

STEPPER MOTOR DIAPHRAGM PUMPS

CONTROLLABLE



OVERVIEW

- Adjustment range 1:1000
- Controlled by a microprocessor
- Flow capacity 50 l/h
- Counterpressure up to 10 bar
- Slow Mode
- Timer- and batch-function
- Intuitive navigation
- Energy-efficient
- Remote control
- Robust, corrosion-resistant housing



TECHNICAL DATA

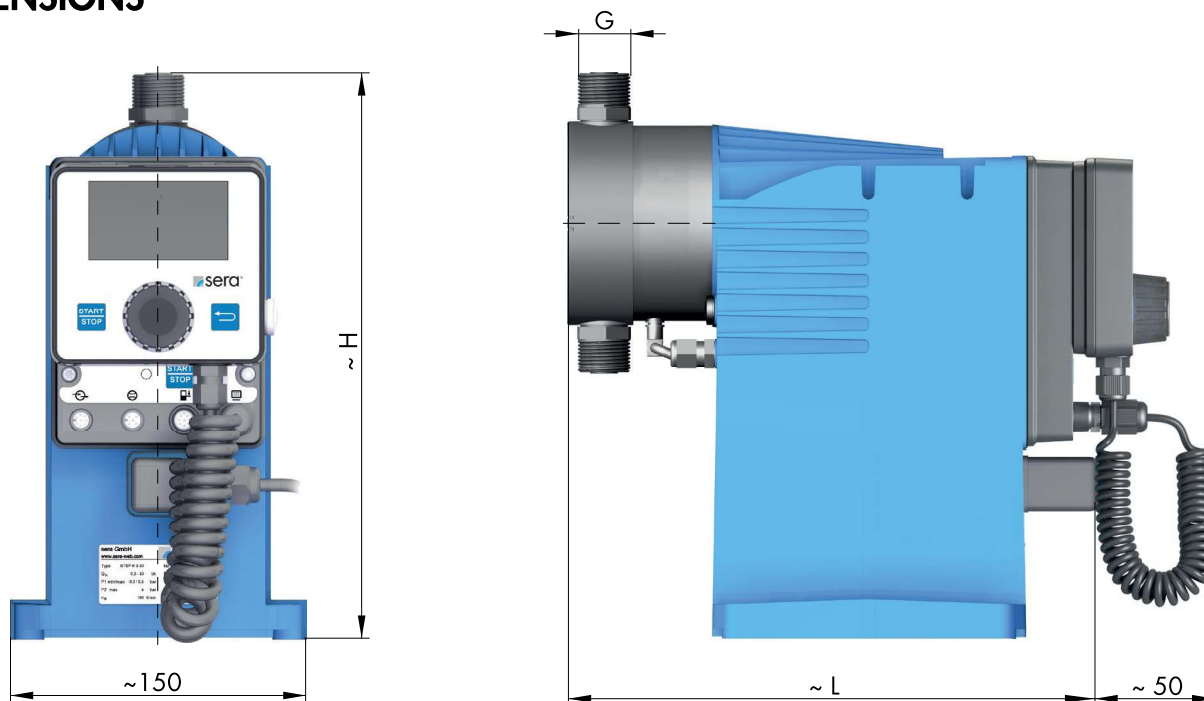
PUMP DATA			iSTEP S 20	iSTEP S 30	iSTEP S 40	iSTEP S 50
Permissible pressure p ₂ max. at the pump outlet	bar		10	7	6	3
Nominal capacity Q _N at p ₂ max.	l/h	50/60 Hz	20	30	40	50
Capacity min. (1:1000)	l/h	50/60 Hz	0,02	0,03	0,04	0,05
Capacity min. (1:100)*	l/h	50/60 Hz	0,2	0,3	0,4	0,5
Quantity per stroke	ml/stroke (100%)		1,75	3,33	3,51	4,39
Max. suction height	mWC		3	3	3	3
Min./max. permissible pressure at the pump inlet	bar	p _{1min/max}	-0,3/0,5	-0,3/0,5	-0,3/0,5	-0,3/0,5
Recommended nominal diameter DN of the connecting pipes	mm		5	5	5	8
Nominal stroke frequency	1/min	50/60 Hz	190	150	190	190
Weight approx.	kg	plastic	7,3	7,3	7,3	7,4
		stainless steel	7,9	8,5	8,5	8,7
		stainless steel (CIP)	9,0	11,7	11,7	11,8

ELECTRICAL DATA		iSTEP S...
Power consumption	W	75
Voltage	V	110 - 240 AC
Frequency	Hz	50/60
Insulation class	ISO	F
Recommended fuse	(circuit breaker)	C10A
Enclosure		IP65
Certifications		CE, TR

Flow capacity 20 l/h ... 50 l/h
 Admissible counterpressure up to 10 bar

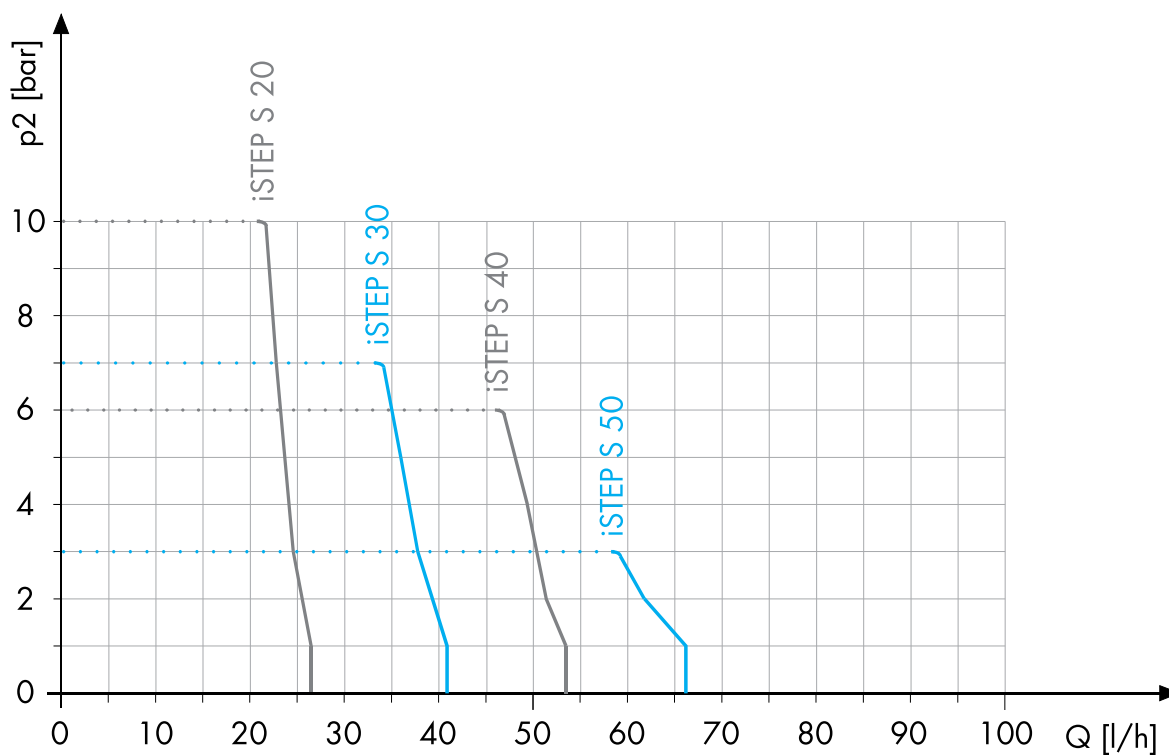
iSTEP

DIMENSIONS



	G		L	H		L	H
iSTEP S 20	G 3/4	PVC, PP, PVDF	270	275	1.4571	270	275
iSTEP S 30	G 3/4		275	282		275	282
iSTEP S 40	G 3/4		275	282		275	282
iSTEP S 50	G 3/4		275	286		275	286

CHARACTERISTIC CURVES



STEPPER MOTOR DIAPHRAGM PUMPS

CONTROLLABLE

FUNCTIONS AND OPERATING MODES

- Extremely wide performance range
- Adjustment range 1:1000 thus optimally adaptable
- Low pulsation dosage
- Drive controlled by microprocessor
- Flexible remote control
- Slow mode for viscous media
- Energy-efficient drive technology
- Batch dosing with recipe memory
- Intuitive menu navigation incl. parameterization
- Pulse division or multiplication
- Weekly/daily timer operation
- 8 languages for the menu (de, en, es, fr, nl, cs, fi, tr)
- Certified accord. to TR (EAC)
- removable graphic display with back light
- 3 Inputs:
 - 3 programmable as digital inputs or
 - 2 programmable as analogue inputs 0/4...20mA
- 2 Digital outputs
- 1 Analogue output for 0/4...20 mA signal
- All outputs are free programmable
- Incl. 5m control cable (8-pole)
- Incl. 2m connection cable with Euro-plug

BASIC DESIGNS

PP



Pump body **PP-FRP**
 Valves **PP-FRP**
 Valve balls **PTFE**
 Diaphragm **PTFE-faced**

Type	Valve seals			
	EPDM Article-No.	Price (EUR)	FPM Article-No.	Price (EUR)
iSTEP S20	15004926	Ⓞ	15004923	Ⓞ
iSTEP S30	15004931	Ⓞ	15004922	Ⓞ
iSTEP S40	15005036	Ⓞ	15005025	Ⓞ
iSTEP S50	15004936	Ⓞ	15004776	Ⓞ

PVDF

Pump body **PVDF-FRP**
 Valves **PVDF-FRP**
 Valve balls **PTFE**
 Diaphragm **PTFE-faced**

Type	Valve seals	
	FEP-covered Article-No.	Price (EUR)
iSTEP S20	15005070	Ⓞ
iSTEP S30	15005071	Ⓞ
iSTEP S40	15005072	Ⓞ
iSTEP S50	15005073	Ⓞ

PVC-U



Pump body **PVC-U**
 Valves **PVC-U**
 Valve balls **PTFE**
 Diaphragm **PTFE-faced**

Type	Valve seals			
	EPDM Article-No.	Price (EUR)	FPM Article-No.	Price (EUR)
iSTEP S20	15004928	Ⓞ	15004927	Ⓞ
iSTEP S30	15004933	Ⓞ	15004932	Ⓞ
iSTEP S40	15005038	Ⓞ	15005037	Ⓞ
iSTEP S50	15004938	Ⓞ	15004937	Ⓞ

STAINLESS STEEL

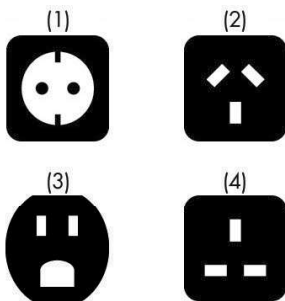
Pump body **1.4571**
 Valves **1.4571/1.4581**
 Valve balls **1.4401**
 Diaphragm **PTFE-faced**

Type	Valve seals	
	FEP-covered Article-No.	Price (EUR)
iSTEP S20	15005067	Ⓞ
iSTEP S30	15005068	Ⓞ
iSTEP S40	15005069	Ⓞ
iSTEP S50	15005066	Ⓞ

OPTIONS

Versions (basic equipment)

Version	Price (EUR)
Pump without control element (price reduction)	▼
Pump with control element (basic version)	●
Pump without control element; with INTERFACE MODULE (INTERFACE MODULE instead of control element)	▲



Special connection

● different plug types for different, international standards

Type	Article-No.	Price (EUR)
Plug 1: CEE 7/4 „Euro-plug“	●	●
Plug 2: AS 3112	Ⓞ	Ⓞ
Plug 3: NEMA 5-15, 3-pole	Ⓞ	Ⓞ
Plug 4: BS 1363 „commonwealth-plug“	Ⓞ	Ⓞ

ACCESSORIES



Control element

	Article-No.	Price (EUR)
Control element (removeable)	90044844	▲

STEPPER MOTOR DIAPHRAGM PUMPS

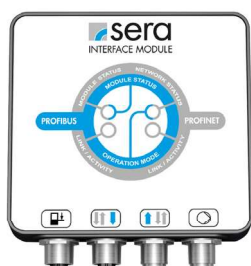
CONTROLLABLE



INTERFACE MODULE - PROFINET -

- PROFIBUS INTERFACE MODULE
- PROFIBUS DP-V0 (Slave)
- Transmission speed: automatic 9,6 kbit/s ... 12 Mbit/s
- Connection to dosing pump: M12 cable socket, 5-pole, B-coded
- not in combination with cTÜVus

Type	Article-No.	Price (EUR)
PROFINET INTERFACE MODULE	90044877	▲
PROFINET connection	length 1m	90050133 ▲
M12x1, straight, with cable plug and -socket, 4-pin, 2x2x0.34 mm ² , CAT5E, color green	length 5m	90050134 ▲
	length 10m	90050135 ▲
PROFINET Connection	length 1m	90050136 ▲
M12x1 - RJ45, straight, 4-pin, 2x2x0,34 mm ² , CAT5, color green	length 5m	90050137 ▲
	length 10m	90050138 ▲



INTERFACE MODULE - PROFIBUS -

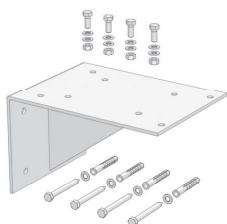
- PROFIBUS INTERFACE MODULE
- PROFIBUS DP-V0 (Slave)
- Transmission speed: automatic 9,6 kbit/s ... 12 Mbit/s
- Connection to dosing pump: M12 cable socket, 5-pole, B-coded
- not in combination with cTÜVus

Type	Article-No.	Price (EUR)
PROFIBUS INTERFACE MODULE	90044875	▲
PROFIBUS cable plug M12x1, straight, individually convertible, 5-pole, IP67	90025520	▲
PROFIBUS Cable socket M12x1, straight, individually convertible, 5-pole, IP67	90025521	▲
PROFIBUS Cable socket M12x1, straight, with 10m line, 2x0,34mm ² , 1x free cable end, color: purple, IP67	90025524	▲
PROFIBUS Cable socket M12x1, straight, with 15m line, 2x0,34mm ² , 1x free cable end, color: purple, IP67	90025525	▲
PROFIBUS Connection M12x1, straight, with cable plug and cable socket, 2x0,34mm ² , length 1m, cable 2x0,34mm ² , color: purple, IP67	90025674	▲
PROFIBUS Bus line 2x 0,64mm ² , shielded, Permanent installation (inside), color: purple (serial meter)	90014541	▲
PROFIBUS Terminating resistor M12x1, 5-pole, IP67	90022890	▲

Control cable



	Article-No.	Price (EUR)
for level input (flow monitoring not included)		
Cable plug M12, 8-pole fully assembled, incl. 5m cable	90042494	▲
Cable plug M12, 8-pole Individually convertible (without cable)	90022885	▲



Bracket

for wall mounting (incl. mounting kit)

	Article-No.	Price (EUR)
PP	90023849	▲
1.4301	90023876	▲



Connection pieces

Extensive range of connection / transition pieces and dosing hoses

Inserts and pipe sockets with union nuts, flange connections, hose screw connections, hose nozzles as well as dosing hoses and accessories.

to be found in **CHAPTER 4** of this catalog, from **page 442**

FITTINGS FOR THE SUCTION SIDE



Multi-function device

Properties

- Can be used as an priming aid and/or an calibration pot
- Compact design
- Flexible Connection
- Maintenance-free
- incl. glue joint (PVC-U) and welding joint (PP)

Basic version

- Housing: **PVC-U / PVC-transparent**
- Seals: **FPM** or **EPDM**
- max. operating pressure: **-0,5 ... +2 bar**

Type	DN	Connetion	Volume	Seals	Article-No.	Price (EUR)
MFD 60	8	G $\frac{3}{4}$	0,5 Ltr.	EPDM	37606311	▲
MFD 60	8	G $\frac{3}{4}$	0,5 Ltr.	FPM	37605864	▲



ACCESSORIES

Hand vacuum pump	PVC/FPM	37605682	▲
(incl. 1,5m PVC-Hose d=12/21)			



Suction lance SL-12.1 (with level switch, 2-stage with plug, 8-pole)

Properties

- Compact design
- Height-adjustable
- 2-stage level monitoring
- Flexible connection
- Easy handling
- High-quality materials
- Maintenance-free
- incl. hose connection 4/6, 6/8, 6/12

Basic version

- Suction lance: **PVC-U**
- Foot valve: **PVC-U**
- Valve ball: **PTFE**
- Hose (inboard): **PE**
- Level swith: **PP**
2-stage, normally closed (NC)
5m cable (from foot valve) with plug, M12, 8-pole
- max. flow rate: **14 l/h** (4/6) ... **35 l/h** (6/12)

Type	Length	Seals	Article-No.	Price (EUR)
iSTEP S20, ...S30				
SL-12.1	600 mm	PTFE	37606194	▲
SL-12.1	1.000 mm	PTFE	37606495	▲
SL-12.1	1.200 mm	PTFE	37606195	▲

STEPPER MOTOR DIAPHRAGM PUMPS

CONTROLLABLE

FITTINGS FOR THE SUCTION SIDE



Suction lance SL-02 (with level switch, 1- or 2-stage with plug, 8-pole)

Properties

- Compact, robust design
- Safe
- Easy handling
- 1-stage level switch
- Flexible connection
- High-quality materials
- Maintenance-free

Basic version

- Suction lance: **PVC-U**
- Foot valve: **PVDF-GFK**
- Valve ball: **PTFE**
- Suction basket: **PP**
- Level switch: **PP**
1- or 2-stage
5m cable (from foot valve) with plug, M12, 8-pole
- max. flow rate: **200 l/h**

Type	Level switch	Length	Connection	Seals	Article-No.	Price (EUR)
iSTEP S40, ...S50						
SL-02	1-stage	630 mm	G ¾	EPDM	37606579	▲
SL-02	1-stage	1.000 mm	G ¾	EPDM	37606581	▲
SL-02	1-stage	1.200 mm	G ¾	EPDM	37606583	▲
SL-02	1-stage	630 mm	G ¾	FPM	37606580	▲
SL-02	1-stage	1.000 mm	G ¾	FPM	37606582	▲
SL-02	1-stage	1.200 mm	G ¾	FPM	37606584	▲
SL-02	2-stage	630 mm	G ¾	EPDM	37606585	▲
SL-02	2-stage	1.000 mm	G ¾	EPDM	37606587	▲
SL-02	2-stage	1.200 mm	G ¾	EPDM	37606589	▲
SL-02	2-stage	630 mm	G ¾	FPM	37606586	▲
SL-02	2-stage	1.000 mm	G ¾	FPM	37606588	▲
SL-02	2-stage	1.200 mm	G ¾	FPM	37605974	▲

ACCESSORIES

Drum connection adapter



Connection	Material	Seal	Article-No.	Price (EUR)
for external thread G=S65x5 DIN2781	PP	EPDM	90011763	▲
	PP	FPM	90011762	▲
for internal thread (set) G=2 fine thread steel drum DIN-ISO 228-1	PP	EPDM	90046044	▲
	PP	FPM	90046043	▲
for external thread G= DIN51	PP	EPDM	90011767	▲
	PP	FPM	90011766	▲
for wall duct G=2 Wall thickness S=max. 6mm	PP/PVC	EPDM	90011773	▲
	PP/PVC	FPM	90011772	▲
other adapters			Ⓞ	Ⓞ

FITTINGS FOR THE SUCTION SIDE



Foot valve (Plastic)

Properties

- Compact design
- Easy installation
- High-quality materials
- Maintenance-free

Basic version

- Ball: **PTFE**
- Sieve: **ETFE**
- Mesh size: **1mm**

Type	DN	Connection	Material	Seals	Article-No.	Price (EUR)
781.1	8	G 3/4	PVDF/PVDF-GFK	FEP	30073008	▲



Foot valve (plastic)

Properties

- Compact design
- Easy installation
- High-quality materials
- Maintenance-free

Basic version

- Ball: **PTFE**
- Sieve: **ETFE**
- Mesh size: **1mm**

Type	DN	Connection	Material	Seals	Article-No.	Price (EUR)
731	8	G 3/4	PVC-U	EPDM	37601636	▲



Foot valve (Stainless steel)

Properties

- Compact design
- Easy installation
- High-quality materials
- Maintenance-free

Basic version

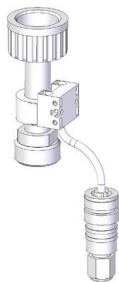
- Ball: **1.4401**
- Sieve: **ETFE**
- Mesh size: **1mm**

Type	DN	Connection	Material	Seals	Article-No.	Price (EUR)
731	8	G 3/4	1.4571	FEP	37601149	▲

STEPPER MOTOR DIAPHRAGM PUMPS

CONTROLLABLE

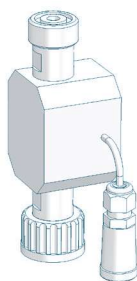
FITTINGS FOR THE SUCTION SIDE



Flow controller

- IP65
- incl. 0,6m cable with cable socket M12, 5-pole (socket for pump connection)
- max. permissible operating pressure: **1 bar**

Type	Connection thread	Materials	Article-No.	Price (EUR)
8291.1	Inlet: G $\frac{3}{4}$ (internal) Outlet: G $\frac{3}{4}$ (external)	PVC-U/EPDM	37606037	▲
		PVC-U/FPM	37605916	▲

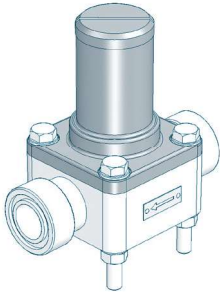


Flow meter

- IP65
- incl. 0,6m cable with cable socket M12, 5-pole (socket for pump connection)
- max. permissible operating pressure: **10 bar**
- can be used on suction and pressure side

Type	Connection thread	Materials	Article-No.	Price (EUR)
iSTEP S20 ... S40				
8011.1	Inlet: G $\frac{3}{4}$ (internal) Outlet: G $\frac{3}{4}$ (external)	ECTFE/PP/FPM	37602343	▲
		ECTFE/PVC-U/FPM	37602345	▲
		ECTFE/PVDF/FPM	37602348	▲
iSTEP S50				
8014.1	Inlet: G $\frac{3}{4}$ (internal) Outlet: G $\frac{3}{4}$ (external)	PVC-U/FPM	37602281	▲
		PVDF/FPM	37602311	▲

FITTINGS FOR THE PRESSURE SIDE



Diaphragm relief valve

for overpressure protection

Properties

- Compact design
- Easy installation
- Maintenance-free
- High-quality materials

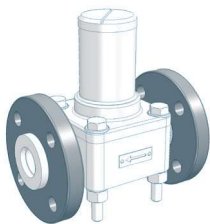
Basic version

- Valve body: **PVC-U, 1.4581, PP or PVDF**
- Diaphragm: **PTFE-faced**

Type	Nominal size	Connection	Valve body	Seals	Article-No.	Price (EUR)
620.10	DN8	G 3/4	PVC-U	FPM	37603632	▲
620.10	DN8	G 3/4	PVC-U	EPDM	36200101	▲
620.10	DN8	G 3/4	PP	FPM	37603630	▲
620.10	DN8	G 3/4	PP	EPDM	37603629	▲
620.10	DN8	G 3/4	PVDF	FEP	37601792	▲
620.10	DN8	G 3/4	1.4581	FEP	37600670	▲

OPTIONS

Type	Design	Loose flange	Surcharge [EUR]
620.10	PVC	Loose flange made of PVC-U	⊙
620.10	PP-FRP/PVDF-FRP	Loose flange made of PP with steel inlay	×
620.10	PP	Loose flange made of PP with steel inlay	▲
620.10	PVDF	Loose flange made of PP with steel inlay	▲



Diaphragm pressure keeping valve

to prevent over-conveyance

Properties

- Compact design
- Easy installation
- Maintenance-free
- High-quality materials

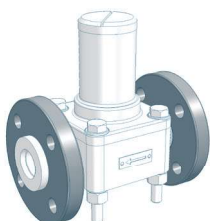
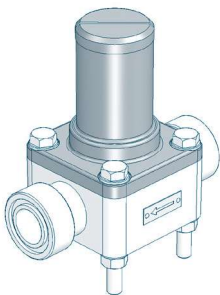
Basic version

- Valve body: **PVC-U, 1.4581, PP or PVDF**
- Diaphragm: **PTFE-faced**

Type	Nominal size	Connection	Valve body	Seals	Article-No.	Price (EUR)
620.D	DN8	G 3/4	PVC-U	FPM	37600048	▲
620.D	DN8	G 3/4	PVC-U	EPDM	36201101	▲
620.D	DN8	G 3/4	PP	FPM	37600055	▲
620.D	DN8	G 3/4	PP	EPDM	36201105	▲
620.D	DN8	G 3/4	PVDF	FEP	37601827	▲
620.D	DN8	G 3/4	1.4581	FEP	37600525	▲

OPTIONS

Type	Design	Loose flange	Surcharge [EUR]
620.D	PVC	Loose flange made of PVC-U	⊙
620.D	PP-FRP/PVDF-FRP	Loose flange made of PP with steel inlay	×
620.D	PP	Loose flange made of PP with steel inlay	▲
620.D	PVDF	Loose flange made of PP with steel inlay	▲



STEPPER MOTOR DIAPHRAGM PUMPS

CONTROLLABLE

FITTINGS FOR THE PRESSURE SIDE



Dosing valve (Plastic)

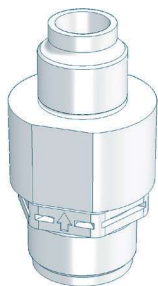
Properties

- Compact design
- Any mounting position
- Maintenance-free
- High-quality materials

Basic version

- integrated injection lance
- Valve ball: **PTFE**
- Seals: **EPDM** or **FPM**
- Spring: **Hastelloy C4**

Type	DN	Inlet	Outlet	Material	Seal	Article-No.	Price (EUR)
691.2	8	G 3/4	R 1/2	PVC-U	EPDM	37606318	▲
691.2	8	G 3/4	R 1/2	PVC-U	FPM	37605769	▲
691.2	8	G 3/4	R 1/2	PP-GFK	EPDM	37605768	▲
691.2	8	G 3/4	R 1/2	PP-GFK	FPM	37606317	▲



Dosing valve (Plastic)

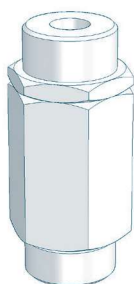
Properties

- Compact design
- Any mounting position
- Maintenance-free
- High-quality materials

Basic version

- Valve ball: **PTFE**
- Spring: **Hastelloy C4**

Type	DN	Inlet	Outlet	Material	Seal	Article-No.	Price (EUR)
691.1	8	G 3/4	R 1/2	PVDF/-GFK	FEP	30072015	▲



Dosing valve (Stainless steel)

Properties

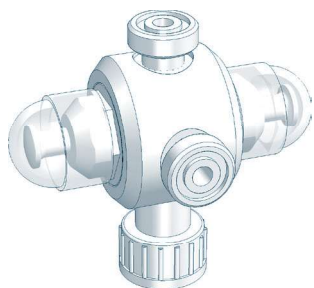
- Compact design
- Any mounting position
- Maintenance-free
- High-quality materials

Basic version

- Valve ball: **1.4401**
- Seals: **FEP-covered**
- Spring: **Hastelloy C4**

Type	DN	Inlet	Outlet	Material	Seal	Article-No.	Price (EUR)
691.1	8	G 3/4	R 1/2	1.4571	FEP	37600493	▲

FITTINGS FOR THE PRESSURE SIDE



Multi function valve

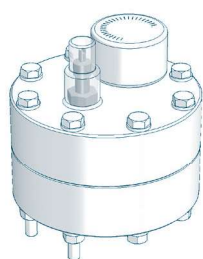
Properties

- Maximum operating pressure 10 bar
- Compact design
- Easy installation
- Maintenance-free
- Venting
- Overpressure protection for dosing pumps
- Prevention of over conveyance

Basic version

- Diaphragms: **PTFE-faced**
- Connection: **G^{3/4}**
- **Relief valve side**
Opening pressure: **2 up to 10 bar** (adjustable)
- **Pressure keeping valve side**
Holding pressure: **1,0 - 1,5 bar**

Type	Valve body	Seals	Article-No.	Price (EUR)
MFV 050	PVC-U	EPDM	37600973	▲
MFV 050	PVC-U	FPM	37600974	▲
MFV 050	PVC-U	FEP	37600975	▲
MFV 050	PP	EPDM	37600982	▲
MFV 050	PP	FPM	37600983	▲
MFV 050	PP	FEP	37600984	▲



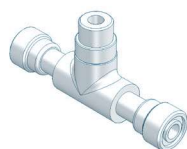
Diaphragm pulsation damper (Plastic, PTFE-diaphragm, max. 10 bar)

Properties

- Any mounting position
- Easy installation
- Long service life
- Easy handling
- High-quality materials
- Low maintenance

Type	Connection	max. Pressure	Material	Diaphragm	Article-No.	Price (EUR)
iSTEP S20						
720.1	G 1/2	10 bar	PVC-U	PTFE	37601848	▲
720.1	G 1/2	10 bar	PP	PTFE	37601856	▲
720.1	G 1/2	10 bar	PVDF	PTFE	37601857	▲

ACCESSORIES



Connection adapter

Thread connection	Connection	Material	Seals	Article-No.	Price (EUR)
Thread connection	G3/4 male	PVC-U	EPDM	90021733	▲
Connction to pulsation damper	G1/2 male	PVC-U	FPM	90025079	▲
		PP	EPDM	90038083	▲
		PP	FPM	90038082	▲
		PVDF	FEP	Ⓞ	Ⓞ



Retaining clamp

(2 Piece each pulsation damper)	PP	d 16	90010649	▲
---------------------------------	----	------	----------	---



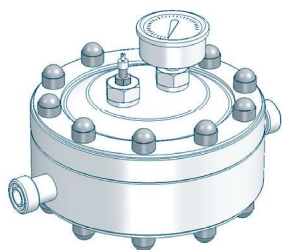
Filling pump FLP 2 for filling device

with manometer, max. 7 bar incl. 2m hose and coupling for air valve	90009396	▲
---	----------	---

STEPPER MOTOR DIAPHRAGM PUMPS

CONTROLLABLE

FITTINGS FOR THE PRESSURE SIDE



Diaphragm pulsation damper (Plastic, PTFE(-faced) diaphragm, max. 10 bar)

Properties

- Any mounting position
- Easy installation
- Long service life
- Easy handling
- High-quality materials
- Low maintenance
- Diaphragm: PTFE-faced

Type	Connection	max. Pressure	Material	Seals	Article-No.	Price (EUR)
iSTEP S30, ...S40, ...S50						
721.2	G 3/4	10 bar	PVC-U	EPDM	37602014	▲
721.2	G 3/4	10 bar	PVC-U	FPM	37602013	▲
721.2	G 3/4	10 bar	PP	EPDM	37603419	▲
721.2	G 3/4	10 bar	PP	FPM	37602017	▲
721.2	G 3/4	10 bar	PVDF	FEP	37604046	▲

ACCESSORIES



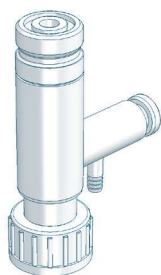
Filling pump FLP 2 for filling device

with manometer, max. 7 bar incl. 2m hose and coupling for air valve 90009396 ▲



Retaining clamp

(2 Piece each pulsation damper) PP d 25 90010651 ▲



Vent valve

Properties

- Compact design
- Easy installation
- Maintenance-free
- High-quality materials

Basic version

- Valve body: **PVC-U** or **PP**
- Valve ball: **PTFE**
- Seals: **FPM** or **EPDM**
- Connection: **G3/4**
- Vent joint: **Hose nozzle d=6,5mm**

Type	Valve body	Seals	Article-No.	Price (EUR)
8152	PVC-U	EPDM	37605884	▲
8152	PVC-U	FPM	37600531	▲
8152	PP	EPDM	37605885	▲
8152	PP	FPM	37605853	▲