

# Controllable diaphragm pumps

C 409.2, C 410.2



**sera**

Seybert & Rahier

## The new 4 C-designs

intelligent, multifunctional, versatile, economic...

### sera - controllable diaphragm pumps

of serie C 409.2 and C 410.2 are electronically controlled dosing pumps which can be used for many applications. They are designed for industrial use and guarantee highest operational reliability. Performance range between 0,8 l/h and 1450 l/h, pressures up to max. 10 bar.

### Application

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

### ...further features of performance

- directly controllable
- PROFIBUS DP - Interface
- high dosing accuracy
- long service life of diaphragms\*
- high-quality materials
- linear control characteristic
- low maintenance
- low operating expenses
- leakagefree
- unlimitedly safe to run dry
- easy to operate
- low weight

\* compared to common conventional diaphragms



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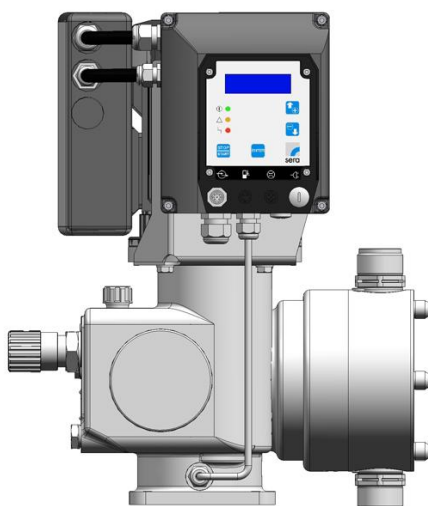
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Controllable diaphragm pump, type C 409.2



Controllable diaphragm pump, type C 410.2 (0,37 kW)



Controllable diaphragm pump, type C 410.2 (0,75 ... 1,5 kW)

## 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 <sup>1)</sup>
Analogue operation 4 – 20 mA <sup>1)</sup>
Analogue operation standardization <sup>1)</sup>
Charge manual <sup>1)</sup>
External charge START
Charge with timer <sup>1)</sup>
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) <sup>1)</sup>
1 digital input (PLC or contact signal) <sup>1)</sup>
2 analogue / digital inputs (optionally reversible) <sup>1)</sup>
Programmable input/output functions <sup>1)</sup>
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)

<sup>1)</sup> inapplicable when supplied with PROFIBUS DP-interface

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## Technical data

Pump type	Nominal capacity		max. counter-pressure	max. suction height	Inlet-/Outlet-size	Driving power (motor)	Nominal stroke-frequency
	50/60Hz	Q <sub>stroke</sub>	p <sub>2</sub> max.		DN	P <sub>M</sub>	50/60Hz
C 409.2	[l/h]	[ml/Stroke]	[bar]	[mWC]	[mm]	[kW]	[l/h]
C 409.2 – 0,8e	0 – 0,8	0 – 0,13	10	2	5	0,18	100
C 409.2 – 1,6e	0 – 1,6	0 – 0,27	10	3	5	0,18	100
C 409.2 – 2,4e	0 – 2,4	0 – 0,27	10	3	5	0,18	150
C 409.2 – 4,0e	0 – 4,0	0 – 0,67	10	3	5	0,18	100
C 409.2 – 7,0e	0 – 7,0	0 – 0,78	10	3	5	0,18	150
C 409.2 – 12e	0 – 12	0 – 3,0	10	3	10	0,18	67
C 409.2 – 18e	0 – 18	0 – 3,0	10	3	10	0,18	100
C 409.2 – 25e	0 – 25	0 – 2,8	10	3	10	0,18	150
C 409.2 – 50e	0 – 50	0 – 8,3	10	3	10	0,18	100
C 409.2 – 75e	0 – 75	0 – 8,3	10	3	15	0,37	150
C 409.2 – 90e	0 – 90	0 – 15,0	8	3	15	0,37	100
C 409.2 – 115e	0 – 115	0 – 19,2	4	3	15	0,37	100
C 409.2 – 140e	0 – 140	0 – 15,6	8	3	15	0,37	150
C 409.2 – 180e	0 – 180	0 – 20,0	4	3	15	0,37	150
C 409.2 – 250e	0 – 250	0 – 41,7	3	3	15	0,37	100
C 409.2 – 350e	0 – 350	0 – 38,9	3	3	15	0,37	150
<b>C 410.2</b>							
C 410.2 – 260e	0 – 260	0 – 48	4	5	15	0,37	90
C 410.2 – 280e	0 – 280	0 – 46	8	5	15	0,75	97
C 410.2 – 510e	0 – 510	0 – 94	3	5	15	0,37	90
C 410.2 – 570e	0 – 570	0 – 98	6	5	15	0,75	97
C 410.2 – 850e	0 – 850	0 – 157	2	3	20	0,37	90
C 410.2 – 900e	0 – 900	0 – 155	5	3	20	1,5	97
C 410.2 – 1450e	0 – 1450	0 – 245	5	3	25	1,5	97

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## Electrical data (electronics)

- Operating voltage (50/60 Hz): 1~115 V <sup>2)</sup>;  
1~230 V;  
3~400 V/N/PE <sup>3)</sup>
- Inlet voltage control input: 5...30 V DC
- Minimale contact signal time <sup>4)</sup>: 55 ms
- Analogue input resistance <sup>4)</sup>: 100 Ω
- Digital Output <sup>4)</sup>: PNP,  
internal supply:  
max. 15V DC, 50 mA  
external supply:  
max. 30V DC, 350 mA
- Pump protection type: IP 55
- 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-poe, B-coded

<sup>2)</sup> Series C 410.2 is not available for 115V-voltage

<sup>3)</sup> for series C 410.2 with driving power 0,75 and 1,5 kW

<sup>4)</sup> 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:

EPDM, FPM, PTFE-faced

### Intermediate diaphragm:

CSM, PTFE, PTFE-faced

\* 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 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
- Diaphragm rupture monitoring
- 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.



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Dosing  
Feeding  
Compressing

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