Isco Product Data

Isco Flow Metering Inserts

Isco Flow Metering Inserts provide a quick and accurate means of measuring and recording flow in round sewer pipes. Their unique design allows you to install the metering inserts from ground level, eliminating the costs and hazards of manhole entry.

The metering inserts are designed for use with the Isco 730 and 4230 bubbler flow meters. They are ideal for short-term (a few hours) or long-term (several weeks) flow measurement studies.

Versatile and Accurate

Isco Flow Metering Inserts allow you to accurately measure flow in pipes from 6 inch to 12 inch diameter, in manholes up to 16 feet deep. Tested and calibrated† by St. Anthony Falls Hydraulics Laboratory at the University of Minnesota, the metering inserts provide accurate measurement from 1 to 640 gpm.

Durable Construction

Isco Flow Metering Inserts are constructed of durable, corrosion-resistant aluminum and plastic. A complete system consists of a metering insert and interlocking pole sections. Each metering insert includes an integral round orifice for measuring higher flow rates. An attachable 60° V-notch weir plate provides higher accuracy at lower flow rates.

Simple Setup and Operation

Connect the metering insert to the bubbler flow meter, adjust the bubble rate to about one bubble per second, and set the flow meter level reading to zero. The interlocking pole sections and the metering insert then snap together without tools. Using the pole from ground level, lower the metering insert into the manhole and position it in the upstream pipe.

Using the included pump, inflate the rubber bladder on the metering insert to seal and secure the insert in place. The Isco bubbler flow meter then measures and records flow in the sewer. Installing an Isco Flow Metering Insert takes just minutes, and completely eliminates the hassles of installing a weir or flume in a manhole.

When your monitoring project is completed, removing the insert is easy. Simply deflate the bladder and use the pole to lift the metering insert to ground level. You can then quickly disassemble the metering insert for storage or transportation between monitoring sites.

†Actual calibration test results available upon request.

Flow Metering Inserts eliminate the costs and hazards of manhole entry and the need for weirs or flumes.

Specifications

Isco Flow Metering Inserts	
Equipment Provided	One Flow Metering Insert with attachable 60° V-notch weir plate and 20 ft (6.1 m) inflation/bubbler hose Five 2.5 ft (0.76 m) pole sections Foot pump for inflation of rubber bladder Right angle pole
Metering Insert Sizes	6, 8, 10, 12 inches (150, 200, 250, 300 mm)
Maximum Manhole Depth *(approximate)*	16 feet (4.9 meters)
Typical Accuracy *(Max error for pipe slopes ≤ 2.5%)*	
Below 20 gpm(1.3 l/s)	±1 gpm (±0.063 l/s)
20 to 40 gpm (1.3 to 2.5 l/s)	±2 gpm (±0.13 l/s)
Above 40 gpm (2.5 l/s)	±5 % of reading

Flow Range for 6 inch (150 mm) Insert	
with V-notch weir	1 to 90 gpm (0.063 to 5.7 l/s)
with round orifice	5 to 180 gpm (0.32 to 11 l/s)
Flow Range for 8 inch (200 mm) Insert	
with V-notch weir	1 to 160 gpm (0.063 to 10 l/s)
with round orifice	10 to 320 gpm (0.63 to 20 l/s)
Flow Range for 10 inch (250 mm) Insert	
with V-notch weir	1 to 230 gpm (0.063 to 15 l/s)
with round orifice	20 to 480 gpm (1.3 to 30 l/s)
Flow Range for 12 inch (300 mm) Insert	
with V-notch weir	1 to 320 gpm (0.063 to 20 l/s)
with round orifice	40 to 640 gpm (2.5 to 40 l/s)

Ordering Information

Description	Part Number
6 inch (150 mm) **Flow Metering Insert**	**68-3230-005**
8 inch (200 mm) **Flow Metering Insert**	**68-3230-006**
10 inch (250 mm) **Flow Metering Insert**	**68-3230-007**
12 inch (300 mm) **Flow Metering Insert**	**68-3230-008**

Above: Each kit comes complete with pole sections and pump for inflating the bladder. Below: positioning the metering insert into the upstream side of a manhole.