

MP-F10/R/EX and MP-F05/R/EX

Full PTFE Bellows Pump Series MP®

Versions MP-F05, MP-F10, MP-F05/R, MP-F10/R
Versions MP-F05/EX, MP-F10/EX, MP-F05/R/EX, MP-F10/R/EX

Special Features

- **Pump head can be rotated in 90° steps and connected to the gas line from the top or side**
- **Max. capacity: approx. 5 Nl/min to approx. 10 Nl/min with a counter-pressure of ±50 mbar on the vacuum and pressure side**
- **Corrosion-resistant**
- **100 % lubricant-free**
- **High level of gas tightness**
- **Long service life**
- **A wide variety of connections available**
- **Also with bypass needle valve to adjust the pump capacity**
- **Ex versions suitable for gases of zone 1 IIC T3 and for mounting in zone 1 IIC T3 areas**

Application

The bellows pump MP-F is suitable for conveying corrosive gases.

The pump's performance and design are specially geared to the requirements of analysis techniques.

Description

All parts of the MP-F bellows pump in contact with the medium are made of corrosion-resistant material. As an option, the pump head can be supplied in stainless steel for connecting the pump with stainless steel tubing. The conveyed gas remains analytically pure due to the completely lubricant-free pump. A special bellows and valve system provides practically maintenance-free operation and a long service life. The straightforward valve design ensures low maintenance costs.

A needle valve is built into the pump head of the MP-F/R as an internal pump bypass for adjusting the flow rate.

The pump is available for 230 V or 115 V mains supply. Special voltages are also possible. If you have any questions about special voltages, please do not hesitate to contact us.

The Ex versions of the MP-F pumps are designed in accordance with ATEX II 2G.

The pump is available in 2 performance variants: 5 Nl/min and 10 Nl/min.

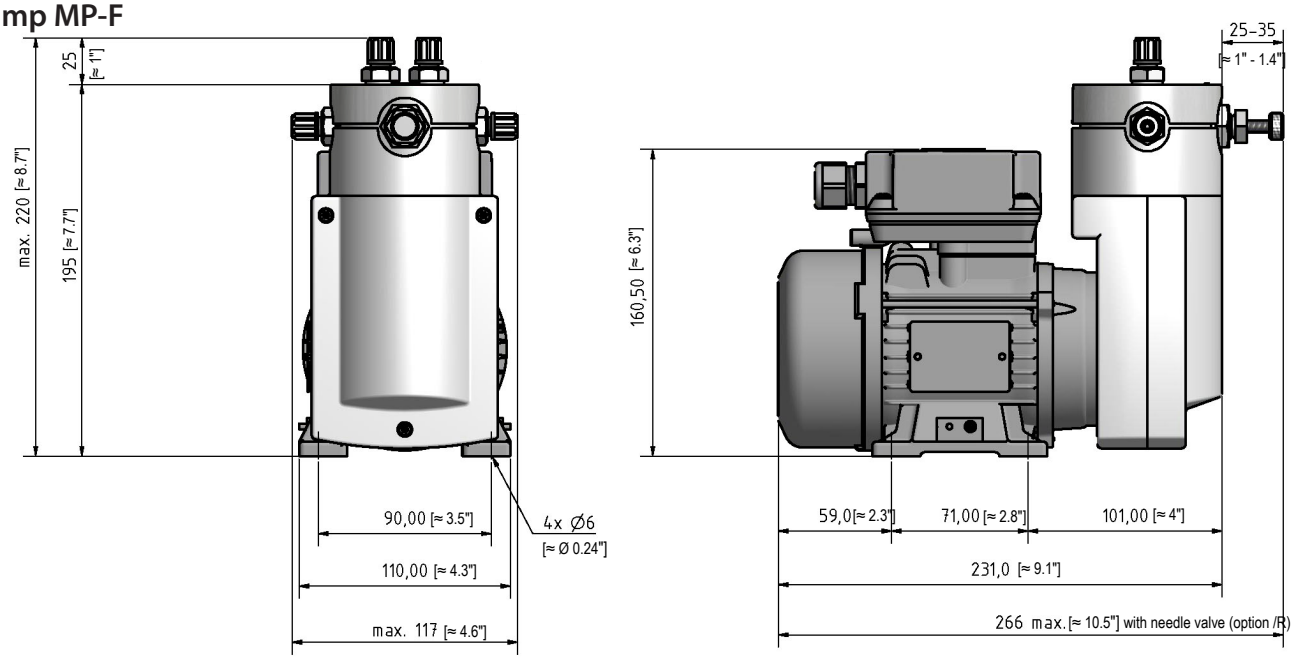
The pump can be connected to the gas line from the top or the side of the pump head. In addition, the pump head can be rotated and mounted in steps of 90°.

Technical specifications and illustrations are without obligation, subject to modifications. 06.23 - 1.03.03

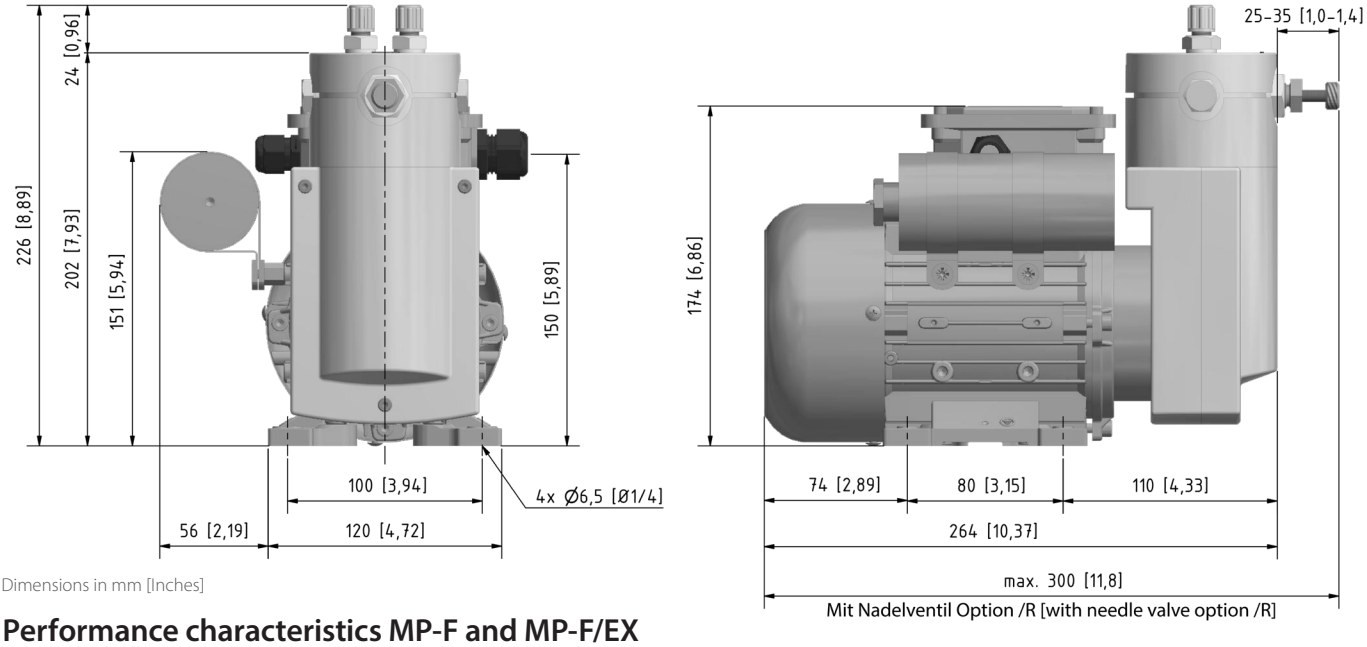
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Dimensions

Pump MP-F

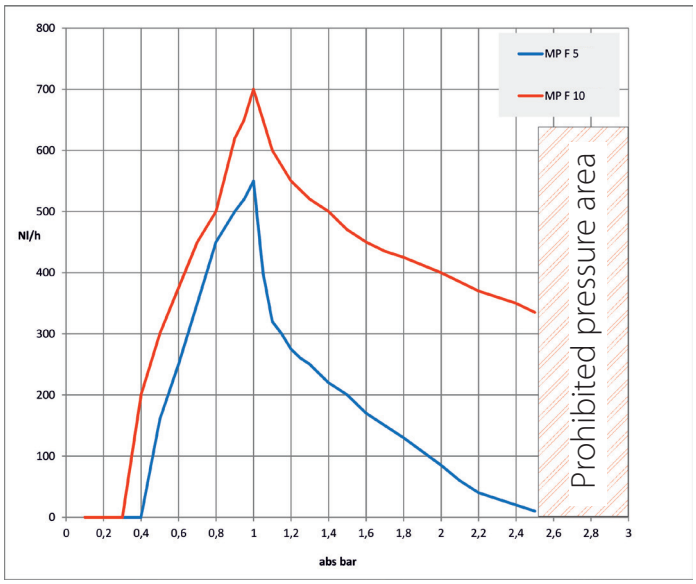


Pump MP-F/EX



Dimensions in mm [Inches]

Performance characteristics MP-F and MP-F/EX



Capacity (in Nl/h) without counter-pressure on the vacuum and pressure side.

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Technical Data

Bellows pump	MP-F05/230 V	MP-F05/115 V	MP-F10/230 V	MP-F10/115 V
Part No.	05P1000	05P1000a	05P1005	05P1005a
Part No. with needle valve /R	05P1010	05P1010a	05P1015	05P1015a
Power supply	230 V	115 V	230 V	115 V
Frequency	50/60 Hz			
Voltage tolerance	In accordance with IEC 60034-1 Voltage ±5 % Frequency ±2 %			
Degree of protection	IP55 EN 40050			
Capacity max.	320 Nl/h (approx. 5 Nl/min) with a counter pressure of ±50 mbar on the vacuum and pressure side		600 Nl/h (approx. 10 Nl/min) with a counter pressure of ±50 mbar on the vacuum and pressure side	
Operating pressure	Max. 0.4 - 2.5 bar abs.		Max. 0.3 - 3.2 bar abs.	
Gas sample temperature	-30 to +140 °C [-22 to +284 °F]			
Ambient temperature	+10 to +50 °C [50 to 122 °F]/0 to +50 °C [32 to 122 °F] for dry sample gas			
Storage temperature	-20 to +60 °C [-4 to +140 °F]			
Power consumption	65 W			
cos φ at 50 Hz	0.92	0.94	0.92	0.94
cos φ at 60 Hz	0.99			
Current consumption at 50 Hz	0.62	1.24	0.62	1.24
Current consumption at 60 Hz	0.55	1.1	0.55	1.1
Gas connections	G 1/4" i DIN ISO 228/1*			
Material of sample contact. parts	Without needle valve: PTFE, PFA, FEP, with needle valve: PTFE, PFA, FEP, PVDF			
Operating mode	100 % continous duty, starting of the pump only without pressure			
Electrical equipment standard	EN 60204-1			
Weight	4.7 kg [≈ 10.4 lbs]			
Options				
05P1050	Mounting bracket with 4 anti-vibration pads for bellows pump MP-F			
05P1060	Extra charge for upper pump head of bellows pump MP-F made out of stainless steel			
05P1070	Extra charge for upper pump head of MP-F../R made out of stainless steel with needle valve made out of PVDF			

Technical Data Ex Version

Bellows pump	MP-F05/EX/230 V	MP-F05/EX/115 V	MP-F10/R/EX/230 V	MP-F10/R/EX/115 V
Part No.	05P1100	05P1100a	05P1105	05P1105a
Part No. with needle valve /R	05P1110	05P1110a	05P1115	05P1115a
Power supply	230 V	115 V	230 V	115 V
Frequency	50 to 60 Hz			
Voltage tolerance	In accordance with IEC 60034-1 Voltage ±10 % Frequency ±1 %			
Degree of protection	IP54 EN 40050			
Capacity max.	320 Nl/h (approx. 5 Nl/min) with a counter pressure of ±50 mbar on the vacuum and pressure side		600 Nl/h (approx. 10 Nl/min) with a counter pressure of ±50 mbar on the vacuum and pressure side	
Operating pressure	Max. 0.4 - 2.5 bar abs.		Max. 0.3 - 2.5 bar abs.	
Marking	Ex II 2 G c IIC T3 IBExU 15 ATEX B 005 X			
Gas sample temperature	-20 to +50 °C [-4 to +122 °F]			
Ambient temperature	-10 to +50 °C [14 to 122 °F]/0 to +50 °C [32 to 122 °F] for dry sample gas			
Storage temperature	-20 to +60 °C [-4 °F to +140 °F]			
Current consumption @ 50 Hz	0.8 A	1.6 A	0.8 A	1.6 A
Current consumption @ 60 Hz	0.8 A	2.2 A	0.8 A	2.2 A
Power consumption	90 W			
cos φ @ 50 Hz	0.97			
cos φ @ 60 Hz	0.97	0.99	0.97	0.99
Gas connections	G 1/4" i DIN ISO 228/1*			
Material of sample contact. parts	Without needle valve: PTFE, PFA, FEP, with needle valve: PTFE, PFA, FEP, PVDF			
Operating mode	100 % continous duty, starting of the pump only without pressure			
Electrical equipment standard	EN 60204-1, EN 13463-1: 2009, EN 13463-5: 2011, EN 60079-0:2012 + A11:2013			
Weight	7.1 kg [≈ 15.7 lbs]	7.15 kg [≈ 15.8 lbs]	7.1 kg [≈ 15.7 lbs]	7.15 kg [≈ 15.8 lbs]
Options				
05P1050	Mounting bracket with 4 anti-vibration pads for bellows pump MP-F			
05P1060	Extra charge for upper pump head of bellows pump MP-F made out of stainless steel			
05P1070	Extra charge for upper pump head of bellows pump MP-F.../R made out of stainless steel with needle valve made out of PVDF			

* The dimensions and designation of the screw-in threads correspond to the respective applicable standard. The tolerances of the thread standards are matched to metal threads and cannot be applied to plastic threads.
Please note: Nl/h and Nl/min refer to the German standard DIN 1343 and are based on these standard conditions: 0 °C [32 °F], 1013 mbar.

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