



# BLOWERS SIDE CHANNEL AND VACUUM CLEANERS



MADE IN ITALY



# YOUR **needs** OUR **commitment**

**SOLARYS**, manufacturer of single and double stage side channel turbines **since 2001**, works in blowing and exhausting through the compression of non-explosive gases or mixtures. Lubrication-free operation and minimal maintenance ensure that the compressed fluids are oil-free. The turbines are directly coupled to a three-phase or single-phase, asynchronous **50/60 Hz** electric motor with a protection rating of up to **IP 65** and thermal protection on the winding.



THE MAIN ADVANTAGES OF USING SOLARYS SIDE CHANNEL TURBINES ARE:

- minimal maintenance;
- compressed fluids remain uncontaminated;
- quiet operation;
- minimal space and weight requirements;
- easy installation;
- stability and absence of vibrations.



# BLOWERS

Side channel blowers and vacuum pumps are the first choice in automation projects for applications requiring large volumes of clean, dry air at low pressures and vacuums.

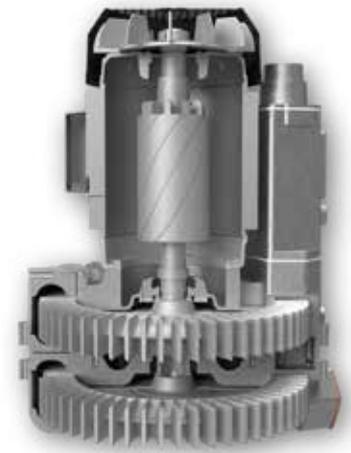
**SOLARYS** wanted to present a product that offers the same ease of installation as our other products, with low noise levels, while maintaining energy savings as a priority.



AVAILABLE FOR:  
**ATEX ZONE 21**  
**ATEX ZONE 2-22**

Side channel blowers and vacuum pumps operate according to the side channel principle, both in suction and compression, and are designed for continuous operation.





■ The impeller is mounted directly on the motor shaft for frictionless compression and, together with the specially shaped housing, forms the side channel. Die-casting moulding

■ The die-casting moulding of aluminium alloys and the machining of parts completed in the cutting process ensure maximum strength, manoeuvrability and improved precision compared to traditional technologies.



■ Routine maintenance is not necessary as there are no parts in contact; continuous operation is only possible within certain pressure ranges as the intake air is also used as a cooling fluid. To avoid this restriction, the installation of vacuum and pressure relief valves is recommended to prevent damage to the motor.





Horizontal and vertical mounting **is permitted** on all models.

Under no circumstances should the maximum amperage indicated in the tables and on the rating plate be exceeded, depending on the installed power.

**A limiting** valve can be fitted.



#### DECLARATION OF CONFORMITY TO THE MACHINERY DIRECTIVE



1. The unit complies with: MACHINERY DIRECTIVE: 2006/42/EC | EMC DIRECTIVE: 2014/35/EU | LOW VOLTAGE DIRECTIVE: 2014/30/EU However, it is prohibited to put the unit into service before the machine in which it will be incorporated has been declared compliant with the above directives.

2. The unit has been tested and meets its operating performance requirements.

The impeller design improves the overall performance of the machine, while its IP65 protection class makes it suitable for applications all over the world.



# for every **sector & application**

*High performance. Maximum operational continuity. Zero compromises.*

**SOLARYS** side channel turbines are designed to ensure continuous operation, energy efficiency and application versatility. Available in single-stage (for moderate pressures) or double-stage (for high pressures) versions, they offer a reliable solution for conveying air and gas in a wide range of machinery and systems.

*Quiet, safe and virtually maintenance-free, they are the ideal choice for demanding industrial environments.*



## **OPERATING TECHNOLOGY**

The principle behind side channel turbines is simple and ingenious: the rotation of the impeller generates centrifugal force that creates air vortices, which are channelled and progressively accelerated inside a peripheral toroidal channel. The result is a constant, silent and pulsation-free flow, perfect for applications that require precision and reliability.



## **EASY INSTALLATION. MINIMAL MAINTENANCE.**

Thanks to the absence of contact between moving parts, the turbines do not require routine maintenance. However, to ensure long life and prevent overheating, it is essential to respect the operating pressure limits, installing safety valves where necessary. All models can also be used in compressor mode, for a dry and stable air flow. For the extraction of special gases or at temperatures above 40°C, our technical support is always available.



## **MOTORISATION AND CONNECTION**

**SOLARYS** single-stage turbines are directly coupled to *2-pole asynchronous electric motors*, available in single-phase or three-phase versions (50/60Hz – 2800/3300 rpm), with a **protection rating of up to IP65**, for safe use even in harsh environments.



### ATEX CERTIFIED SAFETY FOR POTENTIALLY EXPLOSIVE ATMOSPHERES

In some industrial environments, the presence of flammable gases, vapours, combustible dusts or mists can create a potentially explosive atmosphere. In these contexts, it is essential to use equipment designed in accordance with the ATEX (ATmosphères EXplosibles) directive, which certifies its safety.



ATEX turbines can be installed in:

**ZONE 2 (GAS):** environment where explosive gases are occasionally present for short periods of time.

**ZONE 22 (DUST):** combustible dust is present only in the event of a fault or extraordinary event.

ATEX SOLARYS turbines incorporate a series of technical solutions designed down to the smallest detail:

- **Spark-proof motor, completely enclosed, to eliminate any possibility of ignition.**
- **Reinforced and earthed structure, which neutralises electrostatic charges.**
- **Selected components, resistant to potentially hazardous chemicals.**
- **No internal lubricants, to avoid emissions or flammable vapours.**
- **Temperature under control, with a surface that never exceeds 135°C (class T3), even under prolonged use.**

Choosing an **ATEX SOLARYS** turbine means protecting people, plants and productivity, ensuring reliable performance even where operating conditions require maximum precautions. For special requirements or customisations, our technical team is available to assist you in choosing the most suitable solution for your classified area.



### APPLICATIONS

**SOLARYS** turbines are used in numerous applications, including:

- Pneumatic transport of powders and granules
- Water purification plants
- Galvanic baths
- Oxygenation for aquariums and fish farms
- Air supply in industrial furnaces and burners
- Printing and packaging machines
- Nebulisation and atomisation in agriculture
- Agitation of liquid foods
- Bottle washing and filling systems
- Industrial vacuum cleaners and dental equipment
- Chemical, pharmaceutical and photographic industries
- Glass and plastics processing



### turbine CODING

**MM:** SINGLE-PHASE SINGLE-STAGE

**MMF:** SINGLE-PHASE SINGLE-STAGE FRONT INTAKE

**M:** SINGLE-STAGE THREE-PHASE

**MF:** SINGLE-STAGE THREE-PHASE FRONT INTAKE

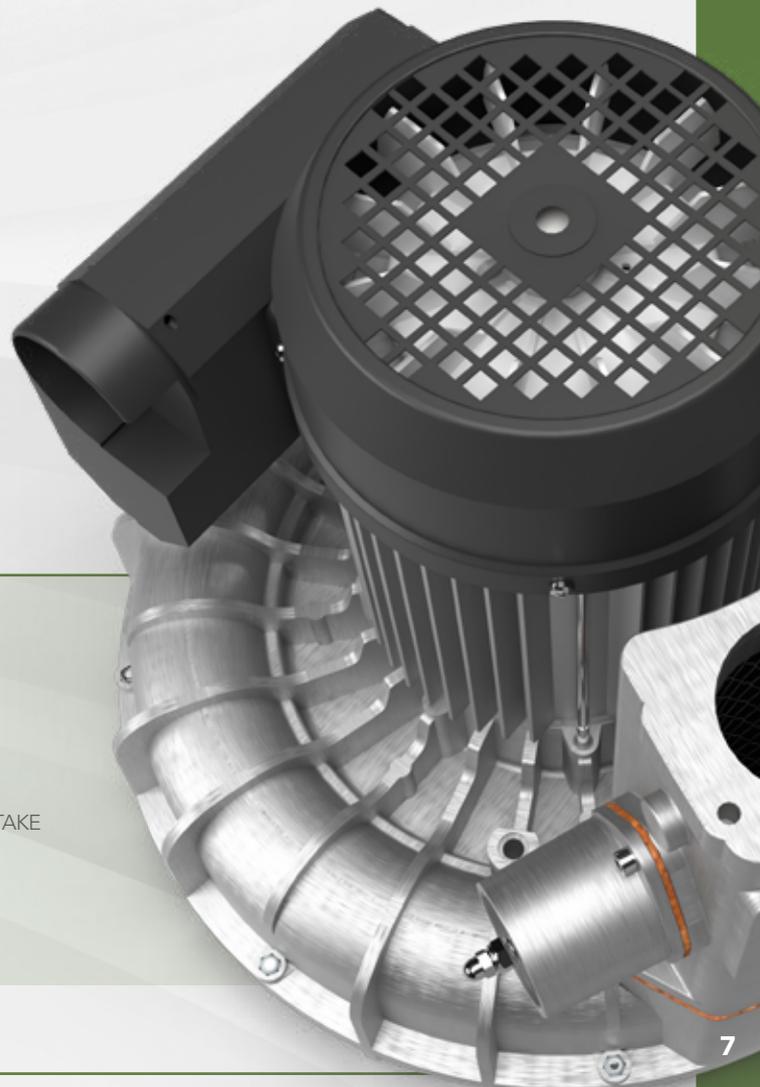
**BP:** TWO-STAGE THREE-PHASE PARALLEL

**BPF:** TWO-STAGE THREE-PHASE PARALLEL FRONT INTAKE

**BS:** TWO-STAGE THREE-PHASE STAGE

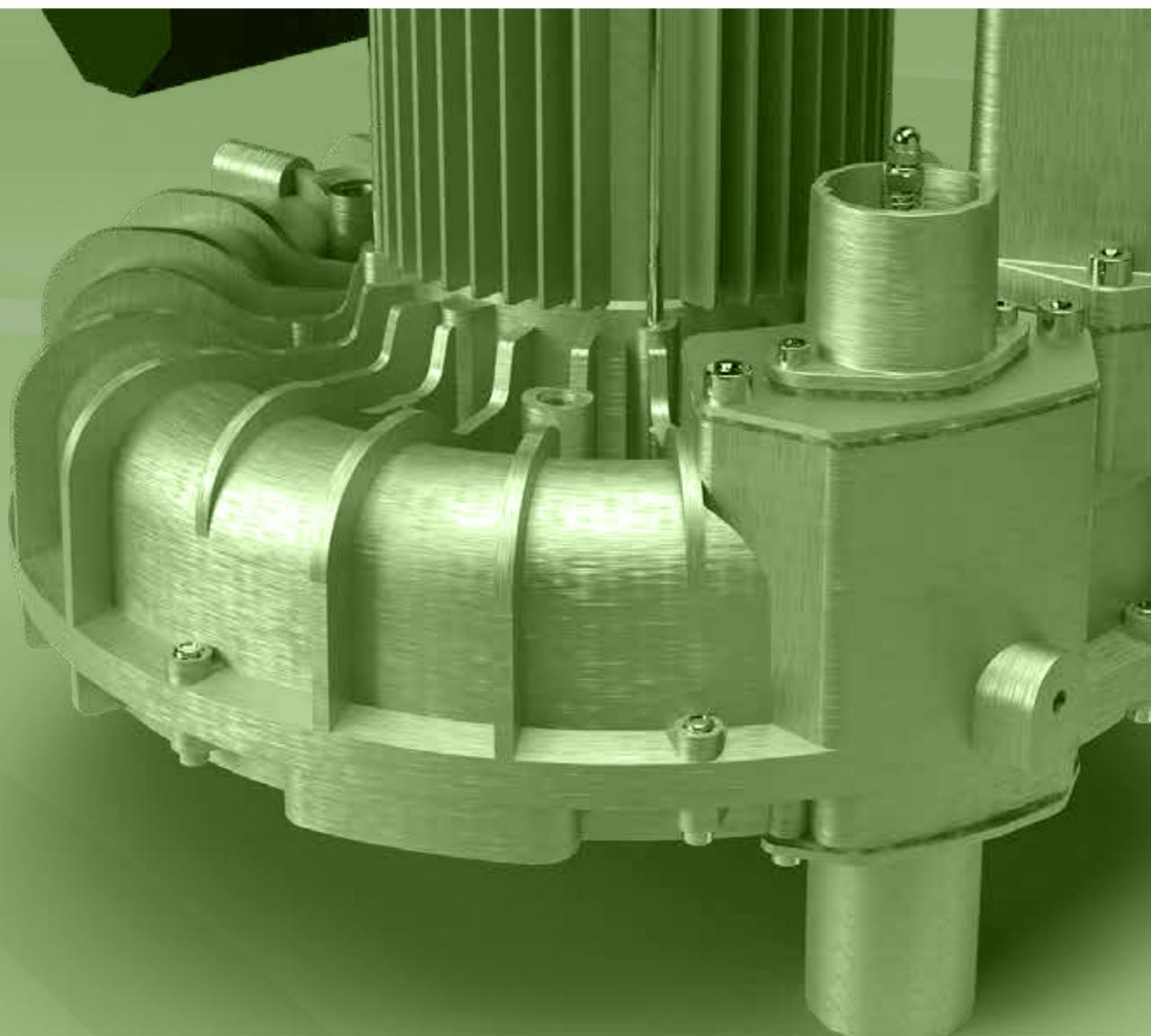
**BSF:** TWO-STAGE THREE-PHASE STAGE

**EX:** ATEX ZONE





# SINGLE-STAGE SINGLE-PHASE



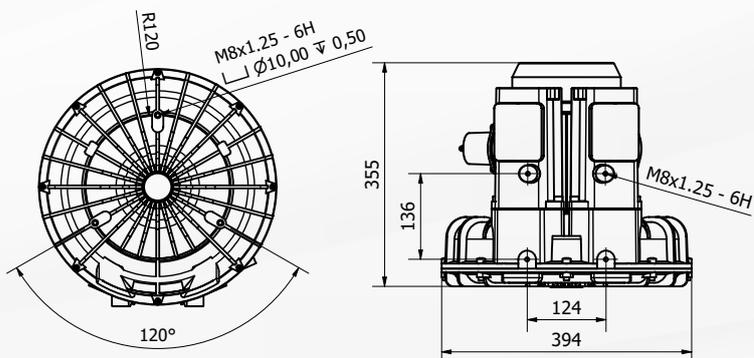


# 422 MM/MMF

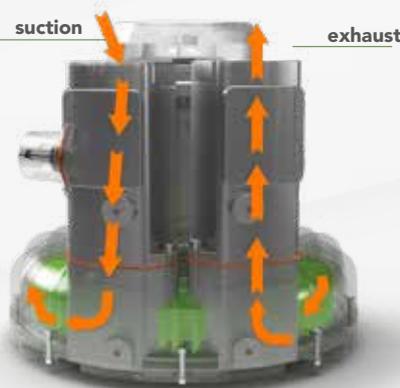
Single-stage, single-phase turbines are designed to reliably and continuously suck or compress non-explosive gases and mixtures. Made of die-cast aluminium alloy, they offer strength, lightness and durability, with a compact, weld-free design. Thanks to their directly coupled motor and low noise level, they are the ideal solution for applications where efficiency, quietness and ease of installation are required, even in the absence of a three-phase power supply.



## DIMENSIONS 422 MM



## FUNCTIONING 422 MM



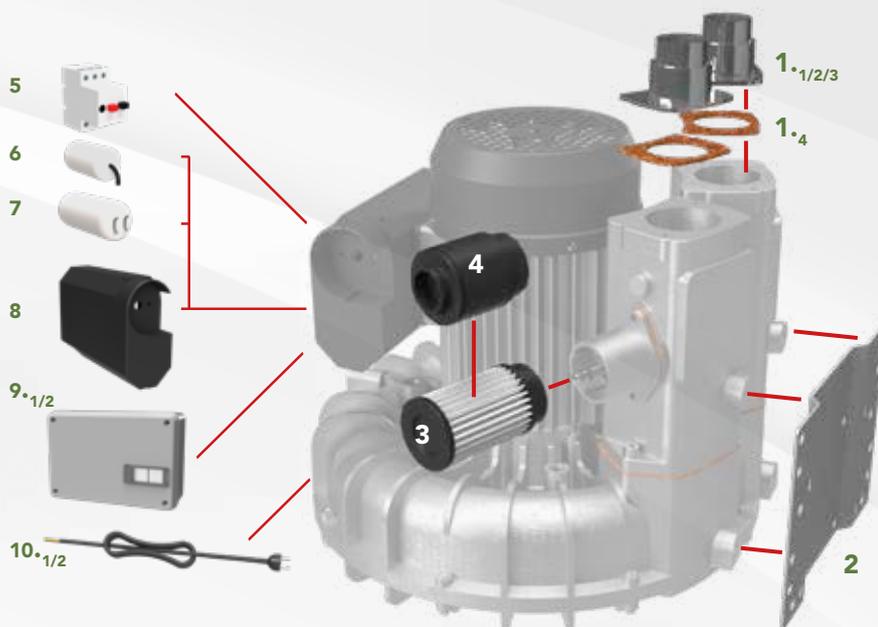
## OPTION 422 MM/MMF

- **1.1** FLANGED CONNECTOR Ø50-60 | **cod. 600383**
- **1.2** TURNED FLANGED CONNECTOR Ø60 | **cod. 200126**
- **1.3** TURNED FLANGED CONNECTOR Ø70 | **cod. 200634**
- **1.4** FLANGED CONNECTION GASKET | **cod. 600033**
- **2** GALVANISED TURBINE SUPPORT PLATE | **cod. 600412**
- **3** BLACK SILENCER VALVE | **cod. 200242**
- **4** LIMITING VALVE FILTER | **cod. 600192**
- **5** MOTOR PROTECTION SWITCH 10-16 A | **cod. 600534**
- **6** BREAKER ELMC B05 CSTART 50UF 50X94 M8 CB300 | **cod. 600395**
- **7** SINGLE-PHASE CAPACITOR 60 µF WITH DOUBLE FASTON | **cod. 600198**
- **8** FKL CAPACITOR BOX | **cod. 600625**
- **9.1** FIREPROOF SWITCH BOX (CONF. 11ML) OPEN | **cod. 600334**
- **9.2** FIREPROOF SWITCH BOX (CONF. 11ML) CLOSED | **cod. 601217**
- **10.1** H05 VVF 3GX2.5 POWER CABLE | **cod. 600397**
- **10.2** H07 RNF 3GX2.5 POWER CABLE | **cod. 600492**
- **11** Ø50 H75 FLANGED FRONT BELL TUBE | **cod. 300396**



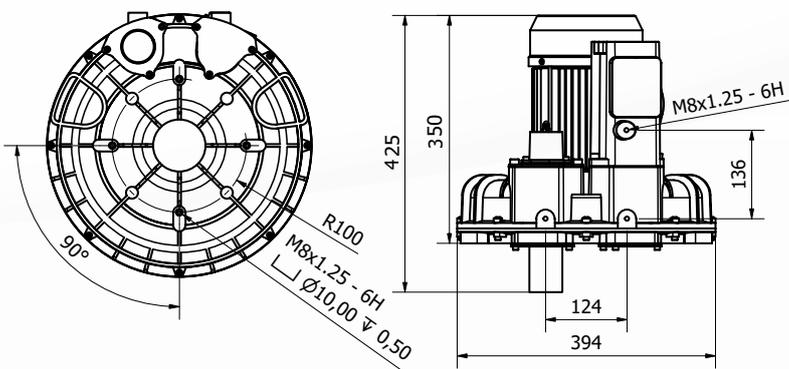
## TREATMENTS

- **Anodising:** Surface treatment to protect aluminium from corrosion. | - Thermal: **available on** 4 kW - 5.5 - 7.5 motors.

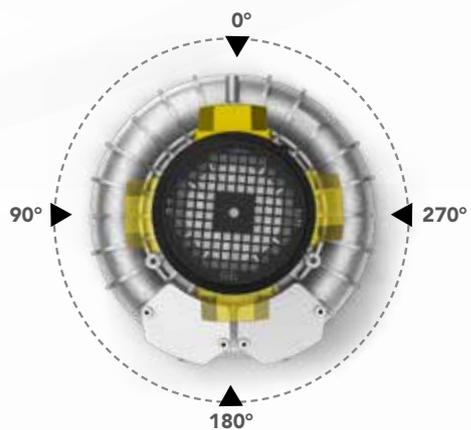




**DIMENSIONS 422 MMF**



**ENGINE ORIENTATION 422 MM/MMF**



**NB.** For 180° orientation, it is not possible to install the silencer.

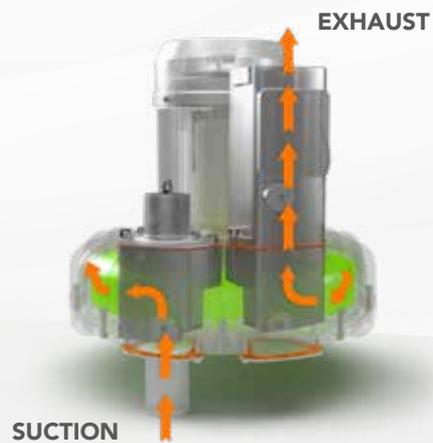


**FUNCTIONING**

■ 422 MMF - VERSION 1

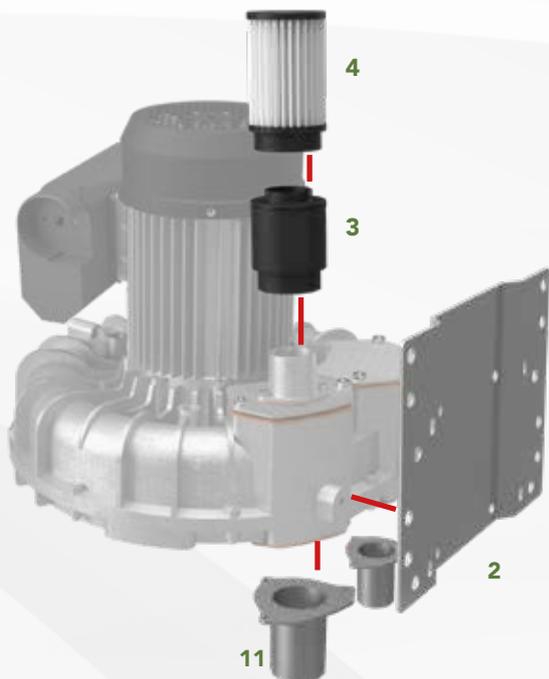


■ 422 MMF - VERSION 2

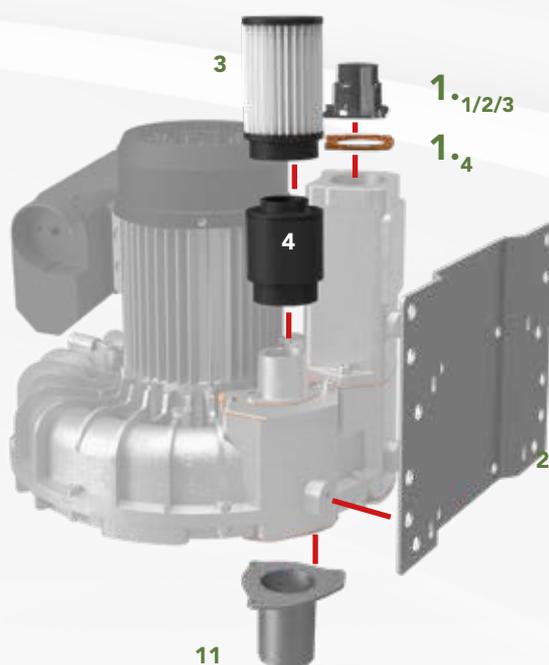


**OPTION**

■ 422 MMF - VERSION 1



■ 422 MMF - VERSION 2



MODEL	DESCRIPTION	VOLT	Hz	kW	A	RPM	IP
0.422MM	SINGLE PHASE TURBINE 2,2KW	230	50	2,2	15,0	2770	55
0.422MMF							



All products achieve the standards and norms of the low voltage directive (LVD)2006/95/EC, rotating electrotechnical motor EN60034-1-2004, electromagnetic compatibility(EMC)EN55014-1/2,EN61000-2/-3/-4/-6.

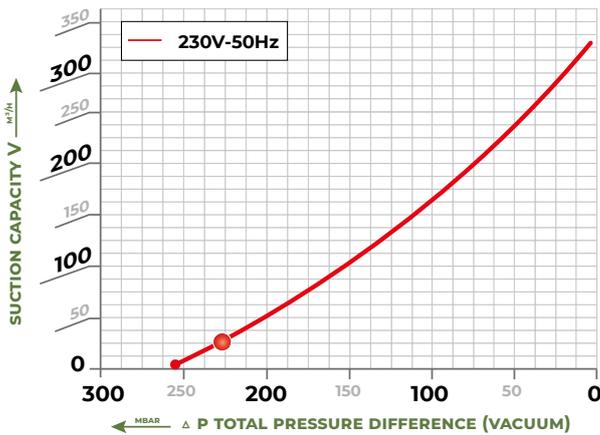
Measuring surface sound-pressure level acc. to DIN EN 21680, measured at a distance of 1 m. The pump is throttled to an average suction pressure, a hose is connected to the discharge side (compressor) / suction side (vacuum pump), but is not fitted with relief valves.

The motors are designed according to the DIN EN 60 034 / DIN IEC 34-1 and temperature class F. For the three phase machines the tolerances are +/- 10 % for fixed voltage and +/- 5 % for voltage range. The single phase machines are designed with a +/- 5 % tolerances. If only 90 % of the maximum allowed pressure will be used for the continuous operating then the allowed voltage range add to +/- 10 %.

For all single and three phase machines which designed according to the UL and CSA norm (UL 1004-1) the maximum allowed voltage tolerances are - 10 % resp. + 6 %. The frequency tolerance is maximum +/- 2 %.



### VACUUM SELECTION DIAGRAM



The performance curves are valid for pumping air at 15°C at the inlet flanges with an air pressure of 1.013mbar and a tolerance of ±10%. The total pressure differences are valid up to an intake and ambient temperature of 25°C.



SINGLE-STAGE THREE-PHASE\_TWO-STAGE THREE-PHASE

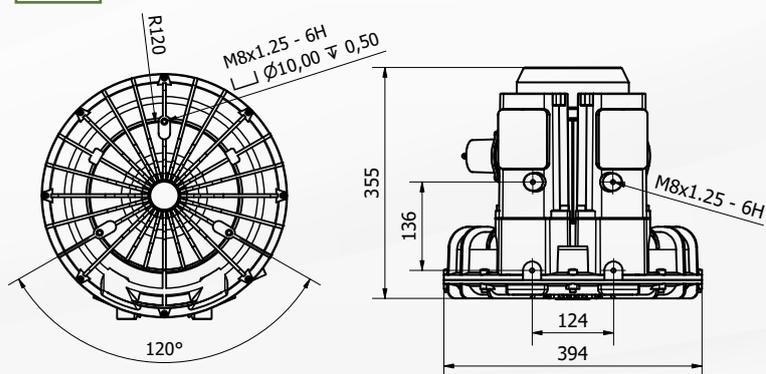


# 422 M/MF

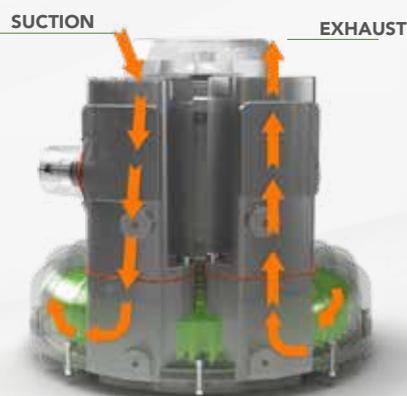
Designed to suck up or compress non-explosive gases, **single-stage three-phase** turbines guarantee high performance and continuous operation. Made of die-cast aluminium alloy, they offer robustness, efficiency and quietness, with a directly coupled three-phase motor and no routine maintenance. Ideal for high-reliability industrial plants.



## DIMENSIONS 422 M



## FUNCTIONING 422 M



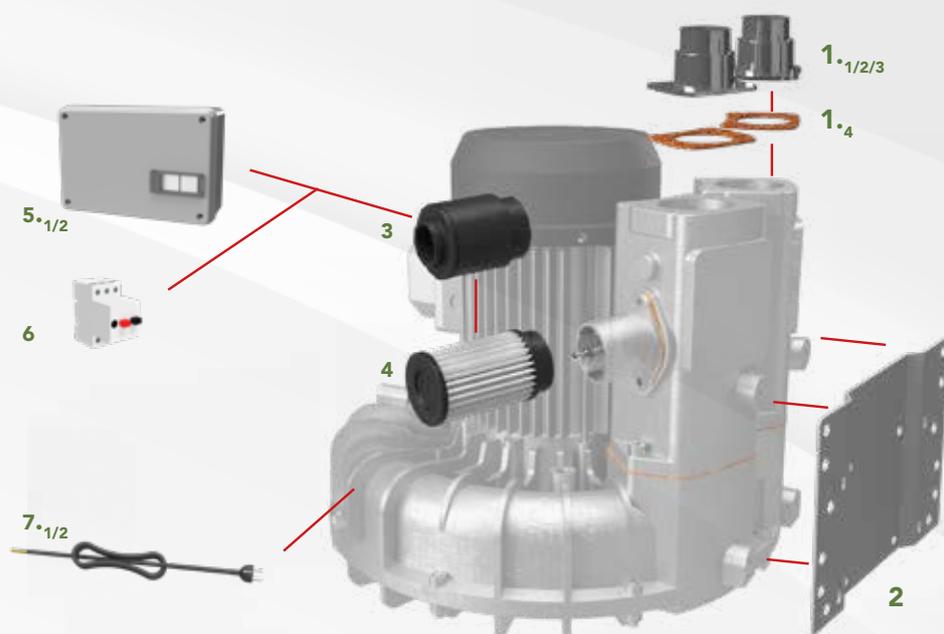
## OPTION 422 M/MF

- 1<sub>.1</sub> FLANGED CONNECTOR Ø50-60 | **cod. 600383**
- 1<sub>.2</sub> FLANGED CONNECTOR, TURNED Ø60 | **cod. 200126**
- 1<sub>.3</sub> FLANGED CONNECTOR, TURNED Ø70 | **cod. 200634**
- 1<sub>.4</sub> FLANGED CONNECTION GASKET | **cod. 600033**
- 2 GALVANIZED TURBINE SUPPORT PLATE | **cod. 600412**
- 3 BLACK VALVE SILENCER | **cod. 200242**
- 4 LIMITING VALVE FILTER | **cod. 600192**
- 5<sub>.1</sub> CLOSED SWITCH BOX | **cod. 200132**
- 5<sub>.2</sub> FIREPROOF SWITCH BOX, OPEN (CONF.11ML) | **cod. 600334**
- 6 MOTOR PROTECTION SWITCH 6.3-10 A | **cod. 600237**
- 7<sub>.1</sub> H05 WF 4GX1.5 POWER CABLE | **cod. 600107**
- 7<sub>.2</sub> H07 RNF 4GX1.5 POWER CABLE | **cod. 600108**
- 8<sub>.1</sub> TUBE Ø50 H25 FLANGED WITH FRONT FLANGE | **cod. 300705**
- 8<sub>.2</sub> TUBE Ø50 H75 FLANGED WITH FRONT FLANGE AND MESH | **cod. 300531**
- 8<sub>.3</sub> TUBE Ø50 H40 FLANGED WITH FRONT BELL WITH MESH | **cod. 300530**
- 8<sub>.4</sub> FLANGED TUBE Ø50 | **cod. 300524**
- 8<sub>.5</sub> TUBE Ø50 H75 FLANGED WITH FRONT BELL | **cod. 300396**



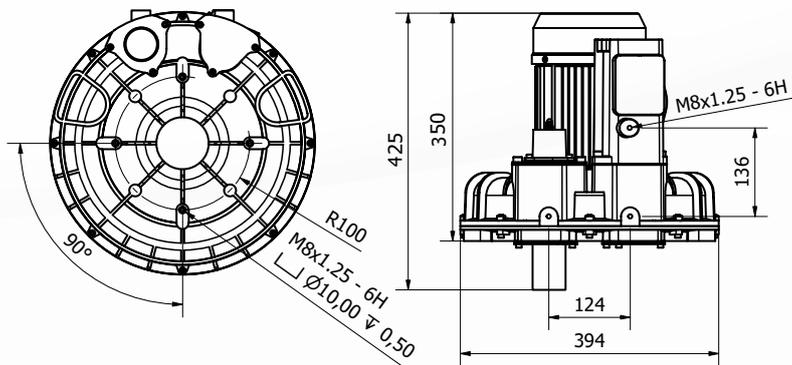
## TREATMENTS

- **Anodising:** Surface treatment to protect aluminium from corrosion. | - Thermal: **available on** 4 kW - 5.5 - 7.5 motors.

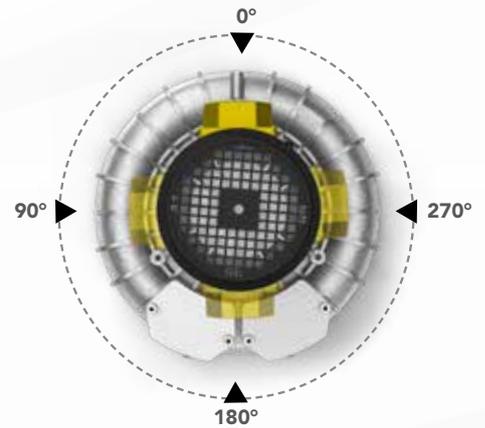




## DIMENSIONS 422 MF



## ENGINE ORIENTATION 422 M/MF



**NB.** For 180° orientation, it is not possible to install the silencer.

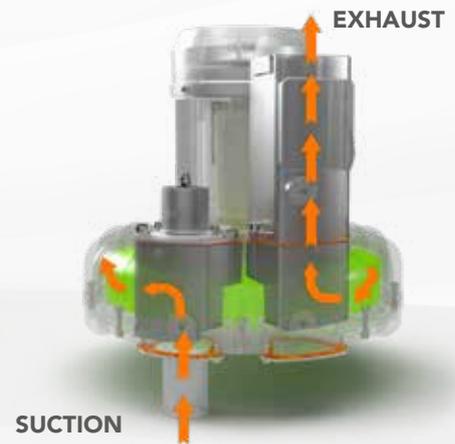


## FUNCTIONING

## ■ 422 MF - VERSION 1

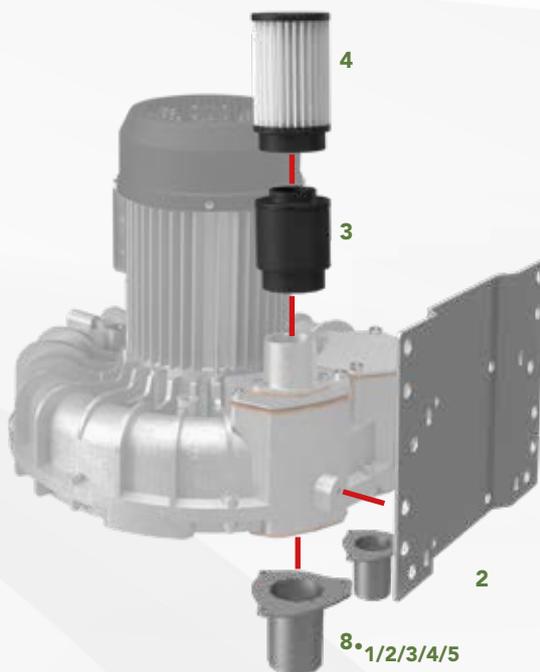


## ■ 422 MF - VERSION 2

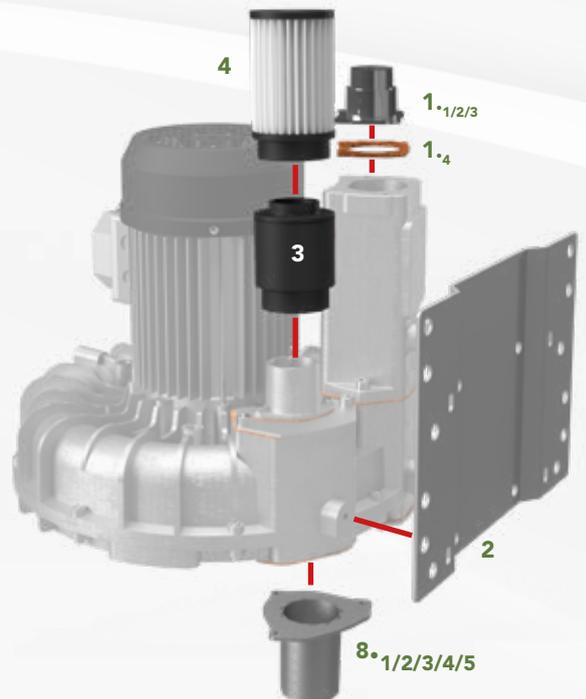


## OPTION

## ■ 422 MF - VERSION 1



## ■ 422 MF - VERSION 2



MODEL	DESCRIPTION	VOLT ( $\Delta/Y$ )	Hz	kW	A ( $\Delta/Y$ )	RPM	IP
0.422M	TURBINA TRIFASE 2,2KW	$\Delta$ 230/ Y 400	50	2,2	$\Delta$ 8,8/ Y 5,1	2870	55
0.422MF		$\Delta$ 220/ Y 380	60	2.2	$\Delta$ 12,0/ Y 6,8	3420	55



All products achieve the standards and norms of the low voltage directive (LVD)2006/95/EC, rotating electrotechnical motor EN 60034-1-2004, electromagnetic compatibility(EMC)EN55014-1/2,EN61000-2/-3/-4/-6.

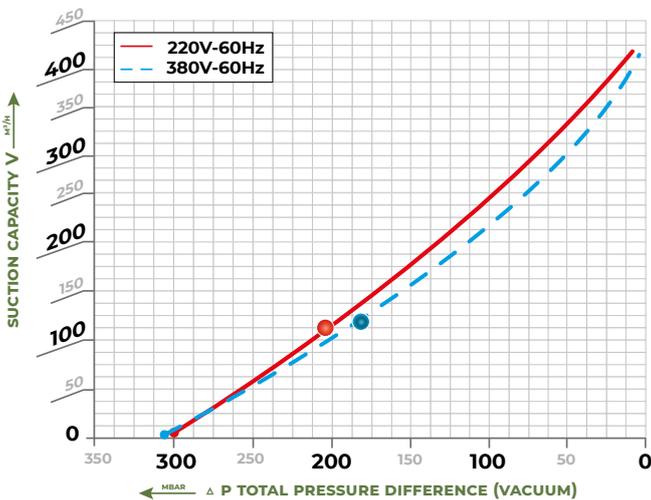
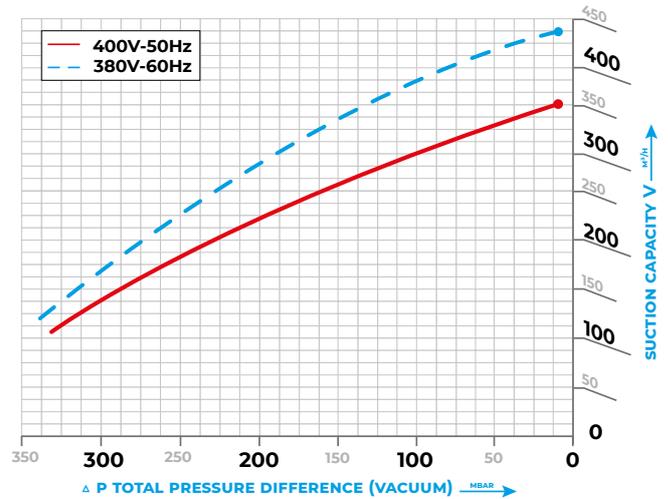
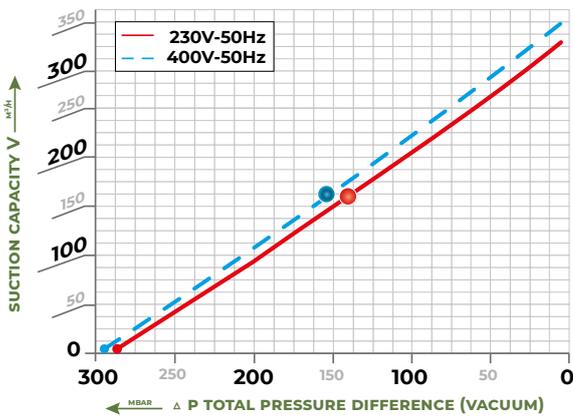
Measuring-surface sound-pressure level acc. to DIN EN 21680, measured at a distance of 1 m. The pump is throttled to an average suction pressure, a hose is connected to the discharge side (compressor) / suction side (vacuum pump), but is not fitted with relief valves.

The motors are designed according to the DIN EN 60 034 / DIN IEC 34-1 and temperature class F. For the three phase machines the tolerances are +/- 10 % for fixed voltage and +/- 5 % for voltage range. The single phase machines are designed with a +/- 5 % tolerances. If only 90 % of the maximum allowed pressure will be used for the continuous operating then the allowed voltage range add to +/- 10 %.

For all single and three phase machines which designed according to the UL and CSA norm (UL 1004-1) the maximum allowed voltage tolerances are - 10 % resp. + 6 %. The frequency tolerance is maximum +/- 2 %.

### VACUUM SELECTION DIAGRAM

### COMPRESSOR SELECTION DIAGRAM



The performance curves are valid for pumping air at 15°C at the inlet flanges with an air pressure of 1.013mbar and a tolerance of ±10%. The total pressure differences are valid up to an intake and ambient temperature of 25°C.



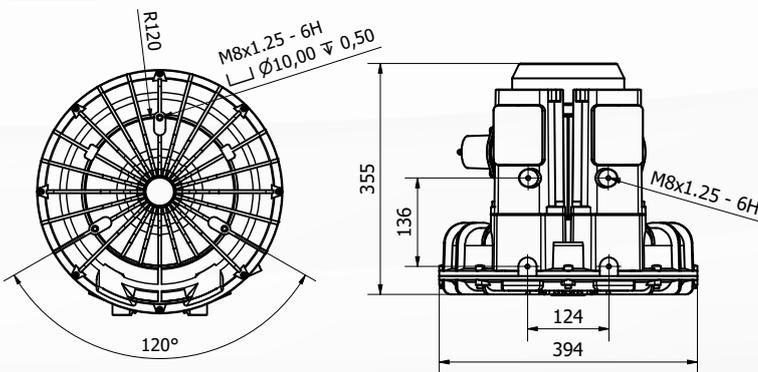
# 430 M/MF\_200V

## 430 M/MF

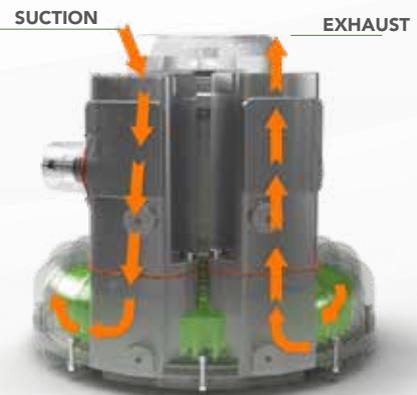
Designed to suck up or compress non-explosive gases, **single-stage three-phase** turbines guarantee high performance and continuous operation. Made of die-cast aluminium alloy, they offer robustness, efficiency and quietness, with a directly coupled three-phase motor and no routine maintenance. Ideal for high-reliability industrial plants.



### DIMENSIONS 430 M - 200V



### FUNCTIONING 430 M - 200V



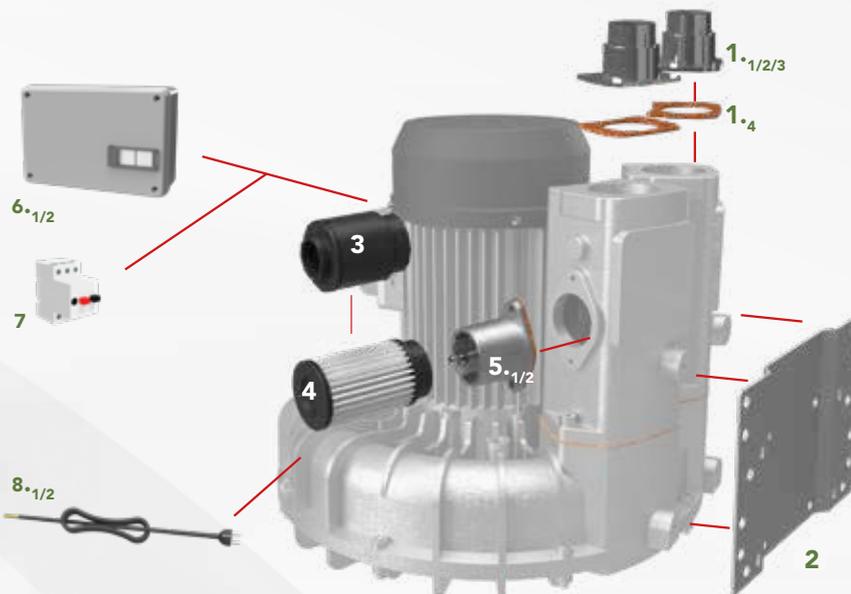
### OPTION 430 M/MF - 200V

- 1.<sub>1</sub> FLANGED CONNECTOR Ø50-60 | **cod. 600383**
- 1.<sub>2</sub> TURNED FLANGED CONNECTOR Ø60 | **cod. 200126**
- 1.<sub>3</sub> TURNED FLANGED CONNECTOR Ø70 | **cod. 200634**
- 1.<sub>4</sub> FLANGED CONNECTION GASKET | **cod. 600033**
- 2 GALVANISED TURBINE SUPPORT PLATE | **cod. 600412**
- 3 BLACK VALVE SILENCER | **cod. 200242**
- 4 RESTRICTION VALVE FILTER | **cod. 600192**
- 5.<sub>1</sub> SUCTION LIMITING VALVE | **cod. 200164**
- 5.<sub>2</sub> EXHAUST LIMITING VALVE | **cod. 200165**
- 6.<sub>1</sub> CLOSED SWITCH BOX | **cod. 601217**
- 6.<sub>2</sub> FIREPROOF SWITCH BOX, OPEN (CONF.11ML) | **cod. 600334**
- 7 MOTOR PROTECTION SWITCH 6.3-10 A | **cod. 600237**
- 8.<sub>1</sub> H05 VVF 4GX1.5 POWER CABLE | **cod. 600107**
- 8.<sub>2</sub> H07 RNF 4GX1.5 POWER CABLE | **cod. 600108**
- 9.<sub>1</sub> Ø50 H25 FLANGED FRONT BELL TUBE | **cod. 300705**
- 9.<sub>2</sub> Ø50 H75 FLANGED FRONT BELL TUBE WITH MESH | **cod. 300531**
- 9.<sub>3</sub> Ø50 H40 FLANGED FRONT BELL TUBE WITH MESH | **cod. 300530**
- 9.<sub>4</sub> FLANGED TUBE Ø50 | **cod. 300524**
- 9.<sub>5</sub> TUBE Ø50 H75 FLANGED WITH FRONT BELL | **cod. 300396**



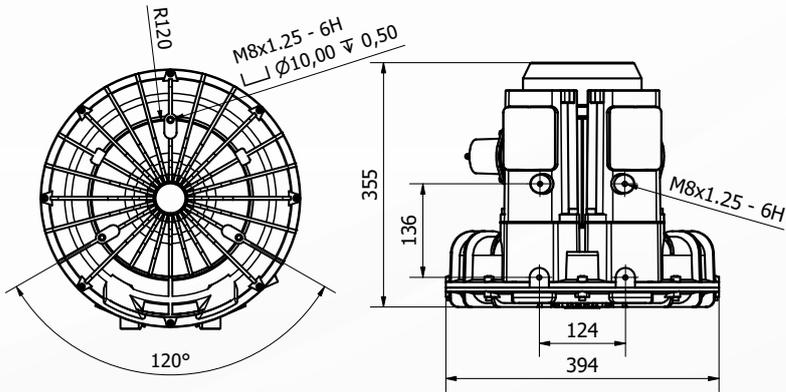
### TREATMENTS

- **Anodising:** Surface treatment to protect aluminium from corrosion. | - Thermal: **available on** 4 kW - 5.5 - 7.5 motors.

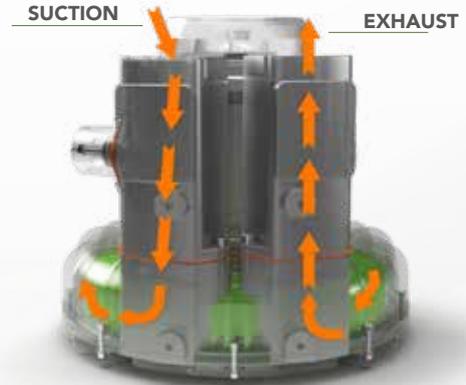




## DIMENSIONS 430 M



## FUNCTIONING 430 M



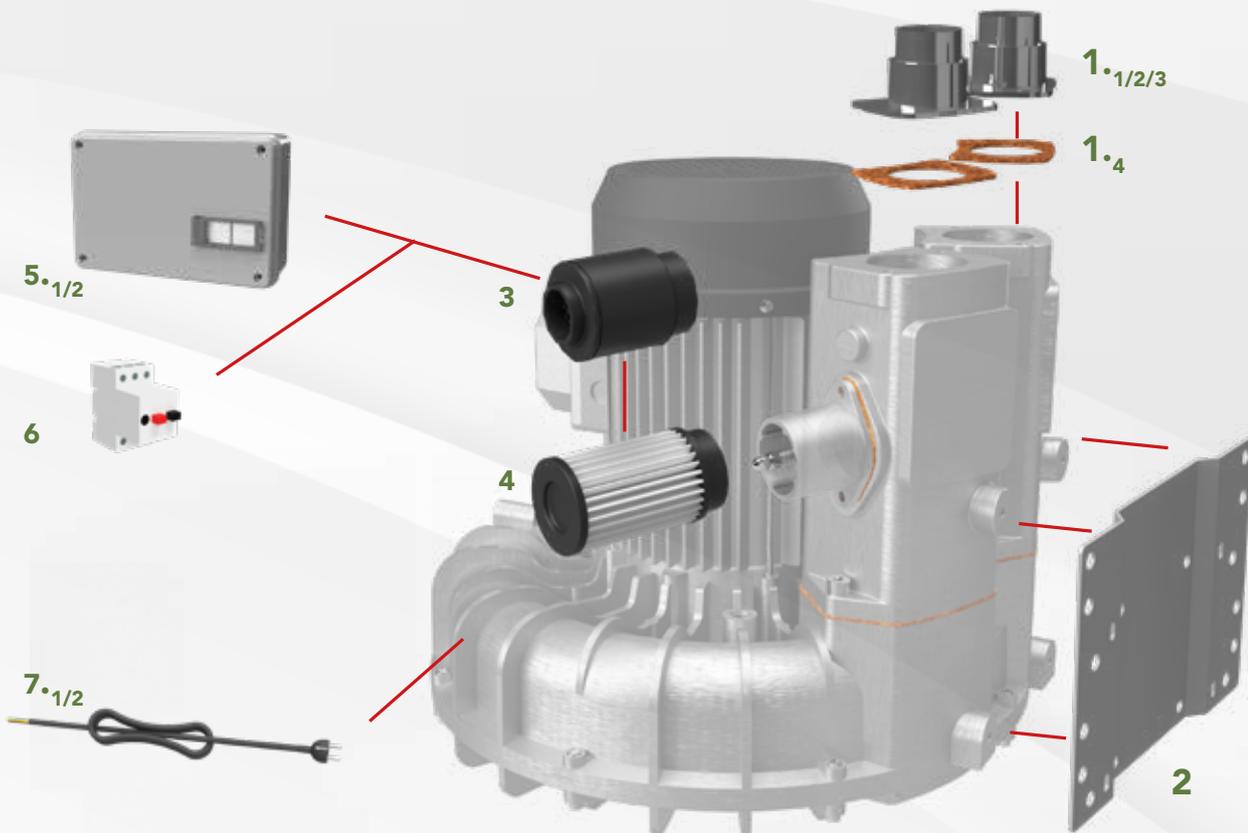
## OPTION 430 M/MF

- 1<sub>1</sub> FLANGED CONNECTOR Ø50-60 | **cod. 600383**
- 1<sub>2</sub> TURNED FLANGED CONNECTOR Ø60 | **cod. 200126**
- 1<sub>3</sub> TURNED FLANGED CONNECTOR Ø70 | **cod. 200634**
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- 8<sub>3</sub> Ø50 H40 FLANGED FRONT BELL TUBE WITH MESH | **cod. 300530**
- 8<sub>4</sub> FLANGED TUBE Ø50 | **cod. 300524**
- 8<sub>5</sub> TUBE Ø50 H75 FLANGED WITH FRONT BELL | **cod. 300396**



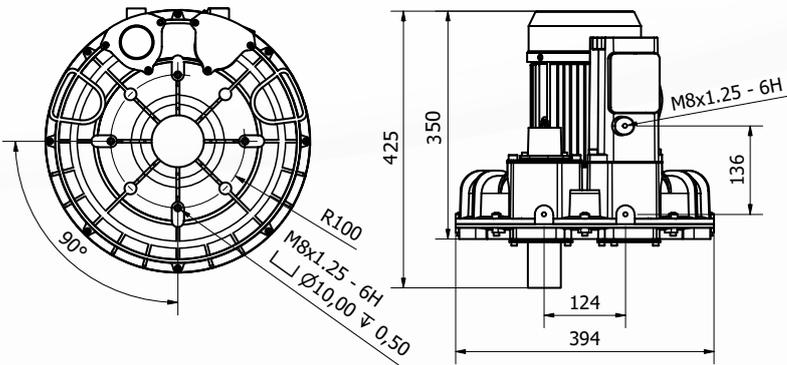
## TREATMENTS

- **Anodising:** Surface treatment to protect aluminium from corrosion. | - Thermal: **available on** 4 kW - 5.5 - 7.5 motors.





**DIMENSIONS 430 M/MF - 200V**



**FUNCTIONING**

■ 430 MF - VERSION 1 - 200V

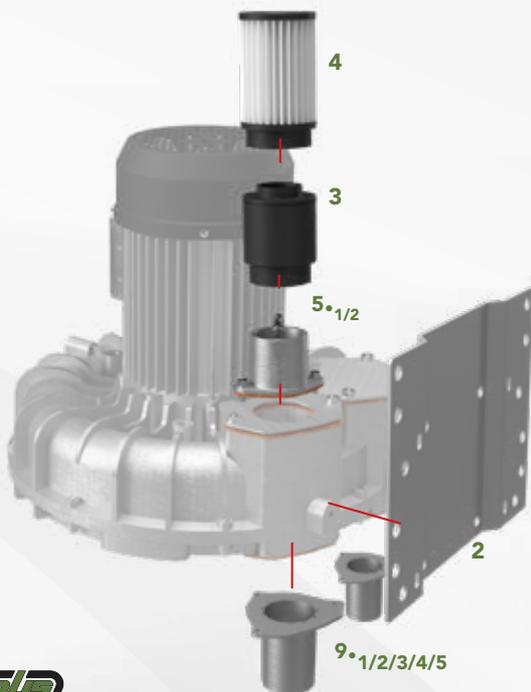


SUCTION EXHAUST

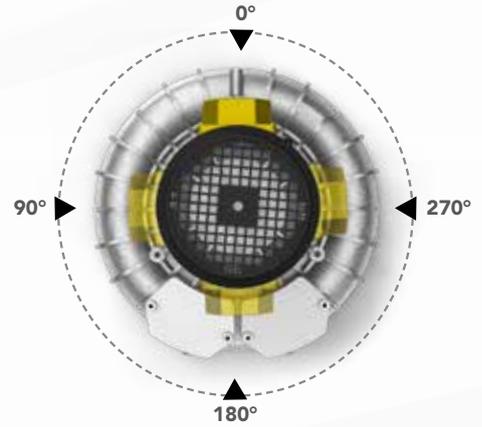


**OPTION**

■ 430 MF - VERSION 1 - 200V

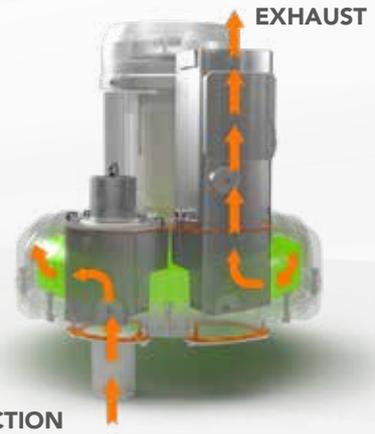


**ENGINE ORIENTATION 430 M/MF - 200V**



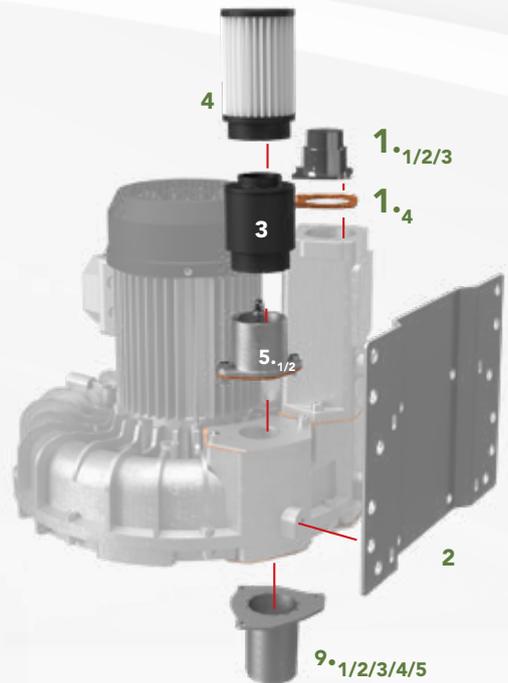
NB. For 180° orientation, it is not possible to install the silencer.

■ 430 MF - VERSION 2 - 200V



SUCTION EXHAUST

■ 430 MF - VERSION 2 - 200V



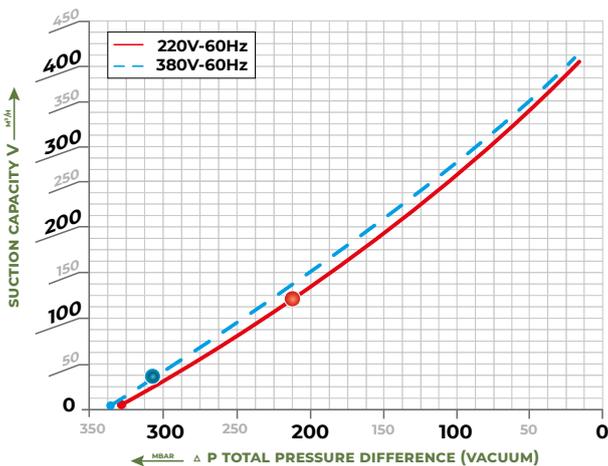
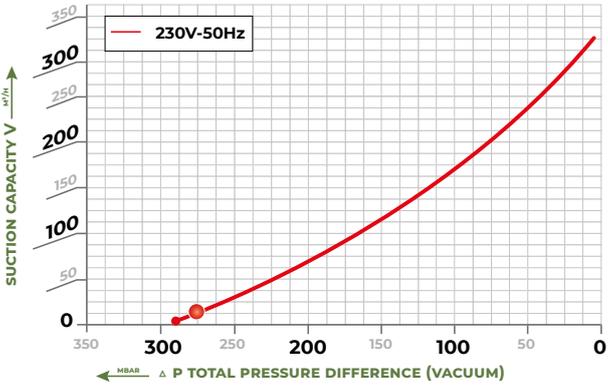
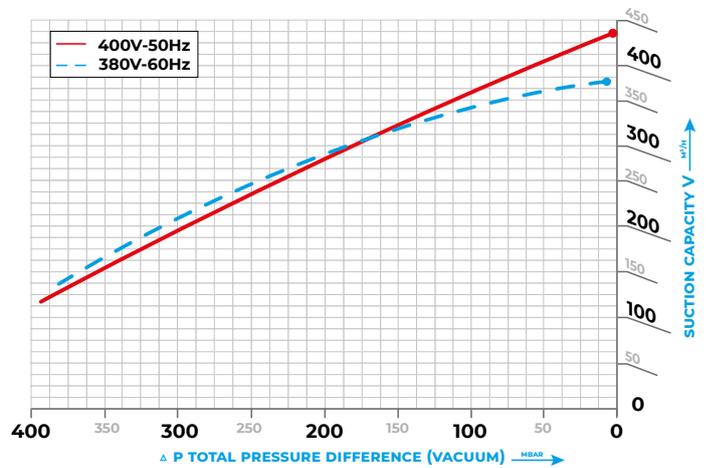
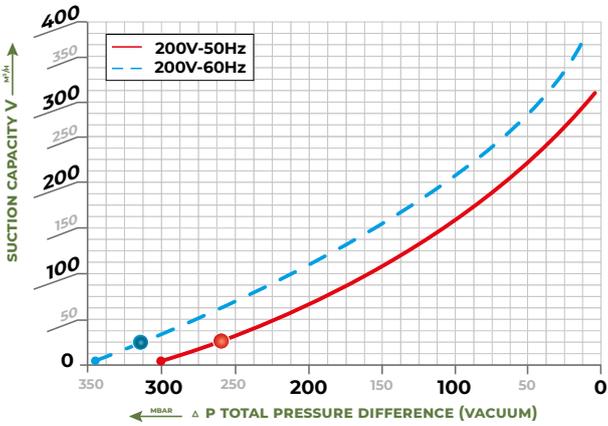
MODEL	DESCRIPTION	VOLT Δ	Hz	kW	A (Δ/Y)	RPM	IP
0.430M	THREE PHASE TURBINE 3KW	Δ 200	50	3	Δ 13,2	2800	55
0.430MF		Δ 200	60	3,6	Δ 15,1	3200	55
0.430M	THREE PHASE TURBINE 3KW	Δ 230/ Y 400	50	3	Δ 6,5/ Y 11,3	2870	55
0.430MF		Δ 220/ Y 380	60	3,6	Δ 7,4/ Y 12,8	3420	55



N.B. Never exceed the maximum  $\Delta p$  indicated in the graphs and in the table depending on the installed power; apply a safety valve if necessary for this purpose.

### VACUUM SELECTION DIAGRAM

### COMPRESSOR SELECTION DIAGRAM



The performance curves are valid for pumping air at 15°C at the inlet flanges with an air pressure of 1.013mbar and a tolerance of ±10%. The total pressure differences are valid up to an intake and ambient temperature of 25°C.

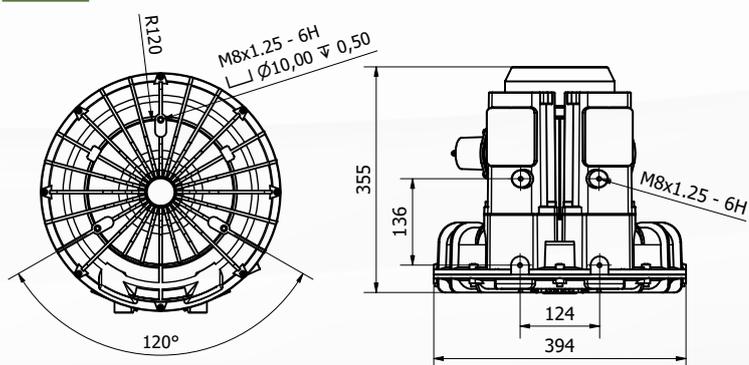


# 440 M/MF

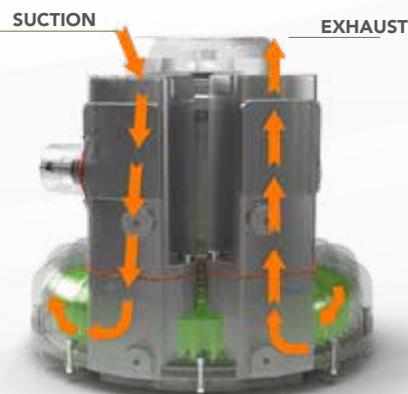
Designed to suck up or compress non-explosive gases, single-stage three-phase turbines guarantee high **performance** and continuous operation. Made of die-cast aluminium alloy, they offer robustness, efficiency and quietness, with a directly coupled three-phase motor and no routine maintenance. Ideal for high-reliability industrial plants.



## DIMENSIONS 440 M



## FUNCTIONING 440 M



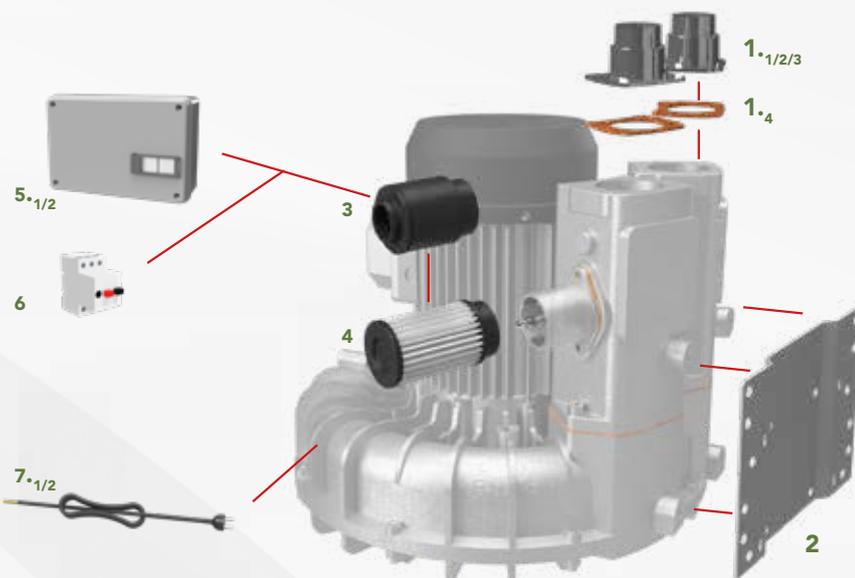
## OPTION 440 M/MF

- 1.<sub>1</sub> FLANGED CONNECTOR Ø50-60 | **cod. 600383**
- 1.<sub>2</sub> TURNED FLANGED CONNECTOR Ø60 | **cod. 200126**
- 1.<sub>3</sub> TURNED FLANGED CONNECTOR Ø70 | **cod. 200634**
- 1.<sub>4</sub> FLANGED CONNECTION GASKET | **cod. 600033**
- 2 GALVANISED TURBINE SUPPORT PLATE | **cod. 600412**
- 3 BLACK VALVE SILENCER | **cod. 200242**
- 4 RESTRICTION VALVE FILTER | **cod. 600192**
- 5.<sub>1</sub> CLOSED SWITCH BOX | **cod. 601217**
- 5.<sub>2</sub> FIREPROOF SWITCH BOX, OPEN (CONF.11ML) | **cod. 600334**
- 6 MOTOR PROTECTION SWITCH 6.3-10 A | **cod. 600237**
- 7.<sub>1</sub> H05 VWF 4GX1.5 POWER CABLE | **cod. 600107**
- 7.<sub>2</sub> H07 RNF 4GX1.5 POWER CABLE | **cod. 600108**
- 8.<sub>1</sub> Ø50 H25 FLANGED FRONT BELL TUBE | **cod. 300705**
- 8.<sub>2</sub> Ø50 H75 FLANGED FRONT BELL TUBE WITH MESH | **cod. 300531**
- 8.<sub>3</sub> Ø50 H40 FLANGED FRONT BELL TUBE WITH MESH | **cod. 300530**
- 8.<sub>4</sub> FLANGED TUBE Ø50 | **cod. 300524**
- 8.<sub>5</sub> TUBE Ø50 H75 FLANGED WITH FRONT BELL | **cod. 300396**



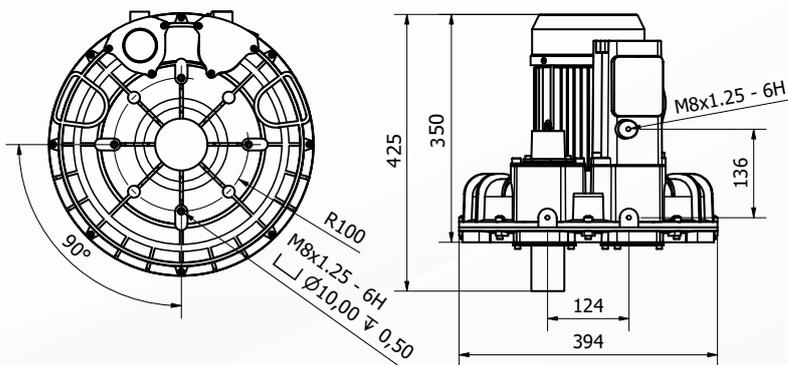
## TREATMENTS

- **Anodising:** Surface treatment to protect aluminium from corrosion. | - Thermal: **available on** 4 kW - 5.5 - 7.5 motors.

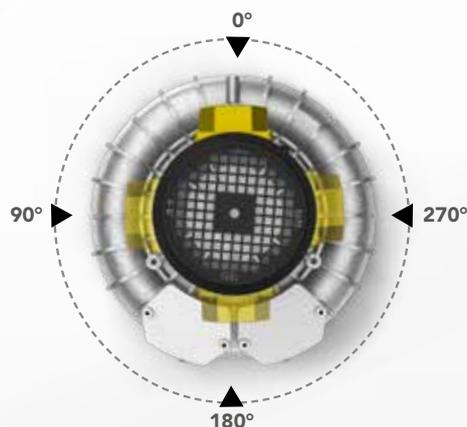




**DIMENSIONS 440 MF**



**ENGINE ORIENTATION 440 M/MF**



**NB.** For 180° orientation, it is not possible to install the silencer.

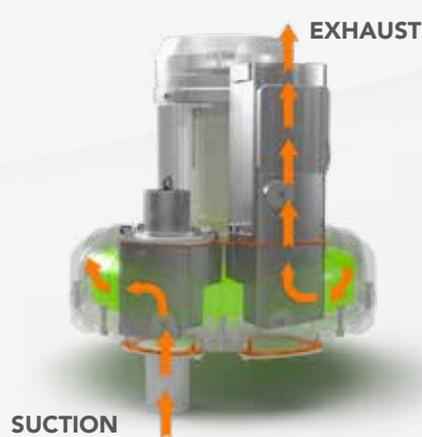


**FUNCTIONING**

■ 440 MF - VERSION 1

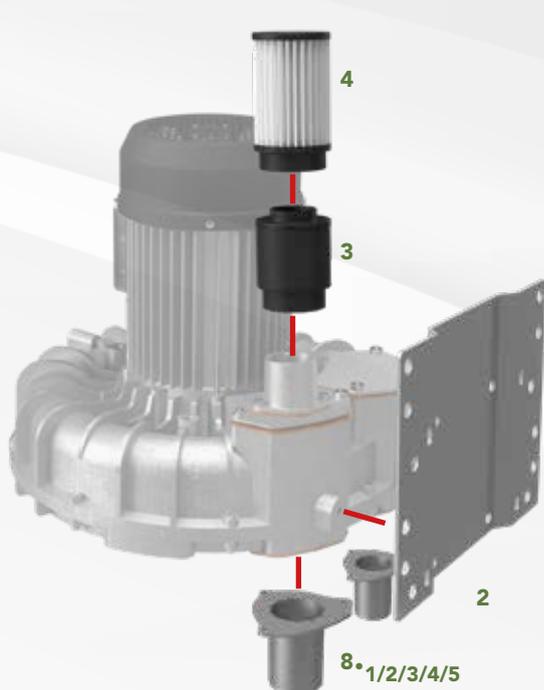


■ 440 MF - VERSION 2

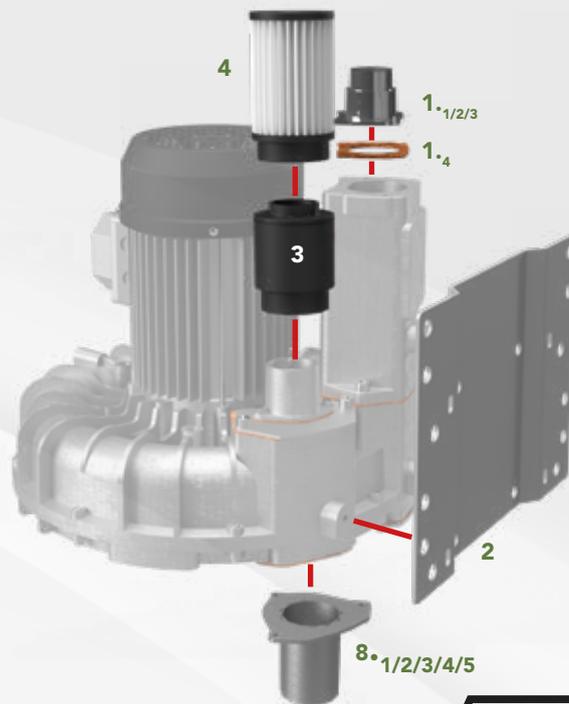


**OPTION**

■ 440 MF - VERSION 1



■ 440 MF - VERSION 2





# MOD. 440 M/MF

## SIDE CHANNEL BLOWERS AND SUCTION UNITS

MODEL	DESCRIPTION	VOLT ( $\Delta/Y$ )	Hz	kW	A ( $\Delta/Y$ )	RPM	IP
0.440M	TURBINA TRIFASE 4KW	$\Delta$ 230/ Y 400	50	4.0	$\Delta$ 15,4/ Y 8,9	2850	55
0.440MF		$\Delta$ 220/ Y 380	60	4.8	$\Delta$ 17,0/ Y 9,8	3370	
		$\Delta$ 276/ Y 480	60	4.8	$\Delta$ 15,4/ Y 8,9	3460	



All products achieve the standards and norms of the low voltage directive (LVD)2006/95/EC, rotating electrotechnical motor EN 60034-1-2004, electromagnetic compatibility(EMC)EN55014-1/2,EN61000-2/-3/-4/-6.

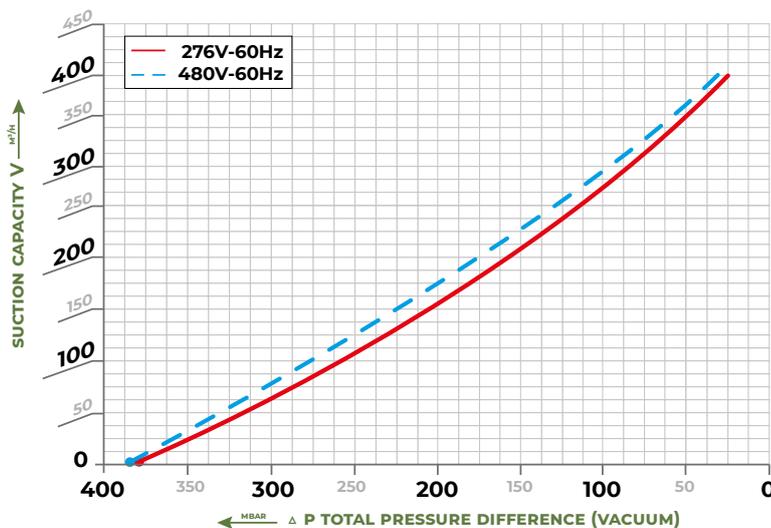
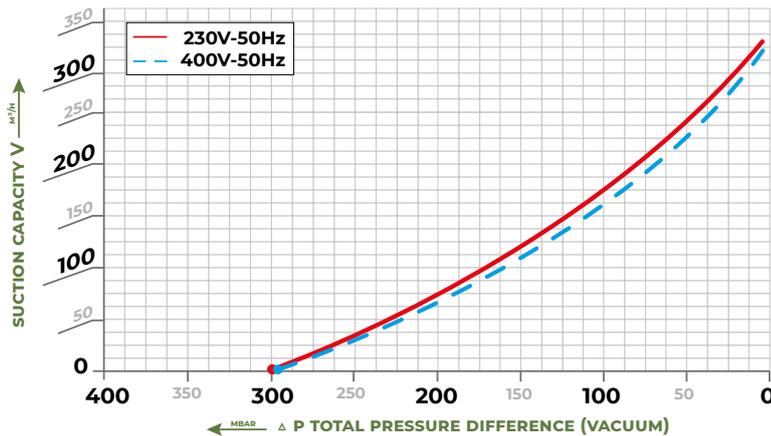
Measuring-surface sound-pressure level acc. to DIN EN 21680, measured at a distance of 1 m. The pump is throttled to an average suction pressure, a hose is connected to the discharge side (compressor) / suction side (vacuum pump), but is not fitted with relief valves.

The motors are designed according to the DIN EN 60 034 / DIN IEC 34-1 and temperature class F. For the three phase machines the tolerances are +/- 10 % for fixed voltage and +/- 5 % for voltage range. The single phase machines are designed with a +/- 5 % tolerances. If only 90 % of the maximum allowed pressure will be used for the continuous operating then the allowed voltage range add to +/- 10 %.

For all single and three phase machines which designed according to the UL and CSA norm (UL 1004-1) the maximum allowed voltage tolerances are - 10 % resp. + 6 %. The frequency tolerance is maximum +/- 2 %.



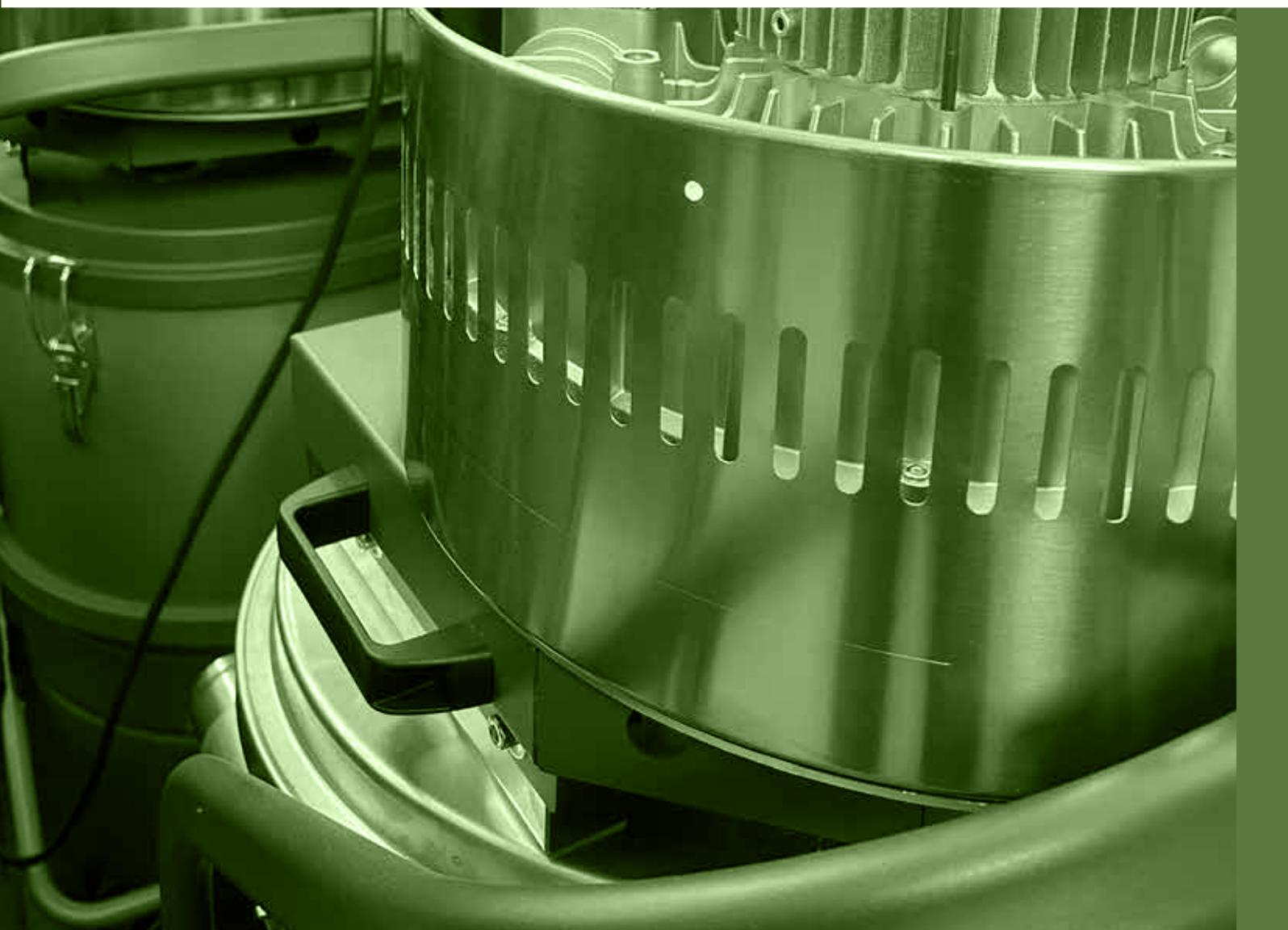
### VACUUM SELECTION DIAGRAM



The performance curves are valid for pumping air at 15°C at the inlet flanges with an air pressure of 1.013mbar and a tolerance of ±10%. The total pressure differences are valid up to an intake and ambient temperature of 25°C.



**OTHER MODELS SINGLE-STAGE THREE-PHASE**



Curve NO.	Order No.	Frequency (Hz)	Rated power (kW)	Input voltage (V)		Input current (A)		Permissible total differential pressure (mBar)		Sound pressure (dB)	Weight ca. (Kg)
								Vacuum	Compressor		
A 13	1X-4HF-M13	50	1.3	200D - 240D	345Y - 415Y	6.6D	3.8Y	-170	210	64	18
A 15	1X-4HF-M15	60	1.5	220D - 275D	380Y - 480Y	6.9D	4.0Y	-200	160	65	18



All products achieve the standards and norms of the low voltage directive (LVD)2006/95/EC, rotating electrotechnical motor EN 60034-1-2004, electromagnetic compatibility(EMC)EN55014-1/2,EN61000-2/-3/-4/-6.

Measuring-surface sound-pressure level acc. to DIN EN 21680, measured at a distance of 1 m. The pump is throttled to an average suction pressure, a hose is connected to the discharge side (compressor) / suction side (vacuum pump), but is not fitted with relief valves.

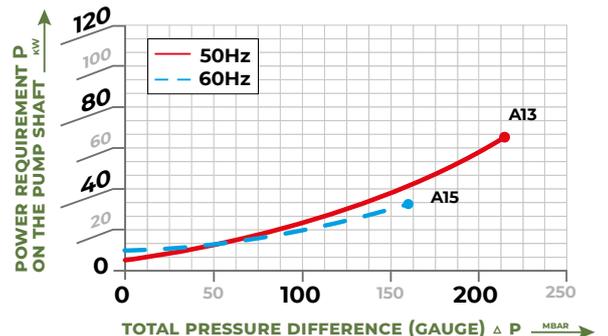
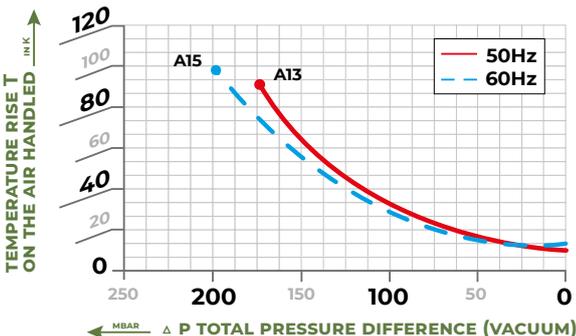
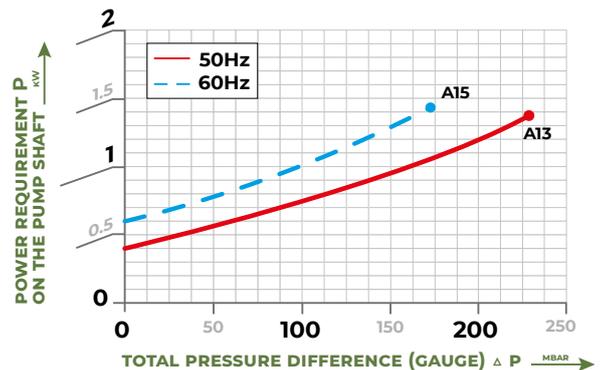
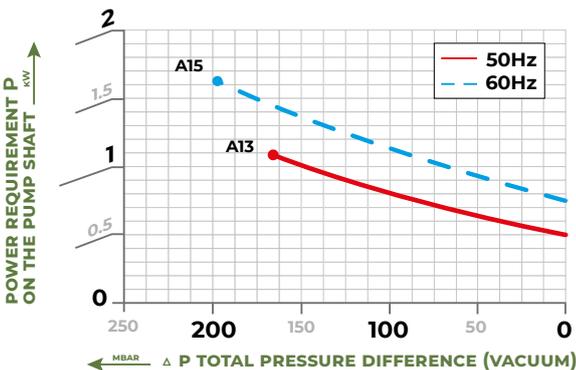
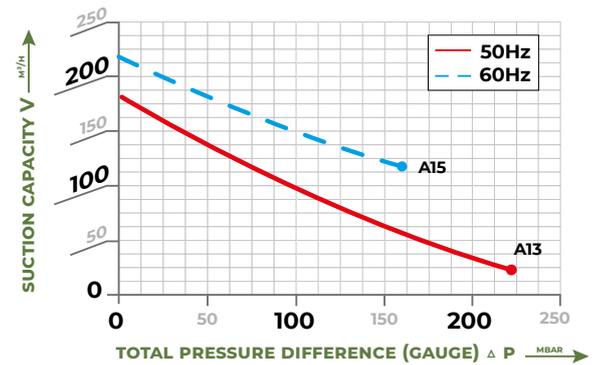
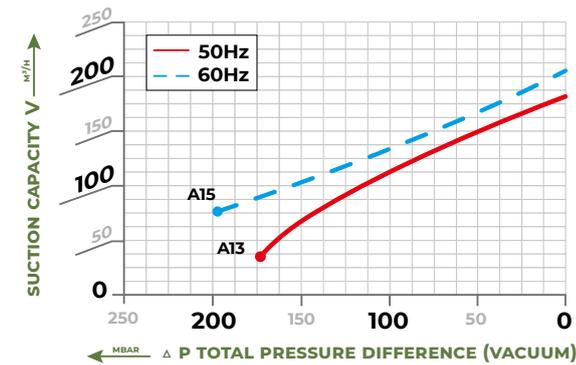
The motors are designed according to the DIN EN 60 034 / DIN IEC 34-1 and temperature class F. For the three phase machines the tolerances are +/- 10 % for fixed voltage and +/- 5 % for voltage range. The single phase machines are designed with a +/- 5 % tolerances. If only 90 % of the maximum allowed pressure will be used for the continuous operating then the allowed voltage range add to +/- 10 %.

For all single and three phase machines which designed according to the UL and CSA norm (UL 1004-1) the maximum allowed voltage tolerances are - 10 % resp. + 6 %. The frequency tolerance is maximum +/- 2 %.



### PERFORMANCE CURVE FOR VACUUM PUMP

### PERFORMANCE CURVE FOR COMPRESSOR



The performance curves are based on air at a temperature of 15 °C and an atmospheric pressure of 1013 mbar with a tolerance of +/- 10%. The total pressure differences are valid for suction and ambient temperatures up to 25 °C. Each product can be applied both as vacuum pump and compressor in continuous operation over the total stated performance curve range. The motors are available as standard for the input voltage range of 50 and 60 Hz and for protection category IP 55 as well as approved for UL and CSA.

Curve NO.	Order No.	Frequency (Hz)	Rated power (kW)	Input voltage (V)		Input current (A)		Permissible total differential pressure (mBar)		Sound pressure (dB)	Weight ca. (Kg)
				200D - 240D	345Y - 415Y	9.7D	5.6Y	Vacuum	Compressor		
A 22	1X-5HF-M22	50	2.2	200D - 240D	345Y - 415Y	9.7D	5.6Y	-220	230	65	26
A 25	1X-5HF-M255	60	2.55	220D - 275D	380Y - 480Y	10.3D	6.0Y	-260	250	71	26



All products achieve the standards and norms of the low voltage directive (LVD)2006/95/EC, rotating electrotechnical motor EN 60034-1-2004, electromagnetic compatibility(EMC)EN55014-1/2,EN61000-2/-3/-4/-6.

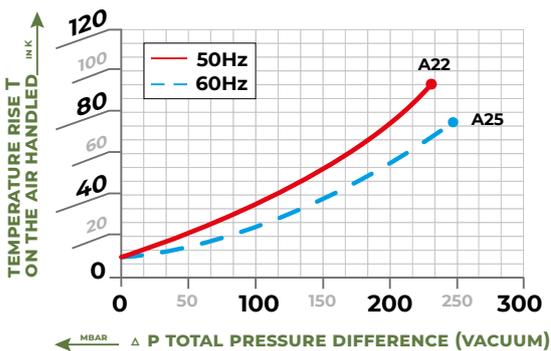
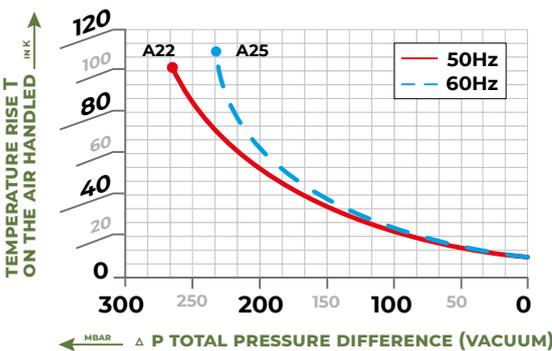
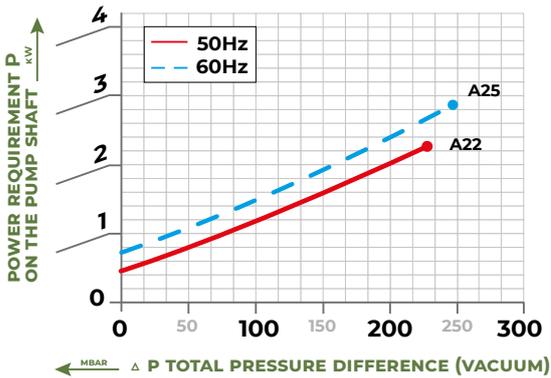
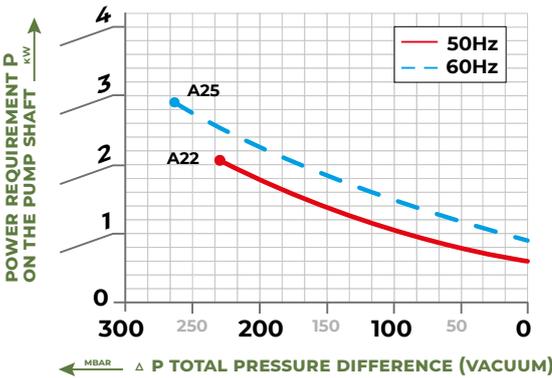
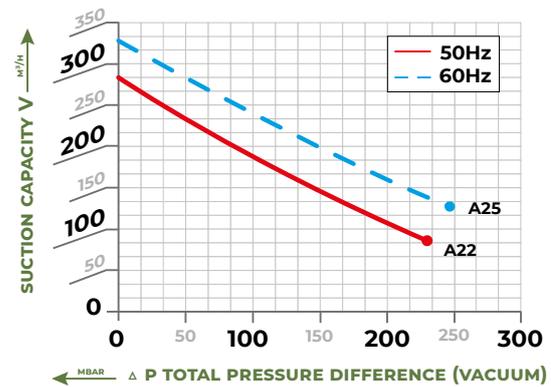
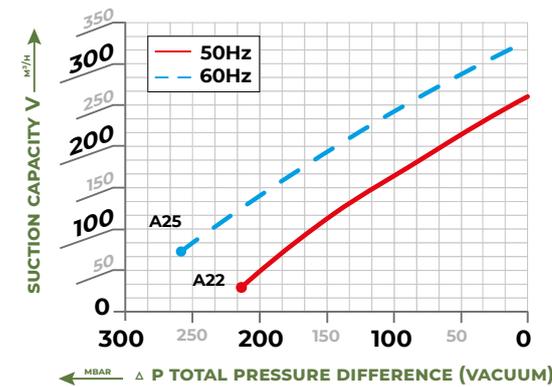
Measuring-surface sound-pressure level acc. to DIN EN 21680, measured at a distance of 1 m. The pump is throttled to an average suction pressure, a hose is connected to the discharge side (compressor) / suction side (vacuum pump), but is not fitted with relief valves.

The motors are designed according to the DIN EN 60 034 / DIN IEC 34-1 and temperature class F. For the three phase machines the tolerances are +/- 10 % for fixed voltage and +/- 5 % for voltage range. The single phase machines are designed with a +/- 5 % tolerances. If only 90 % of the maximum allowed pressure will be used for the continuous operating then the allowed voltage range add to +/- 10 %.

For all single and three phase machines which designed according to the UL and CSA norm (UL 1004-1) the maximum allowed voltage tolerances are - 10 % resp. + 6 %. The frequency tolerance is maximum +/- 2 %.

### PERFORMANCE CURVE FOR VACUUM PUMP

### PERFORMANCE CURVE FOR COMPRESSOR



The performance curves are based on air at a temperature of 15 °C and an atmospheric pressure of 1013 mbar with a tolerance of +/- 10 %. The total pressure differences are valid for suction and ambient temperatures up to 25 °C. Each product can be applied both as vacuum pump and compressor in continuous operation over the total stated performance curve range. The motors are available as standard for the input voltage range of 50 and 60 Hz and for protection category IP 55 as well as approved for UL and CSA.

Curve NO.	Order No.	Frequency (Hz)	Rated power (kW)	Input voltage (V)		Input current (A)		Permissible total differential pressure (mBar)		Sound pressure (dB)	Weight ca. (Kg)
				200D - 240D	345Y - 415Y	12.5D	7.2Y	Vacuum	Compressor		
A 30	1X-6HF-M30	50	3.0	200D - 240D	345Y - 415Y	12.5D	7.2Y	-240	220	70	12
A 34	1X-6HF-M345	60	3.45	220D - 275D	380Y - 480Y	12.6D	7.3Y	-210	220	73	12



All products achieve the standards and norms of the low voltage directive (LVD)2006/95/EC, rotating electrotechnical motor EN 60034-1-2004, electromagnetic compatibility(EMC)EN55014-1/2,EN61000-2/-3/-4/-6.

Measuring-surface sound-pressure level acc. to DIN EN 21680, measured at a distance of 1 m. The pump is throttled to an average suction pressure, a hose is connected to the discharge side (compressor) / suction side (vacuum pump), but is not fitted with relief valves.

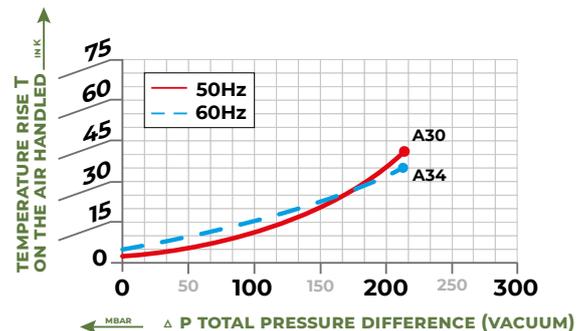
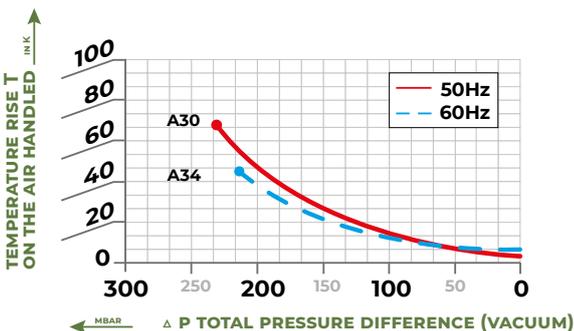
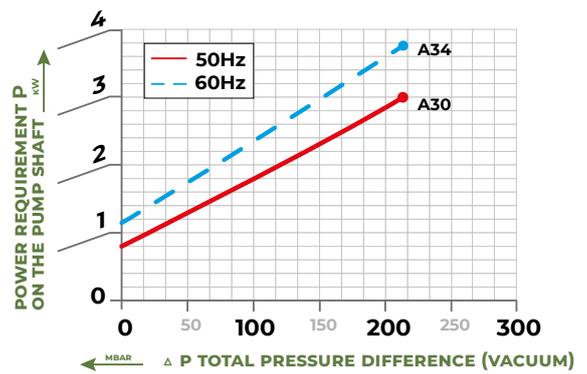
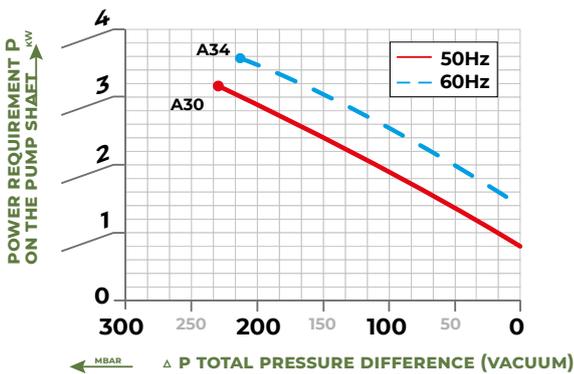
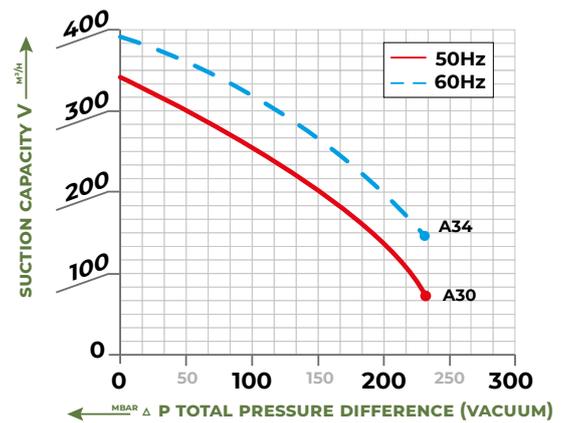
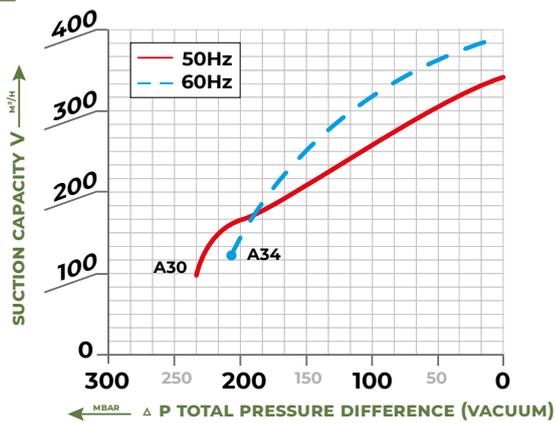
The motors are designed according to the DIN EN 60 034 / DIN IEC 34-1 and temperature class F. For the three phase machines the tolerances are +/- 10 % for fixed voltage and +/- 5 % for voltage range. The single phase machines are designed with a +/- 5 % tolerances. If only 90 % of the maximum allowed pressure will be used for the continuous operating then the allowed voltage range add to +/- 10 %.

For all single and three phase machines which designed according to the UL and CSA norm (UL 1004-1) the maximum allowed voltage tolerances are - 10 % resp. + 6 %. The frequency tolerance is maximum +/- 2 %.



### PERFORMANCE CURVE FOR VACUUM PUMP

### PERFORMANCE CURVE FOR COMPRESSOR



The performance curves are based on air at a temperature of 15 °C and an atmospheric pressure of 1013 mbar with a tolerance of +/- 10 %. The total pressure differences are valid for suction and ambient temperatures up to 25 °C. Each product can be applied both as vacuum pump and compressor in continuous operation over the total stated performance curve range. The motors are available as standard for the input voltage range of 50 and 60 Hz and for protection category IP 55 as well as approved for UL and CSA.

Curve No.	Order No.	Frequency (Hz)	Rated power (kW)	Input voltage (V)		Input current (A)		Permissible total differential pressure (mBar)		Sound pressure (dB)	Weight ca. (Kg)
				200D - 240D	345Y - 415Y	9.7D	5.6Y	Vacuum	Compressor		
A 22	1X-7HD-MF22	50	2.2	200D - 240D	345Y - 415Y	9.7D	5.6Y	-210	200	69	30
A 25	1X-7HD-MF255	60	2.55	220D - 275D	380Y - 480Y	10.3D	6.0Y	-210	200	72	30

**!** All products achieve the standards and norms of the low voltage directive (LVD)2006/95/EC, rotating electrotechnical motor EN 60034-1-2004, electromagnetic compatibility(EMC)EN55014-1/2,EN61000-2/-3/-4/-6.

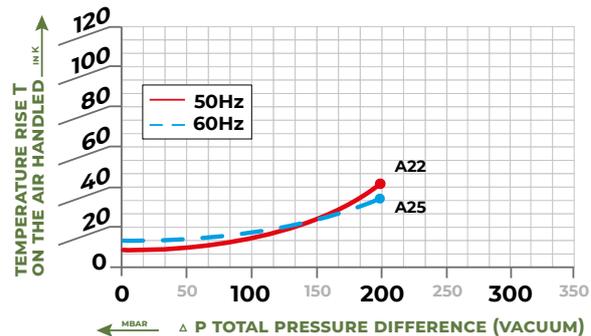
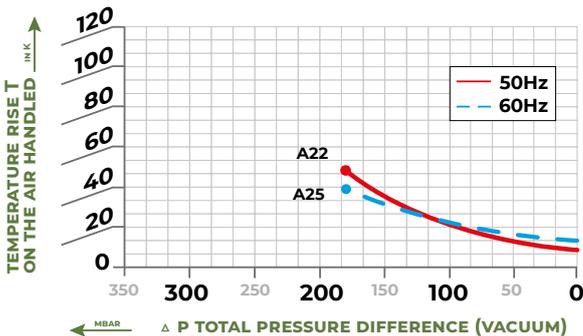
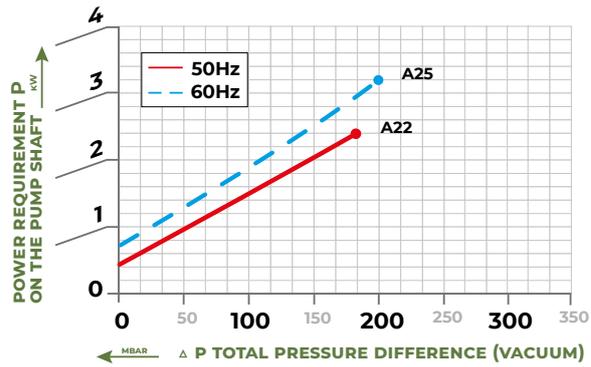
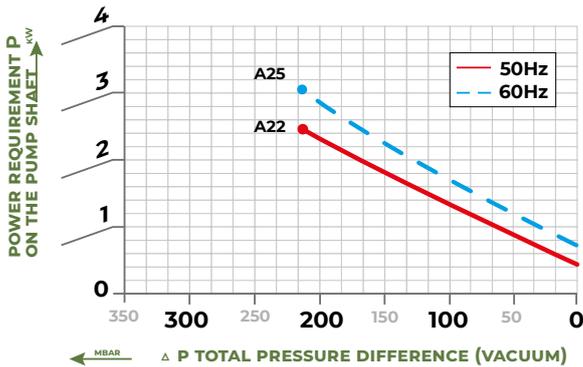
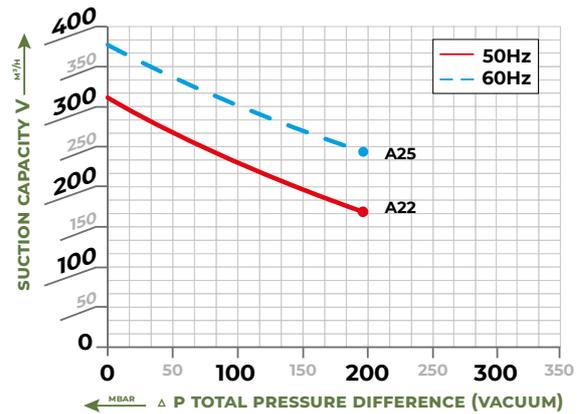
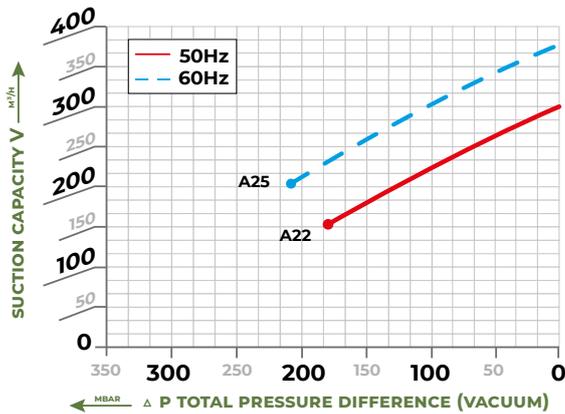
Measuring-surface sound-pressure level acc. to DIN EN 21680, measured at a distance of 1 m. The pump is throttled to an average suction pressure, a hose is connected to the discharge side (compressor) / suction side (vacuum pump), but is not fitted with relief valves.

The motors are designed according to the DIN EN 60 034 / DIN IEC 34-1 and temperature class F. For the three phase machines the tolerances are +/- 10 % for fixed voltage and +/- 5 % for voltage range. The single phase machines are designed with a +/- 5 % tolerances. If only 90 % of the maximum allowed pressure will be used for the continuous operating then the allowed voltage range add to +/- 10 %.

For all single and three phase machines which designed according to the UL and CSA norm (UL 1004-1) the maximum allowed voltage tolerances are - 10 % resp. + 6 %. The frequency tolerance is maximum +/- 2 %.

### PERFORMANCE CURVE FOR VACUUM PUMP

### PERFORMANCE CURVE FOR COMPRESSOR



The performance curves are based on air at a temperature of 15 °C and an atmospheric pressure of 1013 mbar with a tolerance of +/- 10 %. The total pressure differences are valid for suction and ambient temperatures up to 25 °C. Each product can be applied both as vacuum pump and compressor in continuous operation over the total stated performance curve range. The motors are available as standard for the input voltage range of 50 and 60 Hz and for protection category IP 55 as well as approved for UL and CSA.

Curve NO.	Order No.	Frequency (Hz)	Rated power (kW)	Input voltage (V)	Input current (A)	Permissible total differential pressure (mBar)		Sound pressure (dB)	Weight ca. (Kg)		
						Vacuum	Compressor				
A 40	1X-7HF-M40	50	4.0	345D - 415D	-	9.5D	5.5Y	-260	290	70	43
A 46	1X-7HF-M46	60	4.6	380D - 480D	-	9.5D	5.5Y	-260	280	73	43



All products achieve the standards and norms of the low voltage directive (LVD)2006/95/EC, rotating electrotechnical motor EN 60034-1-2004, electromagnetic compatibility(EMC)EN55014-1/2,EN61000-2/-3/-4/-6.

Measuring-surface sound-pressure level acc. to DIN EN 21680, measured at a distance of 1 m. The pump is throttled to an average suction pressure, a hose is connected to the discharge side (compressor) / suction side (vacuum pump), but is not fitted with relief valves.

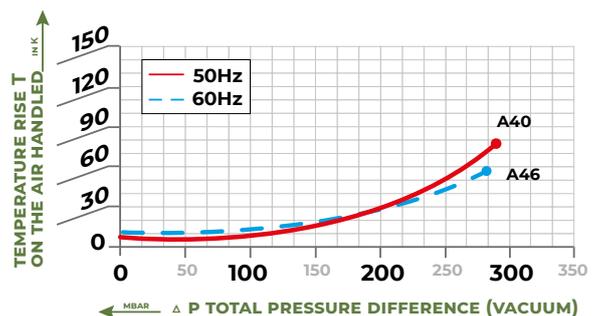
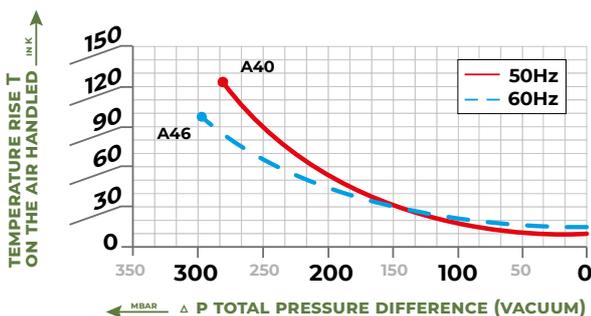
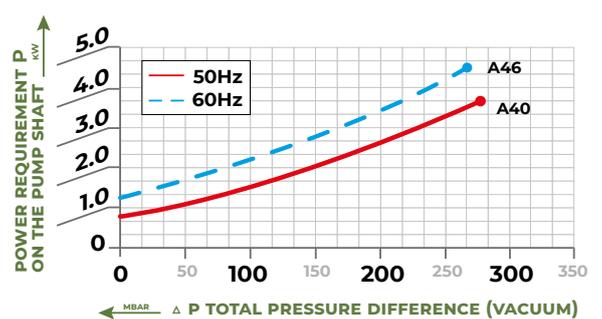
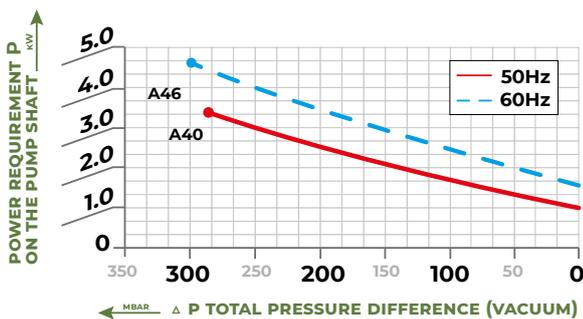
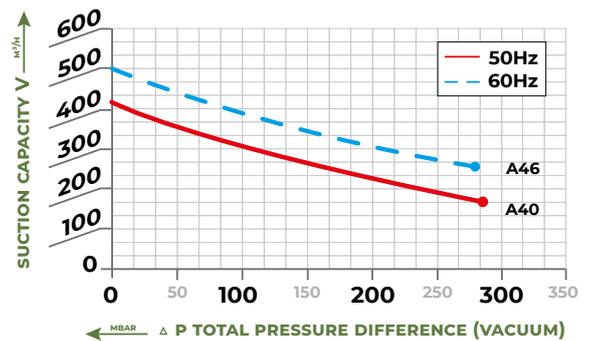
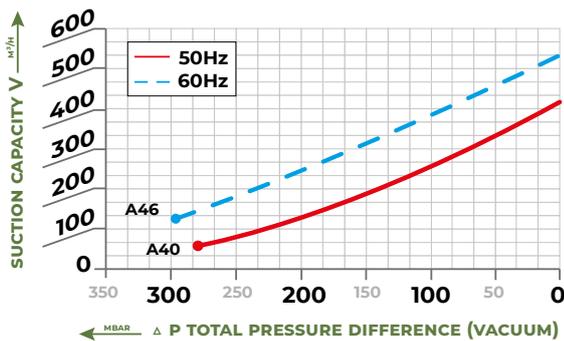
The motors are designed according to the DIN EN 60 034 / DIN IEC 34-1 and temperature class F. For the three phase machines the tolerances are +/- 10 % for fixed voltage and +/- 5 % for voltage range. The single phase machines are designed with a +/- 5 % tolerances. If only 90 % of the maximum allowed pressure will be used for the continuous operating then the allowed voltage range add to +/- 10 %.

For all single and three phase machines which designed according to the UL and CSA norm (UL 1004-1) the maximum allowed voltage tolerances are - 10 % resp. + 6 %. The frequency tolerance is maximum +/- 2 %.



### PERFORMANCE CURVE FOR VACUUM PUMP

### PERFORMANCE CURVE FOR COMPRESSOR



The performance curves are based on air at a temperature of 15 °C and an atmospheric pressure of 1013 mbar with a tolerance of +/- 10 %. The total pressure differences are valid for suction and ambient temperatures up to 25 °C. Each product can be applied both as vacuum pump and compressor in continuous operation over the total stated performance curve range. The motors are available as standard for the input voltage range of 50 and 60 Hz and for protection category IP 55 as well as approved for UL and CSA.

Curve NO.	Order No.	Frequency (Hz)	Rated power (kW)	Input voltage (V)		Input current (A)		Permissible total differential pressure (mBar)		Sound pressure (dB)	Weight ca. (Kg)
								Vacuum	Compressor		
A 75	1X-8HF-M75	50	7.5	345D - 415D	600Y - 720Y	16.7D	9.6Y	-270	260	70	69
A 86	1X-8HF-M86	60	8.6	380D - 480D	660Y - 720Y	17.3D	10.0Y	-270	260	74	69



All products achieve the standards and norms of the low voltage directive (LVD)2006/95/EC, rotating electrotechnical motor EN 60034-1-2004, electromagnetic compatibility(EMC)EN55014-1/2,EN61000-2/-3/-4/-6.

Measuring-surface sound-pressure level acc. to DIN EN 21680, measured at a distance of 1 m. The pump is throttled to an average suction pressure, a hose is connected to the discharge side (compressor) / suction side (vacuum pump), but is not fitted with relief valves.

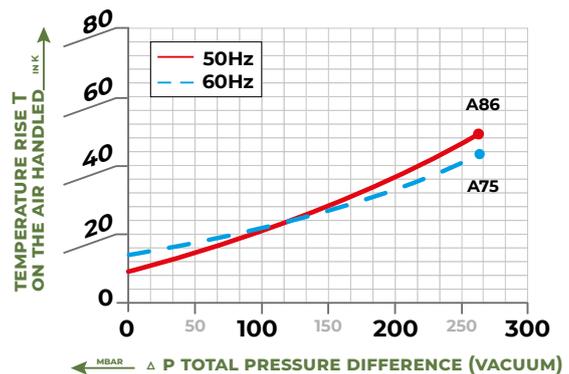
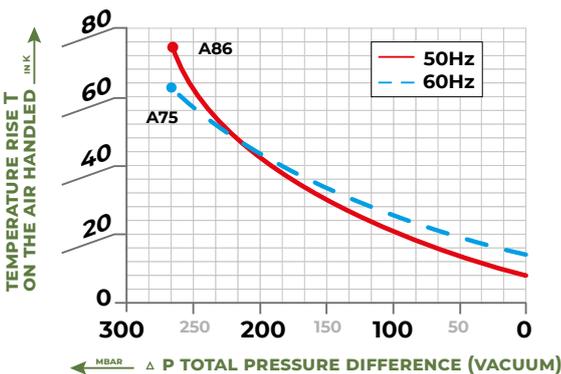
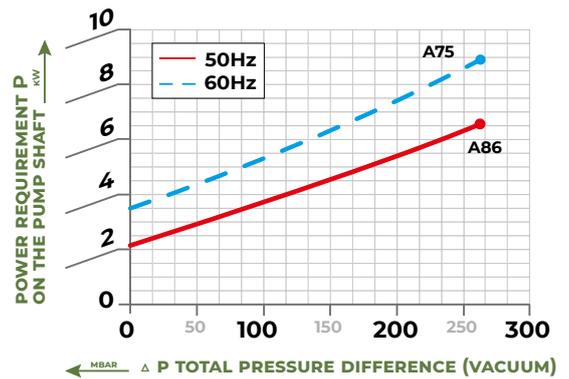
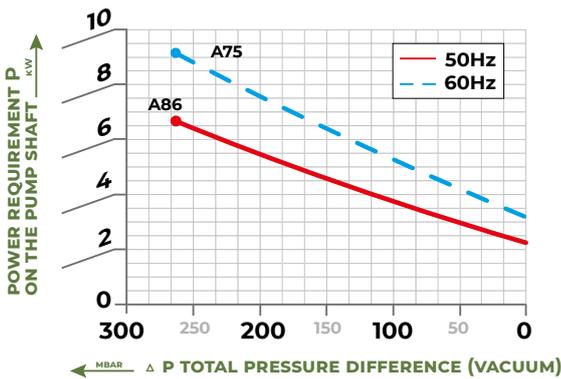
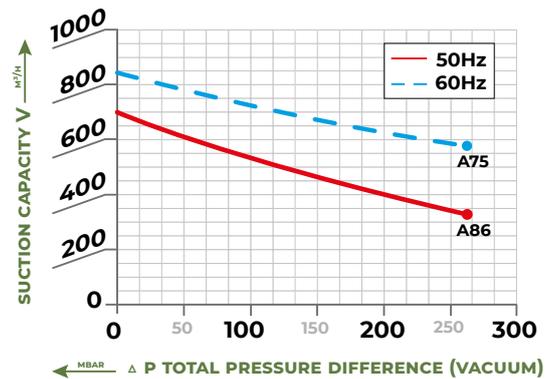
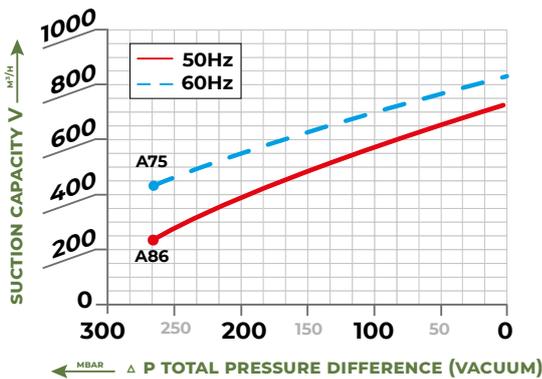
The motors are designed according to the DIN EN 60 034 / DIN IEC 34-1 and temperature class F. For the three phase machines the tolerances are +/- 10 % for fixed voltage and +/- 5 % for voltage range. The single phase machines are designed with a +/- 5 % tolerances. If only 90 % of the maximum allowed pressure will be used for the continuous operating then the allowed voltage range add to +/- 10 %.

For all single and three phase machines which designed according to the UL and CSA norm (UL 1004-1) the maximum allowed voltage tolerances are - 10 % resp. + 6 %. The frequency tolerance is maximum +/- 2 %.



### PERFORMANCE CURVE FOR VACUUM PUMP

### PERFORMANCE CURVE FOR COMPRESSOR



The performance curves are based on air at a temperature of 15 °C and an atmospheric pressure of 1013 mbar with a tolerance of +/- 10 %. The total pressure differences are valid for suction and ambient temperatures up to 25 °C. Each product can be applied both as vacuum pump and compressor in continuous operation over the total stated performance curve range. The motors are available as standard for the input voltage range of 50 and 60 Hz and for protection category IP 55 as well as approved for UL and CSA.

Curve No.	Order No.	Frequency (Hz)	Rated power (kW)	Input voltage (V)		Input current (A)		Permissible total differential pressure (mBar)		Sound pressure (dB)	Weight ca. (Kg)
				345D - 415D	600Y - 720Y	28.0D	16.2Y	Vacuum	Compressor		
A 12	1X-9HD-M125	50	12.5	345D - 415D	600Y - 720Y	28.0D	16.2Y	-280	270	74	116
A 14	1X-9HD-M145	60	14.5	380D - 480D	660Y - 720Y	29.0D	16.7Y	-270	260	79	116



All products achieve the standards and norms of the low voltage directive (LVD)2006/95/EC, rotating electrotechnical motor EN 60034-1-2004, electromagnetic compatibility(EMC)EN55014-1/2,EN61000-2/-3/-4/-6.

Measuring-surface sound-pressure level acc. to DIN EN 21680, measured at a distance of 1 m. The pump is throttled to an average suction pressure, a hose is connected to the discharge side (compressor) / suction side (vacuum pump), but is not fitted with relief valves.

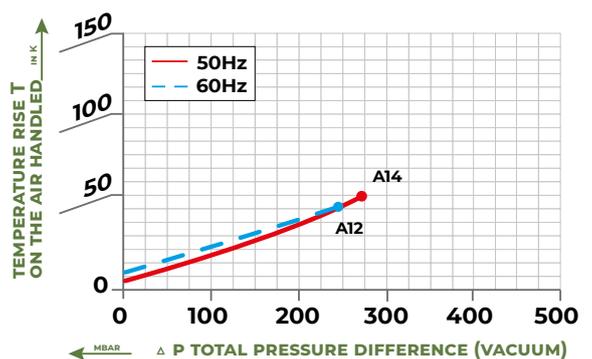
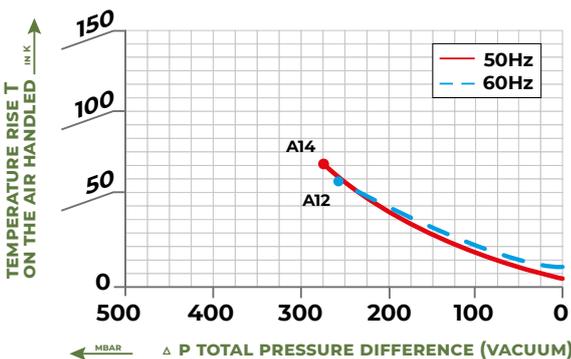
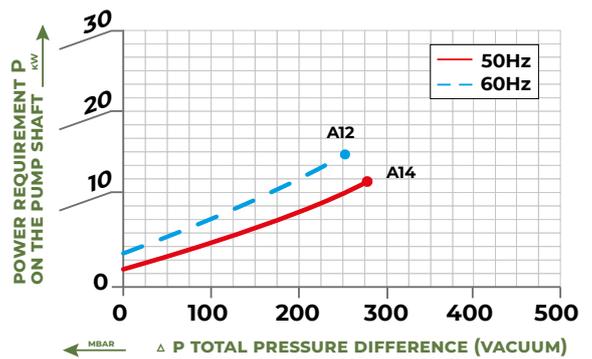
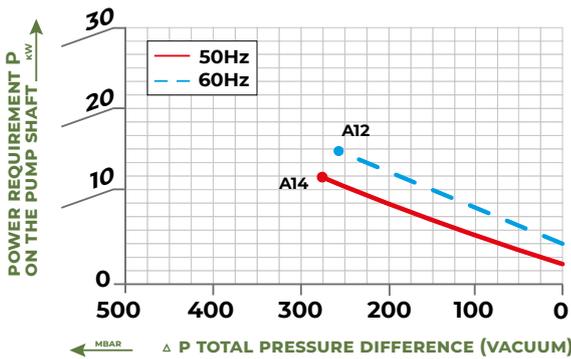
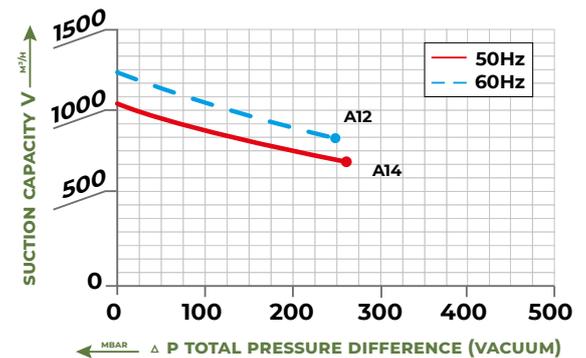
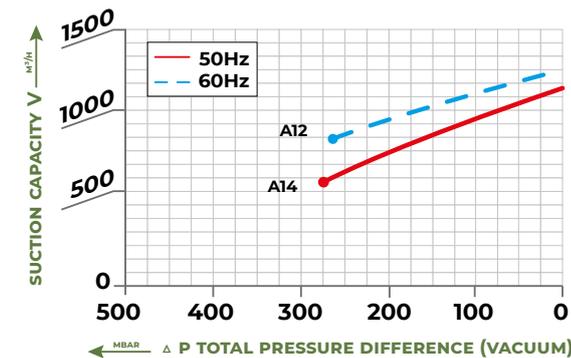
The motors are designed according to the DIN EN 60 034 / DIN IEC 34-1 and temperature class F. For the three phase machines the tolerances are +/- 10 % for fixed voltage and +/- 5 % for voltage range. The single phase machines are designed with a +/- 5 % tolerances. If only 90 % of the maximum allowed pressure will be used for the continuous operating then the allowed voltage range add to +/- 10 %.

For all single and three phase machines which designed according to the UL and CSA norm (UL 1004-1) the maximum allowed voltage tolerances are - 10 % resp. + 6 %. The frequency tolerance is maximum +/- 2 %.



### PERFORMANCE CURVE FOR VACUUM PUMP

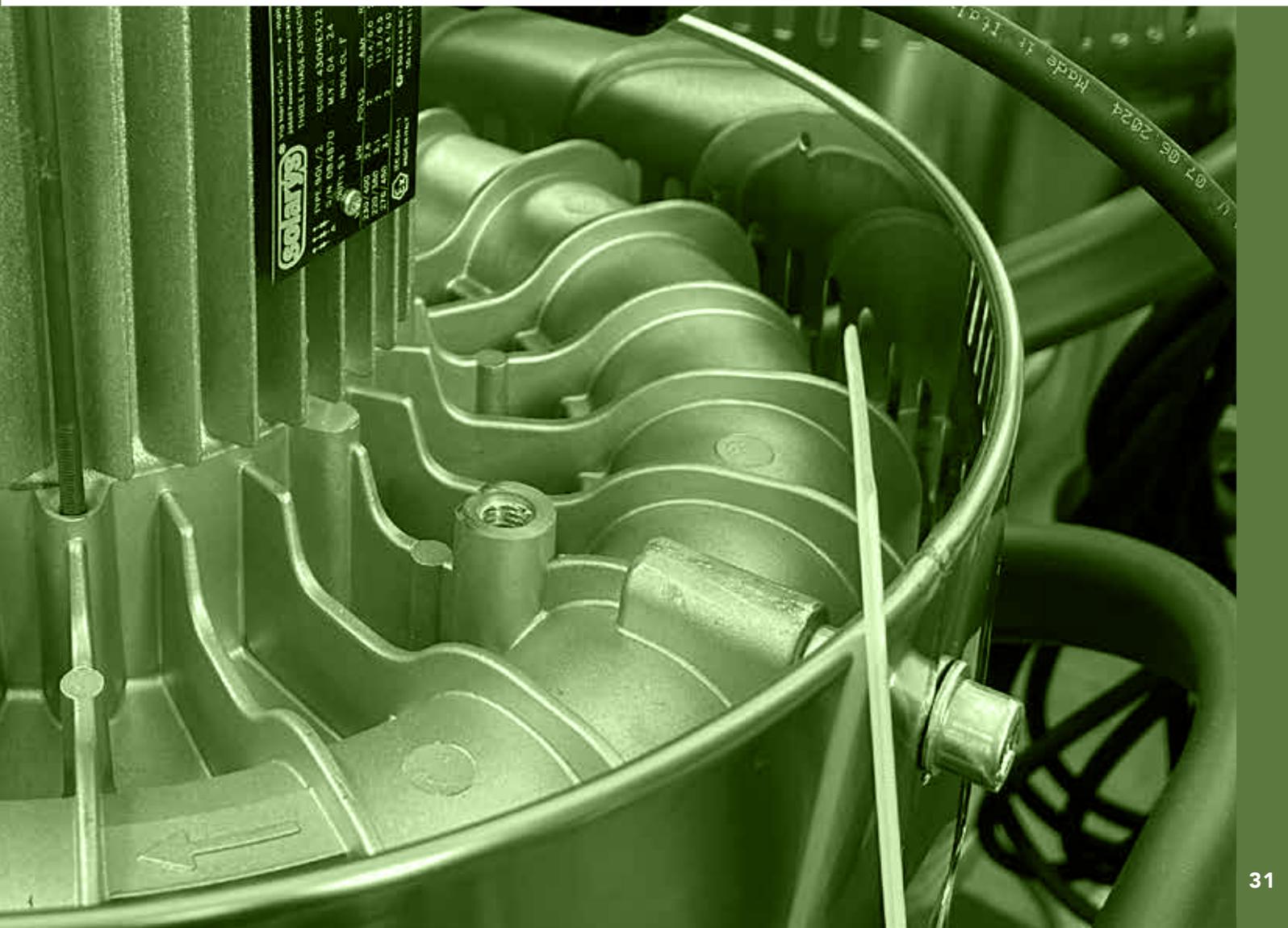
### PERFORMANCE CURVE FOR COMPRESSOR



The performance curves are based on air at a temperature of 15 °C and an atmospheric pressure of 1013 mbar with a tolerance of +/- 10 %. The total pressure differences are valid for suction and ambient temperatures up to 25 °C. Each product can be applied both as vacuum pump and compressor in continuous operation over the total stated performance curve range. The motors are available as standard for the input voltage range of 50 and 60 Hz and for protection category IP 55 as well as approved for UL and CSA.



## TWO-STAGE THREE-PHASE



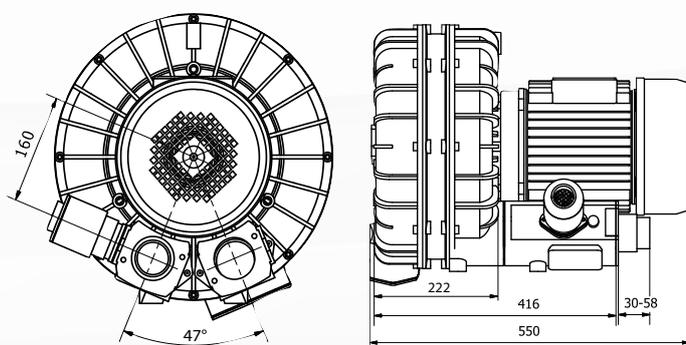


# 440 BP/BPF

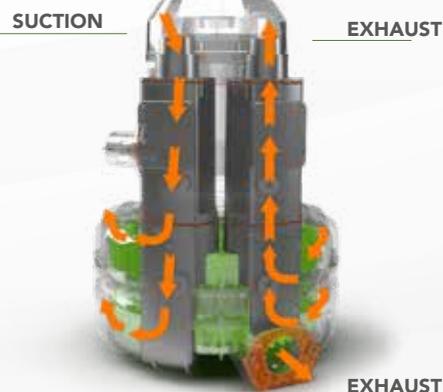
The **two-stage three-phase** turbines in parallel configuration are designed to handle high air flow rates with moderate pressures, maintaining operational continuity and industrial reliability. Made of die-cast aluminium alloy, they combine robustness, quietness and long life, with a directly coupled three-phase motor and FUNCTIONING without routine maintenance.



## DIMENSIONS 440 BP



## FUNCTIONING 440 BP



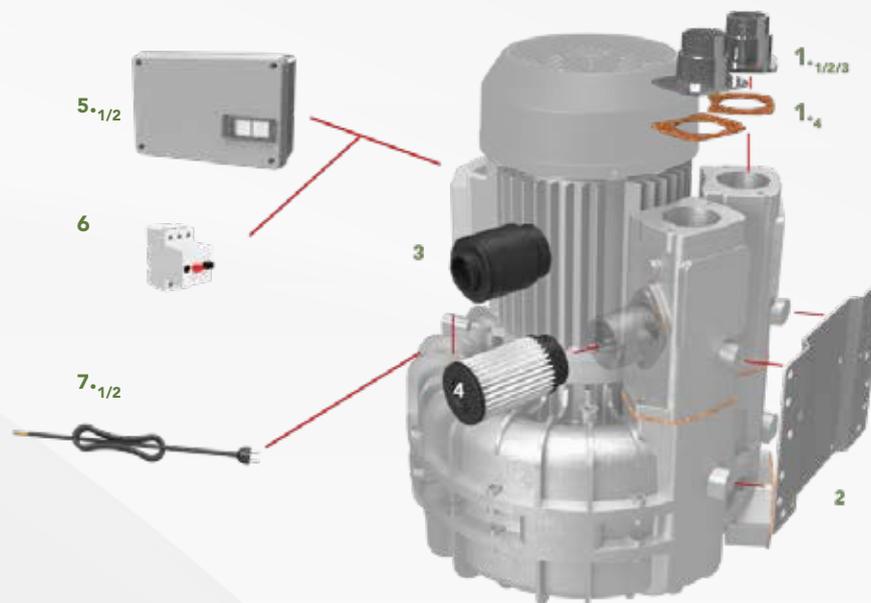
## OPTION 440 BP/BPF

- 1<sub>.1</sub> FLANGED CONNECTOR Ø50-60 | **cod. 600383**
- 1<sub>.2</sub> TURNED FLANGED CONNECTOR Ø60 | **cod. 200126**
- 1<sub>.3</sub> TURNED FLANGED CONNECTOR Ø70 | **cod. 200634**
- 1<sub>.4</sub> FLANGED CONNECTION GASKET | **cod. 600033**
- 2 GALVANISED TURBINE SUPPORT PLATE | **cod. 600412**
- 3 BLACK VALVE SILENCER | **cod. 200242**
- 4 RESTRICTION VALVE FILTER | **cod. 600192**
- 5<sub>.1</sub> CLOSED SWITCH BOX | **cod. 601217**
- 5<sub>.2</sub> FIREPROOF SWITCH BOX, OPEN (CONF.11ML) | **cod. 600334**
- 6 MOTOR PROTECTION SWITCH 6.3-10 A | **cod. 600237**
- 7<sub>.1</sub> H05 VVF 4GX1.5 POWER CABLE | **cod. 600107**
- 7<sub>.2</sub> H07 RNF 4GX1.5 POWER CABLE | **cod. 600108**
- 8<sub>.1</sub> Ø50 H25 FLANGED FRONT BELL TUBE | **cod. 300705**
- 8<sub>.2</sub> Ø50 H75 FLANGED FRONT BELL TUBE WITH MESH | **cod. 300531**
- 8<sub>.3</sub> Ø50 H40 FLANGED FRONT BELL TUBE WITH MESH | **cod. 300530**
- 8<sub>.4</sub> FLANGED TUBE Ø50 | **cod. 300524**
- 8<sub>.5</sub> TUBE Ø50 H75 FLANGED WITH FRONT BELL | **cod. 300396**



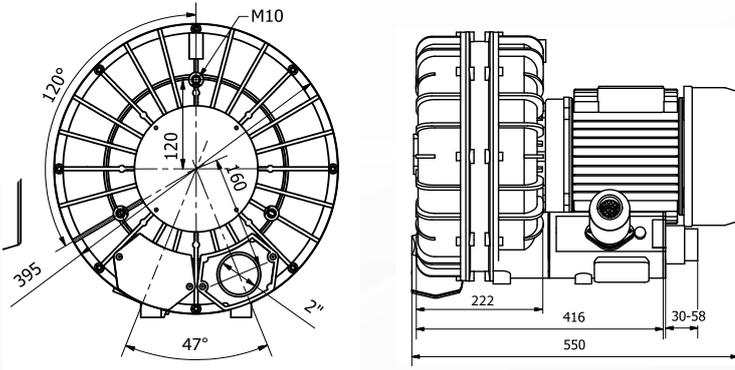
## TREATMENTS

- **Anodising:** Surface treatment to protect aluminium from corrosion. | - Thermal: **available on** 4 kW - 5.5 - 7.5 motors.

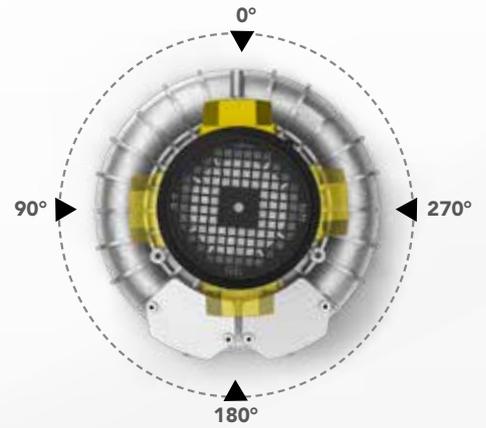




**DIMENSIONS 440 BPF**



**ENGINE ORIENTATION**



**NB.** For 180° orientation, it is not possible to install the silencer.



**FUNCTIONING**

■ 440 BPF - VERSION 1

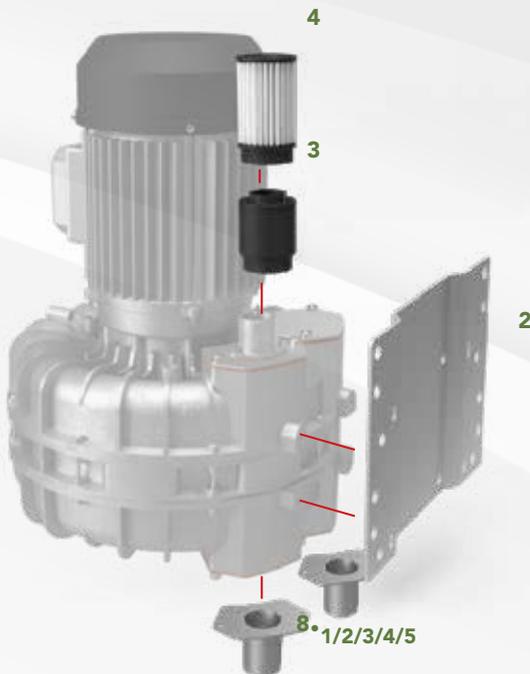


■ 440 BPF - VERSION 2

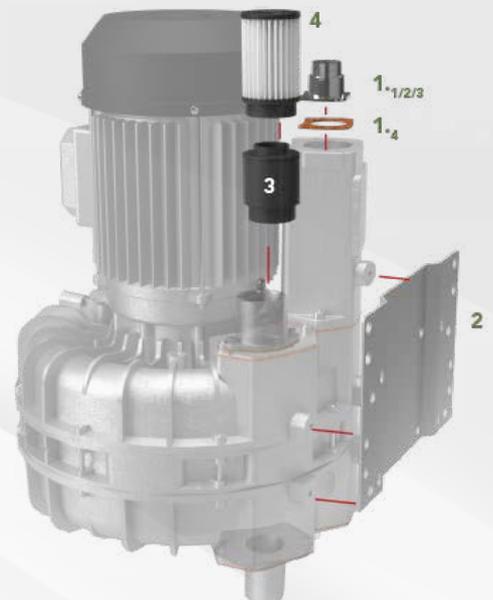


**OPTION**

■ 440 BPF - VERSION 1



■ 440 BPF - VERSION 2





# MOD. 440 BP/BPF

SIDE CHANNEL BLOWERS AND SUCTION UNITS

MODEL	DESCRIPTION	VOLT ( $\Delta/Y$ )	Hz	kW	A ( $\Delta/Y$ )	RPM	IP
0.440BP	THREE PHASE TURBINE 4KW	$\Delta$ 230/ Y 400	50	4.0	$\Delta$ 13,9/ Y 8,0	2880	55
0.440BPF							
0.440BP	THREE PHASE TURBINE 4KW	$\Delta$ 400	50	4.0			



All products achieve the standards and norms of the low voltage directive (LVD)2006/95/EC, rotating electrotechnical motor EN 60034-1-2004, electromagnetic compatibility(EMC)EN55014-1/2,EN61000-2/-3/-4/-6.

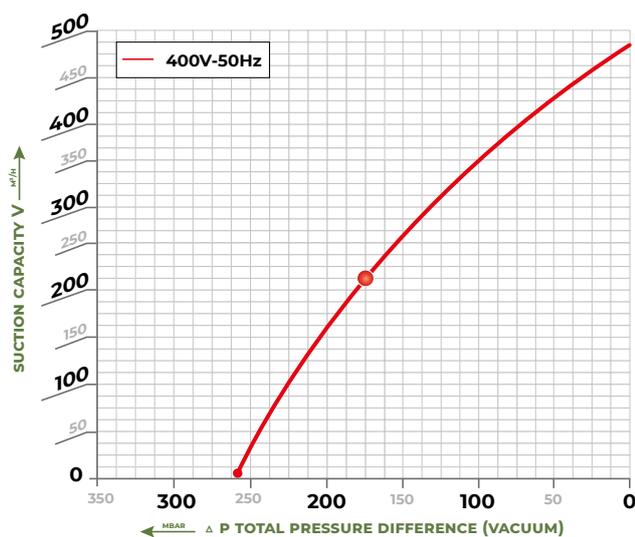
Measuring-surface sound-pressure level acc. to DIN EN 21680, measured at a distance of 1 m. The pump is throttled to an average suction pressure, a hose is connected to the discharge side (compressor) / suction side (vacuum pump), but is not fitted with relief valves.

The motors are designed according to the DIN EN 60 034 / DIN IEC 34-1 and temperature class F. For the three phase machines the tolerances are +/- 10 % for fixed voltage and +/- 5 % for voltage range. The single phase machines are designed with a +/- 5 % tolerances. If only 90 % of the maximum allowed pressure will be used for the continuous operating then the allowed voltage range add to +/- 10 %.

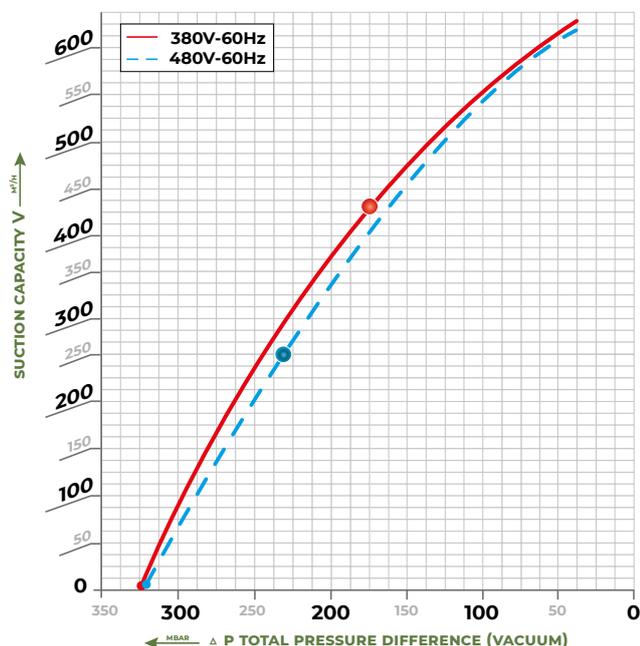
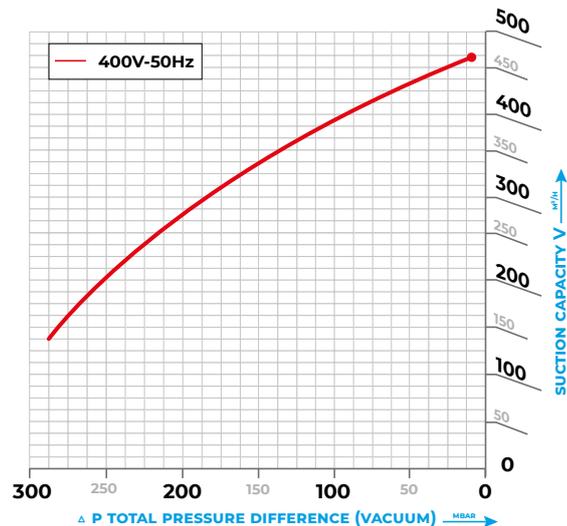
For all single and three phase machines which designed according to the UL and CSA norm (UL 1004-1) the maximum allowed voltage tolerances are - 10 % resp. + 6 %. The frequency tolerance is maximum +/- 2 %.



### VACUUM SELECTION DIAGRAM



### COMPRESSOR SELECTION DIAGRAM



The performance curves are valid for pumping air at 15°C at the inlet flanges with an air pressure of 1.013mbar and a tolerance of ±10%. The total pressure differences are valid up to an intake and ambient temperature of 25°C.

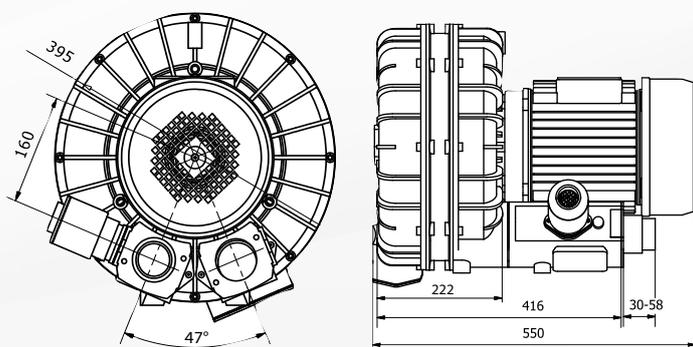


# 455 BP/BPF

Designed to suck up or compress non-explosive gases, **single-stage three-phase** turbines guarantee high performance and continuous operation. Made of die-cast aluminium alloy, they offer robustness, efficiency and quietness, with a directly coupled three-phase motor and no routine maintenance. Ideal for high-reliability industrial plants.



## DIMENSIONS 455 BP

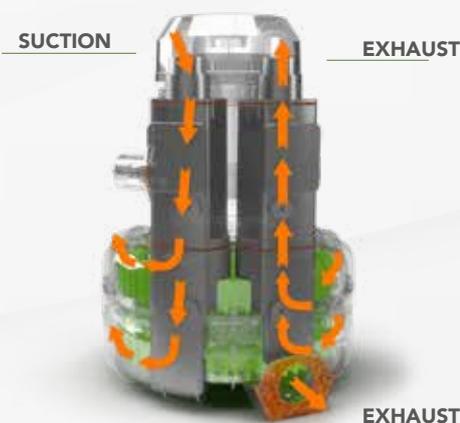


## OPTION 455 BP/BPF

- 1.<sub>1</sub> FLANGED CONNECTOR Ø50-60 | **cod. 600383**
- 1.<sub>2</sub> TURNED FLANGED CONNECTOR Ø60 | **cod. 200126**
- 1.<sub>3</sub> TURNED FLANGED CONNECTOR Ø70 | **cod. 200634**
- 1.<sub>4</sub> FLANGED CONNECTION GASKET | **cod. 600033**
- 2 GALVANISED TURBINE SUPPORT PLATE | **cod. 600412**
- 3 BLACK VALVE SILENCER | **cod. 200242**
- 4 RESTRICTION VALVE FILTER | **cod. 600192**
- 5.<sub>1</sub> CLOSED SWITCH BOX | **cod. 601217**
- 5.<sub>2</sub> FIREPROOF SWITCH BOX, OPEN (CONF.11ML) | **cod. 600334**



## FUNCTIONING 455 BP

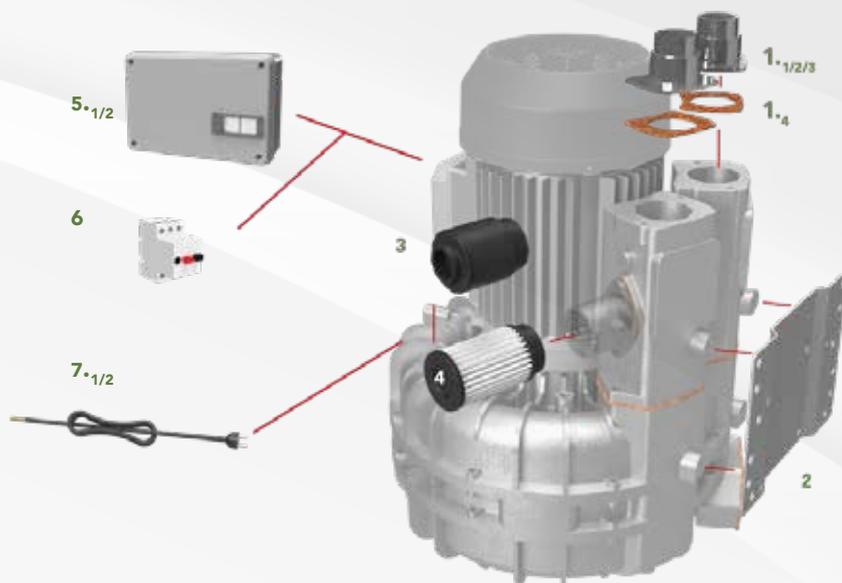


- 6 MOTOR PROTECTION SWITCH 10-16 A | **cod. 600534**
- 7.<sub>1</sub> POWER CABLE H05 VVF 4GX2.5 | **cod. 600339**
- 7.<sub>2</sub> POWER CABLE H07 VVF 4GX2.5 | **cod. 600578**
- 8.<sub>1</sub> TUBE Ø50 H25 FLANGED TO FRONT BELL | **cod. 300705**
- 8.<sub>2</sub> TUBE Ø50 H75 FLANGED TO FRONT BELL WITH MESH | **cod. 300531**
- 8.<sub>3</sub> TUBE Ø50 H40 FLANGED TO FRONT BELL WITH MESH | **cod. 300530**
- 8.<sub>4</sub> FLANGED TUBE Ø50 | **cod. 300524**
- 8.<sub>5</sub> TUBE Ø50 H75 FLANGED WITH FRONT BELL | **cod. 300396**



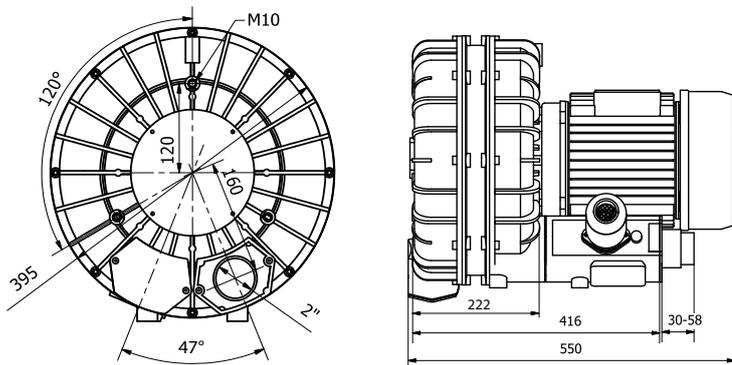
## TREATMENTS

- **Anodising:** Surface treatment to protect aluminium from corrosion. | - Thermal: **available on** 4 kW - 5.5 - 7.5 motors.

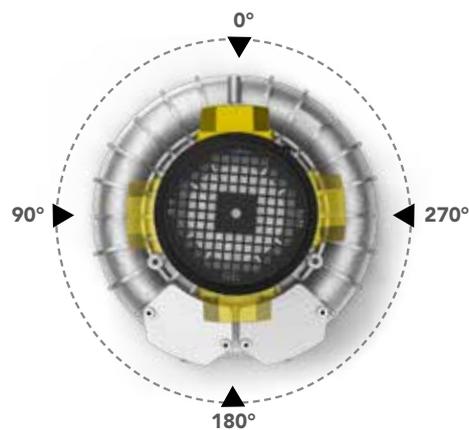




## DIMENSIONS 455 BPF



## ENGINE ORIENTATION 455 BP/BPF



**NB.** For 180° orientation, it is not possible to install the silencer.



## FUNCTIONING

## ■ 455 BPF - VERSION 1

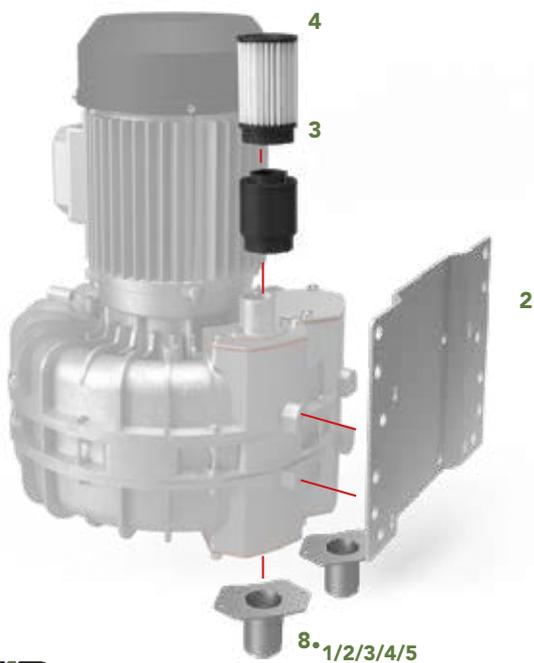


## ■ 455 BPF - VERSION 2

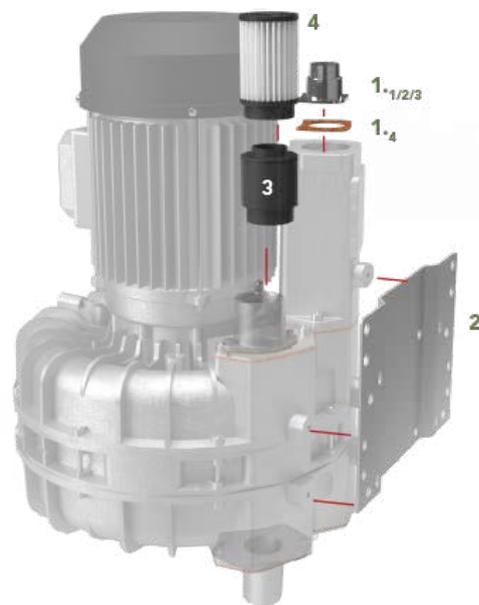


## OPTION

## ■ 455 BPF - VERSION 1



## ■ 455 BPF - VERSION 2



MODEL	DESCRIPTION	VOLT (Δ/Y)	Hz	kW	A (Δ/Y)	RPM	IP
0.455BP	THREE PHASE TURBINE 5,5KW	Δ 230/ Y 400	50	5,5	Δ 19,0/ Y 11,0	2850	55
0.455BPF		Δ 220/ Y 380	60	6.6	Δ 21,0/ Y 12,1	3460	
		Δ 276/ Y 480	60	6.6	Δ 19,0/ Y 11,0	3480	



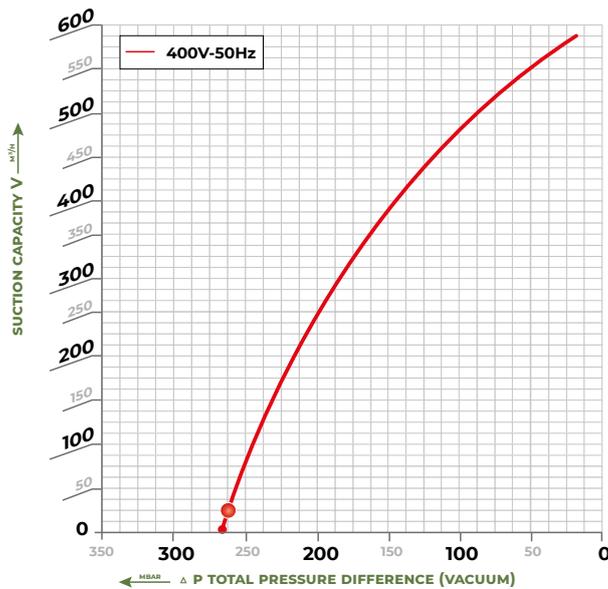
All products achieve the standards and norms of the low voltage directive (LVD)2006/95/EC, rotating electrotechnical motor EN 60034-1-2004, electromagnetic compatibility(EMC)EN55014-1/2,EN61000-2/-3/-4/-6.

Measuring-surface sound-pressure level acc. to DIN EN 21680, measured at a distance of 1 m. The pump is throttled to an average suction pressure, a hose is connected to the discharge side (compressor) / suction side (vacuum pump), but is not fitted with relief valves.

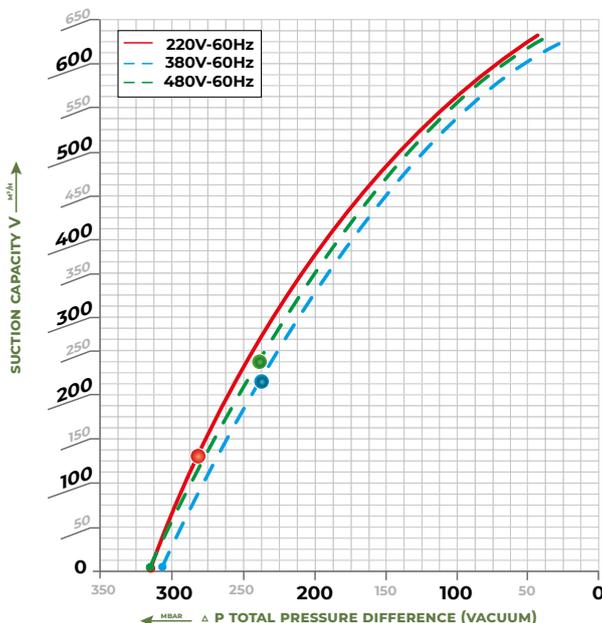
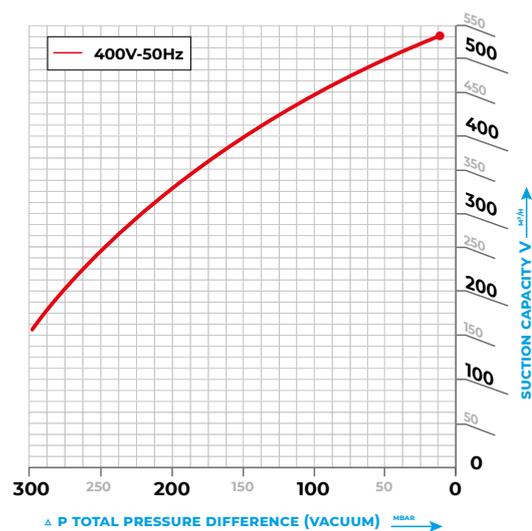
The motors are designed according to the DIN EN 60 034 / DIN IEC 34-1 and temperature class F. For the three phase machines the tolerances are +/- 10 % for fixed voltage and +/- 5 % for voltage range. The single phase machines are designed with a +/- 5 % tolerances. If only 90 % of the maxium allowed pressure will be used for the continuousoperating then the allowed voltage range add to +/- 10 %.

For all single and three phase machines which designed according to the UL and CSA norm (UL 1004-1) the maximum allowed voltage tolerances are - 10 % resp. + 6 %. The frequency tolerance is maximum +/- 2 %.

### VACUUM SELECTION DIAGRAM



### COMPRESSOR SELECTION DIAGRAM



The performance curves are valid for pumping air at 15°C at the inlet flanges with an air pressure of 1.013mbar and a tolerance of ±10%. The total pressure differences are valid up to an intake and ambient temperature of 25°C.

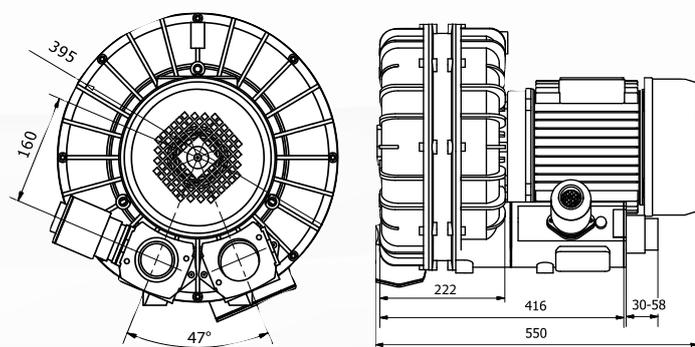


# 475 BP/BPF

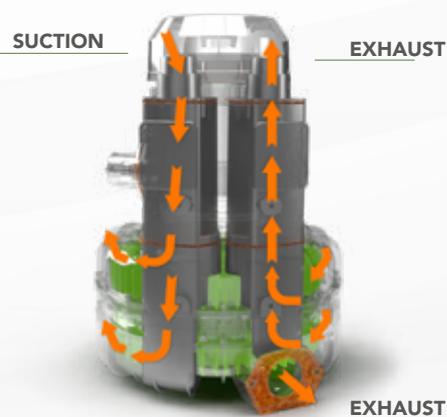
Designed to suck up or compress non-explosive gases, **two-stage three-phase** turbines guarantee high performance and continuous operation. Made of die-cast aluminium alloy, they offer robustness, efficiency and quietness, with a directly coupled three-phase motor and no routine maintenance. Ideal for high-reliability industrial plants.



## DIMENSIONS 475 BP



## FUNCTIONING 475 BP



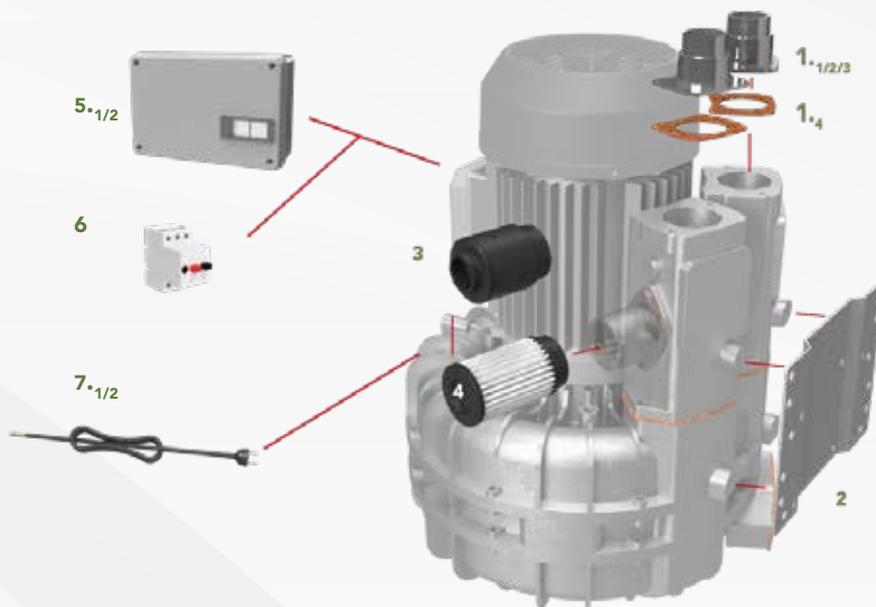
## OPTION 475 BP/BPF

- 1<sub>.1</sub> FLANGED CONNECTOR Ø50-60 | **cod. 600383**
- 1<sub>.2</sub> TURNED FLANGED CONNECTOR Ø60 | **cod. 200126**
- 1<sub>.3</sub> TURNED FLANGED CONNECTOR Ø70 | **cod. 200634**
- 1<sub>.4</sub> FLANGED CONNECTION GASKET | **cod. 600033**
- 2 GALVANISED TURBINE SUPPORT PLATE | **cod. 600412**
- 3 BLACK VALVE SILENCER | **cod. 200242**
- 4 RESTRICTION VALVE FILTER | **cod. 600192**
- 5<sub>.1</sub> CLOSED SWITCH BOX | **cod. 601217**
- 5<sub>.2</sub> FIREPROOF SWITCH BOX, OPEN (CONF.11ML) | **cod. 600334**
- 6 MOTOR PROTECTION SWITCH 10-16 A | **cod. 600534**
- 7<sub>.1</sub> POWER CABLE H05 WF 4GX2.5 | **cod. 600339**
- 7<sub>.2</sub> POWER CABLE H07 WF 4GX2.5 | **cod. 600578**
- 8<sub>.1</sub> TUBE Ø50 H25 FLANGED TO FRONT BELL | **cod. 300705**
- 8<sub>.2</sub> TUBE Ø50 H75 FLANGED TO FRONT BELL WITH MESH | **cod. 300531**
- 8<sub>.3</sub> TUBE Ø50 H40 FLANGED TO FRONT BELL WITH MESH | **cod. 300530**
- 8<sub>.4</sub> FLANGED TUBE Ø50 | **cod. 300524**
- 8<sub>.5</sub> TUBE Ø50 H75 FLANGED WITH FRONT BELL | **cod. 300396**



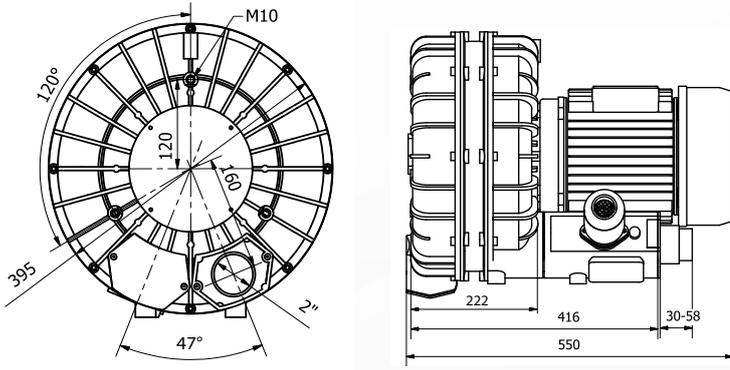
## TREATMENTS

- **Anodising:** Surface treatment to protect aluminium from corrosion. | - Thermal: **available on** 4 kW - 5.5 - 7.5 motors.

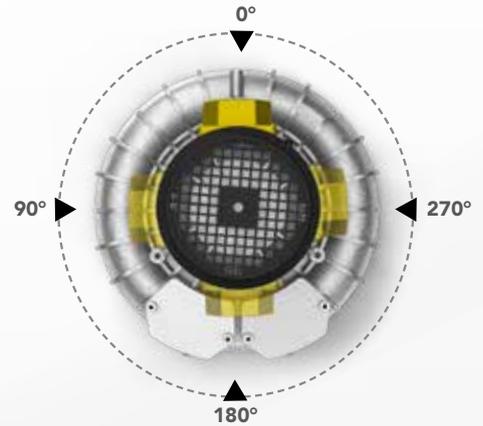




**DIMENSIONS 475 BPF**



**ENGINE ORIENTATION 455 BP/BPF**



**NB.** For 180° orientation, it is not possible to install the silencer.



**FUNCTIONING**

■ 475 BPF - VERSION 1

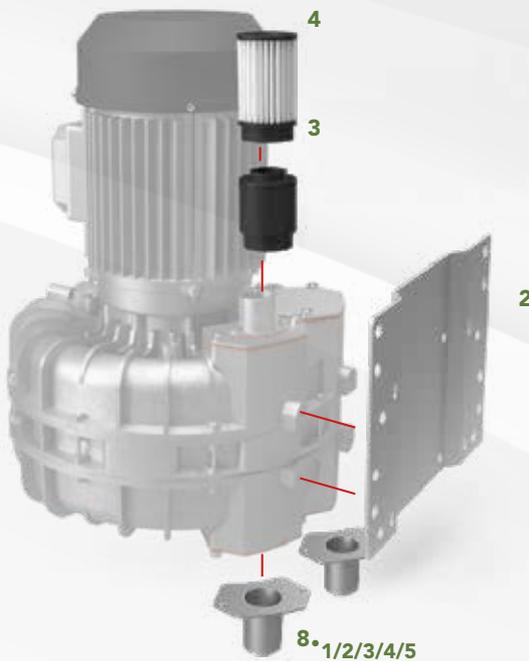


■ 475 BPF - VERSION 2

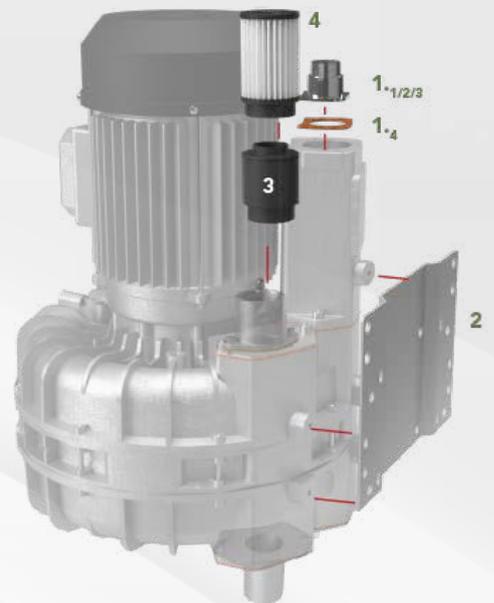


**OPTION**

■ 475 BPF - VERSION 1



■ 475 BPF - VERSION 2





# MOD. 475 BP/BPF

## SIDE CHANNEL BLOWERS AND SUCTION UNITS

MODEL	DESCRIPTION	VOLT (Δ/Y)	Hz	kW	A (Δ/Y)	RPM	IP
0.475BP	THREE PHASE TURBINE 7,5KW	Δ 230/ Y 400	50	7,5	Δ 26,7/ Y 15,4	2870	55
0.475BPF		Δ 220/ Y 380	60	7,5	Δ 26,2/ Y 15,1	3400	
		Δ 277/ Y 480	60	9	Δ 26,7/ Y 15,4	3460	
		Δ 575	60	7,5	Δ 17,7/ Y 10,2	3480	
0.475BP	THREE PHASE TURBINE 7,5KW INVERTER	Y 400	45	7,5	Δ 14,6	xxx	55
		Y 400	50	7,5	Δ 14,6		
		Y 400	60	7,5	Δ 14,6		
0.475BPF		Y 400	65	7,5	Δ 14,6		



All products achieve the standards and norms of the low voltage directive (LVD)2006/95/EC, rotating electrotechnical motor EN 60034-1-2004, electromagnetic compatibility(EMC)EN55014-1/2,EN61000-2/-3/-4/-6.

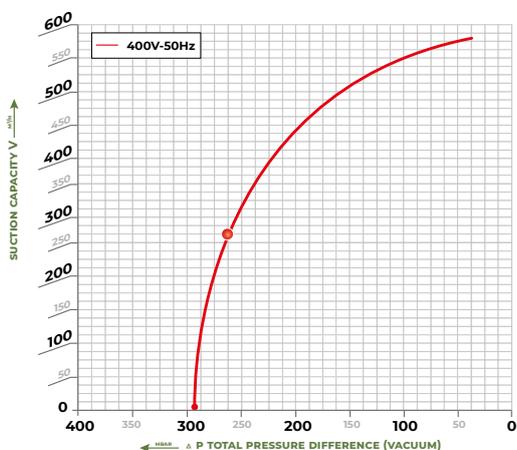
Measuring-surface sound-pressure level acc. to DIN EN 21680, measured at a distance of 1 m. The pump is throttled to an average suction pressure, a hose is connected to the discharge side (compressor) / suction side (vacuum pump), but is not fitted with relief valves.

The motors are designed according to the DIN EN 60 034 / DIN IEC 34-1 and temperature class F. For the three phase machines the tolerances are +/- 10 % for fixed voltage and +/- 5 % for voltage range. The single phase machines are designed with a +/- 5 % tolerances. If only 90 % of the maximum allowed pressure will be used for the continuous operating then the allowed voltage range add to +/- 10 %.

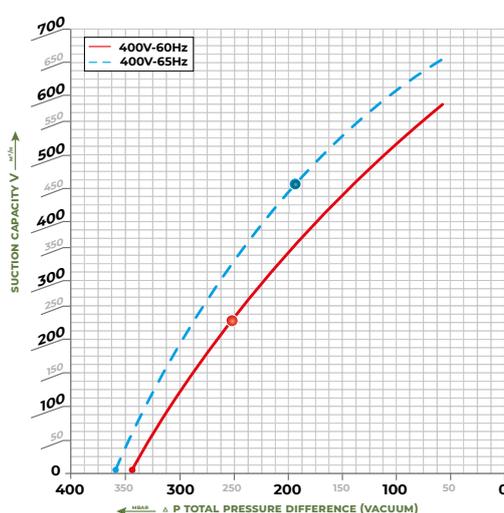
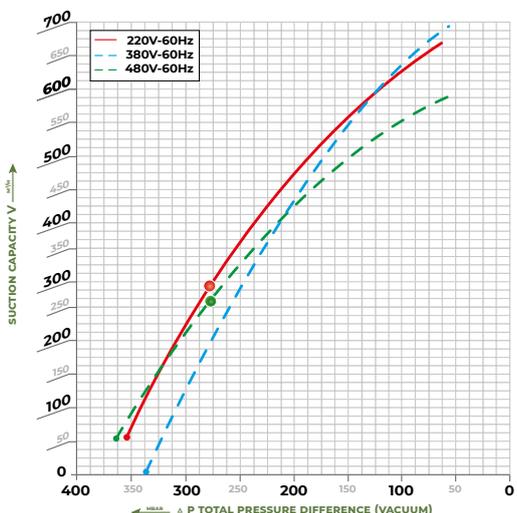
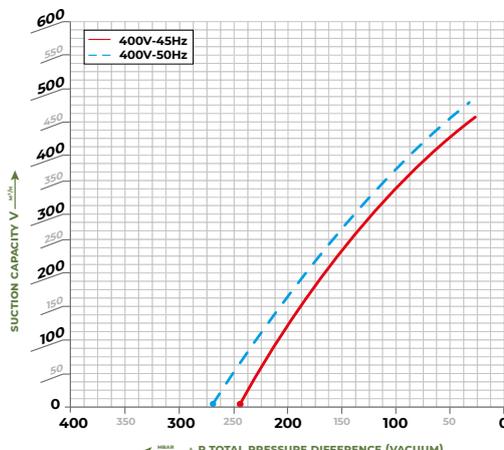
For all single and three phase machines which designed according to the UL and CSA norm (UL 1004-1) the maximum allowed voltage tolerances are - 10 % resp. + 6 %. The frequency tolerance is maximum +/- 2 %.



### VACUUM SELECTION DIAGRAM



### INVERTER



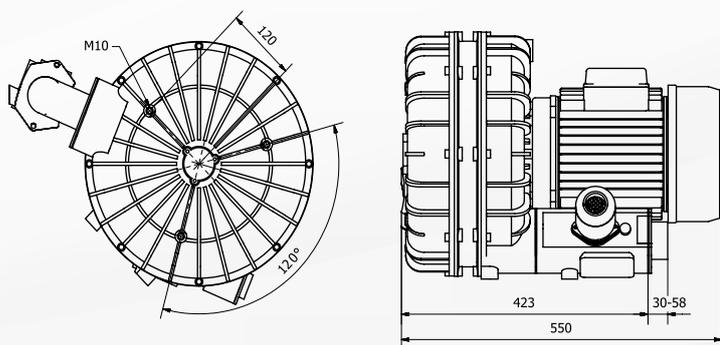
The performance curves are valid for pumping air at 15°C at the inlet flanges with an air pressure of 1.013mbar and a tolerance of ±10%. The total pressure differences are valid up to an intake and ambient temperature of 25°C.

# 455 BS/BSF

The **two-stage three-phase** turbines in parallel configuration are designed to handle high air flow rates with moderate pressures, maintaining operational continuity and industrial reliability. Made of die-cast aluminium alloy, they combine robustness, quietness and long life, with a directly coupled three-phase motor and FUNCTIONING without routine maintenance.



## DIMENSIONS 455 BS

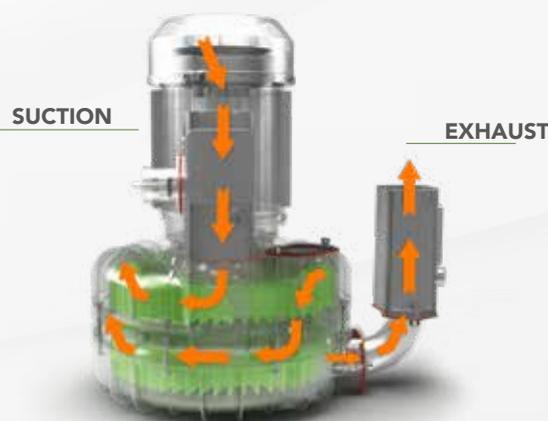


## OPTION 455 BS/BSF

- **1<sub>1</sub>** FLANGED CONNECTOR Ø50-60 | **cod. 600383**
- **1<sub>2</sub>** TURNED FLANGED CONNECTOR Ø60 | **cod. 200126**
- **1<sub>3</sub>** TURNED FLANGED CONNECTOR Ø70 | **cod. 200634**
- **1<sub>4</sub>** FLANGED CONNECTION GASKET | **cod. 600033**
- **2** GALVANISED TURBINE SUPPORT PLATE | **cod. 600412**
- **3** BLACK VALVE SILENCER | **cod. 200242**
- **4** RESTRICTION VALVE FILTER | **cod. 600192**
- **5<sub>1</sub>** CLOSED SWITCH BOX | **cod. 601217**
- **5<sub>2</sub>** FIREPROOF SWITCH BOX, OPEN (CONF.11ML) | **cod. 600334**
- **6** MOTOR PROTECTION SWITCH 10-16 A | **cod. 600534**
- **7<sub>1</sub>** POWER CABLE H05 VVF 4GX2.5 | **cod. 600339**
- **7<sub>2</sub>** POWER CABLE H07 VVF 4GX2.5 | **cod. 600578**
- **8<sub>1</sub>** TUBE Ø50 H25 FLANGED TO FRONT BELL | **cod. 300705**
- **8<sub>2</sub>** TUBE Ø50 H75 FLANGED TO FRONT BELL WITH MESH | **cod. 300531**
- **8<sub>3</sub>** TUBE Ø50 H40 FLANGED TO FRONT BELL WITH MESH | **cod. 300530**
- **8<sub>4</sub>** FLANGED TUBE Ø50 | **cod. 300524**
- **8<sub>5</sub>** TUBE Ø50 H75 FLANGED WITH FRONT BELL | **cod. 300396**
- **9** SILENCER EXHAUST WITHOUT HOLE COMPLETE | **cod. 200639**
- **10** CURVA 22" FLANGIATO EXHAUST TURBINE IN SERIES | **cod. 300181**

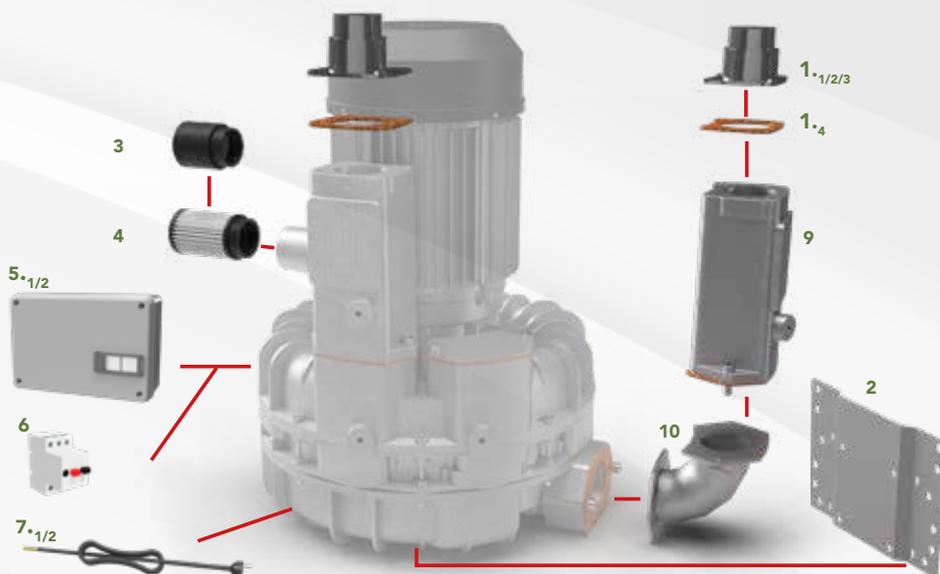


## FUNCTIONING 455 BS



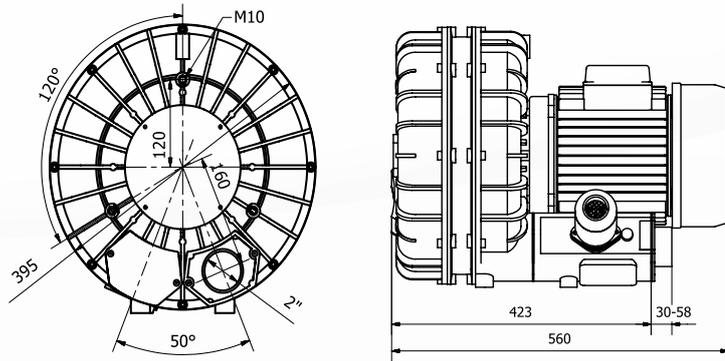
## TREATMENTS

- **Anodising:** Surface treatment to protect aluminium from corrosion. | - Thermal: **available on** 4 kW - 5.5 - 7.5 motors.

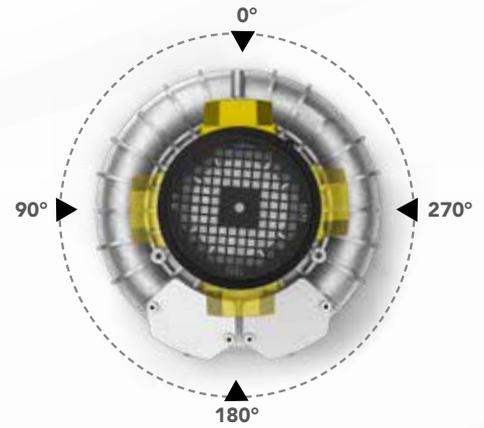




**DIMENSIONS 455 BSF**



**ENGINE ORIENTATION 455 BS/BSF**

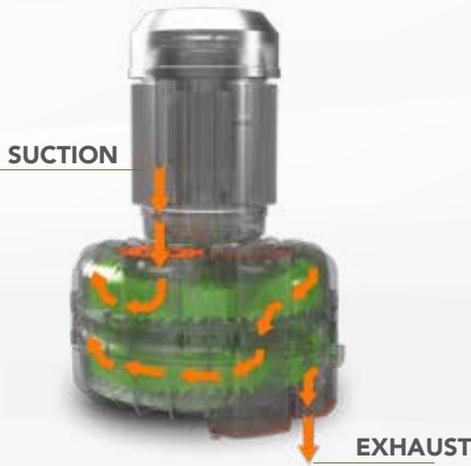


**NB.** For 180° orientation, it is not possible to install the silencer.

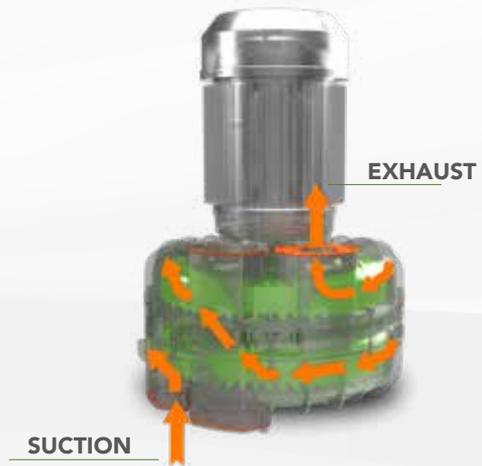


**FUNCTIONING**

■ 455 BSF - VERSION 1

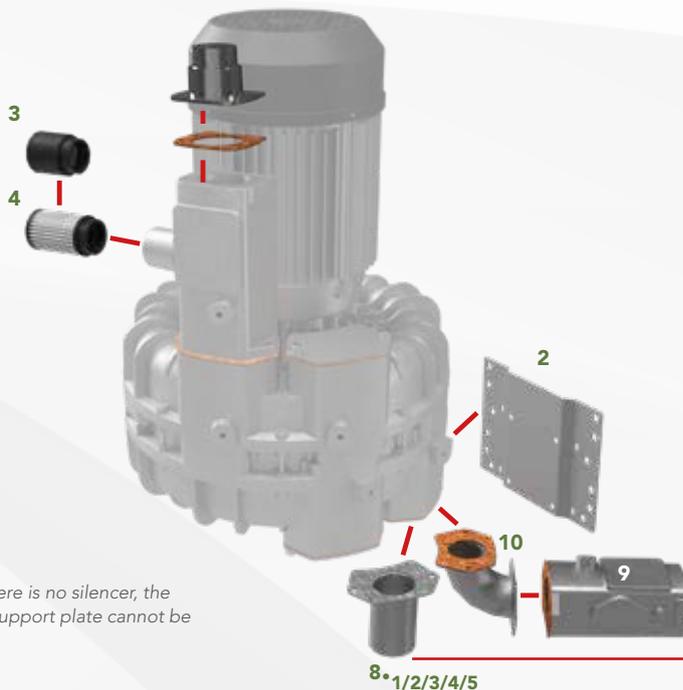


■ 455 BSF - VERSION 2

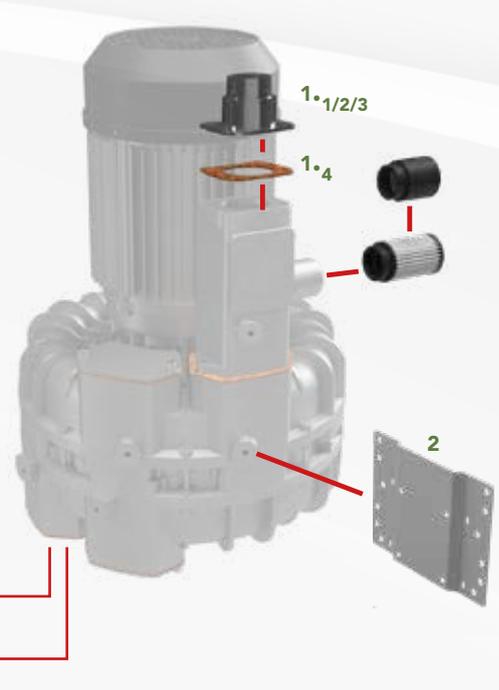


**OPTION**

■ 455 BSF - VERSION 1



■ 455 BSF - VERSION 2



**NB.** If there is no silencer, the turbine support plate cannot be used.

MODEL	DESCRIPTION	VOLT (Δ/Y)	Hz	kW	A (Δ/Y)	RPM	IP
0.455BS	THREE PHASE TURBINE 5,5KW	Δ 230/ Y 400	50	5,5	Δ 19,0/ Y 11,0	2850	55
0.455BSF		Δ 220/ Y 380	60	6.6	Δ 21,0/ Y 12,1	3460	
		Δ 276/ Y 480	60	6.6	Δ 19,0/ Y 11,0	3480	

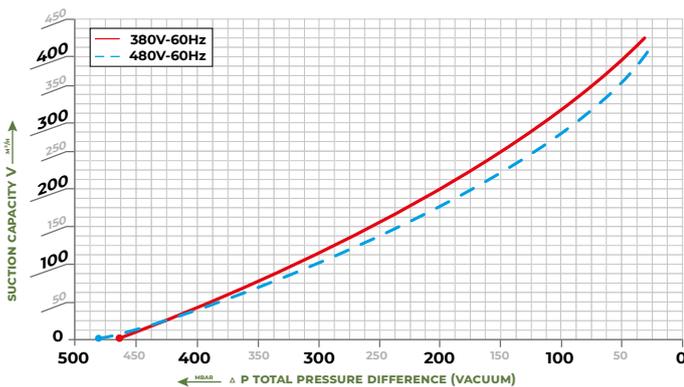
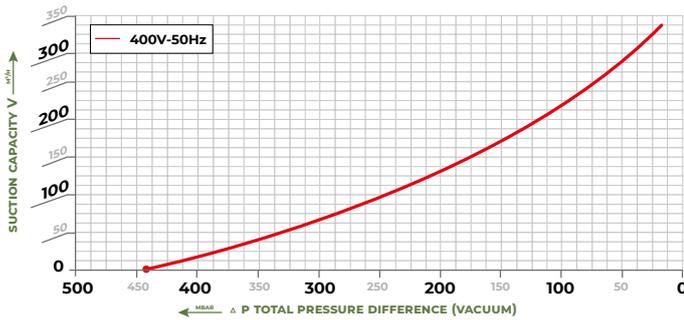
**!** All products achieve the standards and norms of the low voltage directive (LVD)2006/95/EC, rotating electrotechnical motor EN60034-1-2004, electromagnetic compatibility(EMC)EN55014-1/2,EN61000-2/-3/-4/-6.

Measuring-surface sound-pressure level acc. to DIN EN 21680, measured at a distance of 1 m. The pump is throttled to an average suction pressure, a hose is connected to the discharge side (compressor) / suction side (vacuum pump), but is not fitted with relief valves.

The motors are designed according to the DIN EN 60 034 / DIN IEC 34-1 and temperature class F. For the three phase machines the tolerances are +/- 10 % for fixed voltage and +/- 5 % for voltage range. The single phase machines are designed with a +/- 5 % tolerances. If only 90 % of the maxium allowed pressure will be used for the continuousoperating then the allowed voltage range add to +/- 10 %.

For all single and three phase machines which designed according to the UL and CSA norm (UL 1004-1) the maximum allowed voltage tolerances are - 10 % resp. + 6 %. The frequency tolerance is maximum +/- 2 %.

## VACUUM SELECTION DIAGRAM



The performance curves are valid for pumping air at 15°C at the inlet flanges with an air pressure of 1.013mbar and a tolerance of ±10%. The total pressure differences are valid up to an intake and ambient temperature of 25°C.



EXPLOSION HAZARD ZONES ATEX 21 - ATEX 2-22



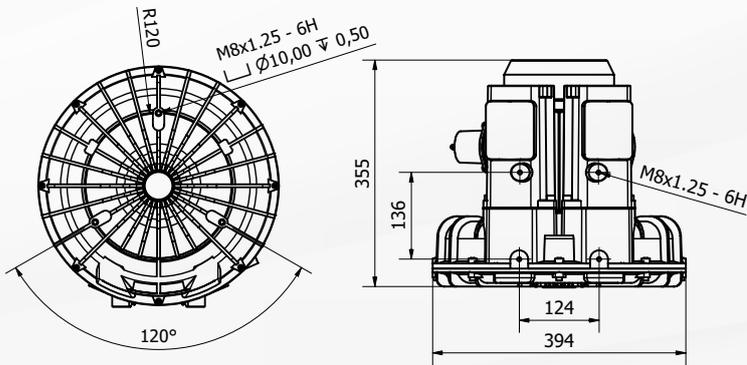


# 422 MM/MMF ATEX 2-22

SOLARYS single-stage, single-phase turbines in the **ATEX version** are suitable for **zones 2 (gas) and 22 (dust)**. Compact, safe and quiet, they are ideal for explosion-risk environments without a three-phase network. Die-cast aluminium structure, spark-proof motor and continuous maintenance-free operation. A reliable solution to ensure safety and performance even in confined spaces and decentralised systems.



## DIMENSIONS 422 MM EX2-22



## FUNCTIONING 422 MM EX2-22

SUCTION EXHAUST



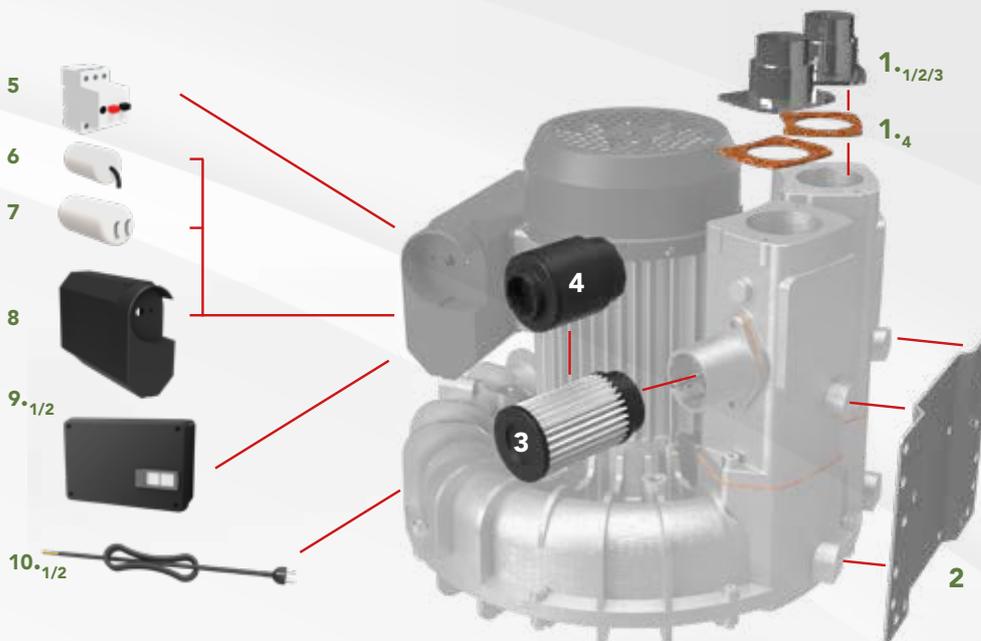
## OPTION 422 MM/MMF EX2-22

- **1<sub>1</sub>** FLANGED CONNECTOR Ø50-60 | **cod. 600383**
- **1<sub>2</sub>** TURNED FLANGED CONNECTOR Ø60 | **cod. 200126**
- **1<sub>3</sub>** TURNED FLANGED CONNECTOR Ø70 | **cod. 200634**
- **1<sub>4</sub>** FLANGED CONNECTION GASKET | **cod. 600033**
- **2** GALVANISED TURBINE SUPPORT PLATE | **cod. 600412**
- **3** BLACK SILENCER VALVE | **cod. 200242**
- **4** LIMITING VALVE FILTER | **cod. 600192**
- **5** MOTOR PROTECTION SWITCH 10-16 A | **cod. 600534**
- **6** BREAKER ELMC B05 CSTART 50UF 50X94 M8 CB300 | **cod. 600395**
- **7** SINGLE-PHASE CAPACITOR 60 µF WITH DOUBLE FASTON | **cod. 600198**
- **8** FKL CAPACITOR BOX | **cod. 600625**
- **9<sub>1</sub>** FIREPROOF SWITCH BOX (CONF. 11ML) OPEN | **cod. 600334**
- **9<sub>2</sub>** FIREPROOF SWITCH BOX (CONF. 11ML) CLOSED | **cod. 601217**
- **10<sub>1</sub>** H05 VVF 3GX2.5 POWER CABLE | **cod. 600397**
- **10<sub>2</sub>** H07 RNF 3GX2.5 POWER CABLE | **cod. 600492**
- **11** Ø50 H75 FLANGED FRONT BELL TUBE | **cod. 300396**



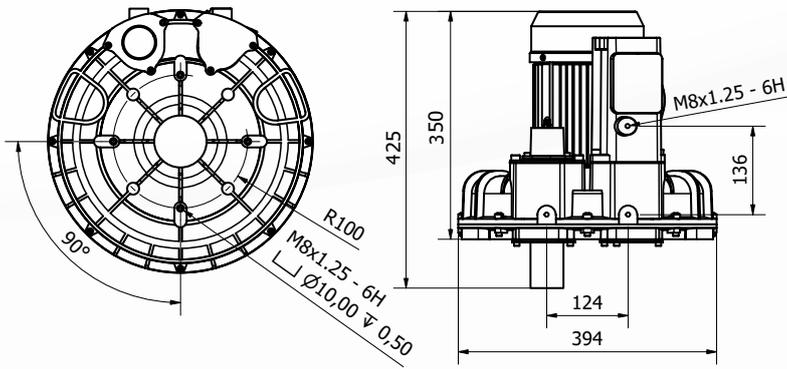
## TREATMENTS

- **Anodising:** Surface treatment to protect aluminium from corrosion. | - Thermal: **available on** 4 kW - 5.5 - 7.5 motors.

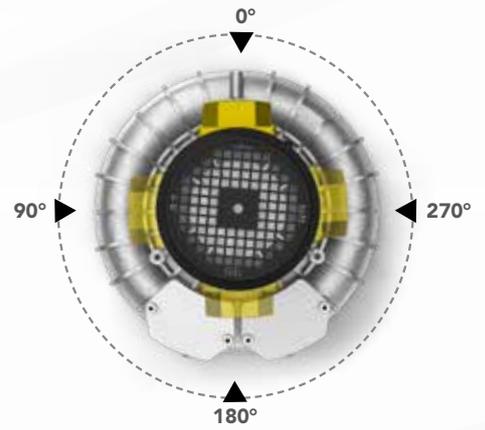




**DIMENSIONS 422 MMF EX2-22**



**ENGINE ORIENTATION 422 MM/MMF EX2-22**



**NB.** For 180° orientation, it is not possible to install the silencer.

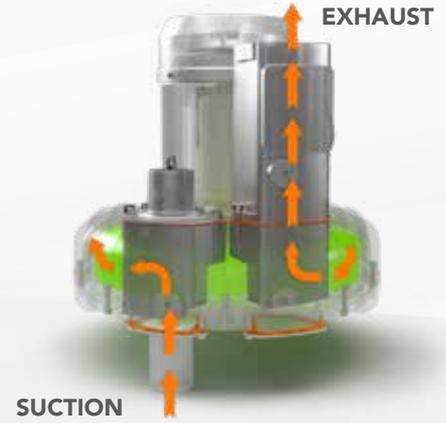


**FUNCTIONING**

■ 422 MMF EX2-22 - VERSION 1

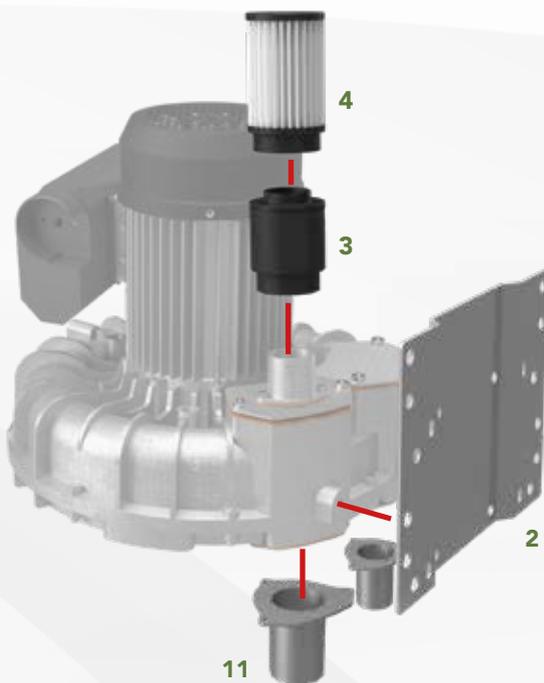


■ 422 MMF EX2-22 - VERSION 2

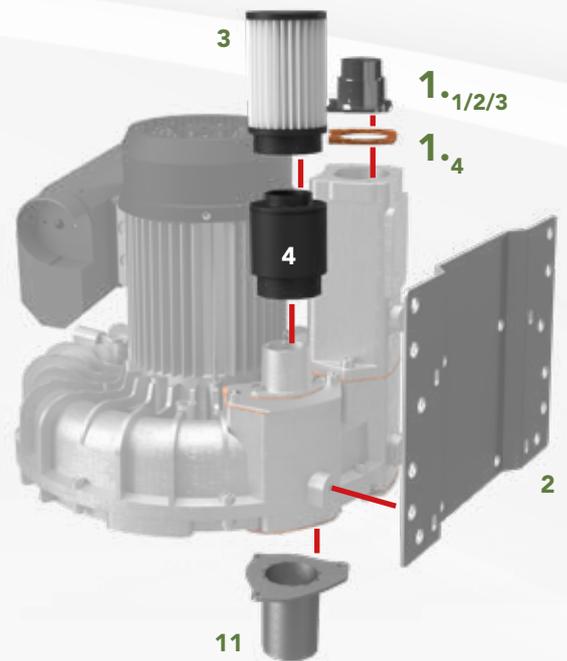


**OPTION**

■ 422 MMF EX2-22 - VERSION 1



■ 422 MMF EX2-22 - VERSION 2



MODEL	DESCRIPTION	VOLT	Hz	kW	A	RPM	IP
0.422MM EX2-22	SINGLE PHASE TURBINE 2,2KW	230	50	2	13,0	2770	55
0.422MMF EX2-22							



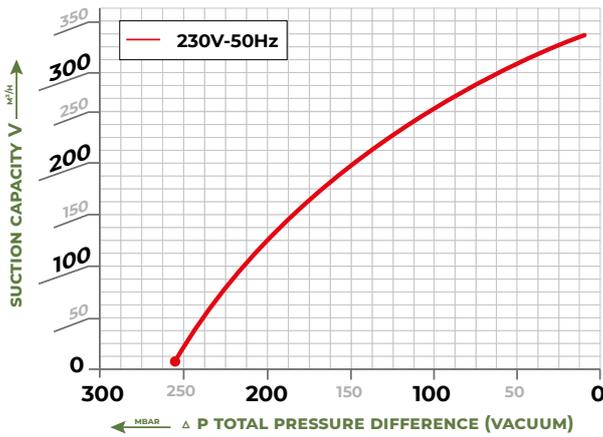
All products achieve the standards and norms of the low voltage directive (LVD)2006/95/EC, rotating electrotechnical motor EN60034-1-2004, electromagnetic compatibility(EMC)EN55014-1/2,EN61000-2/-3/-4/-6.

Measuring-surface sound-pressure level acc. to DIN EN 21680, measured at a distance of 1 m. The pump is throttled to an average suction pressure, a hose is connected to the discharge side (compressor) / suction side (vacuum pump), but is not fitted with relief valves.

The motors are designed according to the DIN EN 60 034 / DIN IEC 34-1 and temperature class F. For the three phase machines the tolerances are +/- 10 % for fixed voltage and +/- 5 % for voltage range. The single phase machines are designed with a +/- 5 % tolerances. If only 90 % of the maxium allowed pressure will be used for the continuousoperating then the allowed voltage range add to +/- 10 %.

For all single and three phase machines which designed according to the UL and CSA norm (UL 1004-1) the maximum allowed voltage tolerances are - 10 % resp. + 6 %. The frequency tolerance is maximum +/- 2 %.

## VACUUM SELECTION DIAGRAM



The performance curves are valid for pumping air at 15°C at the inlet flanges with an air pressure of 1.013mbar and a tolerance of ±10%. The total pressure differences are valid up to an intake and ambient temperatruue of 25°C.

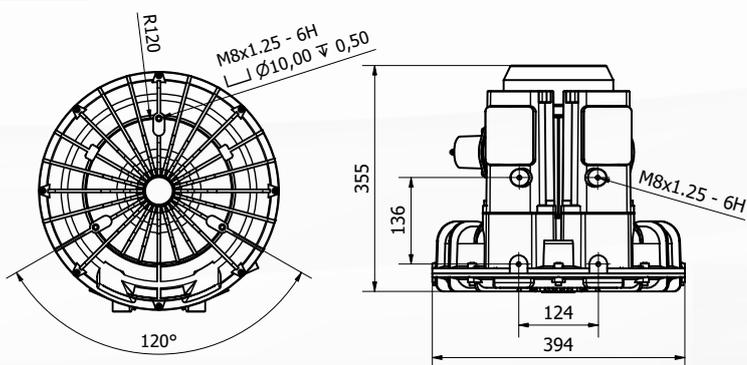


# 430 M/MF ATEX 2-22

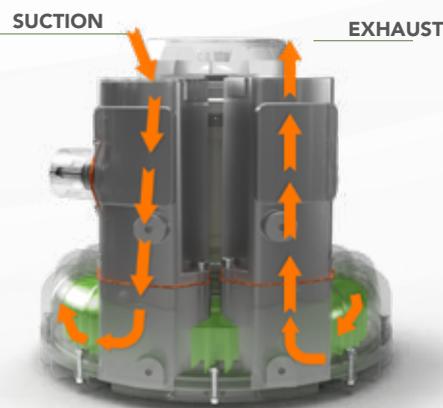
SOLARYS single-stage three-phase turbines in **ATEX version** are suitable **for zones 2 (gas) and 22 (dust)**. Compact, safe and quiet, they are ideal for explosion-risk environments without a three-phase network. Die-cast aluminium structure, spark-proof motor and continuous maintenance-free operation. A reliable solution to ensure safety and performance even in confined spaces and decentralised systems.



## DIMENSIONS 430 M EX2-22



## FUNCTIONING 430 M EX2-22



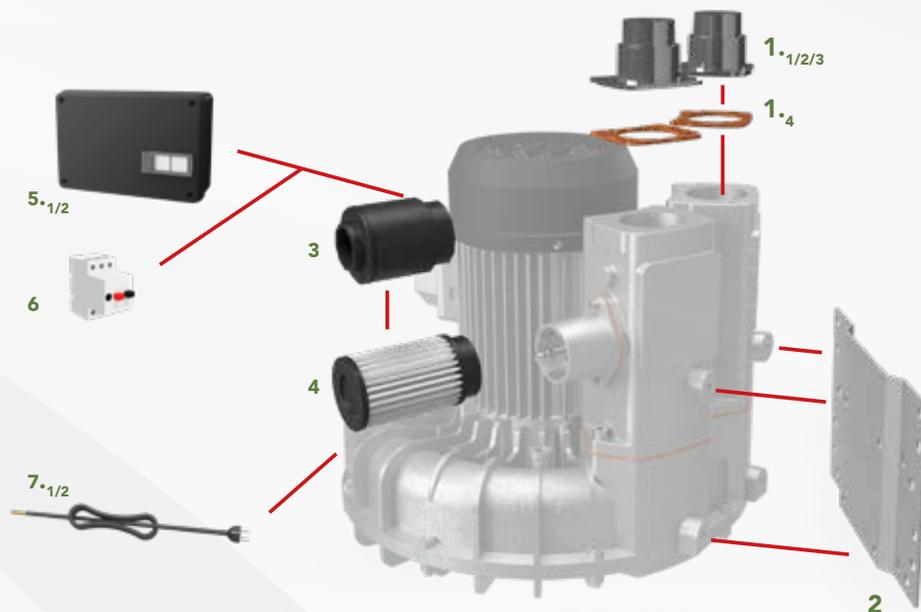
## OPTION 430 M EX2-22

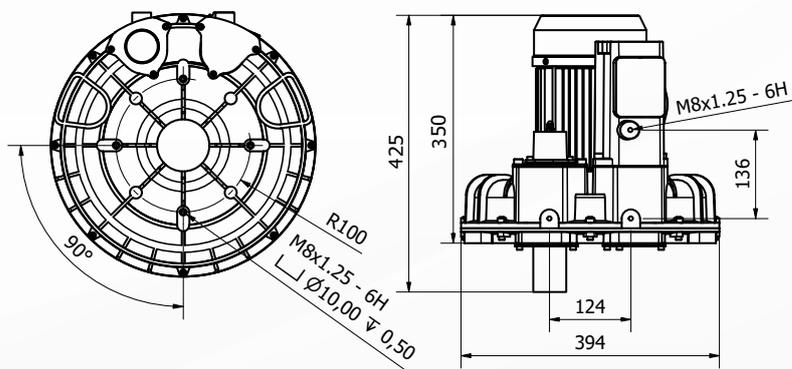
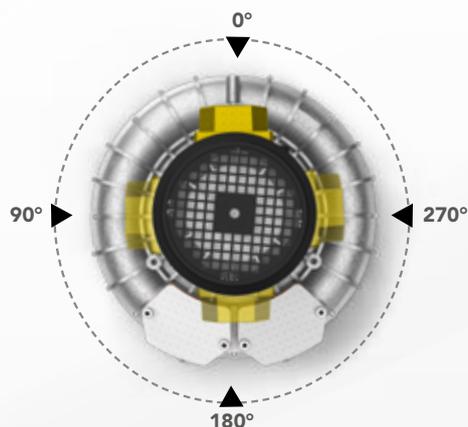
- 1.<sub>1</sub> FLANGED CONNECTOR Ø50-60 | **cod. 600383**
- 1.<sub>2</sub> TURNED FLANGED CONNECTOR Ø60 | **cod. 200126**
- 1.<sub>3</sub> TURNED FLANGED CONNECTOR Ø70 | **cod. 200634**
- 1.<sub>4</sub> FLANGED CONNECTION GASKET | **cod. 600033**
- 2 GALVANISED TURBINE SUPPORT PLATE | **cod. 600412**
- 3 BLACK VALVE SILENCER | **cod. 200242**
- 4 RESTRICTION VALVE FILTER | **cod. 600192**
- 5.<sub>1</sub> ATEX SWITCH BOX (Pack of 11) CLOSED | **cod. 601218**
- 5.<sub>2</sub> ATEX SWITCH BOX (Pack of 11) OPEN | **cod. 600335**
- 6 MOTOR PROTECTION SWITCH 6.3-10 A | **cod. 600237**
- 7.<sub>1</sub> H05 VV 4GX1.5 POWER CABLE | **cod. 600107**
- 7.<sub>2</sub> H07 RNF 4GX1.5 POWER CABLE | **cod. 600108**
- 8.<sub>1</sub> Ø50 H25 FLANGED FRONT BELL TUBE | **cod. 300705**
- 8.<sub>2</sub> Ø50 H75 FLANGED FRONT BELL TUBE WITH MESH | **cod. 300531**
- 8.<sub>3</sub> Ø50 H40 FLANGED FRONT BELL TUBE WITH MESH | **cod. 300530**
- 8.<sub>4</sub> FLANGED TUBE Ø50 | **cod. 300524**
- 8.<sub>5</sub> TUBE Ø50 H75 FLANGED WITH FRONT BELL | **cod. 300396**



## TREATMENTS

- **Anodising:** Surface treatment to protect aluminium from corrosion. | - Thermal: **available on** 4 kW - 5.5 - 7.5 motors.



**DIMENSIONS 430 MF EX2-22****ENGINE ORIENTATION 430 M/MF EX2-22**

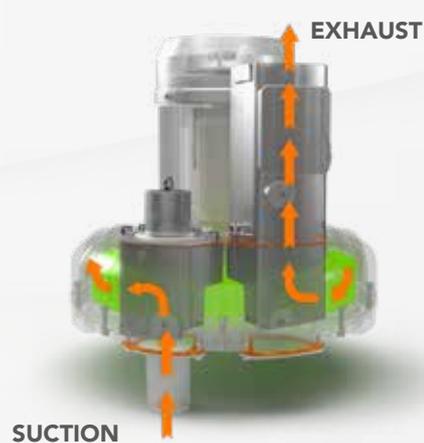
**NB.** For 180° orientation, it is not possible to install the silencer.

**FUNCTIONING**

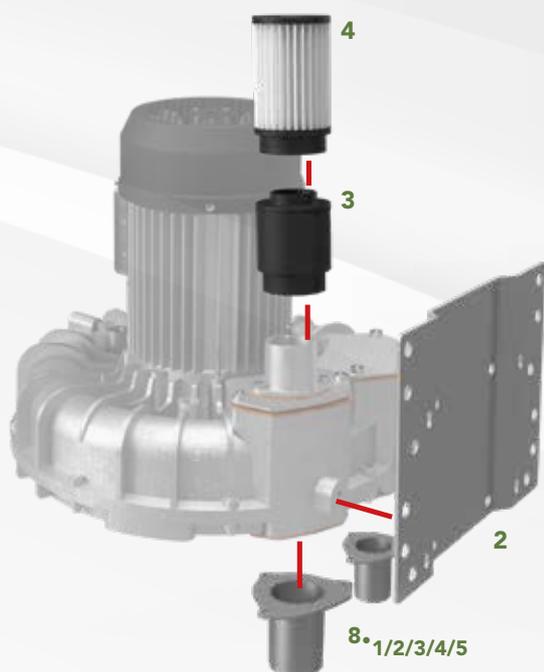
## ■ 430 MF EX2-22 - VERSION 1



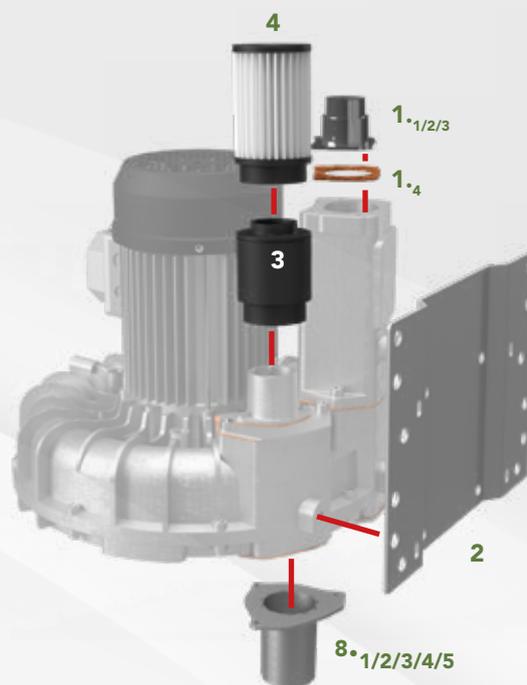
## ■ 430 MF EX2-22 - VERSION 2

**OPTION**

## ■ 430 MF EX2-22 - VERSION 1



## ■ 430 MF EX2-22 - VERSION 2





# MOD. 430 M-MF ATEX2-22



SIDE CHANNEL BLOWERS AND SUCTION UNITS

MODEL	DESCRIPTION	VOLT Δ	Hz	kW	A (Δ/Y)	RPM	IP
0.430M EX2-22	THREE PHASE TURBINE 3KW	Δ 230/ Y 400	50	2,6	Δ 13,2	2870	65
0.430MF EX2-22		Δ 220/ Y 380	60	3,1	Δ 15,1	3420	



All products achieve the standards and norms of the low voltage directive (LVD)2006/95/EC, rotating electrotechnical motor EN 60034-1-2004, electromagnetic compatibility(EMC)EN55014-1/2,EN61000-2/-3/-4/-6.

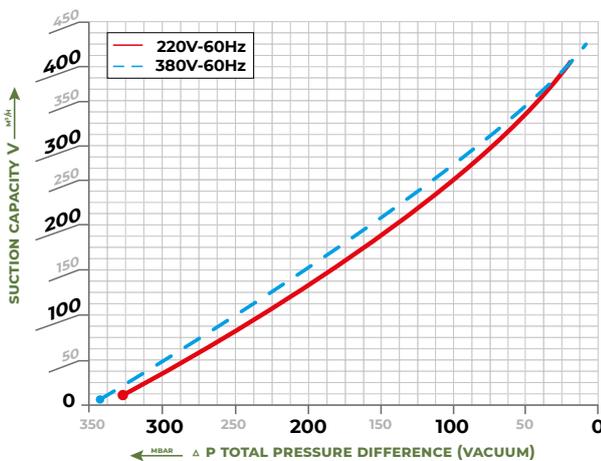
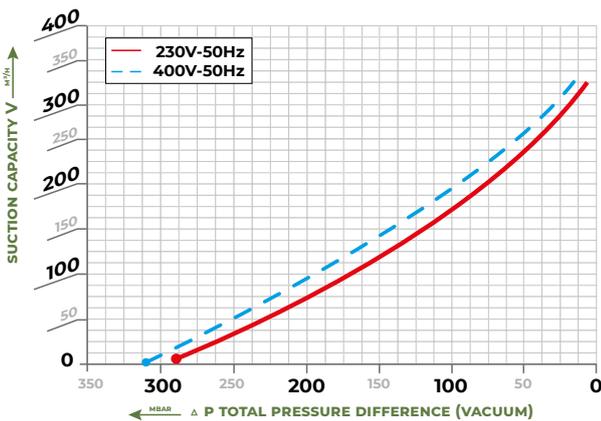
Measuring-surface sound-pressure level acc. to DIN EN 21680, measured at a distance of 1 m. The pump is throttled to an average suction pressure, a hose is connected to the discharge side (compressor) / suction side (vacuum pump), but is not fitted with relief valves.

The motors are designed according to the DIN EN 60 034 / DIN IEC 34-1 and temperature class F. For the three phase machines the tolerances are +/- 10 % for fixed voltage and +/- 5 % for voltage range. The single phase machines are designed with a +/- 5 % tolerances. If only 90 % of the maximum allowed pressure will be used for the continuous operating then the allowed voltage range add to +/- 10 %.

For all single and three phase machines which designed according to the UL and CSA norm (UL 1004-1) the maximum allowed voltage tolerances are - 10 % resp. + 6 %. The frequency tolerance is maximum +/- 2 %.



## VACUUM SELECTION DIAGRAM



The performance curves are valid for pumping air at 15°C at the inlet flanges with an air pressure of 1.013mbar and a tolerance of ±10%. The total pressure differences are valid up to an intake and ambient temperature of 25°C.

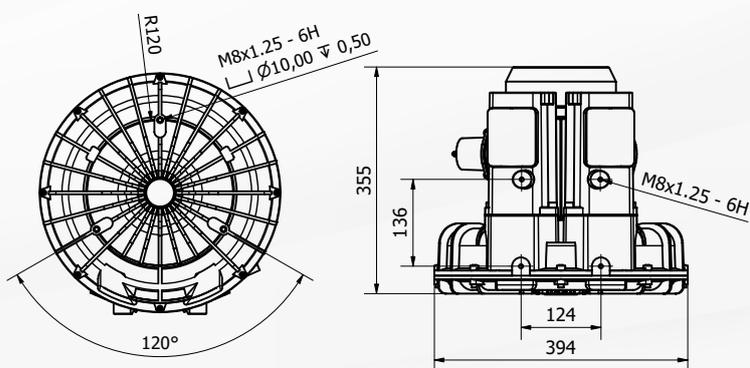


# 440 M/MF ATEX 21

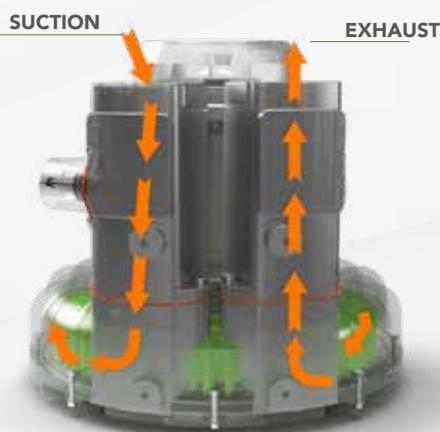
SOLARYS **single-stage three-phase** turbines in **ATEX** version are designed to operate in **zone 21**, where there is an explosive atmosphere due to combustible dusts on a frequent or prolonged basis. Made of die-cast aluminium alloy, they are equipped with an explosion-proof motor, antistatic grounding and components certified according to Directive 2014/34/EU. Industrial reliability in full compliance with ATEX.



## DIMENSIONS 440 M EX21



## FUNCTIONING 440 M EX21



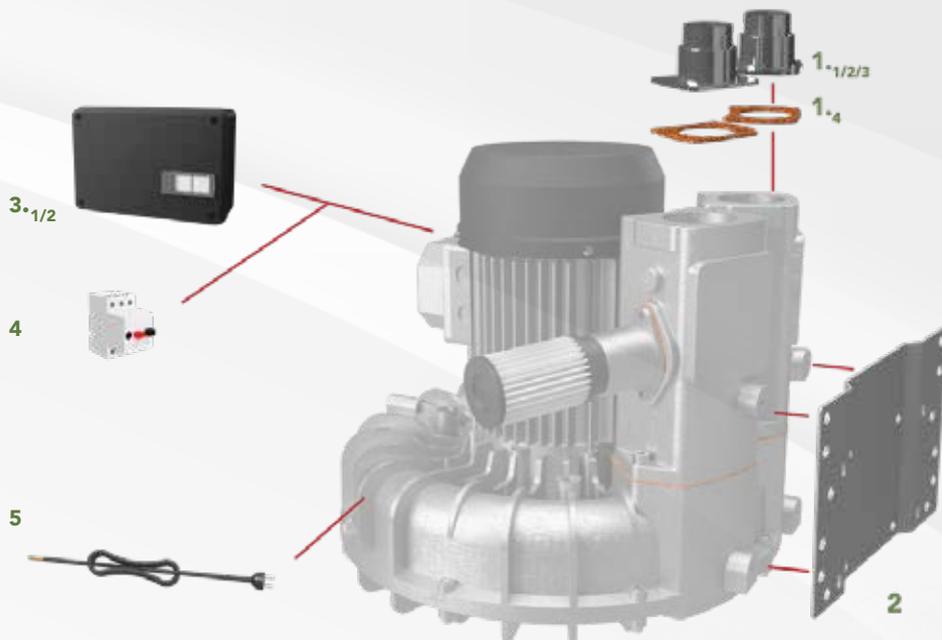
## OPTION 440 M/MF EX21

- 1.1 FLANGED CONNECTOR Ø50-60 | **cod. 600383**
- 1.2 TURNED FLANGED CONNECTOR Ø60 | **cod. 200126**
- 1.3 TURNED FLANGED CONNECTOR Ø70 | **cod. 200634**
- 1.4 FLANGED CONNECTION GASKET | **cod. 600033**
- 2 GALVANISED TURBINE SUPPORT PLATE | **cod. 600412**
- 3.1 ATEX SWITCH BOX (Pack of 11) CLOSED | **cod. 601218**
- 3.2 ATEX SWITCH BOX (Pack of 11) OPEN | **cod. 600335**
- 4 MOTOR PROTECTION SWITCH 6.3-10 A | **cod. 600237**
- 5 H05 VVF 4GX1.5 POWER CABLE | **cod. 600107**
- 6.1 Ø50 H25 FLANGED FRONT BELL TUBE | **cod. 300705**
- 6.2 Ø50 H75 FLANGED FRONT BELL TUBE WITH MESH | **cod. 300531**
- 6.3 Ø50 H40 FLANGED FRONT BELL TUBE WITH MESH | **cod. 300530**
- 6.4 FLANGED TUBE Ø50 | **cod. 300524**
- 6.5 TUBE Ø50 H75 FLANGED WITH FRONT BELL | **cod. 300396**



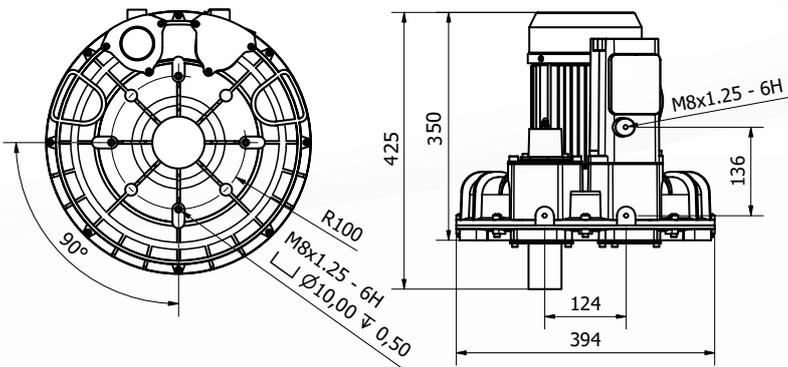
## TREATMENTS

- **Anodising:** Surface treatment to protect aluminium from corrosion. | - Thermal: **available on** 4 kW - 5.5 - 7.5 motors.

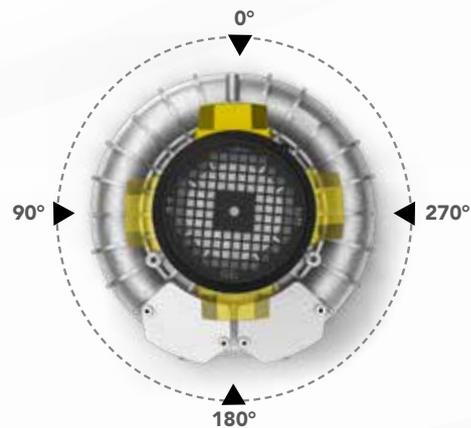




**DIMENSIONS 440 MF EX21**



**ENGINE ORIENTATION 440 M/MF EX21**

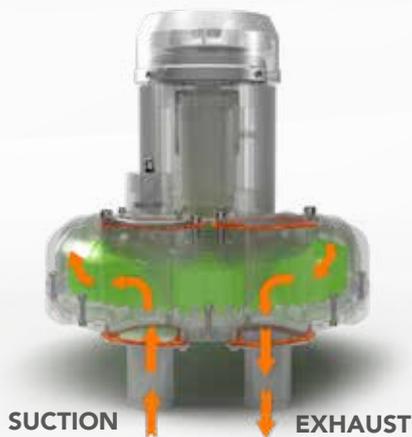


**NB.** For 180° orientation, it is not possible to install the silencer.

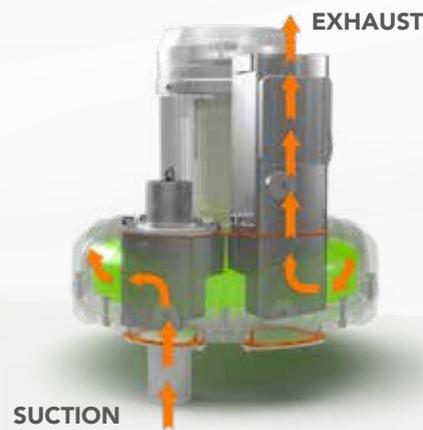


**FUNCTIONING**

■ 440 MF EX21 - VERSION 1

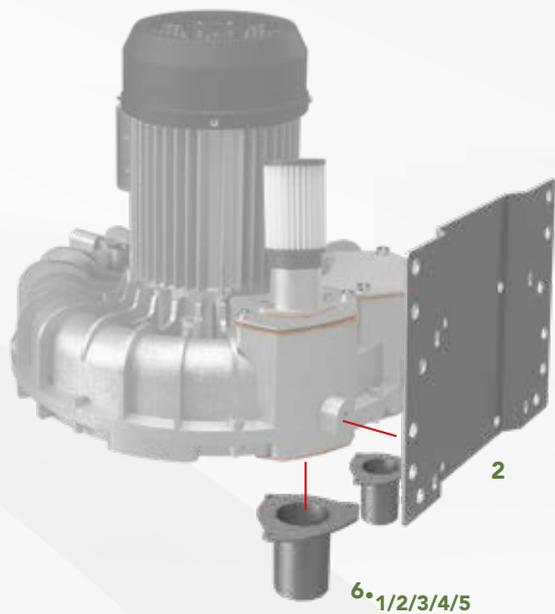


■ 440 MF EX21 - VERSION 2

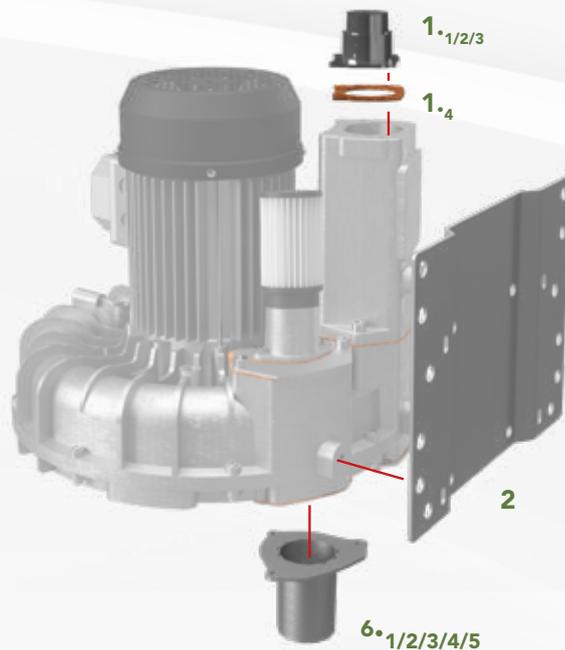


**OPTION**

■ 440 MF EX21 - VERSION 1



■ 440 MF EX21 - VERSION 2



MODEL	DESCRIPTION	VOLT (Δ/Y)	Hz	kW	A (Δ/Y)	RPM	IP
0.440M EX21	TURBINA TRIFASE 4KW	Δ 230/ Y 400	50	3.4	Δ 13,9/ Y 8,0	2800	64
0.440MF EX21		Δ 220/ Y 380	60	4.0	Δ 14,0/ Y 8,1	3400	
		Δ 276/ Y 480	60	4.0	Δ 15,4/ Y 8,9	3400	



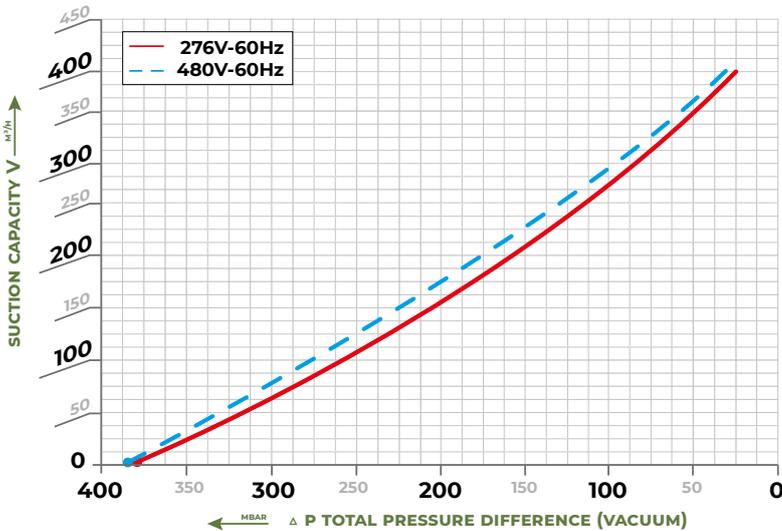
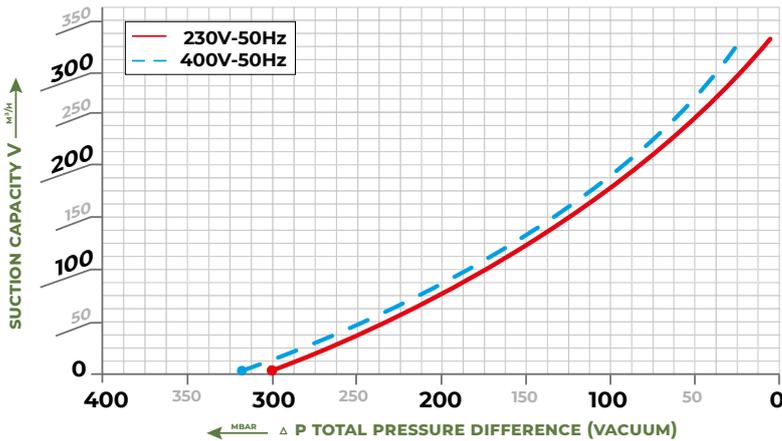
All products achieve the standards and norms of the low voltage directive (LVD)2006/95/EC, rotating electrotechnical motor EN60034-1-2004, electromagnetic compatibility(EMC)EN55014-1/2,EN61000-2/-3/-4/-6.

Measuring-surface sound-pressure level acc. to DIN EN 21680, measured at a distance of 1 m. The pump is throttled to an average suction pressure, a hose is connected to the discharge side (compressor) / suction side (vacuum pump), but is not fitted with relief valves.

The motors are designed according to the DIN EN 60 034 / DIN IEC 34-1 and temperature class F. For the three phase machines the tolerances are +/- 10 % for fixed voltage and +/- 5 % for voltage range. The single phase machines are designed with a +/- 5 % tolerances. If only 90 % of the maximum allowed pressure will be used for the continuous operating then the allowed voltage range add to +/- 10 %.

For all single and three phase machines which designed according to the UL and CSA norm (UL 1004-1) the maximum allowed voltage tolerances are - 10 % resp. + 6 %. The frequency tolerance is maximum +/- 2 %.

### VACUUM SELECTION DIAGRAM



The performance curves are valid for pumping air at 15°C at the inlet flanges with an air pressure of 1.013mbar and a tolerance of ±10%. The total pressure differences are valid up to an intake and ambient temperature of 25°C.

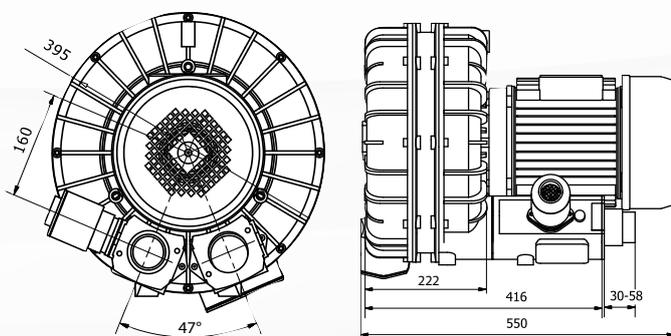


# 455 BP/BPF ATEX 21 ATEX 2-22

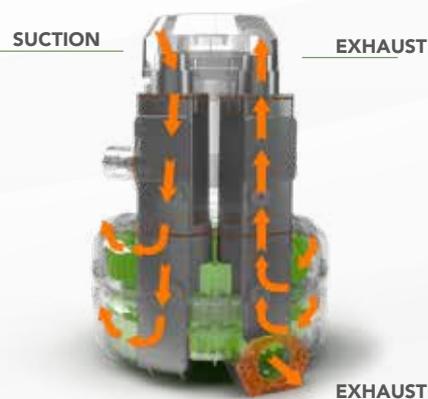
SOLARYS ATEX **two-stage three-phase turbines** are ideal for environments with a risk of gas or dust explosion (**zones 2, 21, 22**). They offer high pressures, continuous operation and zero maintenance, thanks to their die-cast aluminium construction and ATEX-certified spark-proof motor. Power and safety for demanding systems.



## DIMENSIONS 455 BP/BPF EX21 - EX 2-22



## FUNCTIONING 455 BP/BPF EX21 - EX 2-22



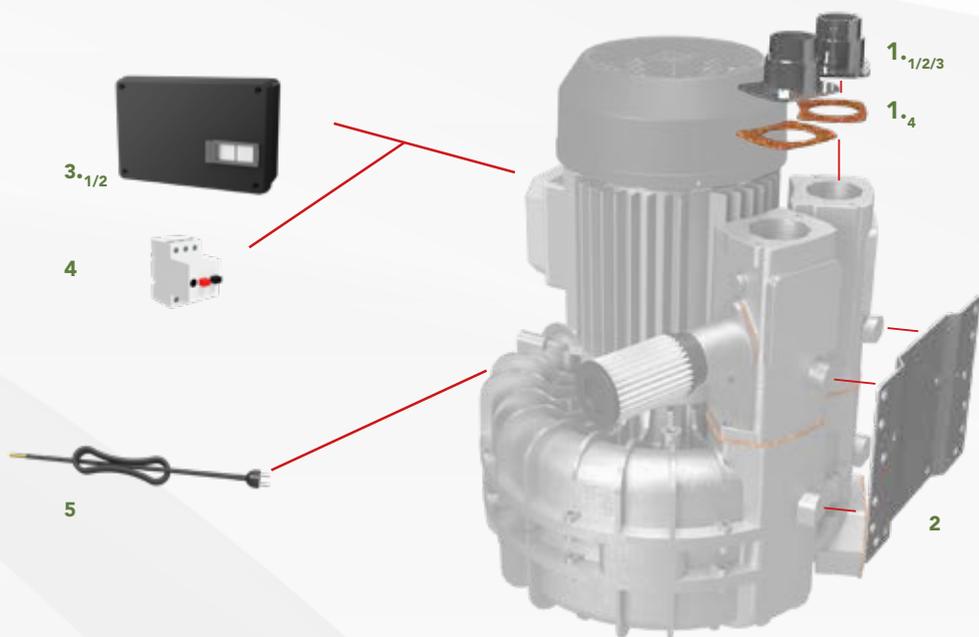
## OPTION 455 BP/BPF EX21 - EX 2-22

- **1<sub>1</sub>** FLANGED CONNECTOR Ø50-60 | **cod. 600383**
- **1<sub>2</sub>** TURNED FLANGED CONNECTOR Ø60 | **cod. 200126**
- **1<sub>3</sub>** TURNED FLANGED CONNECTOR Ø70 | **cod. 200634**
- **1<sub>4</sub>** FLANGED CONNECTION GASKET | **cod. 600033**
- **2** GALVANISED TURBINE SUPPORT PLATE | **cod. 600412**
- **3<sub>1</sub>** ATEX SWITCH BOX (Pack of 11) CLOSED | **cod. 601218**
- **3<sub>2</sub>** ATEX SWITCH BOX (Pack of 11) OPEN | **cod. 600335**
- **4** MOTOR PROTECTION SWITCH 10-16 A | **cod. 600534**
- **5** POWER CABLE H07 VVf 4GX2.5 | **cod. 600578**
- **6<sub>1</sub>** TUBE Ø50 H25 FLANGED TO FRONT BELL | **cod. 300705**
- **6<sub>2</sub>** TUBE Ø50 H75 FLANGED TO FRONT BELL WITH MESH | **cod. 300531**
- **6<sub>3</sub>** TUBE Ø50 H40 FLANGED TO FRONT BELL WITH MESH | **cod. 300530**
- **6<sub>4</sub>** FLANGED TUBE Ø50 | **cod. 300524**
- **6<sub>5</sub>** TUBE Ø50 H75 FLANGED WITH FRONT BELL | **cod. 300396**



## TREATMENTS

- **Anodising:** Surface treatment to protect aluminium from corrosion. | - Thermal: **available on 4 kW - 5.5 - 7.5 motors.**



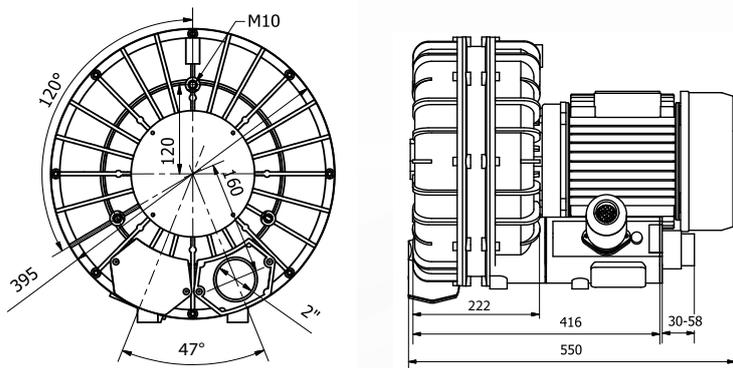


455

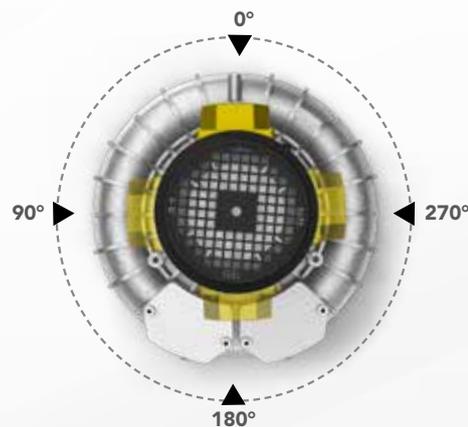
MADE IN ITALY



### DIMENSIONS 455 BP/BPF EX21 - EX 2-22



### ENGINE ORIENTATION 455 BP/BPF EX21-EX 2-22



NB. For 180° orientation, it is not possible to install the silencer.



### FUNCTIONING

■ 455 BP/BPF EX21 - EX 2-22 - VERSION 1

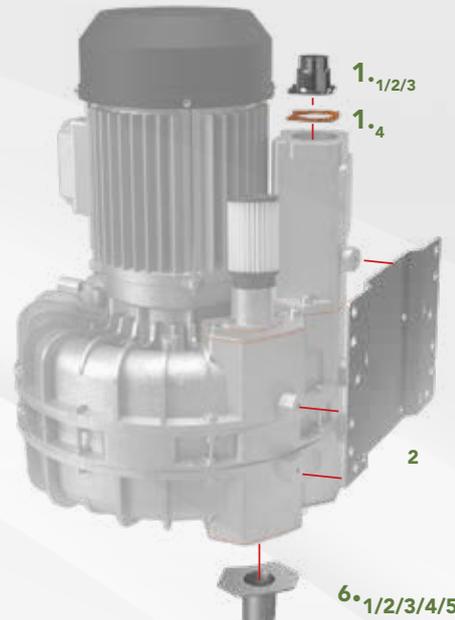
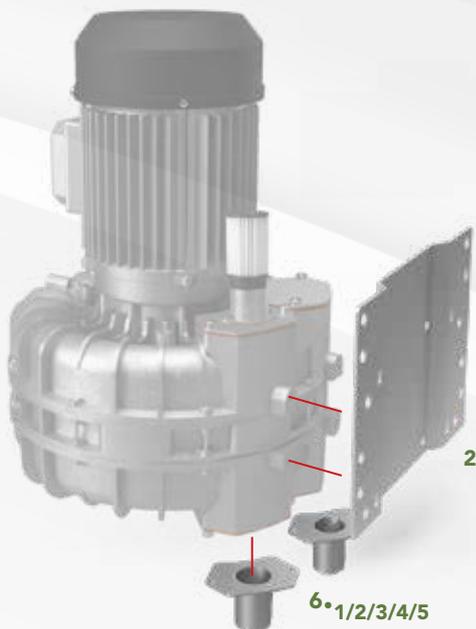
■ 455 BP/BPF EX21 - EX 2-22 - VERSION 2



### OPTION

■ 455 BP/BPF EX21 - EX 2-22 - VERSION 1

■ 455 BP/BPF EX21 - EX 2-22 - VERSION 2





**MOD. 455 BP/BPF EX21**  
**MOD. 455 BP/BPF EX2-22**



**SIDE CHANNEL BLOWERS AND SUCTION UNITS**

MODEL	DESCRIPTION	VOLT (Δ/Y)	Hz	kW	A (Δ/Y)	RPM	IP
0.455BP EX2-22	THREE PHASE TURBINE 5,5KW	Δ 230/ Y 400	50	5,2	Δ 17,3/ Y 10,0	2850	65
0.455BPF EX2-22		Δ 220/ Y 380	60	6.3	Δ 19,0/ Y 11,0	3420	
		Δ 276/ Y 480	60	6.3	Δ 17,3/ Y 10,0	3460	
0.455BP EX21		Δ 230/ Y 400	50	5,5	Δ 18,4/ Y 10,6	2880	65



All products achieve the standards and norms of the low voltage directive (LVD)2006/95/EC, rotating electrotechnical motor EN 60034-1-2004, electromagnetic compatibility(EMC)EN55014-1/2,EN61000-2/-3/-4/-6.

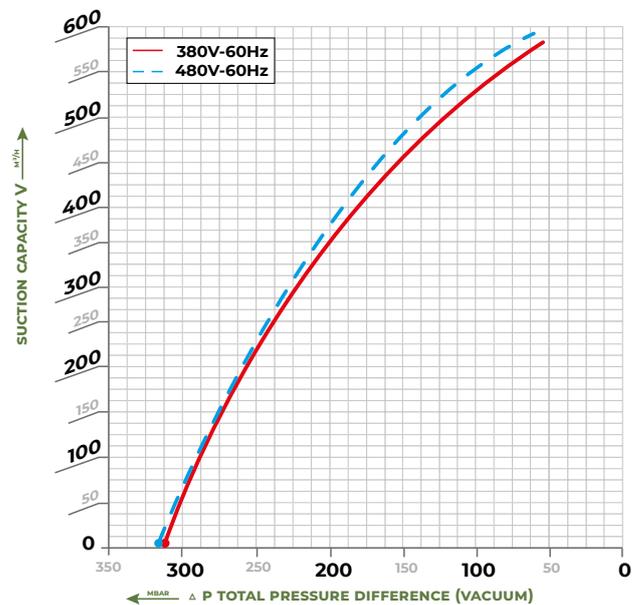
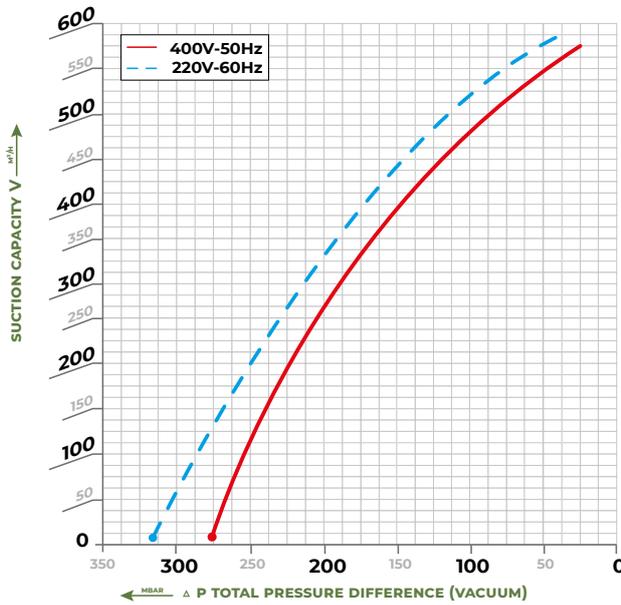
Measuring-surface sound-pressure level acc. to DIN EN 21680, measured at a distance of 1 m. The pump is throttled to an average suction pressure, a hose is connected to the discharge side (compressor) / suction side (vacuum pump), but is not fitted with relief valves.

The motors are designed according to the DIN EN 60 034 / DIN IEC 34-1 and temperature class F. For the three phase machines the tolerances are +/- 10 % for fixed voltage and +/- 5 % for voltage range. The single phase machines are designed with a +/- 5 % tolerances. If only 90 % of the maximum allowed pressure will be used for the continuous operating then the allowed voltage range add to +/- 10 %.

For all single and three phase machines which designed according to the UL and CSA norm (UL 1004-1) the maximum allowed voltage tolerances are - 10 % resp. + 6 %. The frequency tolerance is maximum +/- 2 %.



**VACUUM SELECTION DIAGRAM**



The performance curves are valid for pumping air at 15°C at the inlet flanges with an air pressure of 1.013mbar and a tolerance of ±10%. The total pressure differences are valid up to an intake and ambient temperature of 25°C.

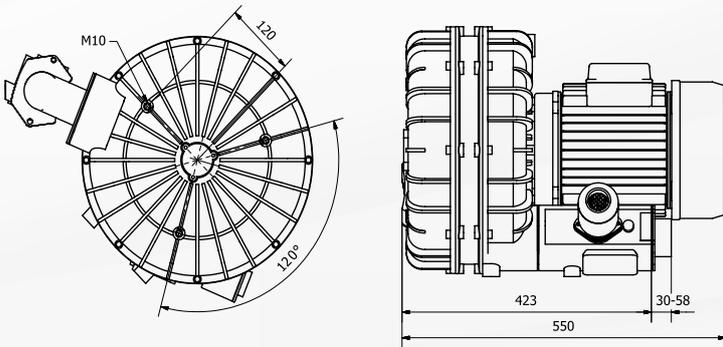


# 455 BS/BSF ATEX 21 ATEX 2-22

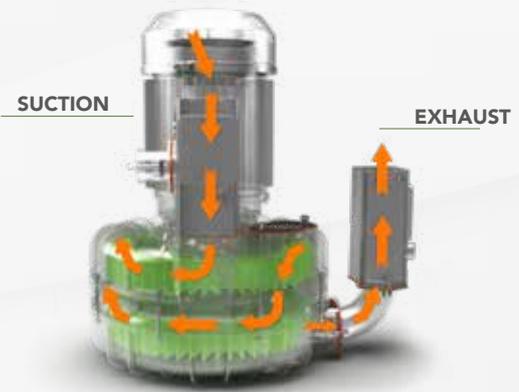
SOLARYS ATEX **two-stage three-phase turbines** are ideal for environments with a risk of gas or dust explosion (**zones 2, 21, 22**). They offer high pressures, continuous operation and zero maintenance, thanks to their die-cast aluminium construction and ATEX-certified spark-proof motor. Power and safety for demanding systems.



## DIMENSIONS 455 BS EX21



## FUNCTIONING 455 BS EX21



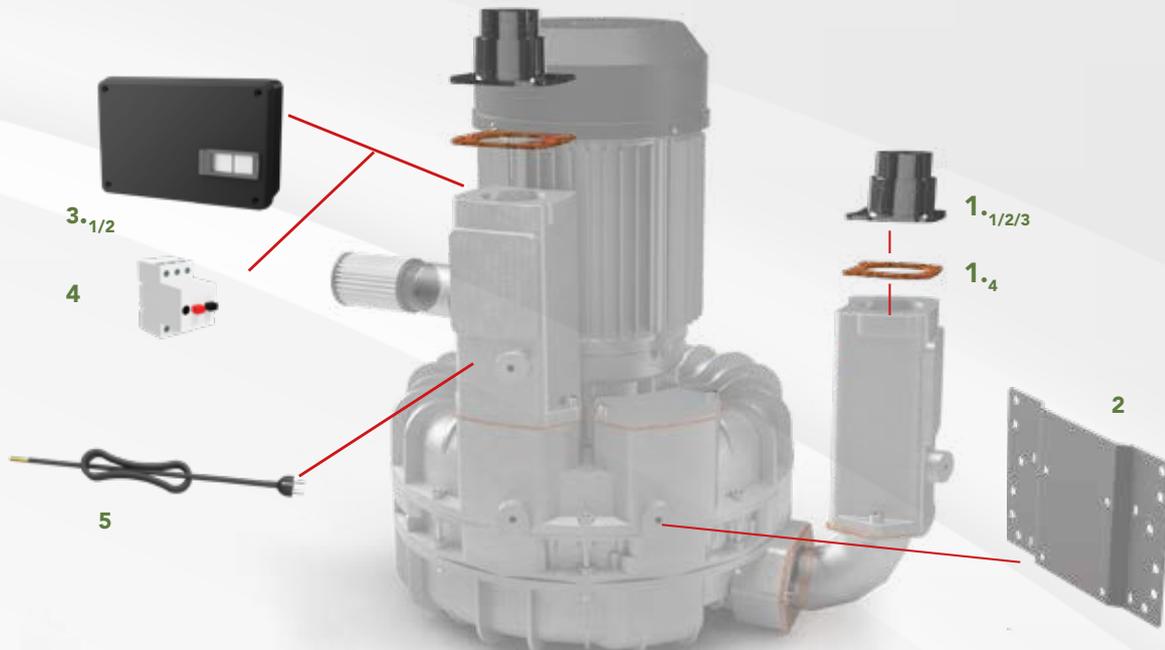
## OPTION 455 BS EX21

- 1.<sub>1</sub> FLANGED CONNECTOR Ø50-60 | **cod. 600383**
- 1.<sub>2</sub> TURNED FLANGED CONNECTOR Ø60 | **cod. 200126**
- 1.<sub>3</sub> TURNED FLANGED CONNECTOR Ø70 | **cod. 200634**
- 1.<sub>4</sub> FLANGED CONNECTION GASKET | **cod. 600033**
- 2 GALVANISED TURBINE SUPPORT PLATE | **cod. 600412**
- 3.<sub>1</sub> ATEX SWITCH BOX (Pack of 11) CLOSED | **cod. 601218**
- 3.<sub>2</sub> FIREPROOF SWITCH BOX, OPEN (PACK OF 11ML) | **cod. 600334**
- 4 MOTOR PROTECTION SWITCH 10-16 A | **cod. 600534**
- 5 POWER CABLE H07 VV-F 4GX2.5 | **cod. 600578**



## TREATMENTS

- **Anodising:** Surface treatment to protect aluminium from corrosion. | - Thermal: **available on** 4 kW - 5.5 - 7.5 motors.



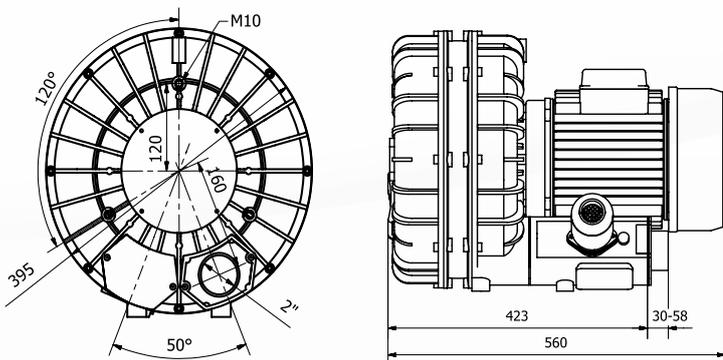
455



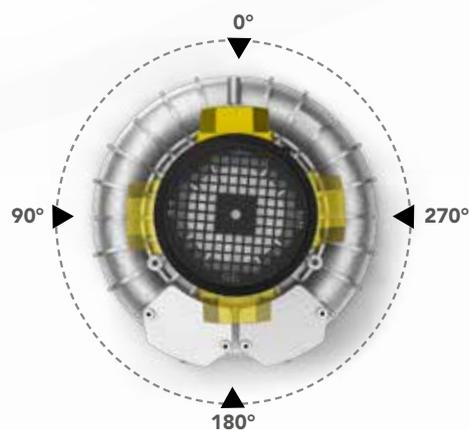
MADE IN ITALY



## DIMENSIONS 455 BSF EX21



## ENGINE ORIENTATION 455 BS/BSF EX21

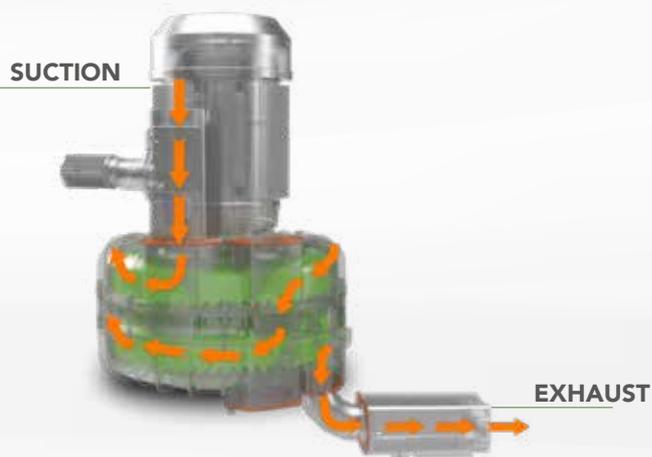


NB. For 180° orientation, it is not possible to install the silencer.

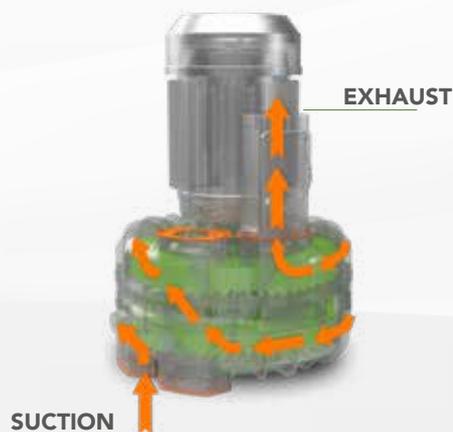


## FUNCTIONING

## ■ 455 BSF EX21 - VERSION 1

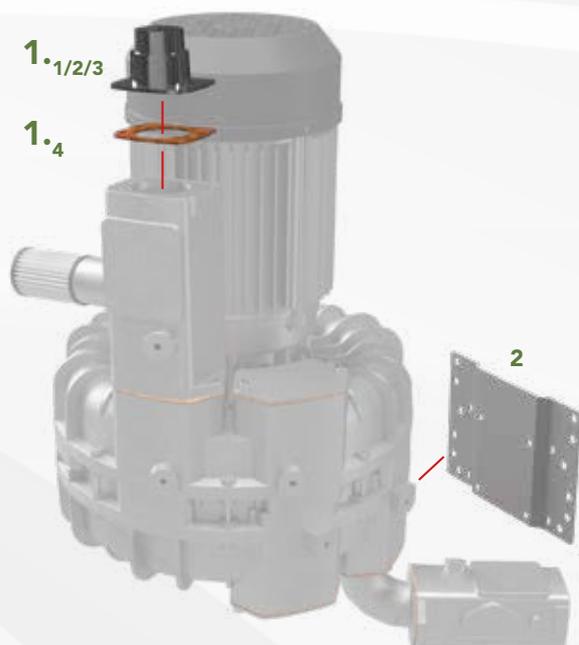


## ■ 455 BSF EX21 - VERSION 2

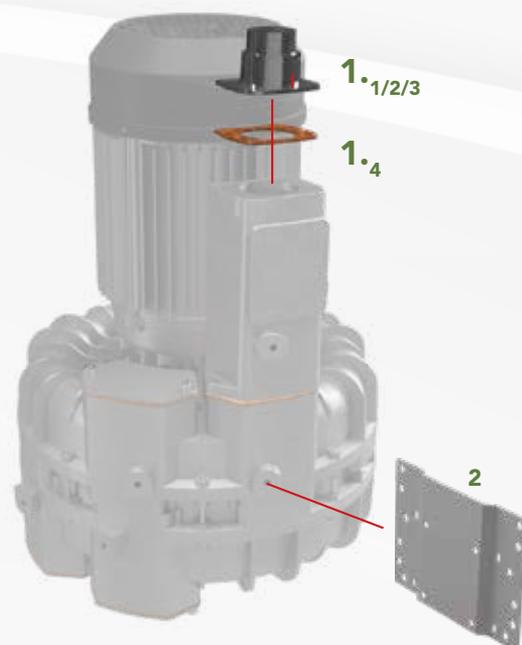


## OPTION

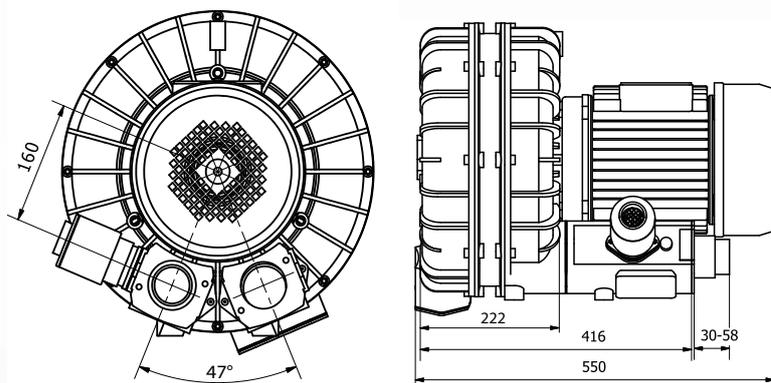
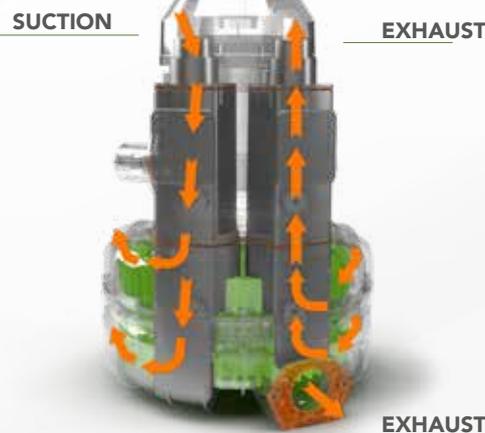
## ■ 455 BSF EX21 - VERSION 1



## ■ 455 BSF EX21 - VERSION 2



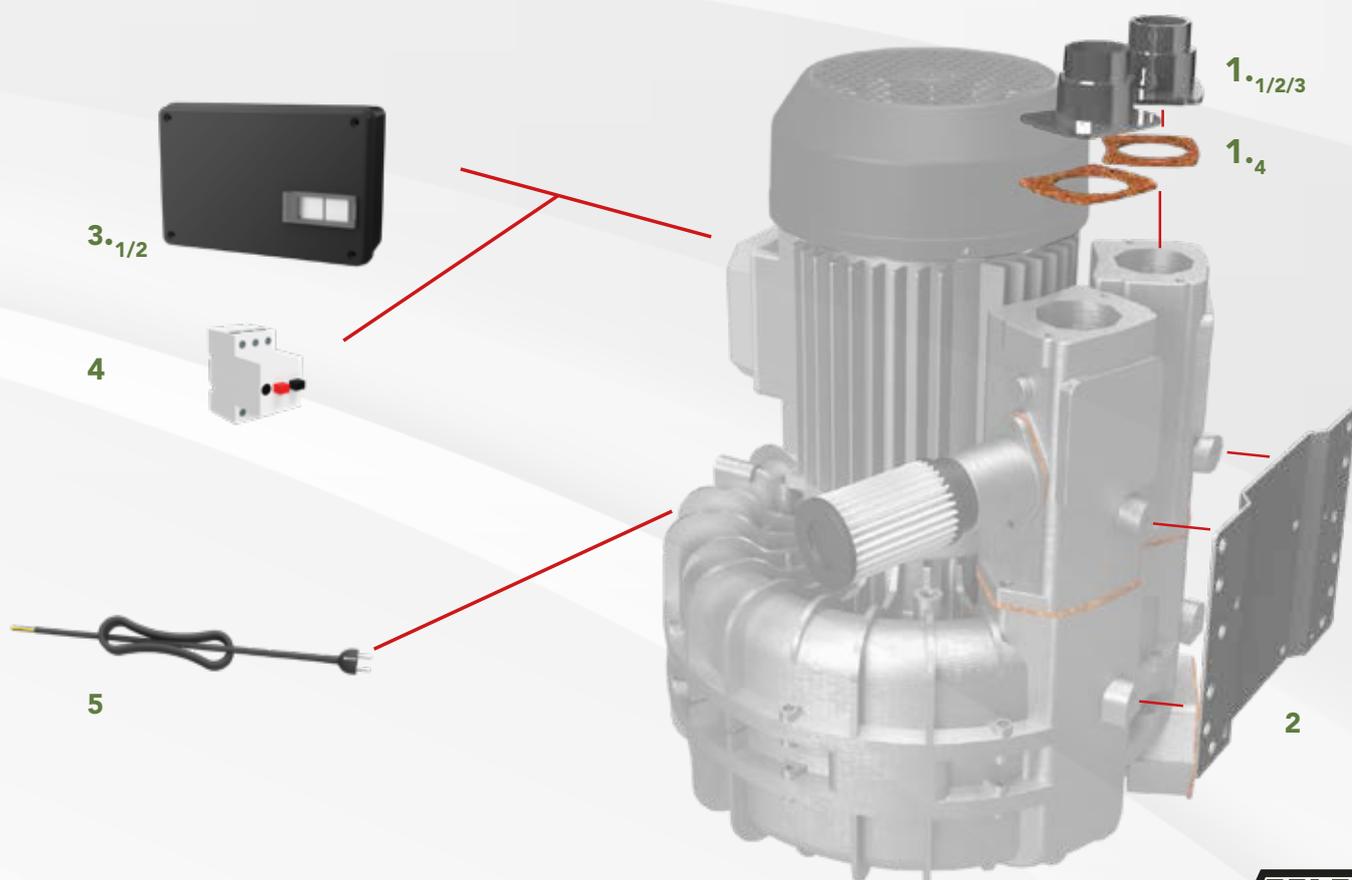
NB. If there is no silencer, the turbine support plate cannot be used.


**DIMENSIONS 455 BS EX2-22**

**FUNCTIONING 455 BS EX2-22**

**OPTION 455 BS/BSF EX2-22**

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>- 1.<sub>1</sub> FLANGED CONNECTOR Ø50-60   <b>cod. 600383</b></li> <li>- 1.<sub>2</sub> TURNED FLANGED CONNECTOR Ø60   <b>cod. 200126</b></li> <li>- 1.<sub>3</sub> TURNED FLANGED CONNECTOR Ø70   <b>cod. 200634</b></li> <li>- 1.<sub>4</sub> FLANGED CONNECTION GASKET   <b>cod. 600033</b></li> <li>- 2 GALVANISED TURBINE SUPPORT PLATE   <b>cod. 600412</b></li> <li>- 3.<sub>1</sub> ATEX SWITCH BOX (Pack of 11) CLOSED   <b>cod. 601218</b></li> <li>- 3.<sub>2</sub> ATEX SWITCH BOX (Pack of 11) OPEN   <b>cod. 600335</b></li> </ul> | <ul style="list-style-type: none"> <li>- 4 MOTOR PROTECTION SWITCH 10-16 A   <b>cod. 600534</b></li> <li>- 5 POWER CABLE H07 VV-F 4GX2.5   <b>cod. 600578</b></li> <li>- 6.<sub>1</sub> TUBE Ø50 H25 FLANGED TO FRONT BELL   <b>cod. 300705</b></li> <li>- 6.<sub>2</sub> TUBE Ø50 H75 FLANGED TO FRONT BELL WITH MESH   <b>cod. 300531</b></li> <li>- 6.<sub>3</sub> TUBE Ø50 H40 FLANGED TO FRONT BELL WITH MESH   <b>cod. 300530</b></li> <li>- 6.<sub>4</sub> FLANGED TUBE Ø50   <b>cod. 300524</b></li> <li>- 6.<sub>5</sub> TUBE Ø50 H75 FLANGED WITH FRONT BELL   <b>cod. 300396</b></li> </ul> |
|--|--|

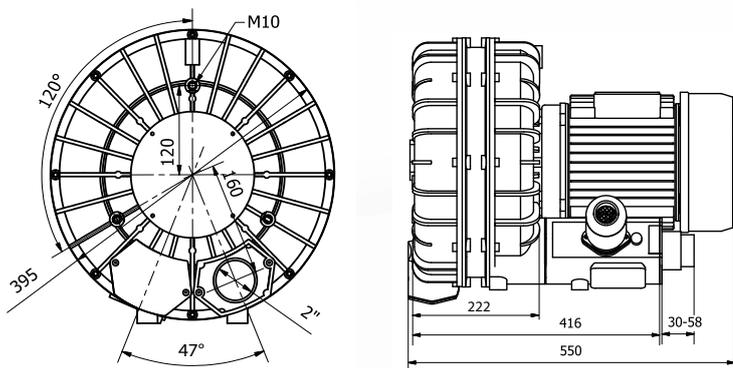

**TREATMENTS**

- **Anodising:** Surface treatment to protect aluminium from corrosion. | - **Thermal:** **available on** 4 kW - 5.5 - 7.5 motors.

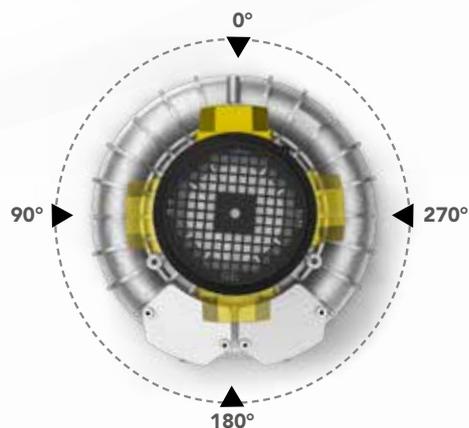




### DIMENSIONS 455 BSF EX2-22



### ENGINE ORIENTATION 455 BS/BSF EX2-22



**NB.** For 180° orientation, it is not possible to install the silencer.



### FUNCTIONING

#### 455 BSF EX2-22 - VERSION 1

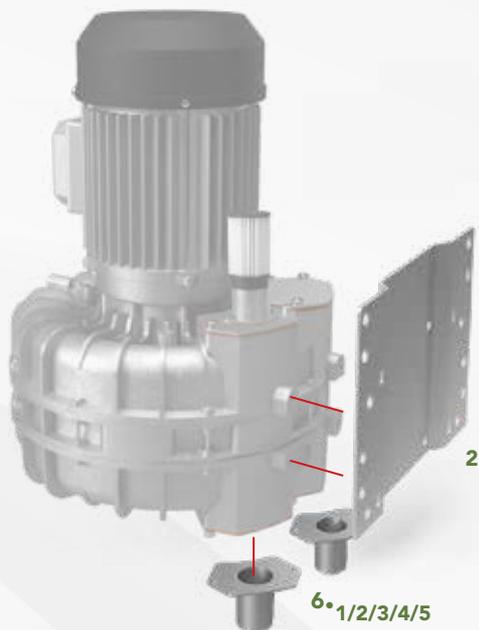


#### 455 BSF EX2-22 - VERSION 2

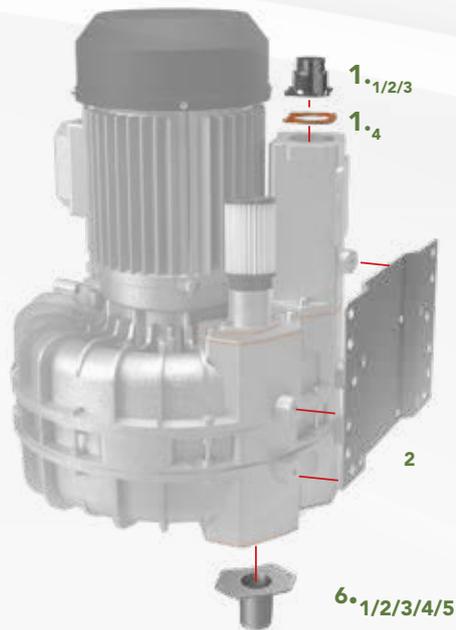


### OPTION

#### 455 BPF EX2-22 - VERSION 1



#### 455 BSF EX2-22 - VERSION 2



MODEL	DESCRIPTION	VOLT ( $\Delta/Y$ )	Hz	kW	A ( $\Delta/Y$ )	RPM	IP
0.455BS EX22	THREE PHASE TURBINE 5,5KW	$\Delta$ 230/ Y 400	50	5,5	$\Delta$ 19,0/ Y 11,0	2850	55
0.455BSF EX22		$\Delta$ 220/ Y 380	60	6.6	$\Delta$ 21,0/ Y 12,1	3460	
		$\Delta$ 276/ Y 480	60	6.6	$\Delta$ 19,0/ Y 11,0	3480	
0.455BS EX21		$\Delta$ 230/ Y 400	50	5,5	$\Delta$ 18,4/ Y 10,6	2880	65



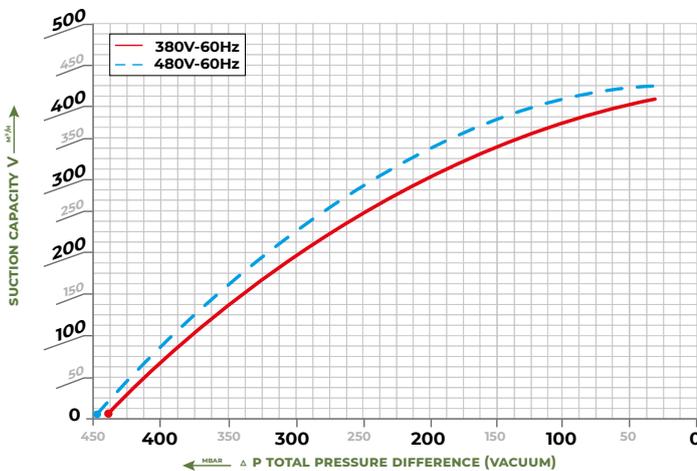
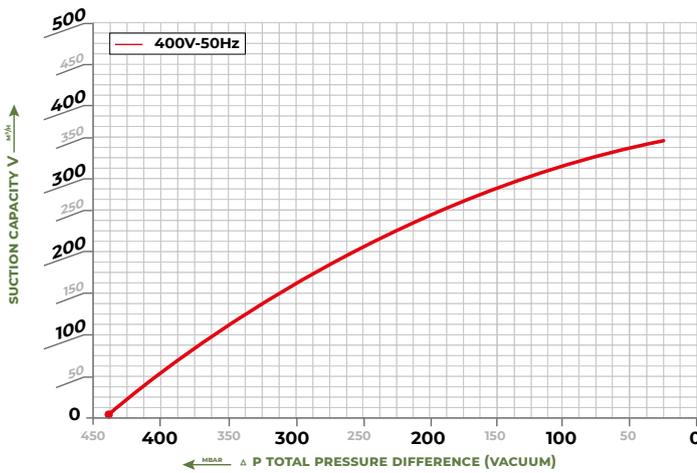
All products achieve the standards and norms of the low voltage directive (LVD)2006/95/EC, rotating electrotechnical motor EN 60034-1-2004, electromagnetic compatibility(EMC)EN55014-1/2,EN61000-2/-3/-4/-6.

Measuring-surface sound-pressure level acc. to DIN EN 21680, measured at a distance of 1 m. The pump is throttled to an average suction pressure, a hose is connected to the discharge side (compressor) / suction side (vacuum pump), but is not fitted with relief valves.

The motors are designed according to the DIN EN 60 034 / DIN IEC 34-1 and temperature class F. For the three phase machines the tolerances are +/- 10 % for fixed voltage and +/- 5 % for voltage range. The single phase machines are designed with a +/- 5% tolerances. If only 90 % of the maximum allowed pressure will be used for the continuous operating then the allowed voltage range add to +/- 10 %.

For all single and three phase machines which designed according to the UL and CSA norm (UL 1004-1) the maximum allowed voltage tolerances are - 10 % resp. + 6 %. The frequency tolerance is maximum +/- 2 %.

### VACUUM SELECTION DIAGRAM



The performance curves are valid for pumping air at 15°C at the inlet flanges with an air pressure of 1.013mbar and a tolerance of ±10%. The total pressure differences are valid up to an intake and ambient temperature of 25°C.



**NON-MOTORISED MODELS**



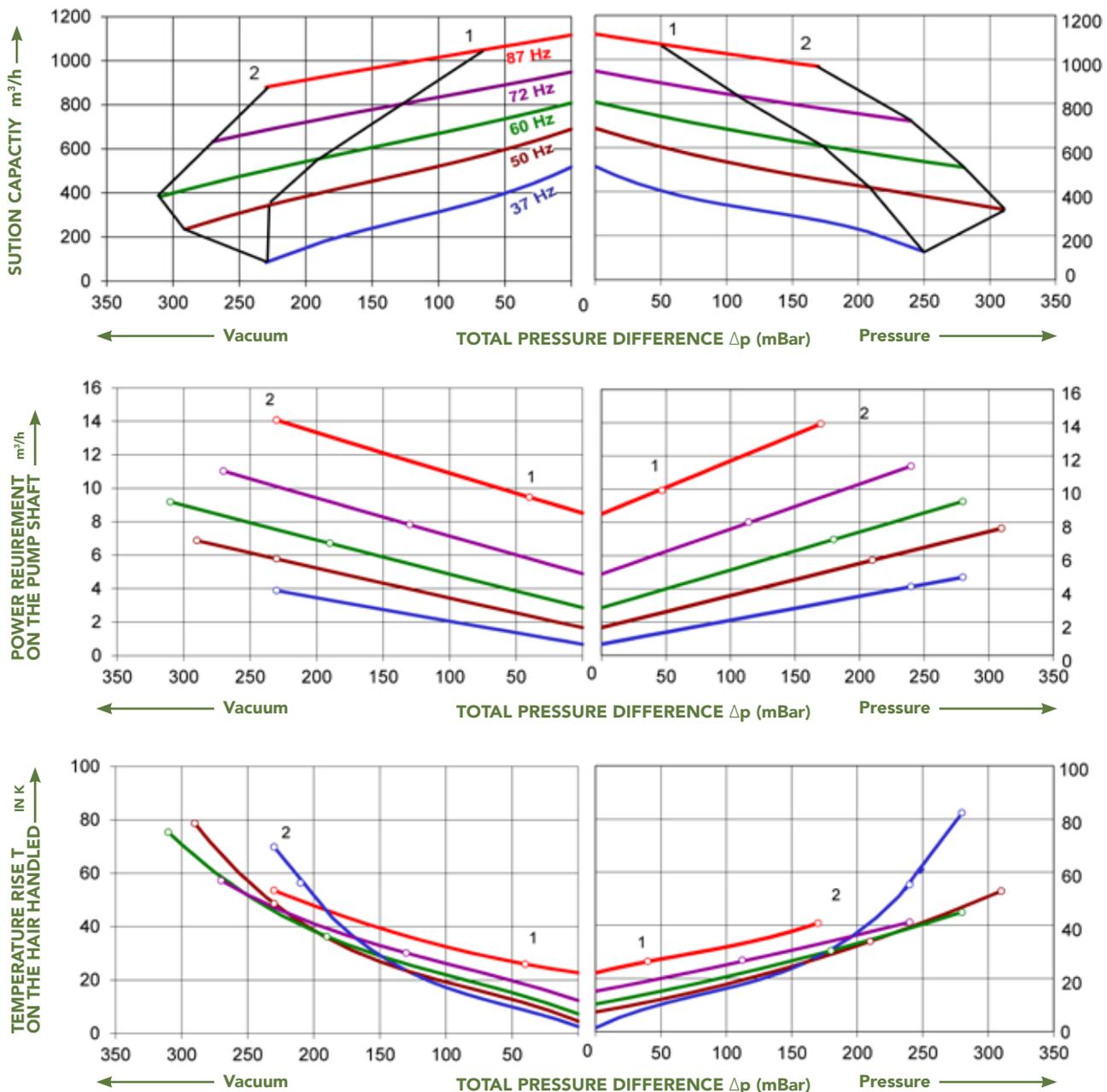
NO	Frequency	Rated speed			Maximum different pressure (1)		Sound pressure level (2)	Weight approx
NO	Hz	VOLTAGE (V)	CURRENT (A)	POWER (kW)	VACUUM (mBar)	PRESSURE (mBar)	dB (A)	Kg
1	37	-	-	-	-230	250	66	78
	50	-	-	-	-230	210	78	
	60	-	-	-	-190	180	80	
	87	400 Δ	19.8 Δ	10.2	-70	50	85	
2	37	-	-	-	-230	250	66	82
	50	-	-	-	-290	310	79	
	60	-	-	-	-310	280	81	
	87	400 Δ	19.8 Δ	10.2	-210	170	85	



N.B. Never exceed the maximum  $\Delta p$  indicated in the graphs and in the table depending on the installed power; apply a safety valve if necessary for this purpose.

### VACUUM SELECTION DIAGRAM

### COMPRESSOR SELECTION DIAGRAM



The performance curves are valid for pumping air at 15°C at the inlet flanges with an air pressure of 1.013mbar and a tolerance of  $\pm 10\%$ . The total pressure differences are valid up to an intake and ambient temperature of 25°C.

NO	Rated speed (RPM)	Rated power (KW)	Maximum air flow (m³/h)	Maximum vacuum (mbar)	Maximum pressure (mbar)	Sound-level dB(A)	Weight approx (Kg)	Vacuum relief (2BX)
1	3000	5.5	700	-200	190	73	42	1×...4740/ ...4840
	3600	6.3	840	-180	180	75		
	4200	7.5	980	-110	90	78		
	5000	8.8	1140	-10	10	84		
2	3000	7.5	700	-270	260	73		
	3600	8.6	840	-270	260	75		
	4200	10.0	980	-250	220	78		
	5000	12.0	1140	-240	180	84		

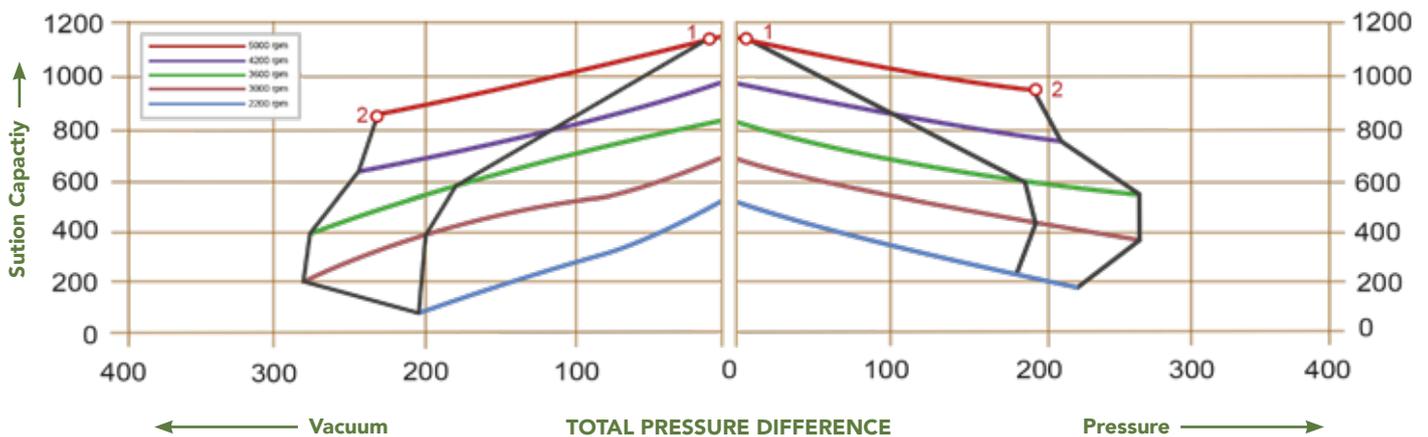


N.B. Never exceed the maximum  $\Delta p$  indicated in the graphs and in the table depending on the installed power; apply a safety valve if necessary for this purpose.

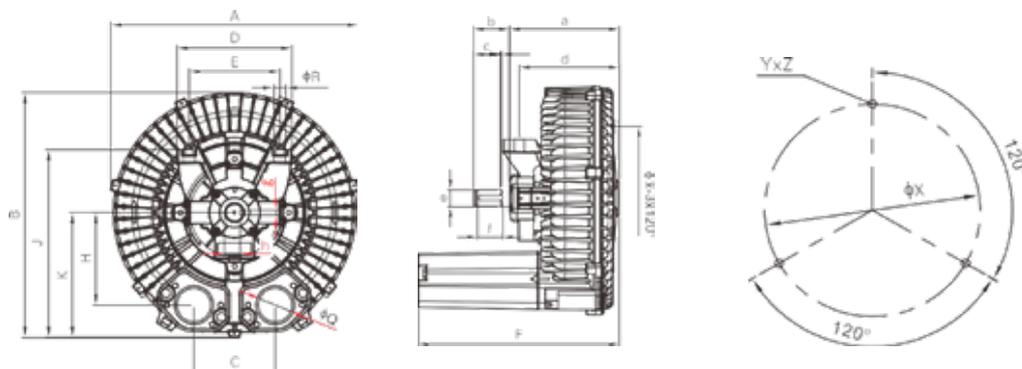


### VACUUM SELECTION DIAGRAM

### COMPRESSOR SELECTION DIAGRAM



### DIMENSION FOR BELT DRIVE SIDE CHANNEL BLOWER



TYPE	A	B	C	D	E	F	H	J	K	ØQ	ØR
1X-8HF-M	451	461	152	245	195	450	175	265	230	68	24
TYPE	A	B	C	D	F	G	H	N	N	Y*Z	ØX
1X-8HF-M	244	85	78	2	42	60	12	37	227	M12X20	286



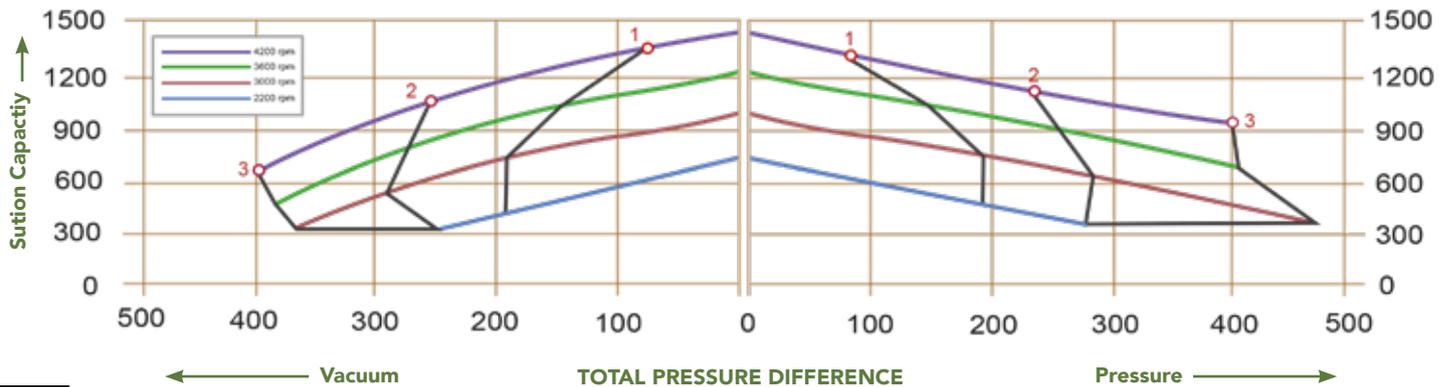
The performance curves are valid for pumping air at 15°C at the inlet flanges with an air pressure of 1.013mbar and a tolerance of  $\pm 10\%$ . The total pressure differences are valid up to an intake and ambient temperature of 25°C.

NO	Rated speed (RPM)	Rated power (KW)	Maximum air flow (m³/h)	Maximum vacuum (mbar)	Maximum pressure (mbar)	Sound-level dB(A)	Weight approx (Kg)	Vacuum rellet (2BX)
1	3000	8.5	1050	-190	190	74	72	1x...750/ ...860
	3600	9.8	1250	-150	140	79		
	4200	12.0	1400	-60	80	82		
2	3000	12.5	1050	-290	280	74		
	3600	14.5	1250	-270	260	79		
	4200	17.5	1400	-250	240	82		
3	3000	18.5	1050	-360	460	74		
	3600	21.3	1250	-380	420	79		
	4200	26.0	1400	-400	400	82		

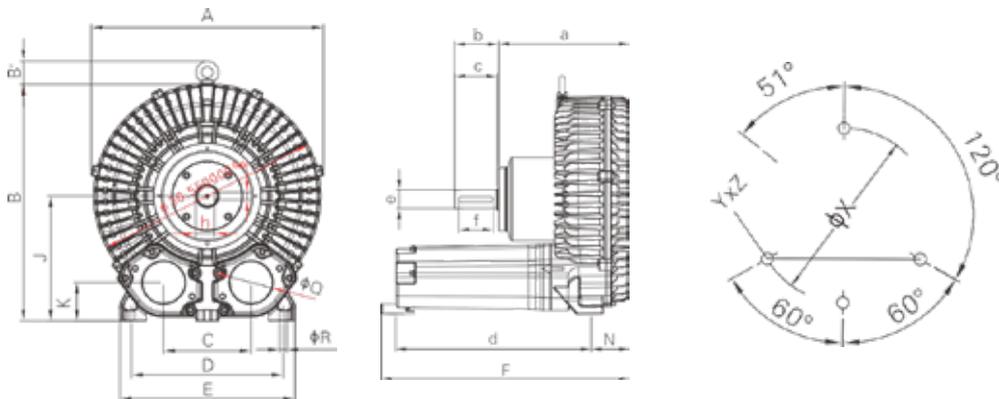
**!** N.B. Never exceed the maximum  $\Delta p$  indicated in the graphs and in the table depending on the installed power; apply a safety valve if necessary for this purpose.

**VACUUM SELECTION DIAGRAM**

**COMPRESSOR SELECTION DIAGRAM**



**DIMENSION FOR BELT DRIVE SIDE CHANNEL BLOWER**



TYPE	A	B	B'	C	D	E	F	J	K	N	ØQ	ØR
1X-9HF-M	550	569	55	207	360	415	644	300	92	127	100	15
TYPE	a	b	c	d	e	f	h	g	Y+Z	ØX		
1X-9HF-M	340	114	110	533	48	90	42	14	M12X30	490		

The performance curves are valid for pumping air at 15°C at the inlet flanges with an air pressure of 1.013mbar and a tolerance of ±10%. The total pressure differences are valid up to an intake and ambient temperature of 25°C.







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