VDF SERIES

Belt driven centrifugal duct fans

VDF

FORWARD-CURVED IMPELLER

INSULATED GALVANIZED STEEL CASING



7-18
Six casing sizes

20
Motor variants

50 Hz
Single / three phase

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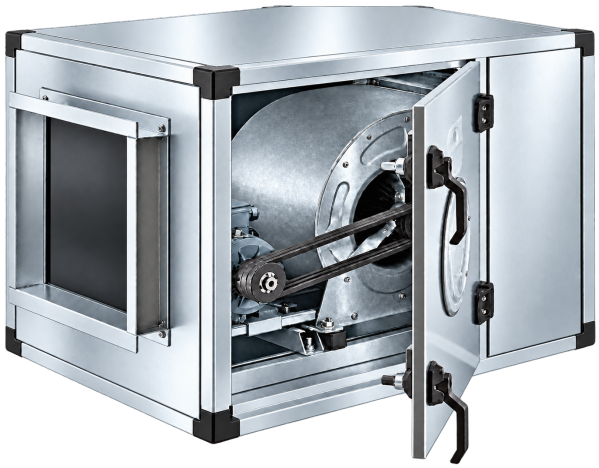
01 / PRODUCT OVERVIEW

Built for ducted ventilation.



01 Belt and pulley drive

Asynchronous motor and adjustable transmission ratio. Selected fan speed must match the final pulley configuration.

02 Forward-curved impeller

Double-inlet centrifugal fan and galvanized steel assembly for rectangular duct systems.

03 Insulated panel construction

Aluminium profile frame with 25 mm mineral wool insulation and service access door.

PERFORMANCE BASIS

Select the motor. Match the fan speed.

Each motor variant has its own calculated pressure curve. Airflow, pressure and absorbed fan power are scaled from the listed reference fan curve using the fan affinity laws. The calculated fan speed respects the listed speed limits and maintains a 10% motor power reserve across the supplied airflow range.

Selection parameter	Catalogue basis
Casing sizes	7, 9, 10, 12, 15 and 18
Nominal motor power	0.75-7.50 kW
Electrical supply	1~230 V / 3~380 V / 50 Hz
Maximum transported-air temperature	+40 °C

Calculated motor and pulley configurations; these are not separately measured motor-variant curves. Motor nameplate power and absorbed fan power are different quantities.

02 / TECHNICAL DATA

Choose the motor configuration.

20 MOTOR VARIANTS / 50 Hz

Model	Motor kW	Supply V / phase	Calculated airflow range / m³/h	Calculated fan speed / rpm	Fan speed limits / rpm
VDF 7	0.75	230 / 1	1067-3408	1367	1000-2000
VDF 7	0.75	380 / 3	1067-3408	1367	1000-2000
VDF 7	1.10	230 / 1	1212-3871	1553	1000-2000
VDF 7	1.10	380 / 3	1212-3871	1553	1000-2000
VDF 9	1.10	230 / 1	2455-4595	1187	900-1600
VDF 9	1.10	380 / 3	2455-4595	1187	900-1600
VDF 9	1.50	230 / 1	2721-5095	1316	900-1600
VDF 9	1.50	380 / 3	2721-5095	1316	900-1600
VDF 10	1.50	230 / 1	2534-6075	1090	800-1400
VDF 10	1.50	380 / 3	2534-6075	1090	800-1400
VDF 10	2.20	230 / 1	2878-6900	1238	800-1400
VDF 10	2.20	380 / 3	2878-6900	1238	800-1400
VDF 12	2.20	230 / 1	3068-8968	944	700-1200
VDF 12	2.20	380 / 3	3068-8968	944	700-1200
VDF 12	3.00	380 / 3	3400-9937	1046	700-1200
VDF 15	3.00	380 / 3	4440-13167	748	500-900
VDF 15	4.00	380 / 3	4885-14487	823	500-900
VDF 18	4.00	380 / 3	6870-17386	667	400-700
VDF 18	5.50	380 / 3	7210-18246	700	400-700
VDF 18	7.50	380 / 3	7210-18246	700	400-700

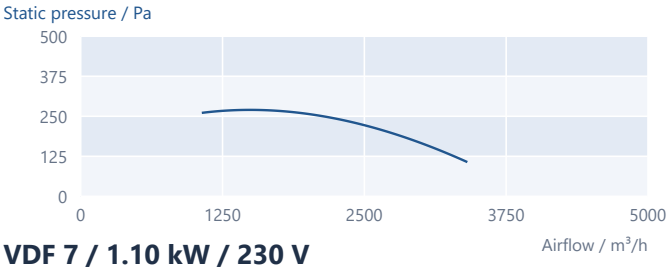
Airflow range: valid calculated curve domain, rounded to the nearest m³/h; not a zero-pressure rating. Calculated fan speed is the blower shaft speed, not the motor shaft speed. Match the final pulley ratio to this speed. Motor shaft speed, motor current, configuration-specific unit weight and acoustic spectra are not supplied.

03 / CALCULATED AIR PERFORMANCE / 01

Fan Performance Curves

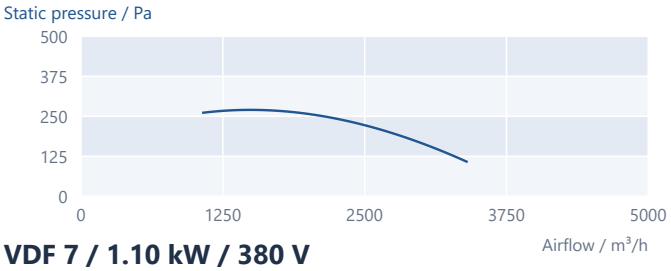
VDF 7 / 0.75 kW / 230 V

1 phase / 50 Hz / calculated 1367 rpm



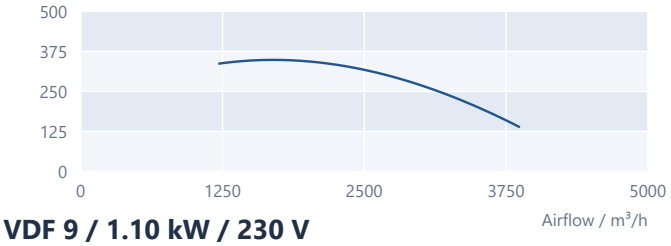
VDF 7 / 0.75 kW / 380 V

3 phase / 50 Hz / calculated 1367 rpm



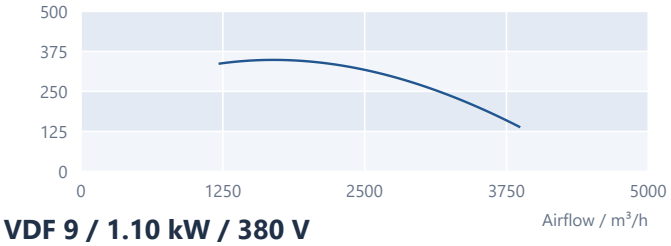
VDF 7 / 1.10 kW / 230 V

1 phase / 50 Hz / calculated 1553 rpm



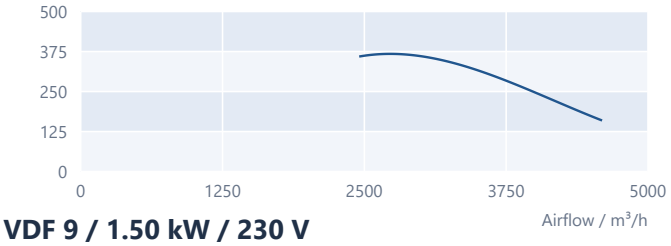
VDF 7 / 1.10 kW / 380 V

3 phase / 50 Hz / calculated 1553 rpm



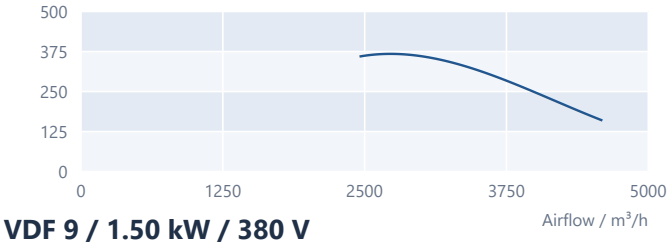
VDF 9 / 1.10 kW / 230 V

1 phase / 50 Hz / calculated 1187 rpm



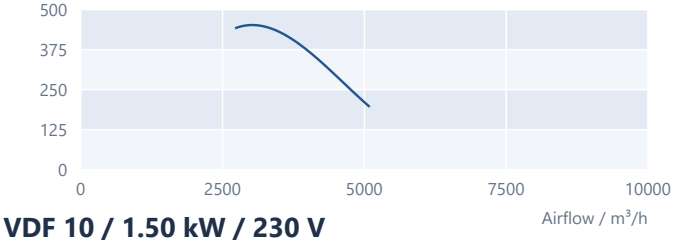
VDF 9 / 1.10 kW / 380 V

3 phase / 50 Hz / calculated 1187 rpm



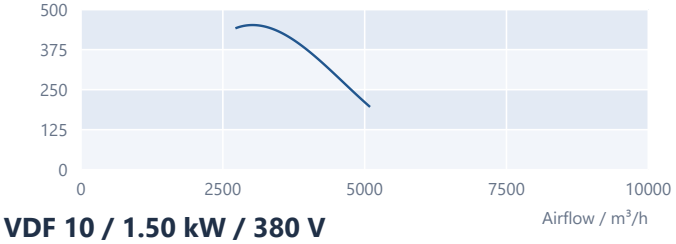
VDF 9 / 1.50 kW / 230 V

1 phase / 50 Hz / calculated 1316 rpm



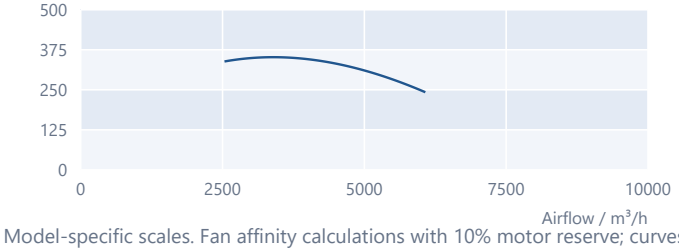
VDF 9 / 1.50 kW / 380 V

3 phase / 50 Hz / calculated 1316 rpm



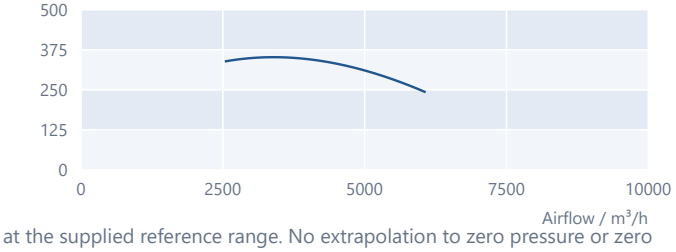
VDF 10 / 1.50 kW / 230 V

1 phase / 50 Hz / calculated 1090 rpm



VDF 10 / 1.50 kW / 380 V

3 phase / 50 Hz / calculated 1090 rpm



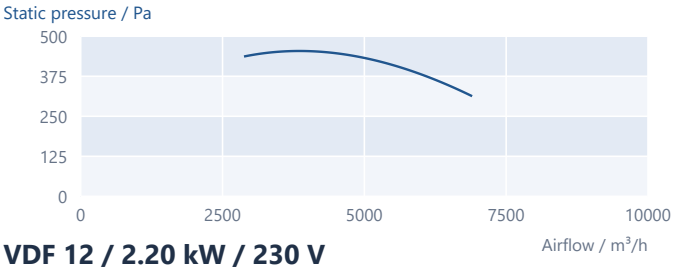
Model-specific scales. Fan affinity calculations with 10% motor reserve; curves end at the supplied reference range. No extrapolation to zero pressure or zero airflow.

03 / CALCULATED AIR PERFORMANCE / 02

Fan Performance Curves

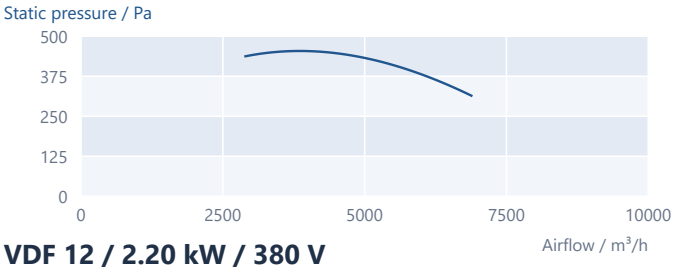
VDF 10 / 2.20 kW / 230 V

1 phase / 50 Hz / calculated 1238 rpm



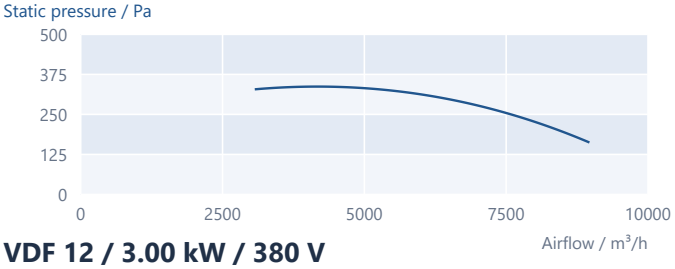
VDF 10 / 2.20 kW / 380 V

3 phase / 50 Hz / calculated 1238 rpm



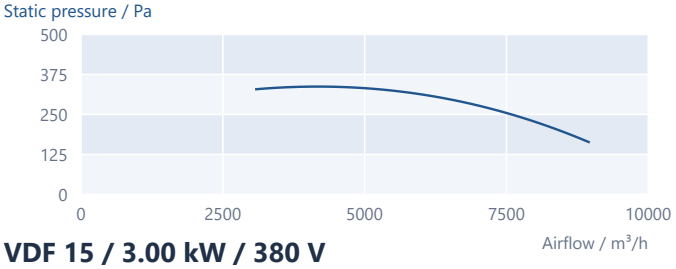
VDF 12 / 2.20 kW / 230 V

1 phase / 50 Hz / calculated 944 rpm



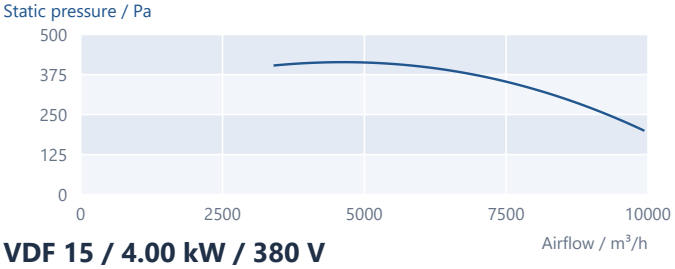
VDF 12 / 2.20 kW / 380 V

3 phase / 50 Hz / calculated 944 rpm



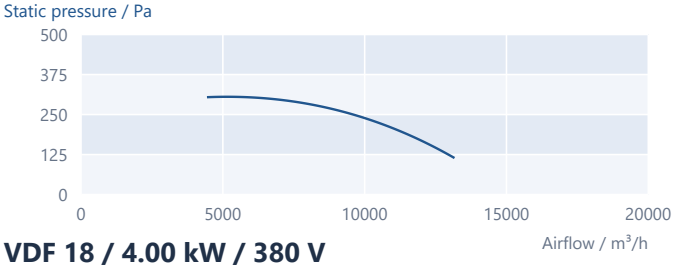
VDF 12 / 3.00 kW / 380 V

3 phase / 50 Hz / calculated 1046 rpm



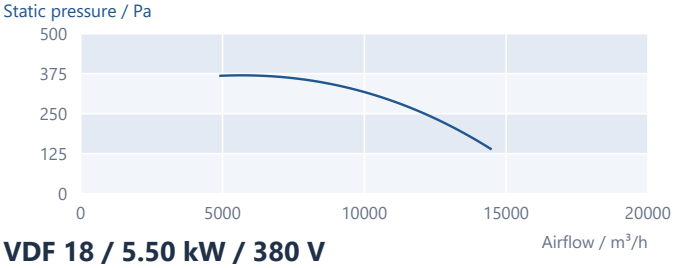
VDF 15 / 3.00 kW / 380 V

3 phase / 50 Hz / calculated 748 rpm



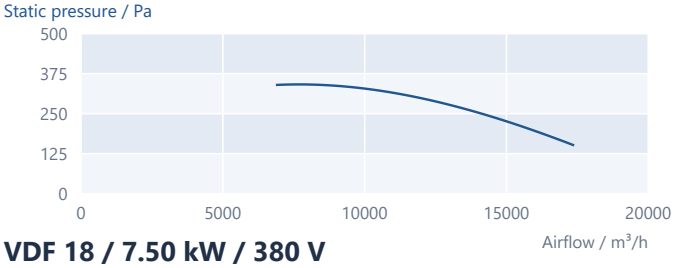
VDF 15 / 4.00 kW / 380 V

3 phase / 50 Hz / calculated 823 rpm



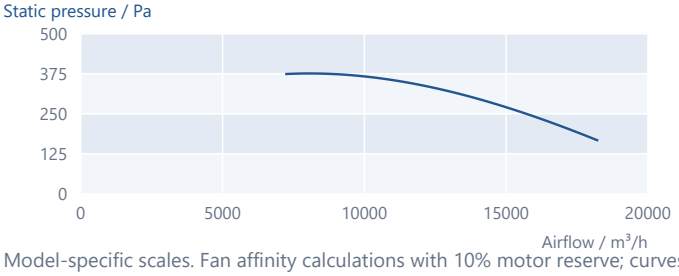
VDF 18 / 4.00 kW / 380 V

3 phase / 50 Hz / calculated 667 rpm



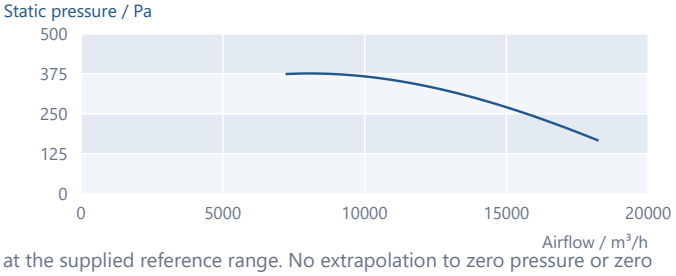
VDF 18 / 5.50 kW / 380 V

3 phase / 50 Hz / calculated 700 rpm



VDF 18 / 7.50 kW / 380 V

3 phase / 50 Hz / calculated 700 rpm



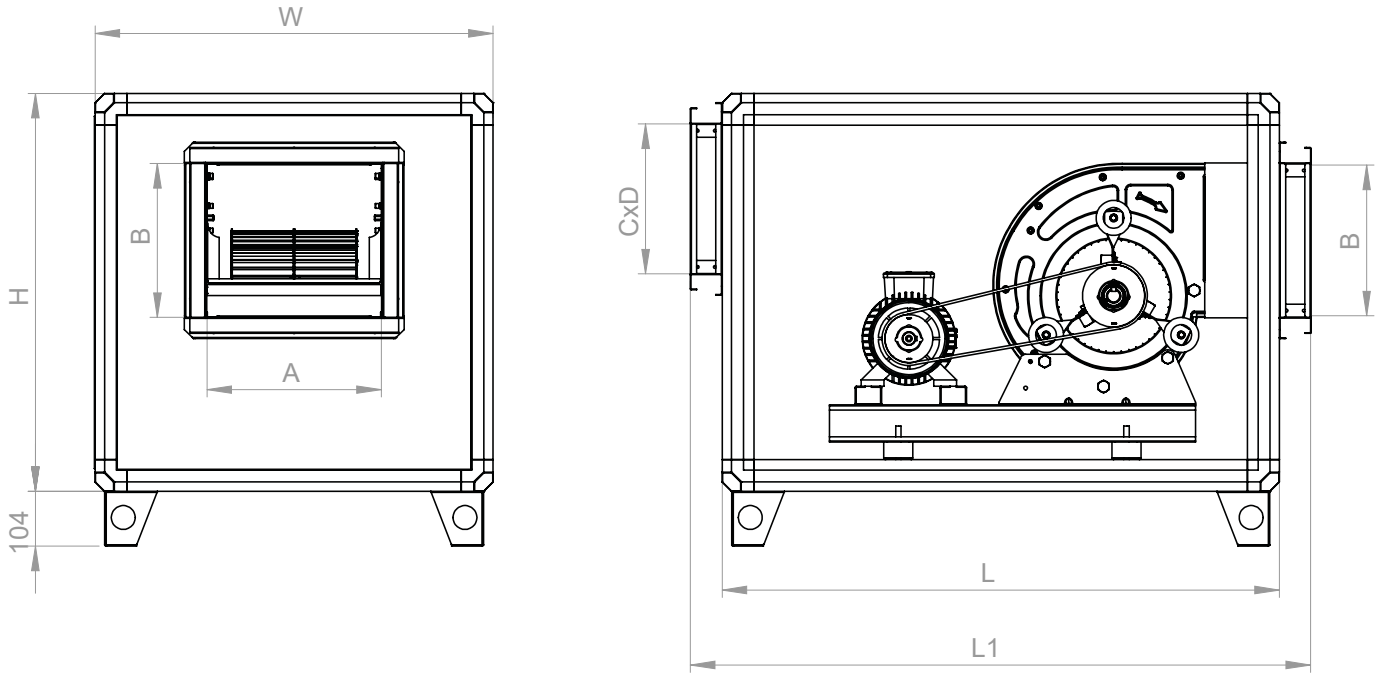
Model-specific scales. Fan affinity calculations with 10% motor reserve; curves end at the supplied reference range. No extrapolation to zero pressure or zero airflow.

04 / DIMENSIONAL DATA

Plan the installation.

FAMILY DRAWING

All dimensions in mm



Model	A	B	C	D	H	L	L1	W
VDF 7	235	205	415	230	500	740	780	500
VDF 9	295	260	615	320	600	800	840	700
VDF 10	335	290	615	330	700	900	940	700
VDF 12	400	335	715	380	800	1000	1040	800
VDF 15	485	408	815	430	900	1100	1140	900
VDF 18	560	480	955	460	1040	1380	1420	1040

A x B: rectangular duct connection. C x D: opposite connection, as shown in the drawing. Dimensions apply to the casing size across its listed motor variants.

Allow additional space for the service door and belt maintenance. Confirm the final motor and pulley arrangement before installation.

05 / INSTALLATION & ELECTRICAL DATA

Access. Alignment. Connection.

01 Service access

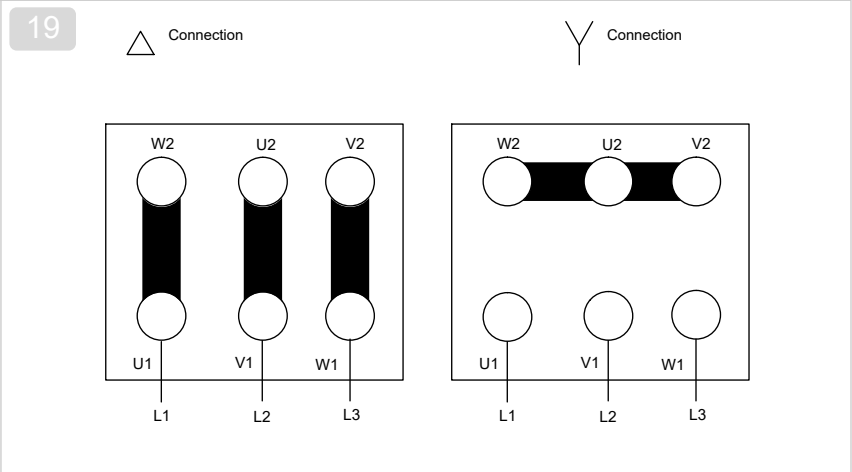
Support the casing securely and keep the service door accessible. Isolate the supply before opening the cabinet.

02 Belt drive setup

Set the pulley ratio to the selected calculated fan speed. Check belt tension and pulley alignment; stay within the permitted fan speed limits.

Parameter	Selection data
Motor type / enclosure	Asynchronous AC / TEFC
Insulation class	Class F
Maximum transported-air temperature	+40 °C
Motor power reserve	10%

THREE-PHASE MOTOR / CONNECTION DIAGRAM 19

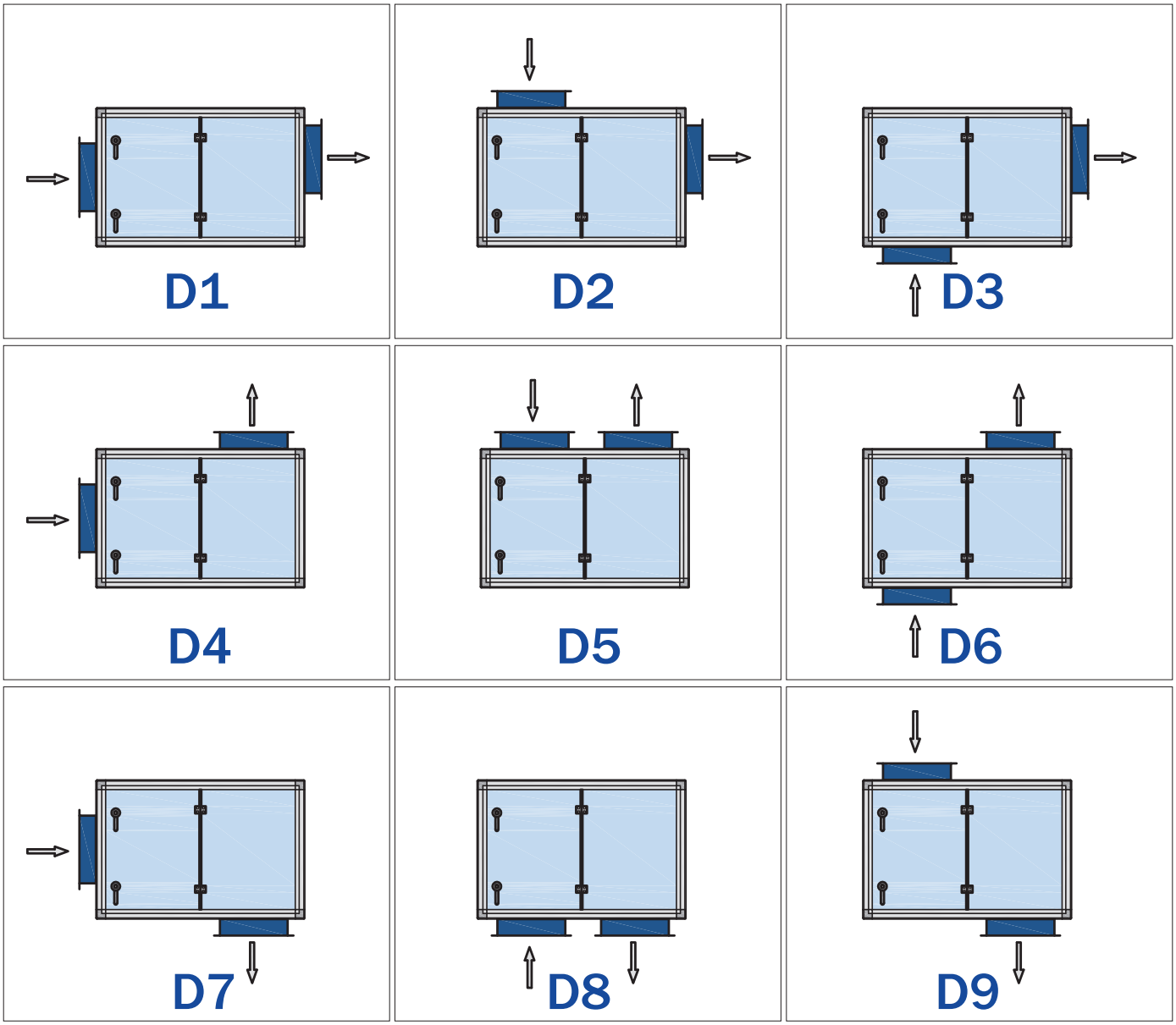


Delta / star terminal layouts for this family. Select the connection according to the actual motor nameplate voltage and unit diagram. Single-phase wiring is not supplied in the series data records.

06 / AIRFLOW CONFIGURATIONS

Air inlet & discharge configurations.

Select the inlet and discharge arrangement for the duct layout. Arrows show the direction of airflow; D1-D9 identify the configuration.



Specify the configuration code when ordering. Confirm connection positions and service-door access for the selected unit.

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