



Badger Meter Europa

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## Manhole flume



### Features

- Own manufacturing
- Available from DN100 – DN300
- Measuring range from 0,3 l/s – 94 l/s
- Minimum channel downgrade from 2 - 5 ‰
- Easy maintenance

### General

The Manhole flume is a low head loss, flow measurement device especially designed to easily fit into standard manholes.

No enlargement of the manhole riser or lid is necessary. The flume adapts to any standard waste water conveyance pipe. This flume allows accurate measurement over an flow range 0,3 – 94 l/s when compared to other inserts. The upstream approach and throat velocities significantly reduce solids deposition.

Due to the proportional head rise/flow rate characteristics for all Manhole flumes, the unit can be used in conjunction with a Badger Meter model iSonic 3000 ultrasonic flow meter to compute the flow rate.

### Sizing

Selection of a Manhole flume is dependent on manhole pipe size. Flumes are available for pipe sizes 100, 150, 200, 250 and 300 mm (4", 6", 8", 10" and 12") to accommodate a large percentage of metering applications. The flume's design allows accurate monitoring of extremely low flow.

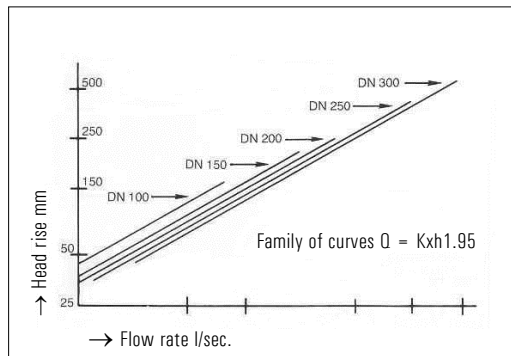
### Description

The Manhole flume is a variation of the Venturi concept designed for easy installation in standard manholes. Its fiberglass reinforced polyester construction, for long life and corrosion resistance, incorporates a low head trapezoidal design in conjunction with a hooded outlet collector and pipe spud. The hooded section, following the throat, prevents bypass leakage under normal flows, yet allows nearly unrestricted flows during emergency conditions. This minimizes the problems associated with other types of weirs or flumes during excessive flooding.

### Calibration

The Manhole flume family exhibits reproducible head rise/flow characteristics throughout its size range. The flumes are characterized by the common equation:  
 $Q = Kx_{hn}$

## Manhole flume capacities

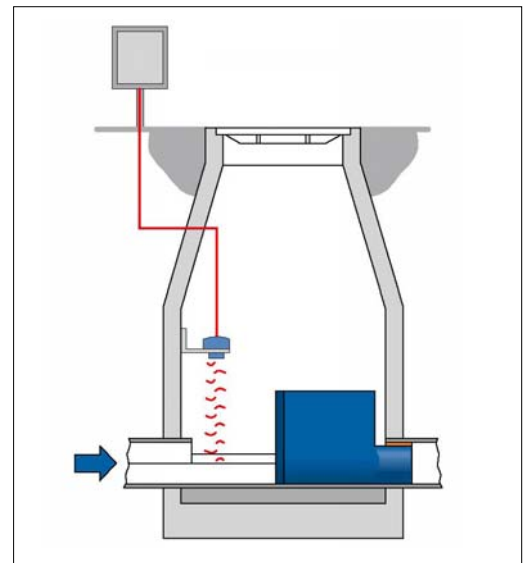


## Installation procedure

1. The Manhole flume is inserted into the outlet pipe of the manhole and firmly pushed until the spud is tightly secured in the sewer pipe.
2. Level in both planes to assure the flume is plumb.
3. Seal around the spud to prevent leakage.
4. The flow transmitter is then mounted according to the manufacturer's recommendations. The head rise shall be measured approximately one pipe diameter up-stream of the flume.
5. Minimum downgrade in the channel: 2 – 5 ‰

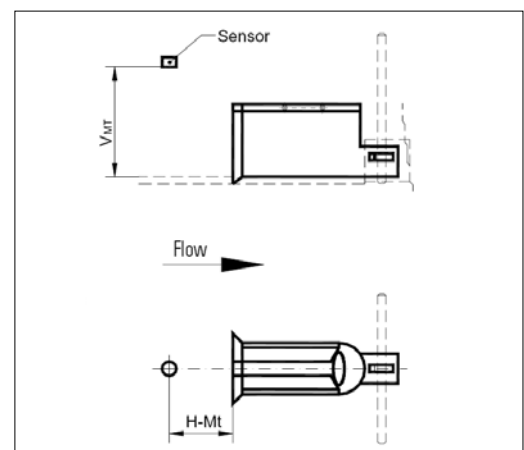
## Mounting position of the iSonic ultrasonic sensor

Size	Max. flow	Max. water level	V-Mt	H-Mt
DN/Inch	l/sec	mm	mm	mm
100/4"	5	148	600	146
150/6"	16	226	600	197
200/8"	35	312	600	248
250/10"	63	395	700	298
300/12"	94	457	700	349



## Dimensions

Manhole flume						
Ø mm	Length mm	Width mm	Weight kg	Max. level height mm	Min. flow l/s	Max. flow l/s
100	447	192	1,8	148	0,3	5
150	492	246	3,6	226	0,6	16
200	613	326	5,4	312	0,7	35
250	729	396	7,7	395	1	63
300	851	477	10,8	457	3	94



## Badger Meter flow meters with Manhole flume and ultrasonic level meter iSonic 3000

