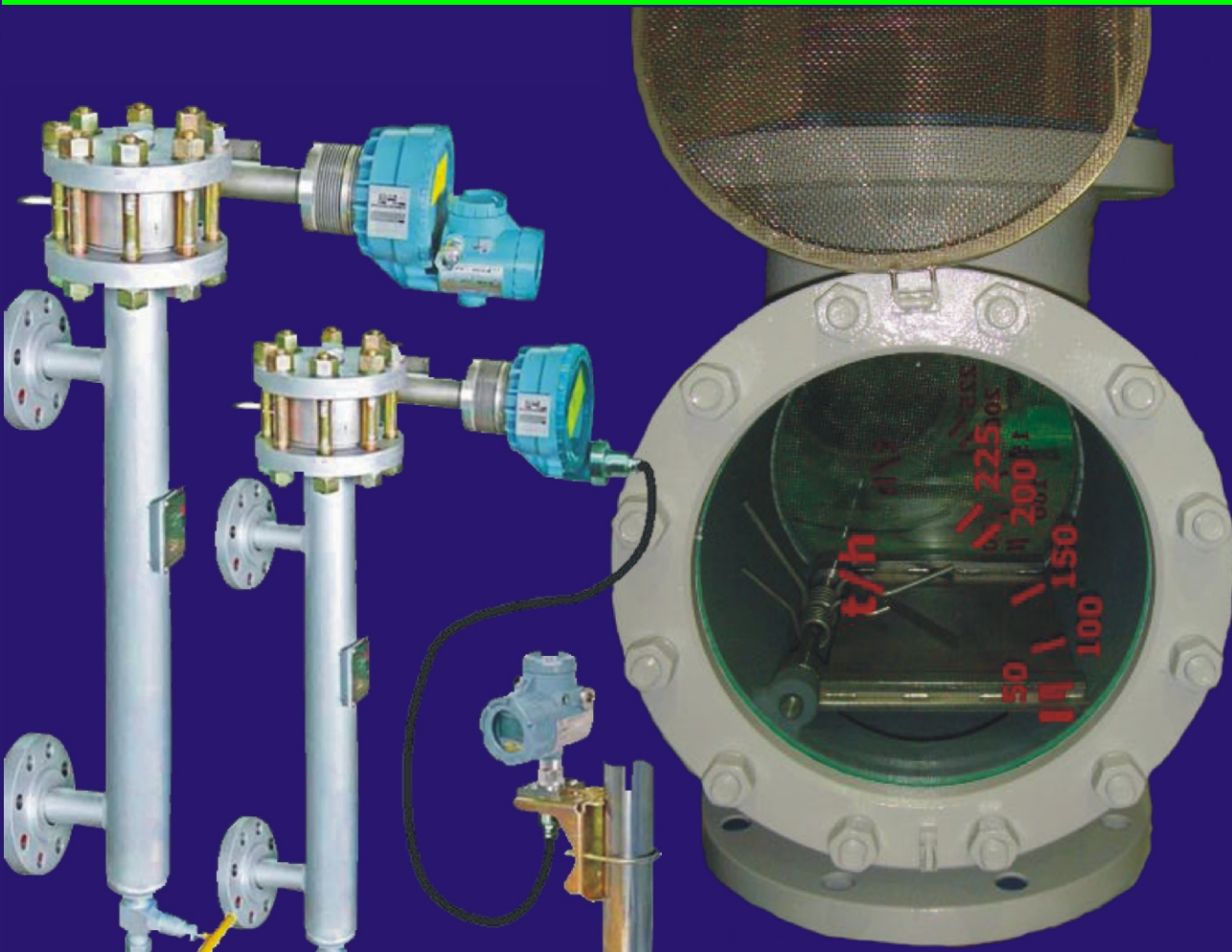




DISPLACER LEVEL TRANSMITTER . FLOW INDICATOR

LEVEL TRANSMITTER FLOW INDICATORS

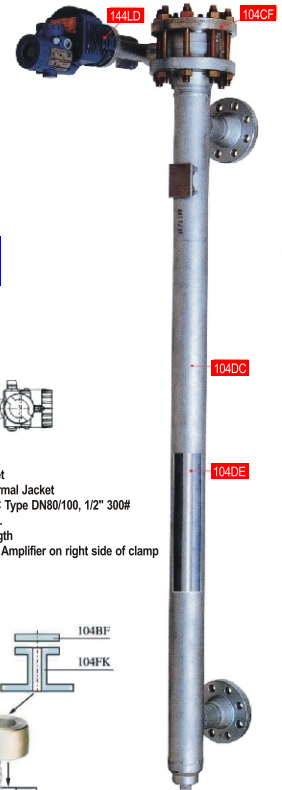


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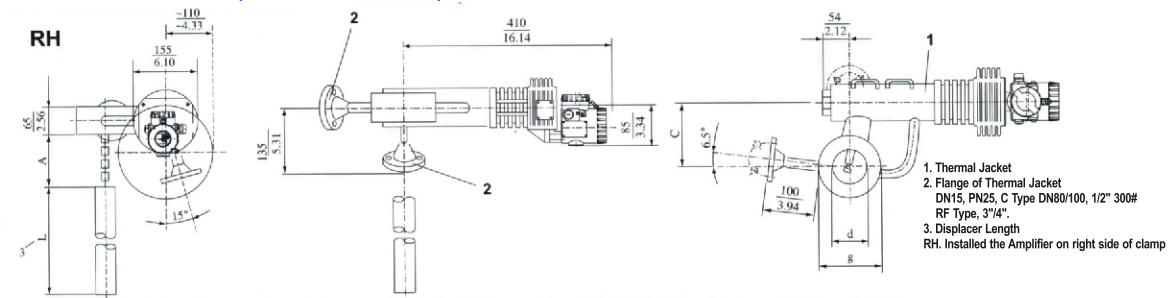
PRODUCT OVERVIEW

S144LD intelligent level transmitters are designed to perform measurement for liquid level, interface or density of liquids. The measurement is based on the Archimedes buoyancy principle. Easy for remote configuration and supervision with PC or universal hand terminal, and also can be operated conventionally with local keys. The transmitters make I/A integration via HART or FOXCAM communication protocol. The transmitters are approved for service in hazardous areas.

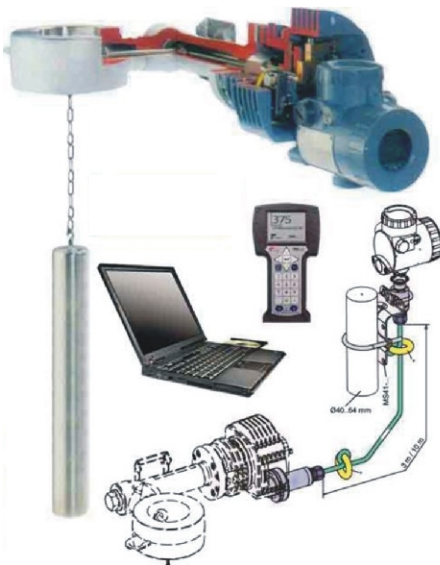
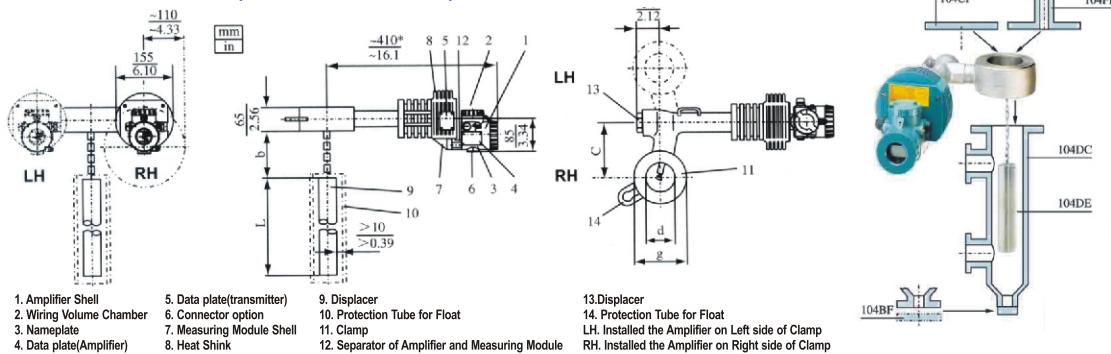


SIL 2 Certified
acc. to IEC 61508/IEC 61511

OUTSIDE DIMENSIONS(PN160 / CLASS 900)



OUTSIDE DIMENSIONS(PN250 / CLASS 1500)



S144LD - REGISTERED MODEL

WAFER BODY (FLANGE SIZE & RATING)

3" ANSI 900#	34	DN80 PN11 Mpa	21
3" ANSI 900#	35	DN80 PN25 Mpa	22
4" ANSI 150#	41	DN100 PN11 Mpa	23
4" ANSI 300#	42	DN100 PN25 Mpa	24
4" ANSI 600#	43	3" ANSI 150#	31
4" ANSI 900#	44	3" ANSI 300#	32
4" ANSI 1500#	45	3" ANSI 600#	33

WAFER BODY CONTACT FACE

Type E, RF DIN2565 (for 21 & 22 Flange Rating)	E
Type E, Groove DIN2512 (for 21 & 23 Flange Rating)	N
Type F, Tongue DIN2512 (for 21 & 23 Flange Rating)	F
Type L, Lense DIN2696 (for 22 to 24 Flange Rating)	L
Type RF ANSI B16.5 (for 31 to 34 & 41 to 43 FL Rating)	R
Type RTJ ANSI B16.5 (only for 34/35/44/45 FL Rating)	J
Type SR(RF) Smooth Finish (125 AARH) (for 31 to 33/41 to 43 FL Rating)	S

WAFER BODY (PROCESS WETTED)

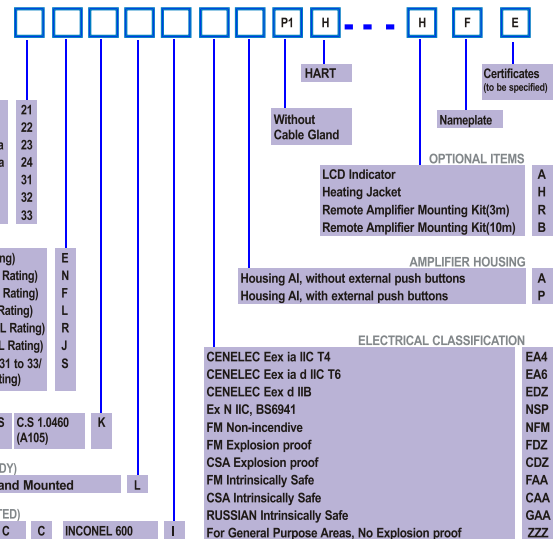
HASTELLOY C (N/A for N,F,L)	C	316L 1.4404	S	C.S 1.0460 (A105)	K
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MOUNTING DIRECTION: (AMPLIFIER TO BODY)

Right Hand Mounted	R	Left Hand Mounted	L
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TORQUE TUBE MATERIAL (PROCESS WETTED)

316L (1.4435/1.4404)	S	HASTELLOY C	C	INCONEL 600	I
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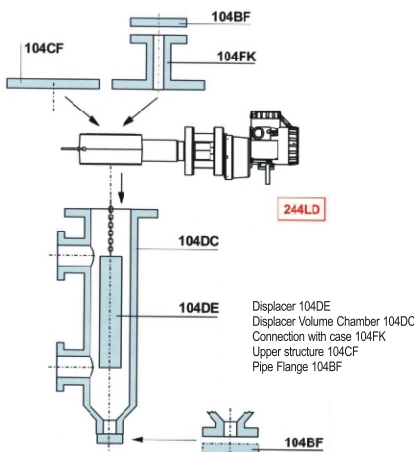
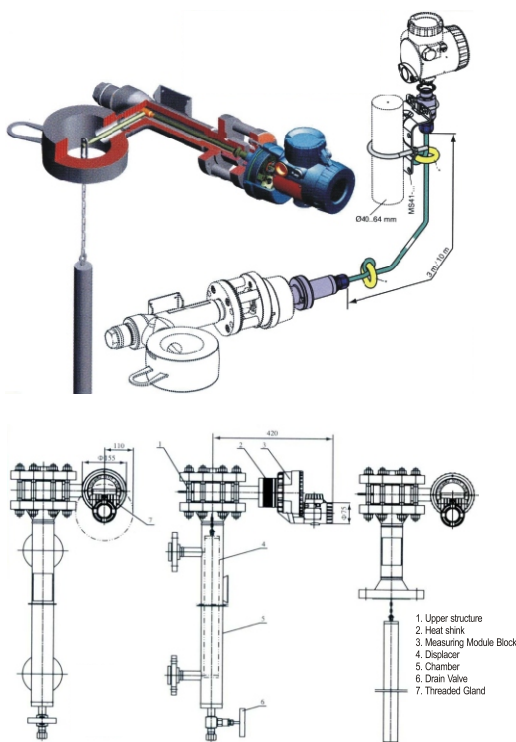


PRODUCT OVERVIEW

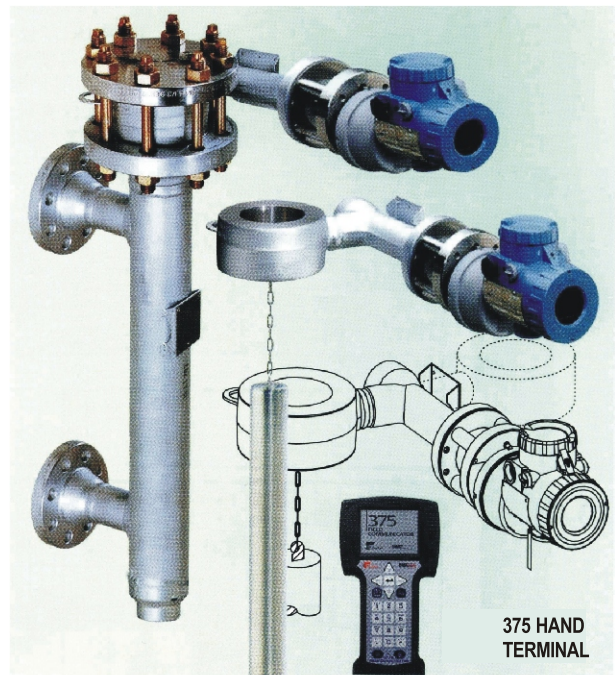
The **S244LD** Intelligent displacer level transmitters are designed to perform continuous measurements for liquid level, interface or density of liquids in the process of all industrial applications. The measurement is based on the proven Archimedes buoyancy principle and thus extremely robust and durable. Measuring values can be transferred analog and digital. Digital communication facilitates complete operation and configuration via **PC** or control system.

Despite extreme temperatures, high process pressure and corrosive liquids, the **S244LD** measure with consistent reliability and high precision. For installation in contact with explosive atmospheres up to Zone 0, certificates are available.

SIL 2 Certified
acc. to IEC 61508/IEC 61511



Displacer 104DE
Displacer Volume Chamber 104DC
Connection with case 104FK
Upper structure 104CF
Pipe Flange 104BF



375 HAND TERMINAL

S244LD - REGISTERED MODEL

WAFER BODY (PROCESS WETTED)

Carbon Steel 1.0460(A105) K
316LSS 1.4404 1.4435 S
Hastelloy C C

TORQUE TUBE MAT'L (PROCESS WETTED)

316L 1.4435/1.4404 S
Hastelloy C C
Inconel 600 I

WAFER BODY FLANGE

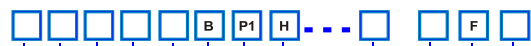
3" 3 DN80 1
4" 4 DN100 2

WAFER BODY PRESSURE RATING & CONTACT FACE)

PN40(PN16 TO PN40), C/C	(a)	C1
PN25(PN16 TO PN250), E/E	(a)	E1
PN160(PN16 TO PN160), N/F	(a)	F1
PN160(PN16 TO PN160), N/N	(a)	N1
PN250(PN16 TO PN250), L/L	(a)	L1
ANSI CL.150 RF/RF	(b)	R1
ANSI CL.900 (300/600/900) RF/RF	(b)	R2
ANSI CL.1500 RF/RF	(b)	R3
ANSI CL.150 SF/SF	(b)	S1
ANSI CL.900 (300/600/900) SF/SF	(b)	S2
ANSI CL.1500 SF/SF	(b)	S3
ANSI CL.150 RTJ/RTJ	(b)	J1
ANSI CL.900 (300/600/900) RTJ/RTJ	(b)	J2
ANSI CL.1500 RTJ/RTJ	(b)	J3

MOUNTING DIRECTION: (AMPLIFIER TO BODY)

Right Hand Mounted R Left Hand Mounted L



HART

BOTTOM Without Cable Gland

Nameplate

ELECTRICAL CLASSIFICATION

ATEX Intrinsic Safe, Zone 0-IC T4 (d)	0C4
ATEX Intrinsic Safe, Zone 0-IC T6 (c)(d)	0C6
ATEX Intrinsic Safe, Zone 1-IC T4 (d)	1C4
ATEX Intrinsic Safe, Zone 1-IC T6 (c)	1C6
ATEX Intrinsic Safe, Zone 2-IC T4 (c)	2C4
ATEX Intrinsic Safe, Zone 2-IC T6 (c)	2C6
ATEX Explosion proof, Zone 0-IC T6(d)	DOC
ATEX Explosion proof, Zone 1-IC T6	D1C
FM Non-incendive	NFM
FM Explosion proof	(c) FDZ
CSA Explosion proof	(c) CDZ
FM Intrinsic Safe	FAA
CSA Intrinsic Safe	(c) CAA
For General Purpose Area, No Explosion proof	ZZZ

OPTIONS

Housing complete Stainless Steel without external Push buttons	(f)	H
Remote Amplifier Mounting Kit (3 m)	(e)	R
Remote Amplifier Mounting Kit (10 m)	(e)	B

CERTIFICATES

Overfill Protection as per VbF (for DOC, 0C4, 0C6)	U
Overfill Protection as per WHG Environmental Pollution	V

REMARKS :

a. Available with Wafer Body Flange Size 1 or 2.
b. Available with Wafer Body Flange Size 3 or 4.
c. Pending.
d. Not available with Wafer Body press. Rating & contact face codes L1,J1,J2,J3.
e. Not available with Electrical Classification ZZZ,0C4,1C4,2C4,0C6,1C6,2C6,DOC,D1C.
f. Available with Electrical Classification ZZZ,0C4,1C4,2C4,0C6,1C6,2C6,DOC,D1C, FAA,NFM.



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E-Mail : samilind79@samilind.co.kr

STRUCTURE PRINCIPLE

SLC3010 displacer level transmitter consists of FISHER **DLC3000** digital level controller, chamber, measure mechanism, displacer and torque tube, etc. The displacer immersed in the liquid medium of measuring chamber and rigidly connected with the torque tube assembly. The force acting on the displacer is equal to its body weight force minus its buoyancy force. Under the effect of this joint force, the torque tube will rotate with a certain angle. The change of position, density or interface level with measured liquid will cause the change of displacer position which transferring to the torque tube assembly to make the torque tube rotate, and this rotation action then transferring to the intelligent level controller lever and cause magnet shift on the fixed lever system so as to change the magnet field checked by HALL-effect sensor and convert to electrical signal. The transmitter measures procedure variables by MCU and relative electronic circuit, provides tow wire 4~20mA current output and HART communication and drives LCD. The MCU in transmitter not only has functions of ambient temperature compensation and linearization, but also compensates for the liquid density change due to process temperature change.

The **SLC3010** transmitters can be applied to measure the liquid level, interface or density. The **DLC3000** digital controller with HART communication protocol can also record the information that very important to process operation.

PRODUCT OVERVIEW



TECHNICAL SPECIFICATION

Measuring range : 0 ~ 300m
 Accuracy : +/-0.5 % FS; +/-0.1 % FS
 Linearity : +/-0.5 % FS
 Hysteresis : < 0.2 % FS
 Repeatability : +/-0.1 % FS
 Dead area : < 0.2 % FS
 Power supply : 12V~30VDC; with reverse
 Power protection in controller;
 Output : Analog 4 ~ 20mA(direct); 20~4mA
 Digital : HART1200 FSK
 LCD : display analog value or level, temperature, torque tube rotation angle and % range.
 Min. Density difference : 0.05g/cm³
 Enclosure : NEMA 4X and IEC60529 IP66

SLC3010 - [] [] [] [] [] [] [] [] [] - [] - []

REGISTERED MODEL

COMMUNICATION			
HART	1		
F. FIELDBUS	2		
FOMCOM	3		
BODY MATERIAL			
Q235 STEEL		1	
321 SCS321 1Cr18Ni9Ti 1.4873		2	
316Ti OC18Ni12Mo2Ti 1.4571		3	
316 SVS316 OOCr17Ni12Mo2 1.4401		4	
316L SVS316L OOCr14Ni12Mo2 1.4435		5	
Other Material to be Specified		6	
MOUNTING			
External displacer side-side mounted			H
External displacer side-bottom mounted			C
External displacer top-side mounted			F
External displacer top-bottom mounted			G
Internal displacer top mounted			N
SERVICE			
LIQUID LEVEL	3	INTERFACE	2
DENSITY			1
PRESSURE RATING			
2.5 Mpa	4	Class 150LB ANSI	4A
4.0 Mpa	5	Class 300LB ANSI	5A
6.3 Mpa	6	Class 600LB ANSI	6A
16.0 Mpa	7	Class 900LB ANSI	7A
32.0 Mpa	8	Class 1500LB ANSI	8A
40.0 Mpa	9	Class 2500LB ANSI	9A

Medium Density(kg/m³)

Measuring Range (mm)

OPTIONAL ITEMS

- 0 Without Heating Jacket
- J1 Heating Jacket/Process Connection
- J2 Heating Jacket/Process Connection JB/T82-1-94 Dn15 PN1.0

SAFETY CLASS

- O No Explosion-proof
- D Explosion-proof : Exd IIC T1-T6
- E Intrinsically safe : Exia IIC T1-T6
- B With safety barrier(see operation manual)

PROCESS TEMPERATURE

- T1 Normal Temp. : -40 ~ 150 degC
- T2 High Temp. : -150 ~ 400 degC
- T3 Low Temp. : -196 ~ 150 degC



PRODUCT OVERVIEW

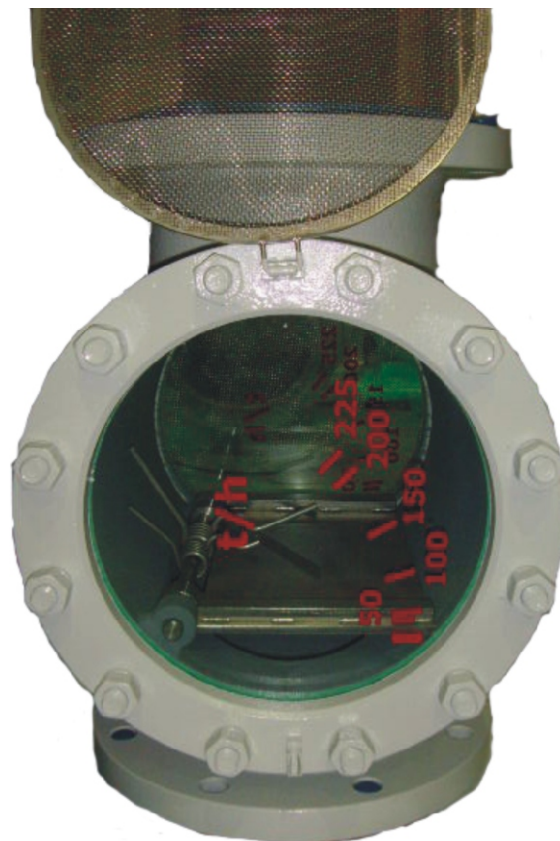
The sight glasses can be used for measuring of fluid flow by equipping the flapper and sight glass with engraved scale of flow rate within a pipe line.

SAMIL's flow indicators are fully calibrated for actual flow rate. According to the range of opening and closing of the flapper, flow will be calibrated and then the flow rate is engraved on the glass as shown the right picture.

For safety of the observer ,double window installed for dangerous fluids, such as toxic, poisonous matters, etc.

Also, Iron screen installed on the glass cover.

-Flow units : Based on Customer Spec.

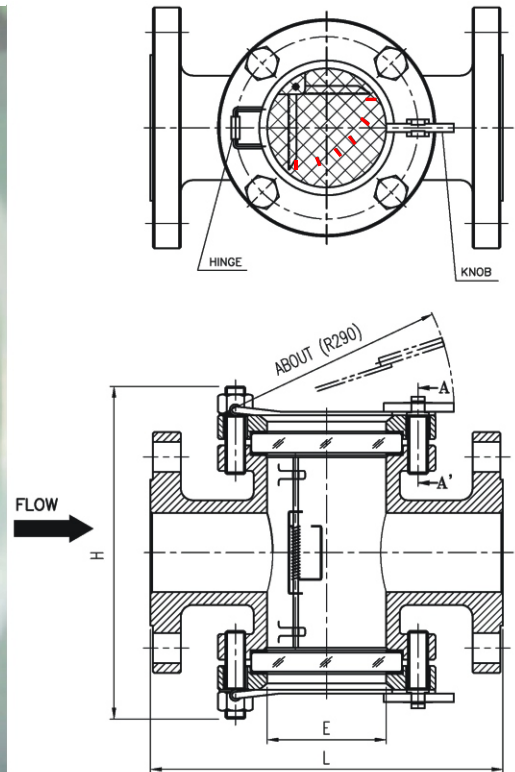


SPECIFICATON

- Connection : Flanged
- Max. Pressure : 40 kg/cm²g
- Max. Temperature: 300 degC
- Glass Material : Tempered
- Body Material : SS or C.S
Other mat'l are available.
- Accuracy : +/- 5% F.S

SAMIL SIGHT GLASS FLANGED TYPE FLOW INDICATORS

DIMENSIONS



SIZE		L		H [Approx.]		E	FLOW DIRECTION	MEASURING RANGE (MIN. / MAX.)
DN	NPS	150#	300#	150#	300#			
15	1/2	160	170	118	125	40		Measuring range will be decided after actual flow calibration and engraved the flow units on the glass.
20	3/4	160	170	118	125	40		
25	1	170	180	118	125	40		
32	1 1/4	200	210	152	158	50		
40	1 1/2	200	210	152	158	50		
50	2	220	230	175	180	65		
65	2 1/2	250	260	210	225	90		
80	3	270	290	230	250	105		
100	4	320	340	260	280	130		
125	5	380	410	310	330	170		
150	6	420	450	320	340	200		
200	8	500	530	395	415	260		



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