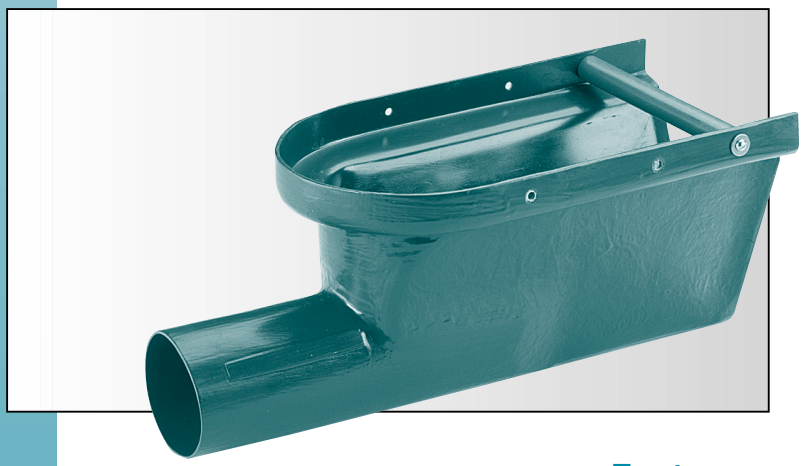
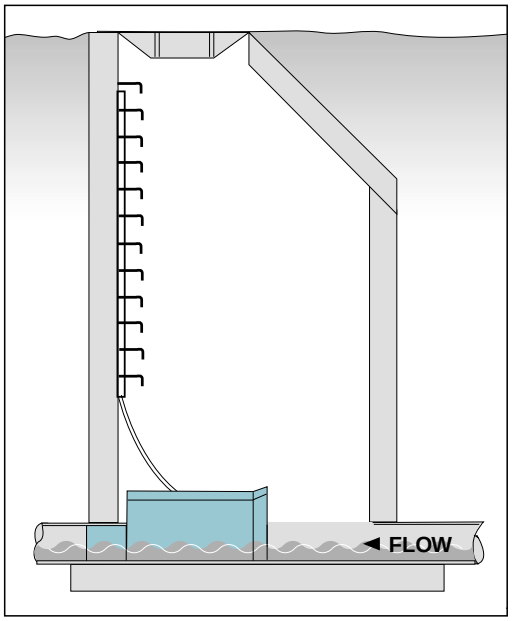
# Manhole Flume™



## Features

- Easy Installation
- Excellent Rangeability
- Adapts to Standard Wastewater Conveyance Pipe
- Accurate
- Sized to Fit 4" to 12" Pipe




## General

The Manhole Flume* is a unique variation of the Parshall concept designed for easy installation in standard manholes. Its fiberglass reinforced polyester resin 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.

## Description

The Manhole Flume is a low head loss, self-cleaning 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 wastewater conveyance pipe. The Eastech Badger flume allows accurate measurement over an unsurpassed flow range when compared to other inserts. The upstream approach and throat velocities significantly reduce solids deposition.

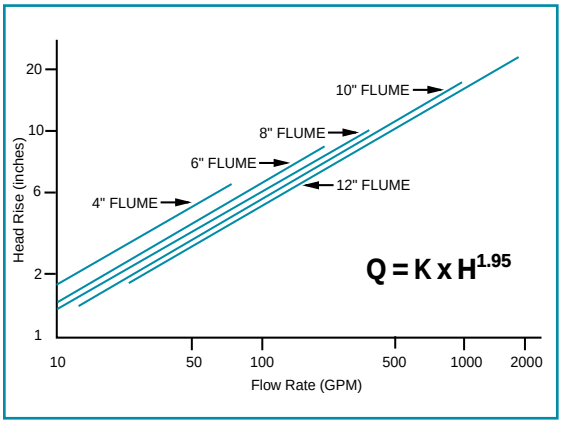
Due to the proportional head rise/flow rate characteristics for all Manhole Flumes, the unit can be used in conjunction with the Eastech Badger Vantage 2200 ultrasonic flow meter to compute the flow rate.

## Sizing

Selection of a Manhole Flume is dependent upon manhole pipe size. Flumes are available for pipe sizes 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 while having excellent rangeability - much greater than other insert flumes.

*U.S. Patent No. 3934472

## Manhole Flume Capacities




## Calibrations

The Manhole Flume exhibits reproducible head rise/flow characteristics throughout its size range. The flumes are characterized by the common equation: $Q = K \times H^{1.95}$

| Flume | K factor |
|---|---|
| 4” | 2.88 |
| 6” | 3.72 |
| 8” | 4.21 |
| 10” | 4.75 |
| 12” | 5.34 |

**Q = Flow (GPM)**

**K = K factor**

**H = Head Rise (inches)**

## Ordering Guide and Dimensional Data

| Pipe I.D. Dia. | Model | Std. Flume Length | Std. Flume Width | Approx. Flume Weight | Max Flow | Max Head Rise |
|---|---|---|---|---|---|---|
| 4” | MF4 | 17.59” | 7.55” | 4 lbs. | 90 gpm | 5.84” |
| 6” | MF6 | 19.37” | 9.68” | 8 lbs. | 250 gpm | 8.65” |
| 8” | MF8 | 24.12” | 12.82” | 12 lbs. | 550 gpm | 12.17” |
| 10” | MF10 | 28.69” | 15.59” | 17 lbs. | 1000 gpm | 15.54” |
| 12” | MF12 | 33.49” | 18.78” | 24 lbs. | 1500 gpm | 18.00” |

Measuring point is one pipe diameter upstream from throat.

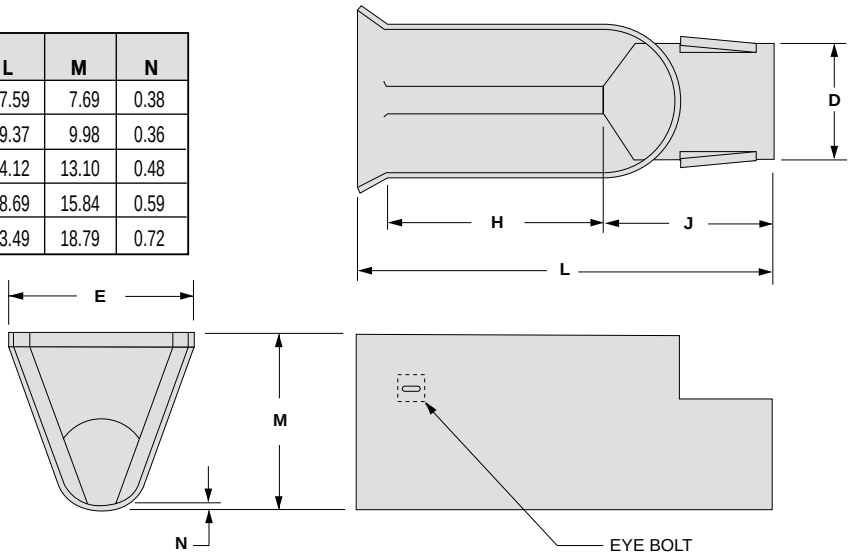
## Sample Specifications

An Eastech Badger Manhole Flume™, Model _____, shall be installed in the _____inch diameter pipe as shown in the plans and in accordance with the manufacturer’s recommendations. The Manhole Flume shall be a single unit construction of fiberglass reinforced polyester consisting of a measuring throat, hooded outlet section and a pipe spud for insertion into the discharging pipe. The flume shall have a common head versus flow relationship for all sizes.

## Flume Dimensions

**FLUME DIMENSIONS (inches)**

| Nom. Pipe D | E | H | J | L | M | N |
|---|---|---|---|---|---|---|
| 4” | 7.55 | 6.00 | 10.94 | 17.59 | 7.69 | 0.38 |
| 6” | 9.68 | 9.00 | 9.03 | 19.37 | 9.98 | 0.36 |
| 8” | 12.82 | 12.00 | 10.33 | 24.12 | 13.10 | 0.48 |
| 10” | 15.59 | 15.00 | 11.49 | 28.69 | 15.84 | 0.59 |
| 12” | 18.78 | 18.00 | 12.80 | 33.49 | 18.79 | 0.72 |

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Eastech Badger
FLOW TECHNOLOGY GROUP

4250 S. 76th E. Avenue • Tulsa, OK • 74145
918-664-1212 • 800-226-3569 • Fax: 918-664-8494 • email: eastechbadger.com