

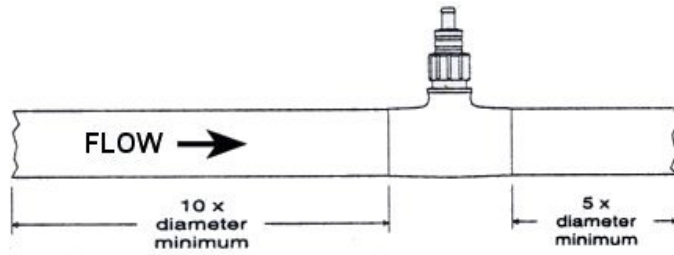
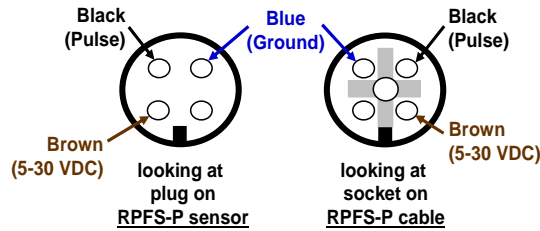
# RPFS – Rota Pulse Insertion Paddlewheel Flowmeter



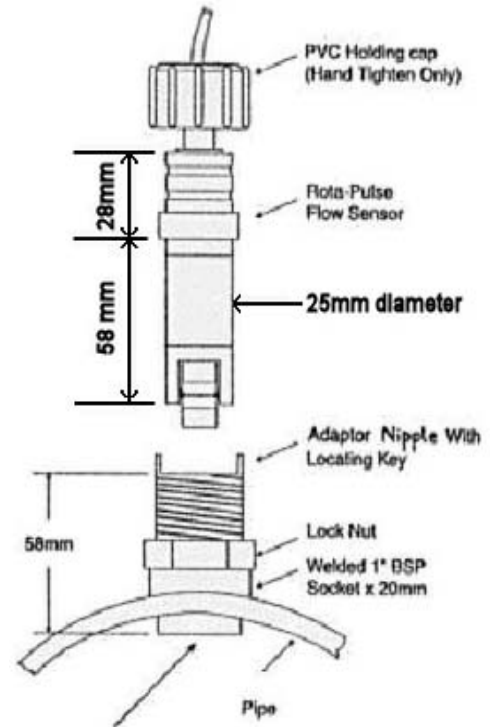
Since 1984

RPFS-P to 50C

RPFS-H to 120C



## Installing Into Existing Pipeline



Intrusion into pipe should be min. 1cm. **Fig. 1**



Large range of pipe adaptor fittings



**For Fresh, Mild Recycle and Hot Water applications**

**ManuFlo** <sup>®</sup>TM

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# Trouble Shooting Guide for RPFS Paddlewheel Flowmeter

## WITH PADDLEWHEEL:

PROBLEM	POSSIBLE CAUSE	SUGGESTED SOLUTION
No power to batch controller or displays not on	<ul style="list-style-type: none"> <li>Blown fuse or holder not tightened</li> <li>+12vdc and O.V. shorted</li> <li>No main power supply</li> </ul>	<ul style="list-style-type: none"> <li>Check fuse, tighten fuse holder (at rear of controller)</li> <li>Check pulse cable from DCD to RPFS meter</li> <li>Check power supply, check wiring</li> </ul>
Pulse fails at start of batch (1.5 seconds after)	<ul style="list-style-type: none"> <li>Check calibration (K-factor) setting</li> <li>Seized paddlewheel</li> <li>Solenoid valve not opening</li> <li>Restriction or service gate valve closed</li> <li>Empty water tank</li> <li>Pump not turning</li> <li>Pump foot valve failed</li> <li>Signal cable cut, bad joint at JB, oxidised cable- leakage</li> <li>Pump taking too long to prime</li> </ul>	<ul style="list-style-type: none"> <li>•000 calibration -pulsefails. Make sure a calibration value is set, three switch shafts - H,T,U- located at rear top left of controller (or reprogram ME3000)</li> <li>Increase initial start T1 timing capacitor ME995 (or reprogram ME3000)</li> <li>• <b>Remove RPFS, inspect; clean with acid, check axle/bushes make sure paddlewheel spins freely</b></li> <li>Check and service solenoid valve. Use voltmeter to check that output control voltage is 240vac(N &amp; C, pins 7&amp;9) when pushing start button.</li> <li>Open gate valve, check water level, check and service pump</li> <li>Empty pipe, install non-return valve, or service valve</li> <li>• <b>Check signal cable for 12VDC at junction box near RPFS meter. If no power, cable cut or oxidised- repair/replace. Unwire RPFS, take upto batchroom, remove extension cable and hardwire RPFS direct into the Batch controller (P,+,-), spin wheel should count on display, if so, then extension cable or connections at JB faulty, if no counts &amp; 12vdc present then RPFS faulty</b></li> <li>• <b>Check RPFS slots are in keyway position, lock cap secured</b></li> <li>• <b>Paddlewheel not inserted into flow stream</b></li> <li>• <b>File out pipe adapter fitting, or file inside of sensor jaws, to ensure that paddlewheel has left-right play on axle.</b></li> <li>• <b>Replace with new RPFS</b></li> </ul>
Pulse fails during batch cycle	<ul style="list-style-type: none"> <li>Flowrate too slow</li> <li>Pipe buildup restricting flow</li> <li>Paddlewheel problem</li> </ul>	<ul style="list-style-type: none"> <li>Open restriction gate valve, or increase flowrate pulse fail timing capacitor (see service guide). (or reprogram ME3000). Pipe diameter too big for flow</li> <li>Cleanout pipelines, calcium buildup on pipewalls -recycle systems</li> <li>Calcium buildup on wheel, soak in diluted acid. Worn bushes. Replace wheel.</li> </ul>
Display digits count slowly after batch complete	<ul style="list-style-type: none"> <li>Check valve faulty (jammed open)</li> <li>Solenoid valve not properly closed</li> </ul>	<ul style="list-style-type: none"> <li>Clean, service or replace</li> <li>Damaged seal, faulty solenoid</li> </ul>
Batch target display counter counts past batch selection	<ul style="list-style-type: none"> <li>Flowrate too fast excessive overflow</li> </ul>	<ul style="list-style-type: none"> <li>Turn down gate valve to restrict flowrate or set preact (overflow deduct) function to compensate</li> <li>Reduce delivery pipe diameter</li> </ul>
Intermittant overflow past batch select or water does not stop	<ul style="list-style-type: none"> <li>Faulty solenoid valve not closing, properly, insufficient air pressure</li> </ul>	<ul style="list-style-type: none"> <li>Service solenoid valve, check air pressure</li> </ul>

# Trouble Shooting Guide for RPFS Paddlewheel Flowmeter

## WITH PADDLEWHEEL:

PROBLEM	POSSIBLE CAUSE	SUGGESTED SOLUTION
Wet loads, more water collected than indicated	<ul style="list-style-type: none"> <li>Requires recalibration</li> <li>Paddlewheel bushes worn</li> <li>Wheel dirty, flowing overrange</li> <li>The insertion end of sensor is warped, squeezing its jaws together and seizing the paddlewheel.</li> </ul>	<ul style="list-style-type: none"> <li>Recalibrate according to datasheet</li> <li>Check paddlewheel</li> <li>Replace with new paddlewheel, recalibrate</li> <li>File out pipe adapter fitting, or file inside of sensor jaws, to ensure that paddlewheel has left-right play on axle.</li> </ul>
Dry loads, less water collected than indicated	<ul style="list-style-type: none"> <li>Requires recalibration test</li> </ul>	<ul style="list-style-type: none"> <li>Set new calibration figure, rear switches (See calibration guide for details -ME995-7 or ME3000 brochure)</li> </ul>
Controller starts counting when power switched on	<ul style="list-style-type: none"> <li>Active and contact power drive short circuited</li> </ul>	<ul style="list-style-type: none"> <li>Contacter fused due to excessive current draw from pump</li> <li>Relay fused due to excessive current draw on solenoid coil - install higher current rated contactor or install contactor</li> </ul>

- 1 Selector knob batch dials on ME995=7 ManuFlo Batch Controller may not be positioned correctly, and therefore not correspond to rotary switch numeric values.
- 2 To test, set all numbered dials to the zero position 0000. Then press the RESET toggle. The alarm should beep momentarily - this will indicate correct alignment of dials. If alarm does not beep, this indicates incorrect alignment of number dials. To rectify, remove the grey colored cap from dial, unscrew knob and pull knob off. Check that the exposed switch shaft's flat (black) side is horizontal. If not, then turn to horizontal and refit the numbered dial knob to the zero number setting. Also check the calibration and preact knob settings which are located at the rear of the controller
- 3 If the Batch Controller is found to be operating correctly, then proceed to checking and testing the flowmeter components.
- 4 If a another ManuFlo controller (any model) is available, simply unplug doubtful unit and plug in exchange unit. If the new unit is also not operating correctly, then the problem is isolated to the pulse flowmeter or wiring.
- 5 When checking flowmeter, reset the ManuFlo controller. Remove the flow sensor and spin the paddlewheel. Check that the ManuFlo controller has registered a number of counts on its display. If so, the electrical connections are probably OK. If no counts are registered, check that 12VDC is supplied to the flow sensor. If supplied, then switch off the ManuFlo controller and replace the RPFS flow sensor.
- 6 The flow sensor paddlewheel is jammed, damaged etc. (For servicing, refer to the flow sensor brochure).