



sera - Piston diaphragm pumps

are leakproof oscillating displacement pumps – displacing a defined volume of up to 2000 l/h and max. 50 bar.



Application

Free-flowing chemicals with aggressive, abrasive, radioactive, flammable, viscous or toxic properties.

Advantages

- Leakproof
- Highest dosing accuracy
- Wide pressure range
- Safe to run dry
- High quality materials
- High operational reliability

Ask us to submit a quotation to meet your specific requirements!



Piston diaphragm pumps

The stroke movement of the mechanically coupled piston is transferred hydraulically to the intermediate diaphragm. An integral compensation valve ensures highest dosing accuracy and offers highest overload protection. In case of unacceptably high counterpressure the hydraulic fluid can escape into the compensation valve.

Design options

The single pump has one pump head - technical data according to the performance schedule. Multi-headed or combination pumps with a single drive are reasonably priced twin-head or multi-component pumps with each pump head designed individually according to the requirements in respect of size, material and control. Technical details on request.





| Pump type | | Nominal capacity adjustable by changing stroke length and stroke frequency | | Maximum permissible pressure at outlet of pump | Maximum suction height | Inlet/ outlet nominal size | Nominal stroke frequency | | Rated power |
|-----------|--------------------|---|----------------------------------|--|------------------------------|-------------------------------------|------------------------------------|------------------------------------|------------------------|
| | | Q _N 50 Hz [I∕h] | Q _N 60 Hz [I/h] | p ₂ max. [bar] | [mWC] | DN [mm] | n _N 50 Hz [min⁻¹] | n _N 60 Hz [min⁻¹] | P _M [kW] |
| R | 409.1 - 8,5 KM/14 | 0 - 8.5 | 0 - 10 | 50 | 2 | 10 | 100 | 120 | 0.18 |
| R | 409.1 - 11 KM/14 | 0 – 11 | 0 – 13 | 50 | 2 | 10 | 134 | 160 | 0.18 |
| R | 409.1 - 17 KM/20 | 0 – 17 | 0 – 20 | 50 | 2 | 10 | 100 | 120 | 0.37 |
| R | 409.1 - 23 KM/20 | 0 – 23 | 0 – 27 | 50 | 2 | 10 | 134 | 160 | 0.37 |
| R | 409.1 - 34 KM/28 | 0 - 34 | 0 – 40 | 35 | 2 | 10 | 100 | 120 | 0.37 |
| R | 409.1 - 45 KM/28 | 0 – 45 | 0 – 54 | 35 | 2 | 10 | 134 | 160 | 0.37 |
| R | 409.1 - 68 KM/40 | 0 - 68 | 0 – 80 | 20 | 2 | 10 | 100 | 120 | 0.37 |
| R | 409.1 - 90 KM/40 | 0 - 90 | 0 - 108 | 20 | 2 | 15 | 134 | 160 | 0.37 |
| R | 409.1 – 135 KM/56 | 0 - 135 | 0 - 160 | 10 | 2 | 15 | 100 | 120 | 0.37 |
| R | 409.1 – 180 KM/56 | 0 - 180 | _ | 10 | 2 | 15 | 134 | _ | 0.37 |
| R | 411.1 – 30 KM/28 | 0 – 30 | 0 – 36 | 50 | 2 | 10 | 97 | 116 | 0.75 |
| R | 411.1 - 47 KM/40 | 0 - 47 | 0 – 56 | 50 | 2 | 10 | 76 | 92 | 0.75 |
| R | 411.1 - 60 KM/40 | 0 - 60 | 0 - 72 | 50 | 2 | 10 | 97 | 116 | 0.75 |
| R | 411.1 – 150 KM/56 | 0 - 150 | 0 - 180 | 40 | 2 | 15 | 76 | 92 | 1.10 |
| R | 411.1 – 190 KM/56 | 0 - 190 | — | 40 | 2 | 15 | 97 | _ | 1.10 |
| R | 411.1 – 300 KM/80 | 0 - 300 | 0 - 360 | 20 | 2 | 15 | 76 | 92 | 1.10 |
| R | 411.1 – 390 KM/80 | 0 - 390 | _ | 20 | 2 | 15 | 97 | _ | 1.10 |
| R | 411.1 – 510 KM/100 | 0 - 510 | 0- 610 | 15 | 2 | 15 | 76 | 92 | 1.10 |
| R | 411.1 - 640 KM/100 | 0 - 640 | _ | 15 | 2 | 20 | 97 | _ | 1.10 |
| R | 411.1 – 840 KM/115 | 0 - 840 | _ | 11 | 2 | 20 | 97 | _ | 1.10 |
| R | 411.1 – 900 KM/115 | 0 - 900 | 0 - 1080 | 8 | 2 | 20 | 76 | 92 | 1.10 |
| М | 413 KM – 115/16 | 1100 | 1100 | 16 | 2 | 20 | 93 | 93 | 2.20 |
| R | 413 KM – 115/16 | 220 - 1100 | 220 – 1100 | 16 | 2 | 20 | 19 – 93 | 19 – 93 | 2.20 |
| Μ | 413 KM – 115/16 | 1500 | 1500 | 16 | 2 | 25 | 85 | 85 | 3.00 |
| R | 413 KM – 115/16 | 300 - 1500 | 300 - 1500 | 16 | 2 | 25 | 17 – 85 | 17 – 85 | 3.00 |
| ΜK | 414 KM - 160/16 | 2000 | 2000 | 16 | 2 | 32 | 50 | 50 | 3.00 |
| RK | 414 KM - 160/16 | 400 - 2000 | 400 – 2000 | 16 | 2 | 32 | 10 – 50 | 10 – 50 | 3.00 |

The capacity is controlled manually via the stroke length, however, with the type R 413 KM... with constant stroke length the adjustment is made by changing the stroke frequency of the motor. Pump bodies made of plastic can be used up to a maximum pressure of only 10 bar.



Materials

The high quality of the materials ensures continuous and reliable operation. We have the optimum material for each requirement (please ask us for any material not mentioned here).

Pump body and valves: PP, PP-FRP, PVDF, PVDF-FRP, PVC, 1.4571/1.4581 (stainless steel), titanium, rubber-coated steel

Valve balls:

Glass, ceramic, PTFE, 1.4401 (stainless steel), rubberized steel, AU, Hastelloy C

Valve seals: EPDM, FPM, FEP-covered, PTFE-covered, Sil C-8200

Intermediate diaphragm: CSM, PTFE, FPM, PTFE-faced

Drive

Each drive unit consists of a proven motor coupled to a stroke mechanism in a robust **sera** cast iron housing. Cast iron housings can cope with even the most extreme operating conditions due to the thickness of the material and the surface treatment. They resist even chemical attack.

Depending on the size of the pump the stroke mechanisms are spring cam, slider crank or swinging armtype.

Control

The capacities of the piston diaphragm pumps are constant or infinitely variable. Manual capacity control via:

- Adjustment of stroke length
- Adjustment of stroke frequency

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

- Threephase motors with frequency converters to change the stroke frequency
- Actuators with position controllers for adjusting the stroke length

Special designs

We offer the individual solution for special dosing tasks:

Piston double diaphragm pump (KDM) with an additional intermediate diaphragm for greater operating safety.

Pump bodies with special nominal widths, heating devices etc.

Valves executed as double valves, spring loaded, with elastic seats etc.

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

Mounting of stroke frequency transmitters, diaphragm rupture monitoring.

Accessories

All accessories required for the optimum installation of dosing pumps, such as valves, pulsation dampers, dosing valves, dosing tanks, flow controllers, etc. can be ordered at **sera**.

CE

Sera Dosing Feeding Compressing

Seybert & Rahier GmbH + Co. Betriebs-KG sera-Straße 1 D-34376 Immenbausen

D-34376 Immenhausen Phone + 49 56 73 99 90 Fax + 49 56 73 99 91 55 e-mail: info@sera-web.de www.sera-web.de Local **sera** - Representative:



P.O. Box 16 (Palokorvenkatu 2) FI-04261 Kerava, Finland Tel. +358 10 417 4500 Fax +358 10 417 4501 hyxo@hyxo.fi • www.hyxo.com