

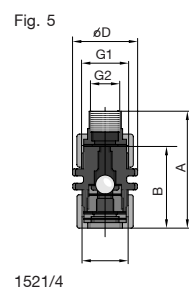
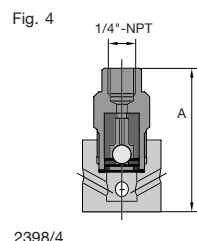
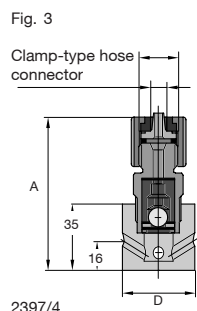
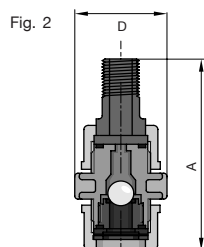
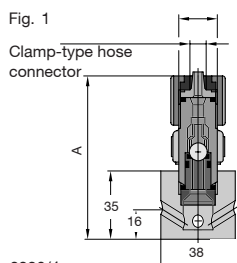
# Low Flow Pump Accessories: Foot Valves

Description

Part No.

## Foot valves

To be installed at the end of the suction line to improve priming and protect pump against coarse impurities. With ceramic\* weight, strainer and ball check valve (must be mounted vertically for ball check function). Select material to be compatible with fluid.



### Polypropylene

Valve body of PP, seals of EPDM (PP1, PPE)

Connection 1/4" x 3/16" tubing (Fig 1)

Connection 1/2" x 3/8" tubing (Fig 1)

Connection 1/2" MNPT for 0423/0230 (Fig 2)

Valve body of PP, seals of Viton® (PP2, PPB)

Connection 1/4" x 3/16" tubing (Fig 1)

Connection 1/2" x 3/8" tubing (Fig 1)

Connection 1/2" MNPT for 0423/0230 (Fig 2)

Valve body of PP, seals of EPDM-high viscosity (PP4)

Connection 1/2" MNPT (Fig 2)

Valve body of PP, seals of Viton®-high viscosity (PP5)

Connection 1/2" MNPT (Fig 2)

### PVC

Valve body of PVC, seals of EPDM

Connection 1/4" x 3/16" tubing (Fig 1)

Connection 1/2" x 3/8" tubing (Fig 1)

Connection 1/2" MNPT (Fig 2)

Valve body of PVC, seals of Viton®

Connection 1/4" x 3/16" tubing (Fig 1)

Connection 1/2" x 3/8" tubing (Fig 1)

Connection 1/2" MNPT (Fig 2)

### PTFE

Valve body and seals of PTFE (TT1)

Connection 1/4" x 3/16" tubing (Fig 3)

Connection 1/2" x 3/8" tubing (Fig 3)

Connection 1/2" MNPT (not illustrated)

### SS

Valve body of stainless steel, seals of PTFE

Connection 1/4" FNPT (SS2) (Fig 4)

Connection 3/8" FNPT (SS1) (Fig 5)

Dimensions inches (mm)

Dim "A" Dim "D"

924558

924566

809465

7924558

7809470

7809465

7924516

7809471

7924547

7924549

7809464

924557

924565

809464

809455

809473

809466

809301

809467

\*Note: For fluoride, (hydrofluosilicic acid) or when plastic is required to replace standard ceramic weight.

PVC foot valve weight

7404007

Viton® is a registered trademark of Dupont Dow Elastomers

# ProMinent® Low Flow Pump Accessories: Injection Valves

Description

Part No.

## Injection valves

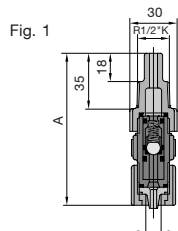


Fig. 1  
Clamp-type  
hose connector  
2399/4

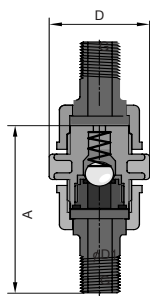


Fig. 2  
1447/4

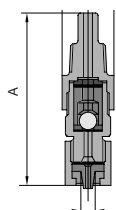


Fig. 3

Clamp-type  
hose connector  
2400/4

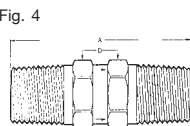


Fig. 4

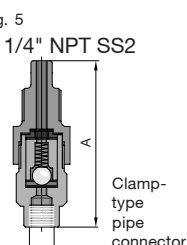


Fig. 5

2401/4

To connect the pump discharge line to the point of injection for installation in any position, except PTFE version without spring to be installed in a vertical position discharging upward. All valves except PTFE 7 psig (0.5 bar) Hastelloy-C spring.

Caution: Injection valves and injection lances should not be used as isolating elements or for antisiphon protection!

### Polypropylene

Valve body of PP, seals of EPDM (PP1, PPE)

Connection 1/4" x 3/16" tubing x 1/2" MNPT injection end (Fig 1)

Connection 1/2" x 3/8" tubing x 1/2" MNPT injection end (Fig 1)

Connection 1/2" MNPT for 0423/0230 (Fig 2)

Valve body of PP, seals of Viton® (PP2, PPB)

Connection 1/4" x 3/16" tubing x 1/2" MNPT injection end (Fig 1)

Connection 1/2" x 3/8" tubing x 1/2" MNPT injection end (Fig 1)

Connection 1/2" MNPT for 0423/0230 (Fig 2)

Valve body of PP, seals of EPDM-high viscosity (PP4)

Connection 1/2" MNPT for PP4 (Fig 2)

Valve body of PP, seals of Viton®-high viscosity (PP5)

Connection 1/2" MNPT for PP5 (Fig 2)

Dim "A"  
inches (mm)

3-7/8 (98) 924681

3-7/8 (98) 924596

5-1/4 (133) 809461

3-7/8 (98) 7924681

3-7/8 (98) 7809478

5-1/4 (133) 7809461

5-3/8 (137) 7924521

5-3/8 (137) 7809462

### PVC

Valve body of PVC, seals of EPDM

Connection 1/4" x 3/16" tubing x 1/2" MNPT injection end (Fig 1)

Connection 1/2" x 3/8" tubing x 1/2" MNPT injection end (Fig 1)

Connection 1/2" MNPT (Fig 2)

Valve body of PVC, seals of Viton®

Connection 1/4" x 3/16" tubing x 1/2" MNPT injection end (Fig 1)

Connection 1/2" x 3/8" tubing x 1/2" MNPT injection end (Fig 1)

Connection 1/2" MNPT (Fig 2)

3-3/4 (95) 7924580

3-7/8 (98) 7924582

5-3/8 (137) 7809460

3-3/4 (95) 924680

3-7/8 (98) 924595

5-3/8 (137) 809460

### PTFE

For vertical installation from below, without spring.

Optional valve springs can be ordered separately.

Body and seals of PTFE

Connection 1/4" x 3/16" tubing x 1/2" MNPT injection end (Fig 3)

Connection 1/2" x 3/8" tubing x 1/2" MNPT injection end (Fig 3)

Connection 1/2" MNPT (not illustrated)

4-1/8 (105) 7809488

4-1/4 (108) 7809481

809462

### SS

Valve body of stainless steel, seals of PTFE (SS1 & SS2)

Poppet check valve, connection 1/4" MNPT x 1/4" MNPT, spring-loaded, adjustable by internal hex nut from 3-50 psig (0.2-3.5 bar) (Fig 4)

Ball check valve, connection 1/4" FNPT inlet to 1/2" MNPT discharge, 7 psig (0.5 bar) spring (Fig 5)

Ball check valve, connection 3/8" FNPT inlet to 1/2" MNPT discharge, 7 psig (0.5 bar) spring (not illustrated) (SS1) (for 0423 & 0230 only)

1-5/8 (42) 7914587

3-1/2 (89) 924597

3-1/2 (89) 803733

# Low Flow Pump Accessories: Injection Lances and Check Valves

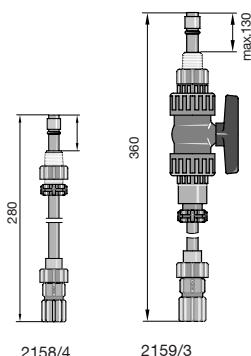
Description

Part No.

## Injection lance

Length of insertion variable from 3/4" to 6-1/2" (20 mm...165 mm) for large diameter pipes. Consisting of spring-loaded ball check injection valve, adjustable insertion pipe and elastomeric sleeve over injection port for backflow prevention. Materials: Hastelloy C spring, Ceramic valve ball, EPDM and silicon seals. Max. working pressure 87 psig (6 bar). Requires 1/2" FNPT pipe tap.

Note: For units with isolating valve, the valve may not be closed until the insertion pipe has been pulled out through the valve. Call factory for 3/4" and 1" connection.



### Polypropylene (EPDM seals)

Connection 1/4" x 3/16" tubing to 1/2" MNPT	924691
Connection 1/2" x 3/8" tubing to 1/2" MNPT	924693
same, but with ball-type isolating valve	
Connection 1/4" x 3/16" tubing to 1/2" MNPT	924695
Connection 1/2" x 3/8" tubing to 1/2" MNPT	924697

### PVC (Viton® seals)

Connection 1/4" x 3/16" tubing to 1/2" MNPT	809706
Connection 1/2" x 3/8" tubing to 1/2" MNPT	809708
same, but with ball-type isolating valve	
Connection 1/4" x 3/16" tubing to 1/2" MNPT	809710
Connection 1/2" x 3/8" tubing to 1/2" MNPT	809712

Note: For brass 3/4" and 1" corporation stops, please call factory.

## In-line check valve for tubing

### Polypropylene

With connectors on both ends for installation in flexible tubing, valve body of PP, seals of EPDM, with valve ball, spring-loaded with Hastelloy C spring, 7 psig (0.5 bar).

By using different adapter sets, different sizes of tubing from 1/4" to 1/2" can be connected with each other.

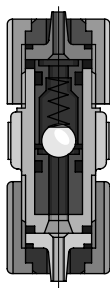
Connection for tubing 1/4" x 3/16"	809434
Connection for tubing 1/2" x 3/8"	809436

### PVC

With connectors on both ends for installation in flexible tubing, valve body of PVC, seals of Viton®, with valve ball, spring-loaded with Hastelloy C spring, 7 psig (0.5 bar).

By using different adapter sets, different sizes of tubing from 1/4" to 1/2" can be connected with each other.

Connection for tubing 1/4" x 3/16"	809417
Connection for tubing 1/2" x 3/8"	809415



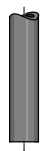
1856/4

# ProMinent® Low Flow Pump Accessories: Tubing and Connectors

Description	Part No.
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## Suction and discharge tubing

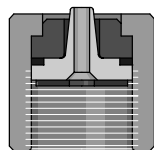
1052/4



	Max. Operating Pressure Rating (psig)	
PVC soft 1/4" x 3/16" (for suction side only)	7	7037004
PVC soft 1/2" x 3/8" (for suction side only)	7	7037009
PVC 1/2" x 3/8" Braided Discharge Tubing	250	7902938
PVC 5/8" ID Nylobraid Hose	200	7037017
PVC fabric reinforced 1/4" x 1/2"	232	37032
PE 1/4" x 3/16"	100	7037005
PE 1/2" x 3/8"	100	7037010
Teflon (FEP) 1/4" x 3/16"	100	7037426
Teflon (FEP) 1/2" x 3/8"	100	7037428

## Spare connecting parts, adapters

Fig. 1



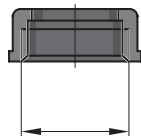
2181/4

Connector set (Fig. 1) (excluding NE1 and EXtronic)

Connector set to connect flexible tubing of different sizes to suction or discharge connectors of liquid ends and accessories, each set consisting of hose nozzle, grip ring, union nut and gasket. All connector sets fit on pump valves or accessories with M20 x 1.5 threads. Part number includes two connector sets.

PP/VITON® for hose type 1/4" x 3/16"	817166
PP/VITON® for hose type 1/2" x 3/8"	817171
PP/EPDM for hose type 1/4" x 3/16"	790885
PP/EPDM for hose type 1/2" x 3/8"	740132
PP/EPDM for hose type 1/4" x 1/2"	817163
PVC/Viton® for hose type 1/4" x 3/16"	817050
PVC/Viton® for hose type 1/2" x 3/8"	740131
PVC/Viton® for hose type 1/4" x 1/2"	817052
PVC/EPDM for hose type 1/4" x 3/16"	790871
PVC/EPDM for hose type 1/2" x 3/8"	740160
PTFE for hose type 1/4" x 3/16"	817201
PTFE for hose type 1/2" x 3/8"	791199

Fig. 2

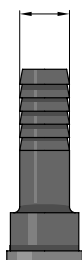


pk\_1\_116

Union nuts for NPT inserts (Fig. 2) (use with NPT inserts below)

Union nut	PP	DN 10	358613
Union nut	PVC	DN 10	356562
Union nut	PVDF	DN 10	358813
Union nut	SS	DN 10	805270
Union nut	PP	DN 15	358614

Fig. 3



1486/4

Inserts (Fig. 3) (requires union nut: 1/4" NPT inserts use union nut provided with pump as part of connector set. 1/2" NPT inserts use union nuts listed above)

1/4" MNPT	PP	(any beta, gamma/L, Pneumados or alpha T except g/5 0423 and 0230, PP4/PP5 or NE1)	7358391
	T		7358390
	PVC		7358392
	SS		7358393
1/2" MNPT	PP	(for g/4 1002 PP4/PP5, g/5 0423 and 0230)	7358630
	PP	(for PP4/PP5 series, 1006, 1310 and 0813)	7358402
	T	(for g/5 0423 and 0230)	7358634
	PVC	(for g/5 0423 and 0230)	7358632
3/8" FNPT	SS	(for g/5 0423 and 0230)	805285

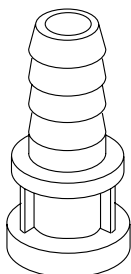
Note: 1/2" NPT fittings will not fit on any gamma pumps except those listed above. Use of 1/4" NPT fittings on pumps with 1/2" valves may reduce capacity.

# Low Flow Pump Accessories: Adapters

**ProMinent®**

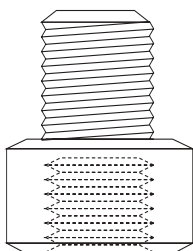
Description	Part no.
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## Hose barb adapters



PP for hose type DN 10	800657
PVC for hose type DN 10	800554
PTFE for hose type DN 10	811572
SS for hose type DN 10	810536
PP for hose type DN15	800655

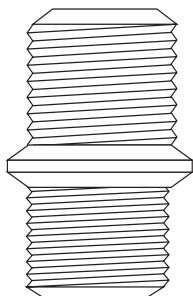
## Adapters



### Adapters

M20 x 1.5 Female by 1/2" MNPT

PP	7359010
PVC	7359009
PVDF	7901791
PTFE	7356677



M20 x 1.5 Male by 1/2" MNPT

PVC	7152222
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# ProMinent® Low Flow Pump Accessories: Backpressure and Pressure Relief Valves

Description

Part No.

## Backpressure, antisiphon and pressure relief valves



In-line pressure relief valve (3 port)



Backpressure valve (2 port)



Backpressure valve on tee for pressure relief

Backpressure (2-port) valves may be used in-line to provide a constant discharge pressure for protection from siphoning, or they may be teed off of the discharge line for pressure relief, discharging back to the source tank or to the pump suction line to create a bypass.

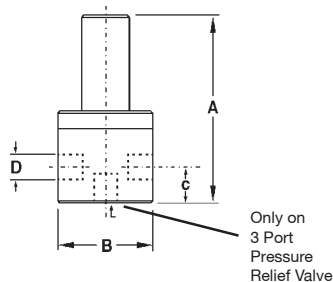
Pressure relief (3-port) valves are mounted in the discharge line, featuring a separate relief port which discharges back to the source tank or to the pump suction line to create a bypass.

Backpressure valves provide several functions: they improve repeatability by providing a constant discharge pressure; they provide antisiphon protection for discharge into pressurized water lines or vacuums, or where suction head exceeds discharge head; and they minimize pulsation when used in conjunction with a pulsation dampener.

### In-line backpressure/antisiphon and pressure relief valves

These adjustable backpressure (2-port) and pressure relief (3-port) valves have FNPT ports and require tubing adapters for use with flexible tubing.

Can be adjusted with screwdriver.



### DIMENSIONS: 1/4" to 1/2" valves

D	A (in)	B (in)	C (in)
1/4"	4.90	2.6	1.2
*1/4"	*3.5	*2.375	*0.75
1/2"	4.9	2.6	1.2
*1/2"	*5.5	*3.5	*1.125

\*Note: Dimensions apply to SS and PTFE valves only.

### Technical data

Size:  
1/4" and 1/2" NPT

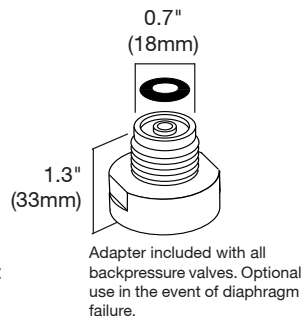
Diaphragm  
Materials:  
PTFE-faced EPDM

Liquid Handling  
Materials:  
PP, PVC, PTFE, PVDF  
316 Stainless Steel

Pressure Adjustment:  
0-150 psig (0-10.3 bar)

Flow rates @ 45 psig (3.1 bar):  
1/4" - 132 U.S. gph (500 L/h)  
1/2" - 132 U.S. gph (500 L/h)

Max. Temperature:  
PP - 195°F (90°C)  
PVC - 140°F (60°C)  
PTFE - 250°F (121°C)  
PVDF - 250°F (121°C)  
316 Stainless - 250°F (121°C)  
Max. Pressure Rating 170 psig @ 120°F



# Low Flow Pump Accessories: Backpressure and Pressure Relief Valves

Description	Part No.
-------------	----------

## Backpressure, antisiphon and pressure relief valves

### 1/4" FNPT valves

Material	Backpressure Valve (2-port)	Pressure Relief Valve (3-port)
PP (PP1, PP2)	1009444	1009452
PVC (NP6)	1009445	1009453
PVDF	1009446	1009454
316 SS (SS2)	1009447	1009455

### Tubing Adapters

(1 required per valve port): 1/4" x 3/16" tubing x 1/4" MNPT

PP/EPDM (PP1)	7359001
PVC/Viton® (NP1)	7359003

### 1/2" FNPT valves

Material	Backpressure Valve (2-port)	Pressure Relief Valve (3-port)
PP (PP1, PP2)	1006846	1006858
PVC (NP6)	1006850	1006862
PVDF	1006854	1006866
316 SS (SS2)	1008796	1008800

### Tubing Adapters

(1 required per valve port): 1/2" x 3/8" tubing x 1/2" MNPT

PP/EPDM (PP1)	7359005
PVC/Viton® (NP1)	7500063

### Spare diaphragms

1/4" - 1/2" valve PTFE/EPDM	1006813	1006813
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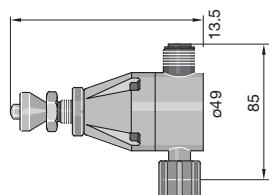
# Low Flow Pump Accessories: Backpressure and Pressure Relief Valves

Description

Part No.

## Backpressure/antisiphon valves

### Pump-mounted backpressure/antisiphon valves



2832/4

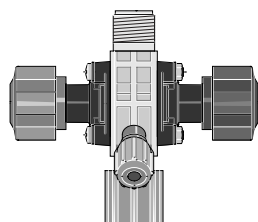
Type DHV-S-DK backpressure valve, adjustable from 14.5 to 145 psig (1 to 10 bar). This adjustable backpressure valve is designed for mounting directly on the liquid end to generate a constant backpressure. Inlet thread is female M20 x 1.5, discharge is male M20 x 1.5 for connection to 1/4" x 3/16" or 1/2" x 3/8" tubing adapter.

Caution: Backpressure valves are not supposed to be used as completely/sealing, isolating elements.

Application: beta, gamma, Pneumados, EXtronic, and D metering pumps (except SS1/SS2, PP4/PP5 and gamma/5 0423/0230 models)

DHV-S-DK	PP/EPDM (PP1, PPE)	302320
DHV-S-DK	PP/Viton® (PP2, PPB)	7302320
DHV-S-DK	PVC/Viton® (NP6, PCB)	302321
DHV-S-DK	PTFE (TT1)	

## Multifunction valve



3006/4

ProMinent's multifunction valve is operated by means of smooth-action rotary knobs which automatically return to their initial position when released. Made of PVDF, it can be used in feed systems for virtually all chemicals. The multifunction valve is mounted directly on the liquid end of the pump for backpressure, antisiphon, pressure relief, priming, and draining the discharge line. The inlet thread is female M20 x 1.5 and the discharge is male M20 x 1.5.

ProMinent's multifunction valve has the following functions:

- Backpressure valve, opening pressure approximately 22 psi (1.5 bar)
- Relief valve, opening pressure approximately 87, 145 or 232 psi (6, 10 or 16 bar)
- Admission aid in existing backpressure, no need to de-pressurize pipes
- Pressure relief, e.g. prior to servicing

Warning: Backpressure valves are not intended as completely sealed units!

Materials in contact with chemicals:

Valve body	PVDF
Diaphragm	PTFE-coated
Seals	FPM (*Viton®) or EPDM
DN 10 adapter	PVC

### Technical data:

Type	Relief opening pressure	Application range by size	Order No.
Size I (M20 x 1.5)	232 psi (16 bar)	alpha all types	792011
Size I	145 psi (10 bar)	beta & gamma/L type 1000, 1601,	791715
Size I / II	87 psi (6 bar)	1602, 1605, 1005, 1008, 0708, 0413, 0220	740427
Size II (M20 x 1.5)	145 psi (10 bar)	beta & gamma/L type 1605, 1008,	792203
Size II	87 psi (6 bar)	0713, 0420, 0232	740427
Size III (DN 10)	145 psi (10 bar)	beta & gamma/L with PVT liquid ends	792215

Note: Multifunction valves mounted to stainless steel liquid ends require below adapters.

\*Cannot adjust pressure; fixed factory setting.

### Adapter set for SS version pumps

Adapter with seals, for use with SS2 liquid ends: 1/4" MNPT x Male M20 x 1.5 adapter, PVDF	7358651
Adapter with seals, for use with SS2 liquid ends: 3/8" MNPT x Male M20 x 1.5 adapter, PVDF	7358659



# Low Flow Pump Accessories: Pulsation Dampeners

Description

Part No.

## Pulsation dampeners

Pulsation dampeners operate on the principle that gas is compressible and fluid is not. The pulsation dampener consists of an air chamber containing compressed air, a fluid chamber connected to the pump's suction or discharge line, and a bladder or bellows which separates the air and fluid.

Polypropylene and PVDF models are flow-through design, with two ports so they can be mounted directly on the pump suction or discharge line. PTFE and stainless steel models are single port design, to be teed off of the pump suction or discharge line. Flow-through models may also be used in a tee if one port is capped.

All models feature a Schrader (bicycle) valve and pressure gauge for charging the air chamber on-site.

PVDF/Nordel pulsation dampeners are recommended for sodium hydroxide (caustic) applications. Viton® pulsation dampeners are recommended for sodium hypochlorite applications.

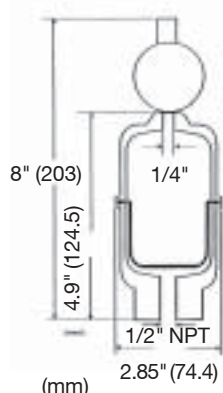
### Sizing Pulsation Dampeners

Multiply the pump's displacement per stroke (mL) times 26 to get minimum pulsation dampener volume (mL) to achieve 90% reduction in pulsation.

Safety Note: We recommend using pressure relief valves with the pulsation dampeners.

### General Specifications

Fig. 1



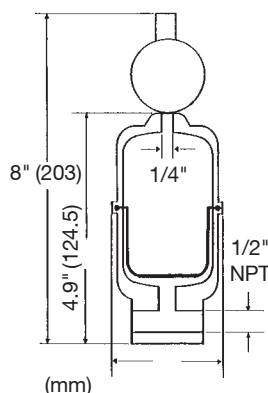
Maximum pressure: 150 psig (10.3 bar) (polypro, PVC, PVDF and PTFE),  
300 psig (21 bar) (SS)

Temperature range:

Nordel bladder:	-60°F to 280°F (-51°C to 138°C)
Viton® bladder:	30°F to 350°F (-1°C to 177°C)
HYPALON® bladder:	-20°F to 275°F (-29°C to 135°C)
PTFE bellows:	40°F to 220°F (4°C to 104°C)
Polypro housing:	32°F to 175°F (0°C to 79°C)
PVC housing:	32°F to 140°F (0°C to 60°C)
PVDF housing:	10°F to 250°F (-12°C to 121°C)
*PTFE housing:	-20°F to 225°F (-29°C to 52°C)
SS housing:	32°F to 200°F (0°C to 93°C)

\*Teflon bellows are smaller in volume

Fig. 2



131 mL (8 cu. in.) Models

SS housing: 3/8" FNPT, 1 port (not illustrated)

PTFE bellows

PVDF housing: 1/2" FNPT, 1 port (Fig. 1)

PTFE bellows

164 mL (10 cu. in.) Models

PVC housing: 1/2" FNPT, 1 port (Fig. 1)

Nordel bladder (EPDM)

Viton® bladder

HYPALON® bladder

Polypro housing: 1/2" FNPT, 1 port (Fig. 1)

Nordel bladder (EPDM)

PVDF housing: 1/2" FNPT, 1 port (Fig. 1)

Nordel bladder (EPDM)

Viton® bladder

Shipping  
Weight  
lbs (kg)

Model

Size

Part No.

3 (1.4)

CTS1020 T

III

7253205

1 (0.9)

CTK1005 T 5

III

7744101

1 (0.9)

CTP1015 ND 5

III

7901769

1 (0.9)

CTP1015 V 5

III

7901706

1 (0.9)

CTP1015 H 5

III

7744098

1 (0.9)

CTP1005 ND 5

III

7744102

1 (0.9)

CTK1005 ND 5

III

7744100

1 (0.9)

CTK1005 V 5

III

7744099

# ProMinent® Low Flow Pump Accessories: Pulsation Dampeners & Spare Bladders/Bellows

Description	Part No.
-------------	----------

## Pulsation Dampeners (cont.)

	Shipping Weight lbs (kg)	Model	Size	Part No.
131 mL (8 cu. in.) Models				
PVDF housing: 1/2" FNPT, 2 port (Fig. 2)				
PTFE bellows	1 (0.9)	CTK1000 T	III	7253217
164 mL (10 cu. in.) Models				
PVC housing: 1/2" FNPT, 2 port (Fig. 2)				
Viton® bladder	1 (0.9)	CTP1010 V	III	7253216
HYPALON® bladder	1 (0.9)	CTP1010 H	III	7740945
Polypro housing: 1/2" FNPT, 2 port (Fig. 2)				
Nordel bladder (EPDM)	1 (0.9)	CTP1000 ND	III	7253201
PVDF housing: 1/2" FNPT, 2 port (Fig. 2)				
Nordel bladder (EPDM)	1 (0.9)	CTK1000 ND-5	III	7253203
Viton® bladder	1 (0.9)	CTK1000 V	III	7253204

## Spare bladders/bellows

	Model	Size	Part No.
Nordel (EPDM) bladders	401-28	II	7901552
Nordel (EPDM) bladders	1000-28	III	7740208
Viton bladders	401-25	II	7901533
Viton bladders	1000-31	III	7740209
Hypalon bladders	1000-30	III	7740959
PTFE	301-10	II	7740204

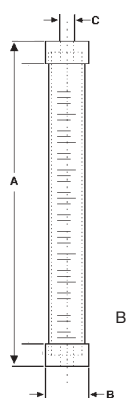
# Low Flow Pump Accessories: Calibration Columns

Description

Part No.

## Calibration columns

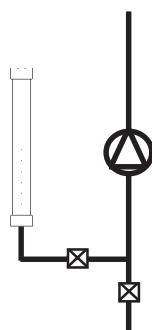
Clear PVC calibration columns (Threaded Base with removable top available upon request)



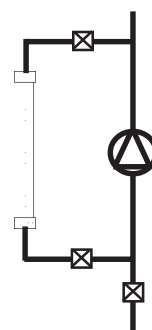
Cylinder size	Fitting size	Dimension (inches)		Threaded both ends
		A	B	
100 mL	1/2" NPT	10.75	1.388	7500127
250 mL	1/2" NPT	11.51	1.888	7500128
500 mL	1/2" NPT	12.75	2.388	7500129
1000 mL	1/2" NPT	16.76	2.765	7500135

### Typical Application of Calibration Columns

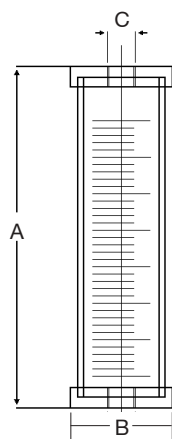
Column w/removable top  
(Note: Top must be removed  
during calibration)



Column threaded both ends  
(Note: If plumbed as shown, a vent hole must  
be drilled into the top of the calibration column)



## Borosilicate Glass calibration columns with Viton® seals for Sulfuric Acid Applications



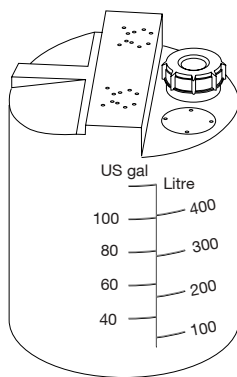
Cylinder size	Fitting size	Dimensions (inches)			Part No.
		A	B	C	
100 mL	1/2" PVDF	10	3.25	1/2	7500152
100 mL	1/2" SS	9.5	3	1/2	7500153
250 mL	1/2" PVDF	12.5	3.25	1/2	7500155
250 mL	1/2" SS	12	3.5	1/2	7500156
500 mL	1/2" PVDF	14.5	4.25	1/2	7500158
500 mL	1/2" SS	14	4	1/2	7500159
1000 mL	1/2" PVDF	16.75	5.5	1/2	7500161
1000 mL	1/2" SS	18.25	5.5	1/2	7500162
2000 mL	1" PVDF	18.75	5.5	1	7500164
2000 mL	1" SS	18.25	5.5	1	7500165
4000 mL	1" PVDF	22.50	6.5	1	7500167
4000 mL	1" SS	22	6.5	1	7500168

# ProMinent® Low Flow Pump Accessories: Chemical Tanks and Accessories

Description

Part No.

## Chemical tanks



15, 26, 66, 132 gallon capacity

Made of translucent UV-stabilized polyethylene, with gallon/litre scale, screw cap. Mounting platforms for ProMinent metering pumps and mixers. All tanks are specifically developed to maximize toughness. These tanks are impact, stress, and chemical resistant. Maximum allowable temperature 180°F (82°C).

### Chemical tanks with threaded bushings

These tanks come complete with corrosion resistant threaded bushings moulded into the top of the tank for easy mounting of ProMinent pumps. 132 Tank comes complete with 2 sets of bushings for mounting 2 pumps.

Capacity		O.D.		Height		Empty Weight		Screw Cap	
gallon	(litre)	in.	(mm)	in.	(mm)	lb.	(kg)	in.	
15	(60)	17	(435)	24	(610)	11	(5.0)	5 1/4	791994
26	(100)	20	(500)	30	(760)	17	(7.7)	5 1/4	1001490
66	(250)	24	(610)	44	(1120)	39	(17.5)	5 1/4	791996
132*	(500)	33	(840)	47	(1190)	54	(24.5)	5 1/4	791997

\* Limited supply available.

These tanks can be used for mounting the alpha, and gamma series metering pumps. The 132 gallon model can fit two pumps.

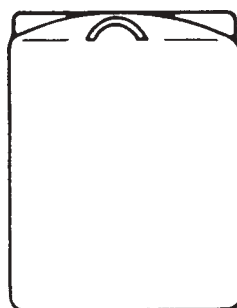
### Accessories

Lock and key for screw-on cap

200683

Note: Only for the above tanks

## Chemical tanks



15, 26, 53, 60, 106, 143, 160, 265 and 360 gallon capacity

Capacity		O.D.		Height		Empty Weight		Screw Cap /	
gallon	(litre)	in.	(mm)	in.	(mm)	lb.	(kg)	Manway *	in.
26	(100)	18	(460)	29	(740)	14	(6.4)	5 1/4	7809652
53	(200)	22	(560)	39	(990)	25	(11.4)	5 1/4	7809653
80	(300)	27	(685)	44	(1120)	32	(14.5)	5 1/4	7809654
106	(400)	30	(765)	43	(1095)	34	(15.9)	5 1/4	7901747
265	(1000)	31	(790)	87	(2210)	80	(36.4)	12 *	7809688
360	(1360)	48	(1220)	54	(1370)	110	(50)	14 *	7809687

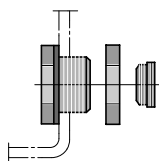
\* Dimensions is height of tank only. Does not take into account the height of the manway cover.

Note: Other size tanks available upon request. Color tanks are available in red, blue, yellow, or black at an additional cost.

# Low Flow Pump Accessories: Chemical Tanks and Accessories

**ProMinent®**

Description	Part No.
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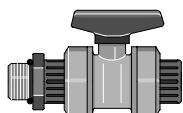


1077/4

## PVC tank drain fitting with plug

1/2" FNPT as an additional connection for chemical tanks.  
To be used as an open drain with plug or for addition of optional 1/2" ball valve fitting. Fits 1" opening.

PVC with Viton® seal	7809755
PVC with EPDM seal	7744374



2424/4

## 3/4" FNPT as an additional connection for chemical tanks.

To be used as an open drain with plug or for addition of optional 3/4" ball valve fitting. Fits 1-3/8" opening.

PVC with Viton® seal	7000300
PVC with EPDM seal	7744375

## PVC ball valve

1/2" PVC ball valve with 1/2" FNPT connections for all chemical tanks with 1/2" PVC tank drain fittings.

PVC with Viton® seal	7000309
PVC with EPDM seal	7901183

3/4" PVC ball valve with 3/4" FNPT connections for all chemical tanks with 3/4" PVC tank drain fittings.

PVC with Viton® seal	7152164
PVC with EPDM seal	7152163

# ProMinent® Low Flow Pump Accessories: Mixers

Description	Part No.
Canada Mixers	
High speed mixer for water-like fluids in 15, 26 or 66 gallon tanks: Motor: 1/20 HP Mount: includes mounting bracket Shaft: 316 SS shaft and propeller	7356679
High speed mixer for water-like fluids in 132 to 300 gallon tanks: Motor: 1/4 HP Mount: includes PVC mounting flange Shaft: 316 SS shaft and propeller Note: Both mixers for Canada only.	7818565

# Tank Mixer Selection Worksheet

Tank Size: \_\_\_\_ Gals (L) Diameter: \_\_\_\_ in / ft (mm/m) Height: \_\_\_\_ in / ft (mm/m)  
L \_\_\_\_ x W \_\_\_\_ x H \_\_\_\_ in / ft (mm/m) (if rectangular)

Tank Material: \_\_\_\_\_ Top: \_\_\_\_ Closed \_\_ Open with cover: Y N

Tank Manufacturer: \_\_\_\_\_

Chemical: \_\_\_\_\_ Concentration: \_\_\_\_\_

Temperature: \_\_\_\_ F / C Viscosity: \_\_\_\_\_

Motor Voltage: \_\_\_\_\_ AC / DC 1 phase / 3 phase Horsepower: \_\_\_\_\_

Mounting Requirements:

Flange: \_\_\_\_ Size: \_\_\_\_ Bolt Circle: \_\_\_\_\_

Clamp-on: \_\_\_\_ Tank Side \_\_\_\_\_ Mounting Bracket \_\_\_\_\_

Bolt-on: \_\_\_\_ Details \_\_\_\_\_

\_\_\_\_\_

Shaft Material: \_\_\_\_\_ Stainless Steel \_\_\_\_\_ Steel \_\_\_\_\_ Coated \_\_\_\_\_

Mixer Type/Diameter: \_\_\_\_ Propeller \_\_\_\_\_ Impeller \_\_\_\_ Other \_\_\_\_\_

# ProMinent® Low Flow Pump Accessories: Float Switches for gamma series pumps

Description	Part No.
Float switches, two stage	



2380/4

Float switch, two-stage (includes ceramic weight - do not use ceramic weight for fluoride service)

To monitor the fluid level in the chemical tank. Two-stage function, first stage is early warning annunciation, second stage will shut down pump after an additional drop in the fluid level of approximately 1.2" (30 mm).

*With 3-pole round connector, suitable for direct connection to ProMinent gamma series.*

Technical data:

Max. contact load 60 V, 0.3 A, 5 W/5 VA, temperature range -13°F to 167°F (-25°C to 75°C).

Materials:

PP body, foamed PP float 7/8" (21 mm) dia., PE cable			
PP with 3-pole round connector	cable length	6 ft. (2 m)	7142093
		15 ft. (5 m)	7142095
PVC body, foamed PP float 7/8" (21 mm) dia., PE cable			
PVC with 3-pole round connector	cable length	6 ft. (2 m)	7142043
		15 ft. (5 m)	7142038
PVDF body, foamed PVDF float 1" (25 mm) dia., PE cable			
PVDF with 3-pole round connector	cable length	6 ft. (2 m)	7792639
		15 ft. (5 m)	7792640

## Ceramic weight for float switch



1086/4

1.53" dia. x 1.26" (39 mm x 32 mm)	with oval opening .51" x 1.06" (13 mm x 27 mm)	404004
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With two-stage float switches with round connector, the weight is slid into position from below after the float has been removed.

Note: Not for use in fluoride application (e.g. hydrofluosilicic acid).



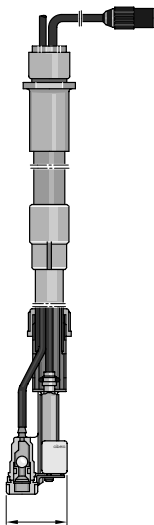
# Low Flow Pump Accessories:

## Suction Assemblies for gamma series pumps

Description	Part No.
Suction assemblies, two-stage	

Including foot valve, rigid supporting pipe, suction line and float switch with 6 ft. (2 m) cable. For use in drums or tanks with mixers, which could tangle flexible suction tubing or float switch cables.

- two-stage: with 3-pole *round connector*, for early warning and eventual pump shut-down, for gamma.
- PP version: EPDM seals, PE suction line
- PVC version: Viton® seals, PVC suction line



2798/R

Adjustable PP suction assembly, with bulkhead fitting for 1" opening and 2-stage float switch

For ProMinent gamma with PP foot valve, PE suction hose, PP supporting pipe and union. PP two-stage float switch with 3-pole round connector

Adjustable length (foot valve to bulkhead)

26" to 41" (660 mm to 1040 mm) for 26 - 220 gallon (140 - 830 L) tanks

Requires 1.0" hole in top of tank for bulkhead fitting

PP version

Suction line

- 1/4" x 3/16" 790368
- 1/2" x 3/8" 790370

ProMinent®

# Low Flow Pump Accessories:

## Float Switches for D series pumps

Description	Part No.
Float switches, single stage	



2820/4

Float switch, single-stage (includes ceramic weight – do not use ceramic weight for fluoride service)

For minimum level indication with simultaneous shutdown of the metering pump. With a flat connector for direct connection to the D series ProMinent metering pumps.

Technical data:

Max. contact load 60 V, 0.3 A, 5 W/5 VA, temperature range -13°F to 167°F (-25°C to 75°C).

Materials:

PP body, foamed PP float 7/8" (21 mm) dia., PE cable

PP with flat connector	cable length	6 ft. (2 m)	790412
		15 ft. (5 m)	790470

PVC body, foamed PP float 7/8" (21 mm) dia., PE cable

PVC with flat connector	cable length	6 ft. (2 m)	790414
		15 ft. (5 m)	790468

PVDF body, PVDF float 1" (25 mm) dia., PE cable

PVDF with flat connector	cable length	6 ft. (2 m)	790416
		15 ft. (5 m)	790472

Float switch weights



1086/4

Ceramic weight

1019244

Note: Not for use in fluoride applications (e.g. hydrofluosilicic acid), use PVC weight.

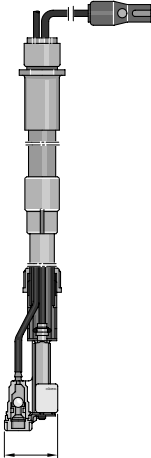
# Low Flow Pump Accessories:

## Suction Assemblies for D series pumps

Description	Part No.
Suction assemblies, single-stage	

Including foot valve, rigid supporting pipe, suction line and float switch with 6 ft. (2 m) cable. For use in drums or tanks with mixers, which could tangle flexible suction tubing or float switch cables.

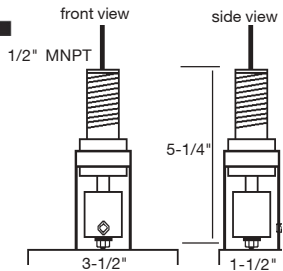
- Single-stage: with *flat connector* for D series pumps.
- PP version: PP float switch, PE suction line
- PVC version: PVC float switch, PE suction line

	Adjustable PP suction assembly, with bulkhead fitting for 1" opening and single-stage float switch for tanks	
	With PP foot valve, PE suction hose, PP supporting pipe and union. PP single-stage float switch with flat connector	
	Length-adjustable	
	Size II 26" to 41" (660 mm to 1040 mm) for 26 - 220 gal. (140 - 830 L) tank	
	Requires 1.0" hole in top of tank for bulkhead fitting	
	PP version	
2798/F	Suction line	
	1/4" x 3/16"	790356
	1/2" x 3/8"	790358
	PVC version	
	1/4" x 3/16"	790350
	1/2" x 3/8"	801818

# ProMinent® Low Flow Pump Accessories: gamma Diaphragm-failure Detector, Signal Horn

Description	Part No.
-------------	----------

## Diaphragm-failure detector



To trip an alarm and/or switch the metering pump off in case of diaphragm failure. In a failure, fluid drains out a weep hole in the backplate, through a tube to the detector column. The float switch in the column trips with 10 mL. of fluid. Comprising of a float switch PVC/PE, clear PVC column, tube connectors and connecting tube. Switch closure, max. contact rating 60 VAC, 300 mA, 5 W.

1/2" MNPT conduit connection. Shipped with loose ends on cable.

N/O  
N/C

7803640  
7803650

For processing the alarm signal from the level switch we recommend the relay combination Part No. 914769.5 with wall-mounted plastic housing and 2 change-over relays. Or, the signal could actuate the remote pause feature on the gamma/a & b pumps or could stop any gamma pump if plugged into the float switch port. Connections available upon request.

## Signal horn and strobe light



### Signal Horn

115 V, 60 Hz, 95 dB, NEMA 4X (e.g. in conjunction with fault annunciating relay or relay combination)

7705004



### Amber signal strobe light

115 V, 60 Hz, NEMA 4X (e.g. for use in conjunction with fault annunciating relay or relay combination)

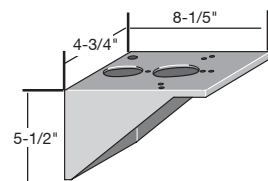
7914785

# Low Flow Pump Accessories: Wall Brackets, Universal Switchover Box

Description

Part No.

## Wall mounting bracket for metering pumps



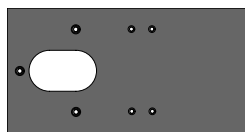
pk\_1\_092

Made of fiberglass-reinforced PPE, with wall-plugs and screws, accepting a gamma, beta, Pneumados, alpha or the D series metering pump. Pumps can be mounted either parallel or perpendicular to the wall, except the mikro g/5 and gamma/5 pumps, which can only be mounted parallel to the wall.

PPE wall mounting bracket

810164

## Adapter plate



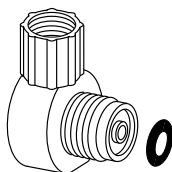
pk\_1\_121

With fixtures, for vertical wall-mounting of beta or gamma pumps with auto-degassing liquid ends. Used with PPE wall console.

PP adapter plate

1003030

## Right-angled PVC threaded connector



Connector for the beta and gamma/L auto-degassing liquid ends required when mounting multifunction valves; optionally used to direct discharge flow upwards. Angle union 90°.

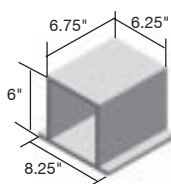
Type PCB (PVC/Viton®)

1003318

Type PCE (PVC/EPDM)

1003472

## Floor mounting bracket for metering pumps



Polypropylene floor mounting bracket accepts pumps parallel to the floor.

PP floor mounting bracket

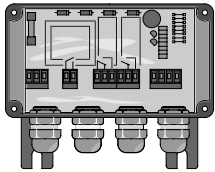
7740361

# ProMinent® Low Flow Pump Accessories: Relay Combination, Contact Repeater

Description

Part No.

## Switchgear



1491/4

### Relay combination

In wall-mounted plastic housing. To be used as a lack of chemical relay and/or a diaphragm-failure relay, or as a pulse repeater (e.g. to connect one water meter contact with two different receiving devices). With two single-pole double-throw relays, voltage-free, max. contact rating 250 V, 1 A. May also be used to start a light inductive load (e.g. transfer pump, using pump relay).

Function: Standard function when either contacts K1 or K2 are closed, both relays 1 and 2 pull in.

Power supply 115 V, 50-60 Hz

914769

Power supply 230 V, 50-60 Hz

914768

Options 1 to 6 with additional reed relay, contact rating 24 V = 50 mA, and 4-pole double-throw DIL switch.

818758

#### Option 1:

When contact K1 is closed - relay 1 drops out

When contact K2 is closed - relay 2 drops out

#### Option 2:

When contact K1 is closed - relay 1 pulls in

When contact K2 is closed - relay 2 pulls in

#### Option 3:

When contact K1 is closed - relay 1 pulls in

When contact K2 is closed - relays 1 and 2 pull in

#### Option 4:

When contact K1 is closed - relays 1 and 2 pull in

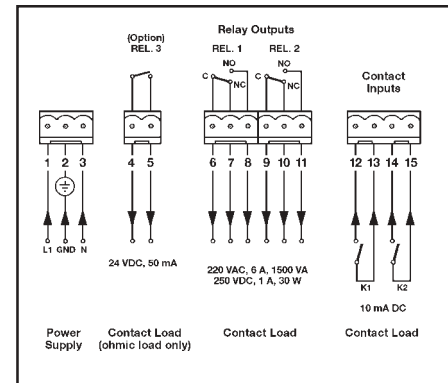
When contact K2 is closed - relay 2 pulls in

#### Option 5:

When contact K1 or K2 is closed - relay 3 pulls in

#### Option 6:

When contact K1 or K2 is open - relay 3 pulls in



Power cord, 6 ft. (2 m) 115 V plug

741203

Power cord, 6 ft. (2 m) 230 V plug (NEMA 6-15P configuration)

7724015

### Contact repeater, 4-fold

Contact repeater with 4 reed relays to externally pace up to 4 metering pumps or totalizing counters off one input (e.g. water meter).

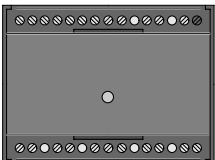
Plastic snap-in housing for wall mounting (no enclosure).

Power supply 115 V, 50-60 Hz

Contact rating max. 250 V, 2 A

Dimensions 4-2/5" x 3" x 4-1/2" (112 mm x 76 mm x 114 mm) w x h x d

914753



2139/4

# Low Flow Pump Accessories: Pulse-type Water Meters – GPH scale

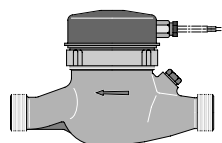
Description

Part No.

## Pulse-type water meters for potable water

### Contact water meter – US GPH

max. operation temperature 104°F.

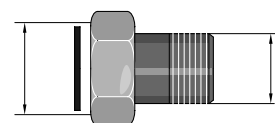


1137/4

Pipe Coupl. Size in.	Min. Flow Rate in			Max. Flow Rate in			Press. Loss Max. Flow Rate		
	GPM	GPH	(L/h)	GPM	GPH	(L/h)	psig	(bar)	
3/4"	0.5	30	(113)	20	1200	(4542)	14.5	(1)	7304501
1"	0.6	36	(136)	50	3000	(11356)	14.5	(1)	7304517
1-1/2"	1.0	60	(227)	100	6000	(22712)	14.5	(1)	7304503
2"	2.0	120	(454)	130	7800	(29526)	14.5	(1)	7304504

Note: Price includes two screw fittings (MNPT x FNPT).

\*Please specify pulse rate desired



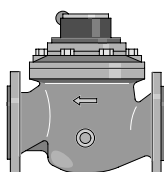
1139/4

### Screw fittings in brass with packing for water meters (price per unit)

	Length	
3/4"	(1- 5/8") 41mm	7359021
1"	(2- 5/8") 67 mm	7359022
1-1/2"	(2- 7/8") 73 mm	7359023
2"	(2- 3/8") 60 mm	7359024

### Contact water meter – US GPH

max. operation temperature 104°F.



1138/4

Min. Flow Rate in			Max. Thru-Put		Pipe Coupl. Size	Install. Length	Standard Gallon/ Pulse	Weight	
GPM	GPH	(L/h)	GPM	GPH	in.	in.		lb. (kg)	
2.6	156	(590)	650	39000	3" ASA	11.8" (300 mm)	10	53 (24)	7304512
4	240	(908)	1100	66000	4" ASA	14.2" (360 mm)	10	62 (28)	7304513
11	660	(2498)	1875	112500	6" ASA	19.7" (500 mm)	25	176 (80)	7304514

### Pulse rates

		Cold	Hot
3/4"	P/G	1, 2, 4, 10, 20, 40	1, 2, 4, 8
1"	P/G	1, 2, 4, 10, 20, 40	1, 2, 4, 8
1-1/2"	P/G	1, 2, 4, 10, 20, 40	1, 2
2"	P/G	1, 2, 4, 10, 20, 40	1, 2
3"	G/P	100, 1,000	
4"	G/P	100, 1,000	
6"	G/P	1,000, 10,000	

Note: P/G = pulses per gallon  
G/P = gallons per pulse

# ProMinent® Low Flow Pump Accessories: Pulse-type Water Meters – GPH Scale

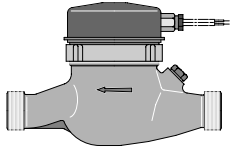
Description

Part No.

Contact water meter – US GPH

Warm water up to 248°F

ND 16, design M-T-H-KGm, as above.



1137/4

Pipe Coupl. Size in.	Min. Flow Rate in			Max. Flow Rate in			Press. Loss Max. Flow Rate		
	GPM	GPH	(L/h)	GPM	GPH	(L/h)	psig	(bar)	
3/4"	0.5	30	(113)	20	1200	(4542)	14.5	(1)	7304480
1"	0.6	36	(136)	50	3000	(11356)	14.5	(1)	7304483
1-1/2"	1.0	60	(227)	100	6000	(22712)	14.5	(1)	7304484

Note: Price includes two screw fittings.

\*Please specify pulse per gallon rate desired.

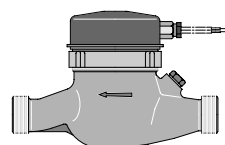


# Low Flow Pump Accessories:

## Pulse-type Water Meters – LPH Scale

Description

Part No.



1137/4

### Pulse-type water meters, 3/4"...2" NPT fittings – litre readout

Max. working temperature 40°C, max. contact load 100 mA, 24 V

Max. flow rate =  $Q_{max}$ , nominal flow rate =  $Q_n$

$Q_{max} = Q_n$ NG = Nominal size (m3/h)	Connections in.	**Overall length w/o unions mm	Standard K factor	
5	3/4"	190 mm (7.5")	1	7304434
10	1"	260 mm (10.2")	1.5	7304435
20	1-1/2"	300 mm (11.8")	2	7304436
30	2"	270 mm (10.6")	4	7304438

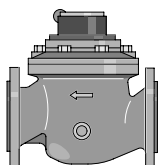
Note: Price includes two screw fittings.

\*\* Overall length with unions please add above length+ 2x union length

\*Please specify pulse per litre rate desired.

### Other pulse rates available (no. of litres per pulse out)

.05	1	5	40	300
.1	1.5	10	50	400
.25	2	15	100	500
.3	2.5	20	150	1000
.4	3	25	200	1500
.5	4	30	250	2000



1138/4

### Pulse-type water meters, 3"...6" flanged

Max. working temperature 40°C, max. contact load 100 mA, 24 V

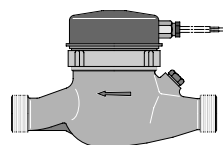
Max. flow rate =  $Q_{max}$ , nominal flow rate =  $Q_n$

$Q_{max}/Q_n$ (m3/h)	Connections in.	Overall length mm	Pulse spacing	
110/55	3" ASA	300 mm (11.8")	Please call	304439
180/90	4" ASA	360 mm (14.2")		304442
350/175	6" ASA	500 mm (19.7")		304443

# ProMinent® Low Flow Pump Accessories: Pulse-type Water Meters – LPH Scale

Description

Part No.



1137/4

Pulse-type water meters, for hot water up to 120°C, 3/4"...2" NPT fittings – litre readout

Max. contact load 100 mA, 24 V

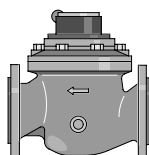
Max. flow rate =  $Q_{max}$ , nominal flow rate =  $Q_n$

$Q_{max}/Q_n$ (m3/h)	Connections in.	Overall length w/o unions mm	Pulse spacing	
5/2.5	3/4"	190 mm (7.5")	Please call	304478
10/6	1"	260 mm (10.2")		304482
20/10	1-1/2"	300 mm (11.8")		304484
30/15	2"	270 mm (10.6")		304487

Note: Price includes two screw fittings.

\*\* Overall length with unions please add above length+ 2x union length

\*Please specify pulse per litre rate desired.



1138/4

Pulse-type water meters, for hot water up to 120°C, 3"...6" flanged

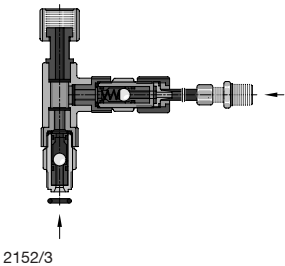
as above.

$Q_{max}/Q_n$ (m3/h)	Connections in.	Overall length mm	Pulse spacing	
100/40	3" ASA	300 mm (11.8")	Please call	304490
150/60	4" ASA	360 mm (14.2")		304495
300/150	6" ASA	500 mm (19.7")		304498

# Low Flow Pump Accessories: Flushing Devices

Description	Part No.
Flushing devices	

Fig. 1

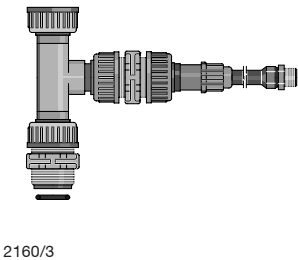


To flush and clean liquid end, discharge line and injection valve, and to protect against deposits and crystallization. Manual or timer-controlled device. To be fitted to the suction connector of the metering pump (also suitable for retrofitting). The automatic version comprises flushing device, timer, solenoid valve and the required connectors.

### Flushing device, manual, PP4/PP5 version

For tubing connectors 1/4" x 3/16" and 1/2" x 3/8" (Fig. 1)	809909
For 1/2" MNPT connection for g/4 PP4/5, g/5 0423 and 0230 (Fig. 2)	7809917
For 1/2" MNPT connection for g/5 PP4/5 series	7809919

Fig. 2



### Flushing device, manual, PVC version

For tubing connectors 1/4" x 3/16" and 1/2" x 3/8" (Fig. 1)	809925
For 1/2" MNPT connection for g/5 0423 and 0230 (Fig. 2)	7809926
Note: Call for info on automatic devices.	

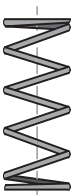
# ProMinent® Low Flow Pump Accessories: Special Valve Springs and Valve Balls

Description

Part No.

## Valve springs

Fig. 1



pk\_1\_103

You may spring-load the valve balls in the pump suction and/or discharge valves to improve the valve function and increase the repeatability. Particularly recommended when pumping viscous fluids of more than 50 cPs (mPa).

Discharge valve springs may be used instead of an external backpressure valve to improve repeatability when discharging to an open tank. Suction valve springs in excess of 1 psig (0.05 bar) make priming difficult; and in excess of 7 psig (0.5 bar) makes pumping impossible, except where suction pressure exceeds spring pressure.

Fig. 2



pk\_1\_104

Not recommended for antisiphon protection – use a diaphragm-type backpressure valve for antisiphon protection.

There is no labor charge for installing the valve springs into the pump valves or injection valves.

	Pressure Rating psig (bar)	Material of Construction	Part No.
Suction and Discharge Valves Model #'s: G/b 1000,1601, 1201, 0803,1002; BT/4 & G/L 1000, 1601, 1602, 1005, 1605 (Fig. 1)	1 (0.05) 14 (1.0)	316 SS 316 SS	469406 469401
Suction and Discharge Valves, and Injection Valves Model #'s: G/b 0308, 0215, 0212, all g/5's (except 0423, 0230 and PP4/PP5), plus Injection Valves: Models 1000, 1601, 1201, 0803, and 1002 BT/4 & G/L 0708, 0413, 0220, 1008, 0713, 0420, 0232 (Fig. 2)	1 (0.05) 7 (0.5) 7 (0.5) 14 (1.0) 14 (1.0) 29 (2.0)	Hastelloy C Hastelloy C PVDF-coated Hastelloy C Hastelloy C PVDF-coated Hastelloy C Hastelloy C	469403 469404 818590 469413 818536 469410
Suction and Discharge Valves Model #'s: G/b 1002 PP4/PP5, 0423, 0230, plus Injection Valves: Models 0423, 0230	1 (0.05) 1 (0.05) 7 (0.5) 7 (0.5) 14 (1.0)	Hastelloy C 302 SS Hastelloy C PVDF-coated Hastelloy C Hastelloy C	469114 7469401 469115 818515 469119
Suction and Discharge Valves: Model #'s: G/b 1006, 1310, 0813 PP4/PP5 only, plus Injection Valves: Models 1006, 1310 and 0813 PP4/PP5	1 (0.05) 1 (0.05) 7 (0.5) 7 (0.5) 14 (1.0)	Hastelloy C 302 SS Hastelloy C PVDF-coated Hastelloy C Hastelloy C	469107 7469404 469108 818516 469116
Discharge Valves Model #'s (w/ auto-degassing): G/b NS and ES 1601/02, 1201/03, 0803/06, 1002/03 BT/4 & G/L 1601,1602, 1005, and 1605	21 (1.5)	Hastelloy C	1004327

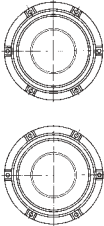
\*Note: Valve springs for NS/ES liquid ends can only be used with the discharge valve.

## Valve Balls

	Material	Dimensions in. (mm)	Part No.
For use with 4.8 mm valve	PTFE	1/4" (4.8)	7404205
	SS	1/4" (4.8)	7404233
	Ceramic	1/4" (4.8)	404201
For use with 9.5 mm valve only	PTFE	1/2" (9.5)	7404206
	SS	1/2" (9.5)	7404240
For use with 9.2 mm (standard) valve	Ceramic	1/2" (9.2)	404281

# Low Flow Pump Accessories: Pump Diaphragms and Fluoride Saturator

Description
Gamma / L pump diaphragm

	ProMinent pump diaphragm made from a steel core with Viton® facing. Particularly suited for media tending to crystalize. Maximum working pressure 87 psig (6 bar).		
	Type, for pump type:	EPDM Part No.	Viton® b Part No.
1047_4_1	1000	1001444	1001458
	1601	1001445	1001459
	1602	1001446	1001460
	1005	1001447	1001462
	0708	1001448	1001463
	0413	1001449	1001464
	0220	1001450	1001465
	0232	1001451	1001446

Fluoride Saturator	
Automatic, up-flow type saturator for use with polyethylene, 66 gallon tank.	7740830