Controllable piston diaphragm pumps

C 409.2-...KM

Excellence in Fluid Technology

The controllable piston diaphragm pumps generation 4

- Future-orientated pump concept by integral multi-functional control electronics
- High operational safety by multi-layer diaphragm technology
- Checking of the diaphragm by permanent and automatic diaphragm rupture monitoring
- Integral overpressure safety device
- Excellent priming characteristics without additional equipment
- Easy commissioning with “Plug & Dose” standard configuration
- High application security with viscous media due to slow-mode technology

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Controllable piston diaphragm pump type C 409.2

Functions of the control electronics

Function
Manual operation
Manual stroke frequency adjustment
PROFIBUS DP - Interface
External ON
External STOP
Pulse operation
Fractionation
Cycle delay
Analogue operation (PROFIBUS)
Analogue operation 0 – 20 mA [1]
Analogue operation 4 – 20 mA [1]
Analogue operation standardization [1]
Charge manual [1]
External charge START
Charge with timer [1]
Speed control / Slow mode
3 LEDs for status indication
Multiline illuminated text display
Operating messages in plain text
Fault indication in plain text
Menu - driven parameterization
Flow indication
Calibration
Working hour meter
Password protection
4 – key operation
2 digital outputs (PLC) [1]
1 digital input (PLC or contact signal) [1]
2 analogue / digital inputs (optionally reversible) [1]
Programmable input-/output functions [1]
Connection / evaluation 2-stage level monitoring
Connection / evaluation diaphragm rupture monitoring
Connection / evaluation flow monitoring
Connection / evaluation flow metering
Operating panel for wall mounting (option)

[1] inapplicable when supplied with PROFIBUS DP-interface

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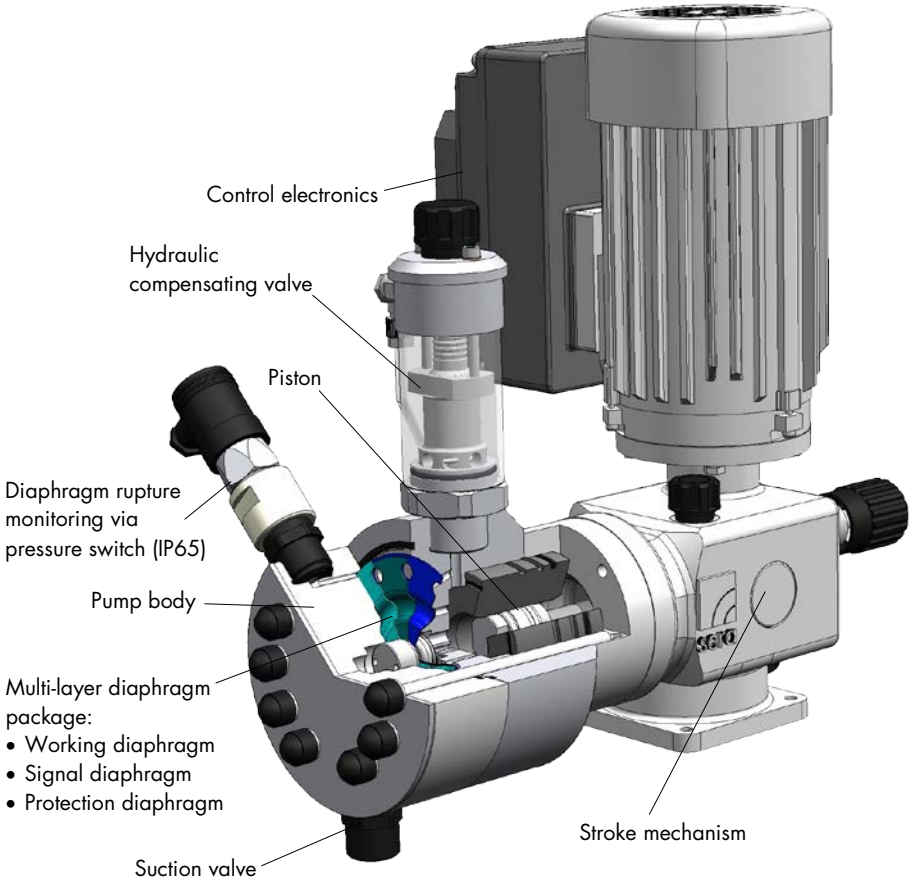
Piston diaphragm pump

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

An integral compensation valve ensures highest dosing accuracy and offers highest overload protection.
In case of unacceptably high counter-pressure the hydraulic fluid escape into the compensating valve.

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.



Technical data

Pump type	Nominal capacity		max. counter-pressure	max. suction height	Inlet-/Outlet-size	Driving power (motor)	Nominal stroke-frequency
	50/60Hz	Q_{stroke}	p_2 max.		DN	P_M	50/60Hz
C 409.2	[l/h]	[ml/Stroke]	[bar]	[mWC]	[mm]	[kW]	[l/h]
C 409.2 – 7,5KM	0 – 7,5	0 – 1,25	80	2	10	0,37	150
C 409.2 – 10KM	0 – 10	0 – 1,1	80	2	10	0,37	150
C 409.2 – 12KM	0 – 12	0 – 2	70	2	10	0,37	100
C 409.2 – 18KM	0 – 18	0 – 2	50	2	10	0,37	150
C 409.2 – 30KM	0 – 30	0 – 5	35	2	10	0,37	100
C 409.2 – 45KM	0 – 45	0 – 5	25	3	10	0,37	150
C 409.2 – 70KM	0 – 70	0 – 11,6	20	3	15	0,37	100
C 409.2 – 95KM	0 – 95	0 – 10,6	16	3	15	0,37	150
C 409.2 – 135KM	0 – 135	0 – 22,5	10	3	15	0,37	100
C 409.2 – 190KM	0 – 190	0 – 21,1	8	3	15	0,37	150

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Electrical data (electronics)

- Operating voltage (50/60 Hz): 1~115 V [2]; 1~230 V; 3~400 V/N/PE [3]
- Inlet voltage control input: 5...30 V DC
- Minimum contact signal time [4]: 55 ms
- Analogue input resistance [4]: 100 Ω
- Digital Output [4]: PNP, internal supply: max. 15V DC, 50 mA external supply: max. 30V DC, 350 mA
- Pump protection type: IP 65
- Insulation class: F
- Permitted ambient temperature: +2°C to +40°C
- Permitted humidity: approx. 90%

Option PROFIBUS

- PROFIBUS DP-V0 Slave Interface
- Transmission rate: 9,6 kbit/s ... 12 Mbit/s
- Connection socket M12x1, 5-pole, B-coded

[2] Series C 410.2 is not available for 115V-voltage

[3] For series C 410.2 with driving power 0,75 and 1,5 kW

[4] Inapplicable when supplied with PROFIBUS DP-interface

Materials

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

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

Valve balls:
Glass, PTFE, 1.4401

Valve seals:
EPDM, FPM, FEP-covered

Working diaphragm:
PTFE (3-ply)

* P lease 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 aluminium housing.

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

Accessories

- Control cable
- Flow controller
- Flow meter
- PROFIBUS Y - connector
- PROFIBUS T - connector
- PROFIBUS termination resistor

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

Local sera - Representative:

sera GmbH
sera-Straße 1
34376 Immenhausen
Germany
Tel. +49 5673 999-00
Fax +49 5673 999-01
www.sera-web.com
info@sera-web.com

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