



## Product information

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Supply air pressurisation system  
for smoke control

**strulik**



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## Fans

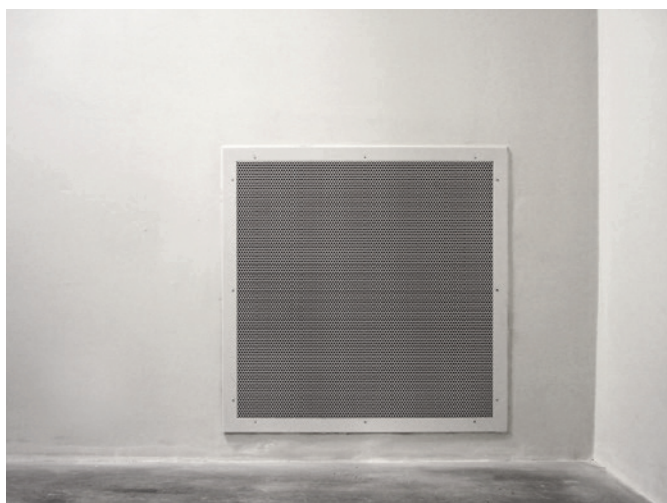
The supply air fan ensures adequate supply air volume for the protection of the stairwell, firefighting lift and/or the escape area. The supplied air volume complies with the calculated design which takes into account the safety requirements, air leakage and climatic influence. The supply of smoke-free, clean air is ensured.



Installation examples DV2 and DV1

## Supply air grille

The supply air grilles must be designed in accordance with the calculation for introducing the supply air volume into the stairwell. The dimensions of the grille must be dimensioned for a exit velocity of approximately 2 m/s for a distributed arrangement at a supply air shaft. The builders work penetrations are decided to aid the distribution of the supply air in the stairwell and are determined with reference to the pressure loss of the grille. The grilles can also be provided as individual grilles for supply air without a shaft. It may be necessary to use adjustable grilles for compensating the



Installation example for supply air grilles for controlled air distribution

A multi-leaf damper with a spring return motor for shut-off is provided at every air intake. Standby fans are additionally equipped with an air-tight multi-leaf damper on each fan. A repair/service switch with auxiliary contacts for monitoring is fitted on every fan.



natural "stack effect", which can vary between summer and winter. The election is made as described previously. In addition, the grille is equipped with an electrically adjustable multi-leaf damper with a modulating actuator. When using grilles with an exhaust shaft in conjunction with a smoke extraction damper, special attention must be paid to the pressure difference found at the grille.

For more details, refer to the Strulik brochure "Differential pressure systems – planning notes".



# Supply air fan with casing for indoor installation, type DV1

- 2,500 m<sup>3</sup>/h to 80,000 m<sup>3</sup>/h
- 0.75 kW to 45 kW
- Repair/service switch with auxiliary contact
- Anti-vibration mounts
- RAL 9006 or other RAL as requested
- Additional attachments and parts are supplied for loose for site fitting by others



DV1

## Description

Casing frame made of aluminium profiles, cover plates screwed to the frame and are also removable - finished with powder coating in RAL 9006 or other RAL as requested.

The axial fan has a stabilised characteristic curve, with guide vanes to increase pressure and to ensure a largely twist-free delivery flow profile. The impeller is directly mounted on the drive motor. The impeller has vanes which are adjustable when the fan is stopped. The fan has a polyester powder coating in RAL 7030.

The power cable must be lead through from the drive and connected to the repair/service switch located outside on the casing on site by others

DV1 – including protective grille.

## Optional accessories

- **Multi-leaf damper**, mounted: supply or discharge side, including spring return actuator SFL, Spring return Open or spring return closed?
- **Flexible connector**, mounted: suction and/or pressure-side
- **Protective grille**, mounted: supply and/or discharge side (essential if the fan is un-ducted)

Bespoke design for materials and dimensions upon request.

For examples of typical designs with different accessories see the following pages.

Fan characteristic curves from page 14 onwards

Installation instructions from page 18 onwards

Dimensions and accessories on page 29

Electrical and ventilation data on page 13

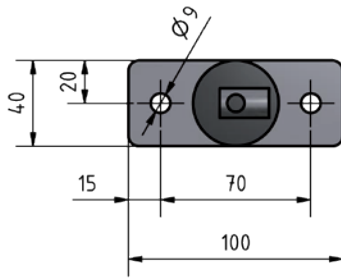
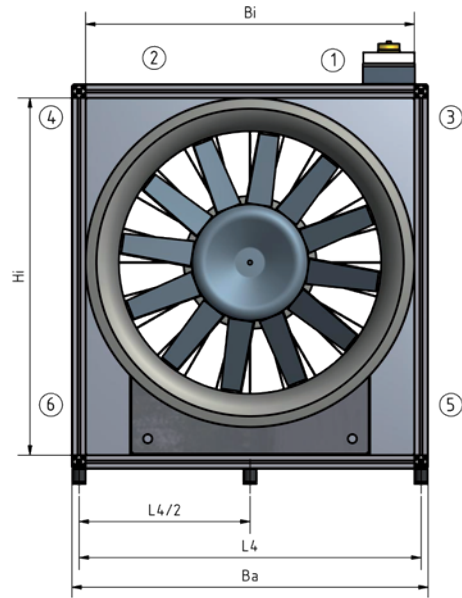
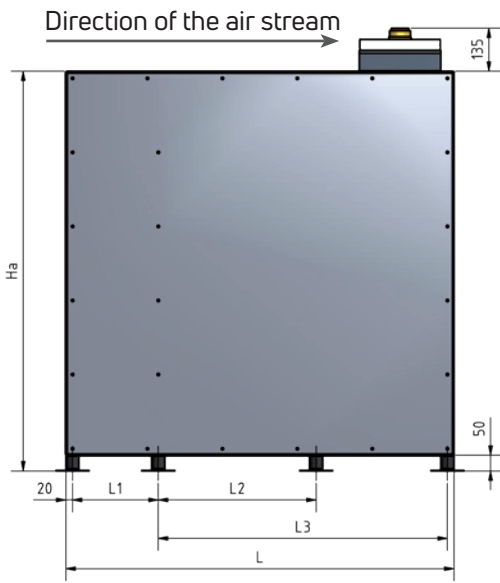
Electrical connection diagram from page 30 onwards



**Notes:** Please follow the installation instructions. The supply side of the unit must be accessible for setting the rotating blade angle. (If connecting supply ductwork, an inspection chamber of 600 mm x 600 mm must be included for access). The flexible connectors must be mounted such that they are stretched and without offset – mounting length 200 mm.

As standard, actuators with SLC technology are supplied. Other actuators are available on request.

## Main dimensions



Detailed top view of the anti-vibration mount

Position of the repair/service switch with reference to direction of the air stream:

- Top right ① or left ②
- Right side wall on top ③ or bottom ⑤
- Left side wall on top ④ or bottom ⑥

Nominal size	Ba	Bi	Ha	Hi	L	L1	L2	L3	L4	Weight
[--]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg]
DV1-400	590	500	685	550	710	176	--	494	540	110
DV1-450	650	560	750	615	740	178	--	522	600	120
DV1-500	710	630	825	690	810	191	--	579	670	190
DV1-630	880	800	1000	870	950	168,5	--	741,5	840	250
DV1-710	980	900	1105	975	1025	212	--	773	940	350
DV1-800	1080	1000	1215	1085	1180	261	480	879	1040	445
DV1-900	1200	1120	1345	1215	1190	207	470	940	1160	680
DV1-1000	1330	1250	1485	1355	1305	208	526	1052	1290	745

For more details, refer to the Strulik brochure "Differential pressure systems – planning notes"!

# Supply air fan without casing for plant rooms, type DV2

- 2,500 m<sup>3</sup>/h to 80,000 m<sup>3</sup>/h
- 0.75 kW to 45 kW
- Repair/service switch with auxiliary contact
- Additional attachments and parts are supplied for loose for site fitting by others



DV2

## Description

The axial fan has a stabilised characteristic curve, with guide vanes to increase pressure and to ensure a largely twist-free delivery flow profile. The impeller is directly mounted on the drive motor. The impeller has vanes which are adjustable when the fan is stopped. The fan has a polyester powder coating in RAL 7030.

The power cable must be lead through from the drive and connected to the repair/service switch located outside on the casing on site by others.

Including inlet nozzle, casing extension and support brackets.

Fan casing with standard drilled flanges. Maximum operating temperature generally 60 °C in the case of normal electric motors.

## Optional accessories

- **Anti-vibration mounts**
- **Flexible connector**, mounted: supply and/or discharge side
- **Transition**, mounted on the discharge side
- **Protective grille**: supply and/or discharge side
- **Bracket for vertical mounting**

Bespoke design for materials and dimensions upon request.

For examples of typical designs with different accessories see the following pages.

Fan characteristic curves from page 14 onwards

Installation instructions from page 18 onwards

Electrical and ventilation data on page 13

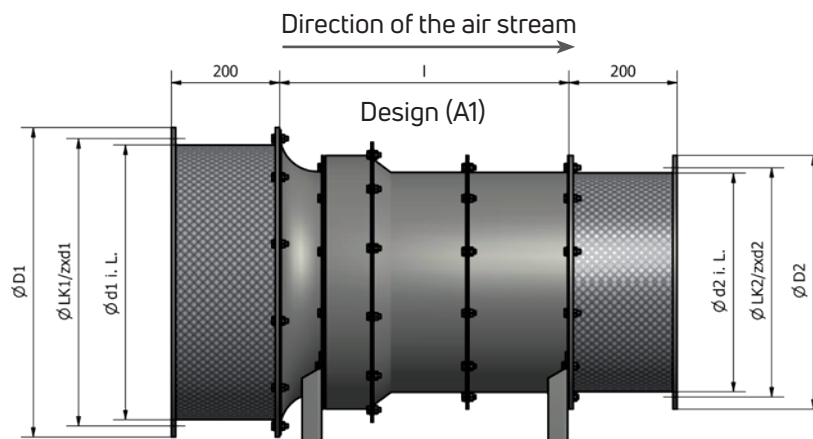
Electrical connection diagram from page 30 onwards



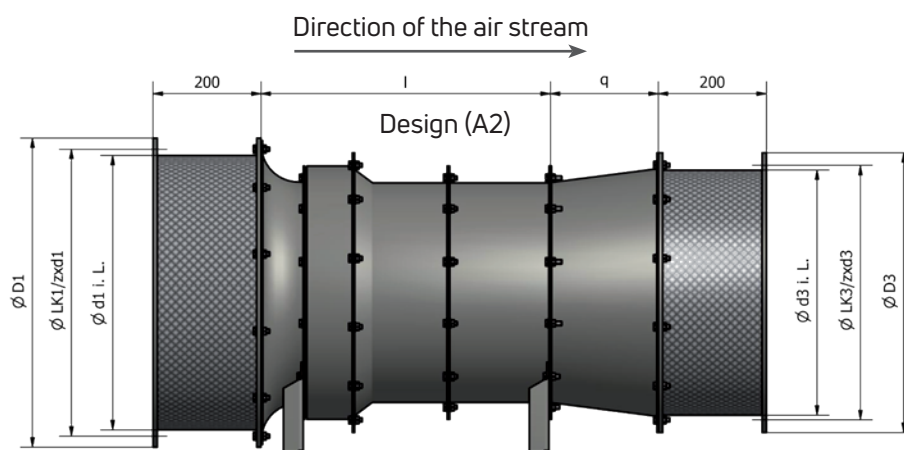
**Notes:** Please follow the installation instructions. The supply side of the unit must be accessible for setting the rotating blade angle. (If connecting supply ductwork, an inspection chamber of 600 mm x 600 mm must be included for access) The flexible connectors must be mounted such that they are stretched and without offset – mounting length 200 mm.

## Main dimensions

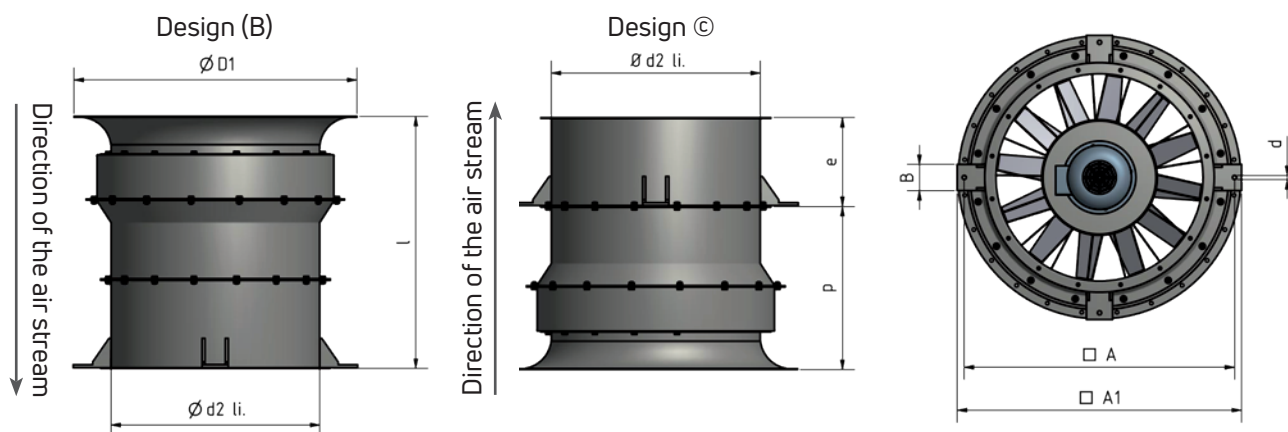
Combination with the flexible connectors, supply side and discharge side



Combination with the flexible connector, supply side, short diffuser and flexible connector, discharge side

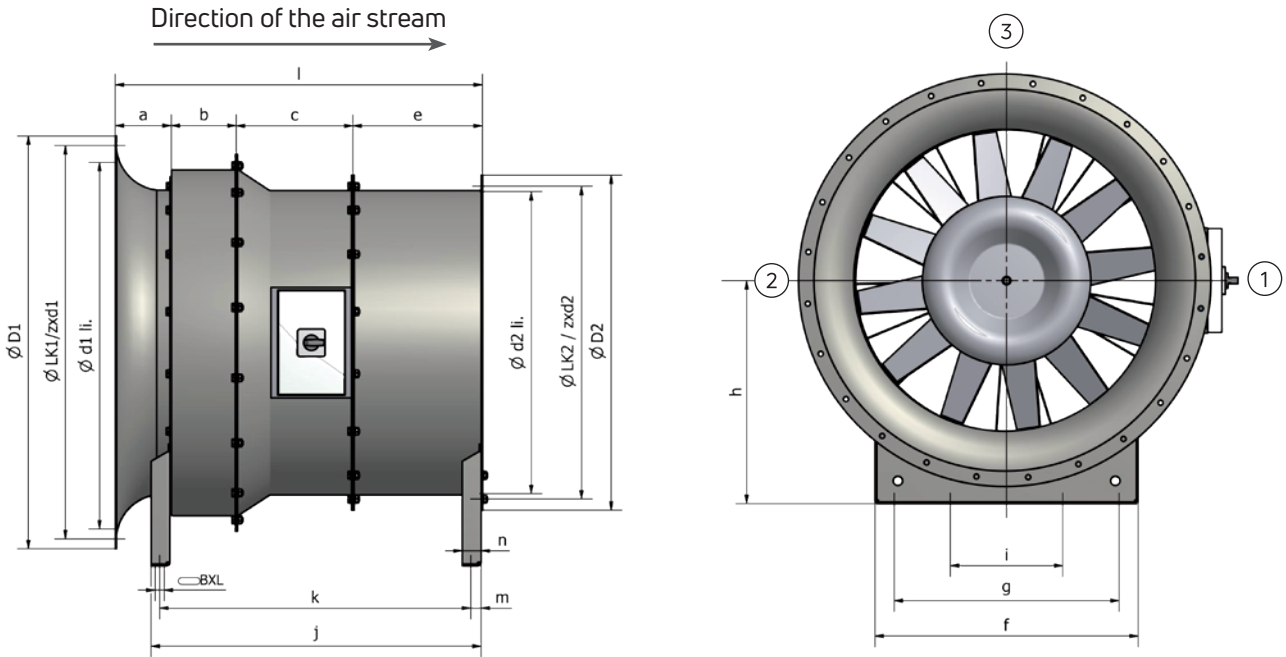


## Bracket for vertical mounting



The dimensions must be taken from the table on page 9.

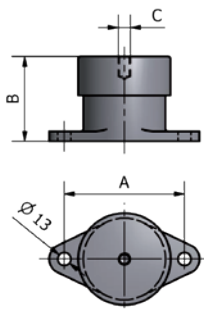
# Main dimensions



Position of the repair/service switch:

- with reference to the direction of the air stream to the right (1) or left (2)
- on top (3)

## Anti-vibration mount



Nominal size	A	B	C
[--]	[mm]	[mm]	[--]
V-101 / V-103 / V-105 / V-108	100	Approx. 60	M10
V-112 / V-120 / V-130 / V-150	120	Approx. 80	M12

Nominal size	Motor power	Quantity Supply side + discharge side	Type
[--]	[kW]	[Unit]	[--]
DV2-400	1.5	2 + 2	V-101
	3	2 + 2	V-103
DV2-450	0.75/4	2 + 2	V-103
	5,5	2 + 3	V-103
DV2-500	1.5/5.5	2 + 2	V-103
	7.5/11	2 + 3	V-103

Nominal size	Motor power	Quantity Supply side + discharge side	Type
[--]	[kW]	[Unit]	[--]
DV2-630	2.2-4	2 + 2	V-103
DV2-710	4	2 + 2	V-105
	5.5	4 + 3	V-103
	7.5	4 + 3	V-103
DV2-800	7.5	2 + 2	V-105
	11/15	3 + 4	V-105

Nominal size	Motor power	Quantity Supply side + discharge side	Type
[--]	[kW]	[Unit]	[--]
DV2-900	15	2 + 2	V-108
	18.5/22	3 + 4	V-108
	30	2 + 3	V-112
DV2-1000	22	2 + 2	V-112
	30-45	2 + 3	V-112

For more details, refer to the Strulik brochure "Differential pressure systems – planning notes"!



Nominal size	Ø D1	Ø LK1	Ø d1 le.	z x d1	Ø D2	Ø LK2	Ø d2 le.	z x d2	Ø D3	Ø LK3	Ø d3 le.
[--]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
DV2-400	571	541	504	12x9.5	468	438	401	12x9.5	517	487	450
DV2-450	643	605	565	16x11.5	517	487	450	12x9.5	571	541	504
DV2-500	712	674	634	16x11.5	571	541	504	12x9.5	643	605	565
DV2-630	875	837	797	24x11.5	712	674	634	16x11.5	789	751	711
DV2-710	972	934	894	24x11.5	789	751	711	16x11.5	875	837	797
DV2-800	1081	1043	1003	24x11.5	875	837	797	24x11.5	972	934	894
DV2-900	1214	1174	1124	24x11.5	972	934	894	24x11.5	1081	1043	1003
DV2-1000	1351	1311	1261	24x11.5	1081	1043	1003	24x11.5	1214	1174	1124

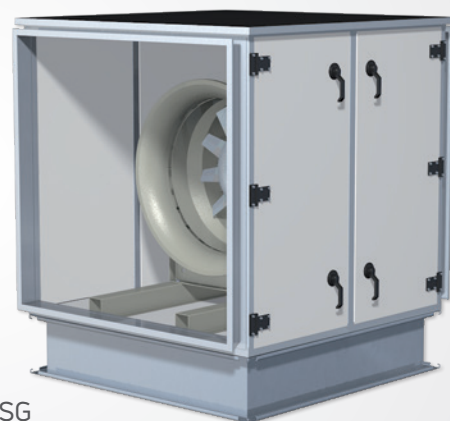
Nominal size	z x d3	a	b	c	e	f	h	g	i	j	k
[--]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
DV2-400	12x9.5	81	90	176	188	438	300	368	208	490.5	454
DV2-450	12x9.5	90	101	190	200	487	335	407	247	517.5	481
DV2-500	16x11.5	95	110	206	225	541	375	461	301	577.5	541
DV2-630	16x11.5	113	137	258	286	674	470	605	405	725.5	681
DV2-710	24x11.5	130	153	275	305	721	525	640	420	777.5	733
DV2-800	24x11.5	138	172	319	350	872	585	790	570	885.5	841
DV2-900	24x11.5	155	195	333	373	860	655	770	450	945.5	901
DV2-1000	24x11.5	166	217	372	415	940	730	850	530	1061	1004

Nominal size	l	m	n	p	q	B x L	□ A	□ A1	B	d	p	Max. weight
[--]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg]
DV2-400	535	21.5	36.5	347	200	12x20	554	602	68	12	347	76
DV2-450	571	21.5	36.5	381	225	12x20	603	651	68	12	381	84
DV2-500	636	21.5	36.5	411	250	12x20	657	705	68	12	411	142
DV2-630	794	24.5	44.5	508	315	12x20	852	900	90	14	508	192
DV2-710	863	24.5	44.5	558	355	12x20	929	977	90	14	558	282
DV2-800	979	24.5	44.5	629	400	12x20	1015	1063	90	14	629	367
DV2-900	1056	24.5	44.5	683	450	14x22	1112	1160	90	14	683	602
DV2-1000	1170	33.5	56.5	755	500	14x22	1221	1269	90	14	755	656

# Supply air fan with insulated sandwich casing for outdoor installation

Type DV1-WSG and type DV1-WSG2

- 2,500 m<sup>3</sup>/h to 80,000 m<sup>3</sup>/h
- 0.75 kW to 45 kW
- Repair/service switch with auxiliary contact
- RAL 9002 or other RAL as requested
- Sealed top panel



DV1-WSG  
and DV1-WSG2

## Description

Thermally decoupled casing for outdoor installation, made of aluminium profiles and removeable galvanised steel cover plates containing 40 mm thick mineral fibre insulation. Painted in RAL 9002

Thermal insulation T3 U = 1.11 W/m<sup>2</sup>K, system 40 (TB4-TB3)  
kb = 0.37–0.51.

Multi-leaf damper made with insulating materials with an additional coating for protection from moisture, including spring return actuator SFL, Spring return Open or spring return closed?

The axial fan has a stabilised characteristic curve, with guide vanes to increase pressure and to ensure a largely twist-free delivery flow profile. The impeller is directly mounted on the drive motor. The impeller has vanes which are adjustable when the fan is stopped. The fan has a polyester powder coating in RAL 7030.

Protective grille mounted on the supply side.

Repair/service switch installed and connected to the casing. Switch box made of galvanised steel.

## Design

- **DV1-WSG** with supply hood and insulating discharge connector
- **DV1-WSG2** with two insulating connectors, supply and discharge

Bespoke design for materials and dimensions upon request.

For examples of typical designs with different accessories see the following pages.

Fan characteristic curves from page 14 onwards

Installation instructions from page 18 onwards

Electrical and ventilation data on page 13

Connection diagram from page 30 onwards

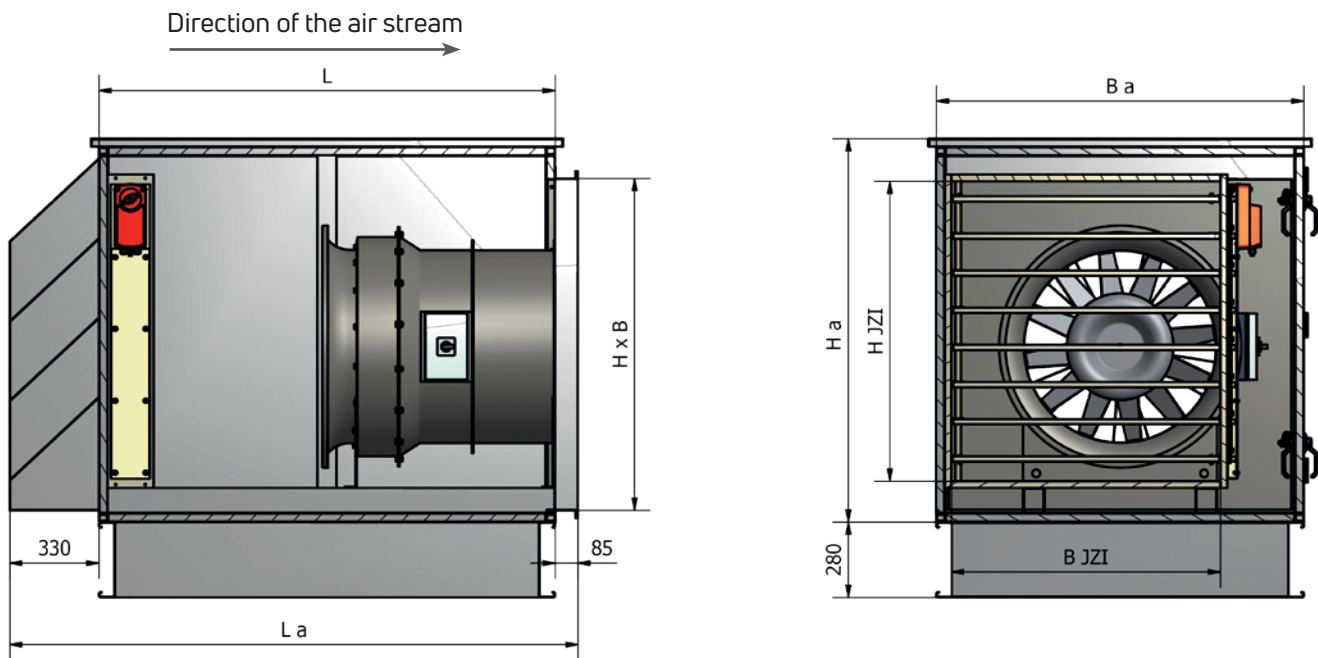


**Notes:** Please follow the installation instructions. The supply side of the unit must be accessible for setting the rotating blade angle. (If connecting supply ductwork, an inspection chamber of 600 mm x 600 mm must be included for access)

As standard, actuators with SLC technology are supplied. Other actuators are available on request.

## Main dimensions

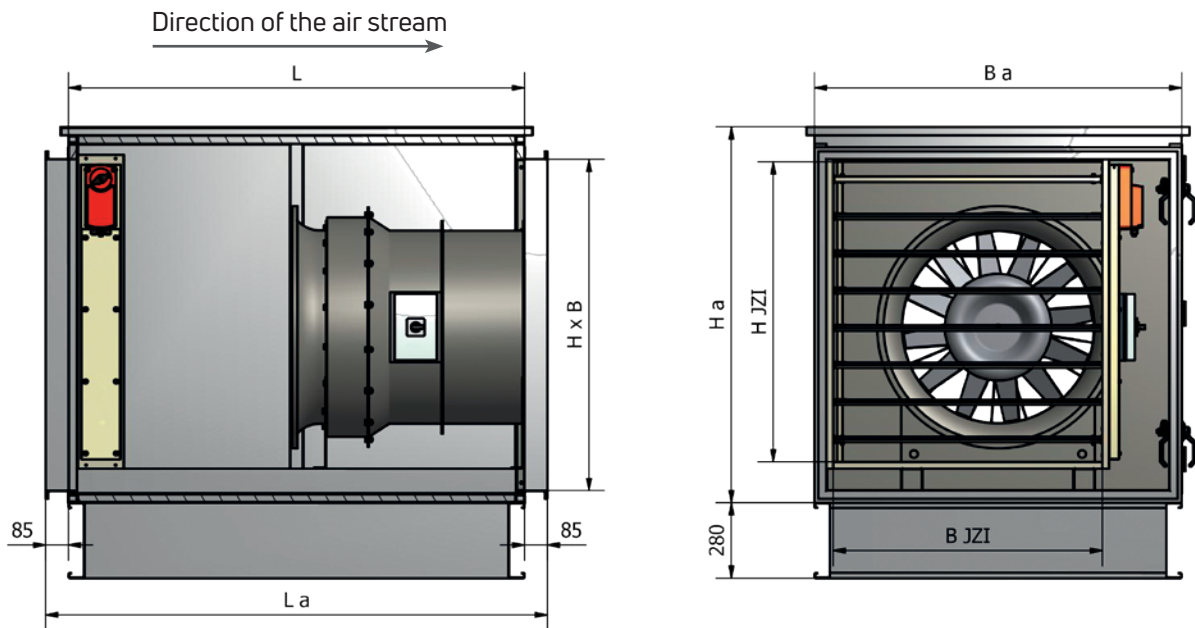
Design with a discharge side insulating connector and supply side hood



Nominal size	B JZI	H JZI	B	H	L	B a	H a	L a	Weight
[--]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg]
DV1-WSG-400	700	700	945	900	1365	1035	1065	1780	415
DV1-WSG-450	700	700	945	900	1365	1035	1065	1780	425
DV1-WSG-500	700	700	945	900	1365	1035	1065	1780	480
DV1-WSG-630	1000	1114	1275	1230	1695	1365	1395	2110	730
DV1-WSG-710	1000	1114	1275	1230	1695	1365	1395	2110	820
DV1-WSG-800	1000	1114	1275	1560	2025	1365	1725	2440	1040
DV1-WSG-900	1125	1666	1605	1890	2025	1695	2055	2440	1510
DV1-WSG-1000	1125	1666	1605	1890	2025	1695	2055	2440	1565

## Main dimensions

Design with supply side and discharge side insulating connectors



Nominal size	B JZI	H JZI	B	H	L	B a	H a	L a	Weight max.
[--]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg]
DV1-WSG2-400	700	700	945	900	1365	1035	1065	1535	390
DV1-WSG2-450	700	700	945	900	1365	1035	1065	1535	400
DV1-WSG2-500	700	700	945	900	1365	1035	1065	1535	455
DV1-WSG2-630	1000	1114	1275	1230	1695	1365	1395	1865	690
DV1-WSG2-710	1000	1114	1275	1230	1695	1365	1395	1865	780
DV1-WSG2-800	1000	1114	1275	1560	2025	1365	1725	2195	995
DV1-WSG2-900	1125	1666	1605	1890	2025	1695	2055	2195	1435
DV1-WSG2-1000	1125	1666	1605	1890	2025	1695	2055	2195	1485

## Airflow, pressure and electrical data for the fans

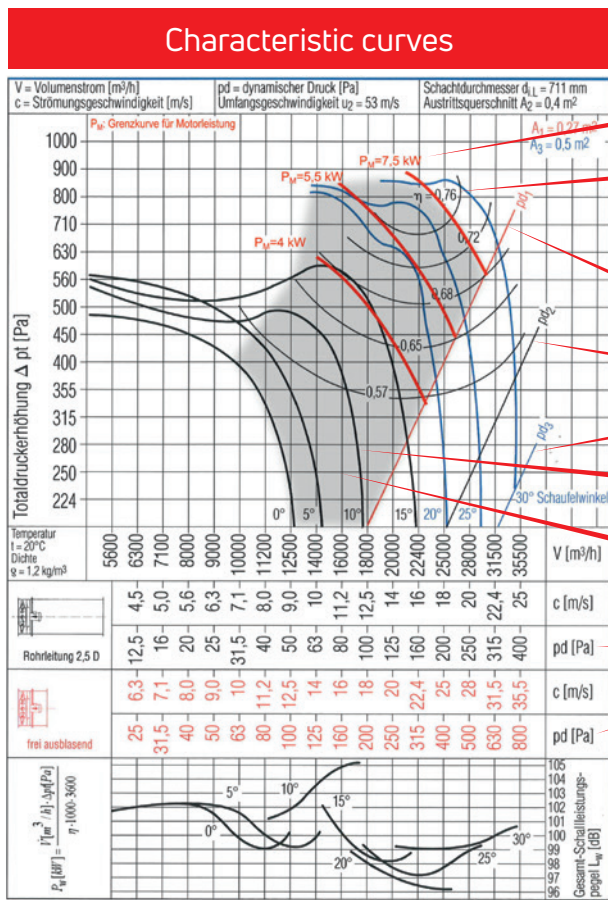
### Type DV1, type DV2, type DV1-WSG, type DV1-WSG2

Nominal size	Motor power	Typical volume flow	Typical total pressure increase	Fan speed	Nominal current	Initial current direct on line	Initial current star delta
[--]	[kW]	[m <sup>3</sup> /h]	[Pa]	[min <sup>-1</sup> ]	[A]	[A]	[A]
<b>DV-400</b>	1.5	5600	530	2900	3.3	20.8	12.0
	3	8000	900	2900	6.2	40.3	23.3
<b>DV-450</b>	0.75	5000	220	1405	2	9.6	5.5
	4	10,000	900	2900	7.9	66.4	38.3
	5.5	11,200	1150	2900	10.5	66.8	38.6
<b>DV-500</b>	1.5	9000	320	1410	3.5	19.6	11.3
	5.5	12,500	1000	2900	11	69.3	40.0
	7.5	14,000	1250	2900	14.6	94.9	54.8
	11	18,000	1400	2900	20.5	141.4	81.6
<b>DV-630</b>	2.2	11,200	400	1440	4.8	25.4	14.7
	3	14,000	450	1440	6.6	40.9	23.6
	4	18,000	500	1440	8.8	55.4	32.0
<b>DV-710</b>	4	18,000	500	1460	8.8	55.4	32.0
	5.5	20,000	630	1460	11.5	75.9	43.8
	7.5	25,000	710	1460	15.5	105.4	60.9
<b>DV-800</b>	7.5	25,000	630	1465	15.5	105.4	60.9
	11	31,500	800	1465	22	151.8	87.6
	15	35,500	1000	1465	29.5	200.6	115.8
<b>DV-900</b>	15	35,500	900	1465	29.5	200.6	115.8
	18.5	40,000	1000	1465	37	259	149.5
	22	45,000	1120	1465	43	296.7	171.3
	30	50,000	1250	1465	52	358.8	207.2
<b>DV-1000</b>	22	50,000	900	1465	43	296.7	171.3
	30	56,000	1120	1465	52	358.8	207.2
	37	63,000	1250	1465	66	448.8	259.1
	45	71,000	1400	1465	82	574	331.4

For more details, refer to the Strulik brochure "Differential pressure systems – planning notes"!

# Fan characteristic curves

## Type DV1, type DV2, type DV1-WSG and type DV1-WSG2



### Explanation

- Motor power with approximately 10% reserve

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- Fan efficiency  $\eta$

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- Limiting curves for internal resistance corresponding to the type of installation:
  - freely blowing out
  - with pipeline L = 2.5 x D
  - installation with short diffuser

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- Fan characteristic curve with varying of vane angle 0° to 30°

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- Recommended scope for the design

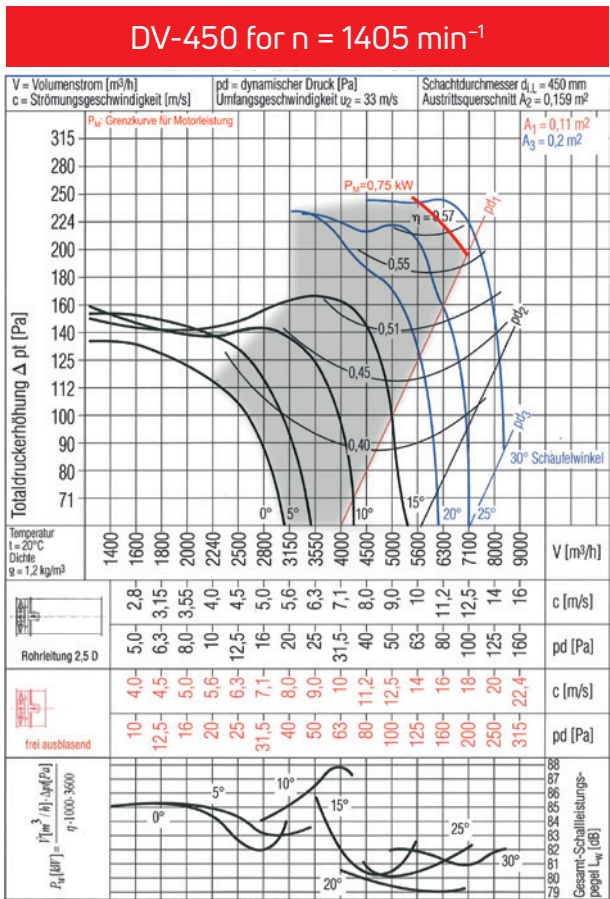
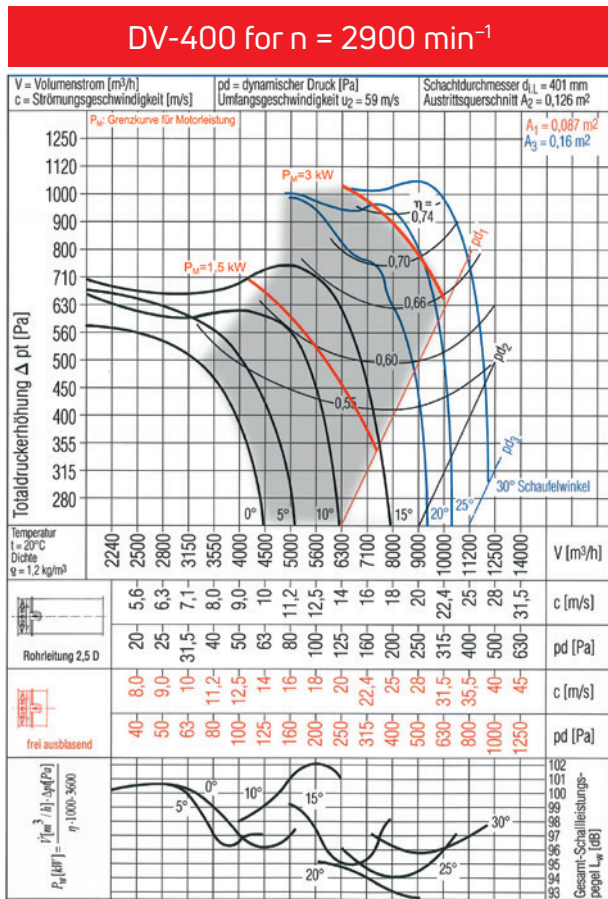
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- Pressure loss of the internal resistance with pipe connection and freely blowing out

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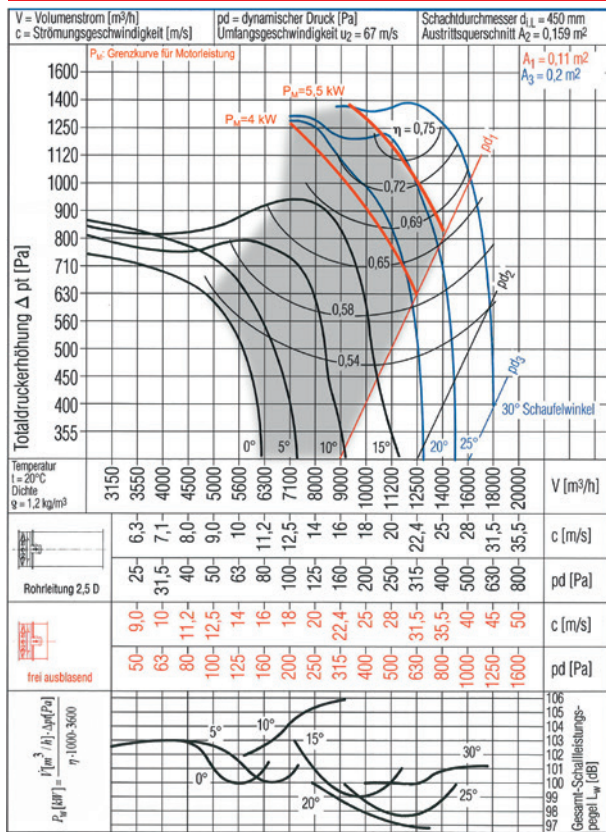
- Shaft power of the fan

$$P_W [kW] = \frac{\dot{V} \left[ \frac{m^3}{h} \right] \cdot \Delta p_t [Pa]}{\eta \cdot 1000 \cdot 3600}$$

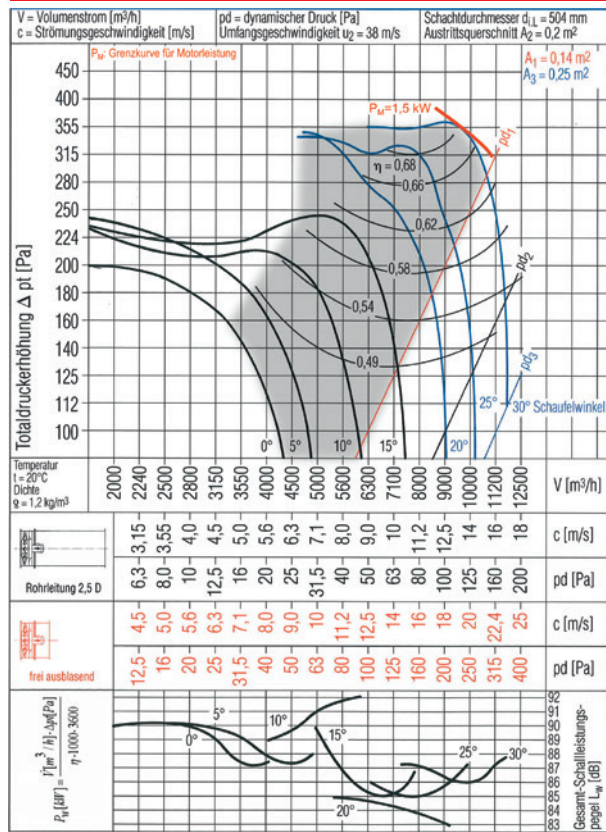


\*Direction of the air stream "D" (air flowing over the motor).    pd<sub>1</sub> = freely blowing out    pd<sub>2</sub> = with pipeline, 2,5xD    pd<sub>3</sub> = short diffuser

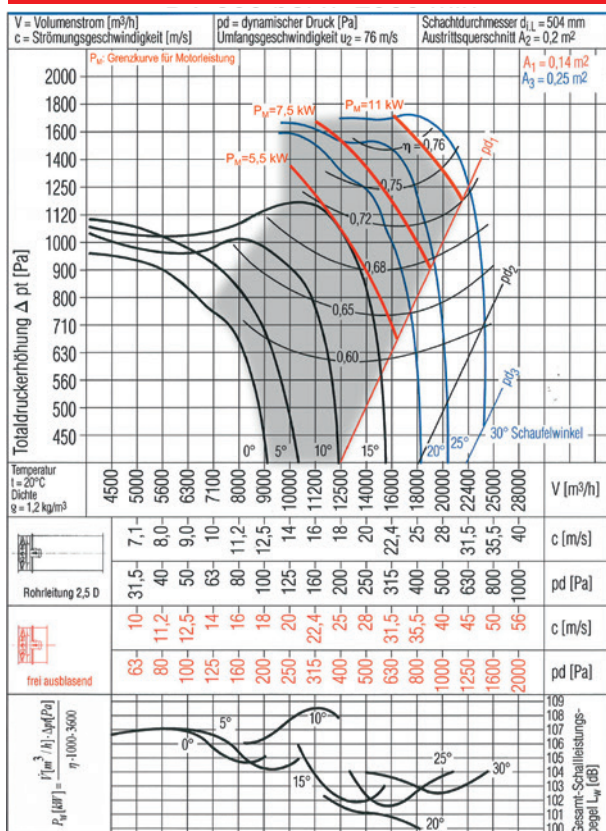
DV-450 for n = 2900 min<sup>-1</sup>



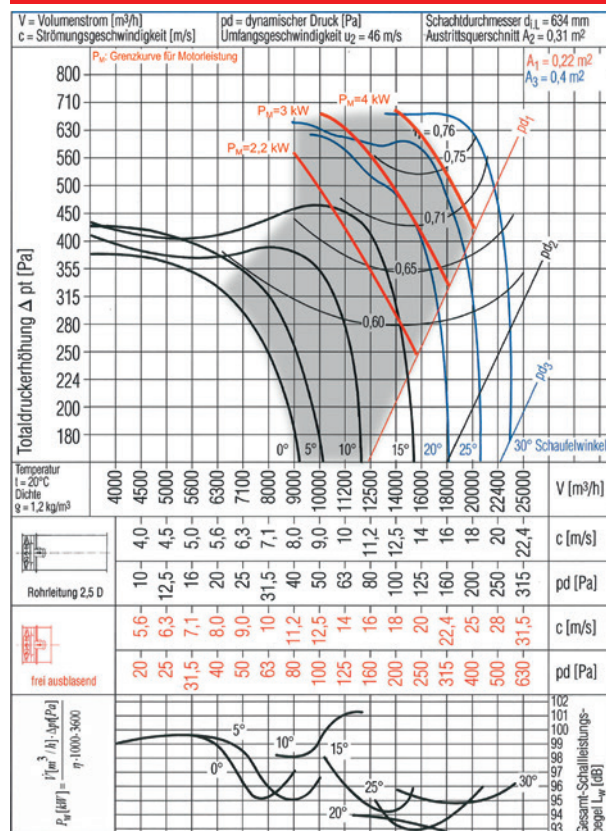
DV-500 for n = 1410 min<sup>-1</sup>



DV-500 for n = 2900 min<sup>-1</sup>



DV-630 for n = 1440 min<sup>-1</sup>

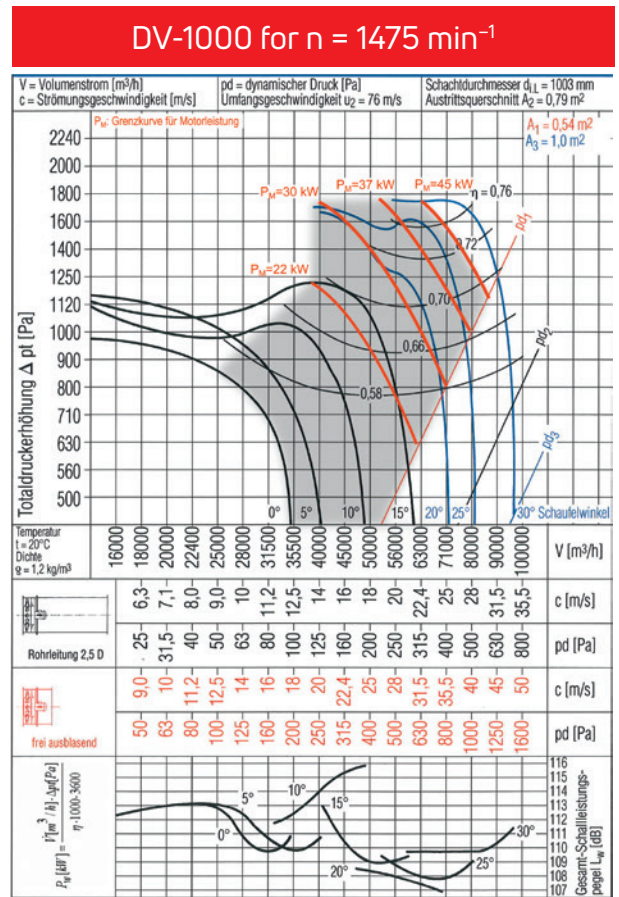
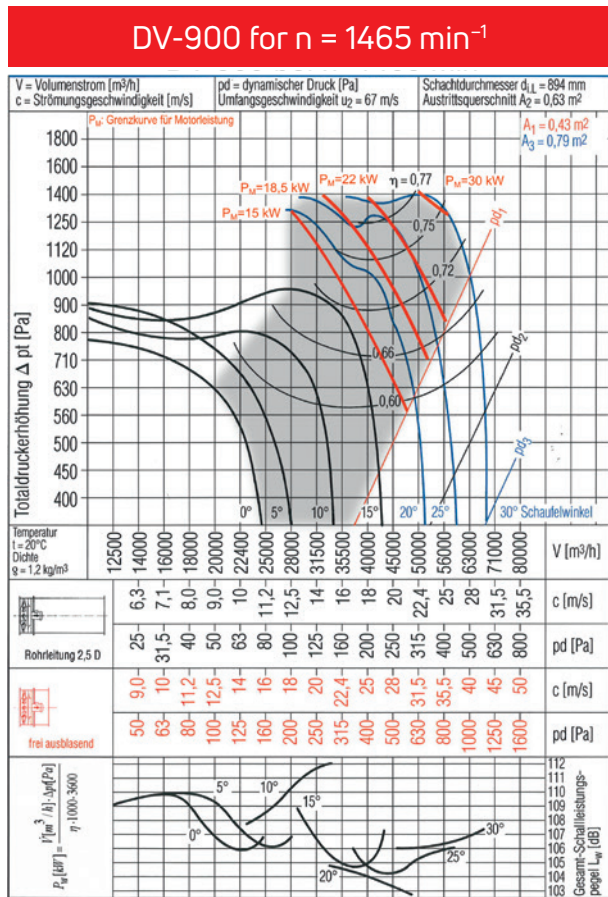
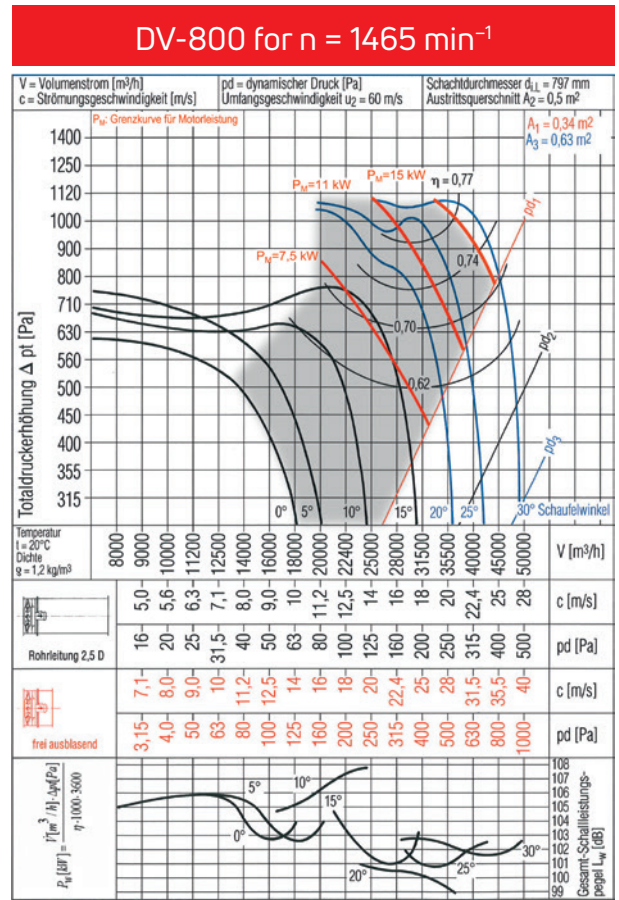
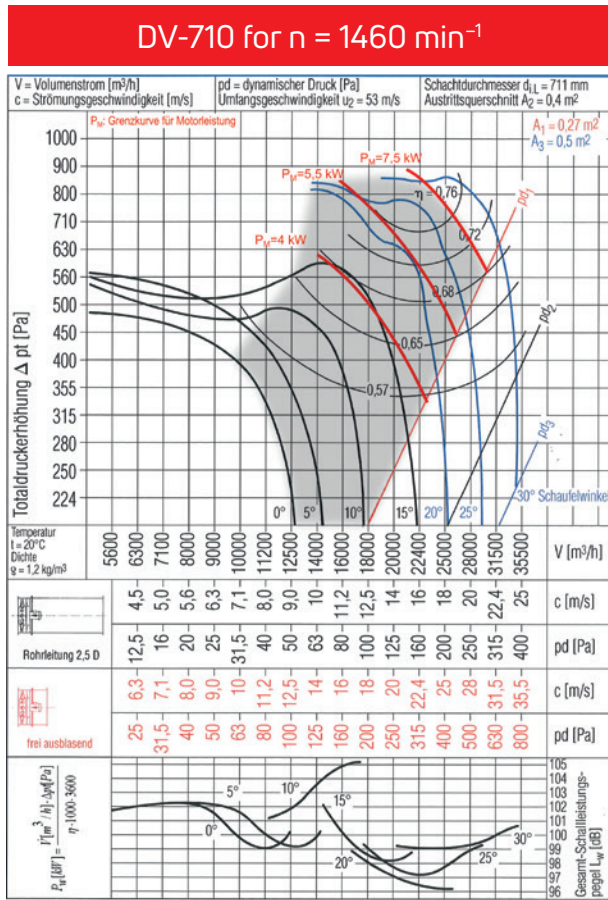


\* Direction of the air stream "D" (air flowing over the motor).

pd<sub>f</sub> = freely blowing out    pd<sub>2</sub> = with pipeline, 2,5xD    pd<sub>3</sub> = short diffuser

# Fan characteristic curves

## Type DV1, type DV2, type DV1-WSG and type DV1-WSG2



\*Direction of the air stream "D" (air flowing over the motor). pd<sub>1</sub> = freely blowing out pd<sub>2</sub> = with pipeline, 2,5 x D pd<sub>3</sub> = short diffuser





**Notes:** For adjusting the vane angle, the suction side of the fan must be accessible through an inspection chamber of minimum 600 mm x 600 mm (W x H)!

The vane angle is set by the manufacturer during commissioning. Any subsequent changes will result in the guarantee of performance being voided.

## Adjusting the vane angle for subsequent airflow adjustment

The impeller vanes are infinitely adjustable when stopped, without having to dismantle the impeller.

Up to an overall size of 1000, the impeller vanes have a common clamping ring which allows adjustment of the vanes without loosening the screws.

### The vanes are adjusted as follows:

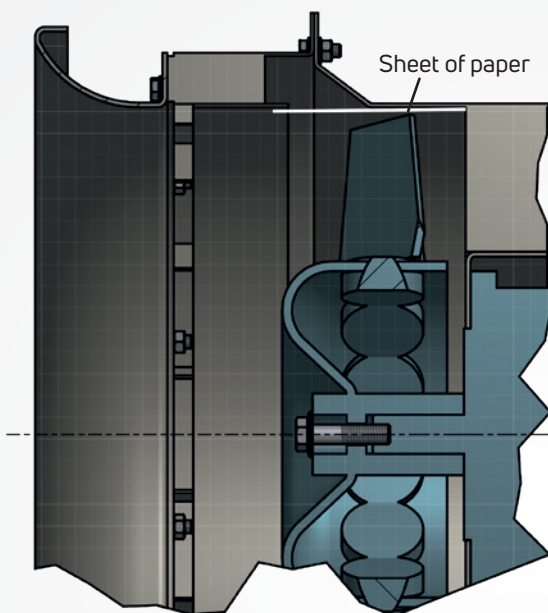
- The vane root is adjusted in small steps using a pin, which is placed in the holes intended for it, and a hammer.

- The ventilation system performance is increased on clockwise rotation and decreased on anti-clockwise rotation.

The current consumption must be checked after every change in the setting angle.

The vane angles specified in the diagrams refer to the vane tips.

### Procedure for determining the current vane angle

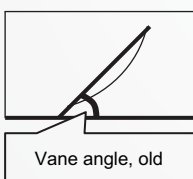


#### Disconnect the fan from the power network!

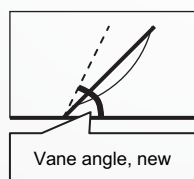
- Take a sheet of paper and push it carefully towards the fan flange through the impeller gap.
- Mark along the tip of the vane with a felt-tip pen, using the edge of the paper and a parallel to the fan case as a reference. (For this, the impeller must be held tightly!)
- This will give a curve on the sheet, showing the vane bend.



- Join the start and end points of the curve. You will obtain the currently set vane angle with reference to the level sheet edge.
- Now draw the new angle on your sheet. Adjust one vane after the other as described above. The start and end points must now lie exactly on the new line – the vane angle is set only after this has been done



Vane angle, old



Vane angle, new

# Installation instructions

## Type DV1, type DV2, type DV1-WSG and type DV1-WSG2

The ideal fan installation requires  $2.5 \times D$  ( $D = \varnothing$  fan) of the same diameter ducting on both the supply and discharge. Pressure losses will result if this advice is not followed.

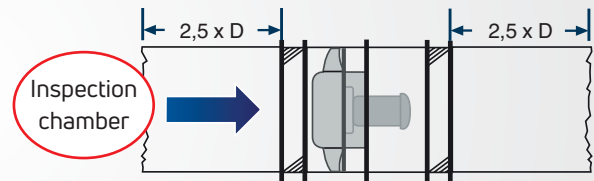


Fig. 1

The flexible connectors before or after the fan must be installed carefully following the correct installation length, and without any offset. Not doing this can result in loss of efficiency and increase in noise. Flexible connectors should not be used as a transition to offset installation inaccuracies.

Fig. 2/2.1/2.2

An optimised inflow nozzle must be provided in case of free supply to the fan. Not providing this will lead to major losses in efficiency and an increase in the noise level.

A protective grill must be attached in front of the inflow nozzle in order to meet the relevant health and safety regulations.

Fig. 3/3.1

A connection as shown above (duct diameter smaller than the fan diameter) must never be designed or used in practice.

In unavoidable special situations, a transition piece (cone) as well as a pipe of  $2.5 \times D$  ( $D = \varnothing$  fan) must be provided.

Fig. 4/4.1

If airflow is supplied from above or below, or from the side, via a plenum, opposed blade dampers should be used for the installation so that the air arrives optimally at the turning vanes.

A flexible connector (two nominal sizes greater the nominal fan size) combined with the inlet nozzle this creates improved inflow and lower noise generation.

Turning vanes  
Opposed blade dampers  
Minimum five vane  
More vanes would be better. e.g. eight

Fig. 5/5.1

In the case of air supply from a larger duct or an intake plenum, a flexible connector with diameter two nominal sizes larger than the fan diameter significantly improves the inflow and noise behaviour when used in conjunction with an inlet nozzle.

The airflow shown in fig. 6 will lead to a significant loss in efficiency.

Fig. 6/6.1

If an axial fan is installed directly behind a bend, it results in greatly reduced output as well as an increase in the noise level.

If an inflow route of  $2.5 \times D$  cannot be installed, turning vanes need to be installed. (For division and dimensions, see fig. 5.1.)

Fig. 7/7.1

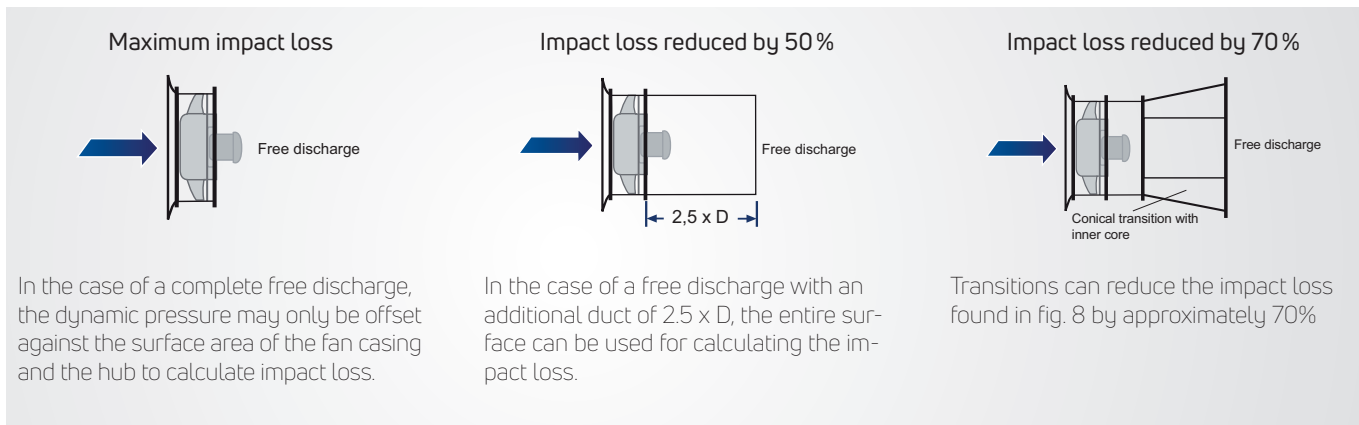


Fig. 8/8.1/8.2

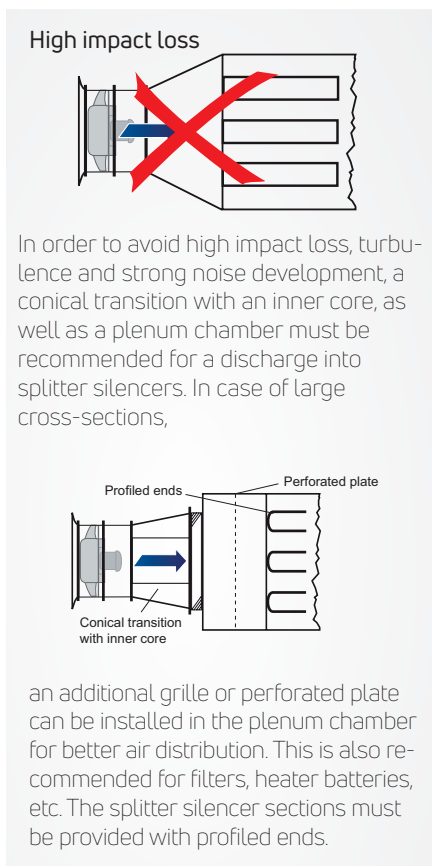


Fig. 9/9.1

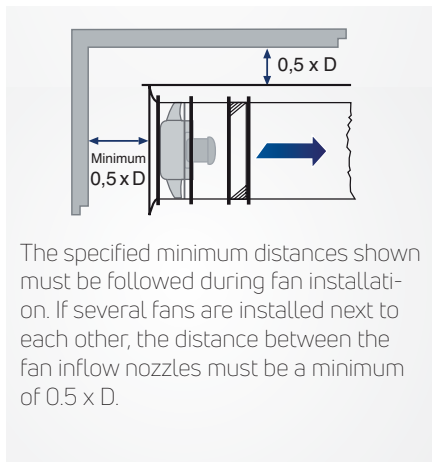


Fig. 10

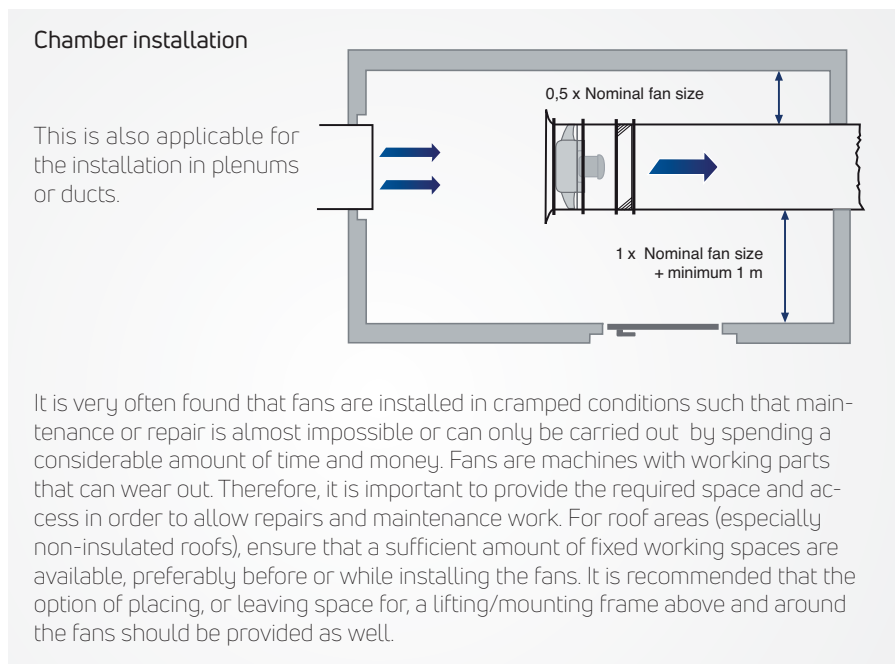


Fig. 11

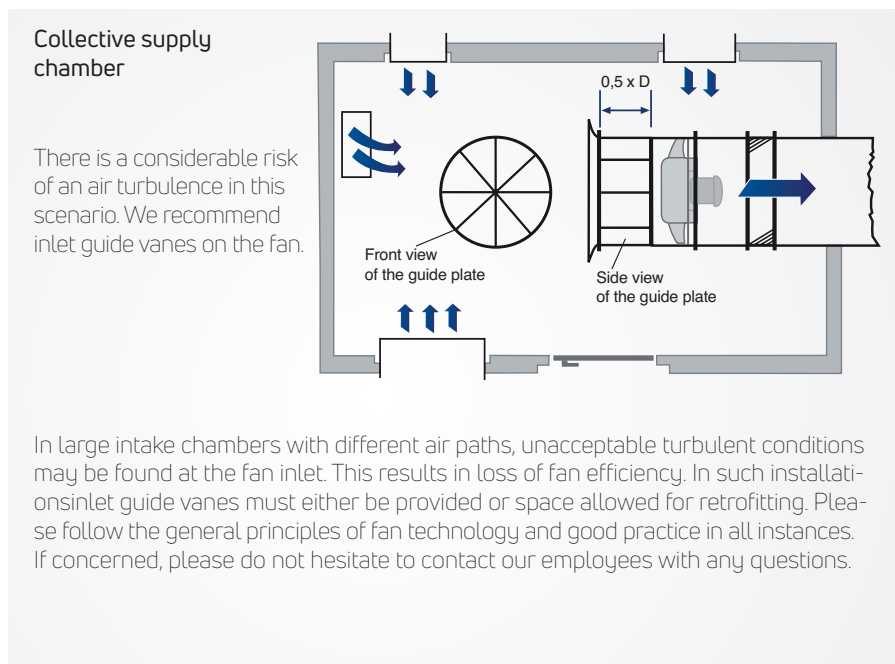


Fig. 12

# Supply air fan with integrated pressure relief for indoor installation type DV-RK1

- 5,000 m<sup>3</sup>/h to 40,000 m<sup>3</sup>/h
- 0.75 kW to 11 kW
- Repair/Service switch with auxiliary contact
- Response rate < 3 seconds
- Opening pressure infinitely variable
- Anti-vibration mounts
- RAL 9006 or other RAL as requested



DV-RK1

## Description

Casing made of aluminium profiles, with removeable cover plates, shade RAL 9006 or other RAL as requested.

The axial fan has a stabilised characteristic curve, with guide vanes to increase pressure and to ensure a largely twist-free delivery flow profile. The impeller is directly mounted on the drive motor. The impeller has vanes which are adjustable when the fan is stopped. The fan has a polyester powder coating in RAL 7030,

The power cable must be lead through from the drive and connected to the repair/service switch located outside on the casing on site by others.

The unit has an automatic pressure release damper with a multi-blade design. The frame and blades of the damper are made from aluminium. The blade connecting rods are made from stainless steel. The blade system is linked and opens and closes simultaneously. The blade spindles are mounted in ball race bearings. The closing forces of the tension springs are adjusted to match the aerodynamic forces acting from the changes in flow and pressure.

The system pressure difference can be adjusted using adjustment of the spring pre-load length, units are generally preset to release at 50 Pa in the factory.

The response time is less than 3 seconds, for both opening and closing behaviour. This is demonstrated using characteristic curves.

A protective grille is provided on the on the discharge side. The base frame is galvanised steel, with 20 mm punched holes or the use of anti-vibration mounts.

## Optional accessories

- **Multi-leaf damper**, mounted: supply or discharge side, including spring return actuator SFL Spring return Open or spring return closed?
- **Flexible connector**: supply and/or discharge side
- **Protective grille**: supply and/or discharge side
- **Round flow nozzle**: supply and/or discharge side

Bespoke design for materials and dimensions upon request.

If a weatherproof casing is required, this is available upon request.

Installation instructions, page 23

Electrical connections diagram from page 30 onwards



**Notes:** Please follow the installation instructions. The supply side of the device must be accessible for setting the rotating blade angle. (If connecting supply ductwork, an inspection chamber of 600 mm x 600 mm must be included for access)

On unit sizes up to nominal size 710 the pre-set springs are mounted on the right with respect to the air stream. On the units of nominal size 800, they are on both sides of the air stream.

An flexible connector must be used on the discharge side connection.

The device is installed in direct contact with the pressurised space. There may be no constriction in the flow on the discharge side; skipping of areas (floor transitions, etc.) must be avoided. The wall to the stairwell is broken in the dimension of the clear device cross-section.

The position of the break or the device must be selected such that the backflow of at least three sides can take place without interferences.

If the connection is established on the supply or discharge side using ducts (dimension a > 300 mm), a central pipe must be integrated into the duct for separating the bypass flow from the supply air volume flow. The device is equipped with a round nozzle at the fan outlet ex-works.

As standard, actuators with SLC technology are supplied. Other actuators are available on request.

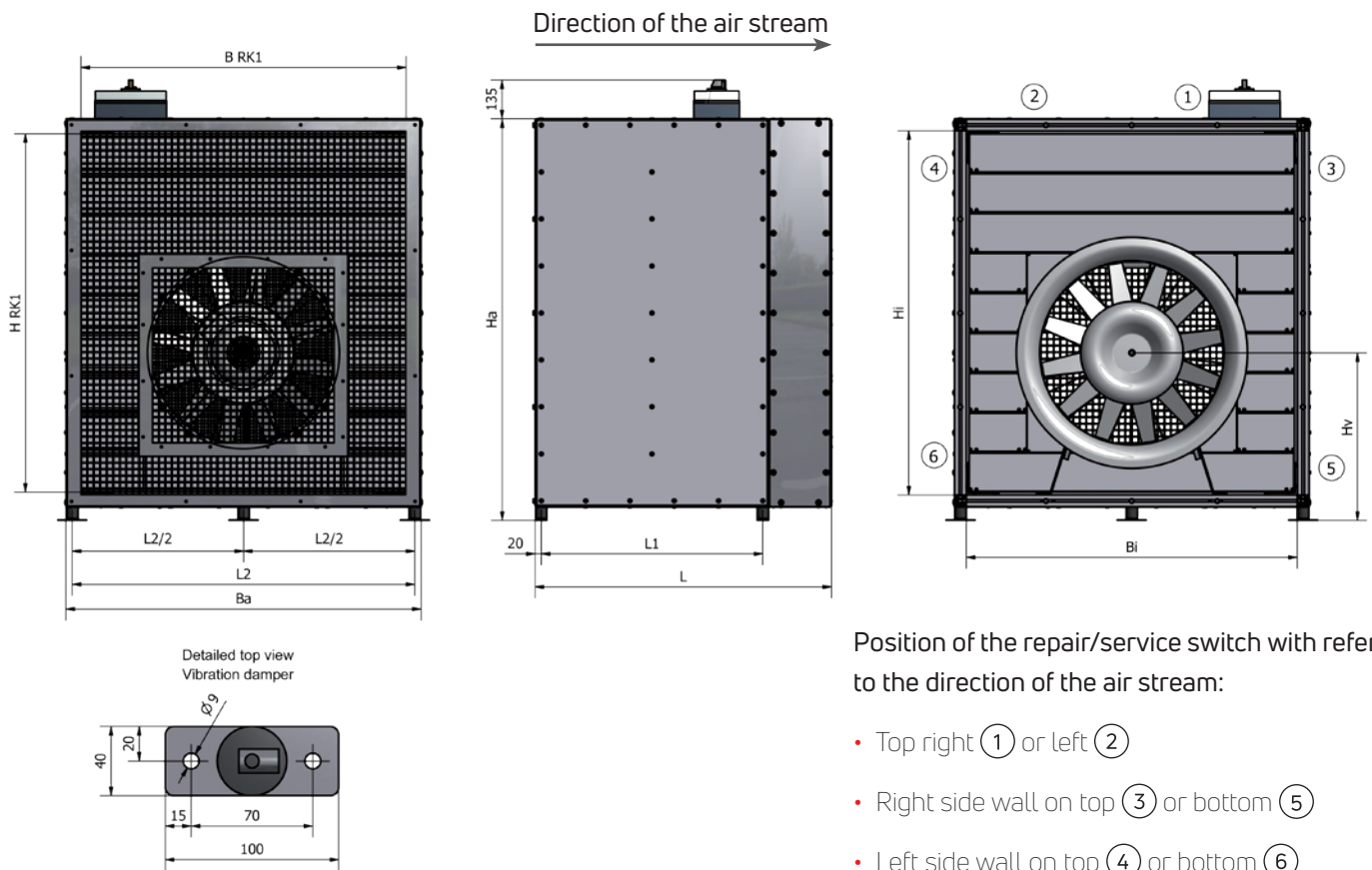
## Electrical and ventilation data

Nominal size	Motor power	Rated volume flow of the fan	Rated volume flow Pressure relief	Static pressure increase	Fan speed	Nominal flow	Initial flow direct	Initial flow star delta
[--]	[kW]	[m <sup>3</sup> /h]	[m <sup>3</sup> /h]	[Pa]	[min <sup>-1</sup> ]	[A]	[A]	[A]
DV-RK1- 450	0.75	5000	5000	50	1405	2	9.6	5.5
DV-RK1- 500	1.5	10,000	10,000	50	1410	3.5	19.6	11.3
DV-RK1- 630/1	2.2	15,000	15,000	50	1440	4.8	25.4	14.7
DV-RK1- 630/2	4	20,000	20,000	50	1440	8.8	55.4	32.0
DV-RK1- 710	5.5	25,000	25,000	50	1460	11.5	75.9	43.8
DV-RK1- 800/1	7.5	30,000	30,000	50	1465	15.5	105.4	60.9
DV-RK1- 800/2	11	40,000	33,000	50	1465	22	151.8	87.6

For more details, refer to the Strulik brochure **"Differential pressure systems – planning notes"**!

# Supply air fan with integrated pressure relief for indoor installation type DV-RK1

## Main dimensions



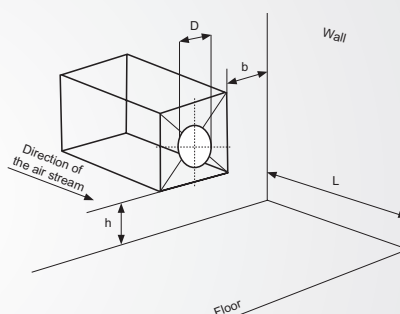
Nominal size	Ba	Bi	Ha	Hi	Hv	L	L1	L2	Weight
[--]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg]
DV-RK1-450	965	880	840	710	515	790	530	920	180
DV-RK1-500	1105	1020	975	850	515	870	607	1060	230
DV-RK1-630/1	1230	1145	1255	1125	580	1025	766	1185	300
DV-RK1-630/2	1230	1145	1340	1260	580	1025	766	1185	315
DV-RK1-710	1295	1210	1665	1540	650	1100	835	1250	420
DV-RK1-800/1	1605	1520	1805	1675	720	1210	950	1560	560
DV-RK1-800/2	1605	1520	1805	1675	720	1210	950	1560	590

## Installation instructions for type DV-RK1

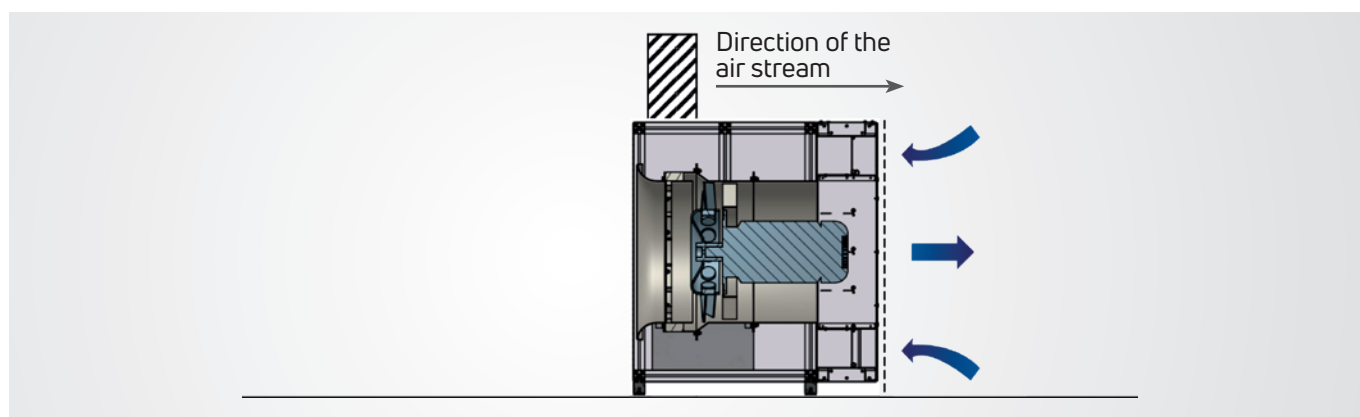
### Distance from the wall and floor

#### Orienting values:

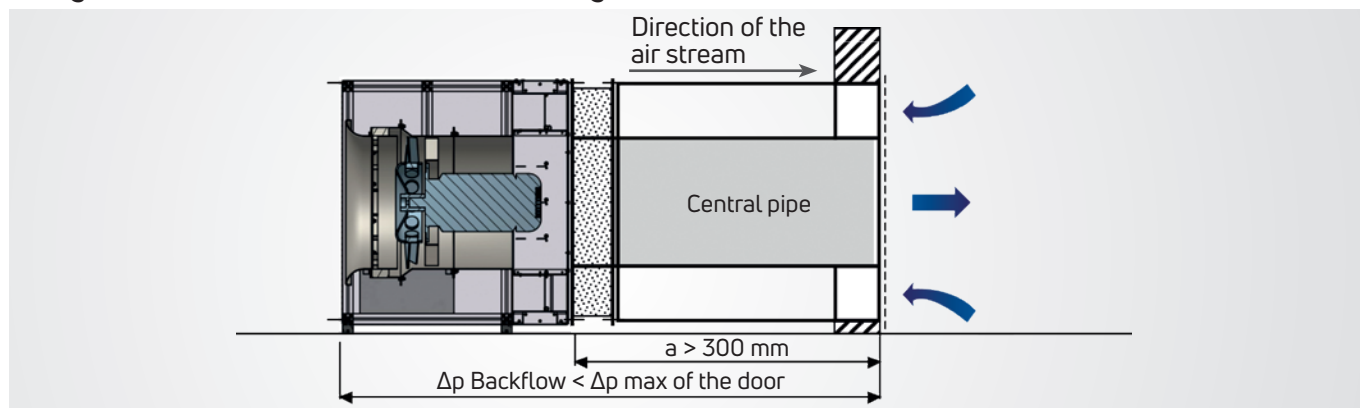
- $L \geq 2,5 \times D$
- $h \geq 1 \times D$
- or
- Left side wall on top



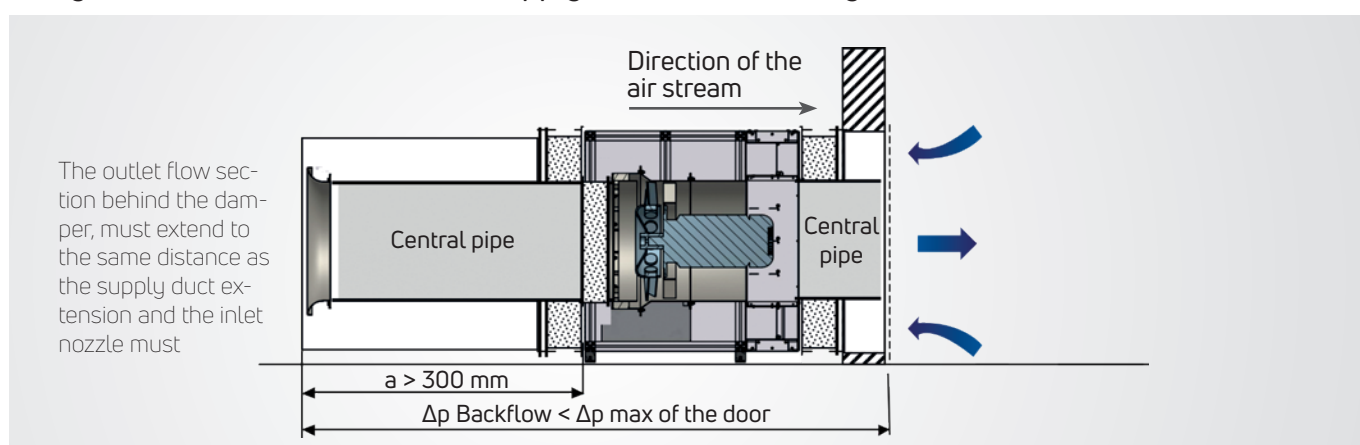
### Design: without extension duct



### Design: with extension duct on the discharge side

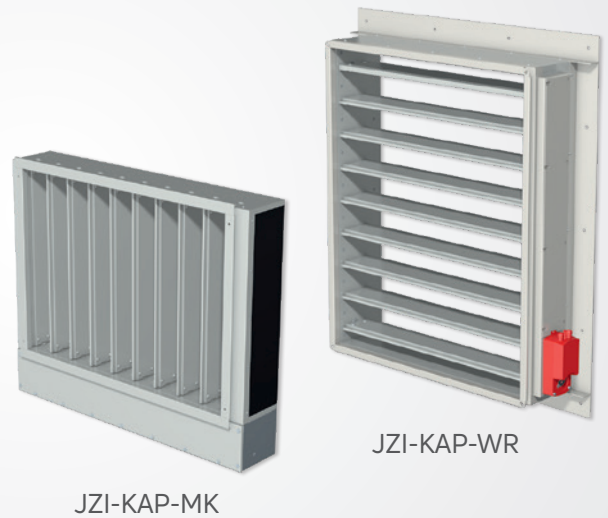


### Design: with extension duct on the supply and on the discharge side



# Multi-leaf damper made of insulating material Type JZI-KAP-WR and type JZI-KAP-MK

- Flanged duct connection profile
- In wall or on the wall fitting options
- Calcium silicate blades with protective coating
- Frame parts made from stainless steel
- Comes complete with the actuator mounted on the drive spindle



## Description

Multi-leaf damper made from insulating materials with an additional coating for moisture protection. The connecting rods, frame and damper blade spindles are made from stainless steel and are mounted in brass bushings. The damper is supplied complete with a spring return actuator so that the damper fails safe open on loss of power.

Type MK - In wall mount mounting with enclosed motor box – flanged duct connection on one side(KAP)

Type WR - Wall flange mount to fix to the wall – flanged duct connection on one side (KAP).

## Optional Accessories

- **Flexible connector** - mounted on the supply or discharge side
- **Protective grille** - mounted on the inside face
- **Weatherproof grille** - mounted on the outside face

Bespoke design for materials and dimensions upon request.

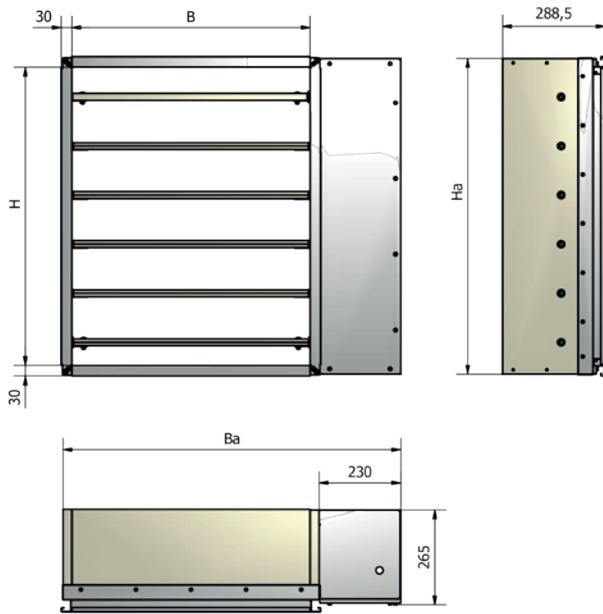


**Notes:** As standard, actuators with SLC technology are supplied. Other actuators are available on request.

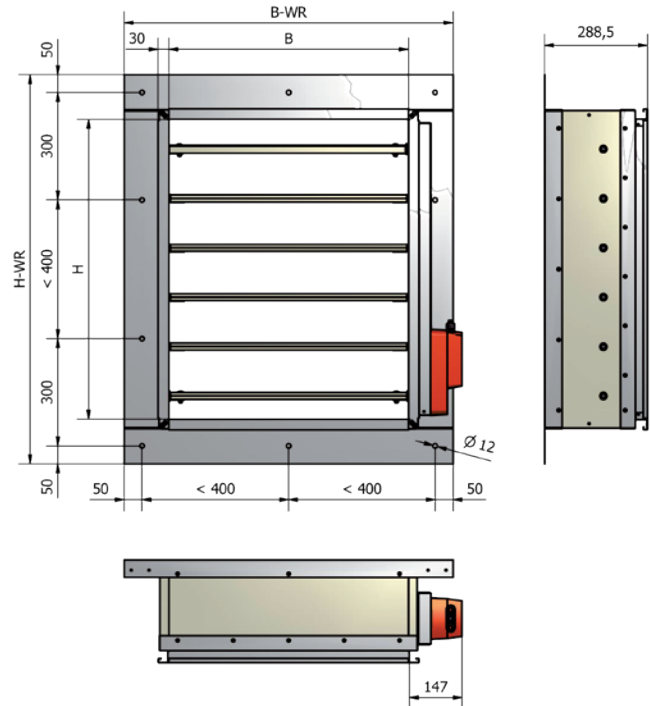


## Main dimensions

JZI-KAP-MK for in wall installation



JZI-KAP-WR for wall projection



B	Ba	B-WR	H	Ha	H-WR
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
300	585	550	424	476	674
400	685	650	562	614	812
500	785	750	700	755	950
600	885	850	838	890	1088
700	985	950	976	1030	1226
800	1085	1050	1114	1170	1364
900	1185	1150	1252	1305	1502
1000	1285	1250	1390	1445	1640
1125	1410	1375	--	--	--

For more details, refer to the Strulik brochure "Differential pressure systems – planning notes"!

# Supply/Exhaust louvre

Type NIQ-R25 /45 and type ZE-NIQ-R25 /45-JZL65

- Cross-sectional free area up to 79%
- Front face can be from perforated plate, stainless steel or coated steel round bar
- Mounting frame
- Multi-leaf damper for controlled air distribution



NIQ and ZE-NIQ-JZL65

## Description

These units may be used for air inlet or discharge. The outer frame is made from steel sheet and profiled for strength. There is a front flange (6.5mm thick) for fixing in place with countersunk holes for fastenings. The fascia is mounted solidly in the main frame

The louvre comes completely powder-coated in RAL 9010 semi-gloss (other RAL colours are available on request). The rear perforated plate is coated black, so as to be unobtrusive.

Front perforated plate standard: Rv 6/8 mm.

## Optional Accessories

- **Multi-leaf damper**, with mounting frame, complete with modulating SLM-SLC actuator
- **Fascia plate made from stainless steel rod** (6mm diameter)
  - material LSE
- **Fascia plate made from steel round bars**, (6 mm diameter)
  - powder coated)
- **Invisible fixing**

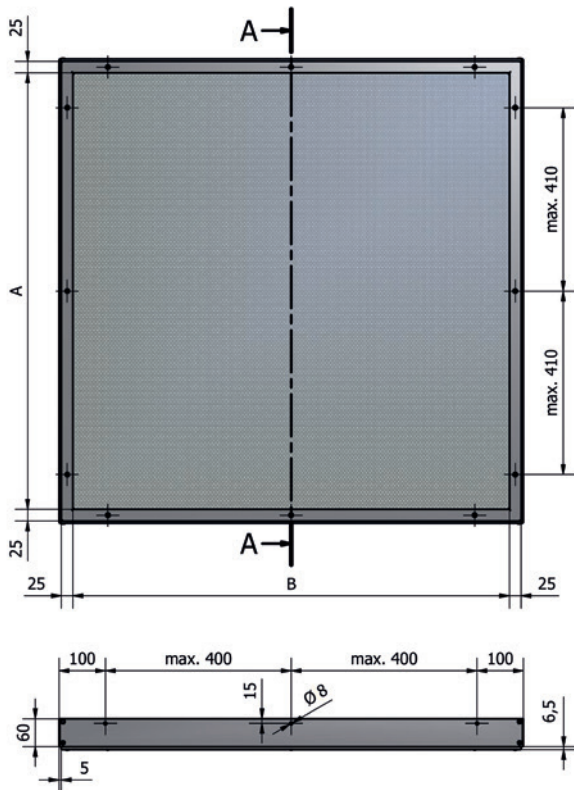
Bespoke design for materials and dimensions upon request.



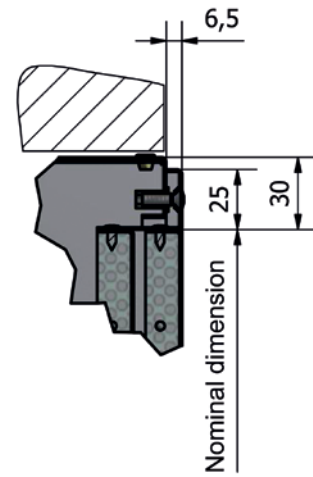
**Notes:** Please follow to the mounting instructions. As standard, actuators with SLC technology are supplied. Other actuators are available on request. Other designs and types of louvre are available with less pressure loss: see technical specifications for exhaust air.

## Main dimensions

### NIQ-R25

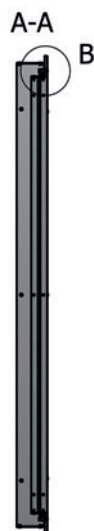
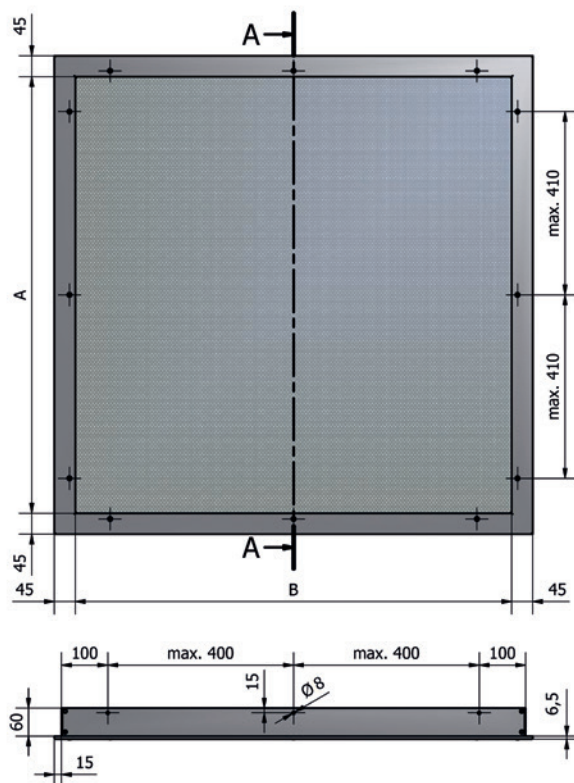


Detail B

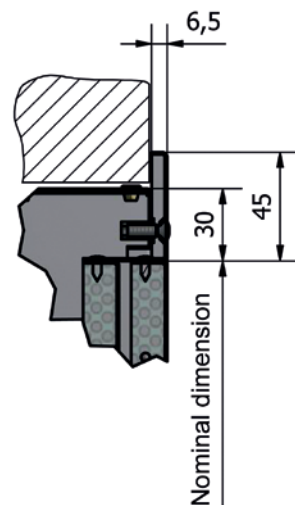


Series of dimensions		Possible punch hole	
	Standard	Punch hole	Free surface
A	300, 400, ... 1200 mm	Rv 6/8	51%
B	300, 400, ... 1200 mm	Rv 4/6	40%
		Rv 3/5	33%
		Qg 10/12	69%
		Qg 20/22,5	79%

### NIQ-R45

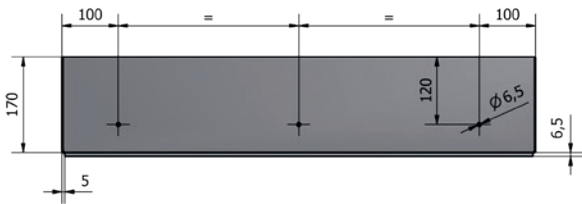
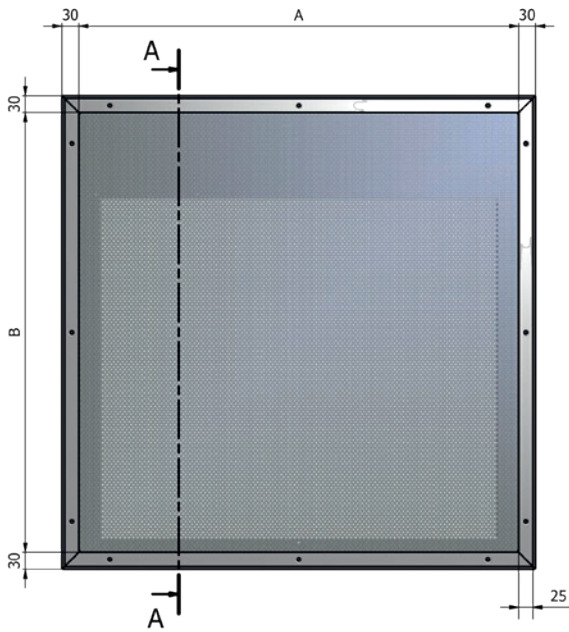


Detail B

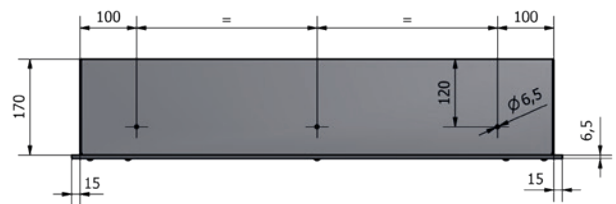
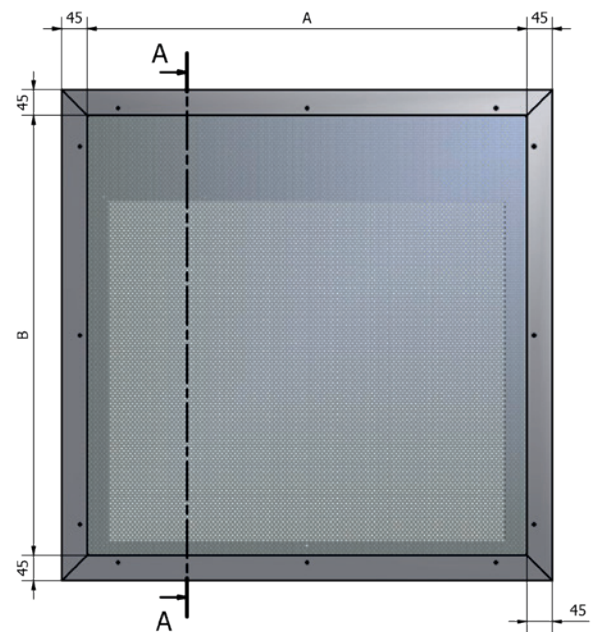


# Main dimensions

ZE-NIQ-R25-JZL65



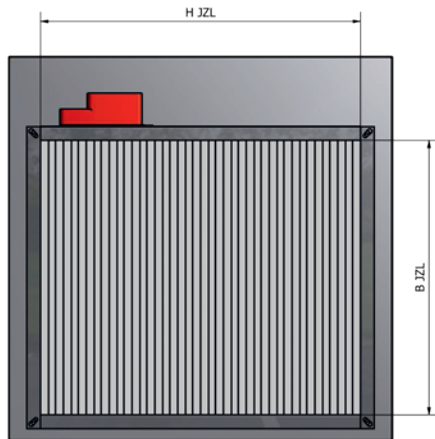
ZE-NIQ-R45-JZL65



Section A-A

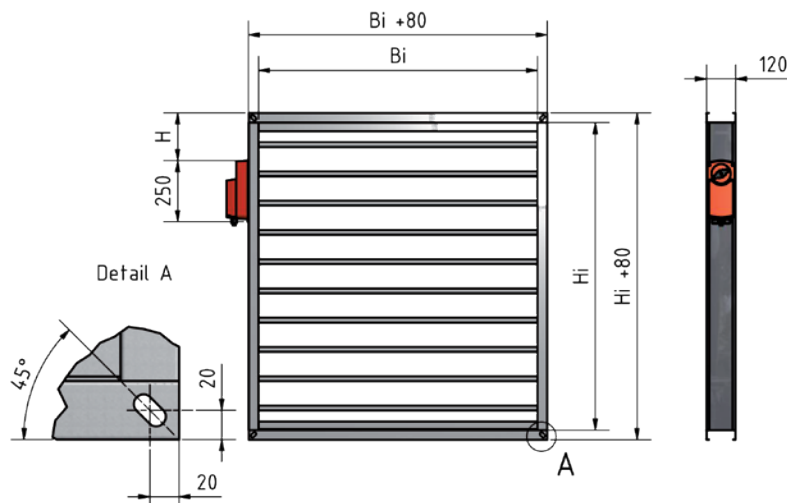


Section B-B

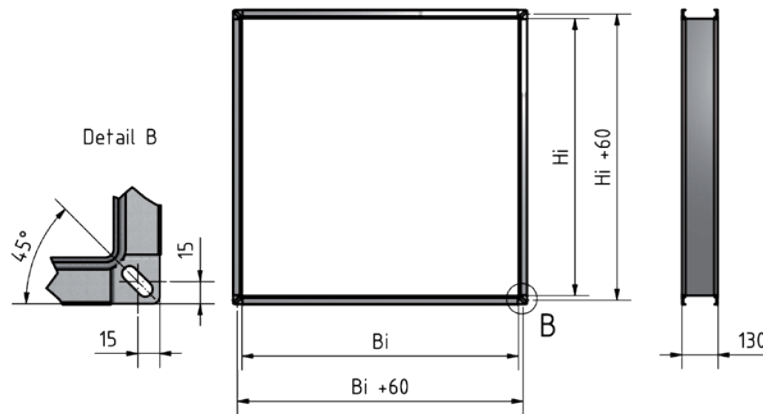


Nominal size	Possible perforated plates	
	Perforated plates	Free cross
A = 280, 380, ... 1080 mm B = 380, 480, ... 1180 mm	Rv 6/8	51%
	Rv 4/6	40%
H JZL = A - 80 mm B JZL = B - 180 mm	Rv 3/5	33%
	Qg 10/12	69%
	Qg 20/22.5	79%

## Multi-leaf damper JZL-120



## Flexible connector (ES)



Nominal size	Bi	Hi	H
[--]	[mm]	[mm]	[mm]
DV1-400	500	550	140
DV1-450	560	615	140
DV1-500	630	690	140
DV1-630	800	870	140
DV1-710	900	975	340
DV1-800	1000	1085	340
DV1-900	1120	1215	540
DV1-1000	1250	1355	740

Nominal size	Bi	Hi	H
[--]	[mm]	[mm]	[mm]
DV-RK1-450	880	710	340
DV-RK1-500	1020	850	340
DV-RK1-630/1	1145	1125	540
DV-RK1-630/2	1145	1260	40
DV-RK1-710	1210	1540	740
DV-RK1-800/1	1520	1675	740
DV-RK1-800/2	1520	1675	740



**Note:** In case of JZL with motor in position ① (see DV1 page 5) or ② (see DV-RK1 page 22), the dimensions for Hi and Bi must be exchanged.

# Electrical details for the electrical connection at the repair/service switch

## Repair/Service switch

The device is sealed switch for the specific individual electrical supply to the Strulik fan. As it is installed in the immediate vicinity of the fan motor/casing, anyone may ensure that the switch is not used by anyone unauthorised, either to turn off during normal use or turn on during maintenance, by using a padlock (see figures).

When selecting the repair/service switch consideration must be given to the supply details, the switching current, cable cross-sections, cable entries and device size.

Referring to EN 60204-1, a service switch must be provided in the immediate vicinity of a fan for the maintenance and repair work if the main control cabinet is not visible from the fan. The service switch must be secured against unauthorised operation in the operating position (e.g. padlock or execution as a key switch).

The EN 60204-1 regulation clearly differentiates between load-breaking switches and disconnecting switches when it comes to switch selection.

A load-breaking switch must be designed at least the AC-23B utilisation category. A disconnecting switch must have an auxiliary contact, which ensures the load disconnection using the contactors in the control cabinet. A disconnecting switch is selected depending on the steady current. The auxiliary contact must have sufficient AC-15 switching capacity. The load breaking capacity must be adhered to when using circuit isolating switches as main switches. The switch isolating capacity must correspond to the current of the biggest load found in the circuit. In addition, the sum of the nominal operating currents of all the components must not exceed the permissible steady state current capacity of the switch.



Service switch "On" with lock



Service switch "On/Off" without lock

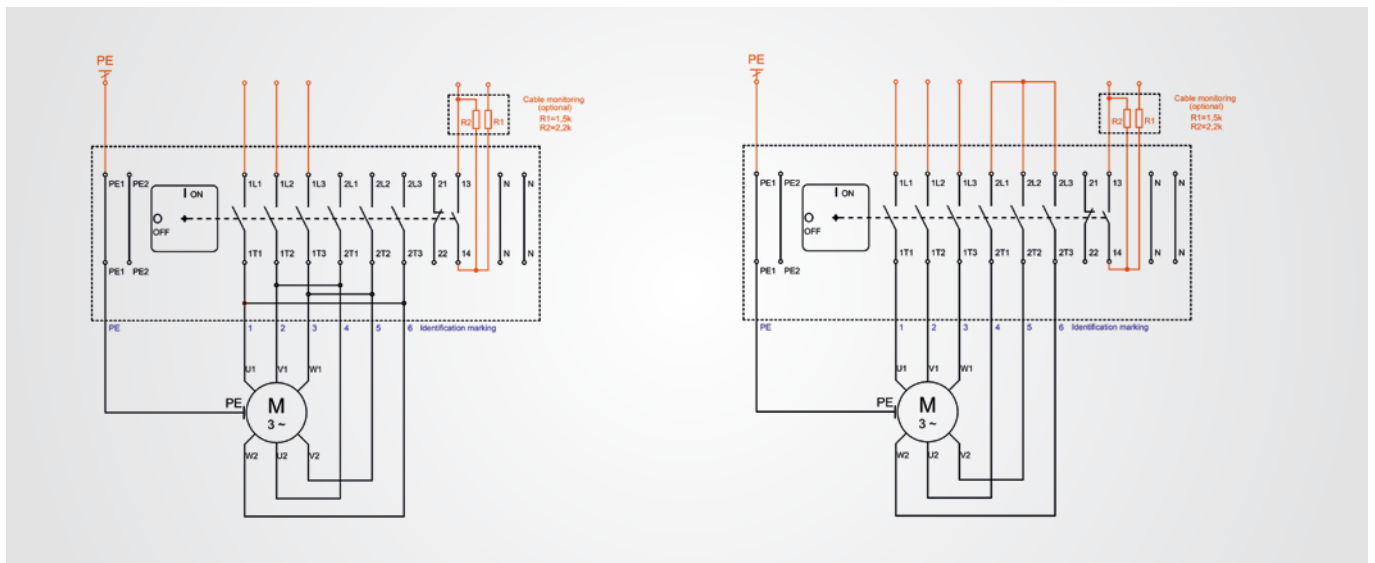


**Notes:** Motors must be connected following the circuit diagram provided in the terminal box. Before proceeding with on-site connection, the connecting terminal box at the motor or fan must be checked for the desired and suitable circuit type (bar connectors). Unused cable entries in the service switch or terminal box must be sealed (left sealed) protection against dust and moisture. All the contact screws and nuts must be tightened properly to avoid very high transition resistance.

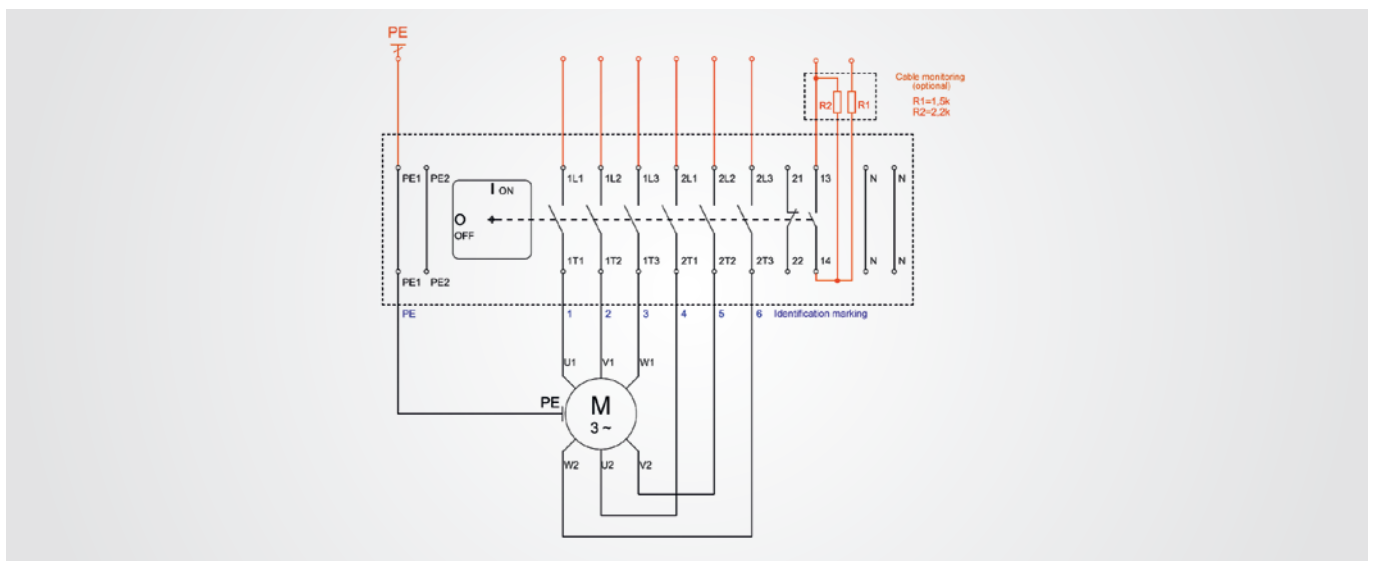
Modification to the terminal boxes or service switches, especially expanding the holes provided for the cable connections included, is not permissible.

Service switch up to 5 kW,  
delta connection

Service switch up to 5 kW,  
star connection



Service switch from 5.5 kW onwards,  
star-delta connection



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