

# For all capacity ranges

## Hydraulic diaphragm metering pump Hydro/ 4



The hydraulic diaphragm process metering pump Hydro / 4 completes the application range of the Hydro series / 2, Hydro / 3 and extends them to much capacity ranges. The Hydro/ 4 is equipped with a multilayer metering diaphragm made of PTFE. With a pump head made of such materials as stainless steel, PVDF or Hastelloy C, the Hydro/ 4 can be universally used in many applications. The new Hydro/ 4 covers the following capacity ranges: 130 l/h – 1,400 l/h at 25 bar to 7 bar.

By default, the Hydro/ 4 is equipped with a built-in hydraulic relief valve and a multi-layer diaphragm with diaphragm rupture indicator. The relief valve is adjustable - and comes preset to an operating pressure of +10%. Metering reproducibility is better than  $\pm 1\%$  with a 10-100% stroke length under certain defined conditions and after proper installation. Multi-layer safety diaphragms ensure safe, leakage-free metering.

### Advantages

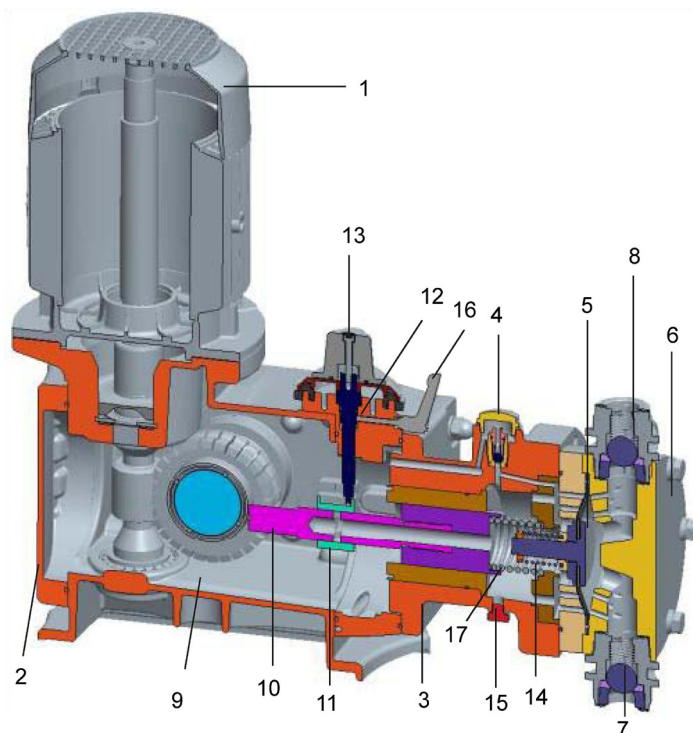
- Locking lever for stroke adjustment
- Also available as a dual head, 3-way and 4-way pump
- Continuous degassing for the hydraulic element
- Flexibility due to modular construction
- ATEX design
- High degree of functionality and long service life  
Maintenance-free and precise hydraulic control, with long-term very precise metering

### Safety

- Process reliability with standard multi-layer diaphragm, diaphragm rupture signalling - no mixing of metering media with hydraulic oil
- Pressure relief valve in the hydraulic unit as a protection against overload
- Optical excess pressure indicator (also known as electrical contact for issuing warning messages)

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Unlike mechanically deflected diaphragm metering pumps from the drive, the movable piston and the metering diaphragm on the Hydro/ 4 do not constitute a mechanically connected unit. The motor power is transmitted via a cam shaft to a hollow piston. There is a hydraulic coupling between the piston (10) and the metering diaphragm (5). Control bores in the piston close depending on the relay valve setting. The hydraulic fluid volume that the piston displaces - including the dosing stroke - can be continuously and linearly adjusted on this spool valve (11) from 0% to 100%. After the compression stroke, a spring (17) returns the piston back to its original position and releases the suction stroke. To prevent damage to the pump in the hydraulics, a built-in pressure relief valve (18) safeguards the pump from being overloaded. Overload is indicated either visually and/or electrically.



- 1 motor
- 2 engine
- 3 hydraulic unit
- 4 continuous bleeding
- 5 metering diaphragm
- 6 dosing head
- 7 suction valve
- 8 discharge valve
- 9 oil
- 10 piston
- 11 relay valve
- 12 adjusting spindle
- 13 adjustment head
- 14 diaphragm spring
- 15 cycle
- 16 locking lever
- 17 plunger spring
- 18 pressure relief valve\*
- 19 excess pressure indicator\*

\*Not indicated on the sectional drawing.

## Technical data

<b>Metering capacity</b>	130 to 1,400 l/h
<b>Pressure range</b>	25 to 7 bar
<b>Diaphragm</b>	PTFE diaphragm multilayer with rupture indicator
<b>Design</b>	also available as a dual head, three-way and four-way pump
<b>Material dosing head</b>	stainless steel, PVDF, Hastelloy C
<b>Protection type</b>	IP55, ATEX-T3 or ATEX-T4