB] = L_{WA}\,[dB(A)] + L_{WArel}\,[dB]$$

Relative Frequenzspektren
relative frequency spectrum L_{WArel} **in ΔdB/Okt**

n [1/min]	Oktavb.-Mittenfreq. / *Octave band. mid freq.* [Hz]							
rpm	63	125	250	500	1k	2k	4k	8k
560 - 1800	1,9	1,8	0,2	-1,0	-5,9	-9,4	-17,4	-29,2
2000 - 3100	-1,0	-1,0	-3,0	-3,0	-4,5	-7,0	-14,2	-24,0

CHEM 250 PP DD



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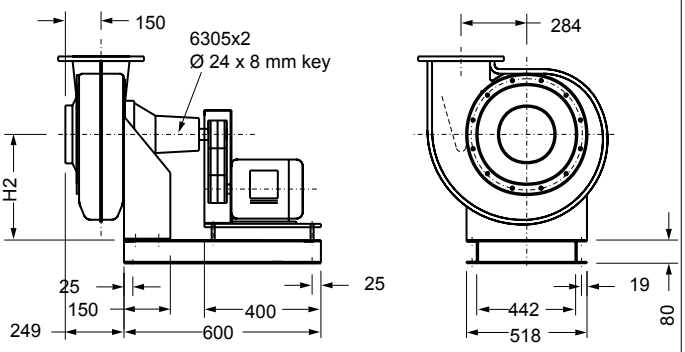
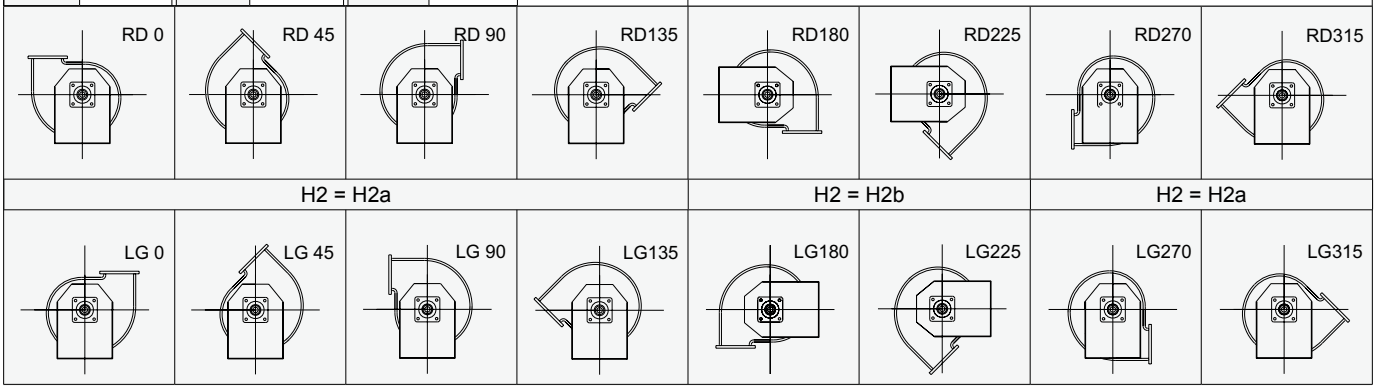
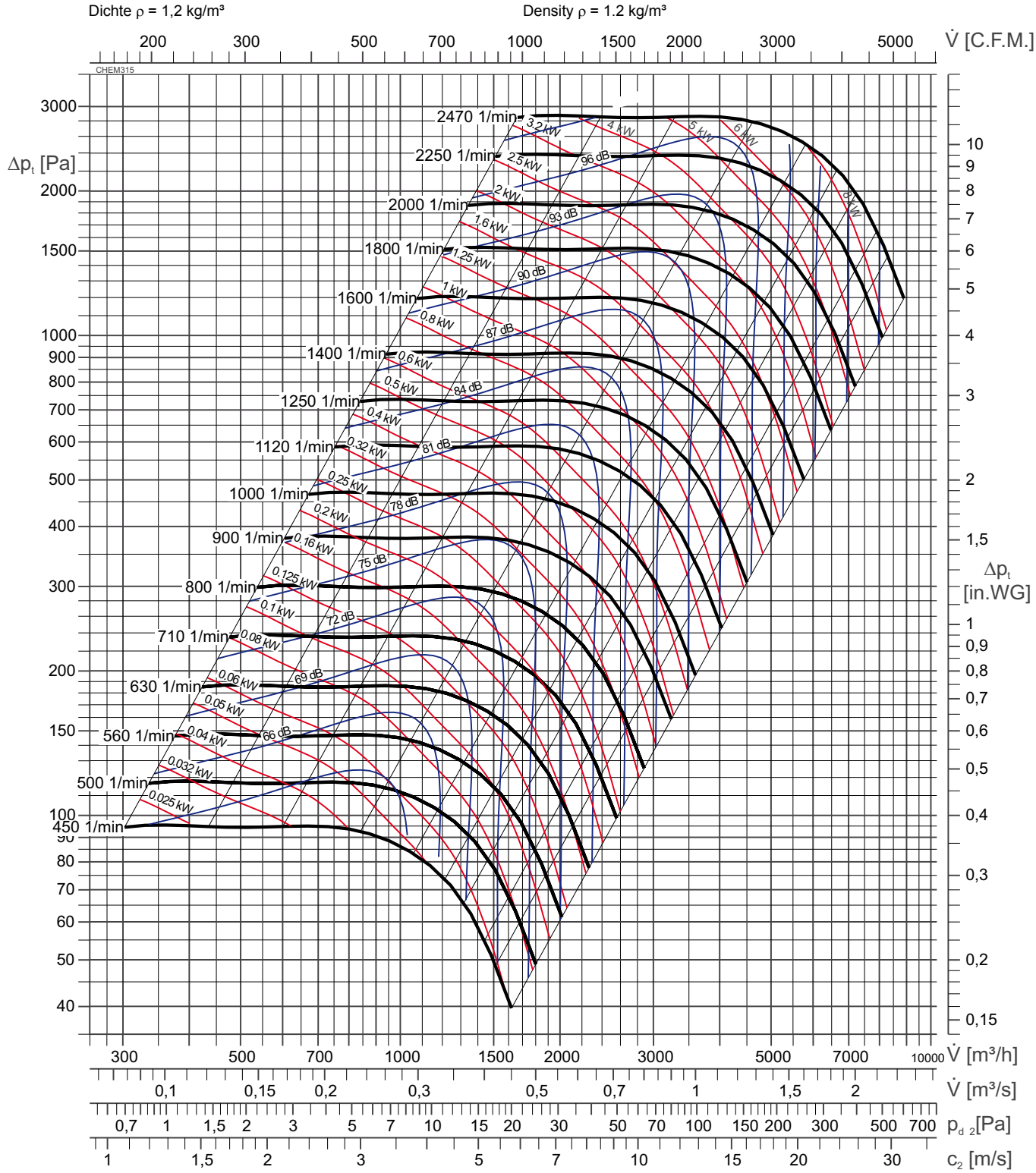


H2a	454	H2b	633	[kg]	52



CHEM 315



Im Kennfeld ist der A-bewertete Schallleistungspegel L_{WA} angegebenen.

The performance curve gives the A-weighted sound power level L_{WA}.

Schalldruckpegel L_{PA} in 1 m Entfernung:

A-weighted sound pressure level L_{PA} in 1 metre distance:

$$L_{PA}\,[dB(A)] = L_{WA}\,[dB(A)] - 7\,[dB]$$

Oktavpegel L_{Wokt}:

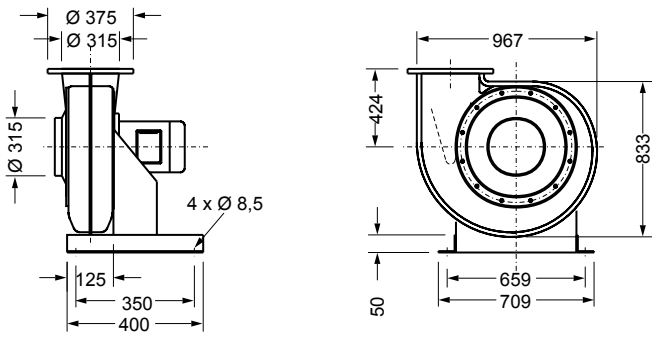
Octave sound power level L_{Wokt}:

$$L_{Wokt}\,[dB] = L_{WA}\,[dB(A)] + L_{WArel}\,[dB]$$

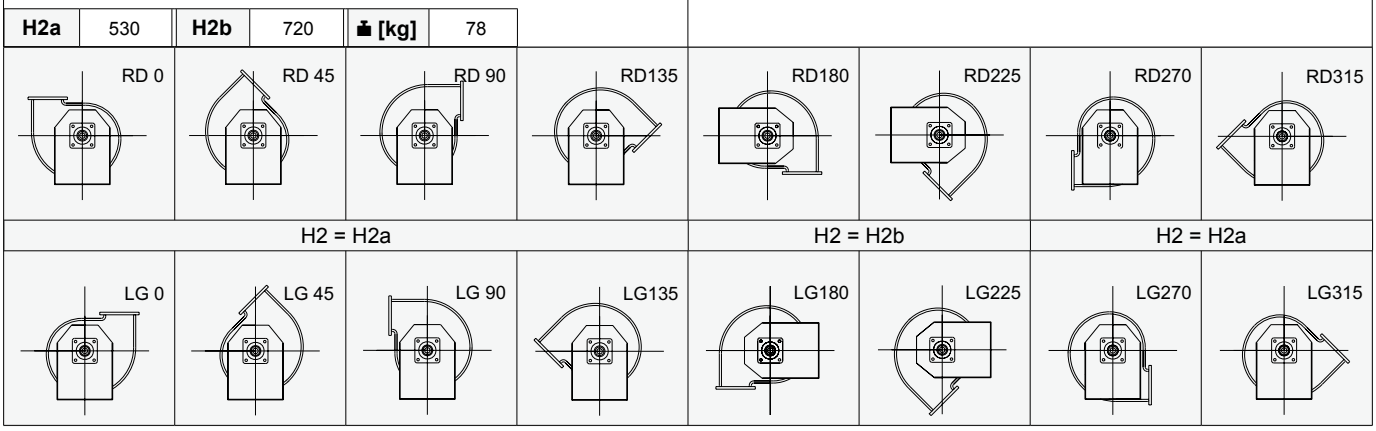
Relative Frequenzspektren
relative frequency spectrum L_{WArel} **in ΔdB/Okt**

n [1/min]	Oktavb.-Mittenfreq. / *Octave band. mid freq.* [Hz]							
rpm	63	125	250	500	1k	2k	4k	8k
450 - 1250	3,2	3,8	0,5	-1,8	-4,8	-10,8	-18,2	-29,8
1400 - 2470	4,1	2,1	0,1	-2,9	-3,9	-9,9	-15,9	-25,9

CHEM 315 PP DD



H2a	530	H2b	720	[kg]	78



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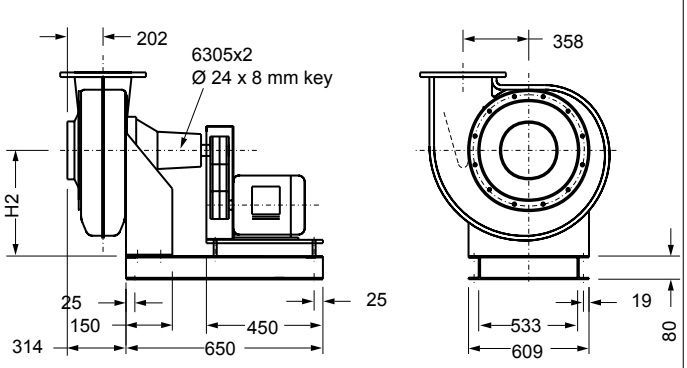
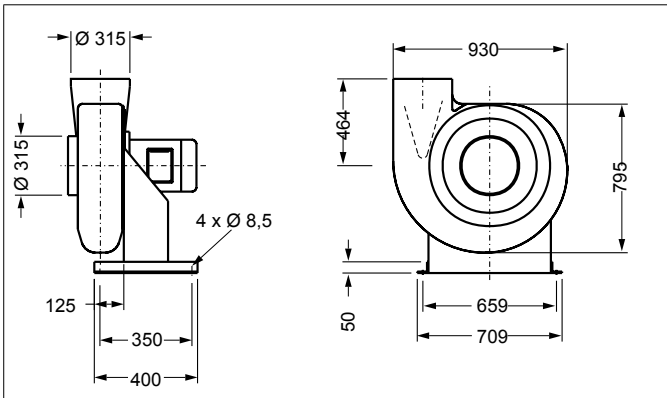
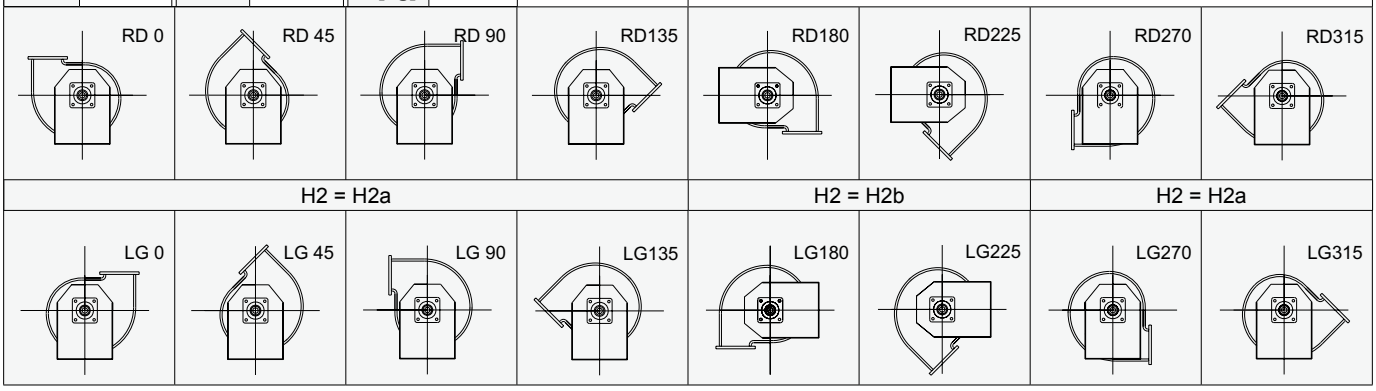


CHEM 315 GRP DD



H2a	530	H2b	720	[kg]	78



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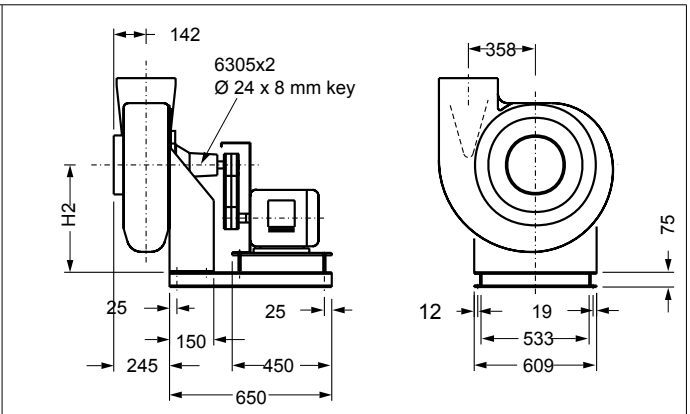
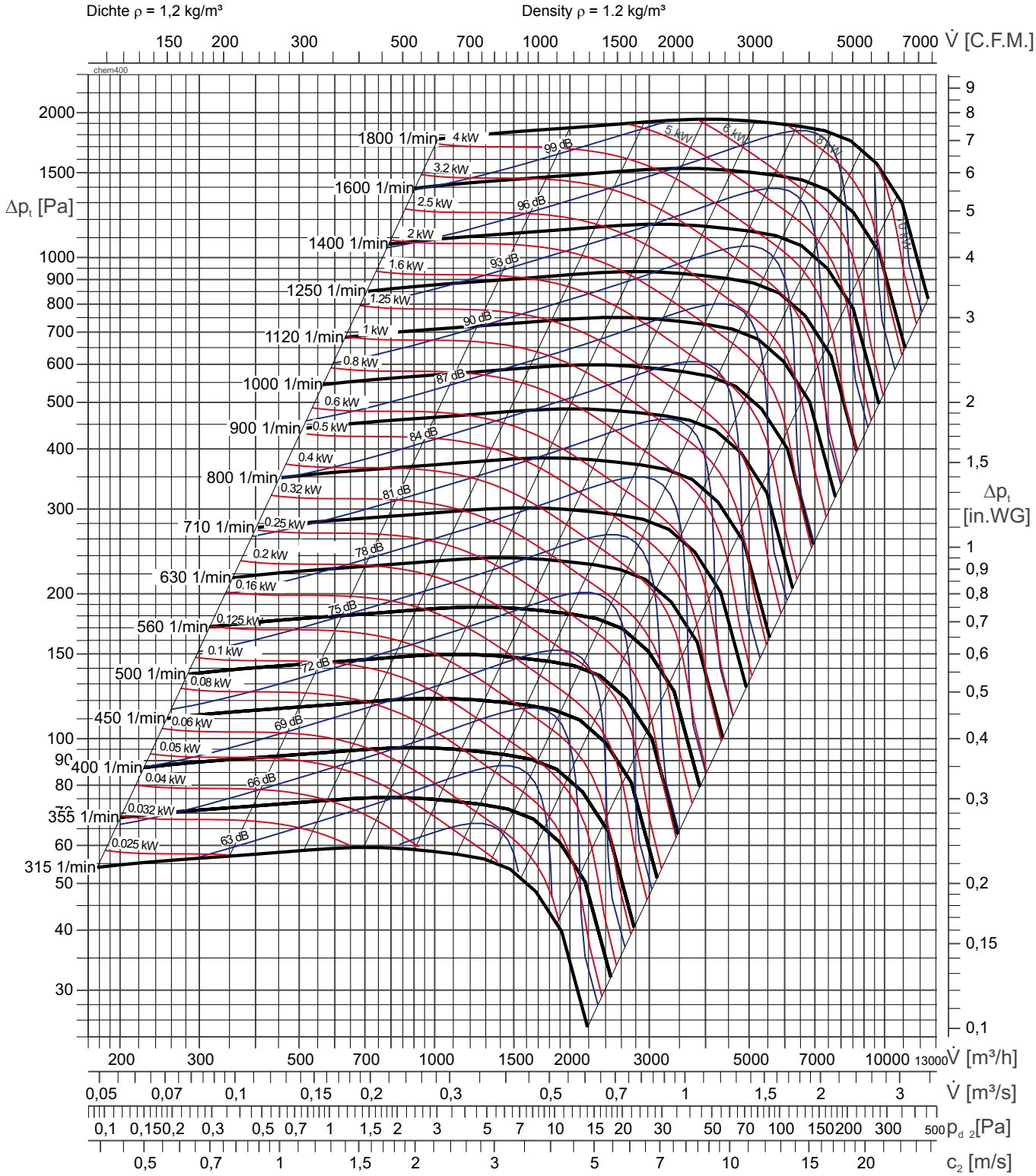


CHEM 400



Im Kennfeld ist der A-bewertete Schallleistungspegel L_{WA} angegebenen.

The performance curve gives the A-weighted sound power level L_{WA}.

Schalldruckpegel L_{PA} in 1 m Entfernung:

A-weighted sound pressure level L_{PA} in 1 metre distance:

$$L_{PA}\,[dB(A)] = L_{WA}\,[dB(A)] - 7\,[dB]$$

Oktavpegel L_{Wokt}:

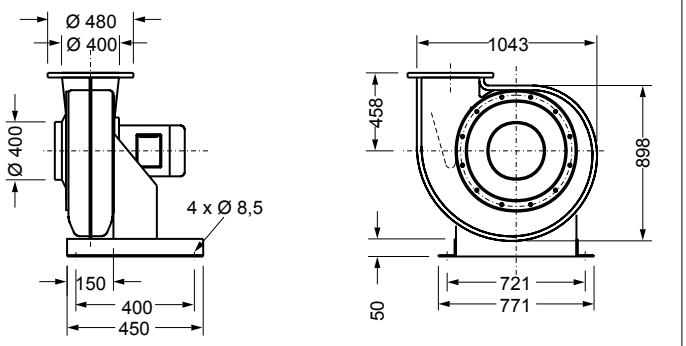
Octave sound power level L_{Wokt}:

$$L_{Wokt}\,[dB] = L_{WA}\,[dB(A)] + L_{WArel}\,[dB]$$

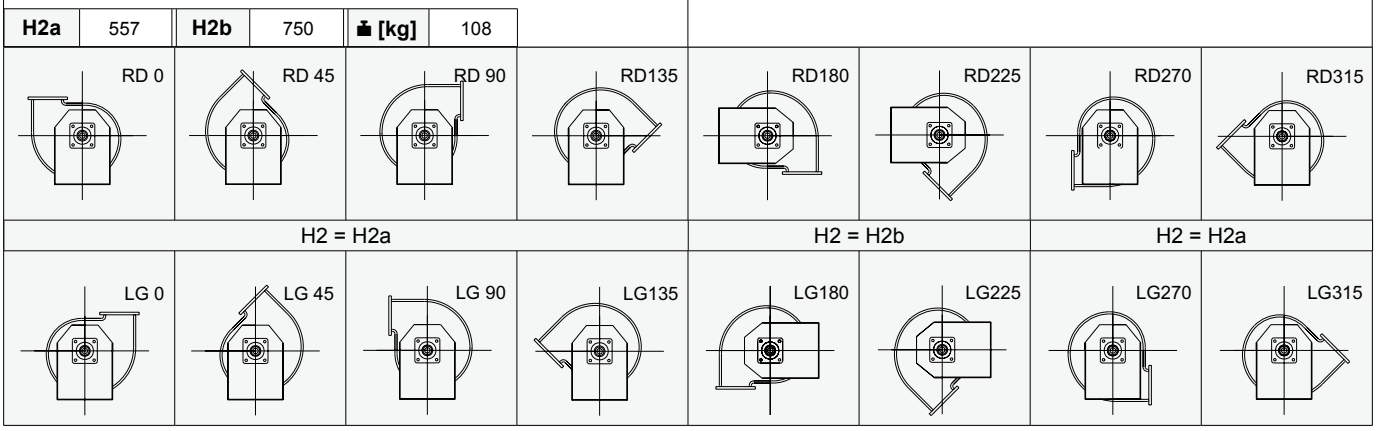
Relative Frequenzspektren
relative frequency spectrum L_{WArel} **in ΔdB/Okt**

n [1/min]	Oktavb.-Mittenfreq. / *Octave band. mid freq.* [Hz]							
rpm	63	125	250	500	1k	2k	4k	8k
315 - 1000	0,6	-3,0	-1,5	-1,4	-3,9	-10,6	-16,8	-26,2
1120 - 1800	-2,7	-3,5	0,2	-2,5	-4,7	-8,2	-16,8	-25,8

CHEM 400 PP DD



H2a	557	H2b	750	[kg]	108



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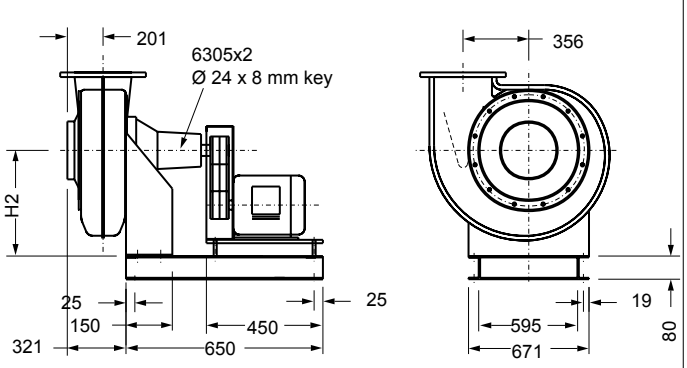

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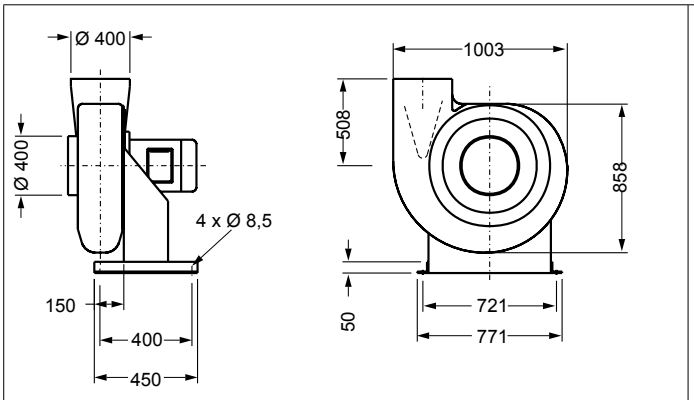
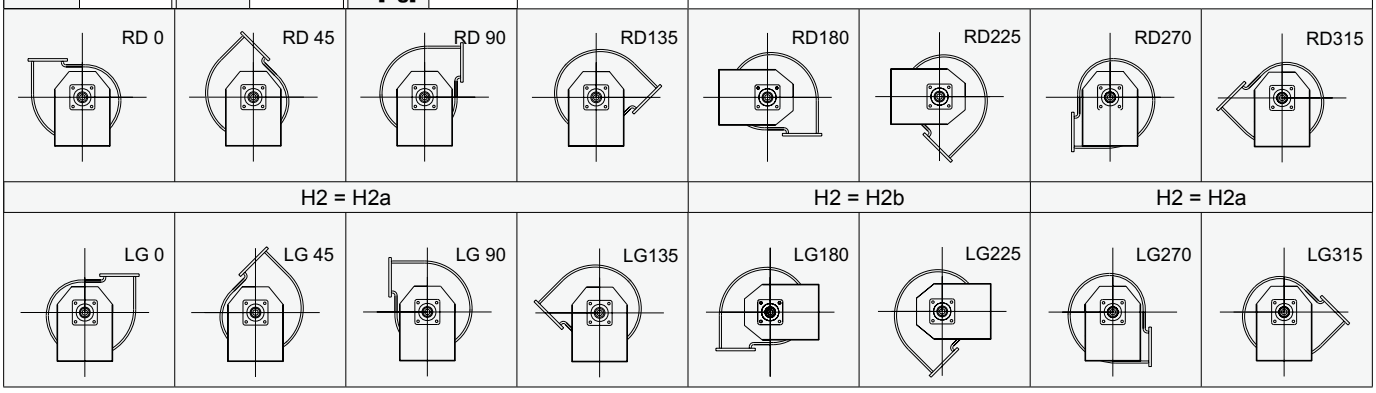
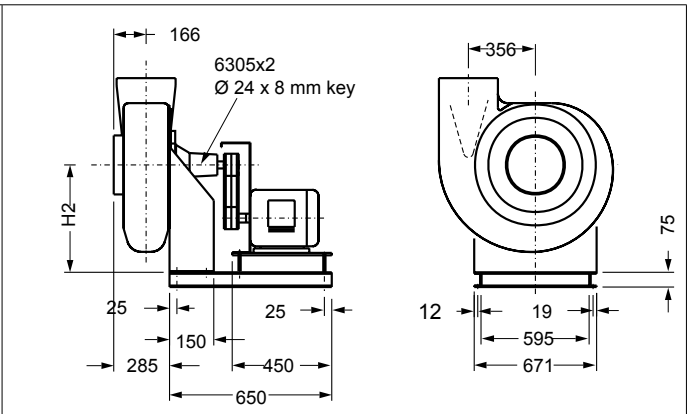


H2a	557	H2b	750	[kg]	108



CHEM 400 GRP BD



Kanalboxen

Cabinet Fans

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KB

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KBPF

Kanalboxen
Cabinet Fans

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Typenschlüssel *Fan type code*

KB 500 - 10 / TRZ180

- Eingebauter Ventilator / *Fan type*
- Nennweite / *Impeller diameter*
- Kanalbox / *Cabinet fan*

Eigenschaften und Ausführung

Gehäuse

- Gehäuserahmen aus stabilen Spezial-Aluminiumprofilen mit Aluminiumdruckguß- bzw. Kunststoff-Eckverbindern
- Beplankung aus sendzimirverzinktem Stahlblech, auf Wunsch epoxidharzbeschichtet oder 2-schalig
- serienmäßig schall- und wärmeisoliert; dadurch ausgezeichnetes Geräuschverhalten
- auf Wunsch kann eine Bedienseite als Tür ausgebildet werden
- Bei wetterfester Ausführung wird die Beplankung aus Aluminium gefertigt und eine Regenschutzhaube hinzugefügt

Ventilatoren

- Bei Kanalboxen mit riemengetriebenen Gebläsen werden doppelseitig saugende Radialventilatoren mit vorwärts- (Typ TRZ) oder rückwärtsgekrümmten (Typ HRZ) Laufrädern verbaut. Nähere Informationen zu diesen Geräten entnehmen Sie bitte unserem Teilkatalog M08.
- Bei Kanalboxen mit direktgetriebenen Ventilatoren kommen zweiflutige Gebläse der Baureihe DRS zum Einsatz. Diese Ventilatoren haben integrierte Außenläufermotoren und sind zu 100% drehzahlsteuerbar. Nähere Informationen zu diesen Ventilatoren finden Sie im Kapitel „Direktgetriebene Radialventilatoren“ ab Seite 222.

Einbau und Service

- problemloser Eckeinbau durch austauschbare Seitenteile
- wartungs- und bedienungsfreundlich
- anschlußfertig verdrahtet mit wasserdichtem Klemmkasten

Folgendes Zubehör ist erhältlich:

Elastische Verbindung

Die elastische Verbindung besteht aus zwei Winkelflanschen, die durch ein gasdichtes Segeltuch miteinander verbunden sind. Bitte beachten Sie, daß die Maße für Druckseite und Saugseite unterschiedlich sein können und deshalb bei der Bestellung auf die jeweils passenden Verbindungen geachtet werden muss.

Ansaug- und Ausblasflansche

Zu den Boxen und elastischen Verbindungen sind passende verzinkte Winkelflansche erhältlich.

Jalousieklappe

Motorbetätigte Jalousieklappen JK aus Aluminium-Strangpressprofilen sind in allen Abmessungen erhältlich. Eine nähere Beschreibung dieser Jalousieklappen finden Sie auf Seite 29.

Luftleistungskennlinien

Die Kennlinien für diese Typenreihe wurden mittels einem saugseitigen Kammerprüfstand entsprechend der DIN 24 163 in Einbauart D (saug- und druckseitig angeschlossen) aufgenommen und zeigen bei direktgetriebenen Ventilatoren die statische Druckerhöhung Δp_{st} und bei riemengetriebenen Ventilatoren die totale Druckerhöhung p_t als Funktion des Volumenstroms. Der dynamische Druck Δp_{d2} ist jeweils auf den Ausblasflanschquerschnitt des Ventilators bezogen.

Schallentwicklung

In den Luftleistungskennlinien ist der A-bewertete Freiausblas-Schallleistungspegel L_{WA6} angegeben. Der A-bewertete Freiansaug-Schallleistungspegel L_{WA5} nach DIN 45 635, Teil 38 kann über die relativen Schallleistungspegel genau ermittelt werden, oder nach folgender Berechnung näherungsweise bestimmt werden:

$$L_{WA5} \approx L_{WA6} - 6\ dB$$

Der A-bewertete Gehäuse-Schallleistungspegel L_{WA2} nach DIN 45 635, Teil 38, kann über die relativen Schallleistungspegel genau ermittelt werden, oder nach folgender Berechnung näherungsweise bestimmt werden:

$$L_{WA2} \approx L_{WA6} - 25\ dB$$

Den A-bewerteten Schalldruckpegel L_{PA} in 1m Abstand erhält man annähernd, indem man vom A-Schallleistungspegel 7 db(A) abzieht:

$$L_{PA(1m)} \approx L_{WA2} - 7\ dB$$

Zu beachten ist, dass Reflexionen und Raumcharakteristik, sowie Eigenfrequenzen die Größe des Schalldruckpegels unterschiedlich beeinflussen. Um Körperschallübertragung auf ein angeschlossenes Kanalsystem zu vermeiden empfehlen wir den Einsatz unserer flexiblen Kanalverbindungsstücke.

Für genauere Berechnungen bei Schallschutzmaßnahmen ist der A-bewertete Schallleistungspegel der Oktavbänder von Bedeutung, welcher wie folgt ermittelt wird:

$$L_{WAokt} = L_{WA6} + L_{WArel}$$

Die relativen A-bewerteten Oktav-Schallleistungspegel L_{WArel} bei den Oktav-Mittenfrequenzen sind den jeweiligen Luftleistungskennlinien zu entnehmen, sie sind bei 0,5 x Vmax ermittelt worden.

Relativer A-bewerteter Oktavschalleistungspegel *Relative octave sound power level, A-weighted*

f_M [Hz]				L_{WA}	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz
4-pol	L_{WA6rel} [dB(A)]	Ausblasseite	*Outlet side*	0	-16	-14	-8	-5	-6	-7	-17
	L_{WA5rel} [dB(A)]	Ansaugseite	*Inlet side*	-6	-19	-21	-12	-11	-13	-15	-24
	L_{WA2rel} [dB(A)]	Gehäuseabstrahlung	*Casing*	-25	-30	-32	-34	-32	-37	-42	-49
6-pol	L_{WA6rel} [dB(A)]	Ausblasseite	*Outlet side*	0	-13	-13	-7	-6	-5	-7	-15
	L_{WA5rel} [dB(A)]	Ansaugseite	*Inlet side*	-6	-21	-21	-13	-12	-12	-13	-20
	L_{WA2rel} [dB(A)]	Gehäuseabstrahlung	*Casing*	-25	-34	-34	-29	-32	-34	-39	-46

Design features

Casing

- frame made of extruded aluminium profiles, joined together by either plastic or aluminium corners
- side panels made of galvanised sheet metal with optional epoxy coating
- panels are insulated to ensure low noise levels
- optional access door on service side
- weatherproof version with aluminium side plates and weather-hood available

Fans

- Cabinets with belt-driven fans are fitted with double-inlet forward- (TRZ) or backward-curved (HRZ) fans. For a more detailed description of these fans, please refer to our catalogue M08.
- Cabinets with direct-driven fans are fitted with DRS-type fans.with 100% speed-controllable external rotor motors. For a more detailed description of these fans, please refer to the section „Direct-driven Centrifugal Fans“ on page 222ff.

Installation and maintance

- Interchangeable side panels allow easy installation
- low-maintenance operation
- electrical connection via waterproof terminal box

The following ancillary equipment is available:

Flexible connection

The flexible connection consists of two galvanised flanges, assembled with gas-tight canvas. Please note that the dimensions of inlet and outlet flexible connectors for a respective cabinet fan can differ.

Inlet and outlet flanges

Galvanised matching flanges for inlet and outlet sides are available.

Dampers

JK-type motorised volume control dampers are available in any dimension. For further information, please refer to page 29 of this catalogue.

Fan performance curves

The performance curves for these fans have been established using the inlet test method in a test rig according to DIN 24 163, mounting position D (connected on both sides). The curves indicate the static pressure rise Δp_{st}, for direct-driven fans and the total pressure increase Δp_t, for belt driven fans as a function of the volume flow. The dynamic pressure rise Δp_{d2} shown in the performance curves refers to the outlet cross-sectional area of the fan.

Sound levels

The figures given in the performance curves are the A-weighted sound power levels L_{WA6} in decibels at the outlet side in ducted systems. The A-weighted sound power level at the inlet side L_{WA5}, according to DIN 45 635, part 38, can be calculated via the relative sound power levels (see below) or is obtained approximately as follows:

$$L_{WA5} \approx L_{WA6} - 6\ dB$$

The A-weighted sound power level L_{WA2} according to DIN 45 635, part 38, can be calculated via the relative sound power levels (see below) or is obtained by the following approximation formula:

$$L_{WA2} \approx L_{WA6} - 25\ dB$$

The A-weighted sound pressure level L_{PA} at a distance of 1 metre is obtained approximately by deducting 7 dB(A) from the A-weighted sound power level:

$$L_{PA(1m)} \approx L_{WA2} - 7\ dB$$

It is important to note that reflexion and environmental characteristics as well as resonant frequencies influence the sound pressure levels in different ways. In order to avoid structure-borne noise transfer to a connected duct system we recommend the use of flexible connections.

The A-weighted octave sound power level is important for the choice of suitable sound attenuators. It is obtained as follows:

$$L_{WAokt} = L_{WA6} + L_{WArel}$$

The relative A-weighted octave sound power level L_{WArel} at octave medium frequency can be taken from the respective table. These levels have been established at 0.5 x Vmax.

Kanalboxen
Cabinet Fans

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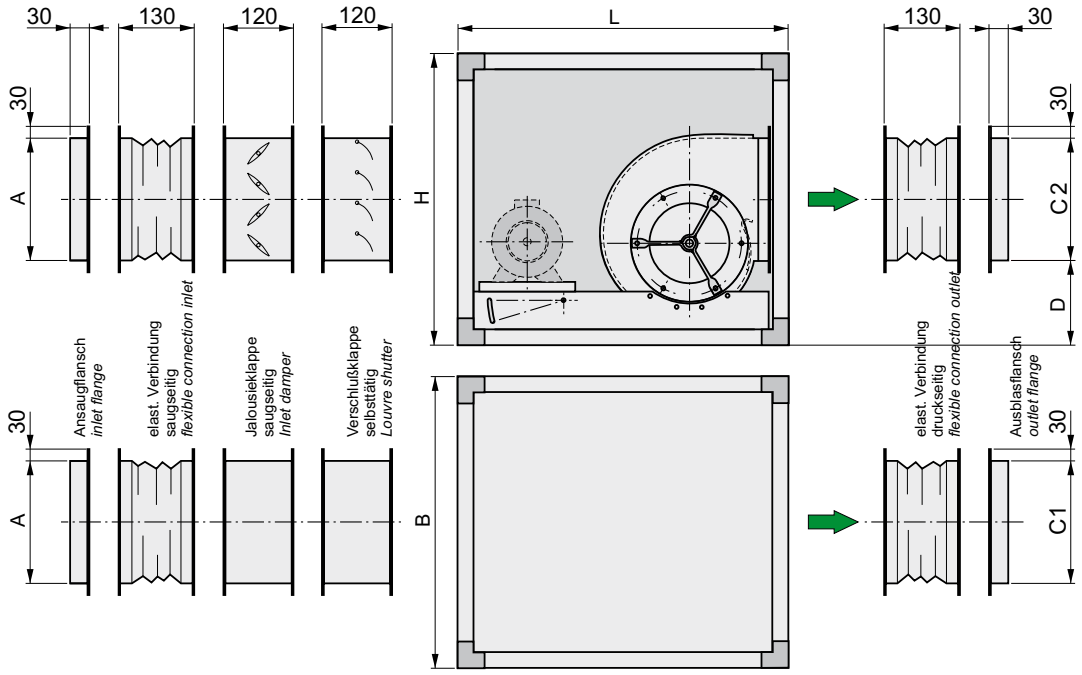
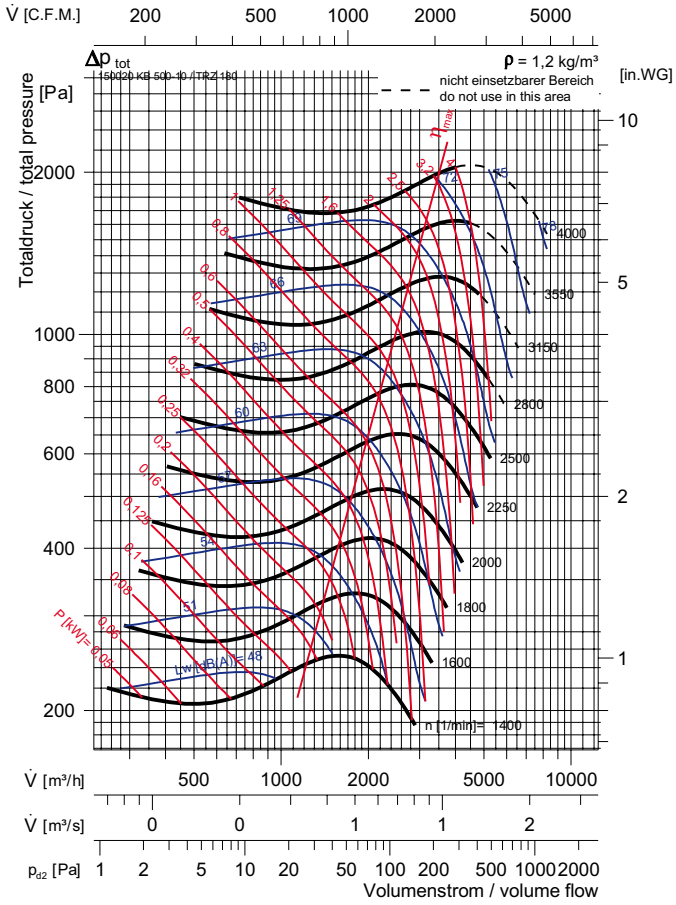


Baugröße *size*	A [mm]	B [mm]	C1 [mm]	C2 [mm]	D [mm]	H [mm]	L [mm]	Ventilator *fan*	Antrieb* *drive**	$\dot{V}_{max}$ [m³/h]	Δp_{tmax} [Pa]	★
500-10	317	500	226	226	175	500	710	TRZ 180	1	3200	1500	DS5
500-11	317	500	226	226	175	500	710	HRZ 180	1	2400	1800	DS5
500-20	317	500	252	252	154	500	710	TRZ 200	1	3200	1800	DS5
500-21	317	500	252	252	154	500	710	HRZ 200	1	2800	2000	DS5
500-30	317	500	255	224	153	500	500	DRSE 180-4	2	1600	220	E11
500-40	317	500	287	250	153	500	500	DRSE 200-4	2	1760	280	E11
630-10	402	630	282	282	168	630	900	TRZ 225	1	4800	1800	DS5/DD5
630-11	402	630	282	282	168	630	900	HRZ 225	1	4400	2500	DS5/DD5
630-20	402	630	317	317	179	630	900	TRZ 250	1	4800	1800	DS5/DD5
630-21	402	630	317	317	179	630	900	HRZ 250	1	5600	2500	DS5/DD5
630-30	402	630	282	282	168	630	630	DRSE 225-4	2	2000	300	E13-L
630-31	402	630	282	282	168	630	630	DRSD 225-4	2	2400	300	DD0
630-40	402	630	317	317	179	630	630	DRSE 250-4	2	2800	380	E13-L
630-42	402	630	317	317	179	630	630	DRSD 250-4	2	2600	360	DD0
800-10	502	800	357	357	253	800	1000	TRZ 280	1	6400	1800	DS5/DD5
800-11	502	800	357	357	253	800	1000	HRZ 280	1	6400	2500	DS5/DD5
800-20	502	800	402	402	272	800	1000	TRZ 315	1	8000	1800	DS5/DD5
800-21	502	800	402	402	272	800	1000	HRZ 315	1	7200	2000	DS5/DD5
800-30	502	800	357	357	253	800	800	DRSE 280-4	2	4400	480	E13-L
800-31	502	800	357	357	253	800	800	DRSE 280-6	2	3600	220	E13-L
800-32	502	800	357	357	253	800	800	DRSD 280-4	2	5200	500	DD0
800-33	502	800	357	357	253	800	800	DRSD 280-6	2	3600	240	DD0
800-40	502	800	402	402	272	800	800	DRSD 315-4	2	7200	600	DD0
800-41	502	800	402	402	272	800	800	DRSD 315-6	2	5200	280	DD0
1000-10	879	1020	659	659	231	1020	1270	TRZ 355	1	11200	1600	DS5/DD5
1000-11	879	1020	659	659	231	1020	1270	HRZ 355	1	9600	2000	DS5/DD5
1000-20	879	1020	659	659	231	1020	1270	TRZ 400	1	12000	2000	DS5/DD5
1000-21	879	1020	659	659	231	1020	1270	HRZ 400	1	12000	2000	DS5/DD5
1000-30	879	1020	659	659	231	1020	1020	DRSD 355-4	2	10400	800	DD0
1000-31	879	1020	659	659	231	1020	1020	DRSD 355-6	2	7600	380	DD0
1000-40	879	1020	659	659	231	1020	1020	DRSD 400-4	2	10400	950	DD0
1000-41	879	1020	659	659	231	1020	1020	DRSD 400-6	2	14000	500	DD0
1250-10	1129	1270	750	750	340	1270	1270	TRZ 450	1	14400	1600	DS5/DD5
1250-11	1129	1270	750	750	340	1270	1270	HRZ 450	1	12800	1800	DS5/DD5
1250-20	1129	1270	750	750	340	1270	1270	TRZ 500	1	20000	1500	DS5/DD5
1250-21	1129	1270	750	750	340	1270	1270	HRZ 500	1	20000	1600	DS5/DD5

* Antriebsart: 1 = Keilriemenantrieb mit Normmotor 400 V, wahlweise in regelbarer Ausführung
2 = Direktantrieb mit Außenläufermotor 230 V bzw. 400 V, drehzahlregelbar

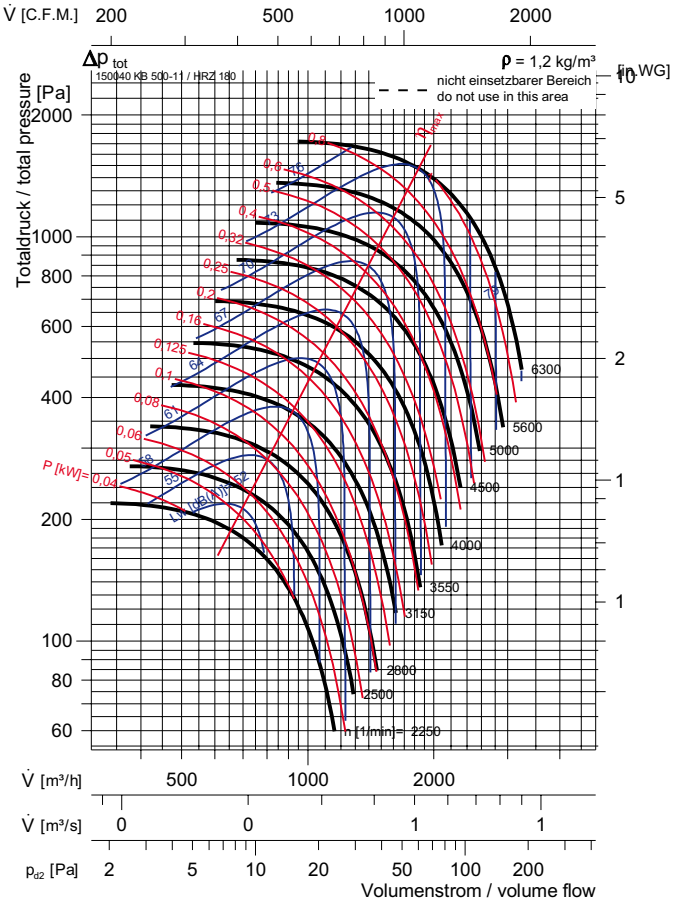
* Drive type: 1 = V-belt drive with standard motor 400 V, speed-controllable version available as option
2 = Direct drive with external rotor motor 230 V and 400 V, speed-controllable

KB 500-10 / TRZ 180

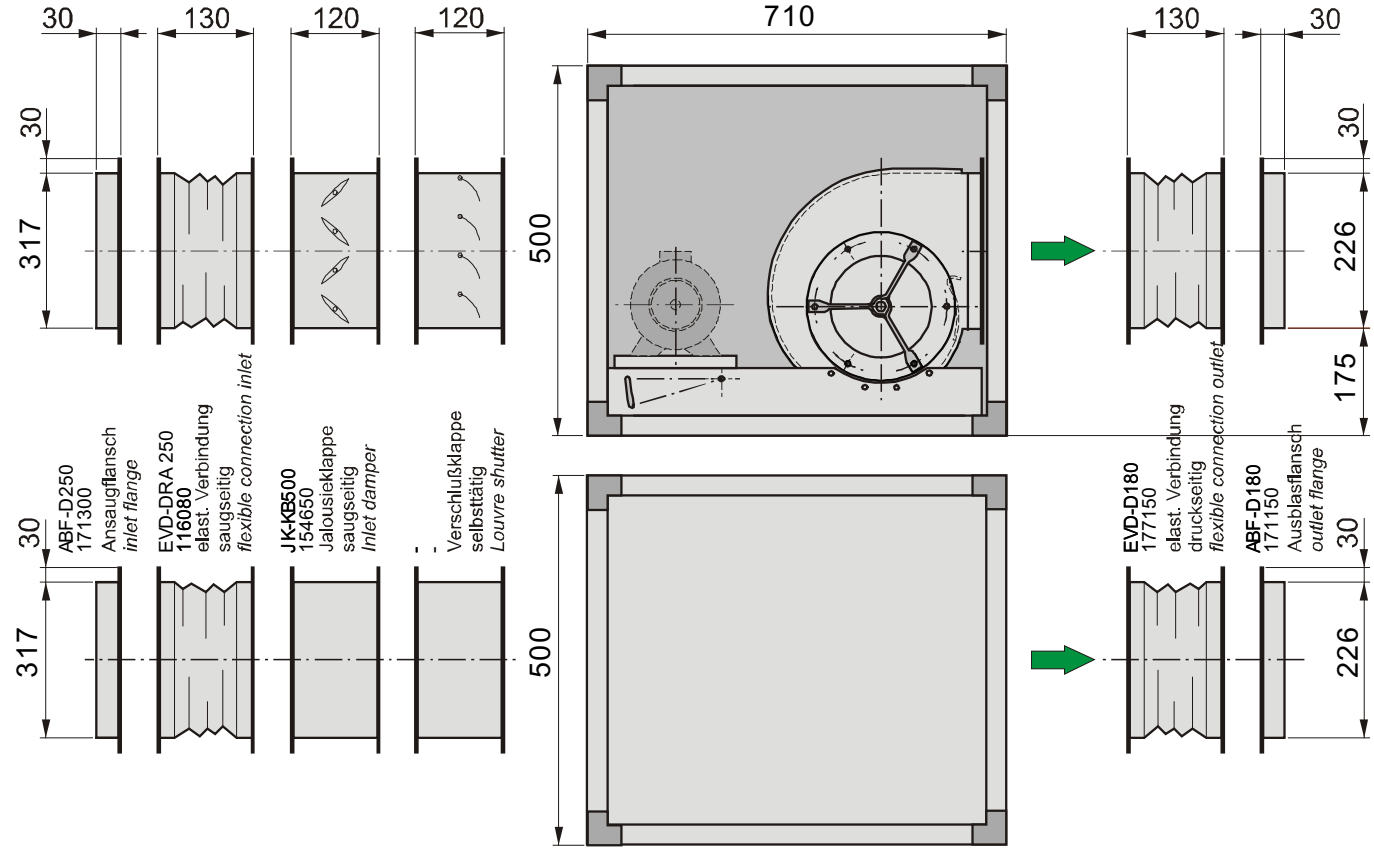


Typ:	KB 500-10 / TRZ 180	ArtNr:	150020		42	kg

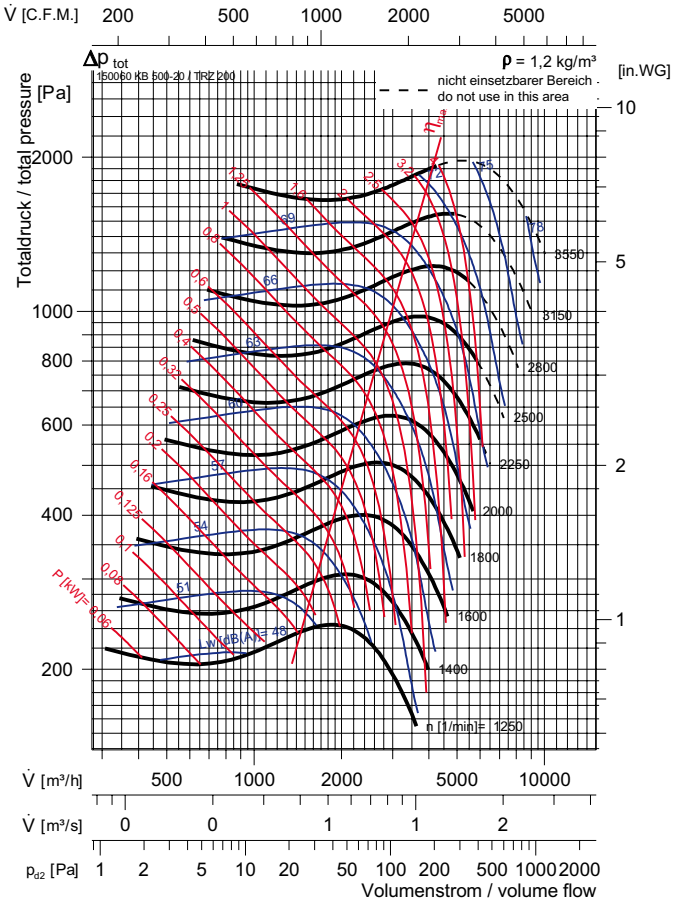
KB 500-11 / HRZ 180



Typ:	KB 500-11 / HRZ 180	ArtNr:	150040		41	kg

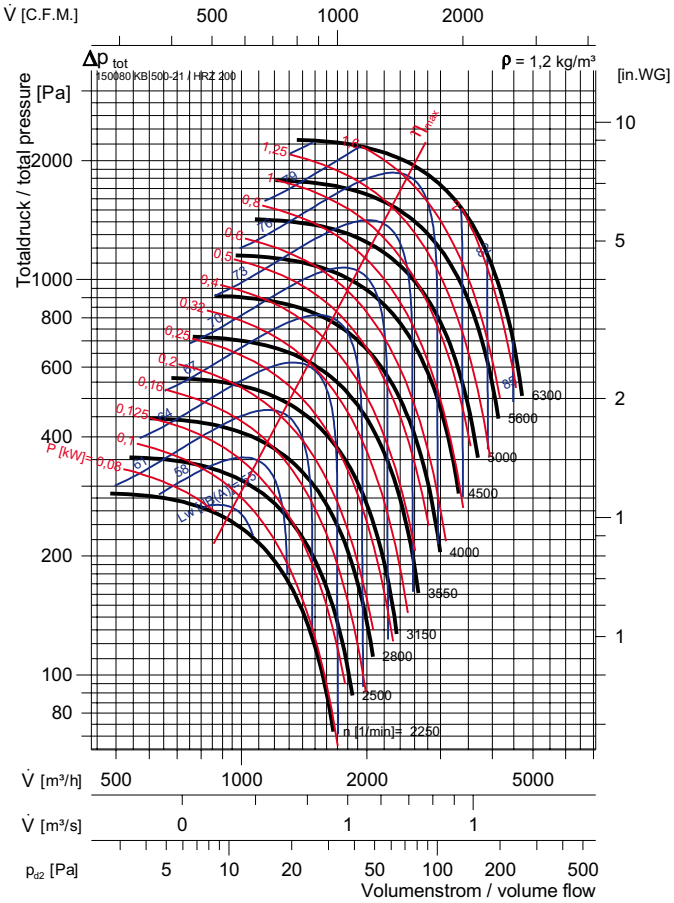


KB 500-20 / TRZ 200

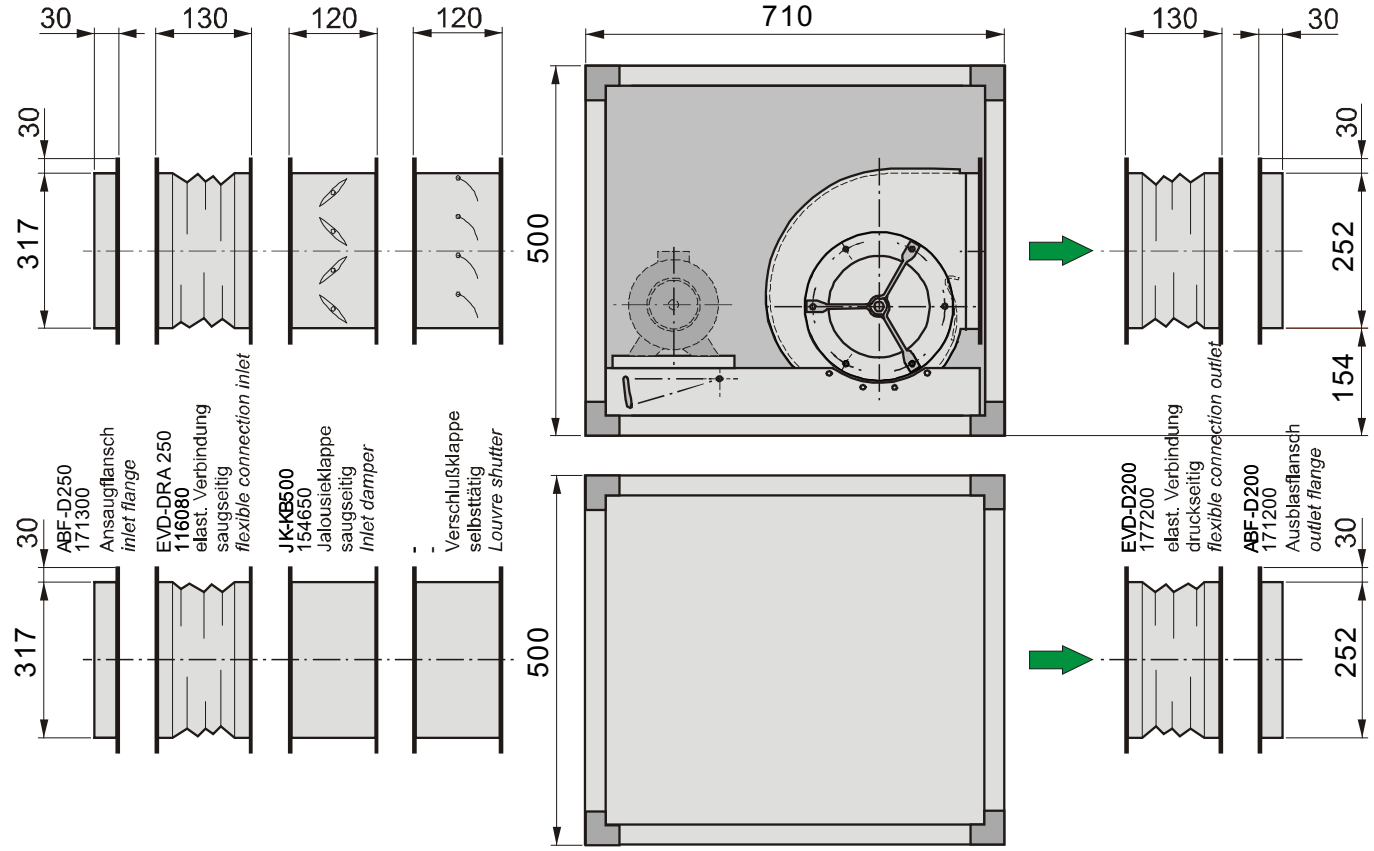


Typ:	KB 500-20 / TRZ 200	ArtNr:	150060	43	kg

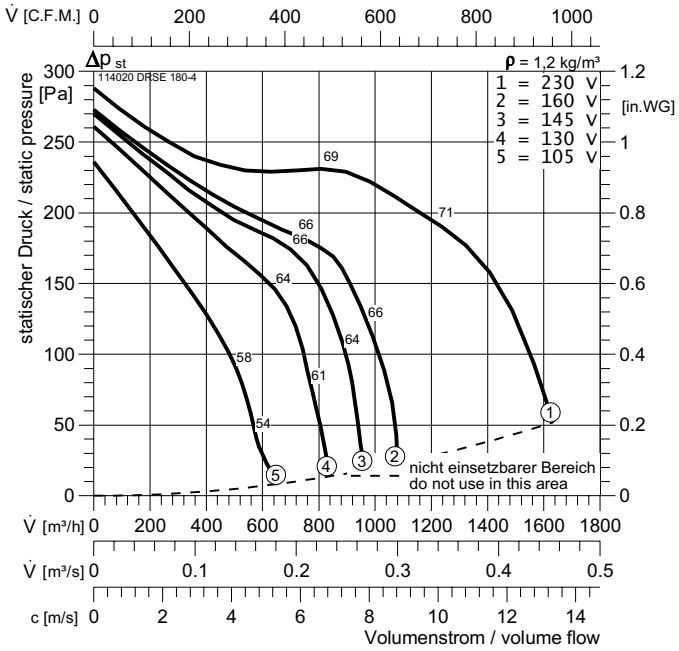
KB 500-21 / HRZ 200



Typ:	KB 500-20 / HRZ 200	ArtNr:	150080	42	kg

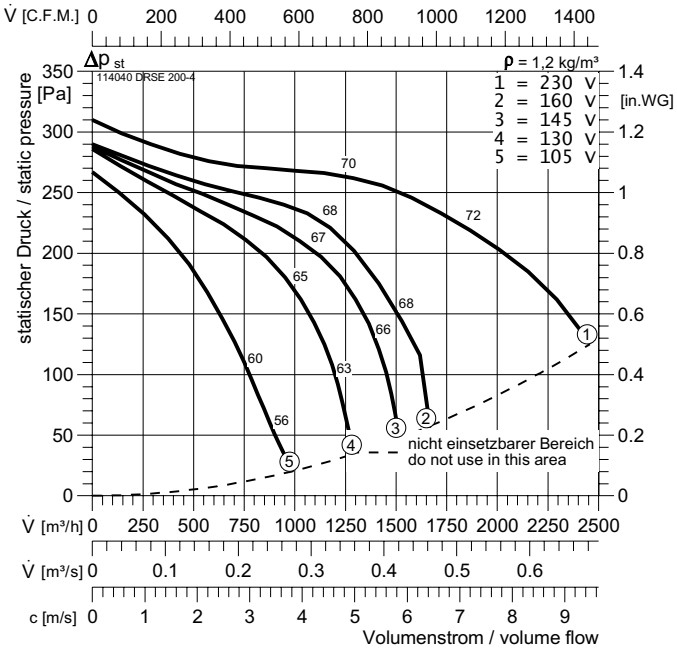


KB 500-30 / DRSE 180-4

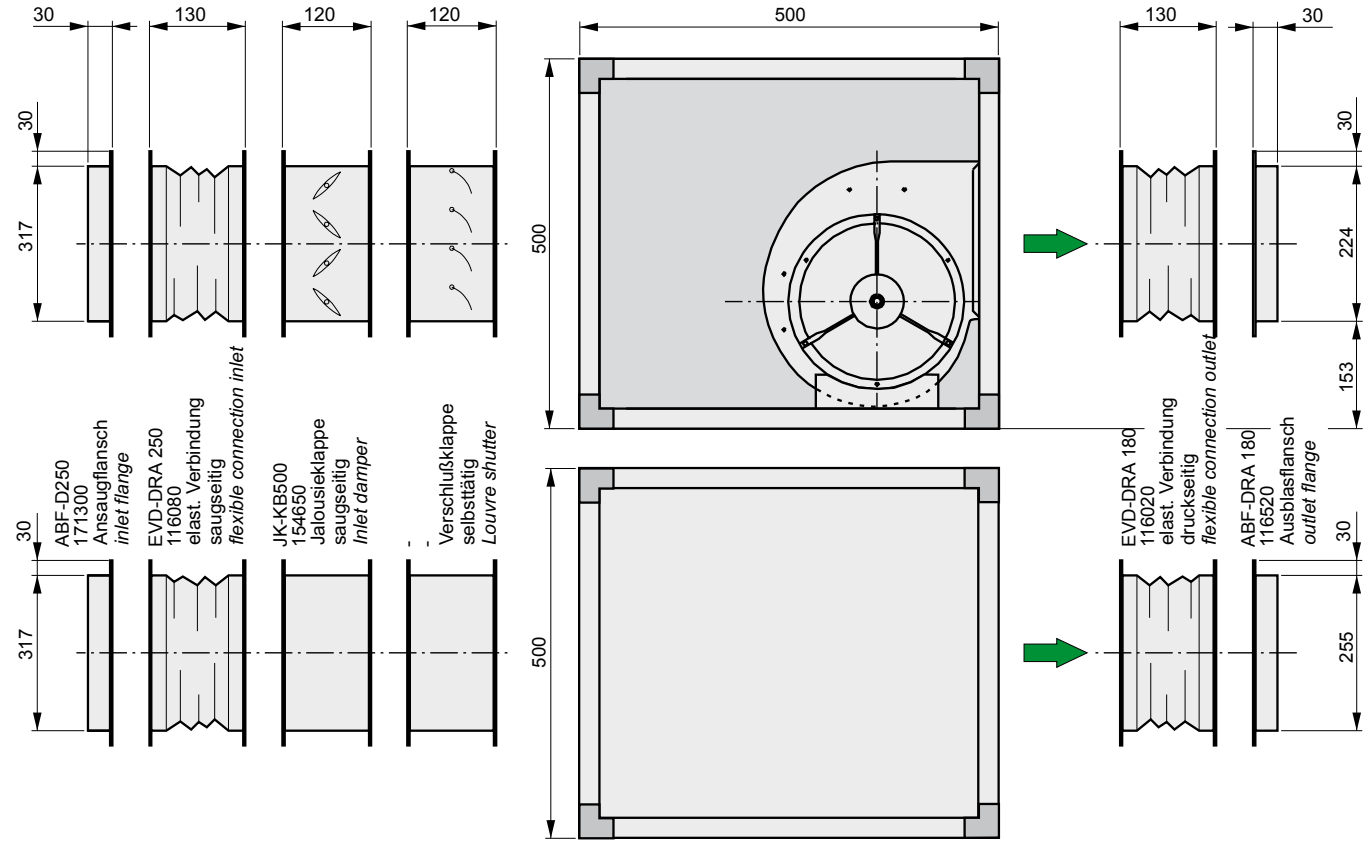


KB 500-30 / DRSE 180-4			ArtNr :	150100		44	kg
U :	230 V 50 Hz		t_R :	40	°C	IP 54	
P_1 :	0,35	kW	$\Delta p_{fa\,min}$:	52		E13	
I_N :	1.4	A	ΔI :			GS 1	
n :	1080	min^{-1}	I_A / I_N :			NE 3,2	
C_{400V} :	6	µF				RPE 06	

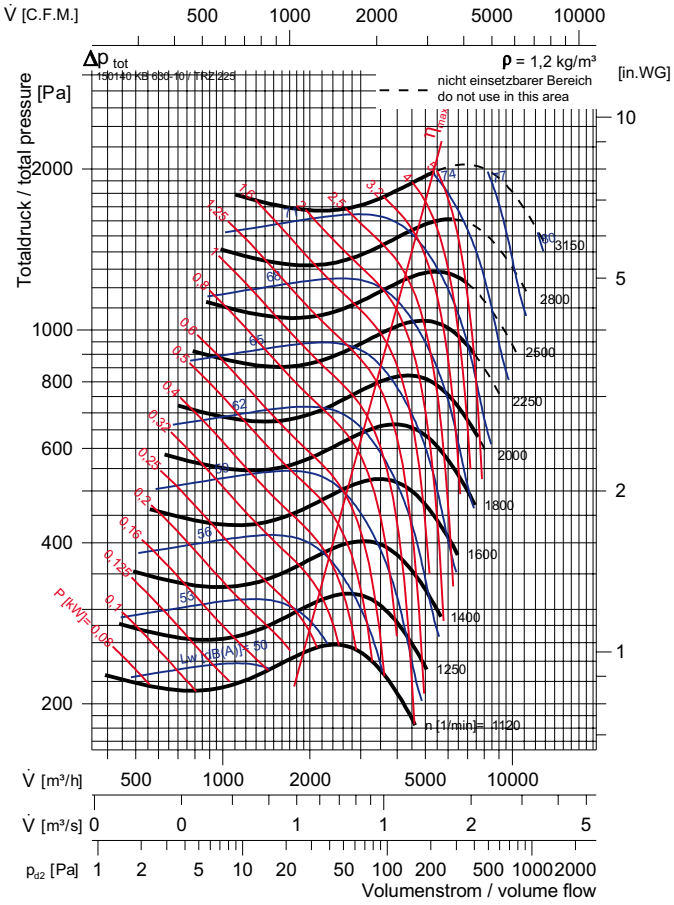
KB 500-40 / DRSE 200-4



KB 500-40 / DRSE 200-4			ArtNr :	150120		45	kg
U :	230 V 50 Hz		t_R :	40	°C	IP 54	
P_1 :	0,49	kW	$\Delta p_{fa\,min}$:	125		E13	
I_N :	2,1	A	ΔI :	-		GS 1	
n :	1230	min^{-1}	I_A / I_N :	1,6		NE 3,2	
C_{400V} :	10	µF				RPE 06	

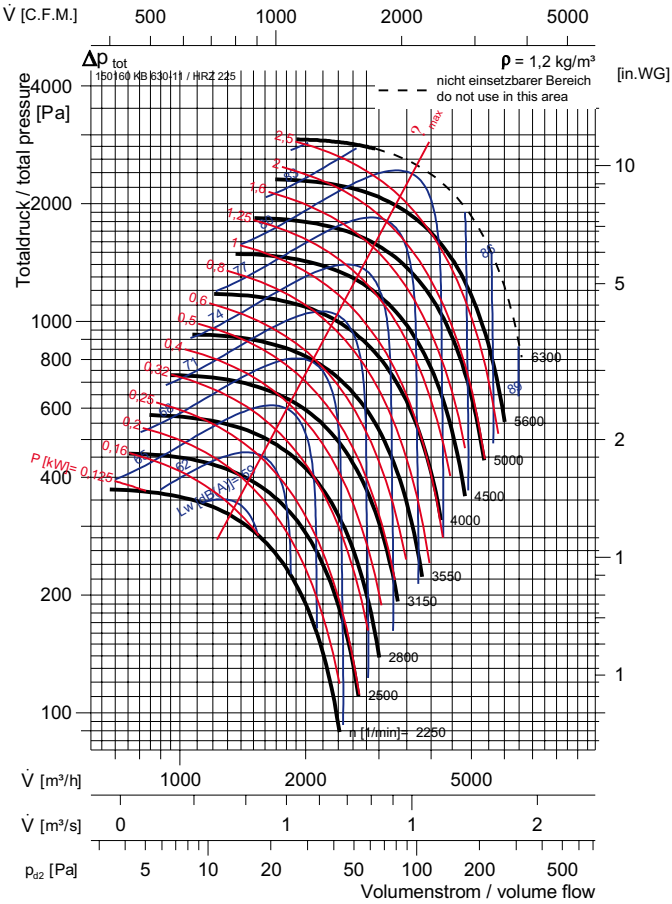


KB 630-10 / TRZ 225

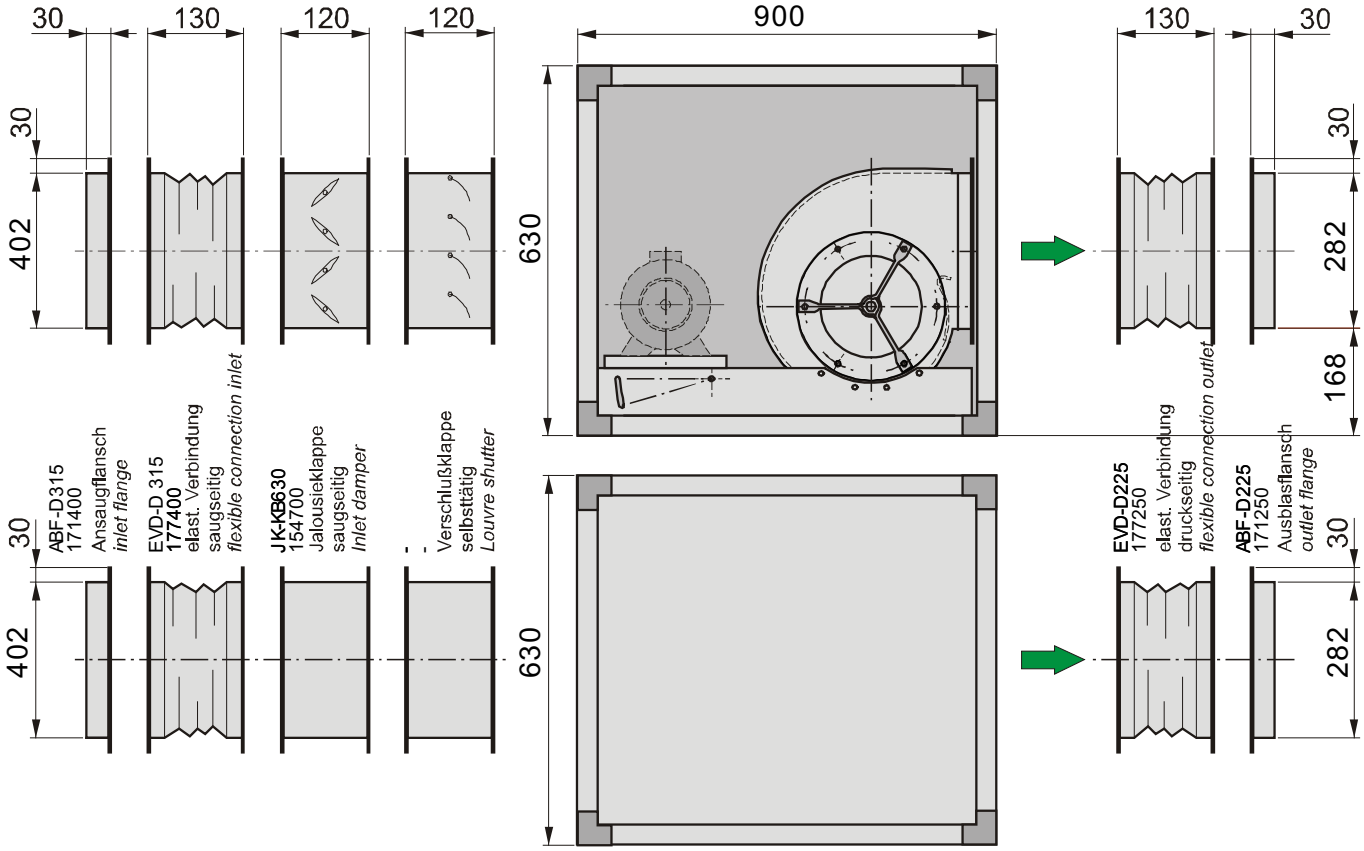


Typ:	KB 630-10 / TRZ 225	ArtNr:	150140	80	kg

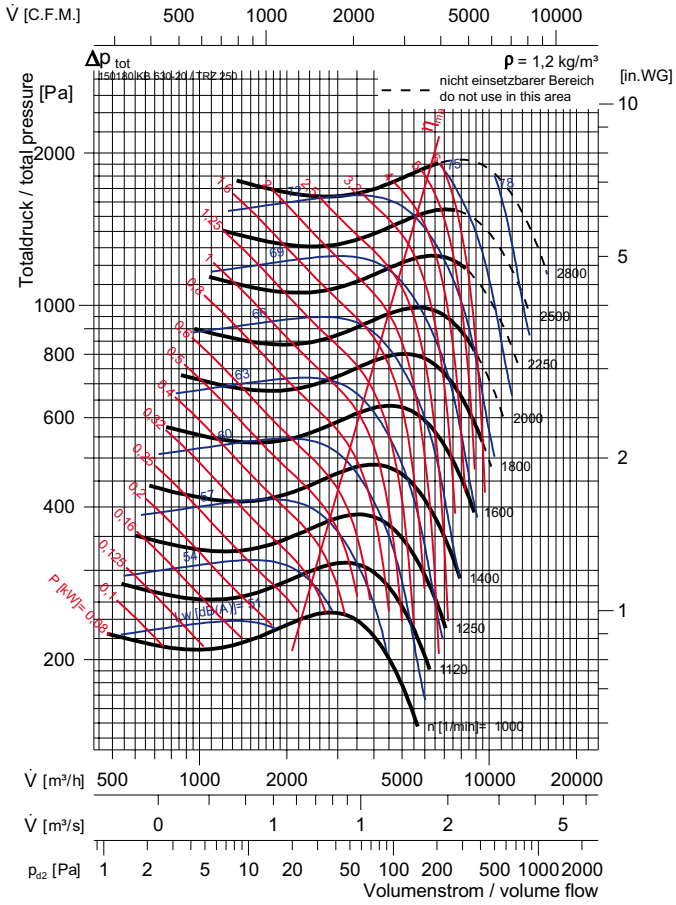
KB 630-11 / HRZ 225



Typ:	KB 630-11 / HRZ 225	ArtNr:	150160	55	kg

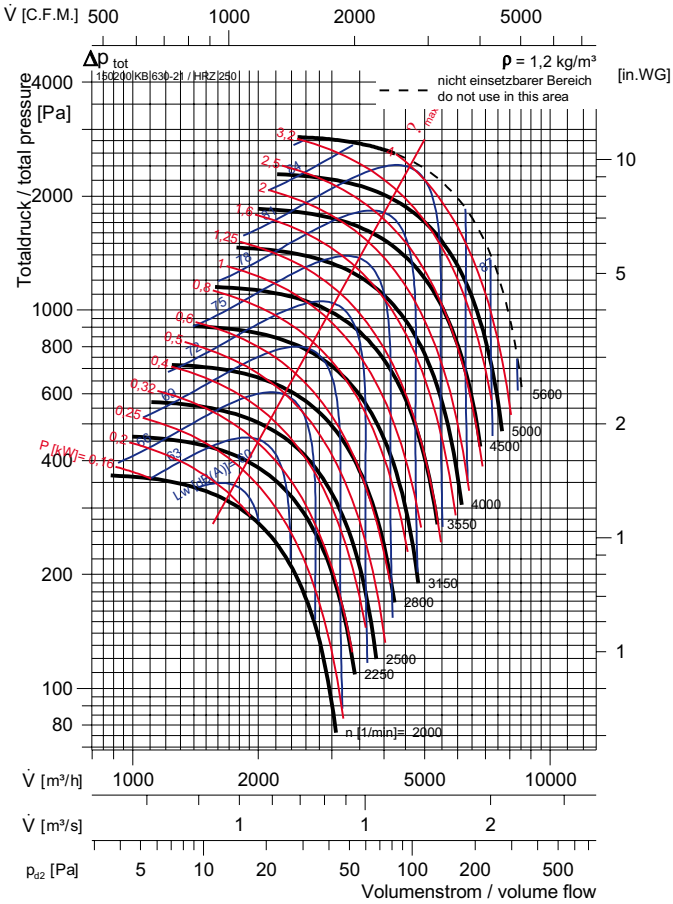


KB 630-20 / TRZ 250

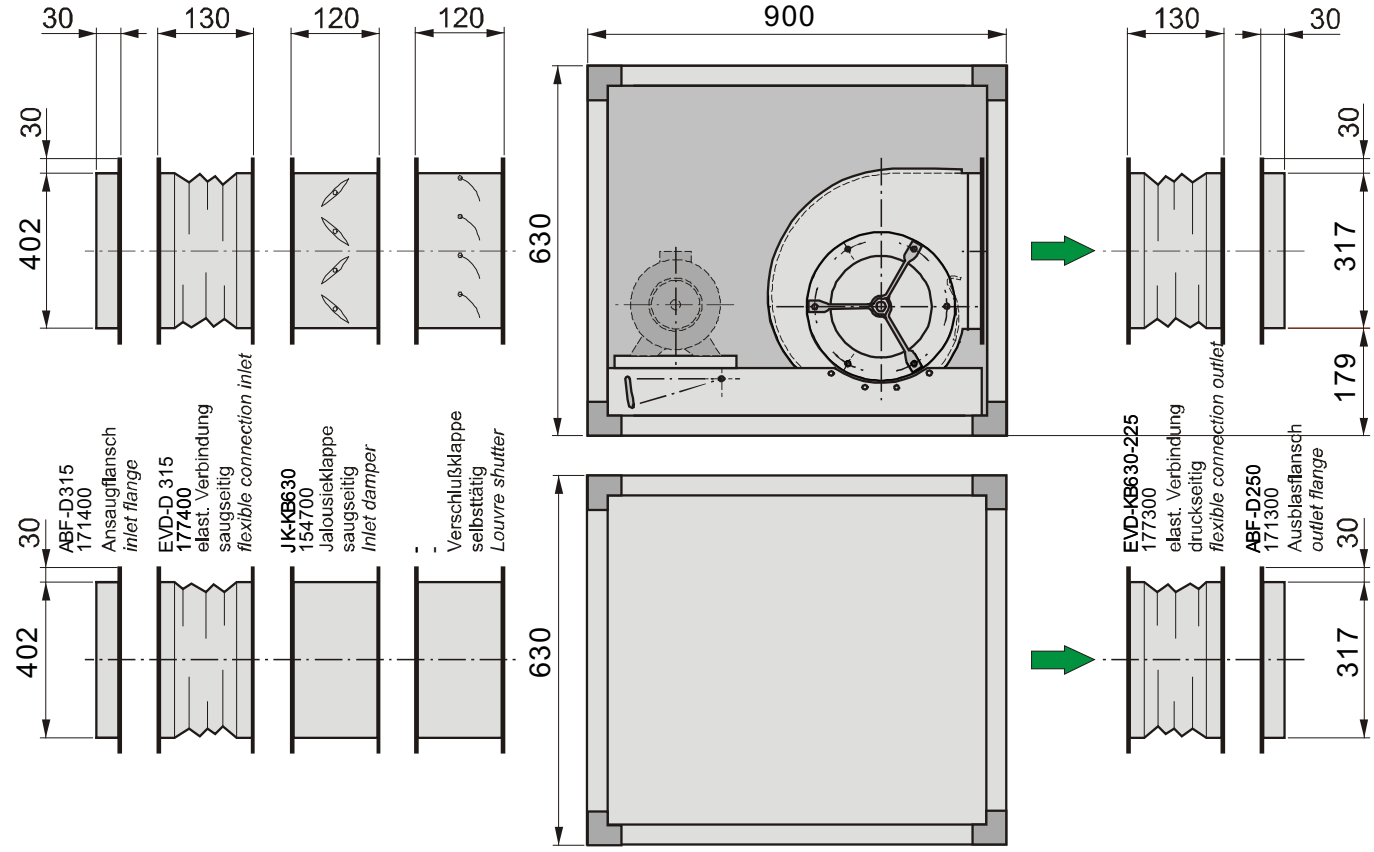


Typ:	KB 630-20 / TRZ 250	ArtNr:	150180	59	kg

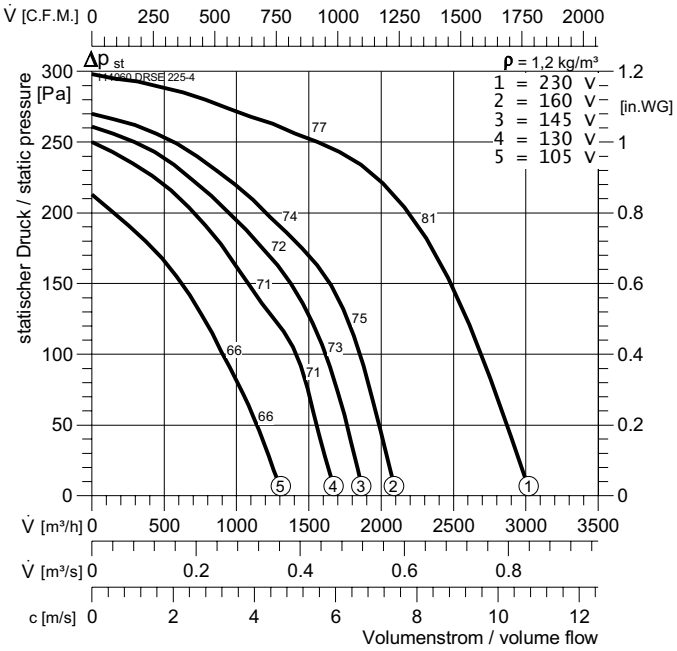
KB 630-21 / HRZ 250



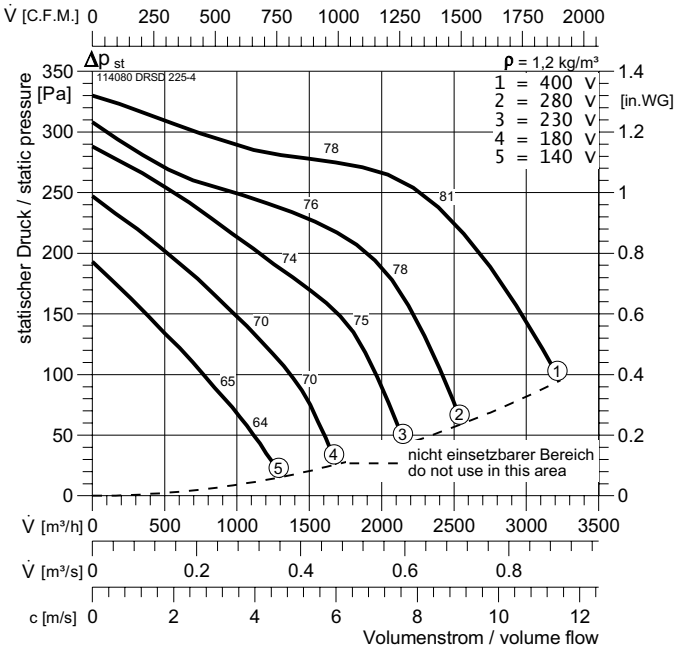
Typ:	KB 630-21 / HRZ 250	ArtNr:	150200	57	kg



KB 630-30 / DRSE 225-4

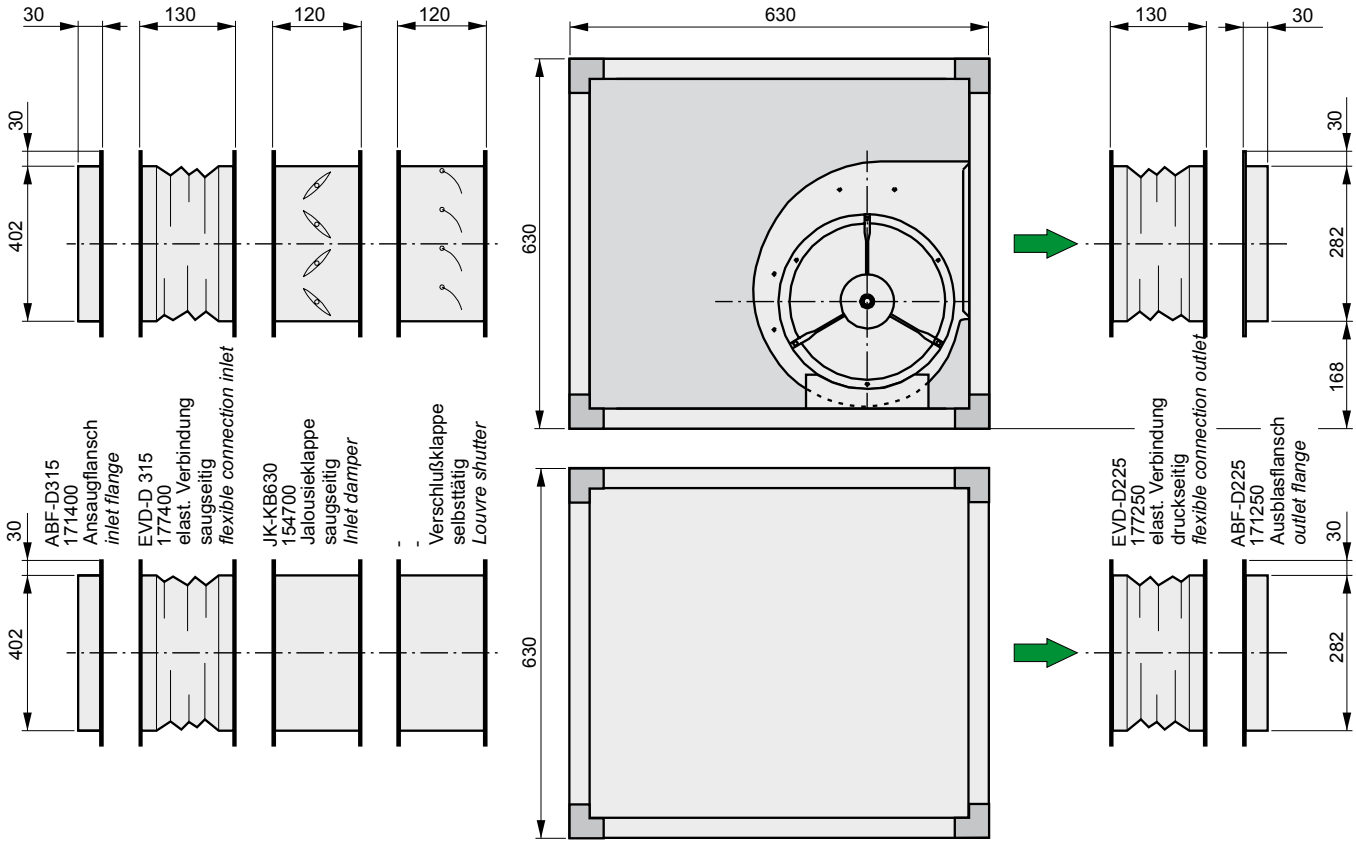


KB 630-31 / DRSD 225-4

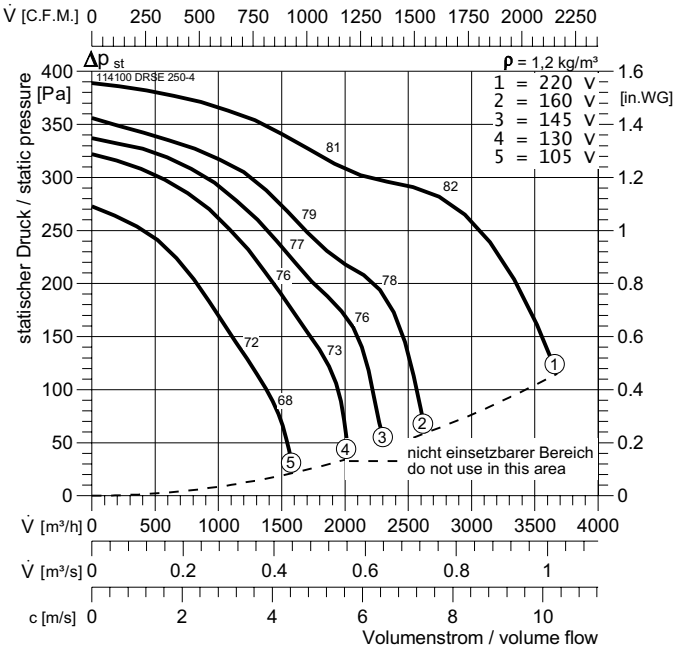


KB 630-30 / DRSE 225-4			ArtNr :	150220		64	kg
U :	230 V 50 Hz		t_R :	40	°C	IP 54	
P_1 :	0,73	kW	$\Delta p_{fa\,min}$:	0		E13	
I_N :	3,25	A	ΔI :	-		GS 2	
n :	950	min^{-1}	I_A / I_N :	1,2		NE 5	
C_{400V} :	12	µF				RPE 09	

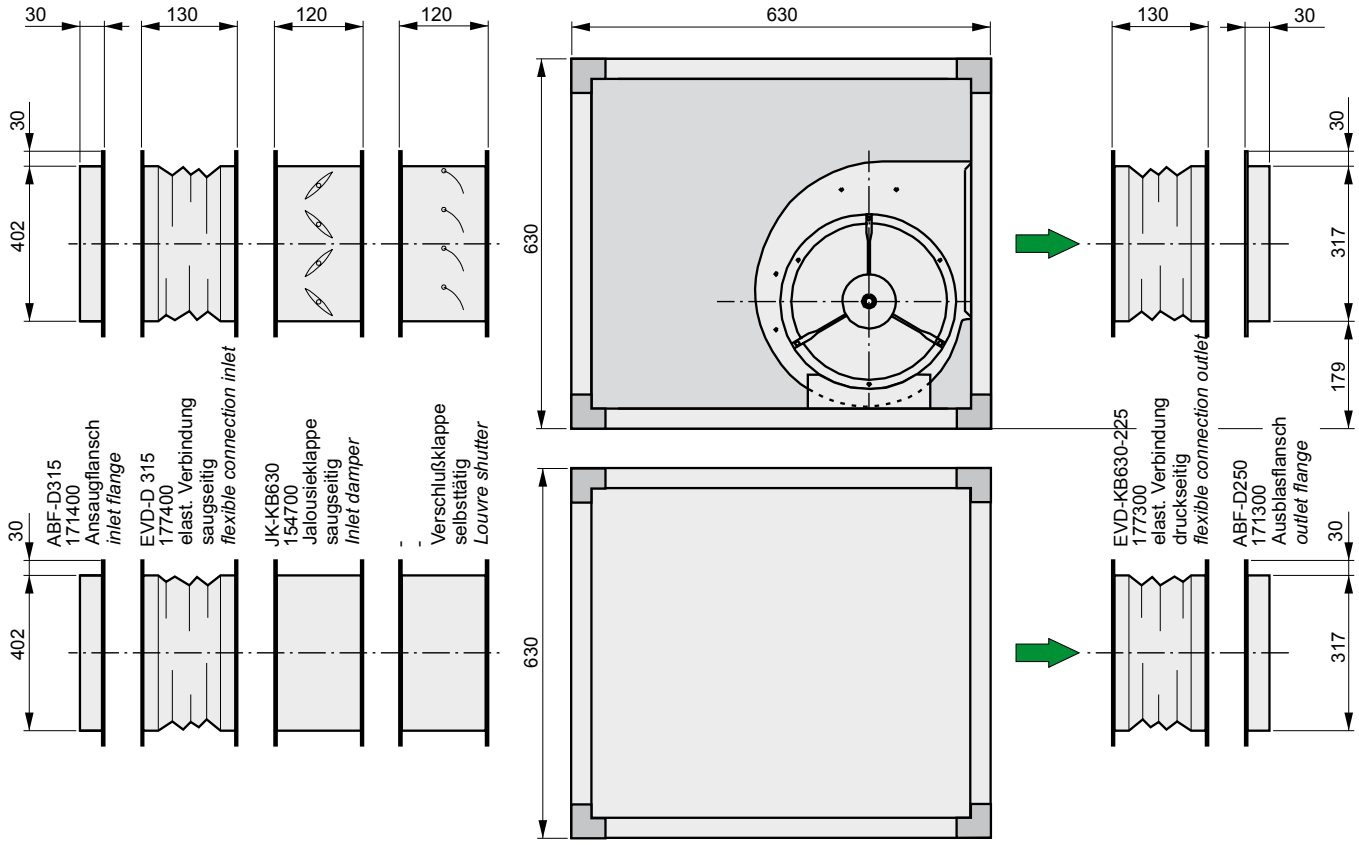
KB 630-31 / DRSD 225-4			ArtNr :	150240		62	kg
U :	400 V 50 Hz		t_R :	40	°C	IP 54	
P_1 :	0,8	kW	$\Delta p_{fa\,min}$:	95		DD0b	
I_N :	1,55	A	ΔI :	-		GS 2	
n :	1130	min^{-1}	I_A / I_N :	2,1		RTD 2,5	
C_{400V} :	-	µF				SAD 9	



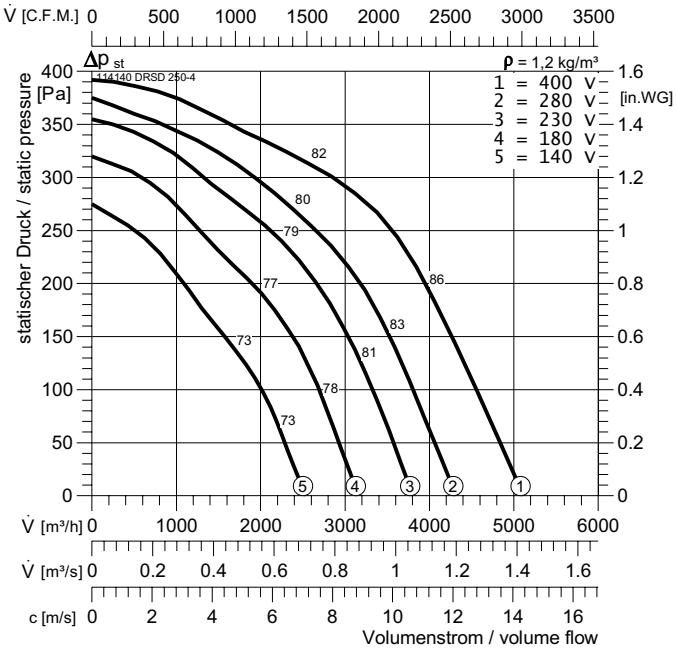
KB 630-40 / DRSE 250-4



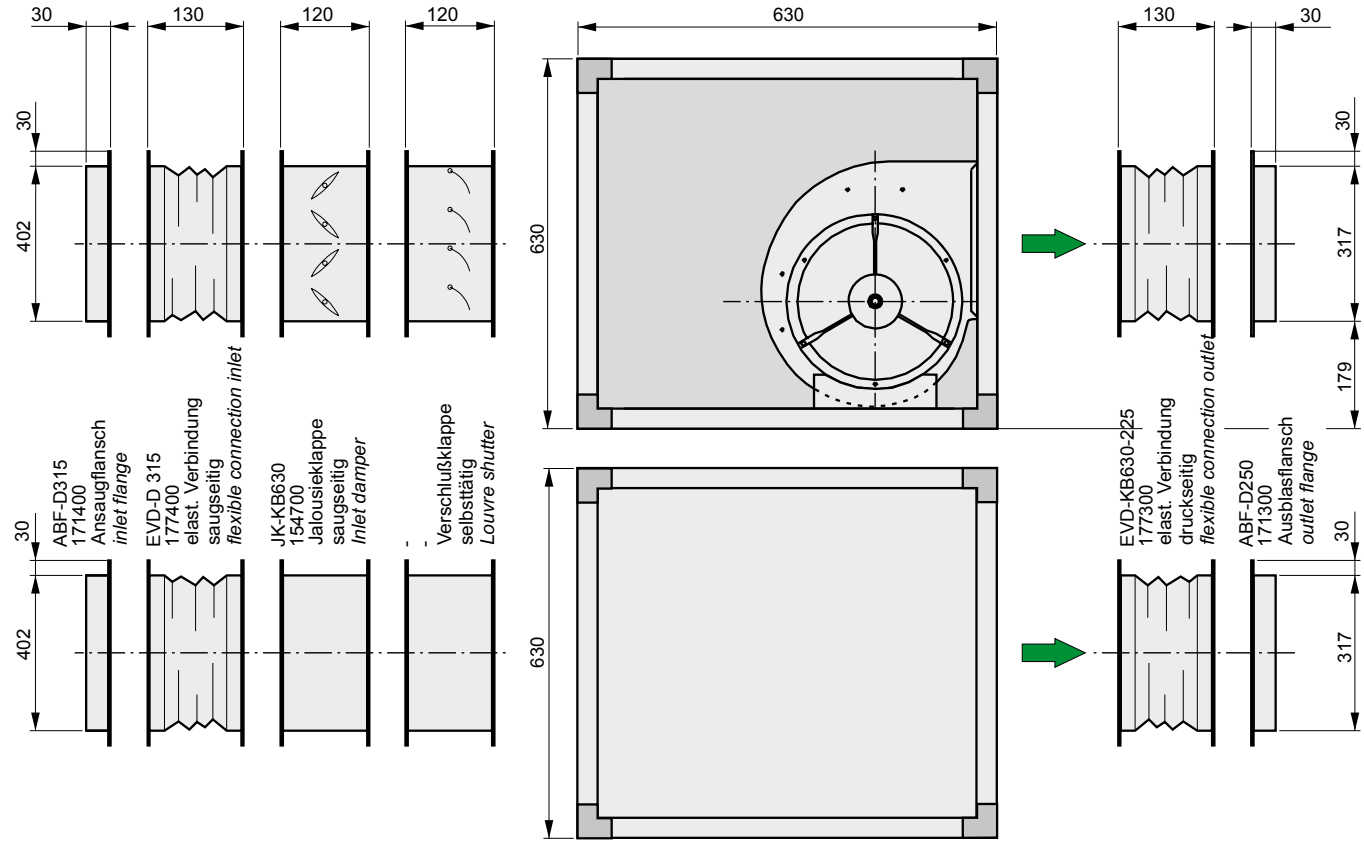
KB 630-40 / DRSE 250-4			ArtNr :	150260		70	kg
U :	230 V 50 Hz		t_R :	40	°C	IP 54	
P_1 :	1,15	kW	$\Delta p_{fa\ min}$:	115		E13	
I_N :	5,15	A	Δ I :	-		GS 2	
n :	1080	min^{-1}	I_A / I_N :	1,5		NE 7,5	
C_{400V} :	16	µF				RPE 09	



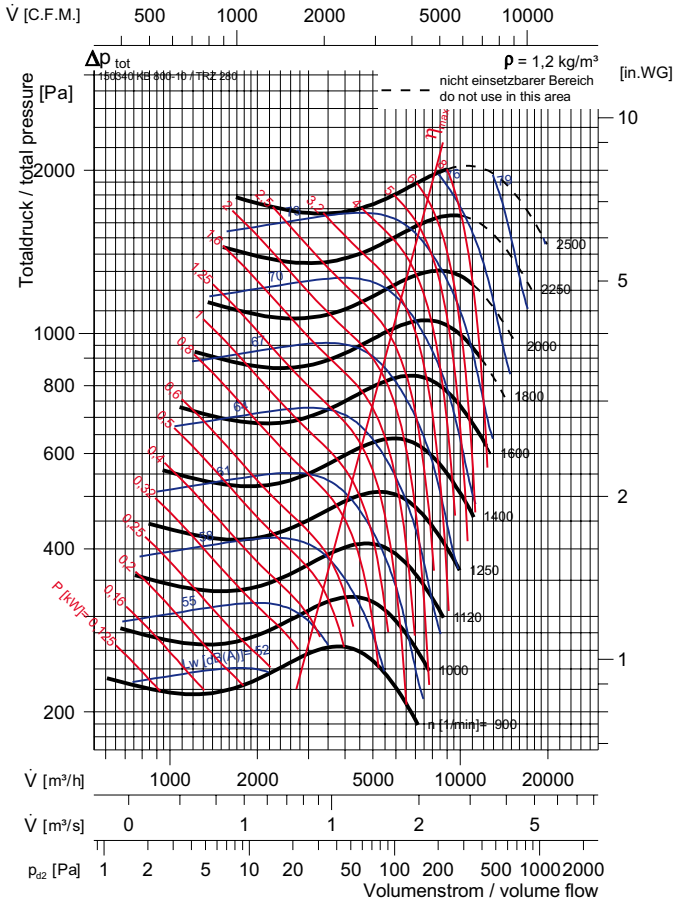
KB 630-42 / DRSD 250-4



KB 630-42 / DRSD 250-4			ArtNr :	150300		70	kg
U :	400 V 50 Hz		t_R :	50	°C	IP 54	
P_1 :	1,6	kW	$\Delta p_{fa\ min}$:	0		DD0b	
I_N :	2,95	A	ΔI :	-		GS 2	
n :	1200	min^{-1}	I_A / I_N :	2,5		RTD 3	
C_{400V} :	-	µF				SAD 9	

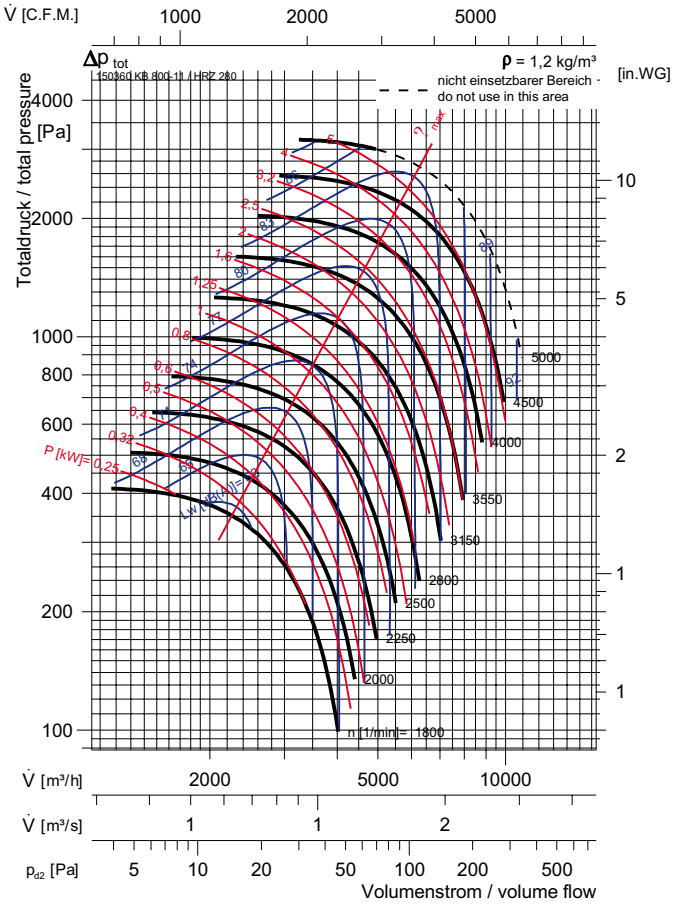


KB 800-10 / TRZ 280

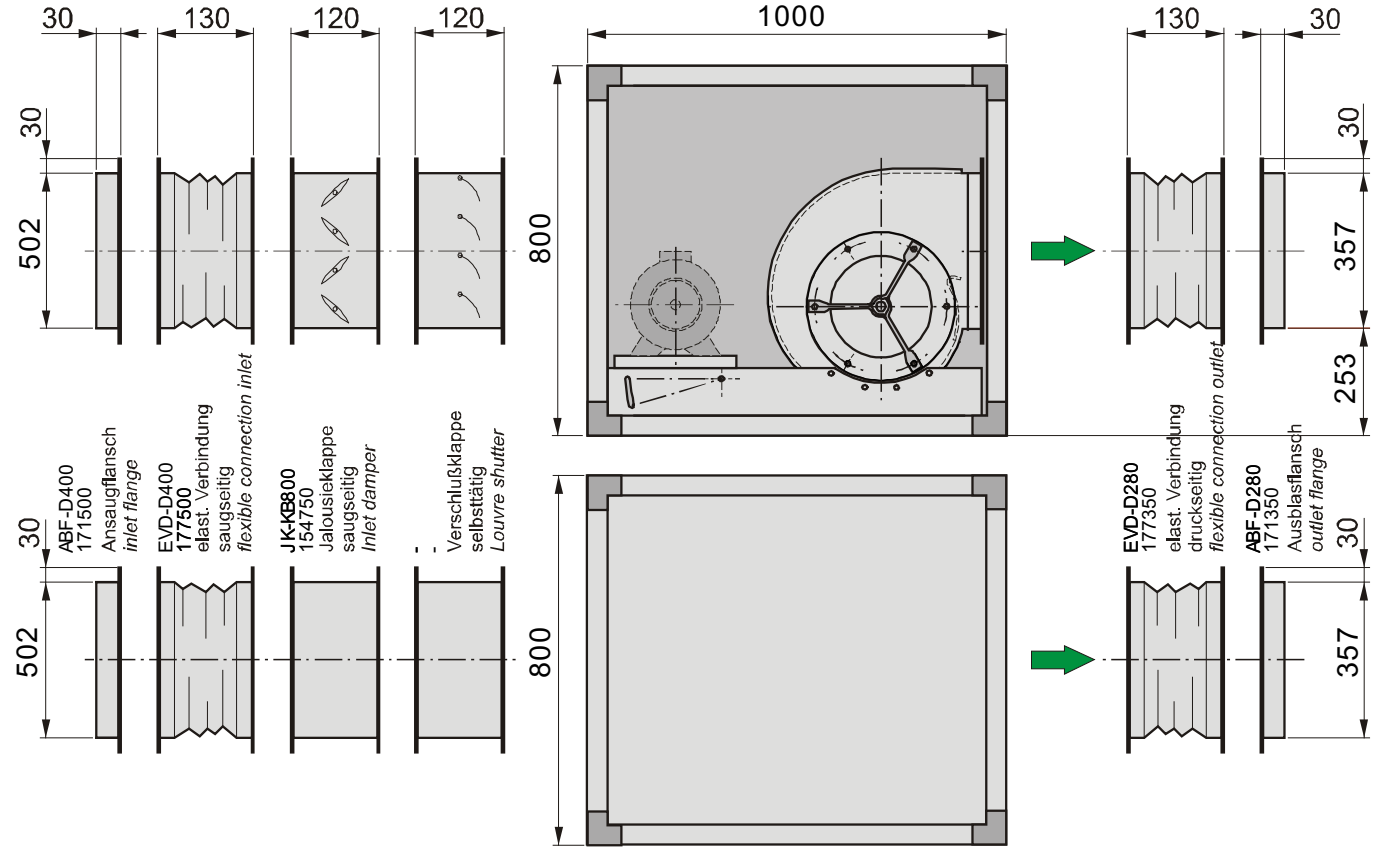


Typ:	KB 800-10 / TRZ 280	ArtNr:	150340	79	kg

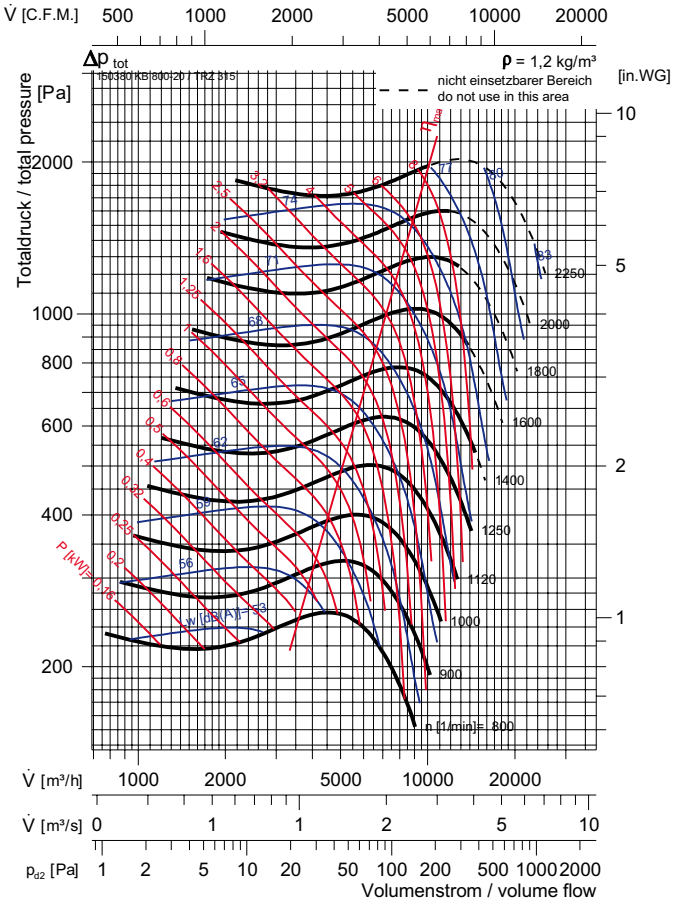
KB 800-11 / HRZ 280



Typ:	KB 800-11 / HRZ 280	ArtNr:	150360	78	kg

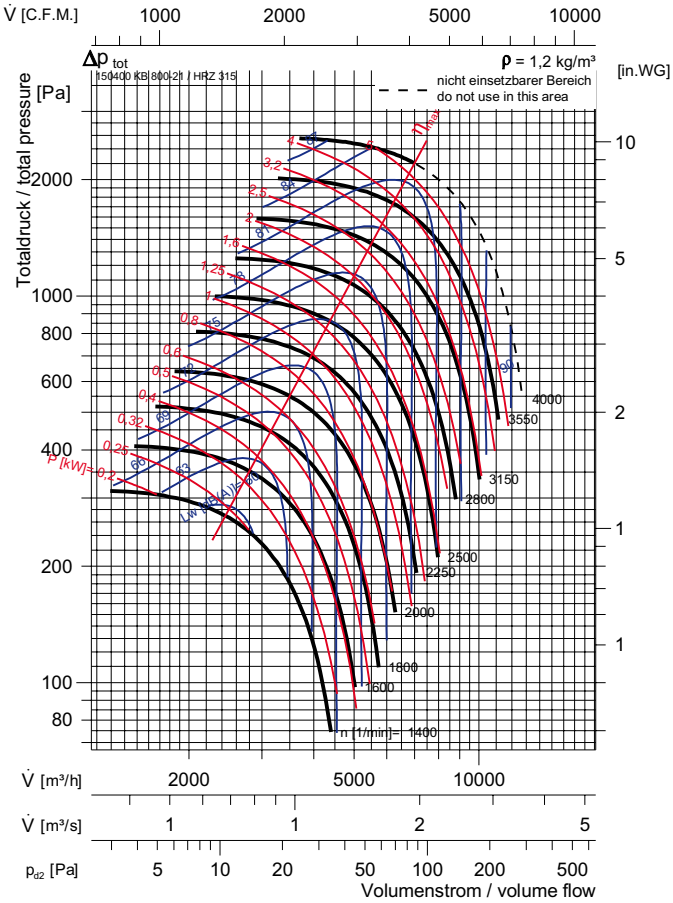


KB 800-20 / TRZ 315

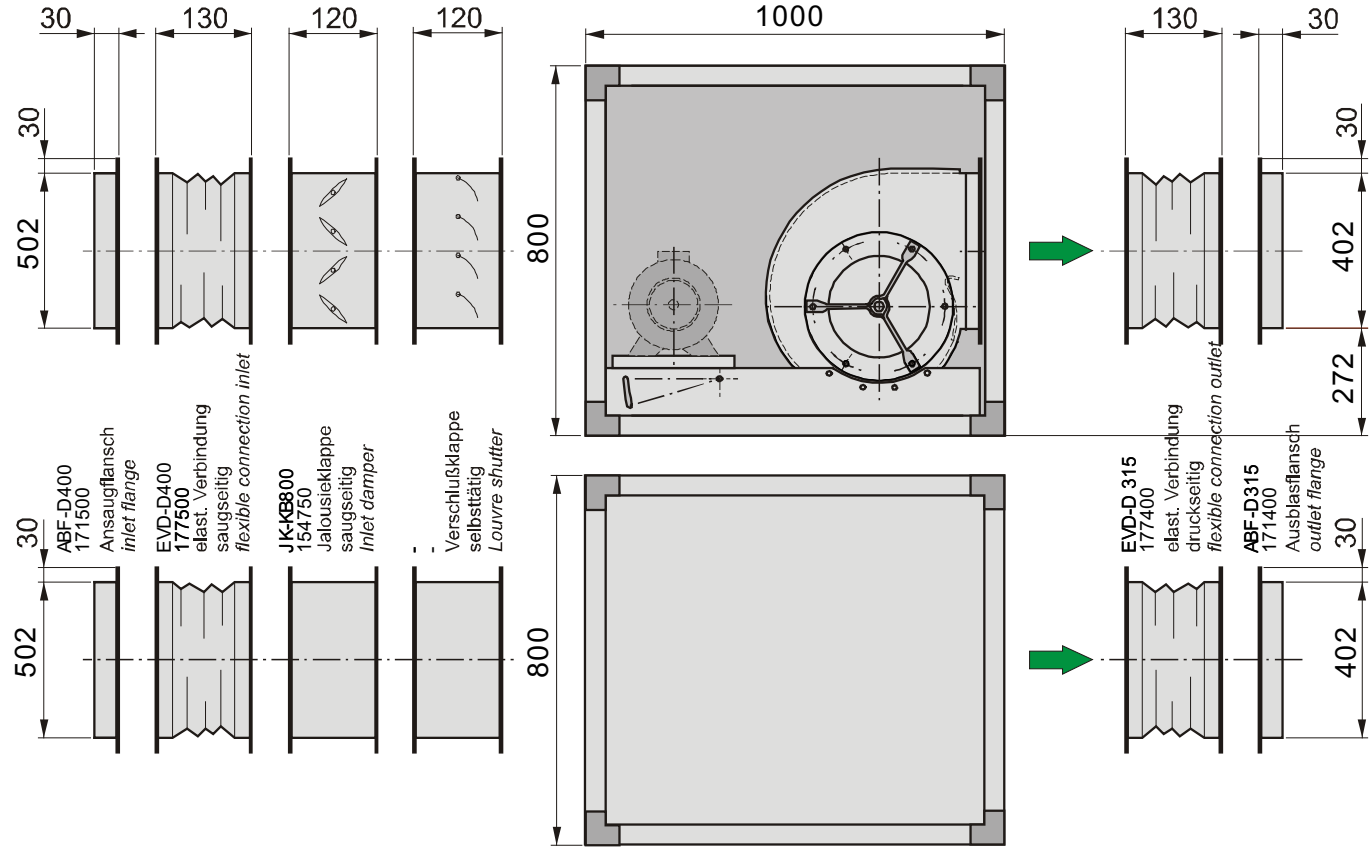


Typ:	KB 800-20 / TRZ 315	ArtNr:	150380	83	kg

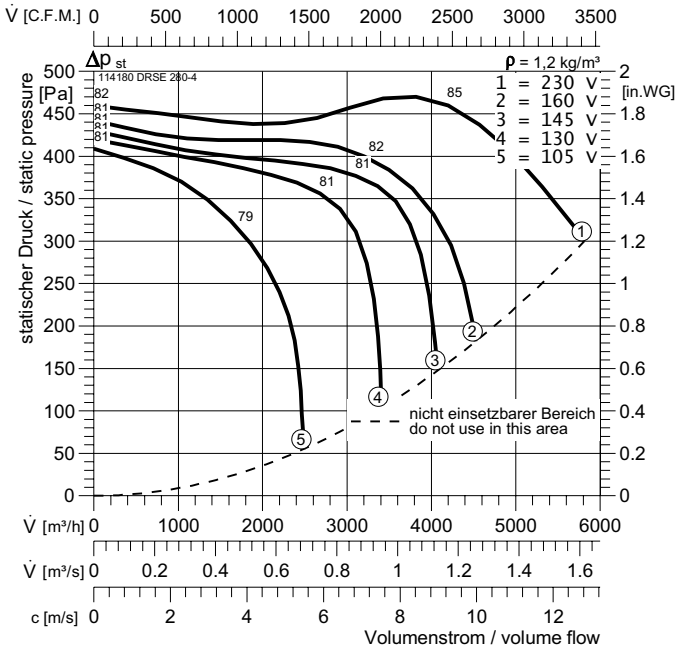
KB 800-21 / HRZ 315



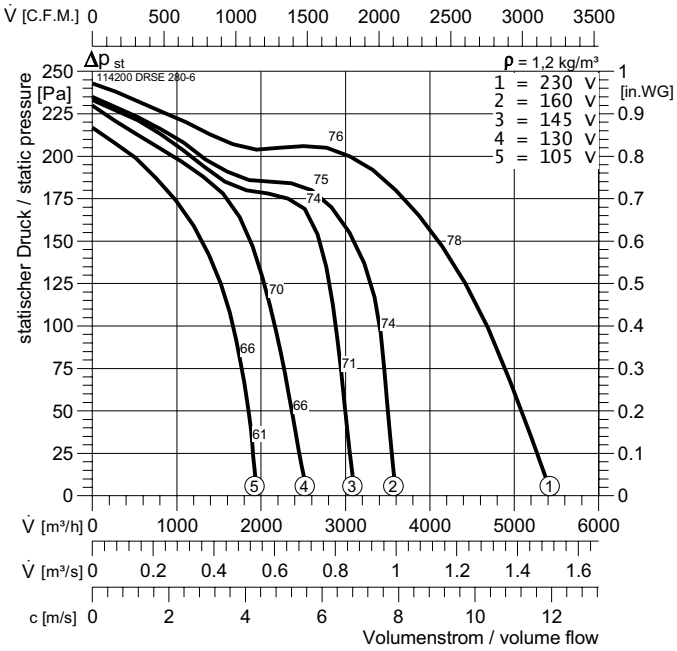
Typ:	KB 800-21 / HRZ 315	ArtNr:	150400	81	kg



KB 800-30 / DRSE 280-4

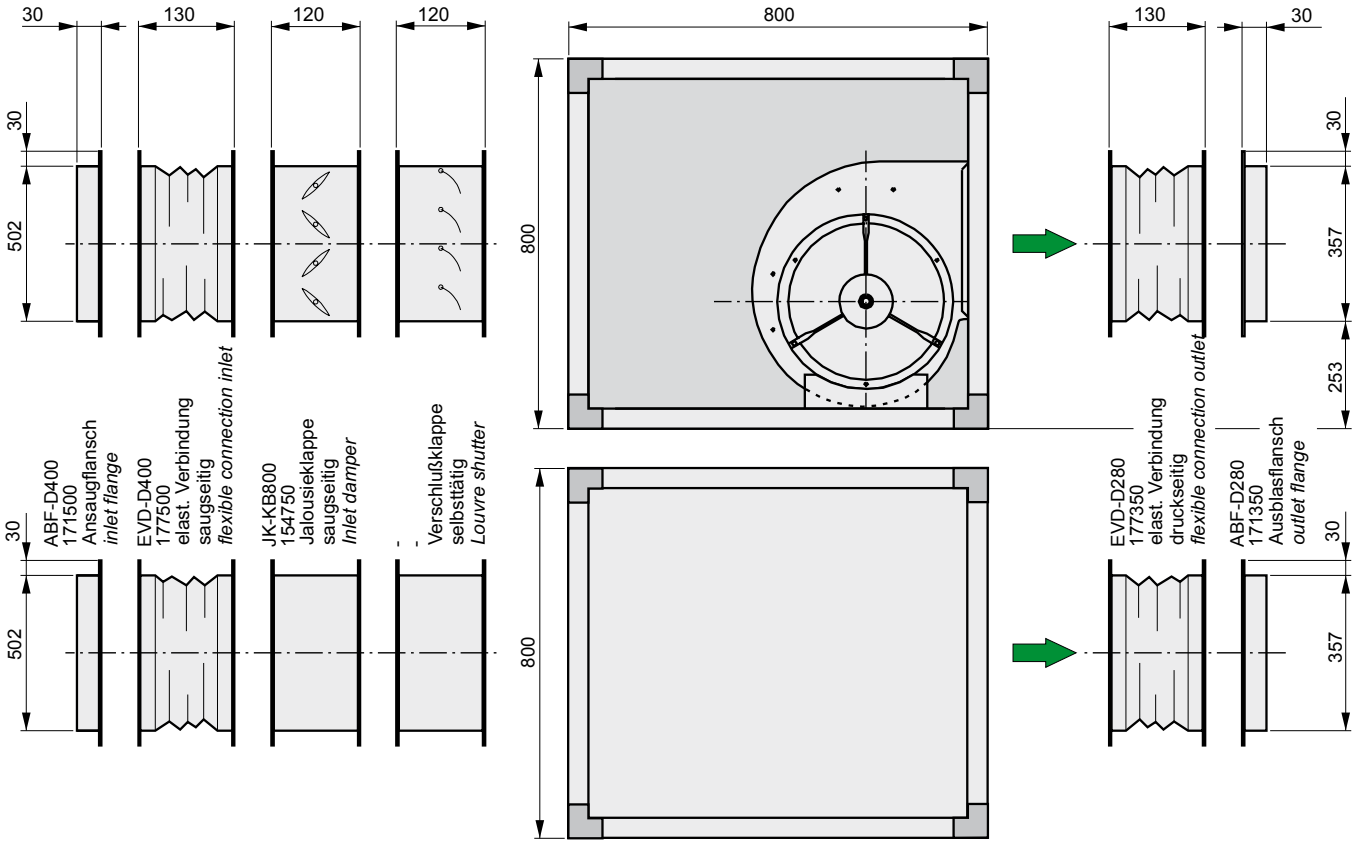


KB 800-31 / DRSE 280-6

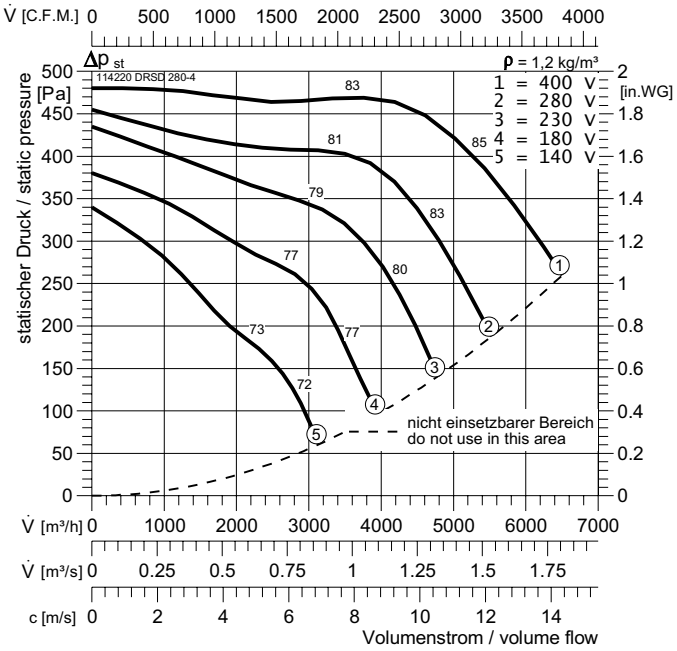


KB 800-30 / DRSE 280-4			ArtNr :	150420		98 kg
U :	230 V 50 Hz		t_R :	40 °C		IP 54
P_1 :	2,3	kW	$\Delta p_{fa\ min}$:	300		E13
I_N :	10,2	A	ΔI :	30%		GS 2
n :	1360	min^{-1}	I_A / I_N :	3		RTE 20
C_{400V} :	40	µF				SAE 20

KB 800-31 / DRSE 280-6			ArtNr :	150440		90 kg
U :	230 V 50 Hz		t_R :	40 °C		IP 54
P_1 :	1,12	kW	$\Delta p_{fa\ min}$:	0		E13
I_N :	5,15	A	ΔI :	2		GS 2
n :	820	min^{-1}	I_A / I_N :	1,6		NE 7,5
C_{400V} :	25	µF				SAE 7

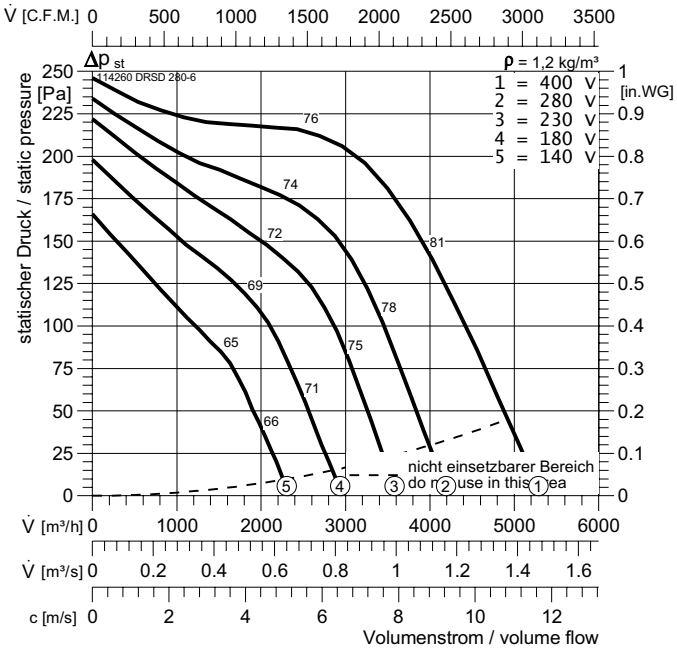


KB 800-32 / DRSD 280-4

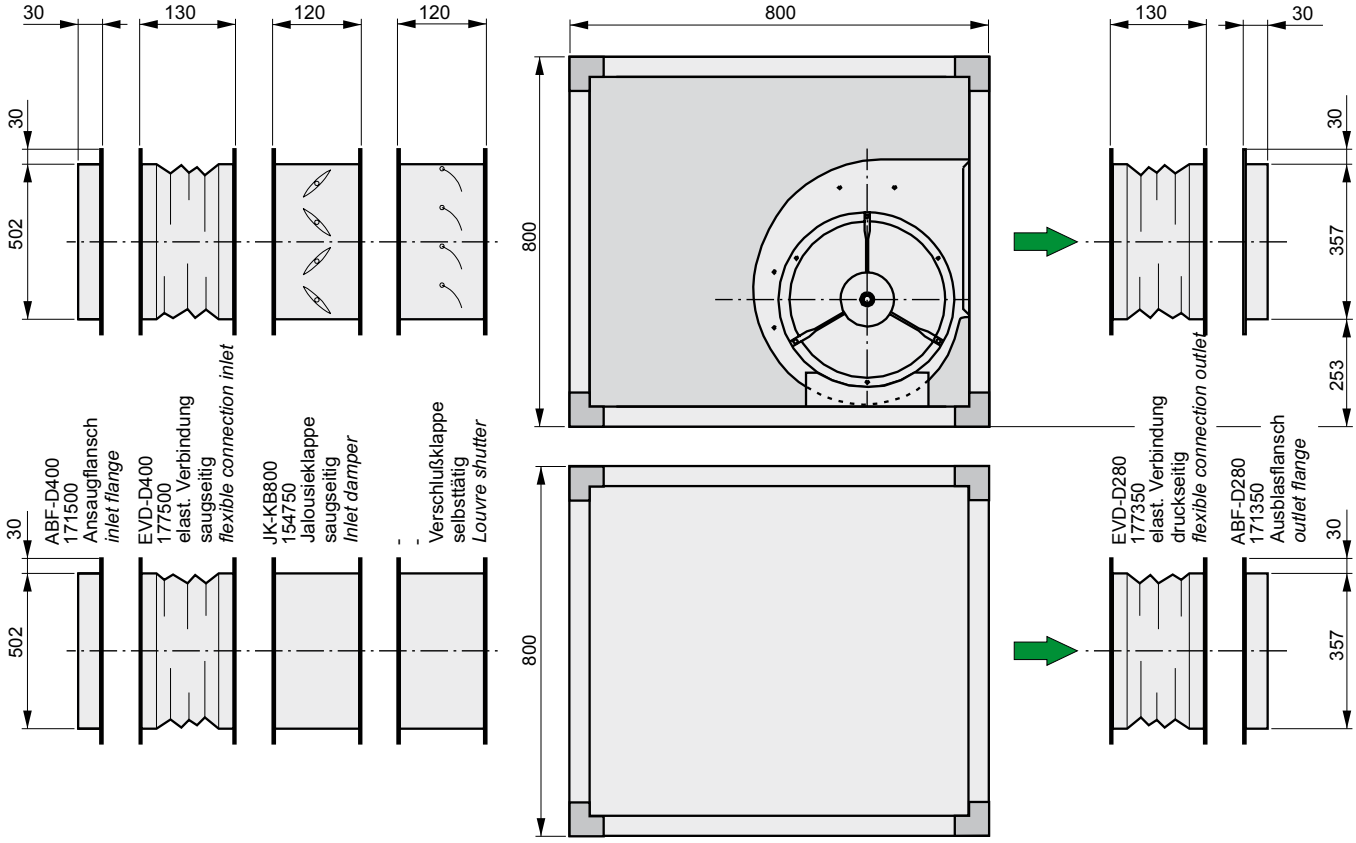


KB 800-32 / DRSD 280-4			ArtNr :	150460		90	kg
U :	400 V 50 Hz		t_R :	40	°C		IP 54
P_1 :	2,6	kW	$\Delta p_{fa\,min}$:	260			DD0b
I_N :	4,4	A	ΔI :	35%			GS 2
n :	1280	min^{-1}	I_A / I_N :	3,5			RTD 5
C_{400V} :	-	µF					SAD 9

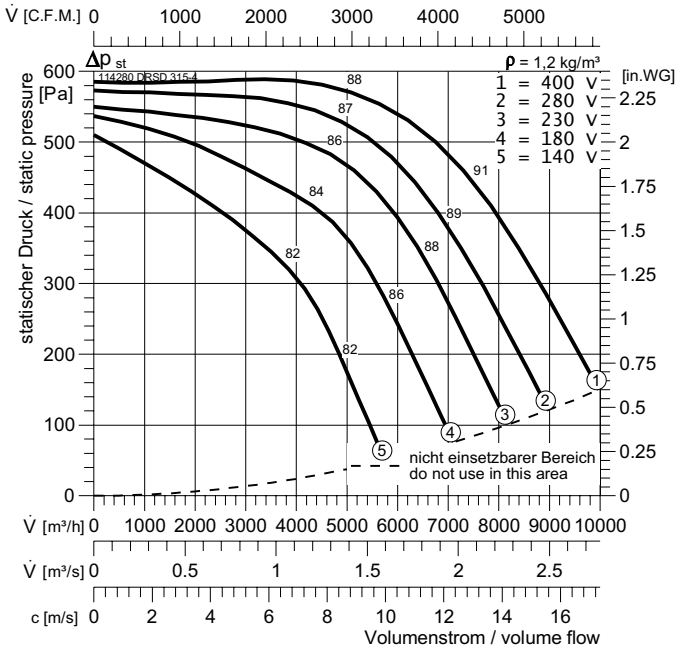
KB 800-33 / DRSD 280-6



KB 800-33 / DRSD 280-6			ArtNr :	150480		89	kg
U :	400 V 50 Hz		t_R :	40	°C		IP 54
P_1 :	1,1	kW	$\Delta p_{fa\,min}$:	45			DD0b
I_N :	2,0	A	ΔI :	-			GS 2
n :	770	min^{-1}	I_A / I_N :	2,2			RTD 3
C_{400V} :	-	µF					SAD 9

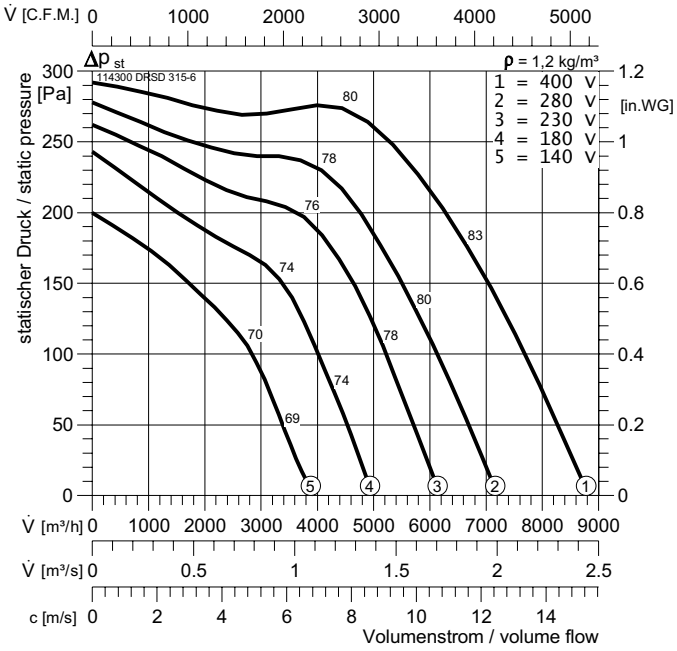


KB 800-40 / DRSD 315-4

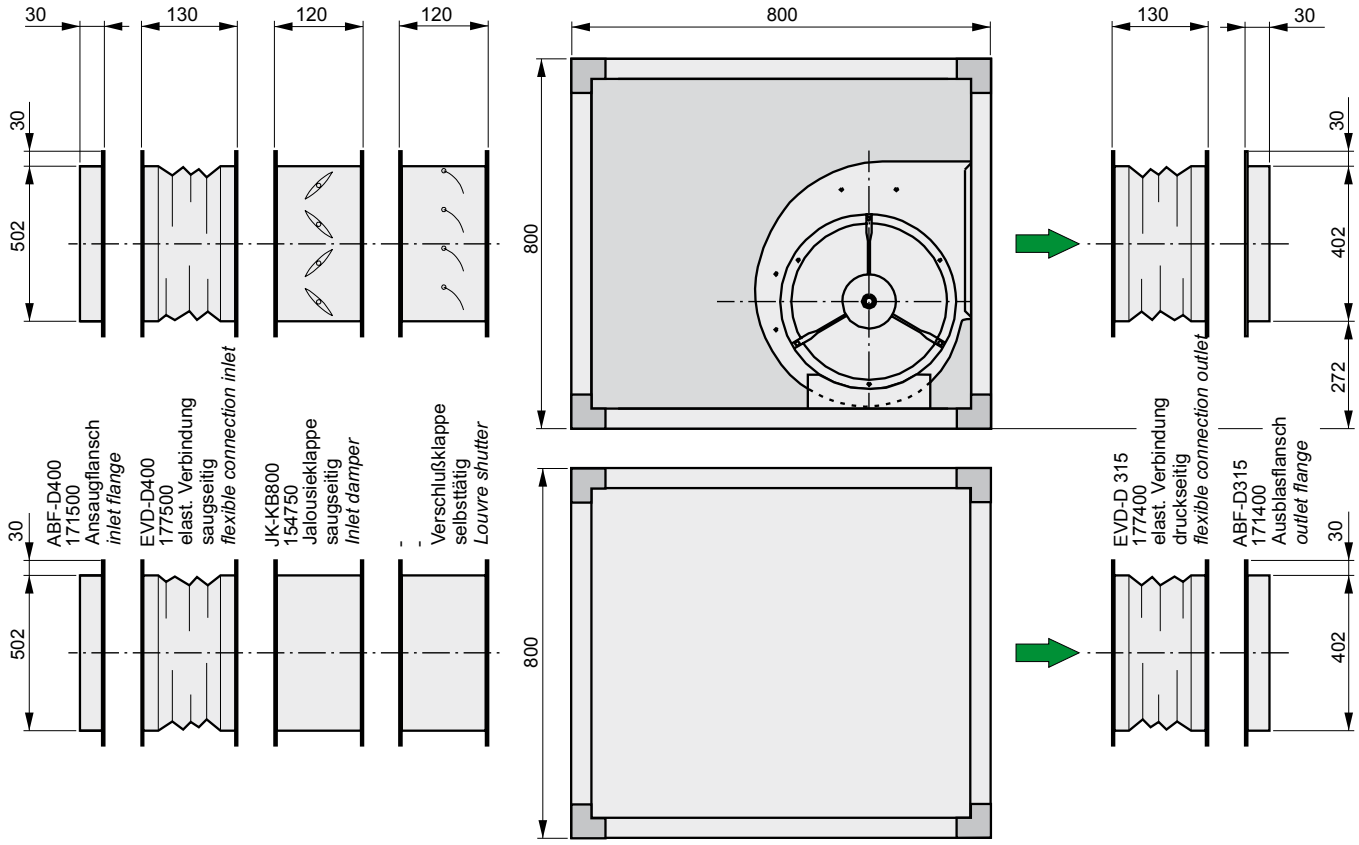


KB 800-40 / DRSD 315-4			ArtNr :	150500		107	kg
U :	400 V 50 Hz		t_R :	40	°C	IP 54	
P_1 :	4,8	kW	$\Delta p_{fa\ min}$:	150		DD0b	
I_N :	8,9	A	Δ I :	8%		GS 2	
n :	1350	min^{-1}	I_A / I_N :	4,3		RTD 10	
C_{400V} :	-	µF				SAD 9	

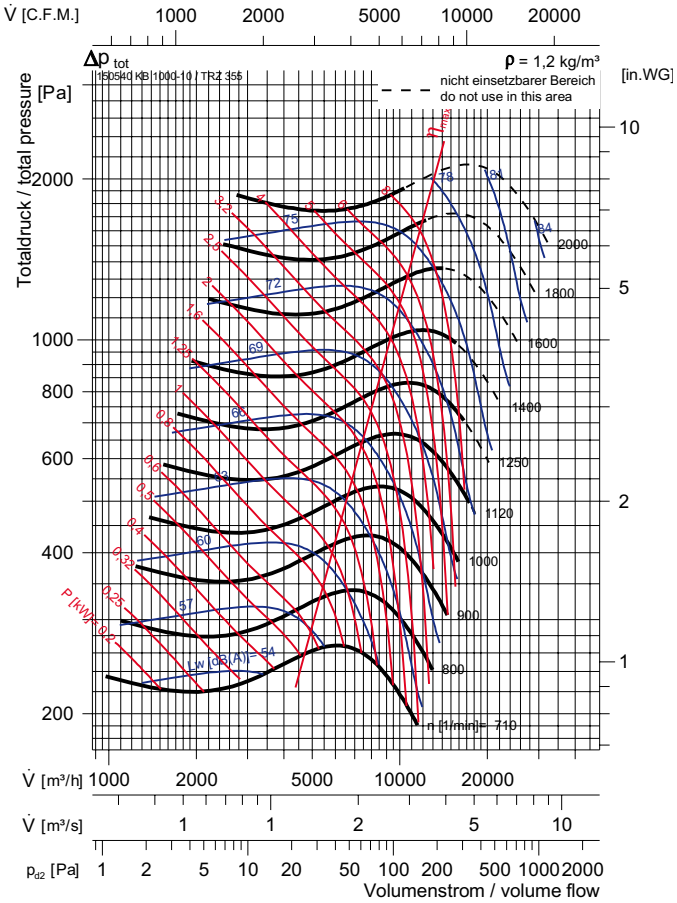
KB 800-41 / DRSD 315-6



KB 800-41 / DRSD 315-6			ArtNr :	150520		94	kg
U :	400 V 50 Hz		t_R :	60	°C	IP 54	
P_1 :	2,1	kW	$\Delta p_{fa\ min}$:	0		DD0b	
I_N :	3,7	A	Δ I :	-		GS 2	
n :	780	min^{-1}	I_A / I_N :	2,6		RTD 5	
C_{400V} :	-	µF				SAD 9	

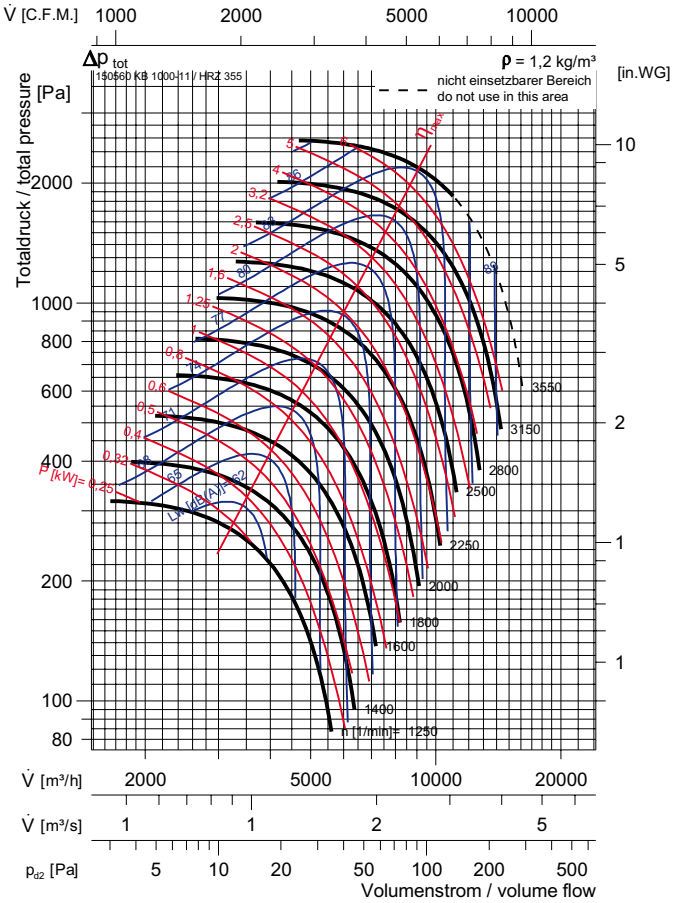


KB 1000-10 / TRZ 355

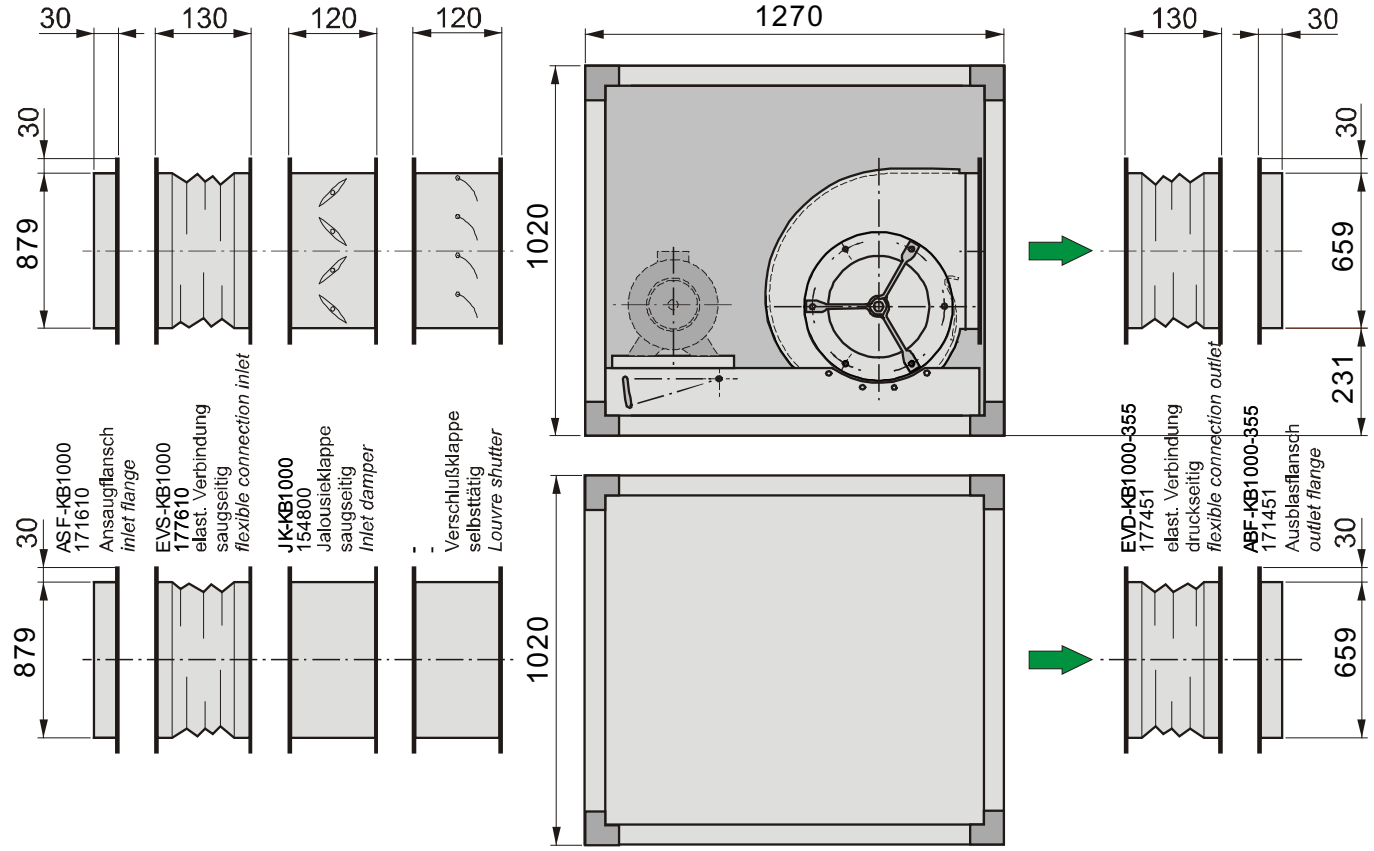


Typ:	KB 1000-10 / TRZ 355	ArtNr:	150540	124	kg

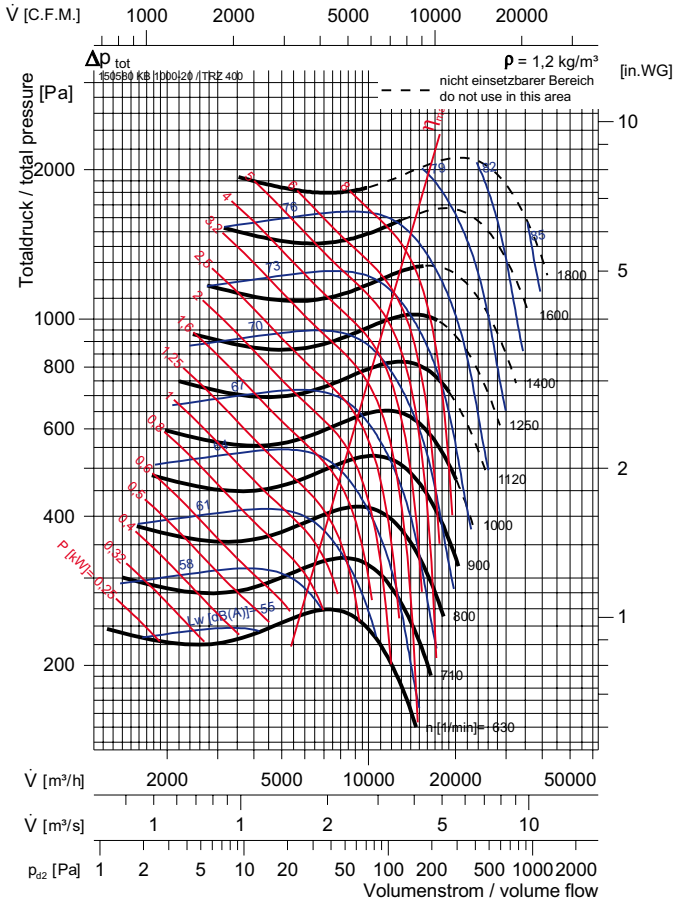
KB 1000-11 / HRZ 355



Typ:	KB 1000-11 / HRZ 355	ArtNr:	150560	122	kg

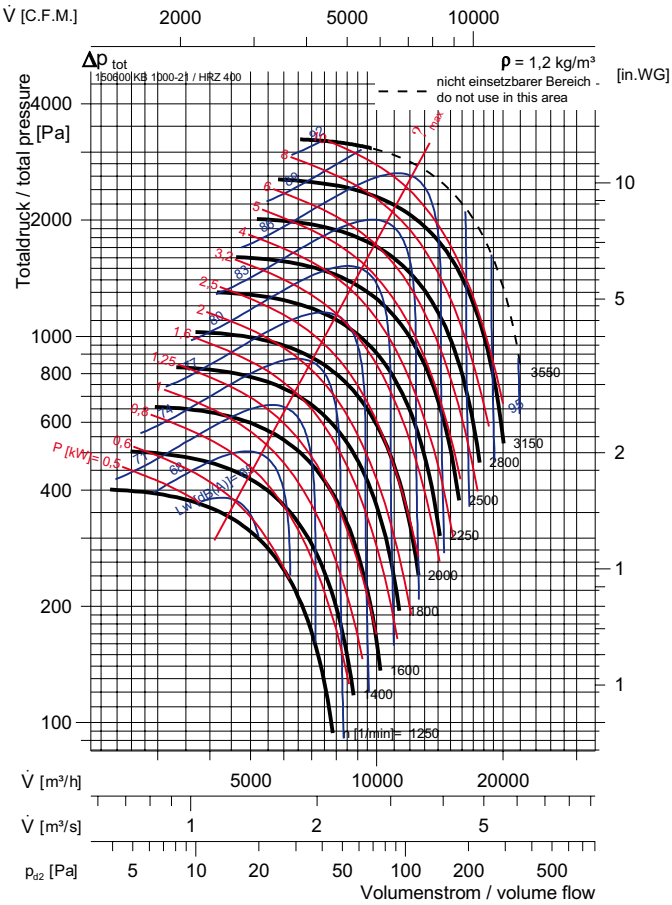


KB 1000-20 / TRZ 400

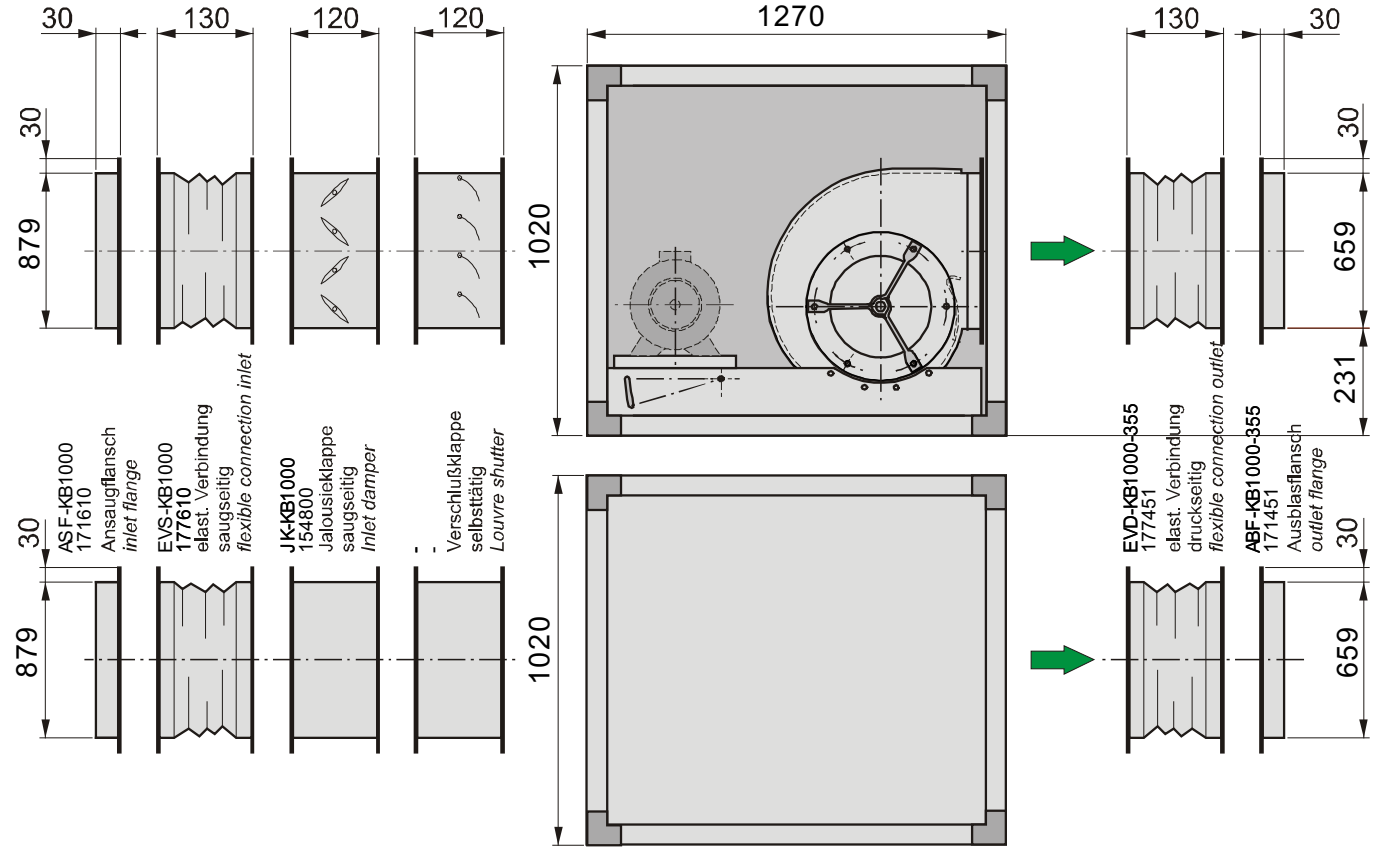


Typ:	KB 1000-20 / TRZ 400	ArtNr:	150580	137	kg

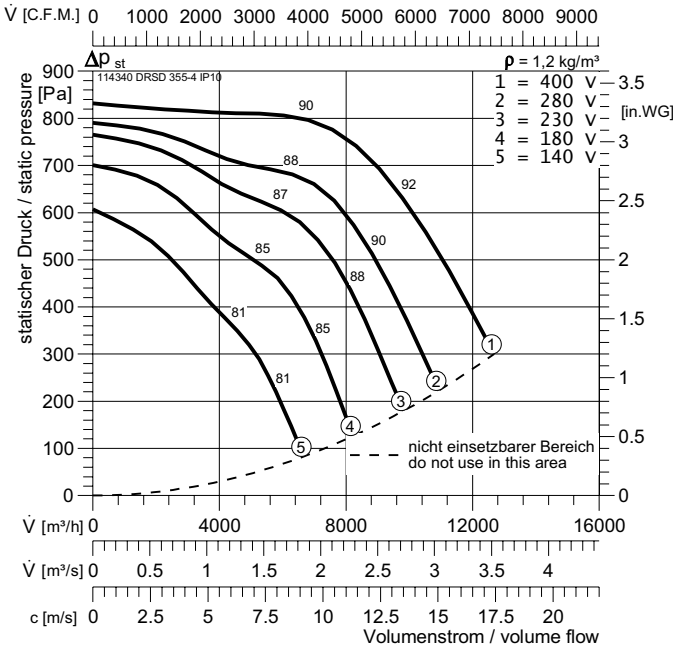
KB 1000-21 / HRZ 400



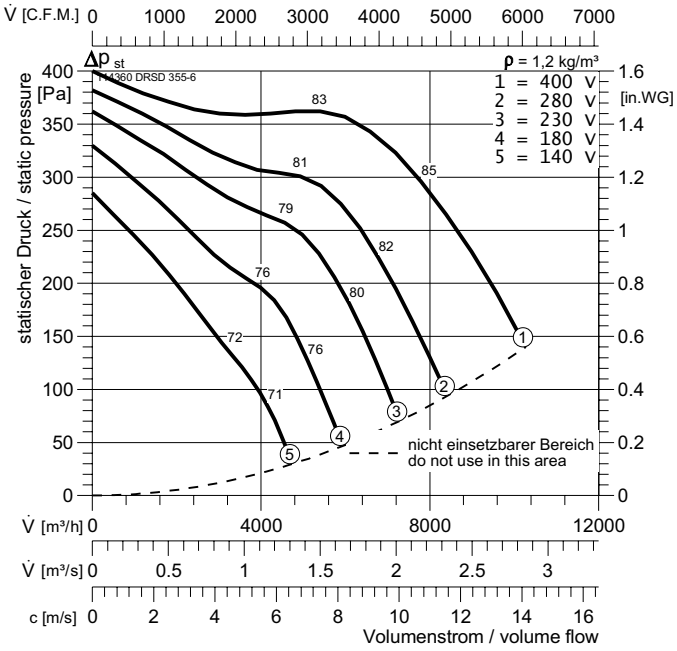
Typ:	KB 1000-21 / HRZ 400	ArtNr:	150600	134	kg



KB 1000-30 / DRSD 355-4

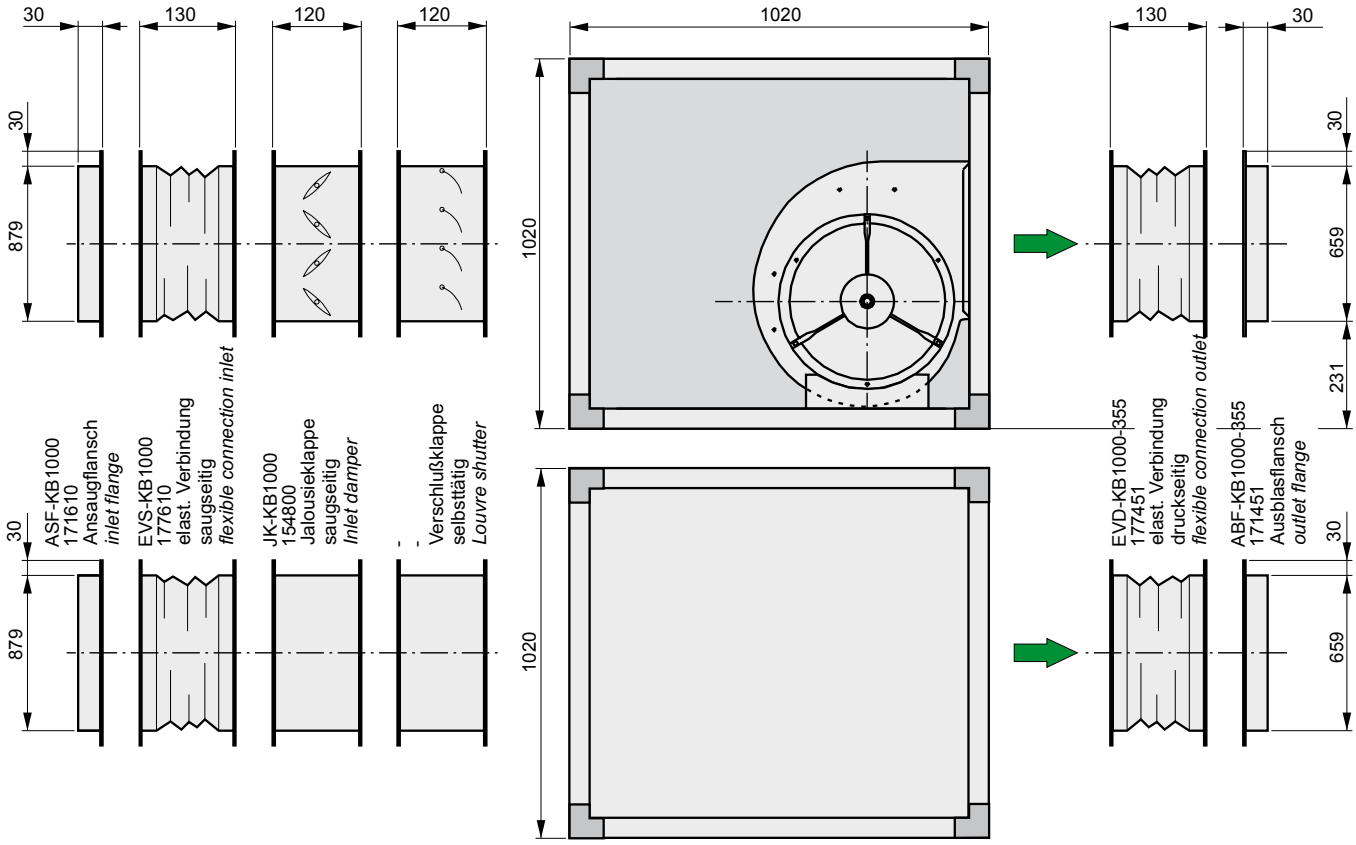


KB 1000-31 / DRSD 355-6

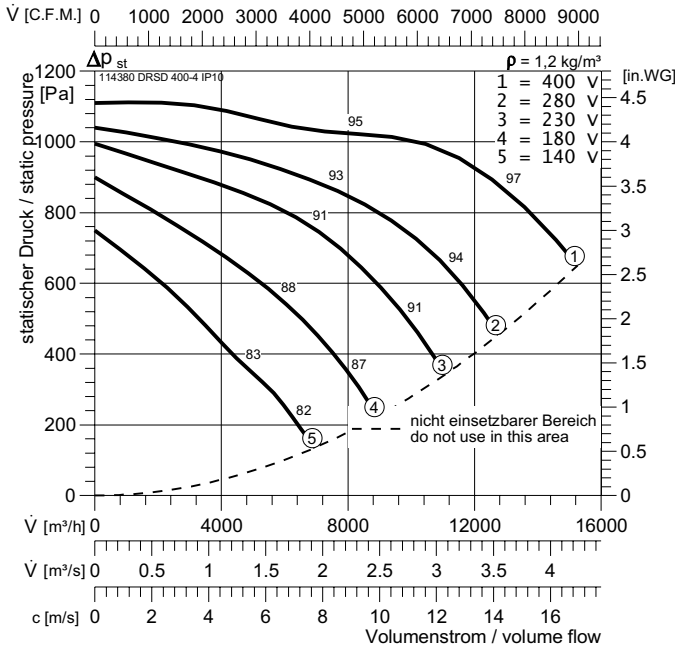


KB 1000-30 / DRSD 355-4			ArtNr :	150620		161 kg
U :	400 V 50 Hz		t_R :	40	°C	IP 10
P_1 :	8	kW	$\Delta p_{fa\,min}$:	300		DD0b
I_N :	14	A	ΔI :	2%		GS 2
n :	1275	min^{-1}	I_A / I_N :	4,6		RTD 14
C_{400V} :	-	µF				SAD 16

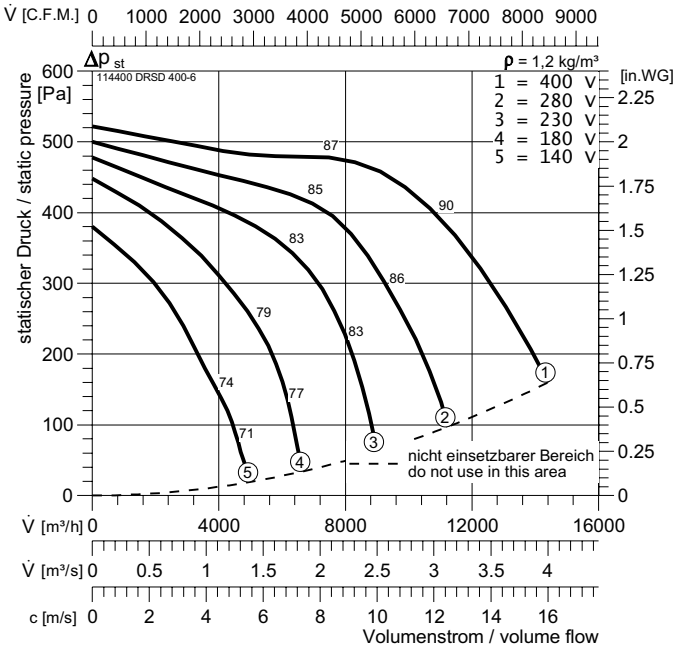
KB 1000-31 / DRSD 355-6			ArtNr :	150640		147 kg
U :	400 V 50 Hz		t_R :	40	°C	IP 54
P_1 :	2,95	kW	$\Delta p_{fa\,min}$:	140		DD0b
I_N :	5,2	A	ΔI :	-		GS 2
n :	790	min^{-1}	I_A / I_N :	3		RTD 7
C_{400V} :	-	µF				SAD 9



KB 1000-40 / DRSD 400-4

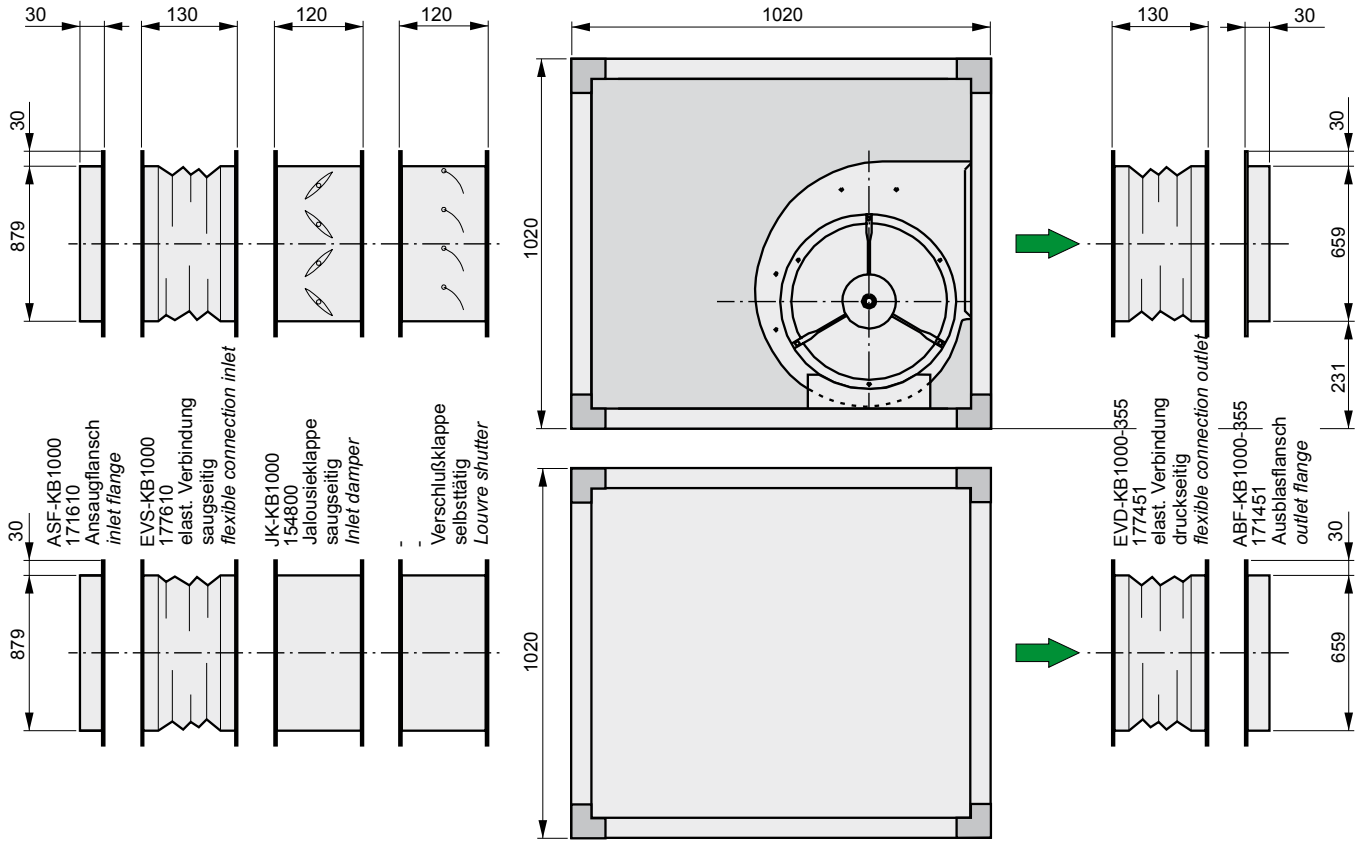


KB 1000-41 / DRSD 400-6

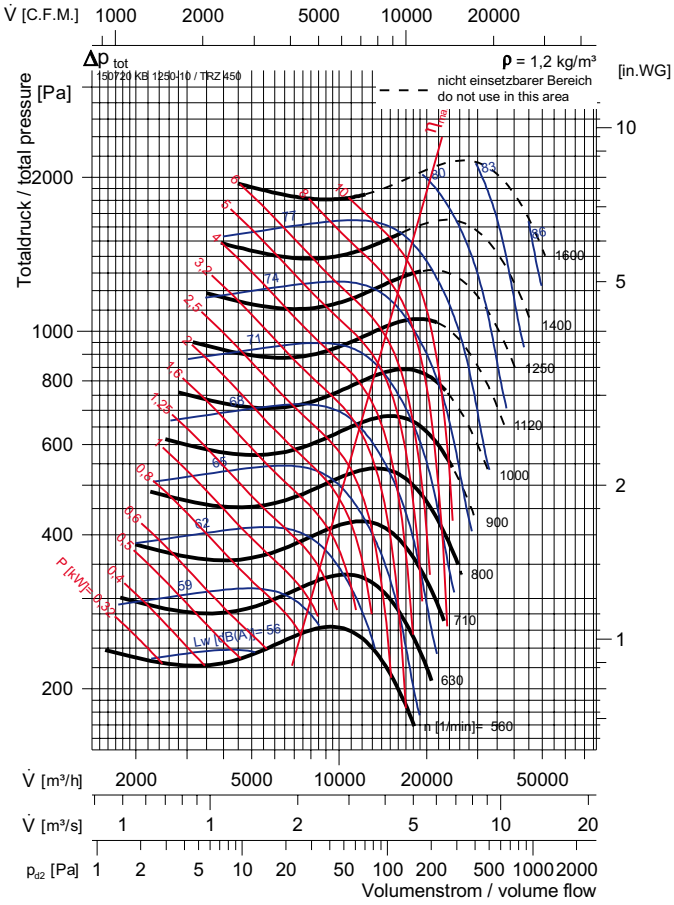


KB 1000-40 / DRSD 400-4			ArtNr :	150660		193 kg
U :	400 V 50 Hz		t_R :	40	°C	IP 10
P_1 :	13	kW	$\Delta p_{fa\ min}$:	650		DD0b
I_N :	19	A	ΔI :	18		
n :	1300	min^{-1}	I_A / I_N :	4		
C_{400V} :	-	µF				

KB 1000-41 / DRSD 400-6			ArtNr :	150680		186 kg
U :	400 V 50 Hz		t_R :	40	°C	IP 54
P_1 :	5,3	kW	$\Delta p_{fa\ min}$:	160		DD0b
I_N :	10	A	ΔI :	3%		GS 2
n :	845	min^{-1}	I_A / I_N :	3,2		RTD 14
C_{400V} :	-	µF				SAD 9

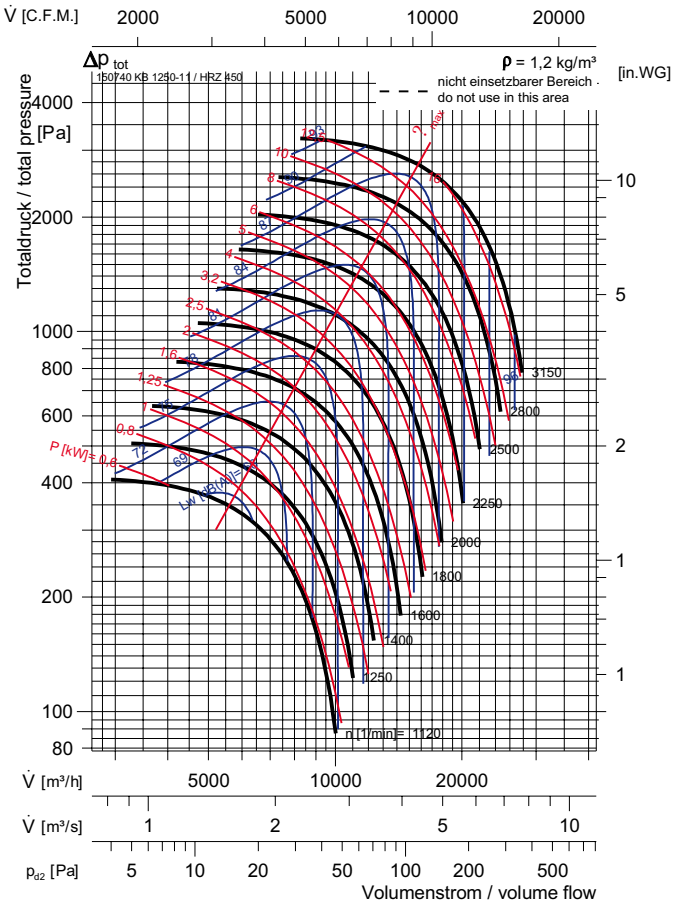


KB 1250-10 / TRZ 450

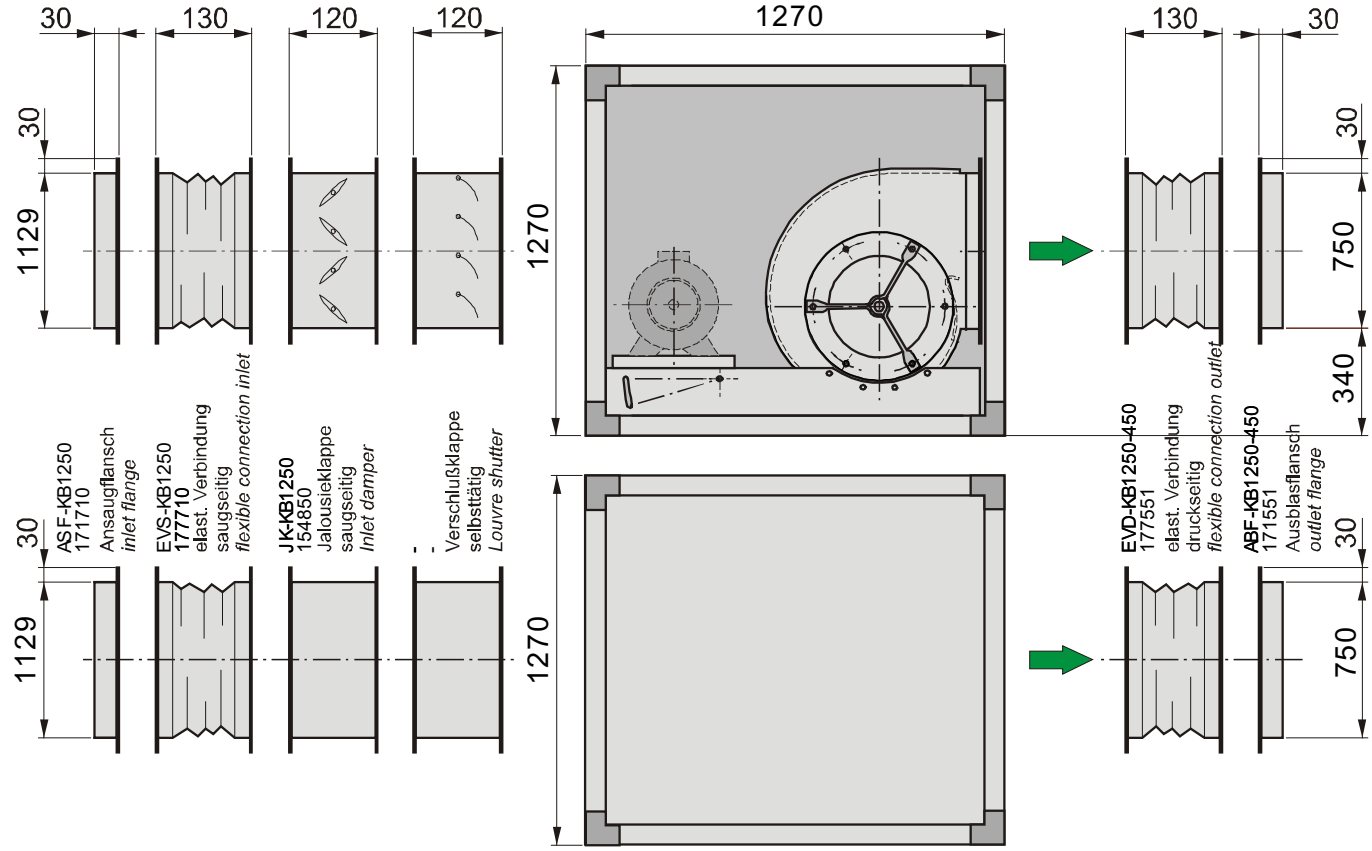


Typ:	KB 1250-10 / TRZ 450	ArtNr:	150720	161	kg

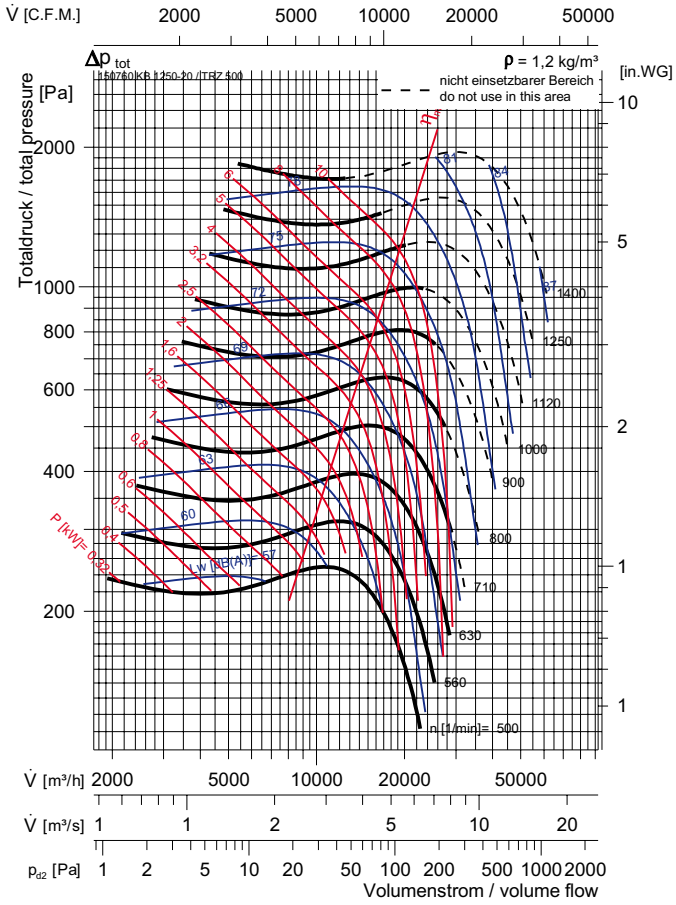
KB 1250-11 / HRZ 450



Typ:	KB 1250-11 / HRZ 450	ArtNr:	150740	157	kg

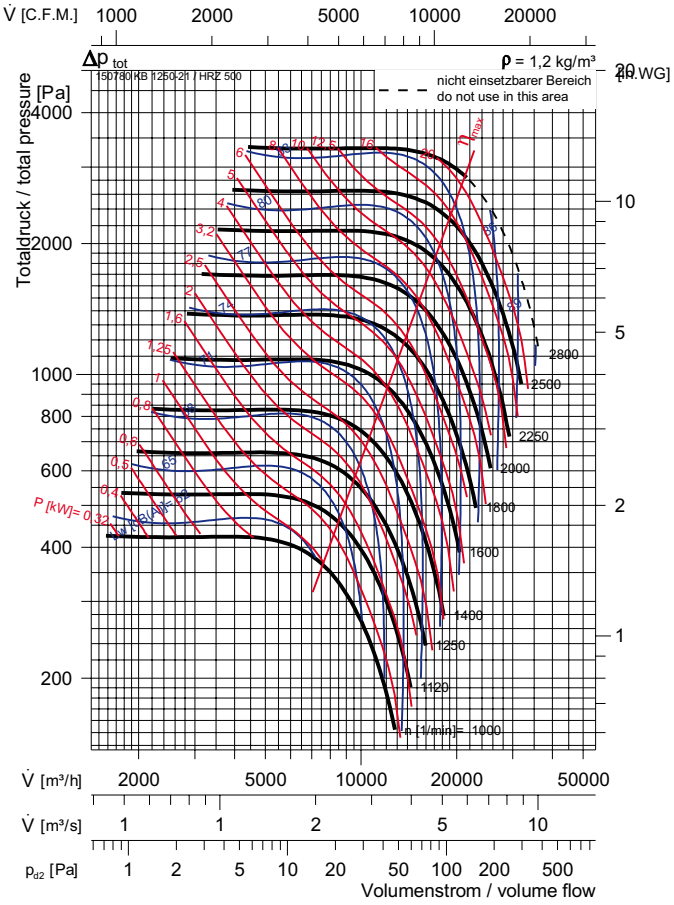


KB 1250-20 / TRZ 500

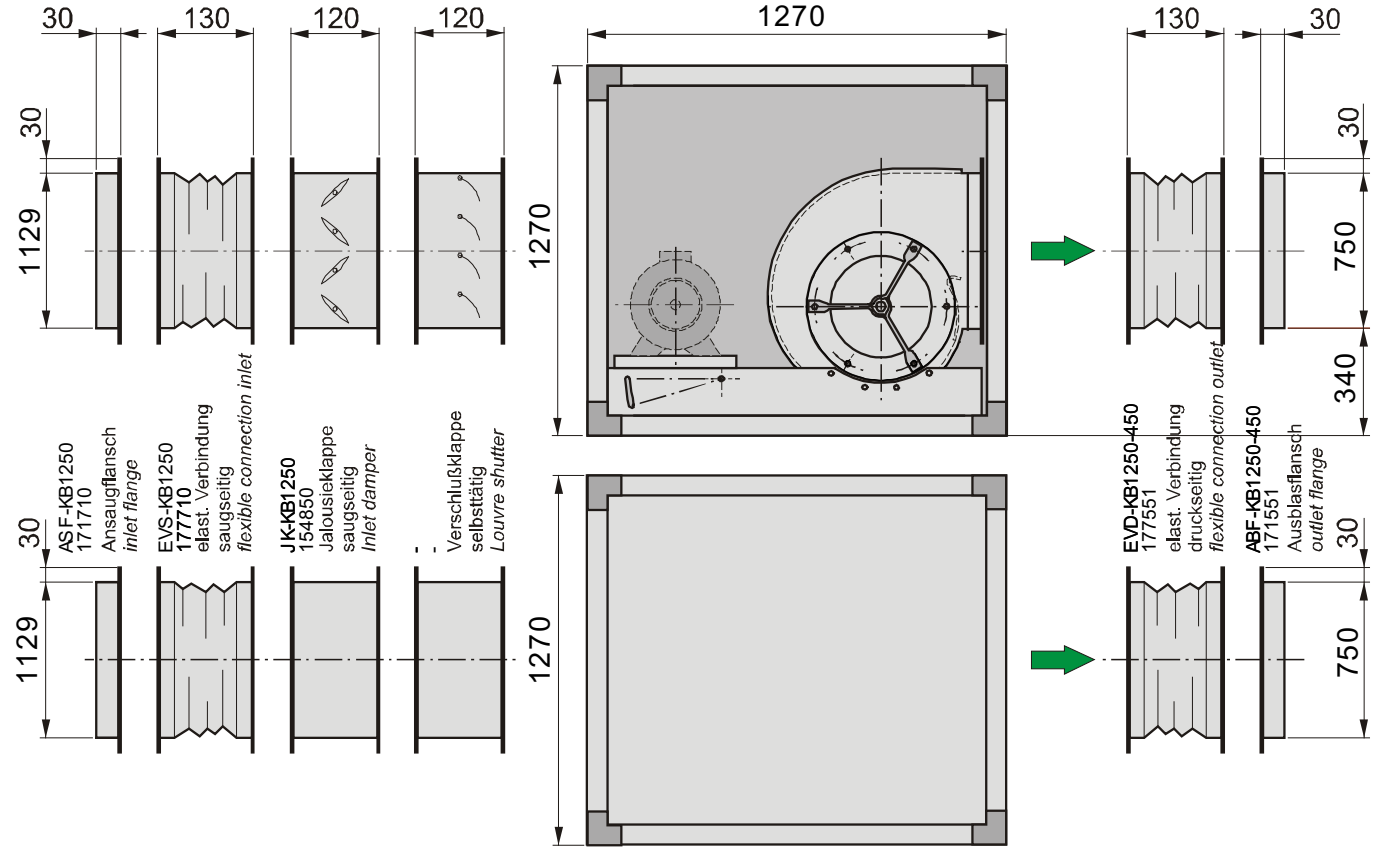


Typ:	KB 1250-20 / TRZ 500	ArtNr:	150760		175	kg

KB 1250-21 / HRZ 500



Typ:	KB 1250-21 / HRZ 500	ArtNr:	150780		169	kg



Kanalboxen
Cabinet Fans

Preisliste Seite / Price List Page 32, 33

Typenschlüssel *Fan type code*

KB PF E 500 - 10

- Laufradtyp und Drehzahl / *Impeller type and speed*
- Nennweite / *Impeller diameter*
- Motorversion / *Motor type*
  - E = Einphasenwechselstrom / *Single-phase A.C.*
  - D = Drehstrom / *Three-phase A.C.*
- freilaufendes Rad / *Plug fan*
- Kanalbox / *Cabinet fan*

Relativer A-bewerteter OktavSchallleistungspegel *Relative octave sound power level, A-weighted*

f_M [Hz]				L_{WA}	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz
4-pol	L_{WA6rel} [dB(A)]	Ausblasseite	*Outlet side*	0	-16	-14	-8	-5	-6	-7	-17
	L_{WA5rel} [dB(A)]	Ansaugseite	*Inlet side*	-6	-19	-21	-12	-11	-13	-15	-24
	L_{WA2rel} [dB(A)]	Gehäuseabstrahlung	*Casing*	-25	-30	-32	-34	-32	-37	-42	-49
6-pol	L_{WA6rel} [dB(A)]	Ausblasseite	*Outlet side*	0	-13	-13	-7	-6	-5	-7	-15
	L_{WA5rel} [dB(A)]	Ansaugseite	*Inlet side*	-6	-21	-21	-13	-12	-12	-13	-20
	L_{WA2rel} [dB(A)]	Gehäuseabstrahlung	*Casing*	-25	-34	-34	-29	-32	-34	-39	-46

Eigenschaften und Ausführung

Aufgrund der in allen drei Dimensionen identischen Gehäuselänge sind die Paneele auf allen Seiten austauschbar. Damit kann die Kanalbox KBPF sowohl mit herkömmlicher horizontaler Durchströmung als auch mit 90° Umlenkung betrieben werden.

Gehäuse

- Gehäuserahmen aus stabilen Spezial-Aluminiumprofilen mit Aluminiumdruckguß- bzw. Kunststoff-Eckverbindern
- Beplankung aus sendzimirverzinktem Stahlblech, auf Wunsch epoxidharzbeschichtet oder 2-schalig
- serienmäßig schall- und wärmeisoliert; dadurch ausgezeichnetes Geräuschverhalten
- auf Wunsch kann eine Bedienseite als Tür ausgebildet werden
- Bei wetterfester Ausführung wird die Beplankung aus Aluminium gefertigt und eine Regenschutzhaube hinzugefügt

Ventilator

- direktangetriebene freilaufende Ventilatoren
- für den freilaufenden Betrieb neuentwickelte Radialräder mit bestem Wirkungsgrad

Motor

Die Kanalboxen KBPF können sowohl mit Einphasen-Wechselstrom als auch mit Drehstrommotoren, jeweils spannungsregelbar, ausgestattet werden.

Einbau und Service

- problemloser Eckeinbau durch austauschbare Seitenteile
- wartungs- und bedienungsfreundlich
- anschlußfertig verdrahtet mit wasserdichtem Klemmkasten

Folgendes Zubehör ist erhältlich:

Düsenmessring

Zur direkten Ermittlung des Durchflusses kann ein Düsenmessring an die Einströmdüse angebracht werden.

Elastische Verbindung

Die elastische Verbindung besteht aus zwei Winkelflanschen, die durch ein gasdichtes Segeltuch miteinander verbunden sind.

Ansaug- und Ausblasflansch

Zu den Boxen und elastischen Verbindungen sind passende verzinkte Winkelflansche erhältlich.

Jalousieklappen

Motorbetätigte Jalousieklappen JK aus Aluminium-Strangpressprofilen sind in allen Abmessungen erhältlich. Eine nähere Beschreibung dieser Jalousieklappen finden Sie auf Seite 29.

Luftleistungskennlinien

Die Kennlinien für diese Typenreihe wurden mittels einem saugseitigen Kammerprüfstand entsprechend DIN 24 163 in Einbauart D (saug- und druckseitig angeschlossen) aufgenommen und zeigen die statische Druckerhöhung Δp_{st} als Funktion des Volumenstroms. Der dynamische Druck Δp_{d2} ist jeweils auf den Ausblasflanschquerschnitt des Ventilators bezogen.

Schallentwicklung

In den Luftleistungskennlinien ist der A-bewertete Freiausblas-Schallleistungspegel L_{WA6} angegeben.Der A-bewertete Freiansaug-Schallleistungspegel L_{WA5} nach DIN 45 635, Teil 38, kann über die relativen Schallleistungspegel genau ermittelt, oder nach folgender Berechnung näherungsweise bestimmt werden:

$$L_{WA5} \approx L_{WA6} - 6\ dB$$

Der A-bewertete Gehäuse-Schallleistungspegel L_{WA2} nach DIN 45 635, Teil 38, kann über die relativen Schallleistungspegel genau ermittelt werden, oder nach folgender Berechnung näherungsweise bestimmt werden:

$$L_{WA2} \approx L_{WA6} - 25\ dB$$

Den A-bewerteten Schalldruckpegel L_{PA} in 1m Abstand erhält man annähernd, indem man vom A-Schallleistungspegel 7 db(A) abzieht:

$$L_{PA(1m)} \approx L_{WA2} - 7\ dB$$

Zu beachten ist, dass Reflexionen und Raumcharakteristik, sowie Eigenfrequenzen die Größe des Schalldruckpegels unterschiedlich beeinflussen. Um Körperschallübertragung auf ein angeschlossenes Kanalsystem zu vermeiden empfehlen wir den Einsatz unserer flexiblen Kanalverbindungsstücke.

Für genauere Berechnungen bei Schallschutzmaßnahmen ist der A-bewertete Schallleistungspegel der Oktavbänder von Bedeutung, welcher wie folgt ermittelt wird:

$$L_{WAokt} = L_{WA6} + L_{WArel}$$

Die relativen A-bewerteten Oktav-Schallleistungspegel L_{WArel} bei den Oktav-Mittenfrequenzen sind folgender Tabelle zu entnehmen, sie sind bei 0,5 x Vmax ermittelt worden.

Design features

All side panels are exchangeable, which allows either in-line horizontal airflow or a 90° deflection.

Casing

- frame made of extruded aluminium profiles, joined together by either plastic or aluminium corners
- side panels made of galvanised sheet metal with optional epoxy coating
- panels are insulated to ensure low noise levels
- optional access door on service side
- weatherproof version with aluminium side plates and weather-hood available

Fans

- direct-driven plug fans
- newly developed high-efficiency impeller

Motor

KBPF cabinets are equipped with voltage-controllable single-phase or three-phase motors.

Installation and maintance

- interchangeable panels allow for easy installation
- low-maintenance operation
- electrical connection via waterproof terminal box

The following accessories are available:

Measuring ring at inlet cone

For direct measurement of the airflow, the inlet cone can be fitted with a volume flow measuring ring. In combination with a pressure sensor the airflow can be measured.

Flexible connection

The flexible connection consists of two galvanised flanges, assembled with gas-tight canvas.

Inlet and outlet flanges

Galvanised matching flanges for inlet and outlet sides.

Dampers

JK-type motorised volume control dampers are available in any dimension. For further information, please refer to page 29 of this catalogue.

Fan Performance Curves

The performance curves for these fans have been established using the inlet test method in the test chamber according to DIN 24 163, mounting position D (connected at both sides). The curves indicate the static pressure increase Δp_{st} as a function of the volume flow. The dynamic pressure Δp_{d2} shown in the performance curves refers to the outlet flange cross-sectional area.

Noise levels

The figures given in the performance curves are the A-weighted sound power levels L_{WA6} at the outlet side in duct systems, in decibels. The A-weighted sound power level at the inlet side L_{WA5}, according to DIN 45 635, part 38, can be calculated via the relative sound power levels (see below) or is obtained by the following approximation formula:

$$L_{WA5} \approx L_{WA6} - 6\ dB$$

The A-weighted sound power level radiated from the casing L_{WA2}, according to DIN 45 635, part 38, can be calculated via the relative sound power levels (see below) or is obtained by the following approximation formula:

$$L_{WA2} \approx L_{WA6} - 25\ dB$$

The A-weighted sound pressure level L_{PA} at a distance of 1 metre is obtained approximately by deducting 7 dB(A) from the "A" sound power level:

$$L_{PA(1m)} \approx L_{WA2} - 7\ dB$$

It is important to note that reflexion and environmental characteristics as well as resonant frequencies influence the sound pressure levels in different ways. In order to avoid structure-borne noise transfer to a connected duct system we recommend the use of flexible connections.

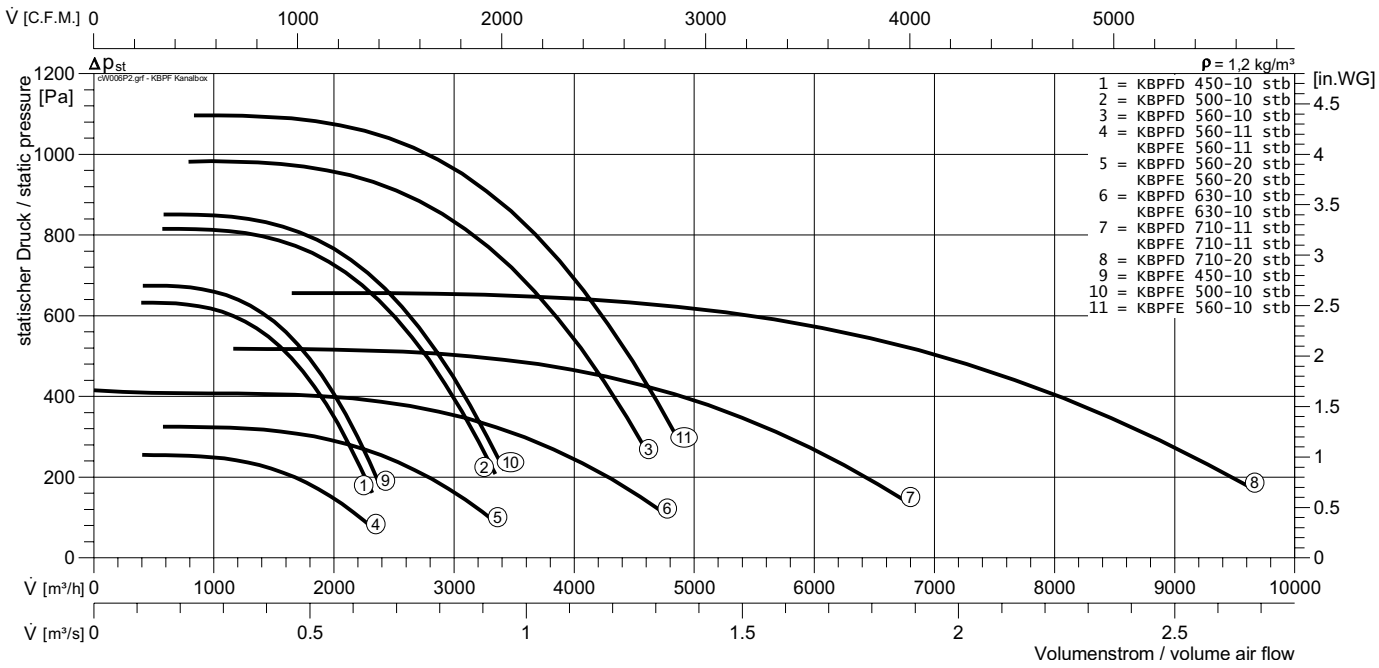
The A-weighted octave sound power level is important for the choice of suitable sound attenuators. It is obtained as follows:

$$L_{WAokt} = L_{WA6} + L_{WArel}$$

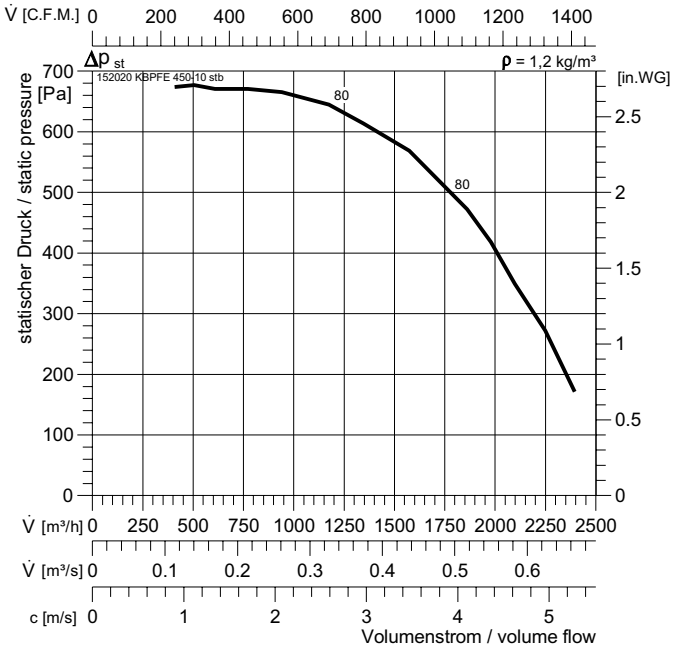
The relative A-weighted octave sound power level L_{WArel} at octave medium frequency can be taken from the respective table. These levels have been established at 0.5 x Vmax:

Schnellauswahl

Quick selection

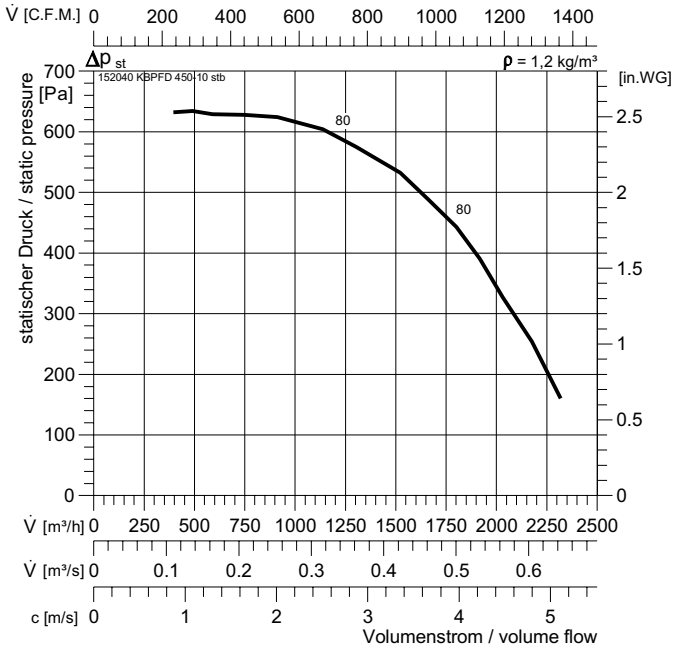


KBPFE 450-10 Stb.

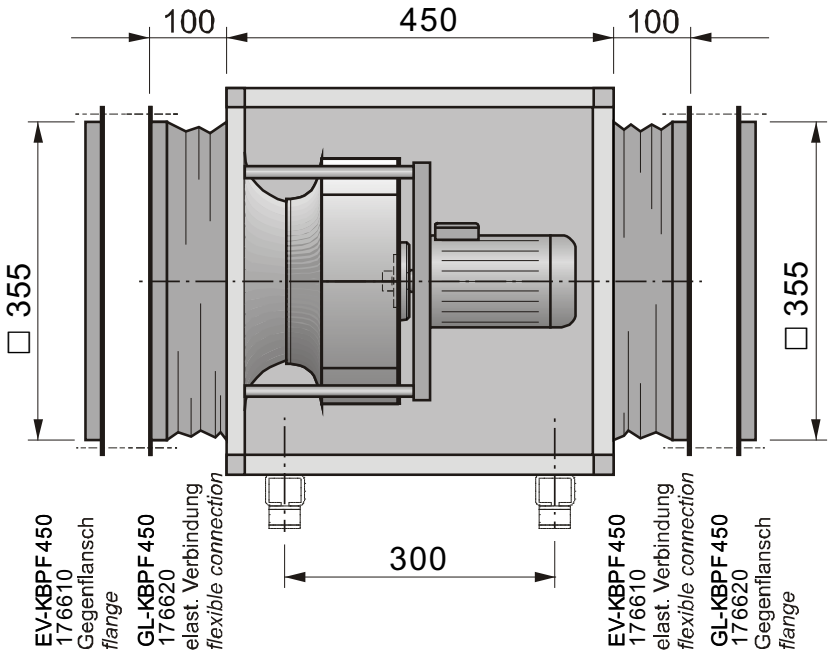


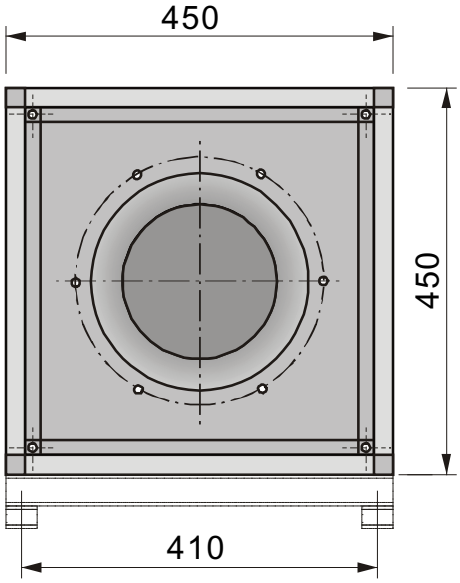
KBPFE 450-10 stb			ArtNr :	152020		25	kg
U :	230 V 50 Hz		t_R :	50	°C		IP 54
P_2 :	0,48	kW	$\Delta p_{fa\ min}$:	0			E13
I_N :	3,3	A	ΔI :	-			GS2
n :	2640	min^{-1}	I_A / I_N :	2,1			RTE 5
C_{400V} :	12	µF					RPE 09

KBPFD 450-10 Stb.

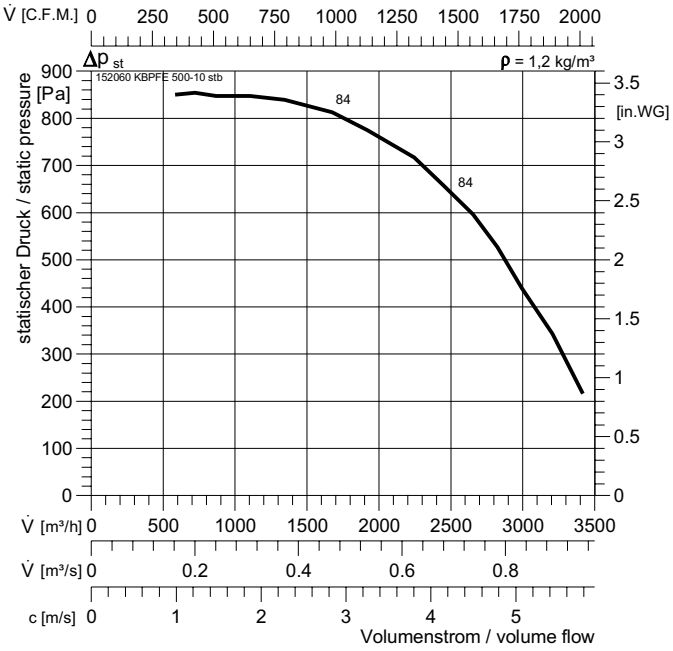


KBPFD 450-10 stb			ArtNr :	152040		25	kg
U :	400 V 50 Hz		t_R :	50	°C		IP 54
P_2 :	0,55	kW	$\Delta p_{fa\ min}$:	0			DS1
I_N :	1,67	A	ΔI :	-			GS2
n :	2730	min^{-1}	I_A / I_N :	4,2			RTD 2,5
C_{400V} :	-	µF					SAD 9



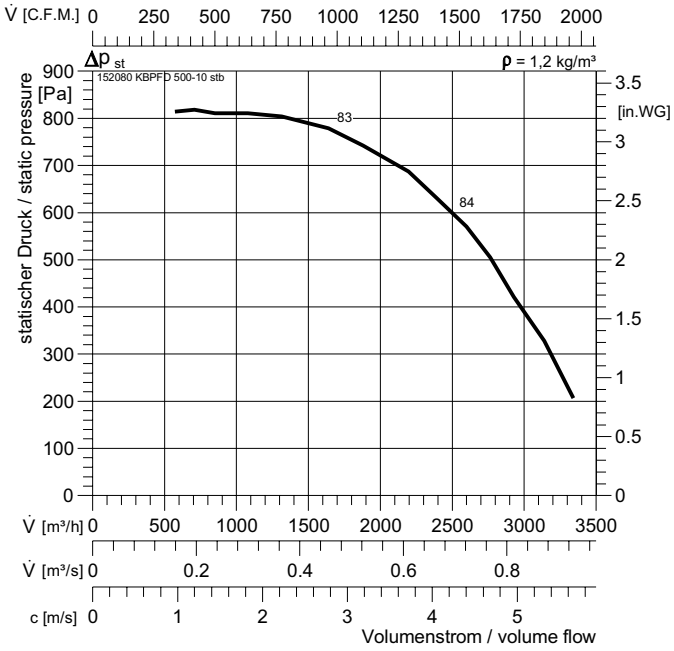


KBPFE 500-10 Stb.

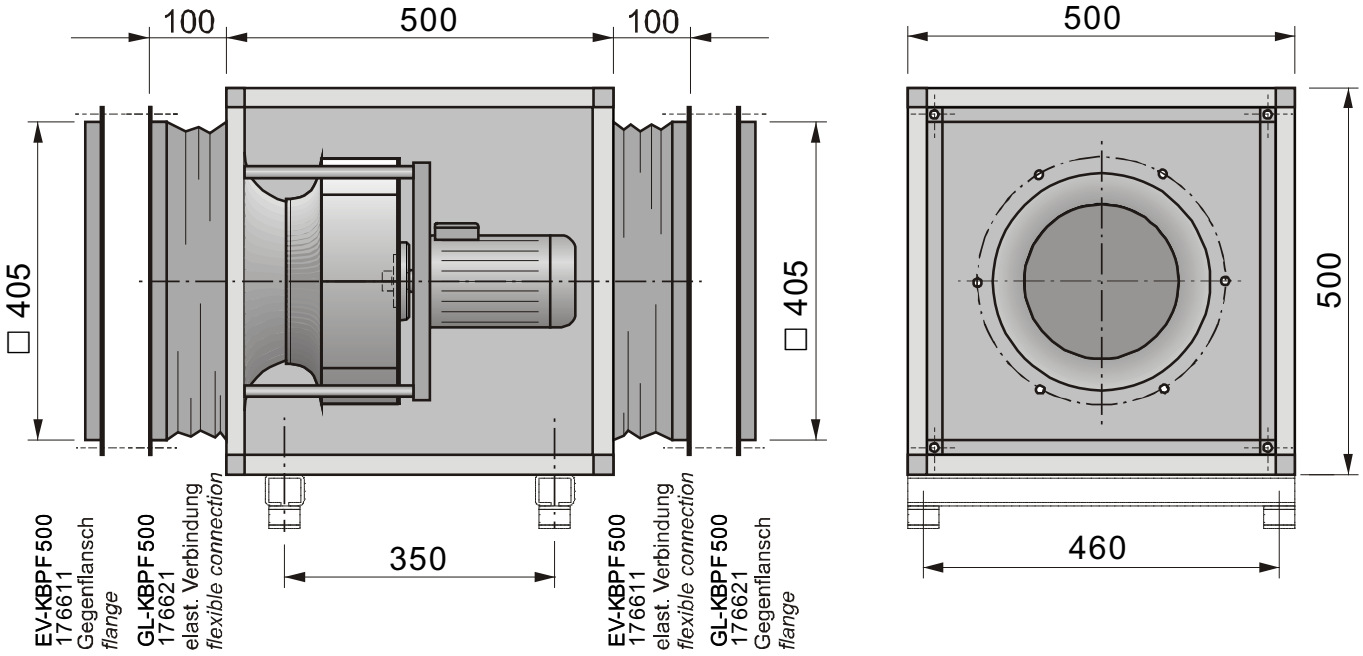


KBPFE 500-10 stb			ArtNr :	152060		32	kg
U :	230 V 50 Hz		t_R :	50	°C	IP 54	
P_2 :	0,65	kW	$\Delta p_{fa\ min}$:	0		E13	
I_N :	4,1	A	ΔI :	-		GS2	
n :	2640	min^{-1}	I_A / I_N :	2,5		RTE 5	
C_{400V} :	16	µF				RPE 09	

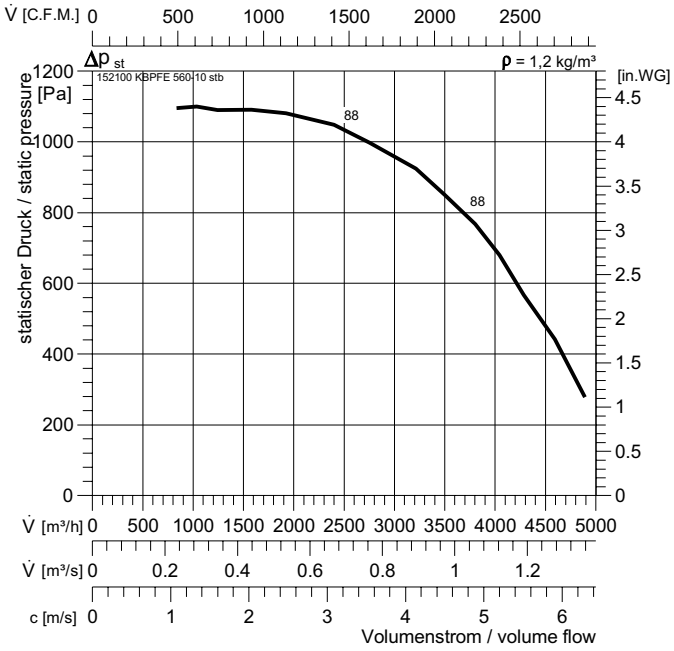
KBPFD 500-10 Stb.



KBPFD 500-10 stb			ArtNr :	152080		32	kg
U :	400 V 50 Hz		t_R :	50	°C	IP 54	
P_2 :	0,75	kW	$\Delta p_{fa\ min}$:	0		DS1	
I_N :	1,96	A	ΔI :	-		GS2	
n :	2740	min^{-1}	I_A / I_N :	4,6		RTD 2,5	
C_{400V} :	-	µF				SAD 9	

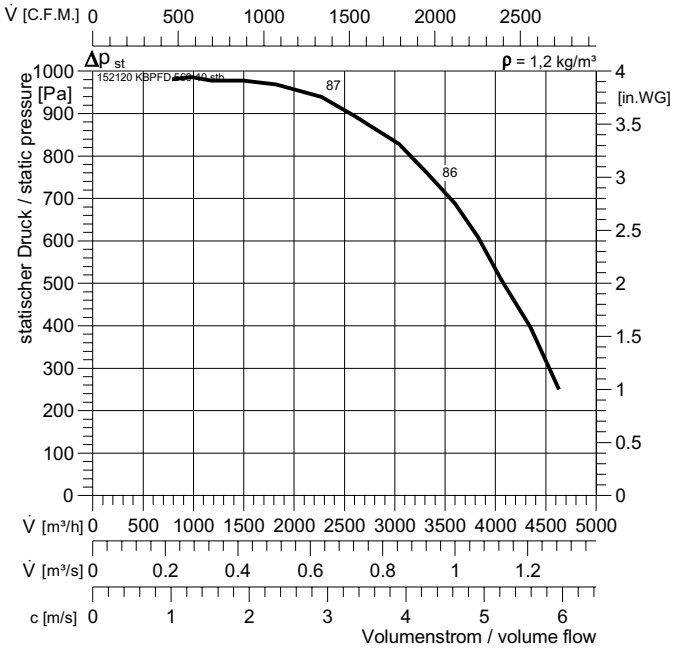


KBPFE 560-10 Stb.

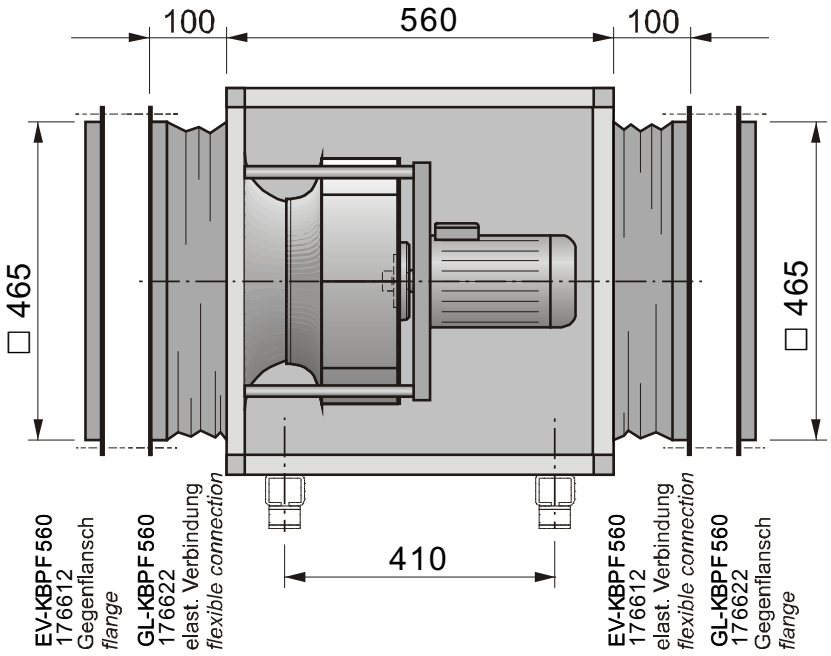


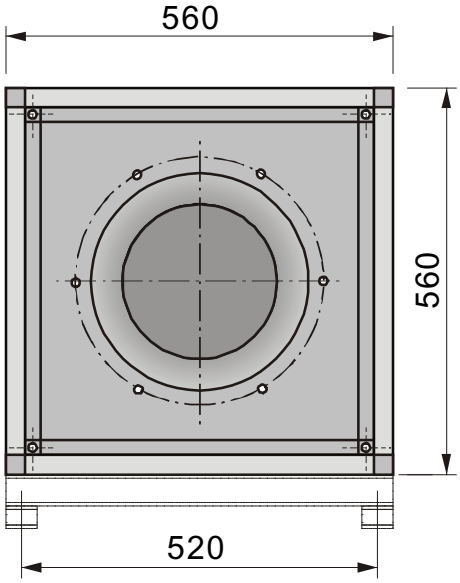
KBPFE 560-10 stb			ArtNr :	152100		38 kg
U :	230 V 50 Hz		t_R :	50	°C	IP 54
P_2 :	0,95	kW	$\Delta p_{fa\ min}$:	0		E13
I_N :	6,1	A	ΔI :	-		GS2
n :	2660	min^{-1}	I_A / I_N :	2,1		RTE 7,5
C_{400V} :	25	µF				SAE 7

KBPFD 560-10 Stb.

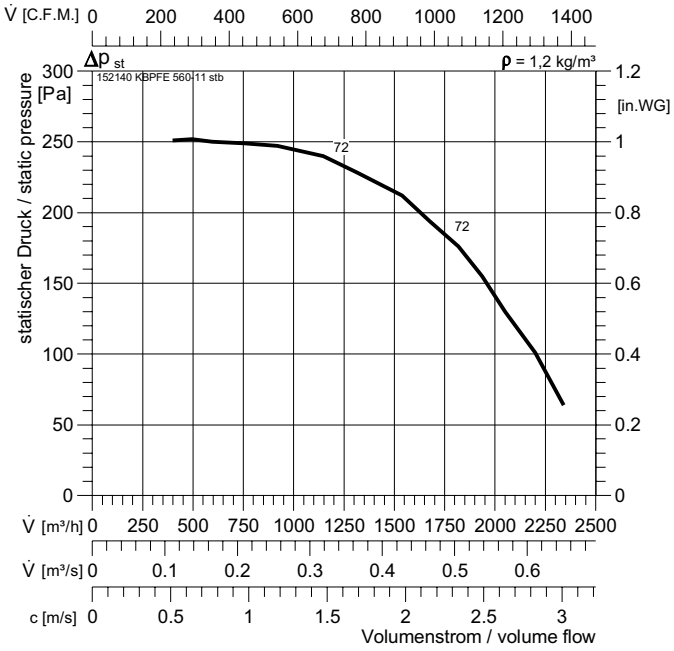


KBPFD 560-10 stb			ArtNr :	152120		38 kg
U :	400 V 50 Hz		t_R :	50	°C	IP 54
P_2 :	1,1	kW	$\Delta p_{fa\ min}$:	0		DS1
I_N :	2,6	A	ΔI :	-		GS2
n :	2670	min^{-1}	I_A / I_N :	4,5		RTD 3,0
C_{400V} :	-	µF				SAD 9



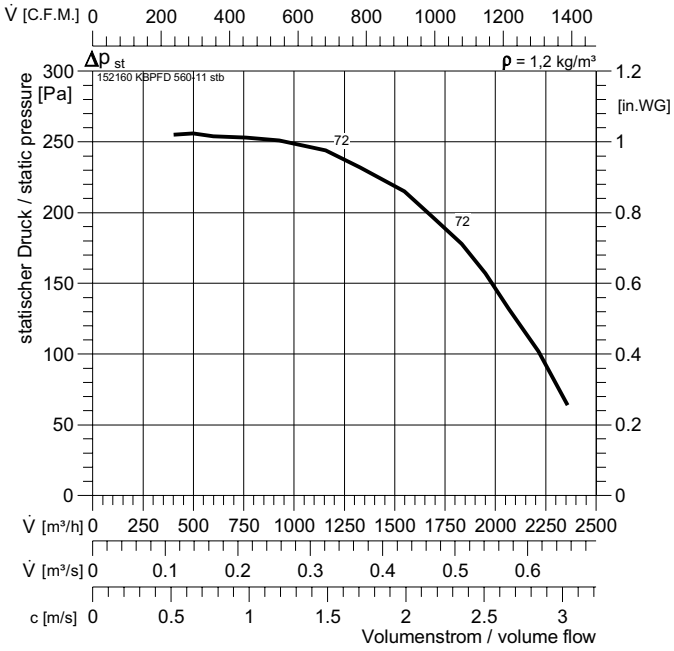


KBPFE 560-11 Stb.

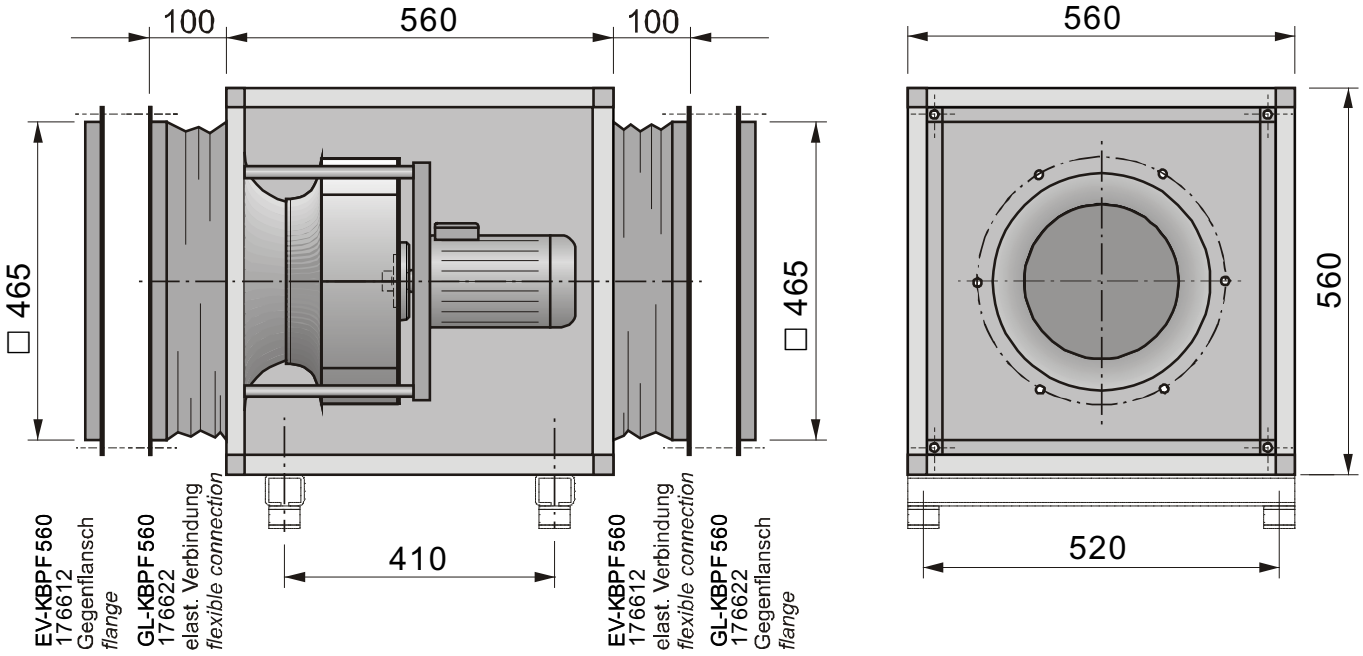


KBPFE 560-11 stb			ArtNr :	152140		33 kg
U :	230 V 50 Hz		t_R :	50	°C	IP 54
P_2 :	0,3	kW	$\Delta p_{fa\ min}$:	0		E13
I_N :	2,1	A	ΔI :	-		GS2
n :	1330	min^{-1}	I_A / I_N :	2,1		RTE 3,2
C_{400V} :	12	µF				RPE 06

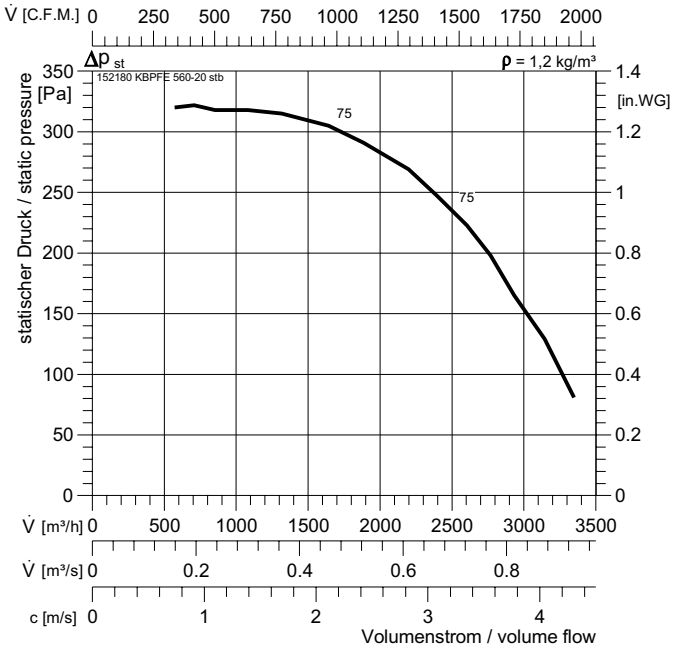
KBPFD 560-11 Stb.



KBPFD 560-11 stb			ArtNr :	152160		33 kg
U :	400 V 50 Hz		t_R :	50	°C	IP 54
P_2 :	0,37	kW	$\Delta p_{fa\ min}$:	0		DS1
I_N :	1,39	A	ΔI :	-		GS2
n :	1360	min^{-1}	I_A / I_N :	3,3		RTD 2,5
C_{400V} :	-	µF				SAD 9

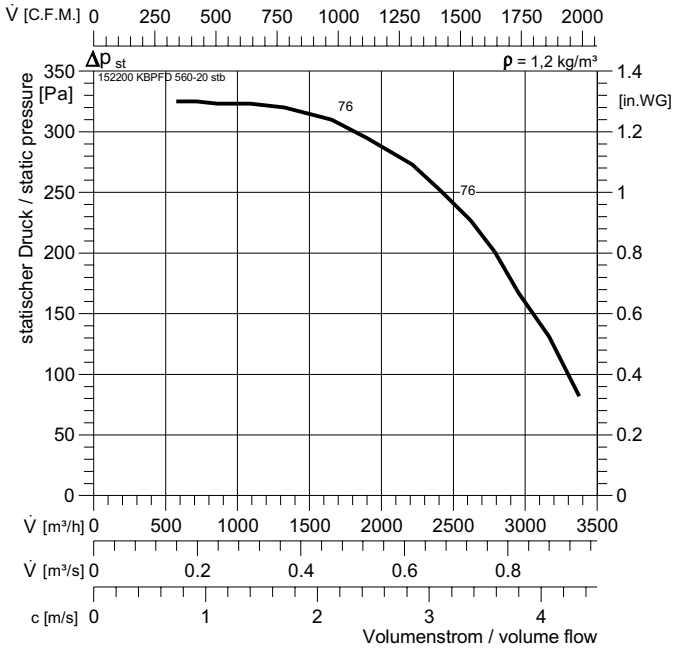


KBPFE 560-20 Stb.

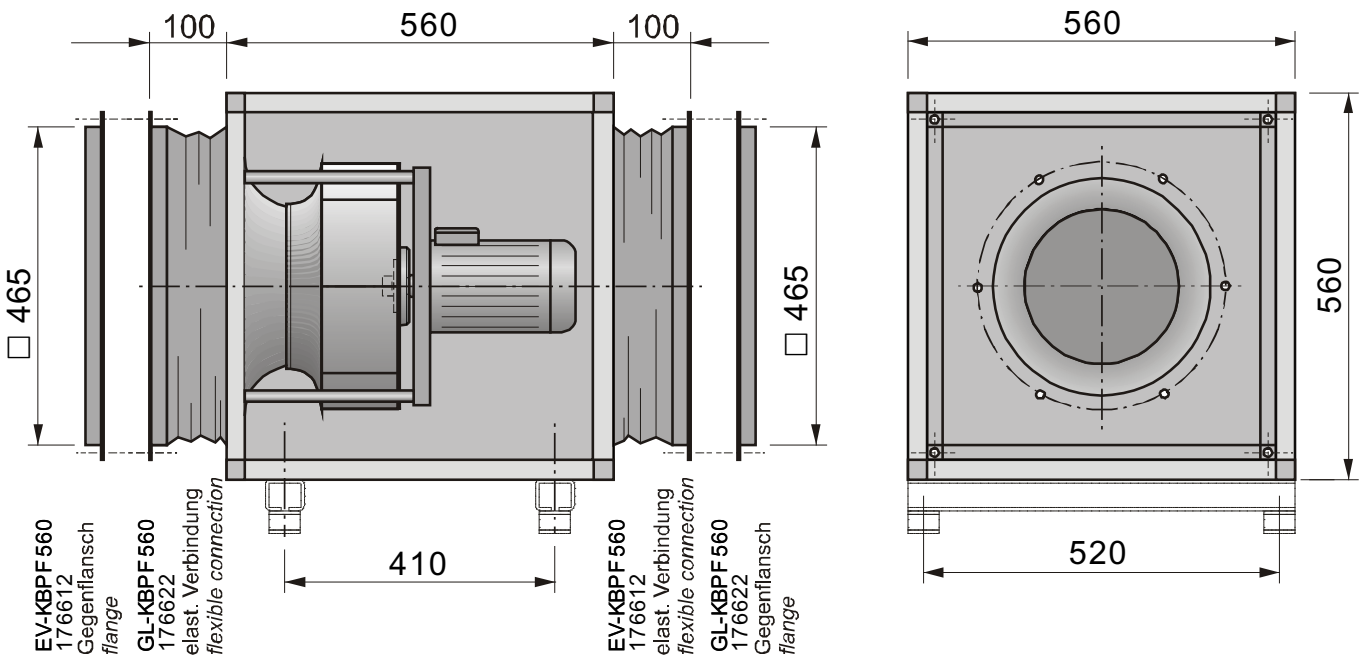


KBPFE 560-20 stb			ArtNr :	152180		35 kg
U :	230 V 50 Hz		t_R :	50	°C	IP 54
P_2 :	0,3	kW	$\Delta p_{fa\ min}$:	0		E13
I_N :	2,1	A	ΔI :	-		GS2
n :	1330	min^{-1}	I_A / I_N :	2,1		RTE 3,2
C_{400V} :	12	µF				RPE 06

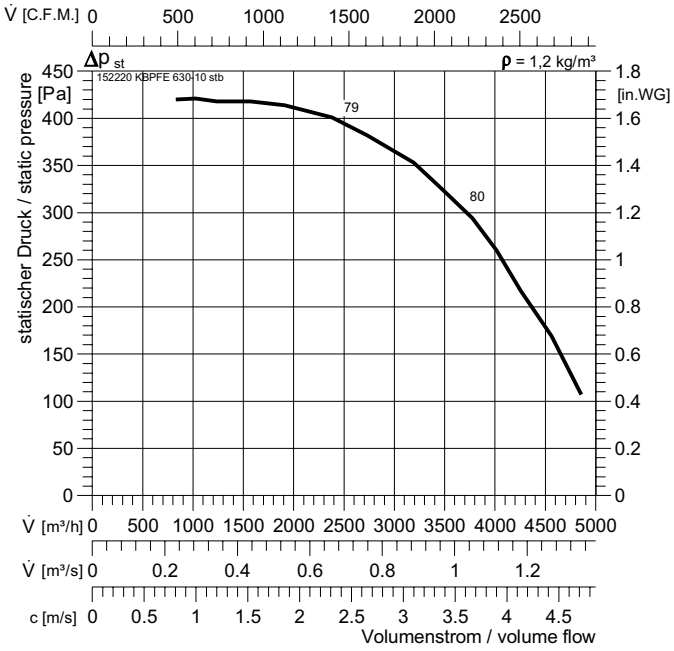
KBPFD 560-20 Stb.



KBPFD 560-20 stb			ArtNr :	152200		35 kg
U :	400 V 50 Hz		t_R :	50	°C	IP 54
P_2 :	0,37	kW	$\Delta p_{fa\ min}$:	0		DS1
I_N :	1,39	A	ΔI :	-		GS2
n :	1360	min^{-1}	I_A / I_N :	3,3		RTD 2,5
C_{400V} :	-	µF				SAD 9

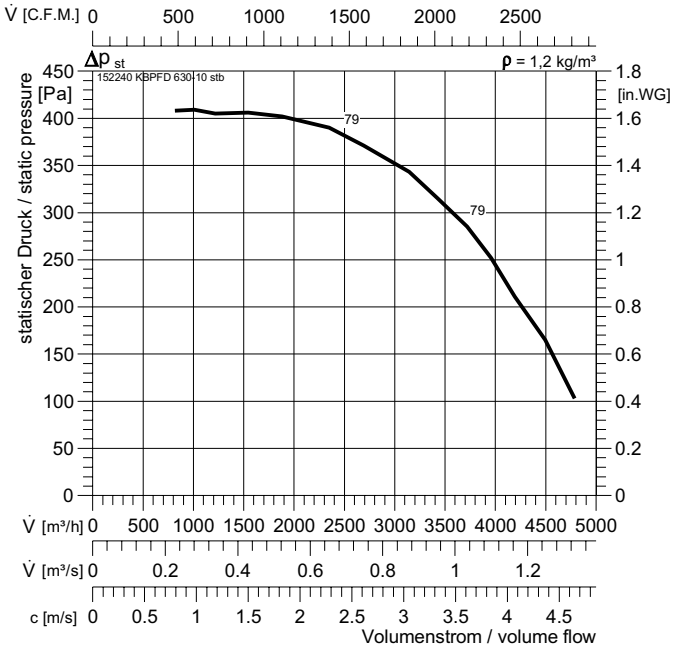


KBPFE 630-10 Stb.

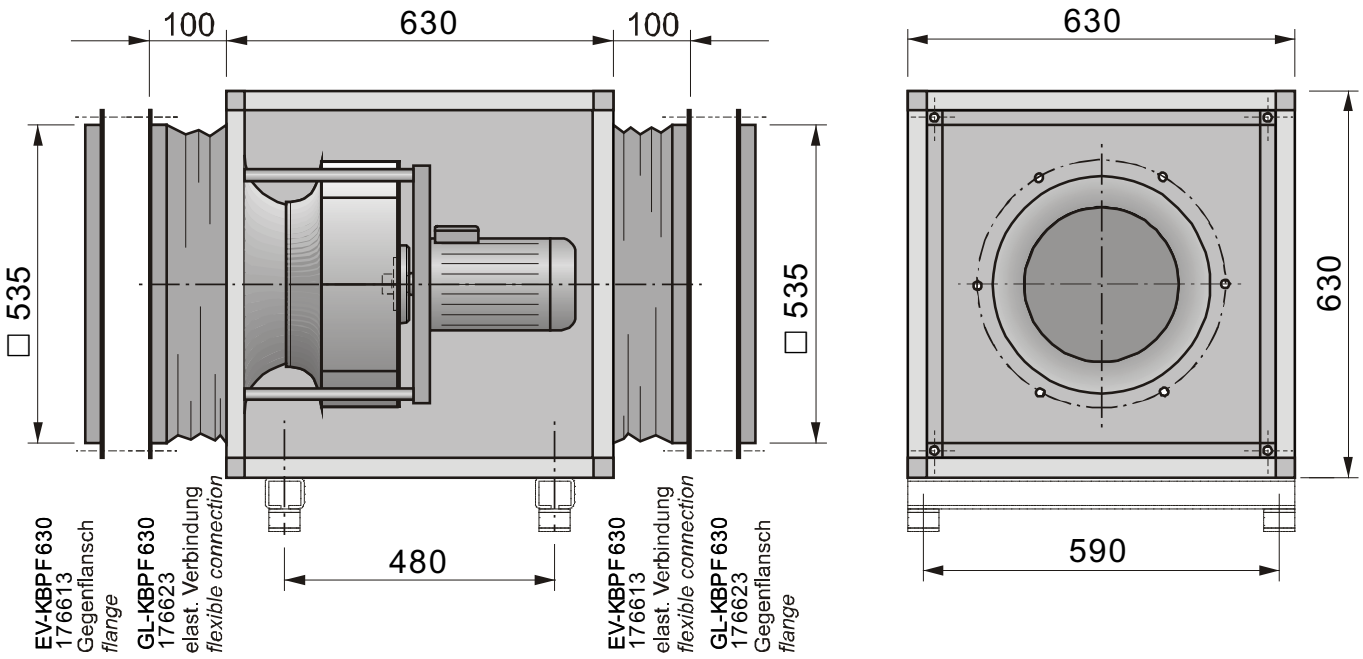


KBPFE 630-10 stb			ArtNr :	152220		46	kg
U :	230 V 50 Hz		t_R :	50	°C	IP 54	
P_2 :	0,65	kW	$\Delta p_{fa\ min}$:	0		E13	
I_N :	4,4	A	Δ I :	-		GS2	
n :	1240	min^{-1}	I_A / I_N :	2,2		RTE 5	
C_{400V} :	20	µF				RPE 09	

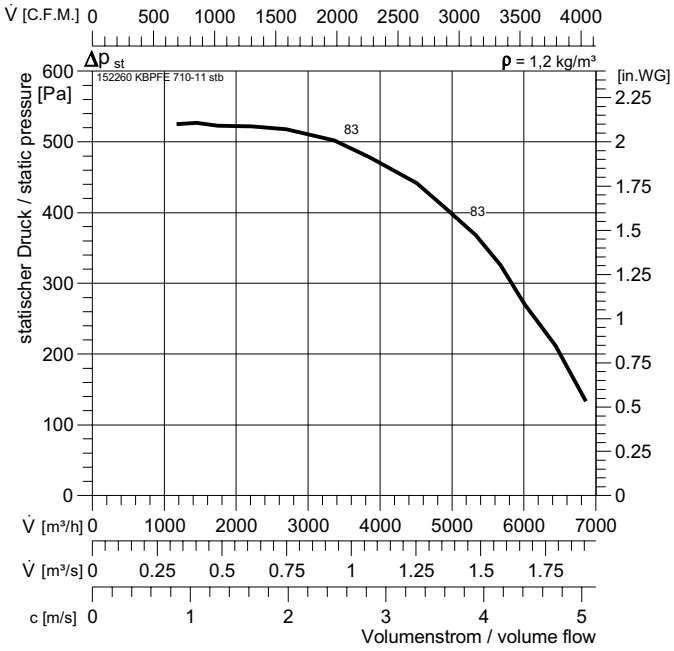
KBPFD 630-10 Stb.



KBPFD 630-10 stb			ArtNr :	152240		46	kg
U :	400 V 50 Hz		t_R :	50	°C	IP 54	
P_2 :	0,75	kW	$\Delta p_{fa\ min}$:	0		DS1	
I_N :	2,5	A	Δ I :	-		GS2	
n :	1350	min^{-1}	I_A / I_N :	3,5		RTD 2,5	
C_{400V} :	-	µF				SAD 9	

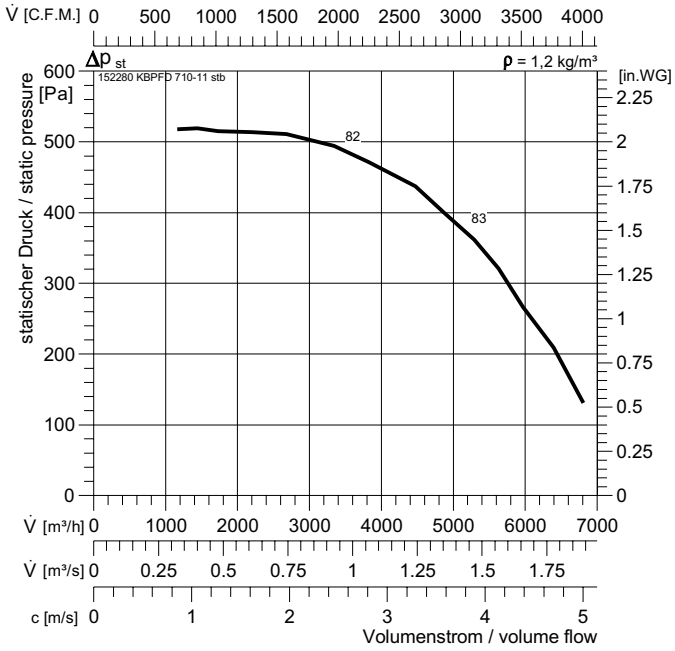


KBPFE 710-11 Stb.

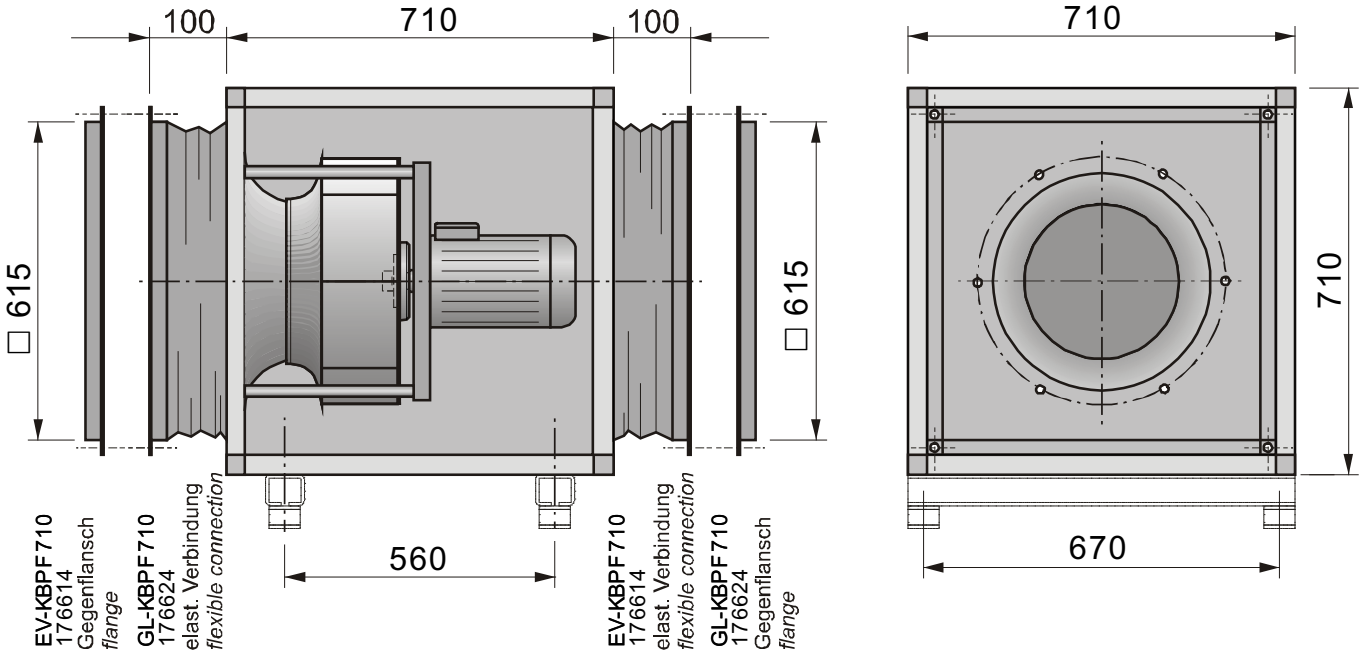


KBPFE 710-11 stb			ArtNr :	152260		65	kg
U :	230 V 50 Hz		t_R :	50	°C	IP 54	
P_2 :	0,96	kW	$\Delta p_{fa\ min}$:	0		E13	
I_N :	6,7	A	ΔI :	-		GS2	
n :	1180	min^{-1}	I_A / I_N :	2		RTE 7,5	
C_{400V} :	30	µF				SAE 7	

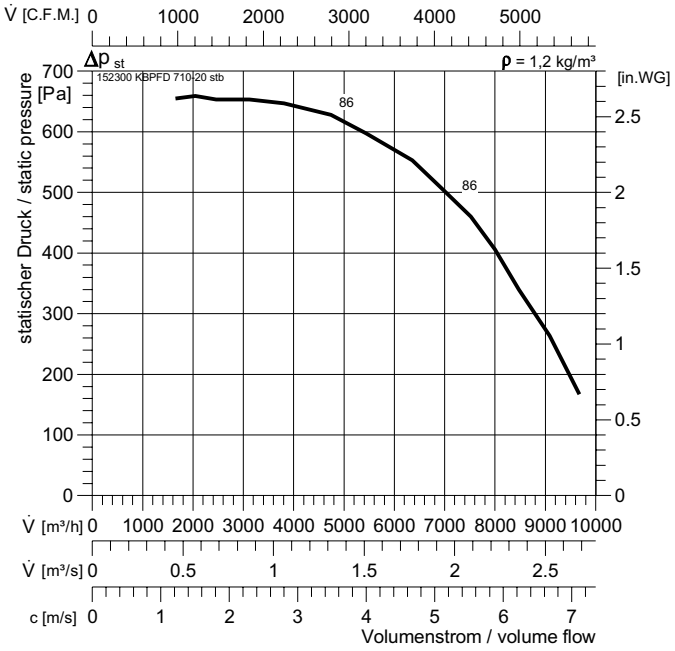
KBPFD 710-11 Stb.



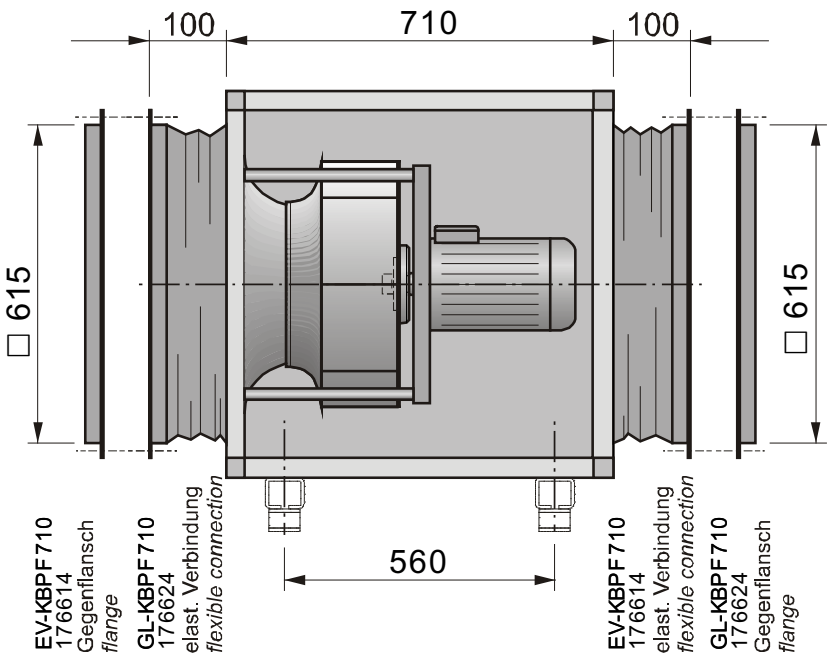
KBPFD 710-11 stb			ArtNr :	152280		65	kg
U :	400 V 50 Hz		t_R :	50	°C	IP 54	
P_2 :	1,1	kW	$\Delta p_{fa\ min}$:	0		DS1	
I_N :	3,3	A	ΔI :	-		GS2	
n :	1350	min^{-1}	I_A / I_N :	3,9		RTD 3,8	
C_{400V} :	-	µF				SAD 9	

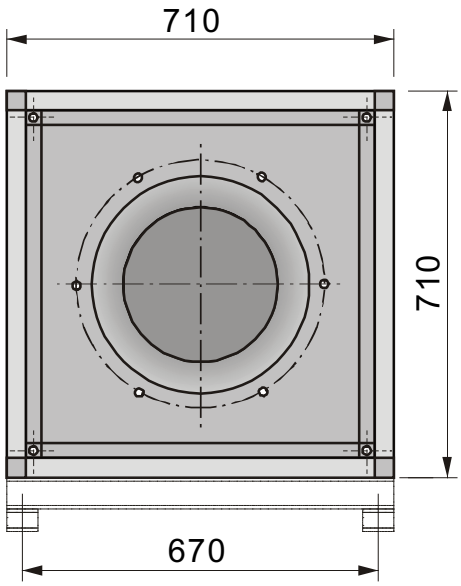


KBPFD 710-20 Stb.



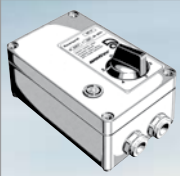
KBPFD 710-20 stb			ArtNr :	152300		67	kg
U :	400 V 50 Hz		t_R :	50	°C	IP 54	
P_2 :	1,5	kW	$\Delta p_{fa\ min}$:	0		DS1	
I_N :	4,3	A	Δ I :	-		GS2	
n :	1330	min^{-1}	I_A / I_N :	4		RTD 5,0	
C_{400V} :	-	µF				SAD 9	

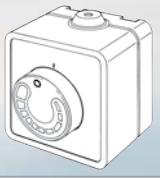




Regel- und Schaltgeräte

Switches and Speed Controllers





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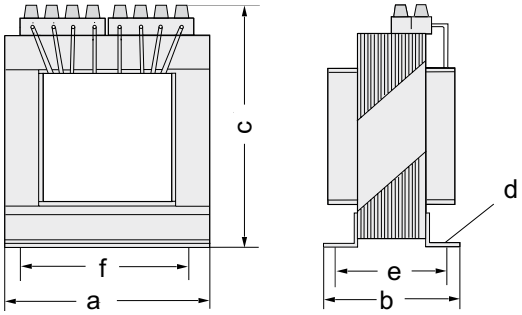
Regel- und Schaltgeräte
Switches and Controllers

Transformatoren, Drehzahlsteuergeräte
Transformers, Speed Controllers



Typenschlüssel *Type code*

T E 7,5

- 7,5: max. Ausgangsstrom [A] / *max. output current [A]*
- E: Phasenanzahl / *Number of phases*
  - E = Einphasenwechselstrom *Single-phase A.C. 230 V*
  - D = Drehstrom *Three-phase*
- T: Transformator / *Transformer*

Transformatoren 6-Anzapfungen, ohne Gehäuse

Nach VDE 0550 mit aufgebauter Klemmleiste, für Schaltschrankeinbau. Für Drehstrom sind 2 Transformatoren, in V-Schaltung angeschlossen, erforderlich.

Die angegebenen Nennströme werden in einem ausreichend großen oder in einem belüfteten Gehäuse erreicht. Maximale Umgebungstemperatur 40°C.

6-Step Transformers, without housing

In accordance with VDE 0550, with terminal board mounted, for use in electric control enclosures. Two transformers in the “V”-connection are required for three-phase operation.

The rated voltage is achieved in a large or in a well-ventilated housing. The ambient temperature should not exceed 40°C.

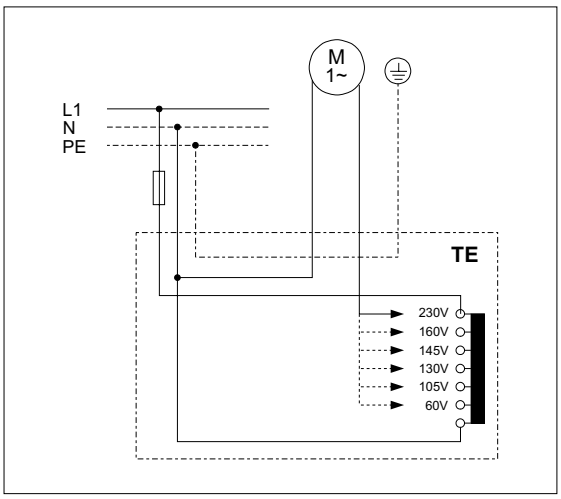
Transformatoren Primär 230 V, sekundär 230, 160, 145, 130, 105, 60 V

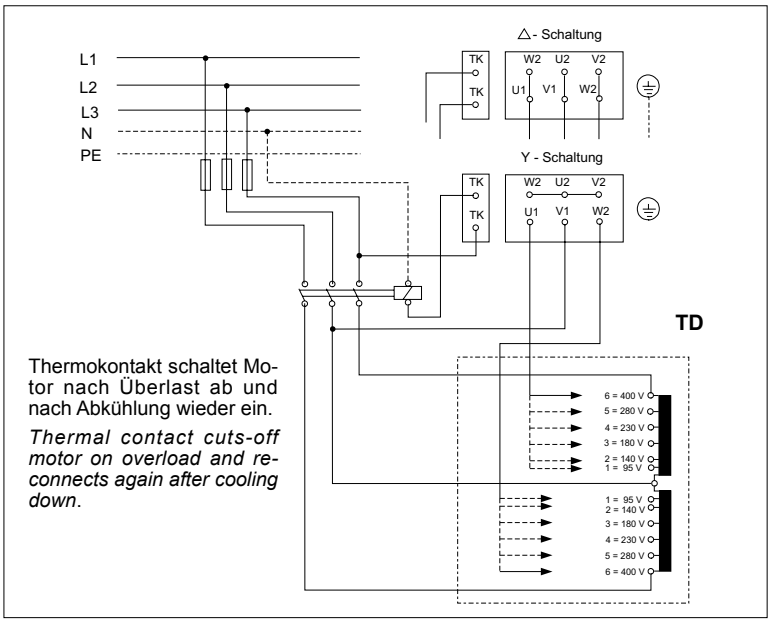
Type	Art. Nr.	I_N [A]	a [mm]	b [mm]	c [mm]	d [mm]	e [mm]	f [mm]	[kg]
TE 0,5	120048	0,5	82	63	50	4,5x7	65	10	0,58
TE 1,5	122050	1,5	78	66	87	4,5x8,5	55	57	1,6
TE 3,5	122100	3,5	96	78	98	5,5x10,5	63	84	2,2
TE 5	122150	5	96	103	101	5,5x10,5	88	84	3,5
TE 7,5	122200	7,5	120	83	120	5,5x10,5	67	90	4,4
TE 10	122250	10	135	103	126	5,5x10,5	87	110	6,7
TE 15	122300	15	135	150	130	5,5x10,5	134	110	12,2

Primär 400 V, sekundär 400, 280, 230, 180, 140, 95 V

Type	Art. Nr.	I_N [A]	a [mm]	b [mm]	c [mm]	d [mm]	e [mm]	f [mm]	[kg/Satz(set)]	St./Satz piece/set
TD 1	122550	1,2	66	76	109	4,5x6,5	63	50	4	2
TD 3	122600	3	120	94	122	5,5x10,5	78	90	10	2
TD 5	122650	5	135	102	130	5,5x10,5	86	110	14	2
TD 7	122700	7	135	121	126	5,5x10,5	104	110	18	2
TD 10	122750	10	135	150	130	5,5x10,5	133	110	25	2
TD 14	122800	14	175	136	155	5,5x10,5	114	136	34	3
TD 20	122850	19	180	163	180	11x6,5	130	155	35	3

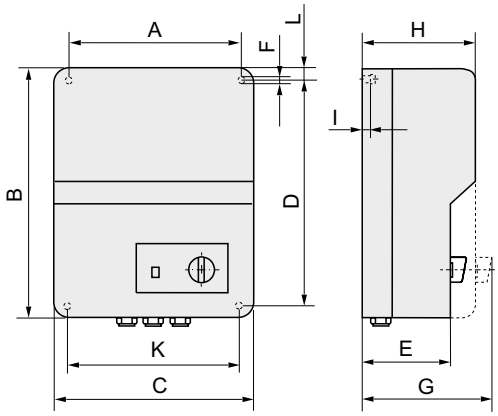
Anschlußpläne für Transformatoren
Wiring diagrams for transformers





Thermokontakt schaltet Motor nach Überlast ab und nach Abkühlung wieder ein.

Thermal contact cuts-off motor on overload and reconnects again after cooling down.



Typenschlüssel *Type code*

N E 7,5

- 7,5: max. Ausgangsstrom [A] / *max. output current [A]*
- E: Phasenanzahl / *Number of phases*
  E = Einphasenwechselstrom
  Single-phase A.C. 230 V
- N: Drehzahlsteller / *Speed controller*

Einphasenwechselstrom-Drehzahlsteuergerät mit 5-Stufenschalter und Betriebsmeldeleuchte

Die im Motor eingelegten Thermokontakte werden bei Verwendung dieser Steuergeräte in Reihe mit der Motorwicklung geschaltet. Die Thermokontakte schalten bei Überschreiten der zulässigen Temperatur den Motor ab und nach dem Abkühlen wieder ein.

Gehäuse:

Stabiles, hellgraues Kunststoffgehäuse in Schutzart IP54, Frontbedienung für Wandaufbau. NE 10 in stabilem Stahlblechgehäuse, weiß kunststoffbeschichtet, Schutzart IP54, Frontbedienung für Wandaufbau.

5-Step single-phase speed controllers, with monitoring light

Thermal contacts are connected in line with the motor winding. The thermal contacts disconnect the motor when the maximum temperature is exceeded, and reconnect after the unit has cooled down.

Casing:

Light-grey plastic housing, protection class IP54, front-operated for wall mounting. NE 10 in steel housing with white epoxy-coating, protection class IP54, front-operated for wall mounting.

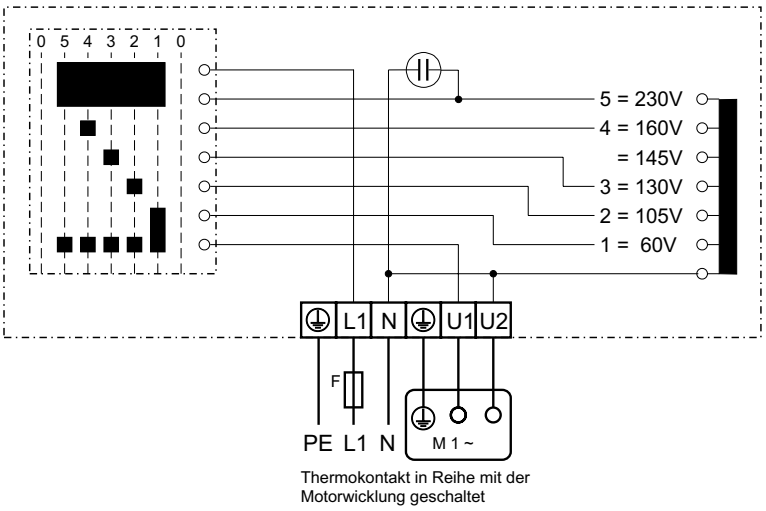
Einphasen-Wechselstrom 230 V *Single-phase A.C. 230 V*

Type	Art. Nr.	max. I [A]		A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]	G [mm]	H [mm]	I [mm]	K [mm]	L [mm]	[kg]
NE 0,5	120049	0,5	IP54	-	119	81	100,5	-	4,2	96	76	-	-	9,3	0,3
NE 1,5	120050	1,5	IP54	96	180	116	160	85	5	100	100	5	96	10	2,2
NE 3,2	120100	3,2	IP54	130	220	168	180	-	6	145	120	5	130	20	4
NE 5	120150	5	IP54	130	220	168	180	-	6	145	120	5	130	20	5
NE 7,5	120250	7,5	IP54	180	290	230	253	120	7	136	145	3,5	205	10	7,4
NE 10	120300	10	IP54	180	290	230	253	120	7	136	145	3,5	205	10	10

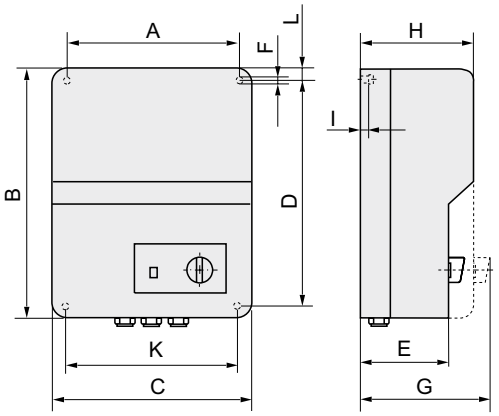
Anschlußpläne für 5-Stufen-Regelgeräte
Wiring diagrams for 5 step controllers

5-Stufen-Regler NE für Wechselstromventilatoren mit Betriebskondensator

5 step controller for single-phase AC fans with capacitor.



Drehzahlsteuergeräte
Speed Controllers



Typenschlüssel / *Type code*

R T E 7,5

- 7,5: max. Ausgangsstrom [A] / *max. output current [A]*
- E: Phasenanzahl / *Number of phases*
  - E = Einphasenwechselstrom *Single-phase A.C. 230 V*
  - D = Drehstrom *Three-phase*
- T: Termokontaktanschluß / *Thermal contact connection*
- R: Steuergerät transformatorisch *speed controller with transformer*

Drehzahl-Steuergerät mit 5-Stufenschalter, Schutzeinrichtung für Thermokontakt

Beim Überschreiten der maximal zulässigen Wicklungstemperatur des Motors öffnen die in der Motorwicklung eingelegten Thermokontakte den Steuerstromkreis. Der im Schaltgerät eingebaute Hauptschütz fällt ab und trennt den Motor vom Netz. Nach Beheben der Störung ist die Wiedereinschaltung nur über die 0-Stellung am Ein-/Ausschalter möglich.

Gehäuse:

Frontbedienung für Wandaufbau.

RTE 0,5...5 in stabilem, hellgrauen Kunststoffgehäuse

RTE 7,5...10 in Gehäuse mit Aluminium-Druckgußunterteil und hellgrauem Kunststoffoberteil

RTE 12..20 in weiß kunstoffbeschichtetem Stahlblechgehäuse.

5 step controller for motors with thermal contacts

When the maximum permissible motor winding temperature is exceeded, the thermal contacts inserted in the motor's winding disconnect the motor from the mains. After removing the cause of malfunction, reconnection is only possible by selecting the 0-position on the ON/OFF switch.

Casing:

Front-operated, suitable for wall mounting.

RTE 1,5...5 rugged light-grey plastic housing

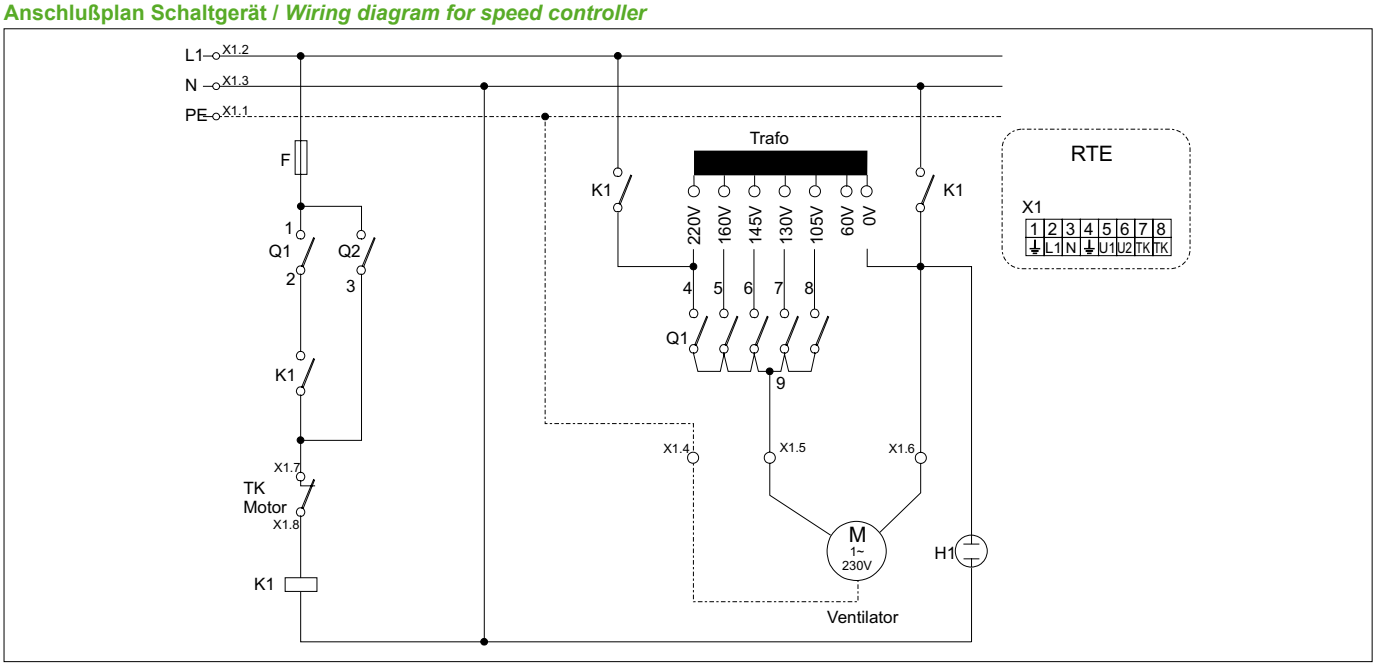
RTE 7,5...10 housing with pressure die-cast aluminium base and grey plastic top

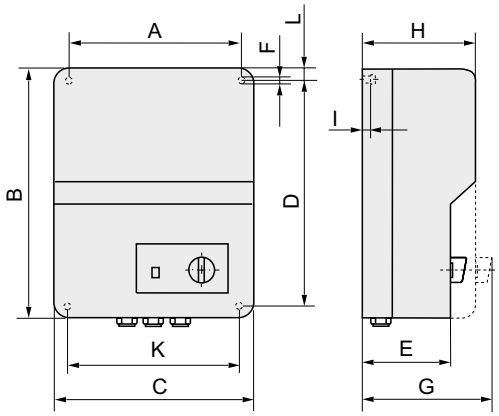
RTE 12...20 rugged metal housing, white epoxy-coated

Einphasen-Wechselstrom 230 V / *Single-phase AC 230 V*

Type	Art. Nr.	max. I [A]		A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]	G [mm]	H [mm]	I [mm]	K [mm]	L [mm]	[kg]
RTE 0,5	120510	0,5	IP54	-	119	81	100,5	-	4,2	96	76	-	-	9,3	0,3
RTE 1,5	120520	1,5	IP 54	96	180	116	160	85	5	100	100	5	96	10	2,2
RTE 3,2	120530	3,2	IP 54	130	220	168	180	-	6	145	120	5	130	20	4
RTE 5	120540	5	IP 54	130	220	168	180	-	6	145	120	5	130	20	5
RTE 7,5	120550	7,5	IP 54	180	290	230	253	120	7	136	145	3,5	205	10	7,4
RTE 10	120560	10	IP 54	180	290	230	253	120	7	136	145	3,5	205	10	10
RTE 12	120600	12	IP 21	216	315	245	285	-	7	154	133	-	216	15	16
RTE 20	120650	20	IP21	315	410	290	345	-	7	173	155	-	315	33	21

Anschlußplan Schaltgerät / *Wiring diagram for speed controller*





Typenschlüssel *Type code*

R T D 7,5

- max. Ausgangsstrom [A] / *max. output current [A]*
- Phasenanzahl / *Number of phases*
  - E = Einphasenwechselstrom *Single-phase A.C. 230 V*
  - D = Drehstrom *Three-phase*
- Termokontaktanschluß / *Thermal contact connection*
- Steuergerät transformatorisch *Transformer-type speed controller*

Drehzahl-Steuergerät mit 5-Stufenschalter, Schutzeinrichtung für Thermokontakt

Beim Überschreiten der max. zulässigen Wicklungstemperatur des Motors öffnen die in der Motorwicklung eingelegten Thermokontakte den Steuerstromkreis. Der im Schaltgerät eingebaute Hauptschütz fällt ab und trennt den Motor vom Netz. Nach Beheben der Störung ist die Wiedereinschaltung nur über die 0-Stellung am Ein-/Ausschalter möglich.

Ausführung:

Frontbedienung für Wandaufbau.

RTD 1,2...3,8 Gehäuse mit Aluminium-Druckgußunterteil und hellgrauem Kunststoffoberteil

RTD 5 in weiß kunstoffbeschichtetem Stahlblechgehäuse

RTD 7...19 in grau kunstoffbeschichtetem Stahlblechgehäuse.

RTD 14..19 mit seitlichen Lüftungsschlitzen

5 step controller for motors with thermal contacts.

When the maximum permissible motor winding temperature is exceeded, the thermal contacts inserted in the motor's winding disconnect the motor from the mains. After removing the cause of malfunction, reconnection is only possible by selecting the 0-position on the ON/OFF switch.

Construction:

Front-operated, suitable for wall mounting.

RTD 1,2...3,8 housing with die-cast aluminium base and grey plastic cover

RTD 5 rugged metal housing, white epoxy-coated

RTD 7...19 rugged metal housing, grey epoxy-coated

RTD 14..19 with lateral ventilation slots

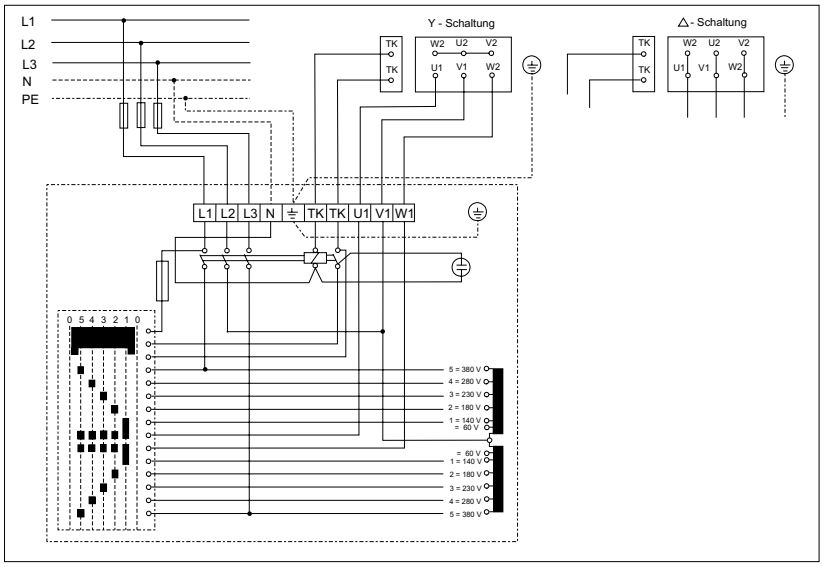
Drehstrom 400 V *Three-phase AC 400 V*

Type	Art. Nr.	max. I [A]	⚠	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]	G [mm]	H [mm]	I [mm]	K [mm]	L [mm]	[kg]
RTD 1,2	121050	1,2	IP54	180	290	230	253	120	7	-	145	6	205	12	6
RTD 2,5	121150	2,5	IP54	180	290	230	253	120	7	-	145	6	205	12	10,5
RTD 3	121200	3	IP54	180	290	230	253	120	7	-	145	6	205	12	12
RTD 3,8	121220	3,8	IP54	180	290	230	253	120	7	-	145	6	205	12	14
RTD 5	121250	5	IP54	216	315	245	285	-	7	151	133	-	216	15	15
RTD 7	121600	7	IP21	315	410	380	345	-	7	173	155	-	315	33	26
RTD 10	121650	10	IP21	315	410	380	345	-	-	173	155	-	315	33	32
RTD 14	121700	14	IP21	-	385	310	-	-	-	-	225	-	-	-	27
RTD 19	121750	19	IP21	-	500	360	-	-	-	-	275	-	-	-	33

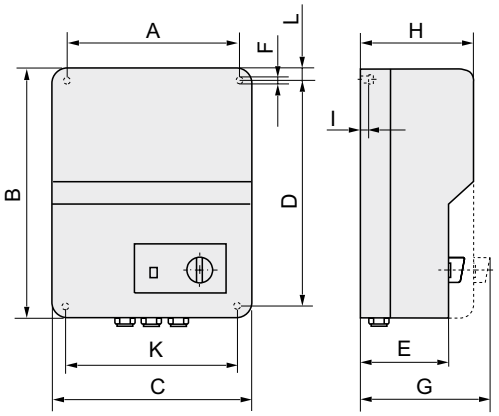
Anschlußpläne 5-Stufen-Regelgeräte
Wiring diagrams for 5 step controller

5-Stufen-Regler RTD für Drehstrom mit Motorvollschutzeinrichtung für Motoren mit eingebauten Thermokontakten

5 step controller for three-phase A.C. control with full motor protection for motors with thermal contacts



Motorschutzschaltgeräte
Motor Protection Switches



Typenschlüssel *Type code*

MS E 1 K -D

- Dahlanderschaltung / Dahlander circuit
- Kaltleiter / *Thermistor*
- für Motoren mit x Drehzahlen / *for motors with x speeds*
- Phasenanzahl / *Number of phases*
  - E = Einphasenwechselstrom / *Single-phase A.C. 230 V*
  - D = Drehstrom / *Three-phase*
- Motorschutzschaltgerät / *Motor protection switch*

Motorschutzschaltgeräte MSE

- Die Motorschutzschaltgeräte MSE sind grundsätzlich für den Anschluß von Motoren mit Thermokontakten ausgelegt. Die Motorschutzschaltgeräte mit Kaltleiteranschluß sind in der Typenbezeichnung durch ein **K** gekennzeichnet.
- Motorschutzschaltgeräte für zwei Drehzahlen werden in Stern-/Dreieck-Umschaltung geliefert. Zweistufige Schaltgeräten für Dahlanderschaltung sind durch ein **-D** in der Typenbezeichnung gekennzeichnet.

Die Motorschutzschaltgeräte sind in der Ausführung D (Drehstrom) für 2,5 kW bzw. in der Ausführung E (Einphasenwechselstrom) für 1,3 kW Motoraufnahmeleistung ausgelegt. Schaltgeräte höherer Leistung sind auf Anfrage erhältlich.

Motor protection switch MSE

- MSE motor protection switches are designed to connect motors with thermal contacts. Switches designed for thermistor-protectied motors use are marked by a K in the type code.
- Generally, MSE motor protection switches for two speeds are designed for star/delta switchover. Protection switches for Dahlander circuits are marked by the suffix **-D**.

MS. motor protection units are designed for motor powers of up to 2,5 kW in three-phase supply (type „MSD“) and for up to 1,3 kW motor input power in single-phase supply (type „MSE“). Motor protection equipment for higher output powers are available on request.

Abmessungen / *Dimensions*

Type	Art. Nr.	max. P [kW]		A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]	G [mm]	H [mm]	I [mm]	K [mm]	L [mm]	[kg]
MSE 1	124150	1,3	IP 54	96	180	116	160	85	5	100	100	5	96	10	0,6
MSE 1 3,6 kW	124160	3,6	IP 54	130	220	168	180	-	6	145	120	5	130	20	1,4
MSD 1	124170	2,5	IP 54	96	180	116	160	85	5	100	100	5	96	10	0,7
MSD 1 14 kW	124190	14	IP 54	216	315	245	285	-	7	151	133	-	216	15	1,5
MSD 2	124200	2,5	IP 54	96	180	116	160	85	5	100	100	5	96	10	0,7
MSD 2 7,5 kW	124220	7,5	IP 54	130	220	168	180	-	6	180	120	5	130	20	1,5
MSD 2 -D	124230	2,5	IP 54	130	220	168	180	-	6	145	120	5	130	20	1,5
MSD 3	124240	2,5	IP54	130	220	168	180	-	6	145	120	5	130	20	1,5

Merkmale / *Charactistics*

Type	Ausführung	max. I [A]	U / f [V] / [Hz]	Vorsicherung / pre-fuse [A]
MSE 1	1-stufig / 1 step	5,5	230 / 50	10 träge/ slow
MSE 1 3,6 kW	1-stufig / 1 step	16	230 / 50	16 träge/ slow
MSD 1	1-stufig / 1 step	5,5	400 / 50	10 träge/ slow
MSD 1 14 kW	1-stufig / 1 step	30	400 / 50	36 träge/ slow
MSD 2	2-stufig / 2 step	5,5	400 / 50	10 träge/ slow
MSD 2 7,5 kW	2-stufig / 2 step	15	400 / 50	16 träge/ slow
MSD 2 -D	2-stufig / 2 step	5,5	400 / 50	10 träge/ slow
MSD 3	3-stufig / 3 step	5,5	400 / 50	10 träge/ slow

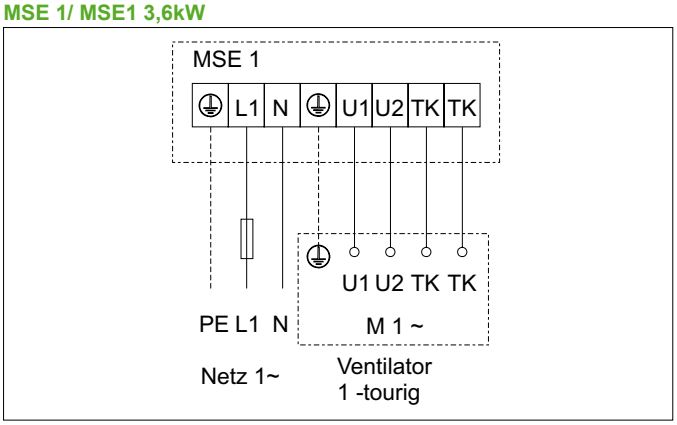
Type	Funktion	Function
MSE 1 MSE 1 3,6 kW	Motorschutzschaltgerät einstufig mit Hauptschütz und Betriebsmeldeleuchte für Einphasenwechselstrommotoren mit Thermokontakt.	Motor protection unit for single-speed fans with main contactor and monitoring light for single-phase motors with thermal contacts.
MSD 1	Einstufiges Motorschutzschaltgerät mit Hauptschütz und Betriebsmeldeleuchte für Drehstrommotoren mit Thermokontakt.	Motor protection unit for single-speed fans with main contactor and monitoring light for three-phase motors with thermal contacts.
MSD 1 14 kW	Einstufiges Motorschutzschaltgerät mit Hauptschütz und Betriebsmeldeleuchte für Drehstrommotoren mit Thermokontakt (automatischer Y/Δ-Hochlauf).	Motor protection unit for single-speed fans with main contactor and monitoring light for three-phase motors with thermal contact (automatic Y/Δ-start).

Type	Funktion	Function
MSD 2 MSD 2 7,5 kW	Zweistufiges Motorschutzschaltgerät mit Hauptschütz und Betriebsmeldeleuchte für Drehstrommotoren mit Thermokontakt und zwei Drehzahlen durch Y/Δ-Umschaltung.	Motor protection switch for two-speed fans with main contactor and monitoring light for three-phase motors with thermal contacts and two-speed operation with star/delta switchover.
MSD 2 -D	Zweistufiges Motorschutzschaltgerät mit Hauptschütz und Betriebsmeldeleuchte für Drehstrommotoren mit Thermokontakt und zwei Drehzahlen durch YY/Y-Umschaltung nach Dahlander.	Motor protection switch for two-speed fans with main contactor and monitoring light for three-phase motors with thermal contacts and two-speed operation with YY/Y-switchover (Dahlander).
MSD 3	Dreistufiges Motorschutzschaltgerät mit Hauptschütz und Betriebsmeldeleuchte für Drehstrommotoren mit Thermokontakt und drei Drehzahlen durch ΔΔ/YY/Δ-Umschaltung.	Motor protection switch for three-speed fan with main contactor and monitoring light for three-phase motors with thermal contacts and three-speed operation with ΔΔ/YY/Δ-switchover.
MSE 1 MSE 1 3,6 kW MSD 1 MSD 2 MSD 2 7,5 kW MSD 2 -D MSD 3	**Motorschutz:** Bei Überschreiten der maximal zulässigen Wicklungstemperatur des Motors öffnen die in der Motorwicklung eingelegten Thermokontakte den Steuerstromkreis. Der im Schaltgerät eingebaute Hauptschütz fällt ab und trennt den Motor vom Netz. Nach Beheben der Störungsursache ist die Wiedereinschaltung nur über die 0-Stellung am Ein-/Ausschalter möglich. Der Steuerkreis des Schaltgeräts ist über eine Steuersicherung 2A abgesichert. **Nach Netzausfall:** Automatisches Wiedereinschalten nach Netzausfall.	**Motor protection:** When the maximum permissible motor winding temperature is exceeded, the thermal contacts inserted in the motor winding disconnect the motor from the mains. After removing the cause of malfunction, reconnection is only possible by selecting the 0-position on the ON/OFF switch. The control circuit of the motor protection unit is protected by a 2 A control fuse. **After Power Failure:** Automatic reconnection after power outage.

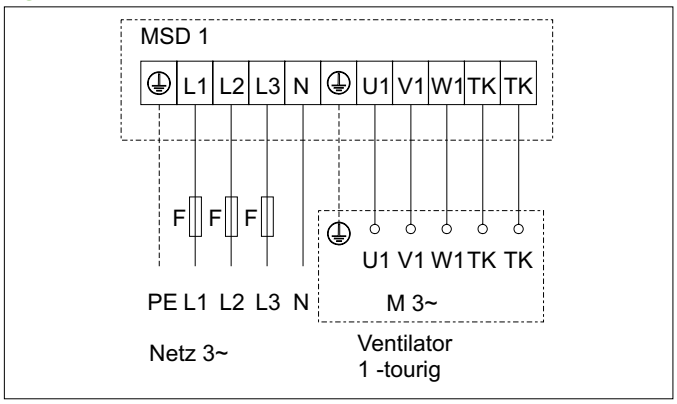
Anschlußpläne

Connection diagrams

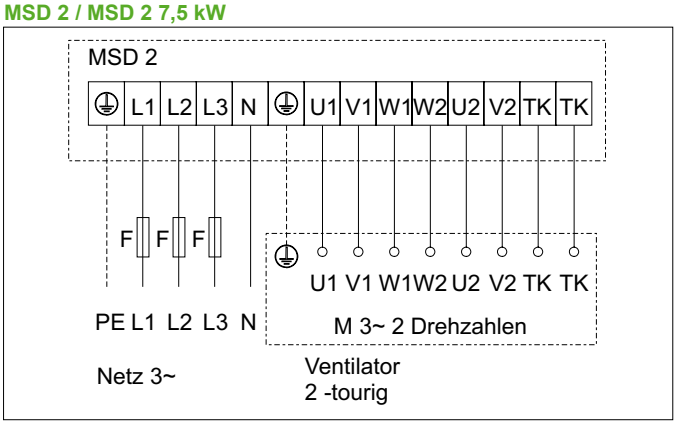
MSE 1/ MSE1 3,6kW



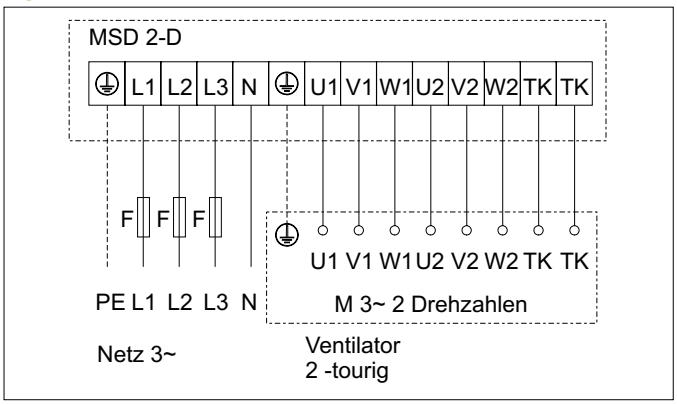
MSD 1



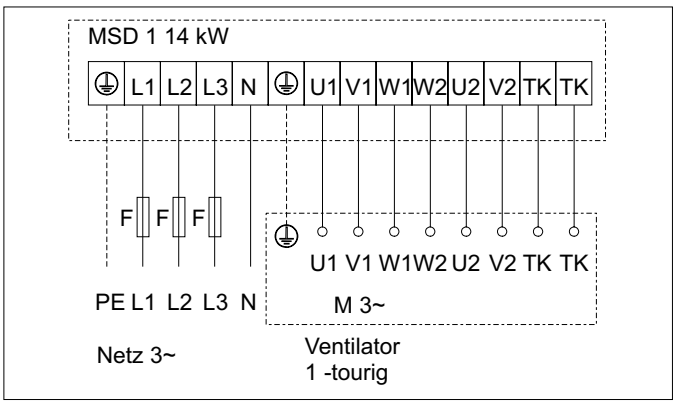
MSD 2 / MSD 2 7,5 kW



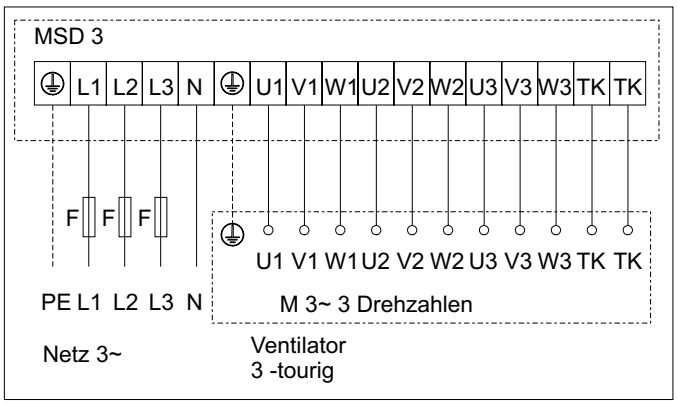
MSD 2-D



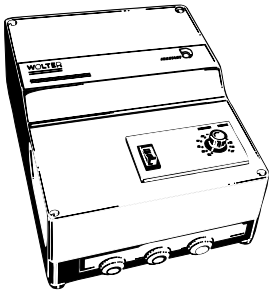
MSD 1 14kW



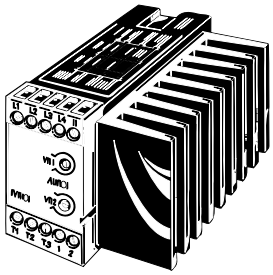
MSD 3



Spannungssteller
Electronic Speed Controller



Gehäuseausführung 2
housing type 2



in Modulausführung
module version

Typenschlüssel *Type code*

S A E 7

- **7** – Baugröße / *Size*
- **E** – Phasenanzahl / *Number of phases*
  - E = Einphasenwechselstrom *Single-phase A.C. 230 V*
  - D = Drehstrom *Three-phase*
- **A** – Montageart / *housing version*
  - A = Aufputz / on-*wall mounted*
  - S = Schaltschrankeinbau / *for control cabinet*
- **S** – Phasenanschnittsteuerung / *phase controlled modulator*

Merkmale:

- kontinuierliche Einstellung der Spannung mit Potentiometer
- minimale und maximale Drehzahl einstellbar
- Betrieb mit externem Potentiometer (Vorzugswert 2,5 kΩ)
- Betrieb mit externer Steuerspannung 0-10 V möglich
- Schalter für : - Drehzahl Null
  - Einstell-Drehzahl
- Anschluß für Motorschütz mit Thermostat
- Anschluß für Motorschütz mit Thermostat oder Thermistor
- Auswertung desThermistors nach Norm (bei SAE und SAD) und gegebenenfalls nach PTB-Anforderungen
  - Drahtbrucherkennung
  - Tmax-Auswertung
- Potentiometer hat gleichzeitig die Funktion einer Lokalbedienung (siehe Tabelle unten)

Characteristics:

- continuous voltage adjustment with potentiometer
- settings for minimum and maximum speeds
- operation with external potentiometer (preferred value 2,5 kΩ)
- operation with external control voltage 0-10 V possible
- switch for : - speed zero
  - set speed
- connection for thermal motor protection switch
- connection for motor protection with thermal switch or thermistor
- processing of motor thermistor in accordance with standards and in accordance with to PTB requirements (SAE or SAD)
  -wire break identification
  -Tmax detection
- potentiometer also works as a local control set-point (see table below)

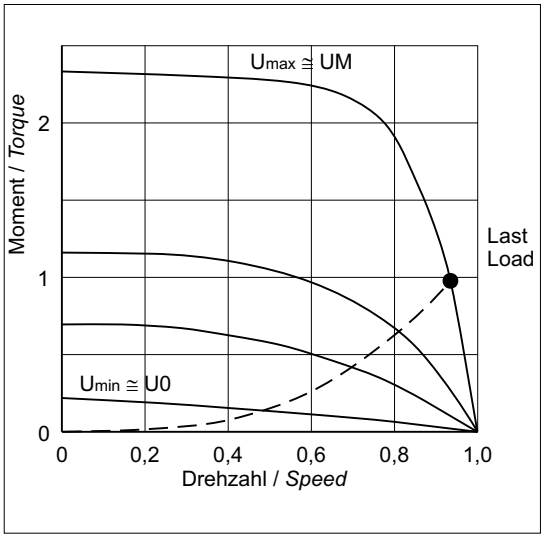
Bezeichnung Designation	max. I [A]	Einbaumaße / Installation dimensions [mm] Höhe / Height	Breite / Width	Tiefe / Depth	Gehäusetyp Housing type	Anschlußspannung Supply voltage
SAE 7	5	160	180	81	1	1/N AC 230 V
SSE 5	5	70	45	120	Modul 1	1/N AC 230 V
SSE 10	10	70	60	120	Modul 2 (a)	1/N AC 230 V
SAD 9	9	290	230	140	2	3 AC 400 V
SSD 6	6	70	85	120	Modul 2 (b)	3 AC 400 V
SSD 9	9	100	85	120	Modul 2 (b)	3 AC 400 V

Technische Daten
Technical data

Größe / *values*	min.	max.	Erläuterungen / *Explanation*
Spannung / *voltage*	-15%	10%	Nennspannung / *Rated voltage*
Frequenz / *frequency*	50 Hz	60 Hz	Nennfrequenz / *Rated frequency*
Zulässige Umgebungstemperatur / permissible *ambient temperature range*:			
Betrieb mit Konvektion *operation with convection*	0 °C	+40 °C	bei Aufstellungshöhe < 1000 m *for altitudes < 1000 m*
Betrieb mit Lüfter *fan cooling*	0 °C	+35 °C	
Lagerung / Transport *storage / transport*	-40 °C	+70 °C	

	Bedienung / *type of control*		
	Vor Ort / *local control*	Fernbedienung / *remote control*	
n_{pot} = 0%	n_0 (Lüfter steht / *fan at halt*)	Fernsollwert / *remote setpoint*	
n_{pot} = 10%	n_{min}	n_{min}	Einstellbare Lokalbedienung *Settable local set-point*
n_{pot} = 100%	n_{max}	n_{max}	

Steuerverhalten
Control characteristics



Die Lastart muß ein annähernd quadratisches Moment bzw. Drehzahlverhalten aufweisen, damit die Drehzahl selbststabilisierend ist. Der Motor sollte eines der folgenden Merkmale aufweisen:

- Außenläufermotor wie verbreitet in der Klimatechnik eingesetzt
- geeignet für den Betrieb mit Spannungsverstellung (Lieferantennachweis auf Anfrage)
- der Spannungssteller istfür elektrische Heizungen einsetzbar

The load must have a quadratic torque/speed characteristic to ensure that the load is self stabilising. The motor should have one of the following characteristics:

- external rotor motor, common in many air-conditioning applications
- motor should be voltage-controllable (list of suitable motors available on request)
- voltage controller can also be used for electric heating elements

Funktion

SSE und SAE sind elektronische Spannungssteller für einphasige Käfigläufermotoren mit Betriebskondensator. SSD und SAD arbeiten nach dem Prinzip des dreiphasigen Phasenanschnitts. Die Spannung in den drei Phasen steigt langsam an, bis der Sollwert erreicht ist. SSD und SAD können die Spannung fein dosieren und zeichnen sich durch gutes Regelverhalten aus.

Bei allen Geräten werden die notwendigen Versorgungsspannungen für die Elektronik intern gebildet. Spezielle Triacs variieren die Spannung der Phase U1-U2 durch Phasenanschnitt. Bei SSD und SAD wird die Spannung an V1-V2, W1-W2 zusätzlich variiert. Die notwendigen Zündimpulse werden im Steuersatz gebildet. Der Steuersatz verwendet die verkettete Spannung, um die richtigen netzsynchronen Zündzeitpunkte abzuleiten. Eine Verbindung zum Mittelpunktsleiter ist nicht notwendig.

Zwei Einstellpotentiometer ermöglichen die Einstellung der minimalen und maximalen Ausgangsspannung. Der Einsatz einer Spezialausführung als Leistungssteller für Elektroheizungen ist ebenfalls möglich. In diesem Einsatzfall bitten wir um Rücksprache mit unserem Werk.

Operation details

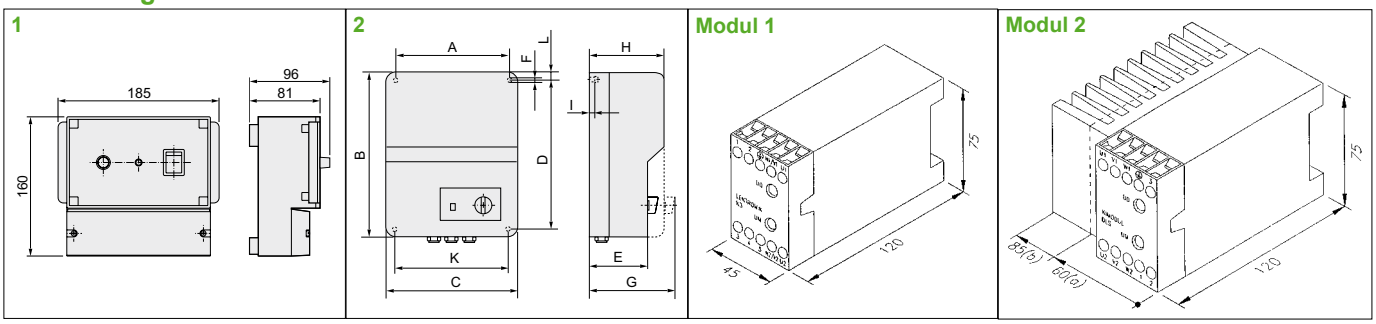
SSE and SAE are electronic modules for the voltage control of single-phase induction motors with an operating capacitor. SSD and SAD for three-phase motors make use of phase control in three phases. The voltage in the three controlled phases increases gradually until the set value is reached. SSD and SAD a suuitable for voltage fine control voltage and achieve a good control characteristic.

The power supply for the internal control circuit is incorporated in the module itself. Special triacs vary the voltage between terminals U1-U2 with phase control. With SSD and SAD, the voltage in phases V1-V2, W1-W2 is also varied. The firing circuit uses the available line-to-line voltage to determine the trigger pulses which are synchronised with supply frequency. A neutral connection is not required.

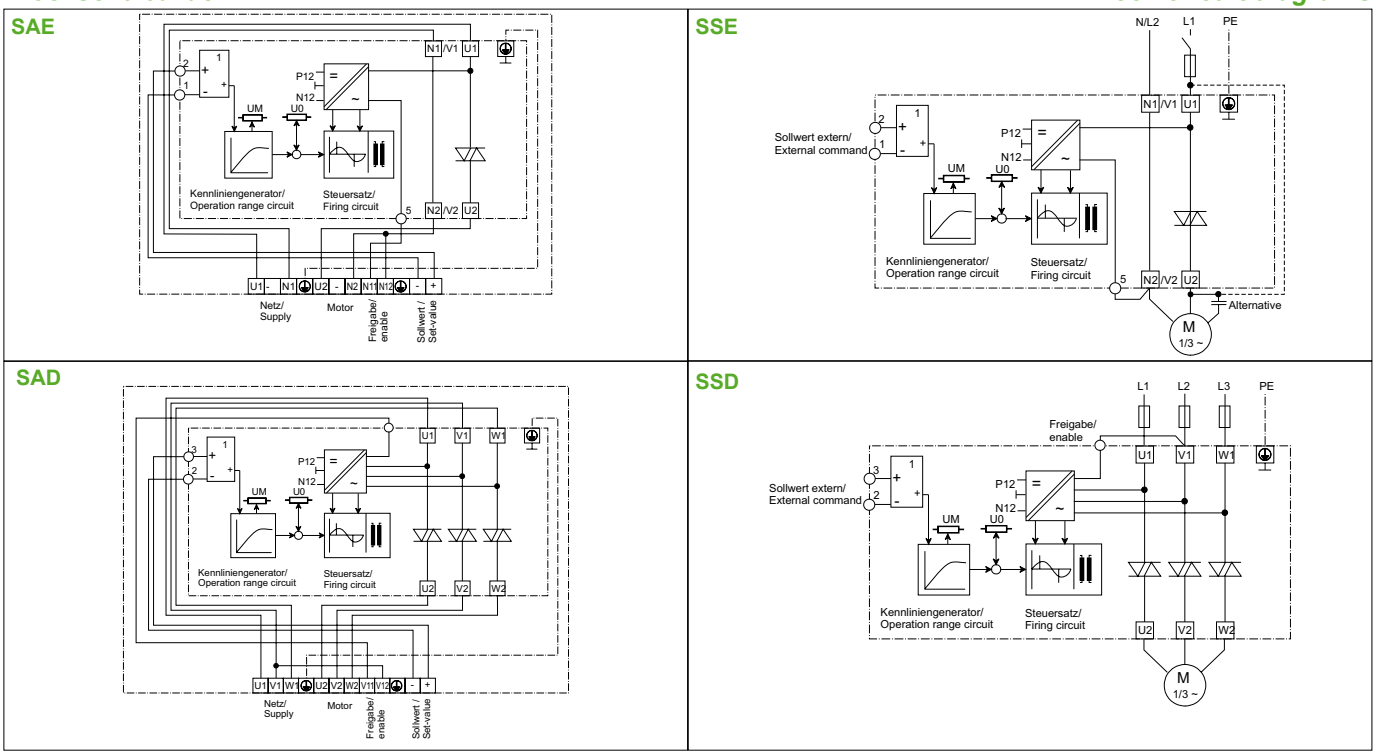
Two adjustment potentiometers allow the minimum and maximum output voltage to be set.

The use of a special version of these modules for the power control of electrical heating equipment is also possible. Please inquire.

Abmessungen / *Dimensions*



Blockschaltbilder / *Block circuit diagrams*

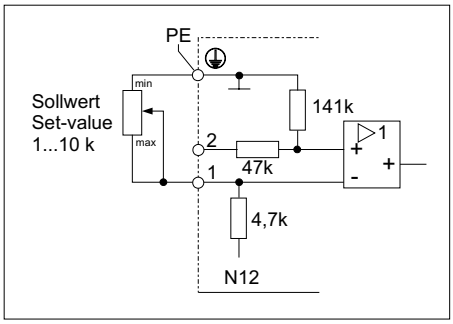


Spannungssteller
Electronic Speed Controllers

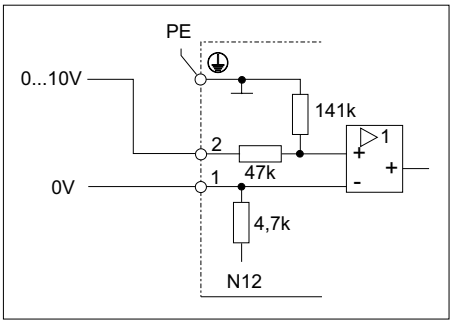
Anschlußvorschläge für externe Vorgabe der Steuerspannung

Recommended connections for external control voltage

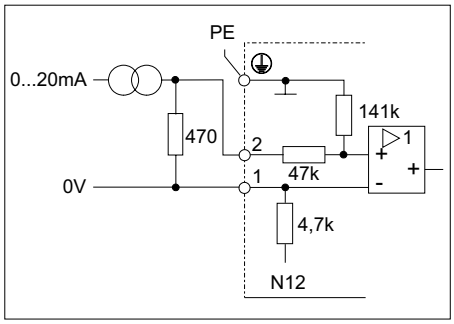
SAE / SSE



a) externer Potentiometer 2,5 kΩ vorziehen
external potentiometer 2.5 kΩ preferred

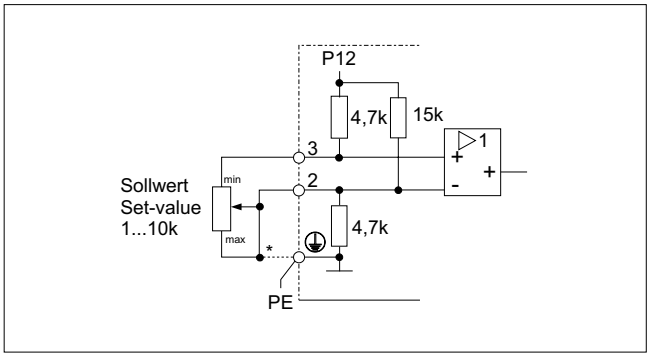


b) 0-10 V mit Differenzeingang
0-10 V with differential input

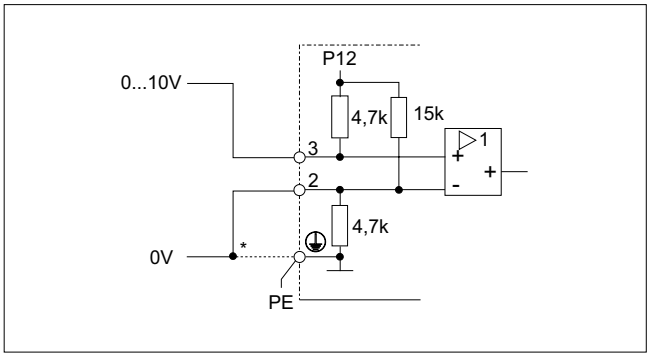


c) 0...20 mA Stromeingang (auch für 4-20 mA)
0...20 mA current input (can also be used for 4-20 mA)

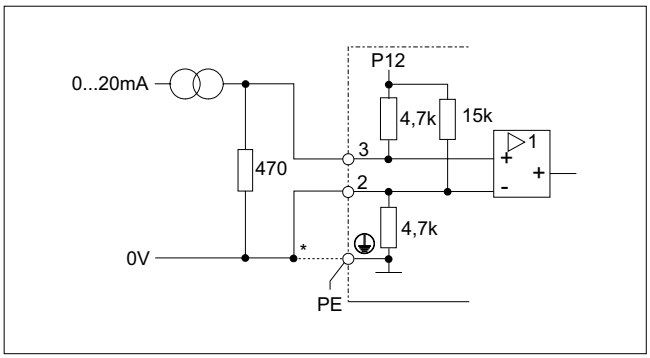
SAD / SSD



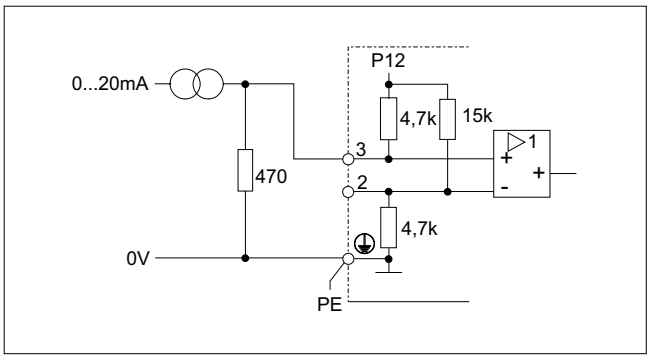
a) externer Potentiometer 2,5 kΩ vorziehen
external potentiometer 2.5 kΩ preferred



b) 0-10 V mit Differenzeingang
0-10 V with differential input



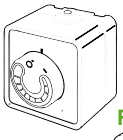
c) 0-20 mA Stromeingang
0-20 mA current input



d) 4-20 mA Stromeingang
4-20 mA current input

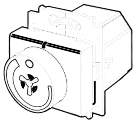
* Alternativanschluß
alternative connection

RPE .. A



RPE .. U

RPE .. S



Type	Art.Nr.	I_N [A]	x	[kg]
RPE 02 A	123050	0,1 - 1	1	0,2
RPE 02 U	123250		2	0,15
RPE 02 S	123450		3	0,1
RPE 06 A	123100	0,1 - 2,5	1	0,25
RPE 06 U	123300		2	0,2
RPE 06 S	123500		3	0,15
RPE 09 A	123150	0,2 - 5,0	4	0,5
RPE 09 U	123350		5	0,4

Typenschlüssel *Type code*

R P E 02 A

Montageart / *housing version*
A = Aufputz / on-wall mounted
S = Schaltschrankeinbau / *for control cabinet*
U = Unterputz / *in-wall mounting*

Baugröße / *Size*

Phasenanzahl / *Number of phases*
E = Einphasenwechselstrom
Single-phase A.C. 230 V

Phasenanschnittsteuerung / *phase control*

Drehzahlregler / *Speed controller*

Phasenanschnittsteuerung 230 V

⚠ Elektronische Regelgeräte können Brummgeräusche im Motor verursachen.

Technische Daten

Nennspannung:	L/N AC 230 V/ 50 Hz
Kurzschlußschutz (Sicherung):	G-Schmelzeinsatz F 6,3 DIN 41660 (flink)
Funkentstörung:	nach VDE 0875/6.77 Entstörgrad N
Überlastungsschutz:	Temperaturbegrenzer

Der Drehzahlregler erwärmt sich bei Betrieb, da ein Teil der Anschlußleistung als Verlustleistung in Wärme umgesetzt wird. Die angegebene Nennleistung ist für den Einbau des Drehzahlstellers in eine massive Steinwand ausgelegt. Ist der Drehzahlsteller in eine Wand aus Gasbeton, Holz oder Gipskarton eingebaut, muß die maximale Anschlußleistung um 20% reduziert werden.

In stark aufgeheizten Räumen muß die maximale Anschlußleistung entsprechend dem dargestellten Diagramm (Anschlußleistung - Umgebungstemperatur) vermindert werden.

Bei 50 °C Umgebungstemperatur fällt die zulässige Anschlußleistung auf 57%.

Bei 60 °C Umgebungstemperatur fällt die zulässige Anschlußleistung auf 28%.

Phase controlled modulator, L/N AC 230 V

⚠ Electronic speed controllers may create a humming noise from the motor.

Technical data

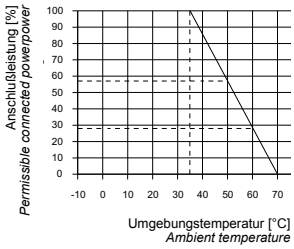
Rated voltage:	L/N AC 230 V/ 50 Hz
Short-circuit protection (fuse):	G-cartridge fuse F 6,3 DIN 41660 (fast)
Interference suppression:	according to VDE 0875/6.77 Entstörgrad N
Overload protection:	temperature protection

The speed controller warms up in operation because of power losses being transformed into heat. The rated power is suitable for mounting in a solid stonewall. If the speed controller is mounted in wall of gas-concrete, wood or other light materials, the max. connected power must be reduced by 20%.

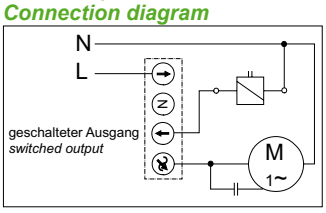
In hot environments the max. connected power must be reduced according to the diagram shown below.

At 50 °C ambient temperature the permissible connected power is reduced to 57%.

At 60 °C ambient temperature the permissible connected power is reduced to 28%.

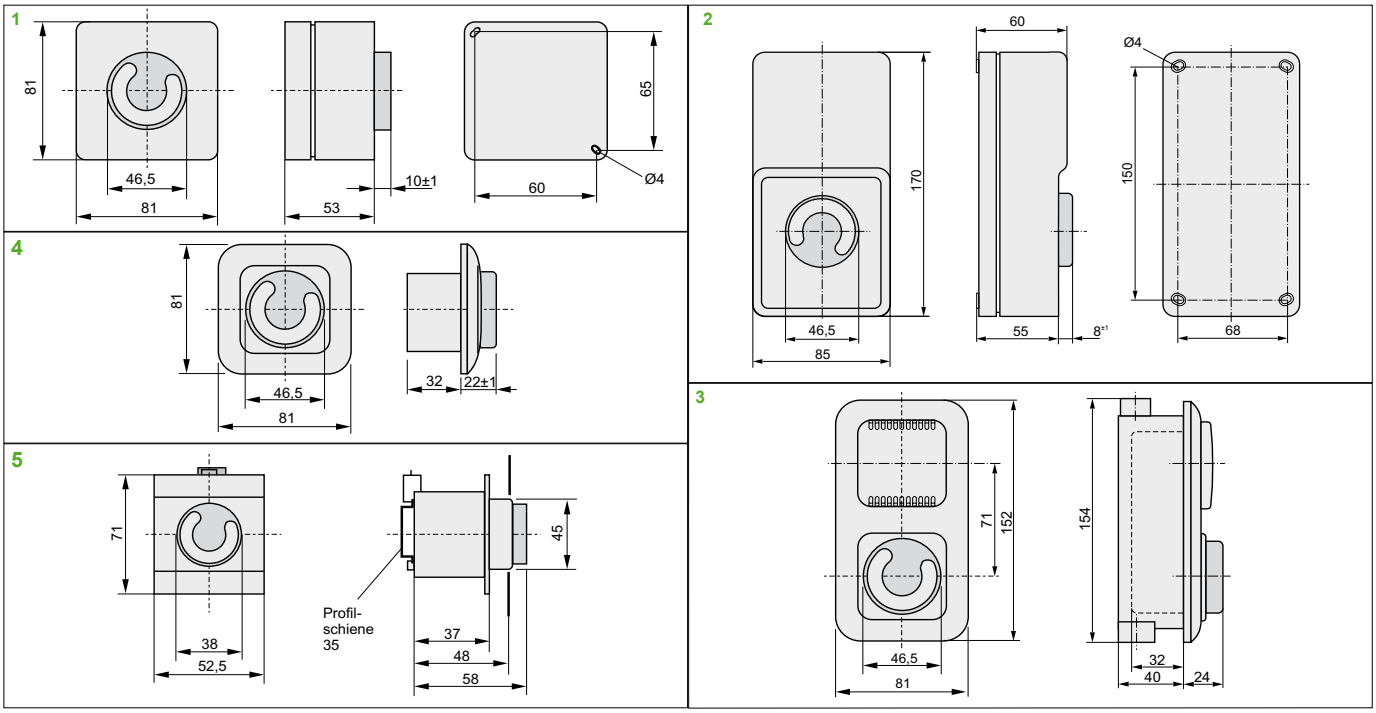


Anschlußplan
Connection diagram



Maßbilder für RPE

Dimensions of RPE



Nr. E10:

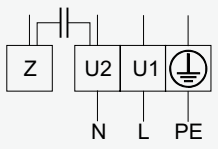
Einphasen-Wechselstrommotor mit Betriebskondensator und Thermokontakt. Thermokontakt im Motor mit der Wicklung in Reihe geschaltet.

U_1 = blau
U_2 = schwarz
Z = braun
PE = gelb-grün

Nr. E10:

Single-phase AC motor with capacitor and thermal contact. Thermal contact in motor connected in series with the winding.

U_1 = blue
U_2 = black
Z = brown
PE = yellow-green



E10

Nr. E11:

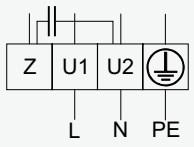
Einphasen-Wechselstrommotor mit Betriebskondensator und Thermokontakt. Thermokontakt im Motor mit der Wicklung in Reihe geschaltet.

U_1 = blau
U_2 = schwarz
Z = braun
PE = gelb-grün

Nr. E11:

Single-phase AC motor with capacitor and thermal contact. Thermal contact in motor connected in series with the winding.

U_1 = blue
U_2 = black
Z = brown
PE = yellow-green



E11

Nr. E12 + E13:

Einphasen-Wechselstrommotor mit Betriebskondensator und Thermokontakt. Thermokontakt aus dem Motor herausgeführt und extern mit der Wicklung in Reihe geschaltet.

Bei E13 ist TK ausgeführt zum Anschluß an Motorschutzschalter.

E12a + E13a
U_1 = braun
U_2 = blau
Z_1 = schwarz
Z_2 = orange
TK = weiß
PE = gelb-grün

E12b + E13b
U_2 = schwarz
U_1/Z_1 = blau
Z_2 = braun
TK = grau
PE = gelb-grün

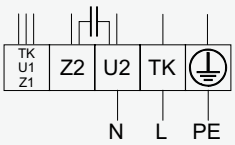
Nr. E12 + E13:

Single-phase AC motor with capacitor and thermal contact. Thermal contact led outside the motor and externally connected in series with the winding.

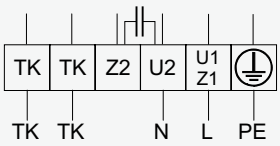
E13: Thermal contact led outside for connection to the motor protection unit.

E12a + E13a
U_1 = brown
U_2 = blue
Z_1 = black
Z_2 = orange
TK = white
PE = yellow-green

E12b + E13b
U_2 = black
U_1/Z_1 = blue
Z_2 = brown
TK = grey
PE = yellow-green



E12



E13

Nr. E14:

Einphasen-Wechselstrommotor mit Betriebskondensator und Thermo- kontakt. Thermokontakt im Motor mit der Wicklung in Reihe geschaltet.

Niedrige Drehzahl (a) durch Kondensatorumschaltung. Ohne Brücke bei Verwendung von unserem Drehzahlumschalter US.

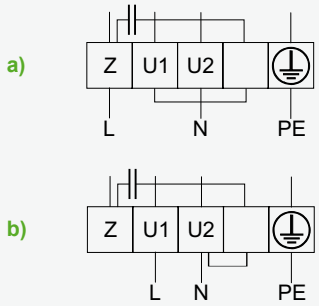
U_1 = blau
U_2 = schwarz
Z = braun
PE = gelb-grün

Nr. E14:

Single-phase AC motor with capacitor and thermostat. Thermostat in motor connected in series with the winding.

Low speed (a) by switching over of the capacitor. Without brigde when using our speed switch US.

U_1 = blue
U_2 = black
Z = brown
PE = yellow-green



E14

Nr. E15:

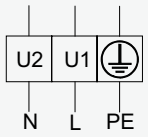
Einphasen-Wechselstrommotor in Spaltpolausführung. Diese Ausführung ist impedanzgeschützt.

U_1 = schwarz
U_2 = schwarz
PE = gelb-grün

Nr. E15:

Single-phase AC shaded-pole motor. This version is impedance protected.

U_1 = black
U_2 = black
PE = yellow-green



E15

Nr. E16:

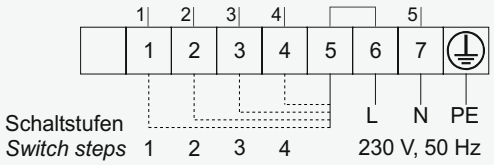
4-stufiger Einphasen-Wechselstrommotor mit Betriebskondensator und Thermokontakt. Thermokontakt im Motor mit der Wicklung in Reihe geschaltet. Wechseln der Drehzahl durch brücken der Klemme 5 mit einer der Klemmen 1-4 oder durch Verwendung des Drehzahlumschalters FWG 5.

PE = gelb-grün

Nr. E16:

4-speed single-phase AC motor with capacitor and thermal contact. Thermal contact in motor connected in series with the winding. Changing speed by jumping pinch 5 with one of the pinches 1..4 or by use of the speed switch FWG-5.

PE = yellow-green



E16

Nr. E16-3:

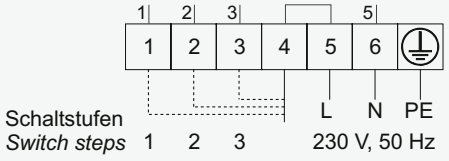
3-stufiger Einphasen-Wechselstrommotor mit Betriebskondensator und Thermokontakt. Thermokontakt im Motor mit der Wicklung in Reihe geschaltet. Wechseln der Drehzahl durch Brücken der Klemme 4 mit einer der Klemmen 1-3 oder durch Verwendung des Drehzahlumschalters FWG 5.

PE = gelb-grün

Nr. E16-3:

3-speed single-phase AC motor with capacitor and thermal contact. Thermal contact in motor connected in series with the winding. Changing speed by jumping pinch 4 with one of the pinches 1..3 or by use of the speed switch FWG-5.

PE = yellow-green



E16-3

Nr. E16-2:

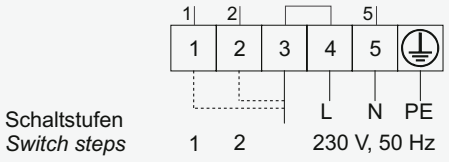
2-stufiger Einphasen-Wechselstrommotor mit Betriebskondensator und Thermokontakt. Thermokontakt im Motor mit der Wicklung in Reihe geschaltet. Wechseln der Drehzahl durch brücken der Klemme 3 mit einer der Klemmen 1-2 oder durch Verwendung des Drehzahlumschalters FWG 5.

PE = gelb-grün

Nr. E16-2:

2-speed single-phase AC motor with capacitor and thermal contact. Thermal contact in motor connected in series with the winding. Changing speed by jumping pinch 3 with one of the pinches 1..2 or by use of the speed switch FWG-5.

PE = yellow-green



E16-2

Nr. E19:

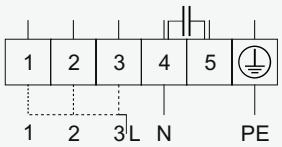
3-stufiger Einphasen-Wechselstrommotor mit Betriebskondensator und Thermokontakt. Thermokontakt im Motor mit der Wicklung in Reihe geschaltet. Wechseln der Drehzahl durch Anschluß der Phase auf eine der Klemmen 1-3.

E19a	E19b
1 = rot	1 = blau
2 = gelb	2 = gelb
3 = weiß	3 = weiß
4 = schwarz, blau	4 = schwarz
5 = braun	5 = grau
PE = gelb-grün	PE = gelb-grün

Nr. E19:

3-speed single-phase AC motor with capacitor and thermostat. Thermostat in motor connected in series with the winding. Changing speed by connecting phase with one of the pinches 1..3.

E19a	E19b
1 = red	1 = red
2 = yellow	2 = yellow
3 = white	3 = white
4 = black, blue	4 = black
5 = brown	5 = grey
PE = yellow-green	PE = yellow-green



E19

Anschlußschaltpläne
Wiring Diagrams

Nr. E21:

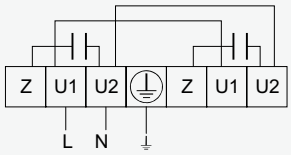
Einphasen-Wechselstrommotor mit Betriebskondensator und Thermokontakt. Thermokontakt mit der Wicklung in Reihe geschaltet.

U_1 = blau
U_2 = schwarz
Z = braun
PE = gelb-grün

Nr. E21:

Single-phase A.C. motor with capacitor and thermal contact. Thermalcontact connected in series with the winding.

U_1 = blue
U_2 = black
Z = brown
PE = yellow-green



E21

Nr. E22:

Einphasen-Wechselstrommotor mit Betriebskondensator und Thermokontakt. Thermokontakt aus dem Motor herausgeführt und extern mit der Wicklung in Reihe geschaltet.

E22a
U_1 = braun
U_2 = blau
Z_1 = schwarz
Z_2 = orange
TK = weiß
PE = gelb-grün

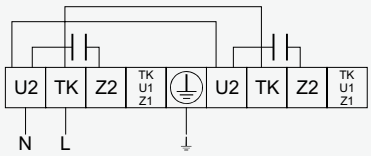
E22b
U_2 = schwarz
U_1/Z_1 = blau
Z_2 = braun
TK = grau
PE = gelb-grün

Nr. E22:

Single-phase A.C. motor with capacitor and thermal contact. Thermal contact led outside the motor and connected in series with the winding externally.

E22a
U_1 = brown
U_2 = blue
Z_1 = black
Z_2 = orange
TK = white
PE = yellow-green

E22b
U_2 = black
U_1/Z_1 = blue
Z_2 = brown
TK = grey
PE = yellow-green



E22

Nr. E31:

Einphasen-Wechselstrommotor mit Betriebskondensator und Thermokontakt. Thermokontakt aus dem Motor herausgeführt und extern mit der Wicklung in Reihe geschaltet.

E31a
U_1 = braun
U_2 = blau
Z_1 = schwarz
Z_2 = orange
TK = weiß
PE = gelb-grün

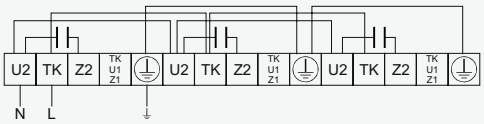
E31b
U_2 = schwarz
U_1/Z_1 = blau
Z_2 = braun
TK = grau
PE = gelb-grün

Nr. E31:

Single-phase A.C. motor with capacitor and thermal contact. Thermal contact led out from the motor and connected in series with the winding externally.

E31a
U_1 = brown
U_2 = blue
Z_1 = black
Z_2 = orange
TK = white
PE = yellow-green

E31b
U_2 = black
U_1/Z_1 = blue
Z_2 = brown
TK = grey
PE = yellow-green



E31

Nr. E32:

Einphasen-Wechselstrommotor mit Betriebskondensator und Thermokontakt. Thermokontakt aus dem Motor herausgeführt und extern mit der Wicklung in Reihe geschaltet.

E32a
N = blau
L = braun
U_1 = braun
U_2 = blau
Z_1 = schwarz
Z_2 = orange
TK = weiß
PE = gelb-grün

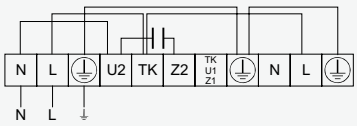
E32b
N = blau
L = braun
U_2 = schwarz
U_1/Z_1 = blau
Z_2 = braun
TK = grau
PE = gelb-grün

Nr. E32:

Single-phase A.C. motor with capacitor and thermal contact. Thermalcontact led out from the motor and connected in series with the winding externally.

E32a
N = blue
L = brown
U_1 = brown
U_2 = blue
Z_1 = black
Z_2 = orange
TK = white
PE = yellow-green

E32b
N = blue
L = brown
U_2 = black
U_1/Z_1 = blue
Z_2 = brown
TK = grey
PE = yellow-green



E32

Nr. E33:

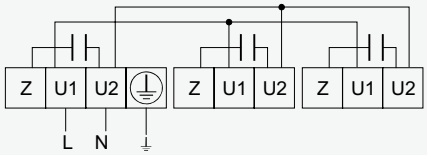
Einphasen-Wechselstrommotor mit Betriebskondensator und Thermokontakt. Thermokontakt mit der Wicklung in Reihe geschaltet.

U_1 = blau
U_2 = schwarz
Z = braun
PE = gelb-grün

Nr. E33:

Single-phase A.C. motor with capacitor and thermal contact. Thermal contact connected in series with the winding.

U_1 = blue
U_2 = black
Z = brown
PE = yellow-green



E33

Nr. DD0:

Drehstrommotor in Δ-Schaltung mit ausgeführten Thermokontakten. Drehrichtungsänderung durch Vertauschen von zwei Phasen.

DD0a
$U_1/V_1/W_1$ = braun
$U_2/V_2/W_2$ = blau
TK = gelb
PE = gelb-grün

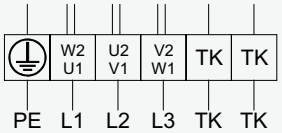
DD0b
U1 = braun
V1 = blau
W1 = schwarz
U2 = rot
V2 = grau
W2 = orange
TK = weiß
PE = gelb-grün

Nr. DD0:

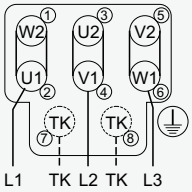
3-Phase motor in Δ-connection with thermostat. Changing of rotation direction by interchanging 2 phases.

DD0a
$U_1/V_1/W_1$ = brown
$U_2/V_2/W_2$ = blue
TK = yellow
PE = yellow-green

DD0b
U1 = brown
V1 = blue
W1 = black
U2 = red
V2 = grey
W2 = orange
TK = white
PE = yellow-green



DD0



DD0-K

Nr. DD1:

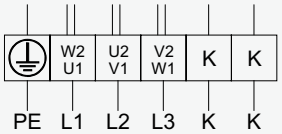
Drehstrommotor in Δ-Schaltung mit Kaltleitern. Drehrichtungsänderung durch Vertauschen von zwei Phasen.

U_1 = braun
V_1 = blau
W_1 = schwarz
U_2 = rot
V_2 = grau
W_2 = orange
K = weiß
PE = gelb-grün

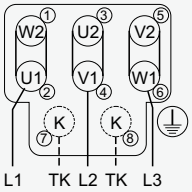
Nr. DD1:

3-Phase motor in Δ-connection with thermistor. Changing of rotation direction by interchanging 2 phases.

U_1 = brown
V_1 = blue
W_1 = black
U_2 = red
V_2 = grey
W_2 = orange
K = white
PE = yellow-green



DD1



DD1-K

Nr. DS0:

Drehstrommotor in Y-Schaltung mit ausgeführten Thermokontakten. Drehrichtungsänderung durch Vertauschen von zwei Phasen. Sternpunkt im Motor verdrahtet.

DS0a
$U_1/V_1/W_1$ = schwarz
TK = gelb
PE = gelb-grün

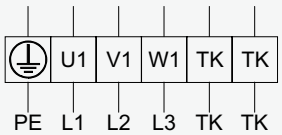
DS0b
U_1 = schwarz
V_1 = blau
W_1 = braun
TK = gelb
PE = gelb-grün

Nr. DS0:

3-Phase motor in Y-connection with thermostat. Changing of rotation direction by interchanging 2 phases. Common point connected inside the motor.

DS0a
$U_1/V_1/W_1$ = black
TK = yellow
PE = yellow-green

DS0b
U_1 = black
V_1 = blue
W_1 = brown
TK = yellow
PE = yellow-green



DS0

Anschlußschaltpläne
Wiring Diagrams

Nr. DS1:

Drehstrommotor in Y-Schaltung mit ausgeführten Thermokontakten. Drehrichtungsänderung durch Vertauschen von zwei Phasen.

DS1a
$U_1/V_1/W_1$ = braun
$U_2/V_2/W_2$ = blau
TK = gelb
PE = gelb-grün

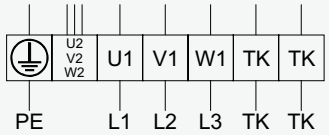
DS1b
U_1 = braun
V_1 = blau
W_1 = schwarz
U_2 = rot
V_2 = grau
W_2 = orange
TK = weiß
PE = gelb-grün

Nr. DS1:

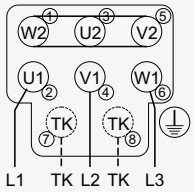
3-Phase motor in Y-connection with thermostat. Changing of rotation direction by interchanging 2 phases.

DS1a
$U_1/V_1/W_1$ = braun
$U_2/V_2/W_2$ = blau
TK = yellow
PE = yellow-green

DS1b
U_1 = brown
V_1 = blue
W_1 = black
U_2 = red
V_2 = grey
W_2 = orange
TK = white
PE = yellow-green



DS1



DS1-K

Nr. DS2:

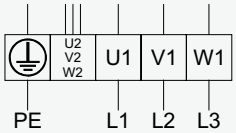
Drehstrommotor in Y-Schaltung ohne Thermokontakte. Drehrichtungsänderung durch Vertauschen von zwei Phasen.

$U_1/V_1/W_1$ = braun
$U_2/V_2/W_2$ = blau
PE = gelb-grün

Nr. DS2:

3-Phase motor in Y-connection without thermostat. Changing of rotation direction by interchanging 2 phases.

$U_1/V_1/W_1$ = brown
$U_2/V_2/W_2$ = blue
PE = yellow-green



DS2

Nr. DS:

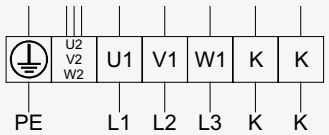
Drehstrommotor in Y-Schaltung mit Kaltleitern. Drehrichtungsänderung durch Vertauschen von zwei Phasen.

U_1 = braun
V_1 = blau
W_1 = schwarz
U_2 = rot
V_2 = grau
W_2 = orange
K = weiß
PE = gelb-grün

Nr. DS3:

3-Phase motor in Y-connection with cold conductor. Changing of rotation direction by interchanging 2 phases.

U_1 = brown
V_1 = blue
W_1 = black
U_2 = red
V_2 = grey
W_2 = orange
K = white
PE = yellow-green



DS3

Nr. DU0:

Drehstrommotor.

2 Drehzahlen durch Y/D-Umschaltung.

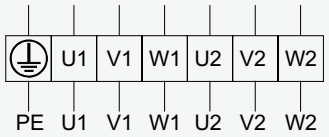
Drehrichtungsänderung durch Vertauschen von zwei Phasen.

Nr. DU0:

3-Phase motor.

Two speeds, speed changing by Y/D switching.

Changing of rotation direction by interchanging 2 phases.



DU0

Nr. DU1:

Drehstrommotor, mit Thermokontakten.

2 Drehzahlen durch Y/D-Umschaltung in Verbindung mit dem Schaltgerät MSD2.

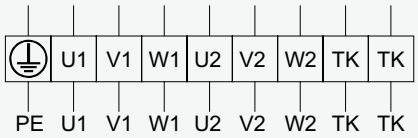
Drehrichtungsänderung durch Vertauschen von zwei Phasen.

Nr. DU1:

3-Phase motor, with thermistor.

Two speeds, speed changing by Y/D switching with MSD2.

Changing of rotation direction by interchanging 2 phases.



DU1

Nr. DU2:

Drehstrommotor, explosionsgeschützt (erhöhte Sicherheit), mit Kaltleitern.

2 Drehzahlen durch Y/D-Umschaltung in Verbindung mit dem Schaltgerät MSD2K.

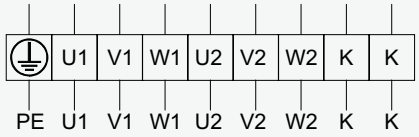
Drehrichtungsänderung durch Vertauschen von zwei Phasen.

Nr. DU2:

3-Phase motor, flame poof (increased security), in D-connection with thermistor.

Two speeds, speed changing by Y/D switching with MSD2K.

Changing of rotation direction by interchanging 2 phases.



DU2

Nr. DU3:

Drehstrommotor.

2 Drehzahlen durch Y/D-Umschaltung.

Drehrichtungsänderung durch Vertauschen von zwei Phasen.

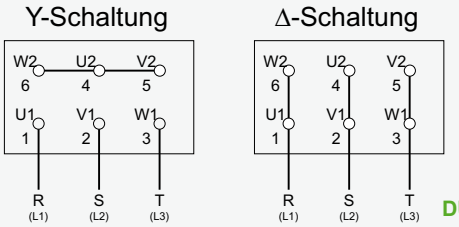
Bei Verwendung von MSD2 ohne Brücke.

Nr. DU3:

3-Phase motor.

Two speeds, speed changing by Y/D switching.

Changing of rotation direction by interchanging 2 phases.



DU3

Nr. DU4:

Drehstrommotor.

2 Drehzahlen durch Umschaltung nach Dahlander. Drehzahlverhältnis 1:2.

Drehrichtungsänderung durch Vertauschen von zwei Phasen.

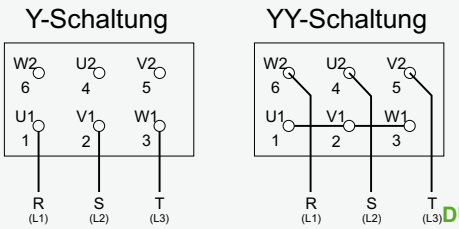
Bei Verwendung von MSD2-D ohne Brücke

Nr. DU4:

3-Phase motor.

Two speeds by Dahlander connection.

Changing of rotation direction by interchanging 2 phases. Speed proportion 1:2.



DU4

Nr. DU5:

Drehstrommotor mit 2 getrennten Wicklungen.

2 Drehzahlen durch Y/Y-Umschaltung. Drehzahlverhältnis 1:1,5

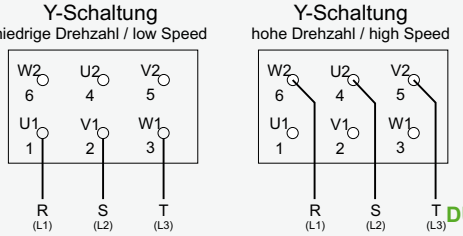
Drehrichtungsänderung durch Vertauschen von zwei Phasen.

Nr. DU5:

3-Phase motor with two sererate windings.

Two speeds, speed changing by Y/Y switching. Speed proportion 1:1.5.

Changing of rotation direction by interchanging 2 phases.



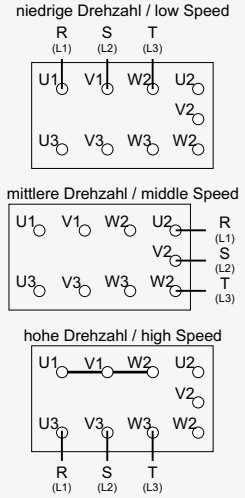
DU5

Nr. DU6:

Drehstrommotor mit 3 Drehzahlen.

Nr. DU6:

3-Phase motor with 3 speeds.



DU6

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