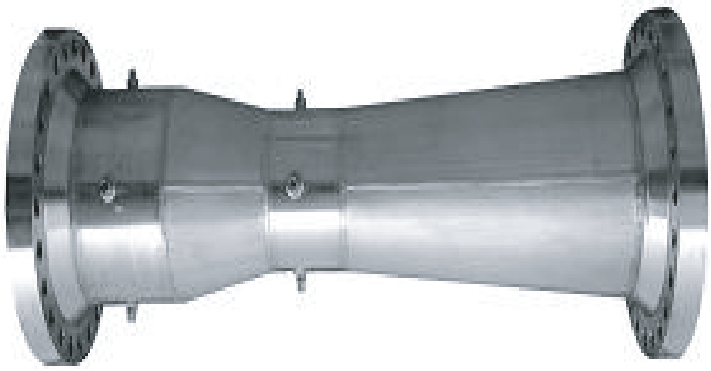
No. 2006-08E

Technical Manual

HVT-Series

VENTURI TUBE



HITROL Technical Manual

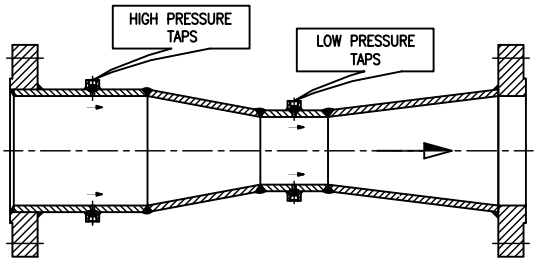
HITROL CO., LTD.

General Information

The Ventuir Tube Flow Element has been developed to be design of the metering shape to produce the desired hydraulic performance, which was rooted in his decades of experience with a broad range of prior art and numerous flow meters of compe -ting design.

While many fabricators and manufacturers have, from time to time, undertaken to produce venturi type flow metering devices, HITROL is one of the few who have continuously provided uniformly high quality equipment coupled with continuing resear -ch and technical innovation, dedicated to the advancement of the art and science of flow measurement.

Measurement Principle



The HVT-Series is a proprietary true venturi type metering device sensing true static inlet and throat pressure(s), and demonstrating st -able discharge coefficient(C) above a pipe Reynolds number(R_D) of 75,000.

Unlike many other types of flow measureme -nt devices, the HVT-Series does not require hydraulic calibration in order to establish its C value.

Specifications

Measuring fluid	liquid, gas, steam and etc.
Material	304 SS
	option : 316 SS, 316L SS, Monel, and etc.
Pipe size	from 25 mm to 1800 mm(1" to 72")
Operating temperature	maximum 400 ℃
	option : maximum 600 ℃
Operating pressure	maximum 10 kgf/cm^2
	Option : maximum 200 kgf/cm^2
Accuracy	± 0.5 % FS
Reproducibility	± 0.1 % FS
Turndown ratio	10:1(extensible according to request)

Advantages

* It is easy to install since it is inserted into the pipeline.
* Operating energy cost is reduced since it has a less permanent pressure loss compared with other differential pressure flow meters such as an orifice plate.
* It has a very high measurement accuracy since the discharge coefficient is obtained using HITROL's flow standard facilities which is traceable to and a part of Korean National Calibration System.
* It has a high measurement accuracy since it measures the averaging velocity in the pipe.

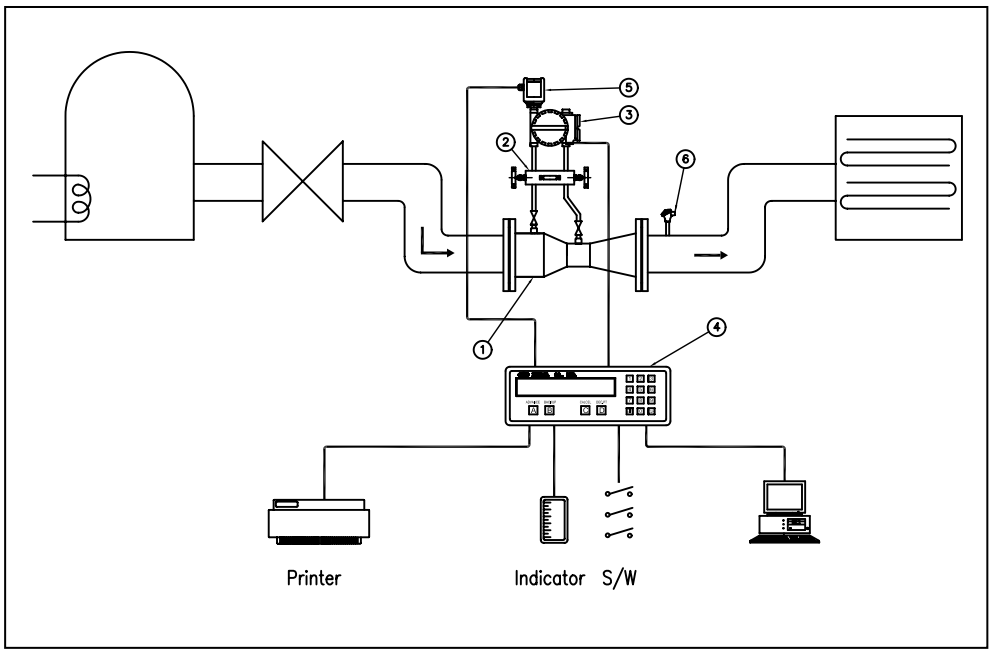
System Arrangement

* When measuring the incompressible fluids

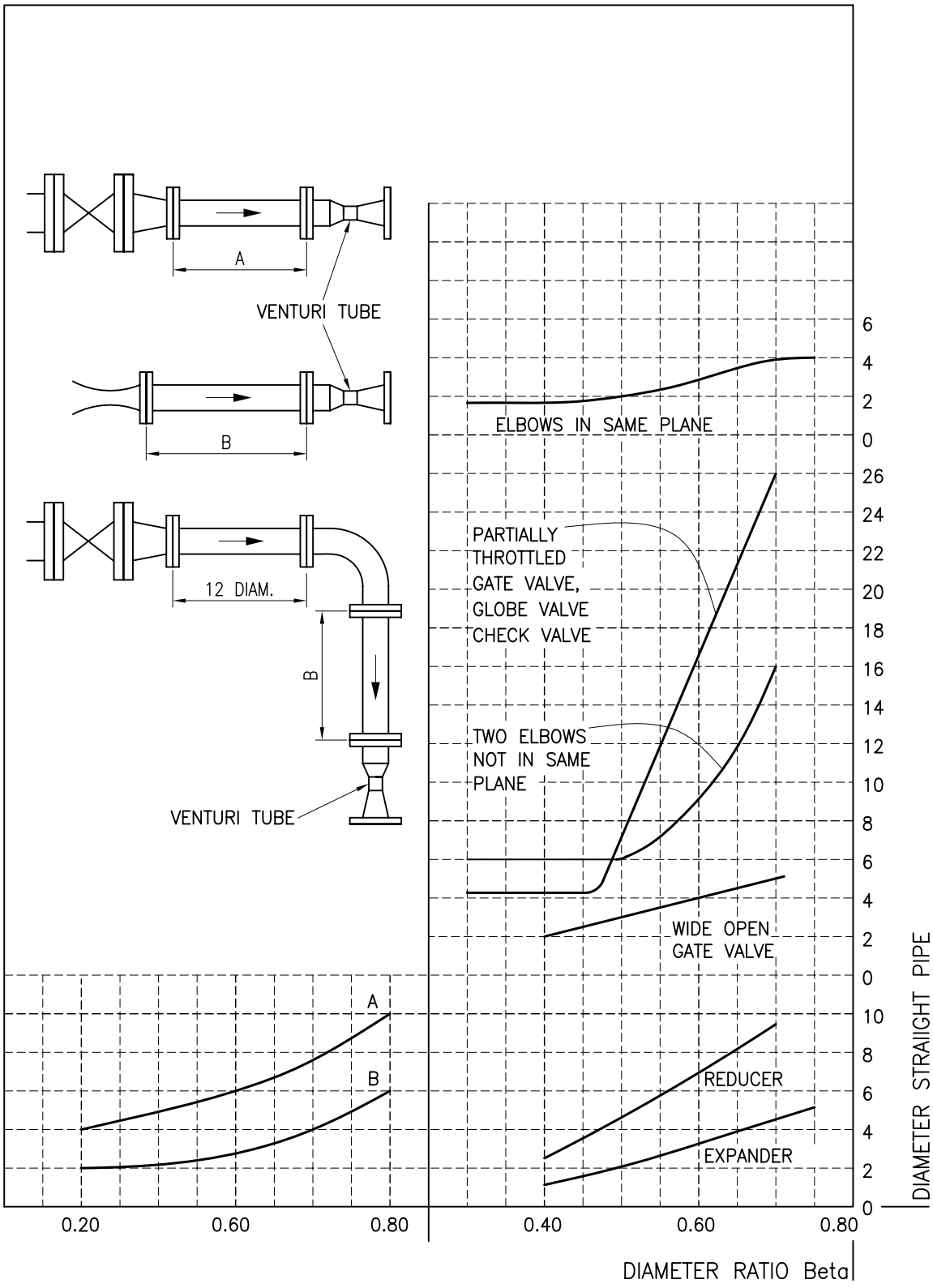
① HVT flow sensor
② 3-way or 5-way valve
③ differential pressure transmitter
④ flow computer or flow indicator

* When measuring the compressible fluids

① HVT flow sensor ② 3-way or 5-way valve
③ differential pressure transmitter
④ flow computer or flow indicator
⑤ pressure transmitter
⑥ temperature transmitter(PT 100 Ω)



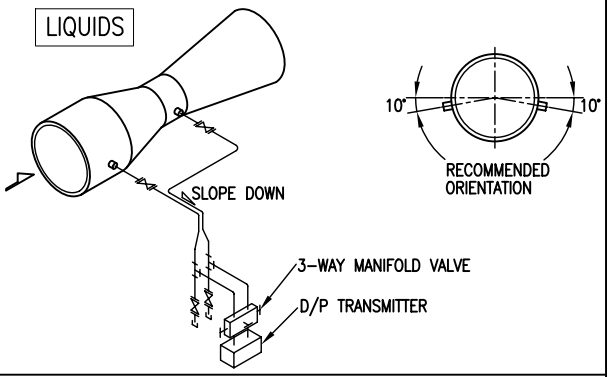
Length of Straight Pipe

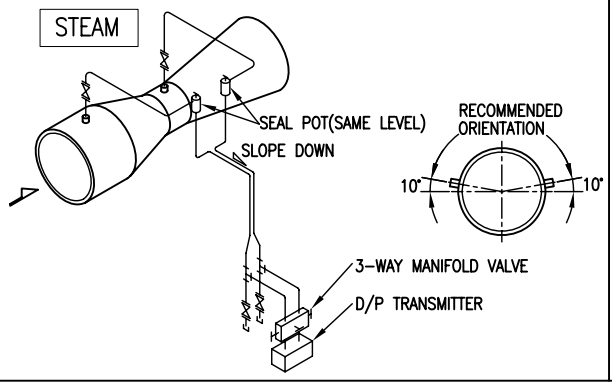


Installation Requirement

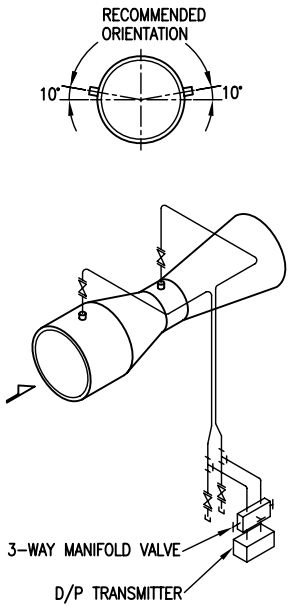
HORIZONTAL PIPING

LIQUIDS AND STEAM

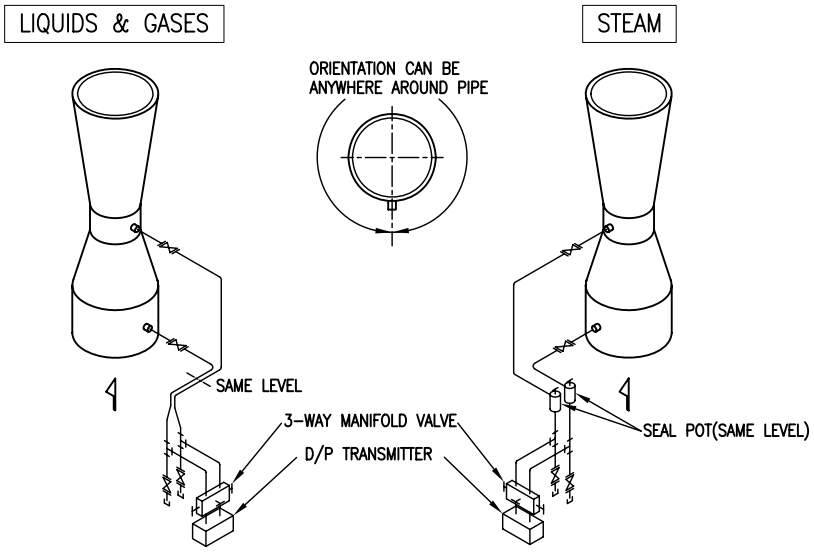




GASES



VERTICAL PIPING



HITROL CO., LTD.

HEAD OFFICE · FACTORY · R & D INSTITUTE
62-182 BONGILCHEON-RI CHORI-EUP
PAJU CITY KYUNGGI-DO KOREA
TEL : (031) 943-0875~7 (02)744-9922
FAX : (031) 943-0878, 5600
http://www.hitrol.co.kr **hitrol@hitrol.co.kr**