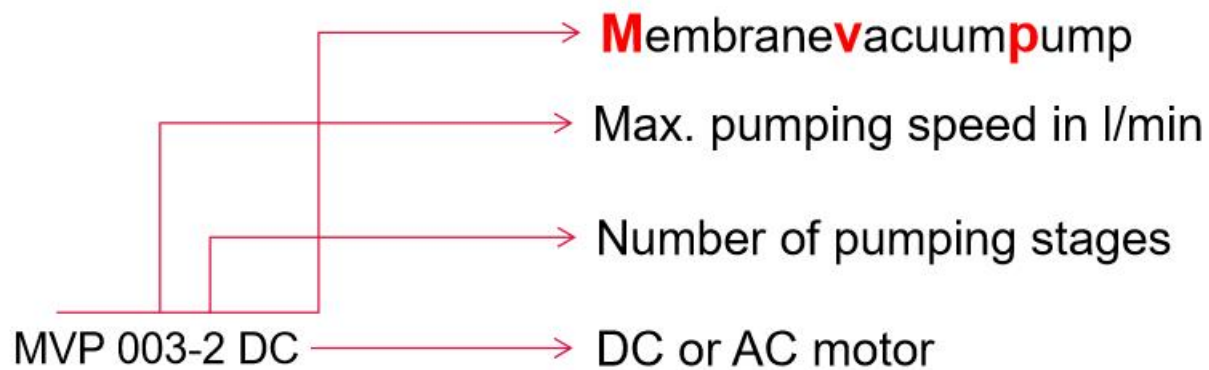




Current portfolio



MVP 006-4 DC



MVP 015-2 AC



MVP 015-2 DC



MVP 015-4 AC



MVP 015-4 DC



MVP 020-3 AC



MVP 070-3 AC



MVP 040-2 AC



MVP 030-3 DC



Future MVP portfolio

MVP for rough vacuum



MVP 015-2 AC



MVP 015-4 AC



MVP 020-3 AC



MVP 040-2 AC



MVP 070-3 AC

MVP for HiPace turbopumps

MVP 010-3 DC *)



MVP 015-2 DC



MVP 015-4 DC



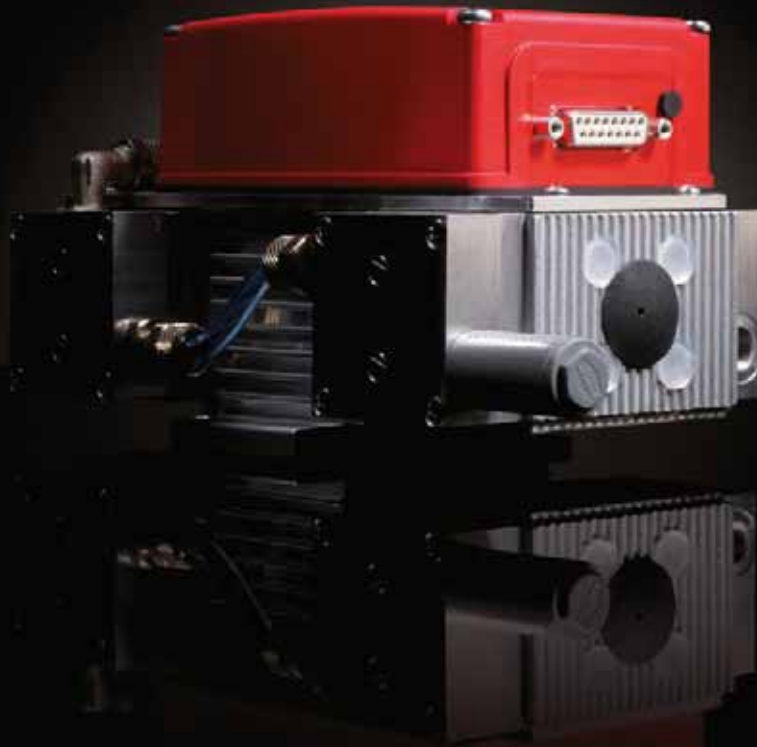
MVP 030-3 DC *)



*) RS 485 under development

Diaphragm pumps

The ideal backing pump for Pfeiffer Vacuum turbopumps



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MVP 040-2	138
MVP 070-3	140



Diaphragm pumps

The ideal backing pump for Pfeiffer Vacuum turbopumps

Thanks to their compact design, diaphragm pumps are excellently suited for integration in increasingly small analytical systems and turbopumping stations. They have pumping speeds ranging from 0.25 to 4.3 m³/h.

Our diaphragm pumps work completely without oil, making them ideal for all processes where a clean, dry vacuum is needed. They are reliable pumps that operate with minimum of vibration and noise.



Overview of series and applications

= recommended

	Analytics						Semiconductors						Coating						Industry						R & D						Page										
	Electron microscopy	Leak detection	Mass spectrometry	Surface analysis	Plasma monitoring	Residual gas analysis	Lithography	PVD (Physical Vapor Deposition)	CVD (Chemical Vapor Deposition)	Plasma etching	Implantation – source	Implantation – beamline	Inspection	Bonding	MBE (Molecular Beam Epitaxy)	Load locks, transfer chambers, handling systems	Flat panel displays (FPD)	LED / OLED	Hard disk coating	Photovoltaics	Glass coating (PVD)	CD, DVD, Blu-ray production (PVD)	Optical coating (PVD)	Wear protection (PVD, CVD)	Hard coating	Medical technology	Industrial leak detection	Electron beam welding	Insulation vacuums	Bulb and tube manufacturing		Heat treatment	Vacuum drying	Vacuum furnaces	Nuclear research	Fusion technology	Plasma research	Particle accelerators	Space simulation	Low temperature research	Elementary particle physics
Diaphragm pumps																																									
MVP 006-4																																									
MVP 015-2																																									
MVP 020-3																																									
MVP 030-3																																									
MVP 040-2																																									
MVP 070-3																																									



Features at a glance

	Connection flange (inlet)				Pumping speed class						Final pressure without gas ballast						Page
	G 1/8"	G 1/4"	DN 16 ISO-KF / G 1/8"	DN 16 ISO-KF	0.3 m³/h	1 m³/h	1.2 m³/h	1.8 m³/h	2.3 m³/h	3.8 m³/h	< 5 · 10 ⁻¹ hPa	< 1 hPa	< 1.5 hPa	< 2 hPa	< 3.5 hPa	< 4 hPa	
Diaphragm pumps																	
MVP 006-4	■				■									■			130
MVP 015-2 / MVP 015-4	■		■			■					■				■		132
MVP 020-3	■						■							■			134
MVP 030-3	■							■							■		136
MVP 040-2		■							■							■	138
MVP 070-3		■		■						■		■	■				140



Medical technology

Typical applications

- Mass spectrometry
- Leak detection
- Medical technology
- Nuclear research
- Nanotechnology



Nanotechnology





Customer benefits

- High process safety
- Low operating costs
- Long maintenance intervals
- Extremely maintenance friendly



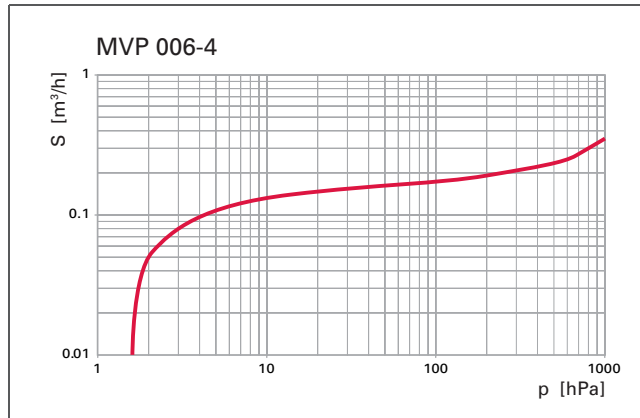
MVP 006

Dry and oil-free diaphragm pumps with a pumping speed of up to 0.25 m³/h:

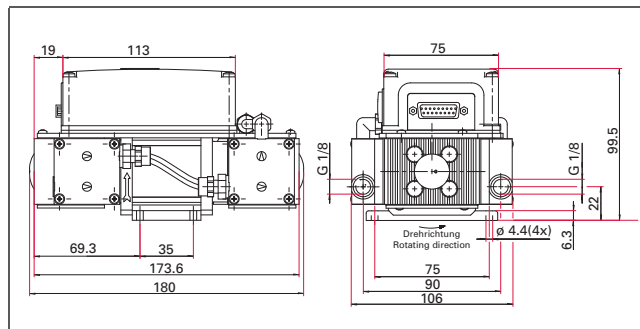


- Extremely small but high-performance diaphragm pump with a pumping speed up to 0.25 m³/h
- Due to compact measures and little weight it is ideally suited for integration in analysis systems and turbo pumping stations
- Lower costs due to long service life of diaphragms and valves
- Suitable for worldwide and flexible applications thanks to direct voltage
- Substantial accessories expand the field of applications
- For all applications where a dry and oil-free vacuum is required

Pumping speed



Dimensions (in mm)



Technical data	MVP 006-4, Diaphragm pump, 24 V DC
Flange (out)	G 1/8" + Silencer
Flange (in)	G 1/8"
Intake pressure max.	1050 hPa
Exhaust pressure, max.	1300 hPa
Rotation speed at stand-by	1000 min ⁻¹
Rotation speed max.	3000 min ⁻¹
Rotation speed min.	1000 min ⁻¹
Emission sound pressure level without gas ballast	≤ 50 dB (A)
Ultimate pressure without gas ballast	≤ 2 hPa
Exhaust pressure max.	1300 hPa
Weight	1.8 kg
Cooling method, standard	Air
Leak rate	6 · 10 ⁻³ Pa m ³ /s
Pumping speed, max.	0.25 m ³ /h
Protection category	IP 20
Current consumption	0.9 A
Ambient temperature	5-40 °C
Supply: Voltage	24 (± 10 %) V DC

Order number	
MVP 006	PK T05 070

Accessories	
TPS 110, mains pack for wall/ standard rail fitting	PM 061 340 -T
TPS 180, mains pack for wall/ standard rail fitting	PM 061 341 -T
Connection cable TPS - MVP 006, 3 m	PM 061 892 -T
Connection cable TPS 180 - MVP 006-4 with HiPace 80/HiPace 10, 2 x 0.5 m	PM 061 399 -T
Mains cable 230 V AC with safety plug, Euro socket C13 (straight), 3 m	P 4564 309 ZA
Mains cable 115 V AC with UL plug, Euro socket C 13 (straight), 3 m	P 4564 309 ZE
Mains cable 115 / 230 V without plug, IEC 320/C13 socket, 3 m	P4 564 309 ZH
Screw-in flange DN 16 ISO-KF / G 1/8" incl. seal	PK 050 108 -T
Hose connection DN 6x400 mm with straight fitting G 1/8" and G 1/4" including sealing rings	P 0920 739 E
Screw-in-flange, DN 16 KF/ G 1/4"	PM 006 994
Angled screw coupling, G 1/8" for hose of MVP 015	P 0920 773 E



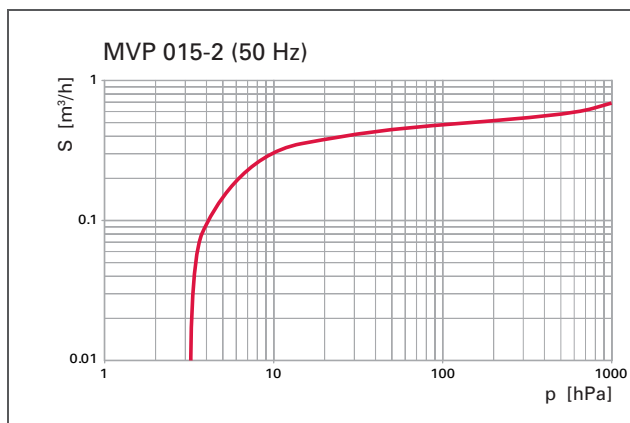
MVP 015

Dry and oil-free diaphragm pumps with a pumping speed of up to 0.7 m³/h:

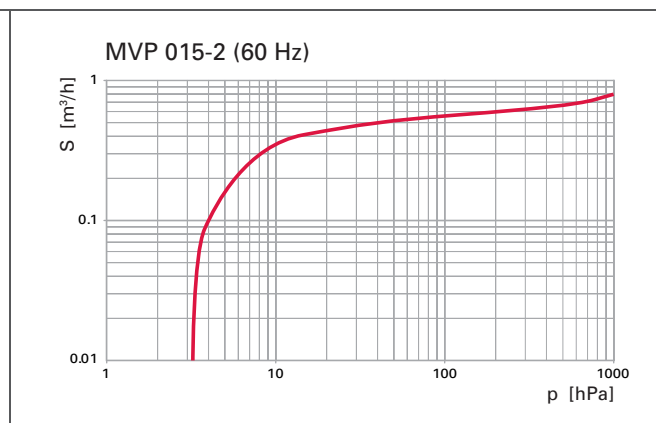


- Compact diaphragm pump with a pumping speed of up to 0.7 m³/h
- For mains voltage: 90-127 V, 50 Hz, respectively 187-265 V, 60 Hz
- Ideal for applications where a dry and oil-free vacuum is required

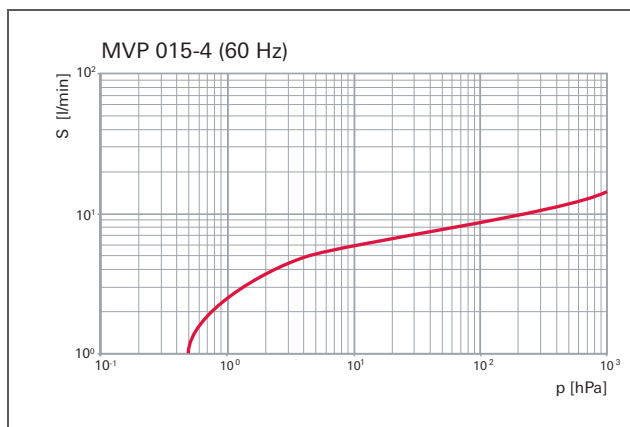
Pumping speed



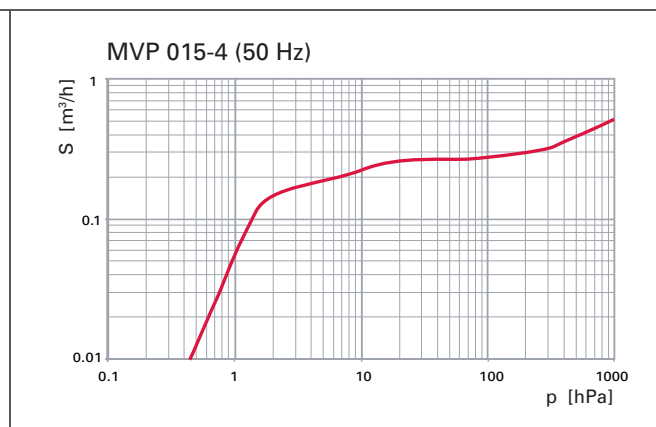
MVP 015-2, Diaphragm pump



MVP 015-2, Diaphragm pump

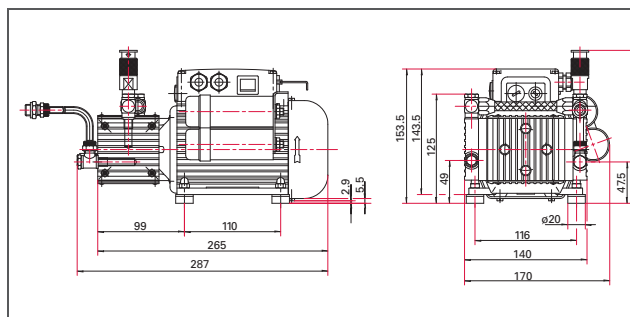


MVP 015-4, Diaphragm pump

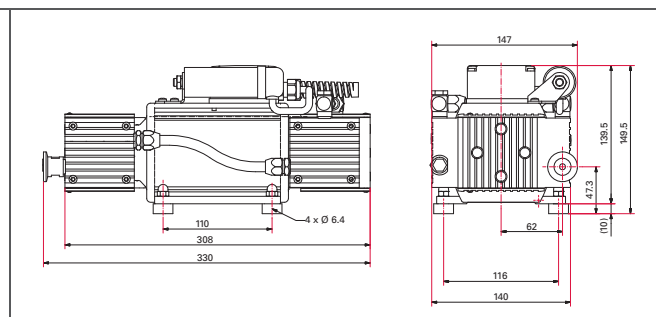


MVP 015-4, Diaphragm pump

Dimensions (in mm)



MVP 015-2, Diaphragm pump



MVP 015-4, Diaphragm pump



Technical data	MVP 015-2, Diaphragm pump, 100-115/208-236 V, 50/60 Hz	MVP 015-4, Diaphragm pump, 120 V, 60 Hz	MVP 015-4, Diaphragm pump, 230 V, 50 Hz
Flange (out)	G 1/8" + silencer	G 1/8" + silencer	G 1/8" + silencer
Flange (in)	G 1/8" elbow union + enclosed hose DN 6 x 1000 mm with a straight union in G 1/4" at the end	DN 16 ISO-KF / G 1/8"	DN 16 ISO-KF / G 1/8"
Intake pressure max.		1100 hPa	1100 hPa
Exhaust pressure, max.	1100 hPa	1100 hPa	1100 hPa
Rotation speed at 50 Hz	1500 min ⁻¹		1500 min ⁻¹
Rotation speed at 60 Hz	1800 min ⁻¹	1800 min ⁻¹	
Emission sound pressure level without gas ballast	≤ 52 dB (A)	≤ 52 dB (A)	≤ 52 dB (A)
Ultimate pressure with gas ballast	≤ 4.5 hPa		
Ultimate pressure without gas ballast	≤ 3.5 hPa	≤ 0.50 hPa	≤ 0.50 hPa
Weight	6.5 kg	7.5 kg	7.5 kg
Cooling method, standard	Air	Air	Air
Leak rate	5 · 10 ⁻⁴ Pa m ³ /s	< 5 · 10 ⁻⁴ Pa m ³ /s	< 5 · 10 ⁻⁴ Pa m ³ /s
Mains requirement: voltage 50 Hz	100-115; 208-236 V		230 V
Mains requirement: voltage 60 Hz	100-115; 208-236 V	120 V	
Pumping speed at 50 Hz	0.50 m ³ /h		0.50 m ³ /h
Pumping speed at 60 Hz	0.70 m ³ /h	0.60 m ³ /h	
Switch	Yes	No	No
Protection category	IP 20	IP 54	IP 54
Current consumption	1.1 A	0.8 A	0.3 A
Ambient temperature	12-40 °C	12-40 °C	12-40 °C

Order number			
MVP 015	PK T05 100	PK T05 064	PK T05 065

Accessories			
Backing pump relay box, shielded, 1-phase 7A for TC 110 and TCP 350, M8 plug	PM 071 282 -X	PM 071 282 -X	PM 071 282 -X
Backing pump relay box, shielded, 1-phase 7 A for TC 400/1200, TM 700 and TCP 350, M12 plug	PM 071 284 -X	PM 071 284 -X	PM 071 284 -X
Mains cable 230 V AC with safety plug, Euro socket C13 (straight), 3 m	P 4564 309 ZA		
Mains cable 115 V AC with UL plug, Euro socket C 13 (straight), 3 m	P 4564 309 ZE		
Mains cable 115 / 230 V without plug, IEC 320/C13 socket, 3 m	P4 564 309 ZH		
Screw-in flange DN 16 ISO-KF / G 1/8" incl. seal	PK 050 108 -T		
Screw-in-flange, DN 16 KF/ G 1/4"	PM 006 994	PM 006 994	PM 006 994
Hose connection DN 6x400 mm with straight fitting G 1/8" and G 1/4" including sealing rings		P 0920 739 E	P 0920 739 E



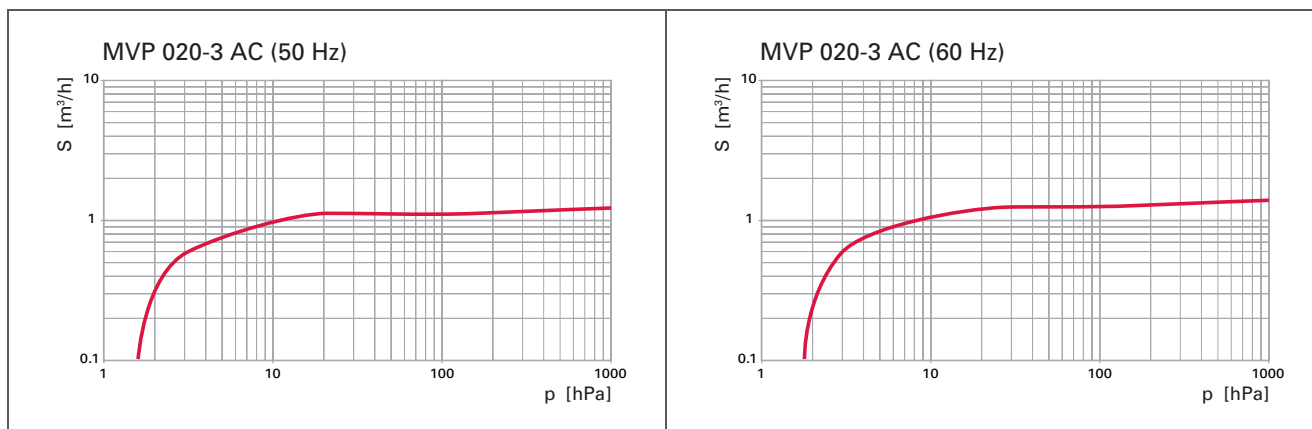
MVP 020

Dry and oil-free diaphragm pumps with a pumping speed of up to 1.4 m³/h:

- High-performance diaphragm pump with a pumping speed of up to 1.4 m³/h
- For mains voltage: 100-120 V, 50 Hz respectively 200-230 V, 60 Hz
- Ideal for applications where a dry and oil-free vacuum is required



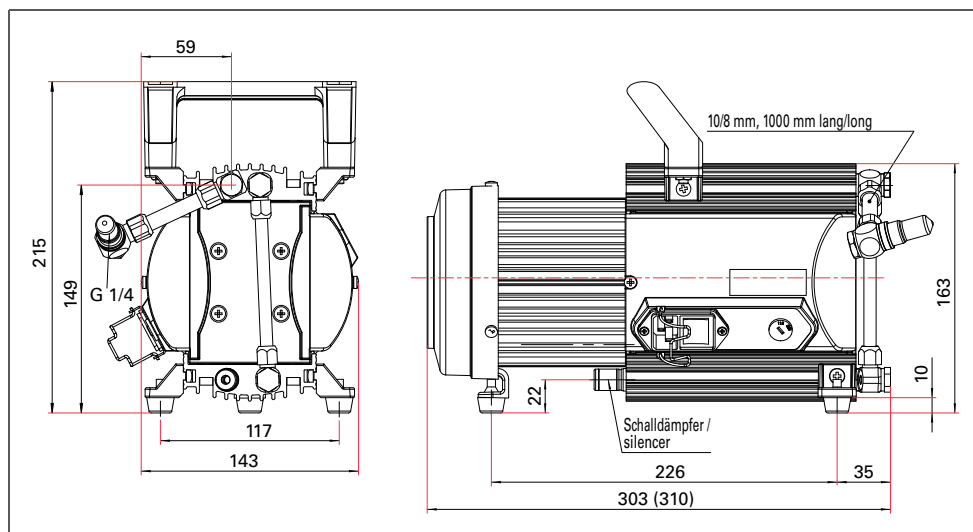
Pumping speed



MVP 020-3 AC, Diaphragm pump

MVP 020-3 AC, Diaphragm pump

Dimensions (in mm)



Technical data	MVP 020-3 AC, Diaphragm pump, 100-120/200-230 V, 50/60 Hz
Flange (out)	G 1/8" + silencer
Flange (in)	G 1/8" elbow union + enclosed hose DN 6 x 1000 mm with a elbow union in G 1/4" at the end
Intake pressure max.	1100 hPa
Exhaust pressure, max.	1100 hPa
Rotation speed at 50 Hz	1500 min ⁻¹
Rotation speed at 60 Hz	1800 min ⁻¹
Emission sound pressure level without gas ballast	≤ 48 dB (A)
Ultimate pressure without gas ballast	≤ 2 hPa
Weight	6.5 kg
Cooling method, standard	Air
Leak rate	1 · 10 ⁻² Pa m ³ /s
Mains requirement: voltage 50 Hz	100-115; 200-230 V
Mains requirement: voltage 60 Hz	100-115; 120 ; 200-230 V
Pumping speed at 50 Hz	1.2 m ³ /h
Pumping speed at 60 Hz	1.4 m ³ /h
Switch	Yes
Protection category	IP 40
Current consumption	1.7 A
Ambient temperature	12-40 °C

Order number	
MVP 020	PK T01 100

Accessories	
Backing pump relay box, shielded, 1-phase 7A for TC 110 and TCP 350, M8 plug	PM 071 282 -X
Backing pump relay box, shielded, 1-phase 7 A for TC 400/1200, TM 700 and TCP 350, M12 plug	PM 071 284 -X
Mains cable 115 / 230 V without plug, right angle IEC 320/C13 socket, 3 m	PK 050 111
Mains cable 230 V with safety plug CEE 7, right angle IEC 320/C13 socket, 2 m	PK 050 109
Mains cable 115 V with NEMA-plug, right angle IEC 320/C13 socket, 2 m	PK 050 110
Screw-in flange DN 16 ISO-KF / G 1/8" incl. seal	PK 050 108 -T
Flushing gas nozzle for MVP 020-3 / MVP 030-3	PK 050 122

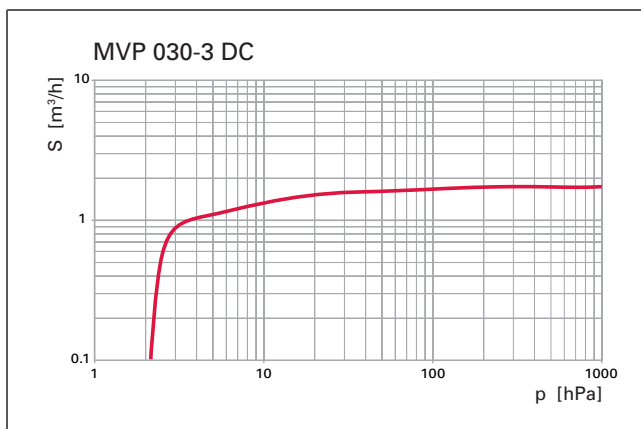


MVP 030

Dry and oil-free diaphragm pumps with a pumping speed of up to 1.8 m³/h:

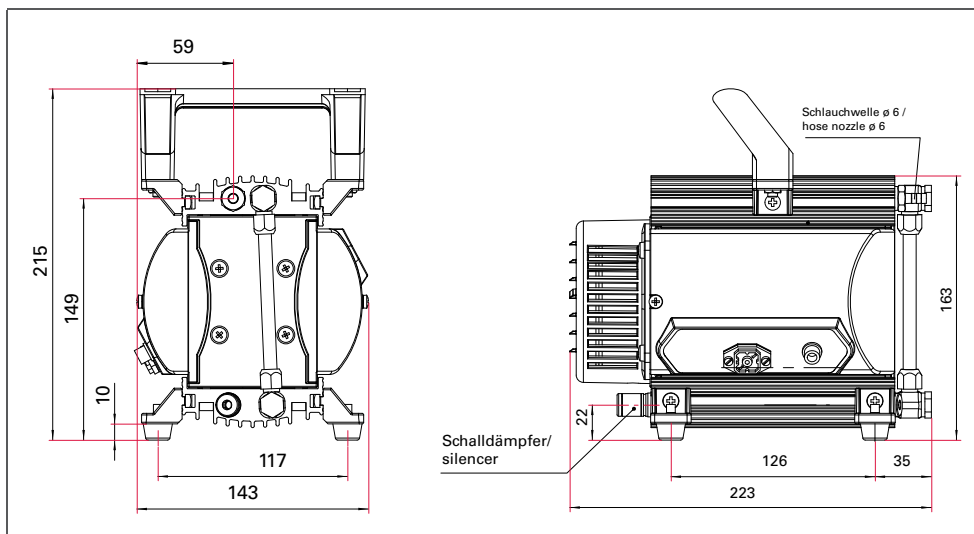
- High-performance diaphragm pump with a pumping speed of up to 1.8 m³/h
- For 24 V DC direct voltage supply
- Interval operation and rotation speed control
- Optimal process adaptation
- Ideal for applications where a dry and oil-free vacuum is required

Pumping speed



MVP 030-3 DC, Diaphragm pump

Dimensions (in mm)



Technical data	MVP 030-3 DC, Diaphragm pump, 24 V
Flange (out)	G 1/8" + silencer
Flange (in)	G 1/8" + hose wave DN 6
Intake pressure max.	1100 hPa
Exhaust pressure, max.	1100 hPa
Rotation speed at 50 Hz	2400 min ⁻¹
Emission sound pressure level without gas ballast	≤ 48 dB (A)
Ultimate pressure with gas ballast	3.0 hPa
Ultimate pressure without gas ballast	2.5 hPa
Weight	4.3 kg
Cooling method, standard	Air
Leak rate	1 · 10 ⁻² Pa m ³ /s
Pumping speed	1.8 m ³ /h
Switch	No
Protection category	IP 40
Current consumption	4.5 A
Ambient temperature	12-40 °C
Supply: Voltage	24 V DC

Order number	
MVP 030	PK T01 190

Accessories	
Flushing gas nozzle for MVP 020-3 / MVP 030-3	PK 050 122
TPS 110, mains pack for wall/ standard rail fitting	PM 061 340 -T
TPS 180, mains pack for wall/ standard rail fitting	PM 061 341 -T
Mains cable 115 V AC with UL plug, Euro socket C 13 (straight), 3 m	P 4564 309 ZE
Mains cable 230 V AC with safety plug, Euro socket C13 (straight), 3 m	P 4564 309 ZA
Mains cable 115 / 230 V without plug, IEC 320/C13 socket, 3 m	P4 564 309 ZH
Connection cable TPS - MVP	PM 061 441- T
Screw-in flange DN 16 ISO-KF / G 1/8" incl. seal	PK 050 108 -T



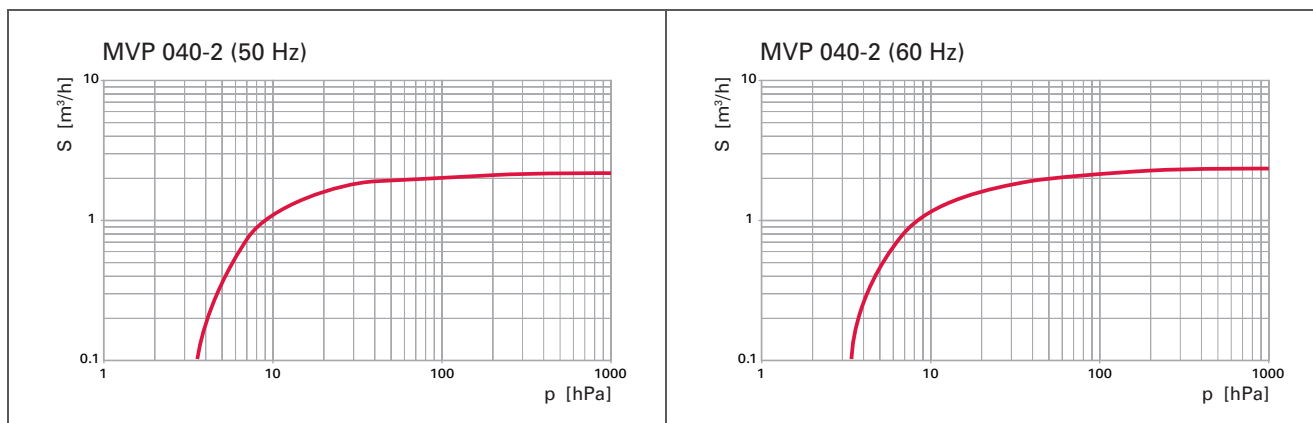
MVP 040

Dry and oil-free diaphragm pumps with a pumping speed up to 2.5 m³/h:

- Robust and high-performance diaphragm pump with a pumping speed of up to 2.5 m³/h
- For mains voltage: 90-126/180-254 V, 50/60 Hz
- Integrated gas ballast allows few amounts of humidity
- Ideal for applications where a dry and oil-free vacuum is required



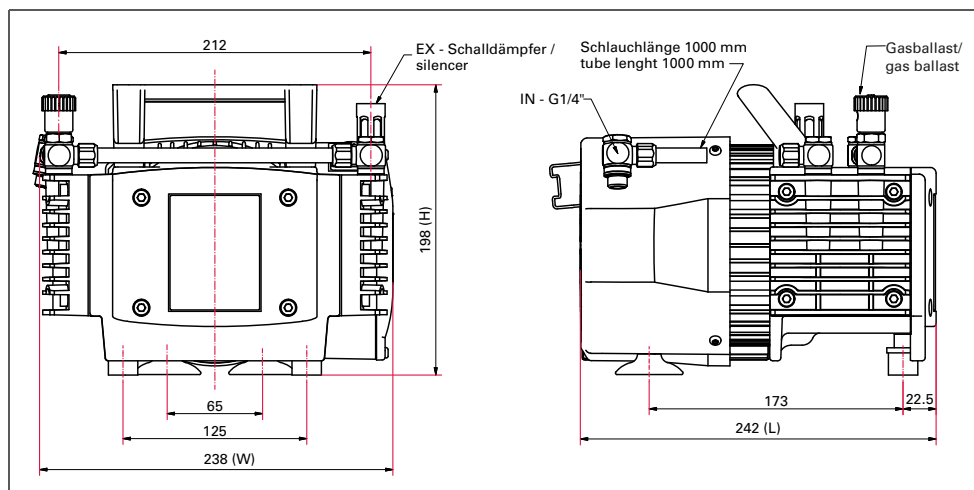
Pumping speed



MVP 040-2, Diaphragm pump

MVP 040-2, Diaphragm pump

Dimensions (in mm)



Technical data	MVP 040-2, Diaphragm pump, 100-115 V, 50/60 Hz; 120 V, 60 Hz; 200-230 V, 50/60 Hz
Flange (out)	G 1/4" + silencer
Flange (in)	G 1/4" elbow union with enclosed hose 10/8, 1000 mm with an elbow union in G 1/4" at the end
Intake pressure max.	1100 hPa
Exhaust pressure, max.	1100 hPa
Rotation speed at 50 Hz	1500 min ⁻¹
Rotation speed at 60 Hz	1800 min ⁻¹
Emission sound pressure level without gas ballast	≤ 53 dB (A)
Ultimate pressure with gas ballast	5 hPa
Ultimate pressure without gas ballast	4 hPa
Weight	11.4 kg
Cooling method, standard	Air
Leak rate	2 · 10 ⁻³ Pa m ³ /s
Mains requirement: voltage 50 Hz	100-115; 00-230 V
Mains requirement: voltage 60 Hz	100-115; 120; 200-230 V
Pumping speed at 50 Hz	2.3 m ³ /h
Pumping speed at 60 Hz	2.5 m ³ /h
Switch	Yes
Protection category	IP 40
Current consumption	3.4 A
Ambient temperature	12-40 °C

Order number	
MVP 040	PK T01 210

Accessories	
Backing pump relay box, shielded, 1-phase 7A for TC 110 and TCP 350, M8 plug	PM 071 282 -X
Backing pump relay box, shielded, 1-phase 7 A for TC 400/1200, TM 700 and TCP 350, M12 plug	PM 071 284 -X
Mains cable 115 / 230 V without plug, right angle IEC 320/C13 socket, 3 m	PK 050 111
Mains cable 230 V with safety plug CEE 7, right angle IEC 320/C13 socket, 2 m	PK 050 109
Mains cable 115 V with NEMA-plug, right angle IEC 320/C13 socket, 2 m	PK 050 110
Screw-in flange DN 16 ISO-KF / G1/4" incl. seal (for MVP 040-2, MVP 070-3 inlet/outlet)	PK 050 114 -T



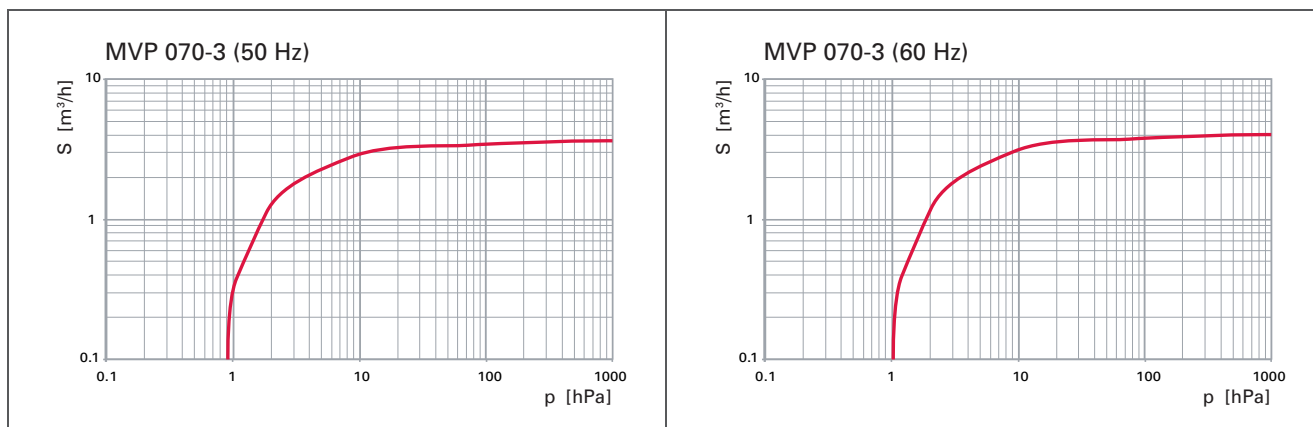
MVP 070

Dry and oil-free diaphragm pumps with a pumping speed of up to 4.3 m³/h:



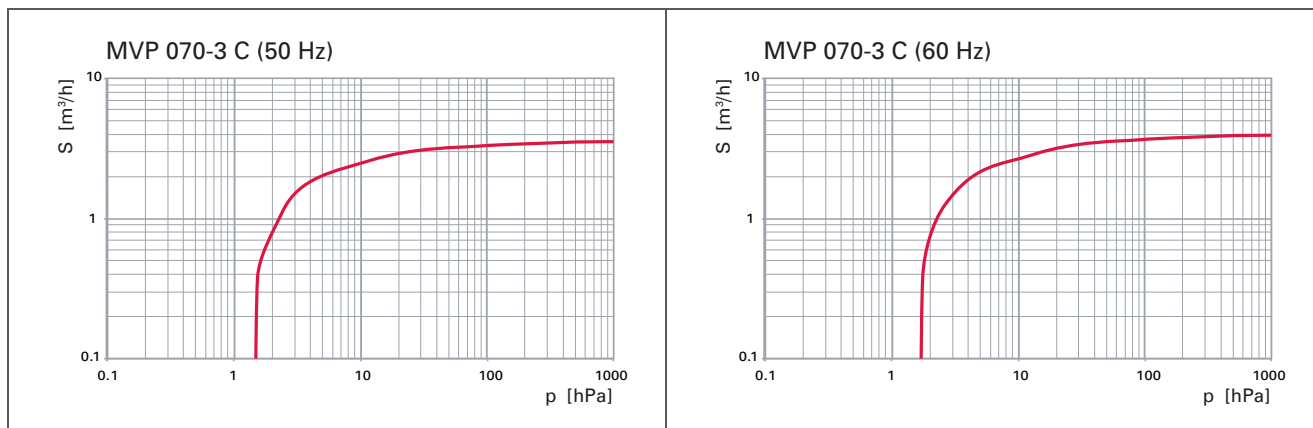
- Diaphragm pump with a pumping speed of up to 4.3 m³/h
- For mains voltage: 90-126/180-254 V, 50/60 Hz
- Ideal for applications, where a dry and oil-free vacuum is required

Pumping speed



MVP 070-3, Diaphragm pump

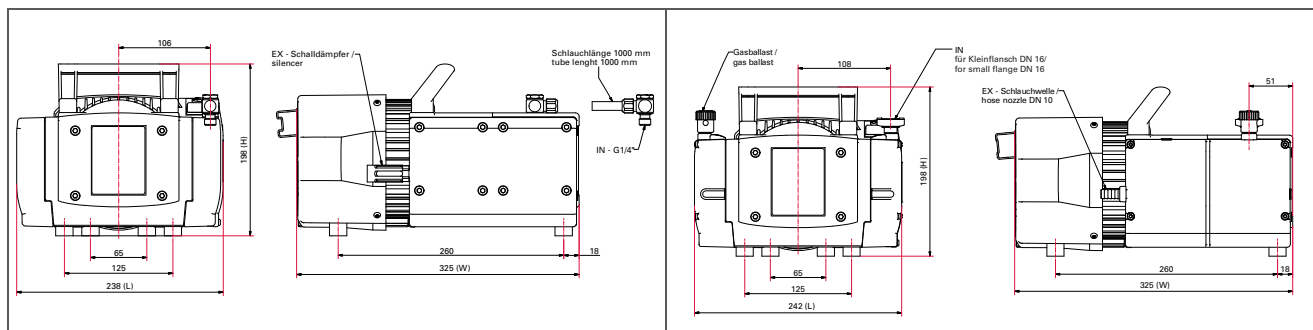
MVP 070-3, Diaphragm pump



MVP 070-3 C, Diaphragm pump

MVP 070-3 C, Diaphragm pump

Dimensions (in mm)



MVP 070-3, Diaphragm pump

MVP 070-3 C, Diaphragm pump



Technical data	MVP 070-3, Diaphragm pump, 100-115 V, 50/60 Hz; 120 V, 60 Hz; 200-230 V, 50/60 Hz	MVP 070-3 C, Diaphragm pump, 100-115 V, 50/60 Hz; 120 V, 60 Hz; 200-230 V, 50/60 Hz
Flange (out)	G 1/4" + silencer	Hose nipple 10 mm
Flange (in)	G 1/4" elbow union + enclosed hose 10/8, 1000 mm with a elbow union in G 1/4" at the end	DN 16 ISO-KF
Intake pressure max.	1100 hPa	1100 hPa
Exhaust pressure, max.	1100 hPa	1100 hPa
Rotation speed at 50 Hz	1500 min ⁻¹	1500 min ⁻¹
Rotation speed at 60 Hz	1800 min ⁻¹	1800 min ⁻¹
Emission sound pressure level without gas ballast	≤ 55 dB (A)	≤ 50 dB (A)
Ultimate pressure with gas ballast		3.0 hPa
Ultimate pressure without gas ballast	1.0 hPa	1.5 hPa
Weight	16.4 kg	14.3 kg
Cooling method, standard	Air	Air
Leak rate	2 · 10 ⁻³ Pa m ³ /s	2 · 10 ⁻³ Pa m ³ /s
Mains requirement: voltage 50 Hz	100-115 ; 200-230 V	100-115 ; 200-230 V
Mains requirement: voltage 60 Hz	100-115 ; 120 ; 200-230 V	100-115 ; 120 ; 200-230 V
Pumping speed at 50 Hz	3.8 m ³ /h	3.4 m ³ /h
Pumping speed at 60 Hz	4.3 m ³ /h	3.8 m ³ /h
Switch	Yes	Yes
Protection category	IP 40	IP 40
Current consumption	5.7 A	5.7 A
Ambient temperature	12-40 °C	12-40 °C

Order number		
MVP 070	PK T01 310	PK T01 360

Accessories		
Backing pump relay box, shielded, 1-phase 7A for TC 110 and TCP 350, M8 plug	PM 071 282 -X	PM 071 282 -X
Backing pump relay box, shielded, 1-phase 7 A for TC 400/1200, TM 700 and TCP 350, M12 plug	PM 071 284 -X	PM 071 284 -X
Mains cable 115 / 230 V without plug, right angle IEC 320/C13 socket, 3 m	PK 050 111	PK 050 111
Mains cable 230 V with safety plug CEE 7, right angle IEC 320/C13 socket, 2 m	PK 050 109	PK 050 109
Mains cable 115 V with NEMA-plug, right angle IEC 320/C13 socket, 2 m	PK 050 110	PK 050 110
Screw-in flange DN 16 ISO-KF / G1/4" incl. seal (for MVP 040-2, MVP 070-3 inlet/outlet)	PK 050 114 -T	

