

## The 4 series...

...robust, durable, versatile, economic

### sera - diaphragm pumps

of series 409.2 and 410.2 are oscillating displacement pumps for dosing and feeding liquids in a variety of industries.

Performance range between 0,4 l/h and 1450 l/h, pressures up to max. 10 bar.

### Application

Liquid chemicals with aggressive, odorous, abrasive, radioactive, flammable, viscous or toxic properties.

### ...further features of performance

- high dosing accuracy
- long service life of diaphragms\*
- high-quality materials
- linear control characteristic
- low maintenance
- low operating expenses
- leakage-free
- unlimitedly to run dry
- easy to operate
- designs according to ATEX
- low weight

\* compared to common conventional diaphragms



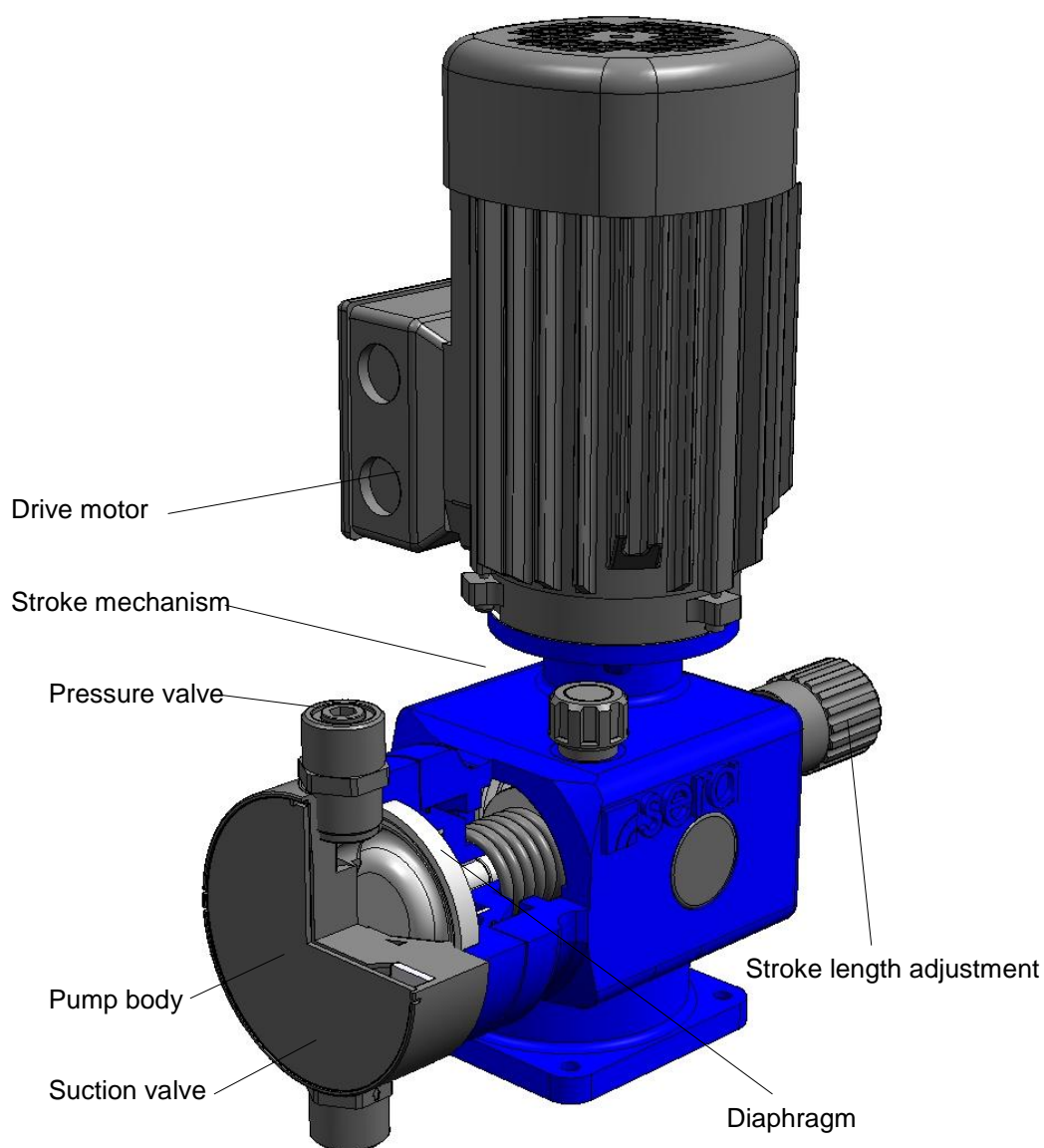
# Diaphragm pumps

## Design options

The single pump has one head – technical data according to the performance schedule.  
Multi headed or combination pumps with a single drive are reasonably priced – combination pumps with each pump head sized individually according to the requirements in respect of material, size and control.

## Single diaphragm pump

The mechanically coupled working diaphragm acts directly upon the chemical.



## Technical Data

### Serie 409.2

Pump type	Nominal capacity		max. counter- pressure $p_2$ max.	max. suction height [mWVC]	Inlet-/Outlet- size DN [mm]	Driving power (motor) $P_M$ [kW]	Nominal stroke frequency	
	$Q_N$ 50 Hz	$Q_N$ 60 Hz					$n_N$ 50 Hz	$n_N$ 60 Hz
	[l/h]	[l/h]					[min <sup>-1</sup> ]	[min <sup>-1</sup> ]
R 409.2 – 0,4e	0 – 0,4	0 – 0,48	10	2	4	0,18	50	60
R 409.2 – 0,8e	0 – 0,8	0 – 0,96	10	2	5	0,18	100	120
R 409.2 – 1,6e	0 – 1,6	0 – 1,9	10	3	5	0,18	100	120
R 409.2 – 2,4e	0 – 2,4	0 – 2,9	10	3	5	0,18	150	180
R 409.2 – 4,0e	0 – 4,0	0 – 4,8	10	3	5	0,18	100	120
R 409.2 – 7,0e	0 – 7,0	0 – 8,4	10	3	5	0,18	150	180
R 409.2 – 12e	0 – 12	0 – 14,4	10	3	10	0,18	67	80
R 409.2 – 18e	0 – 18	0 – 21,5	10	3	10	0,18	100	120
R 409.2 – 25e	0 – 25	0 – 30	10	3	10	0,18	150	180
R 409.2 – 50e	0 – 50	0 – 60	10	3	10	0,18	100	120
R 409.2 – 75e	0 – 75	0 – 90	10	3	15	0,18	150	180
R 409.2 – 90e	0 – 90	0 – 108	8	3	15	0,37	100	120
R 409.2 – 115e	0 – 115	0 – 138	4	3	15	0,18	100	120
R 409.2 – 140e	0 – 140	0 – 168	8	3	15	0,37	150	180
R 409.2 – 180e	0 – 180	0 – 216	4	3	15	0,18	150	150
R 409.2 – 250e	0 – 250	0 – 300	3	3	15	0,37	100	120
R 409.2 – 350e	0 – 350	–	3	3	15	0,37	150	–

### Serie 410.2

Pump type	Nominal capacity		max. counter- pressure $p_2$ max.	max. suction height [mWVC]	Inlet-/Outlet- size DN [mm]	Driving power (motor) $P_M$ [kW]	Nominal stroke frequency	
	$Q_N$ 50 Hz	$Q_N$ 60 Hz					$n_N$ 50 Hz	$n_N$ 60 Hz
	[l/h]	[l/h]					[min <sup>-1</sup> ]	[min <sup>-1</sup> ]
R 410.2 – 200e	0 – 200	0 – 240	8	5	15	0,75	76	91
R 410.2 – 280e	0 – 280	0 – 336	8	5	15	0,75	97	116
R 410.2 – 450e	0 – 450	0 – 480	6	5	15	0,75	76	91
R 410.2 – 570e	0 – 570	0 – 680	6	5	15	0,75	97	116
R 410.2 – 700e	0 – 700	0 – 840	5	3	20	0,75	76	91
R 410.2 – 900e	0 – 900	0 – 1080	5	3	20	0,75	97	116
R 410.2 – 1100e	0 – 1100	0 – 1320	5	3	25	1,5	76	91
R 410.2 – 1450e	0 – 1450	–	5	3	25	1,5	97	–

## Materials

The high quality of the materials ensures continuous and reliable operation. We have the optimum material<sup>1)</sup> for each requirement.

**Pump body and valves:**  
PVC, PP, PVDF, 1.4571,  
PP-FRP, PVDF-FRP

**Valve balls:**  
Glass, PTFE, 1.4401

**Valve seals:**  
EPDM, FPM, FEP-covered, FFKM<sup>2)</sup>

**Working diaphragm:**  
EPDM, FPM, PTFE-faced

**Manual vent valve<sup>2)</sup>:**  
PP-FRP, PVDF-FRP

<sup>1)</sup> please ask us for any material required but not mentioned here  
<sup>2)</sup> only with pumps in FRP-execution, 0,8 l/h - 2,4 l/h

## Drive

Each drive unit consists of a proven motor coupled to a stroke mechanism in a robust aluminium housing.

**sera** – aluminium housings can cope with even extreme operating conditions due to the thickness of the material and the surface treatment.

## Control

The capacities of the **sera** – diaphragm pumps are constant or infinitely variable.

Manual capacity control via:

- Adjustment of the stroke length

Automatic capacity control, dependent on analogue or digital input signals via:

- Three-phase motors with frequency converters
- Actuators with position controllers for adjusting the stroke length

## Special designs

For special dosing problems we offer individual solutions:

Pump heads with special nominal bores, heating devices, etc.

Double valve assemblies, spring loaded, with elastic seats, etc.

Flushing devices for intermittent and final cleaning to prevent sedimentation in the pump body.

Stroke transmitting device, diaphragm rupture alarm.

## Accessories

For the optimum installation of a dosing pump we can supply all the necessary accessories such as valves, pulsation dampers, injection fittings, dosing tanks, flow controllers, etc. against your order.
