Operating Instructions ProMinent[®] Metering Monitor



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Read the operating instructions before installation and use. The warranty does not cover damages due to faulty operation. *Keep for reference and replacement information.*

ProMinent Fluid Controls, Inc. 136 Industry Drive, Pittsburgh, PA 15275-1014 *e-mail: sales@prominent.cc* Phone: 412/787-2484 Telefax: 412/787-0704

BA MM 01 12/00 NA Or

Order no. 7750082

ProMinent Fluid Controls Ltd. 490 Southgate Drive, Guelph Ont. N1G 4P5 *e-mail: prominent.ca* Phone: 519/836-5692 Telefax: 519/836-5226

ent	ProMinent [®] Metering Monitor
Ľ	SAFETY INSTRUCTIONS
	I safety considerations Wear protective clothing and glasses when working with or near chemicals. Refer to the MSDS for all chemicals being used. Use only ProMinent [®] parts, use of other parts may result in damage to equipment or injury. Flush all components that are in contact with chemicals prior to

Secure all chemicals and equipment making them inaccessible to children and pets.

Dispose of all chemicals and waste according to all local, state and federal regulations.

Safety operating procedures

Stop the flow of chemical through the system prior to working on the pump.

Do not exceed the maximum operating pressure.

UNPACKING

CHECK ALL EQUIPMENT FOR DAMAGE AND FOR COM-PLETENESS AGAINST THE ORDER. REPORT INCOR-RECT ORDERS OR DAMAGE TO THE SELLER IMMEDI-ATELY.

INTRODUCTION

The ProMinent[®] metering monitor is for monitoring the flow of gamma, sigma, gamma L and Vario control version metering pumps. The metering monitor should only be used with water-like fluids.

The metering monitor is used to monitor the volume per pump stroke by using a plastic encapsulated metal float that is detected by the adjustable proximity sensor that is on the outside of the pipe. A red LED flashes with each monitored stroke that is on the outside of the pipe. If there is no flow monitored for eight strokes, the metering pump is shut down and an alarm signal can be sent via an optional fault relay on the pump. The metering monitor is assembled directly onto the discharge valve of the pump and the cable plugs into the 4-pole round socket on the pump.

INSTALLATION

The metering monitor **MUST** be installed vertically.

Connection M 20 X 1.5

The metering monitor is normally assembled directly onto the discharge valve of the metering pump.

Shake the metering monitor to make sure the float is moving freely. (You should hear float moving.)

Blow air into the monitor to release the float if float is not moving.

Unscrew the connection from the discharge valve.

Mount the metering monitor on the discharge valve and screw into place.

Plug the plug into the metering monitor socket.



Connection R 5/8"

An adapter set is necessary to connect the metering monitor with an R 5/8" internal thread

Adapter sets

Pump connection M20 x 1.5 (6-12mm) R5/8" (DN 10) Adapter for PP 817154 808280 Adapter for PVC 817054 805278

Models 0230 and 0423 should be mounted on a bypass with the appropriate adapters as shown below.



Bypass Assemblies with Metering Monitor

 PVC, Viton®, 1/2" FNPT x 1/2" FNPT
 7358655

 PVC, Viton®, 3/4" FNPT x 3/4" FNPT
 7358656

 PVC, Viton®, 1" FNPT x 1" FNPT
 7358670

 PP, EPDM, (PVDF bypass), 1/2" FNPT x 1/2" FNPT
 7740709

 PP, EPDM, (PVDF bypass), 3/4" FNPT x 3/4" FNPT
 7740710

 PP, EPDM, (PVDF bypass), 1" FNPT x 1" FNPT
 7740711



Start-up



DESCRIPTION OF CONTROLS AND OPERATION

With each pump stroke of correct volume the float enters into the sensing area of the proximity sensor which is located on the outside of the pipe. The electronics in the metering monitor sense this and send a pulse to the pump to verify the correct stroke volume. If the stroke volume drops by 20-30% of the set volume then the float does not

enter the sensing area and no pulse is sent back to the pump. If the pump strokes 8 times (gamma L pump can be adjusted to 125 strokes) and does not receive a signal from the metering monitor then the pump is stopped and the red LED is illuminated on the pump face. If the pump has the fault annunciating relay option then the relay would change state.

The metering monitor can normally function from 30 - 100% stroke lengths except in the case of the gamma -1601, 1201, 1002, and gamma 1602 liquid ends. The gamma 1601 liquid end must have a stroke length of at least 50% and a pressure of 232 psig (16 bar) and the others must have a stroke length of at least 45% at their maximum operating pressures. The height of the ring initiator can be adjusted to adapt to different stroke volumes.

Viscous Fluids

Normal use for the flow monitor is for fluids with a viscosity similar to water. For applications where the fluid has higher viscosity then the sensor can be set to give a repeating pulse output as long as the float is in the range of the proximity sensor. To do this the jumper X1 should be removed from the PC board (see diagram) inside the metering monitor. Applications for this functions are limited to where the pump stoking frequency is fairly constant because if the stroking rate changes significantly the location of the float will change and give an error.

Deactivate the metering monitor on the pump Start the pump

Apply the pressure to the discharge line

Set the stroking rate and length on the pump

Bring the sensor into the uppermost position until it stops, if there is no signal; slowly push the sensor down until the red LED illuminates.

Press the sensor down 1mm more.

Reduce the stroke length to test.

At approximately 20-25% at maximum flow rate and 5-20% at minimum flow the red LED should stop blinking.

Reset the stroke length to the desired stroke length, the LED should blink again.

Reactivate the metering monitor on the pump.

The LED may illuminate more than once for each stroke; this will not cause a problem.

HELPFUL TIPS

1L = 0.264 gallon 1000 mL = 1 L 1 bar = 14.5 psig

MAINTENANCE

Routinely observe the metering monitor to be sure that it is operating correctly.

Opening Metering Monitor Unscrew the inserts by hand. (If it cannot be opened by hand the metering monitor can be opened witha wrench: size 13 mm and 17 mm).

SPARE PARTS

Metering monitor for PP/NP/TT version pumps:

Flow Control type I PP, EPDM, M20 x 1.5 792076 Flow Control type II PP, EPDM, M20 x 1.5 792077 Flow Control type III PP, EPDM, M20 x 1.5 792078 Flow Control type I PVC, Viton[®], M20 x 1.5 792073 Flow Control type II PVC, Viton[®], M20 x 1.5 792074 Flow Control type III PVC, Viton[®], M20 x 1.5 792075 Type I = g/4 1601, 1602, 1201, 1203, 0803, 0806, 1002, 1003; g/5 1602; g/L 1000, 1601, 1602, 1005, 1605 Type II = g/4 0308, 0313; g/5 1605, 1006, 1310; g/L 0708, 0413, 1008,0713 Type III = g/4 0215, 0223; g/5 0613, 0813, 0417, 0423, 0230; g/ L 0220, 0420, 0232 Note: On models 0220, 0230, 0423 and for Sigma pumps, monitor should be mounted on a bypass (as shown below), which will require adapters listed below.

Bypass Assemblies with Metering monitor for version 0423/ 0230: Bypass Assemblies with Metering Monitor

PVC, Viton [®] , 1/2" FNPT x 1/2" FNPT	735865	55
PVC, Viton [®] , 3/4" FNPT x 3/4" FNPT	735865	56
PVC, Viton [®] , 1" FNPT x 1" FNPT		7358670
PP, EPDM, (PVDF bypass), 1/2" FNPT x 1/2"	FNPT	7740709
PP, EPDM, (PVDF bypass), 3/4" FNPT x 3/4"	FNPT	7740710
PP, EPDM, (PVDF bypass), 1" FNPT x 1" F	NPT	7740711

Contr	rol Valve	or			
	Max. flow t	hrough bypass: 2.5 ml/stroke			
	(For use like) fluid	with low-viscosity (water- ls only).			
	Flow monitor adjustment module s:				
	for PN 792073	792067			
	for PN 792074	792068			
	for PN 792075	792069			
	for PN 792076	792070			
	for PN 792077	792071			
	for PN 792078	792072			
SPECIFICATIONS					
Materials of construction:					
	PVC/Viton or PP/EPDM				
Dimensions:					
	Installed length R 5/8"approximately 3.3" (84mm) Installed length M 20 x 1.5 approximately 3.7" (94mm) Approximately 0.5 lb. (200 g)				
Weight:					
Protection class:					
	NEMA 4X (IP 65)				
Electrical Data:					
	Supply voltage: Maximum Power drain: Duration of periods with out +/- 150 ms (X2 Jumper rem	5V +/- 5% 10 mA smart switching activated: 300 ms loved			
Tomporatura		00 IIIS +/- 30 IIIS			
	Storage temperature:	14 E to 122 E (-10 C to 50 C)			
	Operating temperature:	14 F to 113 F (-10 C to 45 C)			
	max. operating pressure:	14 F to 95F (-10 C to 35 C)			

REPAIR SERVICE

Repairs must be done by ProMinent[®] Fluid Controls. Call your distributor or ProMinent[®] at (412) 787-2484 in the USA or (519) 836-5692 in Canada for a return goods authorization. **DO NOT** return any goods without authorization. All returned items must be free of hazardous chemicals and clean when returned.

TROUBLESHOOTING

Check for clogs. Make sure connections are tight Ensure flowmonitor is installed vertically