**M190 Hot Water Meter**

**Operation** The M190 (MTH3) is a multijet (inferential) impeller meter. The impeller and magnet are the only moving parts in the measuring chamber. The impeller movement is transferred by a magnetic coupling to the hermetically sealed register, which can be turned to any position for easy reading.

**Installation** The meter must be installed in a clean pipeline, free from any foreign materials. The meter shall be installed with the direction of flow as indicated by the arrow cast in the meter case. The meter may be installed in horizontal or inclined lines up to 45º with the register facing upward.

**Application** The meter is for use with hot water up to 266ºF (130ºC) and working pressure to 230 psi (16 bar). Both pressure loss and accuracy tests are made before shipment. No adjustments need be made before installation.

**Construction** The meter consists of the main case, a strainer, a measuring chamber, an impeller, a removable top plate and O-ring with a magnetically driven register or register pulser assembly and securing ring. The main case is cast bronze with raised characters showing direction of flow. The securing ring secures the internal mechanism and top plate. The unit is sealed by the O-ring gasket. The measuring chamber is designed so the impeller/magnet transfers the flow to the register. The register is secured to the main case by the securing ring.
M190 Hot Water Meter

Pulser Wiring. The pulse element is a 4-watt rated reed switch which requires power from an external source. The unit is to be wired in series with no regard to polarity.

Note: Maximum voltage: 42 V DC/AC
Protective resistance: 18 OHM
Switching cycles: Approx. $10^7$
Switching current: 100mA

Register. The register is a dust and waterproof hermetically sealed unit (no condensation is caused by variation of temperature). The register can be turned to any position for easy reading.

Pulser. The IPG14 pulser consists of a molded insert with a clear housing to read the totalizing register. The pulse element is a dry contact reed switch rated at 4 watts, maximum voltage: 42V DC/AC, 18 OHM resistance. This unit requires power from an external source and normally is wired in series with no regard to polarity, approximately 5 feet of 2-wire unshielded cable exists in a sealed fitting.

Connections. The meter casing spuds have external straight threads conforming to NPSM. Bronze coupling nuts and tailpieces (NPT) are provided.

Dimensions and Net Weights

<table>
<thead>
<tr>
<th>Meter Size</th>
<th>A length</th>
<th>B height</th>
<th>C center h</th>
<th>F width</th>
<th>Weight (lbs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>½”</td>
<td>6.50</td>
<td>5.63</td>
<td>3.94</td>
<td>3.74</td>
<td>3.97</td>
</tr>
<tr>
<td>¾”</td>
<td>8.66</td>
<td>5.87</td>
<td>4.29</td>
<td>3.74</td>
<td>4.63</td>
</tr>
<tr>
<td>1”</td>
<td>10.25</td>
<td>6.26</td>
<td>4.57</td>
<td>3.94</td>
<td>5.95</td>
</tr>
<tr>
<td>1 ½”</td>
<td>11.82</td>
<td>7.28</td>
<td>5.47</td>
<td>5.35</td>
<td>11.69</td>
</tr>
</tbody>
</table>

Temperature/Pressure Rating

<table>
<thead>
<tr>
<th>Temp. ºF</th>
<th>32-150</th>
<th>200</th>
<th>230</th>
<th>250</th>
<th>266</th>
</tr>
</thead>
<tbody>
<tr>
<td>MIN PSIG</td>
<td>-</td>
<td>6</td>
<td>25</td>
<td>45</td>
<td>62</td>
</tr>
</tbody>
</table>

“MIN PSIG” is the minimum line pressure required to prevent flashing within the meter body.

US Gallon

<table>
<thead>
<tr>
<th>Register</th>
<th>Pulser</th>
</tr>
</thead>
</table>

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M190-xx-09