



VOR QBK
AXIAL F400
RANGE



Fan boxes
equipped
with axial fans





VORTICE S.p.A. is part of a multinational group, **VORTICE GROUP**, which operates through its own companies or local distributors in over 90 countries worldwide and has a rich product portfolio that guarantees air quality and climate comfort. The headquarters of VORTICE S.p.A are in Tribiano (Milan).



VORTICE GROUP also includes:

[1]
VORTICE UK Ltd., English branch of VORTICE S.p.A, established in 1977 and based in Burton upon Trent.

[2]
VORTICE INDUSTRIAL, since 2010, following the acquisition of Loran srl, based in Isola della Scala (VR).

[3]
VORTICE Ventilation System, a company inaugurated in 2013 with the headquarters in Changzhou, China.

[4]
VORTICE Latam, based in Alajuela in Costa Rica, since 2012.

[5]
CASALS VENTILACIÓN AIR INDUSTRIAL S.L., historic Spanish brand, based in Sant Joan de les Abadesses, Girona, acquired in 2019.



VORT QBK AXIAL F400 RANGE

Fan boxes equipped with axial fans



Dual-use fan boxes, equipped with axial fans with a diameter between 450 and 1,250 mm, designed to ensure a proper ventilation of the rooms, in compliance with Reg. ErP no. 327/2011/UE, and to ensure that any heat and fumes can be extracted quickly in emergency conditions, in compliance with the requirements set by EN 12101-3:2015 standards. In relation to this standard, the fans have been APPLUS certified.



Certification of conformity to EN 12101-3 standards issued by APPLUS

Certifications

The Industrial Range products comply with the following European directives and regulations:

Electromagnetic compatibility standards

- EN 55014-1; EN 55014-2; EN 61000-3-2; EN 61000-3-3

Standards associated with the Machinery Directive

- EN 60204-1; EN 12100; EN 12499; EN 13857

Certification of conformity with the standard (EN 12101-3)

Standards associated with measuring performance levels (ISO 5801)

Standards for extracting hot fumes (EN 12101-3)

Machinery Directive (2006/42/CE)

EMC Directive (2014/30/CE)

ErP Directive (2009/125/CE)

ErP Regulation no. 327/2011

CONSTRUCTION FEATURES

The construction includes the soundproof case and the axial fan positioned inside it. The high flow rates, which exceed 140,000 m³/h, the robust construction and the flexibility of the project, able to meet a wide range of specific demand, make the VORT QBK AXIAL F400 range particularly suitable for a wide range of applications in both commercial and industrial fields, such as car parks, industrial storage units, warehouses, etc....

01

Robust construction

perfectly suitable for the harsh conditions which are typical of the industrial context.

02

Soundproof construction

to ensure a more user-friendly operation

03

Optimised housing design

to simplify integration into rectangular ventilation pipelines.

04

Maximum temperature

for continuous operation: +60 °C.

EXTERNAL BOX

- Constructed from galvanised sheet steel; fire-resistant, thermo-acoustic insulation, Bs1d0 class. Removable panels, for a simpler cleaning and maintenance work on the internal motor fan

INDOOR VENTILATION

Up to 800mm of diameter: VORTICEL HBF F400 axial fan range, characterized by:

- Reinforced circular panels with integrated suction nozzle, painted with epoxy powder to ensure a longer resistance to the effects of adverse weather.
- Class H three-phase asynchronous motors with IP55 protection, single speed, four and six-pole, and dual speed (Dahlander), 4/8 pole versions, all 400 °C/2h certified.
- Variable motion rotors with die-cast aluminum blades.

From 900 to 1,250mm of diameter: MPC ED SC F400 axial fans, characterised by:

- Containment boxes made from reinforced sheet steel, treated with epoxy paint to ensure high levels of resistance to corrosion. The MPC ED F400 models feature a motor access port, which allows a simple connection to the network.
- H class three-phase asynchronous motors, with IP55 protection in single speed, 4 and 6-pole, and dual speed (Dahlander), 4/8 pole versions, all 400 °C/2h certified.
- Die-cast aluminium rotors with airfoil blades to ensure high levels of efficiency, with a variable pitch (the angle of inclination can be adjusted when at a standstill).

Custom models, optimised for reaching specific working points, are available on request.



Applus⁺
Certification of conformity to EN 12101-3 standards issued by APPLUS

APPLUS certification according to the EN 12101-3:2015 standard (hot smoke extraction) relating to the 400 °C/2 hour class appliances, with the motor outside of the danger zone.

Wide range (-15 °C/+60 °C) of continuous operating temperatures, in applications for ventilating both commercial and industrial premises



Large extension, to cover a wide range of potential applications, also thanks to the special versions available, which can be manufactured upon request.

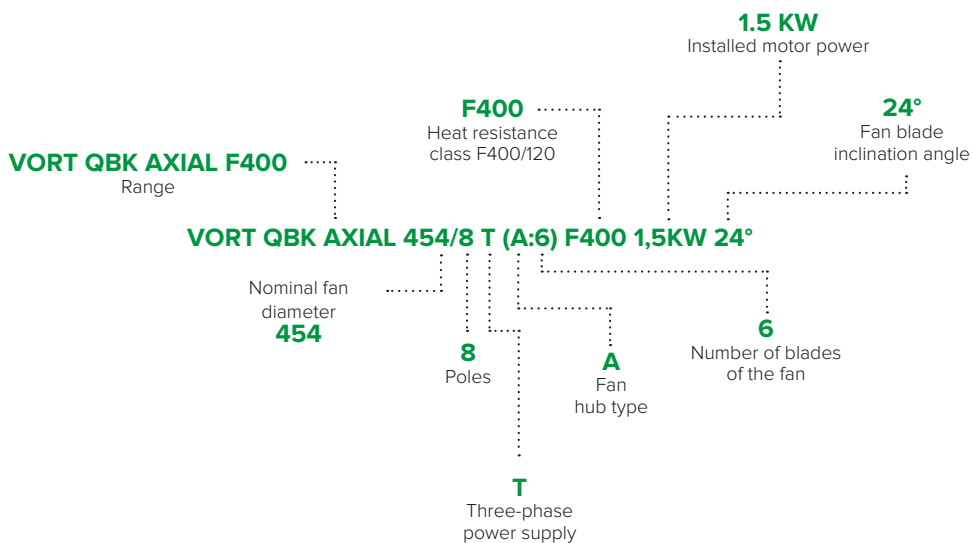
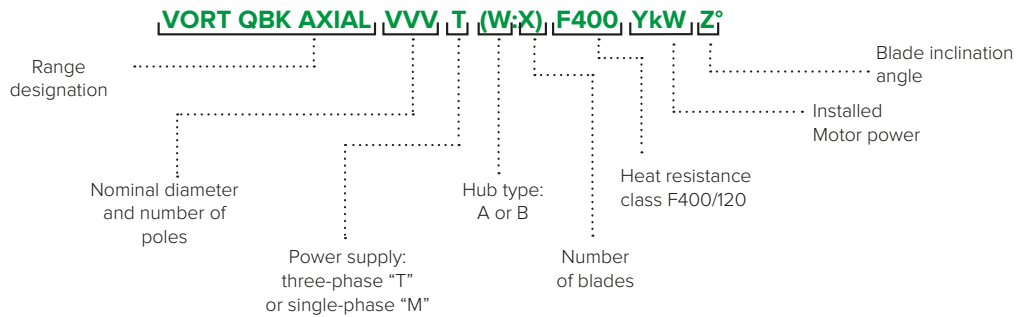
High-level performances, higher than 1,400 m³/h.

RANGE COMPOSITION

The VORT QBK AXIAL F400 range is available in ten diameters: 450mm, 500mm, 560mm, 630mm, 710mm, 800mm, 900mm, 1,000mm, 1,120mm, 1,250mm. Each diameter is also available in a range of versions, which vary in terms of performance and motors, all of which are three-phase, with single or dual speed, so to cover a wide range of application requirements.

The flexibility of the product is further enhanced by models available upon request, with inverted air flow (from the rotor to the motor) and with a 100% reversible rotor. The "VORTICE FAN SELECTION PRO" selection SW, which is available online, allows to identify the most suitable model for the application requirements.

Naming scheme





Technical Data

PRODUCT	Fan diameter mm	Blade angle min/max	Flow rate (m³/h) min/max flow @ 0 BI	Static pressure range (Pa) min/max	Static pressure range (Pa) water inchs min/max	Speed (RPM) min/max	No. of poles min/max	Power range (kW) min/max	Total efficiency % min/max
VORT QBK AXIAL 450 F400	450	20°-45°	4,100 6,170	54 160	13,716 40,640	923 1,404	4/6	0.75 0.75	35%
VORT QBK AXIAL 500 F400	500	20°-45°	5,950 9,200	61 180	15,494 45,720	923 1,404	4/6	0.75 0.75	35%
Vort QBK AXIAL 560 F400	560	20°-45°	9,642 14,465	155 330	29,210 83,820	923 1,410	4/6	0.75 1.5	62%
VORT QBK AXIAL 630 F400	630	20°-45°	13,395 20,115	98 395	24,892 100,330	923 1,420	4/6	0.75 2.2	64%
VORT QBK AXIAL 710 F400	710	20°-45°	18,115 27,140	115 450	29,210 114,300	923 1,420	4/6	0.75 3	65%
VORT QBK AXIAL 800 F400	800	20°-45°	24,875 34,080	135 570	34,290 144,780	920 1,428	4/6	0.75 4	71%
VORT QBK AXIAL 900 F400	900	20°-42°	31,275 54,740	155 895	39,370 227,330	940 1,470	4/6	1.5 15	52%
VORT QBK AXIAL 1000 F400	1,000	20°-42°	43,580 77,650	175 1,064	44,450 270,256	940 1,470	4/6	1.5 22	62%
VORT QBK AXIAL 1120 F400	1,120	20°-42°	60,000 104,055	155 1,112	39,370 282,448	940 1,470	4/6	2.2 37	70%
VORT QBK AXIAL 1250 F400	1,250	20°-42°	80,515 141,035	183 1,317	46,482 334,518	960 1,475	4/6	3.0 45	70%

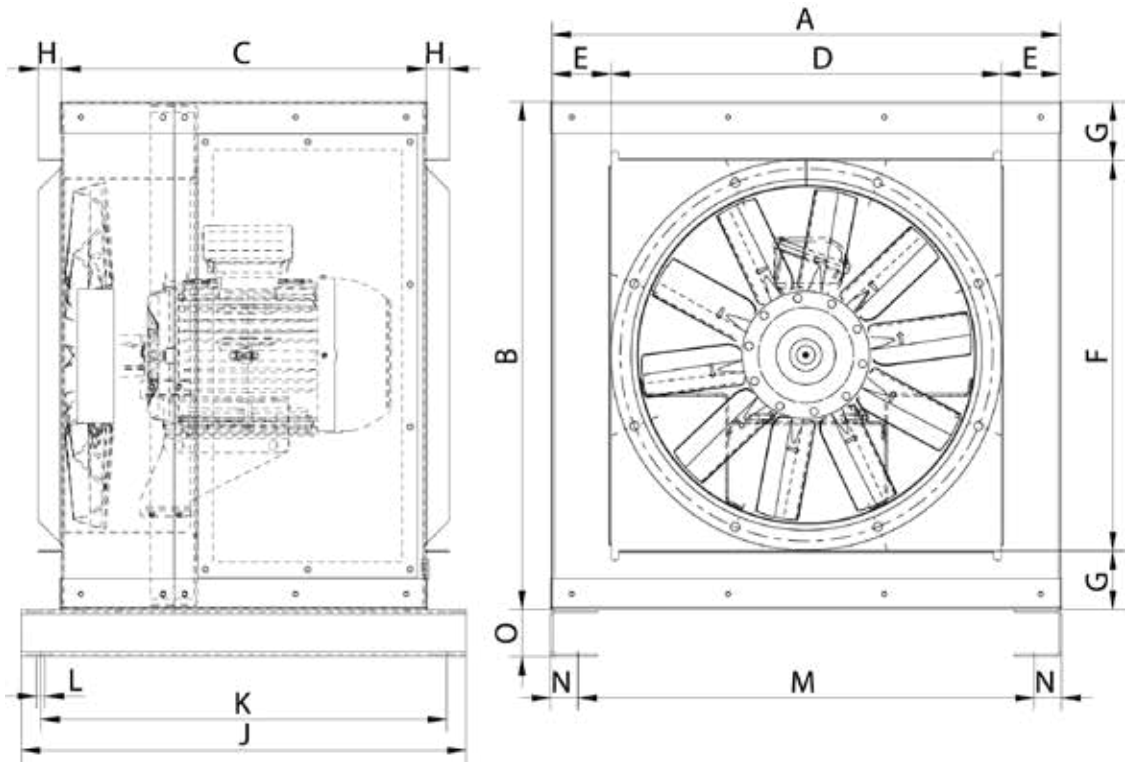
PRODUCT	Fan diameter mm	Blade angle min/max	Flow rate (m³/h) min/max flow @ 0 BI	Static pressure range (Pa) min/max	Static pressure range (Pa) water inchs min/max	Speed (RPM) min/max	No. of poles min/max	Power range (kW) min/max	Total efficiency % min/max
VORT QBK AXIAL 450 F400 2V	450	20°-45°	1,715 7,286	30 205	7,620 52,070	720 1,420	4/8	0.2 0.8	*
VORT QBK AXIAL 500 F400 2V	500	20°-42.5°	2,625 9,495	40 240	10,160 60,960	720 1,420	4/8	0.2 0.8	*
Vort QBK AXIAL 560 F400 2V	560	20°-45°	3,545 14,400	64 320	16,256 81,280	710	4/8	0.2 1.6	*
VORT QBK AXIAL 630 F400 2V	630	20°-45°	5,000 20,050	55 387	13,970 98,298	710	4/8	0.2 2.2	*
VORT QBK AXIAL 710 F400 2V	710	20°-45°	6,750 27180	65 440	16,510 111,760	710	4/8	0.2 3	*
VORT QBK AXIAL 800 F400 2V	800	20°-40°	8,125 34,080	100 560	25,400 142,240	710	4/8	0.37 4	*
VORT QBK AXIAL 900 F400 2V	900	20°-42°	12,500 55,000	100 870	25,400 220,980	*	4/8	0.55 16.5	*
VORT QBK AXIAL 1000 F400 2V	1,000	20°-42°	18,200 77,650	100 1,000	25,400 254,000	*	4/8	1.1 20	*
VORT QBK AXIAL 1120 F400 2V	1,120	20°-42°	25,000 103,700	100 1,080	25,400 274,320	*	4/8	1.5 35	*
VORT QBK AXIAL 1250 F400 2V	1,250	20°-42°	33,780 140,770	110 1,275	27,940 323,850	*	4/8	2 40	*

* data not available



VORT QBK AXIALF400
FAN BOXES EQUIPPED WITH AXIAL FANS

Dimensions



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PRODUCT	A	B	C	D	E	F	G	H	J	K	L	M	N	O
VORT QBK AXIAL 450 F400	651	651	467	500	75	500	75	30	570	520	11	585	35	60
VORT QBK AXIAL 500 F400	651	651	467	500	75	500	75	30	570	520	11	585	35	60
VORT QBK AXIAL 560 F400	781.5	781.5	542	630	76	630	76	30	665	610	11	715	35	60
VORT QBK AXIAL 630 F400	781.5	781.5	542	630	76	630	76	30	665	610	11	715	35	60
VORT QBK AXIAL 710 F400	951.5	951.5	597	800	76	800	76	30	705	650	11	885	35	60
VORT QBK AXIAL 800 F400	951.5	951.5	597	800	76	800	76	30	705	650	11	885	35	60
VORT QBK AXIAL 900 F400	1,176.5	1,176.5	857	1,000	88	1,000	88	30	965	915	11	1,110	35	90
VORT QBK AXIAL 1000 F400	1,176.5	1,176.5	857	1,000	88	1,000	88	30	965	915	11	1,110	35	90
VORT QBK AXIAL 1120 F400	1,416.5	1,416.5	1,019	1,250	83	1,250	82	30	1,125	1,075	11	1,350	35	90
VORT QBK AXIAL 1250 F400	1,416.5	1,416.5	1,019	1,250	83	1,250	82	30	1,125	1,075	11	1,350	35	90

Dimensions (mm)





Accessories

MODELS	DESCRIPTION
	SWT "Start-stop" safety switch, compliant with the requirements specified under IEC 60947-1 and IEC 60947-3 standards. Level of protection: IP65. Equipped with an auxiliary contact. Useful for cutting off the power supply before carrying out any maintenance work on the fan.
	SWT-F400 Speed switches/selectors for disconnecting from the F400/120 certified fans network, in accordance with the UNI EN 12101-3 standard. Suitable for direct control of motors in AC 3 operation category.
	IREM INVERTER Frequency transformers designed for regulating the frequency speed. Ultra compact, with simplified operation and a wide range of functions. Panel with integrated display. PID card. - Certifications: CE / UL / CSA / EN / GOST / CCC. Level of protection: IP20. IREM INVERTER 230: input 230V I, output 230V III IRET INVERTER 400: Input 400V III, output 400V III
	EMC FTR EMC box type filters for IREM /IRET INVERTER frequency transformers, which are applied to the frequency transformer heat sink. They provide the level of protection required to ensure compliance with electromagnetic compatibility (EMC) regulations in relation to conducted network emissions. Designed in accordance with the EN61800-3: 2004 standard, they are capable of: - restricting high frequency noise levels. - reducing any interference. - protecting any sensitive equipment. - eliminating any converter cross-communication.
	SWT-ATEX Switch for ATEX zones. Suitable for use in zones 1-2 (gas) and 21-22 (dust), IP65 protection level. Aluminium alloy external body, painted in RAL 7000 grey. Stainless steel external screws. Power supply voltages of up to 690V. Complies with Directive 2014/34/UE (ATEX).
	FJ-F400 Flexible joints to be riveted in between the fan and the pipe, to avoid the transmission of any vibrations.
	XS-F400 Anti-vibration supports
	NRD-F400 Rubber anti-vibration supports.
	MFL-400 Connection flange
	EBY-ED-F400 Flexible connectors resistant up to 400° C
	FLCC-F400 Round connection flanges with a fabric anti-vibration insert
	GGR-A An extruded aluminium gravity overpressure damper and standard natural aluminium fins, complete with a sealing gasket in the fins to obtain greater levels of efficiency when closing and for the reduction of noise levels. It has been designed to maintain any overpressure or depression inside a room, isolating it from the outside or other adjacent rooms. The holes have been incorporated into the frame, so that attachment can be made with screws or rivets onto the wall or inside the channel. Maximum recommended air passage speed: 6 m/s. Maximum temperature of the intersected air: +80 °C.

INSTALLATION

The VORT QBK AXIAL F400 fan range is compatible with either a wall or ducted installation.



Industrial storage

Warehouses





Industrial warehouses



Industrial storage units



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