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LEVEL GAUGE

CATALOGUE

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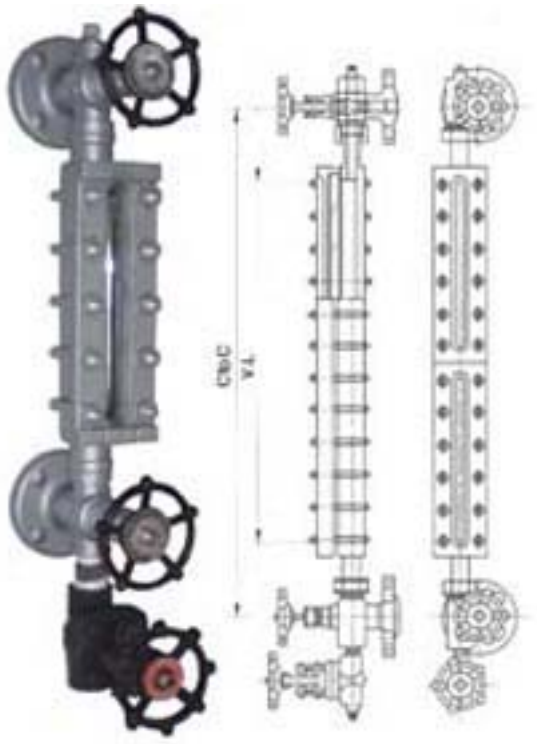
Contents

1.0 REFLEX TYPE LEVEL GAUGE

- DESCRIPTION

The reflex liquid level gauge has a sturdily constructed body, with the glass and cover securely held by U-bolts to maintain a hermetic seal(see figure below).
This type of level gauge features several parallel grooves cut into the glass surface that is in contact with the liquid. The resulting prismatic diffraction cuses gasses to appear white by reflection; liquids black by absorption. Thus the level of even transparent liquids can be clearly observed.
Low-medium and high-pressure types may be used according to applications, and units may be manufactured using carbon steel, stainless steel or a wide variety of other materials for parts in contact with the liquid. Type HRG reflex gauges have a number of further advantages including light weight, availability of long visible lengths and low price.

- MODEL : HRG TYPE



HRG-1 =>

Press : 1 ~ 30kg/cm2

Material : Carbon Steel, Stainless Steel

Size : 15A, 20A, 25A

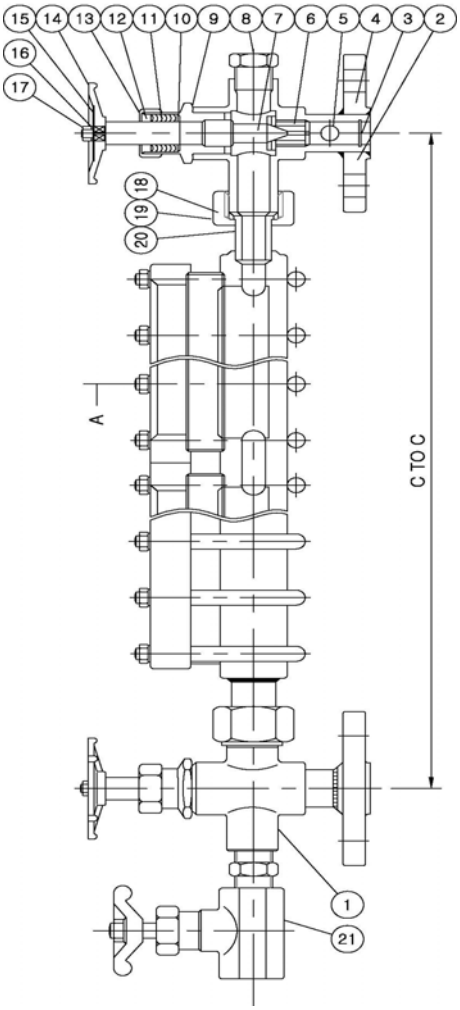
HRG -2 =>

Press : 30 ~ 150kg/cm2

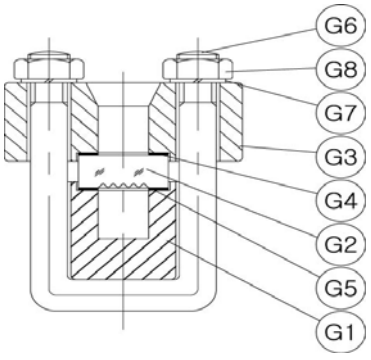
Material : Carbon Steel, Stainless Steel

Size : 15A, 20A, 25A

- REFLEX TYPE LEVEL GAUGE OUTLINE DWG



NO.	DESCRIPTION	MATERIAL	Q'TY
1	LOWER VALVE BODY	C.S	1
2	UPPER VALVE BODY	C.S	1
3	RETAINER	304SS	2
4	FLANGE	C.S	2
5	CHECK BALL	304SS	2
6	SEAT	304SS	2
7	STEM	304SS	2
8	PLUG	C.S	1
9	BONNET	C.S	2
10	GRAND PACKING	Teflon	2
11	UNION	C.S	2
12	GLAND	C.S	2
13	G.D NUT	C.S	2
14	HANDLE	C.S	2
15	NAME PLATE	Al-2	2
16	WASHER	SWRH62	2
17	NUT	C.S	2
18	GASKET	Non-Asbestos	2
19	CONNECTION NUT	C.S	2
20	CONNECTION	C.S	2
21	DRAIN VALVE	C.S	1



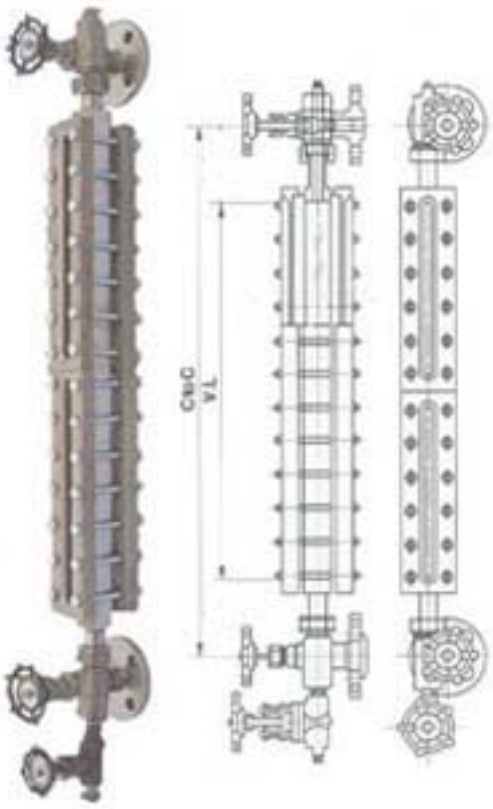
NO.	DESCRIPTION	MATERIAL	Q'TY
G1	GAUGE BODY	C.S	1
G2	GAGE GLASS	Borosilicate	n
G3	GAUGE COVER	C.S	n
G4	CUSHION GASKET	Non-Asbestos	n
G5	SEALING GASKET	Non-Asbestos	n
G6	BOLT	C.S	n
G7	WASHER	SWRH62	n
G8	NUT	C.S	n

2.0 TRANSPARENT TYPE LEVEL GAUGE

- DESCRIPTION

Transparent liquid level gauges, like the reflex type, consist of the body, with the glass and cover held by stud bolt to maintain a hermetic seal(see figure below).
Transparent gauges allow observation of liquid level through two sheets of transparent glass, marking them applicable to colored and non-transparent liquids. For high-pressure, high-temperature or alkaline applications, a layer of high-grade mica can be applied to the inner surfaces of the glass sheets, not only protecting the glass, but improving pressure-and heat-resistance.
A lighting device may also be provided for even clearer confirmation of liquid.

- MODEL : HTG TYPE



HTG-1 =>

Press : 1 ~ 30kg/cm2

Material : Carbon Steel, Stainless Steel

Size : 15A, 20A, 25A

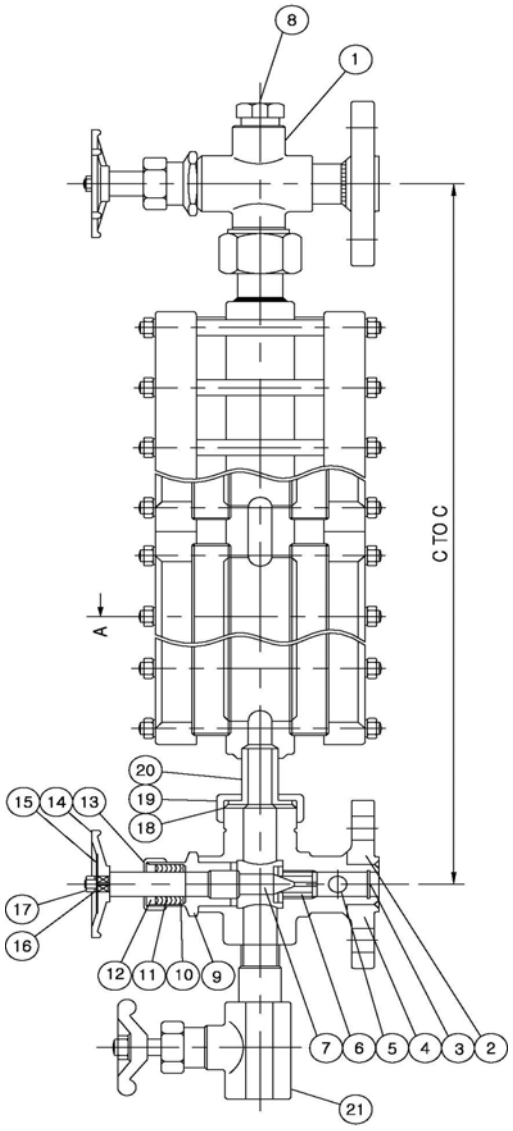
HTG -2 =>

Press : 30 ~ 150kg/cm2

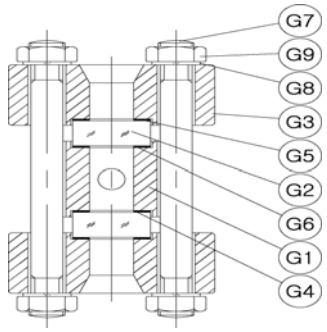
Material : Carbon Steel, Stainless Steel

Size : 15A, 20A, 25A

- TRANSPARENT TYPE LEVEL GAUGE OUTLINE DWG



NO.	DESCRIPTION	MATERIAL	Q'TY
1	LOWER VALVE BODY	316LSS	1
2	UPPER VALVE BODY	316LSS	1
3	RETAINER	316LSS	2
4	FLANGE	A182F316L	2
5	CHECK BALL	316LSS	1
6	SEAT	316LSS	2
7	STEM	316LSS	2
8	PLUG	316LSS	2
9	BONNET	316LSS	2
10	PACKING RING	Non-Asbestos	2
11	UNION	304SS	2
12	GLAND	304SS	2
13	G.D NUT	304SS	2
14	HANDLE	A47 Gr.32510	2
15	NAME PLATE	B247	2
16	WASHER	SWRH62	2
17	NUT	304SS	2
18	GASKET	Non-Asbestos	2
19	CONNECTION NUT	304SS	2
20	CONNECTION	316LSS	2
21	DRAIN VALVE	A182F316L	1



NO.	DESCRIPTION	MATERIAL	Q'TY
G1	GAUGE BODY	316LSS	1
G2	GAGE GLASS	Borosilicate	1
G3	GAUGE COVER	304SS	2
G4	MICA	Remarks	2
G5	CUSHION GASKET	Non-Asbestos	2
G6	SEALING GASKET	Graphite	2
G7	BOLT	304SS	n
G8	WASHER	SWRH62	n
G9	NUT	304SS	n

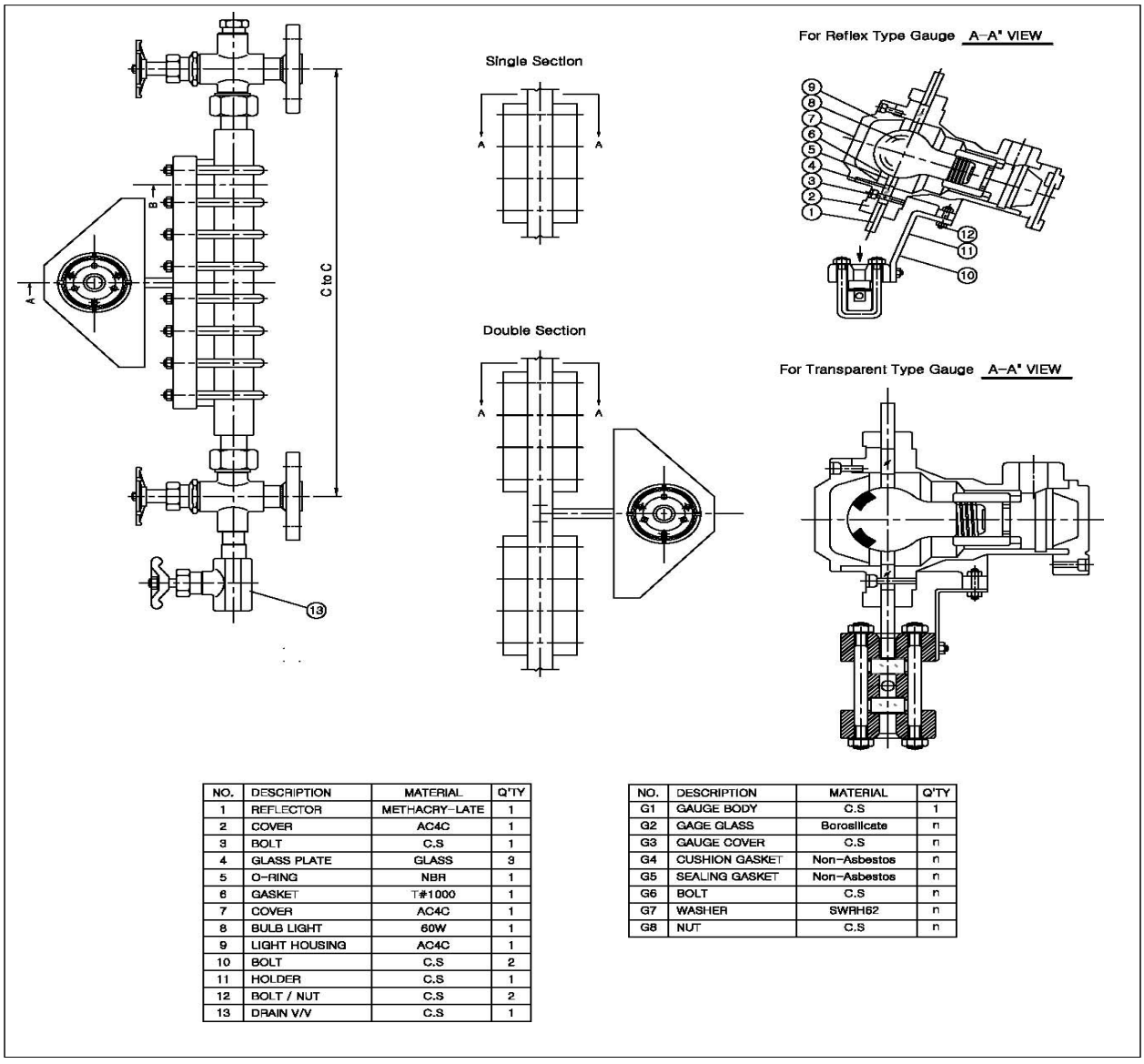
3.0 ILLUMINATOR

- DESCRIPTION

Complete Range of Size : Single and Double Section HITROL Weather-Proof illuminators are made in single and Double styles for Transparent and Reflex Gauges. Double Section illuminators require only one bulb for complete illumination of two gauge sections.

- MODEL : HRG-IL (Reflex) , HTG-IL (Transparent)

- ILLUMINATOR LEVEL GAUGE DWG



NO.	DESCRIPTION	MATERIAL	Q'TY
1	REFLECTOR	METHACRY-LATE	1
2	COVER	AC4C	1
3	BOLT	C.S	1
4	GLASS PLATE	GLASS	3
5	O-RING	NBR	1
6	GASKET	T#1000	1
7	COVER	AC4C	1
8	BULB LIGHT	60W	1
9	LIGHT HOUSING	AC4C	1
10	BOLT	C.S	2
11	HOLDER	C.S	1
12	BOLT / NUT	C.S	2
13	DRAIN V/V	C.S	1

NO.	DESCRIPTION	MATERIAL	Q'TY
G1	GAUGE BODY	C.S	1
G2	GAGE GLASS	Borosilicate	n
G3	GAUGE COVER	C.S	n
G4	CUSHION GASKET	Non-Asbestos	n
G5	SEALING GASKET	Non-Asbestos	n
G6	BOLT	C.S	n
G7	WASHER	SWRH62	n
G8	NUT	C.S	n

- ILLUMINATOR LEVEL GAUGE SPECIFICATIONS

ELECTRICITY

- Voltage : 100 ~ 220V, 50 60Hz
- Bulb Light : 20W

4.0 TWO COLOR TYPE LEVEL GAUGE

- THE PRINCIPLE OF TWO-COLOR WATER LEVEL GAUGE

This is designed on the basis of optical science " When light passes through different materials its reflective index varies with each material."

Construction and Functioning

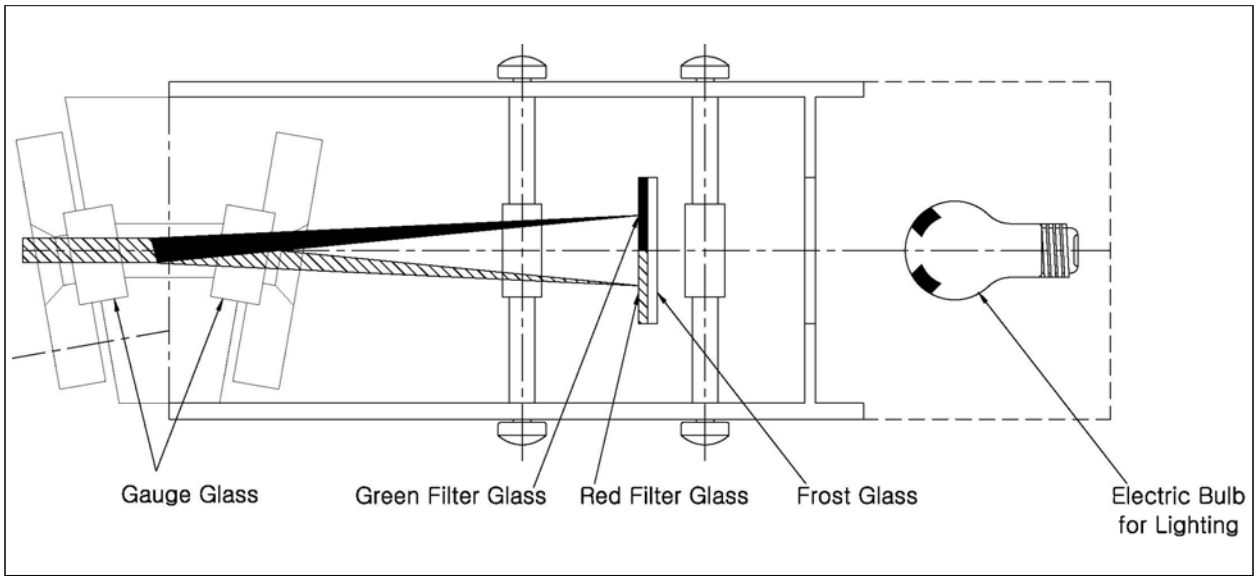
Two-color water level gauge applies the principle of optical science that the reflective index of light of different when it passes through steam space and boiler water section.

The gauge is of construction that a special lamp, colored glass plate(red, green) and a condensing lens are provided inside the illuminator installed at the rear of water level gauge.

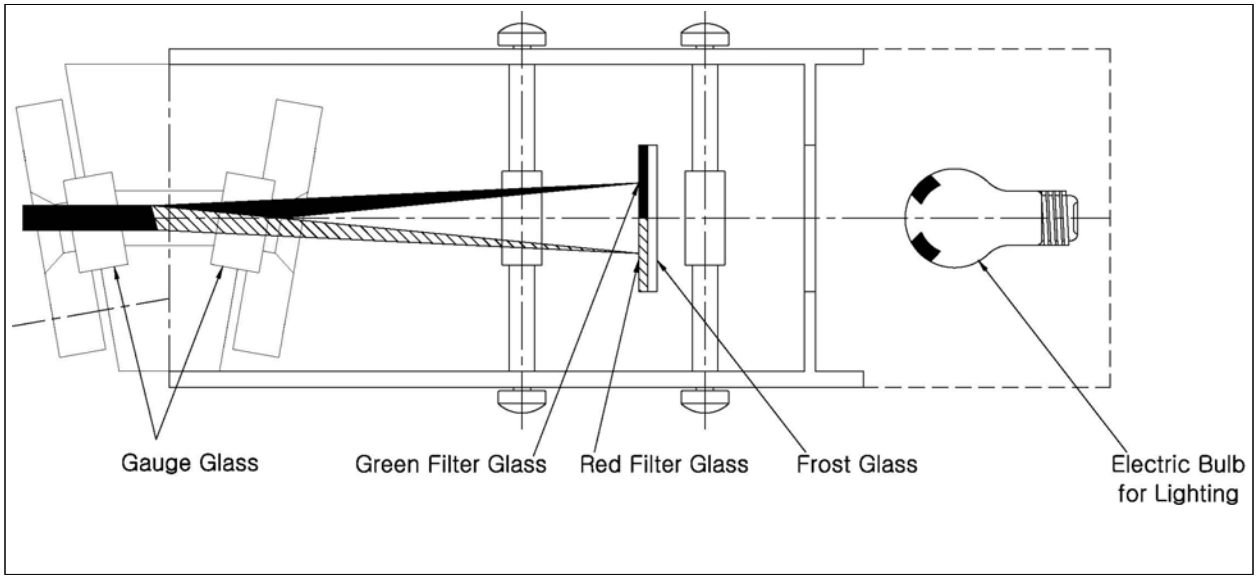
The light separated into two colors by passing through the colorde plates(red, blue) enters into visible window of water level gauge after travelling angle is changed a little by the next condensing lens. Then,when the light passes through the trapezoid chamber which consists of two sheets of gauge glass when it is steam blue light reflected in the chamber and does not appear outside interrupted by gauge cover and only red reflected ray appears on the visible face after passed through inside of water level gauge.

And when it is boiler water in the chamber, contradictious phenomenon will occur, that is, the red reflected ray does not appear outside interrupted and only blue reflected ray appears on the visible face. As mentioned above, the filter glass, a condensing lens, gauge glass are combined in the optically position so that correct water level appear by instantaneously sensing the level variance.

- In the case of steam

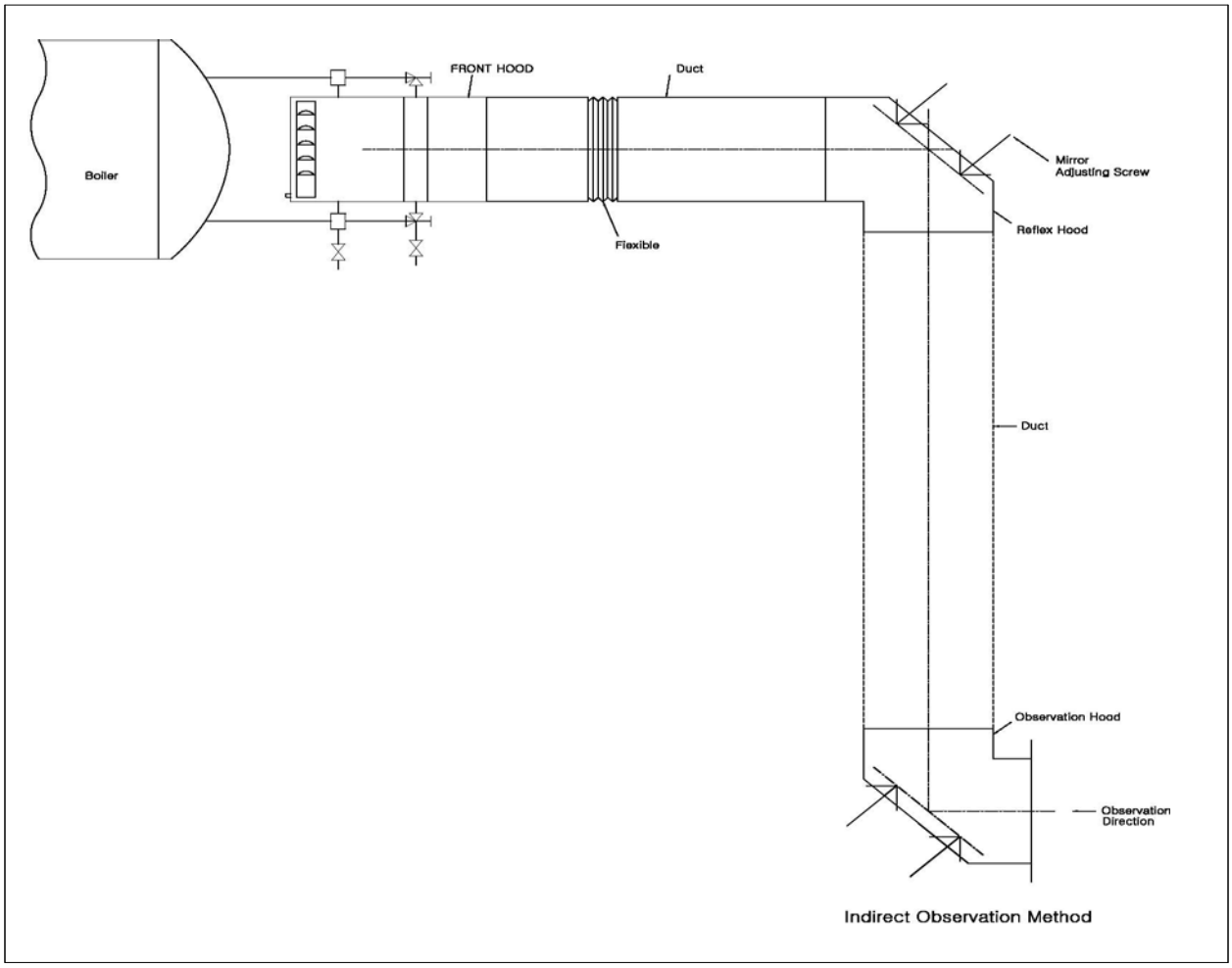


- In the case of boiler water



1) Observation Method :

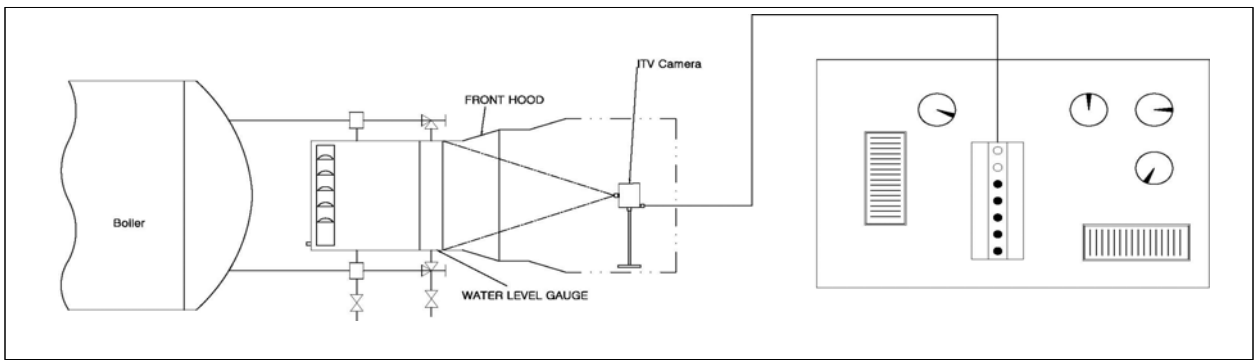
Several hoods with reflex mirror are attached, and observation is performed at the most convenience place by operators.



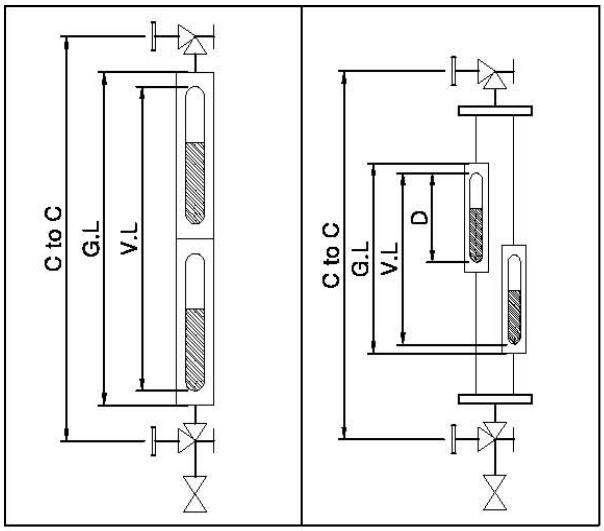
Indirect Observation Method

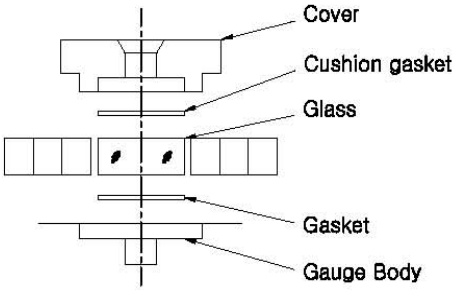
2) Observation by television

Steam space appears white and water section black. Filter is not red/green, so please specify clearly as "Television Observation" without fail as special color is used.

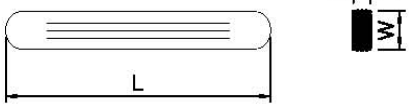


5.0 STANDARD TYPE DIMENSION TABLE





Glass



Glass Size

No.	L	W	t	Remark
1	115	34	17	
2	140	"	"	
3	165	"	"	
4	190	"	"	
S4	200	"	"	
5	220	"	"	*
6	250	"	"	
7	280	"	"	*
S7	300	"	"	
8	320	"	"	*
9	340	"	"	*
10	400	"	"	

One Section

	Gage Size	V.L	G.L	C to C
1	1 x 1	90	130	320
	2 x 1	115	155	345
	3 x 1	140	180	370
	4 x 1	165	205	395
	S4 x 1	175	215	405
	5 x 1	195	235	425
	6 x 1	225	265	455
	7 x 1	255	295	485
	S7 x 1	275	315	505
	8 x 1	295	335	525
	9 x 1	315	355	545
	10 x 1	375	415	605
Two Sections				
2	7 x 2	550	590	780
	8 x 2	630	670	860
	9 x 2	670	710	900
	10 x 2	790	830	1020
Three Sections				
3	7 x 3	845	885	1075
	8 x 3	965	1005	1195
	9 x 3	1025	1065	1255
	10 x 3	1205	1245	1435
Four Sections				
4	7 x 4	1140	1180	1370
	8 x 4	1300	1340	1530
	9 x 4	1380	1420	1610
	10 x 4	1620	1660	1850
Five Sections				
5	7 x 5	1435	1475	1665
	8 x 5	1635	1675	1865
	9 x 5	1735	1775	1965
	10 x 5	2035	2075	2265
Six Sections				
6	7 x 6	1730	1770	1960
	8 x 6	1970	2010	2200
	9 x 6	2090	2130	2320
Seven Sections				
7	7 x 7	2025	2065	2255
	8 x 7	2305	2345	2535
	9 x 7	2445	2485	2675
Eight Sections				
8	7 x 8	2320	2360	2550
	8 x 8	2640	2680	2870

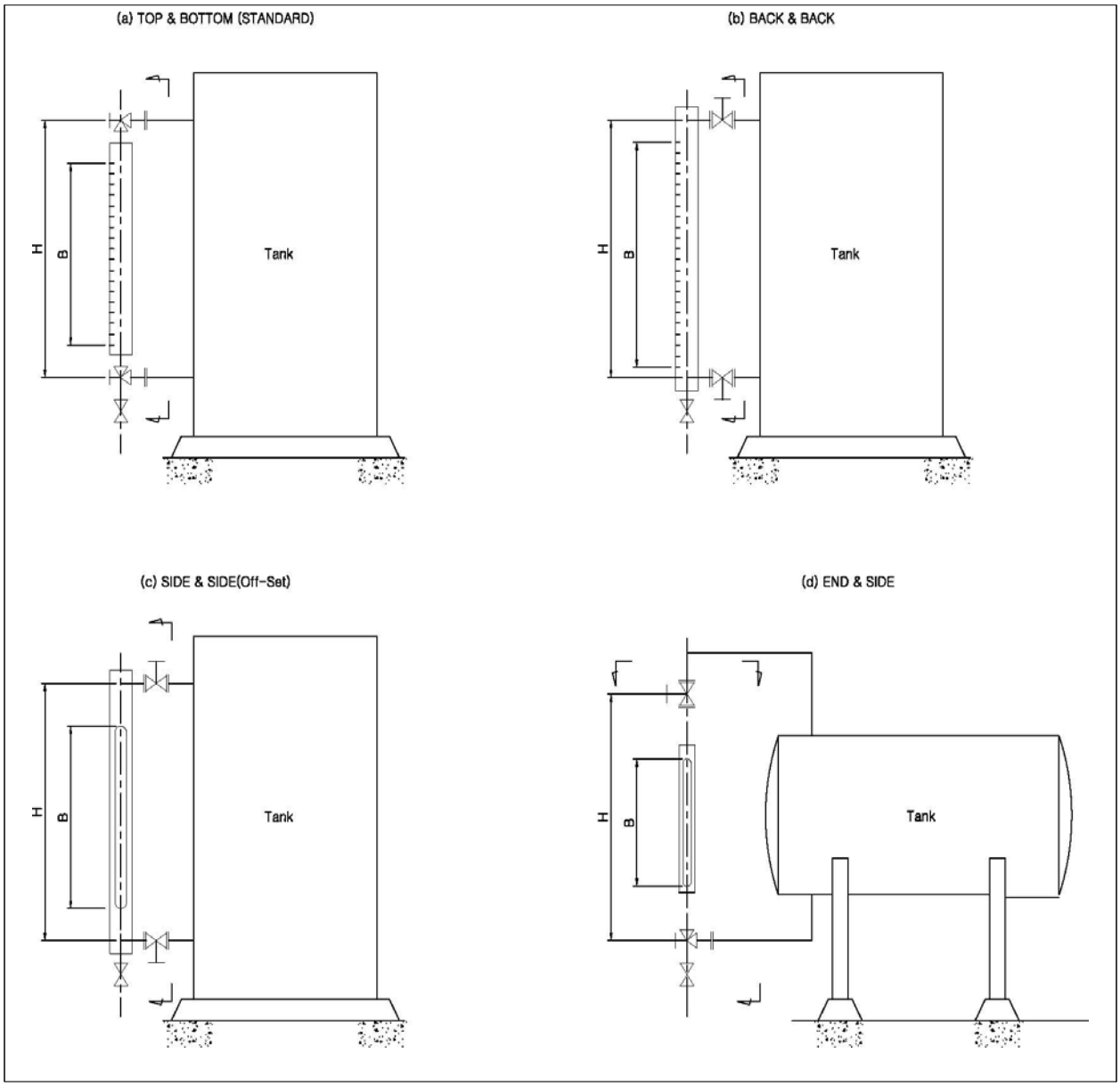
C to C ≥ G.L+190(m/m)
C to C ≥ V.L+230(m/m)
C to C ≥ 1850:Support

6.0 RANGE OF TEMPERATURE & PRESSURE OF LIQUID LEVEL GAUGE

- IN ORDERING OR REQUESESTING ESTIMATES, PLEASE SPECIFY :

1. Type of liquid level gauge
2. Material for liquid- contacting portion and main body
3. Center-to-center distance of mountings(C)
4. Visible length(V_T)
5. Method of gauge valve mounting
6. Type of glass and gasket
7. Temperature and pressure conditions
8. Mounting standard(flange, screw-in)
9. Type of liquid
10. Information on corrosiveness or viscosity of the liquid required for linings, etc.

- METHODS OF MOUNTING LIQUID LEVEL GAUGES



NOTE : Methods (a) and (d) : Direction for gauge observation is changeable

Methods (b) and (c) : Direction for gauge observation is fixed.

Measurement(H) should always be the above (B) plus 100mm

The arrows in the illustrations show the range of our works