

HS / H / HL FLUMES



The 1930's saw the development of a simple flume to measure run-off from small plots and experimental catchments by the Soil Conservation Service, U.S. Department of Agriculture. The H flume, so called as it was the eighth design in a series starting with "A", combines the sensitivity of a sharp-crested weir with the self-cleaning properties of a flume.

H Series flumes (HS / H / HL) consists of a uniformly converging section, rectangular in cross-section, and a flat floor. The throat is formed by sloping the tops of the sidewalls downwards in the direction of flow. Thus, as the level in the flume increases, the point at which the flow overtops the sidewalls moves further upstream, so that the effective crest width also increases.

The result is that that H Type flumes are able to accurately measure flows lower than other flumes, including the popular Parshall and low flow Trapezoidal flumes, while still being capable of measuring high flows.

There are three styles of flumes in the H Series:

- HS: low flows (0.00016 to 0.803 cfs) [0.0045 to 22.74 l/s]
 - H: medium flows (0.0004 to 84.0 cfs) [0.0113 to 2,379 l/s]
 - HL: high flows (0.005 cfs to 116 cfs) [0.1416 to 3,285 l/s]
- and out of the flume (a side benefit of which is less scouring).

APPLICATIONS



- *Edge-of-Field Studies*
- *Surface Waters*
- *Industrial Discharge*
- *Stormwater*
- *Landfill Leachate*
- *Acid Mine Discharge*
- *Dam Seepage Monitoring*
- *Feedlot Runoff*
- *Watershed / Drainage Studies*

MATERIALS



- *Aluminum*
- *Galvanized Steel*
- *Fiberglass (FRP / GRP)*
- *Lexan*
- *PVC*
- *Stainless Steel*

Dimensionless

H Series flumes are, by flume style, dimensionless in that one flume size is identical to another flume size of the same style, differing only in scale. While similar, the geometries of each style do vary, with the width and the length increasing from the HS (the narrowest and shortest) through the H and to the HL (the widest and longest).

Approach Sections

Upstream channels are typically provided to smooth and transition flow into H flumes. These channels are commonly integral to the flume itself and are usually have a length 3 to 5 times that maximum anticipated head (or in lieu of this, the depth of the flume).

Discharge Characteristics

The H Series of flumes (HS / H / HL) are well suited to both very low and very high flow rates, having the widest operating range of any short or long-throated flume.

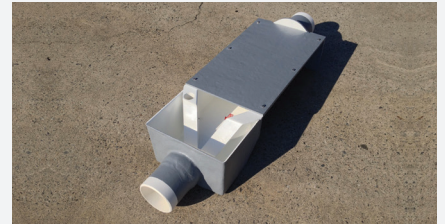
Unfortunately in publishing their work, the USDA indicated that the flow was governed by three distinct flow equations: one for low flows, one for transitional flows, and one for main flows. For flow meters not pre-programed, points must be entered or a general (less accurate) best fit equation must be used.

Customization

Openchannelflow offers a wide range of mounting, connection, and flow / level measurement accessories to help you customize your flume to your specific site needs.

Openchannelflow manufactures the widest selection of flumes for the measurement of water and wastewater. Accurate and cost effective, Openchannelflow flumes are highly customizable and built to withstand the most demanding of applications.

MOUNTING



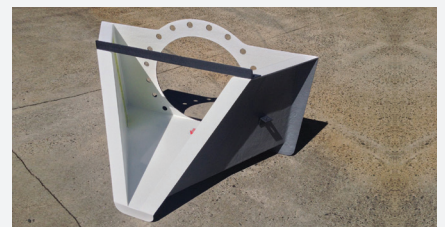
- *Free-Standing*
- *Earthen Channel*
- *Packaged Metering Manholes*
- *Above Grade Enclosures*

FLOW/LEVEL



- *Staff Gauges*
- *Stilling Wells*
- *Bubbler Tubes*
- *Ultrasonic Sensor Brackets*

END CONNECTIONS



- *Pipe Stubs*
- *Flanges*
- *Caulking Collars*
- *Wing Walls*