

# 12

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## Golden Rules Co., Ltd

Liquid, Gas, Vapor

### AVERAGING PITOT TUBE

KC-3500 Series



The nation's development item, 100% domestic goods, Patent **NO.** 10-1660226



## 12. PITOT TUBE KC-3500 Series

### 12-5. Averaging Pitot Tube KC-3500

#### Description

##### Operating Principle

Fluid passing around a pitot tube generates a pressure difference between the front and rear of the tube that is proportional to the velocity of the flow.

The holes placed on the front and rear of the tube are used to sense the difference, which is needed to calculate the flow rate.

Multiple sets of sensing holes give a distinct advantage in automatically averaging the nonuniform flow profile across pipe. id passing around a pitot tube Generates a pressure difference between the front and rear of the tube that is proportional to the velocity of the flow.

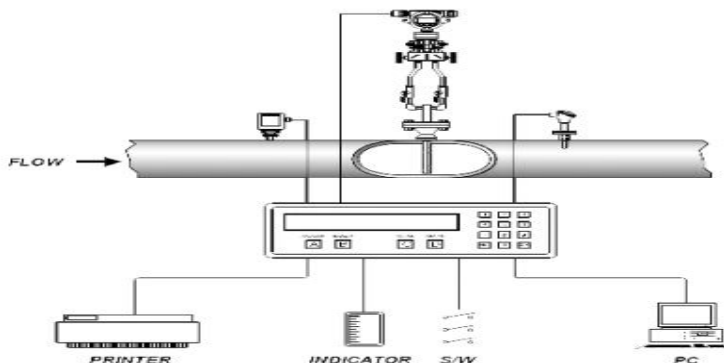


KC-3500 Pitot Tube

#### Feature

- Unique profile shape enables high flow rate turndown
- Dual averaging for better accuracy
- One-piece outer tube for optimum strength
- Suitable for pipe sizes from 50mm to 5,000mm
- Suitable for square or rectangular section ducts
- Optional direct mounting transmitter arrangement
- No co-efficient drift-long term stability
- Low blockage characteristic means low energy consumption-hence cost savings

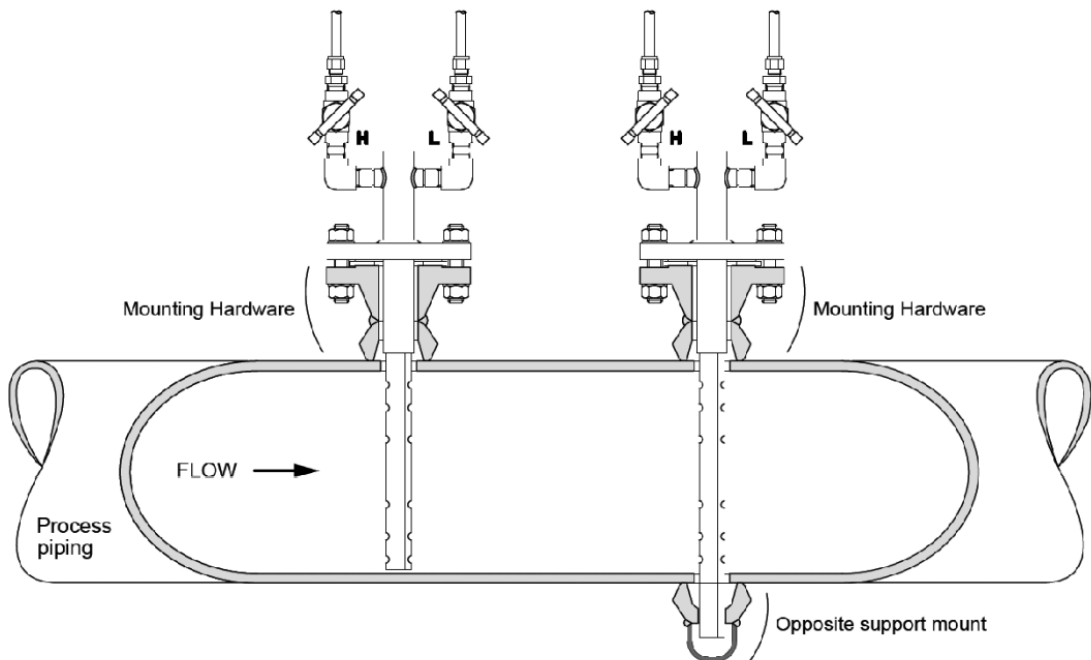
#### Application



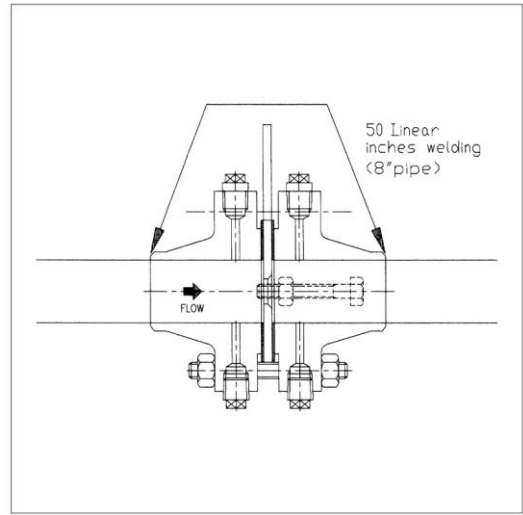
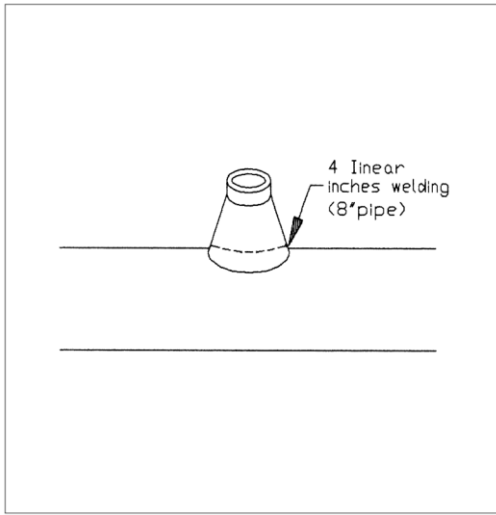
## Specification

- FCPT is suitable for liquid, gas, and steam flow measurement.
- Accuracy  $\pm 1\%$  of actual flow rate – verified by independent flow laboratories.
- Repeatability of measurement  $\pm 0.1\%$
- Reynolds number, Minimum Re:  $1.2 * 10^4$
- Flow rate turndown typically 10:1 (100:1 of DP)
- Maximum working pressure up to 400 bar
- Maximum working temperature up to 1300 deg. C with selected materials and fittings
- Maximum viscosity 500 centipoise
- Short upstream and downstream straight pipe lengths
- Long term accuracy unaffected by wear

## Installation Drawing



Reduction of construction expenses and upkeep because of a simple equipment

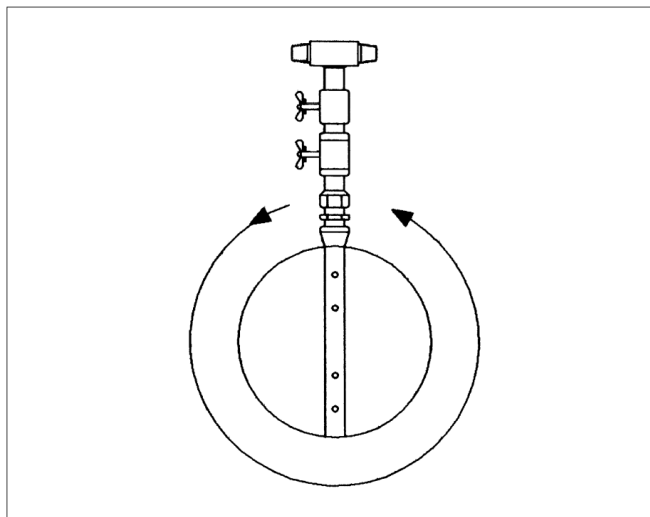


**Notics**

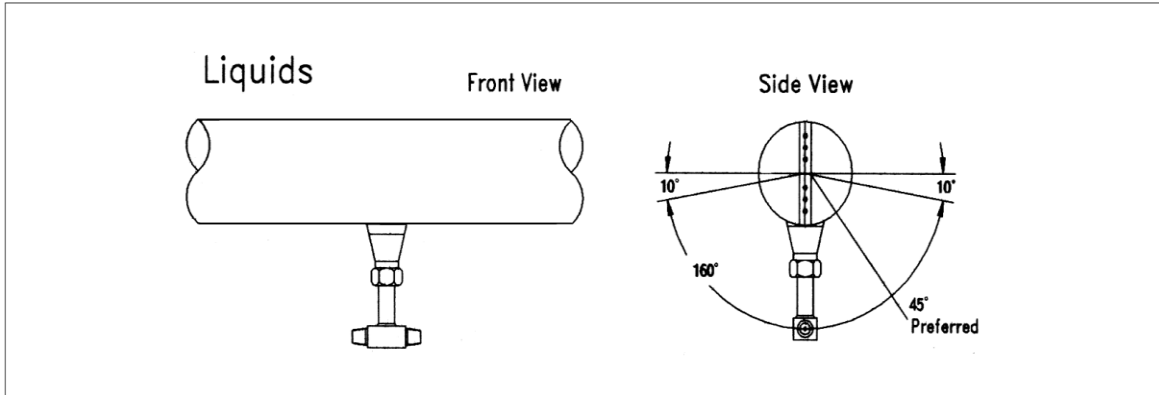
- Avoidance a dusty place  
If pressure detection hole is closed an up an opening with dusts, you can solve through a spray Of high pressure air
- Not congenial to turbulent flow
- Not using the place of high pressure steam, vibration existence.

**Method of Equipment**

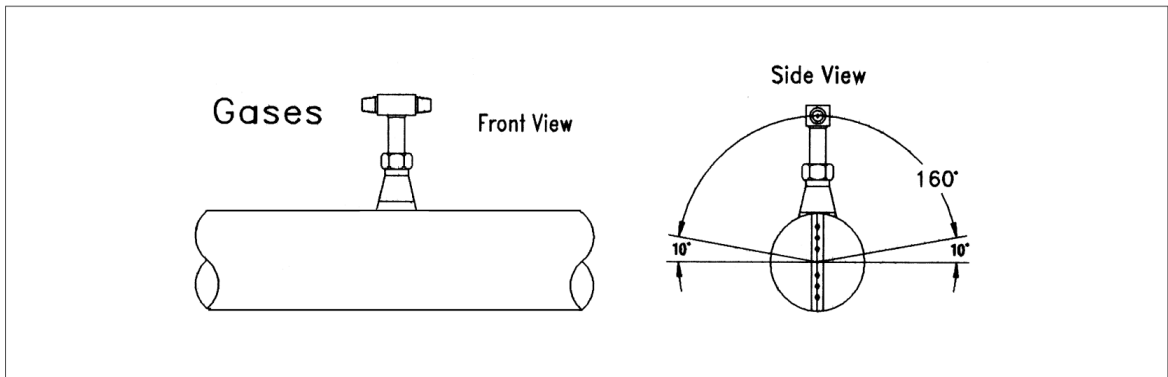
- In case of verticality tube, install this pitot tube at the point of a horizontal plane.



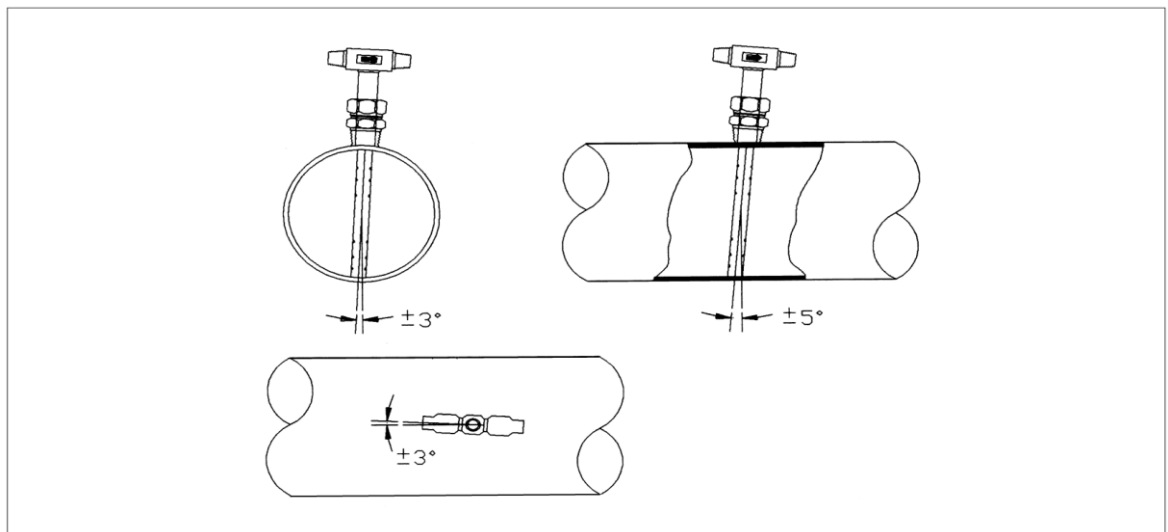
- At the horizontal tube, we are select installation method by a kind of a fluid
- In case of liquid, install this pitot tube at the bottom tip in the tube.



- In case of verticality tube, install this pitot tube at the point of a horizontal plane.



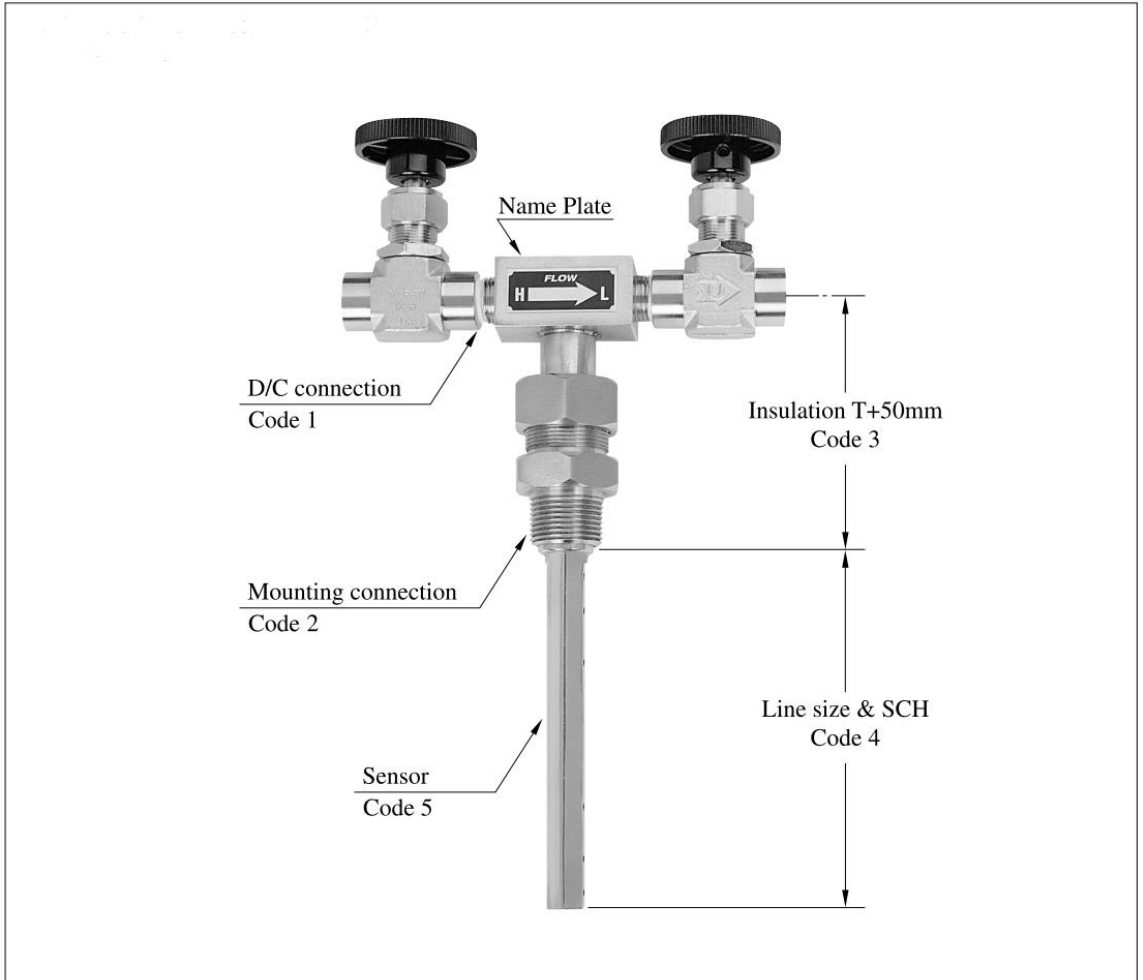
- Limites of a tolerance



A necessary intuitive tube

직관부	상류측 직관부					하류측 직관부 B
	Conditioner 가 없는 경우		Conditioner 를 설치할 경우			
	동일평면내	동일평면외	A'	A	C'	
	A	A	A'	A	C'	B
	7	9				3
			6	3	3	
	9	14				3
			8	4	4	
	19	24				4
			9	4	5	
	8	8				3
			8	4	4	
	8	8				3
			8	4	4	
	24	24				4
			9	4	5	

Order Code : Ordering Sample KC-3501 Single Support type



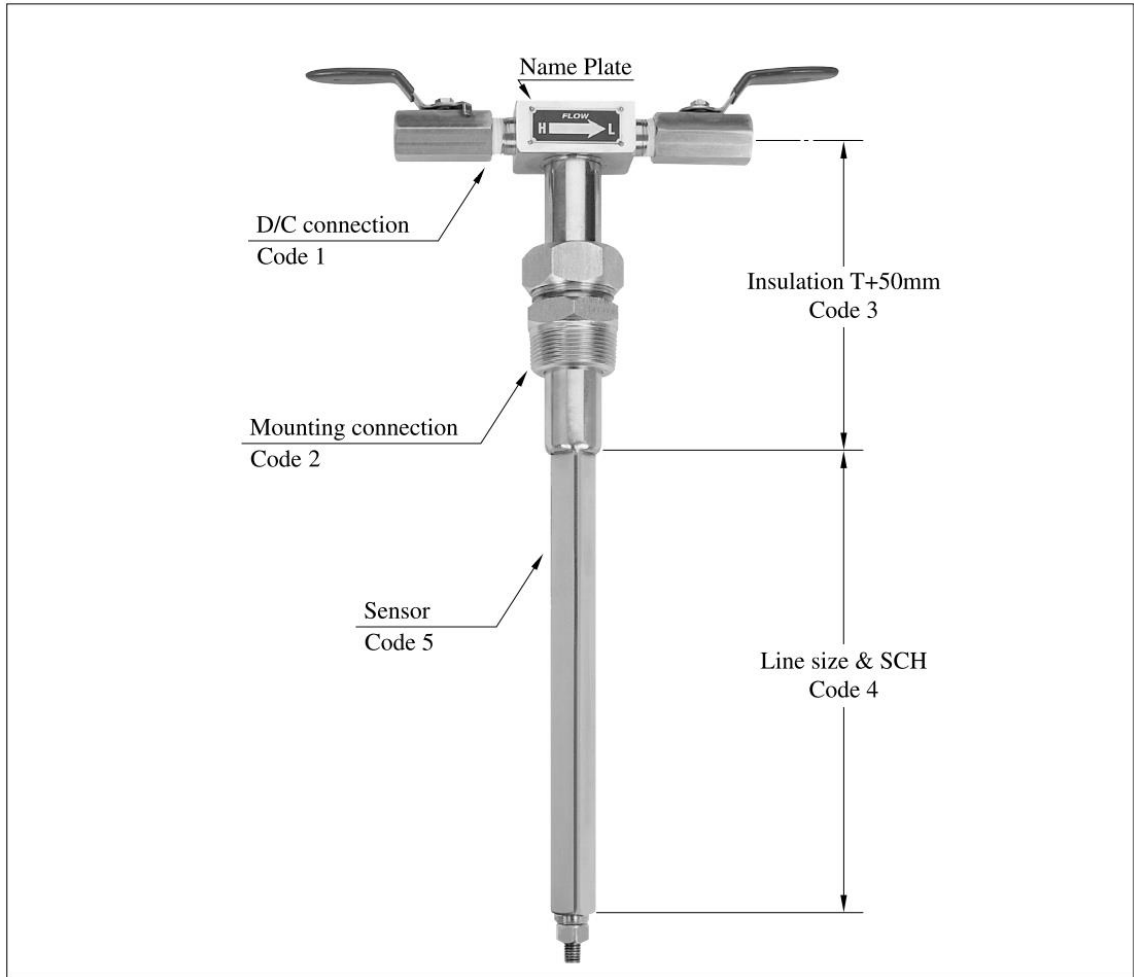
Ordering sample : 3501 series

Model	Code 1	Code 2	Code 3	Code 4	Code 5	Option
KC-3501	PT <sup>1</sup> / <sub>4</sub>	PT1	150	STPG 38 8B SCH40 or 203.5	STS304	

- Code 1 : D/P Connection
- Code 2 : Mounting connection
- Code 3 : Insulation T<sub>kness</sub> + 50mm
- Code 4 : Line size & SCH or Line India
- Code 5 : Sensor Material (Standard sts304)
- Option :



Ordering Sample KC-3502 Double Support type (10-20K, 10" ~ 120")

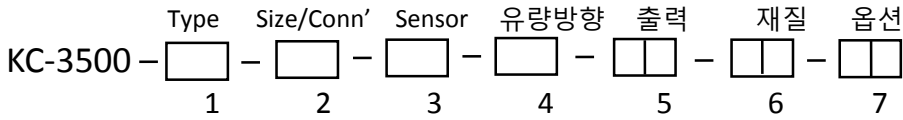


Ordering sample : 3502 series

Model	Code 1	Code 2	Code 3	Code 4	Code 5	Option
KC-3502	PT <sup>1</sup> / <sub>2</sub>	PT <sup>1</sup> / <sub>2</sub>	150	STPT 20B SCH40 or 508.0	STS304	

- Code 1 : D/P Connection
- Code 2 : Mounting connection
- Code 3 : Insulation T + 50mm
- Code 4 : Line size & SCH or Line India
- Code 5 : Sensor Material (Standard sts304)
- Option :

**주문 코드 KC-3600 Series Average Pitot Tube**



D/P Connection	Code 1
Pt1/2"	1
PT3/8"	2
PT1/4"	3
Agency approved specified	W

Line Size & SCH or Line india	Code 4
Odering Sample : STPG 38, 8B SCH40 or 203.5	(   )
Agency approved specified	W

Insertion Rods Mat'l	Code 8
Carbon Steel	C
Stainless Steel	S
Agency approved, customer specified	W

Mounting Connecion	Code 2
PT1"	1
PT1-1/2"	2
PT2"	3
10K 40A	4
10K 50A	5
10K 80A	6
20K 40A	7
20K 50A	8
20K 80A	9
150# 1-1/2"	10
150# 2B	11
150# 3B	12
300# 1-1/2B	13
300# 2B	14
300# 3B	15
Agency approved specified	W

Sensor Material	Code 5
Stainless Steel 304	S1
Stainless Steel 316	S2
Stainless Steel 316L	S3
Inconel	inc
Hastelloy	Has
Agency approved specified	W

Option	Code 9
Code 5 ~ 7	selectio
Agency approved specified	W

Isolation Valve Mat'l Body/Ball	Code 6
SCPH2/STS 316	1
SCPH13/STS 316	2
STS304/316	3
STS31/316	4
Agency approved specified	W

Insulation T	Code 3
3501, 3502 Series + 50mm	1
Agency approved specified	W

Packing Gland & Cage Nipple Mat'l	Code 7
Rubber	R
Teflon	T
Graphite	C
Cage Nipple	Ca
Carbon Steel	C
Stainless Steel	S
Agency approved sepcified	W

**부속품 |**

**응축수 및 밀폐 챔버**



Model No.	Material	Design Pressure(kg/cm)	Design Temperature(°C)
RSV-150	STPG 38	10	-10~350
	SUG		
RSV-400 POT,POTP	STPG 38	30	-10~350
	SUG		
RSV-900	STPG 38	60	-10~350
	SUG		
RSV-1500	S25C	100	0 ~450

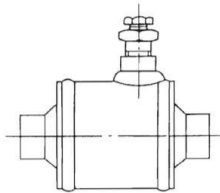


Fig. 37 RSV-150

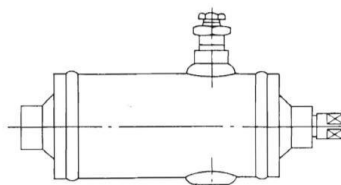


Fig. 38 RSV-400, RSV-900

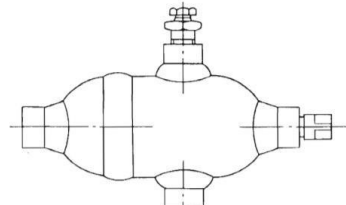


Fig. 39 RSV-150, RSV-2500

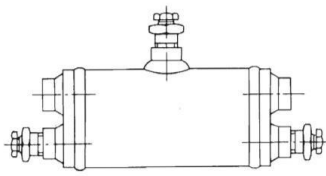


Fig. 40 POT-400

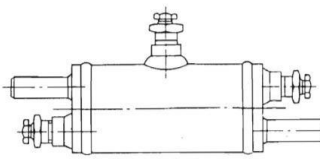
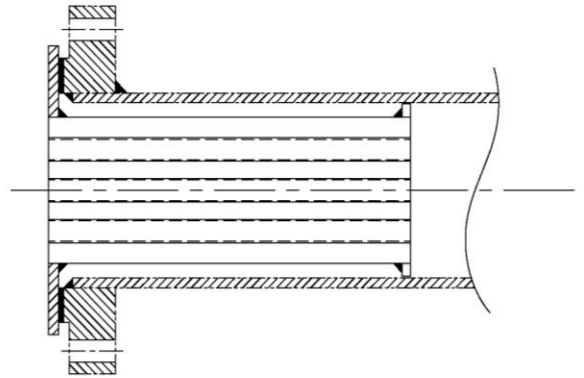
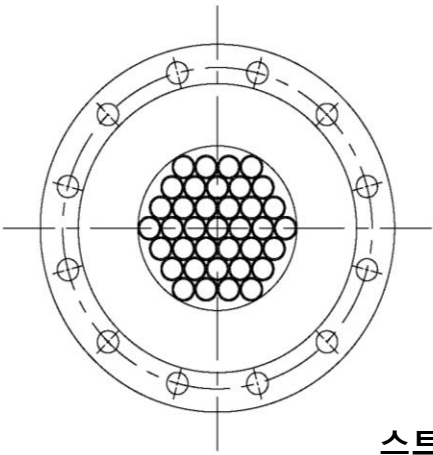


Fig. 41 POTP-400

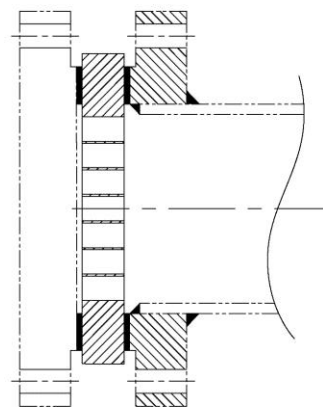
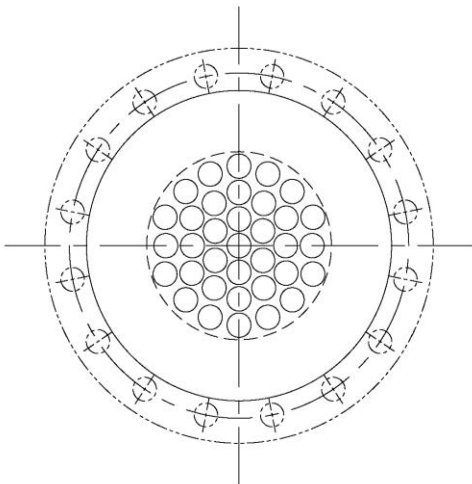
**부속품 II**

**스트레이트너 다발관 & 플로우컨디셔너 플레이트**

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**스트레이트너 다발관  
MODEL : KC-7700-SV**



**플로우컨디셔너 플레이트  
MODEL : KC-7700-FC**





**Golden Rules**

• GOLDEN RULES

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**Flow & Instruments**  
Specialty Manufacture

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KC Q ISO 9001 : 2015

KC Q ISO 14001 : 2015

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