

Product Group Sample Gas Pumps.

Product Category Gas Transport.





MP06

Analytical Diaphragm Pump Series MP®

Version MP06

Special Features

- Corrosion-resistant
- 100 % lubricant-free
- Gas-tight
- Maintenance-free

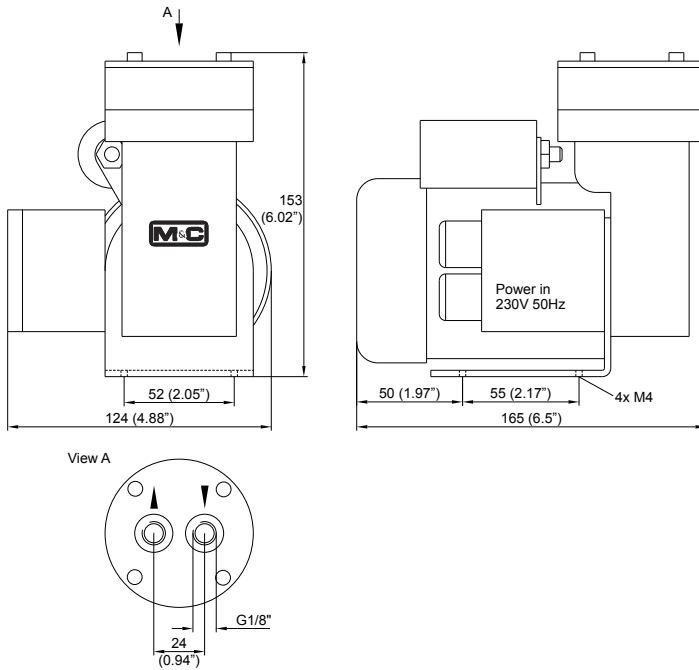
Application

The compact MP06 diaphragm pump is particularly suited for corrosive gases. Their performance characteristics and design are specially designed for problems encountered in analytical technology.

Description

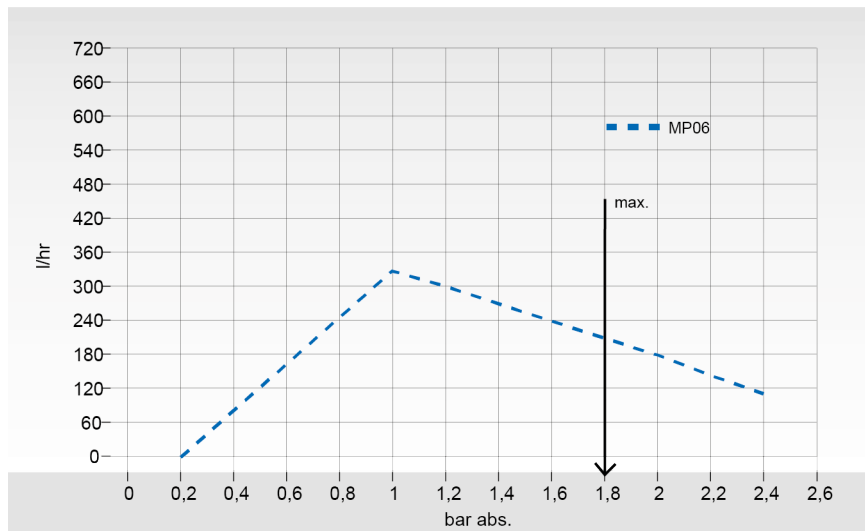
The MP06 has a robust drive motor with 1400 rpm. The encapsulated drive area ensures extremely low-noise operation. All parts in contact with the medium are made of fiber-reinforced PTFE and FKM.

For smooth operation, the permissible operating pressure of 0.8 bar must be observed. For this reason, the gas flow should be reduced or regulated via a needle valve on the suction side or by means of an overpressure valve or a bypass on the pressure side.



Dimensions in mm (inch)

Pump Capacity MP06



Operating pressure max. 1.8 bar abs.!

Technical Data

Pump Series MP*	MP06	MP06/R
Part No.	03P1000(a)	03P1500(a)
Power supply	230 V/50 Hz, 70 VA; Part No. ...a = 115 V/60 Hz, 70 VA	
Capacity max. without pressure	5.5 NI/min	
Integrated bypass needle valve for adjusting the flow rate	No	Yes
Operating pressure max.	0.25 to 1.8 bar abs.	
Sample temperature	-20 to +80 °C [-4 to 176 °F]	
Ambient temperature	-10 to +40 °C [14 to 104 °F]	
Storage temperature	-15 to +60 °C [5 to 140 °F]	
Operation mode	100 % continuous duty, start of the pump only without pressure!	
Protection	IP54 EN 60529	
Weight	2.4 kg [≈ 5.3 lbs]	
Gas connections	G 1/8" i DIN ISO 228T1	
Material of sample-contacting parts	Fiber-reinforced PTFE, FKM	

Please note: NI/h and NI/min refer to the German standard DIN 1343 and are based on these standard conditions: 0 °C [32 °F], 1013 mbar.



MP26-H1

Analytical Diaphragm Pump Series MP[®]

Version MP26-H1 - heated up to 180 °C

Special Features

- Heated up to 180 °C [356 °F]
- Corrosion-resistant
- With high-temperature limiter
- Low-temperature alarm
- 100 % lubricant-free
- Gas-tight
- Maintenance-free
- Long service life

Application

This M&C diaphragm pump MP26-H1 is suitable for corrosive gases. Its performance and design are specially designed for the problems encountered in analytical technology for hot gas measurement.

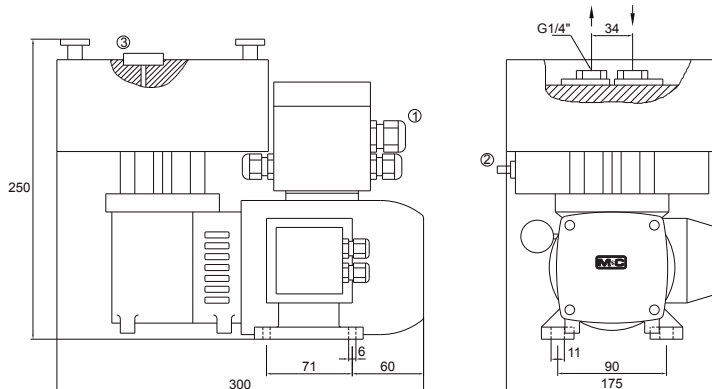
Description

The M&C diaphragm pump MP26-H1 has an electrically heated, chambered pump head out of PTFE. The temperature control is carried out with an integrated capillary sensor thermostat, adjustable from 0 to 180 °C [32 to 356 F], incl. high-temperature limiter and low-temperature alarm function. All parts in contact with the medium are out of PTFE and the diaphragm pressure disc is made of nickel-plated stainless steel.

The pump works absolutely lubricant-free. Gases therefore remain analytically unchanged. Due to a special diaphragm and valve system, the pump operates maintenance-free and guarantees a long service life.

In order to ensure smooth operation, it is important to pay attention to the permissible operating overpressure. Thus, the reduction or regulation of the gas quantity should take place on the suction side via a needle valve or on the pressure side by means of an overpressure valve or bypass.

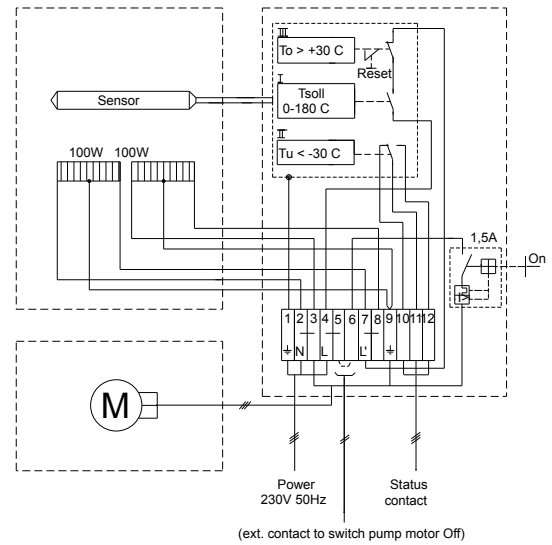
Electrically Heated Pump MP26-H1



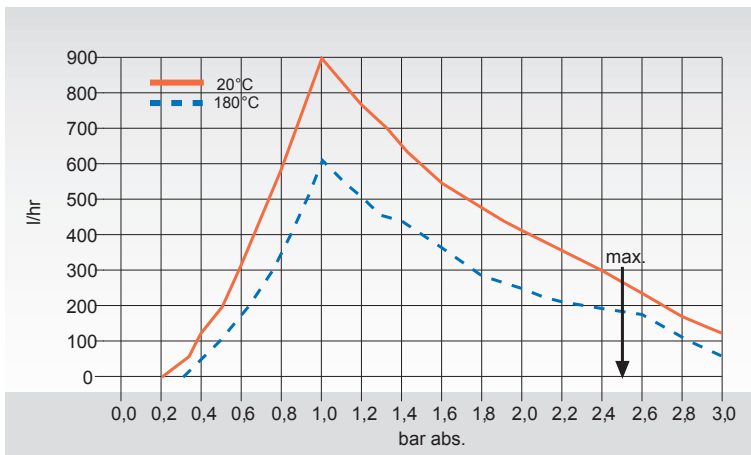
① : 2x PG13, 1x PG9; ② : Heater elements; ③ : Thermometer, indicator for 50 - 250 µC

Dimensions in mm

Electrical Connections



Performance Characteristics MP26-H1



Technical Data

Diaphragm Pump, Heated Series MP*	MP26-H1 10 LPM 230 V/50 Hz
Part number	02P1300
Capacity max.	10.0 LPM at 180 °C [356 °F], without pressure
Operating pressure max.	0.3 to 2.5 bar abs.
Sample temperature	-20 to +200 °C [-4 to 392 °F]
Ambient temperature	-10 to +40 °C [14 to 104 °F]
Storage temperature	-15 to +60 °C [5 to 140 °F]
Operation mode	100 % continuous duty, start of the pump only without pressure!
Power supply	Motor = 230 V/50 Hz*, 1,1 A, incl. protective motor switch *Standard Heater = 230 V/50 Hz*, 2,0 A *Standard
Degree of protection	IP44 - EN 60529 *Standard
Temperature adjustment	0 to 180 °C [32 to 356 °F], (180 °C [356 °F] set at the factory)
Low-temperature alarm contact	Alarm point: ΔT 30 °C, contact rating: 250 V, 3 A~, 0.25 A =
Weight	6.5 kg [≈ 14.3 lbs]
Sample connection	G 1/4" i DIN ISO 228/1
Material of sample-contacting parts	PTFE (and stainless steel nickel-plated)

Please note: NI/h and NI/min refer to the German standard DIN 1343 and are based on these standard conditions: 0 °C [32 °F], 1013 mbar.



MP30

Analytical Diaphragm Pump Series MP®

Version MP30

Special Features

- Corrosion-resistant
- 100 % lubricant-free
- Gas-tight
- Maintenance-free
- Long service life
- Small dimensions, high performance

Application

This diaphragm pump MP30 is suitable for corrosive gases. It is constructed especially for gas analysis applications.

Description

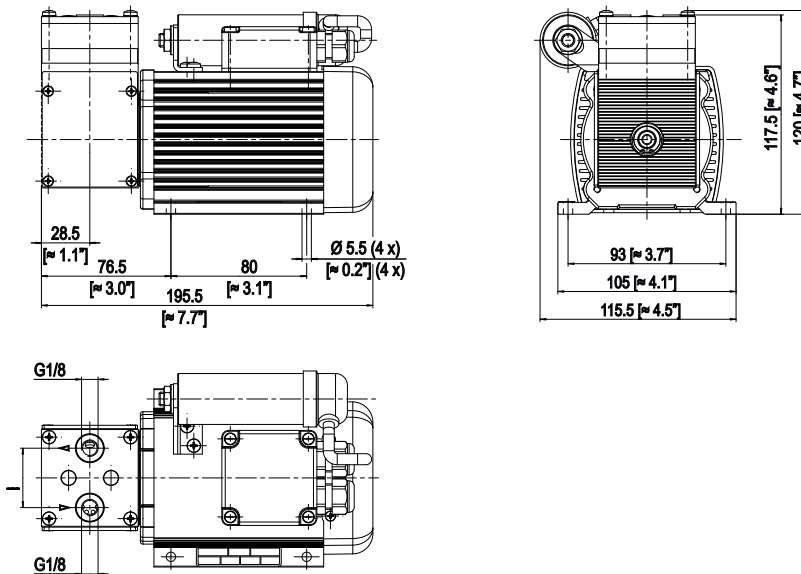
All parts of the MP30 diaphragm pump in contact with the medium are made of PVDF, PTFE and FPM. The pumped gas remains analytically pure due to the absolutely lubricant-free pump. A special diaphragm and valve system ensures maintenance-free operation and a long service life.

The MP30 is available for 230 V or 115 V power supply.

The standard MP30 is designed for normal applications at a maximum gas flow of 7 Nl/min.

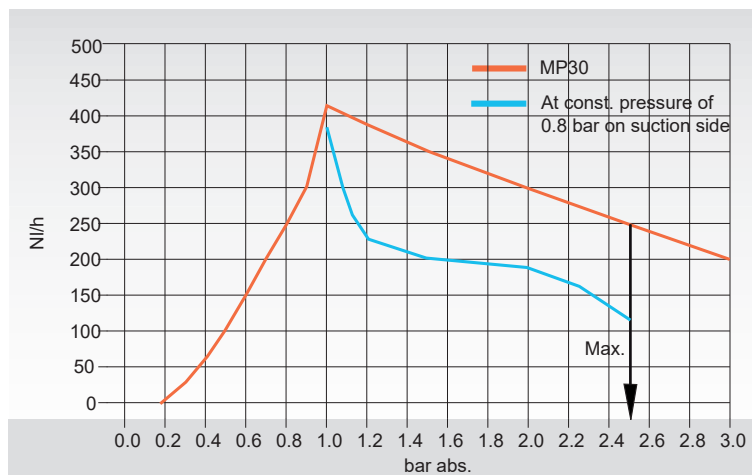
Dimensions

Pump MP30



Dimensions in mm [Inches]

Performance Characteristics MP30

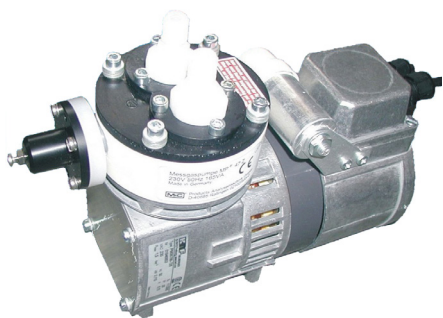


The operating pressure for MP30 is max. 2.5 bar abs.

Technical Data

Diaphragm Pump	MP30 230 V/50 Hz	MP30 115 V/60 Hz
Part No.	02P1500	02P1500a
Degree of protection	IP54 EN 60529	
Power consumption	70 W	
Current consumption	0.45 A	0.7 A
Max. capacity	7.0 NI/min without pressure 0.9/2.0 bar abs. on suction/pressure side: 5 NI/min	
Operating pressure	0.2 to 2.5 bar abs.	
Sample temperature	+5 to +40 °C [41 to 104 °F]	
Ambient temperature	+5 to +40 °C [41 to 104 °F]	
Storage temperature	-15 to +60 °C [5 to 140 °F]	
Gas connections	G 1/8" i DIN ISO 228/1	
Material of sample-contacting parts	Pump head: PVDF, SS 316Ti, diaphragm: PTFE, valves: FFPM	
Operation mode	100 % continuous duty, start of the pump only without pressure	
Weight	3.1 kg [≈ 6.8 lbs]	

Please note: NI/h and NI/min refer to the German standard DIN 1343 and are based on these standard conditions: 0 °C [32 °F], 1013 mbar.



MP47-Z-BPR150

Analytical Diaphragm Pump Series MP®

Version MP47-Z-BPR150
with integrated bypass pre-pressure control

Special Features

- With integrated bypass pre-pressure control
- Corrosion-resistant
- 100 % lubricant-free
- Gas-tight
- Maintenance-free
- Long service life

Application

The diaphragm pump MP47-Z-BPR150 is suitable for 100 % oil-free conveying of corrosive gases under changing pressure conditions. Its performance and design are specially designed for the problems encountered in analytical technology. The pump is gas-tight and maintenance-free.

Description

All sample-contacting parts of the diaphragm pump MP47-Z-BPR150 are made of PTFE, PVDF and Viton® or Kalrez®. The pump, which operates absolutely lubricant-free, ensures that the conveyed gas remains analytically pure. A special diaphragm and valve system guarantees maintenance-free operation and a long service life. The pump is available for 230 V or 115 V power supply.

In analytical technology, when conveying gases via filters, there is always the problem that filters become clogged during the continuous operating time. This causes an increase in the differential pressure above the filter, which results in a higher required suction pressure for the downstream pump. This, in turn, results in a decrease in the set flow rate.

To avoid this negative influence, the M&C diaphragm pump MP47-Z-BPR150 has a fully-fledged bypass pressure control integrated into the pump head. Irrespective of the variable inlet pressure, the bypass pre-pressure control keeps the pressure in the pump outlet and the resulting adjustable flow rate constant.

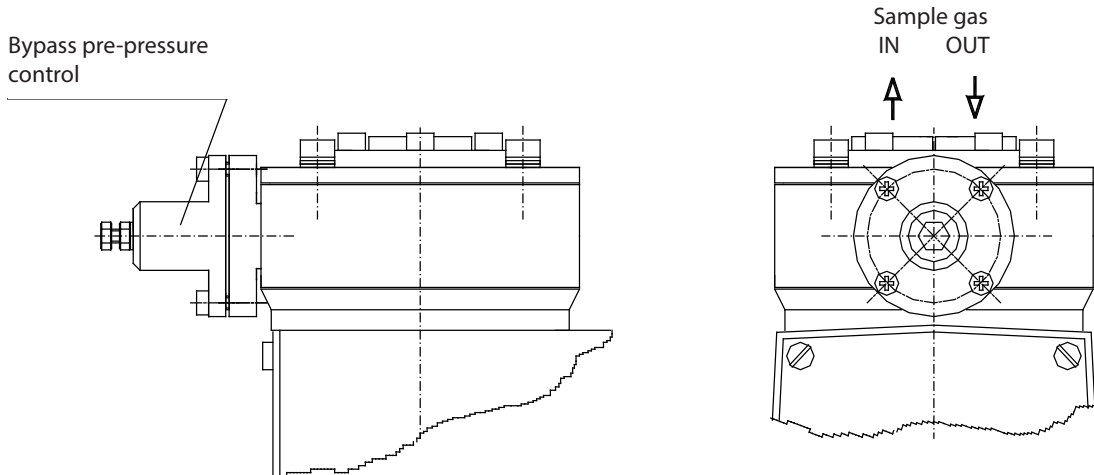
The inlet pressure may vary for example from 0.46 bar abs. to 1.1 bar abs. at a flow rate of 250 NI/h. The outlet pressure is factory-set to 200 mbar overpressure (adjustable up to 300 mbar).

Diaphragm Pump	MP47-Z-BPR150 -Viton®, 230 V	MP47-Z-BPR150 -Viton®, 115 V	MP47-Z-BPR150 -Kalrez®, 230 V	MP47-Z-BPR150 -Kalrez®, 115V
Part No.	02P1160	02P1160a	02P1165	02P1165a
Voltage	230 V/50 Hz	115 V/60Hz	230 V/50 Hz	115 V/60 Hz
Material of sample-contacting parts	PTFE, PVDF, Viton®		PTFE, PVDF, Kalrez®	
Protection class	IP20 - DIN 40050			
Pump capacity max.	6.5 NI/min* in the range of adjustment (outlet pressure)			
Operating pressure max.*	1.1 bar abs.			
Operating pressure min.**	0.46 bar abs. for 250 NI/h/0.62 bar abs. for 400 NI/h (outlet pressure 1.2 bar abs.)			
Outlet pressure	1.15 to 1.3 bar abs./at works 1.2 bar abs.			
Gas temperature	-30 to +80 °C [-22 to 176 °F]			
Ambient temperature	-10 to +40 °C [14 to 104 °F]			
Storage temperature	-15 to +60 °C [5 to 140 °F]			
Power consumption	110 W			
Current consumption	0.75 A	1.7 A	0.75 A	1.7 A
Gas connections	G 1/4" i DIN ISO 228/1			
Electrical standard	EN 61010 part 1			
Weight	4.6 kg [≈ 10.1 lbs]			

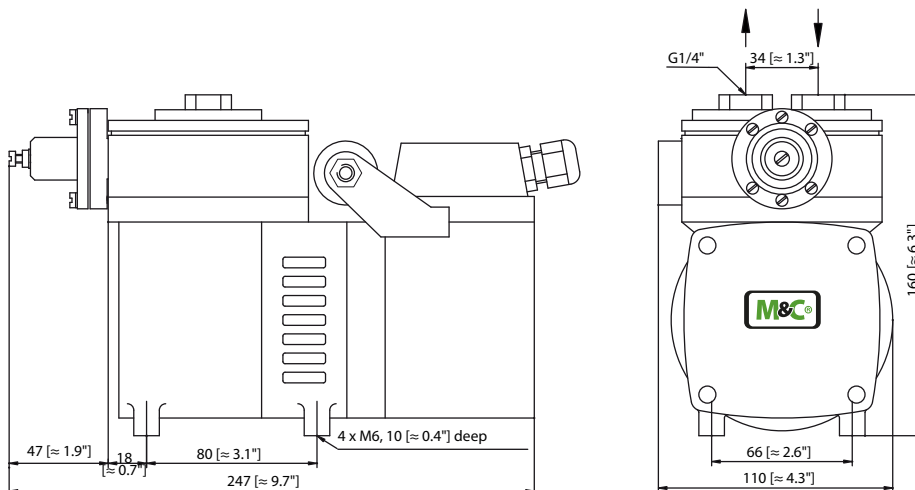
* The maximum operating pressure at which the pump still delivers a constant outlet pressure and thus a constant sample gas volume flow.
 ** The minimum operating pressure that still guarantees a constant pump capacity is changing according to the necessary gas volume flow adjusted downstream of the pump and to the outlet pressure adjusted via the pressure control. The lower the necessary gas volume flow and the outlet pressure, the lower is the minimum possible operating pressure that still guarantees a constant outlet pressure and therefore a constant sample gas volume flow.

Viton® and Kalrez® are registered trademarks used by the company DuPont Performance Elastomers (USA).
 Please note: NI/h and NI/min refer to the German standard DIN 1343 and are based on these standard conditions: 0 °C [32 °F], 1013 mbar.

Pump head with integrated bypass pre-pressure control



Dimensions





MP47..

Analytical Diaphragm Pump Series MP®

Versions MP47/R and MP47-Z/R
with integrated needle valve type /R
for flow adjustment

Special Features

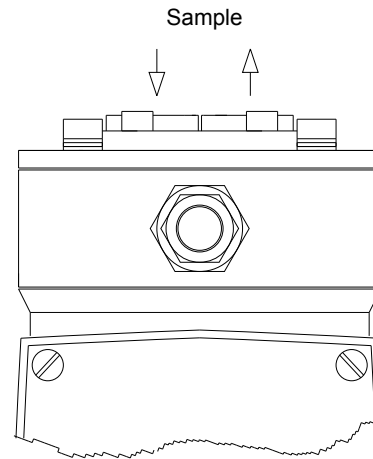
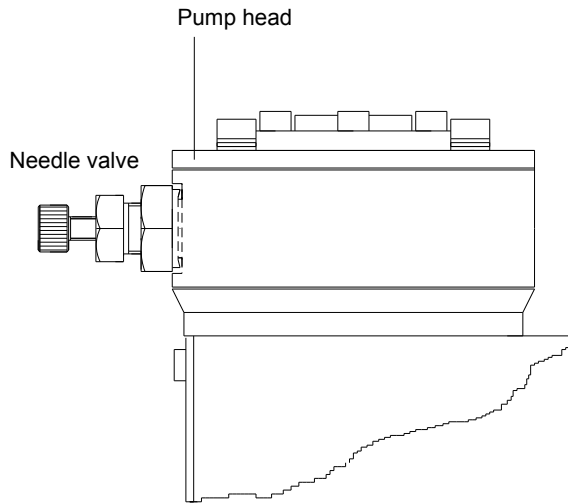
- Corrosion-resistant
- 100 % lubricant-free
- Gas-tight
- Maintenance-free
- Diaphragm break monitoring possible
- Long service life
- With integrated needle valve

Description

The integrated needle valve in the pump head is an internal bypass and allows the adjustment of the flow rate.

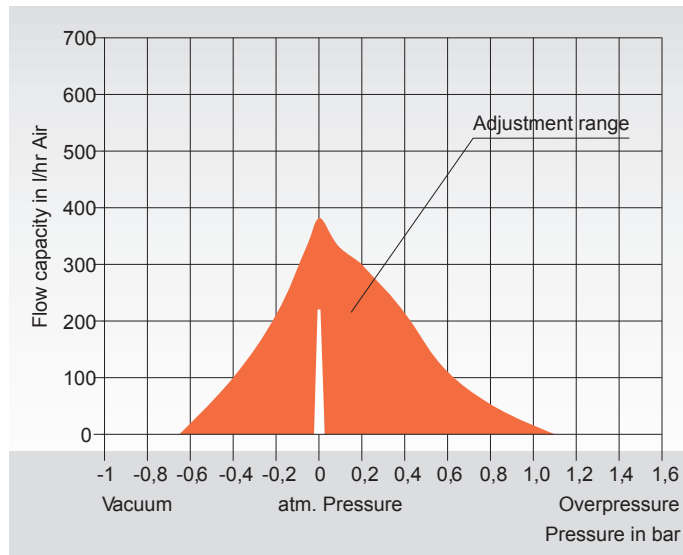
Due to the optimum needle form, flow adjustment is possible in a wide range.

All parts in contact with the sample are made of PTFE and PVDF. O-rings are not required.

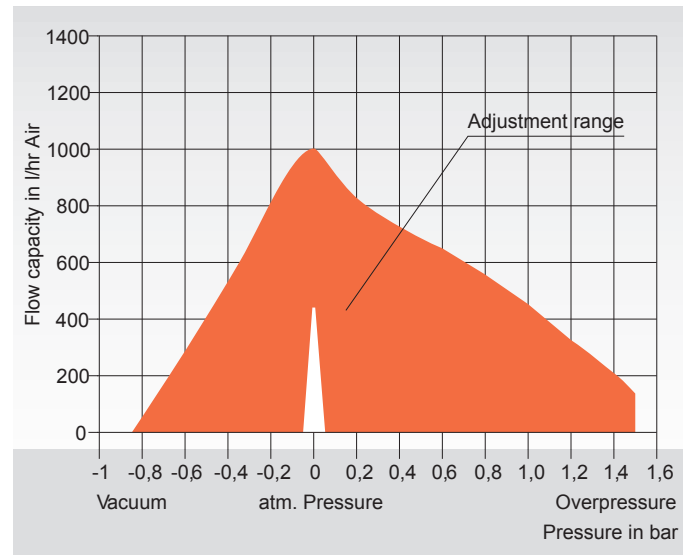


Dimensions in mm

Analytical Diaphragm Pump Type MP47/R



Analytical Diaphragm Pump Type MP47-Z/R



– For further details see data sheet "Analytical Diaphragm Pump Series MP® Versions MP47, MP47-Z, MP47.../EX" –

Part Numbers

02P1050 Analytical diaphragm pump MP47/R = 230 V/50 Hz or 02P1050a = 115 V/60 Hz

02P1150 Analytical diaphragm pump MP47-Z/R = 230 V/50 Hz or 02P1150a = 115 V/60 Hz



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**
- **Minimum achievable pump capacities: approx. 5 NI/min or approx. 10 NI/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 IICT3 and for mounting in zone 1 IICT3 areas**

Application

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


The performance and design of the pump 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.

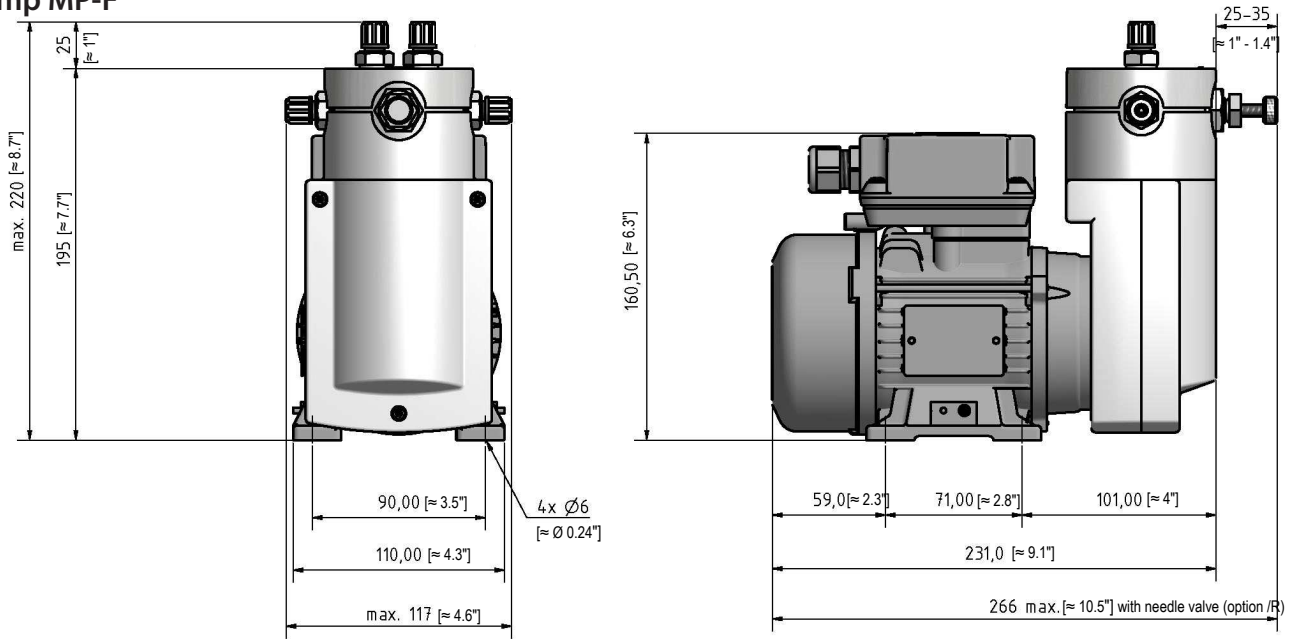
The pump is available in 2 pump capacities: 5 NI/min and 10 NI/min. These are the minimum pump capacities the pump is able to achieve with a counter-pressure of ±50 mbar on the vacuum and pressure side.

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°.

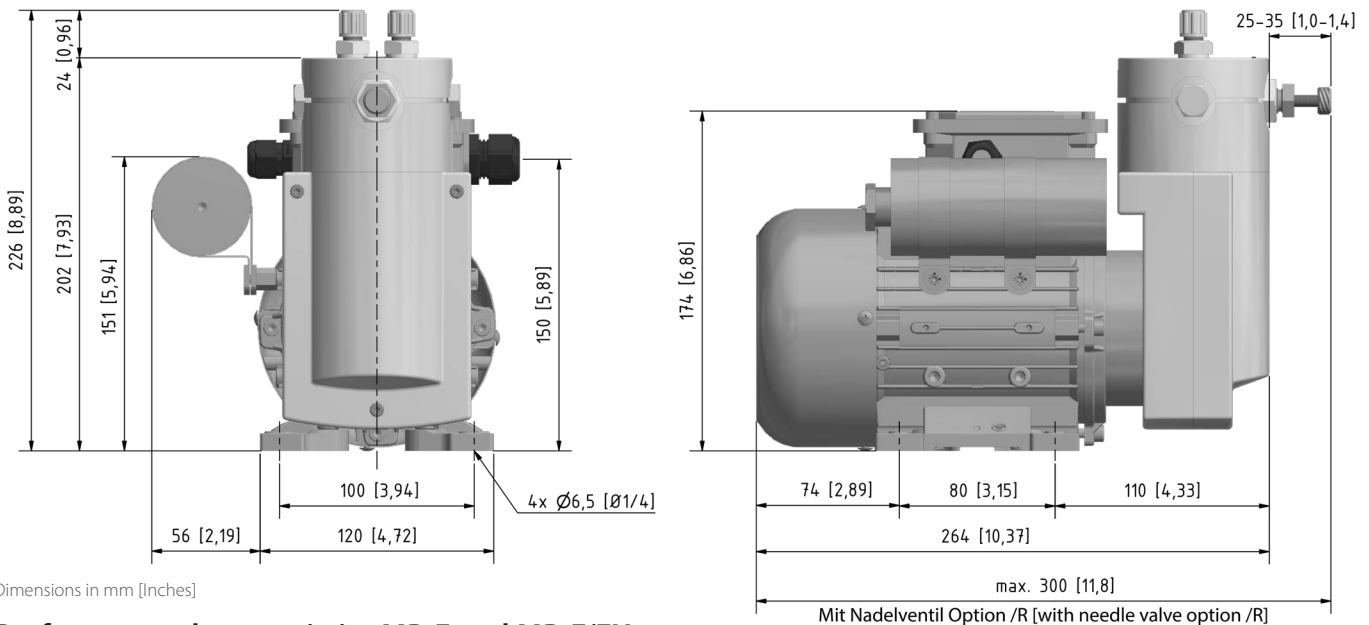
Dimensions



Pump MP-F

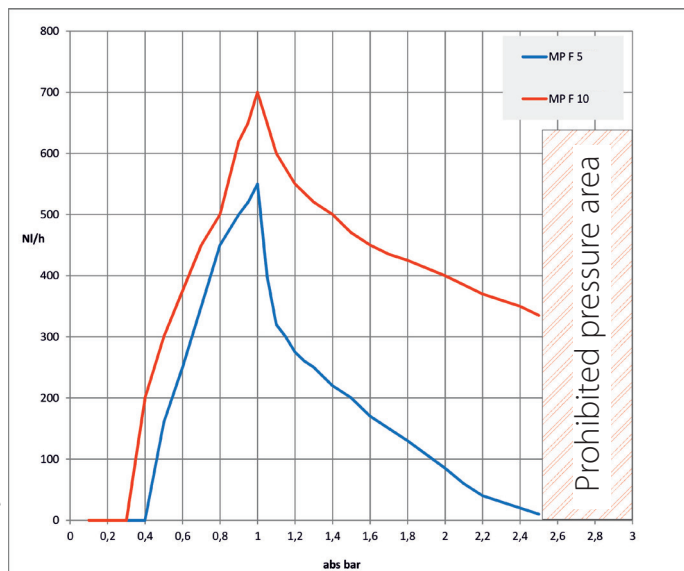


Pump MP-F/EX



Dimensions in mm [Inches]

Performance characteristics MP-F and MP-F/EX



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

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 $\pm 5\%$ Frequency $\pm 2\%$			
Degree of protection	IP55 EN 40050			
Pump capacity	At least 320 NI/h (approx. 5 NI/min) with a counter pressure of ± 50 mbar on the vacuum and pressure side		At least 600 NI/h (approx. 10 NI/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 % continuous duty, starting of the pump only without pressure			
Electrical equipment standard	EN 60204-1			
Weight	4.7 kg [\approx 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 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 $\pm 10\%$ Frequency $\pm 1\%$			
Degree of protection	IP54 EN 40050			
Pump capacity	At least 320 NI/h (approx. 5 NI/min) with a counter pressure of ± 50 mbar on the vacuum and pressure side		At least 600 NI/h (approx. 10 NI/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	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 % continuous 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 [\approx 15.7 lbs]	7.15 kg [\approx 15.8 lbs]	7.1 kg [\approx 15.7 lbs]	7.15 kg [\approx 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: NI/h and NI/min refer to the German standard DIN 1343 and are based on these standard conditions: 0 °C [32 °F], 1013 mbar.



NS KP18

Diaphragm Pump Series N[®]

Versions N3/5/9 KPE and N3/5/9 KP18

Special Features

- Corrosion-resistant
- 100 % lubricant-free
- Gas-tight
- Maintenance-free
- 3 types with different capacities
- Compact design

Application

The compact diaphragm pumps type N3/5/9 are suitable for sampling air, gases and vapours in a temperature range from +5 to +40 °C [41 to 104 °F]. Their performance characteristics and design are specially geared to the problems encountered in analytical technology.

Description

The diaphragm pumps of the N3/5/9 series deliver gases 100 % lubricant-free. They operate gas-tight and maintenance-free. The three performance variants N3/N5/N9 are available as built-in versions KPE without protective housing or as KP18 with protective housing. The sound emission of the pumps without housing is already below 55 db(A). The compact design of the shaded-pole motor makes it possible to manufacture a space-saving pump with low weight. The drive motors have two motor windings for universal mains operation with 115 V or 230 V.

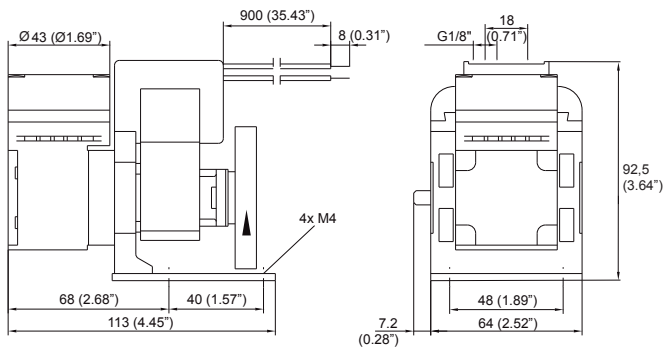
All pump parts that come into contact with the sample are made of high-quality corrosion-resistant materials.

For trouble-free operation, the permissible operating overpressure of 0.5 bar must be observed in the case of the N9 variant. For this reason, the gas flow should be reduced or regulated on the suction side by means of a needle valve or by means of an overpressure valve or bypass on the pressure side.

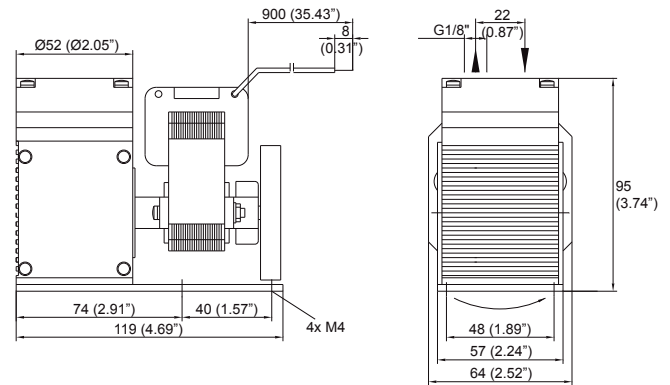
Dimensions



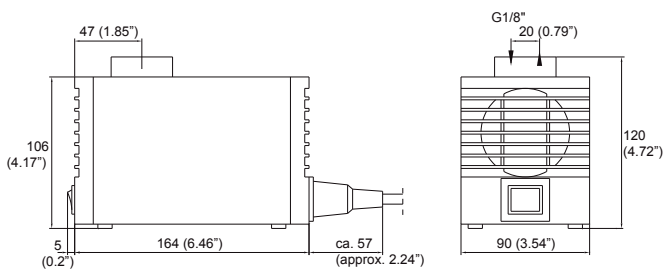
Diaphragm pump N3 KPE and N5 KPE built-in version



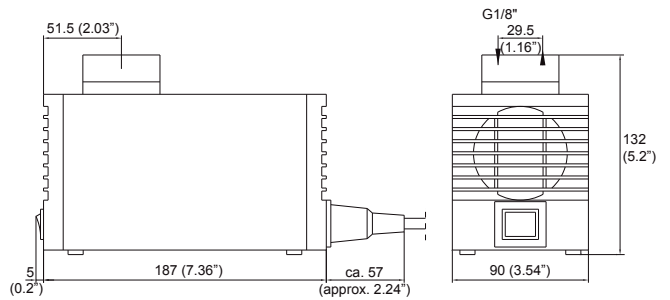
Diaphragm pump N9 KPE built-in version



Diaphragm pump N3 KP18 and N5 KP18 with housing



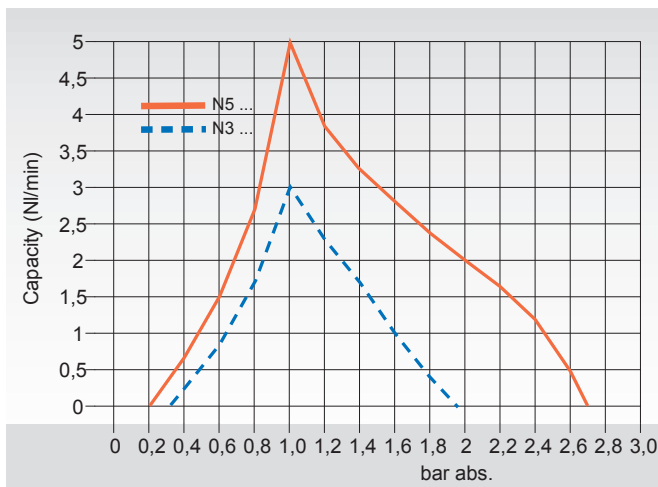
Diaphragm pump N9 KP18 with housing



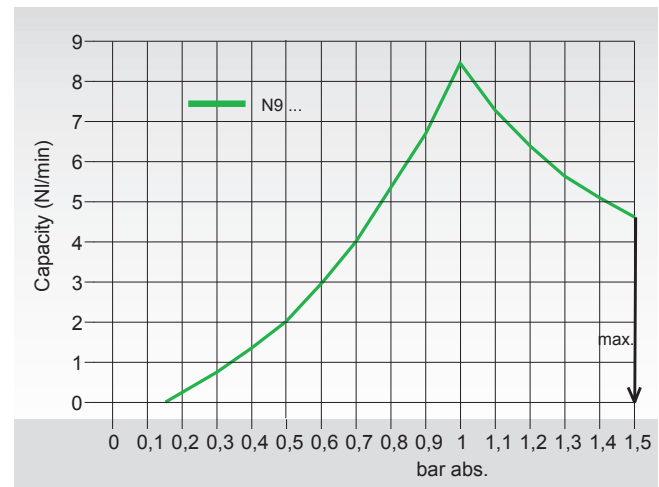
Dimensions in mm (inch)

Pump Capacities

N3 KPE/KP18 and N5 KPE/KP18



N9 KPE/KP18



Operating pressure max. 1.5 bar abs.!

Technical Data



Pump Series N	N3 KPE/N3 KP18	N5 KPE/N5 KP18	N9 KPE/N9 KP18
Part number*	02P3351/02P3006 (a)*	02P3355/02P3007 (a)*	02P3360/02P3008 (a)*
Housing version	No/yes		
Max. capacity at atmospheric pressure	3 NI/min	5 NI/min	8.5 NI/min
Max. operating pressure	0.25 to 1.95 bar abs	0.15 to 2.7 bar abs.	0.15 to 1.5 bar abs.
Sample and ambient temperature	+5 up to +40 °C [41 up to 104 °F]		
Storage temperature	-15 up to +60 °C [5 up to 140 °F]		
Operation mode	Continuous		
Power supply selectable at terminal block via wire jumper	230 V/50 Hz, 0.75 A or 115 V/60 Hz, 1.5 A 60 W		230 V 50 Hz, 0.65 A or 115 V 60 Hz, 1.2 A 60 W
Electrical connection	KPE: Wire 4 x 0.5 mm ² , approx. 900 mm [≈ 35.4"] long KP18: Cold appliance plug with 2 fuses 230 V - 1 A / 115 V - 3.2 A, 2.5 m [≈ 8.2 ft] cable and power switch		
Protector	Thermo switch, double (115 V/230 V)		
Protection	KPE: IP00 EN 60529		
	KP18: IP20 EN 60529		
Weight	KPE: 1.1 kg [≈ 2.4 lbs] KP18: 1.9 kg [≈ 4.2 lbs]		... KPE: 1.3 kg [2.9 lbs] ... KP18: 2.1 kg [4.6 lbs]
Gas connections	G 1/8"i DIN ISO 228/1		
Material of parts in contact with the sample	Pump head: PVDF, diaphragm: PTFE, valves/sealing: Viton®		
Housing material KP18	AL-Mg-Si-0,5/firmness: F25, color RAL 9002 white-grey		

*For diaphragm pumps version (N... KP18) with housing in 115 V, please specify in your order: power 115 V and add an 'a' to the part number.
Viton® is a registered trademark used by DuPont Performance Elastomers, USA.
Please note: NI/h and NI/min refer to the German standard DIN 1343 and are based on these standard conditions: 0 °C [32 °F], 1013 mbar.



MP48/R and MP48/R EX

Analytical Diaphragm Pump Series MP®



Versions MP48/R, MP48/R EX

Special Features


- Corrosion-resistant
- 100 % lubricant-free
- Gas-tight
- Maintenance-free
- Long service life
- ATEX certified versions for hazardous zone 1 areas

Application

This diaphragm pump MP48 is suitable for corrosive gases. It is specially designed for problems in the analytical technology.

Description

All parts of the diaphragm pump MP48 in contact with the medium are made of PTFE or FFKM. The conveyed gas remains analytically pure due to the absolutely lubricant-free pump. A special diaphragm and valve system ensures maintenance-free operation and a long service life.

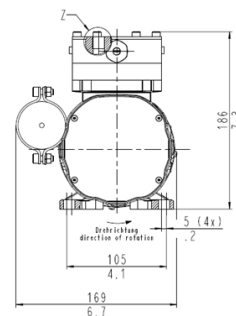
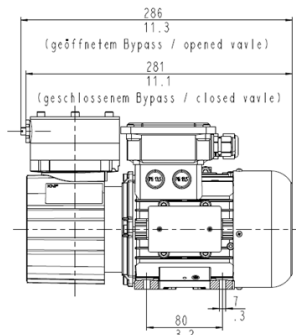
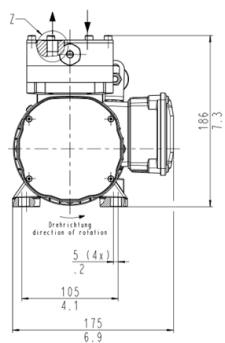
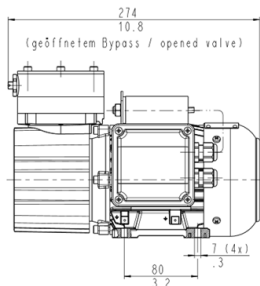
The pump is available for 230 V or 115 V power supply and in a version according to ATEX  for applications in hazardous areas as well.

With a flow rate of 16 NI/min the MP48 is optimally designed for applications with higher power requirements.

The pumps MP48/R and MP48/R EX are supplied as standard with an integrated needle valve in the pump head for flow adjustment.

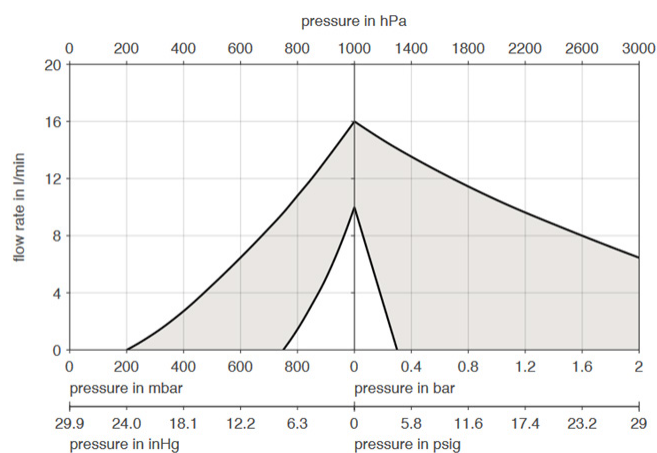
Pump MP48/R

Pump MP48/R EX with an Ex motor



Dimensions in mm/Inches

Performance characteristics MP48/R and MP48/R EX



Flow rate determined at 20 °C, 1013 mbar abs. (pressure range 0 to 1013 mbar abs. according to ISO 21360-1/2)

Technical Data

Diaphragm pump	MP48/R*	MP48/R EX**
Part No.	02P4801	02P4801A
Voltage	230 V	115 V
Degree of protection: motor	IP55 EN 60529	IP66 EN 60529
Degree of protection: pump	IP54 EN 60529	IP54 EN 60529
Ex marking	None	II 2G Ex h IIB+H2 T3 Gb for the pump II 2G Ex de IIC T4 for the motor
Capacity max.	10 to 16 NI/min ±10 % at atmospheric pressure	
Operating pressure max.	3 bar abs.	
Ambient temperature	+5 to 60 °C [41 to 140 °F], 0 °C [32 °F] if non-condensing (frost-free)	+5 to 50 °C [41 to 122 °F]
Sample temperature	0 to +60 °C [32 to 140 °F]	+5 to 50 °C [41 to 122 °F]
Storage temperature	+5 to 40 °C [41 to 104 °F]	
Transport temperature	-10 to +60 °C [14 to 140 °F]	
Permitted humidity (non-condensing)	30 to 85 %	
Frequency	50 Hz	60 Hz
Current consumption 50 Hz	1.35 A	1.09 A
Current consumption 60 Hz	-	1.06 A
Power P2 at the motor shaft	-	120 W
Power consumption P1	185 W	195 W
Gas connections	G 1/4" female, DIN ISO 228/1	
Material of sample-contacting parts	PTFE modified, PTFE, FPM	
Operation mode	100 % continuous duty, start of the pump only without pressure	
Weight	7.3 kg [≈ 16.1 lbs]	7.2 kg [≈ 15.9 lbs]

* Starting April 2023, the MP48/R pump has a new motor with a higher energy efficiency class. Please note that the new MP48/R has the new part no. 2P4801(A).

** The pumps are intended for conveying air as well as gases, vapors and mists in explosion groups II A and II B, temperature class T4

Ex e II T3 Motor 115 V/60 Hz or 230 V/50 Hz standard

Ex e II T4 Motor 230/380 V/50 Hz on request

Please note: NI/h and NI/min refer to the German standard DIN 1343 and are based on these standard conditions: 0 °C [32 °F], 1013 mbar.



MP31

Analytical Diaphragm Pump Series MP®

Version MP31

Special Features

- **Capacity: max. 7.5 NI/min without pressure**
- **Max. operating pressure range: 0.14 to 2.5 bar abs.**
- **Corrosion-resistant**
- **100 % lubricant-free**
- **High level of gas tightness**
- **Maintenance-free**

Application

The MP31 is the replacement for the MP30.

The model MP31 is equipped with a new bearing, a new diaphragm and a new intermediate plate.

The MP31 diaphragm pump is suitable for 100 % oil-free transport of corrosive gases. It has been dimensioned and designed specifically for use in the analytical sector. The pump is gas-tight and maintenance-free.

Description

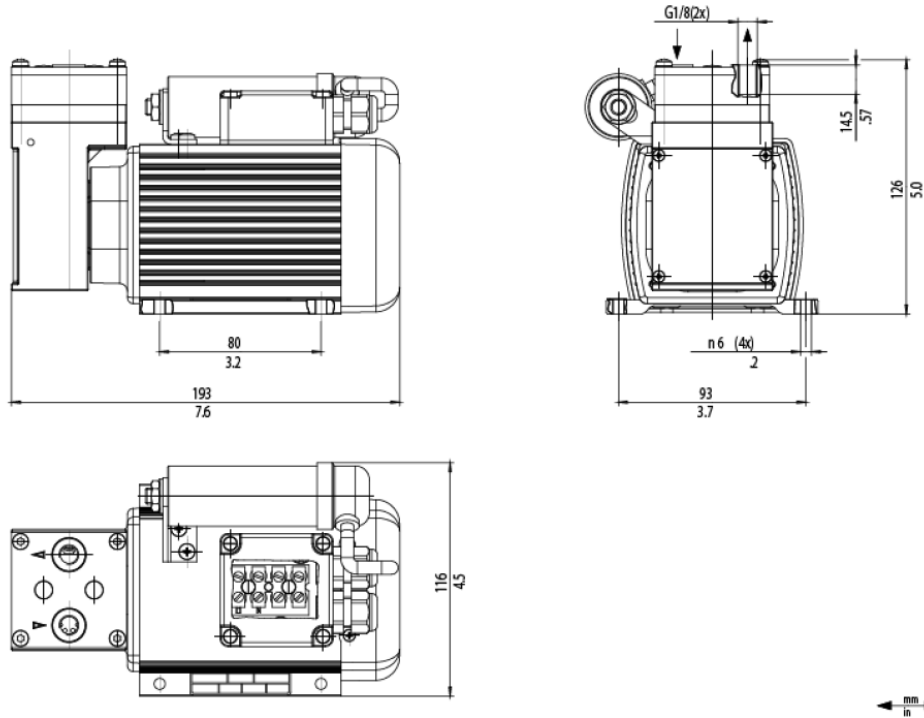
All parts of the MP31 diaphragm pump in contact with the medium are made of PVDF, 316Ti, CR, PTFE coated and FFKM. The pumped gas remains analytically pure due to the absolutely lubricant-free pump. A special diaphragm and valve system ensures maintenance-free operation and a long service life.

The MP31 is available for 230 V or 115 V power supply.

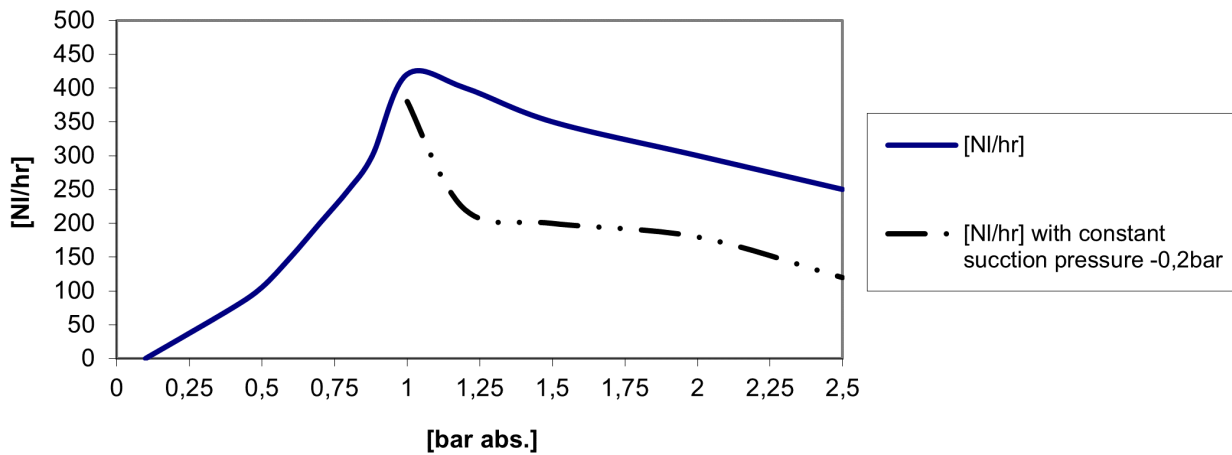
The standard MP31 is designed for normal applications at a maximum gas flow of 7.5 NI/min.

Dimensions

Pump MP31



Performance Characteristics MP31



The operating pressure for MP31 is max. 2.5 bar abs.

Technical Data

Diaphragm Pump	MP31/230 V	MP31/115 V
Part No.	02P1510	02P1510a
Power supply	230 V/50 Hz ±10 %	115 V/60 Hz ±10 %
Power consumption	70 W	
Current consumption	0.45 A	0.7 A
Degree of protection	IP54 DIN 40050	
Max. capacity	7.5 NI/min without pressure	
Operating pressure	0.14 to max. 2.5 bar abs.	
Sample temperature	+5 to +40 °C [41 to 104 °F]	
Ambient temperature	+5 to +40 °C [41 to 104 °F]	
Storage temperature	-15 to +60 °C [5 to 140 °F]	
Gas connections	G 1/8" female DIN ISO 228/1*	
Electrical equipment standard	EN 61010, part 1	
Material of sample-contacting parts	Pump head: PVDF, SS 316Ti, diaphragm: CR, PTFE coated, valves: FFKM	
Operation mode	100 % continuous duty, start of the pump only without pressure	
Weight	3.1 kg [≈ 6.8 lbs]	3.3 kg [≈ 7.3 lbs]

* 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.

Material designations according to ISO 1629 and 1043.1

Please note: NI/h and NI/min refer to the German standard DIN 1343 and are based on these standard conditions: 0 °C [32 °F], 1013 mbar.