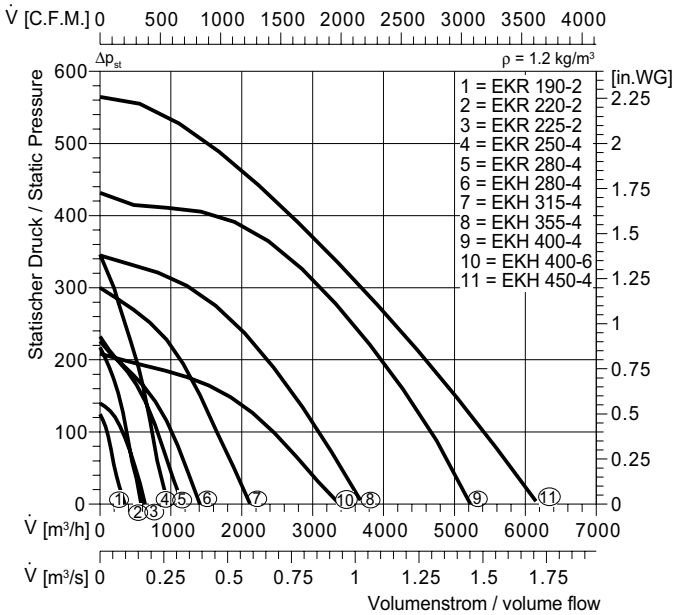
Typenschlüssel *Fan type code*

E K H 280-4

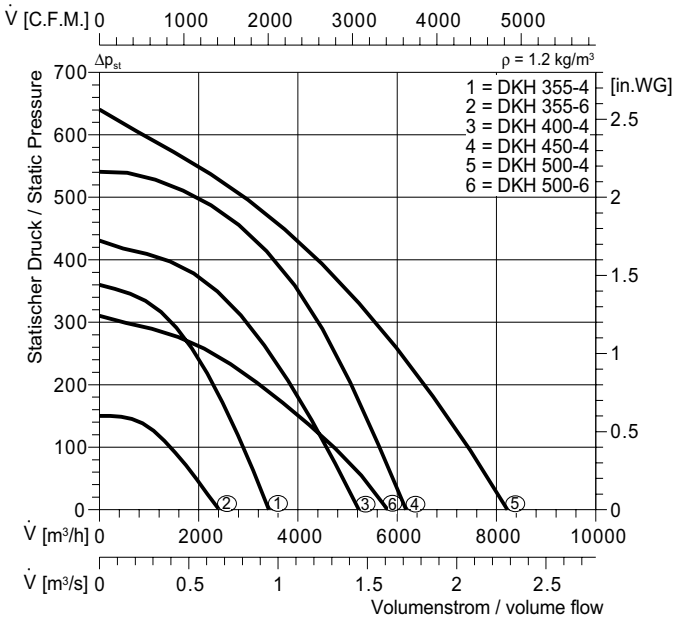
- Polzahl des Motors / *Number of poles*
- Nennweite / *Impeller diameter*
- Laufrad / *Impeller*
  - R = Kunststoff / *Plastic*
  - H = Stahl / *Steel*
- Kanalventilator / *Duct fan*
- Motorversion / *Motor type*
  - E = Einphasenwechselstrom *Single-phase A.C.*
  - D = Drehstrom *Three-phase A.C.*

Schnellauswahl *Quick selection*

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



400 V, 3AC, 4- 6-pole



Vorteile:

- schnelle Montage an 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:

Gehäuse aus verzinktem Stahlblech als rechteckiger Luftkanal ausgebildet und Kunststoffecken aus glasfaserverstärktem Polyamid, mit Norm-Luftkanalflanschen (20mm breit) druck- und saug-seitig.

Laufrad

EKR - Rückwärts gekrümmte Radiallaufräder aus Kunststoff.
EKH/DKH - Rückwärts 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 B (frei saugend, druckseitig angeschlossen) aufgenommen und zeigen die Gesamtdruckerhöhung Δp_{st} als Funktion des Volumenstroms. Der Luftgeschwindigkeit im ventilator c ([m/s]) 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)

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.

Advantages:

- easy installation via 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:

Casing made of galvanised sheet steel formed as a rectangular air duct, and plastic corners made from reinforced polyamide, with standard tube flanges at inlet and outlet sides.

Motorized impeller

EKR - Backward-curved radial centrifugal made of plastic.
EKH/DKH - Backward-curved radial centrifugal made of sheet steel.

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 outlet velocity increase c ([m/s]) 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:

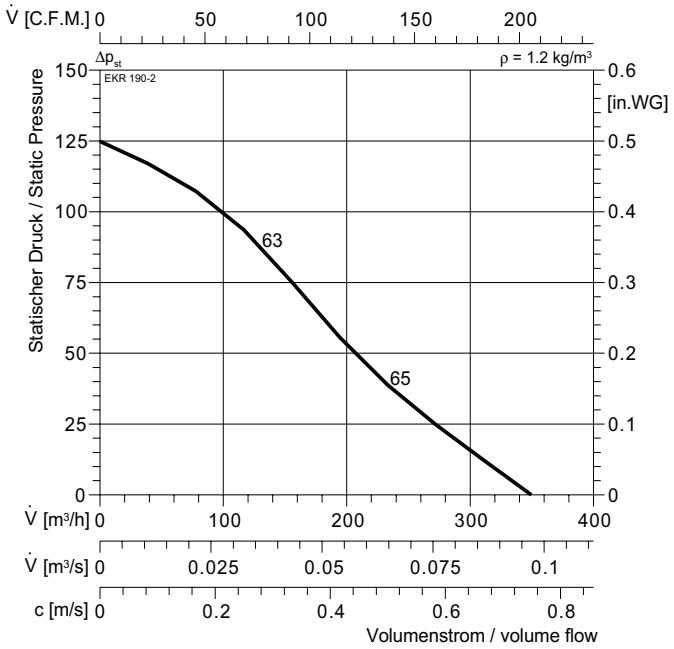
$L_{WA2} \approx L_{WA6}$ - 10 dB(A)

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)

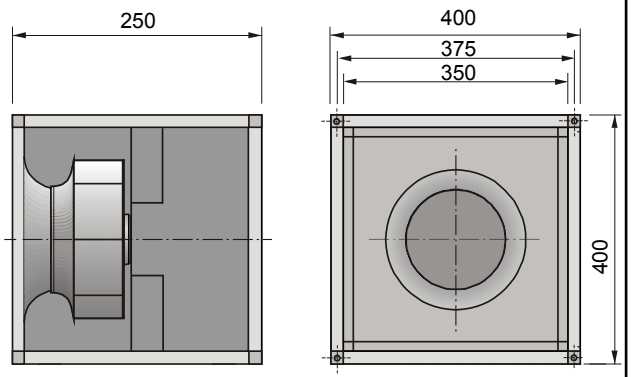
It is important to note that reflexion and environmental characteristics as well as resonant frequencies influence the sound pressure levels in different ways.

EKR 190-2



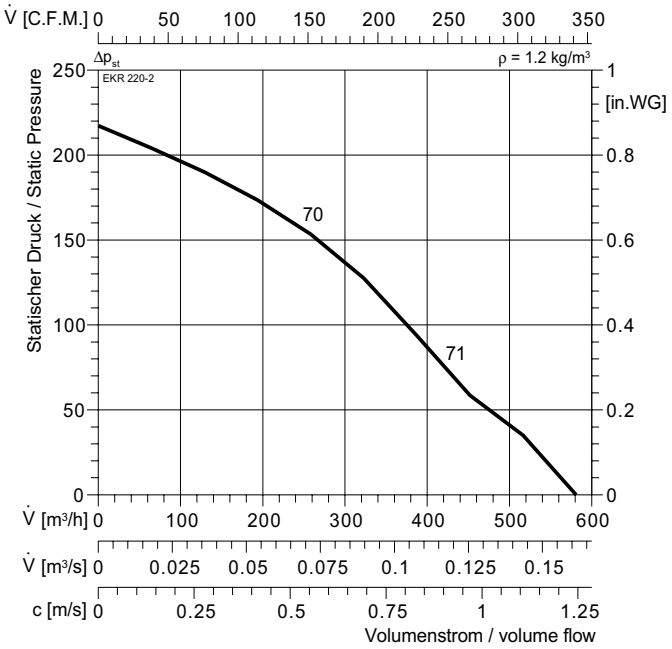
Typ :	EKR 190-2		IP 44	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :			E11	$L_{WA\,tot}$	-20	-1	0
:	6,8	kg	GS 1	125 Hz	-28	-13	-12
U :	230 V 50 Hz		NE 0,5	250 Hz	-31	-5	-4
P_1 :	0,07	kW	RPE 02	500 Hz	-27	-6	-5
I_N :	0,3	A		1 kHz	-27	-13	-12
n :	2400	min^{-1}		2 kHz	-26	-10	-9
C_{400V} :	2	µF		4 kHz	-31	-21	-20
t_R :	50	°C		8 kHz	-37	-27	-26

EKR



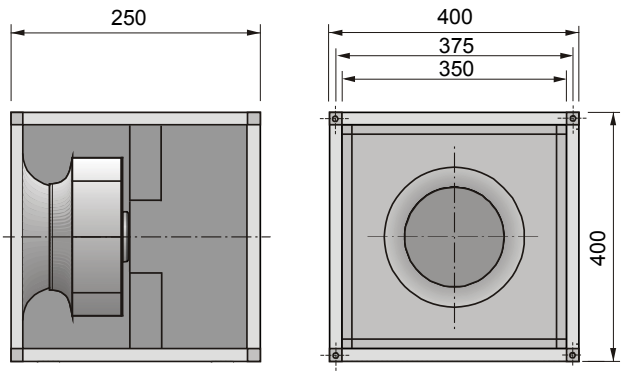
Mounting Feet as Optional

EKR 220-2



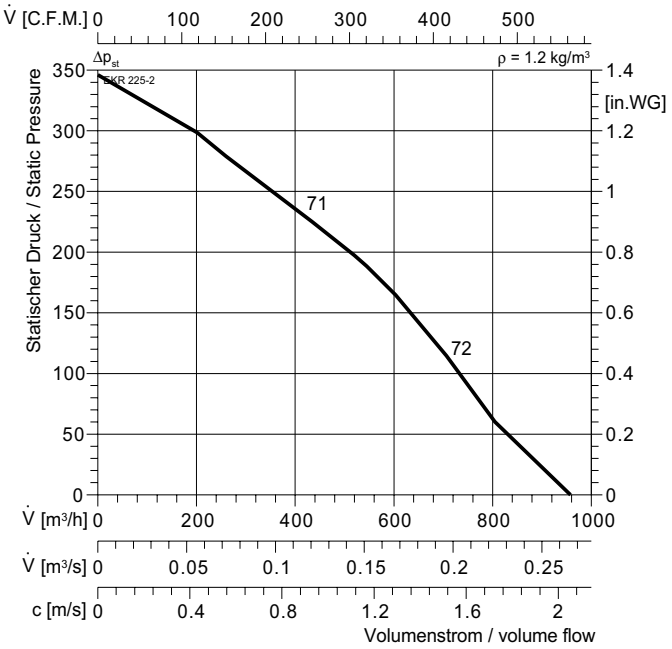
Typ :	EKR 220-2		IP44	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :			E11	$L_{WA\,tot}$	-13	-1	0
:	8,5	kg	GS 1	125 Hz	-35	-18	-17
U :	230 V 50 Hz		NE 0,5	250 Hz	-33	-5	-4
P_1 :	0,115	kW	RPE 02	500 Hz	-17	-6	-5
I_N :	0,49	A		1 kHz	-18	-7	-6
n :	2450	min^{-1}		2 kHz	-24	-13	-12
C_{400V} :	3	µF		4 kHz	-20	-18	-17
t_R :	50	°C		8 kHz	-24	-26	-25

EKR



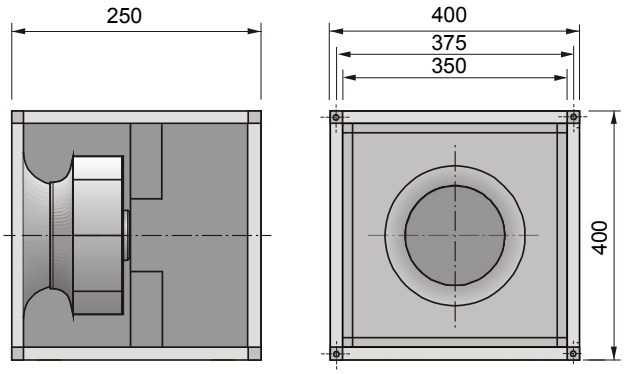
Mounting Feet as Optional

EKR 225-2



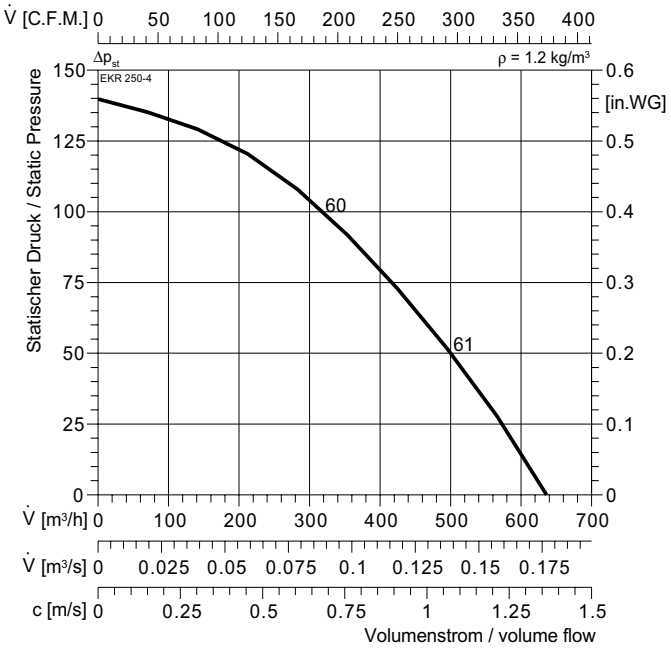
Typ :	EKR 225-2		IP44	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :			E11	$L_{WA\,tot}$	-14	-1	0
:	10	kg	GS 1	125 Hz	-14	-1	0
U :	230 V 50 Hz		NE 1,5	250 Hz	-31	-8	-7
P_1 :	0,17	kW	RPE 02 A	500 Hz	-21	-7	-6
I_N :	0,73	A		1 kHz	-16	-8	-7
n :	2430	min^{-1}		2 kHz	-21	-9	-8
C_{400V} :	4	µF		4 kHz	-28	-11	-10
t_R :	50	°C		8 kHz	-38	-15	-14

EKR



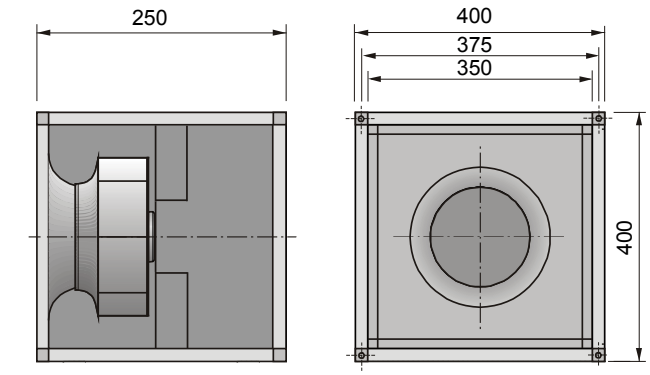
Mounting Feet as Optional

EKR 250-4



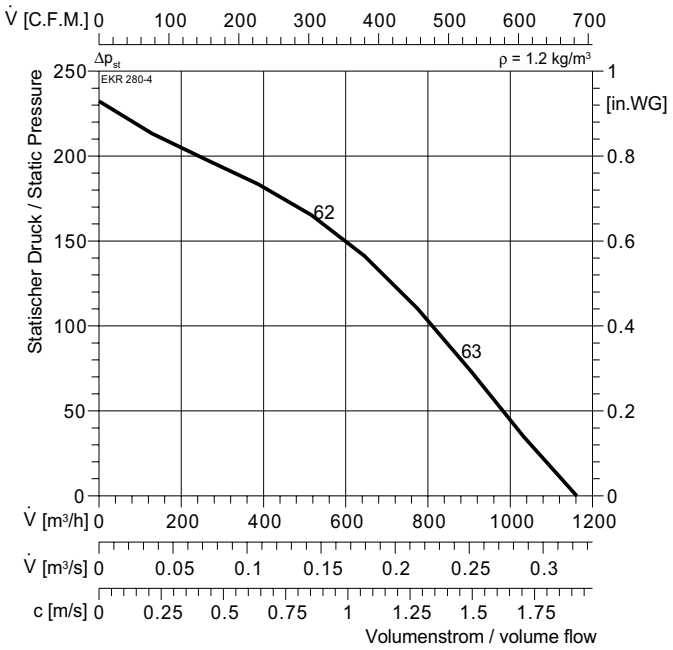
Typ :	EKR 250-4		IP44	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :			E11	$L_{WA\,tot}$	-6	-1	0
:	12	kg	GS 1	125 Hz	-29	-21	-20
U :	230 V 50 Hz		NE 0,5	250 Hz	-22	-14	-13
P_1 :	0,065	kW	RPE 02 A	500 Hz	-15	-13	-12
I_N :	0,29	A		1 kHz	-7	-7	-6
n :	1392	min^{-1}		2 kHz	-17	-5	-4
C_{400V} :	2	µF		4 kHz	-20	-8	-7
t_R :	50	°C		8 kHz	-30	-11	-10

EKR



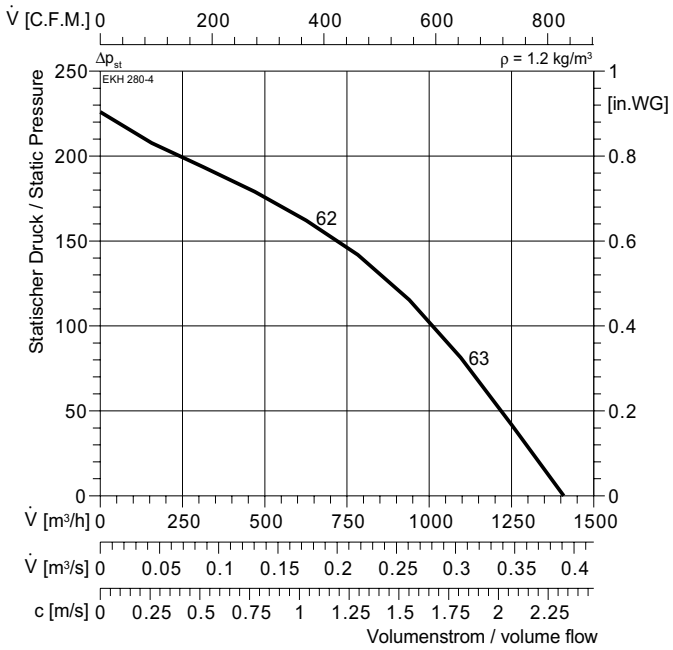
Mounting Feet as Optional

EKR 280-4



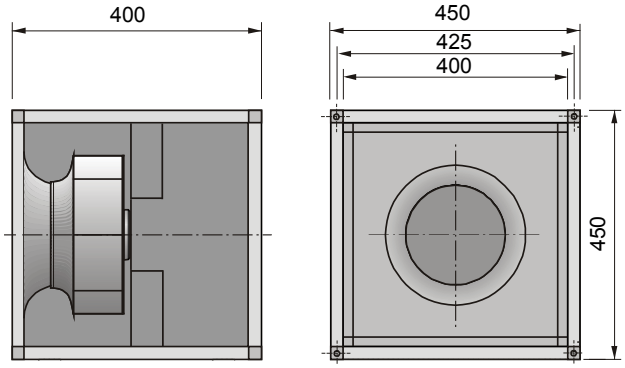
Typ :	EKR 280-4		IP44	$L_{WA\,rel}$ ΔdB	L_{WA2}	L_{WA5}	L_{WA6}
ArtNr :			E11	$L_{WA\,tot}$	-9	-1	0
:	24	kg	GS 1	125 Hz	-37	-23	-22
U :	230 V 50 Hz		NE 0,5	250 Hz	-28	-14	-13
P_1 :	0,085	kW	RPE 02 A	500 Hz	-20	-11	-10
I_N :	0,38	A		1 kHz	-10	-8	-7
n :	1395	min^{-1}		2 kHz	-17	-7	-6
C_{400V} :	2	µF		4 kHz	-21	-9	-8
t_R :	50	°C		8 kHz	-28	-11	-10

EKH 280-4



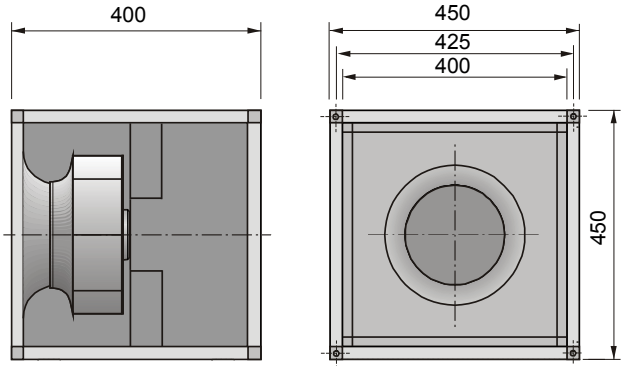
Typ :	EKH 280-4		IP54	$L_{WA\,rel}$ ΔdB	L_{WA5}	L_{WA6}
ArtNr :			E11	$L_{WA\,tot}$	0	-2
:	32	kg	GS 1	125 Hz	-20	-16
U :	230 V 50 Hz		NE 1,5	250 Hz	-11	-10
P_1 :	0,2	kW	RPE 02	500 Hz	-6	-10
I_N :	0,87	A		1 kHz	-4	-7
n :	1360	min^{-1}		2 kHz	-7	-8
C_{400V} :	6	µF		4 kHz	-13	-14
t_R :	50	°C		8 kHz	-19	-21

EKR



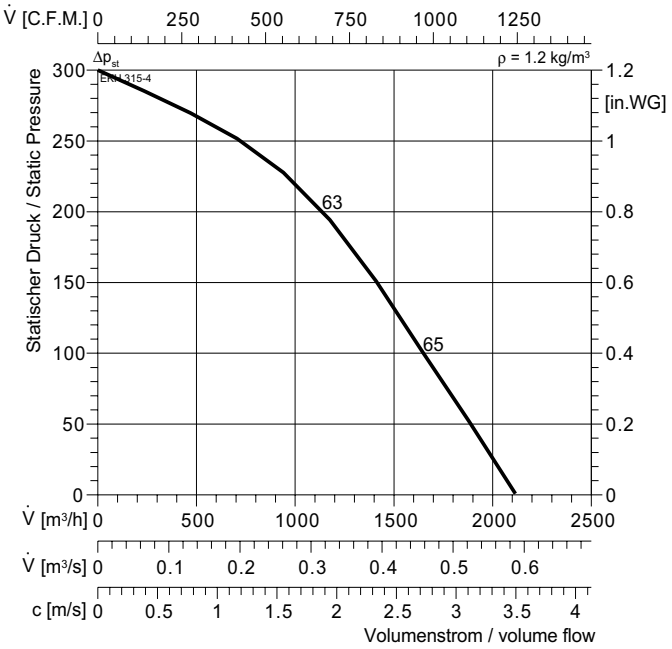
Mounting Feet as Optional

EKH



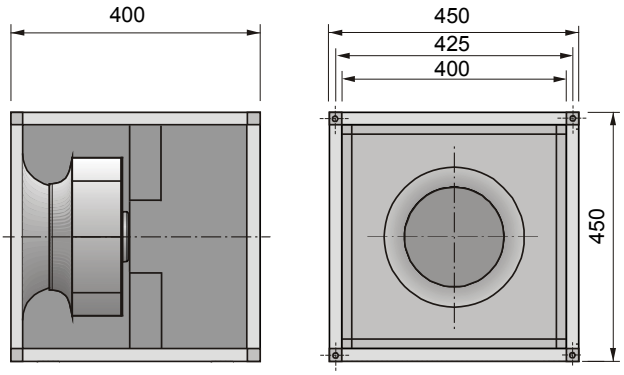
Mounting Feet as Optional

EKH 315-4



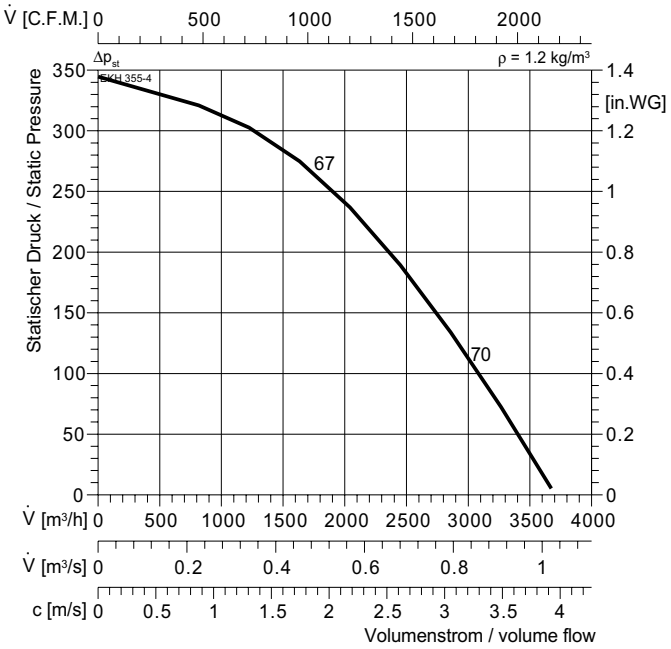
Typ :	EKH 315-4		IP 54	$L_{WA\,rel}$ ΔdB	L_{WA5}	L_{WA6}
ArtNr :			E11	$L_{WA\,tot}$	-2	0
:	36	kg	GS 1	125 Hz	-16	-20
U :	230 V 50 Hz		NE 1,5	250 Hz	-10	-11
P_1 :	0,25	kW	RPE 06	500 Hz	-10	-6
I_N :	1,15	A		1 kHz	-7	-4
n :	1380	min^{-1}		2 kHz	-8	-7
C_{400V} :	8	µF		4 kHz	-14	-13
t_R :	50	°C		8 kHz	-21	-19

EKH / DKH



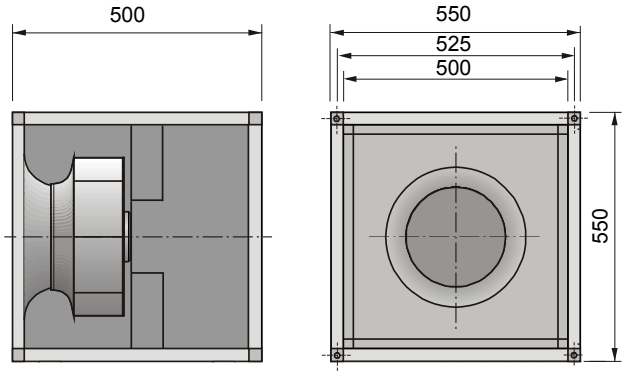
Mounting Feet as Optional

EKH 355-4



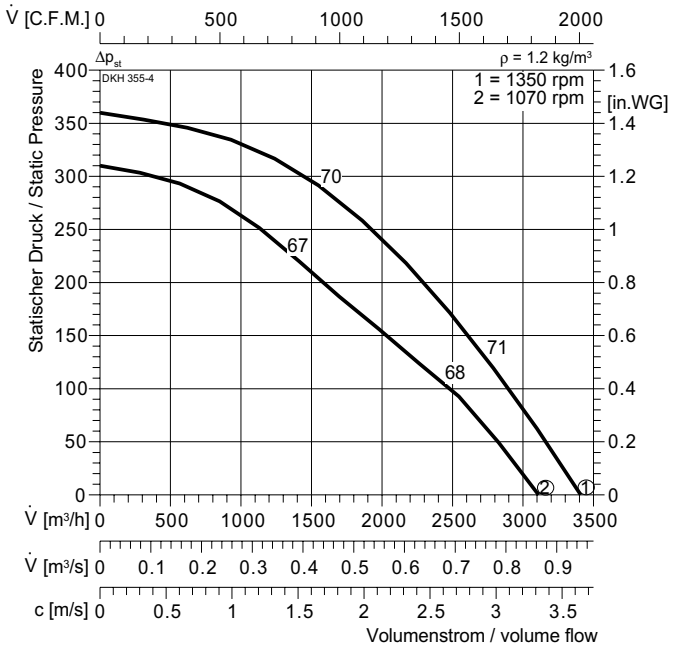
Typ :	EKH 355-4		IP54	$L_{WA\,rel}$ ΔdB	L_{WA5}	L_{WA6}
ArtNr :			E11	$L_{WA\,tot}$	-2	0
:	45	kg	GS 1	125 Hz	-16	-20
U :	230 V 50 Hz		NE 3,2	250 Hz	-10	-11
P_1 :	0,42	kW	RPE 06	500 Hz	-10	-6
I_N :	1,85	A		1 kHz	-7	-4
n :	1320	min^{-1}		2 kHz	-8	-7
C_{400V} :	12	µF		4 kHz	-14	-13
t_R :	50	°C		8 kHz	-21	-19

EKH / DKH



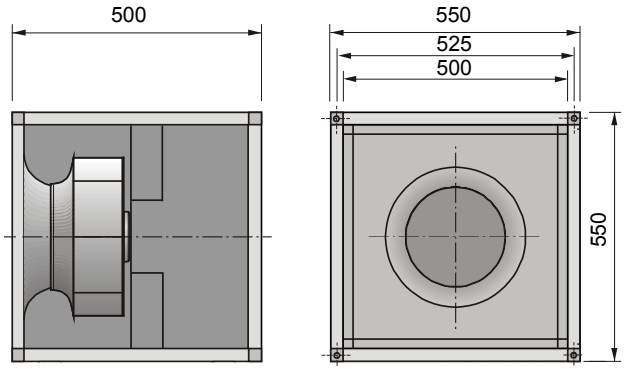
Mounting Feet as Optional

DKH 355-4



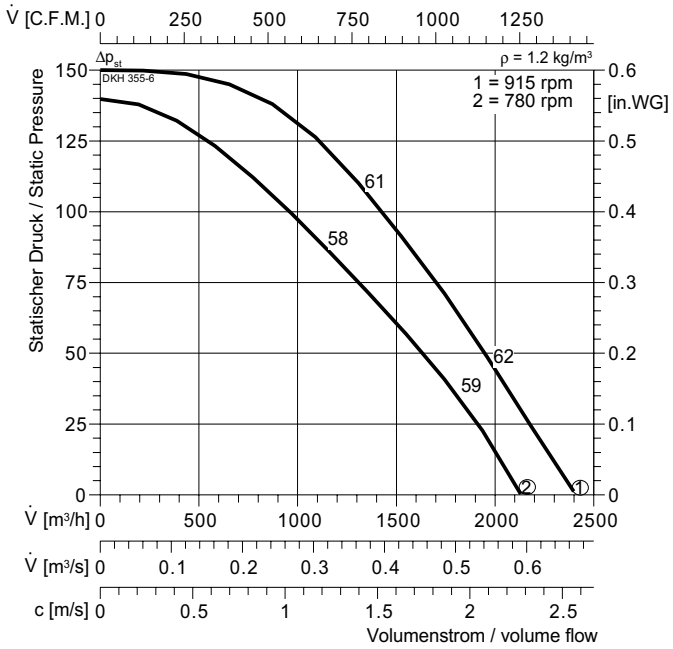
Typ : DKH 355-4			IP 54	$L_{WA\,rel}$ ΔdB	L_{WA5}	L_{WA6}
ArtNr :			DU1	$L_{WA\,tot}$	-2	0
:	48	kg	GS 2	125 Hz	-16	-20
U :	400 V 50 Hz		RTD 1,2	250 Hz	-10	-11
P_1 :	0,45/0,32	kW	SAD 9	500 Hz	-10	-6
I_N :	1/0,53	A		1 kHz	-7	-4
n :	1350/1070	min^{-1}		2 kHz	-8	-7
C_{400V} :	-	µF		4 kHz	-14	-13
t_R :	50	°C		8 kHz	-21	-19

EKH / DKH



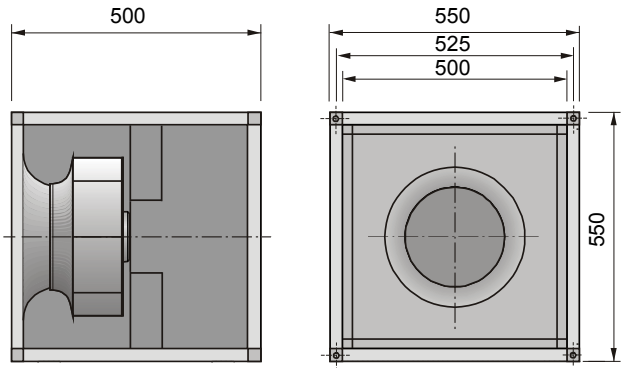
Mounting Feet as Optional

DKH 355-6



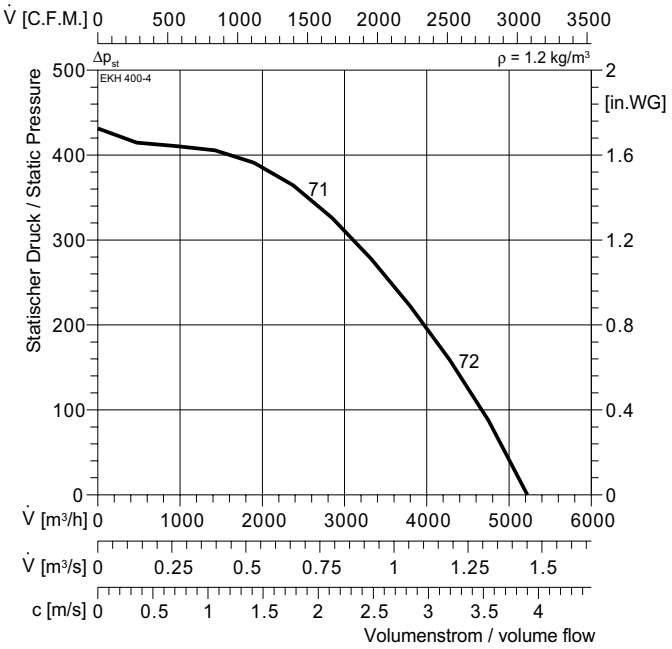
Typ : DKH 355-6			IP54	$L_{WA\,rel}$ ΔdB	L_{WA5}	L_{WA6}
ArtNr :			DU1	$L_{WA\,tot}$	-2	0
:	46	kg	GS 2	125 Hz	-16	-20
U :	400 V 50 Hz		RTD 1,2	250 Hz	-10	-11
P_1 :	0,17/0,11	kW	SAD 9	500 Hz	-10	-6
I_N :	0,45/0,2	A		1 kHz	-7	-4
n :	915/780	min^{-1}		2 kHz	-8	-7
C_{400V} :	-	µF		4 kHz	-14	-13
t_R :	50	°C		8 kHz	-21	-19

EKH / DKH



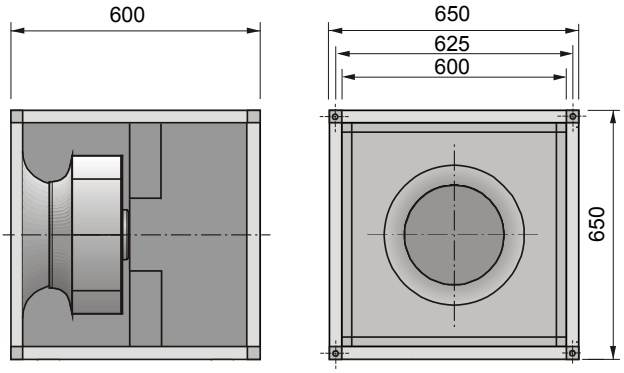
Mounting Feet as Optional

EKH 400-4



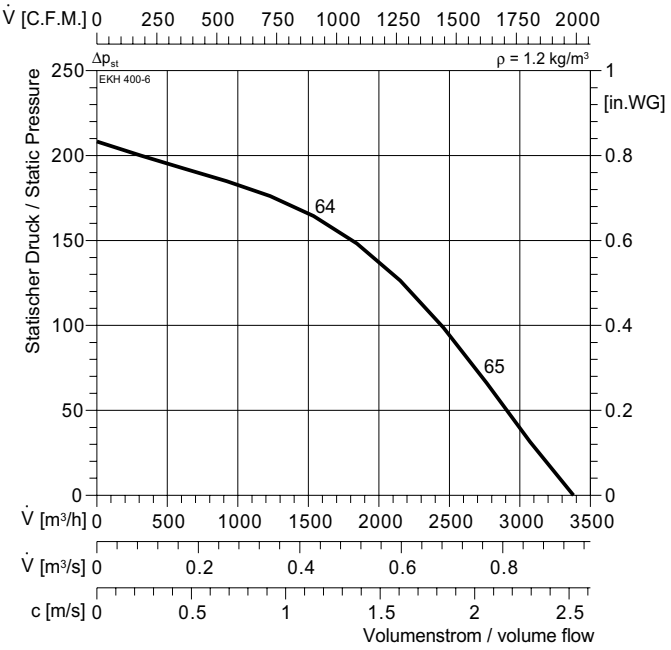
Typ :	EKH 400-4		IP 54	$L_{WA\,rel}$ ΔdB	L_{WA5}	L_{WA6}
ArtNr :			E11	$L_{WA\,tot}$	-3	0
:	50	kg	GS 1	125 Hz	-18	-16
U :	230 V 50 Hz		NE 3,2	250 Hz	-13	-10
P_1 :	0,73	kW	RPE 09	500 Hz	-12	-6
I_N :	3,2	A		1 kHz	-9	-5
n :	1340	min^{-1}		2 kHz	-7	-6
C_{400V} :	14	µF		4 kHz	-14	-13
t_R :	50	°C		8 kHz	-21	-22

EKH / DKH



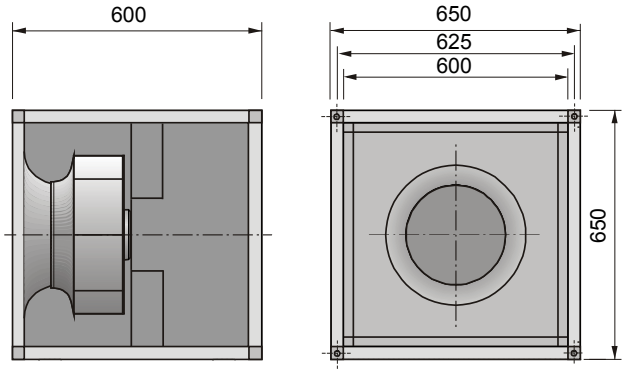
Mounting Feet as Optional

EKH 400-6



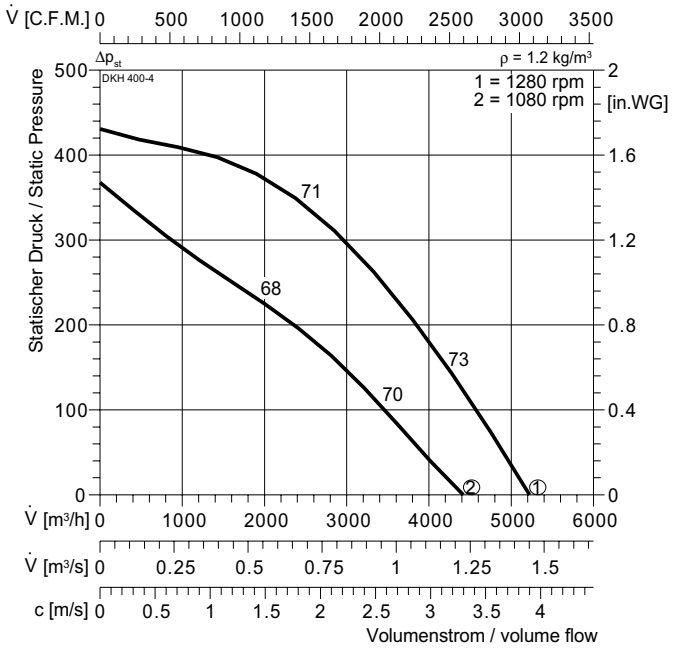
Typ :	EKH 400-6		IP54	$L_{WA\,rel}$ ΔdB	L_{WA5}	L_{WA6}
ArtNr :			E11	$L_{WA\,tot}$	-3	0
:	51	kg	GS 1	125 Hz	-18	-16
U :	230 V 50 Hz		NE 1,5	250 Hz	-13	-10
P_1 :	0,23	kW	RPE 06	500 Hz	-12	-6
I_N :	1,15	A		1 kHz	-9	-5
n :	920	min^{-1}		2 kHz	-7	-6
C_{400V} :	10	µF		4 kHz	-14	-13
t_R :	50	°C		8 kHz	-21	-22

EKH / DKH



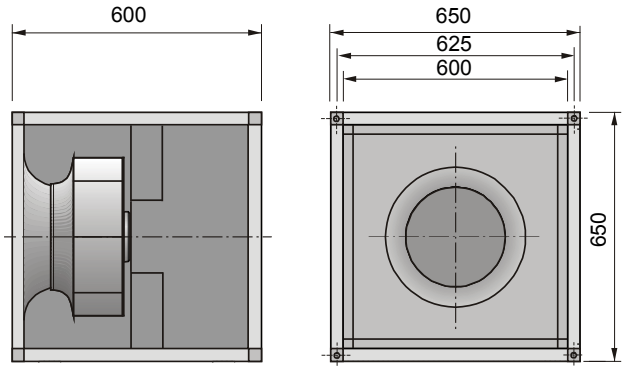
Mounting Feet as Optional

DKH 400-4



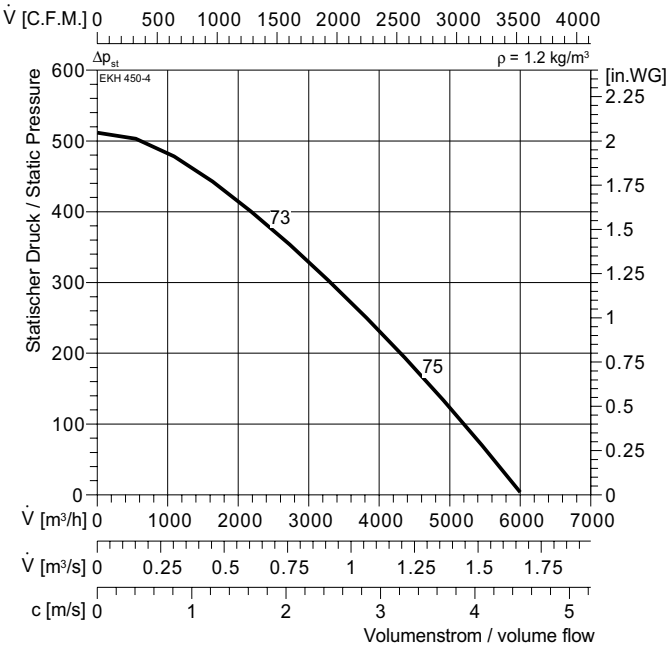
Typ : DKH 400-4			IP 54	$L_{WA\,rel}$ ΔdB	L_{WA5}	L_{WA6}
ArtNr :			DU1	$L_{WA\,tot}$	-3	0
:	50	kg	GS 2	125 Hz	-18	-16
U :	400 V 50 Hz		RTD 2,5	250 Hz	-13	-10
P_1 :	0,69/0,35	kW	SAD 9	500 Hz	-12	-6
I_N :	1,25/0,58	A		1 kHz	-9	-5
n :	1280/1080	min^{-1}		2 kHz	-7	-6
C_{400V} :	-	µF		4 kHz	-14	-13
t_R :	40	°C		8 kHz	-21	-22

EKH / DKH



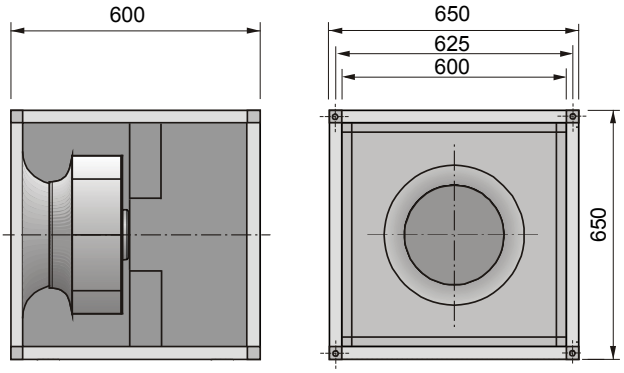
Mounting Feet as Optional

EKH 450-4



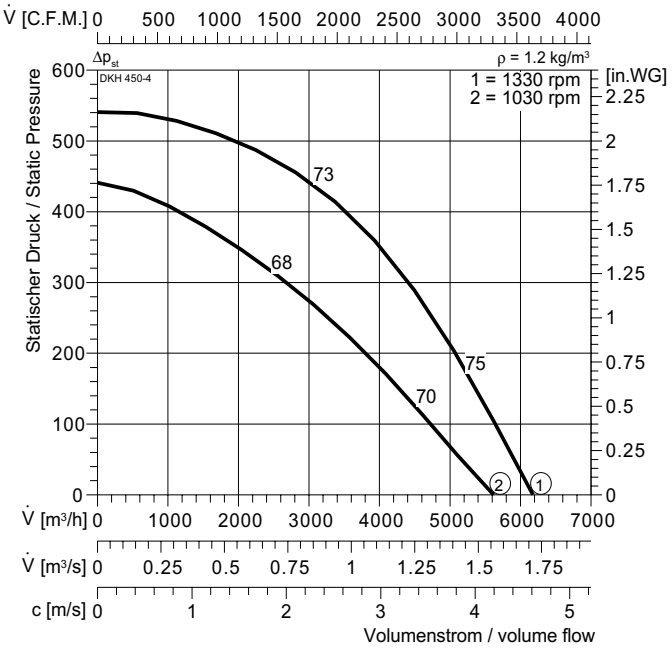
Typ :	EKH 450-4		IP 54	$L_{WA\,rel}$ ΔdB	L_{WA5}	L_{WA6}
ArtNr :			E11	$L_{WA\,tot}$	-3	0
:	52	kg	GS 1	125 Hz	-18	-16
U :	230 V 50 Hz		NE 5	250 Hz	-13	-10
P_1 :	0,81	kW	RPE 09	500 Hz	-12	-6
I_N :	3,5	A		1 kHz	-9	-5
n :	1315	min^{-1}		2 kHz	-7	-6
C_{400V} :	16	µF		4 kHz	-14	-13
t_R :	50	°C		8 kHz	-21	-22

EKH / DKH



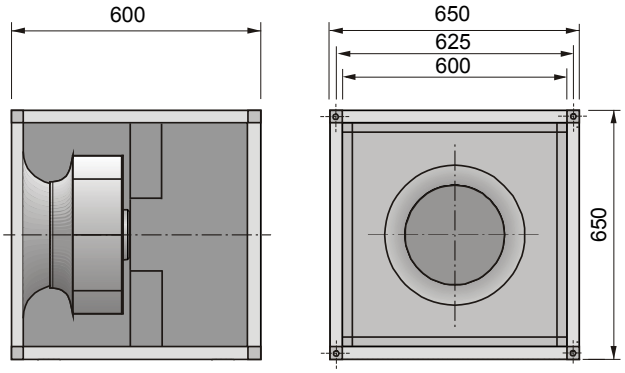
Mounting Feet as Optional

DKH 450-4



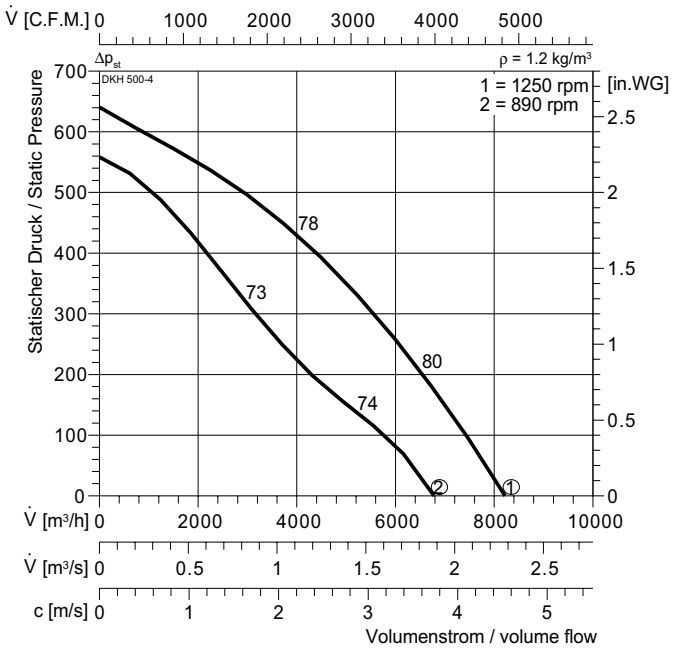
Typ :	DKH 450-4		IP54	$L_{WA\,rel}$ ΔdB	L_{WA5}	L_{WA6}
ArtNr :			DU3	$L_{WA\,tot}$	-3	0
:	53	kg	GS 2	125 Hz	-18	-16
U :	400 V 50 Hz		RTD 2,5	250 Hz	-13	-10
P_1 :	1,15/0,74	kW	SAD 9	500 Hz	-12	-6
I_N :	2/1,3	A		1 kHz	-9	-5
n :	1330/1030	min^{-1}		2 kHz	-7	-6
C_{400V} :	-	µF		4 kHz	-14	-13
t_R :	40	°C		8 kHz	-21	-22

EKH / DKH



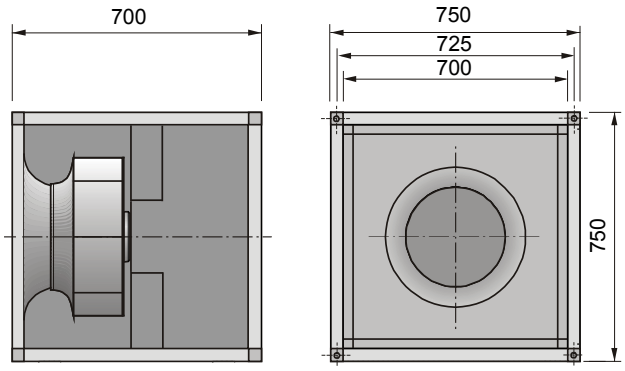
Mounting Feet as Optional

DKH 500-4



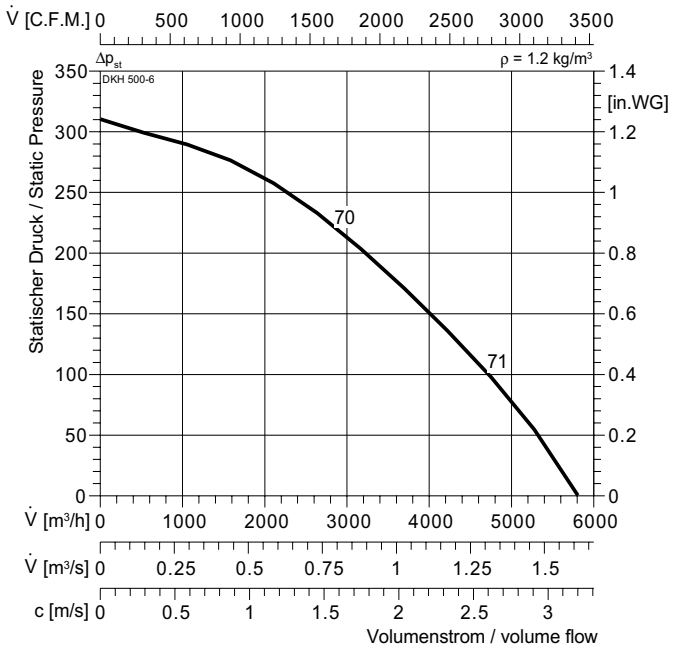
Typ :	DKH 500-4		IP 54	$L_{WA\,rel}$ ΔdB	L_{WA5}	L_{WA6}
ArtNr :			DU1	$L_{WA\,tot}$	-3	0
:	56	kg	GS 2	125 Hz	-17	-16
U :	400 V 50 Hz		RTD 3,8	250 Hz	-11	-8
P_1 :	1,8/0,96	kW	SAD 9	500 Hz	-11	-6
I_N :	3,2/1,8	A		1 kHz	-8	-5
n :	1250/860	min^{-1}		2 kHz	-9	-8
C_{400V} :	-	µF		4 kHz	-15	-14
t_R :	50	°C		8 kHz	-21	-23

EKH / DKH



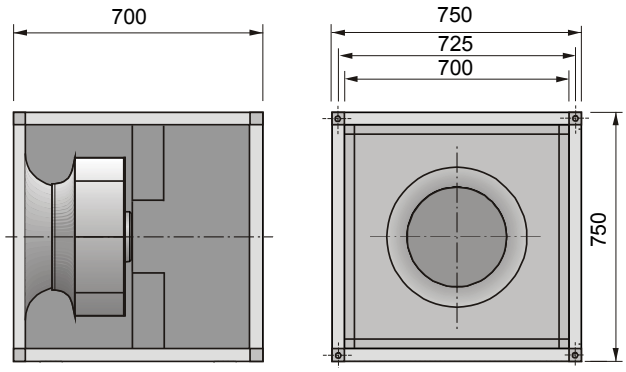
Mounting Feet as Optional

DKH 500-6



Typ :	DKH 500-6		IP 54	$L_{WA\,rel}$ ΔdB	L_{WA5}	L_{WA6}
ArtNr :			DU3	$L_{WA\,tot}$	-3	0
:	55	kg	GS 2	125 Hz	-17	-16
U :	230 V 50 Hz		RTD 1,2	250 Hz	-11	-8
P_1 :	0,49	kW	SAD 9	500 Hz	-11	-6
I_N :	1	A		1 kHz	-8	-5
n :	900	min^{-1}		2 kHz	-9	-8
C_{400V} :	-	µF		4 kHz	-15	-14
t_R :	50	°C		8 kHz	-21	-23

EKH / DKH



Mounting Feet as Optional