

**NEW-FLOW**

**ISO 9001  
REGISTERED**

# ***NEW-FLOW***

MANUFACTURE OF ORIFICE PLATE TYPE FLOWMETER

**OPF SERIES**

AND CONTROL INSTRUMENTS

## ***Instruction Manual***



**Approvals:**



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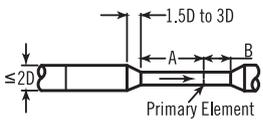
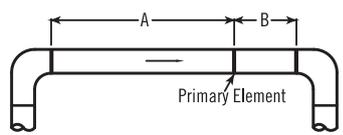
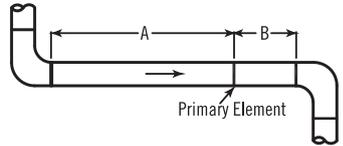
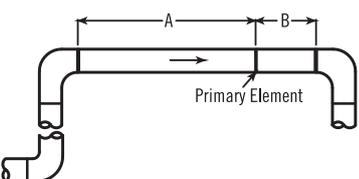
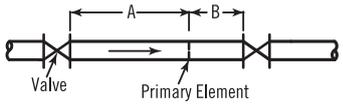
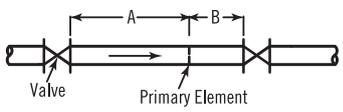
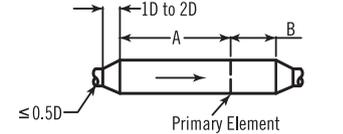
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Instruction No.: 20160629-opf-00



# 1.0 INSTALLATION

## ISO Standard 5167 Required

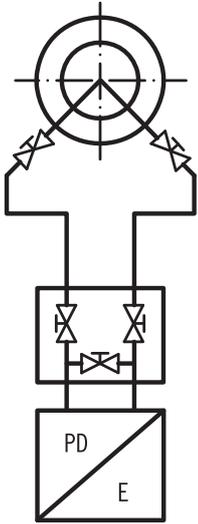
### Straight Lengths for Orifice Nozzle ISA Venturi Nozzle and Venturi in Multiples of Pipe Diameter D

Upstream disturbance	Dimension	Device	$\beta$						
			0.2	0.3	0.4	0.5	0.6	0.7	0.75
 REDUCER	A	Orifices Nozzles	5	5	5	6	9	14	22
		Venturis		0.5	2.5	5.5	8.5	10.5	11.5
 SINGLE ELBOW	A	Orifices Nozzles	14	16	18	20	26	28	36
		Venturis		0.5	0.5	1.5	3	4	4.5
 TWO ELBOWS IN DIFFERENT PLANES	A	Orifices Nozzles	34	34	36	40	48	62	70
		Venturis		0.5	0.5	8.5	17.5	27.5	29.5
 TWO ELBOWS IN SAME PLANE	A	Orifices Nozzles	14	16	18	20	26	36	42
		Venturis		1.5	1.5	2.5	3.5	4.5	4.5
 GATE VALVE, FULLY OPEN	A	Orifices Nozzles	12	12	12	12	14	20	24
		Venturis		1.5	2.5	3.5	4.5	5.5	5.5
 GLOBE VALVE, FULLY OPEN	A	Orifices Nozzles	18	18	20	22	26	32	36
		Venturis							
 EXPANDER	A	Orifices Nozzles	16	16	16	18	22	30	38
		Venturis		1.5	1.5	2.5	3.5	5.5	6.5
Downstream length for all Pictured disturbances	B	Orifices Nozzles	4	5	6	6	7	7	8
		Venturis		4d	4d	4d	4d	4d	4d

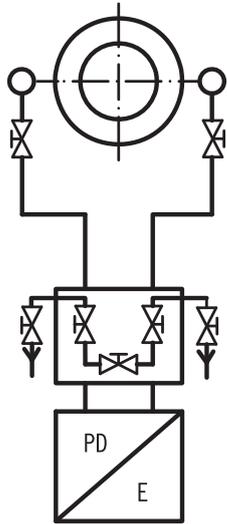
# 1.0 INSTALLATION

## Orifice / Nozzle / Venturi Tube Installed Guide

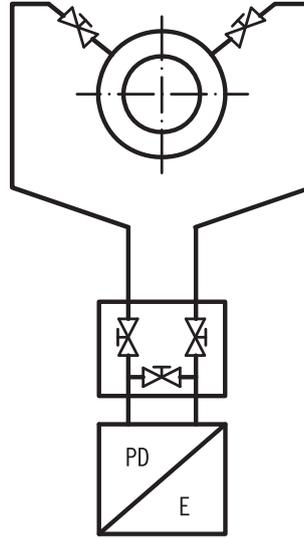
**Liquid**  
DP-Flow Element  
 With 3-way manifold.



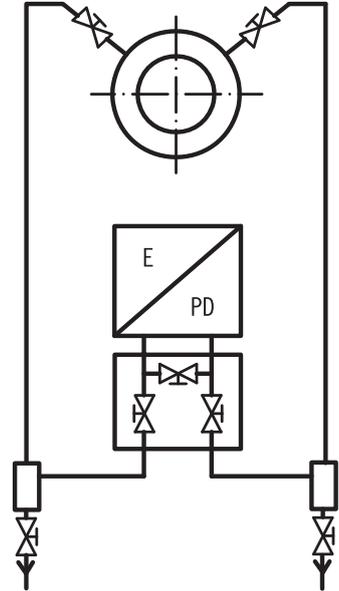
**Steam**  
DP-Flow Element  
 With 5-way manifold and  
 condense pots



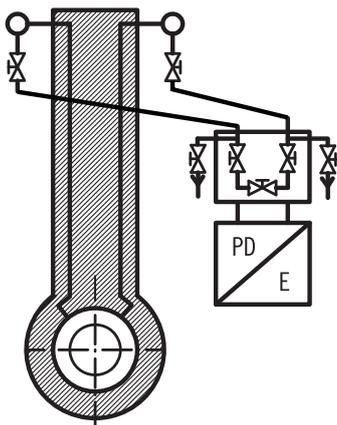
**Dry Gas**  
DP-Flow Element  
 With 3-way manifold



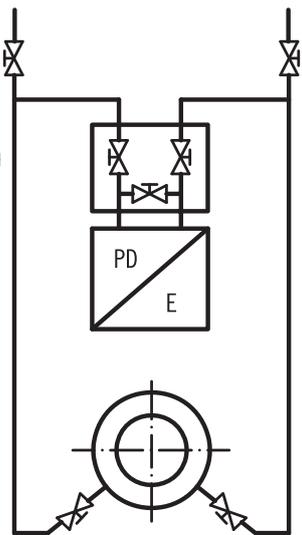
**Humid Gas**  
DP-Flow Element  
 With 3-way manifold and  
 drain pot



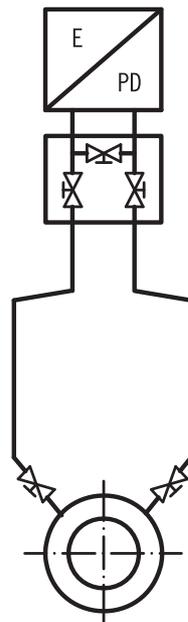
**Steam**  
DP-Flow Element on  
 top mounting  
 With condense pots



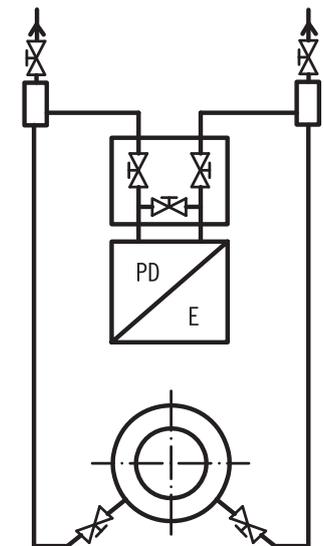
**Liquid**  
DP-Flow Element on  
 top mounting  
 With 3-way manifold and  
 vent valves



**Gas, dry and humid**  
DP-Flow Element on  
 top mounting  
 With 3-way manifold



**Gaseous Fluid**  
DP-Flow Element on  
 top mounting  
 With 3-way manifold and  
 vent pots



## 2.0 CAUTION NOTICE

### Standard Preservation & Protection

Please stores up the OPF-Series in the shade and dry place.

### Trouble Shooting Check List

1. If the OPF-Series is unable working, first of all please remove the flow gauge (DPH, DPBG or D/P Transmitter) out of the body of orifice element, and testing for the flow gauge individual.
2. If the flow gauge is normal, please check the orifice element is in good condition and without any damage.

### Assembly Procedures

(This parts is changed available)

unit=mm

#### Parts List

Item	Parts Name	Description	Material
1	Flow Gauge	Model: DPH200/300/400	Refer Catalogue
2	Flow Gauge	Model: DPBG	Refer Catalogue
3	Flow Gauge	D/P Transmitter	Refer Catalogue
4	3-Way Manifold	Model: MD3-H	SS316
5	Flow Element Body	Corner Tap Type	SS316
6	Tube	ø8mm	SS316
7	Bolt	M6 x 4	SS316
8	Mouting Pipe Plate	2" Pipe with U-Bolt	SS304

**NOTE.**  
 1. **D & ℓ**, please refer to the Dimensions Table as next page.  
 2. **L**=Total Length, please consult with the manufacturer.