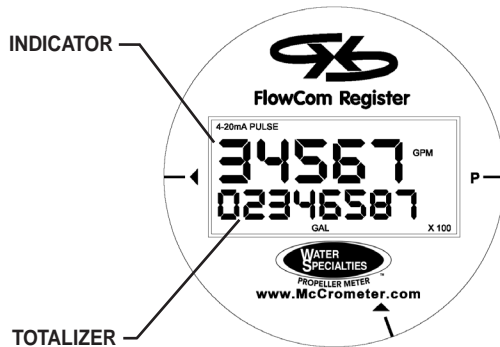




**MODEL ML24-D**  
150 psi MANHOLE FLANGE METER  
SOLID STATE ELECTRONIC PROPELLER METER  
DIGITAL INDICATOR - TOTALIZER  
SIZES 16" thru 120"



TYPICAL  
DIGITAL INDICATOR-TOTALIZER



#### DESCRIPTION

**MODEL ML24-D MANHOLE FLANGE METERS** are manufactured to the highest standards. Materials used on all meters and flow ranges for the low velocity 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: 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 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. An optional remote mounting kit with up to 100 feet of cable is available to locate the indicator-totalizer at remote locations.

**PROPELLER** is magnetically coupled with the electronic sensor through the sealed gearbox. This completely eliminates water entering the meter assembly, and eliminates all moving parts except for the propeller. 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** in 16" thru 54" propellers is a water lubricated ceramic sleeve and spindle bearing system with a ceramic/stainless steel spindle. Dual ceramic thrust bearings, standard on all 16" - 54" meters, handle flows in both forward and reverse directions. The 60" thru 120" propeller bearings are sealed stainless steel ball bearings that ride on a stainless steel spindle. 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.

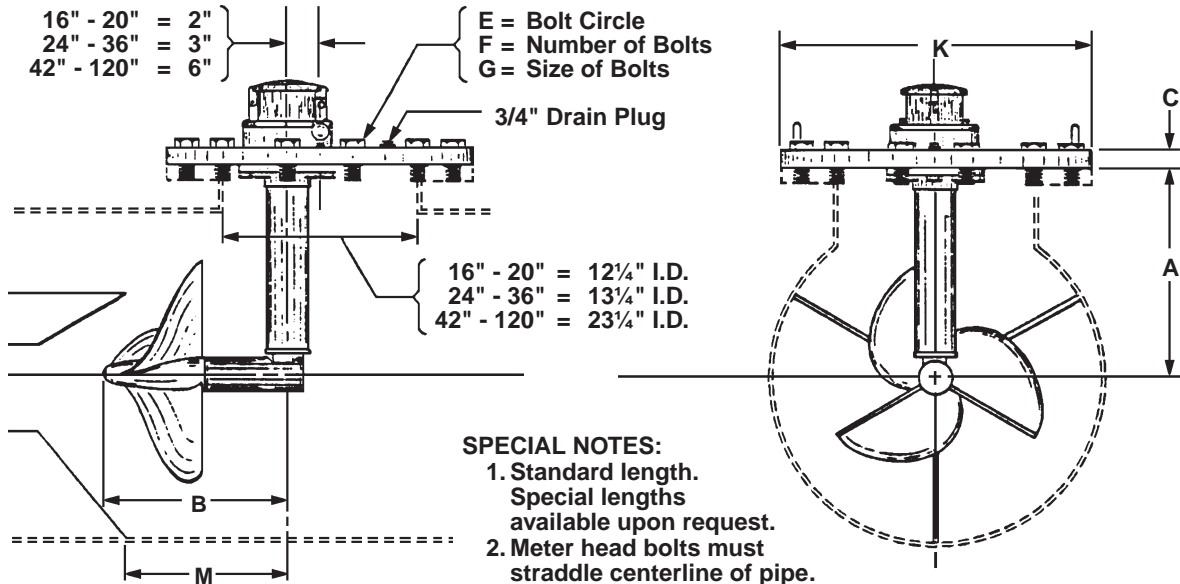
**DIGITAL INDICATOR-TOTALIZER** has a non-volatile EEPROM memory to store totalizer count (updated hourly while running). Features a large two line display. Five digit top line indicates flow rate, and eight digit bottom line provides volumetric flow data. Indicator is available in 22 different units, including GPM, CFS, MGD. Totalizer is available in 20 different units, including Gallons, AF, CF. Units of measurement are user-selectable. Battery life is 6 -10 years. Housing is NEMA 4X rated.

Available with optional 4-20mA and/or pulse output.

#### SPECIFICATIONS

<b>ACCURACY</b>	Plus or minus 2% of actual flow within the range specified for each meter size.
<b>PRESSURE RANGE</b>	Up to 150 PSI maximum working pressure.
<b>TEMPERATURE RANGE</b>	140° F Maximum. Consult factory for special construction for higher temperatures.
<b>MINIMUM FLOWS</b>	As shown for each meter size and construction are required for accurate registration. See flow chart.
<b>MAXIMUM FLOWS</b>	As shown for each meter size and construction are required for accurate registration. See flow chart.
<b>INTERMITTENT FLOWS</b>	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 and/or when longer operating periods are required.
<b>MATERIALS</b>	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 on stainless steel PROPELLER - injection molded thermoplastic GEARBOX - cast bronze SEPARATOR - stainless steel SHAFTS - stainless steel METER HEAD BOLTS - stainless steel (16" - 20"), plated steel (24" - 120") METER HEAD - cast iron or fabricated steel, fusion epoxy coated.
<b>OPTIONAL EQUIPMENT</b>	Remote mounting kit with up to 100 feet of cable, totalizer extensions, digital transmitter, and a wide range of controls and instruments for indicating, totalizing, and recording flow data for each meter. Special constructions and materials are available upon request.
<b>ORDERING INFO</b>	Must be 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.

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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.

METER & PIPE SIZE	*LOW VELOCITY CONSTRUCTION MIN. - MAX.	FLOW RANGES, GPM		DIMENSIONS								EST. SHIPPING WEIGHT POUNDS
		STANDARD CONSTRUCTION MIN. - MAX. - INT.	HIGH VELOCITY CONSTRUCTION MIN. - MAX.	A1	B	C	E	F2	G	K3	M	
16	N/A	400-5000-6000	1200-7500	11 1/2	11 1/2	3/4	17	12	7/8	19	10	150
18	N/A	700-6000-7500	1500-9000	12 1/2	11 1/2	3/4	17	12	7/8	19	10	170
20	N/A	850-8000-9000	2000-12000	13 1/2	11 1/2	3/4	17	12	7/8	19	10	180
24	N/A	1000-10000-13500	3000-15000	15 1/2	11 1/2	3/4	18 3/4	12	1	21	13 1/2	190
30	N/A	1800-15000-21000	4000-25000	18 1/2	11 1/2	3/4	18 3/4	12	1	21	13 1/2	190
36	N/A	2000-20000-30000	5000-35000	21 1/2	11 1/2	3/4	18 3/4	12	1	21	13 1/2	190
42	N/A	3000-30000-40000	6000-50000	25 1/2	11 1/2	1	29 1/2	20	1 1/4	32	13 1/2	365
48	N/A	5500-35000-50000	7000-60000	28 1/2	11 1/2	1	29 1/2	20	1 1/4	32	13 1/2	365
54	3200-45000	6500-45000-55000	8000-65000	31 1/2	11 1/2	1	29 1/2	20	1 1/4	32	13 1/2	365
60	4000-60000	7500-60000-80000	10000-90000	34 1/2	18 ‡	1	29 1/2	20	1 1/4	32	22 ‡	365
66	4750-75000	8500-75000-95000	12000-105000	37 1/2	18 ‡	1	29 1/2	20	1 1/4	32	22 ‡	365
72	5500-90000	9500-90000-115000	15000-125000	40 1/2	18 ‡	1	29 1/2	20	1 1/4	32	22 ‡	365
84	**	**_125000-115000	**	46 1/2	18 ‡	1	29 1/2	20	1 1/4	32	22 ‡	365
96	**	**_160000-200000	**	52 1/2	18 ‡	1	29 1/2	20	1 1/2	32	22 ‡	365
108	**	**_200000-250000	**	58 1/2	18 ‡	1	29 1/2	20	1 1/2	32	22 ‡	365
120	**	**_250000-300000	**	64 1/2	18 ‡	1	29 1/2	20	1 1/2	32	22 ‡	365

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

\* Low velocity (LV) construction has the same low and maximum flow rates as AWWA C704-02.

\*\* Consult factory for flow range or special construction.

‡ On High Velocity Meters the 18" propeller dimension is 11 1/2".



www.mccrometer.com

3255 WEST STETSON AVENUE • HEMET, CALIFORNIA 92545-7799 USA  
 TEL: 951-652-6811 • FAX: 951-652-3078

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