Typenschlüssel — *Fan type code*

D KN S 225 - 4

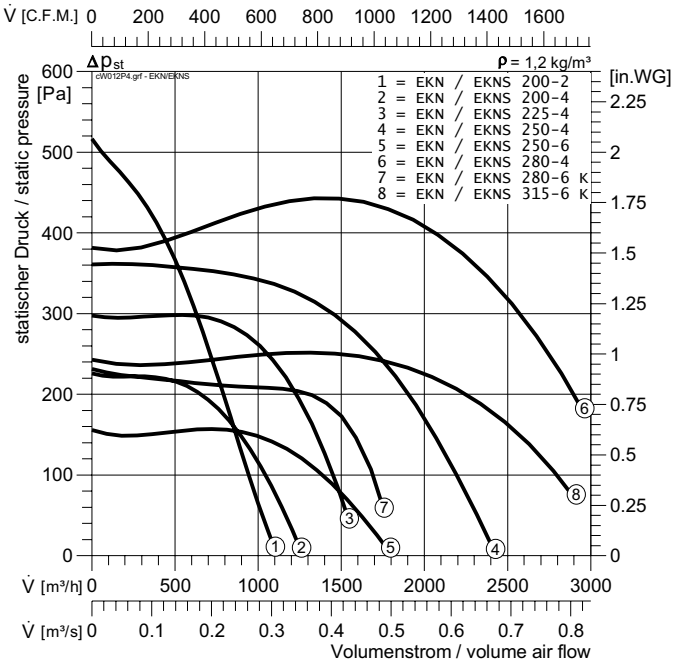
- Polzahl des Motors / *Number of poles*
- Nennweite / *Impeller diameter*
- S = Schalldämmung / *Sound insulation*
- Kanalventilator / *Duct fan*
- Motorversion / *Motor type*
  - E = Einphasenwechselstrom *Single-phase A.C.*
  - D = Drehstrom *Three-phase A.C.*

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

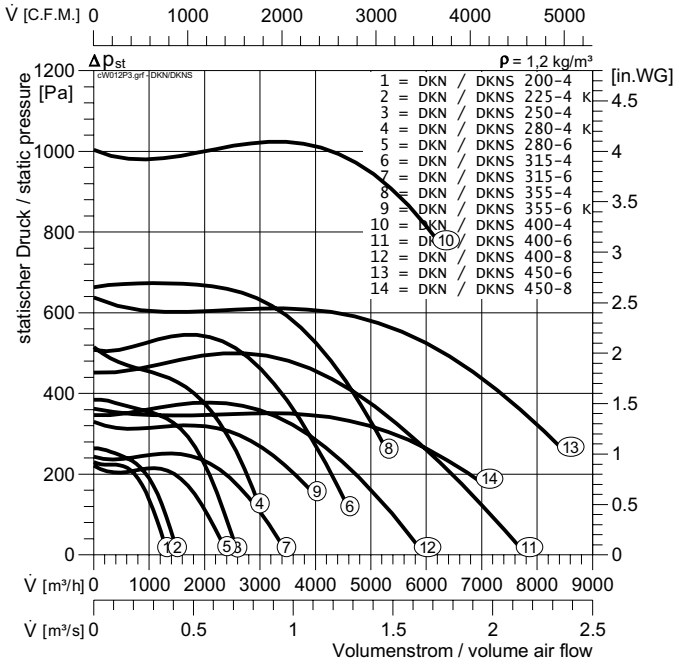
f_M [Hz]				LwA	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz
4-pol	L_{WA6rel} [dB(A)]	Ausblasseite	*Outlet side*	0	-16	-14	-8	-5	-6	-7	-17
	L_{WA5rel} [dB(A)]	Ansaugseite	*Inlet side*	-6	-13	-15	-6	-5	-7	-9	-18
	L_{WA2rel} [dB(A)]	Gehäuseabstr. EKN/DKN	*Casing* EKN/DKN	-17	-5	-7	-9	-7	-12	-17	-24
	L_{WA2rel} [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.:

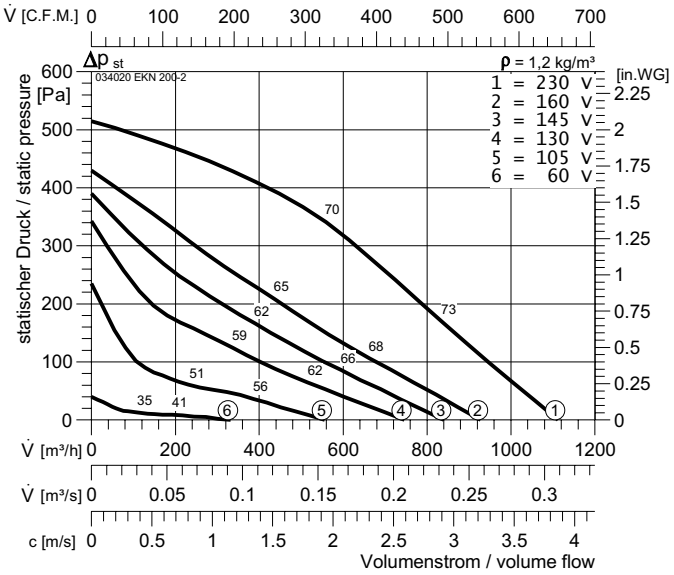
$L_{PA(1m)} \approx L_{WA2}$ - 7 dB(A)

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:

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

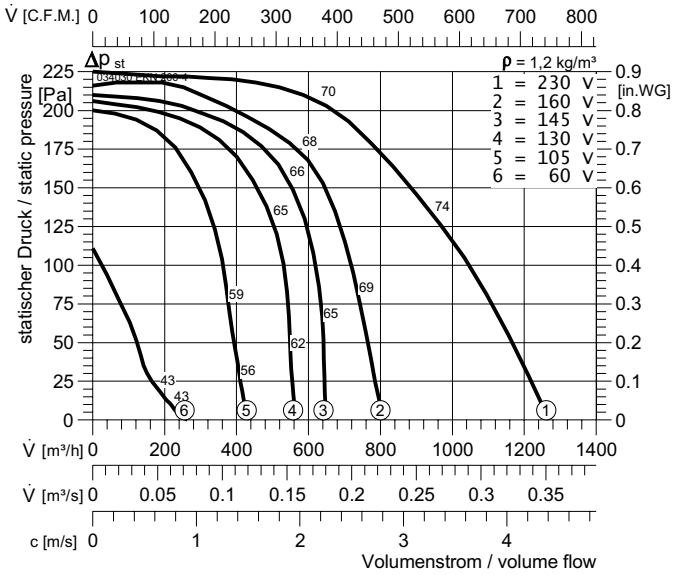
The relative A-weighted octave sound power level L_{WArel} at octave medium frequency can be taken from the table on the preceding page. These levels have been established at 0.5 x Vmax.

EKN / EKNS 200-2



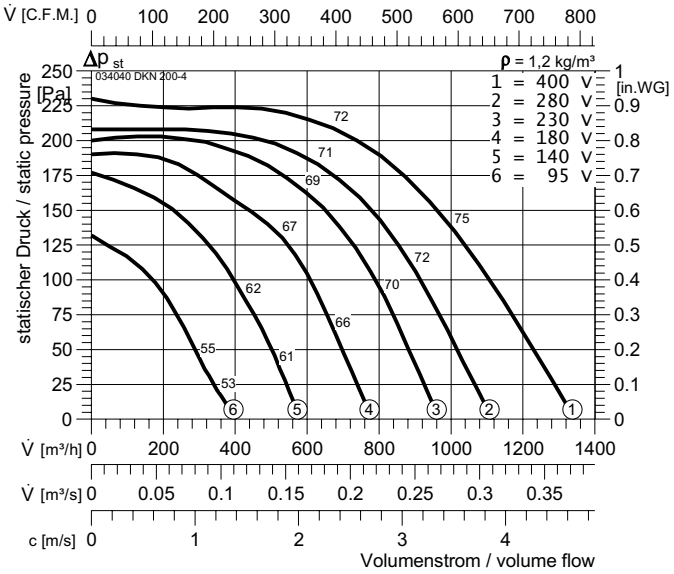
Typ	EKN 200-2 / EKNS 200-2		Art. Nr.	034020 / 035020		11,9 kg / 18,7 kg
U :	230 V 50 Hz		t_R :	60	°C	IP 44
P_1 :	0,17	kW	$\Delta p_{fa\ min}$:	0		E13
I_N :	0,76	A	Δ I :	-		GS1
n :	2530	min^{-1}	I_A / I_N :	1,8		NE 1,5
C_{400V} :	5	µF				RPE 02

EKN / EKNS 200-4



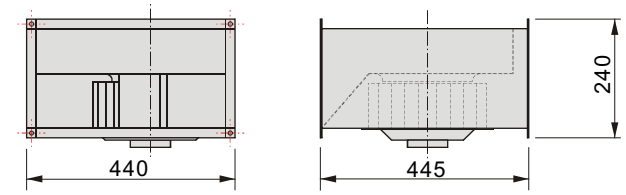
Typ	EKN 200-4 / EKNS 200-4		Art. Nr.	034030 / 035030		13,2 kg / 22 kg
U :	230 V 50 Hz		t_R :	50	°C	IP 54
P_1 :	0,33	kW	$\Delta p_{fa\ min}$:	0		E13
I_N :	1,5	A	Δ I :	-		GS 1
n :	1190	min^{-1}	I_A / I_N :	2,1		NE 1,5
C_{400V} :	6	µF				RPE 06

DKN / DKNS 200-4

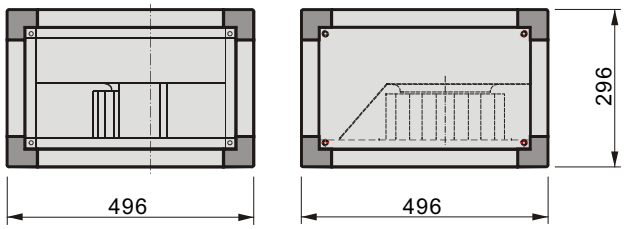


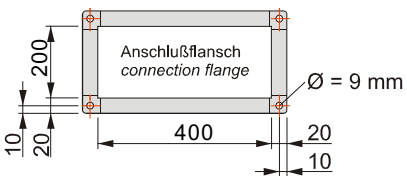
Typ	DKN 200-4 / DKNS 200-4		Art. Nr.	034040 / 035040		13,2 kg / 19 kg
U :	400 V 50 Hz		t_R :	60	°C	IP 54
P_1 :	0,33	kW	$\Delta p_{fa\ min}$:	0		DD0b
I_N :	0,61	A	Δ I :	-		GS 2
n :	1270	min^{-1}	I_A / I_N :	2		RTD 1,2
C_{400V} :	-	µF				SAD9

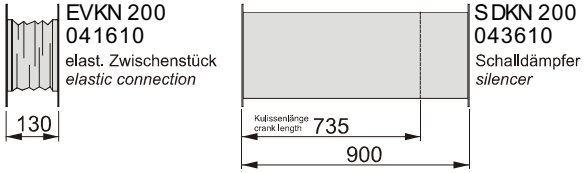
EKN / DKN



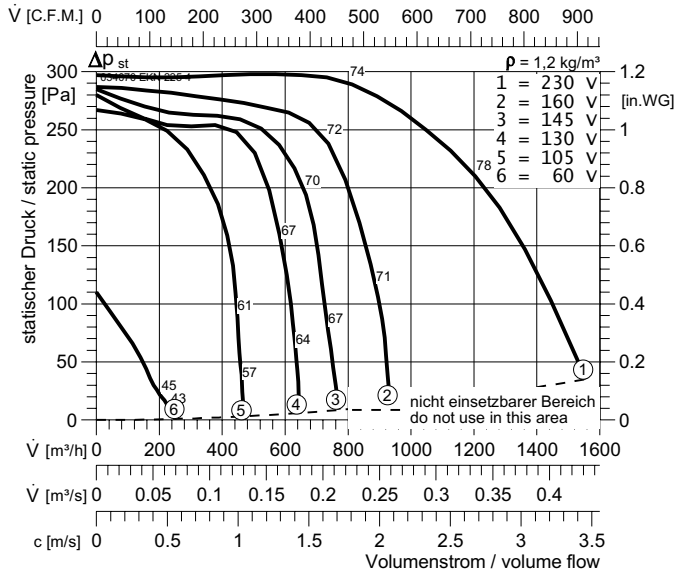
EKNS / DKNS





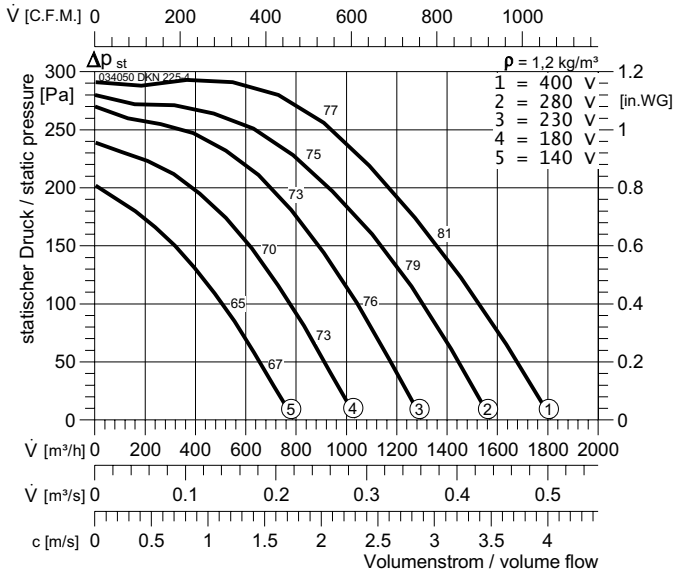


EKN / EKNS 225-4



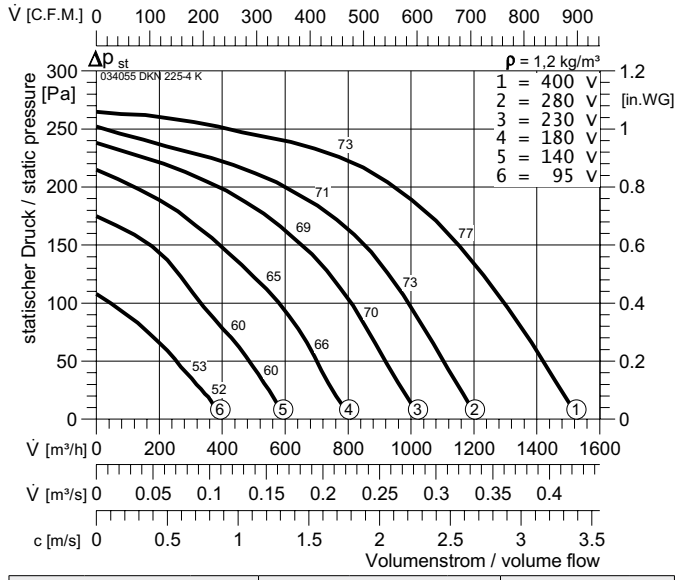
Typ	EKN 225-4 / EKNS 225-4	Art. Nr.	034070 / 035070		19,5 kg / 26,2 kg
U :	230 V 50 Hz	t_R :	40 °C		IP 54
P_1 :	0,49 kW	$\Delta p_{fa\ min}$:	35		E13
I_N :	2,2 A	Δ I :	-		GS 2
n :	1220 min⁻¹	I_A / I_N :	1,7		NE 3,2
C_{400V} :	8 µF				RPE 06

DKN / DKNS 225-4



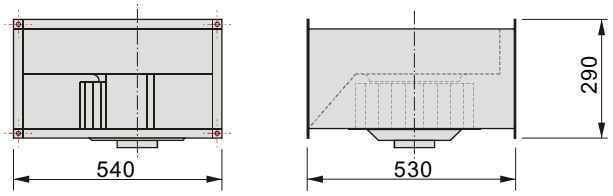
Typ	DKN 225-4 / DKNS 225-4	Art. Nr.	034050 / 035050		19,35 kg / 27 kg
U :	400 V 50 Hz	t_R :	55 °C		IP44
P_1 :	0,51 kW	$\Delta p_{fa\ min}$:	0		DS1
I_N :	0,87 A	Δ I :	-		GS 2
n :	1190 min⁻¹	I_A / I_N :	2,9		RTD 1,2
C_{400V} :	- µF				SAD 9

DKN / DKNS 225-4 K

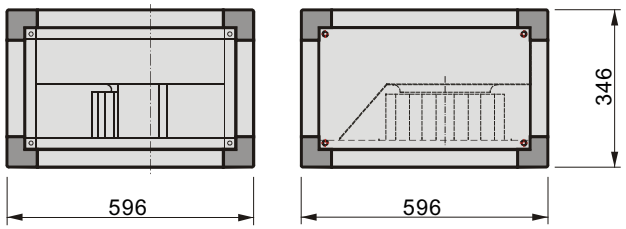


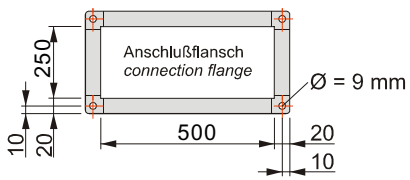
Typ	DKN 225-4 K / DKNS 225-4 K	Art. Nr.	034055 / 035055		18 kg / 24 kg
U :	400 V 50 Hz	t_R :	60 °C		IP 54
P_1 :	0,36 kW	$\Delta p_{fa\ min}$:	0		DD0b
I_N :	0,68 A	Δ I :	-		GS 2
n :	1140 min⁻¹	I_A / I_N :	1,8		RTD 1,2
C_{400V} :	- µF				SAD 9

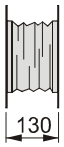
EKN / DKN



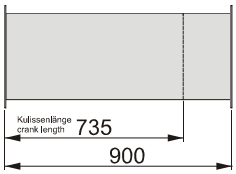
EKNS / DKNS





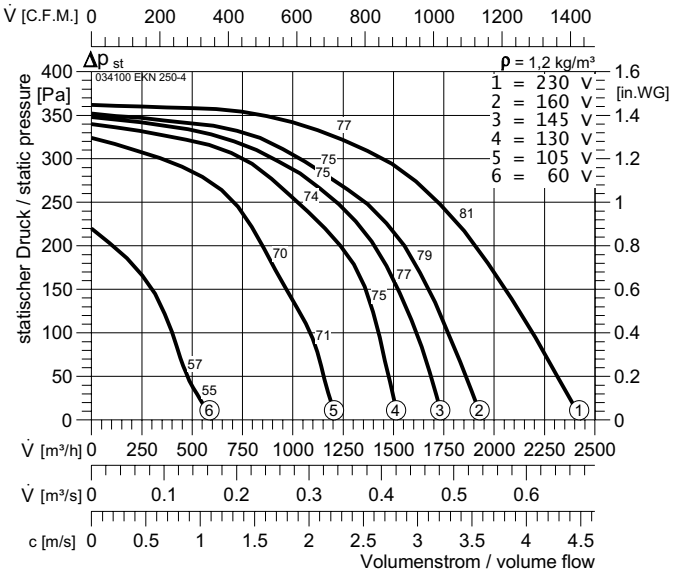


EVKN 225
041620
elast. Zwischenstück
elastic connection



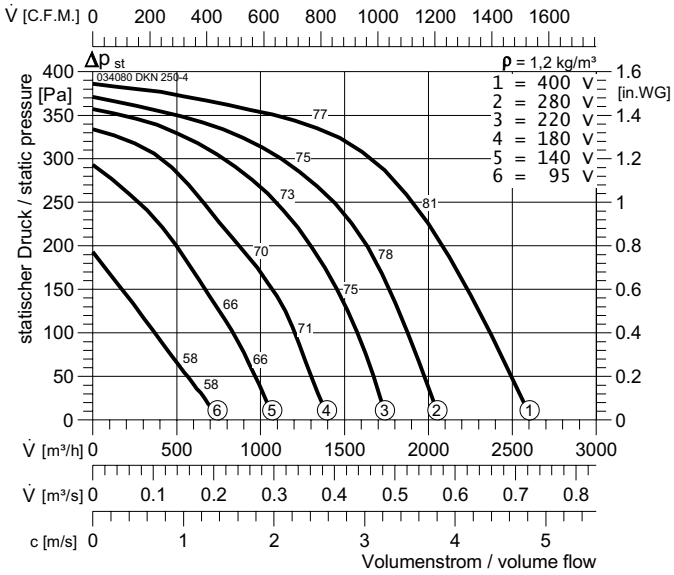
SDKN 225
043620
Schalldämpfer
silencer

EKN / EKNS 250-4



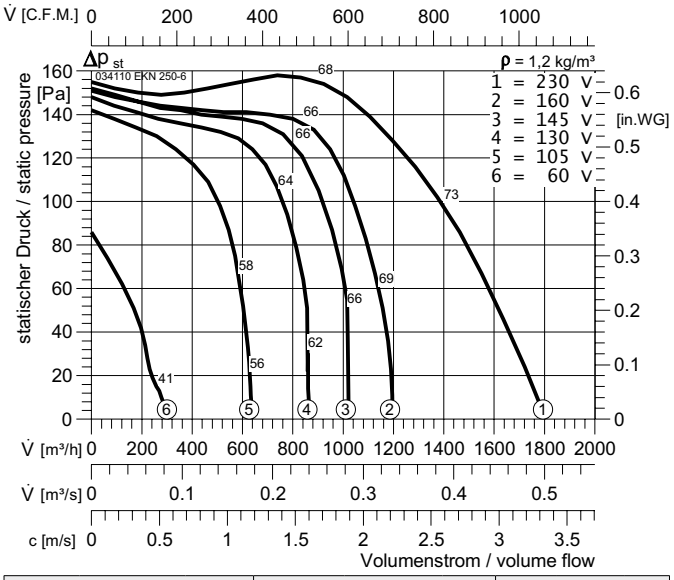
Typ	EKN 250-4 / EKNS 250-4	Art. Nr.	034100 / 035100		25,5 kg / 32 kg
U :	230 V 50 Hz	t_R :	60 °C		IP 54
P_1 :	0,81 kW	$\Delta p_{fa\ min}$:	0		E13
I_N :	3,85 A	Δ I :	-		GS 2
n :	1240 min⁻¹	I_A / I_N :	2		NE 5
C_{400V} :	16 µF				RPE 09 A

DKN / DKNS 250-4



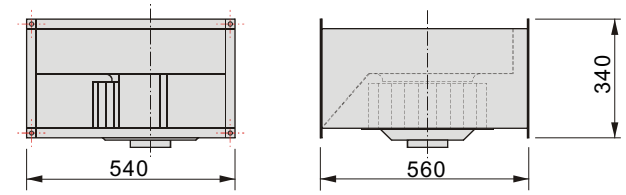
Typ	DKN 250-4 / DKNS 250-4	Art. Nr.	034080 / 035080		23,5 kg / 30,5 kg
U :	400 V 50 Hz	t_R :	40 °C		IP 54
P_1 :	0,83 kW	$\Delta p_{fa\ min}$:	0		DD0b
I_N :	1,55 A	Δ I :	-		GS 2
n :	1210 min⁻¹	I_A / I_N :	2,2		RTD 2,5
C_{400V} :	- µF				SAD 9

EKN / EKNS 250-6

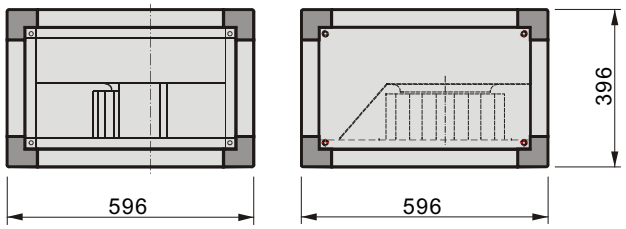


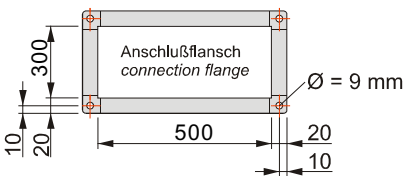
Typ	EKN 250-6 / EKNS 250-6	Art. Nr.	034110 / 035110		24 kg / 28,8 kg
U :	230 V 50 Hz	t_R :	60 °C		IP 54
P_1 :	0,32 kW	$\Delta p_{fa\ min}$:	0		E13
I_N :	1,4 A	Δ I :	-		GS 2
n :	820 min⁻¹	I_A / I_N :	1,6		NE 1,5
C_{400V} :	5 µF				RPE 06

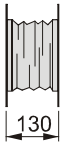
EKN / DKN



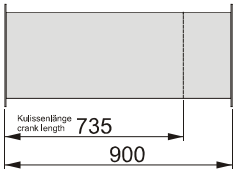
EKNS / DKNS





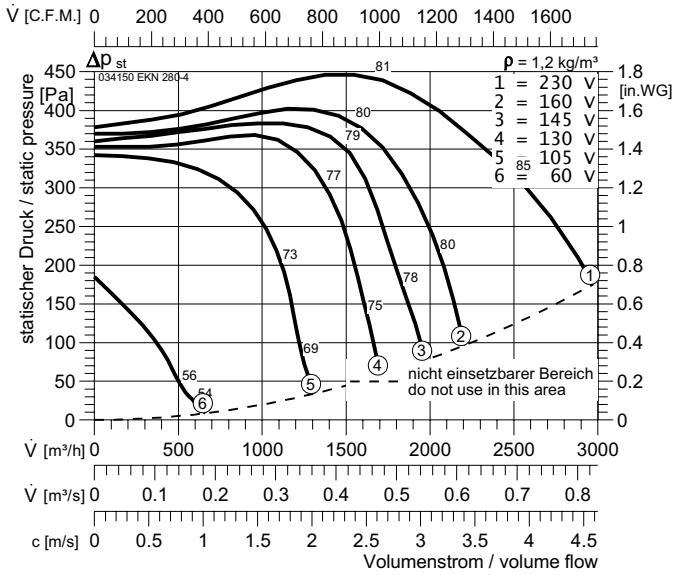


EVKN 250
041630
elast. Zwischenstück
elastic connection



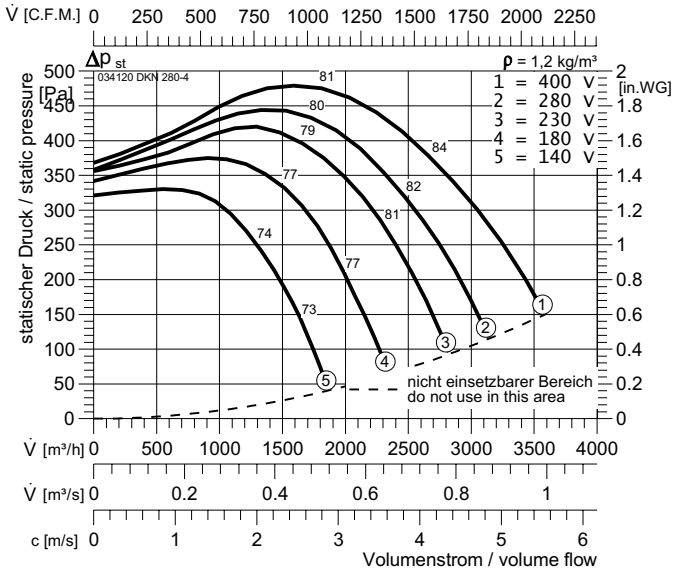
SDKN 250
043630
Schalldämpfer
silencer

EKN / EKNS 280-4



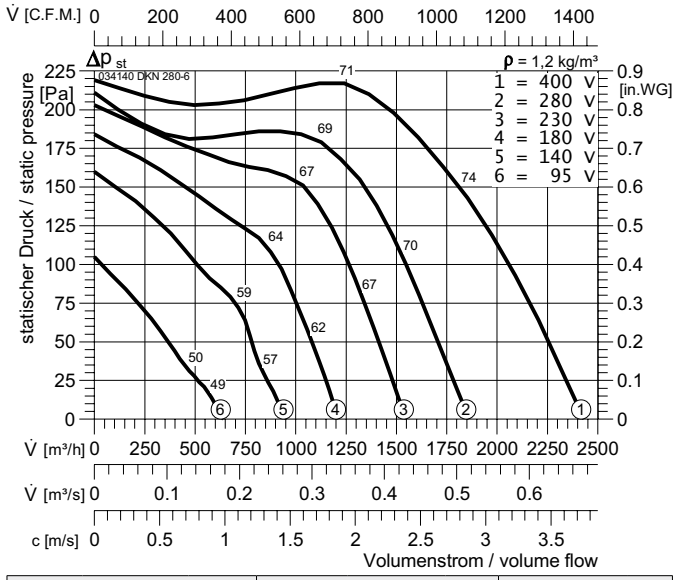
Typ	EKN 280-4 / EKNS 280-4		Art. Nr.	034150 / 035150			28 kg / 44 kg
U :	230 V 50 Hz		t_R :	40	°C		IP 54
P_1 :	1,25	kW	$\Delta p_{fa\ min}$:	175			E13
I_N :	5,65	A	ΔI :	-			GS 2
n :	1240	min^{-1}	I_A / I_N :	1,9			NE 7,5
C_{400V} :	25	µF					SAD 7

DKN / DKNS 280-4



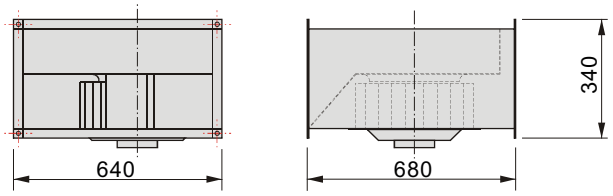
Typ	DKN 280-4 / DKNS 280-4		Art. Nr.	034120 / 035120			38 kg / 41,4 kg
U :	400 V 50 Hz		t_R :	40	°C		IP 54
P_1 :	1,4	kW	$\Delta p_{fa\ min}$:	150			DD0b
I_N :	2,95	A	ΔI :	-			GS 2
n :	1310	min^{-1}	I_A / I_N :	3,6			RTD 2,5
C_{400V} :	-	µF					SAD 9

DKN / DKNS 280-6

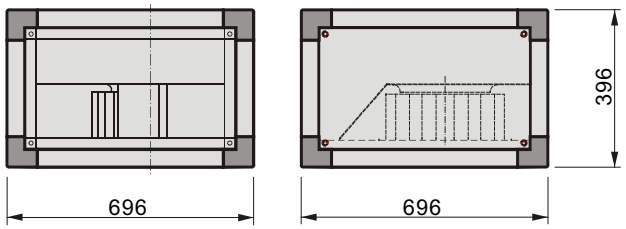


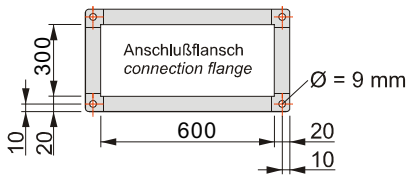
Typ	DKN 280-6 / DKNS 280-6		Art. Nr.	034140 / 035140			28 kg / 40 kg
U :	400 V 50 Hz		t_R :	40	°C		IP 54
P_1 :	0,55	kW	$\Delta p_{fa\ min}$:	0			DD0b
I_N :	0,9	A	ΔI :	-			GS 2
n :	710	min^{-1}	I_A / I_N :	1,75			RTD 1,2
C_{400V} :	-	µF					SAD 9

EKN / DKN

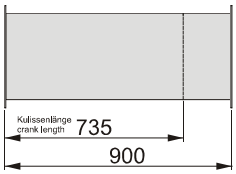


EKNS / DKNS



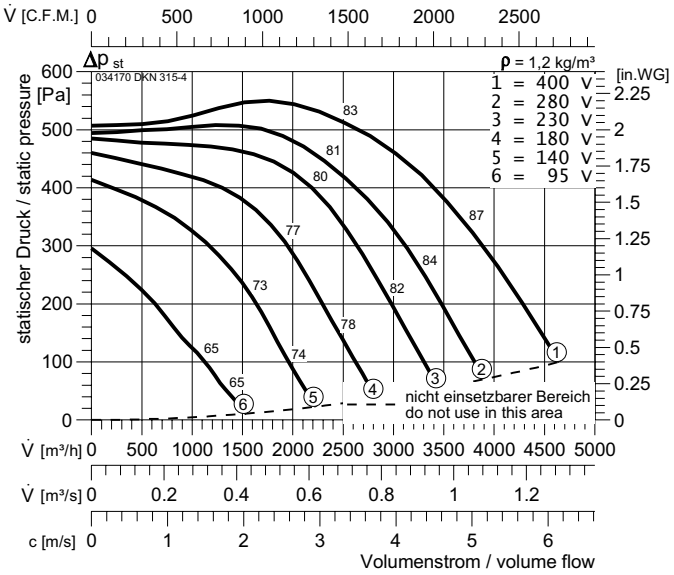



EVKN 280
041640
elast. Zwischenstück
elastic connection
130



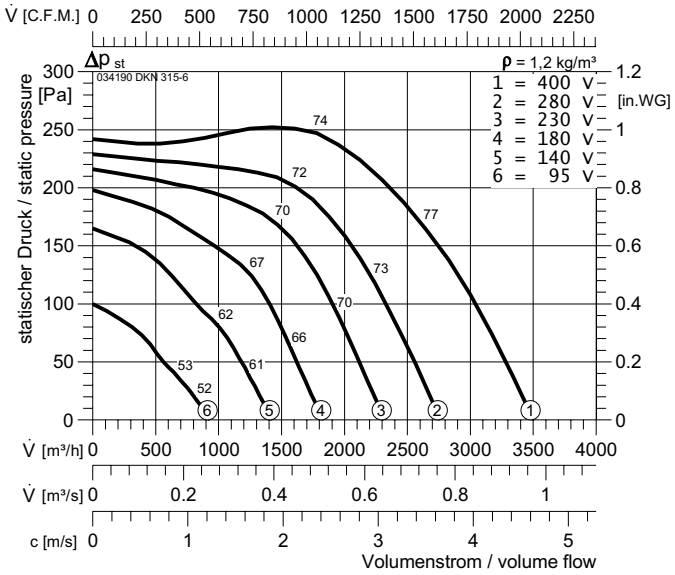
SDKN 280
043640
Schalldämpfer
silencer

DKN / DKNS 315-4



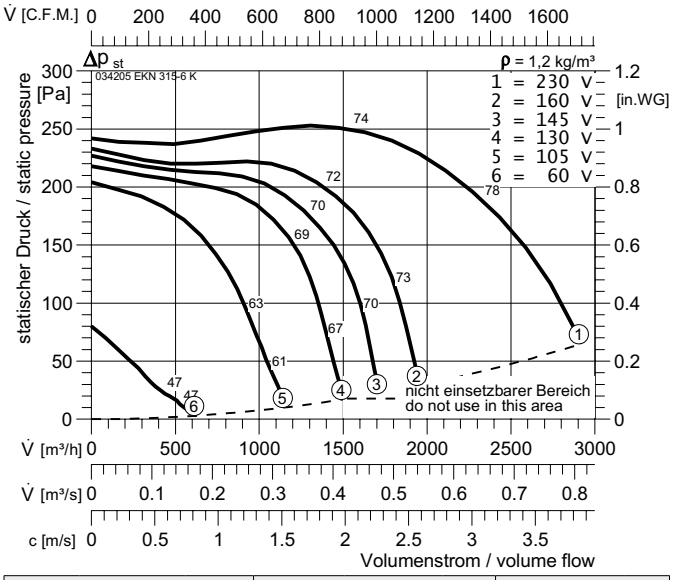
Typ	DKN 315-4 / DKNS 315-4		Art. Nr.	034170 / 035170		48 kg / 49,8 kg
U :	400 V 50 Hz		t_R :	40	°C	IP 54
P_1 :	2,38	kW	$\Delta p_{fa\ min}$:	100		DD0b
I_N :	4,4	A	Δ I :	-		GS 2
n :	1300	min^{-1}	I_A / I_N :	2,9		RTD 3,8
C_{400V} :	-	µF				SAD 9

DKN / DKNS 315-6



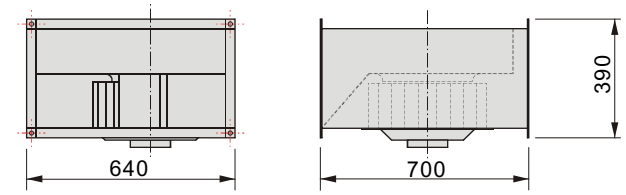
Typ	DKN 315-6 / DKNS 315-6		Art. Nr.	034190 / 035190		36 kg / 66 kg
U :	400 V 50 Hz		t_R :	45	°C	IP 54
P_1 :	0,82	kW	$\Delta p_{fa\ min}$:	0		DD0b
I_N :	1,5	A	Δ I :	-		GS 2
n :	740	min^{-1}	I_A / I_N :	2,1		RTD 2,5
C_{400V} :	-	µF				SAD 9

EKN / EKNS 315-6 K

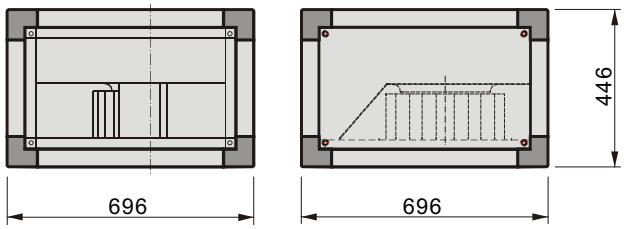


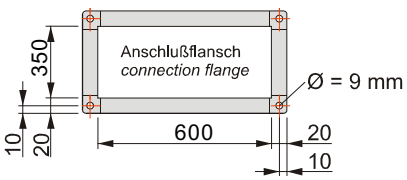
Typ	EKN 315-6 K / EKNS 315-6 K		Art. Nr.	034205 / 035205		34 kg / 42 kg
U :	230 V 50 Hz		t_R :	40	°C	IP 54
P_1 :	0,72	kW	$\Delta p_{fa\ min}$:	65		E13
I_N :	3,3	A	Δ I :	-		GS 1
n :	730	min^{-1}	I_A / I_N :	1,5		NE 5
C_{400V} :	12	µF				RPE 09

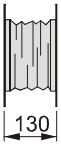
EKN / DKN



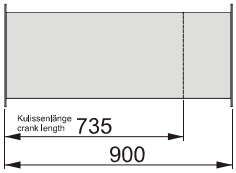
EKNS / DKNS





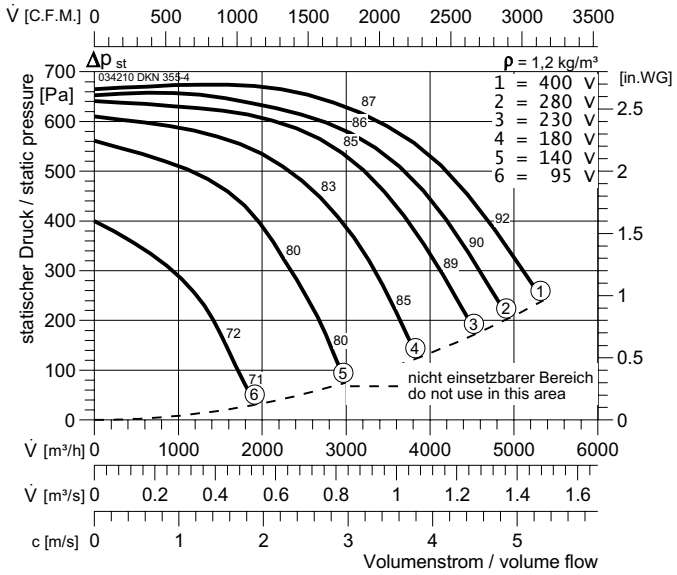


EVKN 315
041650
elast. Zwischenstück
elastic connection



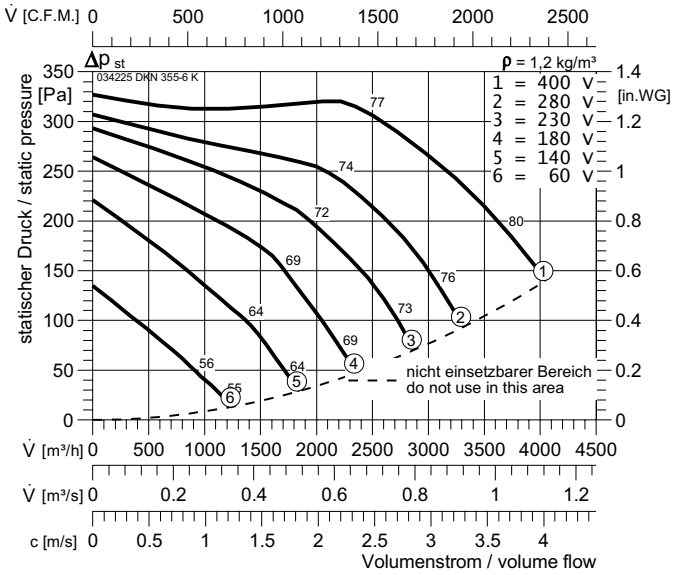
SDKN 315
043650
Schalldämpfer
silencer

DKN / DKNS 355-4



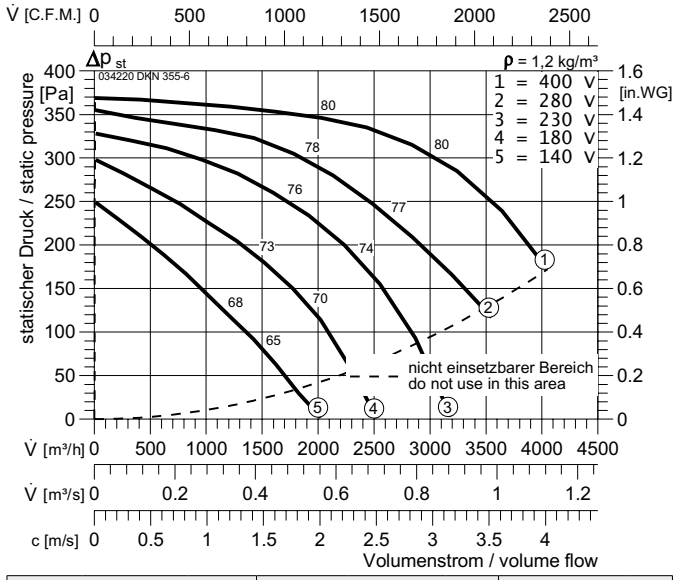
Typ	DKN 355-4 / DKNS 355-4		Art. Nr.	034210 / 035210			58 kg / 72,5 kg
U :	400 V 50 Hz		t_R :	40	°C	IP 54	
P_1 :	3,2	kW	$\Delta p_{fa\ min}$:	240		DD0b	
I_N :	5,8	A	ΔI :	12		GS 2	
n :	1405	min^{-1}	I_A / I_N :	5,2		RTD 7	
C_{400V} :	-	µF				SAD 9	

DKN / DKNS 355-6 K



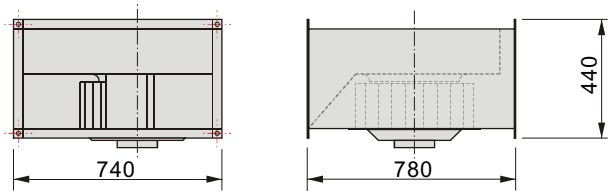
Typ	DKN 355-6 K / DKNS 355-6 K		Art. Nr.	034225 / 035225			50 kg / 58,5 kg
U :	400 V 50 Hz		t_R :	40	°C	IP 54	
P_1 :	1,15	kW	$\Delta p_{fa\ min}$:	140		DD0b	
I_N :	2,2	A	ΔI :	-		GS 2	
n :	810	min^{-1}	I_A / I_N :	2,4		RTD 2,5	
C_{400V} :	-	µF				SAD 9	

DKN / DKNS 355-6

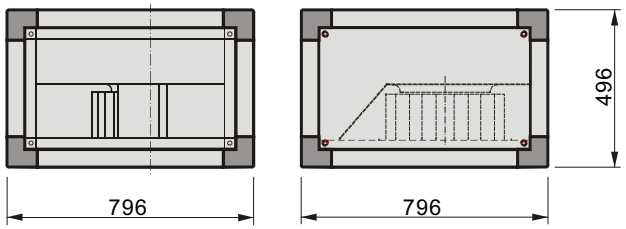


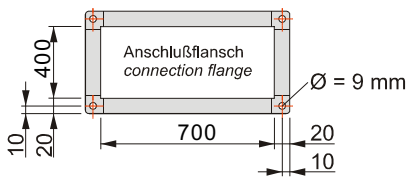
Typ	DKN 355-6 / DKNS 355-6		Art. Nr.	034220 / 035220			55 kg / 58,5 kg
U :	400 V 50 Hz		t_R :	40	°C	IP44	
P_1 :	1,1	kW	$\Delta p_{fa\ min}$:	180		DD0	
I_N :	2	A	ΔI :	-		GS 2	
n :	790	min^{-1}	I_A / I_N :	2,5		RTD 2,5	
C_{400V} :	-	µF				SAD 9	

EKN / DKN

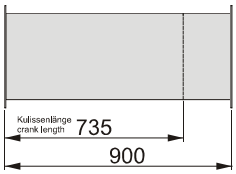


EKNS / DKNS



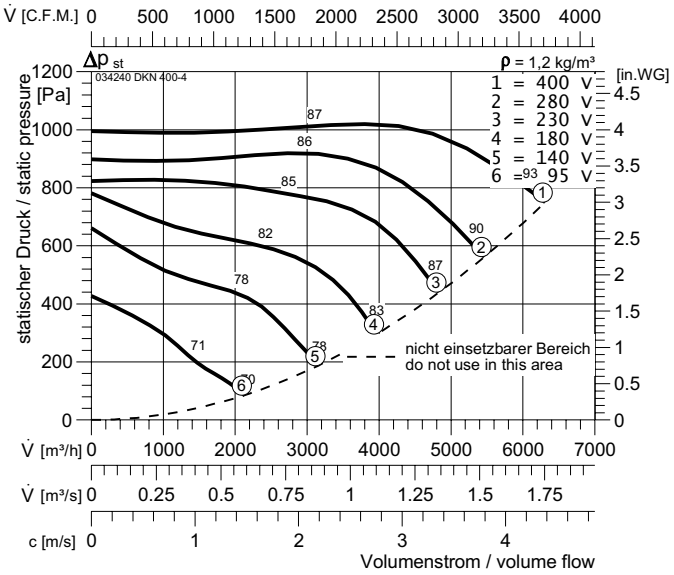


EVKN 355
041300
elast. Zwischenstück
elastic connection



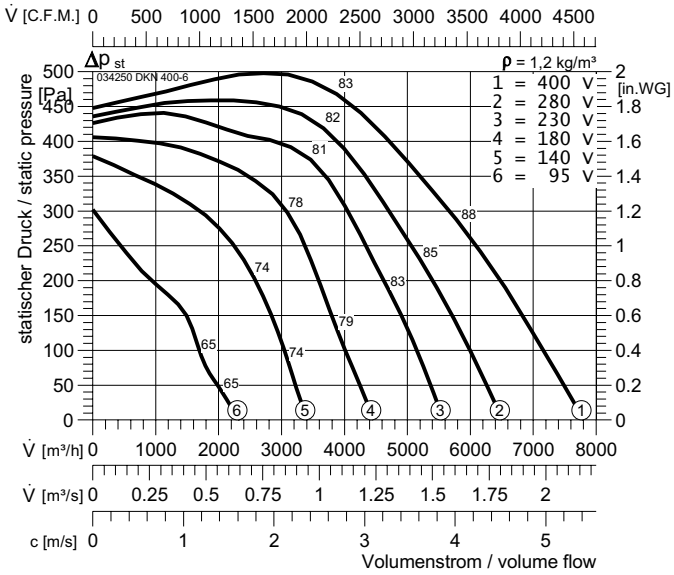
SDKN 355
043300
Schalldämpfer
silencer

DKN / DKNS 400-4



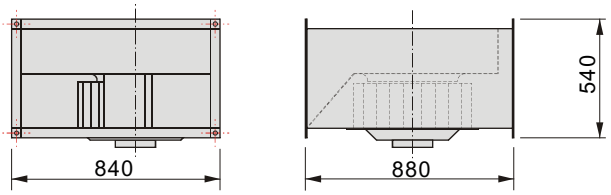
Typ	DKN 400-4 / DKNS 400-4		Art. Nr.	034240 / 035240		86 kg / 96 kg
U :	400 V 50 Hz		t_R :	40	°C	IP 54
P_1 :	4,25	kW	$\Delta p_{fa\ min}$:	750		DD0b
I_N :	7,3	A	Δ I :	15		GS 2
n :	1345	min^{-1}	I_A / I_N :	4		RTD 14
C_{400V} :	-	µF				SAD 9

DKN / DKNS 400-6

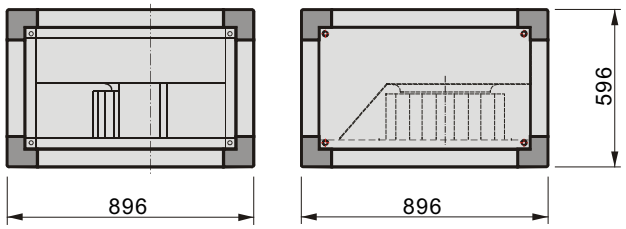


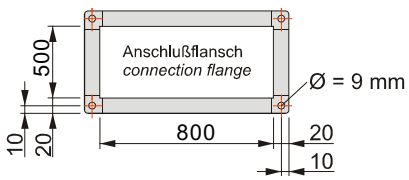
Typ	DKN 400-6 / DKNS 400-6		Art. Nr.	034250 / 035250		82 kg / 88,6 kg
U :	400 V 50 Hz		t_R :	40	°C	IP 54
P_1 :	2,8	kW	$\Delta p_{fa\ min}$:	50		DD0b
I_N :	5,4	A	Δ I :	10		GS 2
n :	865	min^{-1}	I_A / I_N :	3,3		RTD 5
C_{400V} :	-	µF				SAD 9

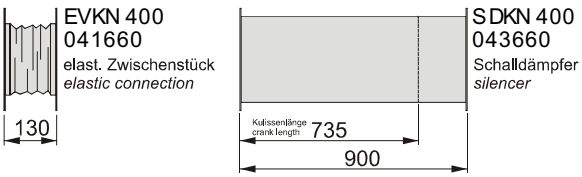
EKN / DKN



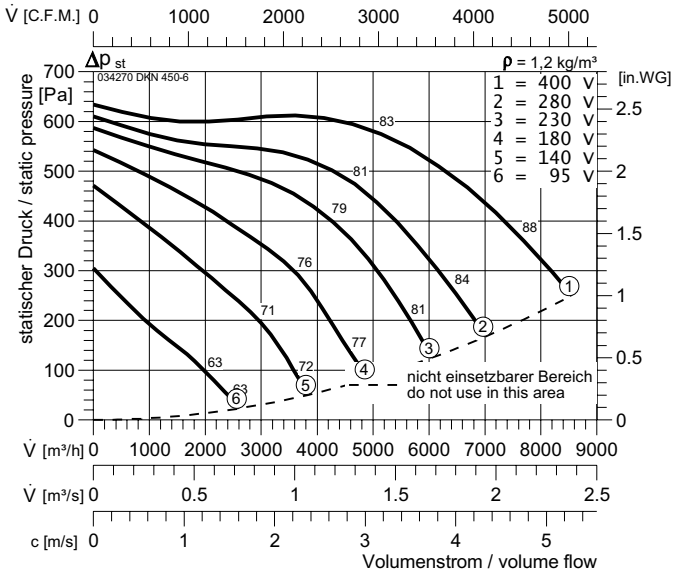
EKNS / DKNS





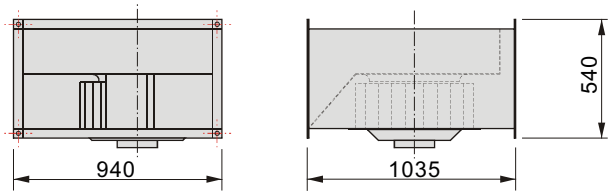


DKN / DKNS 450-6



Typ	DKN 450-6 / DKNS 450-6		Art. Nr.	034270 / 035270		97 kg / 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