VDF-R SERIES

Belt driven centrifugal duct fans

VDF-R

BACKWARD-CURVED IMPELLER

INSULATED GALVANIZED STEEL CASING



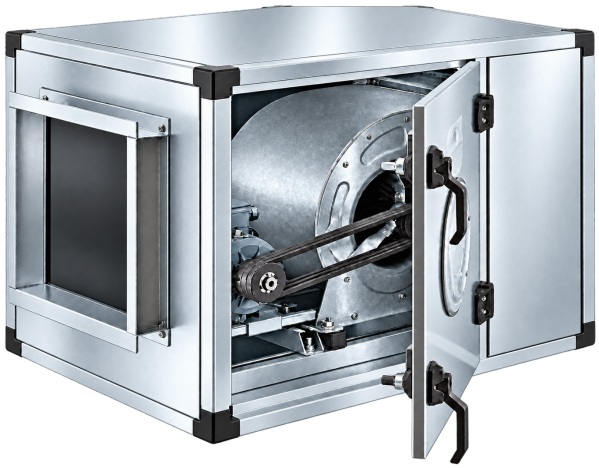
280-630
Eight casing sizes

16
Motor variants

50 Hz
Three-phase AC

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 Backward-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	280, 315, 355, 400, 450, 500, 560, 630
Nominal motor power	0.75-18.50 kW
Electrical supply	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.

16 MOTOR VARIANTS / 50 Hz

Model	Motor kW	Supply V / phase	Calculated airflow range / m^3/h	Calculated fan speed / rpm	Fan speed limits / rpm
VDF-R 280	0.75	380 / 3	989-5287	2112	1600-3200
VDF-R 280	1.50	380 / 3	1246-6661	2661	1600-3200
VDF-R 280	3.00	380 / 3	1498-8011	3200	1600-3200
VDF-R 315	1.50	380 / 3	2332-7986	2196	1400-3000
VDF-R 315	2.20	380 / 3	2650-9074	2495	1400-3000
VDF-R 315	3.00	380 / 3	2939-10063	2767	1400-3000
VDF-R 355	4.00	380 / 3	3750-12738	2463	1200-2600
VDF-R 400	4.00	380 / 3	3727-13661	2056	1000-2400
VDF-R 400	5.50	380 / 3	4144-15189	2286	1000-2400
VDF-R 450	5.50	380 / 3	4938-16752	1864	1000-2200
VDF-R 450	7.50	380 / 3	5476-18576	2067	1000-2200
VDF-R 500	11.00	380 / 3	7504-26826	1943	900-2000
VDF-R 560	11.00	380 / 3	9477-31449	1630	800-1800
VDF-R 560	15.00	380 / 3	10465-34729	1800	800-1800
VDF-R 630	15.00	380 / 3	12270-44296	1470	700-1700
VDF-R 630	18.50	380 / 3	13163-47520	1577	700-1700

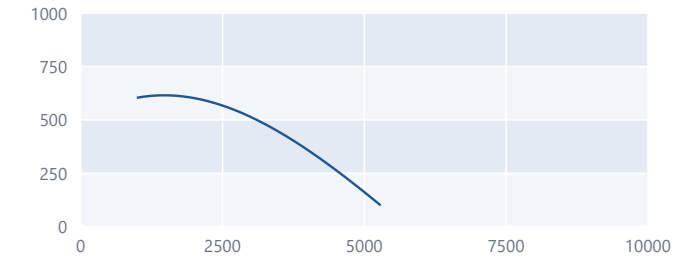
Airflow range: valid calculated curve domain, rounded to the nearest m^3/h; not a zero-pressure rating. Calculated fan speed is the blower shaft speed, not the motor shaft speed. Match the final pulley ratio to this speed. Motor shaft speed, motor current, configuration-specific unit weight and acoustic spectra are not supplied.

03 / CALCULATED AIR PERFORMANCE / 01

Fan Performance Curves

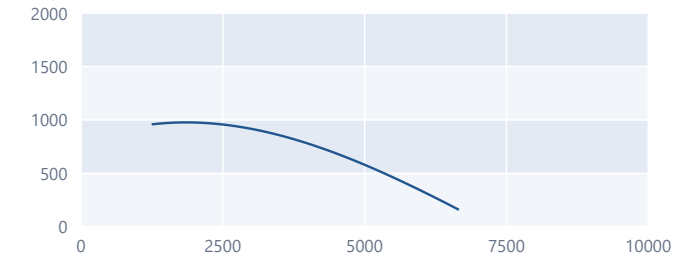
VDF-R 280 / 0.75 kW / 380 V

3 phase / 50 Hz / calculated 2112 rpm



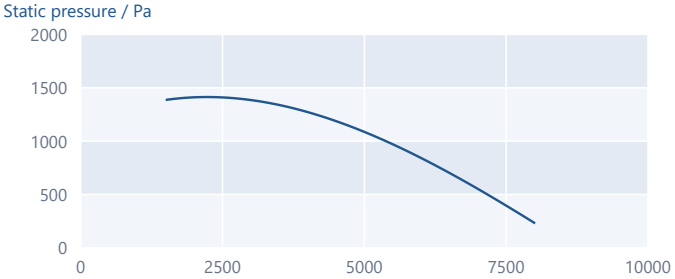
VDF-R 280 / 1.50 kW / 380 V

3 phase / 50 Hz / calculated 2661 rpm



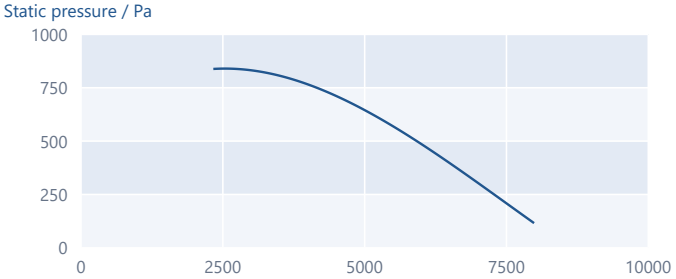
VDF-R 280 / 3.00 kW / 380 V

3 phase / 50 Hz / calculated 3200 rpm



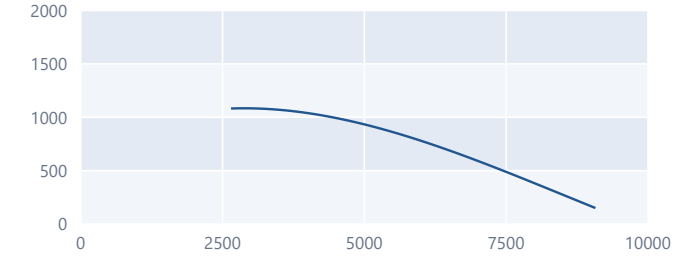
VDF-R 315 / 1.50 kW / 380 V

3 phase / 50 Hz / calculated 2196 rpm



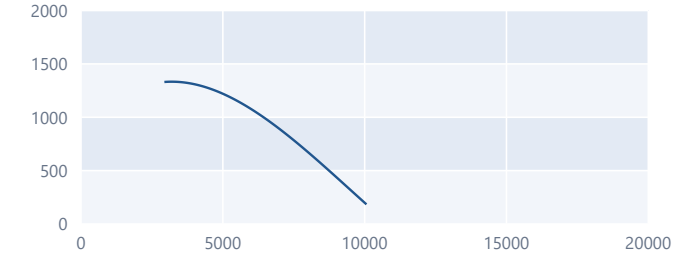
VDF-R 315 / 2.20 kW / 380 V

3 phase / 50 Hz / calculated 2495 rpm



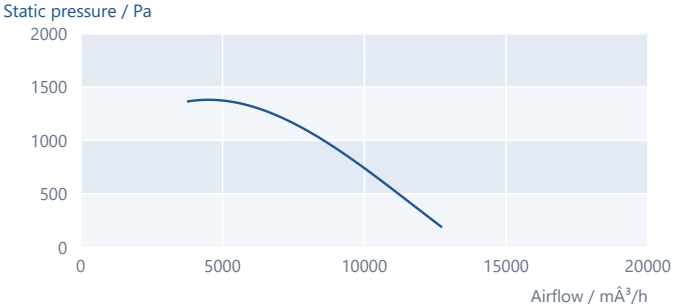
VDF-R 315 / 3.00 kW / 380 V

3 phase / 50 Hz / calculated 2767 rpm



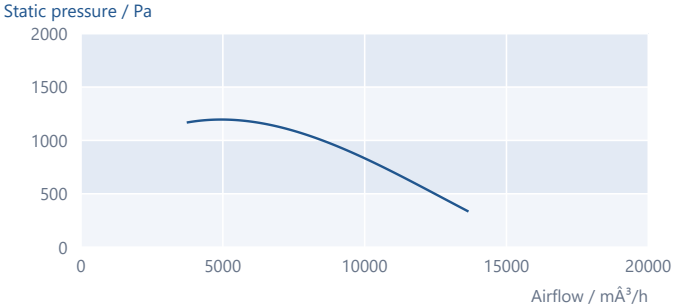
VDF-R 355 / 4.00 kW / 380 V

3 phase / 50 Hz / calculated 2463 rpm



VDF-R 400 / 4.00 kW / 380 V

3 phase / 50 Hz / calculated 2056 rpm



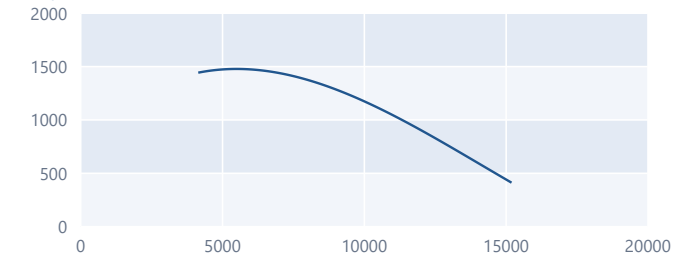
Model-specific scales. Fan affinity calculations with 10% motor reserve; curves end at the supplied reference range. No extrapolation to zero pressure or zero airflow.

03 / CALCULATED AIR PERFORMANCE / 02

Fan Performance Curves

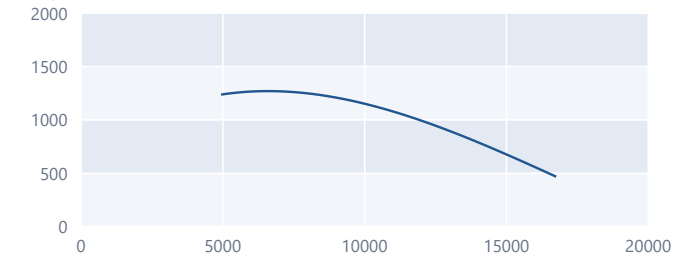
VDF-R 400 / 5.50 kW / 380 V

3 phase / 50 Hz / calculated 2286 rpm



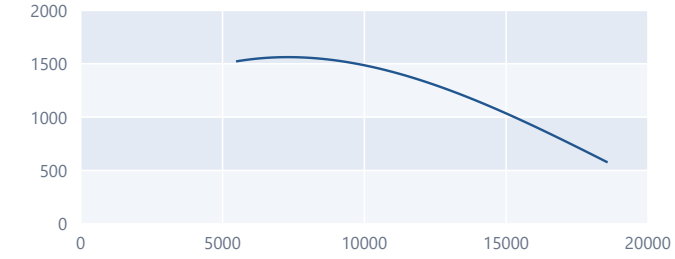
VDF-R 450 / 5.50 kW / 380 V

3 phase / 50 Hz / calculated 1864 rpm



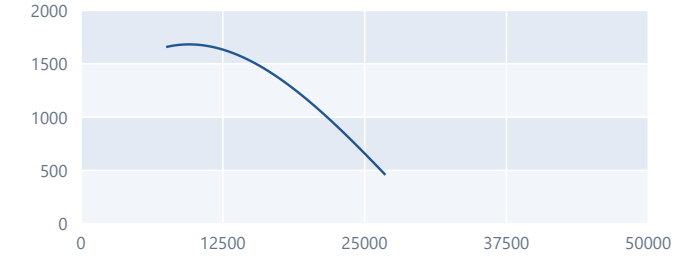
VDF-R 450 / 7.50 kW / 380 V

3 phase / 50 Hz / calculated 2067 rpm



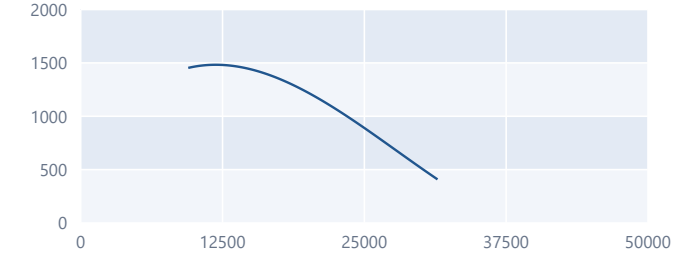
VDF-R 500 / 11.00 kW / 380 V

3 phase / 50 Hz / calculated 1943 rpm



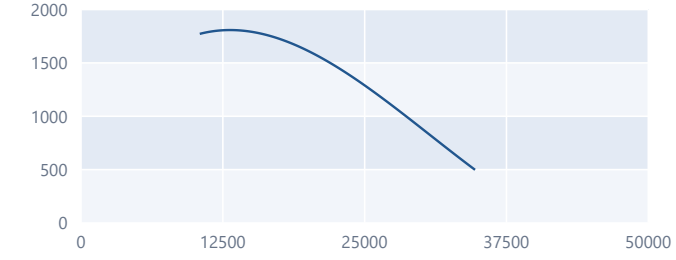
VDF-R 560 / 11.00 kW / 380 V

3 phase / 50 Hz / calculated 1630 rpm



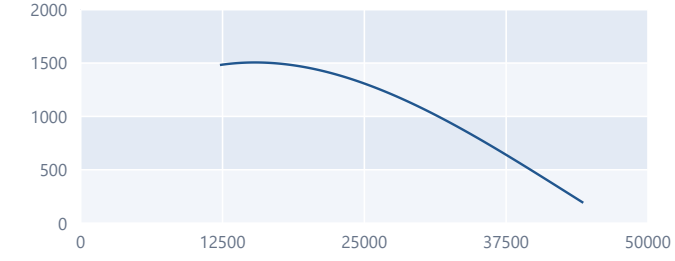
VDF-R 560 / 15.00 kW / 380 V

3 phase / 50 Hz / calculated 1800 rpm



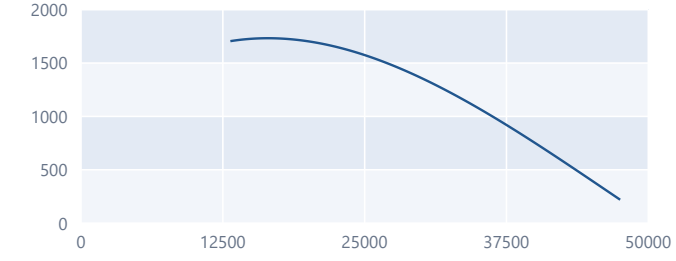
VDF-R 630 / 15.00 kW / 380 V

3 phase / 50 Hz / calculated 1470 rpm



VDF-R 630 / 18.50 kW / 380 V

3 phase / 50 Hz / calculated 1577 rpm



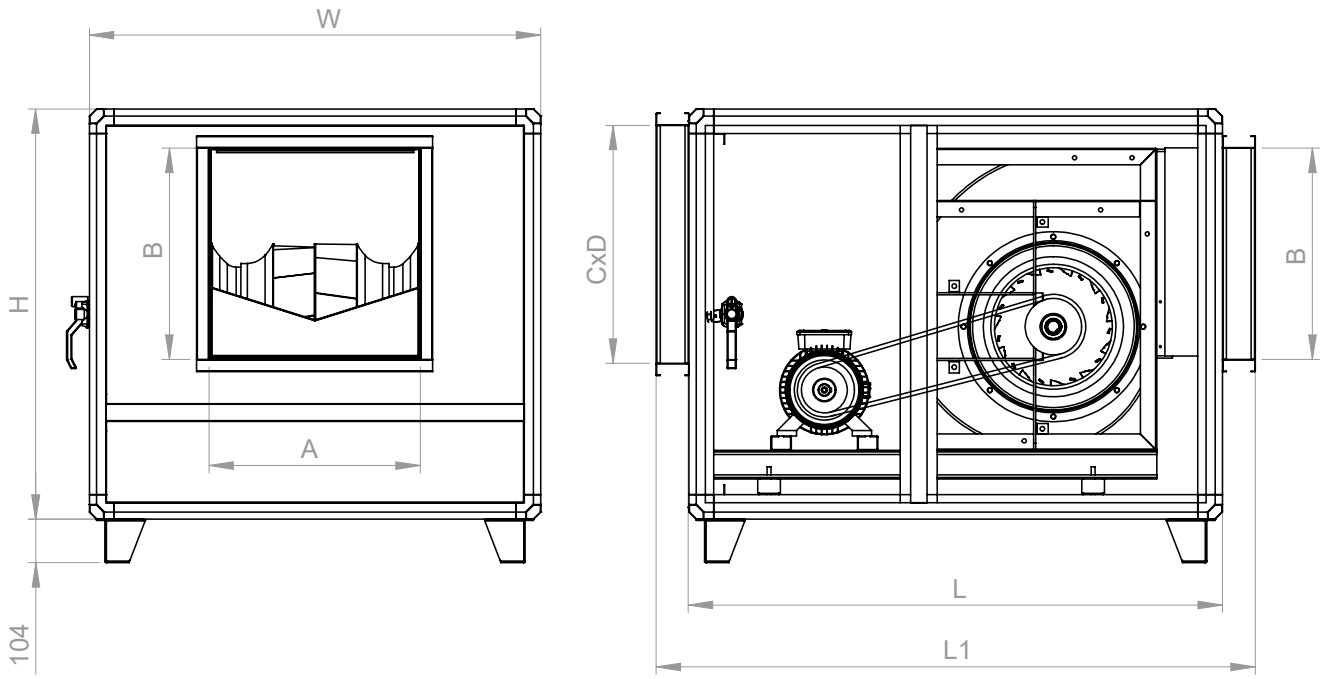
Model-specific scales. Fan affinity calculations with 10% motor reserve; curves end at the supplied reference range. No extrapolation to zero pressure or zero airflow.

04 / DIMENSIONAL DATA

Plan the installation.

FAMILY DRAWING

All dimensions in mm



Model	A	B	C	D	H	L	L1	W
VDF-R 280	361	361	715	380	800	1000	1040	800
VDF-R 315	405	405	815	430	900	1100	1040	900
VDF-R 355	455	455	815	430	900	1100	1140	900
VDF-R 400	510	510	955	490	1040	1380	1420	1040
VDF-R 450	570	570	1155	500	1140	1540	1580	1230
VDF-R 500	640	640	1315	600	1240	1540	1580	1400
VDF-R 560	715	715	1415	600	1440	1740	1780	1500
VDF-R 630	843	843	1510	720	1500	2040	2080	1600

A x B: rectangular duct connection. C x D: opposite connection. Dimensions apply across the listed motor variants. VDF-R 315: listed L1 is 1040 mm while L is 1100 mm; confirm this listed inconsistency before installation.

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

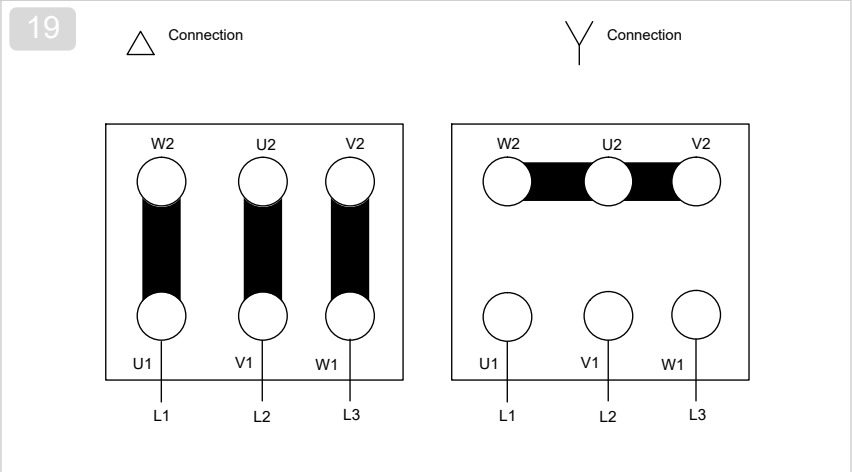
Support the casing securely and keep the service door accessible. Isolate the supply before opening the cabinet.

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

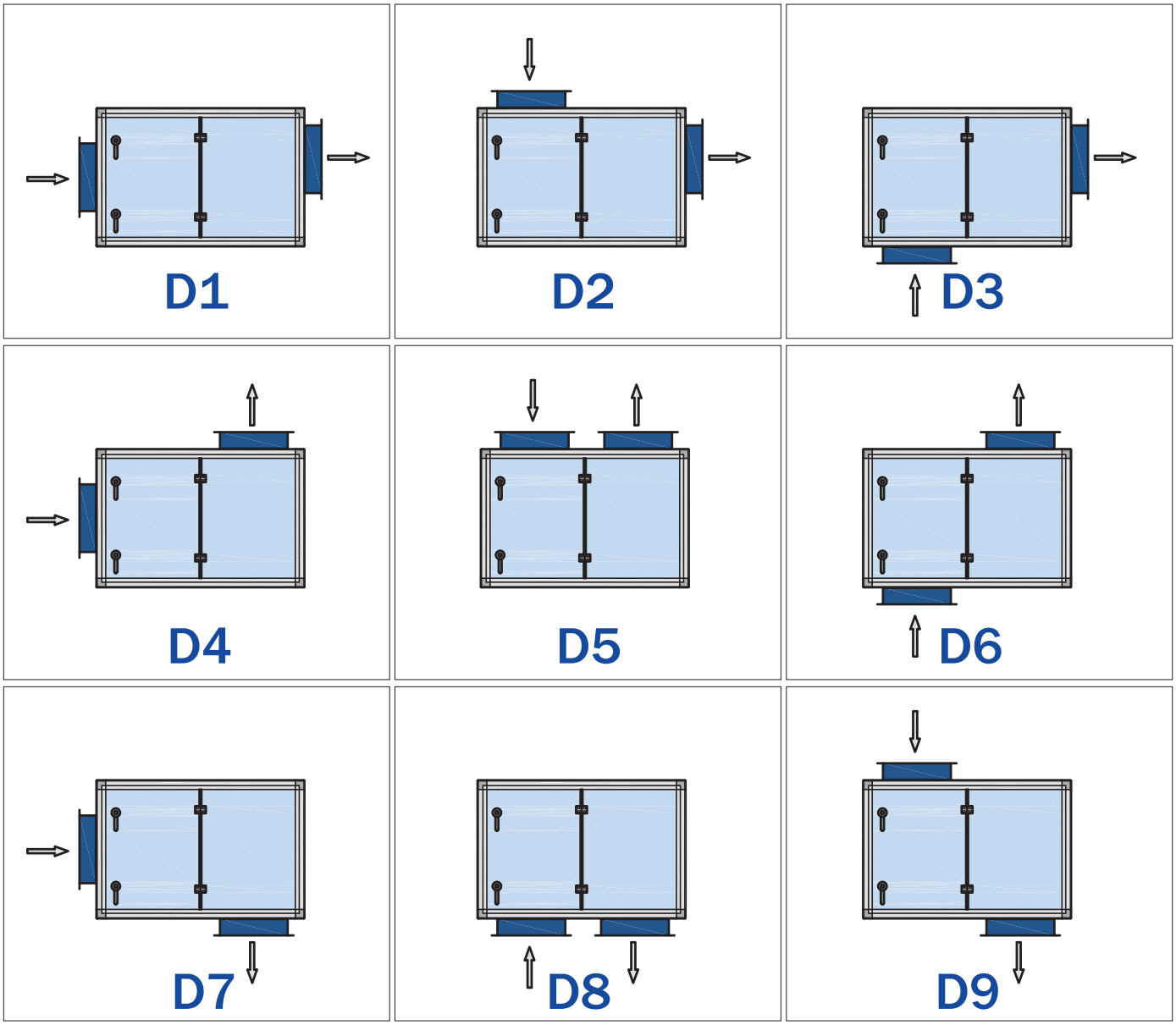


Delta / star terminal layouts for this family. Select the connection according to the actual motor nameplate voltage and unit diagram. All listed variants use three-phase supply.

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.

VDF-R

Belt driven centrifugal duct fans

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