

DESCRIPTION

M-series main line top plate propeller flow meters are manufactured to comply with applicable provisions of NSF 61 / NSF 372 and AWWA Standard No. C704-02 for propeller-type flow meters.

- Model MW5 is designed for a maximum continuous working pressure of up to 150 psi and is fitted with AWWA Class D flanges.
- Model MZ5 is designed for a continuous working pressure of up to 300 psi and is fitted with ANSI B16.5 Class 300 flanges.
- Models MB9, MG9, and MT9 are manufactured in three different end connections:
 - MB9 with beveled ends
 - MG9 with grooved ends
 - MT9 in line sizes 2" to 6" NPT threaded ends

All models can be field-serviced without the need for factory recalibration. The meter flow tubes are coated with fusion-bonded epoxy 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.

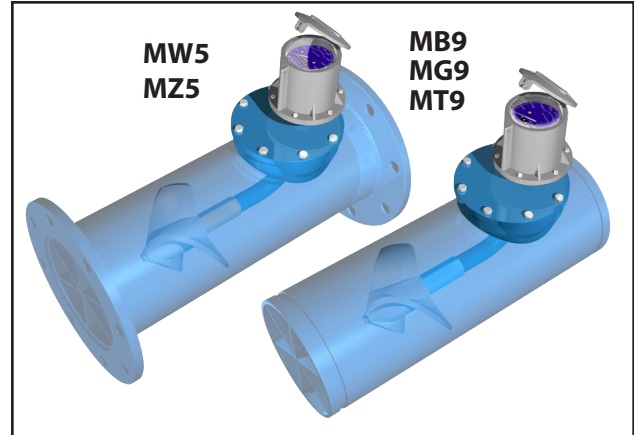
FEATURES

Top Plate / Meter Head Weldment

- The meter head weldment is either stainless steel or fusion-bonded epoxy coated carbon steel for maximum corrosion protection.
- The top plate is either stainless steel (for sizes 2" to 4") or fusion-bonded epoxy coated carbon steel (6" and larger).

Impellers

- Impellers are manufactured of high-impact plastic, capable of retaining their shape and accuracy over the life of the meter.
- Each impeller is individually calibrated at the factory to accommodate the use of any standard McCrometer register.
- The impeller and drive assembly are easily removed through the top flange connection. The meter flow tubes are coated with fusion-



MW5 MZ5 Typical Applications

The McCrometer propeller meter is the most widely used flowmeter for municipal and wastewater treatment applications as well as agricultural and turf irrigation measurement.

Typical applications include:

- Water and wastewater management
- Center pivot systems
- Sprinkler irrigation systems
- Drip irrigation systems
- Golf course and park water management
- Gravity turnouts from underground pipelines
- Commercial nurseries

bonded epoxy for maximum corrosion protection, and integral flow straightening vanes reduce upstream flow turbulence.

Bearings

- Factory lubricated stainless steel bearings are used to support the impeller shaft.
- The shielded bearing design limits the entry of materials and fluids into the bearing chamber providing maximum bearing protection.

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 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.

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 NSF 61 / NSF 372 and AWWA Standard No. C704-02 for propeller-type flow meters.

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.



QW6 QZ5 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.

Part Numbers, M-Series Digital Registers

M										
CONNECTION OPTIONS:										
Flanged End 150 PSI (AWWA CI D)	W5									
Flanged End 300 PSI (ANSI 300#)	Z5									
Grooved End	G9									
Beveled End	B9									
Threaded End	T9									
METER SIZE										MODEL SIZES OFFERED:
										MW5 MZ5 MG9 MB9 MT9
2" Top Plate Meter	02									X X X X X
2.5" Top Plate Meter	01									X X X X X
3" Top Plate Meter	03									X X X X X
4" Top Plate Meter	04									X X X X X
6" Top Plate Meter	06									X X X X X
8" Top Plate Meter	08									X X X X
10" Top Plate Meter	10									X X X X
12" Top Plate Meter	12									X X X X
14" Top Plate Meter	14									X X X X
16" Top Plate Meter	16									X X X X
18" Top Plate Meter	18									X X X X
20" Top Plate Meter	20									X X X X
24" Top Plate Meter	24									X X X
30" Top Plate Meter	30									X
36" Top Plate Meter	36									X
42" Top Plate Meter	42									X
48" Top Plate Meter	48									X
Tube Options										
Standard Length Tube	A									
ANSI Flange Standard Length Tube (MW Type)	B									
Non Standard Tube	X									

continued on next page

Part Numbers, M-Series Digital Registers (cont.)

M									
Bearing									
	Standard	1							
	Marathon	2							
	SS316	3							
	SS316 Marathon	4							
	SS316 Ceramic	5							
Register Options									
	Flowcom (FC200)	F							
	Flow Connect (FC Smart Part on 2nd Line)	T							
Output Options									
	No Outputs								
	Open Collector Pulse	1							
	4-20mA Analog Only	2							
	4-20mA Analog + Open Collector Pulse	3							
Output Cable Options									
	No Output Cables								
	6 ft	C1							
	15 ft	C2							
	25 ft	C3							
	50 ft	C4							
	75 ft	C5							
	100 ft	C6							
	150 ft	C8							
Smart Output Protocol / Telemetry Options									
	No AMI Outputs/Telemetry Options								
	Sensus Protocol (6ft Open End Cable)	SEN							
	Itron 6 digit Protocol (6ft Open End Cable)	IT6							
	Itron 9 digit [100W] Protocol (6ft Open End Cable)	IT9							
	Neptune Protocol (6ft Open End Cable)	NEP							
	2 ft SmartTrax Standalone Unit ExactRead Cable	S02							
	6 ft SmartTrax Standalone Unit ExactRead Cable	S06							
	25 ft SmartTrax Standalone Unit ExactRead Cable	S25							
	50 ft SmartTrax Standalone Unit ExactRead Cable	S50							
Register Remote and Extension Options									
	Meter Mount (Standard)								
	6 ft Cable Remote Mount (Flowcom only)	R06							
	25 ft Cable Remote Mount (Flowcom only)	R25							
	50 ft Cable Remote Mount (Flowcom only)	R50							
	6" Long Extension	006							
	1" Increments for Extensions Lengths	XXX							
	150" Maximum extension length	150							
SPECIAL OPTIONS									
	No Special Options								
	High Temp Prop and Seals	H							
No Batteries, Battery Tray Options									
	Includes Batteries (Standard)								
	No Batteries (Alkaline Tray)	NBA							
	No Batteries (Lithium Tray)	NBL							

Part Numbers, Q-Series Digital Registers

Q												
CONNECTION OPTIONS:												
Flanged End 150 PSI (ANSI 150#)		W5										
Flanged End 300 PSI (ANSI 300#)		Z5										
METER SIZE												
2" Top Plate Meter	02											
2.5" Top Plate Meter	01											
3" Top Plate Meter	03											
4" Top Plate Meter	04											
6" Top Plate Meter	06											
8" Top Plate Meter	08											
10" Top Plate Meter	10											
12" Top Plate Meter	12											
14" Top Plate Meter	14											
16" Top Plate Meter	16											
18" Top Plate Meter	18											
20" Top Plate Meter	20											
Tube Options												
Standard Tube		A										
Non Standard Tube		X										
Bearing												
SS316		3										
SS316 Marathon		4										
SS316 Ceramic		5										
Register Options												
Flowcom (FC200)		F										
Flow Connect (FC Smart Part on 2nd Line)		T										
Output Options												
No Outputs												
Open Collector Pulse		1										
4-20mA Analog Only		2										
4-20mA Analog + Open Collector Pulse		3										
Output Cable Options												
No Output Cables												
6 ft		C1										
15 ft		C2										
25 ft		C3										
50 ft		C4										
75 ft		C5										
100 ft		C6										
150 ft		C8										

Part Numbers, Q-Series Digital Registers (cont.)

Smart Output Protocol / Telemetry Options			
No AMI Outputs/Telemetry Options			
Sensus Protocol (6ft Open End Cable)	SEN		
Itron 6 digit Protocol (6ft Open End Cable)	IT6		
Itron 9 digit [100W] Protocol (6ft Open End Cable)	IT9		
Neptune Protocol (6ft Open End Cable)	NEP		
SmartTrax On-Board (Integrated Telemetry on FlowCom)			
2 ft SmartTrax Standalone Unit ExactRead Cable	S02		
6 ft SmartTrax Standalone Unit ExactRead Cable	S06		
25 ft SmartTrax Standalone Unit ExactRead Cable	S25		
50 ft SmartTrax Standalone Unit ExactRead Cable	S50		
Register Remote and Extension Options			
Meter Mount (Standard)		-	
6 ft Cable Remote Mount (Flowcom only)	R06		
25 ft Cable Remote Mount (Flowcom only)	R25		
50 ft Cable Remote Mount (Flowcom only)	R50		
6" Long Extension		006	
1" Increments for Extensions Lengths		XXX	
150" Maximum extension length		150	
No Batteries, Battery Tray Options			
Includes Batteries (Standard)			
No Batteries (Alkaline Tray)			NBA
No Batteries (Lithium Tray)			NBL

Part Numbers, M-Series Mechanical Registers

M									
CONNECTION OPTIONS:									
Flanged End 150 PSI	F1								
Flanged End Lightweight	L1								
Grooved End	G1								
Smooth End	S1								
Threaded End	T1								
METER SIZE									
		MODEL SIZES OFFERED:							
		MF1	ML1	MG1	MS1	MT1			
2" Fixed Ell Meter	02	X		X	X	X			
2.5" Fixed Ell Meter	01	X		X	X	X			
3" Fixed Ell Meter	03	X		X	X	X			
4" Fixed Ell Meter	04	X		X	X	X			
6" Fixed Ell Meter	06	X	X	X	X	X			
8" Fixed Ell Meter	08	X	X	X	X				
10" Fixed Ell Meter	10	X	X	X	X				
12" Fixed Ell Meter	12	X	X	X	X				
14" Fixed Ell Meter	14	X		X	X				
16" Fixed Ell Meter	16	X		X	X				
18" Fixed Ell Meter	18	X		X	X				
20" Fixed Ell Meter	20	X		X	X				
24" Fixed Ell Meter	24	X			X				
Tube Options									
AWWA Class D Standard Length Tube	A								
ANSI Flange Standard Length Tube	B								
Non Standard Tube	X								
Bearing Options									
Standard	1								
Marathon	2								
SS316	3								
SS316 Marathon	4								
SS316 Ceramic	5								
Register Options									
6 Wheel	1								
6 Wheel Anti Reverse	2								
6 Wheel with Index	3								
6 Wheel Anti Reverse & Index	4								
7 Wheel	5								
7 Wheel Anti Reverse	6								
7 Wheel with Index	7								
7 Wheel Anti Reverse & Index	8								

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Part Numbers, Q-Series Mechanical Registers

Q							-
CONNECTION OPTIONS:							
Flanged End 150 PSI (ANSI 150#)	W5						
Flanged End 300 PSI (ANSI 300#)	Z5						
METER SIZE							
2" Top Plate Meter	02						
2.5" Top Plate Meter	01						
3" Top Plate Meter	03						
4" Top Plate Meter	04						
6" Top Plate Meter	06						
8" Top Plate Meter	08						
10" Top Plate Meter	10						
12" Top Plate Meter	12						
14" Top Plate Meter	14						
16" Top Plate Meter	16						
18" Top Plate Meter	18						
20" Top Plate Meter	20						
Tube Options							
Standard Tube	A						
Non Standard Tube	X						
Bearing							
SS316	3						
SS316 Marathon	4						
SS316 Ceramic	5						
Register Options							
6 Wheel	1						
6 Wheel Anti Reverse	2						
6 Wheel with Index	3						
6 Wheel Anti Reverse & Index	4						
7 Wheel	5						
7 Wheel Anti Reverse	6						
7 Wheel with Index	7						
7 Wheel Anti Reverse & Index	8						
Output Options							
No Outputs							
4-20 Analog Only (E7000-000)	A						
Dry Contact Pulse & 4-20 Analog (E7000-001)	B						
Opto Isolated Pulse & 4-20 Analog (E7000-002)	C						
Mechanical Datalogger (MC20-D2)	E						
Non Powered Pulse (EA618-02)	G						
CMOS Square Wave Pulse (EA631-002)	J						
Sink to Ground Pulse (EA631-102)	K						
Dry Contact Pulse (SA100)	L						
Extension Options							
Meter Mount (Standard)	-						
6" Long Extension	006						
1" Increments for Extensions Lengths	XXX						
150" Maximum extension length	150						

M-SERIES FIXED ELL FLOW METER SPECIFICATIONS

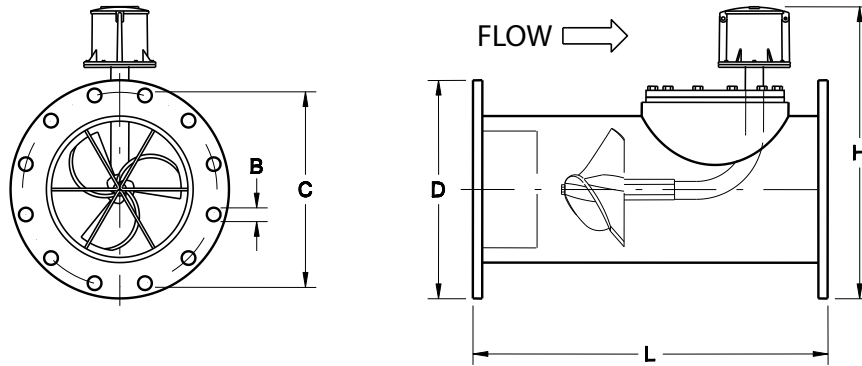
	MW5 MZ5	MB9 MG9 MT9	QW5 QZ5
Performance			
Accuracy / Repeatability	<ul style="list-style-type: none"> ±2% of reading guaranteed throughout the full range ± 1% over the reduced range Repeatability 0.25% or better 	±2% of reading guaranteed throughout range. ±1% over reduced range. Repeatability 0.25% or better.	±2% of reading guaranteed throughout range.
Range	2" to 36"	2" to 24"	2" to 24"
Maximum Temperature	(Standard construction) 160°F constant	(Standard construction) 160°F constant	250°F constant in sizes 2" - 10"; 160°F in larger sizes
Pressure Rating	<ul style="list-style-type: none"> Model MW500: 150 psi Model MZ500: 300 psi 	150 psi	Model QW500: 150 psi, Model QZ500: 300psi

Materials			
Top Plate	Stainless steel (2" to 4") or fusion-bonded epoxy coated carbon steel (6" and larger)	Stainless steel (2" to 4") or fusion-bonded epoxy coated carbon steel (6" and larger)	Stainless steel
Top Plate Weldment	Stainless steel (2" to 4") or fusion-bonded epoxy coated carbon steel (6" and larger)	Stainless steel (2" to 4") or fusion-bonded exoxy coated carbon steel (6" and larger)	Stainless steel
Spool	Carbon steel standard, stainless steel optional	Carbon steel standard, stainless steel optional	Stainless steel
Coating	Fusion-bonded epoxy	Fusion-bonded epoxy	
Body	Epoxy-coated carbon steel pipe conforming to ANSI/ASME pipe schedules	Epoxy-coated carbon steel pipe conforming to A.S.A pipe schedules	
Magnets	(Permanent type) Alnico	(Permenant type) Alnico	
Bearing Assembly		Impeller shaft is 316 stainless steel. Ball bearings are 440C stainless steel	316 stainless steel
Bearing Housing	<ul style="list-style-type: none"> For models 2" to 16": 304 stainless steel standard, 316 stainless steel optional For models 18" and larger: Brass standard, 316 stainless steel optional 	<ul style="list-style-type: none"> For models 2" to 16": 304 stainless steel standard, 316 stainless steel optional For models 18" and larger: Brass standard, 316 stainless steel optional 	(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 lens cover with locking hasp.	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 lens cover with locking hasp.	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-impact plastic, retaining their shape and accuracy over the life of the meter. High temperature impeller is optional.	Impellers are manufactured of high-impact plastic, retaining their shape and accuracy over the life of the meter. High temperature impeller is optional.	Impellers are manufactured of high-temp thermoplastic, retaining their shape and accuracy over the life of the meter.
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Options		
<ul style="list-style-type: none"> • International flange standards available • Other than standard laying lengths available • Register extensions available • All stainless steel construction • High temperature construction • "Over Run" bearing assembly for higher-than-normal flowrates • Electronic propeller meter available in all sizes of this model • A complete line of flow recording/control instrumentation • Certified calibration test results • Canopy boot 	<ul style="list-style-type: none"> • Register extensions available • All stainless steel construction • High temperature construction • "Over Run" bearing assembly for higher-than-normal flowrates (available only on 4" and larger) • Electronic propeller meter available in all sizes of this model • A complete line of flow recording/control instrumentation • Certified calibration test results • Stainless steel bearing housing • Canopy boot 	<ul style="list-style-type: none"> • 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 • SmartTrax on Board integrated telemetry for digital register option

DIMENSIONS - MW5 MZ5



MW500		DIMENSIONS														
Meter Size	inches	2	2 ½	3	4	6	8	10	12	14	16	18	20	24	30	36
	mm	51	64	76	102	152	203	254	305	356	406	457	508	610	762	914
Minimum Flow	GPM	40	40	40	50	90	100	125	150	250	275	400	475	700	1200	1500
	LPS	2.5	2.5	2.5	3.2	5.7	6.3	7.9	9.5	15.8	17.3	25.2	30	44.2	75.7	94.6
Maximum Flow	GPM	250	250	250	600	1200	1500	1800	2500	3000	4000	5000	6000	8500	12500	17000
	LPS	15.8	15.8	15.8	37.9	75.7	94.6	113.6	157.7	189.3	252.4	315.5	378.5	536.3	788.6	1072.5
Maximum Flow w/ Marathon Bearing	GPM	n/a	n/a	n/a	900	1800	2250	2700	3750	4500	6000	7500	9000	12750	18750	25500
Approx. Head Loss in Inches at Max. Flow	inches	29.5	29.5	29.5	23	17	6.75	3.75	2.75	2	1.75	1.5	1.25	1	1	1
	mm	749	749	749	584	432	172	95	70	51	45	38	32	25	25	25
Standard Dial Face*	GPM/ Gal	250/ 10	250/ 10	250/ 10	1000/ 100	1800/ 100	2500/ 100	3000/ 1000	4000/ 1000	6000/ 1000	8000/ 1000	10000/ 1000	10000/ 10000	15000/ 10000	15000/ 10000	30000/ 10000
Approx. Shipping Weight, lbs.	lbs	36	36	43	54	115	135	197	325	465	530	744	890	1,293	1450	1650
	kg	16.3	16.3	19.5	24.5	52.2	61.2	89.4	147.4	210.9	240.4	337.5	403.7	586.5	657.7	748.4
B	inches	0.75	0.75	0.75	0.75	0.875	0.875	1	1	1.125	1.125	1.25	1.25	1.375	1.375	1.625
	mm	19	19	19	19	22	22	25	25	29	29	32	32	35	35	41
C	inches	4.75	5.5	6	7.5	9.5	11.75	14.25	17	18.75	21.25	22.75	25	29.5	36	42.75
	mm	121	140	152	191	242	299	362	432	476	540	578	635	749	914	1086
D	inches	6	7	7.5	9	11	13.5	16	19	21	23.5	25	27.5	32	38.75	46
	mm	553	179	191	229	279	341	406	483	533	597	635	699	813	984	1168
H	inches	11.75	12.25	12.5	15.25	16.25	18.5	21.75	24.25	25.25	28.5	29.25	32.5	36.75	42.75	49.25
	mm	299	311	318	387	413	470	553	616	641	724	743	826	934	1086	1251
L	inches	14	16	16	20	22	24	26	28	42	48	54	60	60	60	60
	mm	356	406	406	508	559	610	660	711	1067	1219	1372	1524	1524	1524	1524
No. of Bolts per Flange		4	4	4	8	8	8	12	12	12	16	16	20	20	28	32
No. of Topplate Bolts		6	6	6	6	8	8	12	12	12	12	16	16	16	16	16

*Indicates the dial face range and multiplier

Note: Flanges meet ASTM-A-181 specs. Larger flowmeters on special order.

McCROMETER reserves the right to change design or specifications without notice.



Specification Sheet

M-Series and Q-Series Main Line Top Plate Flow Meters

MZ500		DIMENSIONS														
Meter Size	inches	2	2 ½	3	4	6	8	10	12	14	16	18	20	24	30	36
	mm	51	64	76	102	152	203	254	305	356	406	457	508	610	762	914
Minimum Flow	GPM	40	40	40	50	90	100	125	150	250	275	400	475	700	1200	1500
	LPS	2.5	2.5	2.5	3.2	5.7	6.3	7.9	9.5	15.8	17.3	25.2	30	44.2	75.7	94.6
Maximum Flow	GPM	250	250	250	600	1200	1500	1800	2500	3000	4000	5000	6000	8500	12500	17000
	LPS	15.8	15.8	15.8	37.9	75.7	94.6	113.6	157.7	189.3	252.4	315.5	378.5	536.3	788.6	1072.5
Maximum Flow w/ Marathon Bearing	GPM	n/a	n/a	n/a	900	1800	2250	2700	3750	4500	6000	7500	9000	12750	18750	25500
Approx. Head Loss in Inches at Max. Flow	inches	29.5	29.5	29.5	23	17	6.75	3.75	2.75	2	1.75	1.5	1.25	1	1	1
	mm	749	749	749	584	432	172	95	70	51	45	38	32	25	25	25
Standard Dial Face*	GPM/ Gal	250/ 10	250/ 10	250/ 10	1000/ 100	1800/ 100	2500/ 100	3000/ 1000	4000/ 1000	6000/ 1000	8000/ 1000	10000/ 1000	10000/ 10000	15000/ 10000	15000/ 10000	30000/ 10000
Approx. Shipping Weight, lbs.	lbs	50	55	62	90	145	220	340	430	650	820	1,315	1,508	2,165		
	kg	22.7	24.9	28.1	40.8	65.8	99.8	154.2	195	294.8	371.9	596.5	684	982		
B	inches	0.75	0.875	0.875	0.875	0.875	1	1.125	1.25	1.25	1.375	1.375	1.375	1.625		
	mm	19	22	22	22	22	25	29	32	32	35	35	35	41		
C	inches	5	5.875	6.625	7.875	11	13	15.25	17.75	20.25	22.5	24.75	27	32		
	mm	127	149	168	200	279	330	387	451	514	572	629	686	813		
D	inches	6.5	7.5	8.25	10	12.5	15	17.5	20.5	23	25.5	28	30.5	36		
	mm	165	191	210	254	318	381	445	521	584	648	711	775	914		
H	inches	12	12.5	12.875	15.75	17	19.25	22.5	25	26.25	29.5	32.75	34	38.75		
	mm	305	318	327	400	432	489	572	635	667	749	832	864	984		
L	inches	20	20	20	24	26	28	30	32	42	48	54	60	60		
	mm	508	508	508	610	660	711	762	813	1067	1219	1372	1524	1524		
No. of Bolts per Flange		8	8	8	8	12	12	16	16	20	20	24	24	24		

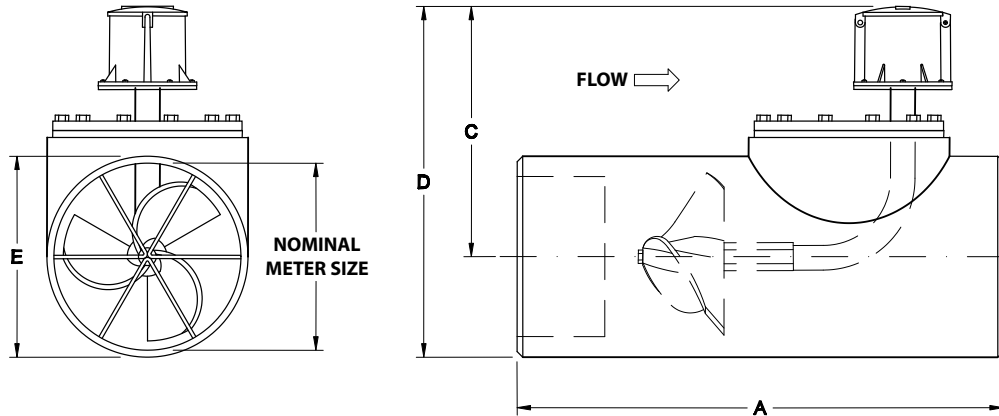
*Indicates the dial face range and multiplier

Note: Flanges meet ASTM-A-181 specs. Larger flowmeters on special order.

McCROMETER reserves the right to change design or specifications without notice.



DIMENSIONS - MB9 MG9 MT9



MB900 / MG900 / MT900		DIMENSIONS													
Meter Size	inches	2	2 1/2	3	4	6	8	10	12	14	16	18	20	24	
	mm	51	64	76	102	152	203	254	305	356	406	457	508	610	
Minimum Flow	GPM	40	40	40	50	90	100	125	150	250	275	400	475	700	
	LPS	2.5	2.5	2.5	3.2	5.7	6.3	7.9	9.5	15.8	17.3	25.2	30.0	44.2	
Maximum Flow	GPM	250	250	250	600	1200	1500	1800	2500	3000	4000	5000	6000	8500	
	LPS	15.8	15.8	15.8	37.9	75.7	94.6	113.6	157.7	189.3	252.4	315.5	378.5	536.3	
Maximum Flow w/ Marathon Bearing	GPM	n/a	n/a	n/a	900	1800	2250	2700	3750	4500	6000	7500	9000	12750	
Approx. Head Loss in Inches at Max. Flow	inches	29.5	29.5	29.5	23	17	6.75	3.75	2.75	2	1.75	1.5	1.25	1	
	mm	749	749	749	584	432	171	95	70	51	44	38	32	25	
Standard Dial Face*	GPM/ Gal				1000/ 100	1800/ 100	2500/ 100	3K/ 1000	4K/ 1000	6K/ 1000	8K/ 1000	10K/ 1000	10K/ 10K	15K/ 10K	
Approx. Shipping Weight, lbs.	lbs				25	45	80	110	190	232	259	300	596	680	885
	kg				11	20	36	50	86	105	117	136	270	308	401
A	inches				16	20	22	24	26	28	42	48	54	60	60
	mm				406	508	559	610	660	711	1067	1219	1372	1524	1524
B	inches				5.25	5.25	6.25	6.25	8.25	10	13	13	14	16	18
	mm				133	133	159	159	210	254	330	330	356	406	457
C	inches				5.25	5.25	6.25	6.25	8.25	10	13	13	14	16	18
	mm				133	133	159	159	210	254	330	330	356	406	457
D	inches				10.5	13	14	16	19	21	21.75	24.75	25.75	28.75	32.75
	mm				267	330	356	406	483	533	552	629	654	730	832
H	inches				3.5	4.5	6.5	8.5	10.75	12.75	14	16	18	20	24
	mm				89	114	165	216	273	324	356	406	457	508	610
No. of Bolts Per Flange					6	6	6	8	8	12	12	12	16	16	16

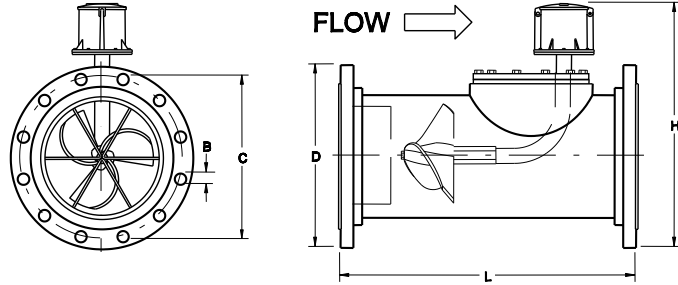
* Indicates the dial face range and multiplier

** SPECIAL NOTE: Reducing fittings (female threaded), are included to adapt the 3-inch model to 2" and 2 1/2" line sizes.

Larger flowmeters on special order.

MT900 available in sizes 2" through 6" only.

DIMENSIONS - QW5 QZ5



QW5 / QZ5		DIMENSIONS														
Meter and Nominal Pipe Size	inches	2	2 ½	3	4	6	8	10	12	14	16	18	20	24		
	mm	51	64	76	102	152	203	254	305	356	406	457	508	610		
Minimum Flow	GPM	40	40	40	50	90	100	125	150	250	275	400	475	700		
	LPS	2.5	2.5	2.5	3.2	5.7	6.3	7.9	9.5	15.8	17.3	25.2	30	44.2		
Maximum Flow	GPM	250	250	250	600	1200	1500	1800	2500	3000	4000	5000	6000	8500		
	LPS	15.8	15.8	15.8	37.9	75.7	94.6	113.6	157.7	189.3	252.4	315.5	378.5	536.3		
Maximum Flow w/ Marathon Bearing	GPM	n/a			900	1800	2250	2700	3750	4500	6000	7500	9000	12750		
	LPS	n/a			56.8	113.6	142.0	170.3	236.6	283.9	378.5	473.2	567.8	804.4		
Approx. Head Loss in Inches at Max. Flow	inches	29.5	29.5	29.5	23	17	6.75	3.75	2.75	2	1.75	1.5	1.25	1		
	mm	749	749	749	584	432	172	95	70	51	45	38	32	25		
Standard Dial Face*	GPM / gal	250/10	250/10	250/10	1000/100	1800/100	2500/100	3000/1000	4000/1000	6000/1000	8000/1000	10000/1000	10000/10000	15000/10000		
QW5																
Approx. Shipping Weight-lbs.	lbs	36	36	43	54	115	135	197	325	465	530	744	890	1293		
	kg	16.3	16.3	19.5	24.5	52.2	61.2	89.4	147.4	210.9	240.4	337.5	403.7	586.5		
Dimensions	B	inches	.75	.75	.75	.75	.875	.875	1	1	1.125	1.125	1.125	1.125	1.375	
		mm	19	19	19	19	22	22	25	25	29	29	32	32	35	
	C	inches	4.75	5.5	6	7.5	9.5	11.75	14.25	17	18.75	21.25	22.75	25	29.5	
		mm	121	140	152	191	242	299	362	432	476	540	578	635	749	
	D	inches	6	7	7.5	9	11	13.5	16	19	21	23.5	25	27.5	32	
		mm	553	179	191	229	279	341	406	483	533	597	635	699	813	
	H	inches	11.75	12.25	12.5	15.25	16.25	18.5	21.75	24.25	25.25	28.5	29.25	32.5	36.75	
		mm	299	311	318	387	413	470	553	616	641	724	743	826	934	
	L	inches	14	16	16	20	22	24	26	28	42	48	54	60	60	
		mm	356	406	406	508	559	610	660	711	1067	1219	1372	1524	1524	
	No. of Bolts per Flange			4	4	4	8	8	8	12	12	12	16	16	20	20
	No. of Topplate Bolts			6	6	6	6	8	8	12	12	12	16	16	16	16
QZ5																
Approx. Shipping Weight-lbs.	lbs	50	55	62	90	145	220	340	430	650	820	1,315	1,508	2,165		
	kg	22.7	24.9	28.1	40.8	65.8	99.8	154.2	195	294.8	371.9	596.5	684	982		
Dimensions	B	inches	0.75	0.875	0.875	0.875	0.875	1	1.125	1.25	1.25	1.375	1.375	1.375	1.625	
		mm	19	22	22	22	22	25	29	32	32	35	35	35	41	
	C	inches	5	5.875	6.625	7.875	11	13	15.25	17.75	20.25	22.5	24.75	27	32	
		mm	127	149	168	200	279	330	387	451	514	572	629	686	813	
	D	inches	6.5	7.5	8.25	10	12.5	15	17.5	20.5	23	25.5	28	30.5	36	
		mm	165	191	210	254	318	381	445	521	584	648	711	775	914	
	H	inches	12	12.5	12.875	15.75	17	19.25	22.5	25	26.25	29.5	32.75	34	38.75	
		mm	305	318	327	400	432	489	572	635	667	749	832	864	984	
	L	inches	20	20	20	24	26	28	30	32	42	48	54	60	60	
		mm	508	508	508	610	660	711	762	813	1067	1219	1372	1524	1524	
	No. of Bolts per Flange			8	8	8	8	12	12	16	16	20	20	24	24	24

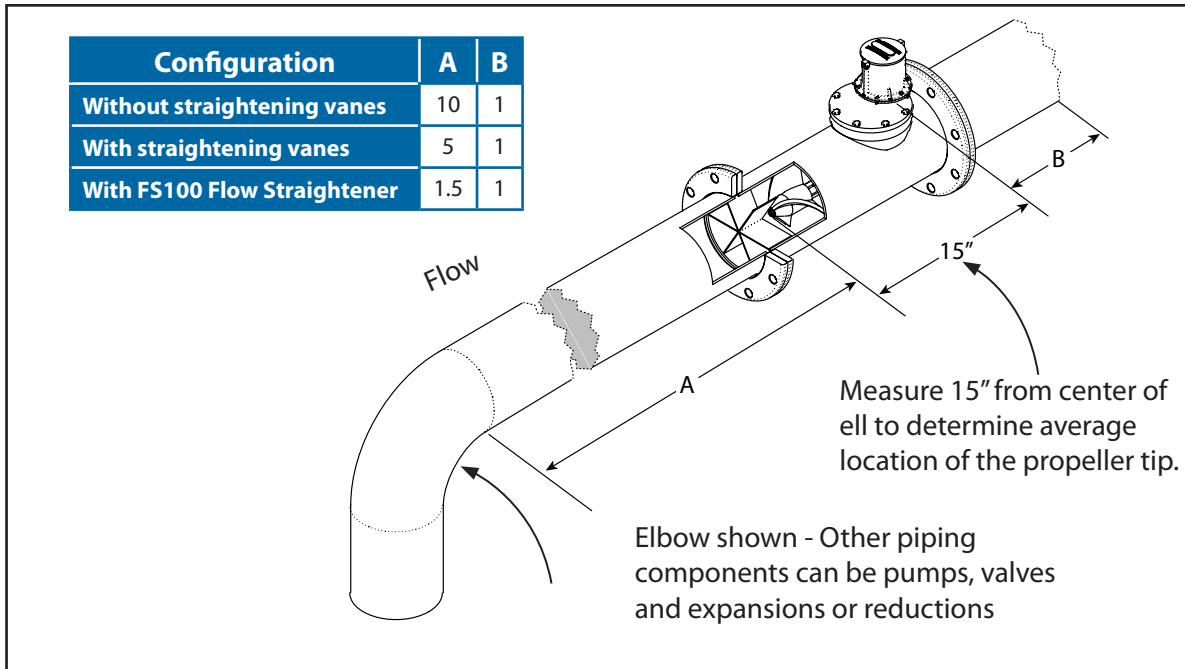
Note: Flanges meet ASTM-A-181 specs.

Larger flowmeters on special order.

INSTALLATION

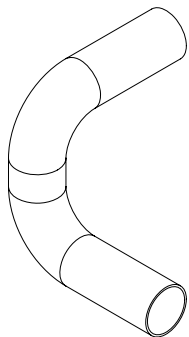
Standard installation is horizontal mount. If the meter is to be mounted in the vertical position, please advise the factory.

PIPE RUN REQUIREMENTS

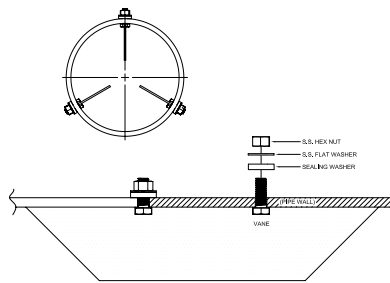


STRAIGHTENING VANES

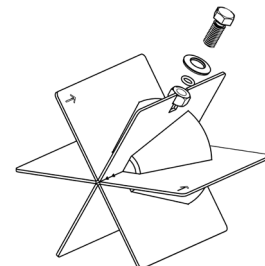
Special attention should be given to systems using two elbows "out of plane" or devices such as a centrifugal sand separator. These cause swirling flow in the line that affect propeller meters. Well developed swirls can travel up to 100 diameters downstream if unobstructed. Since most installations have 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

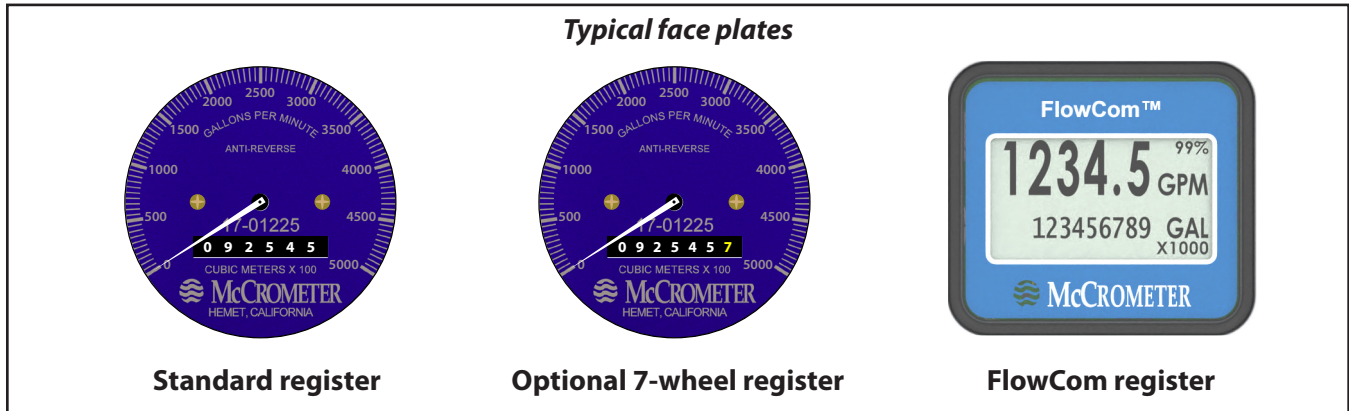


Bolt-in straightening vanes



FS100 Flow Straightener

REGISTERS



Mechanical 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 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 Register

The optional FlowCom digital register displays a flowmeter's flowrate and volumetric total. Available are four optional outputs: 4-20mA loop, open collector, optically isolated, and contact closure. Unique units of measurement for rate, total, 4-20mA, and pulse outputs. The FlowCom can be fitted to any new or existing McCrometer propeller flowmeter. The FlowCom also features a built-in data logger.



SmartTrax on Board

In addition to features mentioned on the FlowCom digital register, SmartTrax On Board integrated telemetry provide a streamlined, all-in-one flow measurement and telemetry system allowing growers and districts to remotely monitor water usage and manage allocations across their territories. This affects input costs such as chemigation, fuel and electricity costs, and most importantly - your time! For natural resource districts and the like, SmartTrax on Board removes the need to manually collect flow data from each metered well, freeing up personnel time.

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