

MULTI-LAYER DIAPHRAGM PUMPS

CONTROLLABLE



OVERVIEW

- Multi-layer diaphragm technology
- High dosing accuracy
- Safe to run dry
- Leakage free
- Low-maintenance
- User-friendly
- Flexible, multifunctional
- Digital and analogue control options
- PROFIBUS DP-Interface
- Manual stroke length- and stroke frequency adjustment

TECHNICAL DATA

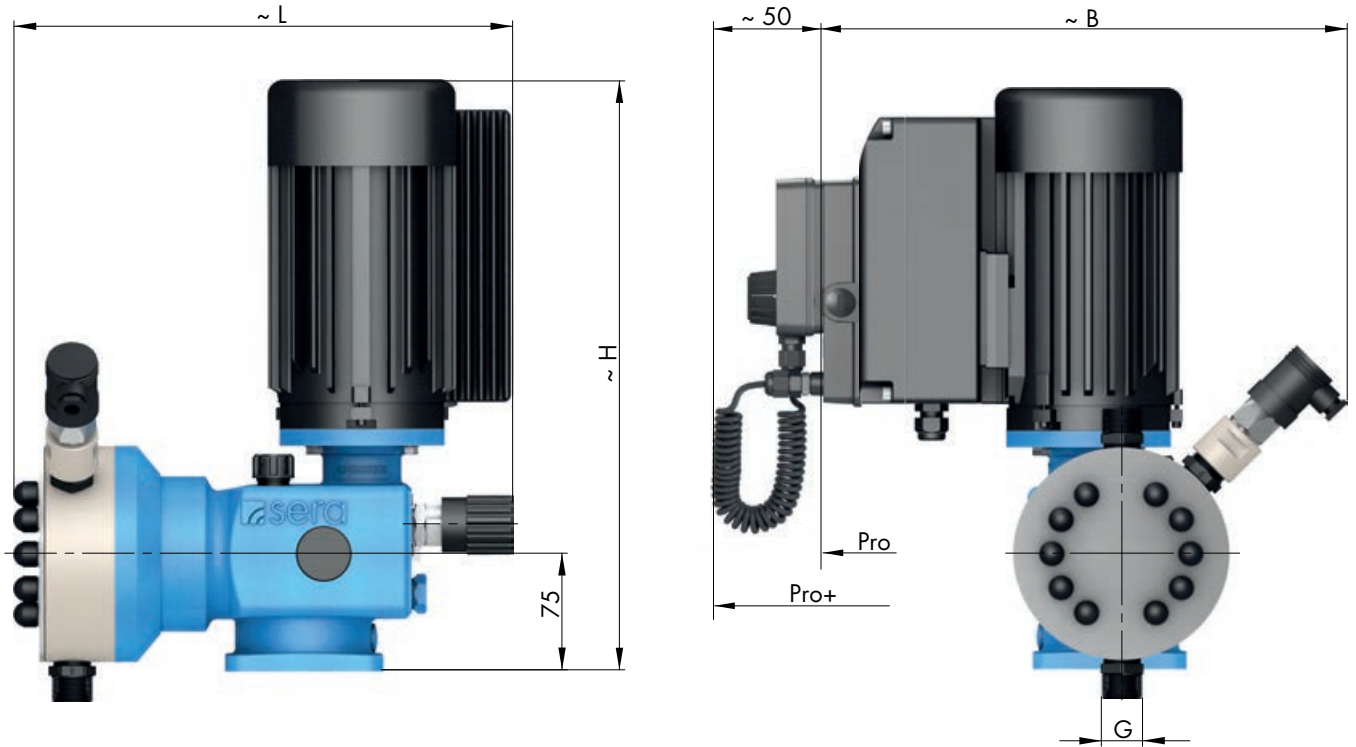
PUMP DATA			C 409.2-... ML Pro/Pro+							
			11 ML	17 ML	30 ML	45 ML	72 ML	110 ML	150 ML	220 ML
Permissible pressure p_{2max} at the pump outlet	bar	plastic	10	10	10	10	10	10	4	4
		stainless steel	20	20	16	16				
Nominal capacity QN at p_{2max}	l/h	50/60 Hz	0-11	0-17	0-30	0-45	0-72	0-110	0-150	0-220
Quantity per stroke	ml/stroke (100%)		1,8	1,8	5	5	5	12	25	24
Max. suction height	mWC		3	3	3	3	3	3	3	3
Min./max. permissible pressure at the pump inlet	bar	$p_{1min/max}$	-0,3/0	-0,3/0	-0,3/0	-0,3/0	-0,3/0	-0,3/0	-0,3/0	-0,3/0
Recommended nominal diameter of the connecting pipes	mm	DN	10	10	10	10	10	15	15	15
Nominal stroke frequency	1/min	50/60 Hz	100	150	100	150	100	150	100	150
Weight approx.	kg	plastic	17,5	17,5	18	18	18,5	18,5	20	20
		stainless steel	19	19	20	20	21,5	21,5	27	27

ELECTRICAL DATA		C 409.2-... ML Pro/Pro+	
		230 V, 50/60 Hz	115 V, 50/60 Hz
Power consumption	kW		0,37
Voltage	V	210 - 250	100 - 125
Frequency	Hz		50/60
Inlet voltage, control input	V DC		5...30
Minimum contact signal time	ms		55
Analogue input resistance	Ω		39
Digital output internal/external supply		20V DC, 30mA /... 30V DC, 30mA	
Recommended fuse (circuit breaker)		C6A	C10A
Insulation class	ISO		F
Enclosure	IP		55

Flow capacity 11 l/h ... 220 l/h
 Admissible counterpressure up to 20 bar

C 409.2 ML

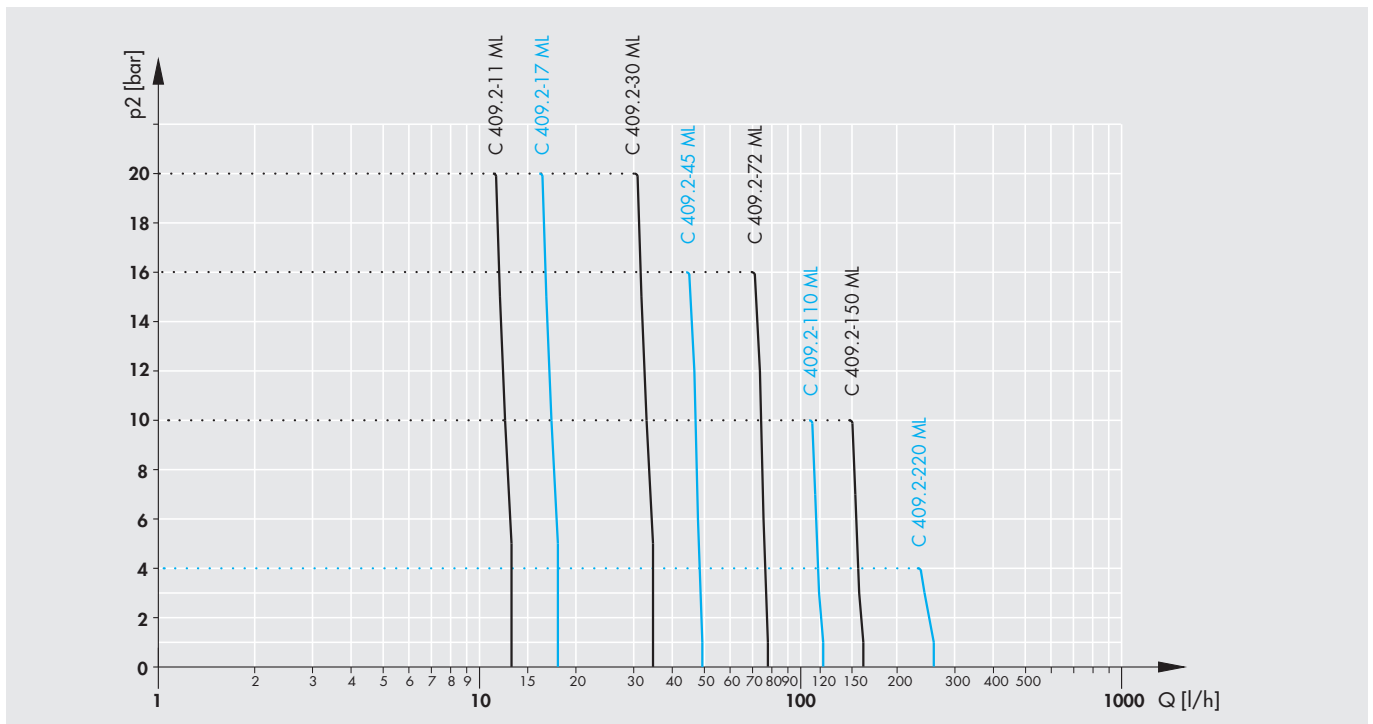
DIMENSIONS



	G		B	L	H		B	L	H
C 409.2-11 ML, ...-17 ML	G 3/4	PVC, PP, PVDF	340	323	365	1.4571	340	308	365
C 409.2-30 ML, ...-45 ML	G 3/4		345	323	365		335	305	365
C 409.2-72 ML, ...-110 ML	G 3/4		345	327	365		345	314	365
C 409.2-150 ML, ...-220 ML	G 1 1/4*		360	344	365		360	339	365

* PVC = G1

CHARACTERISTIC CURVES



MULTI-LAYER DIAPHRAGM PUMPS

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FUNCTIONS AND OPERATING MODES

Manual operation
 Manual stroke frequency adjustment
 PROFIBUS DP-VO Slave interface (option)
 External START/STOP
 Pulse operation / fractinator
 Pulse memory
 Analogue operation (0/4 ... 20 mA)
 Analogue operation standardization
 Batch dosing (manual / with timer)
 3 LEDs for status indication

Multiline, illuminated display
 Menu-driven parameterization
 Flow indication
 Calibration function
 4-key operation
 2 digital outputs (PLC)
 1 analogue output
 (PLC or contact signal)
 2 analogue/digital inputs
 (reversible)
 1 digital input

Programmable
 input-/output functions
 Diaphragm monitoring
 Connection/evaluation:
 2-stage level monitoring
 Connection/evaluation:
 Flow monitoring
 Connection/evaluation:
 Flow metering
 Voltage 210-250V, 50/60Hz
 3m connection cable with Euro-plug

Operating Modes & Messaging	Pro	Pro+
Manual	✓	✓
Pulse	✓	✓
Analogue	✓	✓
Batch	✗	✓
Timer	✗	✓
Interface	✗	✓
Calibration	✓	✓
Slowmode	✓	✓
Suction mode	✓	✓
Diaphragm monitoring	✓	✓
Data logging (SD-Card)	✗	✓
Error messaging	Error Code + display color change	Plain text + display color change
Clock for data & time	✗	✓

Connection & Control	Pro	Pro+
Control elements & Display	4-button control Multilingual display 4-color status indicator	Removeable handheld with two buttons and clickwheel Display with 8 languages (de, en, es, fr, nl, cs, fi, tr) 4-color status indicator
Control cable	optional	5m control cable (8-pole)
In-/Output connection	✓	✓
Level connection	✓	✓
Flow monitor & measurement connection	✗	✓
Profibus / Profinet	✗	optional
Inputs	Digital pulse (NO/NC) Digital extern stop (NO/NC) Analogue 4-20mA	Digital/analogue, free parametrised Digital/analogue, free parametrised Digital, free parametrised
Outputs	24V Ready to run (NO/NC) Stroke signal (NO/NC)	24V Digital, free parametrised Digital, free parametrised Analogue, free parametrised
Updateable	USB (Stick)	USB (to host)