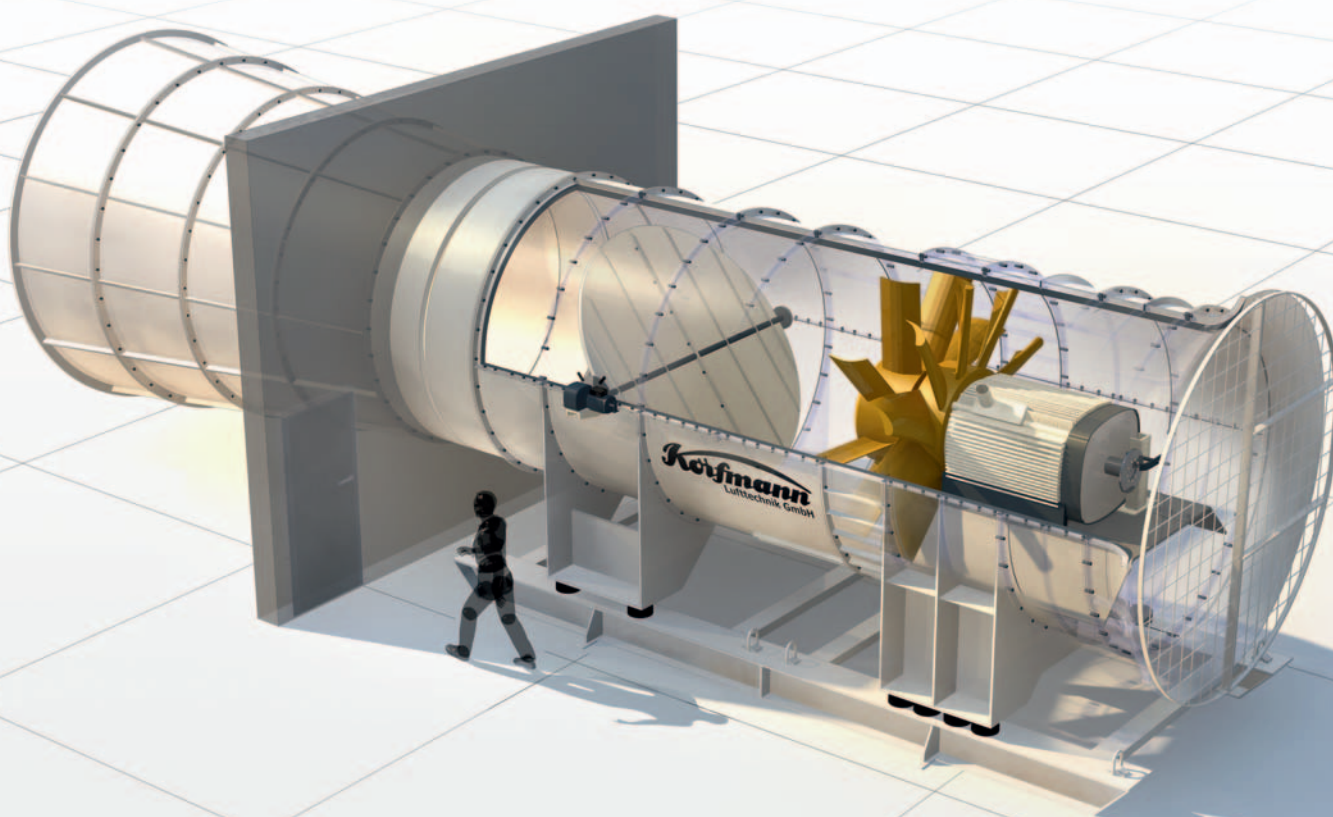
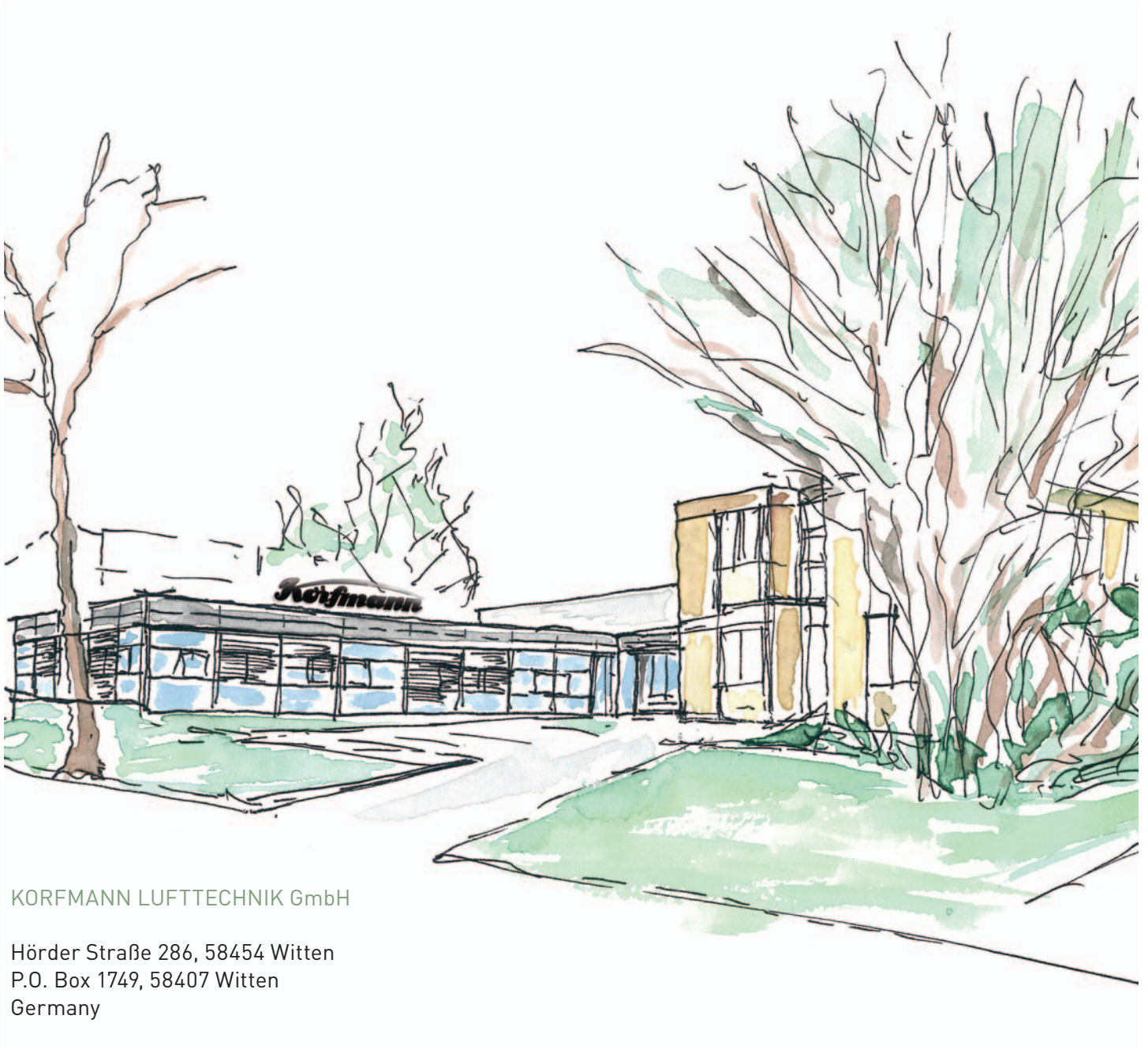


Ventilating and Exhausting Systems for:

- Coal Mining
- Potassium Mining
- Ore Mining
- Tunnel Construction
- Metro Tunnels
- Road Building
- Underground Irrigation
and Cavern Systems





KORFMANN LUFTECHNIK GmbH

Hörder Straße 286, 58454 Witten
P.O. Box 1749, 58407 Witten
Germany

Phone: +49 (0) 23 02/17 02-0
Fax: +49 (0) 23 02/17 02-153
E-mail: info@korfmann.com

www.korfmann.com

This catalog refers to our product range and technical information for the year 2013. We reserve the right to make modifications at any time.



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On August 1st, 2001, KORFMANN LUFTECHNIK GmbH took over the "Fan Construction" division of Maschinenfabrik Korfmann GmbH, including the entire know-how and hardware. This includes the brand names and designations that are well-known throughout the world.

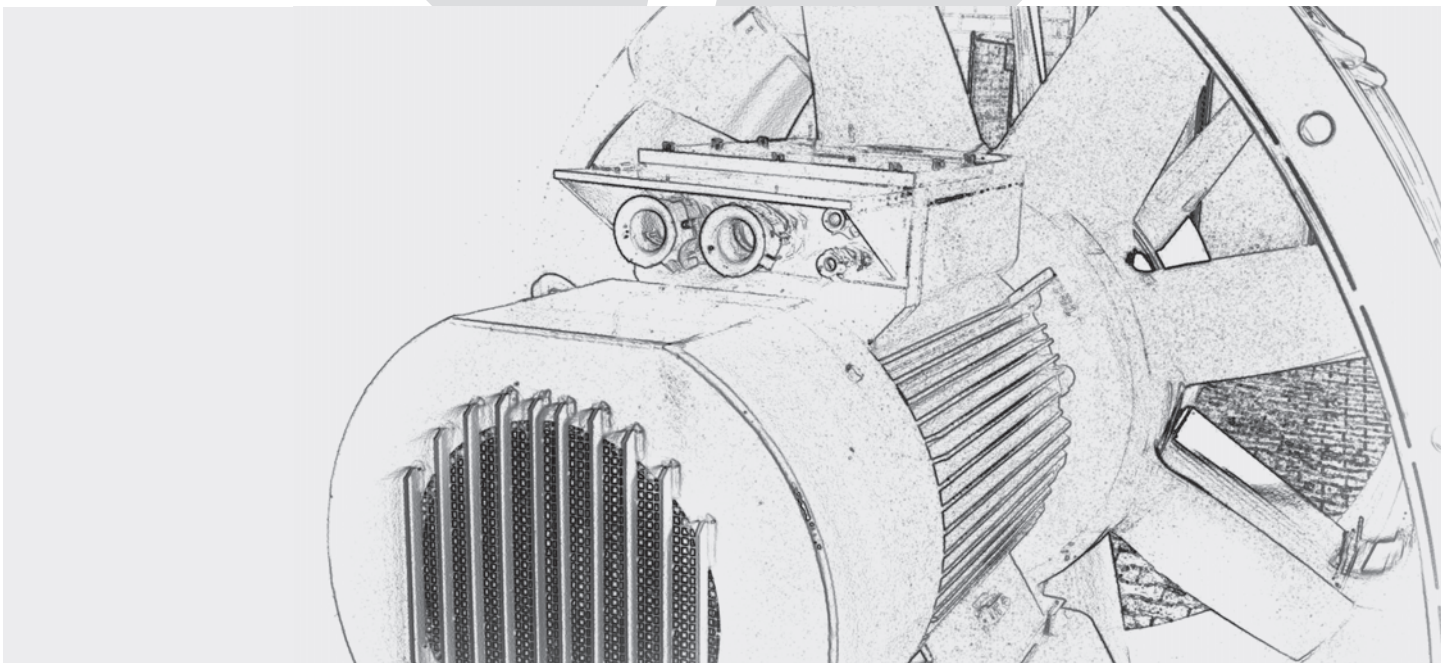
Our highly qualified expert team of engineers will not only continue the longstanding tradition of the KORFMANN quality and performance in the field of ventilation for mining and tunnel construction, cavern systems, rock cutting and other industrial sections, but also increase it to the advantage of your company. This will ultimately lead

to an even stronger position in the international business market, due to the wide product range and know-how of the shareholders and partner companies of KORFMANN Lufttechnik.

You can be absolutely certain to have an expert and flexible partner at your service. We look forward to convincing you of our performance and ability to supply the best product for your future projects.

KORFMANN LUFTECHNIK GmbH

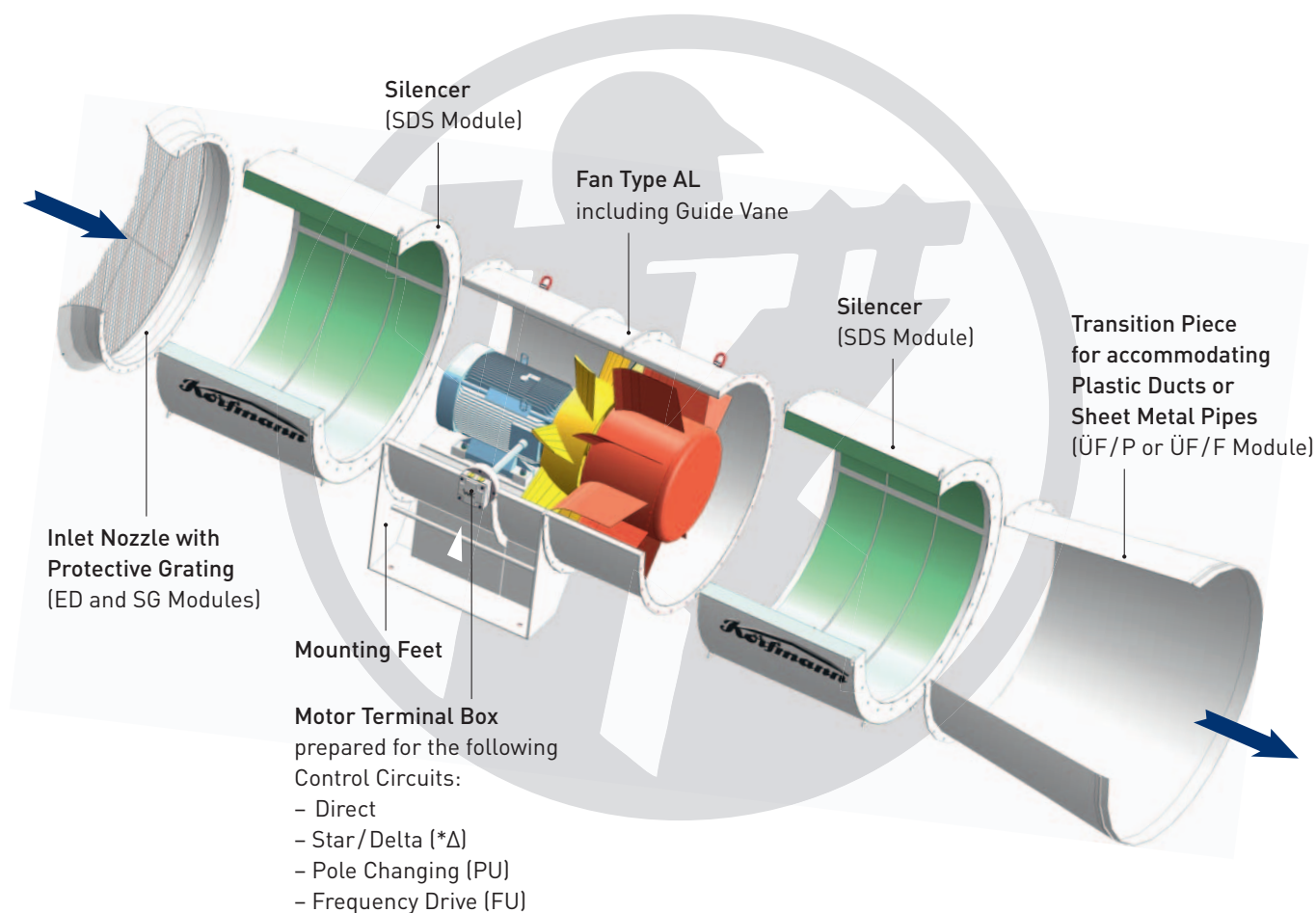
Engineering Office, Producer and Supplier of Leading Technology
for Commercial Application in Mining and Tunneling



KORFMANN ventilation systems and equipment feature a *modular* design.

Our ventilation systems can be extended with the equipment from our accessories manifold. As a result, we can offer the customer a specific fan station in line with the local conditions and parameters at the construction site.

The illustration below shows an example of a fan station with a fan and a silencer on each side. An inlet nozzle with protective grating is assembled on the suction side. The outlet has been extended by a transition piece to enable the connection of plastic ducts or sheet metal pipes with larger diameters.



This example shows a simple *modular* arrangement of the individual parts. It has commercial advantages in practical operation:

- Flexible use of the individual parts
- Modules can be exchanged individually
- Easy transportation
- Multiple likely options of reuse
- Easy assembly and installation

Type:

The characteristic features of a fan are denoted by the abbreviations of the designations. The following naming scheme is applied:

EXAMPLE

Type: **AL 12 – 550**

Type Name: *AL*
Axial flow fan
not flame proof or
explosion-proof

Diameter: *12*
1200 mm internal diameter

Power: *550*
55 kW electric motor

EXAMPLE

Type: **dGAL 9 – 220/220 PU V
Ex I M2 c or Ex II 2 GD**

Type Name: *dGAL*
Contra-rotating axial
flow fan in flame-proof or
explosion-proof design

Diameter: *9*
900 mm internal diameter

Power: *220/220*
2 × 22 kW electric motor

Additions: *PU*
Pole-changing motor

FU
Prepared for frequency
converter operation

V
Adjustable blades/impellers

Ex I M2 c, Ex II 2 GD
ATEX groups

Type of Construction:

The type of construction describes the assembly of the system, the materials and technical details.

Types of Control:

There are different possibilities of control for all fans. All fans can also be equipped with other types of control.

Direct ON/OFF switching without
intermediate steps

* Δ Star/Delta Start-Up
via higher Y voltage

PU Pole-changing, 2 × or 3 ×; several
switching steps bring the device
to full load

FU Frequency drive: Enables infinite
variable regulation of drive

– PPU, FU and V are always stated as an addition
in the fan designation depending on the individual
construction.

– Fans with power outputs higher than 90 kW
require insulated bearings for operation with
a frequency drive.

– In the case of ATEX I M2 c- and ATEX II 2 GD
devices, the motor rating plate explicitly refers
to frequency drive operation.



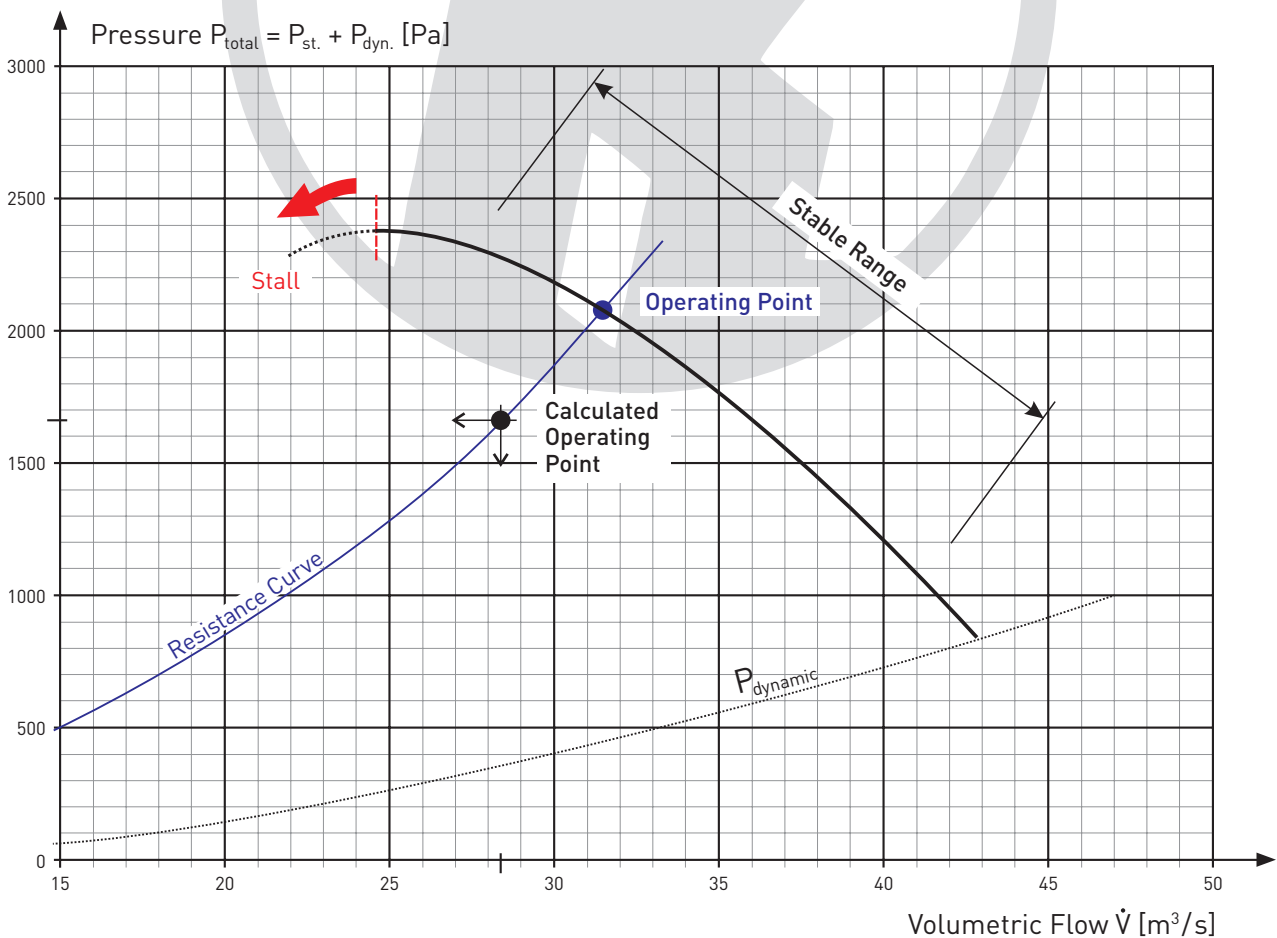
The power range of a fan is illustrated by the specific *characteristic curves* in a graph. This power limit provides information about the volumetric flow (\dot{V}) depending on the generated pressure (P_{total}).

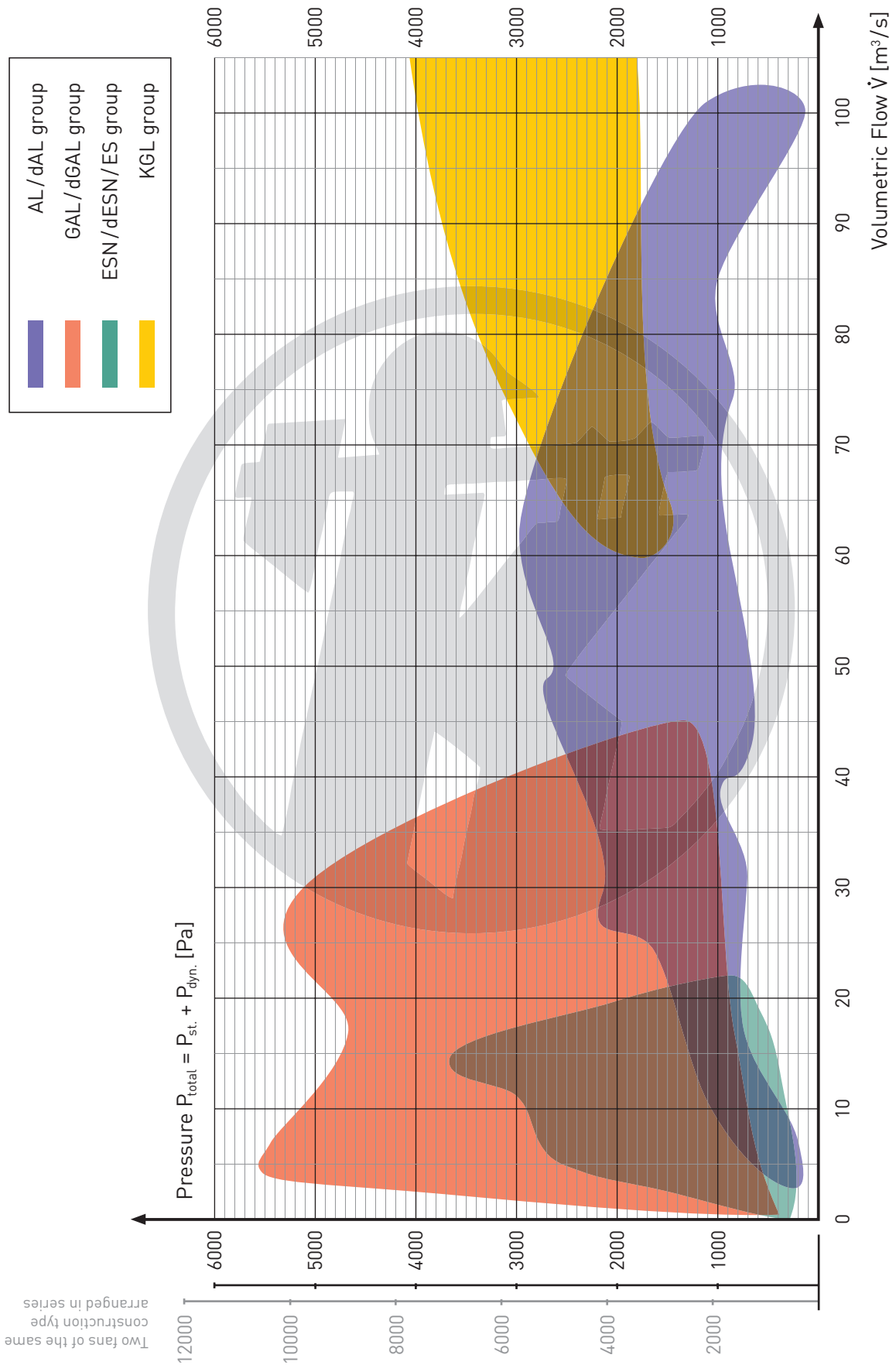
The specified *operating point* should be located in a stable range of a characteristic curve with good flow mechanics, since the highest efficiency levels are obtained there. The reversal point of the characteristic curve is located above this range and marks the so-called *stall*.

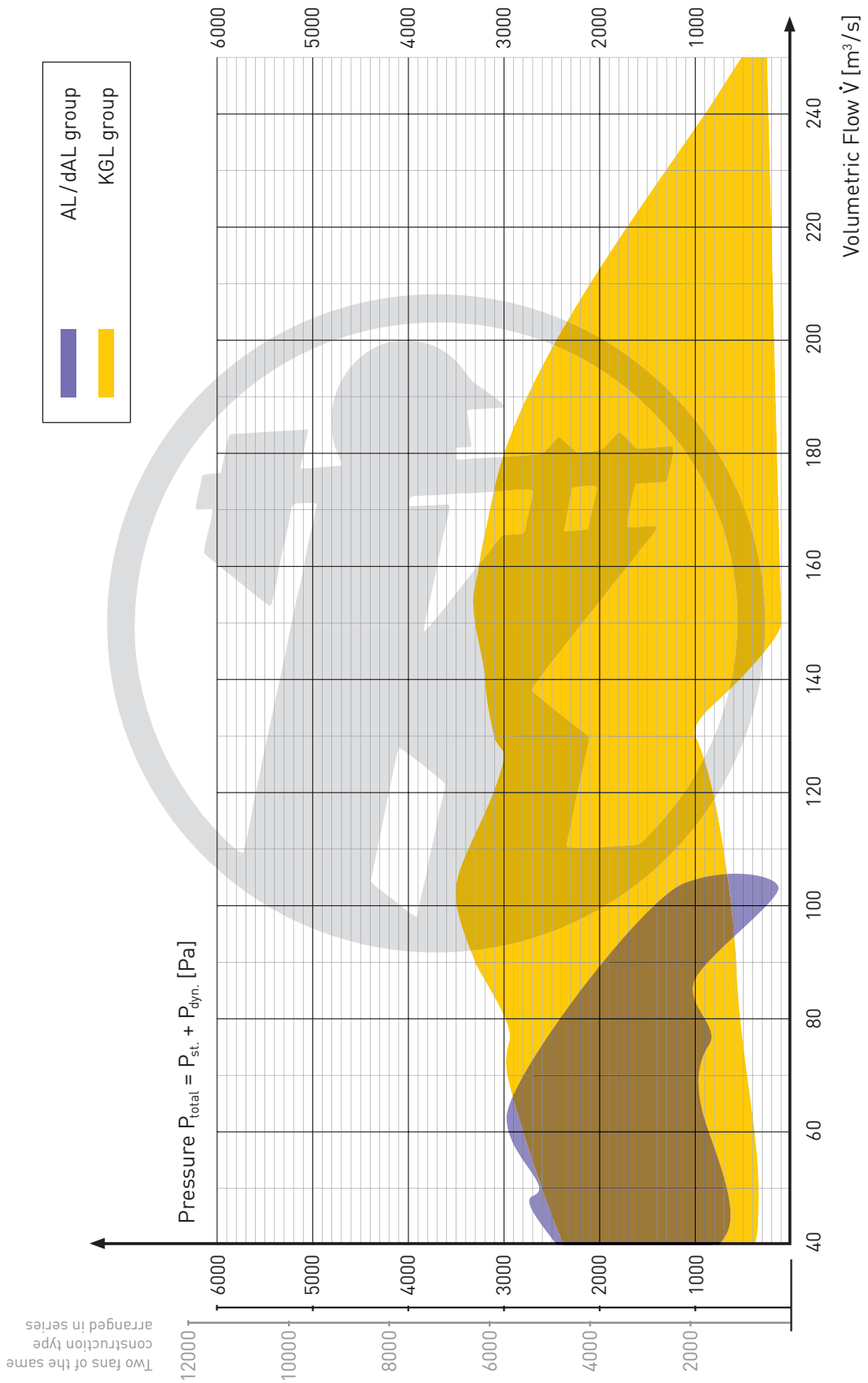
If, as shown in the graph below, the theoretically calculated quantity and pressure are located in a field below the characteristic curve, the operating point of the fan can be read from a parabolic curve (*resistance curve*). The quantity generated in practice is now directly located at the point of intersection.

Each of the main fan types offered is shown in the following sections with an overview of the field of action for volumetric flow and pressure, in order to facilitate selection. Beforehand, the ranges of action with the power outputs of the various types of fans are shown in a graph, in order to enable pre-selection.

Values above the curve areas shown can be obtained building ventilation systems with more than one fan. Our engineers will assist you with their technical and hands-on knowledge.







Axial Flow Fans

| | |
|--------|---|
| AL | Axial flow fan, <i>not</i> flame-proof or explosion-proof |
| dAL | Axial flow fan, flame-proof/explosion-proof to ATEX I M2c or II 2 GD |
| ESN | Electric fan, <i>not</i> flame-proof or explosion-proof |
| dESN | Electric fan, explosion-proof to ATEX II 2 GD |
| ES | Electric fan, flame-proof to ATEX I M2 c |
| EST | Electric fan with turbine (combined unit), flame-proof/explosion-proof to ATEX I M2 c |
| GAL | Contra-rotating axial flow fan, <i>not</i> flame-proof/explosion-proof |
| dGAL | Contra-rotating axial flow fan, flame-proof/explosion-proof to ATEX I M2 c or II 2 GD |
| SL | Compressed-air economizer fan |
| DV/HDV | Compressed-air axial flow fans |
| KGL | KORFMANN large fans |

Silencers

| | |
|-------|------------------------------------|
| SDS | Silencer for fan |
| SDSk | Silencer for fan, short |
| SDSI | Silencer for fan with core |
| SDSkI | Silencer for fan with core, short |
| PSD | Impact silencer |
| LUM | Fan casing |
| SH | Noise-reducing cover |
| KSD | Baffle-type silencer |
| VSC | Fan in a sound-insulated container |

Accessories

| | |
|------|---|
| AS | Connection pieces |
| ED | Inlet nozzles |
| EDk | Inlet nozzles, conical |
| MED | Measuring inlet nozzles |
| MEDk | Measuring inlet nozzles, conical |
| ÜF/F | Transition pieces flange/flange |
| ÜF/P | Transition pieces flange/plastic air duct |
| ASP | Shut-off/throttle valve/damper |

Types of Control

| | |
|----|-----------------------------------|
| D | Full-voltage starting |
| SD | Star-delta contactor combinations |
| PU | Pole-changing combinations |
| FU | Frequency drive |

Duct Systems

| | |
|---------|---|
| LVS | Duct storage device |
| WDL/WDS | Differential pressure transducer, duct material |



List of Types / Overview of Performance

No flame or explosion protection

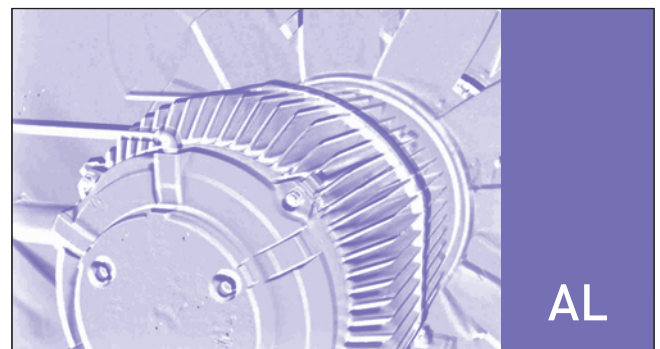
| Fan Type | Volumetric Flow [m³/s] | Total Pressure [Pa] |
|------------|---------------------------|------------------------|
| AL 7-30 | 4.2 – 6.0 | 370 – 150 |
| AL 8-55 | 7.0 – 10.8 | 600 – 280 |
| AL 8-75 | 7.2 – 12.0 | 780 – 350 |
| AL 8-110 | 8.8 – 13.4 | 940 – 450 |
| AL 8-150 | 10.0 – 15.8 | 1140 – 600 |
| AL 10-300 | 15.0 – 26.0 | 1300 – 660 |
| AL 12-450 | 20.0 – 33.0 | 1540 – 520 |
| AL 12-550 | 25.0 – 38.0 | 1700 – 700 |
| AL 12-750 | 30.0 – 43.5 | 1800 – 900 |
| AL 14-900 | 30.0 – 50.0 | 2200 – 600 |
| AL 14-1100 | 32.0 – 53.0 | 2400 – 700 |
| AL 16-900 | 35.0 – 59.0 | 2150 – 500 |
| AL 16-1100 | 36.0 – 63.0 | 2350 – 600 |
| AL 16-1320 | 41.0 – 67.0 | 2450 – 650 |
| AL 16-1600 | 46.0 – 74.0 | 2750 – 820 |
| AL 17-1600 | 40.0 – 77.0 | 2500 – 700 |
| AL 17-2000 | 55.0 – 88.0 | 2950 – 900 |
| AL 17-2500 | 64.0 – 97.0 | 3000 – 1100 |

More precise power ranges in the characteristic curves. Power ranges that deviate from the standard types are available on request. Insulated bearings for frequency drive operation > 90kW.

Axial flow fans of the type AL possess excellent aerodynamic characteristics. Precision profiling of the rotating blades guarantees high pressure gradients and efficiency levels.

Drive:

Low-voltage grey cast iron motors IP 55. Motors conform to efficiency class IE 1, IE 2 or IE 3 with regard to guideline IEC 60034-30 and ErP



Fan Type AL

AL 7 – 30 to AL 8 – 150

Type:

AL 7–30 to AL 8–150; Axial flow fans not flame-proof or explosion-proof

Type of Construction:

Axial impeller with guide vane, profiled rotating blades, steel housing, mounting claws. Impeller of Silumin

Application:

Industrial, tunnel and gallery ventilation, mining without flame-proof or explosion-proof requirements, e. g. flexible use of the fan at tunnel refurbishment construction sites, as an open-jet fan or for short pipelines

Power:

Volumetric flow up to 16 m³/s, total pressure up to 1100 Pa

Control:

Pole-changing motors*, infinitely variable speed regulation*, individually adjustable impeller (as required)

Drive:

Three-phase squirrel-cage motors, special design, protection class IP 55, insulation class F, tropic-proof, external safety switch

Conforms to efficiency class IE 1, IE 2, IE 3

Color:

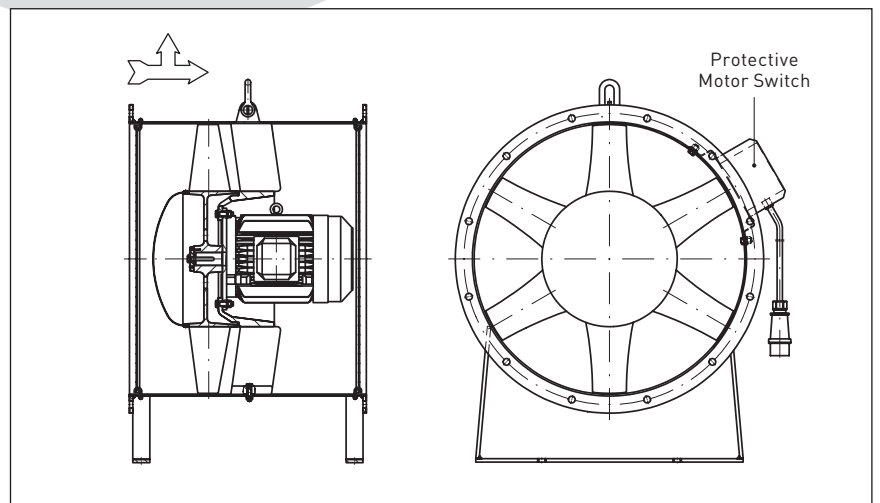
Pure white (RAL 9010)**

Scope of Supply:

Fan, operating manual

* Depending on the design, single-stage or by frequency drive

** Standard color – other colors on inquiry



Technical representation of an AL 8 with mounting feet

AL 10 – 300 to AL 17 – 2500

Type:

AL 10 – 300 to AL 17 – 2500; Axial flow fans not flame-proof or explosion-proof

Type of Construction:

Axial impeller with guide vane, profiled rotating blades, steel housing, mounting claws. Impeller of Silumin

Application:

Industrial, tunnel and gallery ventilation, mining without flame-proof or explosion-proof requirements with high volume requirements

Power:

Volumetric flow up to 100 m³/s, total pressure up to 3000 Pa

Control:

Pole-changing motors*, infinitely variable speed regulation*, individually adjustable blades (as required)

Drive:

Three-phase squirrel-cage motors, special design, protection class IP 55, insulation class F, tropic-proof

Conforms to efficiency class IE 1, IE 2, IE 3

Color:

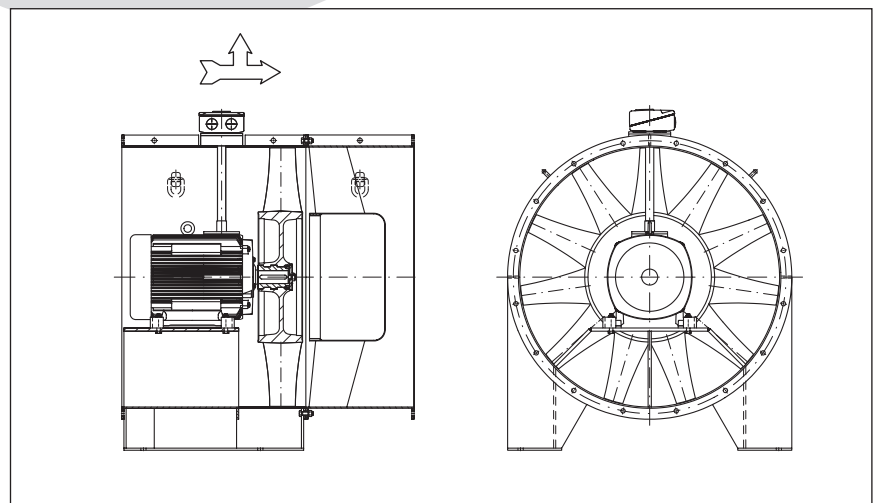
Pure white (RAL 9010)**

Scope of Supply:

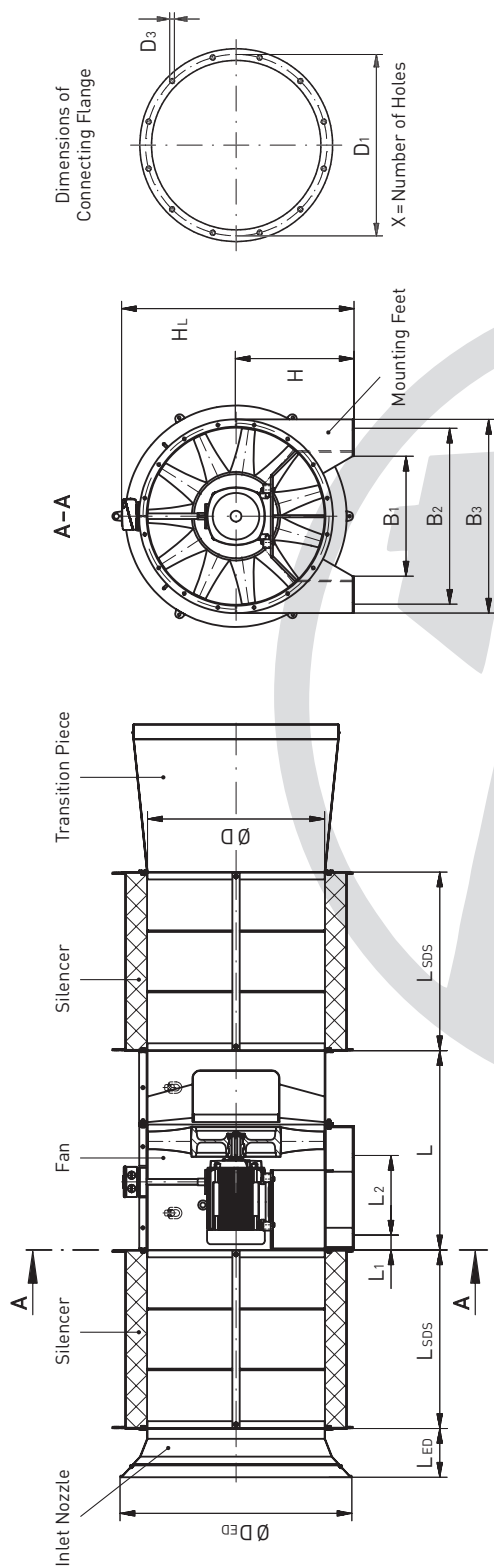
Fan, operating manual

* Depending on the design, single-stage, pole-changing or by frequency drive

** Standard color – other colors on inquiry



Technical representation of an AL 12 with mounting feet



| Type | ID No. | Ø D mm | Length L mm | Height HL mm | Height H mm | Power kW | Weight kg | Connecting Flange | | | Dimensions of Mounting Feet | | | |
|------------|----------|-----------|----------------|-----------------|----------------|-------------|--------------|-------------------|----------|------------|-----------------------------|----------|----------|----------|
| | | | | | | | | Ø D1 mm | X pcs | Ø D3 mm | L1 mm | L2 mm | B1 mm | B2 mm |
| AL 7-30 | 05729081 | 700 | 650 | 810 | 600 | 3.0 | 150 | 760 | 12 | 20 | 35 | 580 | 400 | 790 |
| AL 8-55 | 05800998 | 800 | 700 | 1060 | 600 | 5.5 | 195 | 860 | 12 | 20 | 35 | 580 | 400 | 790 |
| AL 8-75 | 05089063 | 800 | 900 | 1120 | 600 | 7.5 | 280 | 860 | 12 | 20 | 50 | 800 | 650 | 790 |
| AL 8-110 | 05089064 | 800 | 900 | 1130 | 600 | 11.0 | 310 | 860 | 12 | 20 | 50 | 800 | 650 | 790 |
| AL 8-150 | 05089095 | 800 | 900 | 990 | 600 | 15.0 | 330 | 860 | 12 | 20 | 50 | 800 | 650 | 790 |
| AL 10-300 | 05109068 | 1000 | 1500 | 1350 | 700 | 30.0 | 650 | 1060 | 16 | 20 | 115 | 670 | 1010 | 1100 |
| AL 12-450 | 05129234 | 1200 | 1350 | 1575 | 800 | 45.0 | 1000 | 1260 | 16 | 20 | 100 | 540 | 813 | 1313 |
| AL 12-550 | 05129171 | 1200 | 1350 | 1570 | 800 | 55.0 | 1100 | 1260 | 16 | 20 | 150 | 550 | 813 | 1313 |
| AL 12-750 | 05129205 | 1200 | 1550 | 1610 | 800 | 75.0 | 1360 | 1260 | 16 | 20 | 150 | 750 | 813 | 1313 |
| AL 14-900 | 05149131 | 1400 | 1700 | 1860 | 950 | 90.0 | 1725 | 1480 | 24 | 20 | 125 | 900 | 926 | 1526 |
| AL 14-1100 | 05149119 | 1400 | 1700 | 1860 | 950 | 110.0 | 1875 | 1480 | 24 | 20 | 125 | 900 | 926 | 1526 |
| AL 16-900 | 05169091 | 1600 | 2000 | 2060 | 1050 | 90.0 | 2250 | 1696 | 24 | 20 | 125 | 1000 | 936 | 1736 |
| AL 16-1100 | 05169066 | 1600 | 2000 | 2060 | 1050 | 110.0 | 2350 | 1696 | 24 | 20 | 125 | 1000 | 1046 | 1746 |
| AL 16-1320 | 05169092 | 1600 | 1900 | 2060 | 1050 | 132.0 | 2450 | 1696 | 24 | 20 | 125 | 1000 | 1046 | 1746 |
| AL 16-1600 | 05169070 | 1600 | 2000 | 2060 | 1050 | 160.0 | 2650 | 1696 | 24 | 20 | 125 | 1000 | 1046 | 1746 |
| AL 17-1600 | 05170954 | 1700 | 2100 | 2110 | 1050 | 160.0 | 2800 | 1775 | 24 | 20 | 150 | 1050 | 1136 | 1836 |
| AL 17-2000 | 05170953 | 1700 | 2100 | 2130 | 1050 | 200.0 | 3000 | 1775 | 24 | 20 | 150 | 1050 | 1136 | 1836 |
| AL 17-2500 | 05170956 | 1700 | 2200 | 2130 | 1050 | 250.0 | 3400 | 1775 | 24 | 20 | 150 | 1150 | 1136 | 1836 |

Data refers to KORFMANN standard series (nonbinding)

Pole-changing motors or individually adjustable impellers on inquiry



List of Types / Overview of Performance

Explosion protection ATEX CE (Ex) I M2 c/CE (Ex) II 2 GD

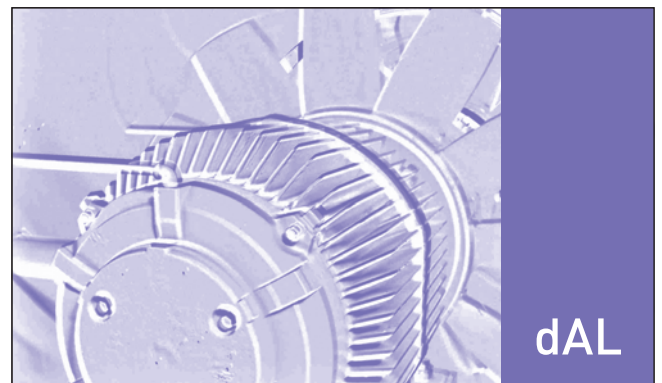
| Fan Type | Volumetric Flow [m ³ /s] | Total Pressure [Pa] |
|-------------|--|------------------------|
| dAL 7-30 | 4.2- 6.0 | 370- 150 |
| dAL 8-55 | 7.0- 10.8 | 600- 280 |
| dAL 8-75 | 7.2- 12.0 | 780- 350 |
| dAL 8-110 | 8.8- 13.4 | 940- 450 |
| dAL 8-150 | 10.0- 15.8 | 1140- 600 |
| dAL 10-300 | 15.0- 26.0 | 1300- 660 |
| dAL 12-450 | 20.0- 33.0 | 1540- 520 |
| dAL 12-550 | 25.0- 38.0 | 1700- 700 |
| dAL 12-750 | 30.0- 43.5 | 1800- 900 |
| dAL 14-900 | 30.0- 50.0 | 2200- 600 |
| dAL 14-1100 | 32.0- 53.0 | 2400- 700 |
| dAL 16-900 | 35.0- 59.0 | 2150- 500 |
| dAL 16-1100 | 36.0- 63.0 | 2350- 600 |
| dAL 16-1320 | 41.0- 67.0 | 2450- 650 |
| dAL 16-1600 | 46.0- 74.0 | 2750- 820 |
| dAL 17-1600 | 40.0- 77.0 | 2500- 700 |
| dAL 17-2000 | 55.0- 88.0 | 2950- 900 |
| dAL 17-2500 | 64.0- 97.0 | 3000- 1100 |

More precise power ranges in the characteristic curves.
Insulated bearings for frequency drive operation.

Axial flow fans of the type dAL possess excellent aerodynamic characteristics. Careful profiling of the rotating blades guarantees high pressure gradients and efficiency levels

Drive:

Low-voltage grey cast iron motors
pressure-containing Ex de II BT4.
Ignition Protection Ex de II BT4



Fan Type dAL

dAL 7 – 30 to dAL 8 – 150

Type:

dAL 7 – 30 to dAL 8 – 150; Axial flow fans, flame-proof or explosion-proof with regard to guideline 94/9/EG ATEX

Type of Construction:

Axial impeller with guide vane, profiled rotating blades, spark-protected, steel housing, mounting feet, ring of Silumin or brass. Impeller of Silumin

Application:

Tunnel and gallery ventilation for mining and industry with flame-proof or explosion-proof requirements. Flexible use of the fan at tunnel refurbishment construction sites with gas formation

Power:

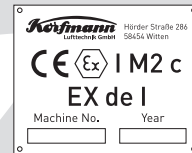
Volumetric flow up to 16 m³/s, total pressure up to 1100 Pa

Control:

Pole-changing motors*, infinitely variable speed regulation*, individually adjustable impeller (as required)

Drive:

Three-phase squirrel-cage motors, special design, flame-proof enclosure protection "d" or "de" compliant to DIN EN 60079-1, internal or external terminal box, ATEX-certified, available for motor groups Ex d/de I, Ex de II BT4 and other



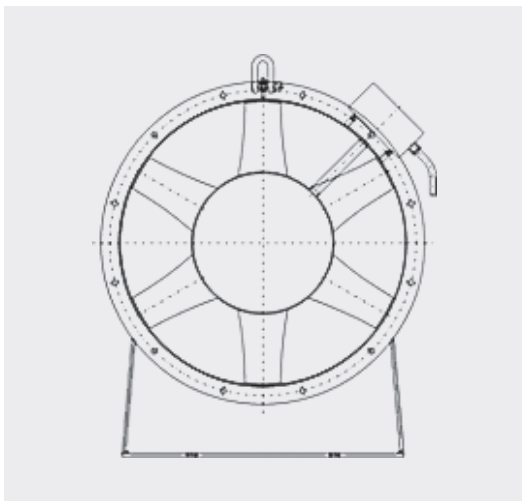
Color: Pure white (RAL 9010)**

Scope of Supply:

Fan, operating manual

* Depending on the design, single-stage, pole-changing or by frequency drive

** Standard color – other colors on inquiry



dAL 10 – 300 to dAL 17 – 2500

Type:

dAL 10 – 300 to dAL 17 – 2500; Axial flow fans, flame-proof or explosion-proof with regard to guideline 94/9/EG ATEX

Type of Construction:

Axial impeller with guide vane, profiled rotating blades, spark-protected, steel housing, mounting claws, ring of Silumin or brass. Impeller of Silumin. Dust disks

Application:

Tunnel and gallery ventilation for mining and industry with flame-proof or explosion-proof requirements with high volume requirements

Power:

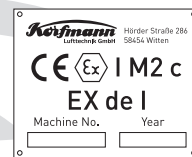
Volumetric flow up to 100 m³/s, total pressure up to 3000 Pa

Control:

Pole-changing motors*, infinitely variable speed regulation*, individually adjustable impeller (as required)

Drive:

Three-phase squirrel cage motors, special design, flame-proof enclosure protection “d” or “de” compliant to DIN EN 60079-1, internal or external terminal box, ATEX-certified, available for motor groups Ex d/de I, Ex de II BT4 and other



Color:

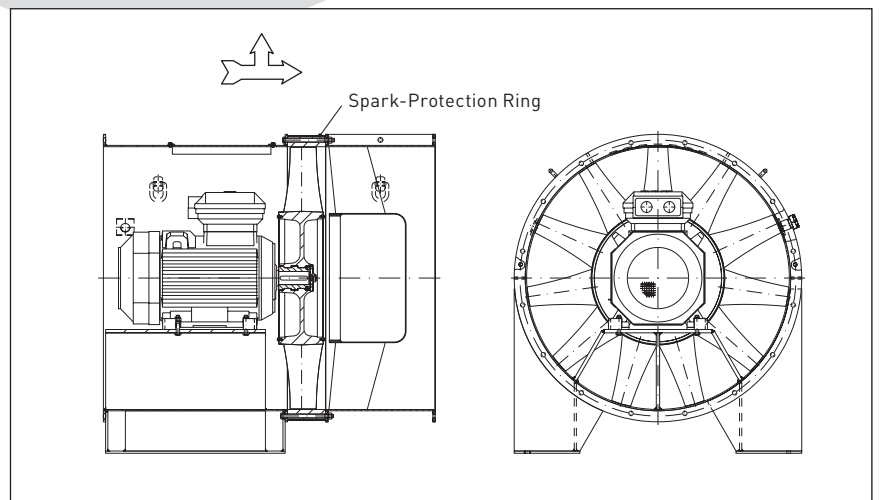
Pure white (RAL 9010)**

Scope of Supply:

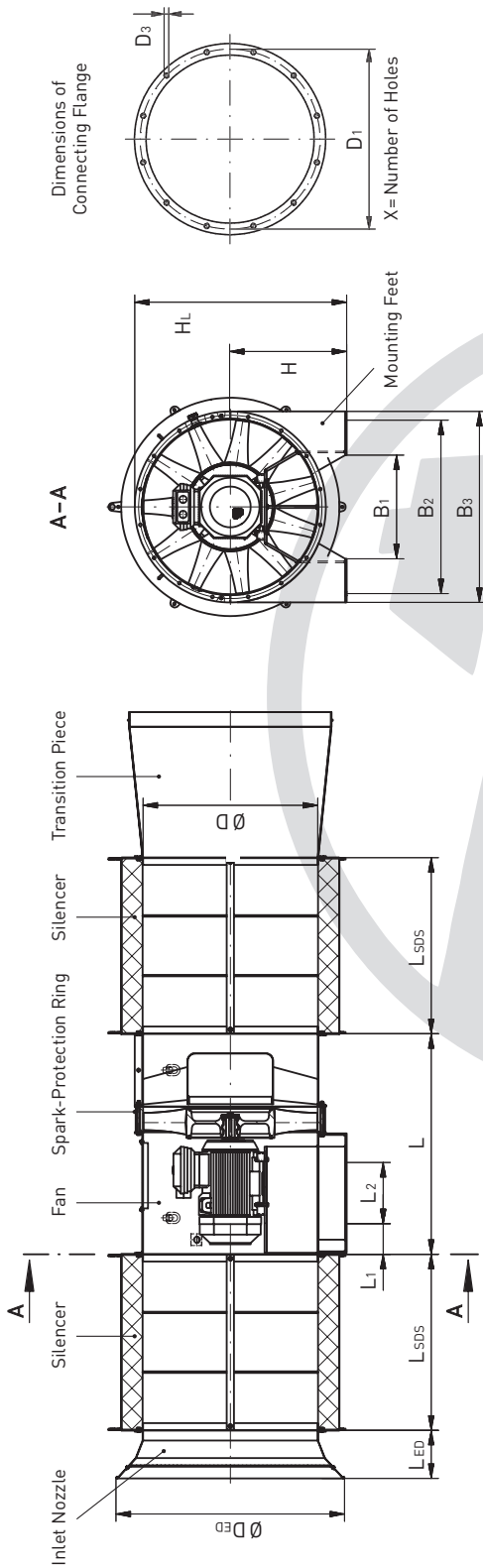
Fan, operating manual

* Depending on the design, single-stage, pole-changing or by frequency drive

** Standard color – other colors on inquiry



Technical representation of a dAL 17 with mounting feet

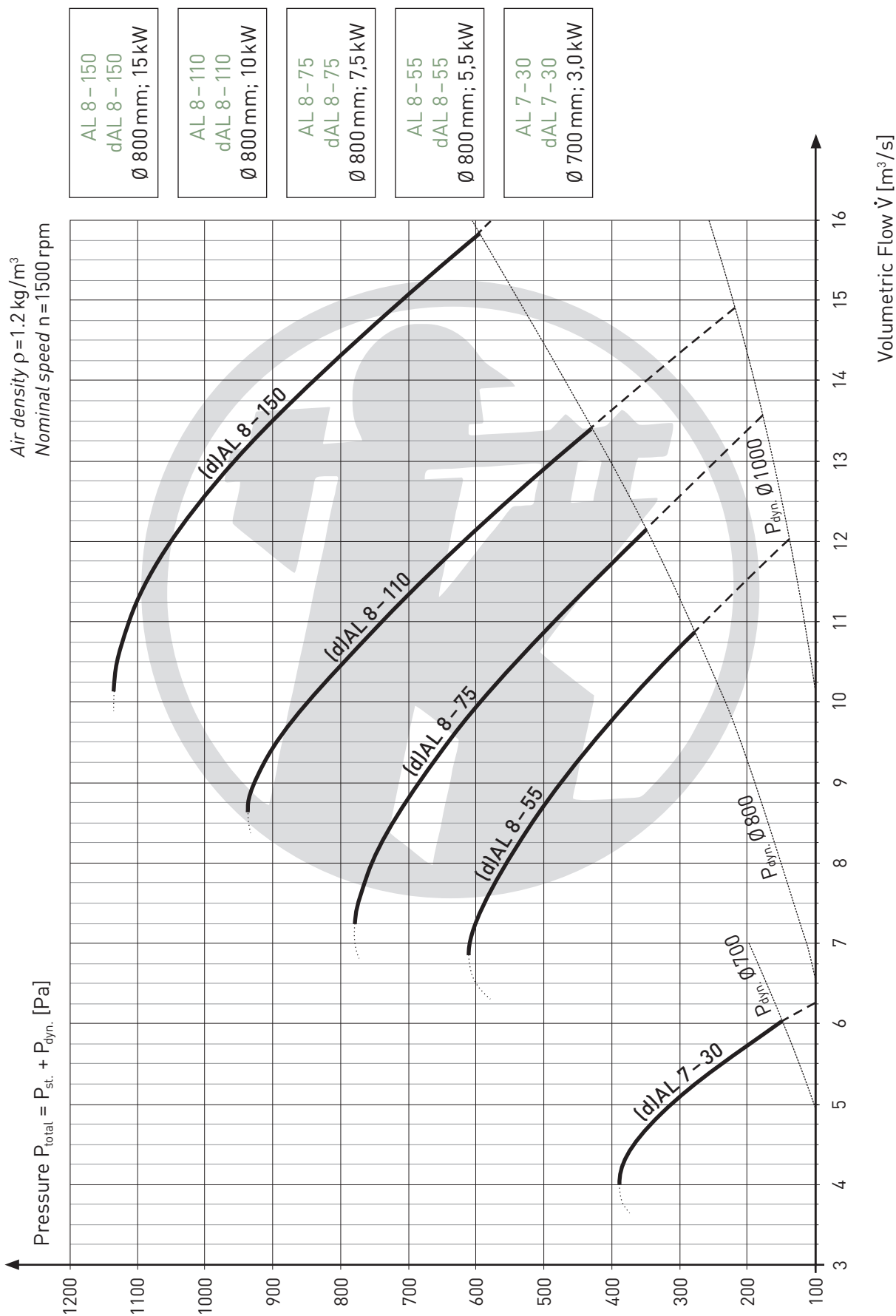


| Type | ID No. | Ø D mm | Length L mm | Height HL mm | Height H mm | Power kW | Weight kg | Connecting Flange | | | Dimensions of Mounting Feet | | | |
|-------------|----------|-----------|----------------|-----------------|----------------|-------------|--------------|-------------------|----------|------------|-----------------------------|----------|----------|----------|
| | | | | | | | | Ø D1 mm | X pcs | Ø D3 mm | L1 mm | L2 mm | B1 mm | B2 mm |
| dAL 7-30 | 05729095 | 700 | 650 | 1005 | 600 | 3.0 | 200 | 760 | 12 | 20 | 35 | 580 | 400 | 790 |
| dAL 8-55 | 05089074 | 800 | 700 | 1050 | 600 | 5.5 | 280 | 860 | 12 | 20 | 35 | 580 | 400 | 790 |
| dAL 8-75 | 05089075 | 800 | 900 | 1050 | 600 | 7.5 | 375 | 860 | 12 | 20 | 50 | 800 | 650 | 790 |
| dAL 8-110 | 05089076 | 800 | 900 | 1050 | 600 | 11.0 | 400 | 860 | 12 | 20 | 50 | 800 | 650 | 790 |
| dAL 8-150 | 05089077 | 800 | 900 | 1050 | 600 | 15.0 | 415 | 860 | 12 | 20 | 50 | 800 | 650 | 790 |
| dAL 10-300 | 05109073 | 1000 | 1550 | 1255 | 700 | 30.0 | 860 | 1060 | 16 | 20 | 115 | 670 | 1010 | 1100 |
| dAL 12-450 | 05129217 | 1200 | 1515 | 1460 | 800 | 45.0 | 1300 | 1260 | 16 | 20 | 210 | 420 | 713 | 1193 |
| dAL 12-550 | 05129184 | 1200 | 1475 | 1460 | 800 | 55.0 | 1250 | 1260 | 16 | 20 | 105 | 590 | 713 | 1193 |
| dAL 12-750 | 05129191 | 1200 | 1650 | 1460 | 800 | 75.0 | 1500 | 1260 | 16 | 20 | 100 | 825 | 713 | 1193 |
| dAL 14-900 | 05149145 | 1400 | 1700 | 1715 | 950 | 90.0 | 2150 | 1480 | 24 | 20 | 125 | 750 | 926 | 1300 |
| dAL 14-1100 | 05149120 | 1400 | 1920 | 1715 | 950 | 110.0 | 2250 | 1480 | 24 | 20 | 125 | 900 | 926 | 1300 |
| dAL 16-900 | 05169078 | 1600 | 2100 | 1925 | 1050 | 90.0 | 2600 | 1696 | 24 | 20 | 125 | 850 | 936 | 1550 |
| dAL 16-1100 | 05169071 | 1600 | 2100 | 1925 | 1050 | 110.0 | 2750 | 1696 | 24 | 20 | 125 | 850 | 1046 | 1550 |
| dAL 16-1320 | 05169093 | 1600 | 2100 | 1925 | 1050 | 132.0 | - | 1696 | 24 | 20 | 125 | 850 | 1046 | 1550 |
| dAL 16-1600 | 05169079 | 1600 | 2100 | 1925 | 1050 | 160.0 | 2900 | 1696 | 24 | 20 | 125 | 850 | 1046 | 1550 |
| dAL 17-1600 | 05170961 | 1700 | 2350 | 1970 | 1050 | 160.0 | 3200 | 1775 | 24 | 20 | 150 | 1050 | 1136 | 1650 |
| dAL 17-2000 | 05170962 | 1700 | 2350 | 1970 | 1050 | 200.0 | 3400 | 1775 | 24 | 20 | 150 | 1050 | 1136 | 1650 |
| dAL 17-2500 | 05170943 | 1700 | 2550 | 1970 | 1050 | 250.0 | 3700 | 1775 | 24 | 20 | 150 | 1200 | 1136 | 1650 |

Data refers to KORFMANN standard series (nonbinding) and fans that comply with protection class Ex II BT4. Please contact us for fans that conform to protection class Ex I d/de I.

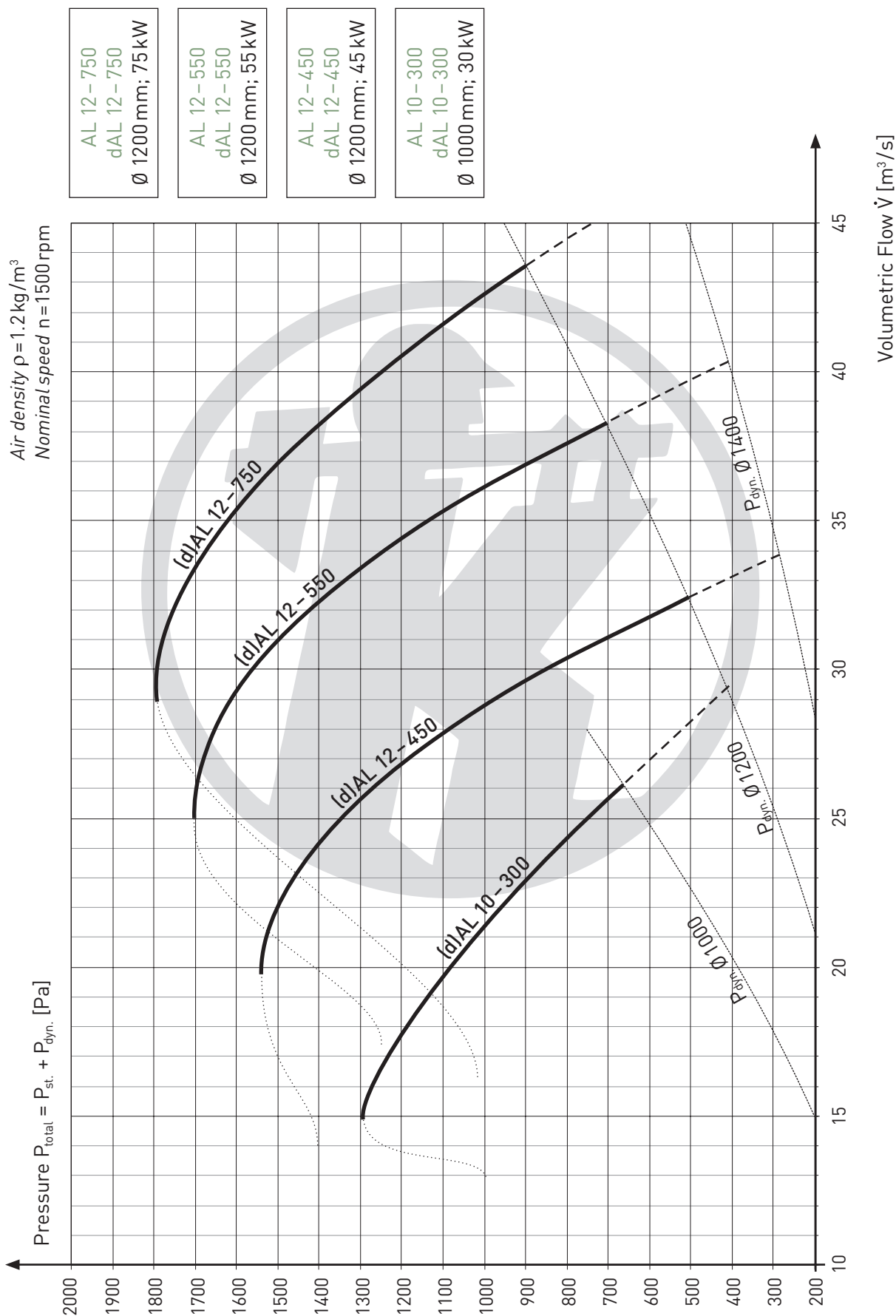
Pole-changing motors or individually adjustable impellers on inquiry





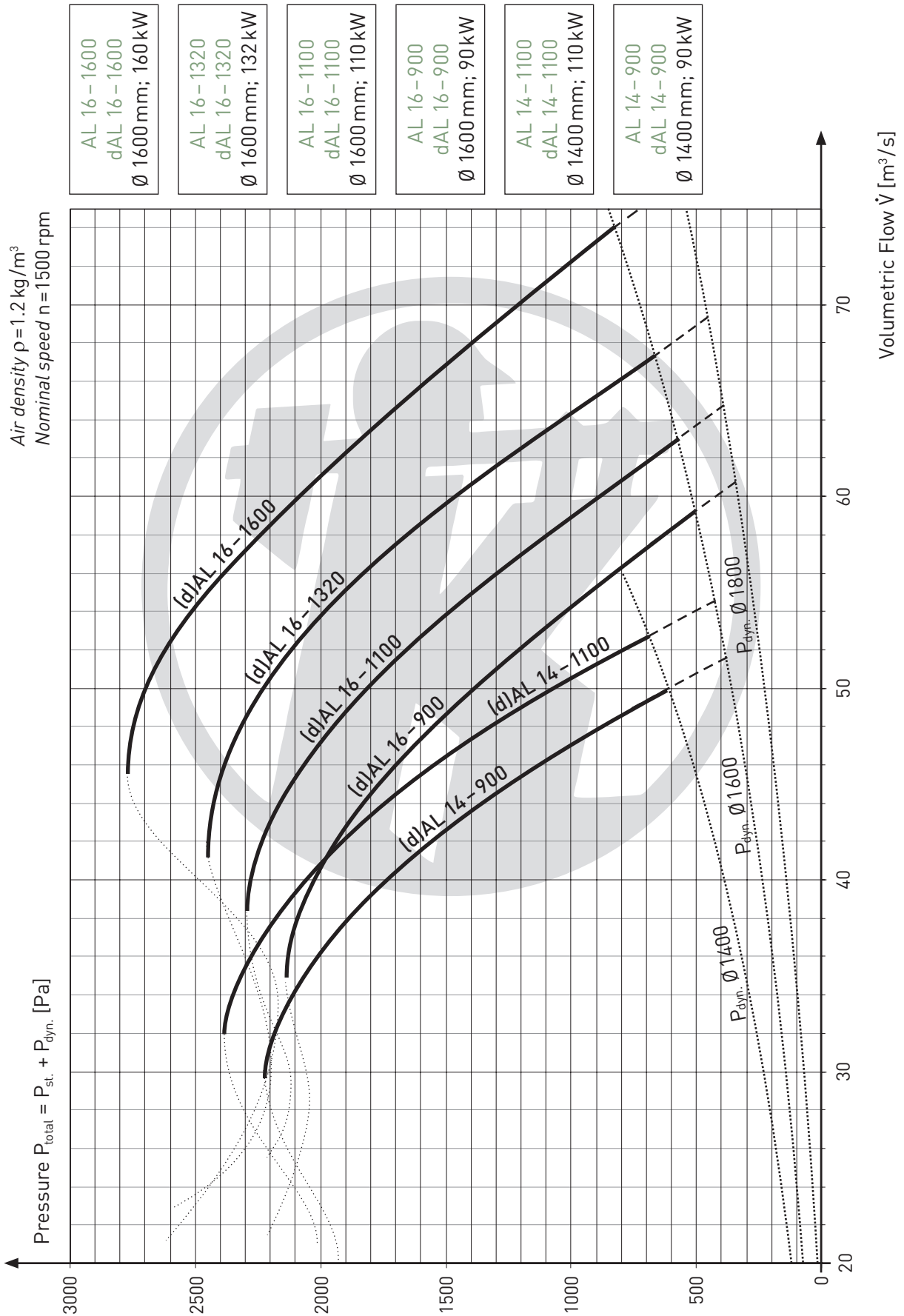
Characteristic curves also valid for versions Ex d(e) | M2 c and Ex de II 2 GD





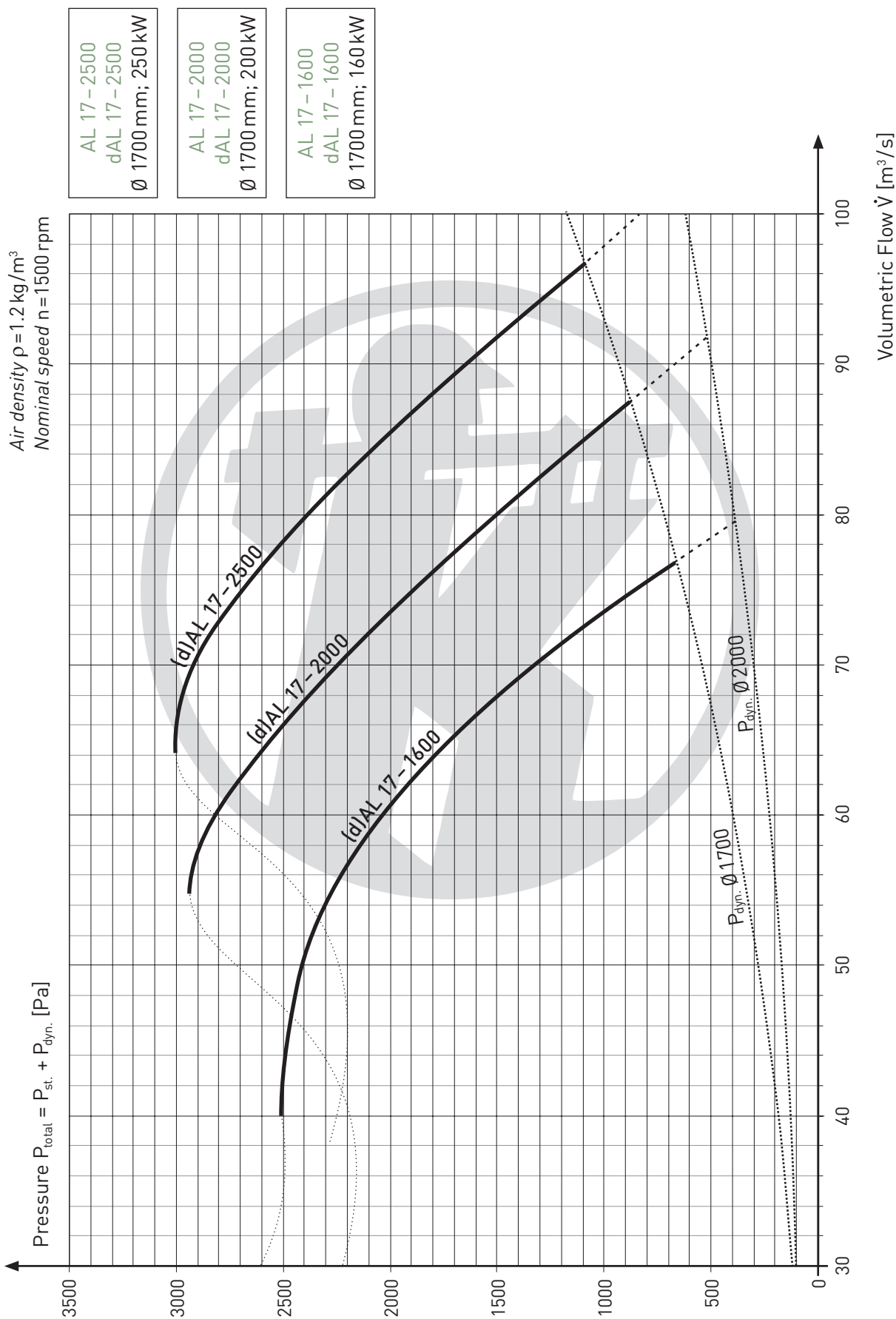
Characteristic curves also valid for versions Ex d(e) | M2 c and Ex de II 2 GD





Characteristic curves also valid for versions Ex d(e) | M2 c and Ex de II 2 GD





Characteristic curves also valid for versions Ex d(e) | M2 c and Ex de II 2 GD



List of Types / Overview of Performance

No flame or explosion protection

| Fan Type | Volumetric Flow [m ³ /s] | Total Pressure [Pa] |
|-----------|--|------------------------|
| ESN 3-8 | 0.6- 0.9 | 380-110 |
| ESN 4-15 | 1.3- 1.8 | 640-130 |
| ESN 4-30 | 1.9- 3.1 | 740-370 |
| ESN 5-55 | 2.5- 3.8 | 1140-230 |
| ESN 5-75 | 2.6- 4.1 | 1560-260 |
| ESN 6-75 | 2.1- 4.7 | 1350-160 |
| ESN 6-110 | 4.0- 6.5 | 1670-320 |
| ESN 6-150 | 4.1- 7.6 | 2340-450 |
| ESN 7-220 | 5.8- 9.5 | 2500-350 |
| ESN 7-300 | 6.8-11.2 | 2780-520 |
| ESN 8-300 | 8.6-13.8 | 2380-450 |
| ESN 8-370 | 9.1-15.2 | 2700-550 |
| ESN 8-450 | 10.2-16.2 | 3040-600 |
| ESN 9-300 | 7.0-14.5 | 2750-300 |
| ESN 9-370 | 8.0-16.5 | 2850-400 |
| ESN 9-450 | 10.0-18.8 | 3000-500 |
| ESN 9-550 | 11.0-18.0 | 3100-520 |
| ESN 9-750 | 14.0-22.0 | 3680-750 |

More precise power ranges in the characteristic curves.

Axial flow fans of the type ESN possess excellent aerodynamic characteristics. Careful profiling of the rotating blades guarantees high pressure gradients and efficiency levels

Drive:

Low-voltage grey cast iron motors IP 55. Motors conform to efficiency class IE 1, IE 2 or IE 3 with regard to guideline IEC 60034-30 and ErP



Fan Type ESN

ESN 3 – 8 to ESN 9 – 750

Type:

ESN 3–8 to ESN 9–750; Electric fan not flame-proof or explosion-proof

Type of Construction:

Axial impeller with guide vane, profiled rotating blades, steel housing, impeller of Silumin

Application:

Industrial, tunnel and gallery ventilation, mining where a flammable or explosive atmosphere is not expected

Power:

Volumetric flow up to 20 m³/s, total pressure up to 3500 Pa

Control:

Pole-changing motors*, infinitely variable speed regulation*, individually adjustable impeller (as required)

Drive:

Three-phase squirrel-cage motors, special design, protection class IP 55, isolation class F, tropic-proof, external terminal box

Conforms to efficiency class IE 1, IE 2, IE 3

Color:

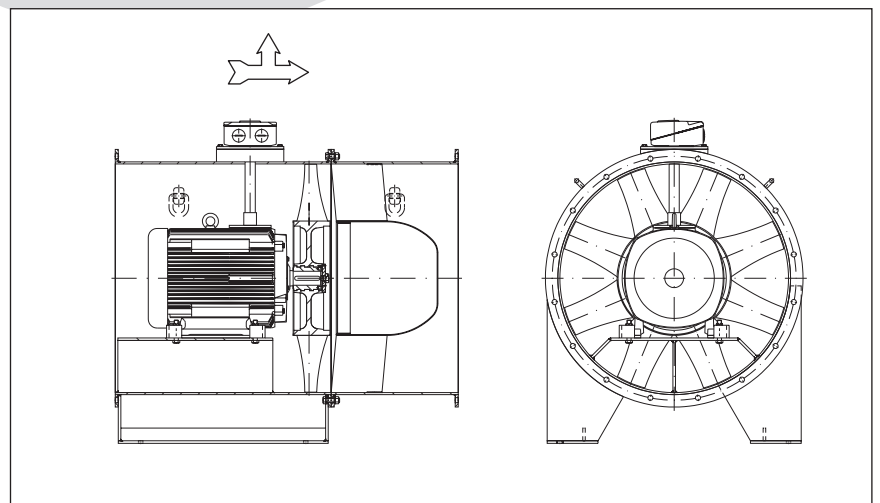
Pure white (RAL 9010)**

Scope of Supply:

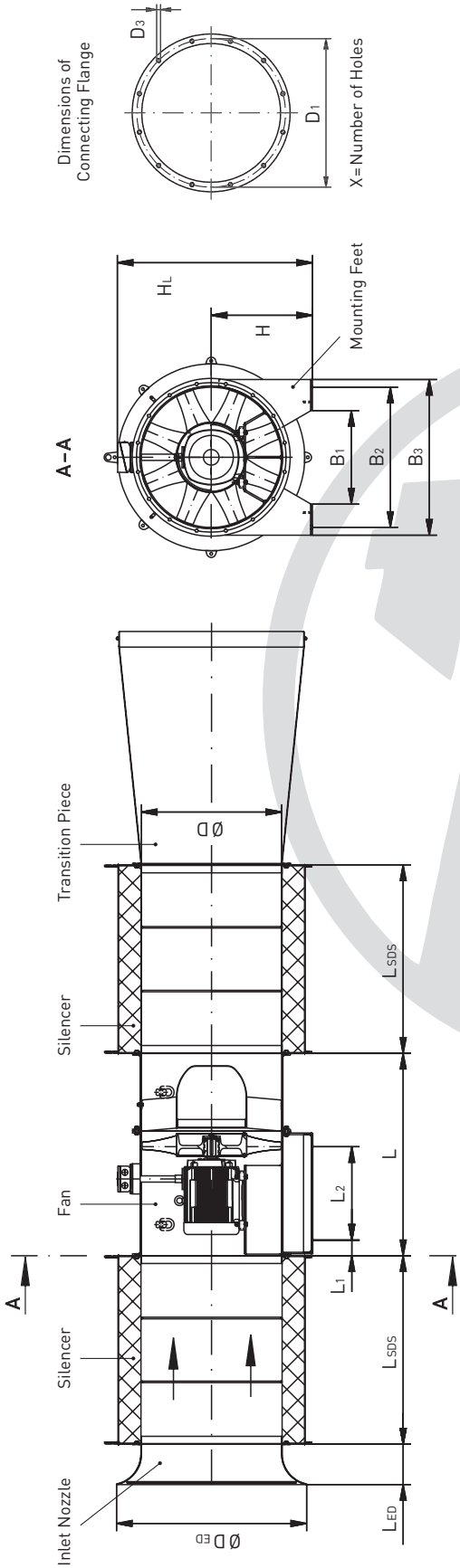
Fan, operating manual

* Depending on the design, single-stage, pole-changing or by frequency drive

** Standard color – other colors on inquiry



Technical representation of an ESN 9 with external terminal box and mounting feet



Dimensions of Mounting Feet

Connecting Flange

| Type | ID No. | $\varnothing D$ mm | Length L mm | Height HL mm | Height H mm | Power kW | Weight kg | $\varnothing D_1$ mm | X pcs | $\varnothing D_3$ mm | L1 mm | L2 mm | B1 mm | B2 mm | B3 mm |
|-----------|----------|-----------------------|----------------|-----------------|----------------|-------------|--------------|-------------------------|----------|-------------------------|----------|----------|----------|----------|----------|
| ESN 3-8 | 05300982 | 300 | 500 | 515 | 275 | 0.75 | 55 | 355 | 4 | 14 | - | - | - | - | 400* |
| ESN 4-15 | 05409038 | 400 | 700 | 645 | 350 | 1.5 | 110 | 455 | 8 | 14 | 75 | 300 | 300 | 400 | 500 |
| ESN 4-30 | 05409044 | 400 | 700 | 645 | 350 | 3.0 | 120 | 455 | 8 | 14 | 75 | 300 | 300 | 400 | 500 |
| ESN 5-55 | 05509153 | 500 | 950 | 765 | 400 | 5.5 | 250 | 560 | 8 | 20 | 100 | 350 | 300 | 500 | 600 |
| ESN 5-75 | 05509134 | 500 | 950 | 770 | 400 | 7.5 | 240 | 560 | 8 | 20 | 100 | 350 | 300 | 500 | 600 |
| ESN 6-75 | 05619197 | 600 | 1020 | 860 | 450 | 7.5 | 270 | 660 | 12 | 20 | 110 | 400 | 400 | 600 | 700 |
| ESN 6-110 | 05619188 | 600 | 1020 | 880 | 450 | 11.0 | 290 | 660 | 12 | 20 | 105 | 405 | 400 | 600 | 700 |
| ESN 6-150 | 05619163 | 600 | 1020 | 875 | 450 | 15.0 | 330 | 660 | 12 | 20 | 110 | 400 | 400 | 600 | 700 |
| ESN 7-220 | 05729047 | 700 | 1235 | 1050 | 550 | 22.0 | 480 | 760 | 12 | 20 | 100 | 575 | 500 | 700 | 800 |
| ESN 7-300 | 05729044 | 700 | 1235 | 1050 | 550 | 30.0 | 500 | 760 | 12 | 20 | 100 | 575 | 500 | 700 | 800 |
| ESN 8-300 | 05089055 | 800 | 1160 | 1130 | 580 | 30.0 | 550 | 860 | 12 | 20 | 80 | 580 | 600 | 800 | 900 |
| ESN 8-370 | 05089054 | 800 | 1400 | 1150 | 580 | 37.0 | 630 | 860 | 12 | 20 | 100 | 700 | 600 | 800 | 900 |
| ESN 8-450 | 05089065 | 800 | 1400 | 1150 | 580 | 45.0 | 680 | 860 | 12 | 20 | 100 | 700 | 600 | 800 | 900 |
| ESN 9-300 | 05099175 | 900 | 1300 | 1255 | 650 | 30.0 | 700 | 960 | 16 | 20 | 100 | 600 | 600 | 900 | 1000 |
| ESN 9-370 | 05099137 | 900 | 1300 | 1270 | 650 | 37.0 | 730 | 960 | 16 | 20 | 100 | 600 | 600 | 900 | 1000 |
| ESN 9-450 | 05099220 | 900 | 1350 | 1270 | 650 | 45.0 | 750 | 960 | 16 | 20 | 100 | 650 | 600 | 900 | 1000 |
| ESN 9-550 | 05099179 | 900 | 1480 | 1275 | 650 | 55.0 | 890 | 960 | 16 | 20 | 100 | 650 | 600 | 900 | 1000 |
| ESN 9-750 | 05099198 | 900 | 1630 | 1305 | 650 | 75.0 | 1100 | 960 | 16 | 20 | 112 | 776 | 600 | 900 | 1000 |

Data refers to KORFMANN standard series (nonbinding). * Mounting feet: lightweight design

Pole-changing motors or individually adjustable impellers on inquiry



List of Types / Overview of Performance

Explosion protection ATEX CE (Ex) II 2 GD

| Fan Type | Volumetric Flow [m ³ /s] | Total Pressure [Pa] |
|------------|--|------------------------|
| dESN 3-8 | 0.6- 0.9 | 380-110 |
| dESN 4-15 | 1.3- 1.8 | 600-130 |
| dESN 4-30 | 1.9- 3.1 | 740-370 |
| dESN 5-55 | 2.5- 3.8 | 1140-230 |
| dESN 5-75 | 2.6- 4.1 | 1560-260 |
| dESN 6-75 | 2.1- 4.7 | 1350-160 |
| dESN 6-110 | 4.0- 6.5 | 1670-320 |
| dESN 6-150 | 4.1- 7.6 | 2340-450 |
| dESN 7-220 | 5.8- 9.5 | 2500-350 |
| dESN 7-300 | 6.8-11.2 | 2780-520 |
| dESN 8-300 | 8.6-13.8 | 2380-450 |
| dESN 8-370 | 9.1-15.2 | 2700-550 |
| dESN 8-450 | 10.2-16.2 | 3040-600 |
| dESN 9-300 | 7.0-14.5 | 2750-300 |
| dESN 9-370 | 8.0-16.5 | 2850-400 |
| dESN 9-450 | 10.0-18.8 | 3000-500 |
| dESN 9-550 | 11.0-18.0 | 3100-520 |
| dESN 9-750 | 14.0-22.0 | 3680-750 |

More precise power ranges in the characteristic curves.

Axial flow fans of the type dESN possess excellent aerodynamic characteristics. Careful profiling of the rotating blades guarantees high pressure gradients and efficiency levels

Drive:

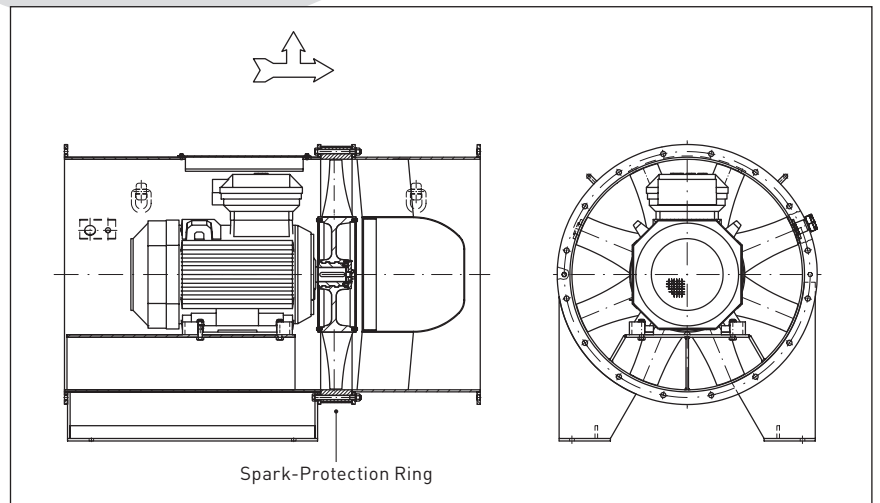
Low-voltage grey cast iron motors, pressure-containing Ex de II BT4. Motors conform to efficiency class IE 1, IE 2 or IE 3 with regard to guideline IEC 60034-30 and ErP



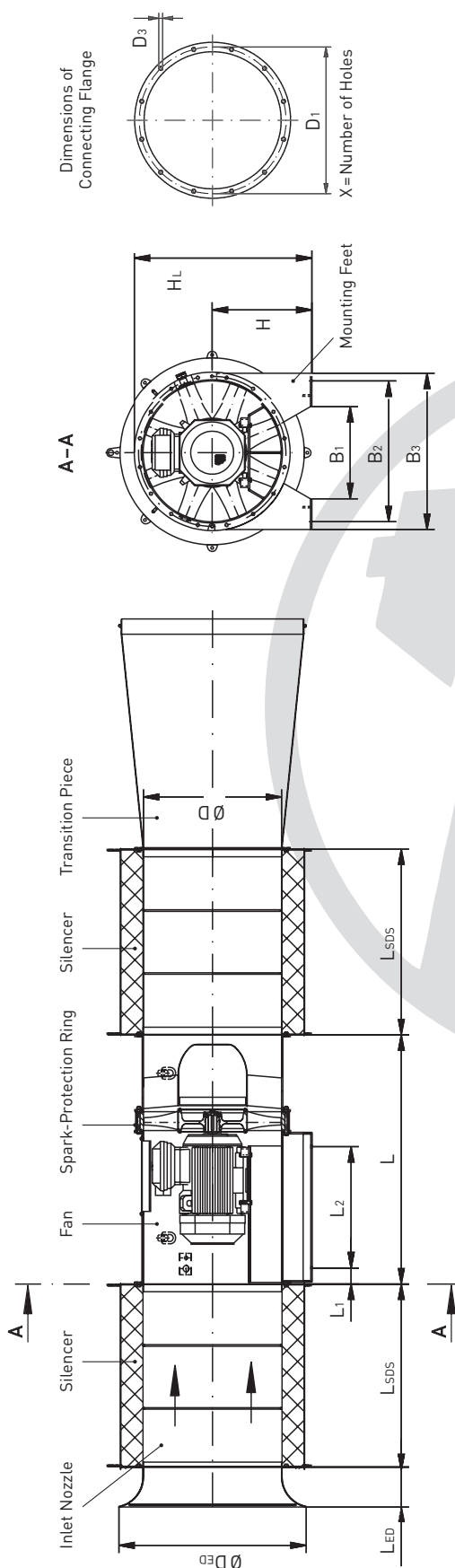
Fan Type dESN

dESN 3 – 8 to dESN 9 – 750

| | |
|---|---|
| <p>Type:</p> <p>dESN 3 – 8 to dESN 9 – 750; Electric fan, explosion-proof</p> <p>Type of Construction:</p> <p>Axial impeller with guide vane, profiled rotating blades, dust disks, steel housing, spark-protected, impeller and ring of Silumin</p> <p>Application:</p> <p>Tunnel and gallery ventilation for mining and industry with explosion-proof requirements</p> <p>Power:</p> <p>Volumetric flow up to 20 m³/s, total pressure up to 3500 Pa</p> <p>Control:</p> <p>Pole-changing motors*, infinitely variable speed regulation*, individually adjustable impeller (as required)</p> | <p>Drive:</p> <p>Three-phase squirrel-cage motors, special design, explosion-proof enclosure “d” or “de”, compliant to DIN EN 60079-1, internal terminal box, ATEX-certified, for motor group Ex de II BT4</p> <p>Color:</p> <p>Pure white (RAL 9010)**</p> <p>Scope of Supply:</p> <p>Fan, operating manual</p> <p>* Depending on the design, single-stage, pole-changing or by frequency drive ** Standard color – other colors on inquiry</p> |
|---|---|



Technical representation of a dESN 9 with mounting feet

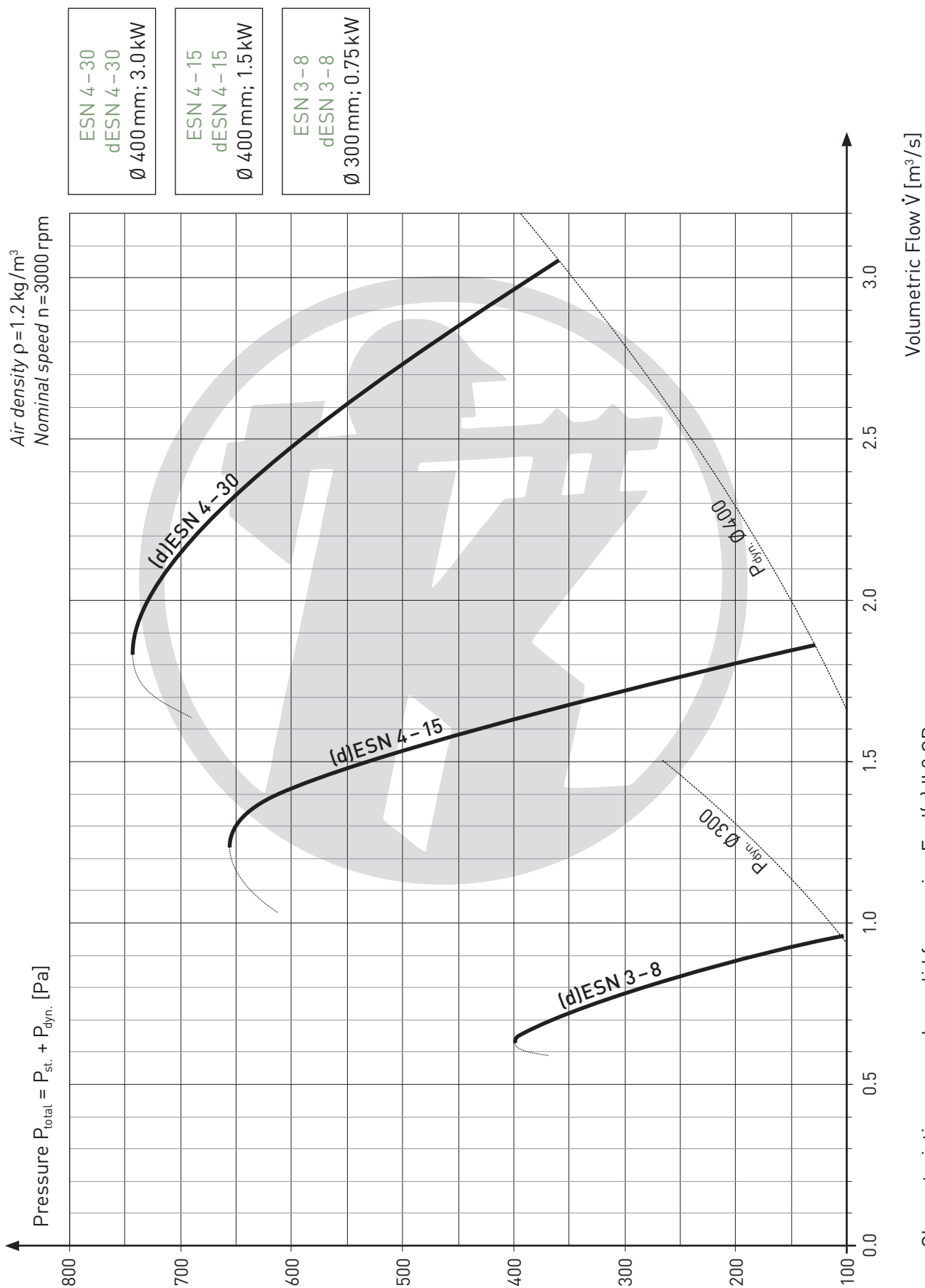


| Type | ID No. | Ø D mm | Length L mm | Height HL mm | Height H mm | Power kW | Weight kg | Connecting Flange | | | Dimensions of Mounting Feet | | | | |
|------------|----------|-----------|----------------|-----------------|----------------|-------------|--------------|-------------------|----------|------------|-----------------------------|----------|----------|----------|----------|
| | | | | | | | | Ø D1 mm | X pcs | Ø D3 mm | L1 mm | L2 mm | B1 mm | B2 mm | B3 mm |
| dESN 3-8 | 05300973 | 300 | 500 | 480 | 275 | 0.75 | 85 | 355 | 4 | 14 | 50 | 175 | 200 | 350 | 400 |
| dESN 4-15 | 05409049 | 400 | 760 | 605 | 350 | 1.5 | 170 | 455 | 8 | 14 | 75 | 285 | 300 | 400 | 500 |
| dESN 4-30 | 05409039 | 400 | 775 | 605 | 350 | 3.0 | 200 | 455 | 8 | 14 | 75 | 300 | 300 | 420 | 500 |
| dESN 5-55 | 05509169 | 500 | 970 | 705 | 400 | 5.5 | 235 | 560 | 8 | 20 | 80 | 320 | 300 | 500 | 600 |
| dESN 5-75 | 05509139 | 500 | 990 | 705 | 400 | 7.5 | 250 | 560 | 8 | 20 | 80 | 340 | 300 | 500 | 600 |
| dESN 6-75 | 05619204 | 600 | 1050 | 805 | 450 | 7.5 | 300 | 660 | 12 | 20 | 105 | 400 | 400 | 600 | 700 |
| dESN 6-110 | 05619200 | 600 | 1185 | 805 | 450 | 11.0 | 415 | 660 | 12 | 20 | 105 | 470 | 400 | 600 | 700 |
| dESN 6-150 | 05619178 | 600 | 1185 | 805 | 450 | 15.0 | 400 | 660 | 12 | 20 | 100 | 480 | 400 | 600 | 700 |
| dESN 7-220 | 05729096 | 700 | 1350 | 970 | 550 | 22.0 | 650 | 760 | 12 | 20 | 100 | 575 | 500 | 700 | 800 |
| dESN 7-300 | 05729058 | 700 | 1350 | 970 | 550 | 30.0 | 720 | 760 | 12 | 20 | 100 | 575 | 500 | 700 | 800 |
| dESN 8-300 | 05089078 | 800 | 1400 | 1035 | 580 | 30.0 | 620 | 860 | 12 | 20 | 100 | 650 | 600 | 800 | 900 |
| dESN 8-370 | 05089047 | 800 | 1400 | 1035 | 580 | 37.0 | 680 | 860 | 12 | 20 | 100 | 650 | 600 | 800 | 900 |
| dESN 8-450 | 05089079 | 800 | 1400 | 1035 | 580 | 45.0 | 720 | 860 | 12 | 20 | 100 | 650 | 600 | 800 | 900 |
| dESN 9-300 | 05099251 | 900 | 1623 | 1155 | 650 | 30.0 | 900 | 960 | 16 | 20 | 105 | 790 | 600 | 900 | 1000 |
| dESN 9-370 | 05099252 | 900 | 1623 | 1155 | 650 | 37.0 | 950 | 960 | 16 | 20 | 105 | 790 | 600 | 900 | 1000 |
| dESN 9-450 | 05099219 | 900 | 1623 | 1155 | 650 | 45.0 | 1020 | 960 | 16 | 20 | 105 | 790 | 600 | 900 | 1000 |
| dESN 9-550 | 05099240 | 900 | 1703 | 1155 | 650 | 55.0 | 1075 | 960 | 16 | 20 | 105 | 740 | 600 | 900 | 1000 |
| dESN 9-750 | 05099253 | 900 | 1703 | 1155 | 650 | 75.0 | 1250 | 960 | 16 | 20 | 105 | 740 | 600 | 900 | 1000 |

Data refers to KORFMANN standard series (nonbinding)

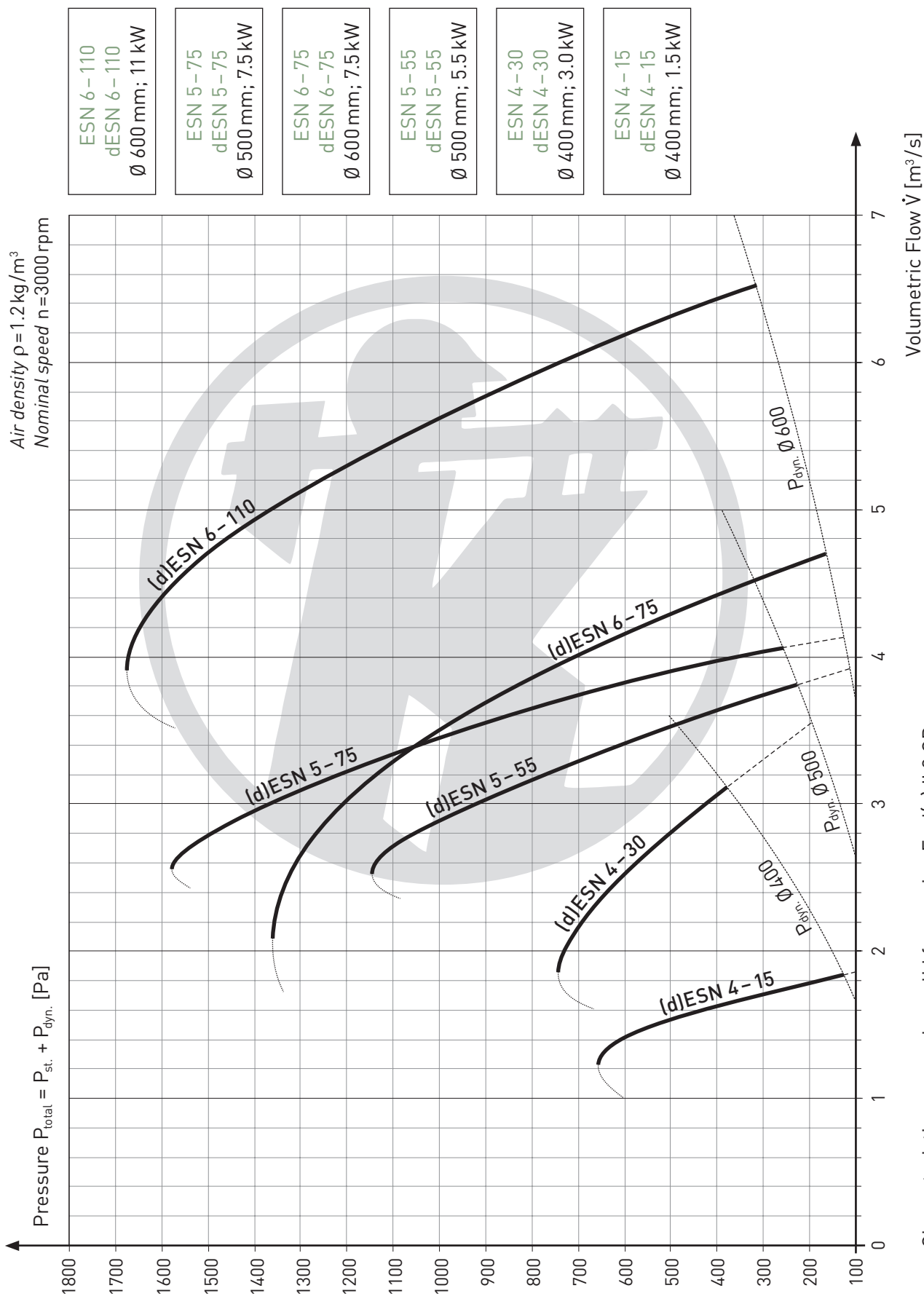
Pole-changing motors or individually adjustable impellers on inquiry





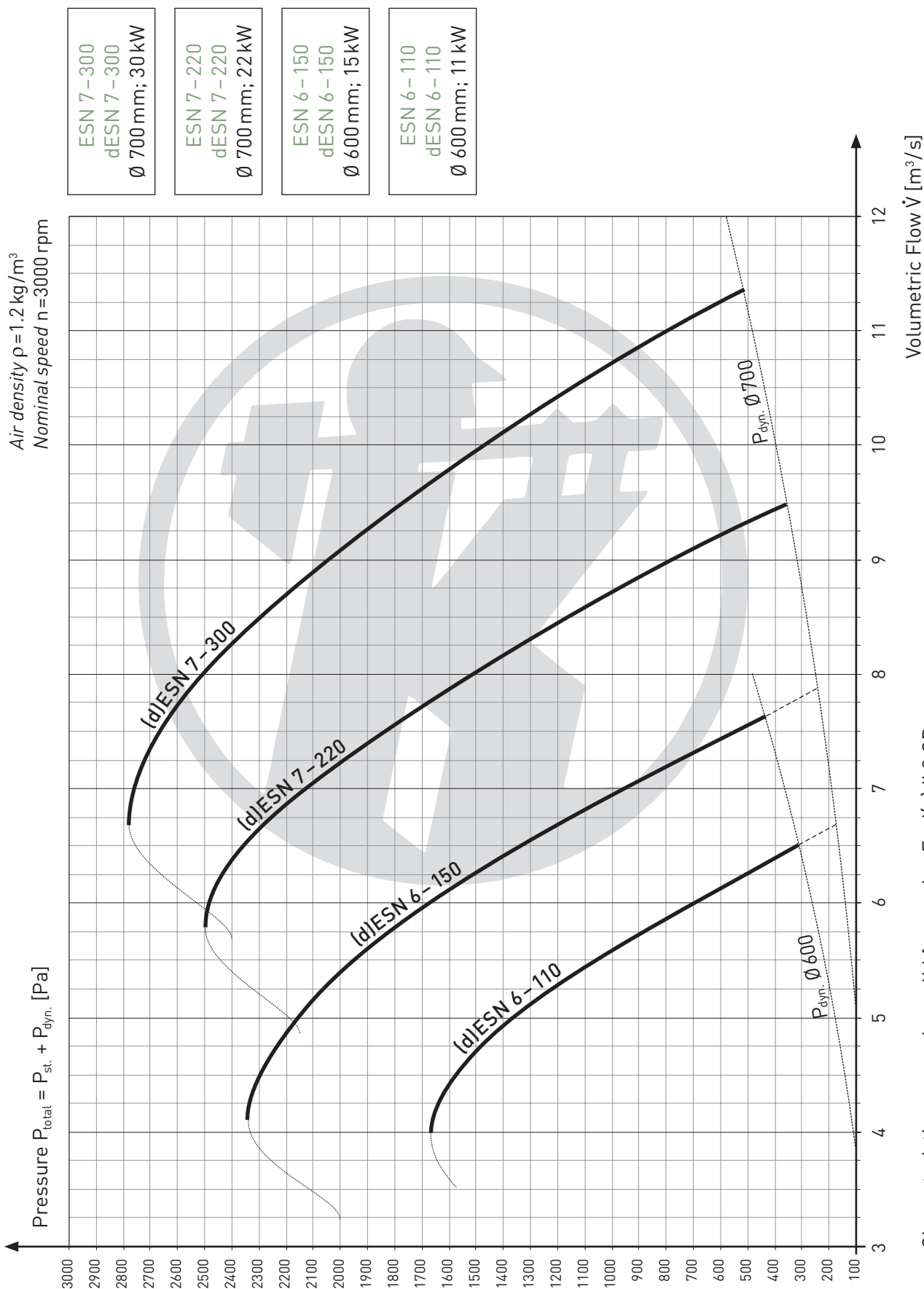
Characteristic curves also valid for version Ex d(e) II 2 GD

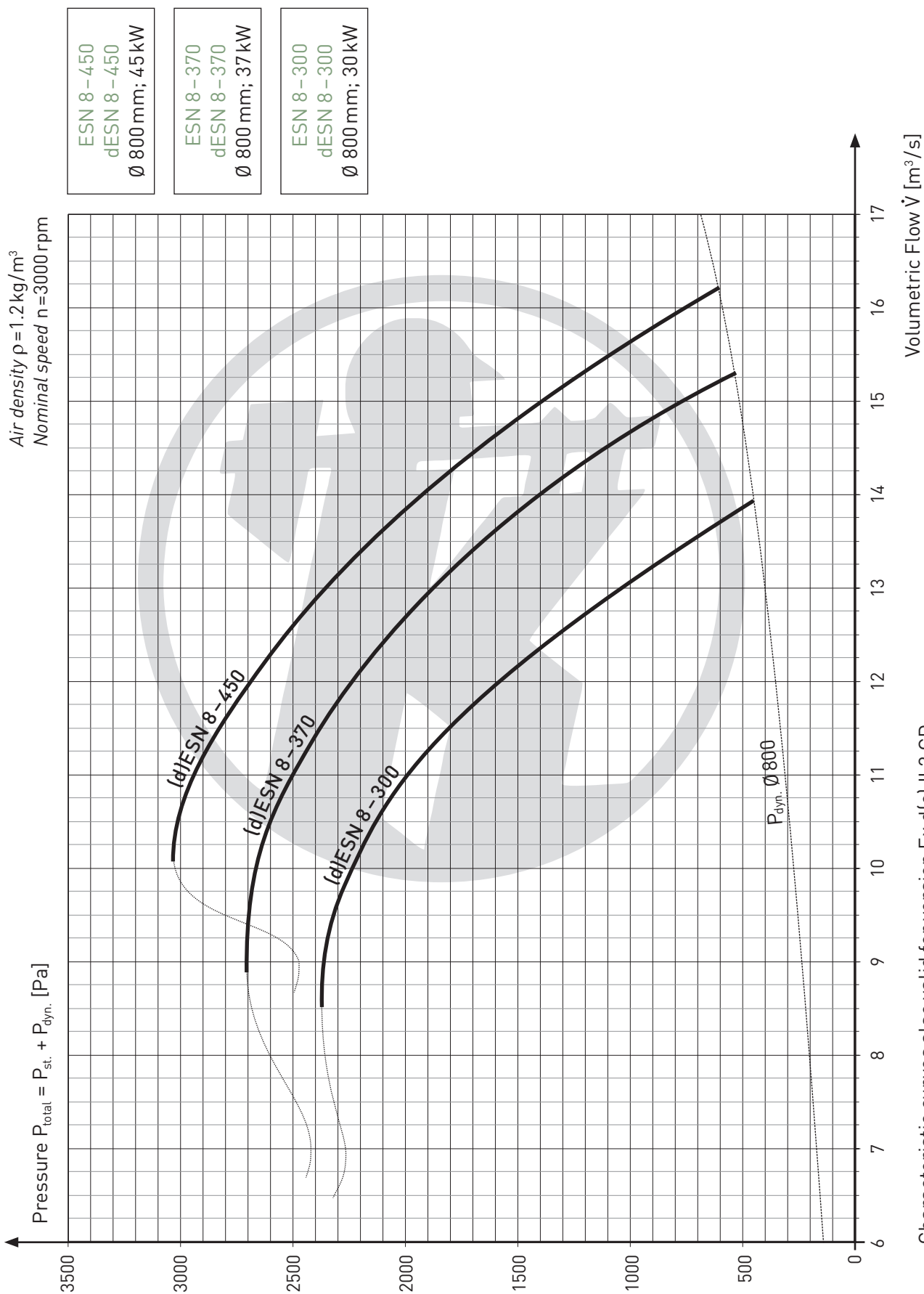




Characteristic curves also valid for version Ex d(e) II 2 GD

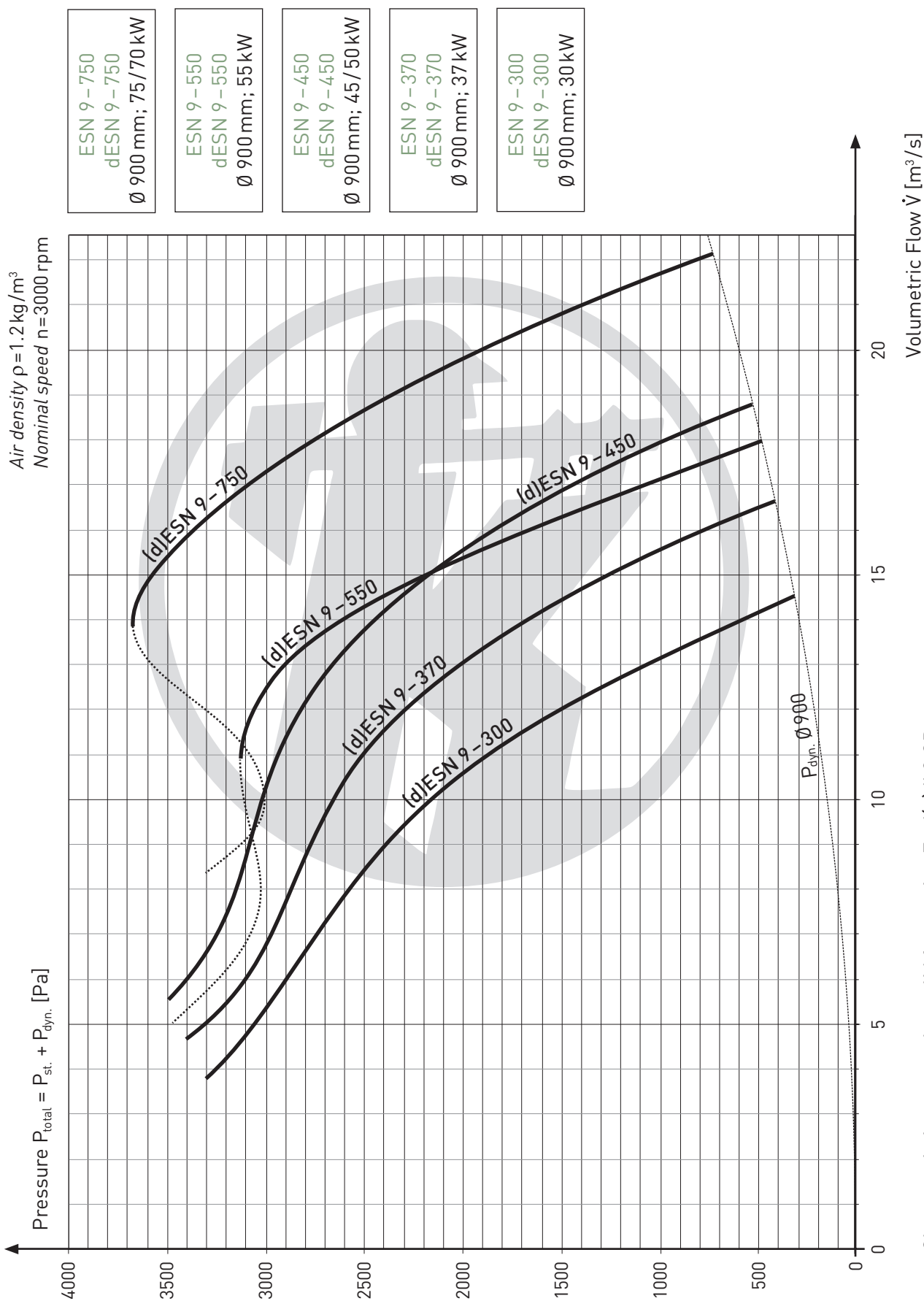






Characteristic curves also valid for version Ex d(e) II 2 GD





Characteristic curves also valid for version Ex d(e) II 2 GD



List of Types / Overview of Performance

Flame-proof ATEX CE (Ex) I M2 c,
internal or external terminal box

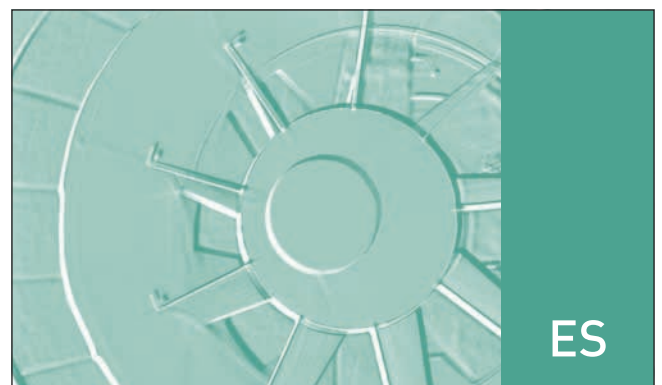
| Fan Type | Volumetric Flow [m ³ /s] | Total Pressure [Pa] |
|--------------|--|------------------------|
| ES 6-110 | 4.0- 6.5 | 1680- 300 |
| ES 6-150 | 4.0- 7.6 | 2340- 430 |
| ES 7-220 | 5.8- 9.4 | 2500- 360 |
| ES 7-300 | 6.7-11.3 | 2780- 500 |
| ES 9-500 | 10.0-18.5 | 3000- 500 |
| ES 9-500/80 | 10.0-18.5 | 3000- 150 |
| ES 9-700 | 13.0-22.5 | 3600- 750 |
| ES 9-700/110 | 7.0-22.5 | 3600- 700 |

More precise power ranges in the characteristic curves.
500/1000V or 660/1140V switchable. Other voltages on inquiry.

Axial flow fans of the type ES possess excellent aerodynamic characteristics. Careful profiling of the rotating blades guarantees high pressure gradients and efficiency levels

Drive:

Low voltage motors, steel-welded, pressure-containing, flame-proof Ex d/de I (ATEX)



Fan Type ES

ES 3–8 to ES 9–750

Type:

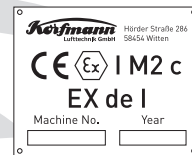
ES 3–8 to ES 9–750; Electric fan, flame-proof with regard to guideline 94/3/EC (ATEX), DIN EN 17 10

Drive:

Three-phase squirrel-cage motors, special design, flame-proof enclosure protection “d” or “de” compliant to DIN EN 60079-1, external terminal box, ATEX-certified for motor group: Ex d/de I

Type of Construction:

Axial impeller with guide vane, profiled rotating blades, dust disks, steel housing, spark-protected, impeller and ring of Silumin



Application:

Mining with flame-proof requirements

Color:

Pure white (RAL 9010)**

Power:

Volumetric flow up to 20 m³/s, total pressure up to 3500 Pa

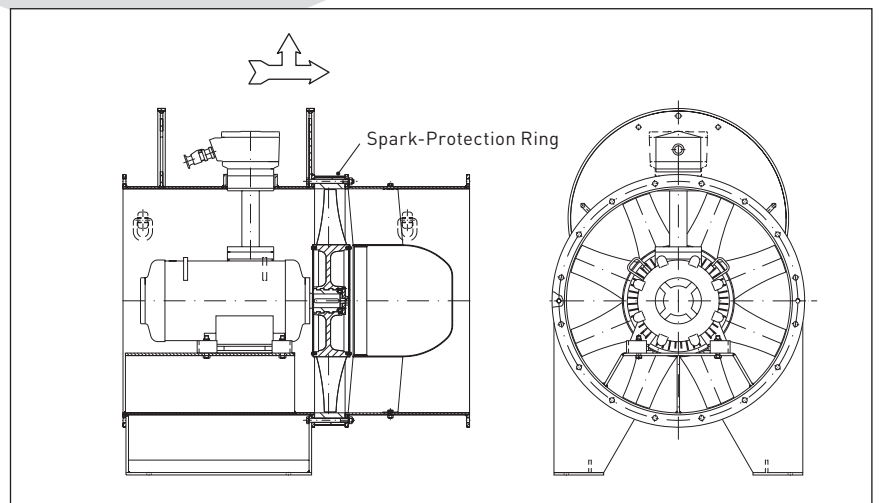
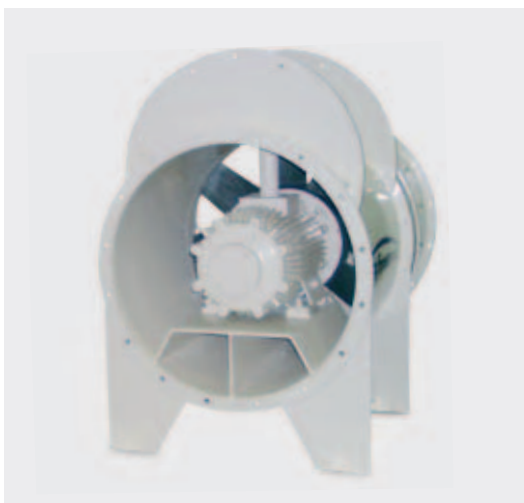
Scope of Supply:

Fan, operating manual

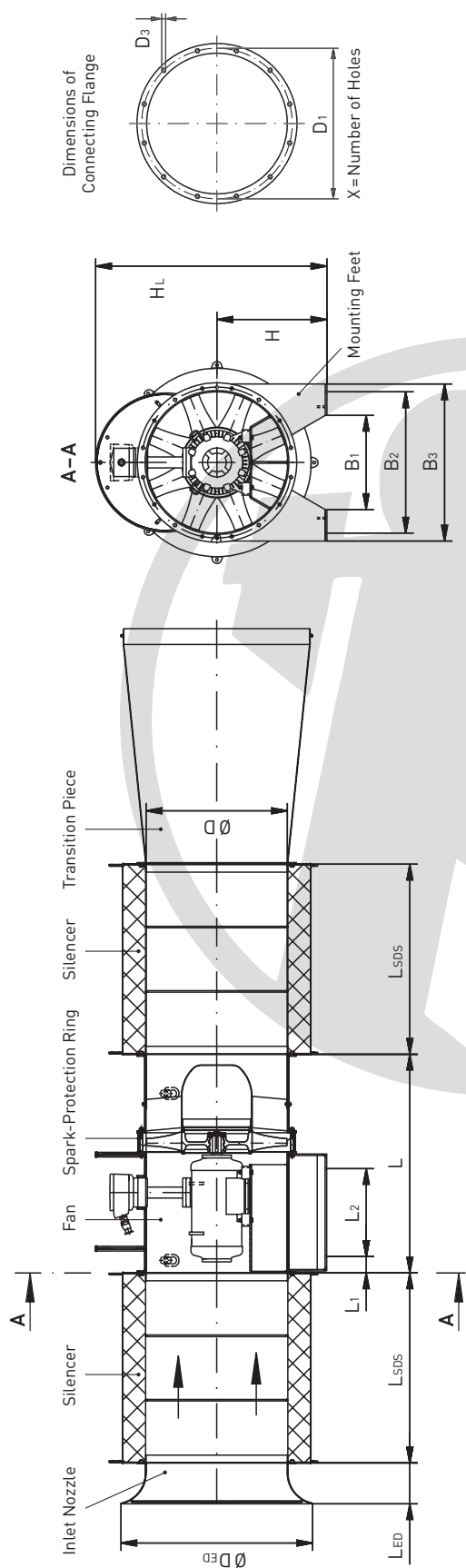
Control:

Pole-changing motors*, infinitely variable speed regulation*, individually adjustable impeller (as required)

* Depending on the design, single-stage, pole-changing or by frequency drive – standard version is single-stage
 ** Standard color – other colors on inquiry



Technical representation of an ESN 9 with mounting feet

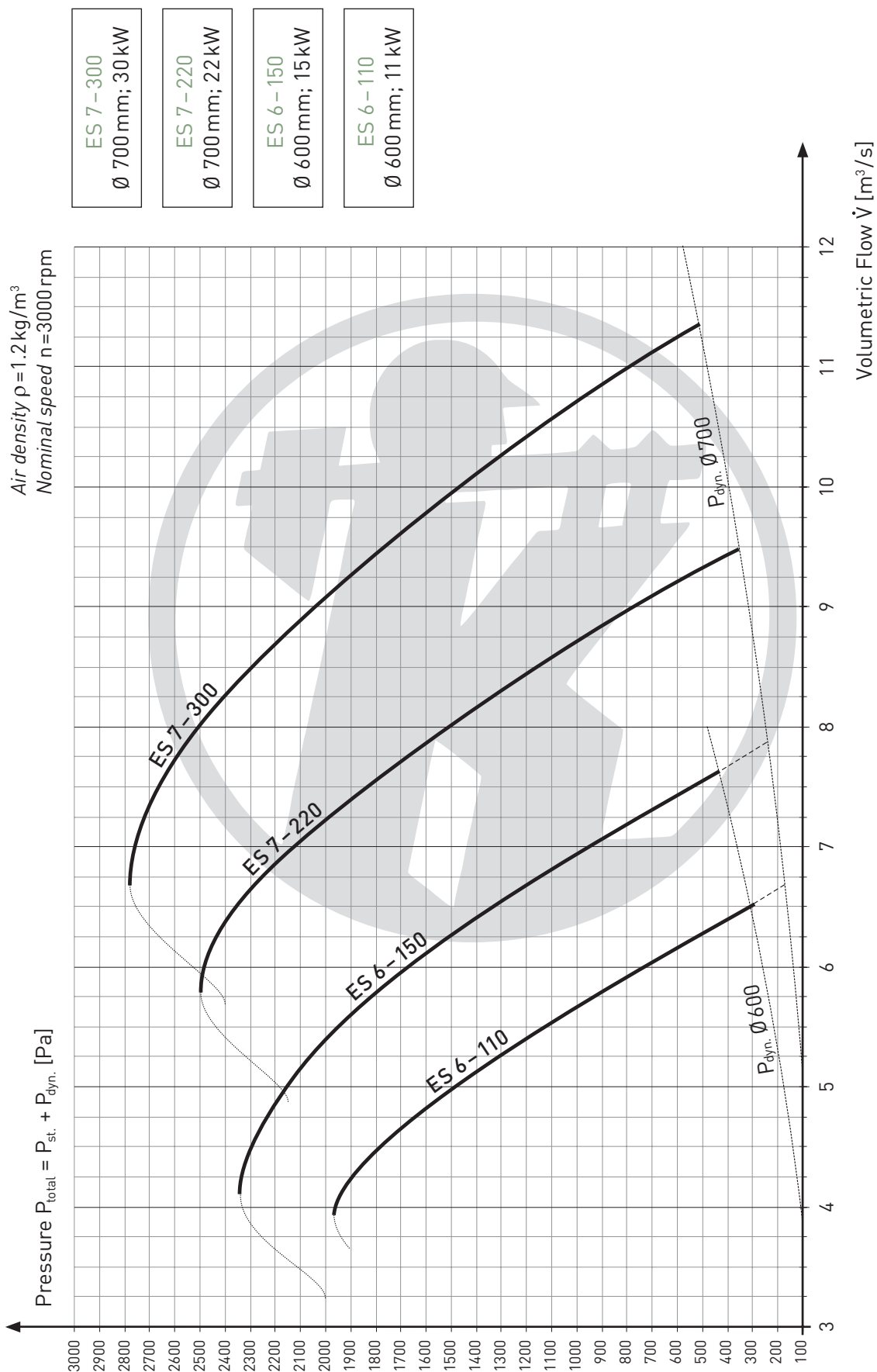


| Type | ID No. | Ø D mm | Length L mm | Height HL mm | Height H mm | Power kW | Weight kg | Connecting Flange | | | Dimensions of Mounting Feet | | | | |
|-----------------|--------|-----------|----------------|-----------------|----------------|-------------|--------------|-------------------|----------|------------|-----------------------------|----------|----------|----------|----------|
| | | | | | | | | Ø D1 mm | X pcs | Ø D3 mm | L1 mm | L2 mm | B1 mm | B2 mm | B3 mm |
| ES 6-110 | - | 600 | 1205 | 1015 | 450 | 11.0 | 450 | 660 | 12 | 20 | 125 | 450 | 400 | 600 | 700 |
| ES 6-150 | - | 600 | 1210 | 740 | 450 | 15.0 | 420 | 660 | 12 | 20 | - | - | - | - | - |
| ES 7-220 | - | 700 | 1235 | 1115 | 550 | 22.0 | 540 | 760 | 12 | 20 | 105 | 445 | 500 | 700 | 800 |
| ES 7-300 | - | 700 | 1300 | 1155 | 550 | 30.0 | 660 | 760 | 12 | 20 | 100 | 540 | 500 | 700 | 800 |
| ES 9-370 | - | 900 | 1353 | 1590 | 700 | 37.0 | 970 | 960 | 16 | 20 | 105 | 520 | 450 | 650 | 850 |
| ES 9-500 | - | 900 | 1393 | 1473 | 700 | 50.0 | 950 | 960 | 16 | 20 | 105 | 560 | 600 | 900 | 1000 |
| ES 9-500/80 PU | - | 900 | 1743 | 1523 | 700 | 50/8 | 1360 | 960 | 16 | 20 | 102 | 920 | 600 | 900 | 1000 |
| ES 9-700/110 PU | - | 900 | 1873 | 1483 | 660 | 70/11 | 1470 | 960 | 16 | 20 | 150 | 850 | 600 | 900 | 1000 |
| ES 9-750 | - | 900 | 1633 | 1433 | 660 | 75.0 | 1380 | 960 | 16 | 20 | 112 | 686 | 600 | 900 | 1000 |

Data refers to KORFMANN standard series (nonbinding)

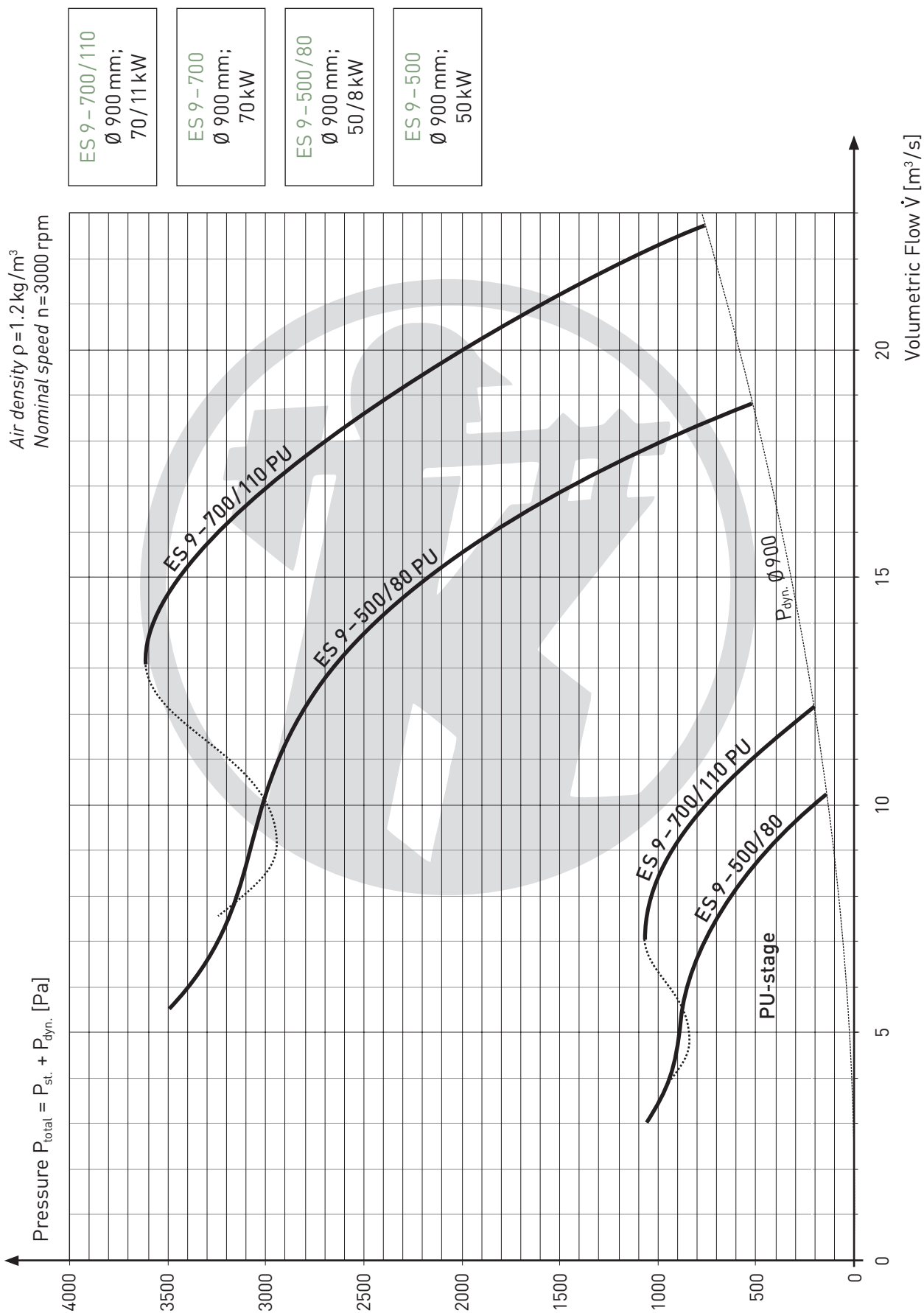
Pole-changing motors or individually adjustable impellers on inquiry





Characteristic curves valid for version Ex d(e) I M2 c with Flame Protection





Characteristic curves valid for version Ex d(e) I M2 c with Flame Protection



EST 4 – 15 to EST 9 – 500

Type:

EST 4 – 15 to EST 9 – 500; Electric fan, flame-proof with turbine (combination fan)

Type of Construction:

Axial impeller with guide vane, profiled rotating blades, dust disks, spark-protected, inlet and exhaust housing of Silumin

Application:

Mining with flame-proof requirements, as well as compressed-air drive in case of increased occurrence of methane gas. Electric motor or turbine drive, selectable via electropneumatic valve

Power:

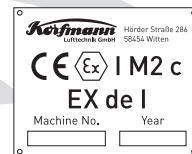
Volumetric flow up to 17 m³/s, total pressure up to 3000 Pa

Control:

Infinitely variable speed regulation* by regulating the air pressure and the number of driving nozzles

Drive:

Three-phase squirrel-cage motors with remanence protection, special design, flame-proof enclosure protection “d” or “de” compliant to DIN EN 60079-1, external or internal terminal box, ATEX-certified, available for motor group Ex d/de I. Operating pressure: 4 – 6 bar



Color:

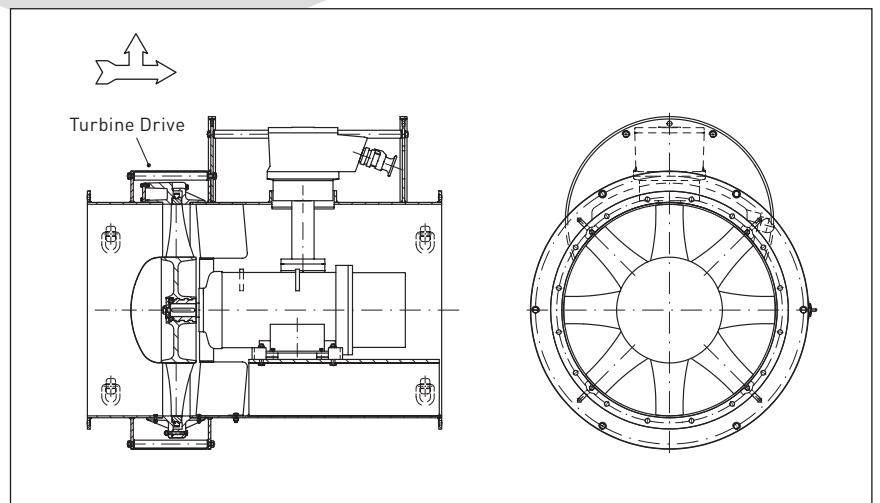
Pure white (RAL 9010)**

Scope of Supply:

Fan, operating manual

* Depending on the design, single-stage, pole-changing or by frequency drive

** Standard color – other colors on inquiry



Technical representation of an EST 9

List of Types / Overview of Performance

No flame or explosion protection

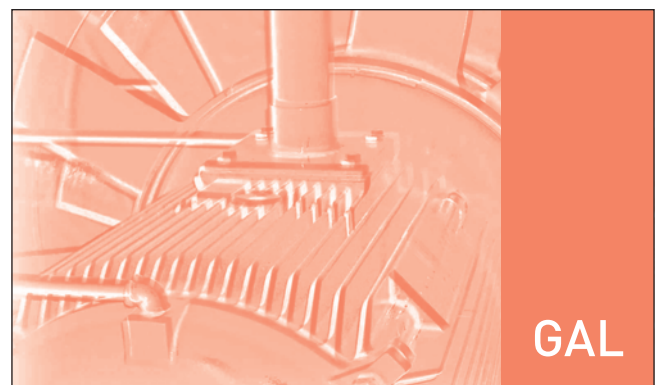
| Fan Type | Volumetric Flow [m ³ /s] | Total Pressure [Pa] |
|--------------------|--|------------------------|
| GAL 3 – 15/15 | 1.0 – 1.4 | 1150 – 250 |
| GAL 4 – 30/30 | 1.6 – 2.7 | 2250 – 300 |
| GAL 5 – 55/55 | 2.0 – 3.1 | 3200 – 150 |
| GAL 5 – 75/75 | 2.7 – 4.5 | 4200 – 350 |
| GAL 6 – 110/110 | 3.5 – 5.5 | 4300 – 200 |
| GAL 6 – 150/150 | 4.3 – 6.8 | 5000 – 400 |
| GAL 7 – 220/220 | 5.5 – 9.0 | 5400 – 350 |
| GAL 7 – 300/300 | 6.3 – 11.0 | 5800 – 500 |
| GAL 9 – 550/550 | 11.0 – 21.0 | 6600 – 700 |
| GAL 12 – 450/450 | 18.0 – 31.0 | 3850 – 500 |
| GAL 12 – 550/550 | 22.0 – 37.0 | 4150 – 650 |
| GAL 14 – 900/900 | 27.0 – 47.0 | 5050 – 600 |
| GAL 14 – 1100/1100 | 30.0 – 50.0 | 5500 – 700 |

More precise power ranges in the characteristic curves.
Insulated bearings for frequency drive operation > 90 kW.

Contra-rotating high-pressure fans provide very high pressure gradients at efficiency rates of up to more than 90% in both gratings through complex flow processes. Simple construction without guide vane with two drive motors

Drive:

Low-voltage grey cast iron motors IP 55. Motors conform to efficiency class IE 1, IE 2 or IE 3 with regard to guideline IEC 60034-30 and ErP



GAL

Fan Type GAL



GAL 3 – 15/15 to GAL 14 – 1100/1100

Type:

GAL 3 – 15/15 to GAL 14 – 1100/1100;
 Contra rotating axial flow fan, *not* flame-proof
 or explosion-proof

Drive:

Three-phase squirrel-cage motors, special
 design, protection class IP 55, insulation
 class F, tropic-proof, internal or external
 terminal box

Type of Construction:

Two contra-rotating axial impellers, profiled
 rotating blades, steel housing, mounting claws.
 Impeller of Silumin

Conforms to efficiency class IE 1, IE 2, IE 3

Color:

Pure white (RAL 9010)**

Application:

Industrial, tunnel and gallery ventilation,
 mining, without flame-proof or explosion-proof
 requirements, high pressure requirement

Scope of Supply:

Fan, operating manual

Power:

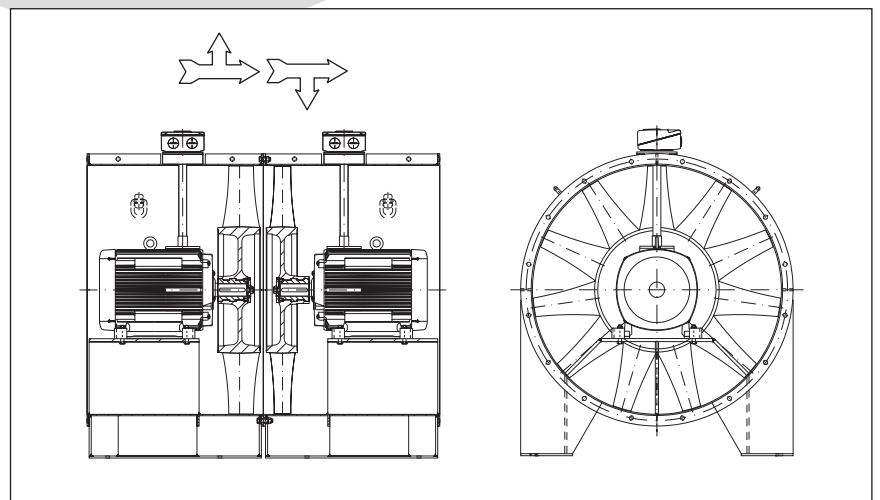
Volumetric flow up to 45 m³/s,
 total pressure up to 6000 Pa

* Depending on the design, single-stage,
 pole-changing or by frequency drive

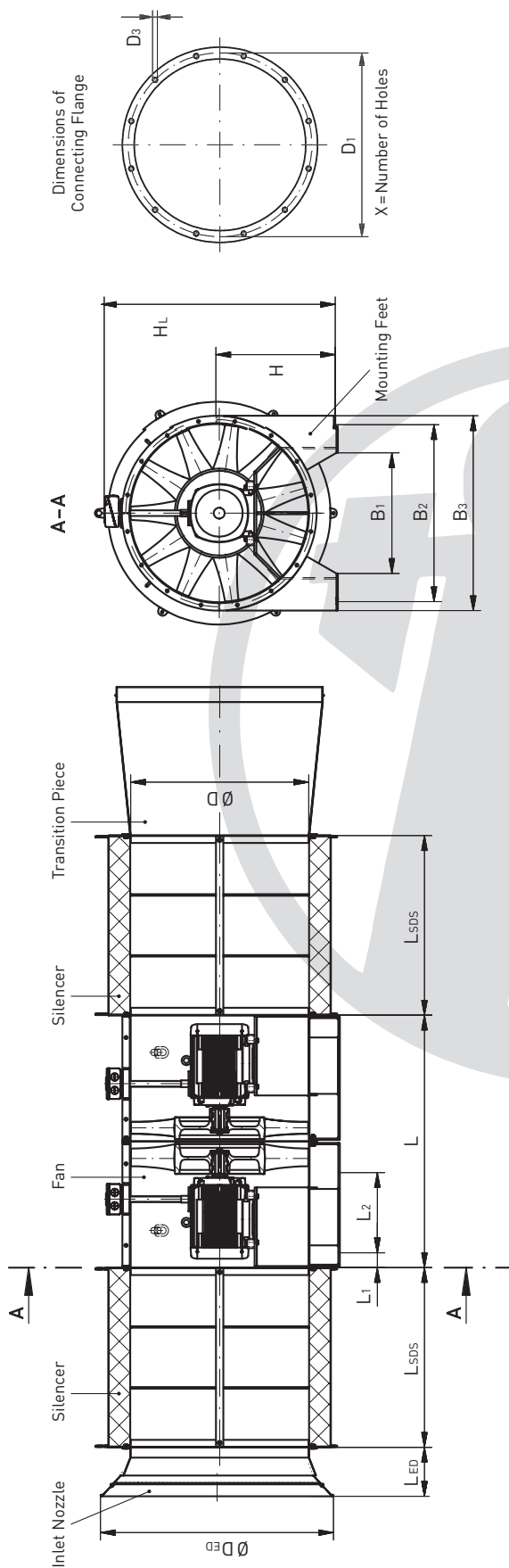
** Standard color – other colors on inquiry

Control:

Pole-changing motors*, infinitely variable
 speed regulation*, individually adjustable
 impeller (as required)



Technical representation of a GAL 12 with mounting feet



| Type | ID No. | Ø D mm | Length L mm | Height HL mm | Height HL mm | Power kW | Weight kg | Connecting Flange | | | Dimensions of Mounting Feet | | | | |
|------------------|----------|-----------|----------------|-----------------|-----------------|-------------|--------------|-------------------|----------|------------|-----------------------------|----------|----------|----------|----------|
| | | | | | | | | Ø D1 mm | X pcs | Ø D3 mm | L1 mm | L2 mm | B1 mm | B2 mm | B3 mm |
| GAL 3-15/15 | 05300977 | 300 | 800 | 515 | 275 | 2 x 1.5 | 150 | 355 | 4 | 14 | 75 | 250 | 200 | 350 | 400 |
| GAL 4-30/30 | 05409054 | 400 | 1000 | 645 | 350 | 2 x 3.0 | 240 | 455 | 4 | 14 | 75 | 350 | 300 | 400 | 500 |
| GAL 5-55/55 | 05509140 | 500 | 1100 | 765 | 400 | 2 x 5.5 | 330 | 560 | 8 | 20 | 100 | 350 | 300 | 500 | 600 |
| GAL 5-75/75 | 05509129 | 500 | 1100 | 770 | 400 | 2 x 7.5 | 350 | 560 | 8 | 20 | 100 | 350 | 300 | 500 | 600 |
| GAL 6-110/110 | 05619167 | 600 | 1240 | 880 | 450 | 2 x 11.0 | 450 | 660 | 12 | 20 | 105 | 410 | 400 | 600 | 700 |
| GAL 6-150/150 | 05619191 | 600 | 1240 | 885 | 450 | 2 x 15.0 | 520 | 660 | 12 | 20 | 110 | 400 | 400 | 600 | 700 |
| GAL 7-220/220 | 05729102 | 700 | 1550 | 1060 | 550 | 2 x 22.0 | 780 | 760 | 12 | 20 | 100 | 575 | 500 | 700 | 800 |
| GAL 7-300/300 | 05729120 | 700 | 1550 | 1060 | 550 | 2 x 30.0 | 820 | 760 | 12 | 20 | 100 | 575 | 500 | 700 | 800 |
| GAL 9-550/550 | 05099257 | 900 | 1700 | 1275 | 650 | 2 x 55.0 | 1490 | 960 | 16 | 20 | 100 | 650 | 600 | 900 | 1000 |
| GAL 12-450/450 | 05129226 | 1200 | 1700 | 1575 | 800 | 2 x 45.0 | 1650 | 1260 | 16 | 20 | 100 | 540 | 813 | 1193 | 1313 |
| GAL 12-550/550 | 05129201 | 1200 | 1700 | 1570 | 800 | 2 x 55.0 | 1850 | 1260 | 16 | 20 | 150 | 550 | 813 | 1193 | 1313 |
| GAL 14-900/900 | 05149135 | 1400 | 2200 | 1860 | 950 | 2 x 90.0 | 2930 | 1480 | 24 | 20 | 125 | 850 | 926 | 1300 | 1526 |
| GAL 14-1100/1100 | 05149134 | 1400 | 2300 | 1860 | 950 | 2 x 110.0 | 3250 | 1480 | 24 | 20 | 125 | 900 | 926 | 1300 | 1526 |

Data refers to KORFMANN standard series (nonbinding)

Pole-changing motors or individually adjustable impellers on inquiry



List of Types / Overview of Performance

Explosion protection ATEX CE (Ex) II 2 GD

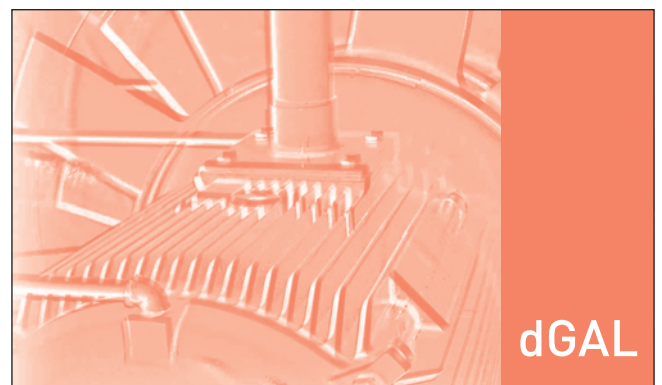
| Fan Type | Volumetric Flow [m ³ /s] | Total Pressure [Pa] |
|---------------------|--|------------------------|
| dGAL 3 – 15/15 | 1.0 – 1.4 | 1150 – 250 |
| dGAL 4 – 30/30 | 1.6 – 2.7 | 2250 – 300 |
| dGAL 5 – 55/55 | 2.0 – 3.1 | 3200 – 150 |
| dGAL 5 – 75/75 | 2.7 – 4.5 | 4200 – 350 |
| dGAL 6 – 110/110 | 3.5 – 5.5 | 4300 – 200 |
| dGAL 6 – 150/150 | 4.3 – 6.8 | 5000 – 400 |
| dGAL 7 – 220/220 | 5.5 – 9.0 | 5400 – 350 |
| dGAL 7 – 300/300 | 6.3 – 11.0 | 5800 – 500 |
| dGAL 9 – 550/550 | 11.0 – 21.0 | 6600 – 700 |
| dGAL 12 – 450/450 | 18.0 – 31.0 | 3850 – 500 |
| dGAL 12 – 550/550 | 22.0 – 37.0 | 4150 – 650 |
| dGAL 14 – 900/900 | 27.0 – 47.0 | 5050 – 600 |
| dGAL 14 – 1100/1100 | 30.0 – 50.0 | 5500 – 700 |

More precise power ranges in the characteristic curves.
Insulated bearings for frequency drive operation > 90 kW.

Contra-rotating high-pressure fans provide very high pressure gradients at efficiency rates of up to more than 90% in both gratings through complex flow processes. Simple construction without guide vane with two drive motors

Drive:

Low-voltage grey cast iron motors,
pressure-containing Ex de II BT4.
Ignition Protection Ex de II BT4



Fan Type dGAL

dGAL 3–15/15 to dGAL 14–1100/1100

Type:

dGAL 3–15/15 to dGAL 14–1100/1100;
 Contra-rotating axial flow fan, explosion-proof with regard to 94/9/EC ATEX

Type of Construction:

Two contra-rotating axial impellers, profiled rotating blades, dust disks, spark-protected, steel housing, mounting claws, ring of Silumin or brass. Impeller of Silumin

Application:

Tunnel and gallery ventilation for mining and industry with explosion-proof requirements with high pressure requirement

Power:

Volumetric flow up to 45 m³/s,
 total pressure up to 6000 Pa

Control:

Pole-changing motors*, infinitely variable speed regulation*, individually adjustable impeller (as required)

Drive:

Three-phase low-voltage grey cast iron motor, squirrel cage motors, special design, flame-proof enclosure protection "d", to DIN EN 60079-1, internal terminal box, ATEX-certified, for group II 2 Ex de II

Color:

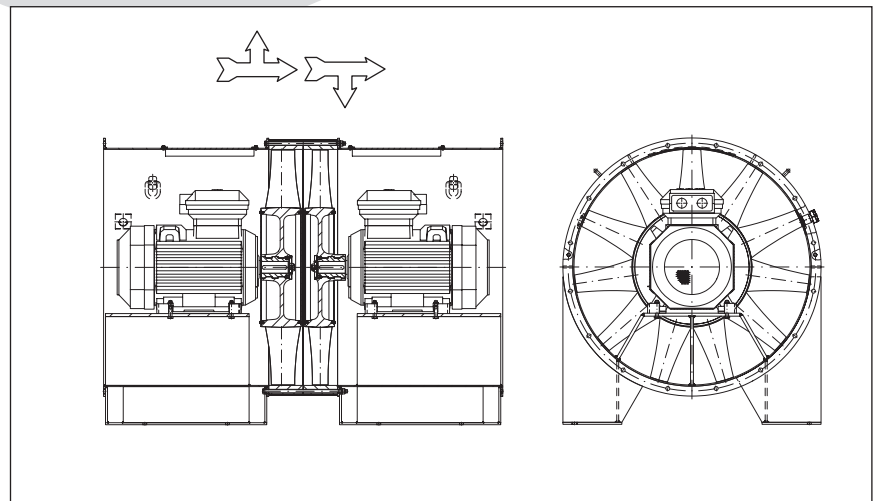
Pure white (RAL 9010)**

Scope of Supply:

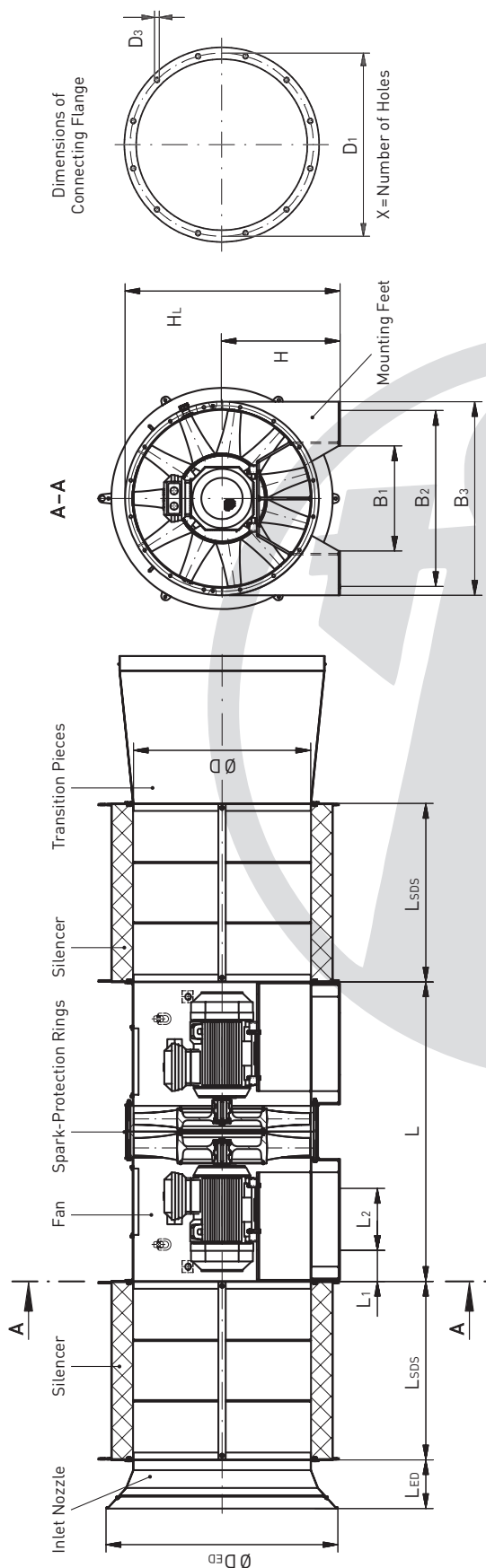
Fan, operating manual

* Depending on the design, single-stage, pole-changing or by frequency drive

** Standard color – other colors on inquiry



Technical representation of a dGAL 7 with mounting feet



| Type | ID No. | Ø D mm | Length L mm | Height HL mm | Height H mm | Power kW | Weight kg | Connecting Flange | | | Dimensions of Mounting Feet | | | | |
|---------------------|----------|--------|-------------|--------------|-------------|-----------|-----------|---------------------|-------|---------------------|-----------------------------|-------------------|-------------------|-------------------|-------------------|
| | | | | | | | | Ø D ₁ mm | X pcs | Ø D ₃ mm | L ₁ mm | L ₂ mm | B ₁ mm | B ₂ mm | B ₃ mm |
| dGAL 3 - 15/15 | 05300978 | 300 | 800 | 480 | 275 | 2 x 1.5 | 190 | 355 | 4 | 14 | 75 | 200 | 200 | 350 | 400 |
| dGAL 4 - 30/30 | 05409072 | 400 | 1100 | 605 | 350 | 2 x 3.0 | 320 | 455 | 4 | 14 | 75 | 300 | 300 | 400 | 500 |
| dGAL 5 - 55/55 | 05509146 | 500 | 1280 | 705 | 400 | 2 x 5.5 | 465 | 560 | 8 | 20 | 100 | 350 | 300 | 500 | 600 |
| dGAL 5 - 75/75 | 05509149 | 500 | 1280 | 705 | 400 | 2 x 7.5 | 495 | 560 | 8 | 20 | 100 | 350 | 300 | 500 | 600 |
| dGAL 6 - 110/110 | 05619205 | 600 | 1570 | 805 | 450 | 2 x 11.0 | 710 | 660 | 12 | 20 | 105 | 470 | 400 | 600 | 700 |
| dGAL 6 - 150/150 | 05619177 | 600 | 1570 | 805 | 450 | 2 x 15.0 | 670 | 660 | 12 | 20 | 100 | 480 | 400 | 600 | 700 |
| dGAL 7 - 220/220 | 05729072 | 700 | 1736 | 955 | 550 | 2 x 22.0 | 940 | 760 | 12 | 20 | 100 | 550 | 500 | 700 | 800 |
| dGAL 7 - 300/300 | 05729054 | 700 | 1786 | 970 | 550 | 2 x 30.0 | 1120 | 760 | 12 | 20 | 100 | 575 | 500 | 700 | 800 |
| dGAL 9 - 550/550 | 05099255 | 900 | 2000 | 1155 | 650 | 2 x 55.0 | • | 960 | 16 | 20 | 105 | 790 | 600 | 900 | 1000 |
| dGAL 12 - 450/450 | 05129190 | 1200 | 2030 | 1460 | 800 | 2 x 45.0 | 2230 | 1260 | 16 | 20 | 210 | 420 | 813 | 1193 | 1313 |
| dGAL 12 - 550/550 | 05129206 | 1200 | 2100 | 1460 | 800 | 2 x 55.0 | • | 1260 | 16 | 20 | 210 | 420 | 813 | 1193 | 1313 |
| dGAL 14 - 900/900 | 05149121 | 1400 | 2300 | 1715 | 950 | 2 x 90.0 | • | 1480 | 24 | 20 | 125 | 850 | 926 | 1300 | 1526 |
| dGAL 14 - 1100/1100 | 05149122 | 1400 | 2300 | 1715 | 950 | 2 x 110.0 | • | 1480 | 24 | 20 | 125 | 850 | 926 | 1300 | 1526 |

• = on inquiry

Data refers to KORFMANN standard series (nonbinding) for fans that comply with protection class Ex II BT4. Please contact us for fans that conform to protection class Ex I d/de I.

Pole-changing motors or individually adjustable impellers on inquiry



List of Types / Overview of Performance

Flame-proof to ATEX CE (Ex) I M2 c,
external terminal box

| Fan Type | Volumetric Flow [m ³ /s] | Total Pressure [Pa] |
|------------------|--|------------------------|
| dGAL 6-110/110 | 3.5- 5.5 | 4300-200 |
| dGAL 6-150/150 | 4.3- 6.8 | 5000-400 |
| dGAL 7-220/220 | 5.5- 9.0 | 5400-350 |
| dGAL 7-300/300 | 6.3- 11.0 | 5800-500 |
| dGAL 9.5-750/750 | 12.0-26.8 | 7800-950 |
| dGAL 12-450/450 | 18.0-31.0 | 3850-500 |
| dGAL 12-550/550 | 22.0-37.0 | 4150-650 |
| dGAL 14-900/900 | 27.0-47.0 | 5050-600 |

More precise power ranges in the characteristic curves.
500/1000V or 660/1140V switchable.
Other voltages on inquiry.

Contra-rotating high-pressure fans provide very high pressure gradients at efficiency rates of up to more than 90% in both gratings through complex flow processes. Simple construction without guide vane with two drive motors

Drive:

Low-voltage grey cast iron motors,
pressure-containing, Ex d/de I (ATEX).
Ignition Protection Ex de II BT4



Fan Type dGAL

**dGAL 3-15/15 to
dGAL 14-1100/1100 Mining**

Type:

dGAL 3-15/15 to dGAL 14-1100/1100;
Contra-rotating axial flow fan, flame-proof

Type of Construction:

Two contra-rotating axial impellers, profiled rotating blades, spark-protected, steel housing, mounting claws. Impeller of Silumin. Dust disks

Application:

Mining with flame-proof requirements

Power:

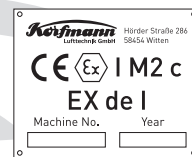
Volumetric flow up to 45 m³/s,
total pressure up to 6000 Pa

Control:

Pole-changing motors*, infinitely variable speed regulation*, individually adjustable impeller (as required)

Drive:

Three-phase squirrel-cage motors, special design, flame-proof enclosure protection "d" or "de" compliant to DIN EN 60079-1, external or internal terminal box, ATEX-certified, available for motor groups Ex d/de I, Ex de II BT4 and other

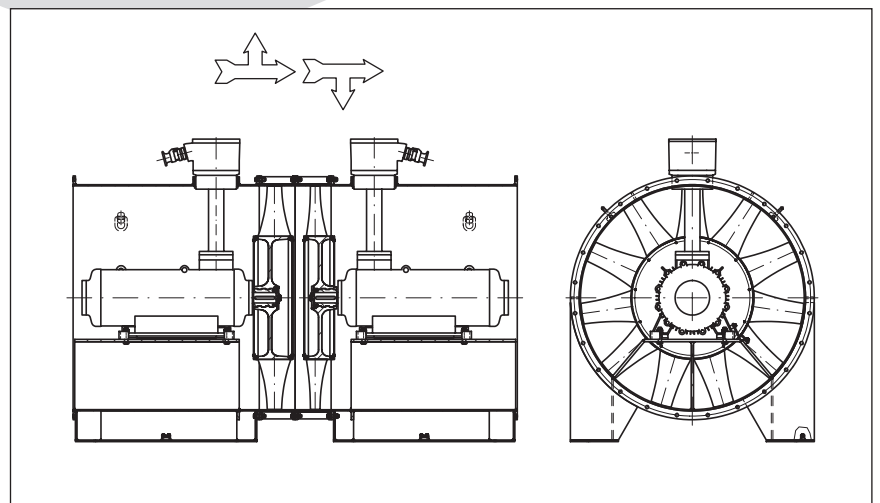
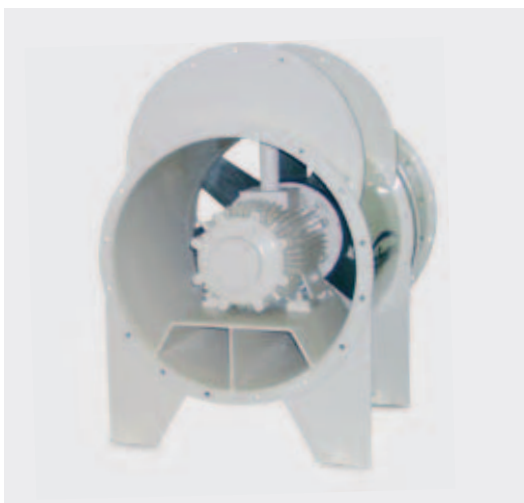


Color: Pure white (RAL 9010)**

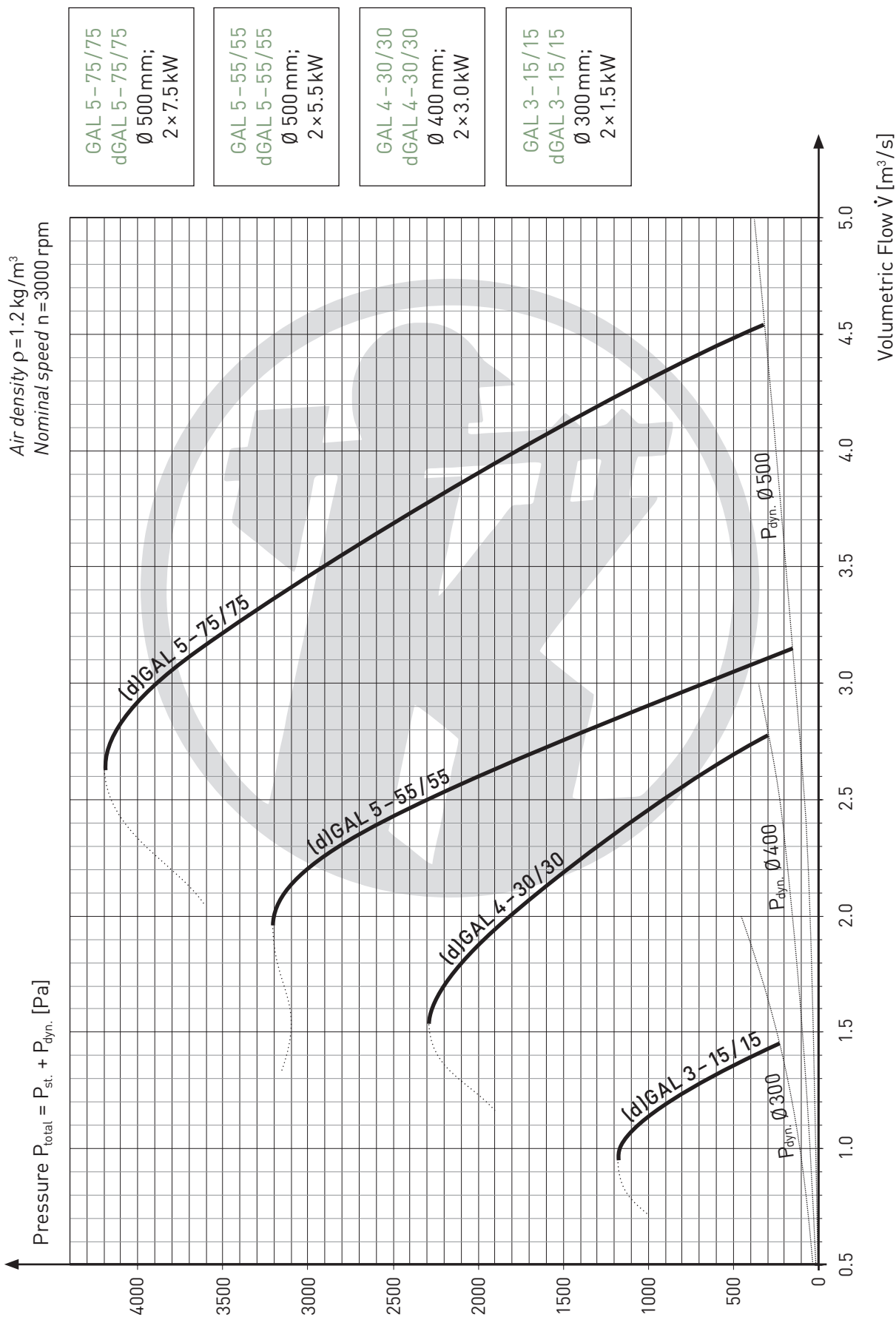
Scope of Supply:

Fan, operating manual

- * Depending on the design, single-stage, pole-changing or by frequency drive – standard version is single-stage
- ** Standard color – other colors on inquiry

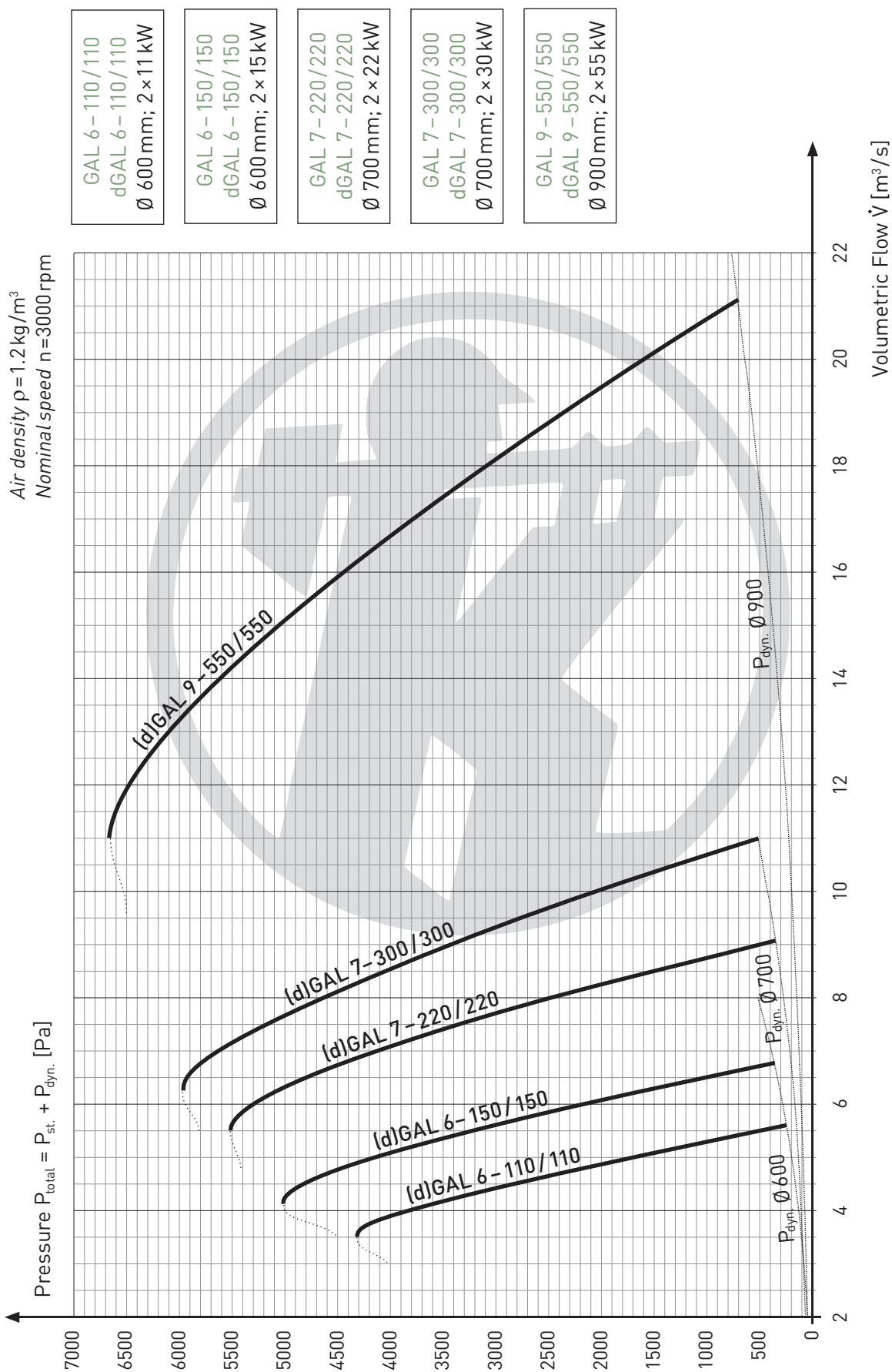


Technical representation of a dGAL 7 (Mining) with mounting feet



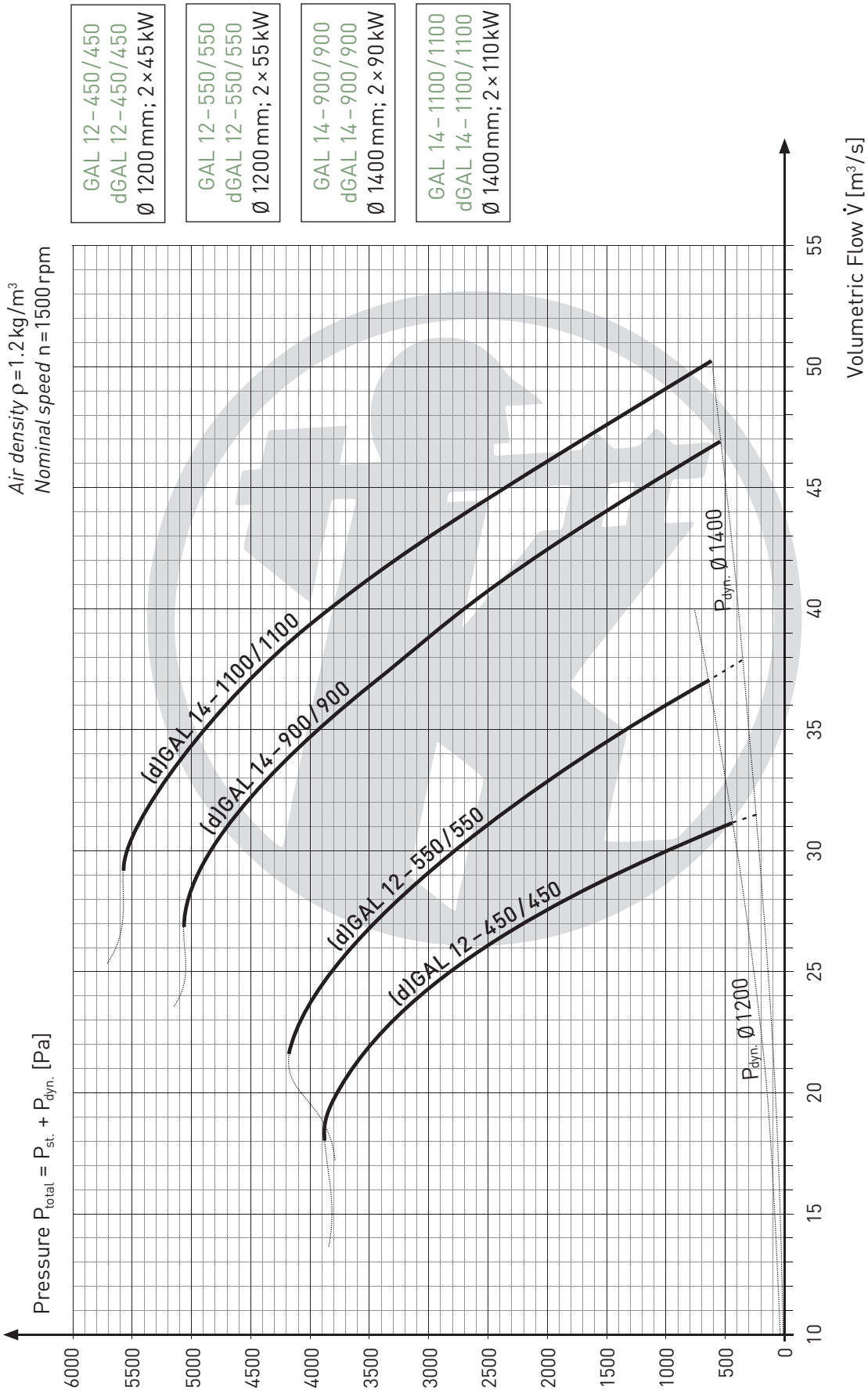
Characteristic curves also valid for versions Ex d(e) | M2 c and Ex de II 2 GD





Characteristic curves also valid for versions Ex d(e) I M2 c and Ex de II 2 GD





Characteristic curves also valid for versions Ex d(e) | M2 c and Ex de II 2 GD



SL 3-4

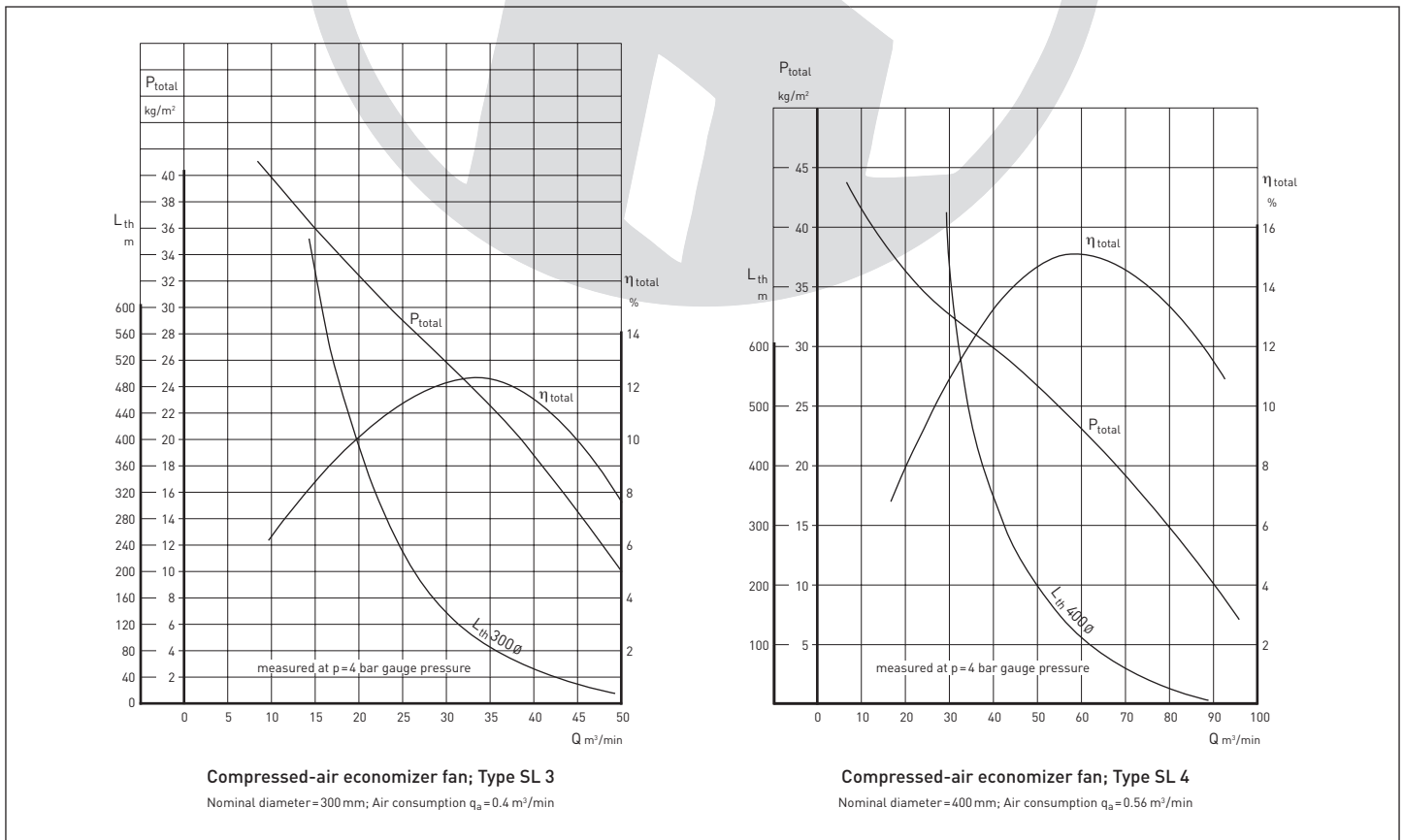
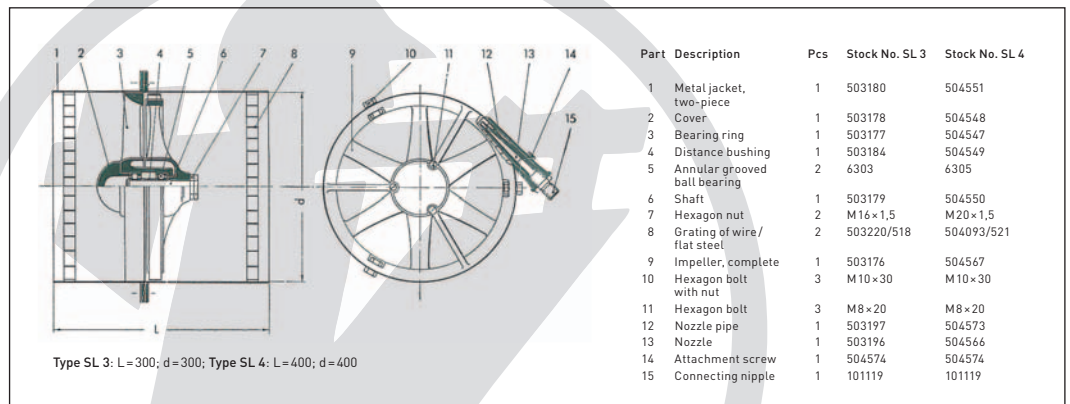
Type: SL 3-4; Compressed-air economizer fan

Type of Construction: Axial impeller, profiled rotating blades, steel housing, turbine ring of brass or steel, impeller of Silumin

Application: Gallery ventilation with explosion-proof requirements with compressed-air supply

Power: Volumetric flow up to 1.6 m³/s, total pressure up to 430 Pa

Drive: Impulse turbine on perimeter of impeller, operating pressure 4-6 bar, IE compliant



DV 3–6

Type: DV 3–6; Compressed-air fan

Type of Construction:

Axial impeller with guide vane, profiled rotating blades, spark-protected, inlet and exhaust housing of Silumin, turbine ring of brass or steel

Application:

Gallery ventilation with flame-proof or explosion-proof requirements with compressed-air supply

Power:

Volumetric flow up to 6.6 m³/s, total pressure up to 1300 Pa

Control:

Infinitely variable by regulation of the drive pressure

Drive:

Impulse turbine on the perimeter of the impeller. Operating pressure: 4–6 bar (driving pressure at the nozzle)

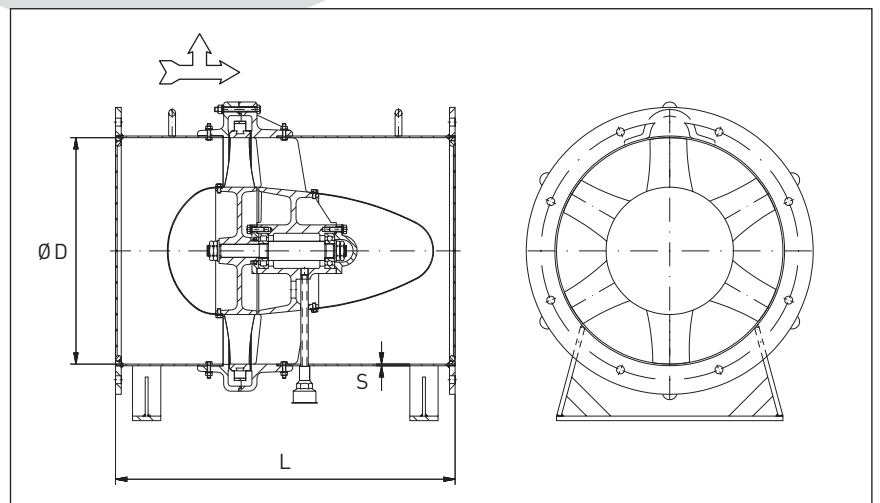
Color: Pure white (RAL 9010)*

Scope of Supply:

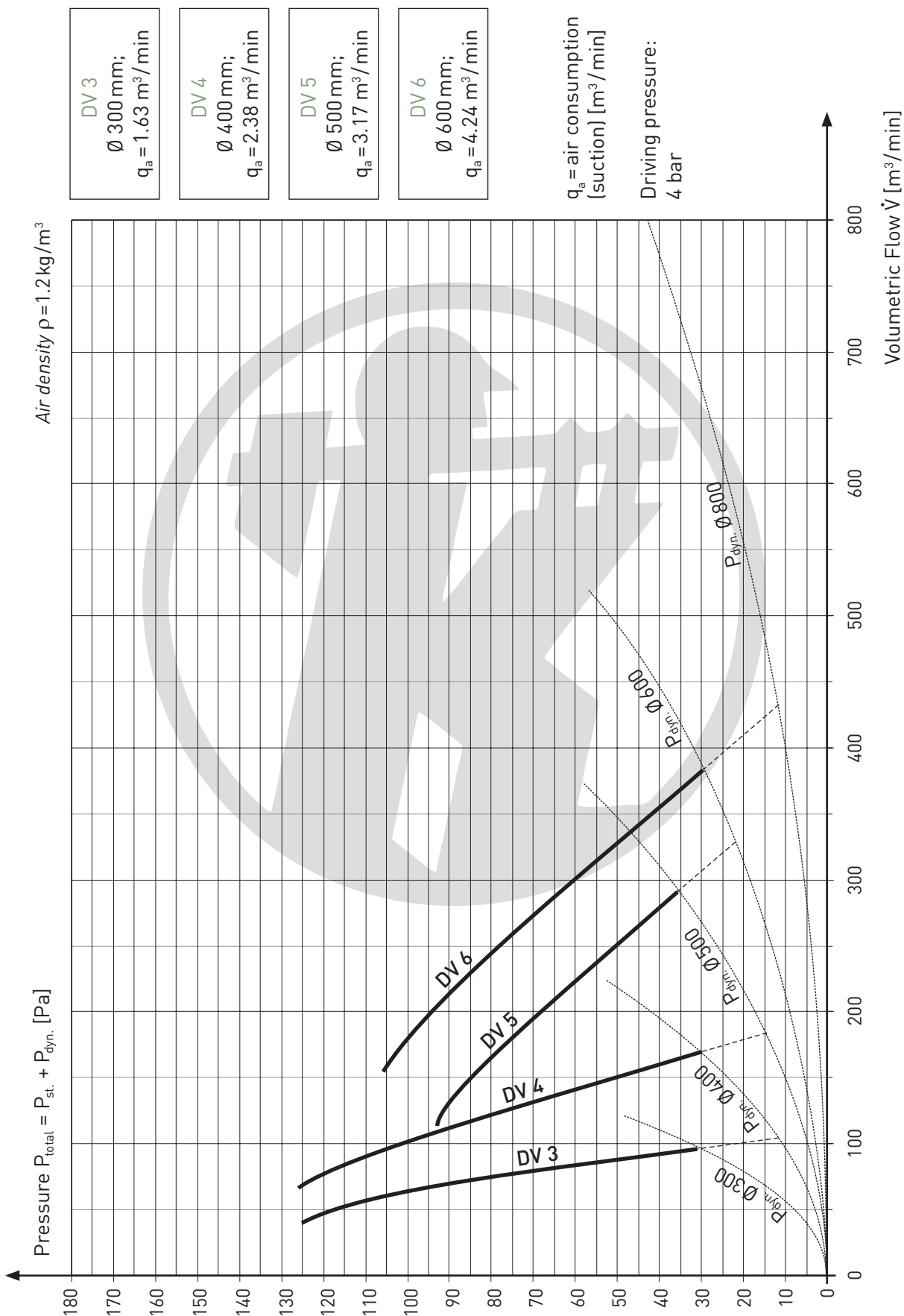
Fan, operating manual

* Standard color – other colors on inquiry

| Type | Ø D mm | L mm | S mm | Air Consumption at p~4 bar | Weight kg |
|------|-----------|---------|---------|-------------------------------|--------------|
| DV 3 | 300 | 600 | 3 | 1.63 m ³ /min | 35 |
| DV 4 | 400 | 600 | 3 | 2.38 m ³ /min | 75 |
| DV 5 | 500 | 700 | 3 | 3.17 m ³ /min | 85 |
| DV 6 | 600 | 700 | 3 | 4.24 m ³ /min | 100 |



Technical representation of a compressed-air fan



Overview of Type Series

Fan Type Sizes

(d)AL / KGL 18 – Ø 1800 mm

(d)AL / KGL 20 – Ø 2000 mm

(d)AL / KGL 22 – Ø 2200 mm

(d)AL / KGL 24 – Ø 2400 mm

(d)AL / KGL 25 – Ø 2500 mm

(d)AL / KGL 26 – Ø 2600 mm

(d)AL / KGL 28 – Ø 2800 mm

Fans of this design are specifically customized to suit the respective service location. Wideranging operating points and flexible characteristics are possible as a result of adjustable impellers and the possibility of an infinitely variable drive by frequency converter.

More exact design details and characteristic curves depending on customer requirements.

Axial-flow fans of the type KGL possess excellent aerodynamic characteristics. Careful profiling of the rotating blades guarantees high pressure gradients and efficiency levels.

Drive:

Motors conform to efficiency class IE 1, IE 2 or IE 3 with regard to guideline IEC 60034-30 and ErP. Available specifications:

- *not* flame-proof or explosion-proof
- Flame protection: ATEX I M2c
- Explosion protection: ATEX II 2 GD



(d)AL / KGL

Fan Type (d)AL / KGL

(d)AL / KGL 18 – 28

Type:

(d)AL / KGL 18 – 28;
KORFMANN large fans

Type of Construction:

Axial impeller with guide vane, profiled rotating blades, steel housing, feet and mounting feet

Motor on the outside (drive via universal shaft) or inside (Type AL)

Application:

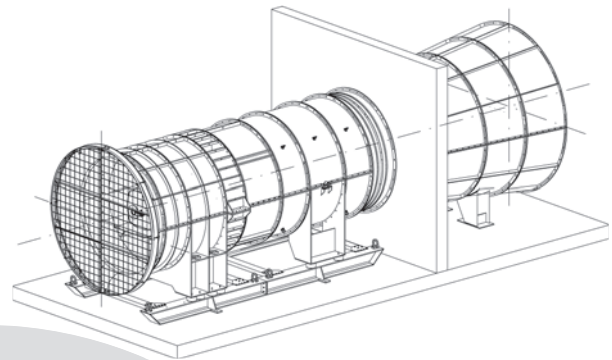
Big fan for big caverns and mines, for high volume requirements

Power:

Volumetric flow up to 250 m³/s, total pressure up to 4000 Pa

Control:

Pole-changing motors*, infinitely variable speed regulation*, individually adjustable blades



Drive:

Three-phase squirrel-cage motors, special design depending on the service location and range

Conforms to efficiency class IE 1, IE 2, IE 3

Color:

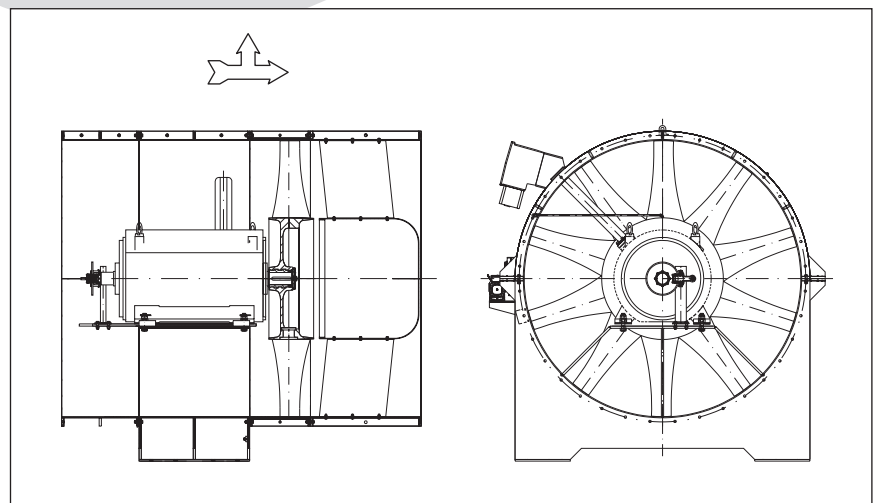
Pure white (RAL 9010)**

Scope of Supply:

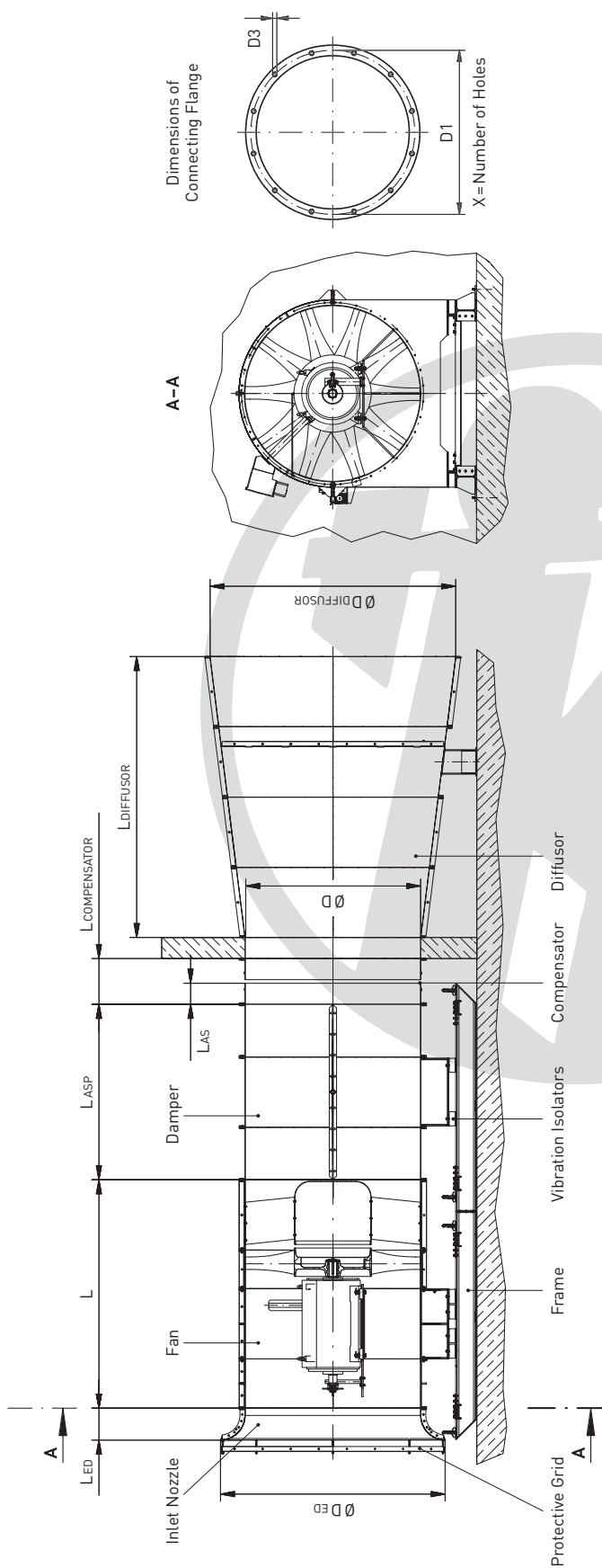
Fan, operating manual

* Depending on the design, single-stage, pole-changing or by frequency drive

** Standard color – other colors on inquiry



Technical representation of a (d)AL / KGL

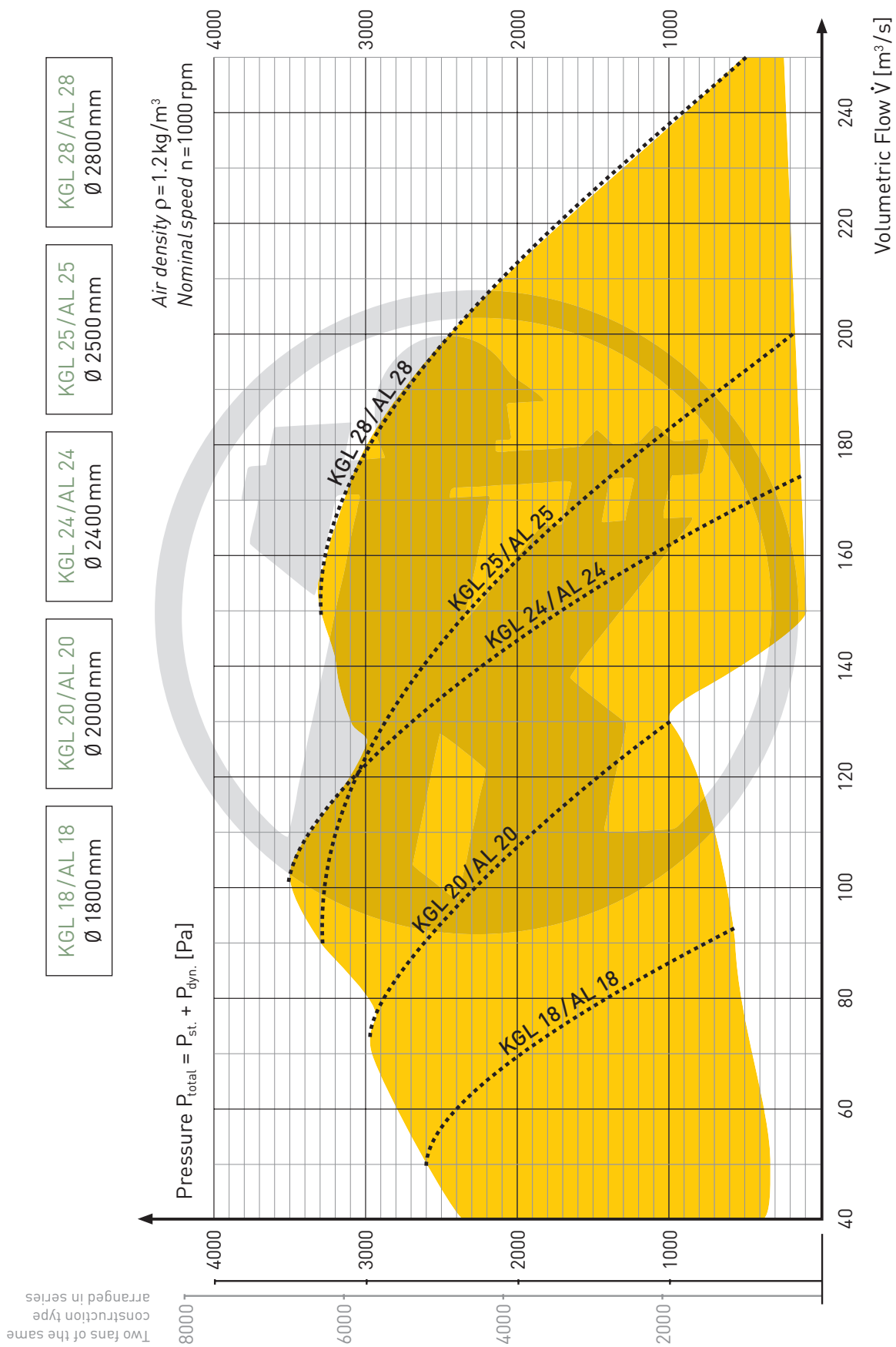


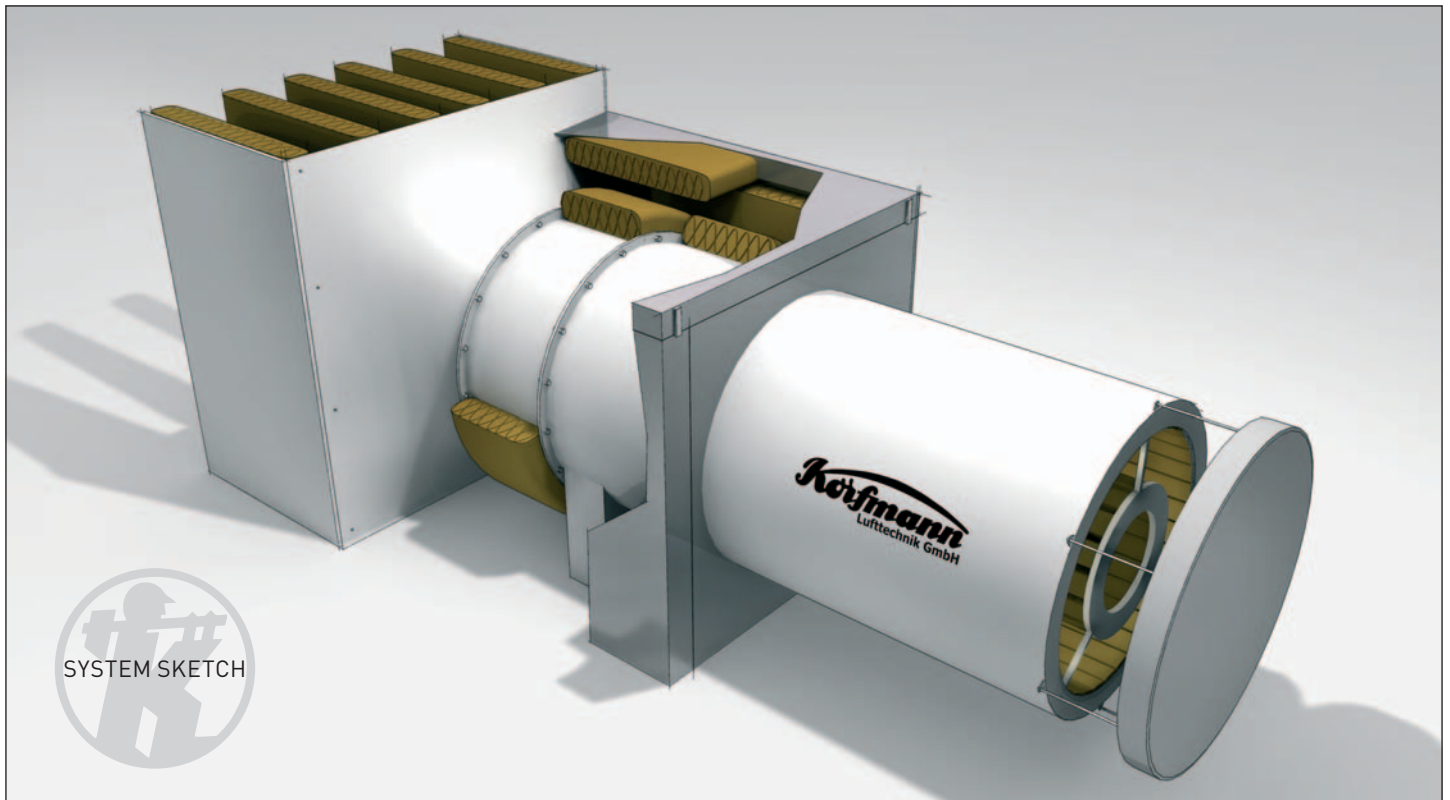
| Type | ID No. | Ø D mm | Length L mm | Height HL mm | Height H mm | Power kW | Weight kg | Connecting Flange | | | Dimensions of Mounting Feet | | | |
|------------|--------|-----------|----------------|-----------------|----------------|-------------|--------------|-------------------|----------|------------|-----------------------------|----------|----------|----------|
| | | | | | | | | Ø D1 mm | X pcs | Ø D3 mm | L1 mm | L2 mm | B1 mm | B2 mm |
| AL 25-4850 | Sample | 2500 | 3250 | 2985 | 1650 | 435.0 | 9100 | 2590 | 36 | 20 | - | 1600 | 2450 | 2600 |
| AL 28-5600 | Sample | 2800 | 3020 | 3235 | 1800 | 560.0 | 7500 | 2916 | 36 | 20 | - | 1600 | 2250 | 2500 |
| AL 28-6000 | Sample | 2800 | 3020 | 3235 | 1800 | 630.0 | 10500 | 2900 | 36 | 20 | - | 1600 | 2250 | 2500 |

Data taken from projects that have been realized.
Dimensions have been customized for local conditions on site.

Pole-changing motors or individually adjustable impellers on inquiry







Due to its physical structure, a fan generates sound energy depending on the speed, air volume and generated pressure. Requirements of the environment, the service location and occupational safety necessitate extensive noise prevention measures.

Because of the *modular* construction of KORFMANN accessories, the highest peak levels can be quickly eliminated. Higher requirements are put into effect through the case-optimized design of baffle-type

silencers, noise-reducing covers and completely enclosed containers depending on the application. Our product range for noise prevention measures is summarized in the table below, which also shows the areas of insertion loss to be expected.

This overview is only a guideline and cannot serve as a technical basis. Please contact our engineering office for precise damping values and noise spectra.

| Type of Silencer | Contraction | Damping Direction | usable | Insertion Loss | |
|-----------------------------------|--------------|-------------------|-----------------|-----------------------|---------------|
| | | | | one in series | two in series |
| Silencer | <i>SDS</i> | axial and radial | both sides | 8 – 15 dB | 12 – 20 dB |
| Silencer with core | <i>SDSI</i> | axial and radial | both sides | 10 – 20 dB | 15 – 26 dB |
| Silencer, short | <i>SDSk</i> | axial and radial | both sides | 5 – 8 dB | 8 – 15 dB |
| Silencer, short with core | <i>SDSkI</i> | axial and radial | both sides | 8 – 12 dB | 10 – 20 dB |
| Impact silencer | <i>PSD</i> | axial | on suction side | 10 – 15 dB | – |
| Fan casing | <i>LUM</i> | radial | fan housing | 3 – 5 dB | – |
| Baffle-type silencer | <i>KSD</i> | axial and radial | both sides | CORRESPONDING TO SIZE | |
| Noise-reducing cover | <i>SH</i> | radial | fan housing | to ~ 25 dB | – |
| Fan in sound-suppressed container | <i>VSC</i> | axial and radial | all | CORRESPONDING TO SIZE | |

SDS 3–18

Type:

SDS 3–18; Silencer, stiff,
long version

Type of Construction:

Steel pipe with a flange on both sides and internal damping elements, retained by clamping rings

Application:

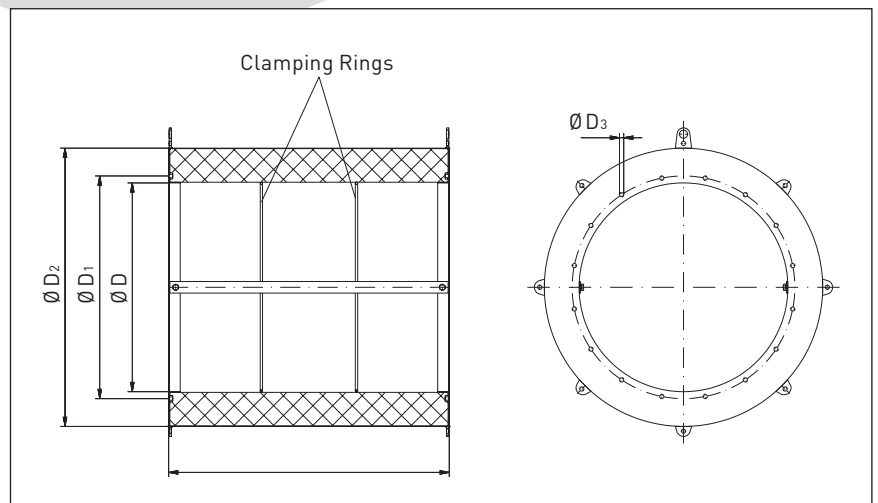
Silencer for KORFMANN axial flow fans on suction and blow side, multiple combinations are possible. Silencing in accordance with noise diagram

Color: Pure white (RAL 9010)*

* Standard color – other colors on inquiry

| Type | D | D ₁ | D ₂ | L | D ₃ | x1 | x2 | x3 | ID No. | kg |
|--------|------|----------------|----------------|------|----------------|----|----|----|----------|-----|
| SDS 3 | 300 | 355 | 500 | 1210 | M12 | 4 | 9 | 3 | 05300902 | 55 |
| SDS 4 | 400 | 455 | 600 | 1210 | M12 | 8 | 13 | 3 | 05400942 | 65 |
| SDS 5 | 500 | 560 | 700 | 1210 | M16 | 8 | 16 | 3 | 05500990 | 80 |
| SDS 6 | 600 | 660 | 800 | 1210 | M16 | 12 | 19 | 6 | 05610938 | 90 |
| SDS 7 | 700 | 760 | 900 | 1210 | M16 | 12 | 22 | 6 | 05710961 | 105 |
| SDS 8 | 800 | 860 | 1000 | 1210 | M16 | 12 | 25 | 6 | 05800925 | 115 |
| SDS 9 | 900 | 960 | 1200 | 1210 | M16 | 16 | 19 | 8 | 05090997 | 150 |
| SDS 10 | 1000 | 1060 | 1300 | 1210 | M16 | 16 | 21 | 6 | 05109026 | 160 |
| SDS 12 | 1200 | 1260 | 1500 | 1210 | M16 | 16 | 25 | 6 | 05120226 | 190 |
| SDS 14 | 1400 | 1480 | 1700 | 1210 | M16 | 24 | 29 | 8 | 05149010 | 290 |
| SDS 16 | 1600 | 1696 | 1900 | 1210 | M16 | 24 | 33 | 8 | 05169013 | 315 |
| SDS 17 | 1700 | 1775 | 2000 | 1210 | M16 | 24 | 36 | 8 | 05170904 | 335 |
| SDS 18 | 1800 | 1890 | 2100 | 1210 | M16 | 36 | 38 | 8 | 05180982 | 355 |

x1 = Number of holes, x2 = Number of damping elements, x3 = Number of lugs on each side



SDSk 3–18

Type:

SDSk 3–18; Silencer, stiff,
short version

Application:

Silencer for KORFMANN axial flow fans on suction and blow side, multiple combinations are possible. Silencing in accordance with noise diagram

Type of Construction:

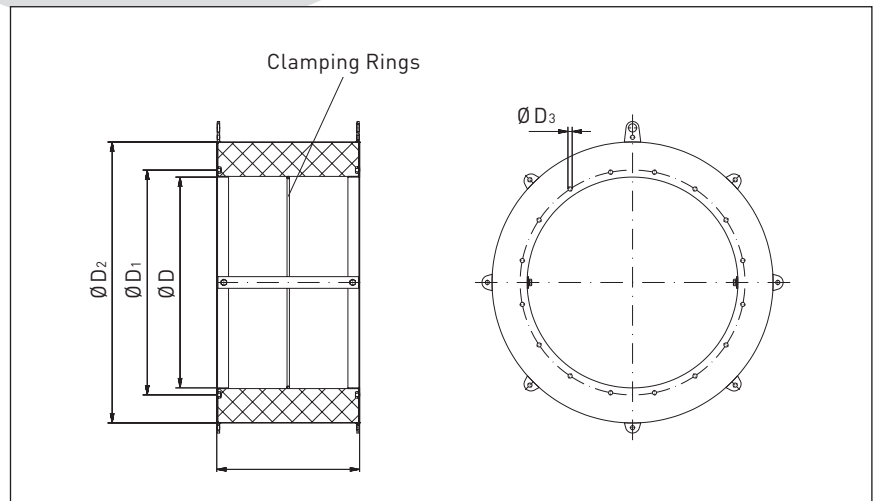
Steel pipe with a flange on both sides and internal damping elements, retained by clamping rings

Color: Pure white (RAL 9010)*

* Standard color – other colors on inquiry

| Type | D | D ₁ | D ₂ | L | D ₃ | x1 | x2 | x3 | ID No. | kg |
|---------|------|----------------|----------------|-----|----------------|----|----|----|----------|-----|
| SDSk 3 | 300 | 355 | 500 | 610 | M12 | 4 | 9 | 3 | 05300903 | 35 |
| SDSk 4 | 400 | 455 | 600 | 610 | M12 | 8 | 13 | 3 | 05400943 | 45 |
| SDSk 5 | 500 | 560 | 700 | 610 | M16 | 8 | 16 | 3 | 05500993 | 50 |
| SDSk 6 | 600 | 660 | 800 | 610 | M16 | 12 | 19 | 6 | 05610940 | 60 |
| SDSk 7 | 700 | 760 | 900 | 610 | M16 | 12 | 22 | 6 | 05710965 | 70 |
| SDSk 8 | 800 | 860 | 1000 | 610 | M16 | 12 | 25 | 6 | 05800926 | 75 |
| SDSk 9 | 900 | 960 | 1200 | 610 | M16 | 16 | 19 | 8 | 05900902 | 90 |
| SDSk 10 | 1000 | 1060 | 1300 | 610 | M16 | 16 | 21 | 6 | 05100937 | 110 |
| SDSk 12 | 1200 | 1260 | 1500 | 610 | M16 | 16 | 25 | 6 | 05120203 | 120 |
| SDSk 14 | 1400 | 1480 | 1700 | 610 | M16 | 24 | 29 | 8 | 05149056 | 185 |
| SDSk 16 | 1600 | 1696 | 1900 | 610 | M16 | 24 | 33 | 8 | • | • |
| SDSk 17 | 1700 | 1775 | 2000 | 610 | M16 | 24 | 36 | 8 | • | • |
| SDSk 18 | 1800 | 1890 | 2100 | 610 | M16 | 36 | 38 | 8 | • | • |

x1 = Number of holes, x2 = Number of damping elements, x3 = Number of lugs on each side, • = on inquiry



SDSI 7-9, SDSki 7-9

Type:

SDSI 7-9, SDSki 7-9; Silencer, stiff, with core, *long* (SDSI) and *short* (SDSki) version

Type of Construction:

Steel pipe with a flange on both sides with internal damping elements (retained by clamping rings) and damping core (filled). Types of construction smaller than SDSI 7 are noneconomic.

Application:

Silencer for KORFMANN axial flow fans on suction and blow side, multiple combinations are possible. Silencing in accordance with noise diagram

Color:

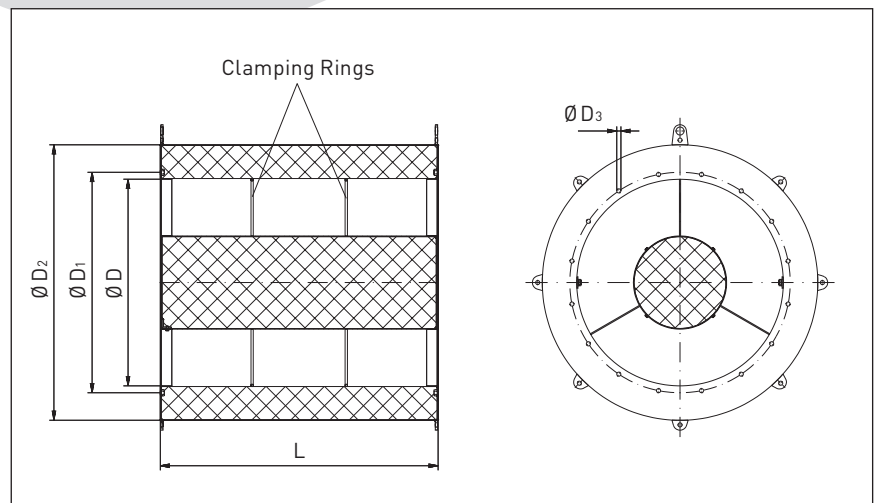
Pure white (RAL 9010)*

* Standard color – other colors on inquiry

| Type | D | D ₁ | D ₂ | L | D ₃ | x1 | x2 | x3 | ID No. | kg |
|--------|-----|----------------|----------------|------|----------------|----|----|----|----------|-----|
| SDSI 7 | 700 | 760 | 900 | 1210 | M16 | 12 | 22 | 6 | 05720205 | 115 |
| SDSI 8 | 800 | 860 | 1000 | 1210 | M16 | 12 | 25 | 6 | 05800263 | 135 |
| SDSI 9 | 900 | 960 | 1200 | 1210 | M16 | 16 | 19 | 8 | 05900228 | 185 |

| Type | D | D ₁ | D ₂ | L | D ₃ | x1 | x2 | x3 | ID No. | kg |
|---------|-----|----------------|----------------|-----|----------------|----|----|----|----------|-----|
| SDSki 7 | 700 | 760 | 900 | 610 | M16 | 12 | 22 | 6 | 05720232 | 75 |
| SDSki 8 | 800 | 860 | 1000 | 610 | M16 | 12 | 25 | 6 | 05800277 | 85 |
| SDSki 9 | 900 | 960 | 1200 | 610 | M16 | 16 | 19 | 8 | 05900253 | 120 |

x1 = Number of holes, x2 = Number of damping elements, x3 = Number of lugs on each side



SDSI 10–17, SDSkl 10–17

Type:

SDSI 10–17, SDSkl 10–17; Silencer, stiff, with core ring, *long* (SDSI) and *short* (SDSkl) version

Type of Construction:

Steel pipe with a flange on both sides with internal damping elements (retained by clamping rings) and damping core ring

Application:

Silencer for KORFMANN axial flow fans on suction and blow side, multiple combinations are possible. Silencing in accordance with noise diagram

Color:

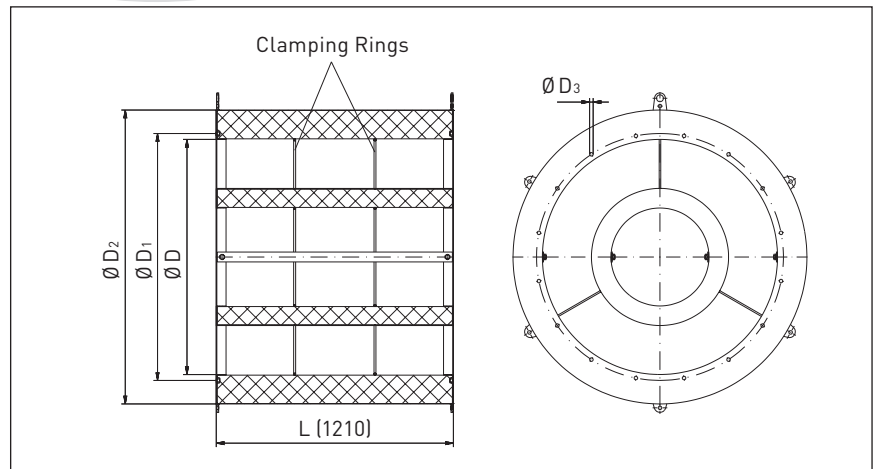
Pure white (RAL 9010)*

* Standard color – other colors on inquiry

| Type | D | D ₁ | D ₂ | L | D ₃ | x1 | x2 | x3 | x4 | ID No. | kg |
|---------|------|----------------|----------------|------|----------------|----|----|----|----|----------|-----|
| SDSI 10 | 1000 | 1060 | 1300 | 1210 | M16 | 16 | 21 | 13 | 6 | 05100444 | 220 |
| SDSI 12 | 1200 | 1260 | 1500 | 1210 | M16 | 16 | 25 | 16 | 6 | 05121380 | 255 |
| SDSI 14 | 1400 | 1480 | 1700 | 1210 | M16 | 24 | 29 | 16 | 8 | 05140308 | 365 |
| SDSI 16 | 1600 | 1696 | 1900 | 1210 | M16 | 24 | 34 | 19 | 8 | 05160389 | 410 |
| SDSI 17 | 1700 | 1775 | 2000 | 1210 | M16 | 24 | 36 | 19 | 8 | 05170655 | 430 |

| Type | D | D ₁ | D ₂ | L | D ₃ | x1 | x2 | x3 | x4 | ID No. | kg |
|----------|------|----------------|----------------|-----|----------------|----|----|----|----|----------|-----|
| SDSkl 10 | 1000 | 1060 | 1300 | 610 | M16 | 16 | 21 | 13 | 6 | 05100447 | 155 |
| SDSkl 12 | 1200 | 1260 | 1500 | 610 | M16 | 16 | 25 | 16 | 6 | 05121411 | 160 |
| SDSkl 14 | 1400 | 1480 | 1700 | 610 | M16 | 24 | 29 | 16 | 8 | 05140331 | 240 |
| SDSkl 16 | 1600 | 1696 | 1900 | 610 | M16 | 24 | 34 | 19 | 8 | 05160400 | 270 |
| SDSkl 17 | 1700 | 1775 | 2000 | 610 | M16 | 24 | 36 | 19 | 8 | 05170660 | 280 |

x1 = Number of holes, x2 = Number of damping elements (external),
 x3 = Number of damping elements (internal), x4 = Number of lugs on each side



PSD 5–18

Type:

PSD 5–18; Impact silencer

Type of Construction:

Damping plate in front of the suction or outlet side mounted on spacer bolts

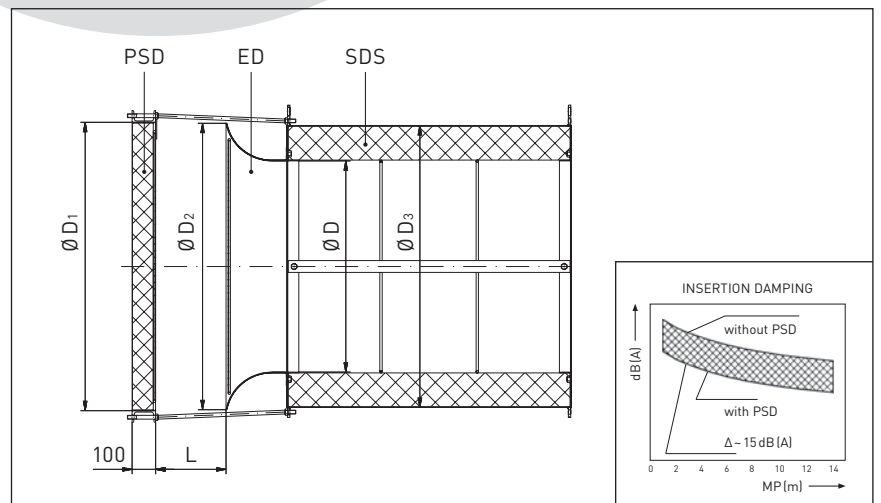
Application:

Silencer for KORFMANN axial flow fans on the suction or outlet side. Silencing in accordance with noise diagram

Color: Pure white (RAL 9010)*

* Standard color – other colors on inquiry

| Type | D | D ₁ | D ₂ | D ₃ | L | Inlet Nozzle | Impact Silencer | Spacer Bolts | | kg |
|--------|------|----------------|----------------|----------------|-----|--------------|-----------------|--------------|----------|-----|
| | | | | | | | ID No. | pcs | ID No. | |
| PSD 5 | 500 | 840 | 700 | 700 | 185 | half-round | 05500731 | 3 | 35500730 | 25 |
| PSD 6 | 600 | 840 | 840 | 800 | 220 | half-round | 05620247 | 3 | 35620246 | 25 |
| PSD 7 | 700 | 1200 | 960 | 900 | 250 | half-round | 05720346 | 3 | 35720376 | 60 |
| PSD 8 | 800 | 1200 | 1080 | 1000 | 280 | half-round | 05800355 | 3 | 35800363 | 60 |
| PSD 9 | 900 | 1200 | 1220 | 1200 | 315 | half-round | 05900350 | 4 | 35900644 | 60 |
| PSD 10 | 1000 | 1400 | 1400 | 1300 | 360 | conical | 05109036 | 6 | 35100493 | 85 |
| PSD 12 | 1200 | 1550 | 1550 | 1500 | 400 | conical | 05129087 | 6 | 35121607 | 100 |
| PSD 14 | 1400 | 1700 | 1620 | 1700 | 415 | conical | 05149052 | 8 | 35141128 | 130 |
| PSD 16 | 1600 | 2080 | 2080 | 1900 | 530 | conical | 05169028 | 8 | 35160456 | 170 |
| PSD 17 | 1700 | 2000 | 1950 | 2000 | 500 | conical | 05170908 | 8 | 35170807 | 160 |
| PSD 18 | 1800 | 2150 | 2150 | 2100 | 550 | conical | 05180988 | 8 | 35180768 | 180 |



LUM 3-18

Type:

LUM 3-18; Fan casing

Type of Construction:

Flexible casing of antistatic duct materials, filled with specific mineral wool insulation. One or two parts

Application:

Silencer for KORFMANN axial flow fans as a direct enclosure on the fan

Insertion Loss:

~3-5 dB (A)

Color:

Depending on duct material

SH 10-14

Type:

SH 10-14; Noise-reducing cover

Type of Construction:

Fixed specific sound insulation in sandwich construction with galvanized sheet steel; multi-piece execution depending on the field of application

Application:

Noise-reducing covers for KORFMANN axial flow fans as a complete enclosure of the fan as well as other attached flow housings

Insertion Loss:

~8-25 dB (A)

Color: Zinc color or similar

Dimensions:

The dimensions and the weight greatly depend on the local conditions and the ventilation system used and are specially designed for the case at hand.



KSD

Type:

KSD; Baffle-type silencer

Color:

Zinc color or pure white (RAL 9010)*

Type of Construction:

Fixed specific sound insulation. In a baffle construction as absorbing baffles. Rectangular housing of sheet steel. With internal perforated sheet metal covering and non-woven glass material provided as trickling protection

Dimensions:

The dimensions and weight depend on the possible construction size. Absolute in relation to the required project-specific parameters

Custom-built for one specific use case

Absorbtion Material:

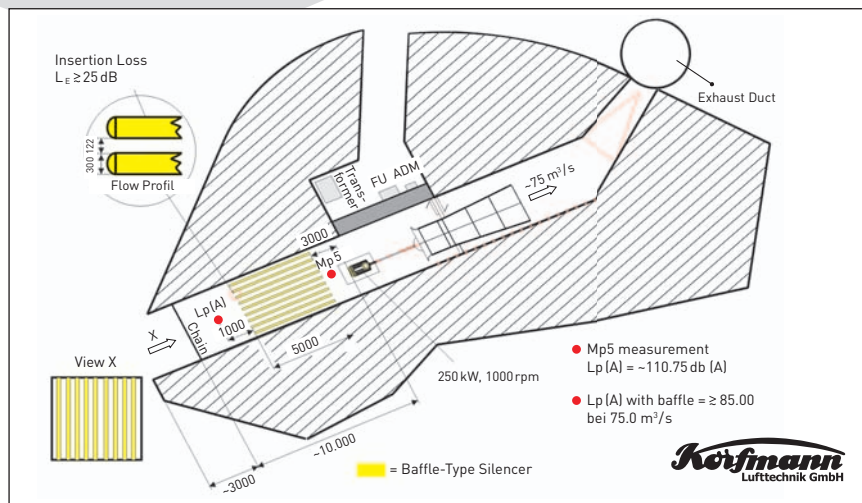
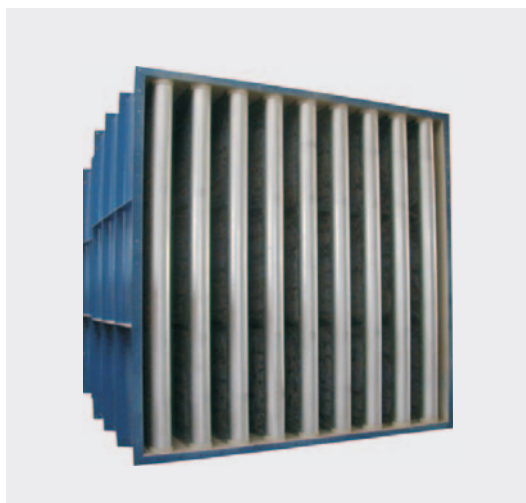
Mineral wool, fire-resistant, complies to DIN 4102

* Standard color – other colors on inquiry

Application:

Silencing for KORFMANN axial flow fans on suction and blow side. Directly mounted or as insertion loss above the damping limit of tubular silencers

Insertion loss optimized depending on the required volumetric flow, pressure loss and possible site-dependent construction size



VSC 20, VSC 40

Type:

VSC 20, VSC 40; Fan in a sound-suppressed container, 20 or 40 ft. long

Type of Construction:

Converted standard 20 or 40 ft. sea container. Completely lined with insulating material under galvanized perforated sheet metal plating. Integrated control system outside or inside the container possible. Access door provided on the side

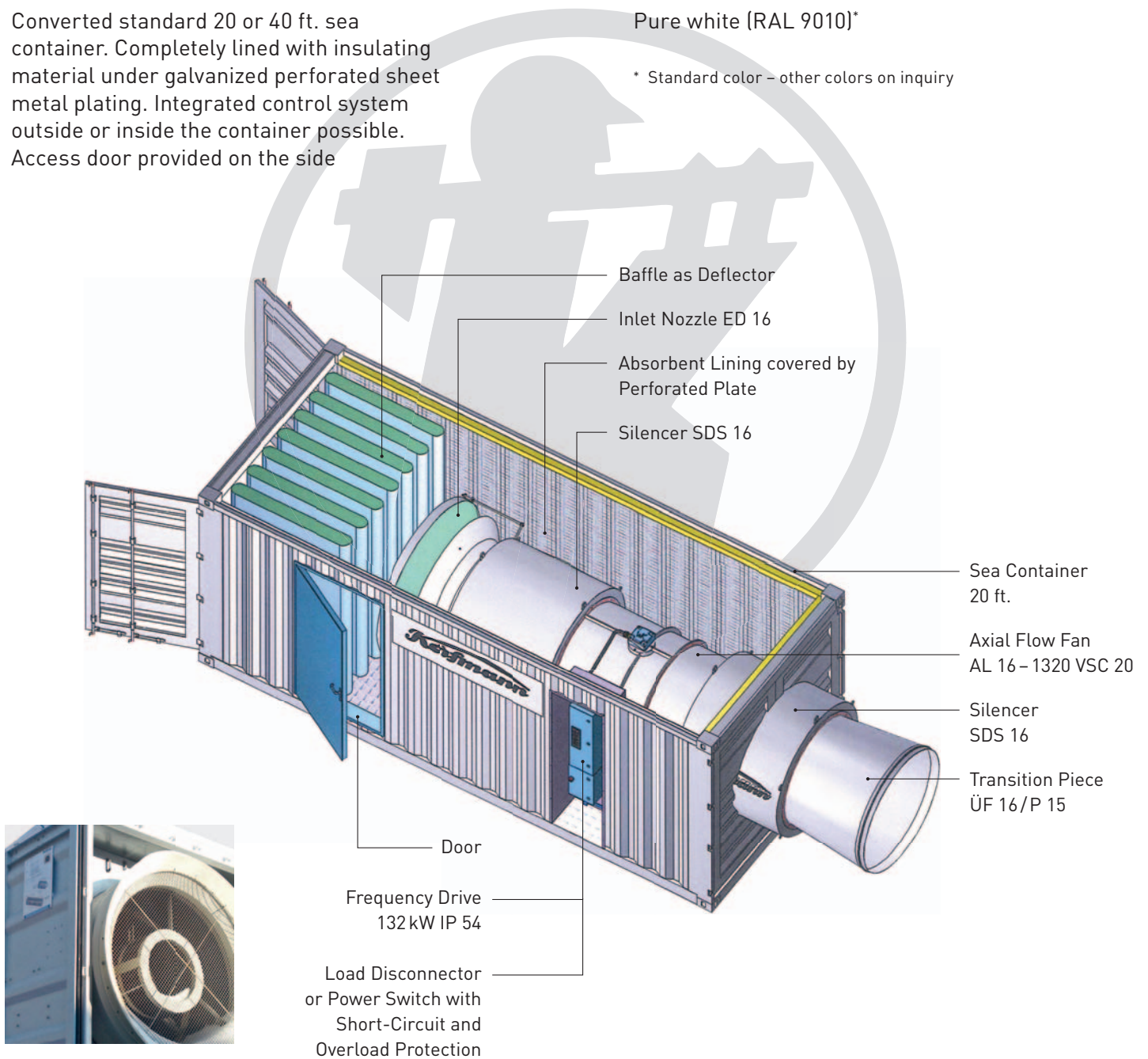
Application:

Complete enclosure for KORFMANN axial flow fans, silencing to profile of requirements

Color:

Pure white (RAL 9010)*

* Standard color – other colors on inquiry



AS 3-18

Type:

AS 3-18;
Connecting piece

Application:

Fitting for the connection of
duct material

Type of Construction:

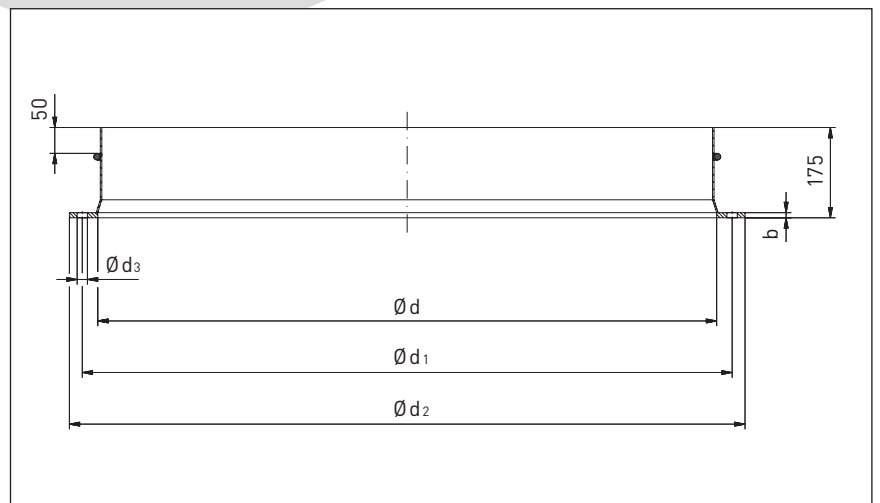
Steel pipe with connecting flanges

Color: Pure white (RAL 9010)*

* Standard color – other colors on inquiry

| Type | d | d ₁ | d ₂ | d ₃ | b | x | ID No. | kg |
|-------|------|----------------|----------------|----------------|----|----|----------|----|
| AS 3 | 290 | 355 | 410 | 14 | 8 | 4 | 35030394 | 7 |
| AS 4 | 390 | 455 | 510 | 14 | 8 | 8 | 35400029 | 9 |
| AS 5 | 490 | 560 | 610 | 18 | 8 | 8 | 35500142 | 12 |
| AS 6 | 590 | 660 | 710 | 18 | 8 | 12 | 35600887 | 14 |
| AS 7 | 690 | 760 | 810 | 18 | 8 | 12 | 35700180 | 16 |
| AS 8 | 790 | 860 | 910 | 18 | 8 | 12 | 35080397 | 18 |
| AS 9 | 890 | 960 | 1010 | 18 | 8 | 16 | 35090534 | 21 |
| AS 10 | 990 | 1060 | 1110 | 18 | 10 | 16 | 35100045 | 26 |
| AS 12 | 1190 | 1260 | 1310 | 18 | 10 | 16 | 35120865 | 31 |
| AS 14 | 1390 | 1480 | 1530 | 18 | 10 | 24 | 35140227 | 36 |
| AS 16 | 1590 | 1696 | 1745 | 18 | 10 | 24 | 35160319 | 41 |
| AS 17 | 1690 | 1775 | 1835 | 18 | 10 | 24 | 35170587 | 43 |
| AS 18 | 1790 | 1890 | 1960 | 18 | 10 | 36 | 35180581 | 46 |

x = Number of flange holes



ED 3-12+SG, EDK 14-18+SG

Type:

ED 3-12+SG, EDK 14-18+SG;
Inlet nozzle with protective grating

Type of Construction: Half-round nozzle of sheet steel (ED)/conical nozzle of sheet steel (EDK) with flange and protective grating

Application:

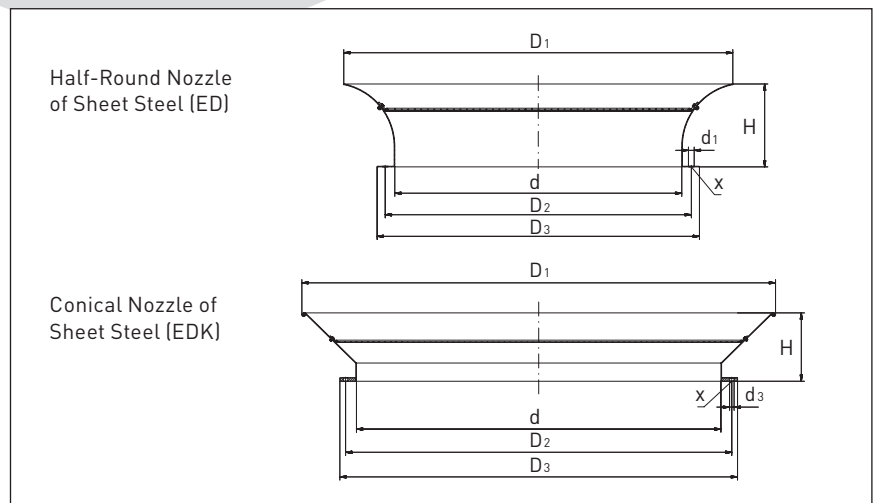
Inlet nozzle for the suction side of the fan with mounted protective grating

Color: Pure white (RAL 9010)*

* Standard color – other colors on inquiry

| Type | d | d ₁ | D ₁ | D ₂ | D ₃ | H | x | ID No. | kg |
|--------|------|----------------|----------------|----------------|----------------|-----|----|----------|----|
| ED 3 | 300 | 14 | 420 | 355 | 410 | 100 | 4 | 05030392 | 6 |
| ED 4 | 400 | 14 | 560 | 455 | 510 | 140 | 8 | 05400910 | 8 |
| ED 5 | 500 | 18 | 700 | 560 | 610 | 155 | 8 | 05500942 | 10 |
| ED 6 | 600 | 18 | 840 | 660 | 710 | 190 | 12 | 05600928 | 14 |
| ED 7 | 700 | 18 | 960 | 760 | 810 | 220 | 12 | 05700950 | 19 |
| ED 8 | 800 | 18 | 1080 | 860 | 910 | 215 | 12 | 05080984 | 22 |
| ED 9 | 900 | 18 | 1220 | 960 | 1010 | 260 | 16 | 05090906 | 26 |
| ED 10 | 1000 | 18 | 1400 | 1060 | 1110 | 300 | 16 | 05100911 | 35 |
| ED 12 | 1200 | 20 | 1550 | 1260 | 1310 | 330 | 16 | 05121420 | 62 |
| Type | d | d ₁ | D ₁ | D ₂ | D ₃ | H | x | ID No. | kg |
| EDK 14 | 1400 | 18 | 1620 | 1480 | 1530 | 280 | 24 | 05149036 | 75 |
| EDK 16 | 1600 | 18 | 2080 | 1696 | 1735 | 300 | 24 | 05169047 | 78 |
| EDK 17 | 1700 | 18 | 1950 | 1775 | 1835 | 320 | 24 | 05170520 | 82 |
| EDK 18 | 1800 | 18 | 2150 | 1890 | 1940 | 300 | 36 | 05181032 | 90 |

x = Number of flange holes



MED 3 – 12+SG, MEDK 14 – 18+SG

Type:

MED 3 – 12+SG, MEDK 14 – 18+SG;
Measuring inlet nozzle with protective grating

Type of Construction: Half-round nozzle of sheet steel (MED)/conical nozzle of sheet steel (MEDK) with flange, measuring points, ring circuit and protective grating

Application:

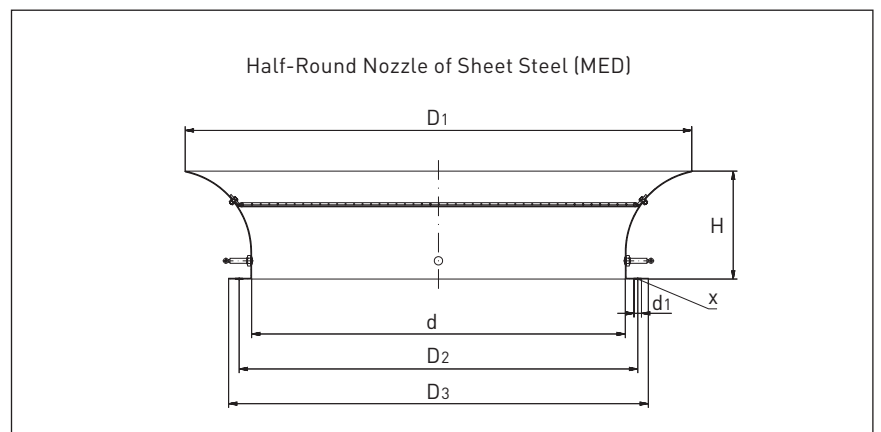
Inlet nozzle for the suction side of the fan with mounted protective grating for volumetric flow measurement

Color: Pure white (RAL 9010)*

* Standard color – other colors on inquiry

| Type | d | d ₁ | D ₁ | D ₂ | D ₃ | H | x | ID No. | kg |
|---------|------|----------------|----------------|----------------|----------------|-----|----|----------|----|
| MED 3 | 300 | 14 | 420 | 355 | 410 | 100 | 4 | 05030391 | 7 |
| MED 4 | 400 | 14 | 560 | 455 | 510 | 140 | 8 | 05400909 | 9 |
| MED 5 | 500 | 18 | 700 | 560 | 610 | 155 | 8 | 05500941 | 11 |
| MED 6 | 600 | 18 | 840 | 660 | 710 | 190 | 12 | 05600927 | 15 |
| MED 7 | 700 | 18 | 960 | 760 | 810 | 220 | 12 | 05700949 | 21 |
| MED 8 | 800 | 18 | 1080 | 860 | 910 | 215 | 12 | 05080983 | 24 |
| MED 9 | 900 | 18 | 1220 | 960 | 1010 | 260 | 16 | 05090905 | 28 |
| MED 10 | 1000 | 18 | 1400 | 1060 | 1110 | 300 | 16 | 05100910 | 38 |
| MED 12 | 1200 | 20 | 1550 | 1260 | 1310 | 330 | 16 | 05121441 | 67 |
| Type | d | d ₃ | D ₁ | d ₁ | d ₂ | H | x | ID No. | kg |
| MEDK 14 | 1400 | 18 | 1620 | 1480 | 1530 | 280 | 24 | – | 76 |
| MEDK 16 | 1600 | 18 | 2080 | 1696 | 1735 | 300 | 24 | – | 79 |
| MEDK 17 | 1700 | 18 | 1950 | 1775 | 1835 | 320 | 24 | – | 83 |
| MEDK 18 | 1800 | 18 | 2150 | 1890 | 1940 | 300 | 36 | – | 91 |

x = Number of flange holes



ÜF 3/P 4 to ÜF 18/P 26

Type: ÜF 3/P 4 to ÜF 18/P 26; Transition piece flange/connection plastic duct

Type of Construction: Conical steel pipe with connecting flange on one side and duct connection on the other side. Additional transition pieces consisting of duct material and other special constructions are available on request.

Application:

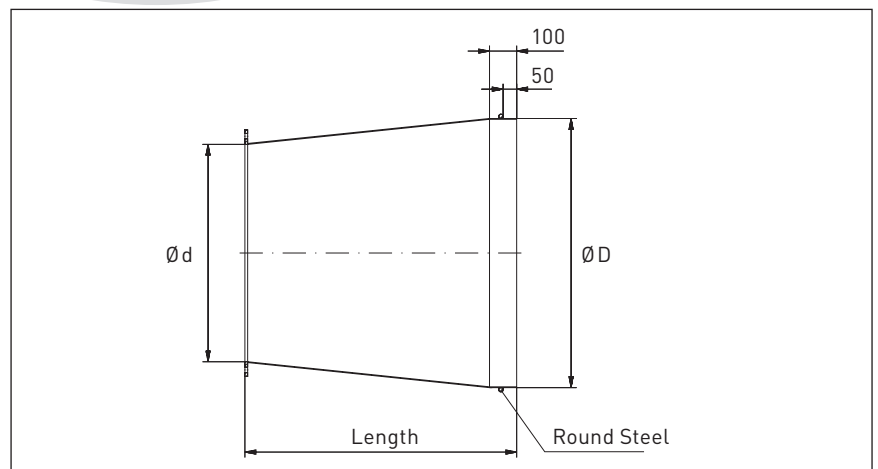
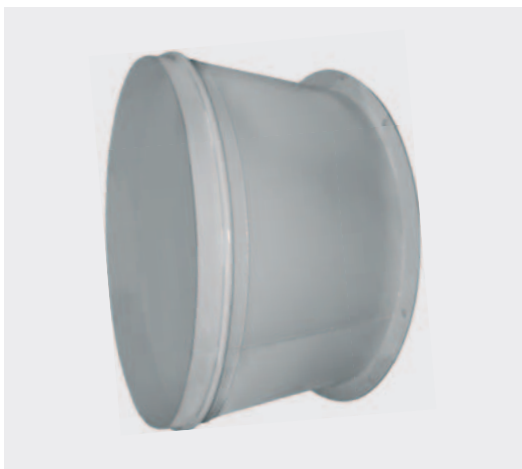
As a transition piece for modular arrangements with a flange or duct connection

Color: Pure white (RAL 9010)*

* Standard color – other colors on inquiry

| Type | Length mm | Weight kg | ID No. | | Type | Length mm | Weight kg | ID No. | |
|------------|--------------|--------------|----------|----------|------------|--------------|--------------|----------|----------|
| | | | ÜF/P | ÜP/F | | | | ÜF/P | ÜP/F |
| ÜF 3/P 4 | 500 | 17 | 35030400 | 35400031 | ÜF 12/P 13 | 500 | 65 | 35120941 | - |
| ÜF 3/P 5 | 1000 | 29 | 35030401 | 35500145 | ÜF 12/P 14 | 1000 | 130 | 35120857 | 35140436 |
| ÜF 4/P 5 | 500 | 21 | 35400035 | 35500146 | ÜF 12/P 16 | 1500 | 195 | 35120475 | - |
| ÜF 4/P 6 | 1000 | 36 | 35400036 | 35600929 | ÜF 14/P 15 | 500 | 75 | 35140094 | - |
| ÜF 5/P 6 | 500 | 29 | 35500150 | 35600930 | ÜF 14/P 16 | 1000 | 150 | 35140420 | - |
| ÜF 5/P 7 | 1000 | 46 | 35500151 | 35700184 | ÜF 14/P 18 | 1500 | 205 | 35140233 | - |
| ÜF 6/P 7 | 500 | 34 | 35610009 | 35700185 | ÜF 14/P 20 | 1500 | 235 | 35140234 | - |
| ÜF 6/P 8 | 1000 | 53 | 35610010 | 35080302 | ÜF 16/P 17 | 500 | 100 | - | 35170590 |
| ÜF 7/P 8 | 500 | 39 | 35700192 | 35080303 | ÜF 16/P 18 | 1000 | 165 | 35160042 | - |
| ÜF 7/P 9 | 1000 | 61 | 35700193 | 35090536 | ÜF 16/P 20 | 1500 | 235 | 35160321 | - |
| ÜF 7/P 10 | 1000 | 82 | 35700570 | - | ÜF 16/P 22 | 1500 | 240 | 35160286 | - |
| ÜF 8/P 9 | 500 | 34 | 35080307 | 35090537 | ÜF 16/P 24 | 1500 | 250 | 35160169 | - |
| ÜF 8/P 10 | 1000 | 68 | 35080308 | 35100041 | ÜF 17/P 18 | 500 | 110 | 35170574 | - |
| ÜF 9/P 10 | 500 | 48 | 35090542 | 35100042 | ÜF 17/P 20 | 1000 | 255 | 35170589 | - |
| ÜF 9/P 11 | 1000 | 70 | 35090543 | - | ÜF 17/P 22 | 1500 | 270 | 35170585 | - |
| ÜF 9/P 12 | 1500 | 145 | 35900155 | - | ÜF 17/P 24 | 1500 | 285 | 35170573 | - |
| ÜF 9/P 14 | 500 | 62 | 35900322 | - | ÜF 17/P 25 | 1500 | 280 | 35170606 | - |
| ÜF 9/P 14 | 1000 | 105 | 35090838 | - | ÜF 18/P 20 | 1000 | 210 | - | - |
| ÜF 9/P 14 | 1500 | 187 | 35090475 | - | ÜF 18/P 22 | 1500 | 255 | 35180577 | - |
| ÜF 10/P 12 | 1000 | 83 | 35100044 | 35120050 | ÜF 18/P 24 | 1500 | 260 | 35180414 | - |
| ÜF 10/P 14 | 1000 | - | 35100367 | - | ÜF 18/P 25 | 1500 | 270 | 35180593 | - |
| ÜF 10/P 14 | 1500 | 138 | 35100407 | - | ÜF 18/P 26 | 1500 | 280 | 35180591 | - |

Additional transition pieces available on request.



ASP 3-28

Type:

ASP 3-28; Damper in the described type of construction

Application:

As a damper for inactive fans. Explicitly for ventilation systems in parallel operation. Also as a throttle valve to regulate the output of a fan

Type ASP M:

Steel pipe with a flange on both sides. Uni- or multi-axle mounted flap inside, can be rib-reinforced if required. Manually adjustable. Can be fastened in various positions

Type ASP A:

Infinitely variable drive regulated with gear or actuator. Actuator allows fastening in various positions. Geared motor end positions configurable with contactor. Motor power according to flap size

Type dASP A, Ex I or II:

Infinitely variable gear drive. Both gear and drive conform to Ex I (flame-proof) or Ex II (explosion-proof). End positions adjustable with contactor. Motor power depends on flap size

Type dASP AP, Ex I or II:

Adjustable with outer pneumatic lifting cylinder

Color:

Pure white (RAL 9010)*

* Standard color – other colors on inquiry



LVS 5 – LVS 30

Type:

LVS 5 – LVS 30; Duct storage device

Type of Construction:

Steel pipe with core. Special construction available on request

Application:

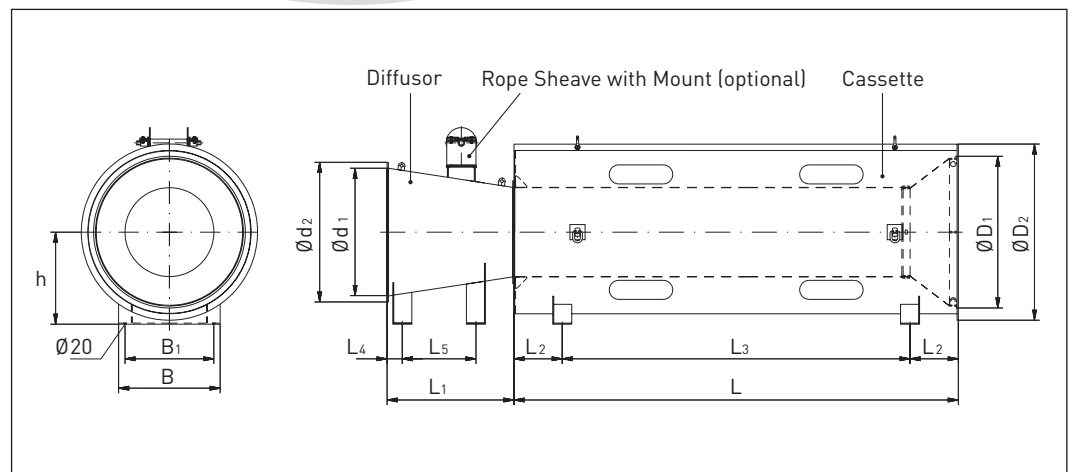
Storage unit for accommodation of ducts. Storage space for a maximum of 200m of ducting

Color: Pure white (RAL 9010)*

* Standard color – other colors on inquiry

| Type | D1 | D2 | L | L1 | L2 | L3 | L4 | L5 | d1 | d2 | B | B1 | H | Wc | Wd |
|--------------|------|------|------|------|-----|------|-----|-----|------|------|------|------|------|------|-----|
| LVS 5 – 100 | 495 | 650 | 3000 | 1000 | 280 | 2440 | 272 | 200 | 500 | 610 | 400 | 300 | 350 | 360 | 140 |
| LVS 6 – 100 | 595 | 790 | 3000 | 1000 | 280 | 2440 | 120 | 580 | 600 | 710 | 400 | 300 | 410 | 420 | 170 |
| LVS 7 – 100 | 695 | 880 | 3000 | 1000 | 280 | 2440 | 120 | 580 | 700 | 810 | 500 | 400 | 470 | 500 | 180 |
| LVS 8 – 100 | 795 | 983 | 3000 | 900 | 280 | 2440 | 120 | 580 | 700 | 810 | 500 | 400 | 500 | 560 | 200 |
| LVS 9 – 100 | 895 | 1076 | 3000 | 1000 | 280 | 2440 | 120 | 580 | 700 | 800 | 600 | 500 | 570 | 600 | 220 |
| LVS 10 – 100 | 995 | 1150 | 3000 | 1000 | 280 | 2440 | 120 | 580 | 900 | 1010 | 600 | 500 | 600 | 640 | 220 |
| LVS 12 – 100 | 1195 | 1388 | 3000 | 1000 | 280 | 2440 | 120 | 580 | 1000 | 1110 | 800 | 700 | 725 | 820 | 240 |
| LVS 14 – 100 | 1395 | 1583 | 3000 | 1000 | 280 | 2440 | 120 | 580 | 1200 | 1310 | 1000 | 900 | 825 | 960 | 280 |
| LVS 15 – 100 | 1495 | 1683 | 3000 | 1000 | 280 | 2440 | 120 | 500 | 1300 | 1400 | 1000 | 900 | 875 | 1000 | 290 |
| LVS 16 – 100 | 1595 | 1780 | 3000 | 1200 | 280 | 2440 | 120 | 780 | 1400 | 1500 | 1000 | 900 | 975 | 1100 | 300 |
| LVS 18 – 100 | 1795 | 1978 | 3000 | 1200 | 280 | 2440 | 120 | 780 | 1600 | 1700 | 1200 | 1100 | 1075 | 1200 | 320 |
| LVS 20 – 100 | 1995 | 2178 | 3000 | 1200 | 280 | 2440 | 120 | 780 | 1800 | 1910 | 1400 | 1300 | 1175 | 1330 | 360 |
| LVS 22 – 100 | 2195 | 2381 | 3000 | 1200 | 280 | 2440 | 120 | 780 | 2200 | 2310 | 1500 | 1400 | 1270 | 1450 | 400 |
| LVS 24 – 100 | 2395 | 2578 | 3000 | 1200 | 280 | 2440 | 120 | 780 | 2300 | 2400 | 1600 | 1500 | 1350 | 1580 | 420 |
| LVS 25 – 100 | 2495 | 2708 | 3000 | 1200 | 280 | 2440 | 120 | 780 | 2400 | 2500 | 1600 | 1500 | 1400 | 1650 | 465 |
| LVS 30 – 100 | 2995 | 3208 | 3000 | 1200 | 280 | 2440 | 250 | 500 | 2900 | 3028 | 2000 | 1900 | 1650 | 1970 | 595 |
| LVS 20 – 150 | 1995 | 2178 | 3500 | 1200 | 380 | 2740 | 120 | 780 | 1800 | 1910 | 1400 | 1300 | 1175 | 1460 | 360 |
| LVS 22 – 150 | 2195 | 2378 | 3500 | 1200 | 380 | 2740 | 120 | 780 | 2200 | 2310 | 1500 | 1400 | 1270 | 1600 | 400 |
| LVS 24 – 150 | 2395 | 2578 | 3500 | 1200 | 380 | 2740 | 120 | 780 | 2300 | 2400 | 1600 | 1500 | 1350 | 1580 | 420 |
| LVS 25 – 150 | 2495 | 2708 | 3500 | 1200 | 380 | 2740 | 120 | 780 | 2400 | 2500 | 1600 | 1500 | 1400 | 1650 | 480 |
| LVS 24 – 200 | 2395 | 2578 | 3500 | 1200 | 380 | 2740 | 120 | 780 | 2300 | 2400 | 1600 | 1500 | 1350 | 1800 | 420 |
| LVS 25 – 200 | 2495 | 2708 | 4000 | 1200 | 580 | 2840 | 120 | 780 | 2400 | 2500 | 1600 | 1500 | 1400 | 1850 | 450 |

Wc=Weight of Cassette (kg), Wd=Weight of Diffusor (kg). Additional duct storage devices available on request.



WDL/WDS 3-24

Type:

WDL/WDS 3-24; Differential pressure transducer duct material/steel pipe

Type of Construction:

Ring of duct material or steel sheet with measuring points

Application:

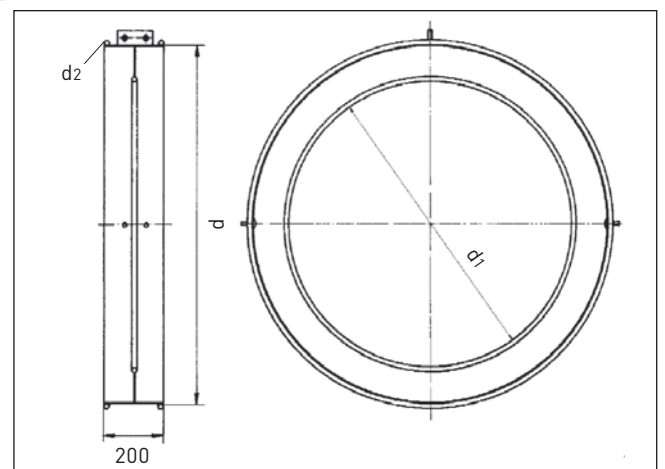
Fitting for the connection of measuring devices for checking the pressure and volume ratios inside the duct

Color: Duct color/pure white (RAL 9010)*

* Steel sheet model

| Type | d | d ₁ | d ₂ | ID No. | kg |
|--------|------|----------------|----------------|----------|----|
| WDL 3 | 300 | 240 | 13.5 | 05300053 | 3 |
| WDL 4 | 400 | 320 | 13.5 | 05400218 | 3 |
| WDL 5 | 500 | 400 | 13.5 | 05509008 | 4 |
| WDL 6 | 600 | 480 | 13.5 | 05619010 | 4 |
| WDL 7 | 700 | 570 | 13.5 | 05720918 | 5 |
| WDL 8 | 800 | 650 | 13.5 | 05800956 | 6 |
| WDL 10 | 1000 | 800 | 13.5 | 05109004 | 7 |
| WDL 12 | 1200 | 975 | 18.5 | 05129007 | 14 |
| WDL 14 | 1400 | 1150 | 18.5 | 05149001 | 16 |
| WDL 16 | 1600 | 1280 | 18.5 | 05160320 | 18 |
| WDL 18 | 1800 | 1440 | 18.5 | 05180586 | 20 |
| WDL 20 | 2000 | 1600 | 20.5 | 05200196 | 23 |
| WDL 22 | 2200 | 1760 | 20.5 | 05220206 | 25 |
| WDL 24 | 2400 | 1920 | 20.5 | 05240112 | 27 |

Data for WDS on request.



Star-Delta Contactor Combination (* Δ)

For power and starting torque reduction at switch-on. Power is reduced by approx. 30% compared to direct-on-line starting. Starting torque is reduced by approx. 27% respectively

Advantages:

- Protected starting and stopping
- Controllable start-up
- Reduction of the initial current

Type: Star-Delta contactor *X*, power in kW

Type of Construction: Switch cabinet/wall enclosure, Rittal, protection class IP54

Electrical Specifications:

Mains supply voltage: 380–690V,
Mains supply frequency: 50/60 Hz

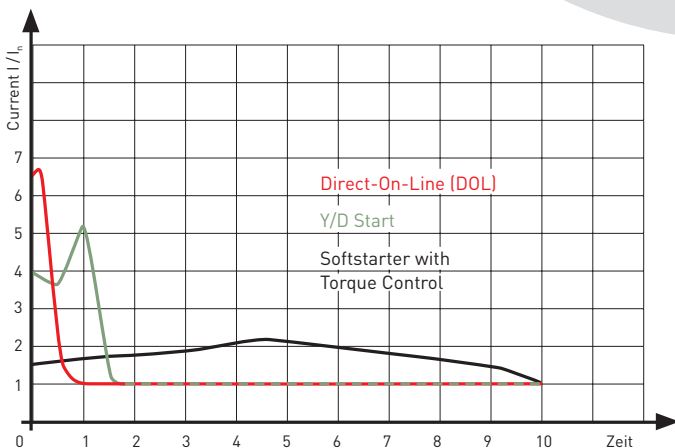
Standard Assembly

- Heavy-duty starting
- Circuit breaker with emergency stop
- Start/Stop push button built into door

Dimensions: Available on request

Housing Color: RAL 7035*

* Standard color – other colors on inquiry



Source: CG Emotron MSF 2.0 Softstarter

Softstarter 7.5 kW to 800 kW

Allows *digital* current and starting torque reduction during switch-on. Power is reduced by approx. 70% compared to direct-on-line starting. Starting torque is reduced by approx. 27% respectively

Advantages compared to Star-Delta Contactor Combination:

- protected *digital* start and stop (start-up and shut-down times configurable)
- no changeover pressure
- operating data can be viewed on display

Type: MSF *018–835*, Rated current

Type of Construction: MSF switch cabinet, protection class IP54

Electrical Specifications:

- Mains supply voltage: 200–525V (+10%/-10%)
- Mains supply voltage: 200–690V (+5%/-10%)
- Control supply voltage: 100–240V (+10%/-10%)
- Control supply voltage: 380–500V (+10%/-10%)
- Mains supply frequency: 50/60Hz (+10%/-10%)
- Number of fully controlled phases: 3

Standard Assembly

- Softstarter with finished boards
- Circuit breaker with emergency stop
- Ventilation
- Cabinet with heating unit and humidistat (-10 to +40 °C)
- PTC Thermistor
- *Built into cabinet:*
 - ECP operating and configuration panel
 - Start/Stop push button, error acknowledgement
 - Status lights for "Operation", "Error" or "Drive speed attained"

Dimensions: Available on request

Housing Color: RAL 7035*

* Standard color – other colors on inquiry



Pole-Changing Combination

Allows current and starting torque reduction during switch-on. This combination provides several power stages for flexible use depending on the motor polarity.

Advantages:

- Protected start and stop
- Controlled start-up
- Two motor speeds reduce switch-on current

Type: Pole-changing combination *X/Y*, power in kW, e.g. ES9-500/80 (Ø 900 mm, 50/8 kW)

Type of Construction: Switch cabinet/wall enclosure, Rittal, protection class IP54

Electrical Specifications:

Mains supply voltage: 380–690V
 Mains supply frequency: 50/60 Hz

Standard Assembly

- Heavy-duty starting
- Circuit breaker with emergency stop
- Start/Stop push button built into cabinet door

Dimensions: Available on request

Housing Color: RAL 7035*

* Standard color – other colors on inquiry



Remote Control

With CG Emotron Powerpanel (PP) processes can be controlled and visualized, e.g. all relevant parameters and data from our ventilation systems. Due to the fact that the Ethernet protocol Modbus/TCP is being used as a means of communication between frequency drive and PP, the PP can be integrated into existing networks easily. This includes glass fibre networks with the help of special converters.

In general a LCD color display and software are being provided. The software is customized and extended depending on the customers' wishes. It is possible to monitor and control more than one station or to include control of volumetric flow settings. If needed displays with bigger screens are also available.



CG Emotron Remote Control – Standard Assembly with PP45



CG Emotron Remote Control PP42 – controls for comprehensive solutions and large-scale plants with high requirements

FU CG Emotron FDU 5.5 kW to 132 kW

Advantages of frequency drives of type FDU:

- Protected start and stop
- Controlled start-up
- Infinitely variable fan power
- Efficient energy usage due to optimized fan power
- Reliable operation of fans

Type: FDU *48 to 69*-*013 to 250*-54 CE

MAINS SUPPLY VOLTAGE RATED CURRENT TYPE OF PROTECTION

Type of Construction:

Metal housing complies to protection class IP54

Sizes:

B, C, D, E, F*

Electrical Specifications:

- Mains supply voltage (+10 % / -15 %):
 - FDU48-: 380 to 480 V (on inquiry from 230 V)
 - FDU52-: 500 to 525 V (only sizes B, C, D)
 - FDU69-: 500 to 690 V (starting at size F69)
- Mains supply frequency: 45 to 65 Hz
- Input power factor: 0,95
- Output voltage: 0 to supply voltage
- Output frequency: 0 to 400 Hz
- Output switching frequency: 3 kHz
- Efficiency at nominal load: approx. 98 %
- Temperature: 0 to +40 °C

KORFMANN Standard Assembly:

- PPU operating and configuration panel
- PTC Thermistor
- Finished boards
- Integrated mains filter

Options:

- 1) Main control switch for frequency drive for sizes B, C and D (5.5 to 37 kW)
- 2) Sub-construction and protective roof:
 - for sizes E and F (55 to 132 kW)
 - Steel frame for frequency drive
 - Sub-construction and protective roof
 - Circuit breaker with emergency stop in sub-construction, lock cylinder
- 3) Pedestal or single-foot for steel frame
- 4) Two bi metals in sub-construction (GAL)
- 5) Options for frequency drive:
 - Serial RS232 interface
 - Bus systems: Profibus, Ethernet*
 - Remote control

Dimensions:

Available on request

* Additional options on request



Frequency drive with and without sub-construction

FU CG Emotron FDU 160 kW to 250 kW in outdoor switch cabinets

Advantages of frequency drives of type FDU:

- Protected start and stop
- Controlled start-up
- Infinitely variable fan power
- Efficient energy usage due to optimized fan power
- Reliable operation of fans

Type: FDU *48 to 69*-*300 to 500*-54 CE
MAINS SUPPLY VOLTAGE RATED CURRENT TYPE OF PROTECTION

Type of Construction: Special switch cabinet mounted on skids with frequency drive, protection class IP54

Sizes: G and H

Electrical Specifications:

- Mains supply voltage (+10 % / -15 %):
 - FDU48-: 380 to 480 V (sizes G and H)
 - FDU69-: 500 to 690 V (sizes G69 and H69)
- Mains supply frequency: 45 to 65 Hz
- Input power factor: 0.95
- Output voltage: 0 to supply voltage
- Output frequency: 0 to 400 Hz
- Output switching frequency: 3 kHz
- Efficiency at nominal load: approx. 98 %

KORFMANN Standard Assembly:

- Mains filter included in frequency drive
- Frequency drive with finished boards
- Load break switch with low voltage trigger: emergency stop (G and H)
- Fuses in frequency drive
- Cabinet with heating unit (-10 to +40 °C)
- PTC Thermistor
- *Built into cabinet door:*
 - PPU operating and configuration panel
 - Emergency stop push button

Options:

- Serial RS232 interface
- Bus systems: Profibus, Ethernet*
- Remote control

Dimensions:

Available on request

Housing Color:

RAL 7035**

- * Other frequency drive options on request
- ** Standard color – other colors on inquiry



Frequency drive in outdoor switch cabinet mounted on skids

FU CG Emotron FDU 45 kW to 560 kW in switch cabinet

Advantages of frequency drives of type FDU:

- Protected start and stop
- Controlled start-up
- Infinitely variable fan power
- Efficient energy usage due to optimized fan power
- Reliable operation of fans

Type: FDU *48 to 69*-*090 to 1k0*-54 CE
MAINS SUPPLY VOLTAGE RATED CURRENT TYPE OF PROTECTION

Type of Construction: Switch cabinet with frequency drive, protection class IP54

Sizes: E, F, G, H, I, J*

Electrical Specifications**:

- Mains supply voltage (+10 % / -15 %):
 - FDU48-: 380 to 480V (on inquiry from 230V)
 - FDU69-: 500 to 690V (starting at size F69)
- Mains supply frequency: 45 to 65 Hz
- Input power factor: 0.95
- Output voltage: 0 to supply voltage
- Output frequency: 0 to 400 Hz
- Output switching frequency: 3 kHz
- Efficiency at nominal load: approx. 98 %

KORFMANN Standard Assembly:

- Mains filter in frequency drive
- Frequency drive with finished boards
- Circuit breaker with low voltage trigger: emergency stop (sizes E and F)
- Load break switch with low voltage trigger: emergency stop (starting at size G)
- Fuses inside frequency drive (starting at size G)
- Ventilation
- Cabinet with heating unit and humidistat (-10 to +40 °C)
- PTC Thermistor

- Built into cabinet door (on request):
 - PPU operating and configuration panel
 - Start/Stop push button, Reset; status lights
 - Potentiometer (motor speed)
 - Emergency stop push button

Options:

- 1) Two bi metals in sub-construction
- 2) Options for frequency drive:
 - Serial RS232 interface
 - Bus systems: Profibus, Ethernet***
 - Remote control

Dimensions:

Available on request

Housing Color: RAL 7035****

- * Other sizes on request
- ** Higher power requirements on request
- *** Request other options for frequency drives
- **** Standard color - other colors on inquiry

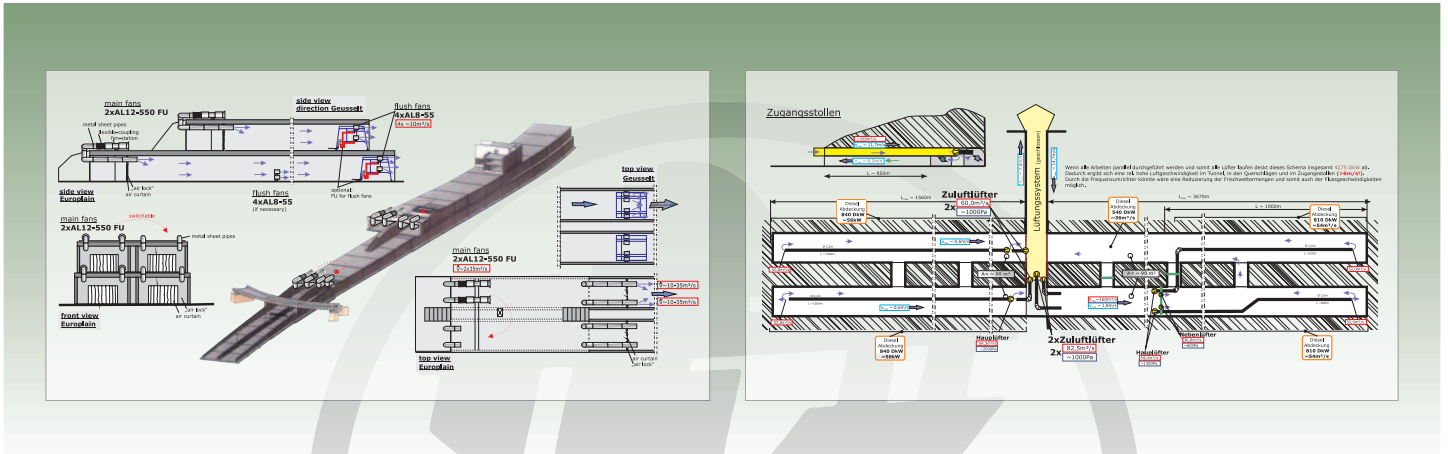


Frequency drive in switch cabinet

Engineering – Concept Development

The engineers of KORFMANN Lufttechnik GmbH will be your partner to develop and supervise ventilation concepts for any underground site. Our technicians will work out efficient and economic

ventilation solutions for presentation and documentation in association with the responsible project supervisors.



Engineering – Comprehensive Project Solutions

KORFMANN LUFTECHNIK GmbH will supervise complex projects – from the concept phase until power-up – with regard to integrated process measuring and control technology and can offer solutions that rely on complete control systems.

For these systems our engineers developed software applications, workflow diagrams and control

modules in cooperation with our partners that allow for a precise customization of the controller for the individual ventilation and customers' requirements. Optional surveillance modules can be added to guarantee increased security for core components.



Engineering – Measurements on Site

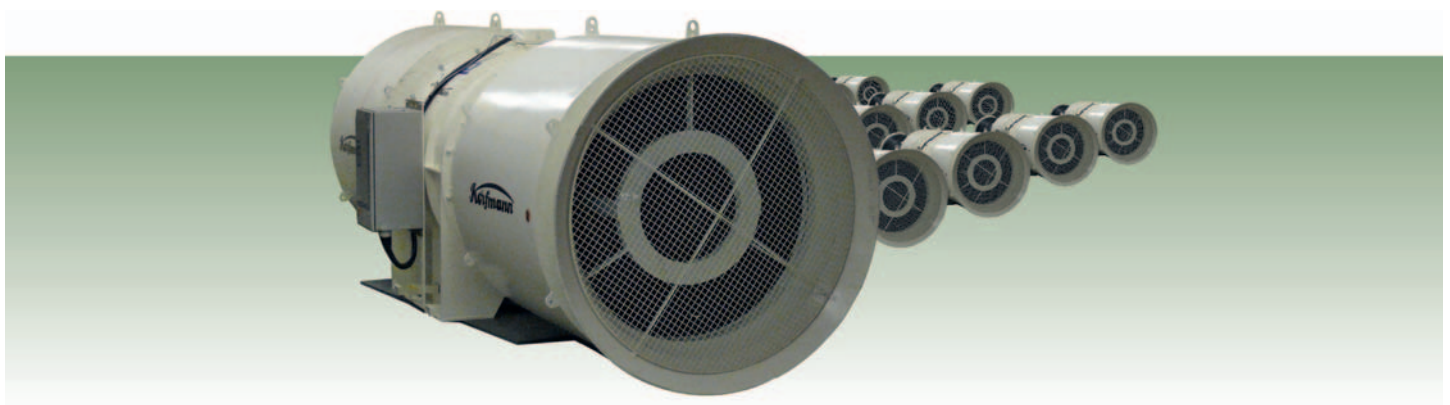
To optimize constructions, our engineers and other responsible parties check all relevant parameters that exist on site. This process includes measurements to determine the optimal operating point for

fans while in operating state, resistance measurements of ducts and noise-level measurements to analyze immissions.

Rental Service

We offer reconditioned, used and completely re-built fans as well as matching accessories for various fan types with short delivery times. For all rentals you can expect the KORFMANN quality and

guarantee that we are known for, which increases the safety on your site. Contact us to inquire about the desired fan types or we can advise you which fans will meet your specific needs.



I. General

1. All supplies and performances are subject to these conditions as well as other contractual agreements. Divergent purchase conditions of the buyer, if any, shall not become part of the contract. If no special agreement was made, the contract shall come into effect with the official order confirmation of the supplier.

2. The copyright of samples, quotations, drawings or similar physical or non-physical information, also in form of software, shall remain with the supplier. Such information or documentation may not be made accessible to a third party. The supplier shall ensure that he does not pass any confidential information or documentation of the buyer to a third party without the prior agreement of the buyer.

3. Partial deliveries are permissible in as far as this is reasonable to the buyer.

II. Price and Payment

1. For lack of other agreements, the prices shall be understood to be for delivery ex works, including loading at the supplier's plant but excluding packing and unloading. The legal VAT shall be added to the price.

2. The buyer may only hold back payments or offset payments with counterclaims if such counterclaims are undisputed or legally binding.

III. Delivery Period, Delay in Delivery

1. The delivery period results from the contractual agreements agreed between the contract partners. It shall be kept to by the supplier only if all commercial and technical details are clarified between the contract partners and the buyer has met all his obligations, such as the submission of official certificates or approvals and if the buyer has paid the down payment.

If not, the delivery period has to be extended reasonably. However, this applies only if the supplier is not responsible for the delay.

2. 1. The delivery period shall be kept to only on condition that the supplier receives the parts to be supplied by his subcontractors in good time.

3. The delivery period has been kept to when the goods to be supplied have left the supplier's factory at the end of the delivery period or when the supplier has informed the buyer that the goods are ready for dispatch. If an acceptance inspection

has to be carried out, the date of acceptance is relevant or the information that the goods are ready for acceptance, except for a justified non-acceptance.

4. If the dispatch or acceptance of the goods to be delivered is delayed for reasons which are the fault of the buyer, the buyer shall be charged with the cost arising from the delay, starting one month after informing the buyer that the goods are ready for dispatch and/or acceptance.

5. If the non-compliance with the delivery period is caused by Force Majeure, labor strikes or other events beyond the supplier's control, the delivery period shall be extended by a reasonable. In this case, the supplier shall inform the buyer of the start and end of such circumstances as soon as possible.

6. The buyer can withdraw from the contract without fixing a time limit if the supplier is not able to effect the complete delivery before passing the risk. Moreover, the buyer can cancel the contract if in case of an order, the execution of a part of the delivery is impossible and the buyer has a justified interest in rejecting the partial delivery.

If not, the buyer shall pay the contract price payable for the partial delivery. The same shall apply to the inability of the supplier.

If the impossibility or inability occurs during the default in accepting the delivery of goods or if the buyer is solely responsible for these circumstances, buyer shall be obliged to settle the payment.

IV. Reservation of Title

1. The goods shall remain the property of the supplier until the buyer has settled all payments to the supplier resulting from the contract, including costs arising in the future from contracts concluded at the same time or later. The same shall apply in the case that some or all claims of the supplier have been included in a current invoice and the balance has been deducted and accepted.

2. The buyer may only resell the goods under reservation in the course of orderly business if the buyer has already ceded all claims to the supplier which may arise to the buyer from the resale to any other buyer or third parties. If the buyer sells the goods under reservation as they are or if the buyer sells the goods together with objects which are the sole property of the buyer, the buyer shall cede all claims arising from the resale to the supplier to the full amount.

If the buyer sells goods under reservation which been modified by the buyer or in combination with the buyer's goods,



the buyer shall immediately cede the claims arising from the resale to the full value of the goods under reservation to the supplier including all subsidiary rights. The buyer hereby accepts the cession. After the cession, the buyer shall be authorized to collect these. The supplier's authority to collect the claims himself shall not be affected by this regulation but the supplier agrees not to collect claims as long as the buyer meets his payment obligations or other obligations.

The supplier may ask the buyer to inform him about any assignment of claims and names of the debtors and he can ask the buyer to hand over the corresponding documentation and to inform the debtors about the assignment.

3. The supplier shall not be responsible for any processing or modification of his own goods. Such work shall be carried out by the buyer who is solely responsible for this work. In case of processing, modification or combination of the supplier's goods with other goods which are not the supplier's property, the supplier shall become part owner of the newly created object in proportion to the value of the supplier's goods to the other goods in the newly created object at the time of processing, modification or combination.

If the buyer becomes the sole owner of the newly created object, the contractual partners agree that the supplier becomes part owner of the newly created object in proportion to the value of the processed, modified or combined goods of the supplier. In this case, the buyer shall keep the supplier's goods in a safe place free of charge to the supplier.

4. In case that a mutual liability of the supplier is substantiated in connection with the payment of the purchase price by the buyer, the reservation of title as well as the corresponding claim arising from the supply of goods shall not expire before the buyer as drawee has encashed the bill of exchange.

V. Passing of risk

1. Also if the delivery was effected carriage paid, the risk shall be passed to the buyer as follows:

a) In case of delivery excluding erection or installation of goods, when goods were dispatched or collected. If requested by the buyer, the supplier may take out an insurance covering the usual transportation risks at the buyer's expense.

b) In case of delivery incl. erection or installation on the day of transfer of the goods at the buyer's site or, if agreed in the contract, after a perfect test operation.

2. If the dispatch, delivery, start of erection or installation, transfer of goods at the buyer's site or the test operation is de-

layed for reasons which are the fault of the buyer or if the buyer cannot accept the goods for other reasons, the risk shall pass to the buyer.

VI. Warranty

The supplier shall be responsible for the following material defects and defects of title:

Material defects

1. At the choice of the supplier, the supplier shall either repair or replace parts free of charge which prove to be defective owing to a circumstance which occurred before transfer of the risk. The supplier shall be advised of any such defects in writing without delay. Replaced parts shall become the property of the supplier.

2. The buyer shall provide the supplier with the necessary time and opportunity to replace or repair faulty parts after agreement with the supplier. Otherwise, the supplier shall not be responsible for the consequences resulting from the defect. In urgent cases of danger of operational safety or in order to prevent an unreasonably large amount of damage, the buyer shall be entitled to remedy the fault on his own or have the repair carried out by a third party. In this case, he shall inform the supplier immediately and can demand compensation from the supplier.

3. If the buyer's complaint is justified, the supplier shall bear the cost of the repair or replacement of the faulty part, including dispatch as well as reasonable cost of dismantling and installation; he shall also bear the cost of sending his technicians and personnel if this is cheaper depending on the location of the individual case.

4. Based upon the legal conditions, the buyer shall be entitled to withdraw from the contract if the supplier does not make the repair or supply of a replacement part within a reasonable time under consideration of the legal exceptions. If the defect is negligible, the buyer shall be only entitled to reduce the contract price. Apart from this case, a reduction in price shall be excluded.

5. No warranty shall be provided in the following cases: Incorrect or improper use, faulty installation or commissioning by the buyer or a third party, normal wear, incorrect or careless handling, improper maintenance, unsuitable operating material, poor construction work, unsuitable site, chemical, electrochemical or electrical influences provided that the supplier cannot be held responsible.

6. If any repair is carried out in an improper way by the buyer or a third party, the supplier cannot be held responsible for



any consequence arising from such improper repair. The same shall apply if modifications are carried out on the equipment supplied without the prior agreement of the supplier.

Defect of Title

7. If the use of the equipment supplied results in a violation of protective rights or copyrights in Germany, the supplier shall provide the buyer at the supplier's expense with the right to use the equipment, or the supplier shall modify the equipment in a way reasonable to the buyer such that trade rights are no longer violated.

If such modification cannot be carried out in a cost-effective manner or within a reasonable time, the buyer can withdraw from the contract. Under these circumstances, the supplier shall also have the right to cancel the contract. Moreover, the supplier shall release the buyer from any undisputed or legally binding claims of the owners of trade rights concerned.

8. The supplier's obligations mentioned in paragraph VI. 7 shall only be effective if:

- The buyer informs the supplier immediately on an asserted violation of protective rights or copyrights.
- The buyer supports the supplier in an appropriate manner in rejecting the asserted claims and/or provides the supplier with the opportunity of carrying out the modifications according to VI. 7.
- The supplier reserves the right to initiate any defensive measures including unusual regulations.
- The defective title is not based on an instruction of the buyer.
- The violation of rights was not caused by the fact that the buyer modified the equipment without authorization or the buyer used the equipment as stipulated in the contract.

VII. Limitation

Any claims of the buyer arising from any legal argument whatsoever shall become invalid by prescription in 12 months.

In the case of wilful or malicious procedure or in the case of claims in connection with product liability, the legal time limits shall be applicable. These time limits shall also apply to faulty buildings or supplied equipment which was used inappropriately for a building and caused its poor quality.

VIII. Use of Software

If the scope of supply includes software, the buyer shall have a non-exclusive right to use the supplied software and its documentation. The software may be used in connection with the equipment supplied. The software shall not be used in more

than one system. The buyer may only copy, update, translate or transform the object code into a source code to the extent permitted by law (Articles 69 and following of the German copyright law) The buyer shall not remove the manufacturer's information, especially copyrights, without the prior express agreement of the supplier.

All other rights in connection with the software and documentation including the copies shall remain with the supplier and/or the supplier of the software. The buyer may not issue sublicenses.

IX. Applicable Right, Legal Domicile

1. In the case of any disputes between the supplier and buyer, the law of the Federal Republic of Germany applicable to disputes between domestic business partners shall be decisive.

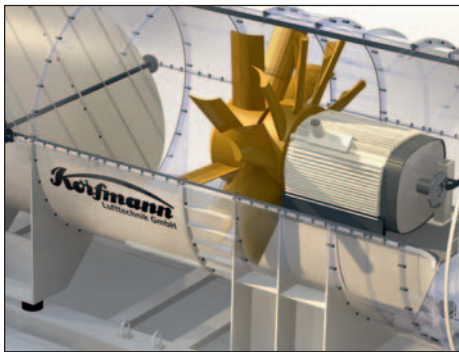
2. Any disputes arising hereunder shall be settled before a competent court of law at the supplier's domicile. However, the supplier shall be entitled to file a suit against the buyer at the buyer's domicile.

3. If any provisions of the contract should become ineffective, the other provisions of the contract shall not be affected and remain valid.



KORFMANN LUFTECHNIK GmbH

Engineering Office, Producer and Supplier of Leading Technology
for Commercial Application in Mining and Tunneling



KORFMANN LUFTECHNIK GmbH

Hörder Straße 286, 58454 Witten
P.O. Box 1749, 58407 Witten
Germany

Phone: +49 (0) 23 02 / 17 02-0
Fax: +49 (0) 23 02 / 17 02-153
E-mail: info@korfmann.com

www.korfmann.com

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