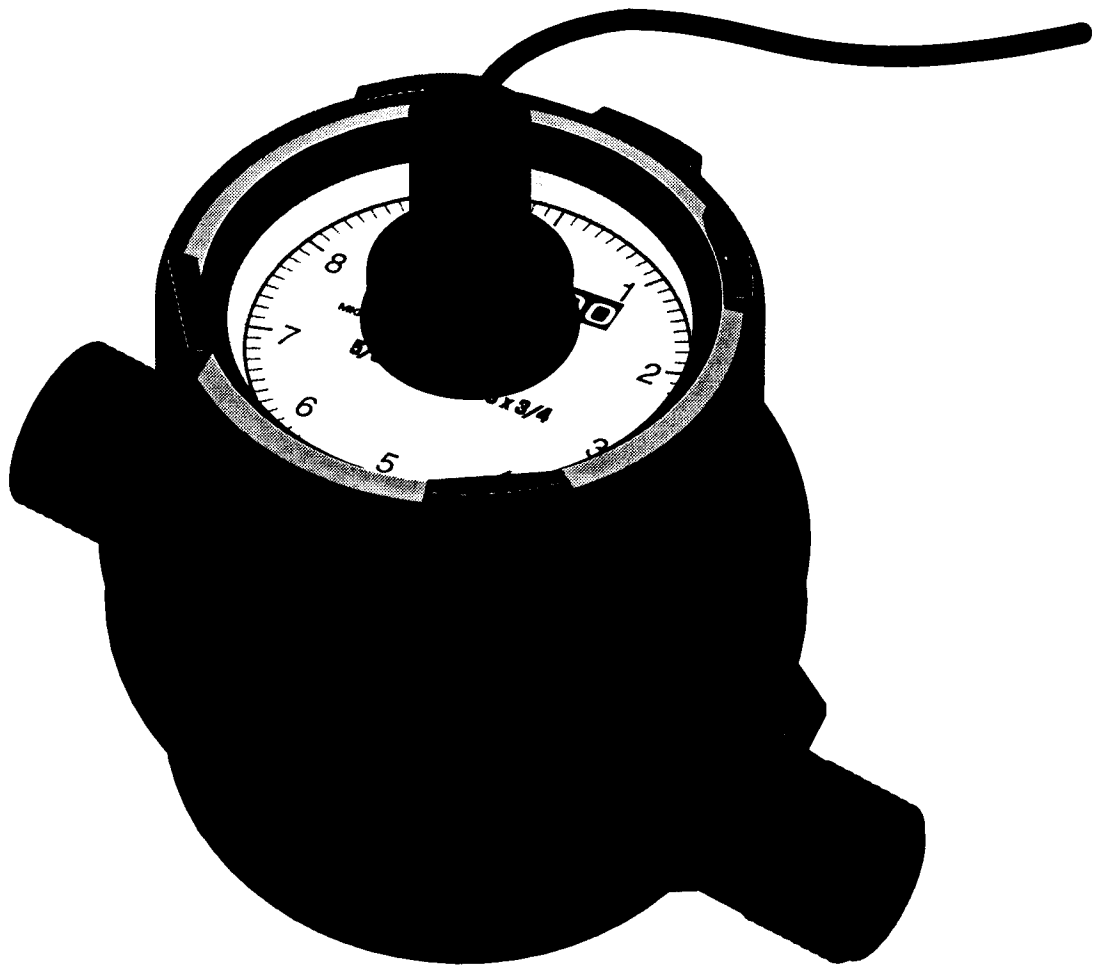


®  **FTB6100 and FTB6200 Series**

®  **Industrial Positive Displacement**

®  **Cold Water Meters**



FTB6205 shown



Operator's Manual

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FTB6100 / 6200
COLD WATER METER
1/2" THROUGH 2" POSITIVE DISPLACEMENT

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SECTION 1 INTRODUCTION

The OMEGA® FTB6100/6200 Cold Water Meter is a volumetric type operating on the oscillating piston principle. This utilizes a piston which the water rotates in a working chamber, with each piston revolution being equivalent to a known volume of water. The highly accurate FTB6100/6200 is specifically designed for cold water applications. It features giant fully rotatable 3", magnetically-driven, permanently hermetically sealed and nitrogen-filled register for extra long life and assured accuracy. Its 1/4" thick glass face is tempered to resist breakage, scratching, and abrasion. A flow detector located on the top of the center spindle, provides visual proof of plumbing leaks.

The FTB6100/6200 has a self-lubricating positive displacement design. The precision-machined internal parts are manufactured from graphite impregnated thermoplastic in combination with a longer life, more trouble-free service. Its internal 40 mesh strainer minimizes stoppages due to foreign matter in the pipe. Because of its unique oscillating piston design and low oscillation rate, wear is reduced to a minimum.

The piston movement is transferred by appropriate reduction gearing and a magnetic drive to a straight reading sealed register calibrated in U.S. Gallons, ft.³ (cubic feet) or m³ (cubic meters).

WARNING

THESE WATER FLOWMETERS HAVE PLASTIC INTERNAL PARTS THAT ARE RAPIDLY ATTACKED BY HYDROCARBON FLUIDS, SUCH AS GASOLINE, DIESEL FUEL, KEROSENE, AND SIMILAR MATERIALS. EVEN TRACE AMOUNTS OF THESE MATERIALS IN WATER WILL TEND TO ACCUMULATE IN THE PLASTIC PARTS, LEADING TO COMPLETE FAILURE OF THE FLOWMETER.

SECTION 2 AVAILABLE MODELS

	DESCRIPTION (BRONZE BODY)		
	Port Size	Normal Operating Range	Part Number
Water Meter	1/2"	1 to 20 GPM	FTB6105
Water Meter	3/4"	1 to 25 GPM	FTB6107
Water Meter	3/4"	2 to 30 GPM	FTB6107X
Water Meter	1"	3 to 50 GPM	FTB6110
Water Meter	1-1/2"	5 to 100 GPM	FTB6115
Water Meter	2"	8 to 160 GPM	FTB6120

	DESCRIPTION (POLYMER BODY)		
	Port Size	Normal Operating Range	Part Number
Water Meter	1/2"	1 to 25 GPM	FTB6205
Water Meter	3/4"	1 to 25 GPM	FTB6207
Water Meter	3/4"	2 to 30 GPM	FTB6207X

SECTION 3 INSTALLATION

3.1 UNPACKING

Remove the Packing list and verify that you have received all equipment, including the following (quantities in parentheses):

FTB6100 or FTB6200 Series Cold Water Meter (1)

Operator's Manual (1)

If you have any questions about the shipment, please call the OMEGA Customer Service Department. When you receive the shipment, inspect the container and equipment for signs of damage. Note any evidence of rough handling in transit. Immediately report any damage to the shipping agent.

NOTE

The carrier will not honor any claims unless all shipping material is saved for inspection. After examining and removing contents, save packing material and carton in the event reshipment is necessary.

3.2 INSTALLATION

The meter must be installed in a clean pipeline, free from any foreign materials. The dial must be mounted face upwards, no more than 45° from the horizontal.

The meter must be inserted with the flow in the direction of the arrow molded, or cast, into the meter body.

Couplings are provided, which allow for connection with NPT threads in sizes 1/2" through 1". The 1-1/2" and 2" meters have NPT screwed ends or oval flanged ends.

SECTION 4 START-UP PROCEDURE

The meter piston can be damaged if the meter is subjected to full flow conditions prior to expelling all the air from the piping. Therefore, turn on the flow gradually.

SECTION 5 SPECIFICATIONS

ACCURACY:	± 1-1/2% of reading at normal operating range
FLUID TEMPERATURE RANGE:	to + 120° F.
WETTED PARTS:	bronze or polyacetal body; graphite-impregnated polystyrene, molybdenum-loaded and glass-filled nylon, barium ferrite magnet and polyacetal internal wetted parts, neoprene gaskets, polymer strainer (stainless steel for 2" unit).
MAXIMUM PRESSURE DROP:	15 PSID at 1 CSTK
MAXIMUM PRESSURE:	150 PSIG
MAXIMUM TOTAL (MILLIONS OF GALLONS)	10 up to 1"; 100 for 1-1/2" and 2"

MODEL	NORMAL OPERATING RANGE	MIN. TEST FLOW GPM	LENGTH OVERALL (<-----)	DIA. INCHES	HEIGHT OVERALL (----->)	SHIPPING WEIGHT LBS.	"-PS" (PULSE/GAL)
FTB6105	1-20 GPM	0.25	7.5	4.75	5	6	STD/OPT 100/200
FTB6107	1-25 GPM	0.25	7.5	4.75	5	6	100/200
FTB6107X	2-30 GPM	0.50	9	4.75	5.5	15	66.6/133.2
FTB6110	3-50 GPM	0.75	10.75	7.06	6.94	24	24.6/49.2
FTB6115	5-100 GPM	1.5	12.63	7.5	8.5	26	11.3/22.6
FTB6120	8-160 GPM	2	15.25	8.75	10.5	42	5.6/11.1
FTB6205	0.25-25 GPM	0.25	7.5	4.82	5	4	100/200
FTB6207	0.25-25 GPM	0.25	7.5	4.82	5	4	100/200
FTB6207X	0.5-30 GPM	0.50	9	5.03	5.5	5	66.6/133.2

*minimum measurable with ± 5% of reading accuracy

SECTION 6 OPTIONS

Add suffix "-PT" or "-PS" for pulse output. Register is no longer hermetically sealed with pulse output, but is weatherproof. Pulse option adds 0.63 lb. to weight, and 2-3/4" height for PS. Pulse option adds 2 lbs. to weight and 2" height for PT.

Pulse Output Options:

6.1 "-PT": 1 pulse/gallon for 1" or smaller: 1 pulse/10 gallon for 1-1/2" and 2". PT pulser is a limit switch rated at 3A @125 VAC.

6.2 "-PS": Solid State requires 6-24 VDC, 3 wire. For pulse rate, see PS (pulse/gallon) above.

SECTION 6 OPTIONS

6.1 -PT OPTION

To be wired in series. Refer to Figure 1. This unit requires power from an external source.

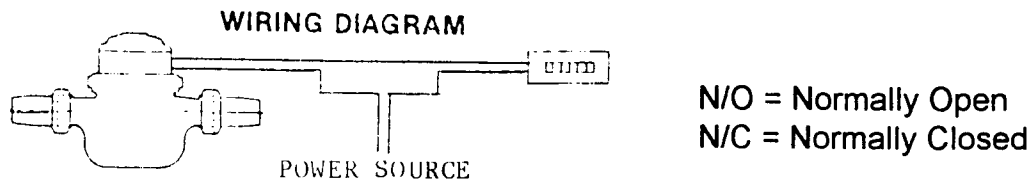


Figure 1. Wiring Diagram for - PT Option

The transmitting element is a 3A limit switch, giving a closure rate as follows:

5/8"	1 Contact Per Gallon
3/4"	1 Contact Per Gallon
1"	1 Contact Per Gallon
1-1/2"	1 Contact Per 10 Gallons
2"	1 Contact Per 10 Gallons

6.2 -PS OPTION (SOLID STATE)*

3-wire system. Refer to Figure 2. The unit requires power from an external source, 6-24 VDC, NEMA 4.

Red ----- + Positive Power Supply, 6-24 VDC
 Black ----- - Negative Ground
 White ----- Output

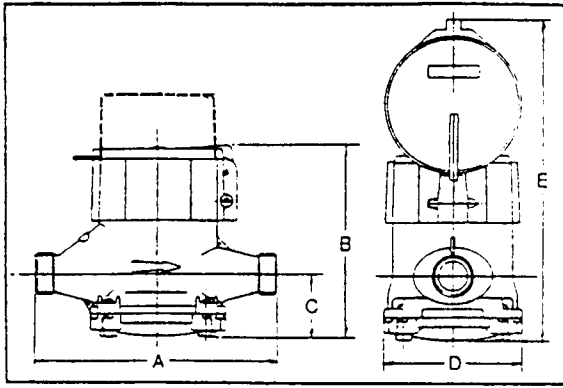
Figure 2. Wiring Diagram for New Solid State Pulsar -PS Option

The transmitting element is an open collector current sink (NPN)(20V mA max.) magnetically actuated to provide a 50/50 open/closed ratio. Supply Voltage: 6-24 VDC; Supply Current: 13.5 mA (max) (3 wire).

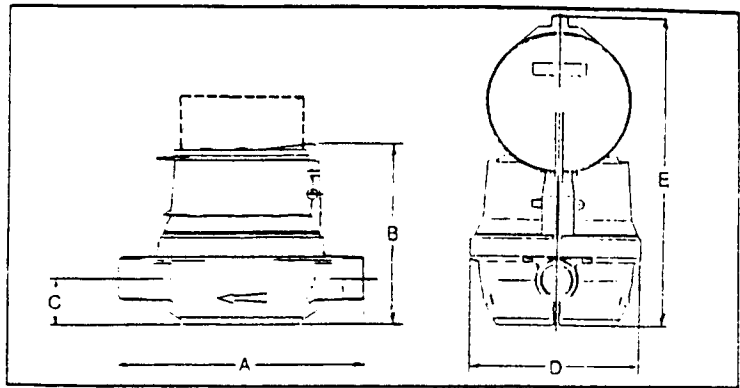
Contact Closures are:

SIZE	STANDARD (Contacts/gallon)	OPTIONAL (Contacts/gallon)
5/8" x 1/2" Improved Brz	115.2	230.4
5/8" x 3/4" Improved Brz	115.2	230.4
5/8" x 1/2" Polymer	100.0	200.0
5/8" x 3/4" Polymer	100.0	200.0
3/4" x 3/4" Brz/Poly	66.6	133.2
1" Bronze	24.6	49.2
1-1/2" Bronze	11.3	22.6
2" Bronze	5.6	11.1

* All previous hi-resolution pulsers (PS-type) were dry contact reed switches (3W) and were wired in series.



BRONZE BODY



POLYMER BODY

Dimensions and Net Weights

Meter Size	Dimensions (inches)					Weight (lbs.)
	A	B	C	D	E	
5/8" x 1/2"		SEE PAGE 7		7		
5/8" x 3/4"		SEE PAGE 7		7		
3/4" x 3/4"	9	6 ⁷ / ₁₆	2 ¹ / ₂	4 ¹ / ₂	10 ⁷ / ₁₆	8 ¹ / ₂
1"	10 ³ / ₄	7 ⁷ / ₁₆	2 ³ / ₁₆	7 ¹ / ₄	11 ⁷ / ₁₆	13

Dimensions and Net Weights

Meter Size	Dimensions (inches)					Weight (lbs.)
	A	B	C	D	E	
5/8" x 1/2"	7 ¹ / ₂	5 ³ / ₈	1 ³ / ₈	1 ³ / ₄	9 ³ / ₈	3 ¹ / ₄
5/8" x 3/4"	7 ¹ / ₂	5 ³ / ₈	1 ³ / ₈	1 ³ / ₄	9 ³ / ₈	3 ¹ / ₄
3/4" x 3/4"	9	5 ¹⁵ / ₁₆	1 ⁵ / ₁₆	5	9 ⁵ / ₁₆	3 ⁵ / ₈

When used with couplings, add to dimension (inches) A:

Size	Bronze Body	Polymer Body
5/8 X 1/2	4 7/8	4 3/4
5/8 X 3/4	5 1/8	5
3/4 X 3/4	5 1/8	5
1	5 3/8	

When used with pulser, add to dimension B:

Pulsers model PT * 2 3/16

Pulsers model PS 2 3/4

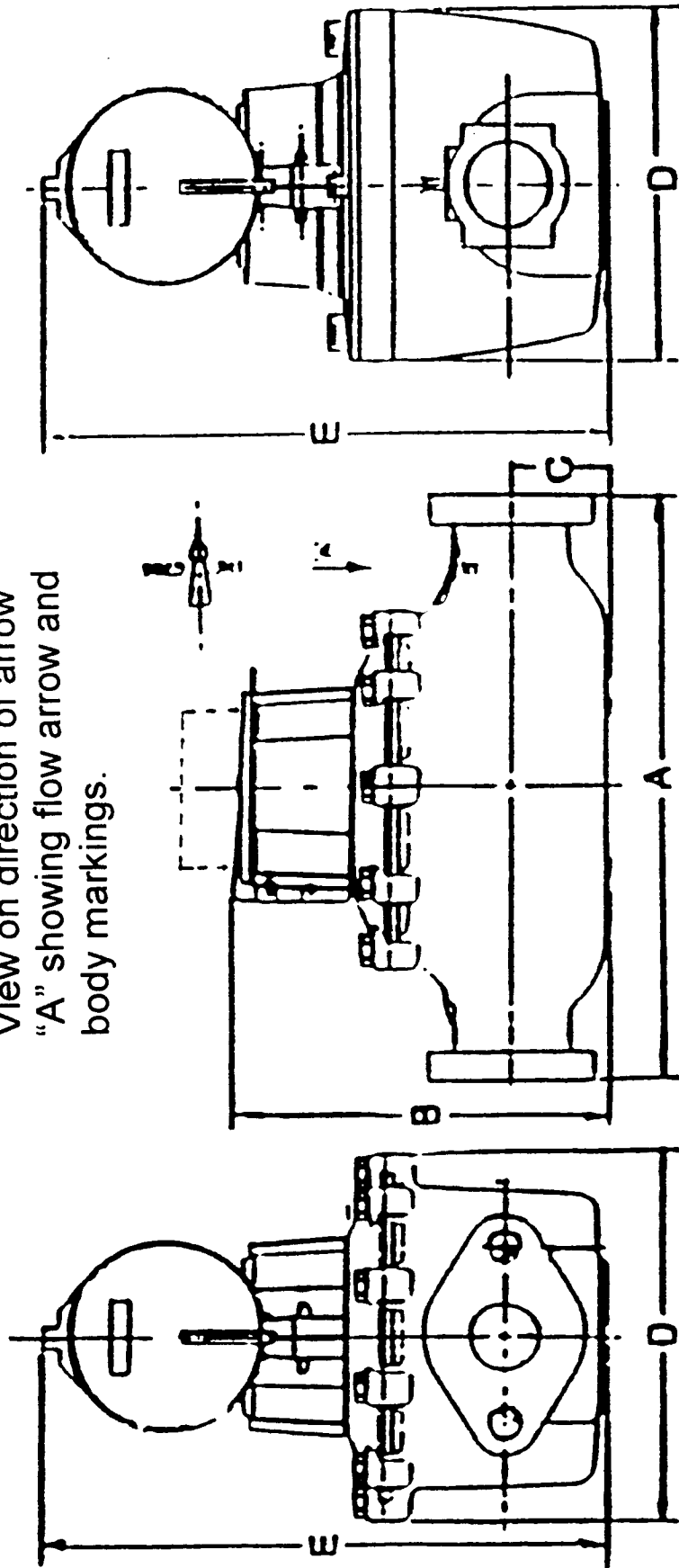
*Dotted line shows position of PT pulsers

Cover is deleted when meter is provided with a pulser.

NOTE: All above dimensions are inch measurements.

DIMENSIONS COLD WATER METERS	
FTB 6105	FTB 6205
FTB 6107	FTB 6207
FTB 6107X	FTB 6207X
FTB 6110	

View on direction of arrow
 "A" showing flow arrow and
 body markings.



SIZE	LENGTH (A)	HEIGHT (B)	CENTER LINE TO BOTTOM (C)	DIAMETER (D)	HEIGHT W/LID UP (E)	HEIGHT		SHIPPING WEIGHT (LBS)
						PT	PS	
1 1/2"	13"	8 1/2"	2 1/8"	8 1/2"	12 1/4"	10 7/16"	11 1/4"	24 6/8
2"	17"	10 1/4"	1 3/4"	8 3/4"	14 1/4"	12 5/16"	13"	42 7/8

Connections are oval flanged or NPT Female.

Meters are designed for Cold Water Service up to 120°F.

At 150 PSIG. Strainers with a 40 Mesh Screen should be used if foreign matter is present.

NOTE: Dotted line shows position of PT or PS Pulser.

Cover is deleted when meter is provided with a pulser.

DIMENSIONS

FTB 6115 FTB 6120
 COLD WATER METER