DESCRIPTION

MODEL ML23 MANHOLE FLANGE METERS are manufactured to the highest standards. Materials used on all meters and flow ranges for the low density meter meet or exceed AWWA standard C704-02. The bolt-on design permits use in a wide range of applications with up to 150 psi working pressure. The meter head conforms to ANSI class 125 drilling. It is necessary, upon ordering, to furnish the I.D. dimension of the pipe the meter is to be mounted on for calibration purposes.

INSTALLATION is made to any standard manhole saddle. The meter can be installed in any of the following positions: vertically, horizontally or inclined on suction or discharge lines. The meter must have a full flow of liquid for proper accuracy. Fully opened gate valves, fittings or other obstructions that tend to set up flow disturbances should be a minimum of ten pipe diameters upstream and two pipe diameters downstream from the meter. Installations with less than ten pipe diameters of straight pipe require straightening vanes. Meters with straightening vanes require at least five pipe diameters upstream and two pipe diameters downstream of the meter.

PROPELLER is magnetically coupled with the drive mechanism through the sealed oil filled gearbox. This completely eliminates water entering the meter assembly, as well as the need for any packing gland. The propeller is a conical shaped three bladed propeller, injection molded of thermoplastic material resistant to normal water corrosion and deformity due to high flow velocities.

BEARING is a water lubricated ceramic sleeve and spindle bearing system with a ceramic/stainless steel spindle. Dual ceramic thrust bearings, standard on all meters, handle flows in both forward and reverse directions. The bearing design promotes extended periods of maintenance free propeller operation. Bearings within the sealed meter mechanism are shielded precision stainless steel bearings and are factory lubricated for the life of the meter.

TOTALIZER is o-ring sealed and magnetically coupled with the drive mechanism, and features a six digit totalizer with a full 3” diameter, 100 division, center sweep dial that permits extremely accurate readings for timing purposes in determining flow rates. The totalizer dial can be furnished in gallons, cubic feet, acre feet, or any standard liquid measuring units. The bonnet, with padlock hasp, can be positioned in four different directions for the easiest possible reading when the meters are mounted in unusual positions.

CHANGE GEARS may be easily exchanged in the field when changing the dial, or when recalibrating for different pipe sizes. It is not necessary to remove pressure from the line for these changes.

O- RING SEALS are used at the meter head and all points where seals are required, making the meter mechanism completely immune to any of the corrosive effects of atmospheric moisture or the liquids measured by the meter assembly.

SPECIFICATIONS

ACURACY  Plus or minus 2% of actual flow within the range specified for each meter size.
PRESSURE RANGE  Up to 150 PSI maximum working pressure.
TEMPERATURE RANGE  140° F Maximum. Consult factory for special construction for higher temperatures.
MINIMUM FLOWS  As shown for each meter size and construction are required for accurate registration. See flow chart. NOTE: Minimum flow will be higher when intermittent flows are higher than shown on flow chart and/or when longer operating periods are required.
MAXIMUM FLOWS  As shown for each meter size and construction are rated for continuous operation. See flow chart.
INTERMITTENT FLOWS  As shown for each meter size are rated for 10% to 15% of the total time the meter is operating. Consult factory for High Velocity construction when intermittent flows are higher than shown on flow chart.
MATERIALS  Used in construction are chosen to minimize the corrosive effects of the liquids measured by the meter assembly.
MAGNETS - permanent ceramic type
INTERIOR BEARINGS - shielded stainless steel
PROPELLER BEARING - ceramic sleeve type
PROPELLER SPINDLE - ceramic sleeve/stainless steel
PROPELLER - injection molded thermoplastic
GEARBOX - cast bronze
SEPARATOR - stainless steel
SHAFTS - stainless steel
METER HEAD BOLTS - plated steel
METER HEAD - cast iron or fabricated steel, NSF approved, fusion epoxy coated.
OPTIONAL EQUIPMENT  Totalizer Extensions and a wide range of controls and instruments for indicating, totalizing and recording flow data for each meter. Special construction and materials are available upon request.
ORDERING INFO  Specified by the customer and includes:
Minimum & maximum flow ranges
Temperature of meter environment
Totalizer dial units
Type of materials and construction
Optional equipment desired
Pipe I.D.
**MODEL ML23**
150 psi **MANHOLE FLANGE METER**
SEALED METER MECHANISM - MAGNETIC DRIVE
SEALED TOTALIZER

**SIZES** 16” thru 120”

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**FLOW RANGES, GPM**

<table>
<thead>
<tr>
<th>METER &amp; PIPE SIZE</th>
<th>FLOW RANGES, GPM</th>
<th>DIMENSIONS</th>
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<tbody>
<tr>
<td></td>
<td>STANDARD CONSTRUCTION MIN. - MAX. - INT.</td>
<td>HIGH VELOCITY CONSTRUCTION MIN. - MAX.</td>
</tr>
<tr>
<td>16</td>
<td>400-5000-6000</td>
<td>1200-7500</td>
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<tr>
<td>18</td>
<td>700-6000-7500</td>
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<td>20</td>
<td>850-8000-9000</td>
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<tr>
<td>24</td>
<td>1000-10000-13500</td>
<td>3000-15000</td>
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<tr>
<td>30</td>
<td>1800-15000-21000</td>
<td>4000-25000</td>
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<tr>
<td>36</td>
<td>2000-20000-30000</td>
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<td><strong>-175000-250000</strong></td>
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<td><strong>-250000-300000</strong></td>
<td><strong>-250000-300000</strong></td>
</tr>
</tbody>
</table>

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**SPECIAL NOTES:**
1. Standard length. Special lengths available upon request
2. Meter head bolts must straddle centerline of pipe.
3. Standard head. Other manhole heads available upon request.

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*Standard construction will be supplied for all main line meters unless special flow range, materials, or construction are required.*

*Consult factory for flow range or special construction.*

† On High Velocity Meters the 18” propeller dimension is 11½”.