ANKERSMID Diaphragm pump

AMP 067/067Ex Series



* Pictures may vary

Application

Ankersmid Mini Diaphragm Pumps are used for the transportation of sample gas in sample conditioning systems in the chemical industry, for environmental applications, and in production technology; some application examples are sampling gases from the ambient environment, exhaust gases and smoke analysis. The **AMP 067** is easy to install and can be adapted to a variety of process conditions.

Description

The new range of **AMP 067 / AMP 067Ex** pumps are equipped with the patented stress-optimized structured diaphragm, resulting in a durable product of high pneumatic performance and compact size. Special valves ensure minimum resistance to flow.

The pumps can be operated by 230V/50Hz or 115V/60Hz.

Principle

The basic construction of the AMP diaphragm gas sampling pumps is simple. An elastic diaphragm is moved up and down by an eccentric (see illustration). On the down-stroke it draws the air or gas being handled through the inlet valve. On the up-stroke the diaphragm forces the medium through the exhaust valve and out of the head. The compression chamber is hermetically separated from the drive mechanism by the diaphragm. The pumps transfer, evacuate and compress completely oil-free.



- **No contamination of the media due to oil-free operation**
- **Low maintenance**
- **High performance because of structured diaphragm**
- **High level of gas tightness**
- **Long product life thanks to structured diaphragm**
- **Very quiet and little vibration**
- **Copes well with vapour and condensation**
- **Cool running motor even when in constant use**
- **Can operate in any installed position**
- **Explosion proof version according to ATEX for Zone 1**

ANKERSMID Diaphragm pump

AMP 067/067Ex Series

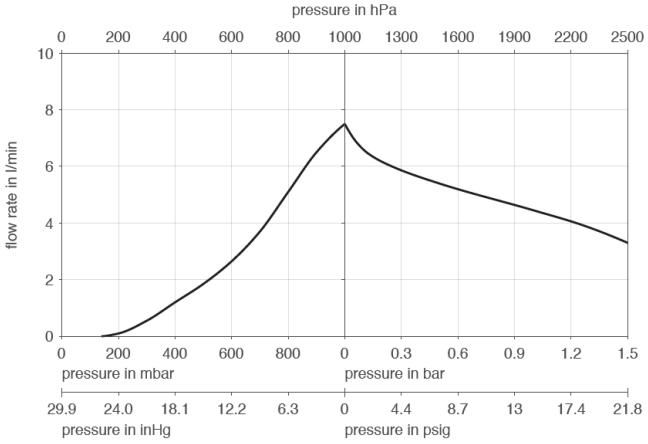
Technical data

Model AMP	AMP 067	AMP 067Ex
Flow rate at atm. pressure (l/min)	7,5 l/min	
Max. operating pressure (bar rel.)	1,5 bar	
Sample gas inlet/outlet	G1/8"f	
Ultimate vacuum (mbar abs.)	140	

Materials		
Pump head	PVDF	
Diaphragm	PTFE-coated	
Valves	FFPM/Kalrez®	
Sample and ambient temperature	+5°C to 40°C	
Power consumption	60W	
Protection class motor	IP54	IP66
Protection class pump	-	IP55
Explosion protection pump parts	-	Ex II 2G Ex h IIB+H2 T4 Gb
Explosion protection capacitor motor	-	Ex II 2G Ex dbeb IIC T4
Operating current	0,3A	0,6A
Operation mode	100% continuous duty, start of the pump only without pressure	
Weight	3,1Kg	6,7Kg
Power supply	230V, 50Hz 115V, 60Hz	230V, 50/60Hz 115V, 50/60Hz

PTFE = Polytetrafluoroethylene (Teflon®)
PVDF = Polyvinylidene difluoride
FFPM = Perfluorinated Elastomer (Kalrez®)

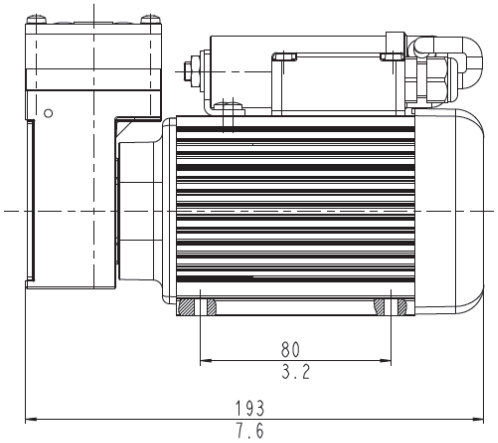
Performance characteristics

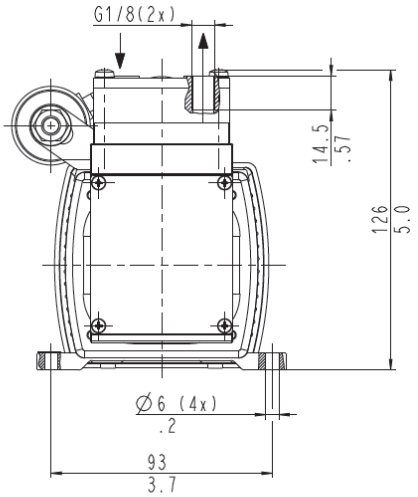


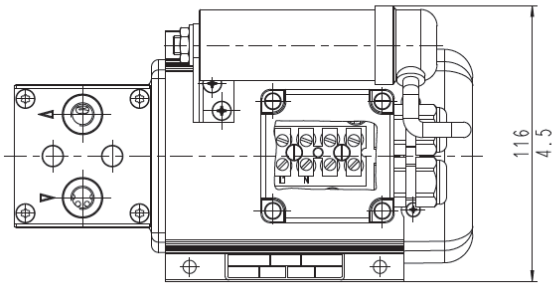
ANKERSMID Diaphragm pump

Dimensions

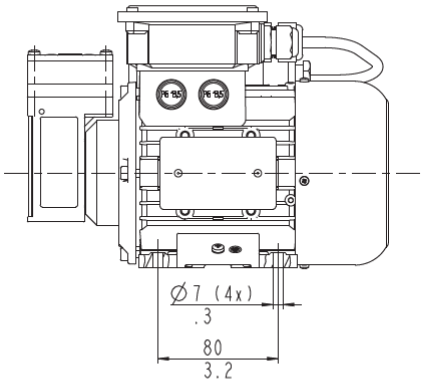
AMP 067

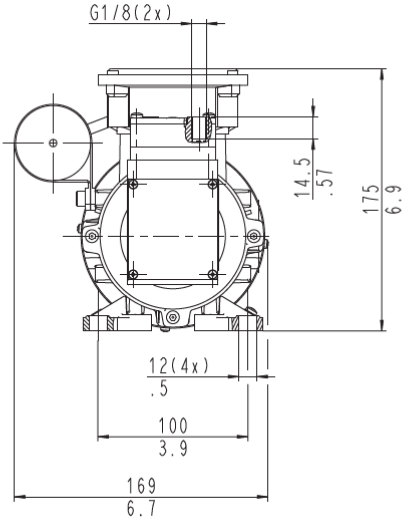


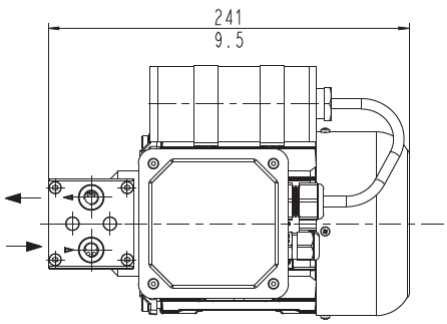




AMP 067Ex







mm
in

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ANKERSMID Diaphragm pump

AMP 420/420Ex Series



* Pictures may vary

Application

Ankersmid Mini Diaphragm Pumps are used for the transportation of sample gas in sample conditioning systems in the chemical industry, for environmental applications, and in production technology; some application examples are sampling gases from the ambient environment, exhaust gases and smoke analysis. The **AMP 420/420Ex** is easy to install and can be adapted to a variety of process conditions.

Description

The new range of **AMP 420/420Ex** pumps are equipped with the patented stress-optimized structured diaphragm, resulting in a durable product of high pneumatic performance and compact size. Special valves ensure minimum resistance to flow.

Principle

The basic construction of the AMP diaphragm gas sampling pumps is simple. An elastic diaphragm is moved up and down by an eccentric (see illustration). On the down-stroke it draws the air or gas being handled through the inlet valve. On the up-stroke the diaphragm forces the medium through the exhaust valve and out of the head. The compression chamber is hermetically separated from the drive mechanism by the diaphragm. The pumps transfer, evacuate and compress completely oil-free.



No contamination of the media due to oil-free operation

Low maintenance

Very quiet and little vibration

Chemically-resistant models transferring high aggressive and corrosive gases and vapours

High level of gas tightness: < 6 x 10^{-3} mbar l/s

Cool running motor even when in constant use

Can operate in any position

Explosion-proof version according to ATEX & IECEx

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ANKERSMID Diaphragm pump

AMP 420/420Ex Series

Technical data

Model AMP	AMP 420		AMP 420Ex
Operating voltage	230V/50Hz	115V/60Hz	230V/50Hz
Delivery rate at atm. pressure [l/min] **-open bypass** **-closed bypass**	10 ± 10% 16 ± 10%	12 ± 10% 18 ± 10%	10 ± 10% 16 ± 10%
Delivery rate at max. permissible operating pressure [l/min]	6.5 ± 10%	8 ± 10%	6.5 ± 10%
Max. operating pressure	2 bar g		
Sample gas inlet/outlet	G1/4" f		
Ultimate vacuum	≤ 200 mbar abs.		

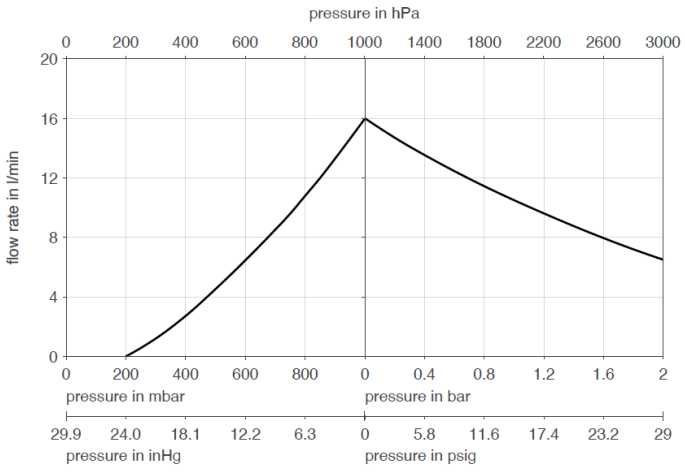
Materials				
Pump head		PTFE		
Diaphragm		PTFE-coated		
Valves		FFKM		
Sample temperature		0°C to +60°C		+5°C to +50°C
Ambient temperature		5°C to +60°C		10°C to +50°C
Power consumption		120W	140W	120W
Protection class	**Pump** **Motor**	IP 54 IP 54		IP 54 IP 65
Ex-protection	**Pump parts** **Capacitor motor**	---		II 2/2G Ex h IIB+H2 T3 Gb II 2G Ex db eb IIC T4 Gb
Operating current		230V: 0,6A	115V: 1,3A	230V:1,05A
Electrical connection		terminal box (terminal block - AC/L, AC/N)		
Operation mode		100% continuous duty, start of the pump only without pressure		
Weight		7,5Kg		7,2Kg
Power supply		230V/50Hz	115V/60Hz	230V/50Hz

PTFE = Polytetrafluoroethylene (Teflon®)

ANKERSMID Diaphragm pump

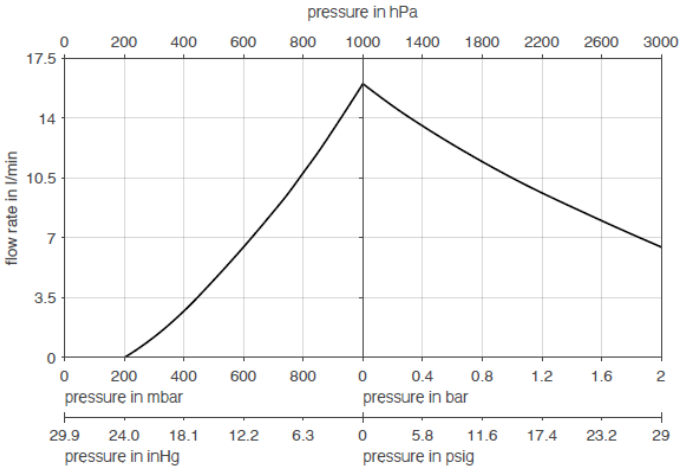
AMP 420

Performance



Flow rate determined at 20 °C, 1013 mbar abs.
(Pressure 0 to 1013 mbar abs. in accordance with ISO 21360-1/2)

AMP 420Ex



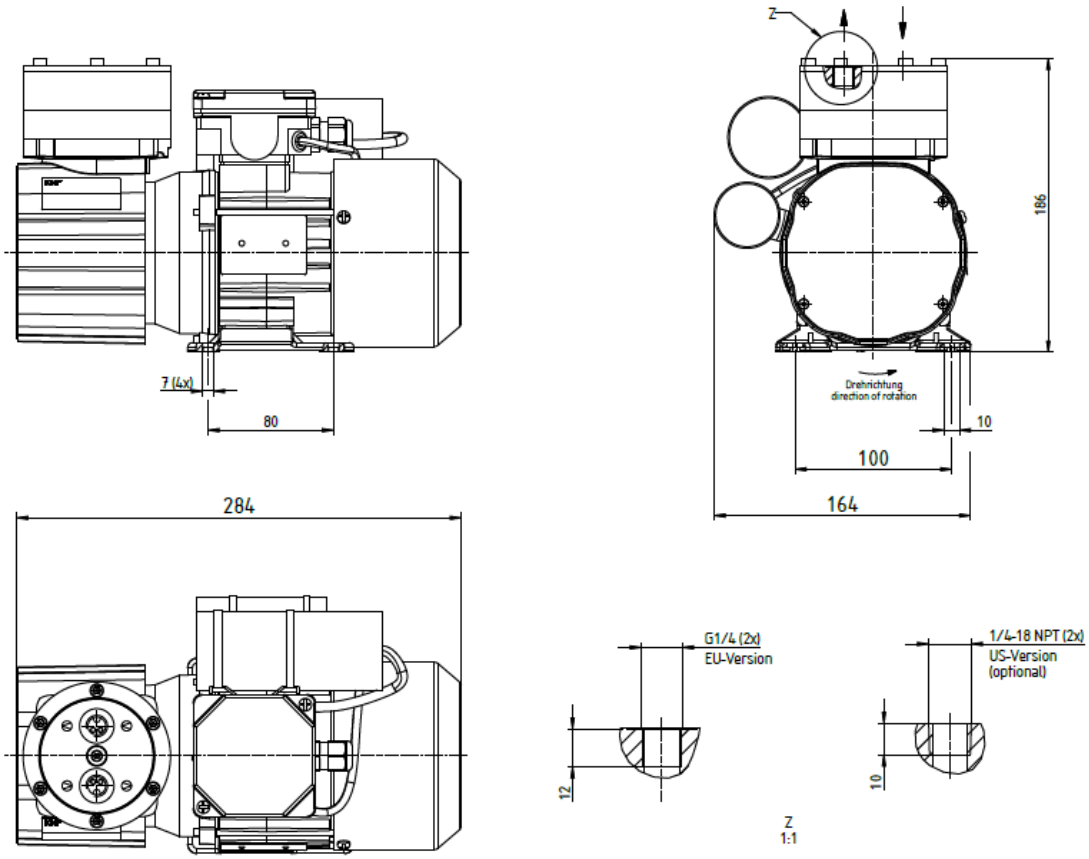
Flow rate determined at 20°C, 1013 mbar abs.
(Pressure 0 to 1013 mbar abs. in accordance with ISO 21360-1/2)

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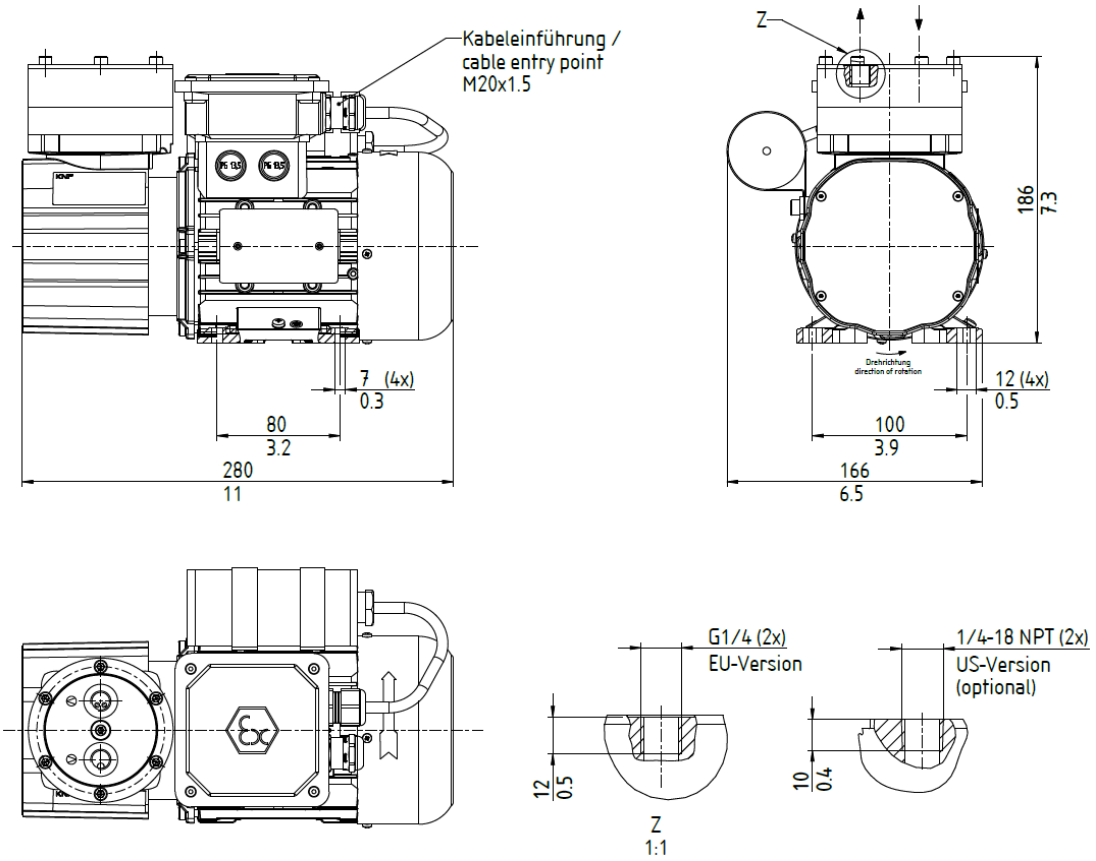
ANKERSMID Diaphragm pump

Dimensions

AMP 420



AMP 420Ex

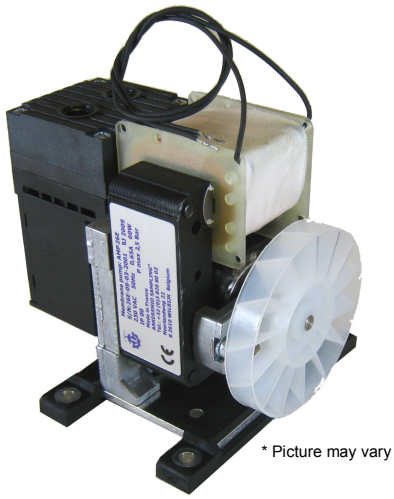


All dimensions in mm

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ANKERSMID Diaphragm pump

AMP 26 Series



* Picture may vary

Application

Despite its small size the mini diaphragm vacuum pump offers a high level of performance. It is used especially in the fields of analysis, medicine and production technology.
The pumps are used for application such as sucking gases, taking samples (even liquids in a vacuum) and evacuating vessels.
The AC models are suited for use in machinery which is permanent or mains-operated.

Description

The pumps are equipped with the patented stress-optimized structured diaphragm, resulting in a high pneumatic performance, a durable product and compact size.
Special valves ensure that the product copes well with vapor and condensation that could be present in the gas stream.

Principle

The basic construction of the AMP diaphragm gas sampling pumps is simple. An elastic diaphragm is moved up and down by an eccentric (see illustration). On the down-stroke it draws the air or gas being handled through the inlet valve. On the up-stroke the diaphragm forces the medium through the exhaust valve and out of the head. The compression chamber is hermetically separated from the drive mechanism by the diaphragm. The pumps transfer, evacuate and compress completely oil-free.



- **No contamination of the media due to oil-free operation**
- **Low maintenance**
- **High performance because of structured diaphragm**
- **High level of gas tightness**
- **Long product life thanks to structured diaphragm**
- **Very quiet and little vibration**
- **Copes well with vapour and condensation**
- **Cool running motor even when in constant use**
- **Can operate in any installed position**

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ANKERSMID Diaphragm pump

AMP 26 Series

Technical data

Model AMP	AMP 26 E	AMP 26 S	AMP 26 C/F
Housing version	Without housing	Without housing	With housing
Capacity at atm. Pressure (l/min)	5,5	3	5,5
Max. operating pressure (bar g)	2,5	2,5	2,5
Vacuum (mbar abs.)	160	160	160
Sample gas inlet/outlet	G1/8"f		

Materials			
Pump head	PPS/Ryton®		
Diaphragm	PTFE-coated		
Valves	FFPM/Kalrez®		
Sample and ambient temperature	+5°C to 40°C		
Electrical connection	Wire 4 x 0,5mm^2		Cold appliance plug with 2 fuses 230V - 1A/ 115V - 3,2A 2,5m of cable and power switch
Power (W)	60		
Protection class	IP00	IP00	IP20
Protector	Thermo switch, double (115V/230V)		
Operating current (A)	0,65		
Weight (Kg)	1,1	1,1	1,9
Power supply	230/115V, 50/60Hz	230/115V, 50/60Hz	230V, 50Hz (C) 115V, 60Hz (F)

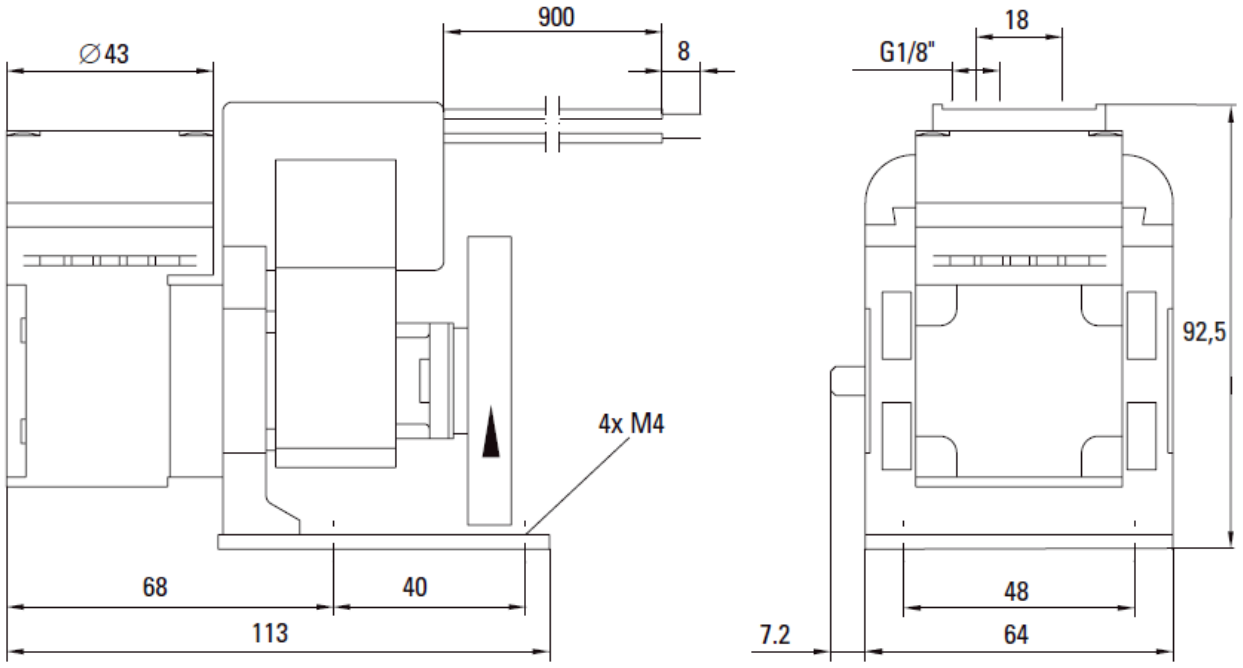
PTFE = Polytetrafluoroethylene (Teflon®)
PPS = Polyphenylene Sulfide (Rypton®)
FFPM = Perfluorinated Elastomer (Kalrez®)

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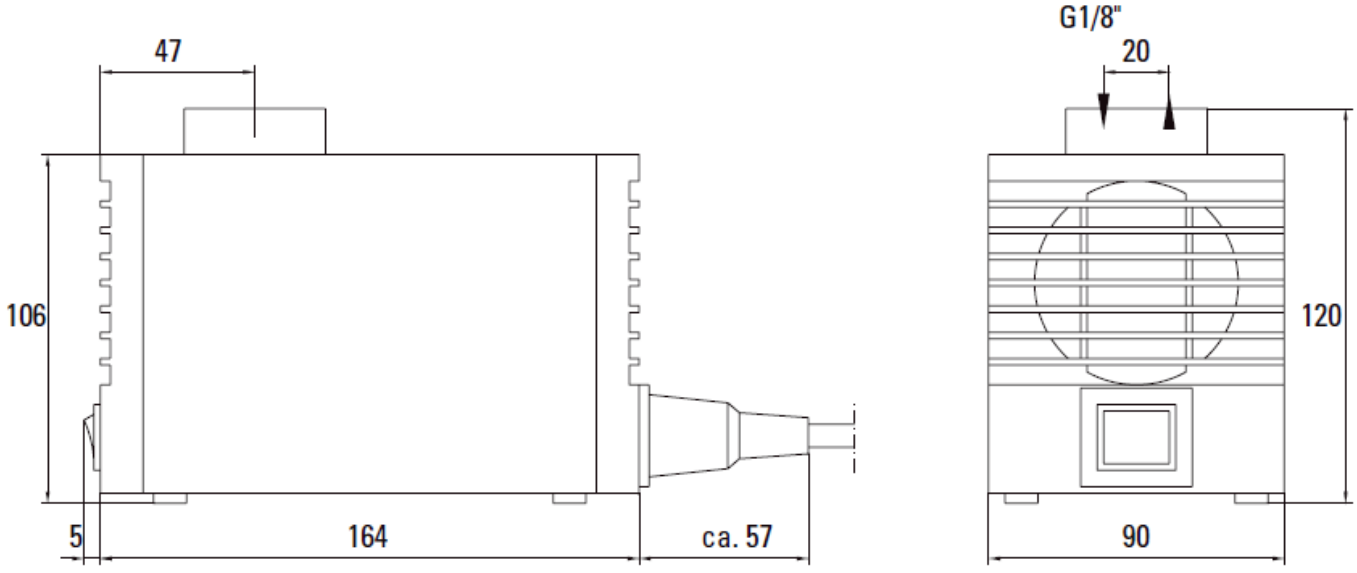
ANKERSMID Diaphragm pump

AMP 26 E/S Series

Dimensions



AMP 26 C/F Series

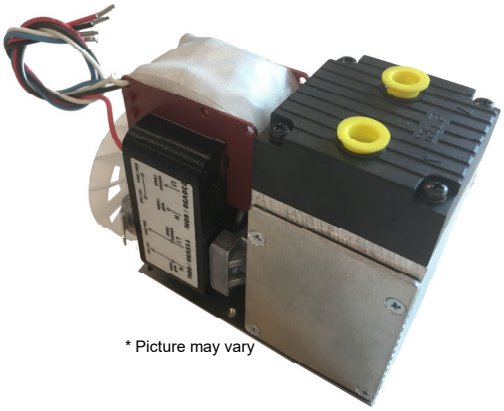


All dimensions in mm

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ANKERSMID Diaphragm pump

AMP 11E Series



* Picture may vary

Application

Despite its small size the mini diaphragm vacuum pump offers a high level of performance. It is used especially in the fields of analysis, medicine and production technology.
The pumps are used for application such as sucking gases, taking samples (even liquids in a vacuum) and evacuating vessels.
The AC models are suited for use in machinery which is permanent or mains-operated.

Description

The pumps are equipped with the patented stress-optimized structured diaphragm, resulting in a high pneumatic performance, a durable product and compact size.
Special valves ensure that the product copes well with vapor and condensation that could be present in the gas stream.

Principle

The basic construction of the AMP diaphragm gas sampling pumps is simple. An elastic diaphragm is moved up and down by an eccentric (see illustration). On the down-stroke it draws the air or gas being handled through the inlet valve. On the up-stroke the diaphragm forces the medium through the exhaust valve and out of the head. The compression chamber is hermetically separated from the drive mechanism by the diaphragm. The pumps transfer, evacuate and compress completely oil-free.



- **No contamination of the media due to oil-free operation**
- **Compact size due to structured diaphragm**
- **Maintenance-free**
- **High performance because of structured diaphragm**
- **High level of gas tightness**
- **Long product life thanks to structured diaphragm**
- **Copes well with vapour and condensation**
- **Cool running motor even when in constant use**
- **Can operate in any installed position**

ANKERSMID Diaphragm pump

AMP 11E Series

Technical data

Model AMP	AMP 11E
Housing version	Without housing
Capacity at atm. Pressure (l/min)	11
Max. operating pressure (bar g)	0,5
Vacuum (mbar abs.)	170
Sample gas inlet/outlet	G1/8"f

Materials	
Pump head	PPS/Ryton®
Diaphragm	PTFE-coated
Valves	FFPM/Kalrez®
Sample and ambient temperature	+5°C to 40°C
Power (W)	60
Protection class	IP00
Protector	230VAC
Operating current (A)	0,6
Weight (Kg)	1,3
Power supply	230/115V, 50/60Hz

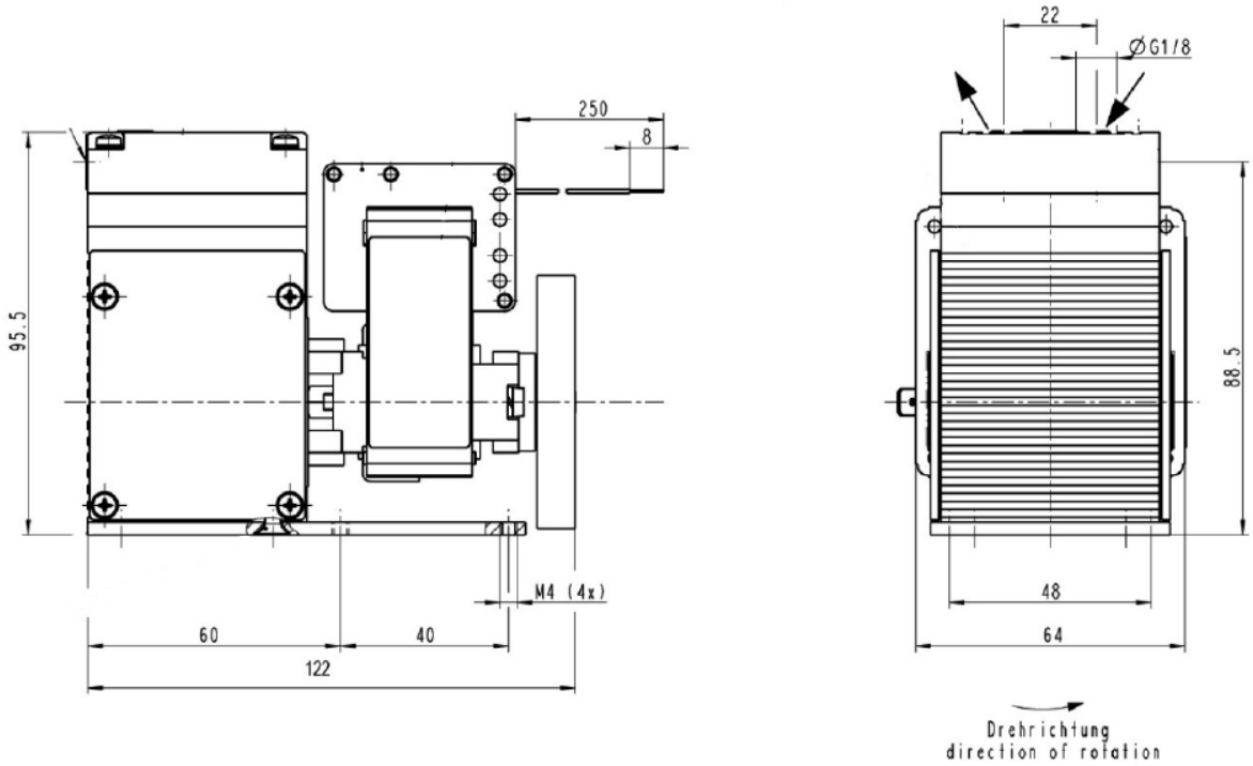
PTFE = Polytetrafluoroethylene (Teflon®)
PPS = Polyphenylene Sulfide (Rypton®)
FFPM = Perfluorinated Elastomer (Kalrez®)

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ANKERSMID Diaphragm pump

AMP 11E Series

Dimensions

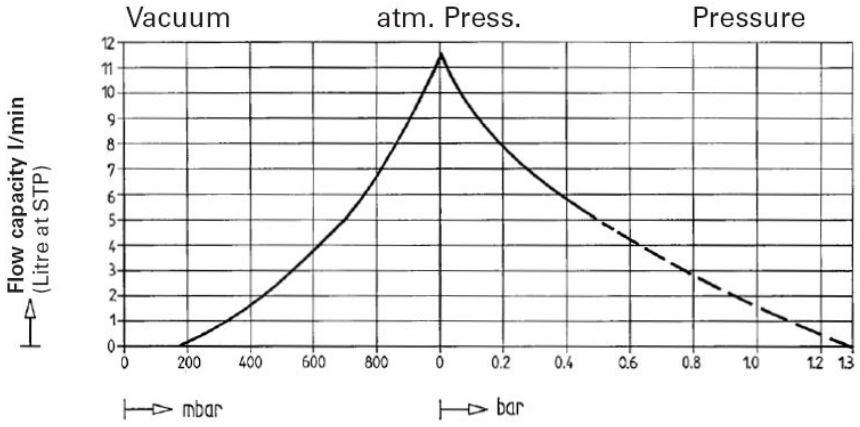


All dimensions in mm

ANKERSMID Diaphragm pump

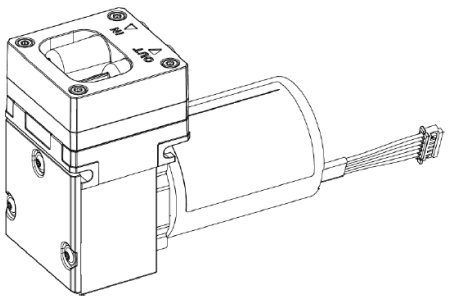
AMP 11E Series

Performance



ANKERSMID Diaphragm pump

AMP 96E



* Picture may vary

Application

Despite its small size the mini diaphragm vacuum pump offers a high level of performance. It is used especially in the fields of analysis, medicine and production technology.
The pump is used for applications such as sucking gases, taking samples and evacuating vessels.
The model is suited for use in machinery which is permanent or mains-operated.

Description

The pump is equipped with the patented stress-optimized structured diaphragm, resulting in a high pneumatic performance, a durable product and compact size.
Special valves ensure that the product copes well with vapor and condensation that could be present in the gas stream.

Principle

The basic construction of the AMP diaphragm gas sampling pumps is simple. An elastic diaphragm is moved up and down by an eccentric (see illustration). On the down-stroke it draws the air or gas being handled through the inlet valve. On the up-stroke the diaphragm forces the medium through the exhaust valve and out of the head. The compression chamber is hermetically separated from the drive mechanism by the diaphragm. The pumps transfer, evacuate and compress completely oil-free.



- **No contamination of the media due to oil-free operation**
- **Low maintenance**
- **High performance because of structured diaphragm**
- **High level of gas tightness**
- **Long product life thanks to structured diaphragm**
- **Very quiet**
- **Almost vibration-free**
- **Low weight**
- **Copes well with vapour and condensation**
- **Cool running motor even when in constant use**
- **Can operate in any installed position**

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ANKERSMID Diaphragm pump

AMP 96E

Technical data

Model	AMP 96E
Housing version	Without housing
Capacity at atm. Pressure (l/min)	7 l/min ± 10%
Max. operating pressure (bar g)	2,5
Vacuum (mbar abs.)	≤130
Sample gas inlet/outlet	G1/8"f

Materials	
Pump head	PPS/Ryton®
Diaphragm	PTFE-coated
Valves	FKM
Sample temperature	+5°C to 70°C
Ambient temperature	+5°C to 50°C @ > 2 bar rel.: +5°C ... +40°C 0°C if frost-free (non-condensing)
Electrical connection	Lead wires (approx. 300mm from motor housing) female connector (Hirose DF3-6S-2C / DF3-242SC)
Power (W)	19
Protection class	IP20
Imax load & unit (A)	0,90
Weight (Kg)	0,6
Power supply	24VDC

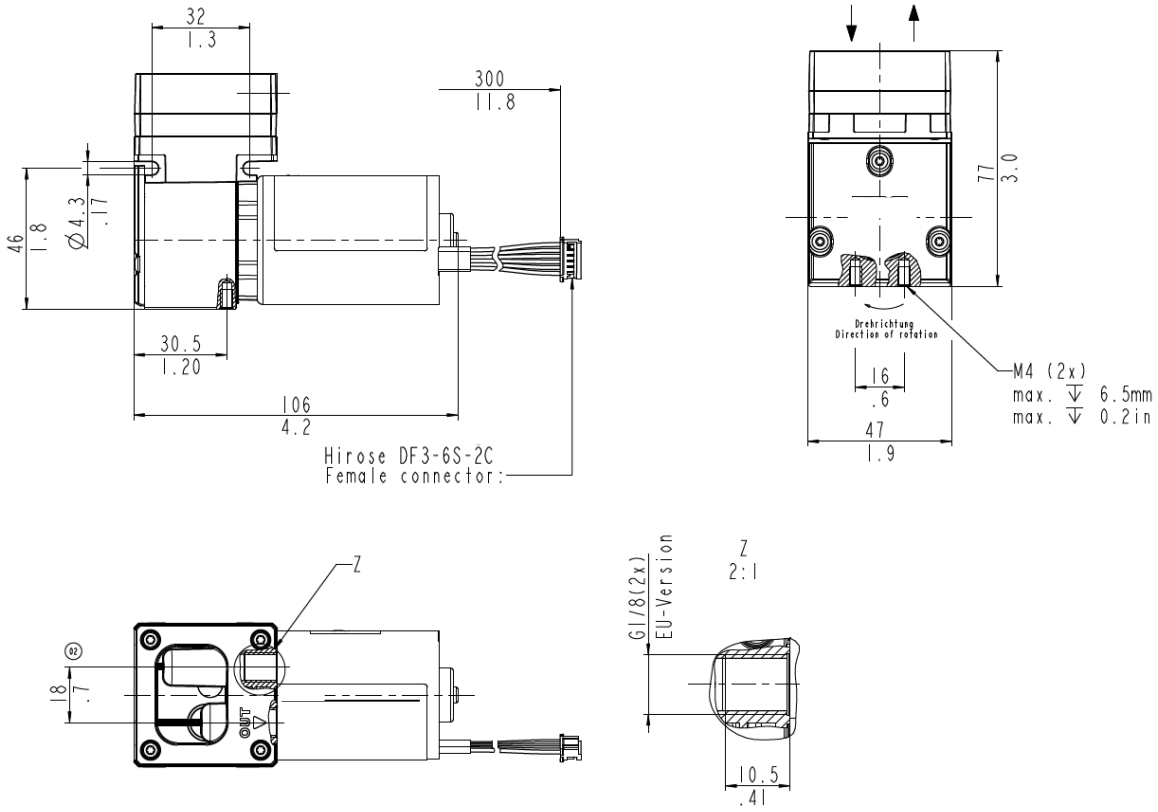
PTFE = Polytetrafluoroethylene (Teflon®)
PPS = Polyphenylene Sulfide (Rypton®)

Flow rate determined at 20 °C, 1000mbar abs. (based on ISO 8778 and ISO 21360-1/2)
According to machinery directive 2006/42/EC: Partly completed machinery tbd = to be defined: Values can be determined or defined at the earliest on the basis of the first pump(s). Possible indication of customer wishes in brackets.

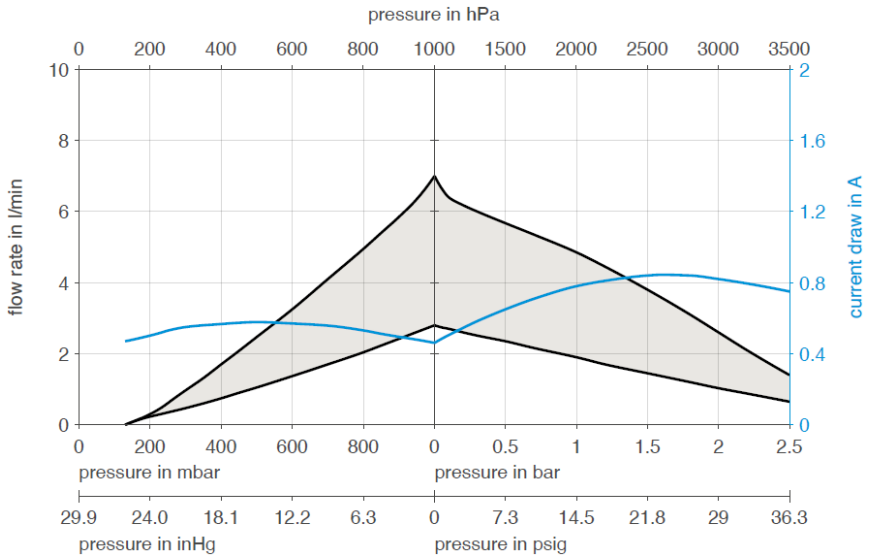
ANKERSMID Diaphragm pump

AMP 96E

Dimensions



Flow diagram



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ANKERSMID Diaphragm pump

AMP 505 Series
AMP xxx TP temperature-resistant
AMP xxx TC with thermostatic temperature control
Flow rate 5l/min



* Picture may vary

Application

Ankersmid Diaphragm Pumps are used for the transportation of sample gas in sample conditioning systems in the chemical industry, for environmental applications, and in production technology; some application examples are sampling gases from the ambient environment, exhaust gases and smoke analysis. The **AMP 505 series** is easy to install and can be adapted to a variety of process conditions.

Description

When analyzing hot gases, care must be taken not to cool the gas en route from sampling point to the gas analyzer. Were the gas to cool down, it could condensate and gas constituent parts could condense out of the gas, leading to inaccurate measurement results. To overcome condensation issues, hot gases are pumped using diaphragm pumps with heated heads.
All Ankersmid AMP 5xx models are characterized by an even spread of temperature throughout the pump head and highly efficient insulation. Pumps for this new range are available in three different versions:

- A temperature-resistant version **(TP)** up to 240°C
- A heated version **(TC)** up to 240°C with thermostatic temperature control

Principle

The basic construction of the AMP diaphragm gas sampling pumps is simple. An elastic diaphragm is moved up and down by an eccentric (see illustration). On the down-stroke it draws the air or gas being handled through the inlet valve. On the up-stroke the diaphragm forces the medium through the exhaust valve and out of the head. The compression chamber is hermetically separated from the drive mechanism by the diaphragm. The pumps transfer, evacuate and compress completely oil-free.

- **No contamination of the media due to oil-free operation**
- **Low maintenance**
- **Cool running motor even when in constant use**
- **Can operate in any installed position**
- **No condensation in the pump head**
- **Low heat loss to surroundings**
- **Easy access to the pump head**
- **Energy efficient heating**
- **Electronically controlled heating system**
- **Gas tight:**
  Leakage < 6 x 10-3 mbar l/s



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ANKERSMID Diaphragm pump

AMP 505 Series

Technical data

Model AMP	AMP 505TP	
Version	**TP**	**TC**
Capacity (l/min)	5	
Max. operating pressure (bar g)	1,5	
Sample gas inlet/outlet	G 1/8"f	
Ultimate vacuum (mbar abs.)	240	
Materials		
Pump head	SS316	
Diaphragm	PTFE-coated	
Valves	PTFE	
Ambient temperature	+5°C to +40°C	
Pump motor		
Power consumption (W)	80	
Operating current (A)	0,4	
Protection class	IP54	
Heating		
Power consumption (W)	-	140
Operating current (A)	-	0,6
Heat resistant up to (°C)	240	
Kind of Heating	No active heating, only heat-resistant	Heated by thermostatic controller, temperature fix adjusted
Operation mode	100% continuous duty, start of the pump only without pressure	
Weight	4Kg	8,8Kg
Power supply	230V/50Hz 115V/60Hz	

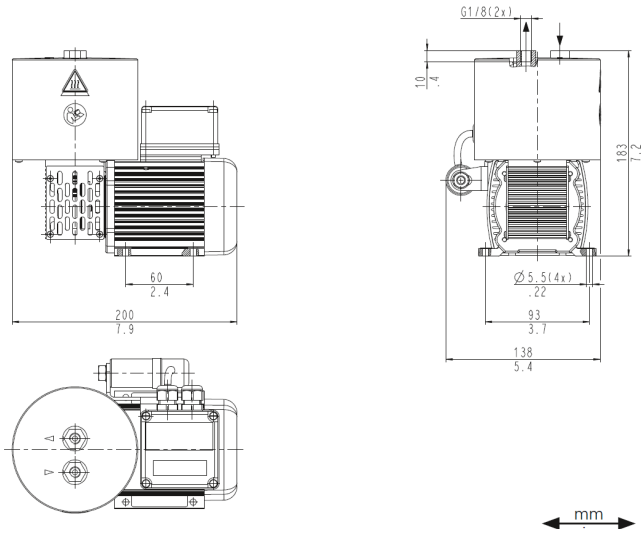
PTFE = Polytetrafluoroethylene (Teflon®)
PVDF = Polyvinylidene difluoride
FFPM = Perfluorinated Elastomer (Kalrez®)

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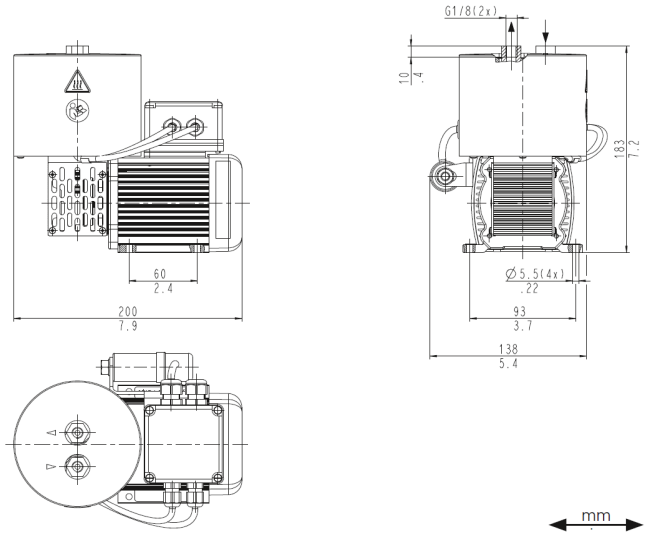
ANKERSMID Diaphragm pump

Dimensions

AMP 505TP



AMP 505TC



All dimensions in mm