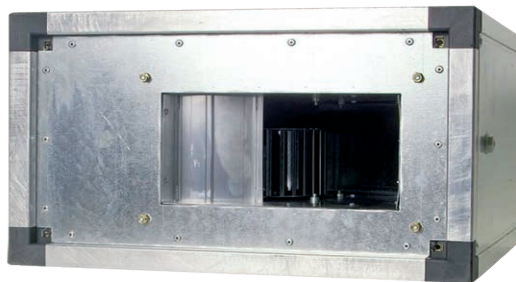
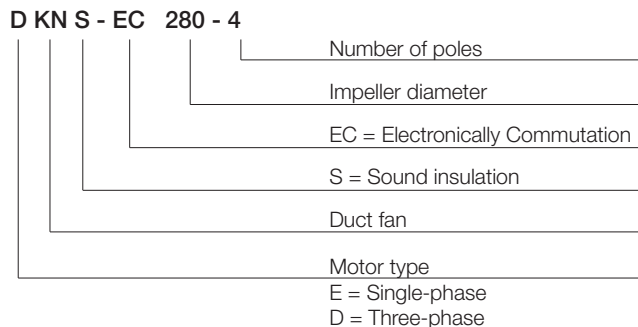


Duct Fans

Technical information

EKN-EC, DKN-EC
EKNS-EC, DKNS-EC

Fan type code



Advantages

- easy installation via 20 mm standard flange
- fans can be installed in any position
- 100% speed controllable by auto transformer or electronic controller
- 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 elastomeric foam.

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 (ISO 21940-11:2017-03).

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 ISO 5801 / AMCA 210 / DIN 24 163, installation type D (ducted inlet, ducted outlet). 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:

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

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:

$$L_{WA2} \approx L_{WA6} - 17 \text{ dB(A)} \text{ - for EKN or DKN}$$

$$L_{WA2} \approx L_{WA6} - 25 \text{ dB(A)} \text{ - for EKNS or DKNS}$$

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.:

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

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

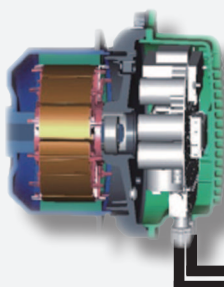
$$L_{WAokt} = L_{WA6} + L_{WArel}$$

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 $0.5 \times V_{max}$.

Relative octave sound power level A-weighted

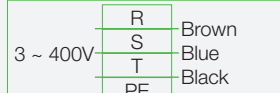
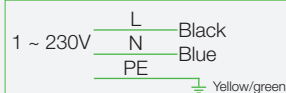
f_m [Hz]		L _{WA}	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz
4-pol	L_{WA6rel} [dB(A)] Outlet side	0	-16	-14	-8	-5	-6	-7	-17
	L_{WA5rel} [dB(A)] Inlet side	-6	-13	-15	-6	-5	-7	-9	-18
	L_{WA2rel} [dB(A)] Casing EKN/DKN	-17	-5	-7	-9	-7	-12	-17	-24
	L_{WA2rel} [dB(A)] Casing EKNS/DKNS	-25	-30	-32	-34	-32	-37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

EC Motor
Wiring Diagram



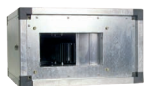
Power Input:

- Single-phase: AC 220V, 230V (200 ~ 277V)
- Three-phase: AC 380V, 440V (380 ~ 480V)



Control:

- Output 10V - Red;
- VSP / PWM - Yellow;
- GND - Blue;
- FG - White



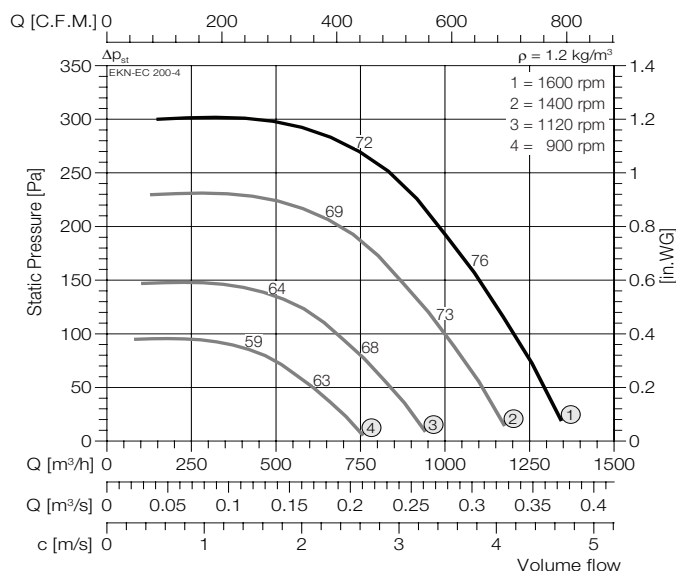
EKN-EC / DKNS-EC



EKN-EC / DKN-EC

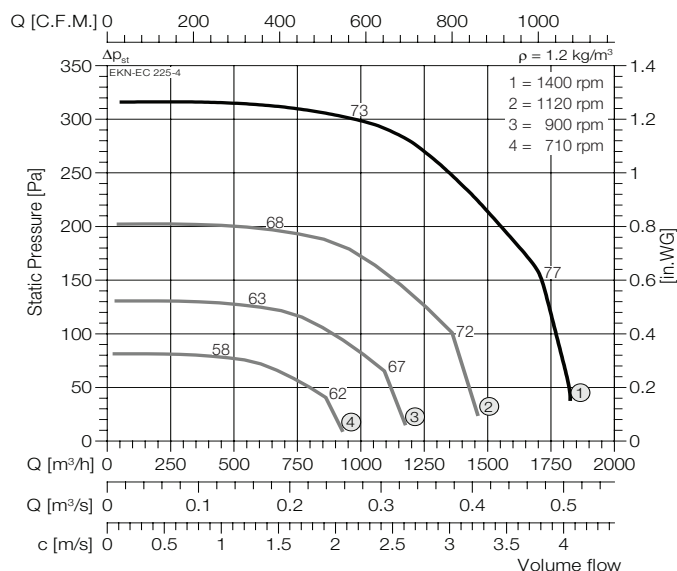


EKN / EKNS-EC 200-4



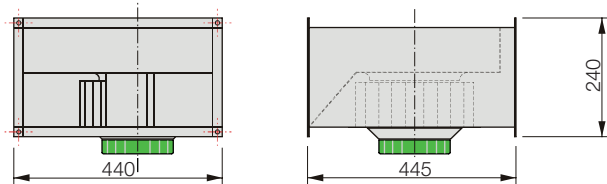
Typ	EKN-EC 200-4	Art. Nr.	034030E	13,2 kg
	EKNS-EC 200-4	Art. Nr.	035030E	22 kg
U:	230 V 50/60 Hz	t _R :	50 °C	IP 54
P ₁ :	0,34 kW	Δ p _{fa min} :	20	E15
I _N :	1,5 A	Δ I:	-	GS1
n:	1600 min ⁻¹	I _A / I _N :	-	NE 1,5
C _{400V} :	- μF			RPE 06

EKN / EKNS-EC 225-4

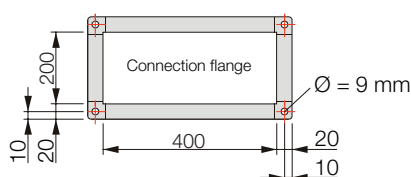
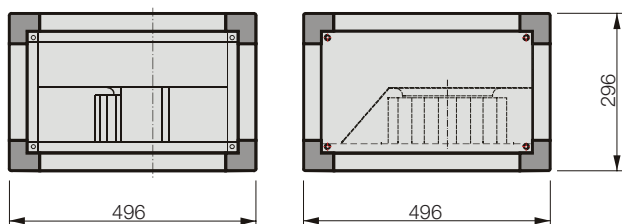


Typ	EKN-EC 225-4	Art. Nr.	034070E	19,5 kg
	EKNS-EC 225-4	Art. Nr.	035070E	26,2 kg
U:	230 V 50/60 Hz	t _R :	50 °C	IP 54
P ₁ :	0,48 kW	Δ p _{fa min} :	0	E15
I _N :	2,0 A	Δ I:	-	GS 1
n:	1400 min ⁻¹	I _A / I _N :	-	NE 3,2
C _{400V} :	- μF			RPE 06

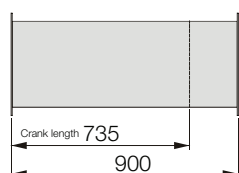
EKN / DKN



EKNS / DKNS

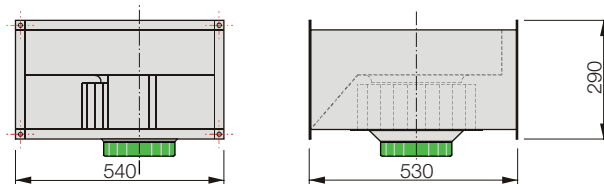


EVKN 200
041610
Elastic connection

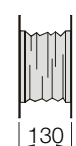
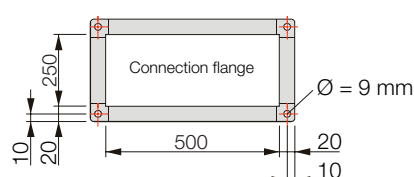
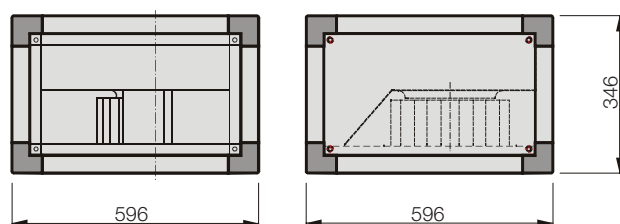


SDKN 200
043610
Silencer

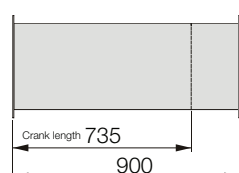
EKN / DKN



EKNS / DKNS

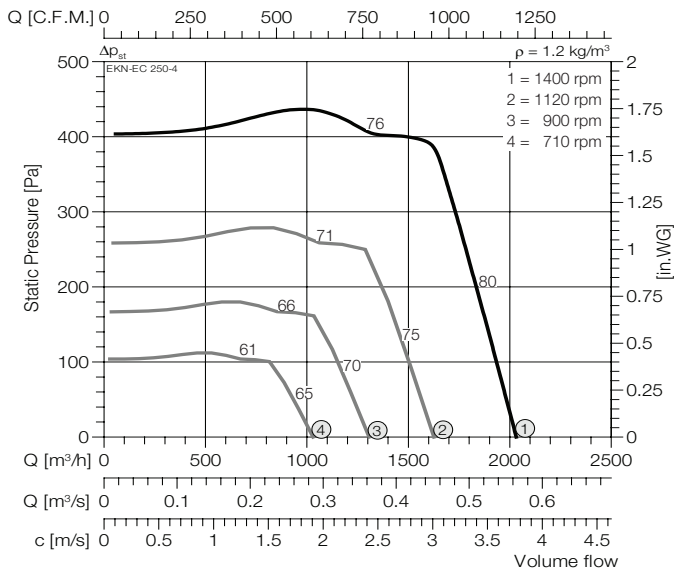


EVKN 225
041620
Elastic connection



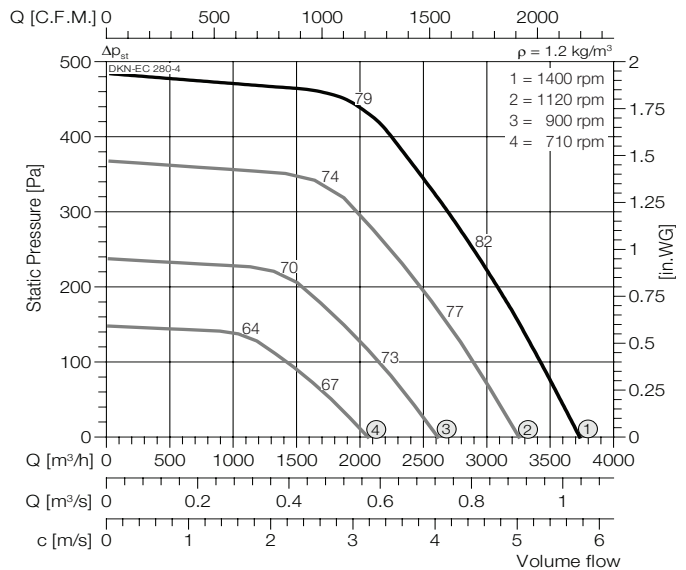
SDKN 225
043620
Silencer

EKN / EKNS-EC 250-4



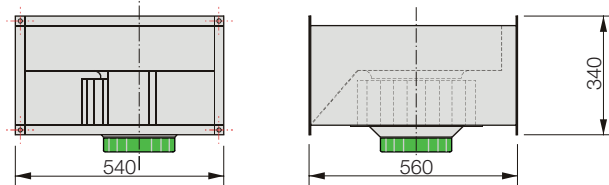
Typ	EKN-EC 250-4	Art. Nr.	034100E	25,5 kg
	EKNS-EC 250-4	035100E	32 kg	
U:	230 V 50/60 Hz	t _R :	50 °C	IP 54
P ₁ :	0,52 kW	$\Delta p_{\text{fa min}}$:	0	E15
I _N :	2,5 A	ΔI :	-	GS1
n:	1400 min ⁻¹	I _A / I _N :	-	NE 3,2
C _{400V} :	- μF			RPE 06

DKN / DKNS-EC 280-4

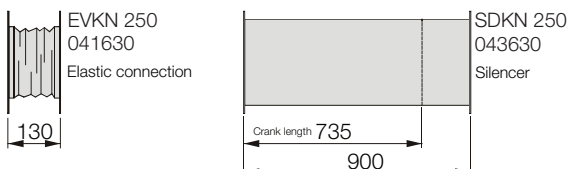
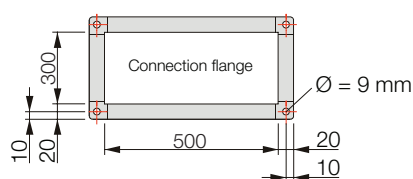
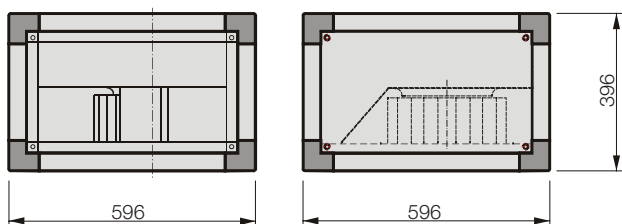


Typ	DKN-EC 280-4	Art. Nr.	034120E	38 kg
	DKNS-EC 280-4	035120E	41,4 kg	
U:	400 V 50/60 Hz	t _R :	50 °C	IP 54
P ₁ :	1,26 kW	$\Delta p_{\text{fa min}}$:	0	DS2
I _N :	2,12 A	ΔI :	-	GS 2
n:	1285 min ⁻¹	I _A / I _N :	-	RTD 2,5
C _{400V} :	- μF			SAD 9

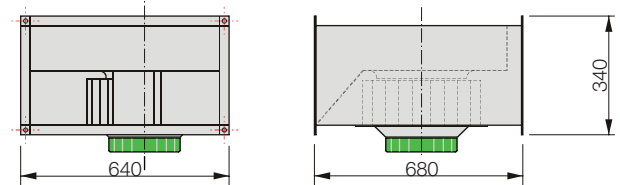
EKN / DKN



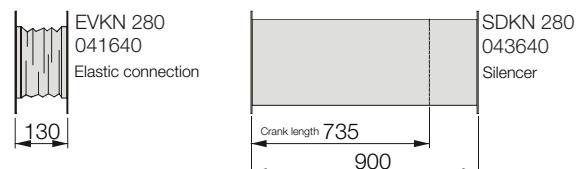
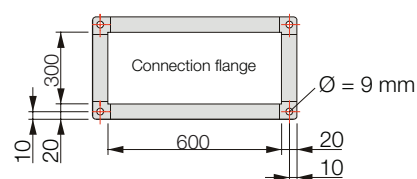
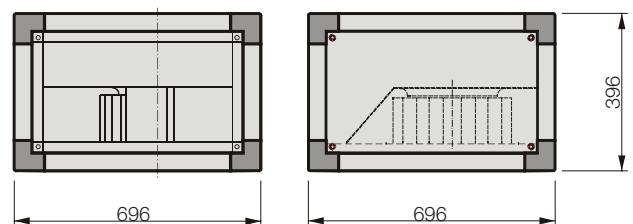
EKNS / DKNS

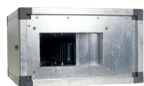


EKN / DKN



EKNS / DKNS





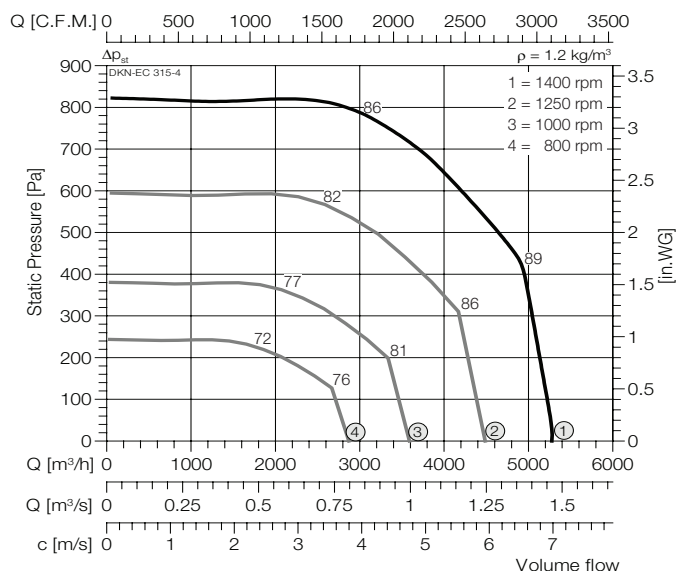
EKNS-EC / DKNS-EC



EKN-EC / DKN-EC

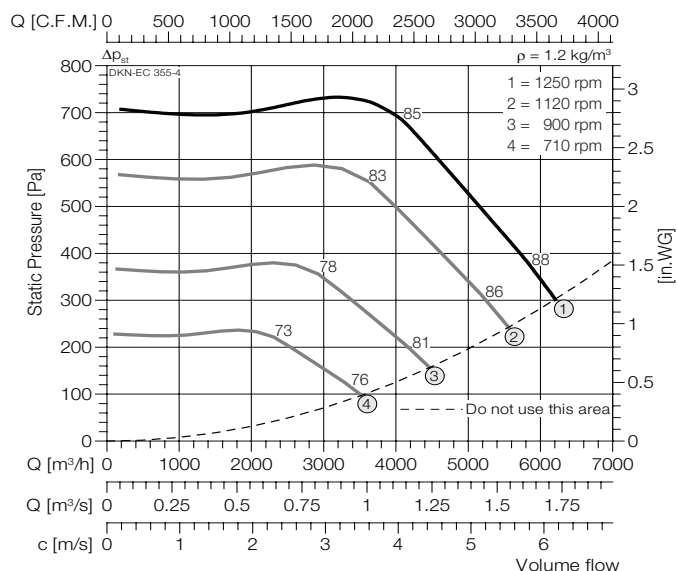


DKN / DKNS-EC 315-4



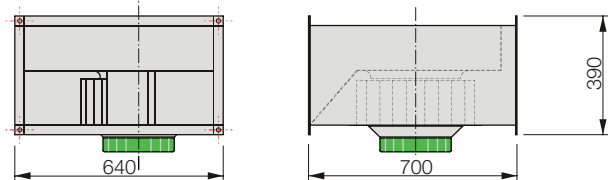
Typ	DKN-EC 315-4	Art. Nr.	034170E	48 kg
	DKNS-EC 315-4		035170E	49,8 kg
U:	400 V 50/60 Hz	t _R :	50 °C	IP 54
P ₁ :	3,05 kW	$\Delta p_{fa \text{ min}}$:	0	DS2
I _N :	4,7 A	ΔI :	-	GS2
n:	1470 min ⁻¹	I _A / I _N :	-	RTD 5
C _{400V} :	- μF			SAD 9

DKN / DKNS-EC 355-4

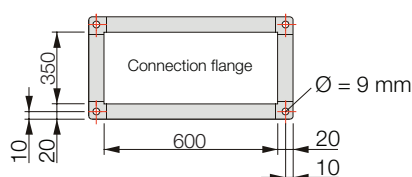
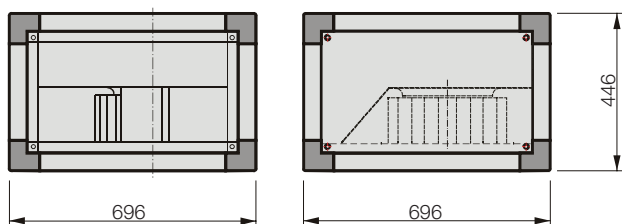


Typ	DKN-EC 355-4	Art. Nr.	034210E	58 kg
	DKNS-EC 355-4		035210E	72,5 kg
U:	400 V 50/60 Hz	t _R :	50 °C	IP 54
P ₁ :	3,0 kW	$\Delta p_{fa \text{ min}}$:	0	DS2
I _N :	4,7 A	ΔI :	-	GS 2
n:	1250 min ⁻¹	I _A / I _N :	-	RTD 5
C _{400V} :	- μF			SAD 9

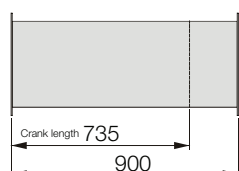
EKN / DKN



EKNS / DKNS

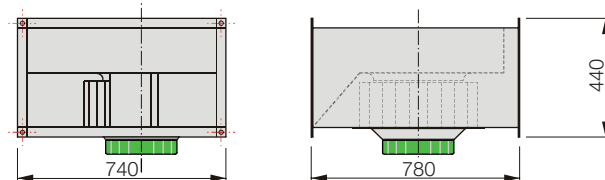


EVKN 315
041650
Elastic connection

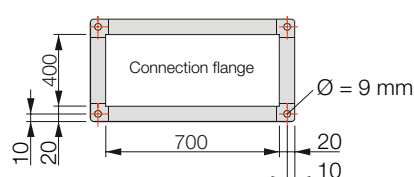
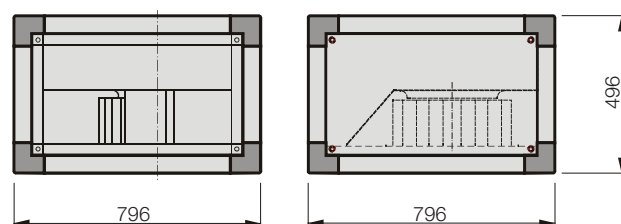


SDKN 315
043650
Silencer

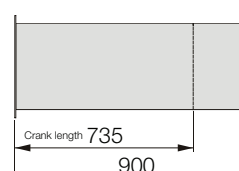
EKN / DKN



EKNS / DKNS

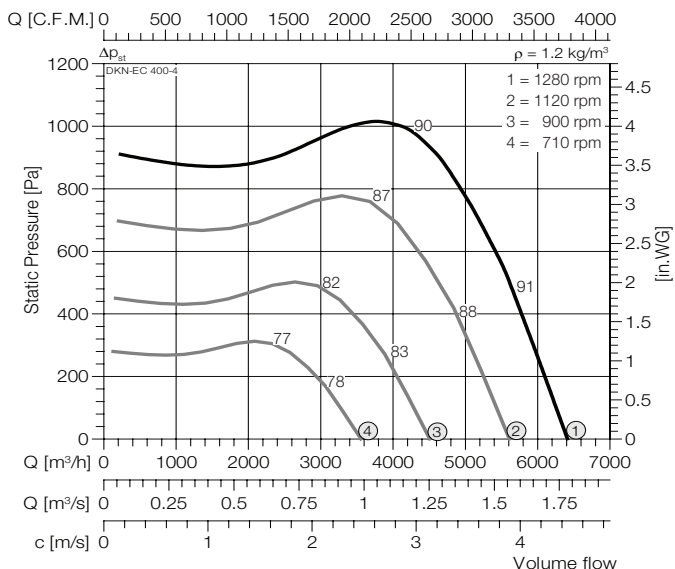


EVKN 355
041300
Elastic connection



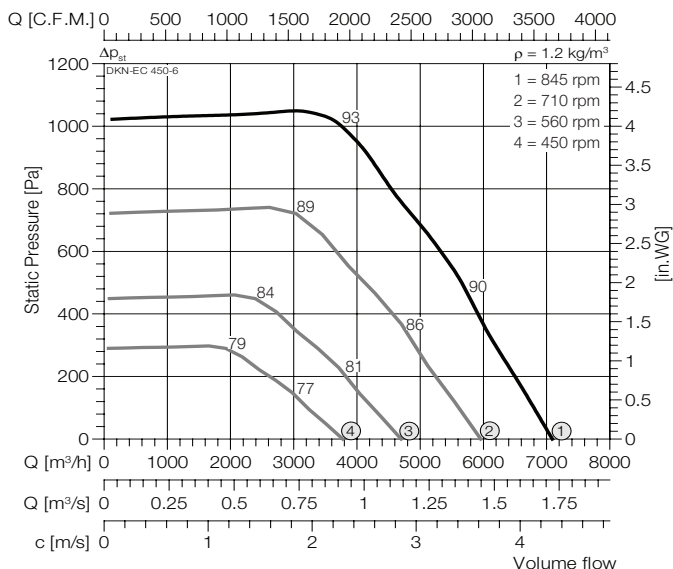
SDKN 355
043300
Silencer

DKN / DKNS-EC 400-4



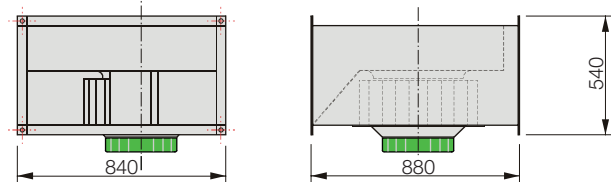
Typ	DKN-EC 400-4	Art. Nr.	034240E	86	kg
	DKNS-EC 400-4	035240E	96	kg	
U:	400 V 50/60 Hz	t _R :	50 °C	⚠	IP 54
P ₁ :	2,51 kW	Δ p _{fa min} :	0	★	DS2
I _N :	3,9 A	Δ I:	-	🔌	GS2
n:	1280 min ⁻¹	I _A / I _N :	-	🔧	RTD 5
C _{400V} :	- μF			🔌	SAD 9

DKN / DKNS-EC 450-6

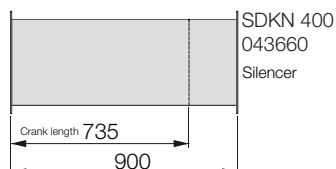
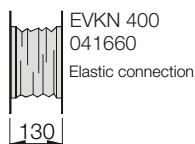
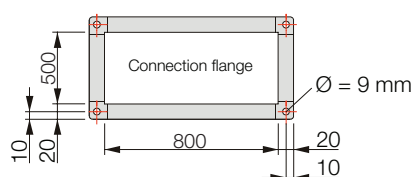
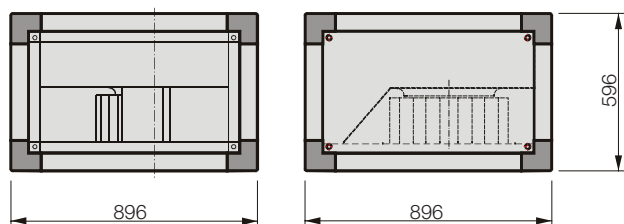


Typ	DKN-EC 450-6	Art. Nr.	034270E	97	kg
	DKNS-EC 450-6	035270E	107	kg	
U:	400 V 50/60 Hz	t _R :	50 °C	⚠	IP 54
P ₁ :	2,5 kW	Δ p _{fa min} :	0	★	DS2
I _N :	4,0 A	Δ I:	-	🔌	GS 2
n:	845 min ⁻¹	I _A / I _N :	-	🔧	RTD 5
C _{400V} :	- μF			🔌	SAD 9

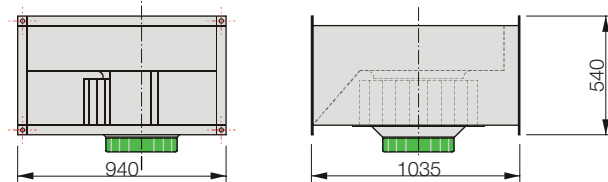
EKN / DKN



EKNS / DKNS



EKN / DKN



EKNS / DKNS

