

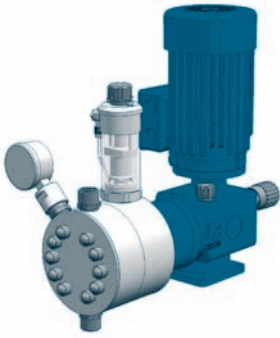
# Piston diaphragm pumps

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

Admiss. counterpressure up to 80 bar



R409.2-...KM



## R409.2-...KM in survey

- Multi-layer diaphragm technology
- High dosing accuracy
- Safe to run dry
- High quality materials
- Leakage-free
- Low maintenance
- User-friendly
- Integrable into automatic processes
- Manual stroke length adjustment
- Robust metallic stroke mechanism housing

## Infobox

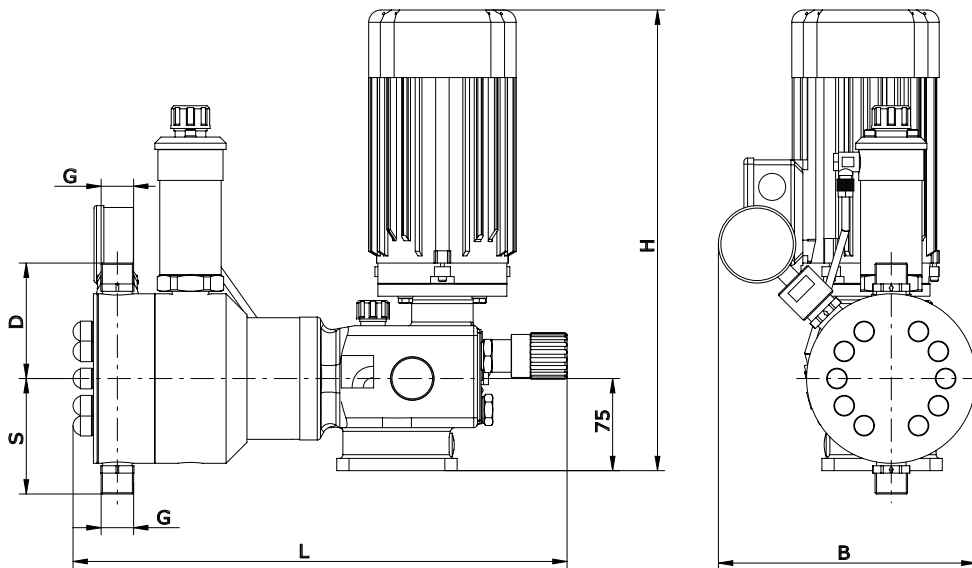
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## Technical data

Type	Nominal capacity l/h		Nominal stroke frequency 1/min		Admiss. counterpressure bar	Admiss. pressure at pump inlet bar	Max. suction height mWS	Inlet/Outlet nominal width DN	Max. stroke length mm	rated motor power kW
	50 Hz	60 Hz	50 Hz	60 Hz						
R409.2-7,5KM	0 - 7,5	0 - 9	100	120	80	-0,2 / 0	2	10	10	0,37
R409.2-10KM	0 - 10	0 - 12	150	180	80	-0,2 / 0	2	10	10	0,37
R409.2-12KM	0 - 12	0 - 14,4	100	120	70	-0,2 / 0	2	10	10	0,37
R409.2-18KM	0 - 18	0 - 21	150	180	70	-0,2 / 0	2	10	10	0,37
R409.2-30KM	0 - 30	0 - 36	100	120	35	-0,3 / 0	3	10	10	0,37
R409.2-45KM	0 - 45	0 - 54	150	180	35	-0,3 / 0	3	10	10	0,37
R409.2-70KM	0 - 70	0 - 84	100	120	20	-0,3 / 0	3	15	10	0,37
R409.2-95KM	0 - 95	0 - 114	150	180	20	-0,3 / 0	3	15	10	0,37
R409.2-135KM	0 - 135	0 - 162	100	120	10	-0,3 / 0	3	15	10	0,37
R409.2-190KM	0 - 190	—	150	—	10	-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)
R409.2-7,5 KM	G 3/4	83	83	360	190	376	13,5
R409.2-10 KM	G 3/4	83	83	360	190	376	13,5
R409.2-12 KM	G 3/4	83	83	360	109	376	13,5
R409.2-18 KM	G 3/4	83	83	360	109	376	13,5
R409.2-30 KM	G 3/4	95	95	403	210	376	16,4
R409.2-45 KM	G 3/4	95	95	403	210	376	16,4
R409.2-70 KM	G 3/4	95	95	403	210	376	16,4
R409.2-95 KM	G 3/4	95	95	403	210	376	16,4
R409.2-135 KM	G 3/4	95	95	403	210	376	16,4
R409.2-190 KM	G 3/4	95	95	403	210	376	16,4

■ Indication of weight for basic design acc. to order information

## Order information

### Basic design

#### R409.2-7,5 KM up to R409.2-45 KM

- Pump body PP
- Double valves PP-FRP
- Valve balls Glass
- Valve seals FPM
- Multi-layer diaphragm PTFE
- Optical diaphragm-rupture indication with manometer

#### R409.2-70 KM up to R409.2-190 KM

- Pump body PP
- Single valves PP-FRP
- Valve balls Glass
- Valve seals FPM
- Multi-layer diaphragm PTFE
- Optical diaphragm-rupture indication with manometer



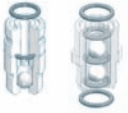


#### Motor:

- 220-240/380-420 V +/- 5% threephase, 50/60 Hz, IP 55, insul. cl. F

#### Further options and accessories

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

Type	Basic design	x
R409.2-7,5 KM	16013254	
R409.2-10 KM	16013255	
R409.2-12 KM	16013256	
R409.2-18 KM	16013257	
R409.2-30 KM	16013258	
R409.2-45 KM	16013259	
R409.2-70 KM	16013260	
R409.2-95 KM	16013261	
R409.2-135 KM	16013262	
R409.2-190 KM	16013263	

Options/Accessories			R409.2-7,5KM up to R409.2-18KM x	R409.2-30KM up to R409.2-45KM x	R409.2-70KM up to R409.2-95KM x	R409.2-135KM up to R409.2-190KM x	
<b>Pump body and valves</b>  	PP-FRP	Double valve	●	●	–	–	
		Single valve	–	–	●	●	
	PVC-U	Single valve	–	▲	▲	▲	
		Chamber valve (Double valve)	▲	–	–	–	
	PVDF	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>Diaphragm rupture monitoring</b>  	optical diaphragm rupture indicator with manometer		●	●	●	●
		Pressure switch IP 65		▲	▲	▲	▲
Pressure switch II2G EExd IIC T5 or T6 acc. to ATEX95		▲	▲	▲	▲		
<b>Stroke length adjustment</b>  	with position indicator		▲	▲	▲	▲	

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R409.2-...KM

## Order information

### Basic design

#### R409.2-7,5 KM up to R409.2-45 KM

- Pump body PP
- Double valves PP-FRP
- Valve balls Glass
- Valve seals FPM
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- Optical diaphragm-rupture indication with manometer

#### R409.2-70 KM up to R409.2-190 KM

- Pump body PP
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- Valve seals FPM
- Multi-layer diaphragm PTFE
- Optical diaphragm-rupture indication with manometer

#### Motor:



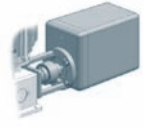
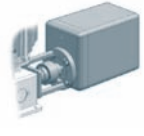
- 220-240/380-420 V +/- 5% threephase, 50/60 Hz, IP 55, insul. cl. F

#### Further options and accessories

- Connection pieces see chapter 4
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R409.2-30 KM	16013258	
R409.2-45 KM	16013259	
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R409.2-95 KM	16013261	
R409.2-135 KM	16013262	
R409.2-190 KM	16013263	

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Options/Accessories		R409.2-7,5KM up to R409.2-18KM x	R409.2-30KM up to R409.2-45KM x	R409.2-70KM up to R409.2-95KM x	R409.2-135KM up to R409.2-190KM x
<b>Stroke frequency monitoring</b> 	Inductive contact 10-60 V DC, three-wire, PNP	▲	▲	▲	▲
	Namur execution, II2G EExia IICT6 acc. to ATEX95	▲	▲	▲	▲
<b>Drive motor</b> 	Special voltage	▲	▲	▲	▲
	Enclosure IP 65	▲	▲	▲	▲
	Protective roof for the fan of the drive	▲	▲	▲	▲
	integrated posistor (3 pcs.) insul. cl. F	▲	▲	▲	▲
	VIK-design	▲	▲	▲	▲
	II2G EExe IIT4 (acc. to ATEX95)	▲	▲	▲	▲
	II2G EExde IICT4 (acc. to ATEX95)	▲	▲	▲	▲
	Single phase AC 230V with capacitor	▲	▲	▲	▲
<b>Stroke length adjustment electrical</b> 	Driver for converter operation incl. posistor, 5-50/60 Hz	▲	▲	▲	▲
	Driver for converter operation II2G EExde IICT4, 5-60 Hz gem. ATEX 95, incl. integrated posistor	▲	▲	▲	▲
<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)	▲	▲	▲	▲
	Actuator D30D-10-Ex (II2G EExde IICT4) acc. to ATEX 95, 400 V, 50 Hz, 10 U/min, incl. mounting-kit for actuator and base plate	▲	▲	▲	▲
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## Order information

### Basic design

#### R409.2-7,5 KM up to R409.2-45 KM

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- Pump body PP
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- Valve balls Glass
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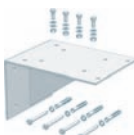
#### Motor:

- 220-240/380-420 V +/- 5% threephase, 50/60 Hz, IP 55, insul. cl. F

#### Further options and accessories

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

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R409.2-135 KM	16013262	
R409.2-190 KM	16013263	

Options/Accessories		R409.2-7,5KM up to R409.2-18KM x	R409.2-30KM up to R409.2-45KM x	R409.2-70KM up to R409.2-95KM x	R409.2-135KM up to R409.2-190KM x
<b>Stroke frequency adjustment electrical</b> 	Frequency converter series 8200 Motec mounted-on, input 4-20mA				
	Single-phase 230 V, 50/60 Hz 0,37 kW	▲	▲	▲	▲
	Three-phase 320-550 V, +/- 0%, 50/60 Hz 0,55 kW	▲	▲	▲	▲
	Switch-potentiometer for manuell stroke frequency adjustment and to switch on the pump motor (External control of the frequency converter with mounted switch potentiometer unit is not possible)	▲	▲	▲	▲
	Service module hand terminal and keypad incl. 2,5m connection cable	▲	▲	▲	▲
<b>Stroke frequency adjustment electrical</b> 	Frequency converter series 8200 Vector input 4-20mA, incl. Keypad (for integration into control cabinet)				
	Single-phase 230 V, 50/60 Hz 0,37 kW	90017522	90017522	90017522	90017522
	Three-phase 320-550 V, +/- 0%, 50/60 Hz 0,55 kW	90017526	90017526	90017526	90017526
<b>Console</b> 	for wall mounting incl. fixing screws 1.4301	90023875	90023875	90023875	90023875
	PP	90023848	90023848	90023848	90023848
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# Piston diaphragm pumps

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

Admiss. counterpressure up to 80 bar



R409.2-...KM

Fittings for suction side of dosing pumps		R409.2-7,5KM		R409.2-12KM		R409.2-30KM		R409.2-70KM		R409.2-95KM		R409.2-135KM	
		R409.2-10KM		R409.1-18KM		R409.2-45KM						R409.2-190KM	
		Type	P.	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	3.36	SL-02	3.36	SL-02	3.36	SL-02	3.36
		⊗		⊗		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	3.36	SL-02	3.36	SL-02	3.36	SL-02	3.36
	without level switch	S-01 SH-04.1	3.46 3.44	S-01 SH-04.1	3.46 3.44	S-01	3.46	S-01	3.46	S-01	3.46	S-01	3.46
Suction 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		R409.2-7,5KM		R409.2-12KM		R409.2-30KM		R409.2-70KM		R409.2-95KM		R409.2-135KM	
		R409.2-10KM		R409.1-18KM		R409.2-45KM						R409.2-190KM	
		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	⊗		⊗		⊗		⊗		622.S	3.6	622.S	3.6
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 Elastomer-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 PTFE/PTFE-faced 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**.