

# Controllable piston diaphragm pumps

Flow capacity 7,5 l/h ... 190 l/h

Admiss. counterpressure up to 80 bar



C409.2-...KM



## C409.2-...KM in survey

- Multi-layer diaphragm technology
- Safe to run dry
- Leakage free
- Low maintenance
- Easy to use
- High dosing accuracy
- Multifunctional
- PROFIBUS DP - interface
- Flexible
- Manual stroke length and stroke frequency adjustment
- Robust metallic housing

## Infobox

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## Functions and operating modes

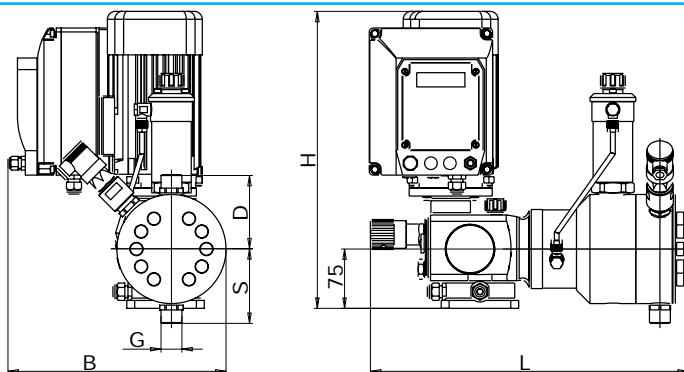
- Manual operation
- Manual stroke frequency adjustment
- PROFIBUS DP-VO slave Interface
- External START/STOP
- Pulse operation / fractinator
- Cycle delay unit
- Analogue operation (0/4-20 mA)\*
- Analogue operation standardization
- Charge manual/with timer\*
- Speed control / Slow mode
- 3 LED's for status indication
- Multiline illuminated text display
- Menu - driven parameterization
- Flow indication
- Calibration
- 4 - key operation
- 2 digital outputs (PLC)\*
- 1 digital input (PLC or contact signal)\*
- 2 analogue / digital inputs (optionally reversible)\*
- Programmable input- / output functions\*
- Connection / evaluation 2-stage level monitoring
- Connection / evaluation diaphragm rupture monitoring
- Connection / evaluation flow monitoring
- Connection / evaluation flow metering
- Voltage 210 - 250 V, 50/60 Hz
- 2m connecting cable with Euro-plug

## Technical data

Type	Nominal capacity l/h	Nominal stroke frequency		Capacity per stroke ml/Stroke	Admiss. counterpressure bar	Admiss. pressure at pump inlet bar	Max. suction height mWC	Inlet / Outlet nominal width DN	Max. stroke length mm	Rated motor power kW
		50 Hz	60 Hz							
C409.1-7,5KM	0 - 7,5	100	100	1,25	80	-0,2 / 0	2	10	10	0,37
C409.2-10KM	0 - 10	150	150	1,1	80	-0,2 / 0	2	10	10	0,37
C409.2-12KM	0 - 12	100	100	2	70	-0,2 / 0	2	10	10	0,37
C409.2-18KM	0 - 18	150	150	2	50	-0,2 / 0	2	10	10	0,37
C409.2-30KM	0 - 30	100	100	5	35	-0,3 / 0	3	10	10	0,37
C409.2-45KM	0 - 45	150	150	5	25	-0,3 / 0	3	10	10	0,37
C409.2-70KM	0 - 70	100	100	11,6	20	-0,3 / 0	3	15	10	0,37
C409.2-95KM	0 - 95	150	150	10,6	16	-0,3 / 0	3	15	10	0,37
C409.2-135KM	0 - 135	100	100	22,5	10	-0,3 / 0	3	15	10	0,37
C409.2-190KM	0 - 190	150	150	21,1	8	-0,3 / 0	3	15	10	0,37

Note: the admissible counterpressure is 10 bar or lower when plastic pump bodies are used.

## Dimensional drawing



### Dimensional chart

All indications in mm

Type	G	S	D	L	B	H	Weight (kg)
C409.1-7,5KM	G 3/4	83	83	360	265	376	16,5
C409.2-10KM	G 3/4	83	83	360	265	376	16,5
C409.2-12KM	G 3/4	83	83	360	265	376	16,5
C409.2-18KM	G 3/4	83	83	360	265	376	16,5
C409.2-30KM	G 3/4	95	95	403	276	376	19,2
C409.2-45KM	G 3/4	95	95	403	276	376	19,2
C409.2-70KM	G 3/4	95	95	403	276	376	19,2
C409.2-95KM	G 3/4	95	95	403	276	376	19,2
C409.2-135KM	G 3/4	95	95	403	276	376	19,2
C409.2-190KM	G 3/4	95	95	403	276	376	19,2

- \* inapplicable when supplied with PROFIBUS DP - Interface
- Indication of weight for basic design acc. to order information

## Order information

### Basic design

**C409.2-7,5KM up to C409.2-45KM**

- Pump body PP
- Double valves PP-FRP
- Valve balls Glas
- Valve seals FPM
- Multi-layer diaphragm PTFE
- Pressure switch IP65
- Control cable (8-pole)

**C409.2-70KM up to C409.2-190KM**

- Pump body PP
- Single valves PP-FRP
- Valve balls Glass
- Valve seals FPM
- Multi-layer diaphragm PTFE
- Pressure switch IP65
- Control cable (8-pole)


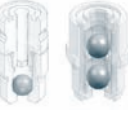
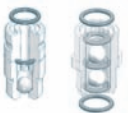

**Motor:**

- 210-250V 50/60 Hz, 1~, IP 55, ISO F

**Further options and accessories:**

- Connection pieces see chapter 4
- Product documentation see chapter 5

Type	Basic design	x
C409.1-7,5KM	16013560	
C409.2-10KM	16013561	
C409.2-12KM	16013562	
C409.2-18KM	16013563	
C409.2-30KM	16013564	
C409.2-45KM	16013565	
C409.2-70KM	16013566	
C409.2-95KM	16013567	
C409.2-135KM	16013568	
C409.2-190KM	16013569	

Options/Accessories			C409.2-7,5KM up to C409.2-18KM x	C409.2-30KM up to C409.2-45KM x	C409.2-70KM up to C409.2-95KM x	C409.2-135KM up to C409.2-190KM x
<b>Pump body and valves</b> 	PP	Double valve	●	●	–	–
		Single valve	–	–	●	●
	PVC-U	Single valve	–	▲	▲	▲
		Chamber valve (double valve)	▲	–	–	–
	PVDF-FRP	Double valve	▲	▲	▲	▲
		Single valve	–	–	▲	▲
1.4571	Double valve (1.4571/1.4581)	▲	▲	▲	▲	
<b>Valve balls</b> 	Glass	Single valve	–	○	●	●
		Double valve	●	●	–	–
	1.4401	Single valve	–	○	○	○
		Double valve	○	○	–	–
	PTFE	Single valve	–	▲	▲	▲
		Double valve	▲	▲	▲	▲
<b>Valve seals</b> 	FPM	Single valve	–	○	○	○
		Double valve	●	●	–	–
	EPDM	Single valve	–	○	○	○
		Double valve	○	○	▲	▲
	FEP-covered	Single valve	–	▲	▲	▲
		Double valve	▲	▲	▲	▲
<b>Stroke length adjustment</b> 	with position indicator	▲	▲	▲	▲	

● = basic design    ▲ = with add. price    ○ = without add. price    ⊙ = on request    – = not available    Art.-No. = available in basic design/accessories

C409.2-...KM

## Order information

### Basic design

#### C409.2-7,5KM up to C409.2-45KM

- Pump body PP
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- Multi-layer diaphragm PTFE
- Pressure switch IP65
- Control cable (8-pole)

#### C409.2-70KM up to C409.2-190KM

- Pump body PP
- Single valves PP-FRP
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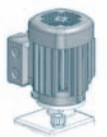



#### Motor:

- 210-250V 50/60 Hz, 1~, IP 55, ISO F

#### Further options and accessories:

- Connection pieces see chapter 4
- Product documentation see chapter 5

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C409.1-7,5KM	16013560	
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C409.2-135KM	16013568	
C409.2-190KM	16013569	

Options/Accessories		C409.2-7,5KM up to C409.2-18KM x	C409.2-30KM up to C409.2-45KM x	C409.2-70KM up to C409.2-95KM x	C409.2-135KM up to C409.2-190KM x
<b>Stroke length adjustment electrical</b> 	Actuator N C1-BA 230 V, +/- 10%, 50/60 Hz, 128s/10 U, 1,5 Nm incl. mounting plate for actuator	▲	▲	▲	▲
	Electronic positioning controller PMR3 input signal 0/4-20 mA incl. feedback signal 0/4-20 mA (only in N C1-BA integrated)	▲	▲	▲	▲
<b>Drive motor</b> 	Voltage 115V / 50/60 Hz	⊙	⊙	⊙	⊙
<b>Profibus</b> 	Profibus-interface: <b>Profibus DP-V0 (slave)</b> Bit rate: <b>Automatic 9,6 kbit/s – 12 Mbit/s</b> Connection to dosing pump: <b>M12-cable box, 5-pole, B-coded</b>	▲	▲	▲	▲
	Profibus Y-distributor M12x1, 5-pole, IP67	90025526	90025526	90025526	90025526
	Profibus T-distributor M12x1, 5-pole, IP67	90022889	90022889	90022889	90022889
	Profibus terminating resistor M12x1, 5-pole, IP67	90022890	90022890	90022890	90022890
<b>Control electronics</b> 	Remote-design, for wall mounting incl. 3m cable and fixing materials	⊙	⊙	⊙	⊙
<b>Special connection</b> 	Special connection (plug) für power supply	⊙	⊙	⊙	⊙

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## Order information

### Basic design

**C409.2-7,5KM up to C409.2-45KM**

- Pump body PP
- Double valves PP-FRP
- Valve balls Glass
- Valve seals FPM
- Multi-layer diaphragm PTFE
- Pressure switch IP65
- Control cable (8-pole)

**C409.2-70KM up to C409.2-190KM**

- Pump body PP
- Single valves PP-FRP
- Valve balls Glas
- Valve seals FPM
- Multi-layer diaphragm PTFE
- Pressure switch IP65
- Control cable (8-pole)



**Motor:**

- 210-250V 50/60 Hz, 1~, IP 55, ISO F

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C409.2-18KM	16013563	
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C409.2-70KM	16013566	
C409.2-95KM	16013567	
C409.2-135KM	16013568	
C409.2-190KM	16013569	

Options/Accessories		C409.2-7,5KM bis	C409.2-12KM bis	C409.2-30KM bis	C409.2-70KM bis	
		C409.2-10KM x	C409.2-18KM x	C409.2-45KM x	C409.2-190KM x	
 <b>Control cable</b> M12 cable box 3-pole, 5 meter for level input (Level sensor not included)	90022888	90022888	90022888	90022888		
	M12 cable box 3-pole, ready-made for level input (Level sensor not included)	90022877	90022877	90022877	90022877	
 <b>Flow meter*</b> IP65 incl. cable 0,6m and cable box M12 5-pole (bushing for pump connection) Connection: 8011.1 - 8014.1: nlet: G 3/4 (inside); Outlet G 3/4 (outside) Connection: 8015.1: nlet: G 1 1/4 (inside); Outlet G 1 1/4 (outside) Max. operating pressure: Type 8011.1 = 10 bar; Type 8012.1 - 8014.1 = 10 bar  *Note the indications at the data sheet	ECTFE/PP/FPM	37602343	–	–	–	
	8011.1	ECTFE/PVC-U/FPM	37602345	–	–	–
		ECTFE/PVDF/FPM	37602348			
	8012.1	PVC-U/FPM	–	37602277	–	–
		PVDF/FPM	–	37602307	–	–
	8013.1	PVC-U/FPM	–	–	37602281	–
		PVDF/FPM	–	–	37602311	–
	8014.1	PVC-U/FPM	–	–	–	37602281
		PVDF/FPM	–	–	–	37602311

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C409.2-...KM

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#### Motor:


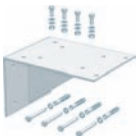
- 210-250V 50/60 Hz, 1~, IP 55, ISO F

#### Further options and accessories:

- Connection pieces see chapter 4
- Product documentation see chapter 5

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C409.2-45KM	16013565	
C409.2-70KM	16013566	
C409.2-95KM	16013567	
C409.2-135KM	16013568	
C409.2-190KM	16013569	

2

Options/Accessories		C409.2-7,5KM up to C409.2-18KM x	C409.2-30KM up to C409.2-45KM x	C409.2-70KM up to C409.2-95KM x	C409.2-135 KM up to C409.2-190KM x	
<b>Flow controller*</b>  *Note the indications at the data sheet	IP65 incl. cable 0,6m and cable box M12 - 5-pole (bushing for pump connection) Material valve seals: FPM  Thread connection: Input: G 3/4 (IG), output: G 3/4 Max. pressure: 10 bar					
	8191.1	PVC-U/FPM	37602227	–	–	–
		PP/FPM	37602175	–	–	–
	8192.1	PVC-U/FPM	–	37602176	37602176	37602176
	PP/FPM	–	37602177	37602177	37602177	
<b>Console</b> 	for wall mounting incl. fixing screws					
	1.4301	90023875	90023875	90023875	90023875	
	PP	90023848	90023848	90023848	90023848	
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Fittings for suction side of dosing pumps		C409.2-7,5KM		C409.2-12KM		C409.2-30KM		C409.2-70KM		C409.2-95KM		C409.2-135KM	
		C409.2-10KM		C409.1-18KM		C409.2-45KM						C409.2-190KM	
		Type	Ps	Type	P.	Type	P.	Type	P.	Type	P.	Type	P.
Suction lance	with level switch 1-stage	SL-11.1	3.34	SL-11.1	3.34	SL-02	3.34	SL-02	3.34	SL-02	3.34	SL-02	3.34
		⊘	-	⊘	-	S-03	3.38	S-03	3.38	S-03	3.38	S-03	3.38
	with level switch 2-stage	SL-12.1	3.34	SL-12.1	3.34	SL-02	3.34	SL-02	3.34	SL-02	3.34	SL-02	3.34
		S-01	3.46	S-01	3.46	S-01	3.46	S-01	3.46	S-01	3.46	S-01	3.46
Priming aid / Siphon vessel	PVC-U-transparent	770.2	3.76	770.2	3.76	770.2	3.76	770.2	3.76	770.2	3.76	770.2	3.76
Calibration Pot	PVC-U	791.1	3.78	792.1	3.78	792.1	3.78	793.1	3.78	793.1	3.78	794.1	3.78
Foot valve	PVC-U	731	3.82	731	3.82	731	3.82	731	3.82	731	3.82	731	3.82
	PP-FRP / PVDF-FRP	781.1	3.86	781.1	3.86	781.1	3.86	781.1	3.86	781.1	3.86	781.1	3.86
	1.4571	731	3.82	731	3.82	731	3.82	731	3.82	731	3.82	731	3.82
Line strainer	PVC-U	751.1	3.88	751.1	3.88	751.1	3.88	751.1	3.88	751.1	3.88	751.1	3.88
	PVC-U / PP / PVDF	752.1	3.88	752.1	3.88	752.1	3.88	752.1	3.88	752.1	3.88	752.1	3.88
	1.4408	752	3.90	752	3.90	752	3.90	752	3.90	752	3.90	752	3.90
Float valve	PVC-U	871	3.92	871	3.92	871	3.92	871	3.92	871	3.92	871	3.92
Pulsation damper without separating diaphragm	PVC-U / PP	702.1	3.14	702.1	3.14	702.1	3.14	702.1	3.14	702.1	3.14	702.1	3.14
	1.4571	⊘		⊘		⊘		⊘		⊘		⊘	
Fittings for pressure side of dosing pumps		C409.2-7,5KM		C409.2-12KM		C409.2-30KM		C409.2-70KM		C409.2-95KM		C409.2-135KM	
		C409.2-10KM		C409.1-18KM		C409.2-45KM						C409.2-190KM	
		Type	P.	Type	P.	Type	P.	Type	P.	Type	P.	Type	P.
Diaphragm-type relief valve		620.10	3.4	620.10	3.4	620.10	3.4	620.10	3.4	622.10	3.4	622.10	3.4
	for suspension	⊘		⊘		⊘		⊘		⊘		⊘	
Diaphragm-type pressure keeping valve		620.D	3.8	620.D	3.8	620.D	3.8	620.D	3.8	622.D	3.8	622.D	3.8
Multi-function valve	4 bar opening pressure	MFV 05004	3.10	MFV 05004	3.10	MFV 05004	3.10	-		-		-	
	6 bar opening pressure	MFV 05006	3.10	MFV 05006	3.10	MFV 05006	3.10	-		-		-	
	10 bar opening pressure	MFV 05010	3.10	MFV 05010	3.10	MFV 05010	3.10	-		-		-	
Pulsation damper without separating diaphragm	PVC-U / PP	702.1	3.14	702.1	3.14	702.1	3.14	702.1	3.14	702.1	3.14	702.1	3.14
	1.4571	⊘		⊘		⊘		⊘		⊘		⊘	
Diaphragm-pulsation damper with PTFE/PTFE-faced diaphragm	PVC-U / PP / PVDF	720.1	3.22	720.1	3.22	721.2	3.22	722.1	3.22	722.1	3.22	722.1	3.22
Diaphragm-pulsation damper with Elastomer-diaphragm	1.4571	810.1-0,16/180	3.28	810.1-0,16/180	3.28	810.1-0,16/180	3.28	810.1-0,32/160	3.28	810.1-0,32/160	3.28	810.1-0,32/160	3.28
Check valve	PVC-U	661.2	3.50	661.2	3.50	661.2	3.50	661.2	3.50	661.2	3.50	661.2	3.50
	PP-FRP / PVDF-FRP	661.2	3.50	661.2	3.50	661.2	3.50	661.2	3.50	661.2	3.50	661.2	3.50
	1.4571	661.2	3.50	661.2	3.50	661.2	3.50	661.2	3.50	661.2	3.50	661.2	3.50
Dosing valve	PVC-U	691.1	3.54	691.1	3.54	691.1	3.54	691.1	3.54	691.1	3.54	691.1	3.54
	PVC-U / PP / PVDF	681.1	3.58	681.1	3.58	681.1	3.58	681.1	3.58	681.1	3.58	681.1	3.58
	PP-FRP / PVDF-FRP	691.1	3.54	691.1	3.54	691.1	3.54	691.1	3.54	691.1	3.54	691.1	3.54
	1.4571	691.1	3.54	691.1	3.54	691.1	3.54	691.1	3.54	691.1	3.54	691.1	3.54
Injection fitting	PVC-U / PP / PVDF	8061.1	3.60	8061.1	3.60	8061.1	3.60	8061.1	3.60	8061.1	3.60	8061.1	3.60

⊘ = on request      -- = not available

The above allocation considers the fittings which have to be used at least regarding their nominal width in order to ensure the safe and trouble-free operation of the respective pumps when feeding liquids which are similar to water. Absolutely note the max. admissible operating pressure of the fittings.

The use of fittings of a bigger nominal width is unproblematically possible in most cases.

When choosing the fittings note the installation instructions for dosing pumps or confer with **sera**.