

accuSTREAM™ Meters

Installation and Operating Instructions

INSTALLATION INSTRUCTIONS

The Sensus accuSTREAM Meter is a positive displacement oscillating piston meter. It is constructed to meet the general requirements of American Water Works standard specifications C710-02. Meters should be installed in a horizontal line in such a position that the register is readily accessible for reading. They should be installed on the discharge side of any pump, with the flow directional arrow pointed toward the downstream. If a pump is installed on the outlet side of the meter, a minimum of ten diameters of straight pipe should be immediately downstream of the meter to obtain valid meter registration.

Suitable shut-off valves should be installed adjacent to the inlet and outlet of the meter so that service may be shut off if it is necessary to remove the meter. If a meter is set in a service that cannot be shut off during maintenance, a bypass should be installed around the meter, or some other approved means should be provided to keep the service open. Care should be taken when cutting, threading, or joining pipe that cuttings, pipe dope, solder, or other debris do not get into the inside of pipe. Before any meter is placed in service, the line adjacent to the meter inlet should be flushed to remove any debris.

An electrical grounding strap should be connected across the meter opening to both pipes. This protects the operator whenever repair or meter removal is required.

If a pressure reducing valve is required in the service line, it is to be installed downstream of the meter (between the meter and the end user). Local plumbing codes or local practices usually determine when this is needed.

OPERATING INSTRUCTIONS

After the meter is installed and service is ready to be turned on, make sure that both shut-off valves adjacent to the inlet and outlet of the meter are closed. Start the pump or other source of water supply. Slowly open the valve adjacent to the meter's inlet to fill the meter with water. Then, slowly open the valve adjacent to the meter's outlet to fill the balance of system with water. By opening the valves slowly in this sequence, the piston and other meter parts will be protected from breakage due to hydraulic shock which often occurs when a swift flow of water is suddenly emptied into a dry meter.

In the Sensus accuSTREAM Meter, the motion of the oscillating piston in the measuring chamber is transmitted by permanent face drive type magnets to the sealed register. This powerful magnetic coupling operates between a driver magnet, rotated by the piston hub, and a follower magnet, sealed inside the register case which is mounted to the meter maincase above the measuring chamber. The motion of the follower magnet turns a shaft which is attached to the first pinion of the register's gear reduction. The instrument type gearing requires only a small portion of the driving force available from the magnetic coupling. Thus, the register accurately and positively follows every movement of the piston, no matter how slight it may be.

Below is a table showing standard meter capacities and the minimum acceptable meter accuracy specified by AWWA Standard C710-02 in services at pressures not exceeding 150 PSI and water temperatures not in excess of 80°F. The Sensus accuSTREAM Meter exceeds these requirements.

SIZE	MAXIMUM OPERATING CAPACITY	NORMAL TEST FLOW	REQUIRED ACCURACY	MINIMUM TEST FLOW	REQUIRED ACCURACY
5/8"	20 GPM	1-20 GPM	98.5-101.5%	1/4 GPM	95%
3/4"	30 GPM	2-30 GPM	98.5-101.5%	1/2 GPM	95%
1"	50 GPM	3-50 GPM	98.5-101.5%	3/4 GPM	95%

Meters properly selected as to size and type will give satisfactory service over a long period of time without maintenance. However, certain operating conditions should be observed. The safe maximum operating capacity listed above represents the maximum rate of flow at which water should be passed through a meter. Maximum or peak loads should only be imposed on the meter for short, intermittent periods. In general, any 5/8" through 1" displacement type meter should not be operated on a continuous 24-hour service at flows greater than 1/2 the maximum capacity.

Under ordinary conditions, meters should be inspected and maintained at regular intervals to insure that they are functioning properly. It is essential that meters be subjected to periodic testing. The interval between tests must be governed by local water conditions. Under average conditions, the following intervals are recommended for Sensus accuSTREAM Water Meters:

5/8" - 15 years
 3/4" - 15 years
 1" - 15 years

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