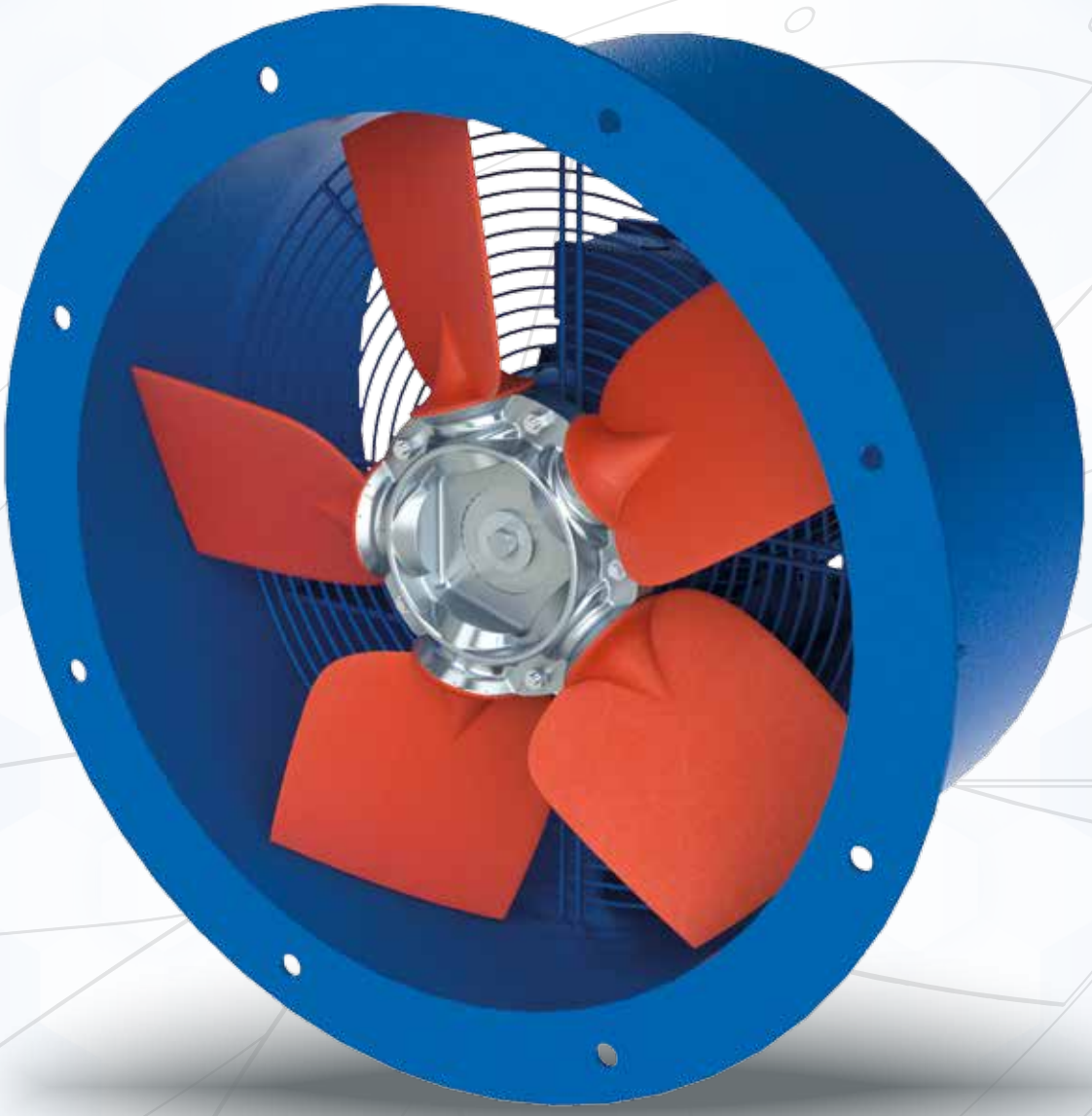
HW Ventilation



MAV METAL AXIAL VENTILATORS
FOR DYNAMIC CONTROLLED ATMOSPHERES

MAV METAL AXIAL VENTILATORS
FOR DYNAMIC CONTROLLED ATMOSPHERES

Description and specifications:

MAV ventilators for dynamic controlled atmospheres are **highly efficient** duct ventilators, designed to provide **high pressures and airflows with low noise emission levels**.
The ventilators have diameters ranging from 500 mm to 1250 mm.
The ventilators normal working temperatures range from -40° C to +120° C, and can reach up to 200/300° C with customized solutions.

Applications:

Dynamic controlled atmospheres storage systems (fruit, vegetables).

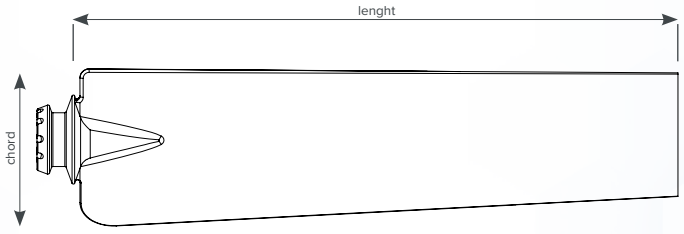
Impeller:

MAV ventilators can be assembled employing a variety of HW Ventilation fans.

Fixed pitch axial flow fans – 6/8/10/14 blade configurations
- TS (subtypes G, D) – airfoil profile axial impellers, diameters from 230 mm to 906 mm
- Q – sickle profile axial impellers, diameters from 230 mm to 750 mm

Variable pitch axial flow fans – 5/9/12/16 blade configurations
- TM (subtypes N, V) – airfoil profile axial impellers, diameters from 300 mm to 1270 mm
- R – reversible axial impellers, diameters from 550 mm to 966 mm
- SR – sickle profile axial impellers, diameters from 550 mm to 1100 mm
- C – sickle profile axial impellers, diameters from 450 mm to 1282 mm

TS, TM, and C product families are particularly suitable for dynamic controlled atmospheres.
Given their high blade length / chord length ratio, these blades provide the expected high levels of pressures and efficiency.



All HW Ventilation impellers have been tested against ErP 2015 directive for energy efficiency of axial fans in our **AMCA 210-07 wind tunnel**.

Blade and hub/boss materials

Following is a list of standard blade materials:

MATERIAL	DESCRIPTION	STD. COLOR*	OP. TEMPERATURE ***
PPG	Polypropylene Glass Reinforced (PP 30% glass)	Orange	-20°C to +85°C
PAG	Polyamide Glass Reinforced (PA6)	White	-40°C to +120°C
RYT	Ryton	Brown	-50°C to +200°C
PAA**	Antistatic Polyamide	Black	-40°C to +120°C
PAX**	Antistatic, Self extinguishing PA	Black	-40°C to +120°C
PAM**	Antistatic, Self extinguishing, Magnetically shielded PA	Black	-40°C to +120°C

*Custom colors available upon request **ATEX materials for hazardous environments ***Contact technical dpt. for customized advise

Hubs and bosses are made of a highly resistant **light aluminum alloy**. Customized solutions for every special need in terms of performance, design, color are available upon request.
The materials employed in our fans are **approved for food contact applications** and carry all the relevant certifications.

MAV for high-temperature applications

MAV ventilators are available also in high-temperature resistant versions, which employ C impellers totally made of aluminum. Such special configurations have been successfully tested by Applus third-party, according to international standard **EN 12101-3:2002**. The ventilator successfully resisted at a temperature of **200°C for two hours**, and at **300°C for two hours**.
The full test report is available upon request.

Applus
EN 12101-3:2002
300°C FOR 2 HOURS

Motor:

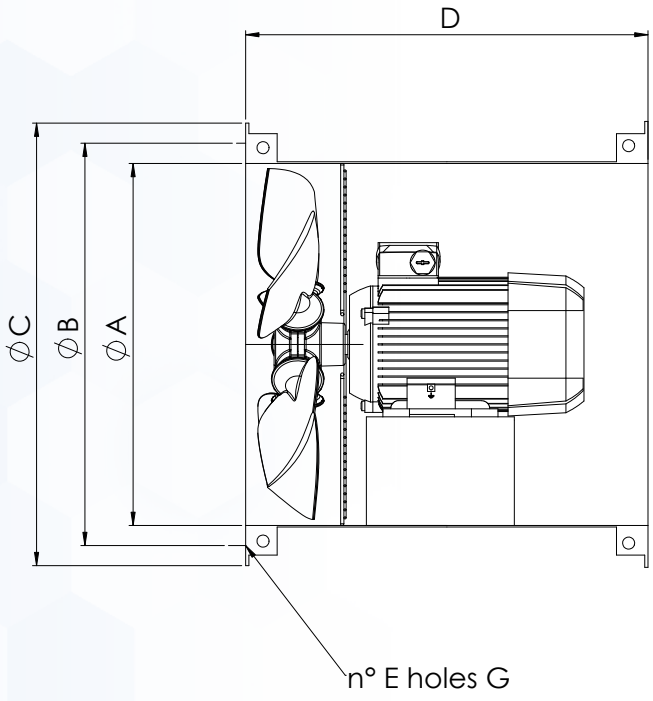
High efficiency (IE2, IE3) standard asynchronous three-phase motors.

- Standard tension 400V, 50Hz
- Power from 0.12kW to 15kW
- 2, 4, 6 poles
- Suitable for use with inverter
- Class F insulation
- Housing protection level IP55
- Low noise
- Simple maintenance
- Available configurations: B3 with foot mounting, flange mounted B5, flange mounted B14

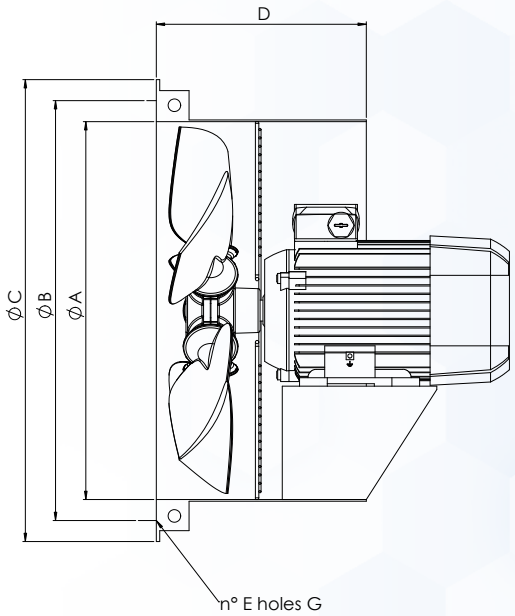
Casing:

Short or long casing made of steel sheet, with fixing flanges.
The casing can be treated with epoxy paint to prevent corrosion and rust.
AISI Inox 304-316 available upon request.
Depending on the casing length, the motor can be totally (long-casing) or partially (short-casing) inside the casing (see Dimensions).

MAV Ø	A Ø	B Ø	C Ø	D	# Holes E	G Ø
500	510	560	590	250 ÷ 430	12	12
560	570	620	650	300 ÷ 430	12	12
630	640	690	720	300 ÷ 430	12	12
710	720	770	800	300 ÷ 560	16	12
800	810	860	890	350 ÷ 640	16	16
900	910	970	1000	350 ÷ 640	16	16
1000	1010	1070	1100	350 ÷ 640	16	16
1120	1130	1190	1250	1000	20	16
1250	1260	1320	1380	1000	20	16



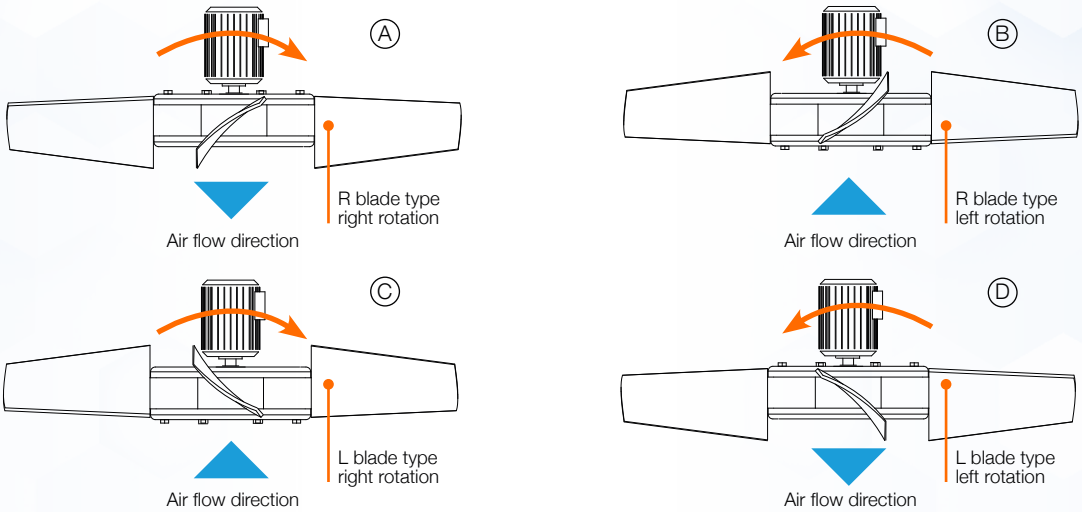
long-casing MAV



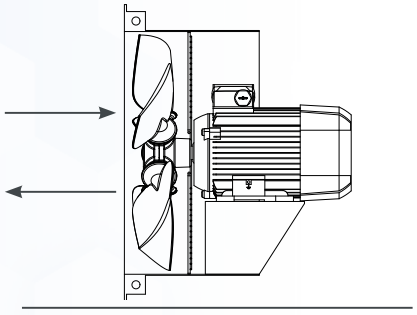
short-casing MAV

Execution:

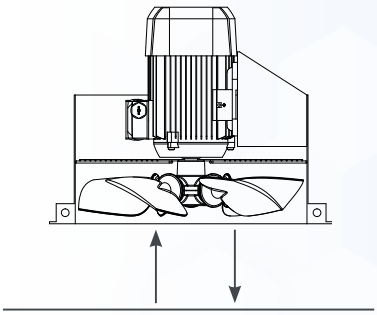
The impeller is directly coupled to the motor.
Airflow can go from impeller to motor (sucking air), or from motor to impeller (pushing air).



The ventilator can be installed with its driveshaft parallel or perpendicular to the ground. The latter configuration is typical of destratificators:

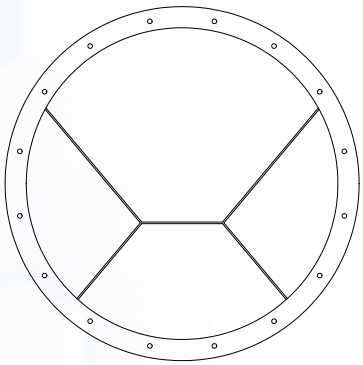


Parallel-to-the ground airflow arrangement

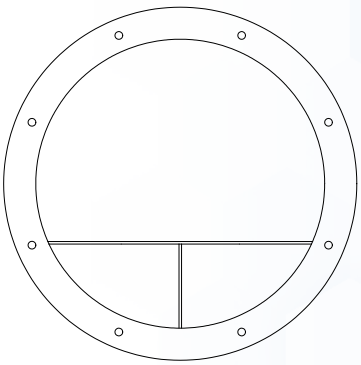


Perpendicular-to-the-ground airflow arrangement

Motor support possible arrangements:



'H' type motor support arm



'T' type motor support arm

Accessories available upon request:

- Flat protection guards
- Support feet
- Inlet cone
- Counter-flange
- Inspection door
- Shutters
- Silencers

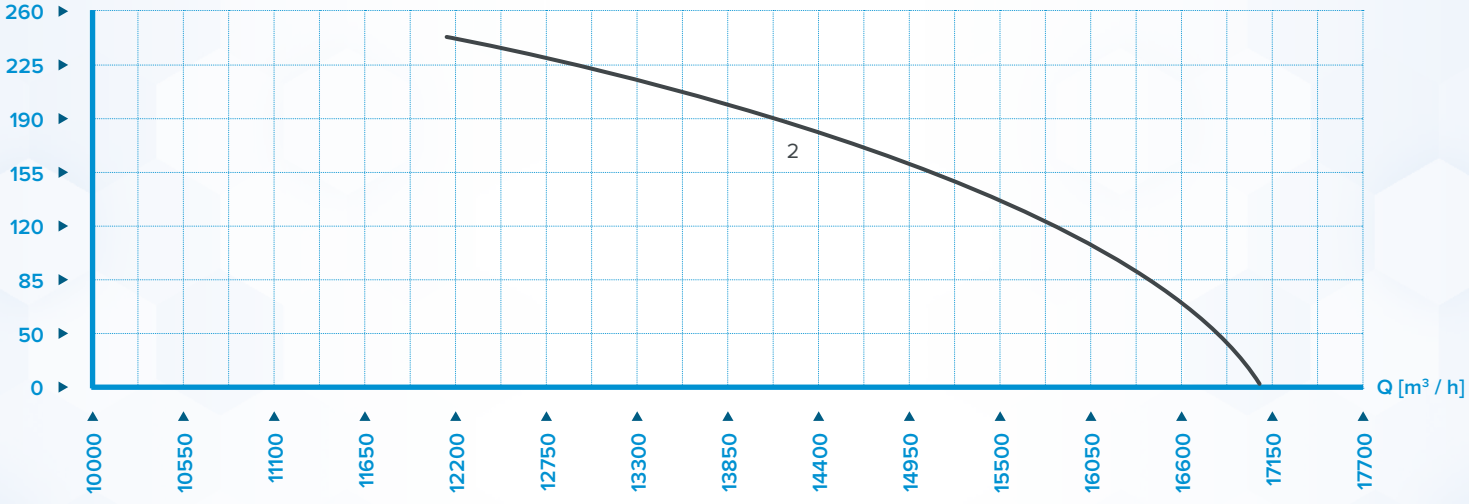
Performance diagrams

The performance diagrams in the following section of this datasheet are those of a standard MAV configuration.
For the scope of this datasheet, we decided to choose **highly efficient**, HW Ventilation airfoil profile axial impeller – **type D**, **type N** and **type V**. These fans have been successfully employed in projects in which it was asked to reach **high pressures and high airflows**, while keeping **noise emissions and energy consumption at low levels**.
D type impellers have a fixed pitch hub and were utilized for MAV with diameters up to 700 mm.
N type impellers have a variable pitch hub and were utilized for MAV with diameters from 800 to 900 mm.
V type impellers have a variable pitch hub and were utilized for MAV with diameters from 800 to 1250 mm.
D, N, V blades are available in a wide variety of materials (see Impeller section).
The performance data showed in this datasheet are referred to blades made of **Polypropylene / Polyamide**.
Impellers are balanced according to **UNI ISO 1940**.
Performance data of other impeller configurations are accessible through our **Qualyfan** selection software, or directly asking to our technical team.
All HW Ventilation impellers have been tested against ErP 2015 directive for energy efficiency of axial fans in our AMCA 210-07 wind tunnel.

MAV Ø 500

n°	Ø	impeller	Power [kW]	rpm	Max Airflow Q [m³/h]
1	500	8-8/D/45°	0,75	1500	10750

MAV Ø 590



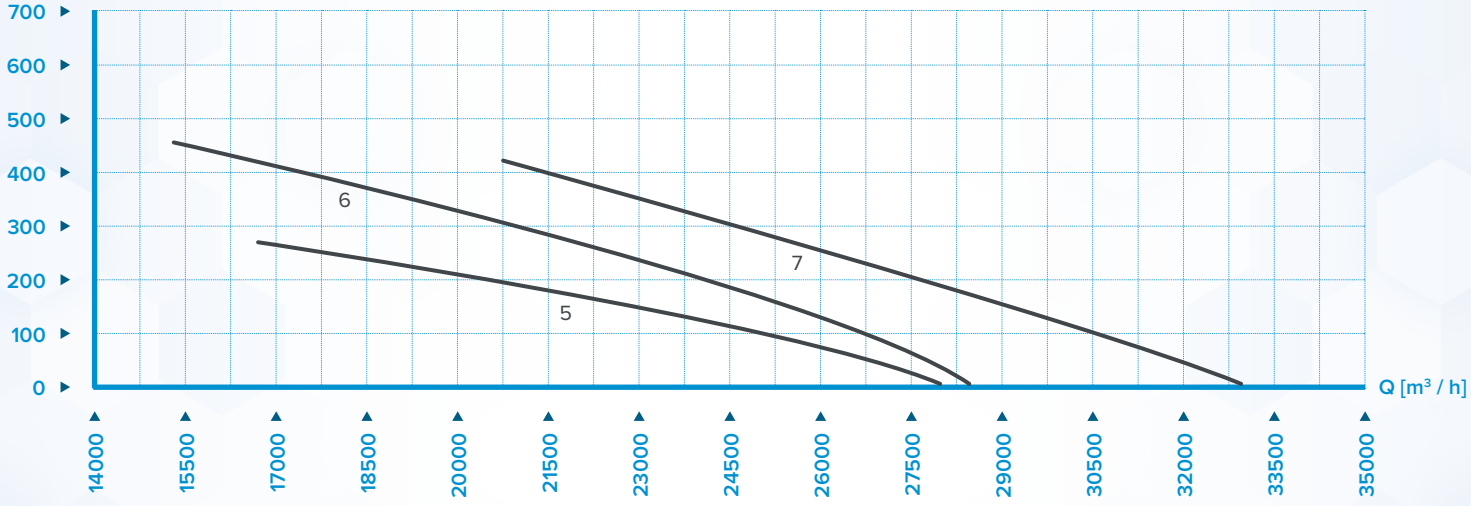
n°	Ø	impeller	Power [kW]	rpm	Max Airflow Q [m³/h]
1	500	8-8/D/45°	0,75	1500	10750

MAV METAL AXIAL VENTILATORS

MAV Ø 700

n°	Ø	impeller	Power [kW]	rpm	Max Airflow Q [m³/h]
3	700	10-5/D/40°	1,5	1500	21250
4	700	10-10/D/40°	2,2	1500	23000

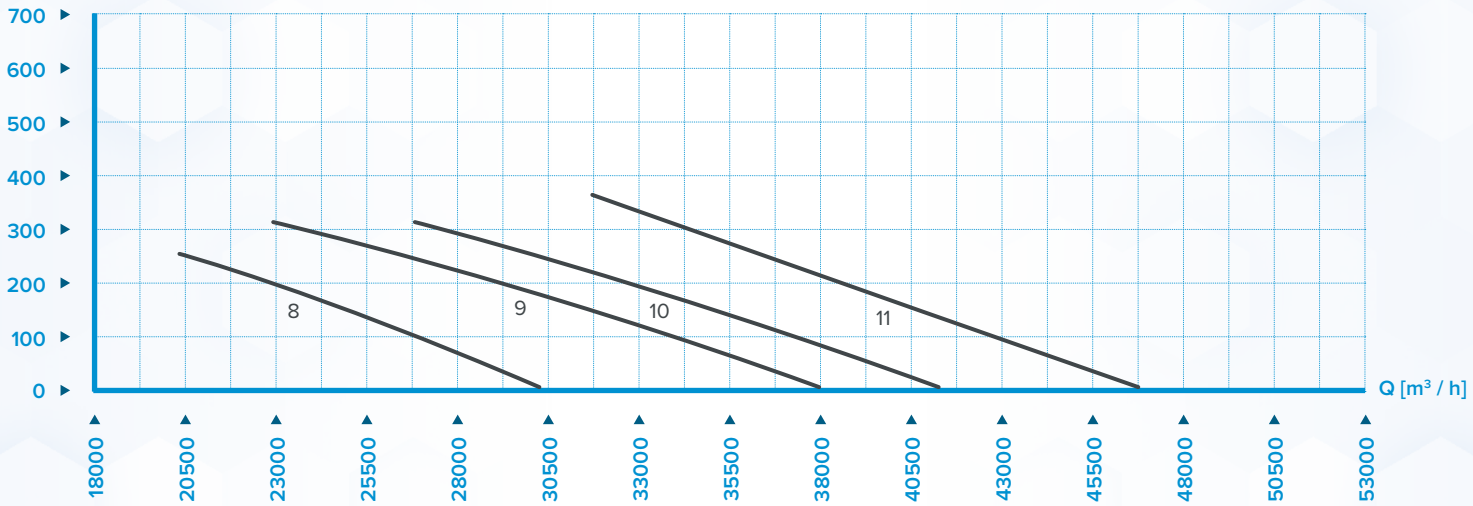
MAV Ø 800



n°	Ø	impeller	Power [kW]	rpm	Max Airflow Q [m³/h]
5	800	5-5/V/32,5°	2,2	1500	28000
6	800	9-9/N/30°	3	1500	28000
7	790	9-9/N/35°	4	1500	32250

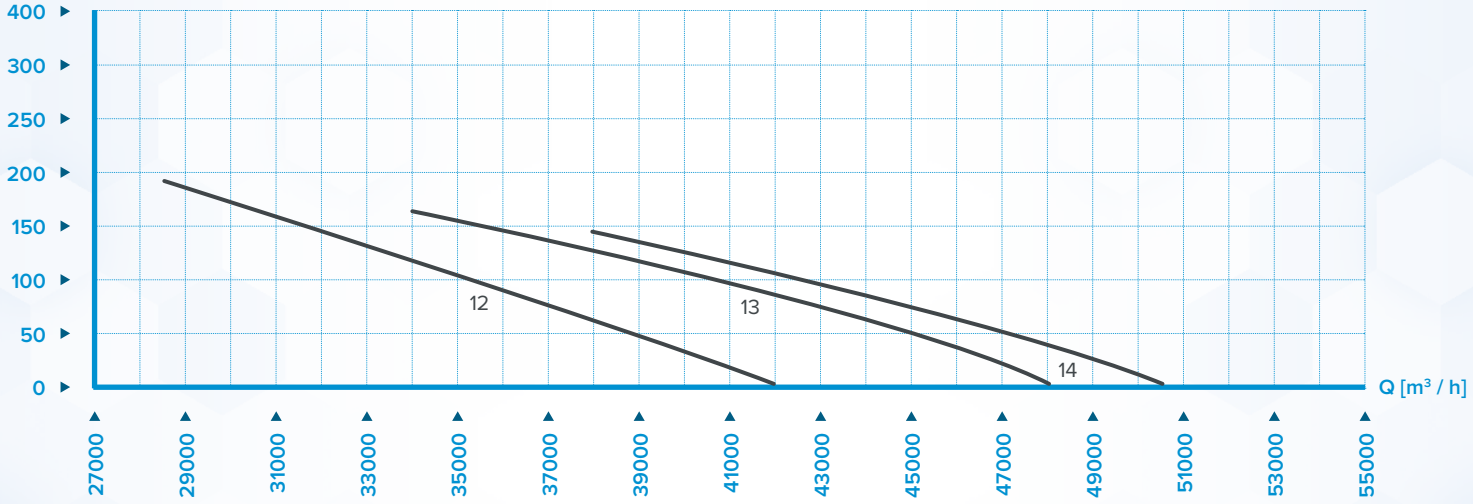
MAV METAL AXIAL VENTILATORS

MAV Ø 900



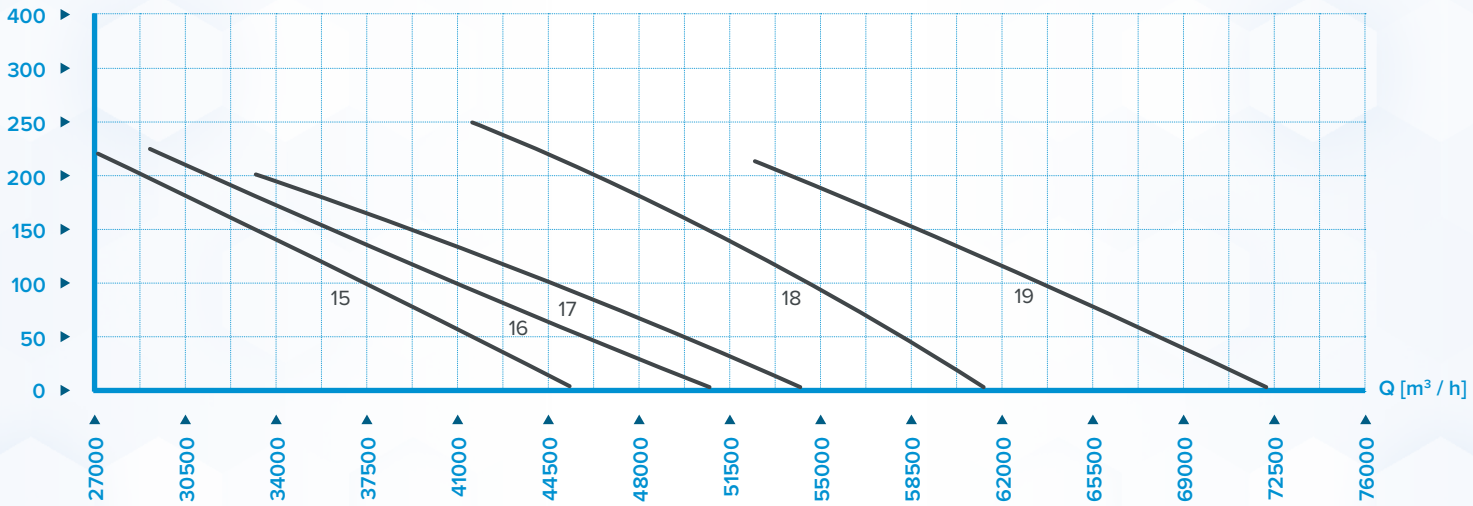
n°	Ø	impeller	Power [kW]	rpm	Max Airflow Q [m³/h]
8	890	5-5/V/30°	2,2	1500	30000
9	900	5-5/V/35°	3	1500	38000
10	900	5-5/V/37,5°	4	1500	41000
11	900	12-6/N/37,5°	5,5	1500	46000

MAV Ø 1000



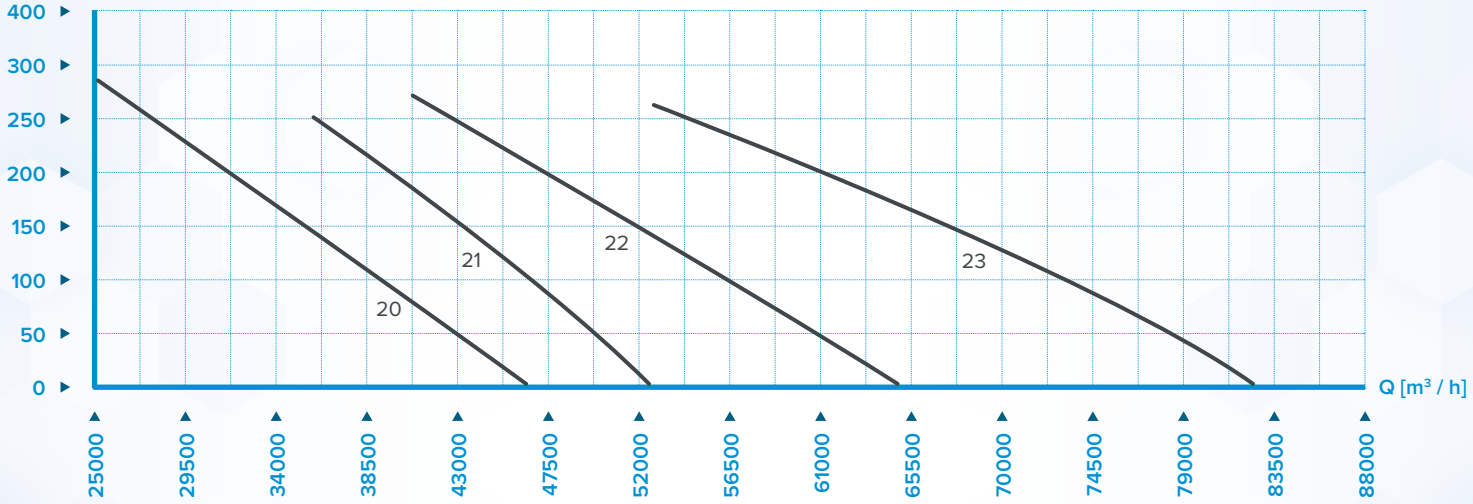
n°	Ø	impeller	Power [kW]	rpm	Max Airflow Q [m³/h]
12	1000	12-6/V/40°	3	1000	41500
13	1000	12-6/V/45°	4	1000	47500
14	1000	12-6/V/50°	5,5	1000	50000

MAV Ø 1120



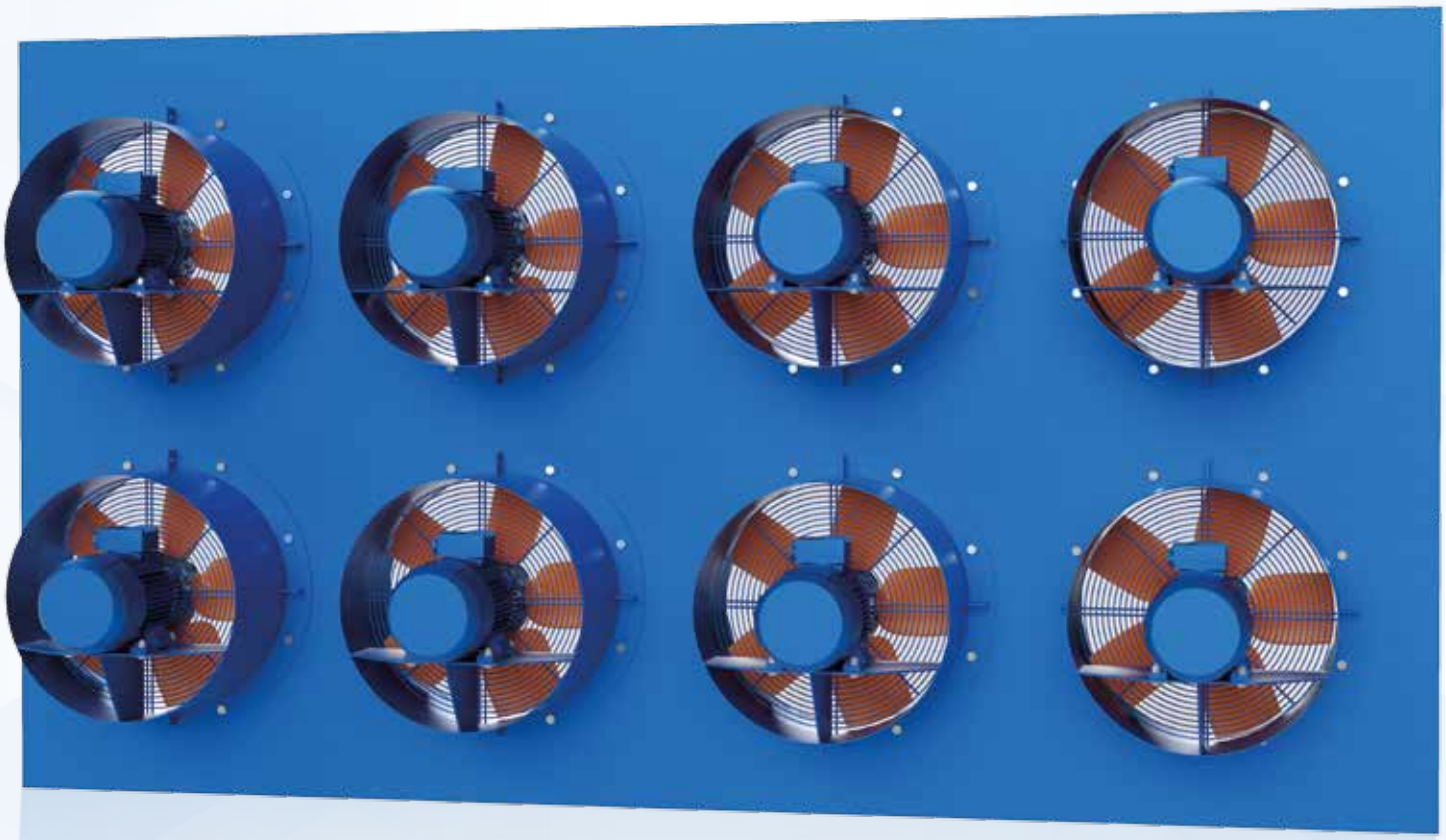
n°	Ø	impeller	Power [kW]	rpm	Max Airflow Q [m³/h]
15	1120	12-6/V/35°	3	1000	45000
16	1120	12-6/V/37,5°	4	1000	49000
17	1120	12-6/V/40°	5,5	1000	53000
18	1120	16-8/V/40°	7,5	1000	60000
19	1120	16-8/V/50°	1,1	1000	72000

MAV Ø 1250



n°	Ø	impeller	Power [kW]	rpm	Max Airflow Q [m³/h]
20	1250	16-8/V/30°	4	1000	46000
21	1250	16-8/V/32,5°	5,5	1000	52500
22	1250	16-8/V/37,5°	7,5	1000	64000
23	1250	16-8/V/45°	1,1	1000	82000

MAV METAL AXIAL VENTILATORS



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