



INSTALLATION & MAINTENANCE INSTRUCTIONS

IM-5-020-US

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The Pivotrol Pump[®] patented Digital Cycle Counter

Description

The monitoring of condensate return pump operation is an important activity for plant operations and maintenance personnel. The use of pressure powered pumps equipped with a digital cycle counter provides the ability to monitor pump operation, schedule preventative maintenance and estimate the amount of condensate recovered.

The Digital Cycle Counter has been designed to function with the Spirax Sarco Pivotrol Pump.

The Digital Cycle Counter is designed to monitor and count the number of cycles the Pivotrol Pump has performed since installation and commissioning.

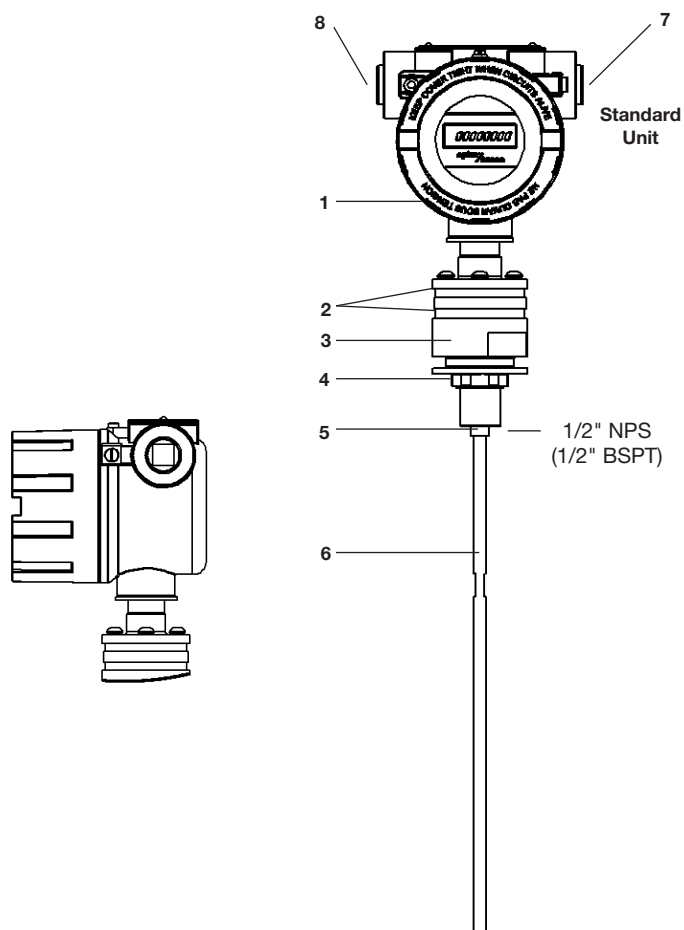
The Digital Cycle Counter may be used and will operate reliably under all pressure conditions, including vacuum, and will function efficiently in open (vented) and some closed loop condensate systems.

Construction Materials

No.	Part	Material
1	Enclosure	Aluminum
2	Seal	
3	Housing	Stainless Steel
4	Sealing Nut	Stainless Steel and Teflon [®]
5	Seal	
6	Probe	Stainless Steel
7	Plug Receptacle	Stainless Steel
8	Plug	Stainless Steel

Pump Capacities

Model	Approximate Gallons/Cycle
PTC	7.1 / 26.9L
PTF	8.4 / 31.8L
PTF-HP	16 / 60.6L
PTF4	26.9 / 102L



Installation and Replacement

Important Safety Note

Before any installation or maintenance procedure, ensure that all steam or condensate lines are isolated. Ensure any residual internal pressure in the pump or connecting lines is carefully relieved. Also ensure any hot parts have cooled to prevent risk of injury from burns. Always wear appropriate safety clothing before carrying out any installation or maintenance work. Always handle with care.

1. Remove plug from Digital Cycle Counter connection on Pivotrol® pump cover if no counter is present. If making a replacement, loosen locking nut and unscrew counter from cover.
2. Insert Digital Cycle Counter into pump cover. The sensor should be fitted via the pump cover through the screwed connection where the plug has been removed in step 1.

Ensure the sensor, when fitted, will not clash with any part of the pump float and mechanism during normal operation of the pump. The digital cycle counter screw thread is a straight 1/2" NPS thread into the pump cover.
3. Screw the Digital Cycle Counter until hand tight.
4. Adjust Digital Cycle Counter until the front face is in desired orientation.
5. Screw sealing nut until wrench tight. Note: The sealing nut contains Teflon®.

This product is not intended to be submerged. Safe operation of this product can be guaranteed only if it is properly installed, commissioned, used and maintained by qualified personnel in compliance with the operating instructions. General installation and safety instructions for pipeline and plant construction, as well as the proper use of tools and safety equipment, must also be complied with.

Enclosure Approvals

For FM approved enclosure:

CL I.

GR. A,B,C,D:

CL. II. GR. E,F,G;

CL. III.;

TYPE 4X

For CSA Class I Group A, conduit seal is required within 18 inches.

For FM approved enclosure:

CL. I, ZONE 1, AEx d IIC, IP66

For IECEx:

IECEx FMG 06.0003U, Ex d II C, IP68

For Ex:

II 2 GD Ex d II C; IP68; FTZU 04 ATEX 0265 U AMBIENT

TEMP.: - 40°C TO + 85°C (- 40°F TO 185°F)

Regulatory Compliance Options

This pump Digital Cycle Counter is suitable for use in applications where the Pivotrol range of fabricated body, PTF, pumps is recommended and must be used in accordance with the relevant Installation and Maintenance Instructions for the appropriate Pivotrol range of fabricated body, PTF, pumps.

Orientation

The Digital Cycle Counter orientation may be changed from its original position in the Pivotrol cover and mechanism assembly. **Caution: Before any maintenance is performed, ensure that all steam, condensate, air or gas has been closed and internal pressure is relieved to prevent injury.**

1. Unscrew sealing nut.
2. Twist cycle counter into desired position, ensuring cable remains in place.
3. Tighten sealing nut.

Removal

Removal of the Digital Cycle Counter is the reverse of installation as described in this IMI.

Maintenance

The Digital Cycle Counter is designed so that no maintenance is required during this products expected service life. The battery fitted is suitable for up to 10 years of uninterrupted operation. Plugs (7) & (8) should not be unscrewed, and will void warranty.

Fault Finding

Symptom	Cause	Cure
1. No display on counter	10 year battery has expired	Replace complete counter assembly
2. Ambient temperature has exceeded 122°F.	Local environment - too hot	Replace complete counter assembly
3. Counter stops counting	Sensor covered with dirt/coating	Remove counter/pump cover and clean sensor with cloth. Replace counter/pump cover.

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