



I. Functions and characteristics

- 1.) Model: EKM-SPWM-075-CF
- 2.) 3/4" water flow meter for measuring water flow in cubic feet.
- 3.) With pulse-output communication for remote reading.
- 4.) No power source required.
- 5.) Has received California Type Approval for revenue grade accuracy from the California Department of Weights and Measures.

II. Technical specifications

- 1.) Class B
- 2.) Dimensions: 295mm long x 84mm wide x 116mm tall
- 3.) Weight: 2 lbs., 12 oz.
- 4.) Materials: Stainless Steel – grade 304 and 201 (see fig. 4)
- 5.) Pulse rate: 1 pulse / 0.1 cu. ft; 1 pulse = approx. 0.75 gal.
- 6.) Accuracy: 5% from Qmin to Qt, 2% from Qt to Qs
- 7.) Maximum reading before zeroing: 9,999,999.99 cu. ft (Approx. 75,000,000 gal.)
- 8.) Minimum reading: 0.0035 cu. ft
- 9.) Maximum operating pressure: 140 psi
- 10.) Minimum flow (Qmin): 1.77 cu. ft/hr
- 11.) Overload flow (Qs): 176.5 cu. ft/hr
- 12.) Nominal flow (Qp): 88 cu. ft/hr
- 13.) Transitional Flow (Qt): 7 cu. ft/hr
- 14.) Temperature range: 0-40 deg C / 32-104 deg F
- 15.) 3/4 Inch NPT male threads

III. Operation

This meter can be used as a traditional water meter where the water consumption is read off of the face of the meter. It also has the added functionality of being able to connect the pulse-output wires to a pulse counting device. This meter produces a pulse for every 1/10 cubic foot (approx. 0.75 gallon, or 2.83 liters) that flows by the meter. This pulse-output water meter can be connected to our EKM-Omnimeter Pulse v.4 (Fig 1). The pulse counting devices can then be connected to a computer, either locally or over the internet.

IV. Installation

- 1.) We recommend that this meter be installed by a qualified plumber.
- 2.) Install horizontally with the dials facing upwards. (Fig 2)
- 3.) For best accuracy, make sure the length of pipe before the meter is straight and that it is at least 10x the diameter of the pipe. The pipe after the exit of the water meter should also be straight and at least 5x the diameter of the pipe.
- 4.) Place gaskets between the mating surfaces of the meter body and the male threaded adapter.

- 5.) Tighten the threaded adapter onto the meter body using the nut.
- 6.) Use teflon tape or pipe dope when connecting other pipe fittings to the meter's NPT pipe threads.

**Note: You do not need to use dielectric unions when connecting dissimilar metal fittings to the stainless fittings provided with the meter.*

V. Pulse Output

- 1.) Use in conjunction with our 8 Digit Pulse Counter to see a digital display of the total pulse counts.
- 2.) Use in conjunction with our EKM-Omnimeter Pulse v.4 for remote metering applications.
- 3.) The EKM-Omnimeter Pulse v.4 has ports for three separate pulse inputs (ports 11, 12 and 13). All of the pulse input devices share a common ground wire (Port 14). The wires can be up to 10,000' long.
- 4.) Connect the red wire from the water meter to port 11, 12, or 13.
- 5.) Connect the black wire to port 14. See (Fig. 1)
- 6.) The easiest way to power the EKM-Omnimeter Pulse v.4 is with 110v AC. Connect a hot leg into port 7 and the neutral into port 10.

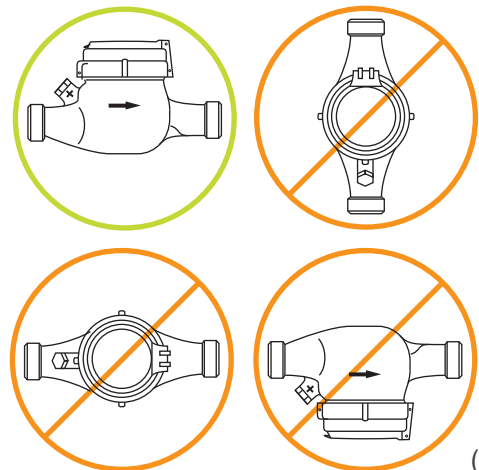
For more information on how to read this meter remotely we recommend watching this video: <https://youtu.be/I8oYAUmuBD8>

You can also refer to the various communication devices that we offer on our website.



(Fig. 1)

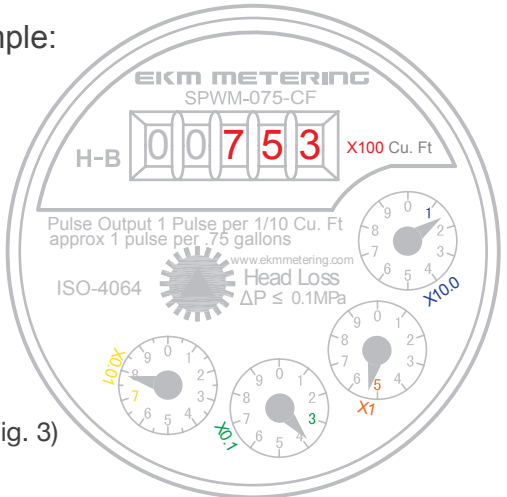
Install Horizontally with the Dial Facing Up



(Fig. 2)

V. Reading Your Meter

Example:



(Fig. 3)

$$\begin{aligned}
 & (753 \times 100) \\
 & + (1 \times 10) \\
 & + (5 \times 1) \\
 & + (3 \times 0.1) \\
 & + (7 \times 0.01) \\
 & = 75,315.37 \text{ ft}^3
 \end{aligned}$$

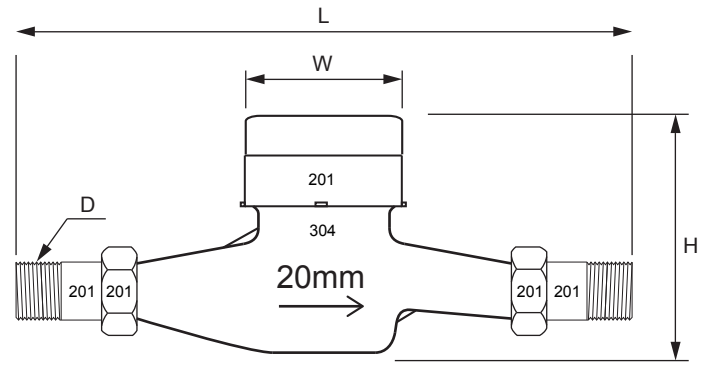
Conversion Multipliers:	
Cubic Feet:	x1
Pulses:	x10
Gallons:	x 7.48052
Cubic Meters:	x 0.0283168
Liters:	x 28.3168

- 75,315.37 x 1 = 75,315.37 cubic feet
- 75,315.37 x 10 = 753,153 pulses
- 75,315.37 x 7.48052 = 563,398.09 gallons
- 75,315.37 x 0.0283168 = 2,132.69 cubic meters
- 75,315.37 x 28.3168 = 2,132,693.78 Liters

* Note: Most Utilities in the United States round to the nearest 100 cubic feet. So in this case, only the red portion above, showing 75,300, would be necessary for determining usage.

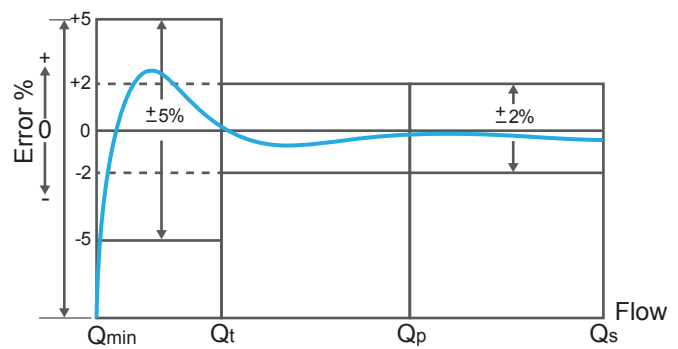
VI. Dimensions and Weight

MODEL	SIZE	L	W	H	D	WEIGHT
SPWM-075-CF	20mm	295mm	84mm	116mm	3/4" NPT	2.75 lbs.



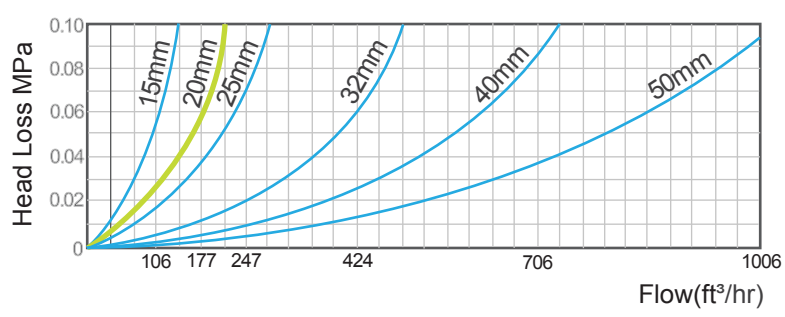
(Fig. 4)

VII. Error Curve:



(Fig. 5)

VIII. Head Loss Curve:



(Fig. 6)