

# Hydraulic Diaphragm Metering Pump Hydro/ 3

**For flexible metering with excellent process reliability in the medium pressure range.**



## **Capacity range of single head pump: 10 – 180 l/h; 100 – 25 bar**

The Hydro/ 3 hydraulic diaphragm metering pump (HP3a), together with the Hydro/ 2 and Hydro/ 4 pumps, represents an integrated product range with stroke lengths of 15 and/or 20 mm. This covers the capacity range from 3 to 1,450 l/h at

100 – 7 bar. A wide range of power end versions is available for use in areas at risk from explosion with ATEX certification. The Hydro product range is designed to comply with API 675 among others.

## **Your benefits**

Excellent process safety and reliability:

- PTFE multi-layer diaphragm with integral diaphragm rupture warning system
- Integral hydraulic relief valve
- Metering reproducibility is better than  $\pm 1\%$  within the 20-100% stroke volume range under defined conditions and with proper 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 5 metering units, even with different pump capacities, in multiple pump systems
- 5 different gear ratios are available

## **Field of application**

- Oil and gas industry.
- Volume-proportional metering of chemicals/additives in the treatment of boiler feed water
- Metering of reactants and catalysts in the chemical industry
- Level-dependent metering of auxiliary agents in industrial production engineering, for instance hot wax metering in the production of adhesive strips

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## Technical Data

Type HP3a	With 1500 rpm motor at 50 Hz				With 1800 rpm motor at 60 Hz				Suction lift	Perm. pre- pressure suction side	Connection suction/ discharge side	Shipping weight	Plunger Ø
	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/gph (US)	Strokes/min	m WC	bar		G-DN	kg	mm
100010*	100	10	2.8	60	1,450	12/3.2	72	3.0	5		Rp 3/8-10*	41	22
100021*	100	21	2.8	125	1,450	25/6.6	150	3.0	5		Rp 3/8-10*	41	22
100025*	100	25	2.8	150	1,450	30/7.9	180	3.0	5		Rp 3/8-10*	41	22
100031*	100	31	2.8	187	1,450	37/9.8	224	3.0	5		Rp 3/8-10*	41	22
100035*	100	35	2.8	212	1,450		–	3.0	5		Rp 3/8-10*	41	22
064019	64	19	5.3	60	928	23/6.1	72	3.0	5		G 3/4-10**	41	26
064040	64	40	5.3	125	928	48/12.7	150	3.0	5		G 3/4-10**	41	26
064048	64	48	5.3	150	928	58/15.3	180	3.0	5		G 3/4-10**	41	26
064060	64	60	5.3	187	928	72/19.0	224	3.0	5		G 3/4-10**	41	26
064068	64	68	5.3	212	928		–	3.0	5		G 3/4-10**	41	26
025048	25	48	13.4	60	362	58/15.3	72	3.0	5		G 1-15***	41	38
025100	25	100	13.4	125	362	120/31.7	150	3.0	5		G 1-15***	41	38
025120	25	120	13.4	150	362	144/38.0	180	3.0	5		G 1-15***	41	38
025150	25	150	13.4	187	362	180/47.6	224	3.0	5		G 1-15***	41	38
025170	25	170	13.4	212	362		–	3.0	5		G 1-15***	41	38

Version PVDF max. 25 bar.

\* Version SST/HCT with double ball valve, valve connector on the suction/discharge side with female thread Rp 3/8 and external thread G 3/4 - DN 10

\*\* HV design (SST only) with G 1 - DN 15 connector

\*\*\* HV design (SST only) with 1 1/4" DN 20 connector

## Materials in Contact With the Medium

Material	Dosing head	Suction/pressure connector	Seals/ball seat	Balls
SST	Stainless steel 1.4571/1.4404	Stainless steel 1.4581	PTFE/stainless steel 1.4404	Ceramic
PVT*	PVDF (polyvinylidene fluoride)	PVDF (polyvinylidene fluoride)	PTFE/PTFE	Ceramic
HCT	Hastelloy C	Hastelloy C	PTFE/Hastelloy C	Ceramic
TTT	PTFE + 25 % carbon	PVDF (polyvinylidene fluoride)	PTFE/PTFE	Ceramic

\* not for areas at risk from explosion

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## 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	0.75 kW	
T	3-phase, IP 55	220 – 240 V/380 – 420 V 265 – 280 V/440 – 480 V	50 Hz 60 Hz	0.75 kW	with PTC, speed control range 1:5
R	3-phase, IP 55	230 V/400 V	50/60 Hz	0.75 kW	with PTC, speed control range 1:20, with external fan 1-phase 230 V; 50/60 Hz
V0	1-phase, IP 55	230 V $\pm$ 10%	50/60 Hz	0.75 kW	Variable speed motor with integrated frequency converter
L1	3-phase, II 2G Ex h IIC T3 Gb X	220 – 240 V/380 – 420 V	50 Hz	0.75 kW	
L2	3-phase, II 2G Ex h IIC T4 Gb X	220 – 240 V/380 – 420 V	50 Hz	0.75 kW	with PTC, speed control range 1:5
P1	3-phase, II 2G Ex h IIC T3 Gb X	254 – 277 V/440 – 480 V	60 Hz	0.75 kW	
P2	3-phase, II 2G Ex h IIC T4 Gb X	254 – 277 V/440 – 480 V	60 Hz	0.75 kW	with PTC, speed control range 1:5
V2	3-phase, II 2G Ex h IIC T4 Gb X	400 V $\pm$ 10%	50/60 Hz	0.75 kW	Ex-variable speed motor with integrated frequency converter

Motor data sheets can be requested for more information. Motors for Sigma basic pumps, 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.

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