DESCRIPTION

- The model QW500 is designed for a maximum continuous working pressure of up to 150 psi and is fitted with ANSI B16.5 Class 150 flanges.
- Model QW500 and QZ500 main line propeller flow meters are manufactured to comply with the applicable provisions of the AWWA Standard No. C704-02 for propeller type flowmeters.
- The model QZ500 is designed for a continuous working pressure of up to 300 psi and is fitted with ANSI B16.5 Class 300 flanges.
- The impeller and drive assembly are easily removed through the top flange connection.
- The meter flow tube is fabricated 304 stainless steel for maximum corrosion protection and integral flow straightening vanes reduce upstream flow turbulence.
- As with all McCrometer propeller flowmeters, standard features include a magnetically coupled drive, instantaneous flowrate indicator and straight-reading, six-digit totalizer.

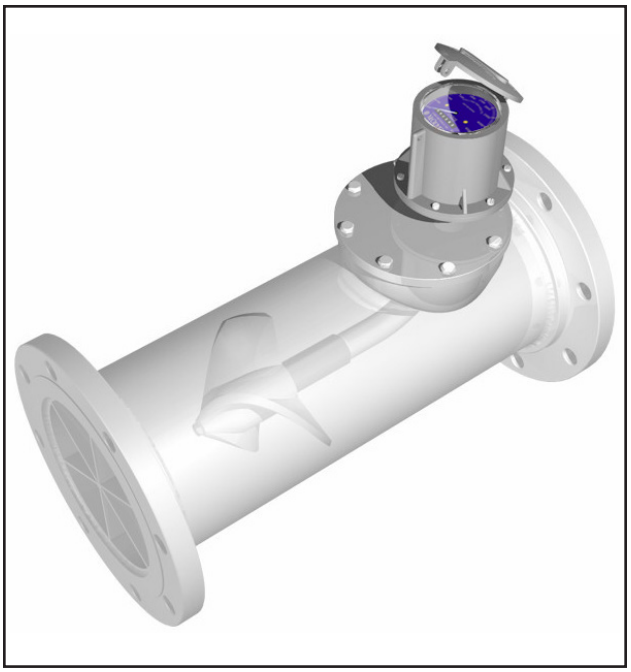
FEATURES

Impellers

- Factory lubricated stainless steel bearings are used to support the impeller shaft.
- Each impeller is individually calibrated at the factory to accommodate the use of any standard McCrometer register, and since no change gears are used, the QW500 and QZ500 can be field-serviced without the need for factory recalibration.
- Impellers are manufactured of high-temp thermoplastic, capable of retaining their shape and accuracy over the life of the meter.

Bearings

- The sealed bearing design limits the entry of materials and fluids into the bearing chamber providing maximum bearing protection.



Typical Applications

The McCrometer propeller meter is preferred for industrial process control and wastewater treatment plants because of its unique self-cleaning design of the support system which prevent solids build up. Typical applications include:

- Industrial process control
- Return activated sludge
- Water and wastewater management
- Valve actuation and control
- Multi-stage pump actuation and control
- Remote indication totalization and recording
- Bi-directional measurement
- Heating/air conditioning systems

Register

- The instantaneous flowrate indicator is standard and available in gallons per minute, cubic feet per second, liters per second and other units.
- The register is driven by a flexible steel cable encased within a protective Teflon liner.
- The register housing protects both the register and cable drive system from moisture while allowing clear reading of the flowrate indicator and totalizer.

INSTALLATION

Standard installation is horizontal mount. If the meter is to be mounted in the vertical position, please advise the factory. A straight run of full pipe the length of five diameters ahead and one diameter behind the meter is the minimum normally recommended.

SPECIFICATIONS

Performance

Accuracy	±2% of reading guaranteed throughout range.
Range	See dimensions chart on next page
Maximum Temperature	250°F constant in sizes 2" - 10"; 160°F in larger sizes
Pressure Rating	Model QW500: 150 psi, Model QZ500: 300psi

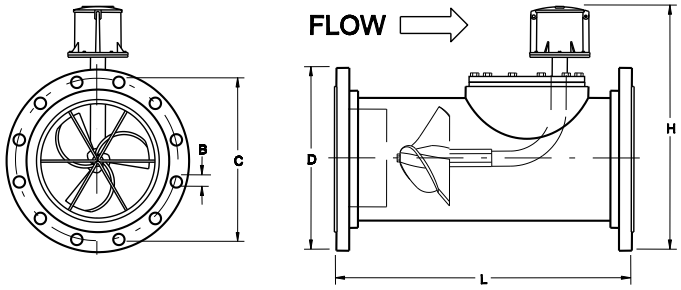
Materials

Top Plate	Stainless steel
Top Plate Weldment	Stainless steel
Spool	Stainless steel
Bearing Assembly	Impeller shaft is 316 stainless steel. Ball bearings are 440C stainless steel.
Bearing Housing	316 stainless steel
Magnets	(Permanent type) Alnico
Register	An instantaneous flowrate indicator and six-digit straight-reading totalizer are standard. The register is hermetically sealed within a die cast aluminum case. This protective housing includes a domed acrylic lens and hinged cover with locking hasp.
Impeller	Impellers are manufactured of high-temp thermoplastic, retaining their shape and accuracy over the life of the meter.

Options

- Extended warranty
- International flange standards available
- Customer lay lengths available
- Register extensions available
- Marathon bearing assembly for higher-than-normal flow rates (available only on 4" and larger)
- Digital register available in all sizes of this model
- A complete line of flow recording/control instrumentation
- Canopy boot

DIMENSIONS



QW500/QZ500	DIMENSIONS												
Meter and Nominal Pipe Size	2	2 1/2	3	4	6	8	10	12	14	16	18	20	24
Maximum Flow U.S. GPM	250	250	250	600	1200	1500	1800	2500	3000	4000	5000	6000	8500
Minimum Flow U.S. GPM	40	40	40	50	90	100	125	150	250	275	400	475	700
Approx. Head Loss in Inches at Max. Flow	29.5	29.5	29.5	23	17	6.75	3.75	2.75	2	1.75	1.5	1.25	1
QW500													
Approx. Shipping Weight-lbs.	36	36	43	54	115	135	197	325	465	530	744	890	1293
B (inches)	3/4	3/4	3/4	3/4	7/8	7/8	1	1	1 1/8	1 1/8	1 1/4	1 1/4	1 3/8
C (inches)	4 3/4	5 1/2	6	7 1/2	9 1/2	11 3/4	14 1/4	17	18 3/4	21 1/4	22 3/4	25	29 1/2
D (inches)	6	7	7 1/2	9	11	13 1/2	16	19	21	23 1/2	25	27 1/2	32
H (inches)	11 3/4	12 1/4	12 1/2	14.8	15.8	18.1	21.3	23.8	24.8	28.1	28.8	32.1	36.3
L (inches)	14	16	16	20	22	24	26	28	42	48	54	60	60
No. of Bolts per Flange	4	4	4	8	8	8	12	12	12	16	16	20	20
QZ500													
Approx. Shipping Weight-lbs.	50	55	62	90	145	220	340	430	650	820	1315	1508	2165
B (inches)	3/4	7/8	7/8	7/8	7/8	1	1 1/8	1 1/4	1 1/4	1 3/8	1 3/8	1 3/8	1 5/8
C (inches)	5	5 7/8	6 5/8	7 7/8	10 5/8	13	15 1/4	17 3/4	20 1/4	22 1/2	24 3/4	27	32
D (inches)	6 1/2	7 1/2	8 1/4	10	12 1/2	15	17 1/2	20 1/2	23	25 1/2	28	30 1/2	36
H (inches)	12	12 1/2	12 7/8	15 3/4	17	19 1/4	22 1/2	25	26 1/4	29 1/2	32 3/4	34	38 3/4
L (inches)	20	20	20	24	26	28	30	32	42	48	54	60	60
No. of Bolts per Flange	8	8	8	8	12	12	16	16	20	20	24	24	24

Note: Flanges meet ASTM-A-181 specs.

Larger flowmeters on special order.

PIPE RUN REQUIREMENTS

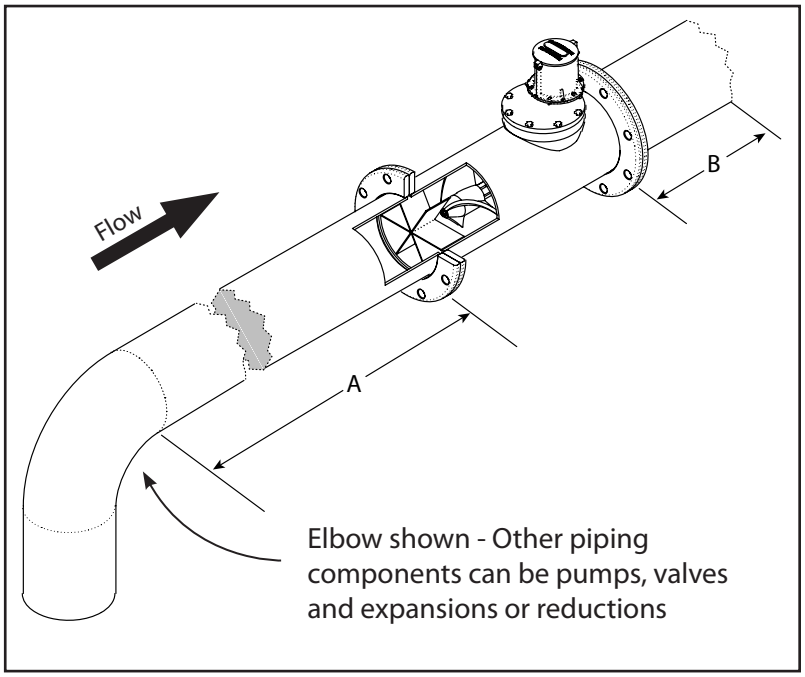
Upstream Requirement

Mc Propeller meters should be installed a minimum of five to ten diameters downstream of any obstructions.

Downstream Requirement

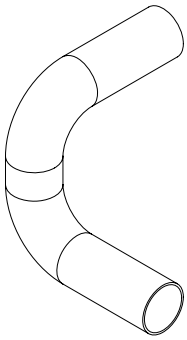
The downstream run should be one diameter of straight pipe length after the meter.

Configuration	A	B
Without straightening vanes	10	1
With straightening vanes	5	1
With FS100 Flow Straightener	1.5	1

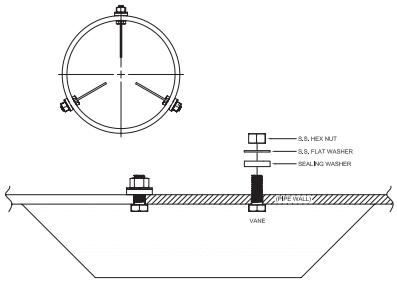


STRAIGHTENING VANES

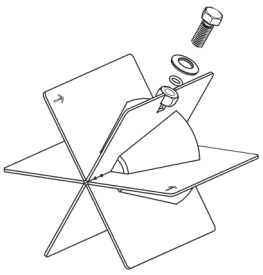
Special attention should be given to systems using two elbows "out of plane" or devices such as a centrifugal sand separator. These cause swirling flow in the line that affect propeller meters. Well developed swirls can travel up to 100 diameters downstream if unobstructed. Since most installations have less than 100 diameters to work with, straightening vanes become necessary to alleviate the problem. Straightening vanes will break up most swirls and ensure more accurate measurement. McCrometer actively encourages installing vanes just ahead of the meter. Straightening vanes are available in weld-in, bolt-in, and the FS100 Flow Straightener.



Elbows out of plane



Bolt-in straightening vanes



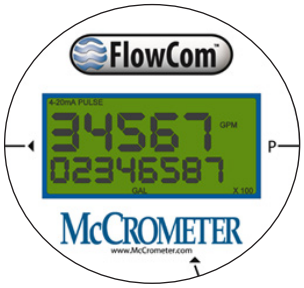
FS100 Flow Straightener

TOTALIZERS

Typical face plates

Standard register

Optional 7-wheel totalizer



FlowCom register

Mechanical Totalizer

The instantaneous flowrate indicator is standard and available in gallons per minute, cubic feet per second, liters per second and other units. The register is driven by a flexible steel cable encased within a protective vinyl liner. The register housing protects both the register and cable drive system from moisture while allowing clear reading of the flowrate indicator and totalizer.

Digital Totalizer

The optional FlowCom register displays a flowmeter's flowrate and volumetric total. Available are optional outputs: scaled pulse and/or industry standard 4-20mA signal. The FlowCom can be fitted to any new or existing McCrometer propeller flowmeter.

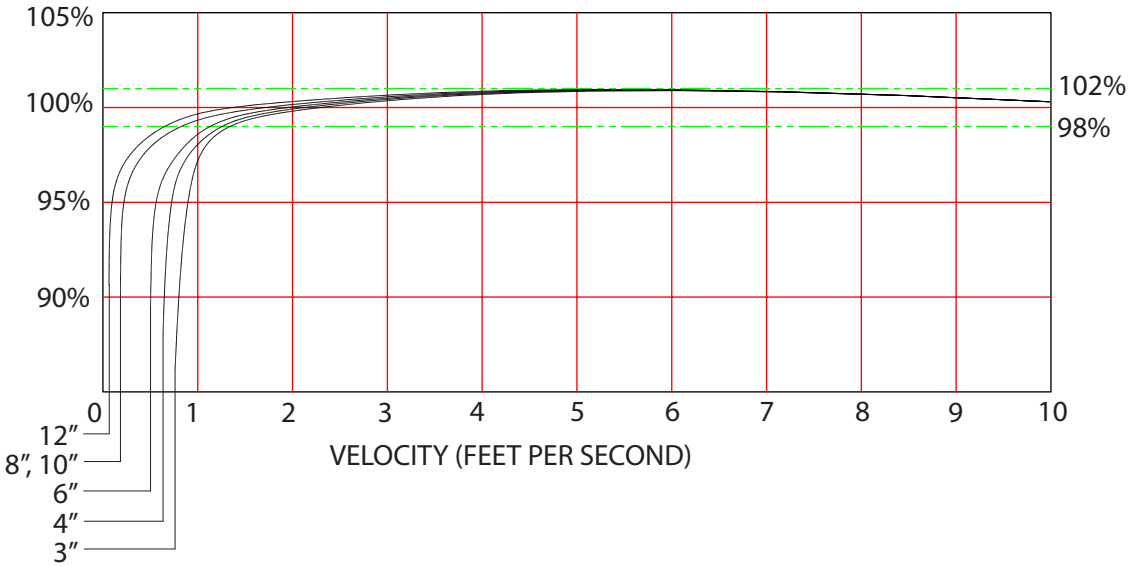
Wireless Telemetry

The optional FlowConnect is designed specifically for wireless telemetry via either satellite or cellular data service. Manual meter reading is never required. It uses either the mechanical register or the digital register (both shown above).

You can determine how often readings are made and transmitted to the cloud database, which you can view on a PC or on a cell phone. The viewing utility provides data tools that can analyze flow rate, consumption, and possible anomalies in an irrigation system.

Accuracy

ACCURACY CHART



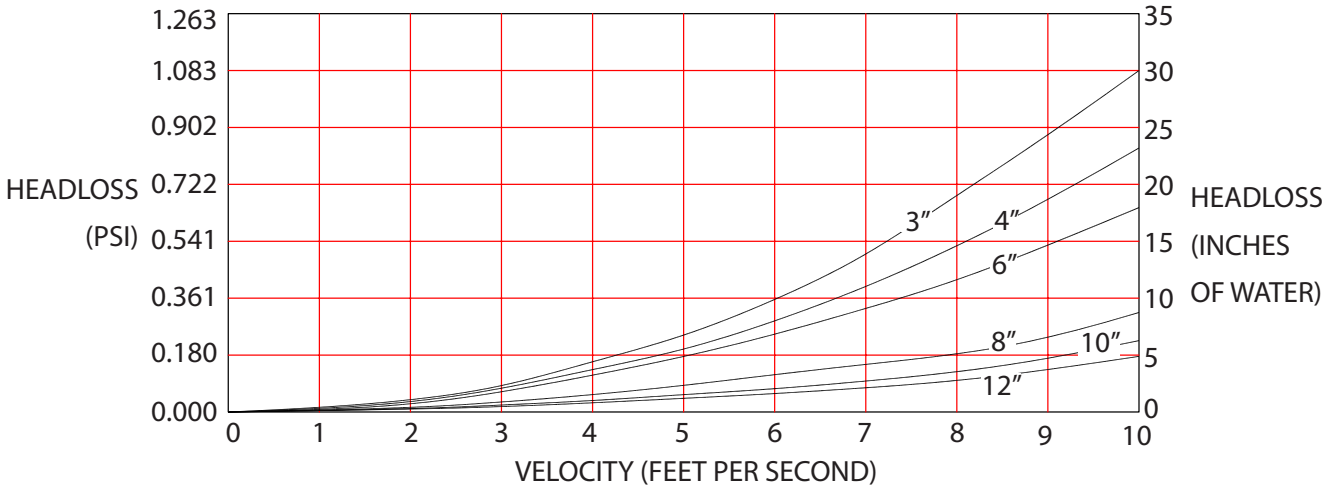
Standard flowrates for McCrometer propeller meters are shown below. Readings are guaranteed accurate within ±2% in these flowrates. Please note that over 80 percent of the meter's flow range, the accuracy is better than ±1%.

Nominal Meter Size	2″	2.5″	3″	4″	6″	8″	10″	12″	14″	16″	18″	20″	24″
Minimum Flow(U.S.GPM)	40	40	40	50	90	100	125	150	250	275	400	475	700
Maximum Flow(U.S.GPM)	250	250	250	600	1200	1500	1800	2500	3000	4000	5000	6000	8500
Dial Face Range	250	250	250	800	1300	2500	3000	4000	6000	8000	10000	10000	15000

Headloss

Headloss refers to the fluid pressure lost due to the meter. Propeller meters have very low permanent headloss as seen in the chart below.

HEADLOSS CHART



Nominal Meter Size	3″	4″	6″	8″	10″	12″	14″	16″	18″	20″	24″
Max. Headloss (in. H_20 column)	30	23	17	7	4	3	2	2	2	1	1

3255 WEST STETSON AVENUE • HEMET, CALIFORNIA 92545 USA
TEL: 951-652-6811 • 800-220-2279 • FAX: 951-652-3078
www.mccrometer.com

McCROMETER