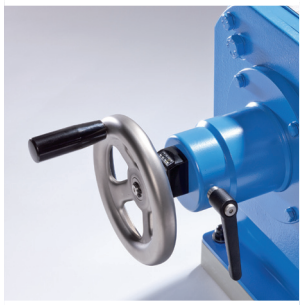
Piston Diaphragm Pumps

R 510.1-...KM / R 511.1-...KM

sera®
Excellence in Fluid Technology

The new piston diaphragm pumps of the generation 5 with variable eccentric drives

- Wide range of applications thanks to a performance between 65 l/h and 1650 l/h with counter pressures of up to 220 bar
- Exact flow respectively dosing rates by variable eccentric drives with a harmonic motion sequence
- High operating reliability thanks to a hydraulically driven multi-layer diaphragm made of high-quality material
- Display of the diaphragm state by an integrated diaphragm monitoring (optically for standard / electrical option)
- Safe against overpressure by an internal pressure relief valve
- Wide field of applications thanks to extensive accessories as well as an optional design for explosion-proof applications respectively in accordance with API Standard 674/675



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The stroke of the mechanically linked piston is transferred to the multi-layer diaphragm.

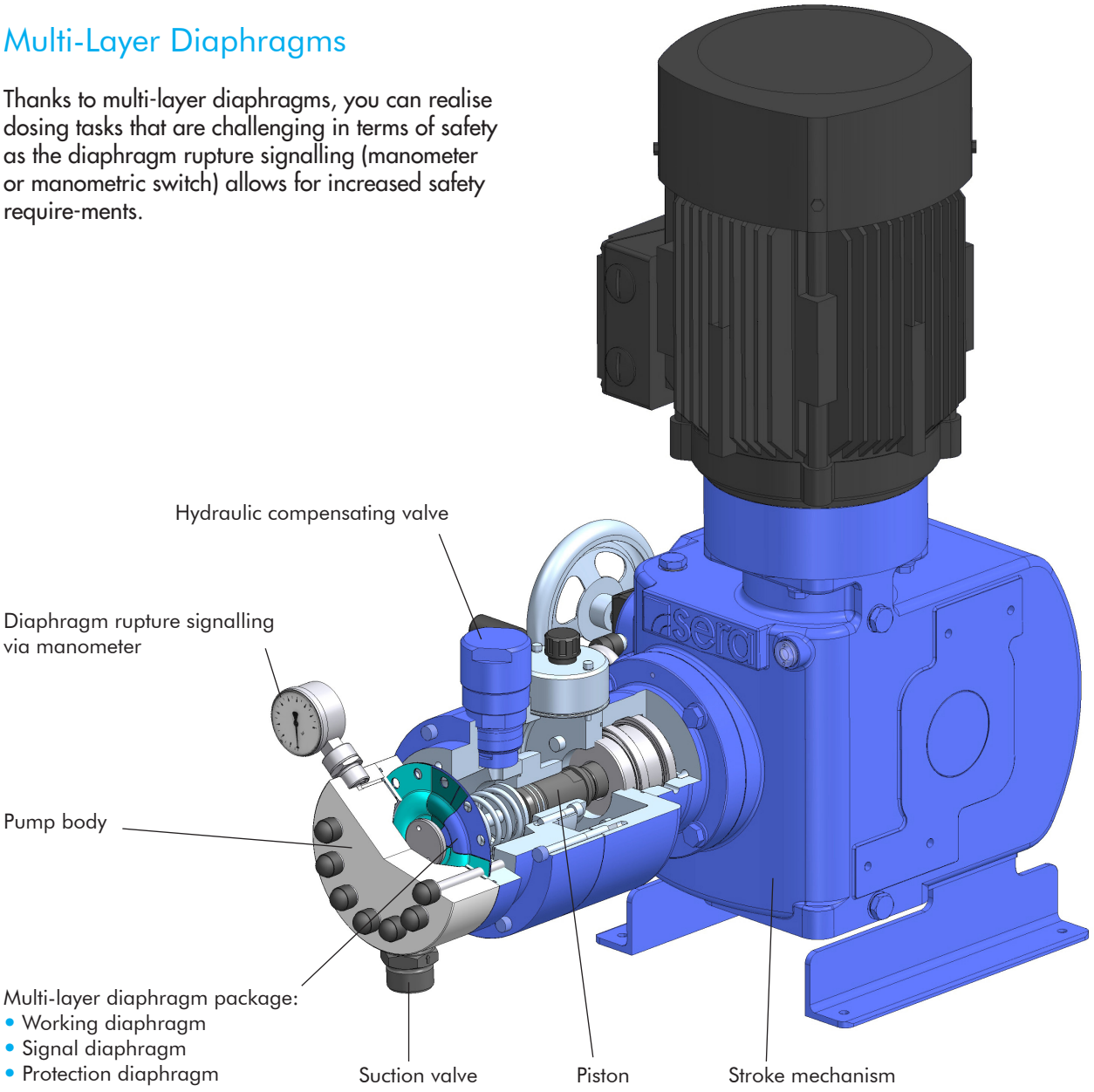
An integrated counterbalance valve ensures an excellent dosing accuracy and provides an optimum of protection against overstress:
In case of an inadmissible high counter pressure, the hydraulic fluid can escape into the counterbalance valve.

Types

The single pump has one pump head whose characteristics are shown in the performance list. Multiple pumps or combination pumps with one drive are cost-effective multi-component pumps whereas each pump head can be customised according to size, material and control options. Technical data on request.

Multi-Layer Diaphragms

Thanks to multi-layer diaphragms, you can realise dosing tasks that are challenging in terms of safety as the diaphragm rupture signalling (manometer or manometric switch) allows for increased safety require-ments.



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Technical Data

R 510.1 series

Type of pump	Nominal flow rate		Permissible counter pressure	Maximum suction height	Inflow/ outflow nominal width	Drive capacity	Nominal stroke frequency	
	Q_N 50 Hz [l/h]	Q_N 60 Hz [l/h]	p_2 max. [bar]	[mWC]	DN [mm]	P_M [kW]	n_N 50 Hz [min^{-1}]	n_N 60 Hz [min^{-1}]
R 510.1 - 65 KM	0 - 65	0 - 78	180	3	10	1,5	130	156
R 510.1 - 150 KM	0 - 150	0 - 180	80	3	20	1,5	130	156
R 510.1 - 300 KM	0 - 300	0 - 360	45	3	20	1,5	130	156
R 510.1 - 700 KM	0 - 700	0 - 840	22	3	20	1,5	130	156
R 510.1 - 850 KM	0 - 850	0 - 1020	16	3	32	1,5	130	156
R 510.1 - 1100 KM	0 - 1100	0 - 1320	13	3	32	1,5	130	156

R 511.1 series

Type of pump	Nominal flow rate		Permissible counter pressure	Maximum suction height	Inflow/ outflow nominal width	Drive capacity	Nominal stroke frequency	
	Q_N 50 Hz [l/h]	Q_N 60 Hz [l/h]	p_2 max. [bar]	[mWC]	DN [mm]	P_M [kW]	n_N 50 Hz [min^{-1}]	n_N 60 Hz [min^{-1}]
R 511.1 - 100 KM	0 - 100	0 - 120	220	3	8	4	125	150
R 511.1 - 220 KM	0 - 220	0 - 264	160	3	20	5,5	125	150
R 511.1 - 440 KM	0 - 440	0 - 528	85	3	20	7,5	125	150
R 511.1 - 900 KM	0 - 900	0 - 1080	40	3	32	7,5	125	150
R 511.1 - 1450 KM	0 - 1450	0 - 1740	25	3	32	7,5	125	150
R 511.1 - 1650 KM	0 - 1650	---	20	3	32	7,5	125	---

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Materials

The high quality of the material ensures the reliable continuous operation. We have the ideal material available for each requirement.

Pump bodies and valves:
1.4571

Valve balls:
1.4401

Valve seals:
FEP-covered

Drive diaphragm:
PTFE-(3-layer)

* inquire about materials not listed

Drive

The respective drive unit consists of a reliable motor coupled with a stroke mechanism inside a robust cast iron housing.

sera cast iron housings meet even the toughest conditions. The thickness of the material and the finish are even resistant to chemical attacks.

Control

The flow rate of **sera** – piston diaphragm pumps is constant or is continuously variable.

Manual flow rate adjustment through:

- Stroke length variation

Automatic flow rate adjustment - depending on analogue input signals, through:

- Three-phase motors with frequency converter to change the stroke frequency
- Actuators with position regulators to vary the stroke length

Special designs

We can offer a customised solution for special dosing tasks:
Pump bodies and valves in accordance with API
Mounting of stroke transmitter, electrical actuators and others.

Accessories

For the ideal installation of dosing pumps, you can order all required accessories such as pulsation dampers, safety valves etc.

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