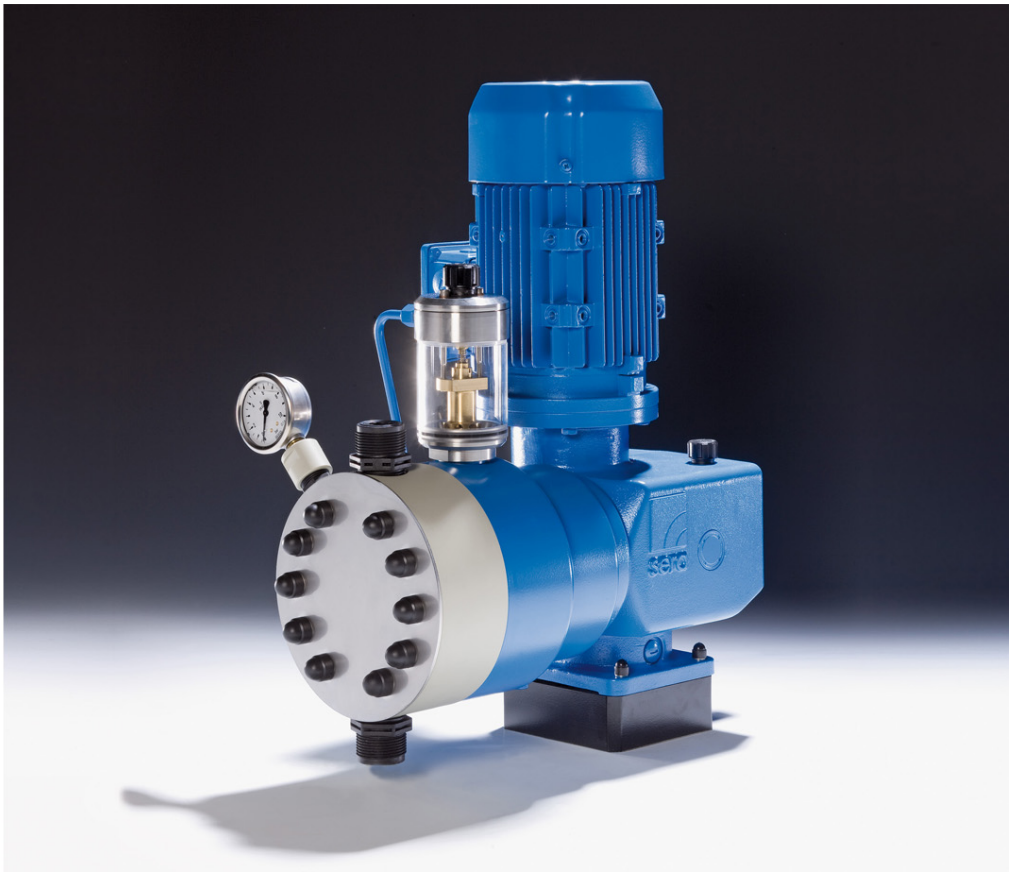
Piston diaphragm pumps

R 409.2-...KM / R 410.2-...KM

sera®
Excellence in Fluid Technology

The piston diaphragm pumps generation 4

- High operational safety by multi-layer diaphragm technology
- Indication of diaphragm condition by integrated diaphragm rupture monitoring
  (visual as standard design / electrical available as option)
- Integral overpressure safety device
- Excellent priming characteristics without additional equipment
- Applicable in explosion-hazardous areas by optional equipment components
- Wide range of application by an extensive programme of material combinations and accessories



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The stroke movement of the mechanically-driven piston is transferred hydraulically to the multi-layer diaphragm.

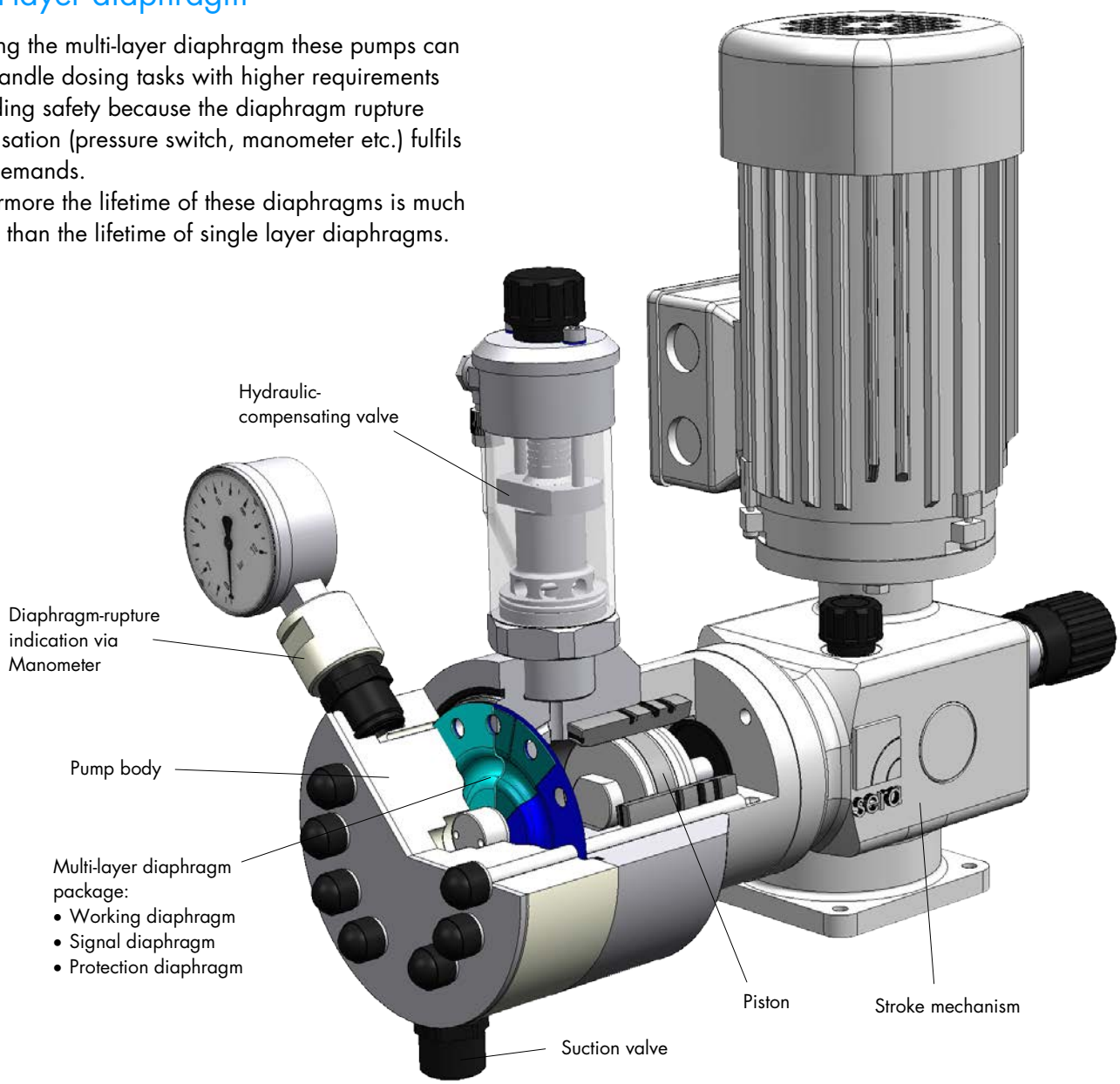
An integrated compensating valve guarantees an extraordinary dosing accuracy and offers optimum overload protection: in case of an impermissible high counterpressure the hydraulic fluid can pass off into the compensating valve.

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 – twin head or multi-headed pumps with each pump head sized individually according to the requirements in respect of material, size and control.

Multi-layer diaphragm

By using the multi-layer diaphragm these pumps can now handle dosing tasks with higher requirements regarding safety because the diaphragm rupture signalisation (pressure switch, manometer etc.) fulfils such demands.
Furthermore the lifetime of these diaphragms is much higher than the lifetime of single layer diaphragms.



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Technical data

Series 409.2

Pump type	Flow capacity		Permissible counter-pressure	Permissible sucution-head	Inlet-/Outlet-size	Drive	Nominal stroke frequency	
	Q_N 50 Hz	Q_N 60 Hz	p_2 max.		DN	P_M	Q_N 50 Hz	Q_N 60 Hz
	[l/h]	[l/h]	[bar]	[mWC]	[mm]	[kW]	[l/h]	[l/h]
R 409.2 – 07,5KM	0 – 7,5	0 – 9	80	2	10	0,37	100	120
R 409.2 – 010KM	0 – 10	0 – 12	80	2	10	0,37	150	180
R 409.2 – 012KM	0 – 12	0 – 14,4	70	2	10	0,37	100	120
R 409.2 – 018KM	0 – 18	0 – 21	70	2	10	0,37	150	180
R 409.2 – 030KM	0 – 30	0 – 36	35	3	10	0,37	100	120
R 409.2 – 045KM	0 – 45	0 – 54	35	3	10	0,37	150	180
R 409.2 – 070KM	0 – 70	0 – 84	20	3	15	0,37	100	120
R 409.2 – 095KM	0 – 95	0 – 114	20	3	15	0,37	150	180
R 409.2 – 135KM	0 – 135	0 – 162	10	3	15	0,37	100	120
R 409.2 – 190KM	0 – 190	–	10	3	15	0,37	150	–

Series 410.2

Pump type	Flow capacity		Permissible counter-pressure	Permissible sucution-head	Inlet-/Outlet-size	Drive	Nominal stroke frequency	
	Q_N 50 Hz	Q_N 60 Hz	p_2 max.		DN	P_M	Q_N 50 Hz	Q_N 60 Hz
	[l/h]	[l/h]	[bar]	[mWC]	[mm]	[kW]	[l/h]	[l/h]
R 410.2 – 0030KM	0 – 30	0 – 036	80	3	8	0,75	76	92
R 410.2 – 0038KM	0 – 38	0 – 045	80	3	8	0,75	97	116
R 410.2 – 0060KM	0 – 60	0 – 072	70	3	8	0,75	76	92
R 410.2 – 0076KM	0 – 76	0 – 090	70	3	8	1,5	97	116
R 410.2 – 0120KM	0 – 120	0 – 144	40	3	15	1,5	76	92
R 410.2 – 0150KM	0 – 150	0 – 180	40	3	15	1,5	97	116
R 410.2 – 0250KM	0 – 250	0 – 300	20	3	15	1,5	76	92
R 410.2 – 0310KM	0 – 310	0 – 372	20	3	15	1,5	97	116
R 410.2 – 0400KM	0 – 400	0 – 480	14	3	15	1,5	76	92
R 410.2 – 0510KM	0 – 510	–	14	3	15	1,5	97	–
R 410.2 – 0700KM	0 – 700	–	11	3	20	1,5	97	–
R 410.2 – 0850KM	0 – 850	0 – 1020	8	3	20	1,5	76	92

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Materials

The high quality of the materials ensures continuous and reliable operation. We have the optimum material* for each requirement.

Pump head and valves:

PVC, PP, PVDF, 1.4571, 1.4581, Titanium, Hastelloy, PP-FRP, PVDF-FRP

Valve balls:

Glass, PTFE, 1.4401, Hastelloy

Valve seals:

EPDM, FPM, FEP-covered

Working diaphragm:

PTFE (3-ply)

*Please ask us for any material required but not mentioned here.

Drive

Each drive unit consists of a proven motor coupled to a stroke mechanism in a robust cast iron housing. sera cast iron housings can cope with even 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 arm-type.

Control

The capacities of the dosing pumps are constant or infinitely variable.

Manual capacity control via:

- Adjustment of 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.
Mounted-on stroke frequency transmitters, electric actuators etc.

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.

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