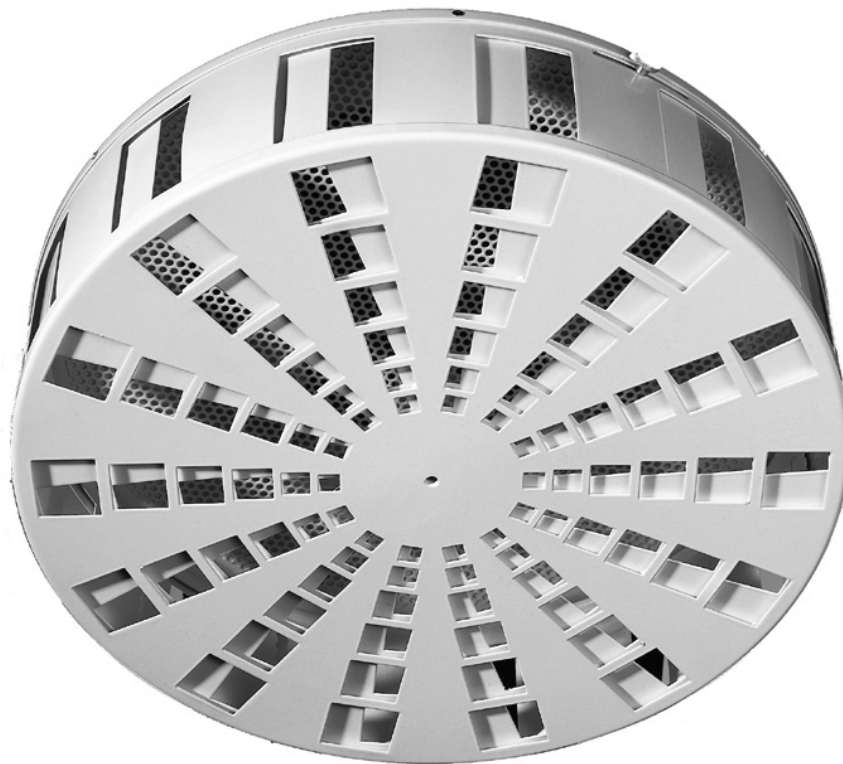




Ideal comfort diffuser

IKA



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Ideal comfort diffuser IKA

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Ideal comfort diffuser IKA

Description

Electrically or manually adjustable diffusers are required **for cooling and heating large halls**.

In order to prevent draughts in the cooling mode, the supply air must largely be discharged horizontally from the diffuser. In heating mode, however, the diffuser must have high penetration depth, in order to achieve fast and efficient heating.

The diffuser type IKA meets both these requirements with either a manual or electric adjustment. It ensures optimum air distribution in cooling and heating modes.

The diffuser has a funnel neck connection with an inner and outer basket arrangement. The diffuser has openings on its circumference and underside. In the heating mode, the diffuser can be adjusted manually or electrically by the actuator, the thermocouple to close off the lateral openings and open the bottom openings, thus creating a vertical supply air jet. This results in a compact supply air jet, reaching a great penetration depth. **The high penetration depth ensures quick heating of the rooms.**

The outer casing is opened up for cooling thus closing the openings at the bottom of the diffuser. **The individual supply air jets created ensure a high induction, which means that velocity and temperature differentials are rapidly reduced.**

The openings on the perimeter and underside of the diffuser are dimensioned such that **pressure loss and noise level remain constant** if the air flow direction is changed.

For maintenance, service, retrofitting, etc., inspection openings in sufficient number and size must be provided on site.

Construction

Diffuser

- Housing and inner cage made of sheet steel painted to RAL 9010 (white), RAL 9006 (white aluminium) or to a different RAL colour (at an extra charge).

Accessories

Plenum box (AKR)

- Housing and connection pipe made of galvanised sheet steel.

Ball-impact guard (-BS...)

- Sheet steel painted to RAL 9010 (white), RAL 9006 (white aluminium) or to a different RAL colour (at an extra charge).

Damper (-DV1/-DV2/-DV3)

- Galvanised sheet steel, integrated and adjustable from below, in special design painted on the outside.
- Connection to spiral duct (-DV1, not possible for IKA 600 with thermocouple)
- Connection to connecting pieces (-DV2, not possible for IKA 600 with thermocouple)
- Connection to spiral duct with rubber lip seal (-DV3, not possible for IKA 600 with thermocouple)

Damper (-DK1)

- In the plenum box AKR, adjustable, in the connection spigot for air volume regulation (NW 300-800 adjustable from below) (at an extra charge).
- Throttle damper made of galvanised sheet steel
- Damper fastening made of plastic

electric actuator

- Standard version on the inside, for NW 300 integrated on the outside
- 230 V AC, 3-point activation (-E045, -E092, -E006)
- 24 V AC, 0 - 10 V DC (standard) (-E046, -E091, -E014)
- 24 V AC, 3-point activation (-E044, -E090, -E005)

Thermocouple adjustment (only for NW 600) (-TE01)

- Diffuser adjustment option without electrical energy as a function of the supply air temperature

Rubber lip seal (-GD1)

- at the IKA for connection to a spiral duct (at an extra charge) (-GD1, select under diffuser)
- In plenum box AK on connection piece (at an extra charge) (-GD1, select for plenum box)

Internal insulation (-li)

- thermal insulation at the inside of the plenum box

External insulation (-la)

- thermal insulation at the outside of the plenum box

Ideal comfort diffuser IKA

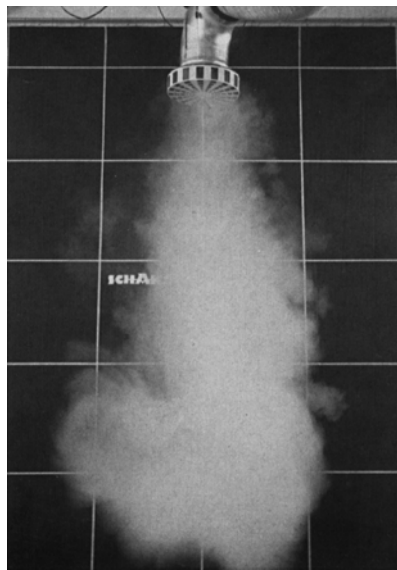
Quick selection

NW		300	400	500	600	800
$V_{\min}$	(m ³ /h)	170	280	605	830	1680
	[l/s]	47	78	168	231	467
$V_{\max}$	(m ³ /h)	810	1380	2330	3080	5450
	[l/s]	225	383	647	856	1514
$V_{\text{at } 40 \text{ dB(A)}}$	(m ³ /h)	450	640	1075	1440	2590
	[l/s]	125	178	299	400	719

Smoke test

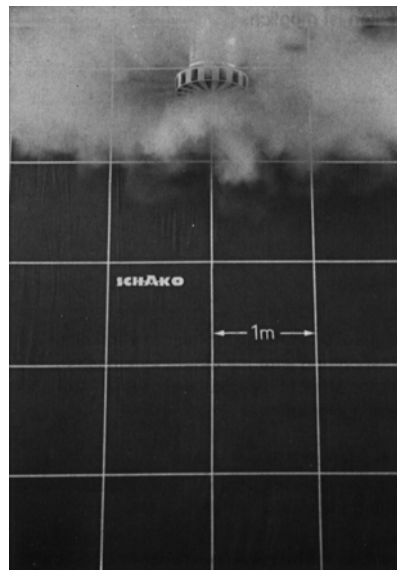
Snapshots of an ideal comfort diffuser type IKA-600-..., mounting height = 5.0 m

Heating mode



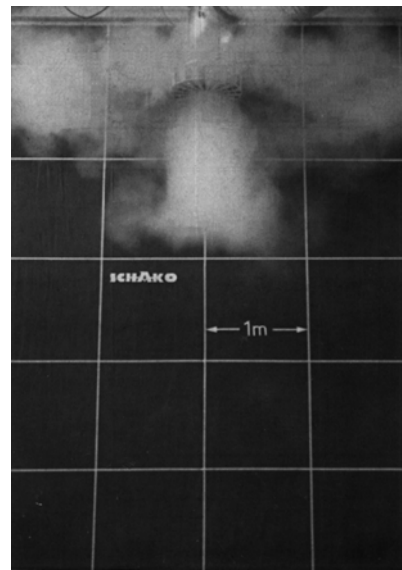
with electric actuator
Control voltage 10 V
 $V_{ZU} = 2000 \text{ m}^3/\text{h}$ [556 l/s]
 $\Delta T_0 = +15 \text{ K}$

Cooling mode



with electric actuator
Control voltage 0 V
 $V_{ZU} = 2000 \text{ m}^3/\text{h}$ [556 l/s]
 $\Delta T_0 = -10 \text{ K}$

Intermediate position



50 % horizontal
50 % vertical

Layout example:

Assume: Selected:
possible mounting height NW 600
in hall 6.0 m

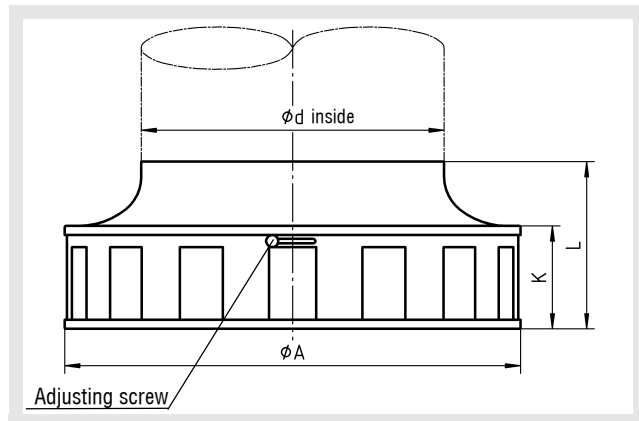
$\Delta T_0 = +20 \text{ K}$ $V_{ZU} = 2000 \text{ m}^3/\text{h}$
 $\Delta T_0 = -4 \text{ K}$ Max. penetration at $\Delta T_0 + 20 \text{ K} = 6.5 \text{ m}$

Connection to 90° bend Distance to diffuser = 8.0 m = x = 4 m
 $L_{WA} = 48 \text{ dB(A)}$ y = 4 m
 $\Delta p_t = 70 \text{ Pa}$ $v_{\max} = 0.23 \text{ m/s}$ since x + y = 8 m

Ideal comfort diffuser IKA

Models and dimensions

Dimensions



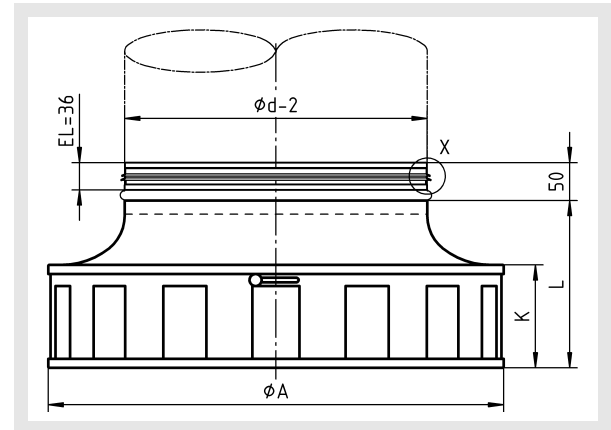
IKA Available sizes

NW	ϕA	ϕd_{innen}	K	L
300	302	180	84	149
400	402	250	103	180
500	503	315	125	205
600	603	400	141	226
800	803	500	185	310

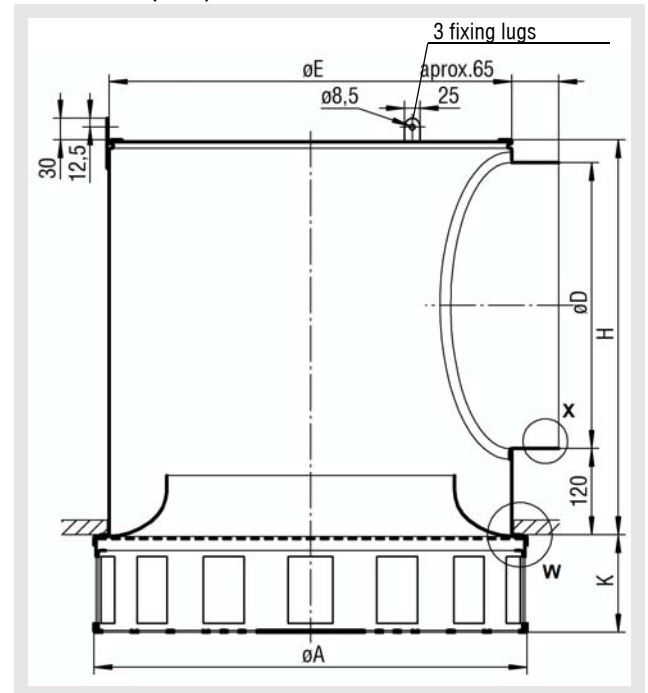
The inner diffuser basket is locked into position by means of an adjusting screw attached sideways. The diffuser is set to a horizontal throw ex factory. Subsequent adjustment is possible.

Accessories - dimensions

IKA with rubber lip seal (-GD1)
for connection to a spiral duct



Plenum box (AKR)



Available sizes

NW	ϕA	ϕE	K	ϕD	H
300	302	260	84	178	330
400	402	360	103	248	400
500	503	460	125	313	465
600	603	560	141	398	550
800	803	725	185	498	650

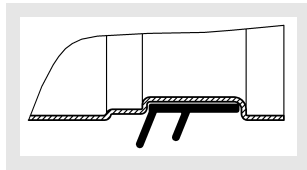
The galvanised sheet steel plenum box is attached to the diffuser IKA with 4 screws.

The throttle damper in the plenum box can easily be adjusted from below.

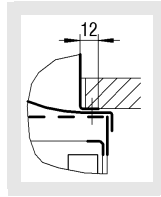
(Clockwise - damper CLOSED)

Ideal comfort diffuser IKA

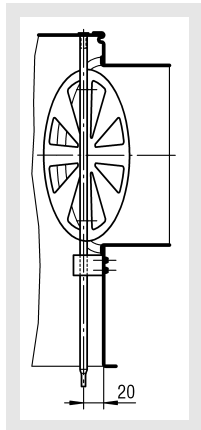
**Rubber lip seal
(-GD1, at an extra charge)
Detail X**



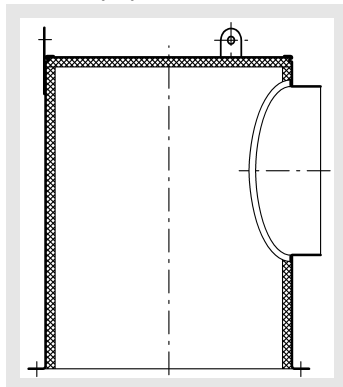
Detail W



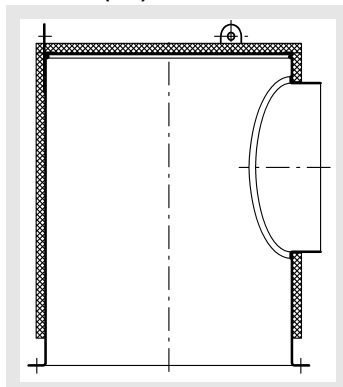
Damper (-DK1)



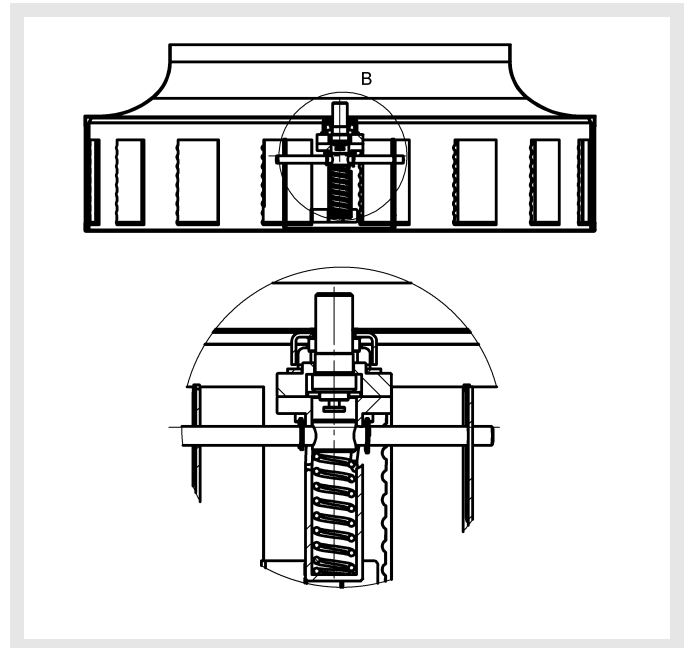
**Insulation for AKR
internal (-li)**



external (-la)



Thermocouple (-TE01)



The throw direction of the air diffuser changes due to the temperature-related extension of the expanding element responsible for the adjustment and a turning mechanism to adjust the lower and lateral outlet openings.

At supply air temperatures of $< 20^{\circ}\text{C}$, the air diffuser has a horizontal throw direction (cooling mode), at temperatures of $> 35^{\circ}\text{C}$, it has a vertical throw direction (heating mode). In the range between these two values, the supply air flows out proportionally in horizontal and vertical direction.

At a temperature of approx. $23-25^{\circ}\text{C}$, the thermocouple starts adjusting the throw direction from horizontal to vertical. In order to prevent draughts, it is recommended to pass quickly through this temperature range.

The adjustment times depend on the absolute change of the supply air temperature and the air flow velocity reaching the thermocouple.

At supply air temperatures between $< 20^{\circ}\text{C}$ and $> 35^{\circ}\text{C}$, the technical data indicated in the diagrams for the cooling and heating mode can be guaranteed. The field of application of the thermocouple is between 15°C and 50°C .

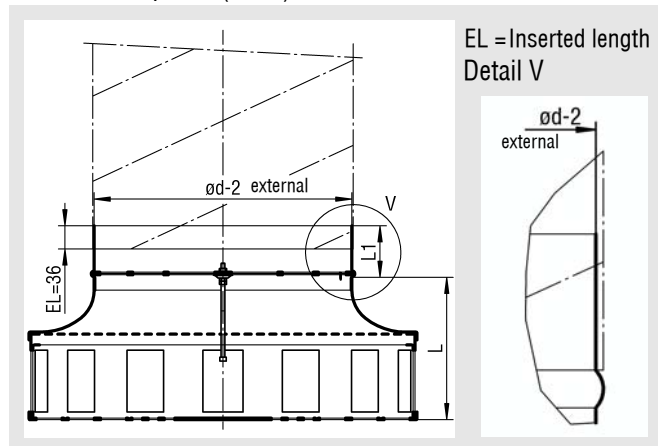
Ideal comfort diffuser IKA

Damper (-DV1/-DV3)

Connection to spiral duct

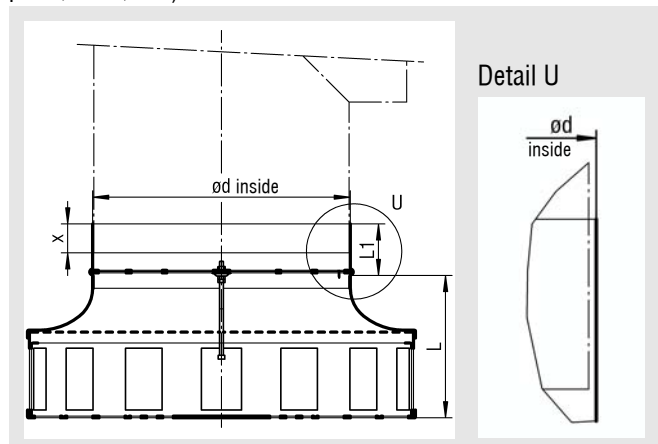
Without rubber lip seal (-DV1)

With rubber lip seal (-DV3)



Damper (-DV2)

Connection to connection pieces according to DIN 24147 (e.g.: T-piece, bend, etc.)



The adjustable damper is factory-fitted directly to the diffuser. The damper can be adjusted from below.
(Counterclockwise - damper CLOSED)

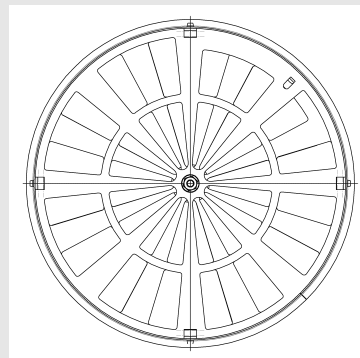
Available sizes

NW	ϕd	x	L	L1
300	180	40	149	80
400	250	60	180	100
500	315	60	205	100
600	400	80	226	120
800	500	80	310	120

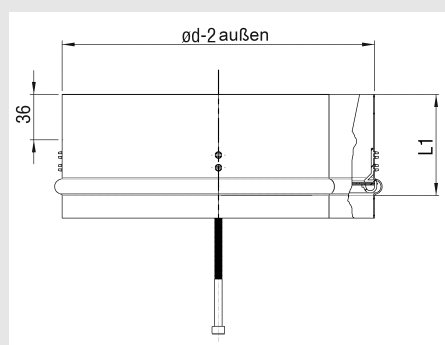
Damper not possible for IKA 600 with thermocouple.

Damper element

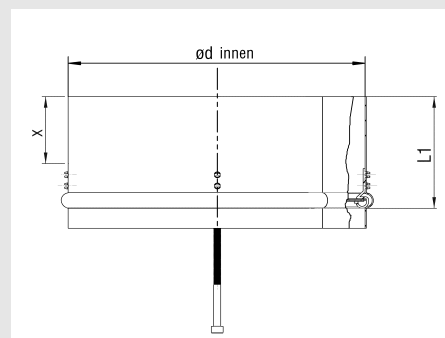
Top view



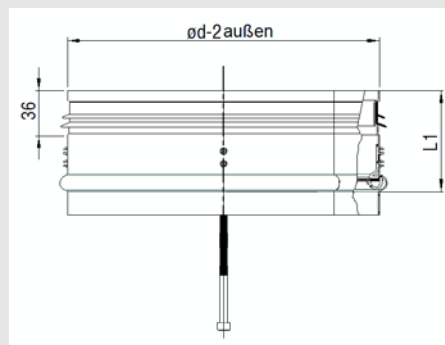
(-DV1)



(-DV2)

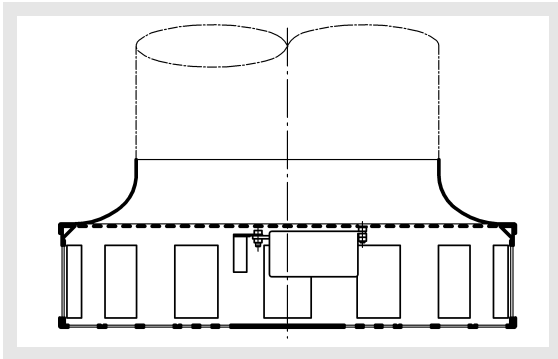


(-DV3)



Ideal comfort diffuser IKA

Electric actuator (-ME)
NW400-800

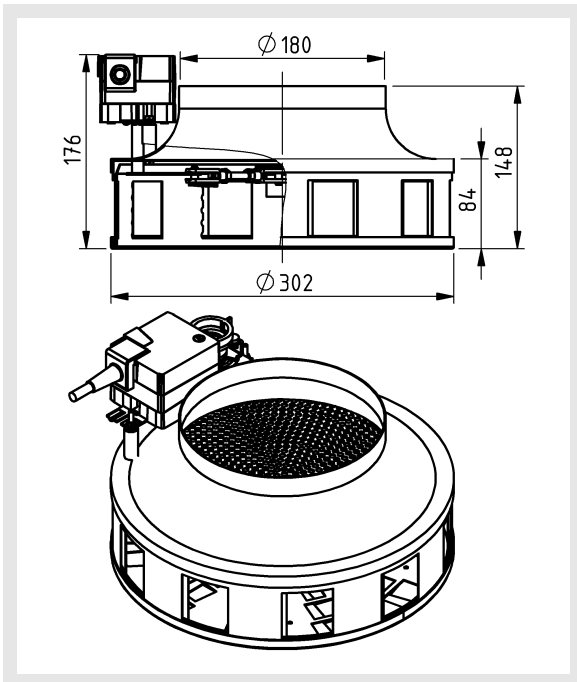


Model:

- 230 V AC, 3-point activation
- 24 V AC, 0 - 10 V DC (standard)
- 24 V AC, 3-point activation

The adjustment from a vertical to horizontal throw can be achieved with a continuously adjustable electric actuator. Actuator for NW 400-800 integrated on the inside, for NW 300 on the outside. For NW 800, the electric actuator can be serviced or replaced through a lateral diffuser slot designed as inspection opening.

NW300



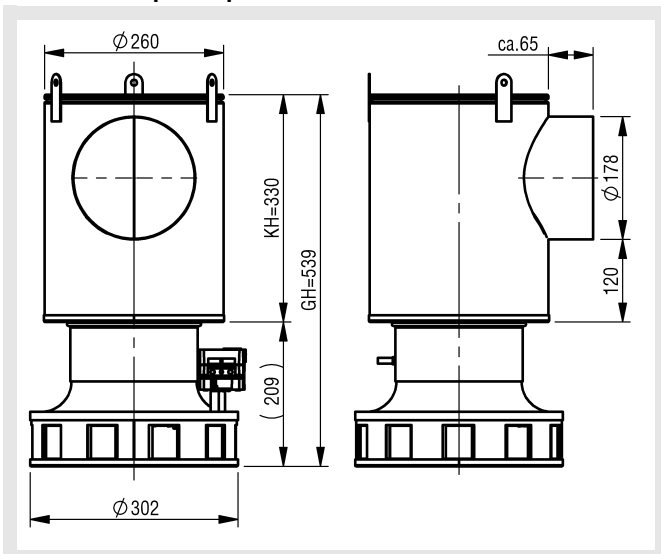
List of motors

NW	(230 V AC 3-point)	(Standard) (24 V AC 0-10 V DC)	(24 V AC 3-point)
300	E045 Belimo LM230A-F	E046 Belimo LM24A-SR-F	E044 Belimo LM24A-F
400	E092 Siemens GLB 331.2E	E091 Siemens GLB 163.2E	E090 Siemens GLB 131.2E
500			
600			
800	E006 Belimo SM230A	E014 Belimo SM24A-SR	E005 Belimo SM24A

Note:

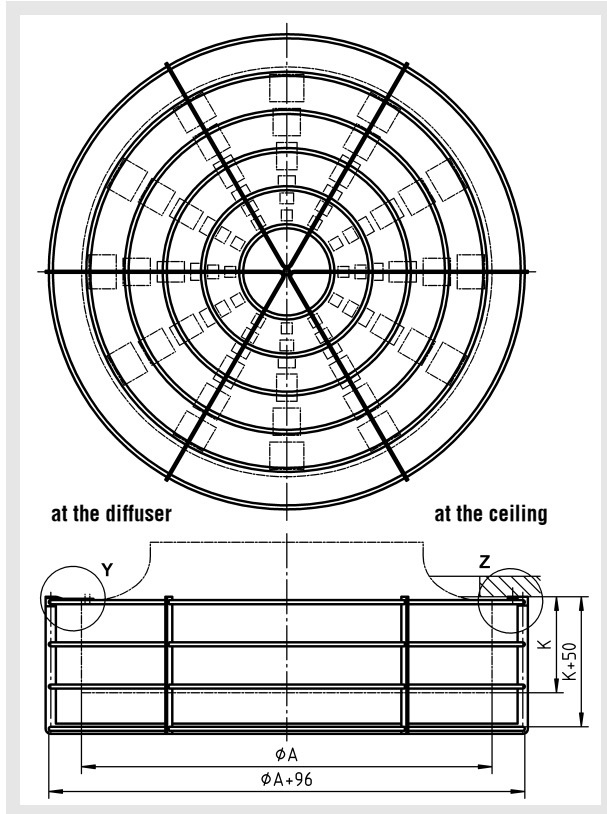
We recommend switching off the actuator voltage after reaching the controller position.

NW300 with special plenum box



Ideal comfort diffuser IKA

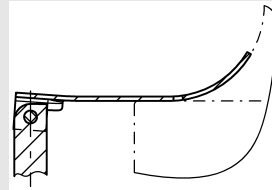
Ball-impact guard (-BS...)



Ball-impact guard mounting

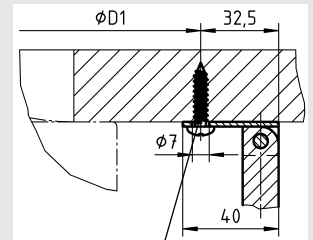
at the diffuser (-BSA)

Detail Y



at the ceiling (-BSD)

Detail Z



Screw on-site

Available sizes

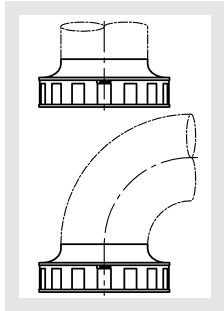
NW	øA	øD1	K
300	302	345	84
400	402	445	103
500	503	545	125
600	603	645	141
800	803	845	185

Ideal comfort diffuser IKA

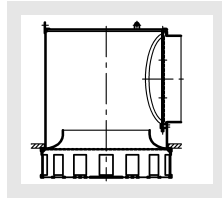
Technical data

Pressure loss and noise level

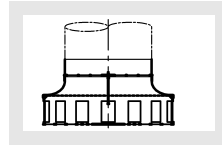
IKA-...



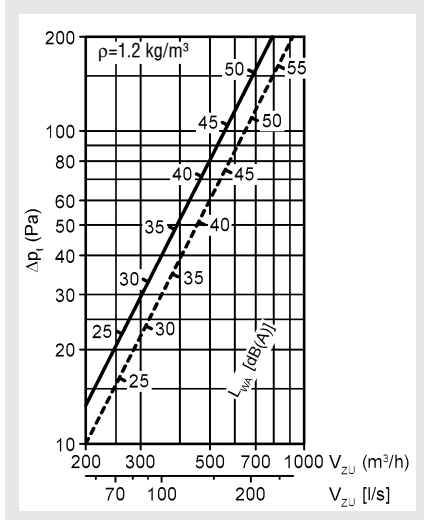
IKA-.../AKR-IKA-...



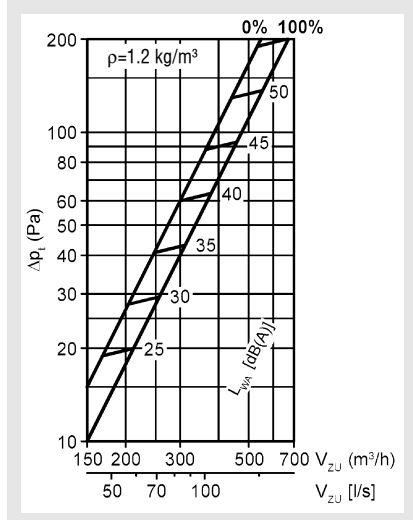
IKA-...-DV-...-



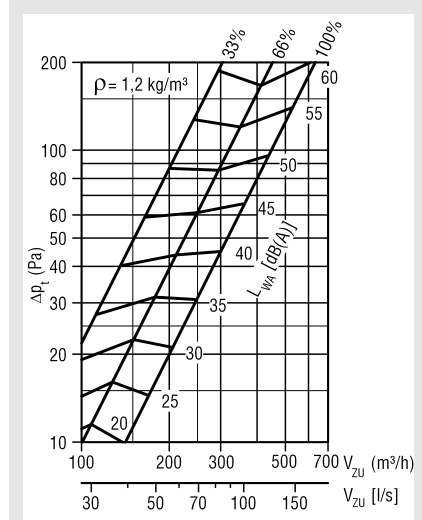
IKA-300-...



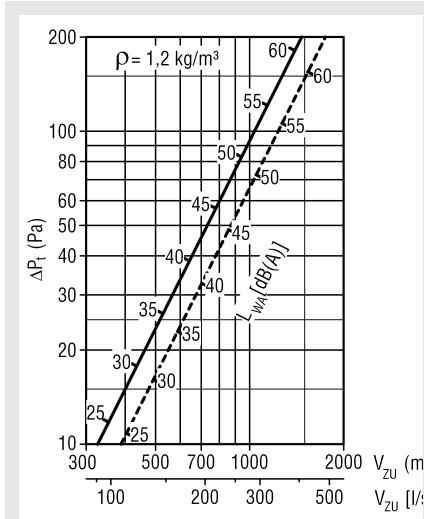
IKA-300-.../AKR-IKA-...-300-...



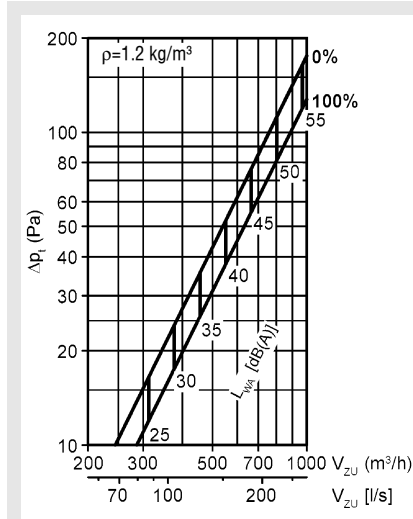
IKA-300-...-DV-...-



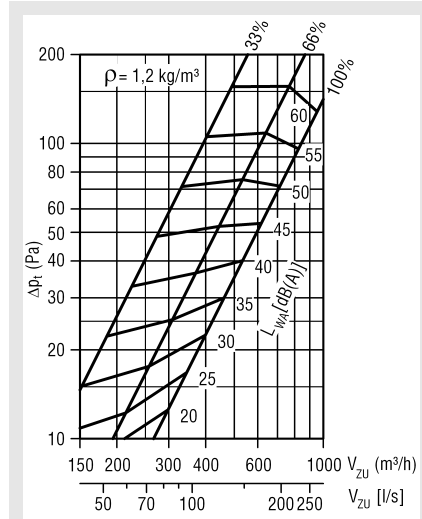
IKA-400-...



IKA-400-.../AKR-IKA-...-400-...



IKA-400-...-DV-...-



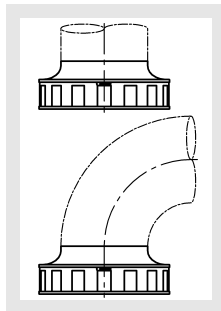
----- Straight connection
 ——— Connection to 90° bend

0 % = Damper CLOSED
 100 % = Damper OPEN

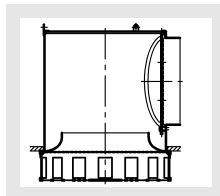
% = Damper OPEN

Ideal comfort diffuser IKA

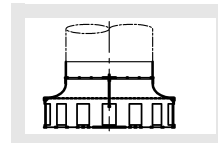
IKA-...



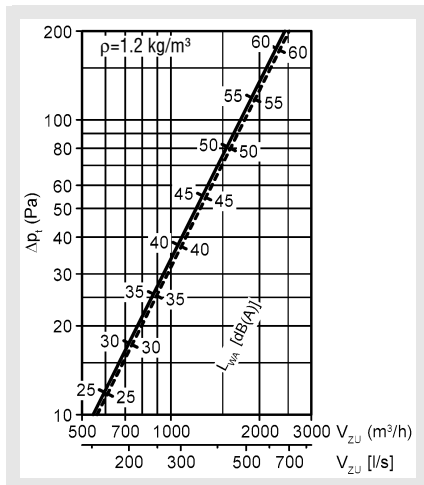
IKA-.../AKR-IKA-...



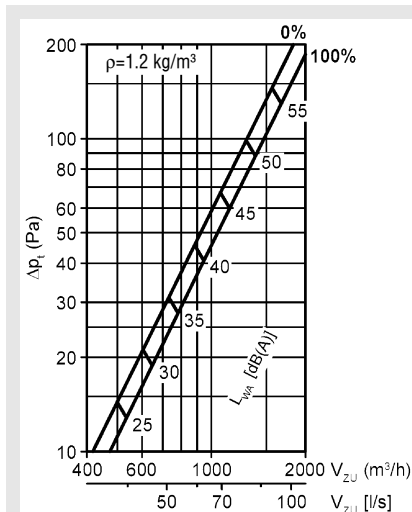
IKA-...-DV-...-...



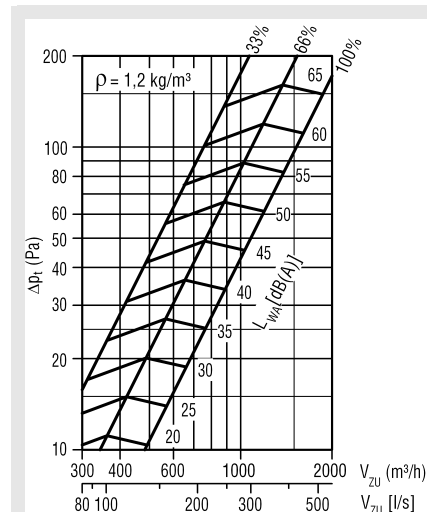
IKA-500-...



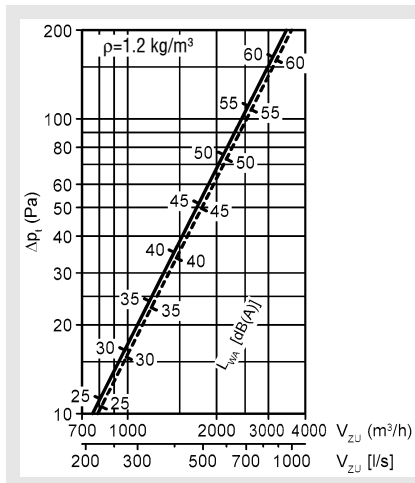
IKA-500-.../AKR-IKA-...-500-...



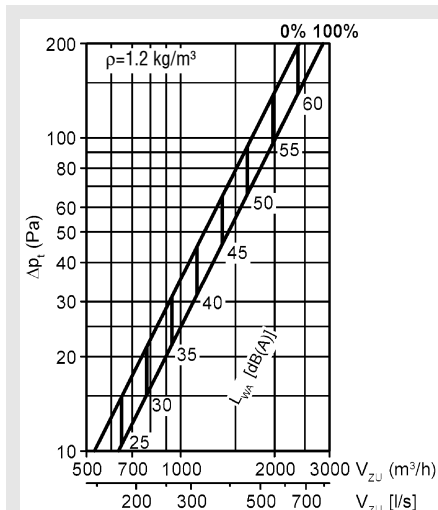
IKA-500-...-DV-...-...



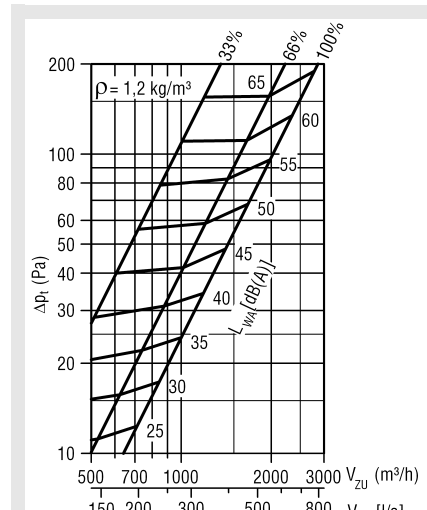
IKA-600-...



IKA-600-.../AKR-IKA-...-600-...



IKA-600-...-DV-...-...



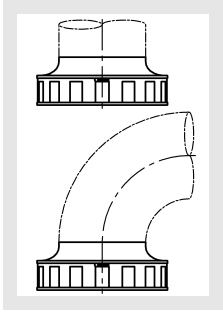
----- Straight connection
 ——— Connection to 90° bend

0 % = Damper CLOSED
 100 % = Damper OPEN

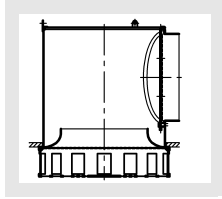
% = Damper OPEN

Ideal comfort diffuser IKA

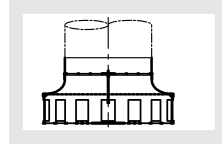
IKA-...



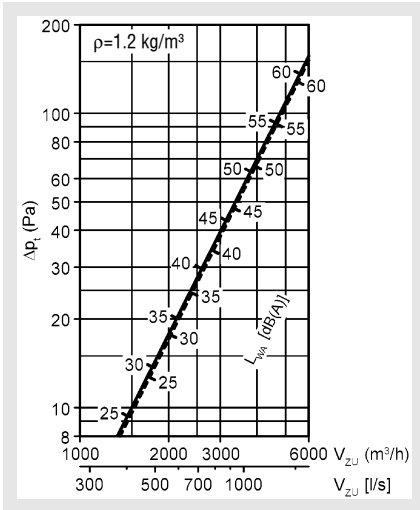
IKA-.../AKR-IKA-...



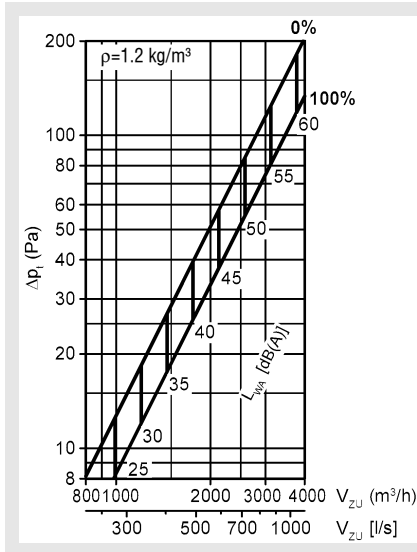
IKA-...-DV-...-...



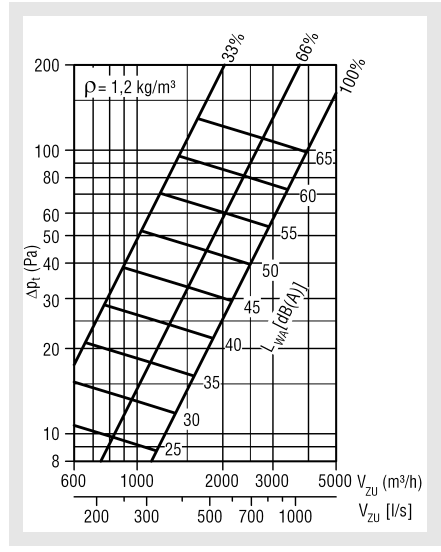
IKA-800-...



IKA-800-.../AKR-IKA-...-800-...



IKA-800-...-DV-...-...



----- Straight connection
 ——— Connection to 90° bend

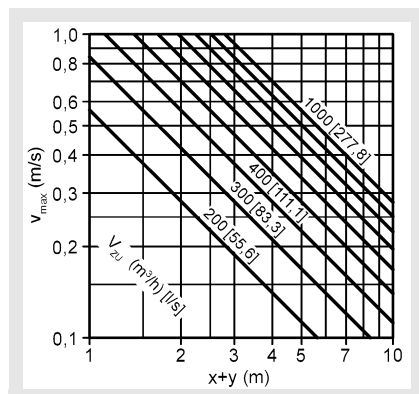
0 % = Damper CLOSED
 100 % = Damper OPEN

% = Damper OPEN

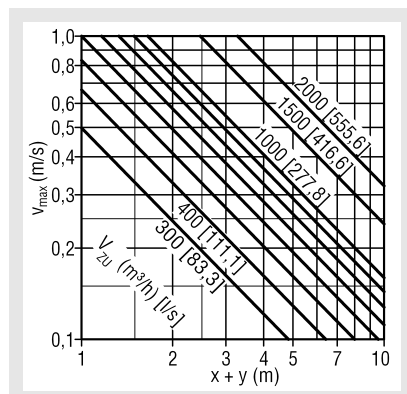
Ideal comfort diffuser IKA

Maximum end velocity of jet
without coanda effect

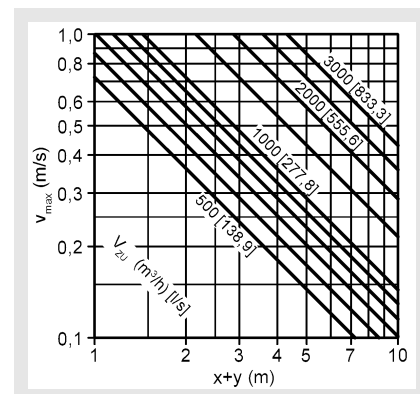
IKA-300-...



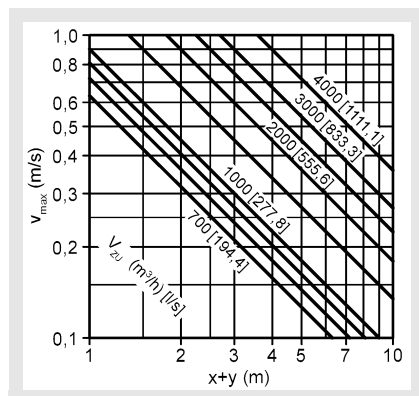
IKA-400-...



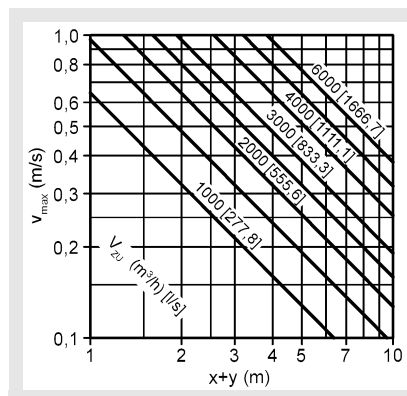
IKA-500-...



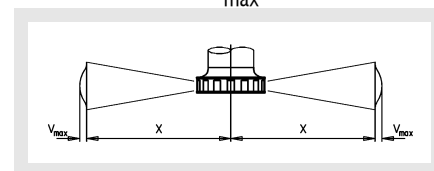
IKA-600-...



IKA-800-...



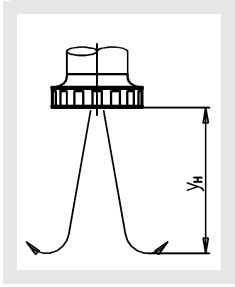
with coanda effect $v_{max} \times 1.4$



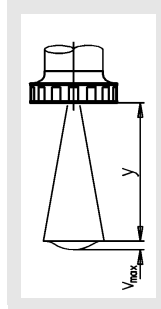
Ideal comfort diffuser IKA

Maximum penetration

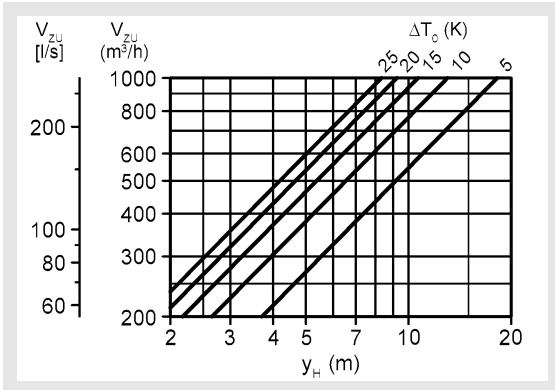
In heating mode



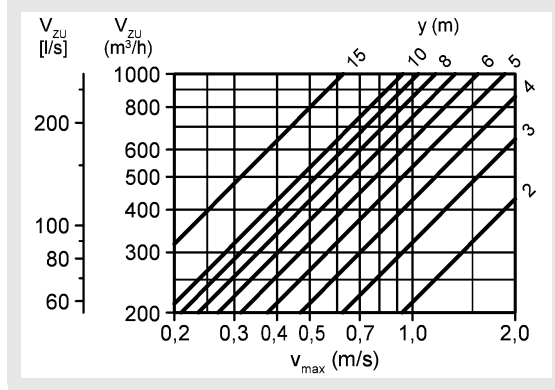
isothermal



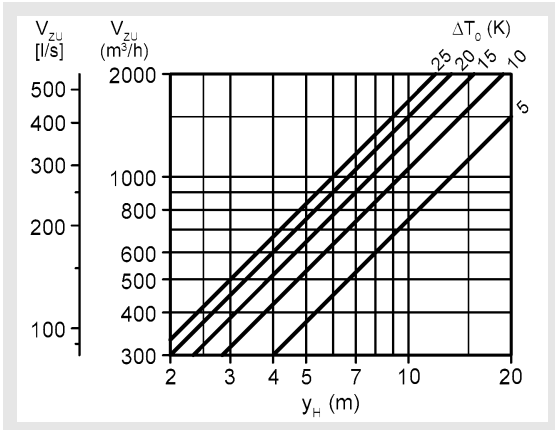
IKA-300-..., in heating mode



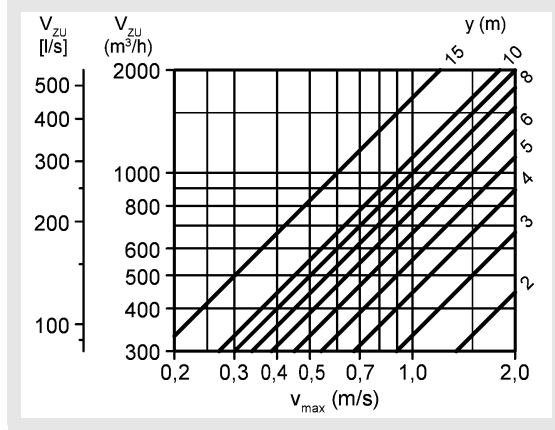
IKA-300-..., isothermal



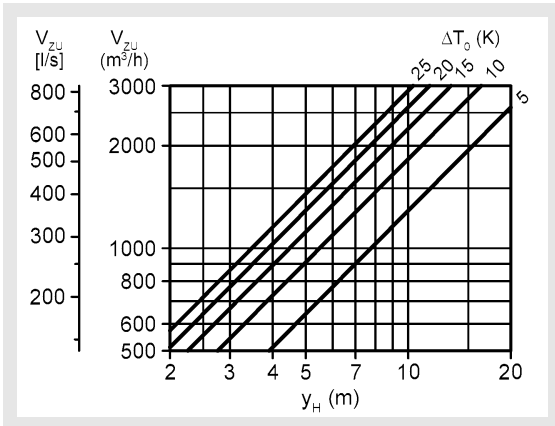
IKA-400-..., in heating mode



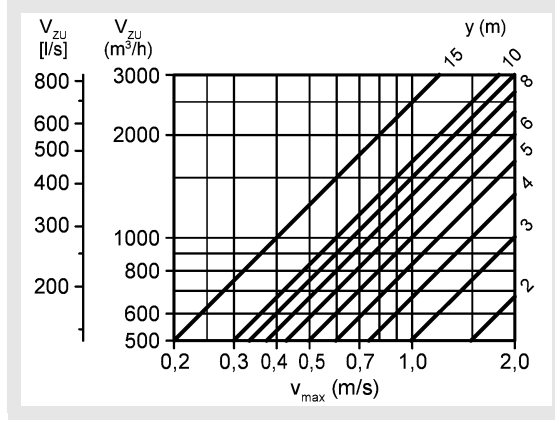
IKA-400-..., isothermal



IKA-500-..., in heating mode

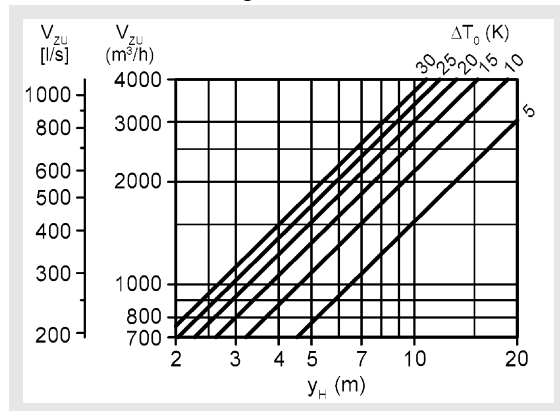


IKA-500-..., isothermal

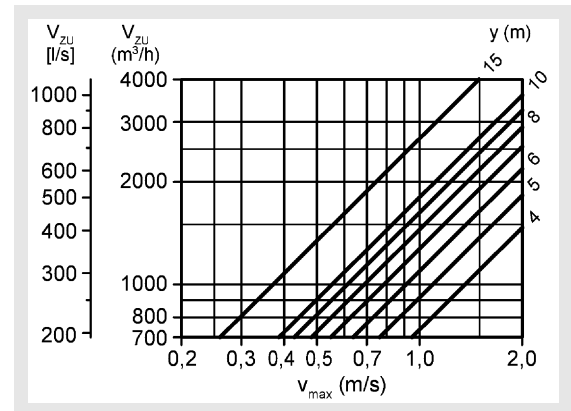


Ideal comfort diffuser IKA

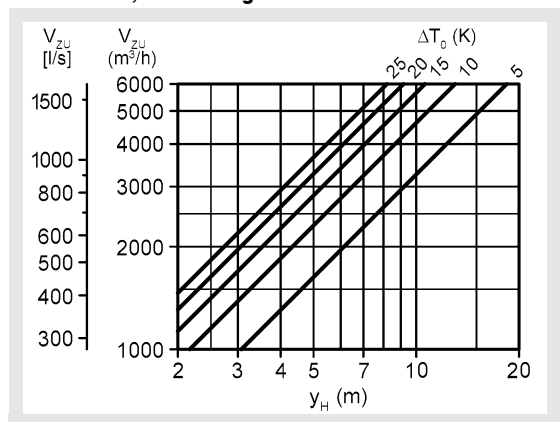
IKA-600-..., in heating mode



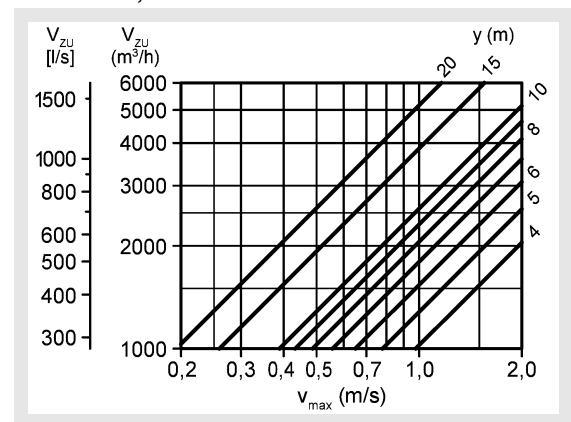
IKA-600-..., isothermal



IKA-800-..., in heating mode

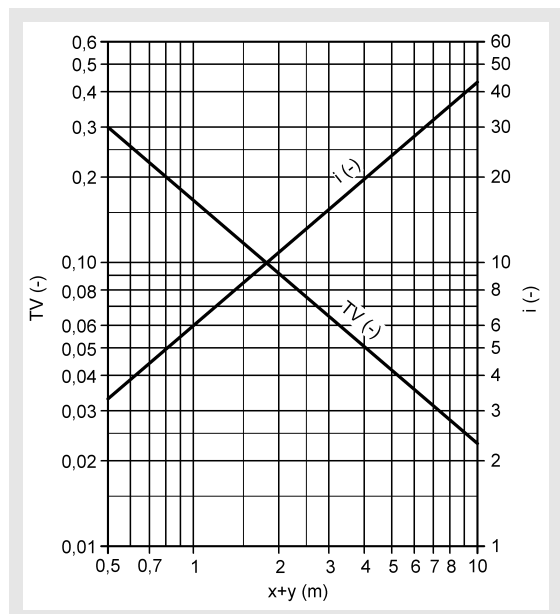


IKA-800-..., isothermal

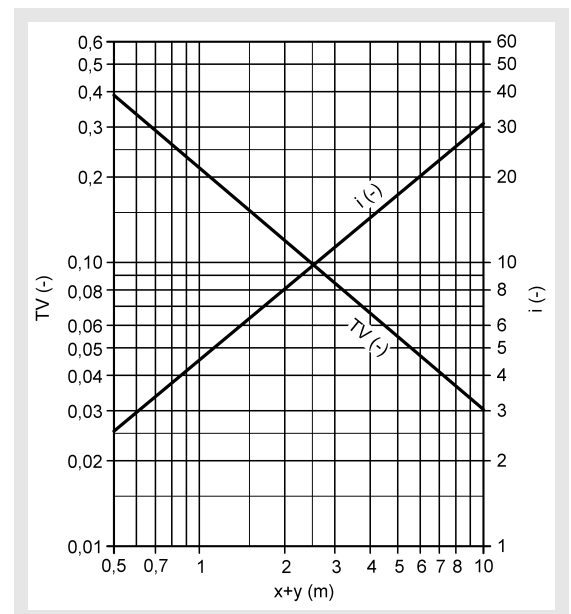


Temperature and induction ratios

IKA-300-...

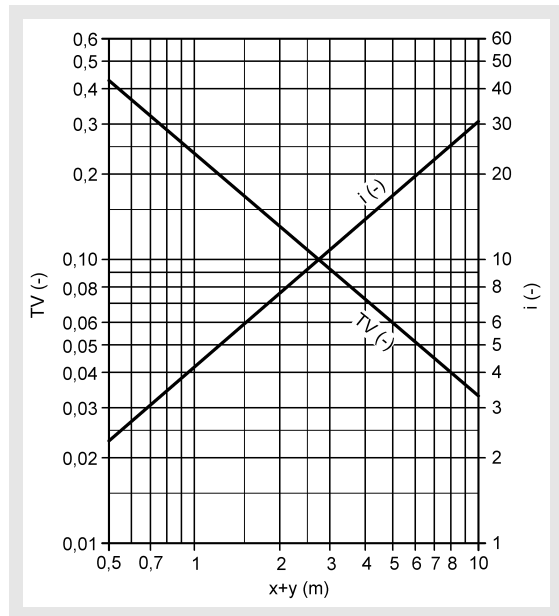


IKA-400-...

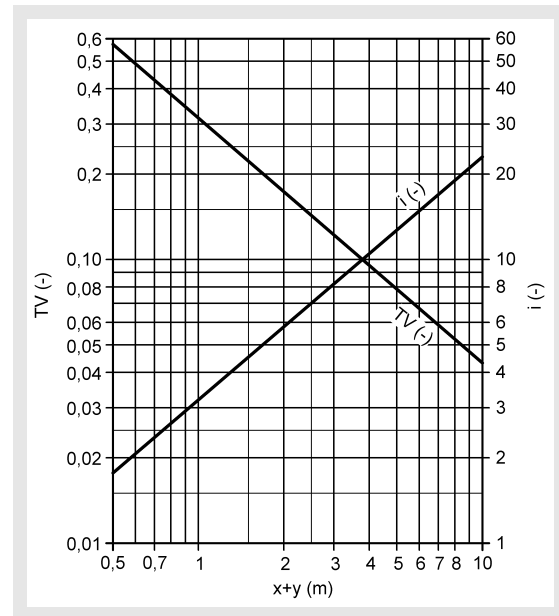


Ideal comfort diffuser IKA

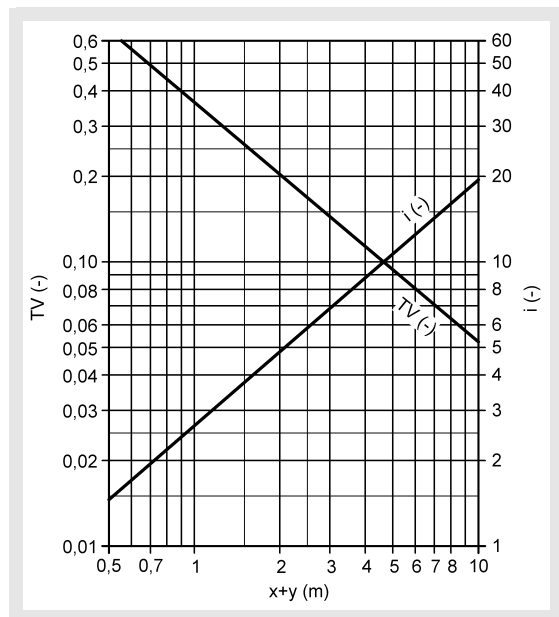
IKA-500-...



IKA-600-...



IKA-800-...

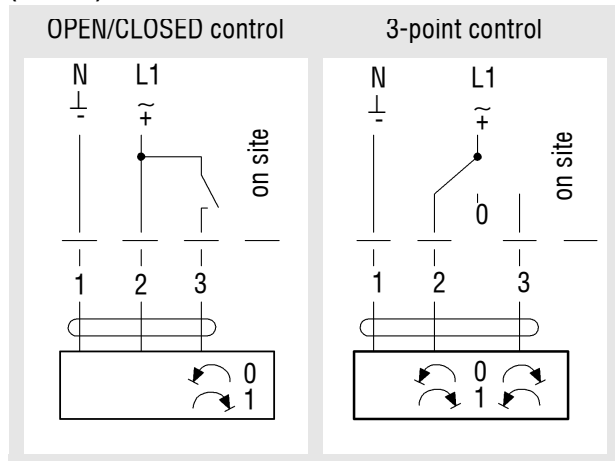


Ideal comfort diffuser IKA

Connection diagrams of electric actuators

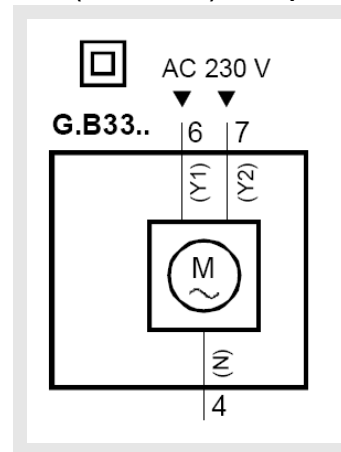
Make Belimo, for NW 300 and 800

E045 (LM230A-F) / E006 (SM230A) / E044 (LM24A-F) / E005 (SM24A)



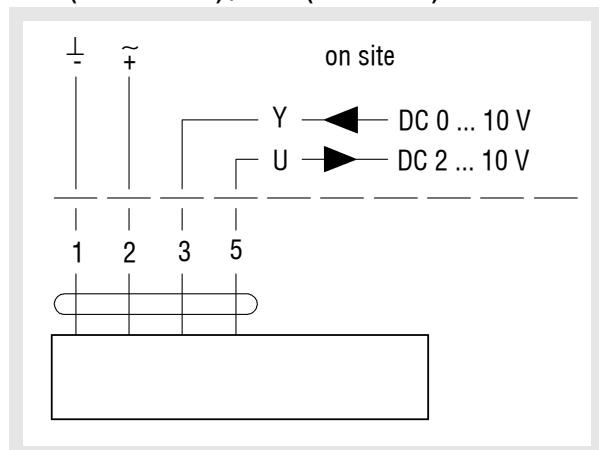
Make Siemens, for NW 400, 500 and 600

E092 (GLB 331.2E) three-point control



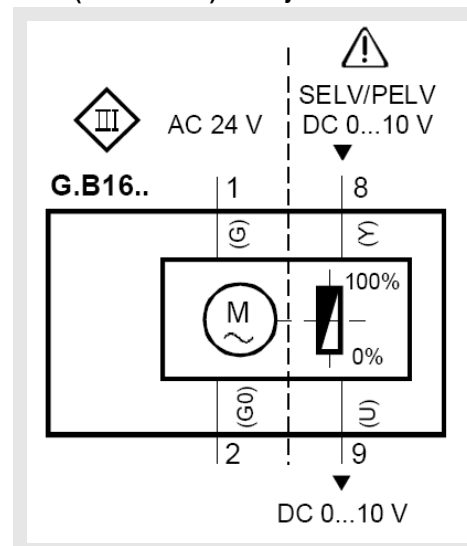
Make Belimo (standard), for NW 300 and 800

E046 (LM24A-SR-F) / E014 (SM24A-SR)



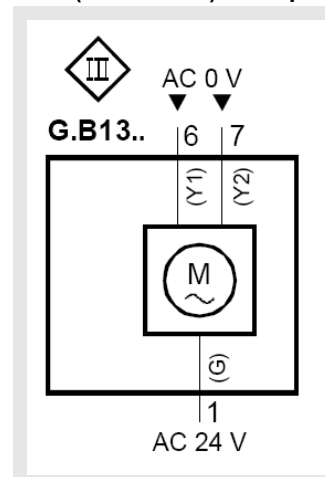
Make Siemens (standard), for NW 400, 500 and 600

E091 (GLB 163.2E) steady control



Make Siemens, for NW 400, 500 and 600

E090 (GLB 131.2E) three-point control



Ideal comfort diffuser IKA

Technical data of electric actuators

Make Belimo E045 (LM230A-F) for NW 300

Rated voltage:	AC 100 ... 240 V, 50 / 60 Hz
Functional range:	AC 85 ... 265 V
Power consumption	
- Operation:	1.5 W @ nominal torque
- Idle position:	0.4 W
- Dimensioning:	4 VA
Torque	
(rated torque):	Min. 5 Nm at the rated voltage
Running time:	150 s
Sound power level:	max. 35 dB (A)
Protection class:	II protective insulation
Degree of protection:	IP54 in all mounting positions
EMC:	CE according to 89 / 336 / EEC
Low voltage directive:	CE according to 73 / 23 / EEC
Ambient temperature:	-30 ... +50°C

Make Belimo E006 (SM230A) for NW 800

Rated voltage:	AC 100 ... 240 V, 50 / 60 Hz
Functional range:	AC 85 ... 265 V
Power consumption	
- Operation:	2.5 W @ nominal torque
- Idle position:	0.6 W
- Dimensioning:	6 VA
Torque	
(rated torque):	Min. 20 Nm at the rated voltage
Running time:	150 s
Sound power level:	max. 45 dB (A)
Protection class:	II protective insulation
Degree of protection:	IP54 in all mounting positions
EMC:	CE according to 89 / 336 / EEC
Low voltage directive:	CE according to 73 / 23 / EEC
Ambient temperature:	-30 ... +50°C

Make Belimo E046 (LM24A-SR-F) (standard), for NW 300

Rated voltage:	AC / DC 24 V, 50 / 60 Hz
Functional range:	AC / DC 19.2 ... 28.8 V
Power consumption	
- Operation:	1 W @ nominal torque
- Idle position:	0.4 W
- Dimensioning:	2 VA
Torque	
(rated torque):	Min. 5 Nm at the rated voltage
Activation	
- Actuator signal Y:	DC 0 ... 10 V, input resistance typically 100 kΩ
- Operating range:	DC 2 ... 10 V
Positional feedback	
(Measuring voltage U):	DC 2 ... 10 V, max. 1 mA
Running time:	150 s
Sound power level:	max. 35 dB (A)
Damper drive:	Positive locking 8 mm
Protection class:	III Safety extra low voltage
Degree of protection:	IP54 in all mounting positions
EMC:	CE according to 89 / 336 / EEC
Ambient temperature:	-30 ... +50°C

Make Belimo E014 (SM24A-SR) (standard), for NW 800

Rated voltage:	AC / DC 24 V, 50 / 60 Hz
Functional range:	AC / DC 19.2 ... 28.8 V
Power consumption	
- Operation:	2 W @ nominal torque
- Idle position:	0.4 W
- Dimensioning:	4 VA
Torque	
(rated torque):	Min. 20 Nm at the rated voltage
Activation	
- Actuator signal Y:	DC 0 ... 10 V, input resistance typically 100 kΩ
- Operating range:	DC 2 ... 10 V
Positional feedback	
(Measuring voltage U):	DC 2 ... 10 V, max. 1 mA
Running time:	150 s
Sound power level:	max. 45 dB (A)
Protection class:	III Safety extra low voltage
Degree of protection:	IP54 in all mounting positions
EMC:	CE according to 89 / 336 / EEC
Ambient temperature:	-30 ... +50°C

Ideal comfort diffuser IKA

Make Belimo E044 (LM24A-F) for NW 300

Rated voltage:	AC / DC 24 V, 50 / 60 Hz
Functional range:	AC / DC 19.2 ... 28.8 V
Power consumption	
- Operation:	1 W @ nominal torque
- Idle position:	0.2 W
- Dimensioning:	2 VA
Torque	
(rated torque):	Min. 5 Nm at the rated voltage
Running time:	150 s
Sound power level:	max. 35 dB (A)
Protection class:	III Safety extra low voltage
Degree of protection:	IP54 in all mounting positions
EMC:	CE according to 89 / 336 / EEC
Ambient temperature:	-30 ... +50°C

Make Belimo E005 (SM24A) for NW 800

Rated voltage:	AC / DC 24 V, 50 / 60 Hz
Functional range:	AC / DC 19.2 ... 28.8 V
Power consumption	
- Operation:	2 W @ nominal torque
- Idle position:	0.2 W
- Dimensioning:	4 VA
Torque	
(rated torque):	Min. 20 Nm at the rated voltage
Running time:	150 s
Sound power level:	max. 45 dB (A)
Protection class:	III Safety extra low voltage
Degree of protection:	IP54 in all mounting positions
EMC:	CE according to 89 / 336 / EEC
Ambient temperature:	-30 ... +50°C

Make Siemens E092 (GLB 331.2E) / E091 (GLB 163.2E) (standard) / E090 (GLB 131.2E) for NW 400, 500 and 600

Supply AC 24 V (SELV / PELV)	
-Operating voltage / Frequency:	AC 24 V ± 20 % / 50 / 60 Hz
-Power consumption GLB13..2	2 VA / 1 W
-GLB16..2 lifting rod is moving	3 VA / 2 W
-GLB16..2 stopping state	1 W
Supply AC/DC 230 V	
-Operating voltage / Frequency	AC 230 V ± 10 % / 50 / 60 Hz
-Power consumption GLB33..2	2 VA / 1 W
Functional data	
-Nominal lifting power:	250 N
-Running time for 60 mm stroke:	150 s (50 Hz) / 125 s (60 Hz)
Actuator signal Y for GLB 16..2	
-Input voltage Y (wires 8-2)	DC 0...10 V, internally limited to DC 10 V
-Max. allowed input voltage	DC 35 V
Position detector for GLB 16..2	
-Output voltage U (wires 9-2)	DC 0...10 V / DC 10...0 V
-Max. output current	DC ± 1 mA
Housing protection type	
- Protection type according to DIN 60 529 (Observe mounting information)	IP 40
Protection class	
-Insulation protection class	EN 60 730
Environmental conditions	
-Temperature	-30...+55 °C / -30...+60 °C

Ideal comfort diffuser IKA

Legend

V_{ZU}	(m ³ /h)	= Supply air volume
V_{ZU}	[l/s]	= Supply air volume
y_H	(m)	= Maximum penetration depth in heating mode
ΔT_0	(K)	= Temperature difference between supply air temperature and room temperature ($\Delta T_0 = t_{ZU} - t_R$)
t_{ZU}	(°C)	= Supply air temperature
t_R	(°C)	= Room temperature
L_{WA}	[dB(A)]	= A-weighted sound power level
f_m	(Hz)	= Octave centre frequency
NW	(mm)	= Nominal value
v_{max}	(m/s)	= Maximum end velocity of jet
x	(m)	= horizontal throw
y	(m)	= vertical throw
TV	(-)	= Temperature ratio ($TV = \Delta T_X / \Delta T_0$)
L_W	[dB/Okt]	= Sound power level/octave
i	(-)	= Induction ratio ($i = V_X / V_{ZU}$)
Δp_t	(Pa)	= Pressure loss
ρ	(kg/m ³)	= Density
ΔT_X	(K)	= Temperature difference at point x
V_X	(m ³ /h)	= Total air jet volume at point x
V_X	[l/s]	= Total air jet volume at point x

Ideal comfort diffuser IKA

Order code IKA

01	02	03	04	05	06	07
Type	Nominal size	Paint	Ball-impact guard	Damper	Rubber lip seal	Actuator
Example						
IKA	-500	-9010	-BS0	-DVO	-GDO	-E090

Sample

IKA-500-9010-BS0-DVO-GDO-E090

Ceiling diffuser type IKA | size 500 | RAL 9010 white | without ball-impact guard | without damper | without rubber lip seal | with actuator 24V AC / 3-point (Actuator inside, NW400-600 Siemens)

Order details

01 - Type

IKA = Ideal comfort diffuser type IKA

02 - Nominal size

300 = NW 300

400 = NW 400

500 = NW 500

600 = NW 600

800 = NW 800

03 - Paint

9010 = RAL colour white (standard)

9006 = RAL colour, white aluminium

xxxx = RAL colour can be freely selected

04 - Ball-impact guard

BS0 = without ball-impact guard (standard)

BSA = with ball-impact guard painted to the same colour as faceplate, fastened to diffuser

BSD = with ball-impact guard painted same as faceplate, fastening on the ceiling

05 - Damper

DVO = Without damper (standard)

DV1 = With damper - connection to spiral duct

DV2 = With damper - connection to connection piece

DV3 = With damper - connection to spiral duct with rubber lip seal

06 - Rubber lip seal

GDO = Without rubber lip seal for spiral duct connection (standard)

GD1 = with rubber lip seal for spiral duct connection (not possible for -DV... and -AKR)

07 - Actuator

E000 = Without actuator (standard)

E005 = 24V AC / 3-point (actuator inside, NW800 Belimo)

E006 = 230V AC / 3-point (actuator inside, NW800 Belimo)

E014 = 24V AC / 0-10V DC (actuator inside, NW800 Belimo)

E044 = 24V AC / 3-point (actuator outside, NW300 Belimo)

E045 = 230V AC / 3-point (actuator outside, NW300 Belimo)

E046 = 24V AC / 0-10V DC (actuator outside, NW300 Belimo)

E090 = 24V AC / 3-point (actuator inside, NW400-600 Siemens)

E091 = 24V AC / 0-10V DC (actuator inside, NW400-600 Siemens)

E092 = 230V AC / 3-point (actuator inside, NW400-600 Siemens)

TE01 = Thermocouple adjustment (only possible for NW 600) (not available in connection with damper)

Ideal comfort diffuser IKA

Order code AKR-IKA

01	02	03	04	05	06	07
Accessories	Air diffuser	Air throw	Nominal size	Fastening	Damper	Rubber lip seal
Example						
AKR	-IKA	-Z	-500	-SM	-DK1	-GD1

08	09	10	11
Insulation	Height of box	Spigot diameter	Spigot position
-I0	-KHS	-SDS	-S

Sample

AKR-IKA-Z-500-SM-DK1-GD1-I0-KHS-SDS-S

Plenum box, round model | suitable for diffuser type IKA | supply air | NW500 | with screw mounting | with damper | with rubber lip seal | without box insulation | standard height of box | standard spigot diameter | lateral spigot at the box

Order details

01 - Accessories

AKR = Plenum box, round design

02 - Air diffuser

IKA = Ideal comfort diffuser type IKA

03 - Air throw

Z = Supply air

04 - Nominal size

300 = NW 300

400 = NW 400

500 = NW 500

600 = NW 600

800 = NW 800

05 - Mounting

SM = Screw mounting

06 - Damper

DK0 = without damper (standard)

DK1 = with damper

07 Rubber lip seal

GD0 = without rubber lip seal (standard)

GD1 = With rubber lip seal

08 - Insulation

I0 = Without insulation (standard)

Ia = With external insulation

Ii = With internal insulation

09 - Height of box

KHS = Height of plenum box standard

xxx = Height of plenum box in mm
(Height_{min} = spigot diameter + 152 mm)

10 - Spigot diameter

SDS = Spigot diameter standard

xxx = Spigot diameter in mm

11 - Spigot position

S = Lateral connection pipe on the box (standard)

Ideal comfort diffuser IKA

Specification text

Ideal comfort diffuser particularly suitable for optimum cooling and heating of large and high rooms and halls. High-induction supply air intake in cooling mode by splitting the horizontal, radial supply air jet into several smaller jets due to reduction in temperature. Compact vertical round jet in heating mode with great penetration for effective heating. Flexible air supply by continuous manual adjustment from only horizontal to only vertical throw without any change in the pressure loss and sound power level. Possible installation as a free suspension or at the ceiling. Simple integration in the duct system via round connection spigot. Round design with outer diffuser casing and adjustable inner basket to change air flow direction. Only a short inflow distance necessary due to built-in perforated air flow straightener. Diffuser consisting entirely of sheet steel painted with a high-quality powder coating to a RAL colour RAL 9010 (white, standard), RAL 9006 (white aluminium) or to a different RAL colour (at an extra charge).

Product: SCHAKO type IKA-...

Accessories:

- Rubber lip seal (-GD1), for connection to spiral duct (not possible for -DV... and -AKR)
- With round plenum box (-AKR) made of galvanised sheet steel with fixing lugs
 - With a damper (-DK1) adjustable from the room side in the plenum box for simple air volume regulation.
 - with rubber lip seal (-GD1)
 - with thermal insulation
 - internal (-li)
 - external (-la)
- with ball-impact guard (-BS...), steel powder-coated in the colour of the diffuser.
 - Fastened to the diffuser (standard) (-BSA)
 - Fastened to the ceiling (-BSD)
- With damper (-DV1/-DV2/-DV3), made of galvanised sheet steel, integrated, room side adjustable for simple volumetric flow adjustment.
 - Connection to spiral duct (-DV1)
 - Connection to connection pieces (-DV2)
 - Connection to spiral duct with rubber lip seal (-DV3)
- with electric actuator (-ME) for adjusting air jet direction. For NW 400-800 integrated on the inside, for NW 300 on the outside. NW 300 and 800 with Belimo actuator. NW 400 to 600 with Siemens actuator

Model

- 230 V AC, 3-point activation (-E045, -E092, -E006)
- 24 V AC, 0 - 10 V DC (-E046, -E091, -E014)
- 24 V AC, 3-point activation (-E044, -E090, -E005)
- Thermocouple (-TE01, only possible for NW 600), Diffuser adjustment option without electrical energy as a function of the supply air temperature (not available in connection with damper)