Flow Straighteners and Flow Conditioner

General Instruments manufactures flow conditioners and flow straighteners for flow meter, process and pump system applications.

Most flow meter technologies require significant and often unattainable upstream and downstream straight-run to meet and sustain specified accuracy. Similarly, most pump and compressor manufacturers recommend significant straight-run to ensure even flow into the pump to minimize wear and maximize service life.

Flow straighteners / conditioners reduce straight-run requirements to just a few diameters. General flow straighteners / conditioners eliminate the flow distortion effects of elbows, pipe expansion or reductions, valves, dampeners and other disrupters to produce a swirl-free, symmetrical and repeatable flow profile to the flow meter, pump, or other critical components.

Further, our flow conditioners have extremely low pressure drop, resulting in significant energy cost savings over alternative flow conditioning technologies.

Flow Straighteners / conditioners are available in straight-pipe runs, a unique 90° elbow, and insertion panel designs for virtually any pipe, tube or duct size.

General flow conditioners and straighteners enhance accuracy for many flowmeter technologies

Flowmeters require a swirl-free repeatable and symmetric velocity profile to operate within stated accuracy specifications. Flow disturbances caused by ball valves, elbows, headers, and blowers for example may adversely affect a flowmeters accuracy.

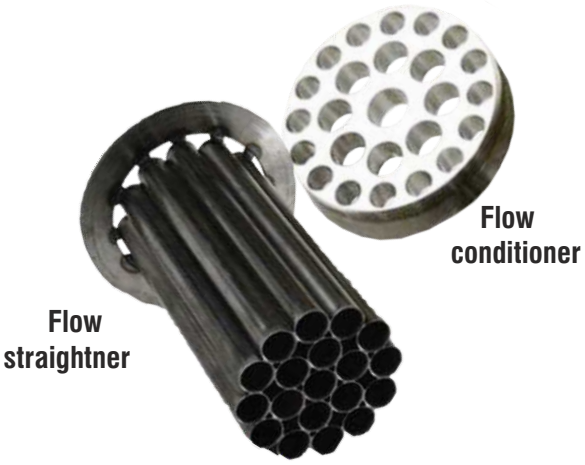
There are two ways to mitigate flow disturbances.

1. Maintain sufficient straight run upstream of the meter.
2. Utilize General Elbow flow conditioners / straightner.

Our flow conditioner's technology is ideally suited to work in various medias including gas, stream, liquids, slurries, sludges, hydrocarbons, and more. The flow conditioner outperforms all other flow conditioning technologies with respect to minimal pressure loss, non-fouling design, and repeatable flow profiles. The following highlights summarize the advantages of using this technology with various flow metering technologies.

Flow Straighteners and Flow Conditioner

Bundle formation depending on pipe size and beta value consideration on available free space



Below summarized for beta value of 0.6 to 0.7 wherein beta is ID of bore divide by OD of the orifice sensor / flow sensor, for flow conditioner. General Flow conditioner to placed strictly in the upstream of the flow sensor at 2D distance for it to be effective.

Bundle formation depending on pipe size and beta value consideration on available free space

Flow straightener	
Flanged ends	A105, SS316, LF2, SS316L, SS304, PP, PTFE, SS304L, other material on request
Pipe chamber holding the bundle of tubes	A106, SS, Mild steel, SS304L, SS316L, Low carbon steel for low temp, PP, PTFE, and other material on request
Tube bundles	A106, SS304, SS304L, SS316L, monel, PP, PTFE, others on request
Dimensions	Based on selection of tubes thickness and no of tubes within a pipe size on free length availability
Flow Conditioner	
Flanged ends	A105, SS316, LF2, SS316L, SS304, PP, PTFE, SS304L, other material on request
Dimensions	Based on selection of tubes thickness and no of tubes within a pipe size on free length availability
No of holes	On selection and sizing with dimensions as per engineering calculation

Condensate Pots

We manufacture complete range of condensate pots which requires in many process industries Condensate pots are generally used for measurement of steam/ vapor which condense to liquid state at the ambient temperature.

These are also used to cool down very high temperature liquids and to maintain a constant liquid head above the instrument. These can be installed in both horizontal & vertical position.

We manufacture these condensate pots as per customer's requirement and design in various sizes 2", 3" and 4" etc.

Condensate pots are manufactured in various grades of Carbon steel, Alloy steel & stainless steel. IBR Form IIIC certificate can be provided for condensate pots.