

3/4" Vertical Hot Water Meter - Stainless Steel, High Definition Pulse Output **Spec Sheet**



I. Functions and characteristics

- 1.) Model: EKM-HOT-VSPWM-075-HD
- 2.) 3/4" vertical water flow meter for measuring hot water flow in Ft³.
- 3.) Robust cast stainless steel body and fittings
- 4.) With pulse-output communication for remote reading.
- 5.) High Definition (HD) pulse output rate for high granularity data and leak detection.
- 6.) No power source required.

II. Technical specifications

- 1.) Class B
- 2.) Dimensions: 145mm long x 82mm wide x 216mm tall
- 3.) Weight: 4 lbs., 4 oz.
- 4.) Casing: Stainless Steel 304
- 5.) Pulse rate: 1 pulse / 0.01 cu. ft; 1 pulse = approx. 0.075 gal.
- 6.) Accuracy: 5% from Q_{min} to Q_t, 1.5% from Q_t to Q_s
- 7.) Maximum reading before zeroing: 999,999.999 cu. ft (Approx. 7,500,000.0 gal.)
- 8.) Minimum reading: 0.0035 cu. ft
- 9.) Maximum operating pressure: 140 psi
- 10.) Minimum flow (Q_{min}): 1.8 cu. ft/hr
- 11.) Overload flow (Q_s): 176.6 cu. ft/hr
- 12.) Nominal flow (Q_p): 88.3 cu. ft/hr
- 13.) Transitional Flow (Q_t): 7.1 cu. ft/hr
- 14.) Temperature range: 0-90 °C / 32-194 °F
- 15.) 3/4 Inch NPT male threads

III. Operation

This meter can be used as a traditional hot 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 1/100 cubic foot (approx 0.075 gallon, or .283 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 dial facing upwards. (Fig 2)
- 3.) Use teflon tape or pipe dope when connecting pipe fittings to the meter's NPT pipe threads.
- 4.) We recommend that you insulate the meter to prevent condensation from forming under the clear plastic face of the meter. Condensation can build up when there is a temperature differential between the air inside and outside of the meter. Hot water makes this differential even more extreme because of the wider temperature difference between the inside and outside air. The best way to prevent condensation from forming is to insulate the meter really well. In particular, insulating the face of the meter really well is recommended. You can simply wrap the meter in a towel or use some other type of insulating material.
- 5.) *Note: You do not need to use dielectric unions when connecting the meter adapters to copper or brass fittings

V. Pulse Output

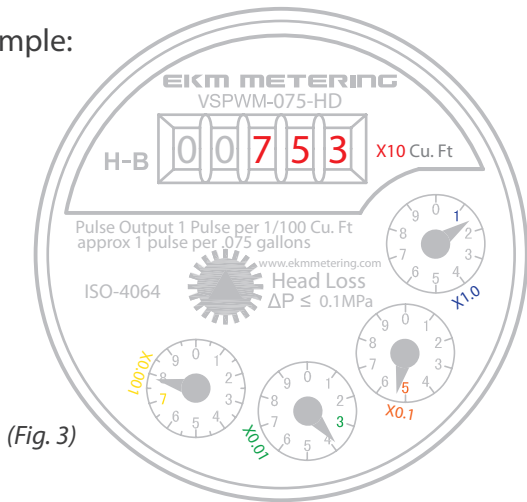
- 1.) Use in conjunction with our 8 Digit Pulse Counter to see a digital display of the total pulse counts.
- 2.) Use in conjunction with our EKM-Omnimeter Pulse v.4 for remote metering applications.
- 3.) The EKM-Omnimeter Pulse v.4 has ports for three separate pulse inputs (ports 11, 12 and 13). All of the pulse input devices share a common ground wire (Port 14). These wires can be up to 200 feet long.
- 4.) Connect the red wire from the water meter to either port 11, 12, or 13.
- 5.) Connect the black wire to port 14 See (Fig. 1). You can disregard the white wire.
- 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, please refer to the various communication devices that we offer on our website.



(Fig. 1)

V. Reading Your Meter

Example:



(Fig. 3)

$$\begin{aligned}
 & (753 \times 10) \\
 & + (1 \times 1) \\
 & + (5 \times 0.1) \\
 & + (3 \times 0.01) \\
 & + (7 \times 0.001) \\
 & = 7,531.537 \text{ ft}^3
 \end{aligned}$$

Conversion Multipliers:

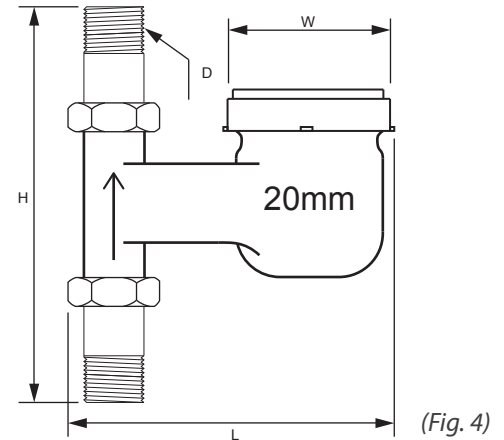
Cubic Feet: x1
 Pulses: x100
 Gallons: x 7.48052
 Cubic Meters: x 0.0283168
 Liters: x 28.3168

$$\begin{aligned}
 7,531.537 \text{ ft}^3 \times 1 &= 7,531.537 \text{ cubic feet} \\
 7,531.537 \text{ ft}^3 \times 100 &= 753,153 \text{ pulses} \\
 7,531.537 \text{ ft}^3 \times 7.48052 &= 56,339.81 \text{ gallons} \\
 7,531.537 \text{ ft}^3 \times 0.0283168 &= 213.27 \text{ cubic meters} \\
 7,531.537 \text{ ft}^3 \times 28.3168 &= 213,269.38 \text{ Liters}
 \end{aligned}$$

* **Note:** Most Utilities in the United States round to the nearest 100 cubic feet. So in this case, only the red portion above, showing 7,530, would be necessary for determining usage.

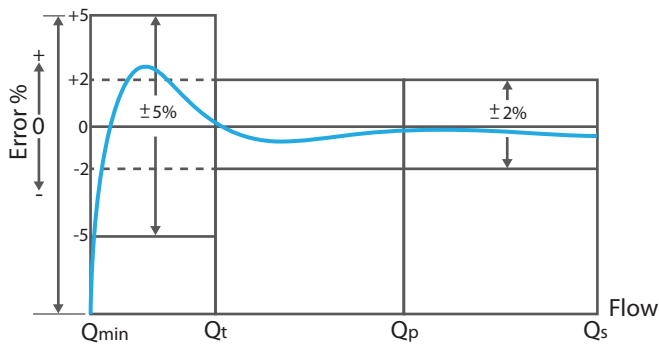
VI. Dimensions and Weight

| Model | Size | L | W | H | D | Weight |
|--------------|------|-------|------|-------|----------|-----------|
| VSPWM-075-HD | 20mm | 145mm | 82mm | 216mm | 3/4" NPT | 4.25 lbs. |



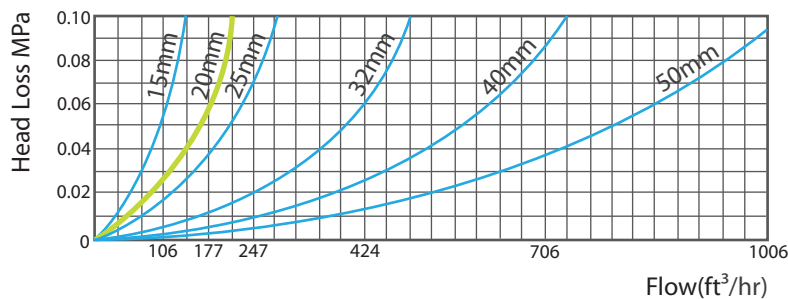
(Fig. 4)

VII. Error Curve:



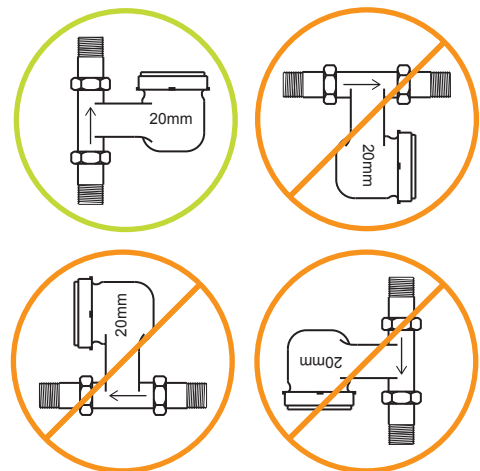
(Fig. 5)

VIII. Head Loss Curve:



(Fig. 6)

Install Vertically with the Dial Facing Up



(Fig. 2)