

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

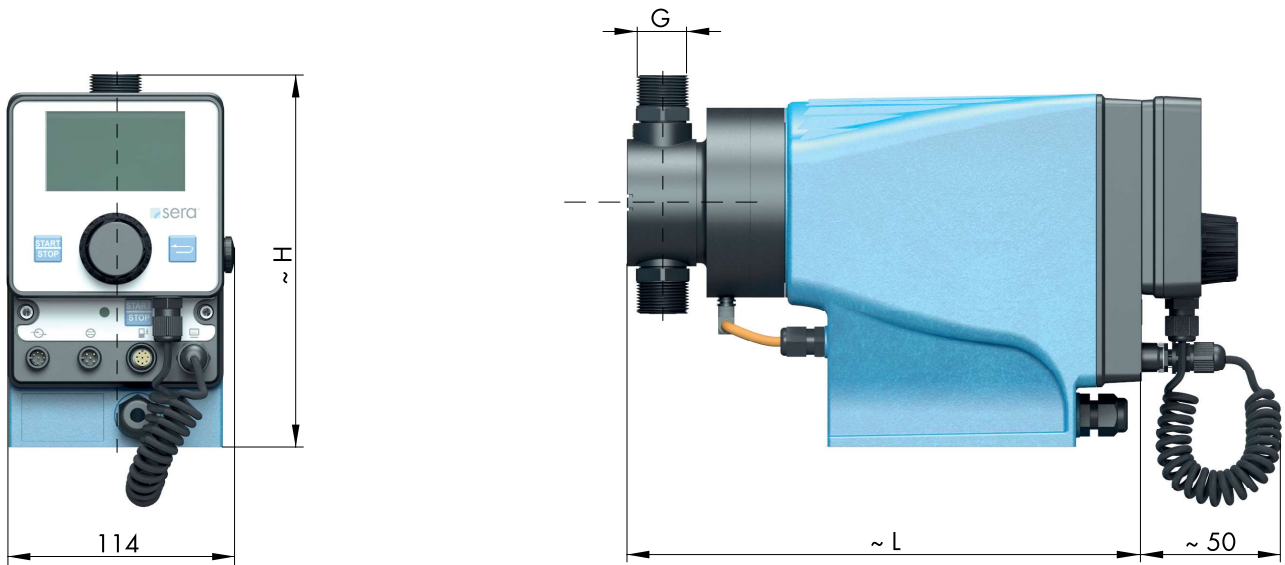
PUMP DATA			iSTEP XS 7	iSTEP XS 15
Permissible pressure $p_{2max.}$ at the pump outlet	bar		10	7
Nominal capacity QN at $p_{2max.}$	l/h		7	15
Capacity min. (1:1000)	l/h		0,007	0,015
Quantity per stroke	ml/Stroke	(100%)	0,61	1,47
Max. suction height	mWS		3	3
Min./max. permissible pressure at the pump inlet	bar	$p_{1min/max}$	-0,3/0,5	-0,3/0,5
Recommended nominal diameter DN of the connecting pipes	mm		3	5
Nominal stroke frequency	1/min		190	170
Weight approx.	kg	plastic	3,6	3,6
		stainless steel	4,0	4,0

ELECTRICAL DATA			iSTEP XS...
Power consumption	W		45
Voltage	V		100 - 240 AC
Frequency	Hz		50/60
Insulation class	ISO		F
Recommended fuse	(circuit breaker)		C10A
Enclosure			
Certifications			

Flow capacity 7 l/h ... 15 l/h
 Admissible counterpressure up to 10 bar

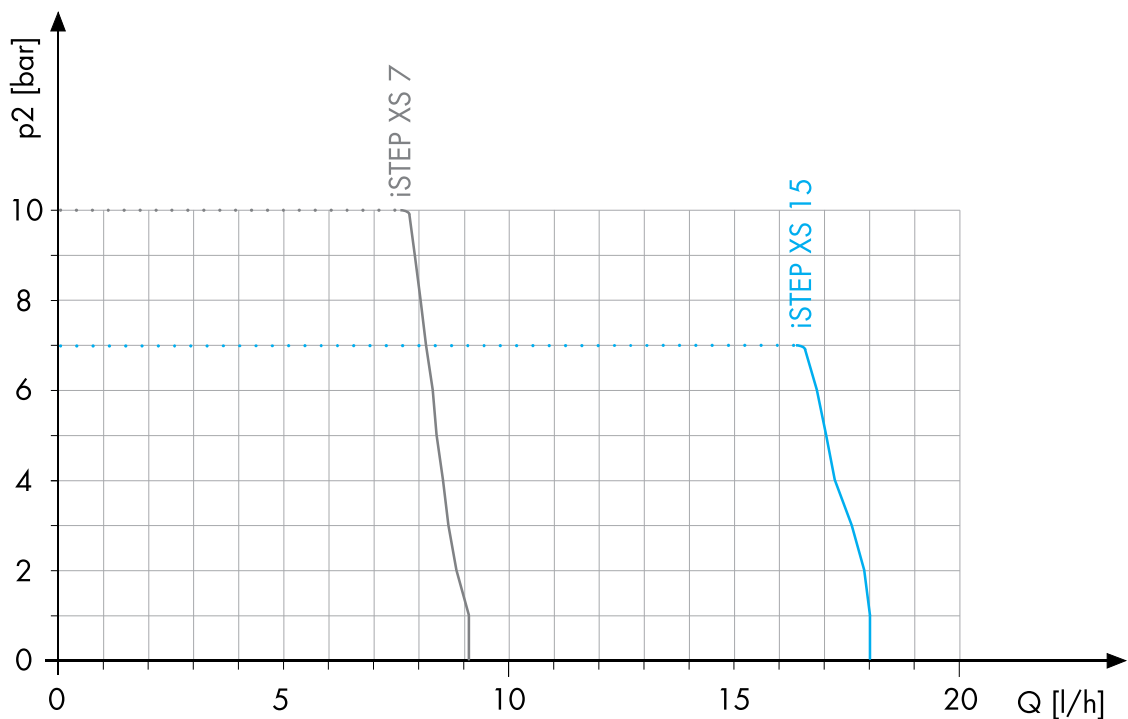
iSTEP

DIMENSIONS



	G		L	H		L	H
iSTEP XS 7	G 3/4	▶ PP PVDF	260	187	▶ PVC 1.4571	260	188
iSTEP XS 15	G 3/4		265	188		264	188

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				
	XS 7		XS 15	
Pump body			PP-FRP	
Valves	PP		PP-FRP	
Valve balls	Ceramic		PTFE	
Diaphragm	PTFE-faced			
	Valve seals			
Type	EPDM	Price	FPM	Price
	Article-No.	(EUR)	Article-No.	(EUR)
iSTEP XS 7	15006847	Ⓞ	15006848	Ⓞ
iSTEP XS 15	15006853	Ⓞ	15006854	Ⓞ

PVDF			
	XS 7		XS 15
Pump body			PVDF-FRP
Valves	PVDF		PVDF-FRP
Valve balls	Ceramic		PTFE
Diaphragm	PTFE-faced		
	Valve seals		
Type	FEP-covered		Price
	Article-No.		(EUR)
iSTEP XS 7	15006851		Ⓞ
iSTEP XS 15	15006857		Ⓞ

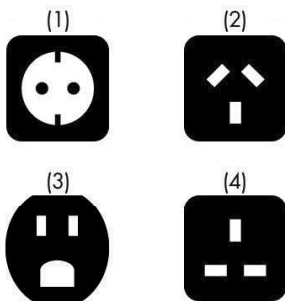
PVC-U				
	XS 7		XS 15	
Pump body			PVC-U	
Valves	PVC-U		PVC-U	
Valve balls	Ceramic		PTFE	
Diaphragm	PTFE-faced			
	Valve seals			
Type	EPDM	Price	FPM	Price
	Article-No.	(EUR)	Article-No.	(EUR)
iSTEP XS 7	15006849	Ⓞ	15006850	Ⓞ
iSTEP XS 15	15006855	Ⓞ	15006856	Ⓞ

STAINLESS STEEL			
	XS 7		XS 15
Pump body			1.4571
Valves	1.4571		1.4571/1.4581
Valve balls	Ceramic		1.4401
Diaphragm	PTFE-faced		
	Valve seals		
Type	FEP-covered		Price
	Article-No.		(EUR)
iSTEP XS 7	15006852		Ⓞ
iSTEP XS 15	15006858		Ⓞ

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

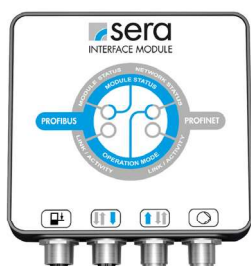
CONTROLLABLE



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 cTUVus

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 -

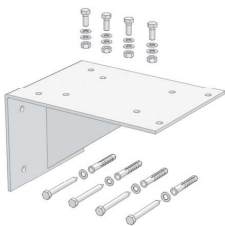
- PROFIBUS INTERFACE MODULE
- PROFIBUS DP-V0 (Slave)
- Transmission speed: automatic 9,6 kbit/s ... 12 Mbit/s
- Connection to dosing pump: M12 cable socket, 5-pole, B-coded
- not in combination with cTUVus

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

	Article-No.	Price (EUR)
for wall mounting (incl. mounting kit)		
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)
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

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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

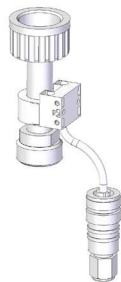
- Compact design
- Easy installation
- High-quality materials
- Maintenance-free

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	▲

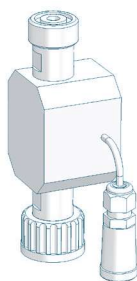
FITTINGS FOR THE SUCTION SIDE



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

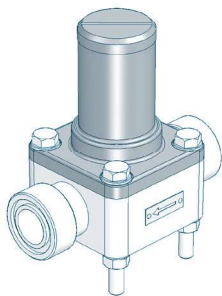
- IP65
- incl. 0,6m cable with cable socket M12, 5-pole (socket for pump connection)
- max. permissible operating pressure: **10 bar**
- can be used on suction and pressure side

Type	Connection thread	Materials	Article-No.	Price (EUR)
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	▲

STEPPER MOTOR DIAPHRAGM PUMPS

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FITTINGS FOR THE PRESSURE SIDE



Diaphragm relief valve

for overpressure protection

Properties

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

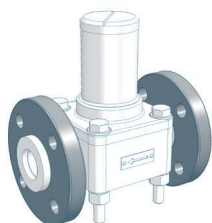
Basic version

- 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

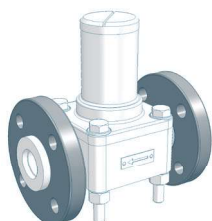
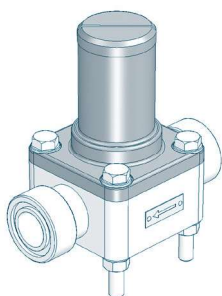
Basic version

- 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	▲



FITTINGS FOR THE PRESSURE SIDE



Dosing valve (Plastic)

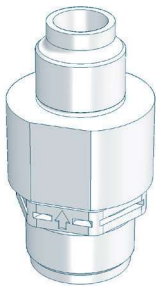
Properties

- 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)

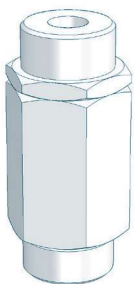
Properties

- 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

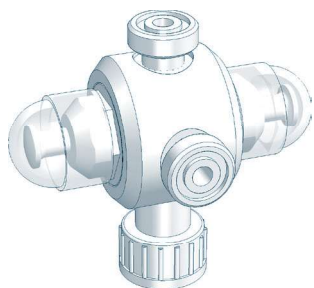
- Valve ball: **1.4401**
- Seals: **FEP-covered**
- Spring: **Hastelloy C4**

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

STEPPER MOTOR DIAPHRAGM PUMPS

CONTROLLABLE

FITTINGS FOR THE PRESSURE SIDE



Multi function valve

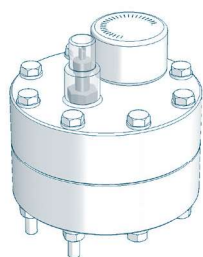
Properties

- 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)
720.1	G ½	10 bar	PVC-U	PTFE	37601848	▲
720.1	G ½	10 bar	PP	PTFE	37601856	▲
720.1	G ½	10 bar	PVDF	PTFE	37601857	▲

ACCESSORIES

Connection adapter



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



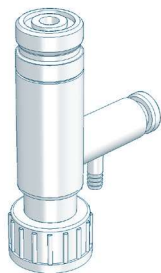
(2 Piece each pulsation damper)	PP	d 16	90010649	▲
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Filling pump FLP 2 for filling device



with manometer, max. 7 bar incl. 2m hose and coupling for air valve	90009396	▲
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FITTINGS FOR THE PRESSURE SIDE



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: **G^{3/4}**
- 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	▲