

Diaphragm Metering Pump Makro/ 5

It is not possible to do more with a mechanically deflected diaphragm



Capacity range of single head pump: 1,540 – 4,000 l/h; 4 bar

The diaphragm metering pump Makro/ 5 (M5Ma) with the Makro/ 5 hydraulic diaphragm and plunger metering pumps, form a range of drive mechanisms with stroke lengths of

20 and/or 50 mm. A wide range of power end versions is available for use in areas at risk from explosion with ATEX certification.

Your benefits

Process reliability:

- Metering reproducibility is better than $\pm 2\%$ within the 30-100% stroke length range under defined conditions and with correct installation.

Excellent flexibility:

- The modular construction with single and double head versions permits a wide range of applications, with the double head designs being operated in push-pull mode
- It is possible to combine up to 4 metering units, even with different pump capacities, in multiple pump systems
- 5 different gear ratios are available
- Customised designs are available on request

Field of application

- Volume-proportional metering of chemicals/additives in water treatment
- Metering of reactants and catalysts in the chemical industry
- Level-dependent metering of additives in industrial production engineering

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Technical Data

Type M5Ma	With 1500 rpm motor at 50 Hz				With 1800 rpm motor at 60 Hz				Suction lift	Connection, suction/ discharge side	Shipping weight
	Delivery rate at max. back pressure		Max. stroke rate	Delivery rate at max. back pressure		Max. stroke rate					
	bar	l/h		ml/stroke	Strokes/min		psi	l/h			
041540	4	1,540	427	60	58	1,822	481	71	3.0	2 3/4–50	320
041900	4	1,900	427	75	58	2,254	595	89	3.0	2 3/4–50	320
042600	4	2,600	427	103	58	3,104	820	123	3.0	2 3/4–50	320
043400	4	3,400	427	133	58	4,064	1,074	159	3.0	2 3/4–50	320
044000	4	4,000	427	156	58	–	–	–	3.0	2 3/4–50	320

Stainless steel version: Shipping weight 340 kg

The permissible admission pressure on the intake side is approx. 50% of the maximum permissible back pressure.

Materials in Contact With the Medium

	Liquid end	Suction/discharge valve	DN 50 plate valves		
			Seals	Valve plates/valve spring	Valve seats
PPT	Polypropylene	Polypropylene	PTFE	Ceramic/ Hast. C + CTFE**	PTFE
PCT	PVC	PVC	PTFE	Ceramic/ Hast. C + CTFE**	PTFE
TTT	PTFE with carbon	PTFE with carbon	PTFE	Ceramic/ Hast. C + CTFE**	PTFE
SST	Stainless steel mat. no. 1.4571/1.4404	Stainless steel mat. no. 1.4571/1.4404	PTFE	Stainless steel mat. no. 1.4404/ Hast. C	PTFE

DEVELOPAN® metering diaphragm with PTFE coating.

** The valve spring is coated with CTFE (similar to PTFE)

Special versions on request.

Motor Data

Identity code specification		Power supply		Remarks
S	3-phase, IP 55	220 – 240 V/380 – 420 V 250 – 280 V/440 – 480 V	50 Hz 60 Hz	3 kW
R	3-phase, IP 55	230 V/400 V	50/60 Hz	3 kW with PTC, speed control range 1:5
L1	3-phase, II 2G Ex e II T3 X	220 – 240 V/380 – 420 V	50 Hz	3.6 kW
L2	3-phase, II 2G Ex de IIC T4 Gb	220 – 240 V/380 – 420 V	50 Hz	4 kW with PTC, speed control range 1:5
P1	3-phase, II 2G Ex e IIC T3	250 – 280 V/440 – 480 V	60 Hz	3.6 kW
P2	3-phase, II 2G Ex de IIC T4	250 – 280 V/440 – 480 V	60 Hz	4 kW with PTC, speed control range 1:5

Motor data sheets can be requested for more information. Special motors or special motor flanges are available on request.

The motors are designed in compliance with the Ecodesign Directive 2009/125/EC.

Information for use in areas at risk from explosion

Only use pumps with the appropriate labelling in line with the ATEX Directive 2014/34/EU in premises at risk from explosion. Ensure that the explosion group, category and degree of protection specified on the label corresponds to or is better than the conditions prevalent in the intended field of application.