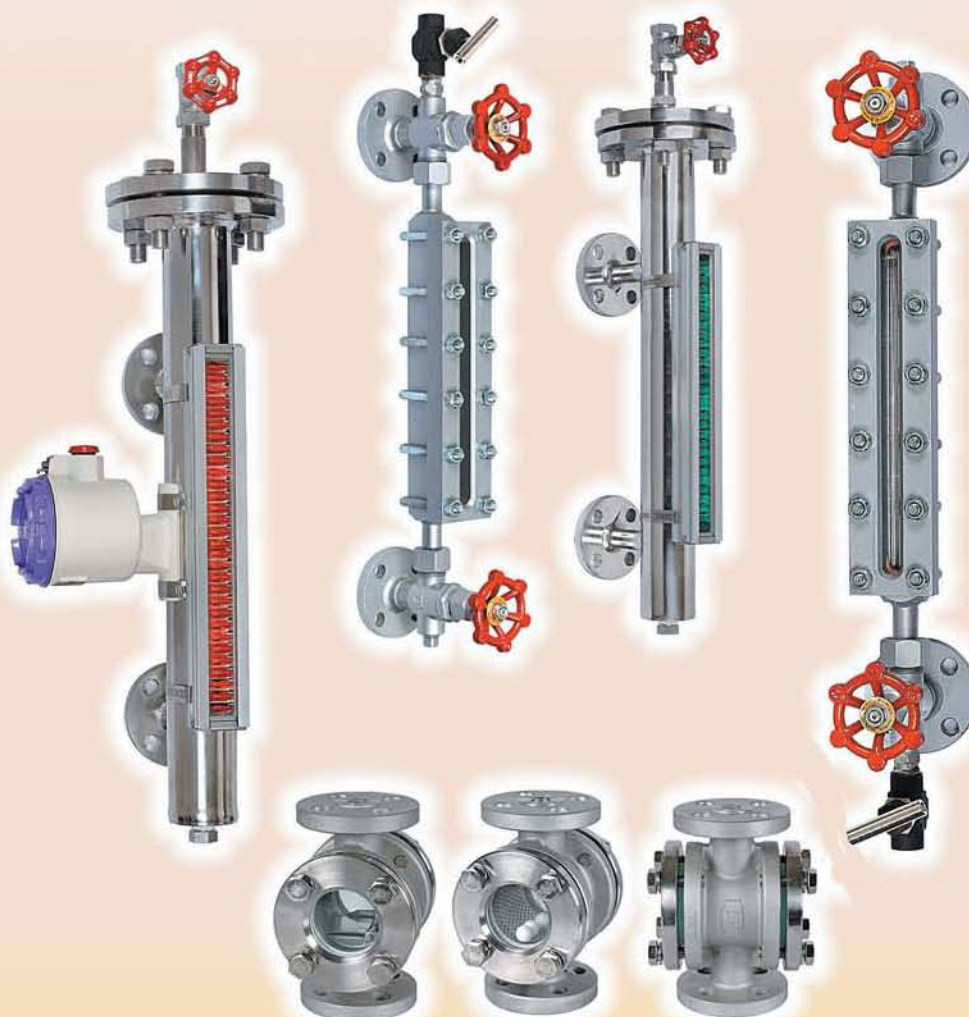


# LEVEL GAUGE & SIGHT GLASS



**SEOJIN INSTECH CO.,LTD**  
[www.seojin.biz](http://www.seojin.biz)

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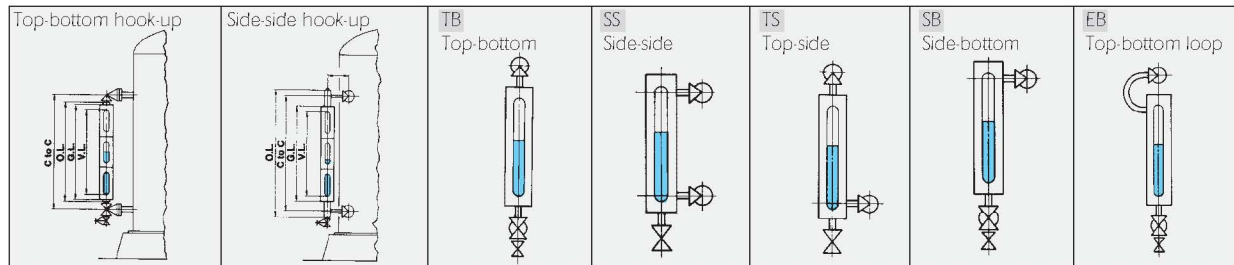
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# ENGINEERING REFERENCE DATA

## HOOK-UPS

Dimensions of SEOJIN, direct reading gauges are determined in accordance with the following items

■ Center to center dimension(C to C) ■ Visible length(V.L) ■ Gauge length(G.L) ■ Overall length(O.L)

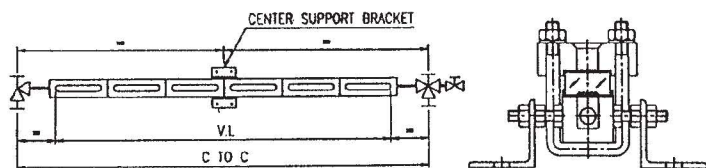


## DIMENSIONS

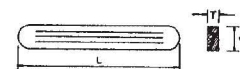
GLASS SIZE and No. of Sec.	V.L	G.L	STANDARD O.L		STANDARD C TO C		Weight(Kgs) without valve Reflex/Transparent	GLASS SIZE and No. of Sec.	V.L	G.L	STANDARD O.L		STANDARD C TO C		Weight(Kgs) without valve Reflex/Transparent
			TB	SS	TB	SS					TB	SS	TB	SS	
#1 x 1	90	130	145	200	320	140	2.3/4.5	#7 x 4	1140	1180	1195	1250	1370	1190	27.2/40.4
#2 x 1	115	155	170	225	345	165	3.6/5.3	#S7 x 4	1220	1260	1275	1330	1450	1270	29.2/43.2
#3 x 1	140	180	195	250	370	190	4.2/6.2	#8 x 4	1300	1340	1355	1410	1530	1350	30.8/45.6
#4 x 1	165	205	220	275	395	215	4.8/7.0	#9 x 4	1380	1420	1435	1490	1610	1430	32.8/48.4
#S4 x 1	175	215	230	285	405	225	5.0/7.4	#10 x 4	1620	1660	1675	1730	1850	1670	38.4/56.8
#5 x 1	195	235	250	305	425	245	5.4/8.0	#7 x 5	1435	1475	1490	1545	1665	1485	34.0/50.5
#6 x 1	225	265	280	335	455	275	6.1/9.1	#S7 x 5	1535	1575	1590	1645	1765	1585	36.5/54.0
#7 x 1	255	295	310	365	485	305	6.8/10.1	#8 x 5	1635	1675	1690	1745	1865	1685	38.5/57.0
#S7 x 1	275	315	330	385	505	325	7.3/10.8	#9 x 5	1735	1775	1790	1845	1965	1785	41.0/60.5
#8 x 1	295	335	350	405	525	345	7.7/11.4	#10 x 5	2035	2075	2090	2145	2265	2085	48.0/71.0
#9 x 1	315	355	370	425	545	365	8.2/12.1	#7 x 6	1730	1770	1785	1840	1960	1780	40.8/60.6
#10 x 1	375	415	430	485	605	425	9.6/14.2	#S7 x 6	1850	1890	1905	1960	2080	1900	43.8/64.8
#S4 x 2	390	430	445	500	620	440	10.0/14.4	#8 x 6	1970	2010	2025	2080	2200	2020	46.2/68.4
#5 x 2	430	470	485	540	660	480	10.8/16.0	#9 x 6	2090	2130	2145	2200	2320	2140	49.2/72.6
#6 x 2	490	530	545	600	720	540	12.2/18.2	#10 x 6	2420	2460	2475	2530	2650	2470	57.6/85.2
#7 x 2	550	590	605	660	780	600	13.6/20.2	#7 x 7	2025	2065	2080	2135	2255	2075	47.6/70.7
#S7 x 2	590	630	645	700	820	640	14.6/21.6	#S7 x 7	2165	2205	2220	2275	2395	2215	51.1/75.6
#8 x 2	630	670	685	740	860	680	15.4/22.8	#8 x 7	2305	2345	2360	2415	2535	2355	53.9/79.8
#9 x 2	670	710	725	780	900	720	16.4/24.2	#9 x 7	2445	2485	2500	2555	2675	2495	57.4/84.7
#10 x 2	790	830	845	900	1020	840	19.2/28.4	#10 x 7	2835	2875	2890	2945	3065	2885	67.2/99.4
#6 x 3	755	795	810	865	985	805	18.3/27.3	#7 x 8	2320	2360	2375	2430	2550	2370	54.4/80.8
#7 x 3	845	885	900	955	1075	895	20.4/30.3	#S7 x 8	2480	2520	2535	2590	2710	2530	58.4/86.4
#S7 x 3	905	945	960	1015	1135	955	21.9/32.4	#8 x 8	2640	2680	2695	2750	2870	2690	61.6/91.2
#8 x 3	965	1005	1020	1075	1195	1015	23.1/34.2	#9 x 8	2800	2840	2855	2910	3030	2850	65.6/92.8
#9 x 3	1025	1065	1080	1135	1255	1075	24.6/36.3								
#10 x 3	1205	1245	1260	1315	1435	1255	28.8/42.6								

## SUPPORTER FITTING

The supporter fittings shown below are available. Please give us instructions by referring to the attached illustration. We recommend this supporter fitting for gauges over 3 meters long.



## CLASS TABLE



NO.	L	W	T	Remarks
1	115	34	17	
2	140	34	17	
3	165	34	17	
4	190	34	17	
S4	200	34	17	
5	220	34	17	
6	250	34	17	
7	280	34	17	
S7	300	34	17	
8	320	34	17	
9	340	34	17	
S9	370	34	17	
10	400	34	17	

# ENGINEERING REFERENCE DATA

## DIMENSION ITEMS

Dimensions of SEOJIN direct reading gauges are determined according to the following

- Center-to-center dimension (C to C)
- Visible length (V.L.)
- Gauge length (G.L.)
- Overall length (O.L.)

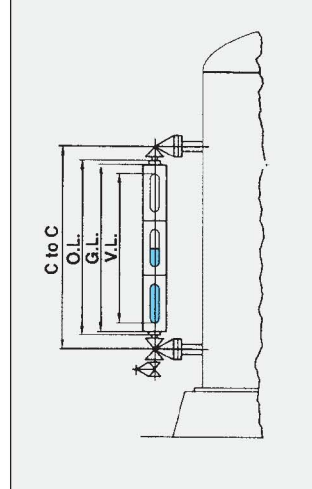
Refer to dimensions listed in each catalog.

## CODES FOR HOOK-UP

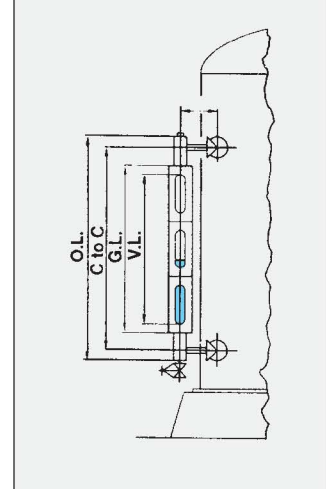
Hook-up of SEOJIN direct reading gauges are standardized to the following 40k codes.

For details of hook-up, refer to each catalog as hook-up procedures may differ in each type. Nonstandard hook-up procedures are available on request. Unless otherwise specified, left connected hook-up is selected as a standard.

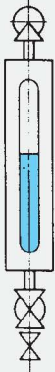
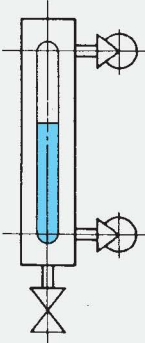
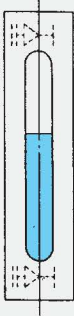
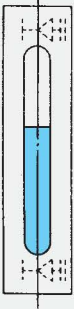
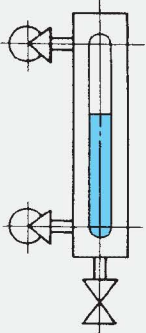
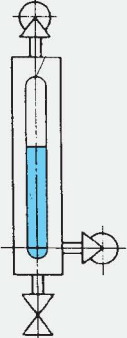
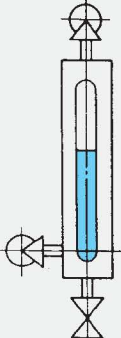
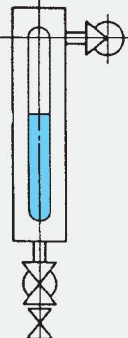
Top-bottom hook-up



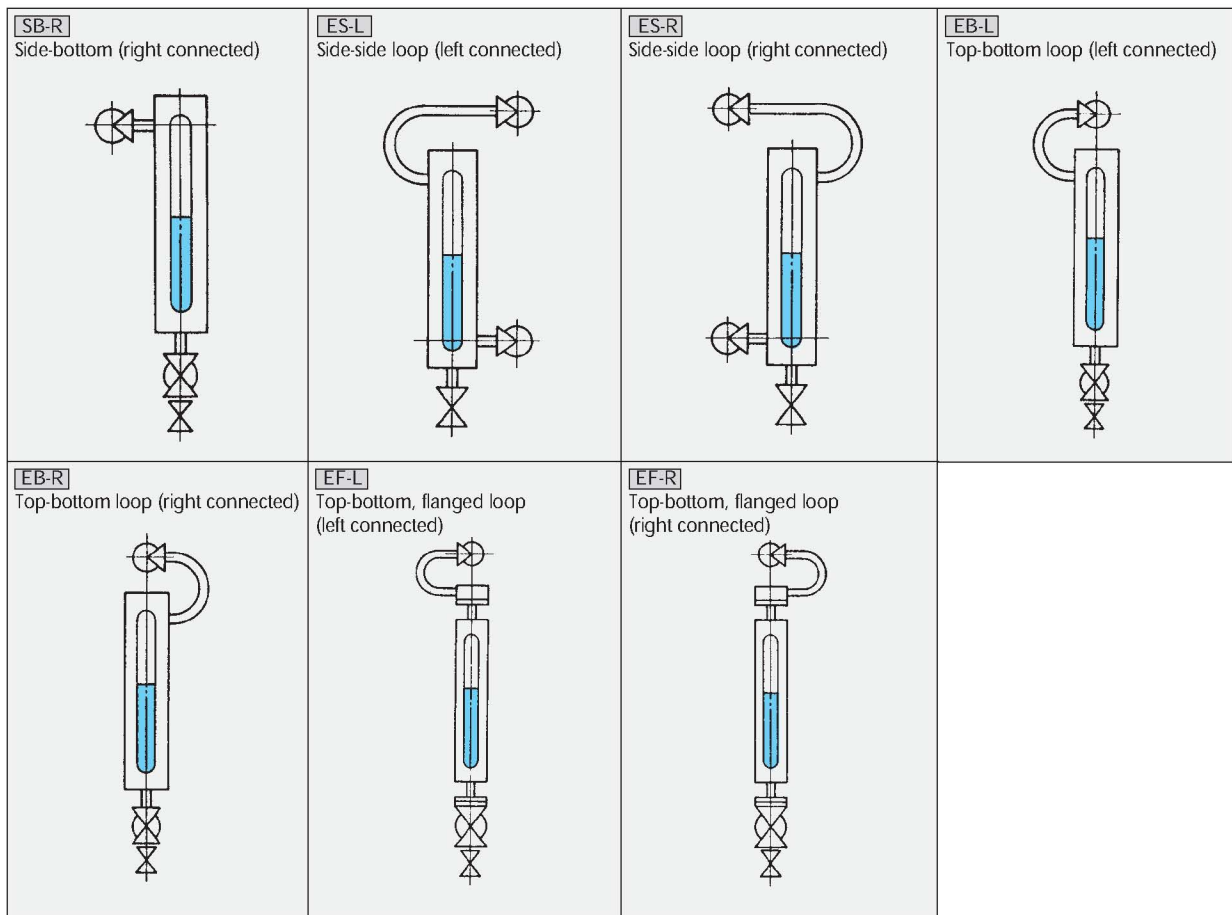
Side-side hook-up



## Code Hook-up

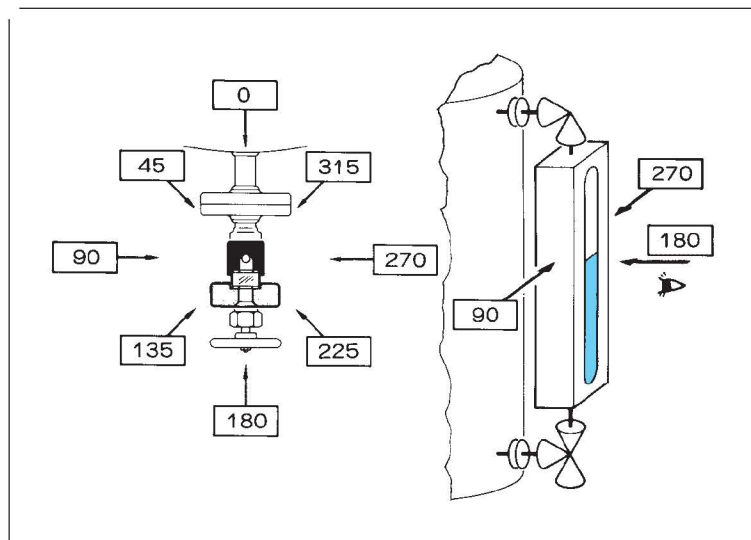
<p><b>T B</b> Top-bottom</p> 	<p><b>SS-L</b> Side-side (left connected)</p> 	<p><b>SS-CL</b> Side-side (Back and left connected)</p> 	<p><b>SS-CR</b> Side-side (Back and right connected)</p> 
<p><b>SS-R</b> Side-side (right connected)</p> 	<p><b>TS-L</b> Top-side (left connected)</p> 	<p><b>TS-R</b> Top-side (right connected)</p> 	<p><b>SB-L</b> Side-bottom (left connected)</p> 

# ENGINEERING REFERENCE DATA



## NOZZLE ORIENTATIONS OF SEOJIN DIRECT READING LIQUID LEVEL GAUGES

Nozzle orientation of SEOJIN direct reading gauges is coded every 45° anti-clock-wise. Therefore specify the angle of orientation (for example 90) if any specific nozzle orientation is requested. Unless otherwise specified nozzle orientation of 180 is selected.



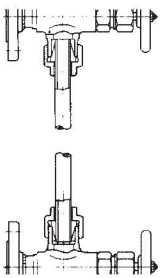
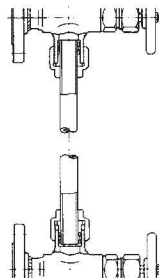
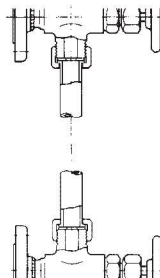
# ENGINEERING REFERENCE DATA

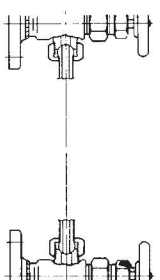
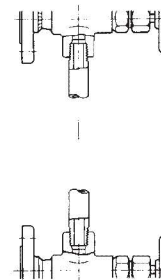
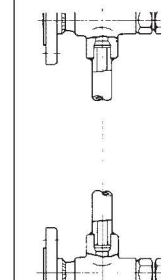
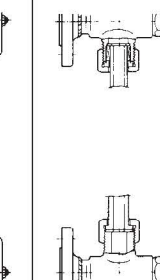
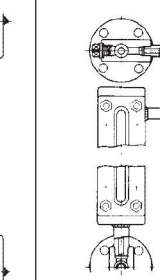
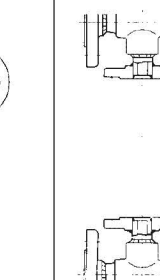
## GAUGES CONNECTIONS

Gauge Connection of SEOJIN direct reading gauges is coded according to the specifications listed in the table.

Gauge connection means the connection between the gauge valve (including gauge cock and gauge holder) and the nipple.

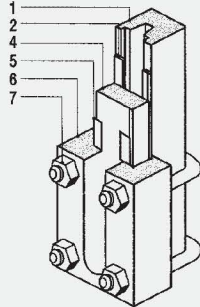
For details of gauge connection, refer to the SEOJIN gauge valve list as selection of gauge connection differs in each type.

Code	1	2	3
Gauge Connection	Gland connection	Gland connection	Union connection
Adjustment of Nozzle Orientation	Free	Free	Free
Schematic Drawing			
Applicable Gauge	Tubular Gauge	Tubular Gauge	Tubular, reflex and transparent gauge
Remarks	Molded gland packing	Yearm packing (Teflon impregnated asbestos)	Free adjustment of nozzle orientation at site

4	5	6	7	8	9
Spherical union connection	Screwed connection	Socket welded connection	Union and gland connection	Expansion loop and welded connection	Flanged connection
Free	Fixed	Fixed	Free	Fixed	Adjustable angle of flange hole
					
Reflex and transparent gauge	Reflex and transparent gauge	Reflex and transparent gauge	Reflex and transparent gauge	Reflex and transparent gauge	Reflex and transparent gauge
Fine adjustment of nozzle orientation, flange, flatness and C to C	Good leak prevention	Excellent leak prevention	Good compensation for thermal expansion	Excellent compensation for thermal expansion	Only gauge is removable

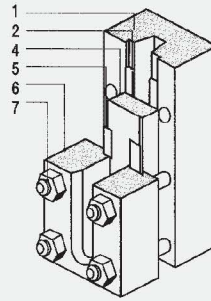
# REFLEX / TRANSPARENT & TUBULAR SERIES

Fig 001



SHRG-1

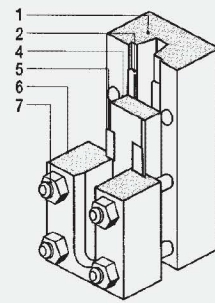
Fig 002



SHRG-2

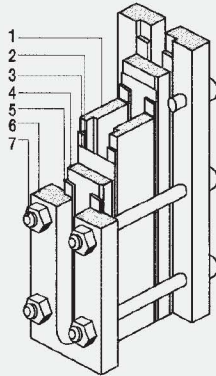
Fig 003

Mat'l:P.P, PVC or TEFLON



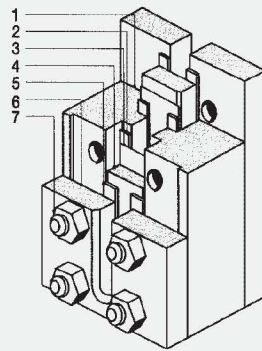
SHRG-2

Fig 004



SHTG-1

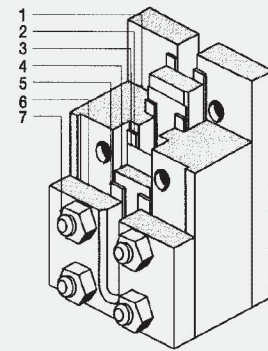
Fig 005



SHTG-2

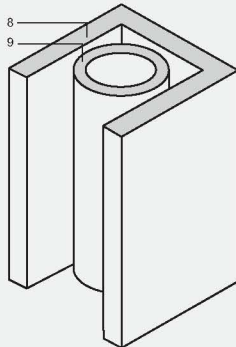
Fig 006

Mat'l:P.P, PVC or TEFLON



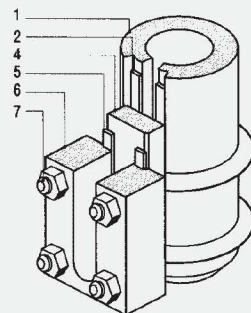
SHTG-3

Fig 007



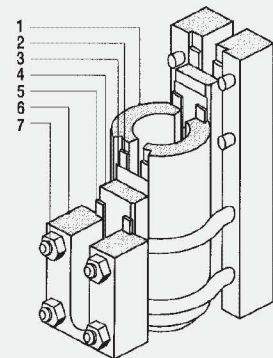
SHBG-1

Fig 008



SHRLG-1

Fig 009



SHTLG-1

1. BODY 2. GASKET 3. MICA PLATE 4. GLASS 5. CUSHION PACKING 6. COVER 7. BOLT & NUTS 8. PROTECTOR 9. TUBE

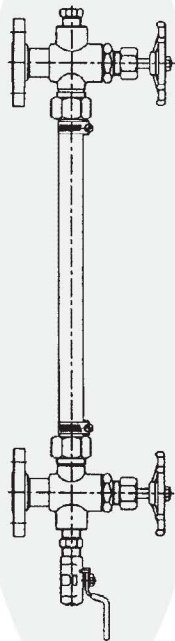
- REFLEX TYPE : Fig 001, 002, 003, 008
- TRANSPARENT TYPE : Fig 004, 005, 006, 009
- TUBULAR TYPE : Fig 007

# Level Gauge

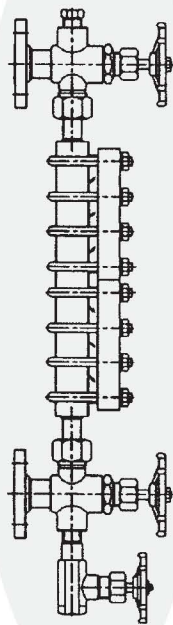
## ■ GENERAL SPECIFICATION

- Tubular Type LG is widely used for low pressure services up to  $5\text{kg/cm}^2$  and Max. Temperature,  $150^\circ\text{C}$ .
- Reflex Type LG is suitable for observing the level of transparent liquids because prismatic diffraction causes gauge to appear white by reflection : liquids black by absorption.  
In case gauge glasses are used fluids corrosive to glass such as saturated steam above  $35\text{kg/cm}^2$  and media with a high pH-value and alkali, please consult with SEOJIN engineers.
- Transparent Type LG is suitable for medium with dirty, viscous or aggressive. The flat transparent glasses guarantee better indication since the glass surface can be protected by mica shields against serious attack by the medium.
- Magnetic Type LG is to indicate the fluid level by the ring magnetic float inside 2" chamber to correspond with the change in level. It facilitates optimum readability thanks to two (red-green) colored flapper indicator which is turned through  $180^\circ\text{C}$  by the float movement.  
The indicator is completely separated from the fluid container. Thus Magnetic Type LG is a reliable, safe, maintenance-free instrument.

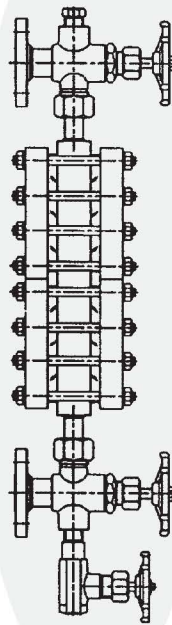
TUBULAR



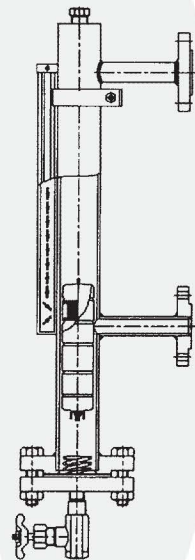
REFLEX



TRANSPARENT



MAGNETIC



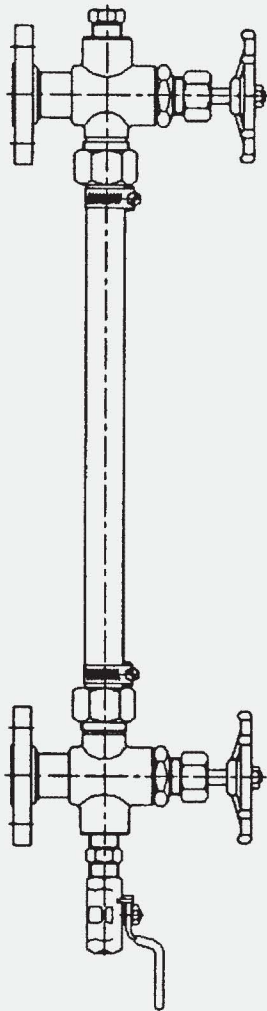


# TUBULAR TYPE LEVEL GAUGE

## DESCRIPTION

Tubular type Level Gauge are widely used for low pressure services up to 5Kgf/cm<sup>2</sup> and maximum temperature of 150°C. Check balls are built in the upper and bottom valves to stop flow instantaneously when the glass is broken. A cylinder like sheet metal protector is available to prevent glass breakage from external sources. Depending on nature of liquids, tubes made of various plastic resin are also available.

## SHBG



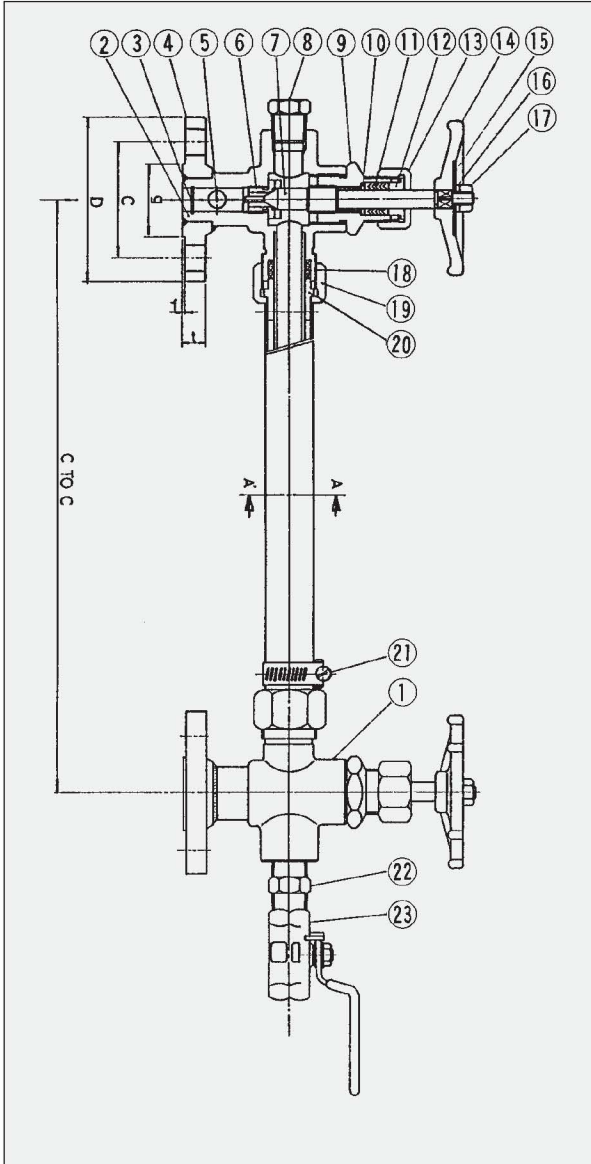
## SPECIFICATION

- PFA TUBE SIZE :  $\phi 18 \times \phi 16$
- GLASS TUBE SIZE : OUT DIA.  $\phi 18$ , IN DIA. ( $\phi 14$ )
- STANDARD CONNECTION : (VESSEL : 20A JIS 10K RF, 3/4" ANSI 150LB RF)  
DRAIN : PT(NPT)1/2"
- CENTER TO CENTER : 300 ~ 5000mm
- VISIBLE LENGTH : C TO C MINUS 160mm
- GLASS LENGTH : C TO C MINUS 35mm
- WORKING PRESSURE : 5Kgf/cm<sup>2</sup>G(MAX.)
- WORKING TEMPERATURE : 150°C (MAX.)
- SHELL TEST PRESSURE : 7Kgf/cm<sup>2</sup>G
- OPTIONAL CONNECTION : 15A JIS OR NPT MALE, 1/2" MALE FOR WELDING, FLANGED TO REQUIREMENT
- MATERIAL : CARBON STEEL, STAINLESS STEEL, P.P, TEFLON
- VALVE TYPE : STRAIGHT, OFFSET

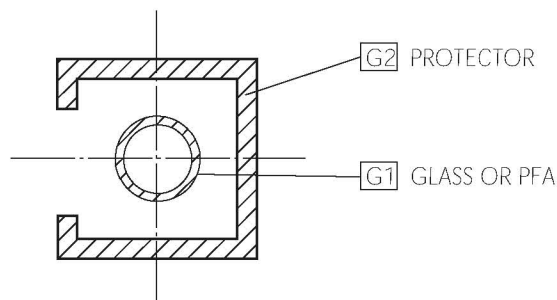
# GENERAL ARRANGEMENT DRAWINGS

## DRAWINGS

MODEL : SHBG-1



No	PARTS	Q'TY
1	LOWER VALVE BODY	1
2	UPPER VALVE BODY	1
3	RETAINER	2
4	FLANGE	2
5	CHECK BALL	2
6	SEAT	2
7	STEM	2
8	PLUG	1
9	BONNET	2
10	PACKING RING	2
11	GLAND PACKING	n
12	GLAND	2
13	GLAND NUT	2
14	HANDLE	2
15	NAME PLATE	2
16	WASHER	2
17	NUT	2
18	PACKING	n
19	CONNECTION NUT	2
20	CONNECTION	2
21	HOSE BAND	2
22	NIPPLE	1
23	DRAIN VALVE	1



MODEL : SHBG-1

# REFLEX TYPE LEVEL GAUGE

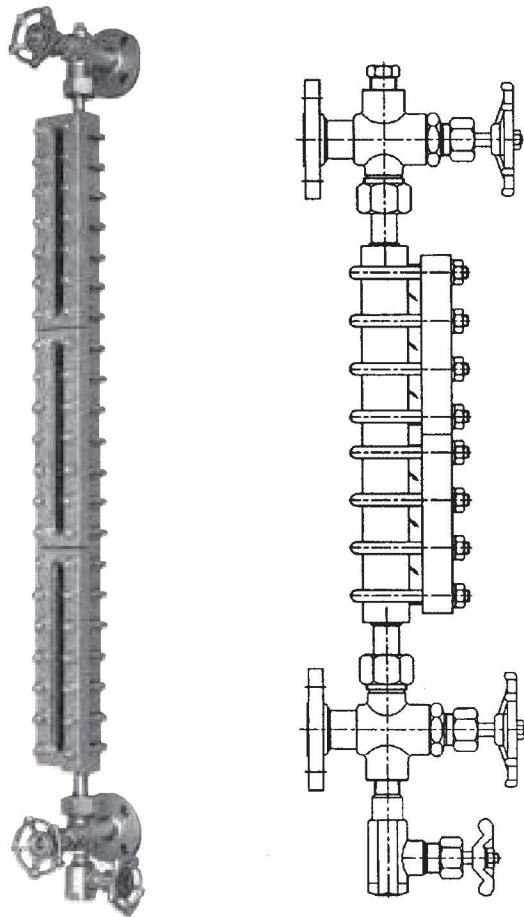
## DESCRIPTION

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 causes gases to appear white by reflection : liquids black by absorption. Thus level of even transparent liquids can be clearly observed.

Low medium and high pressure types may be used according to application conditions and units may be manufactured using carbon steel, stainless steel or a wide variety of other materials for parts in contact with the liquid. SEOJIN reflex gauges have a number of further advantages including light weight, availability of long visible length and low price.

## SHRG



VALVE MATERIAL : CARBON STEEL  
STAINLESS STEEL  
VALVE TYPE : STRAIGHT, OFFSET

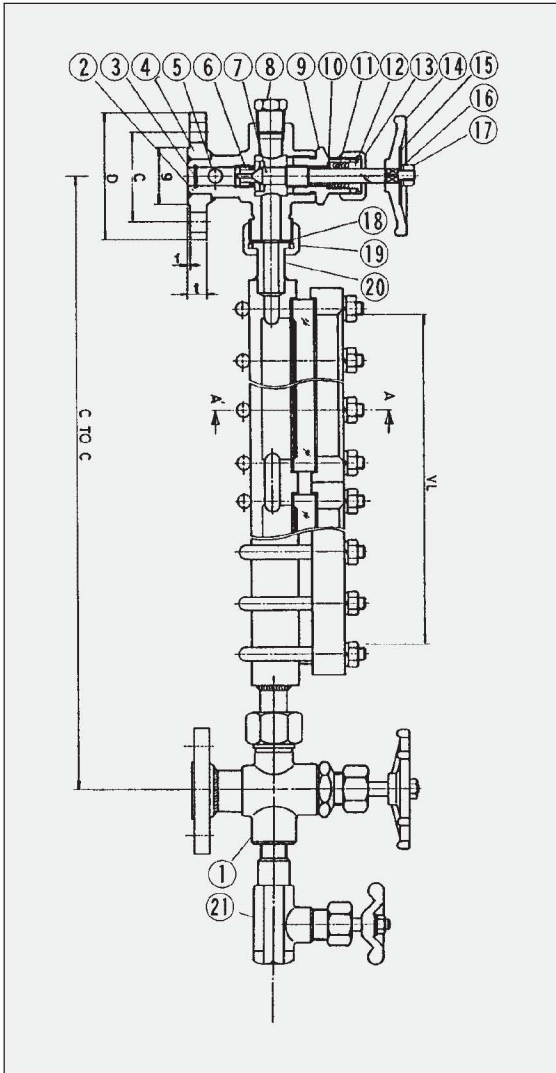
## SPECIFICATION

- TYPE : REFLEX
- VISIBLE LENGTH : See DimensionList(Page 3)
- MAXIMUM NO. OF SECTION : See DimensionList(Page 3)
- VESSEL CONECTION : 3/4" OR 1" FLANGED OR SCREWED ON REQUEST
- SHELL TEST PRESSURE : WORKING PRESSURE × 1.5

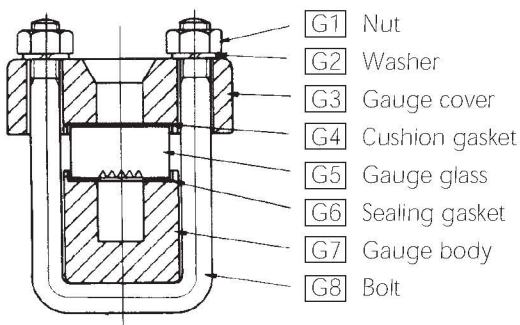
# GENERAL ARRANGEMENT DRAWINGS

## DRAWINGS

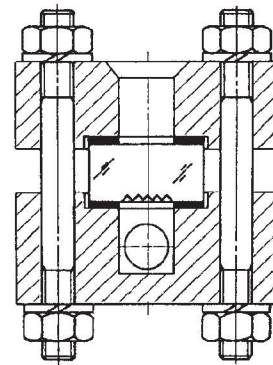
### SHRG-1



No	PARTS	Q'TY
1	LOWER VALVE BODY	1
2	UPPER VALVE BODY	1
3	RETAINER	2
4	FLANGE	2
5	CHECK BALL	2
6	SEAT	2
7	STEM	2
8	PLUG	1
9	BONNET	2
10	PACKING RING	2
11	GLAND PACKING	n
12	GLAND	2
13	GLAND NUT	2
14	HANDLE	2
15	NAME PLATE	2
16	WASHER	2
17	NUT	2
18	PACKING	n
19	CONNECTION NUT	2
20	CONNECTION	2
21	DRAIN VALVE	2



MODEL : SHRG-1  
PRESSURE:0~ 30kgf/cm<sup>2</sup>



MODEL : SHRG-2  
PRESSURE:0~ 150kgf/cm<sup>2</sup>

# Transparent Type Level Gauge

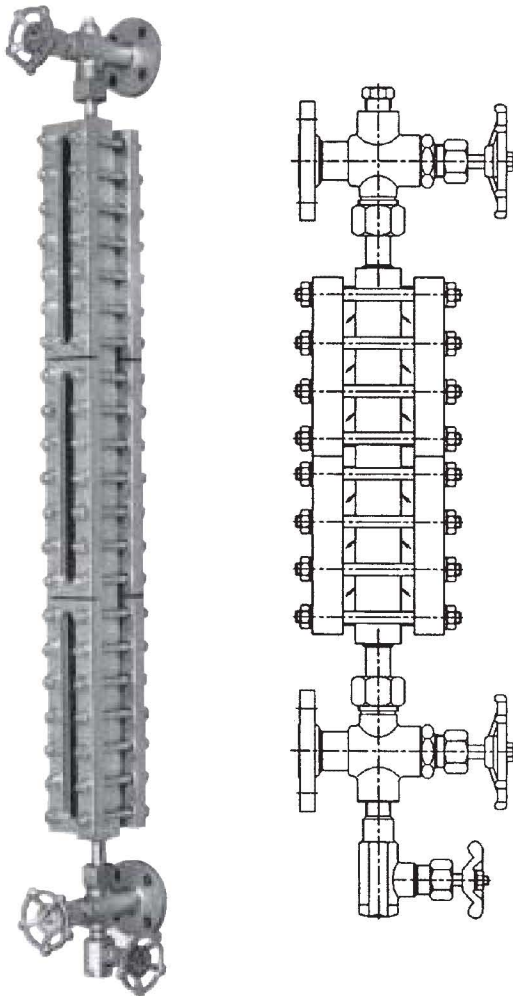
## DESCRIPTION

Designed for a wide range of pressure and temperature applications. The transparent type level gauge is suitable for observation of the level of corrosive and colored liquids.

The type is preferably used for reservoir tanks that require a comparatively long visible length.

This type of level gauge utilizes two pieces of tempered flat gauge glasses, each of which is placed in front and rear of gauge body and is sandwiched by gauge covers and tightened by bolts from both sides of the gauge.

## SHTG



VALVE MATERIAL : CARBON STEEL  
STAINLESS STEEL  
VALVE TYPE : STRAIGHT, OFFSET

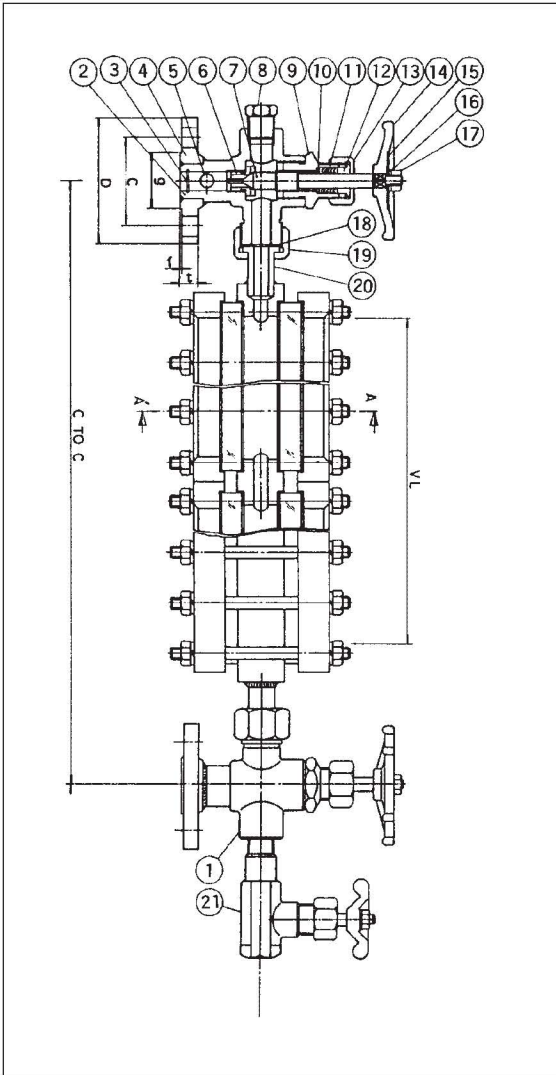
## SPECIFICATION

- TYPE : TRANSPARENT
- VISIBLE LENGTH : \_\_\_\_\_
- MAXIMUM NO. OF SECTION : — See Dimension List (page 3)
- VESSEL CONNECTION : 3/4" OR 1" FLANGED OR SCREWED ON REQUEST
- SHELL TEST PRESSURE : WORKING PRESSURE  $\times$  1.5

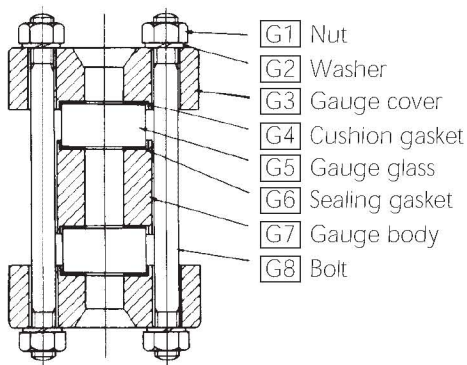
# GENERAL ARRANGEMENT DRAWINGS

## DRAWINGS

SHTG-1

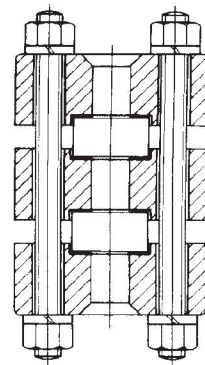


No	PARTS	Q'TY
1	LOWER VALVE BODY	1
2	UPPER VALVE BODY	1
3	RETAINER	2
4	FLANGE	2
5	CHECK BALL	2
6	SEAT	2
7	STEM	2
8	PLUG	1
9	BONNET	2
10	PACKING RING	2
11	GLAND PACKING	n
12	GLAND	2
13	GLAND NUT	2
14	HANDLE	2
15	NAME PLATE	2
16	WASHER	2
17	NUT	2
18	PACKING	n
19	CONNECTION NUT	2
20	CONNECTION	2
21	DRAIN VALVE	2



MODEL : SHTG-1  
0~30kgf/cm<sup>2</sup>

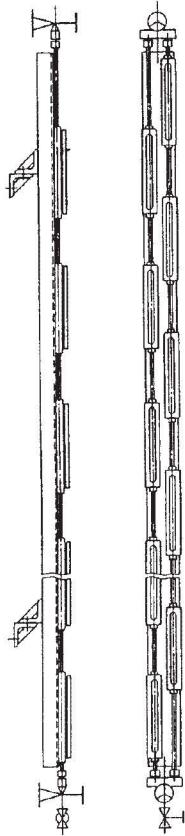
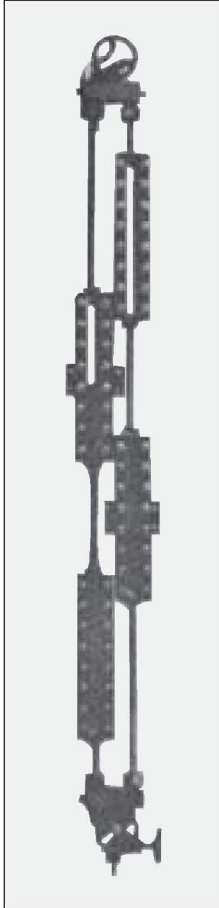
- G1 Nut
- G2 Washer
- G3 Gauge cover
- G4 Cushion gasket
- G5 Gauge glass
- G6 Sealing gasket
- G7 Gauge body
- G8 Bolt



MODEL : SHTG-2  
0~150kgf/cm<sup>2</sup>

# Zigzag Coupled Type Level Gauge

## ■ GENERAL

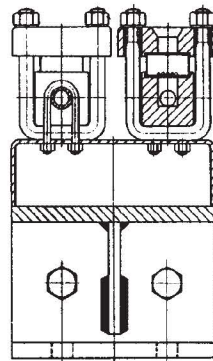


Type Reflex  
MODEL : SHRZG-1

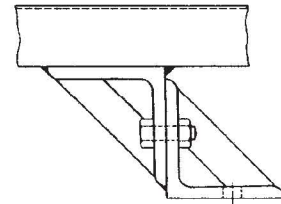
Type Transparent  
MODEL : SHTZG-1

This type of level gauge has a multiple number of reflex or transparent type gauges. Each of the gauge sections is lined up in the form of zigzag and vertically in parallel, so that level observation for the entire range of visible length is possible without leaving any blind portion. This gauge is particularly suitable for use of a deep reservoir tank.

The gauge is so designed that supporting brackets as illustrated below can be fitted to protect a long multiple-connected gauge from distortion or fall down. A scale plate to mount alongside the gauge is available to observe the liquid level more accurately.



Supporting brackets



## ■ DIMENSION TABLE

Unit:mm

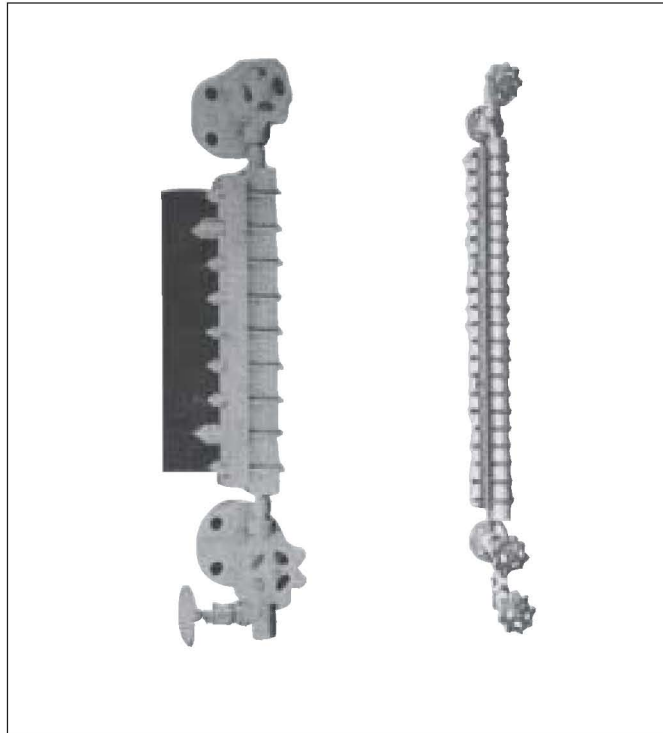
No. of Gauge Mounted	GLASS No. 9		GLASS No. 8		GLASS No. 7	
	H	B	H	B	H	B
4 gauges	1530	1200	1450	1120	1290	960
5 "	1850	1515	1750	1415	1550	1215
6 "	2130	1800	2010	1680	1770	1440
7 "	2450	2115	2310	1975	2030	1695
8 "	2710	2380	2550	2220	2230	1990
9 "	3050	2715	2870	2535	2510	2175
10 "	3300	2970	3100	2770	2700	2370
11 "	3650	3315	3430	3095	2990	2655
12 "	3890	3560	3650	3320	3170	2840
13 "	4250	3915	3990	3655	3470	3135
14 "	4480	4150	4200	3870	3640	3310
15 "	4850	4515	4550	4215	3950	3615
16 "	5130	4800	4810	4480	4170	3840
17 "	5450	5115	5110	4775	4430	4095
18 "	5750	5415	5390	5055	4670	4335
19 "	6050	5715	5670	5335	4910	4575
20 "	6350	6015	5950	5615	5150	4815

H: Center to Center distance B: Visible length

# NON-FROSTING TYPE LEVEL GAUGE

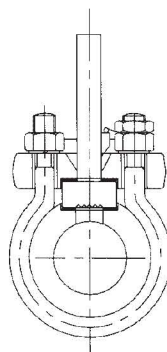
## DESCRIPTION

NON-FROSTING TYPE LIQUID LEVEL GAUGE is used for protection from the frost. Reflex type & Transparent type are provided. Generally, for low temperature liquid to be used for refrigerator, the whole surface of liquid level body & cover are frosted and covered with heavy frost then glass surface is entirely invisible. For the sake of this, non-frosting liquid level gauges is provided with acryl transparent plate which has high level. So this crosses frosting strata or keeping cool materials, is easily visible the liquid level position clearly. H dimension of lift table, please designate applicable for working temperature or thickness of keeping cool materials.

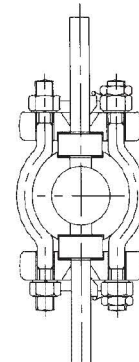


## DIMENSIONS

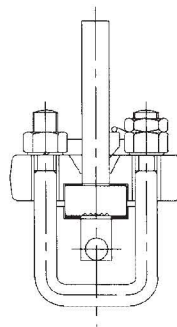
Temperature	Material	Acryl Height
0~-20	Carbon Steel STPG 38 SUS 304	75
-21~-45	ASTMA350-LF1 STPL 39 SUS 304	100
-46~-100	3.5% Ni Steel ASTMA350-LF3 STPL 46 SUS 304	150
-101~-160	Asustenite Stainless Steel sus 304	200



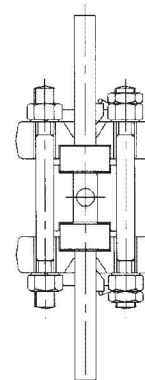
SHRLG-NF



SHTLG-NF



SHRG-NF



SHTG-NF



# LINED TYPE LEVEL GAUGE

## ■ DESCRIPTION

Severe demands are often placed on liquid level gauges in terms of resistance to corrosion, and this is accomplished by lining or coating the metal in contact with the liquid. The most important aspect of this process is the preparation of the metal substrate. For this, SEQUIN factory employs only the most modern machinery and highly experienced personal. The following anti-corrosion lining and coating materials are used.  
Hard rubber, tric fluoride resin, lead.

## ■ MODEL

### SHRG-LD



### SHRLG-LD



# LARGE CHAMBER TYPE LEVEL GAUGE

## DESCRIPTION

When liquids boil, bubbling makes the surface level indistinct. In this case the larger volume of the liquid chamber reduces bubbling, thereby facilitating level reading. It is also frequently used for dense, viscous liquids. The body is made of A106 Gr.B or Stainless steel pressure pipe, and is rated for 50kgf/cm<sup>2</sup>

For high-viscosity fluids and slurry, the liquid path at valves, and at joints of the gauge body, is normally so restricted that changes in liquid level cannot be readily observed. It is therefore possible to use connecting pipes like those shown in the photographs. Which are of the same diameter as the liquid chamber.

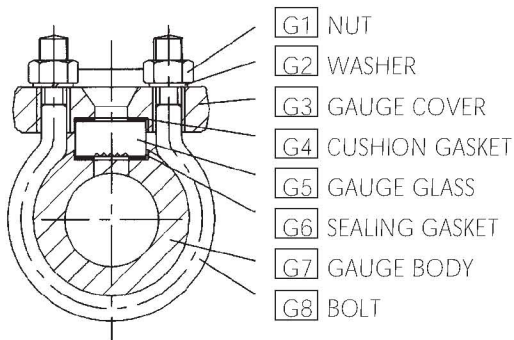
## MODEL



SHRLG-1

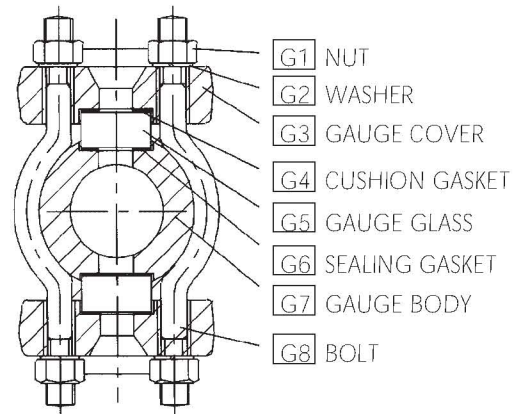


SHTLG-1



- G1 NUT
- G2 WASHER
- G3 GAUGE COVER
- G4 CUSHION GASKET
- G5 GAUGE GLASS
- G6 SEALING GASKET
- G7 GAUGE BODY
- G8 BOLT

**MODEL : SHRLG-1**  
**Material :** Carbon Steel, Stainless Steel  
**Pressure :** 1 ~ 50Kgf/cm<sup>2</sup>  
**Size :** 40A, 50A(1 1/2, 2")



- G1 NUT
- G2 WASHER
- G3 GAUGE COVER
- G4 CUSHION GASKET
- G5 GAUGE GLASS
- G6 SEALING GASKET
- G7 GAUGE BODY
- G8 BOLT

**MODEL : SHTLG-1**  
**Material :** Carbon Steel, Stainless Steel  
**Pressure :** 1 ~ 50Kgf/cm<sup>2</sup>  
**Size :** 40A, 50A(1 1/2, 2")

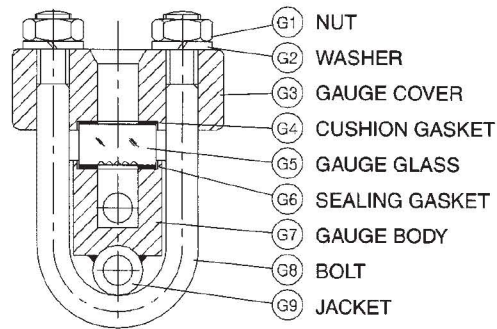
# HEATING OR COOLING TYPE LEVEL GAUGE

## DESCRIPTION

This level gauge is designed for the liquid of poor fluidity, which is difficult to measure. A Jacket is fitted up the level gauge and gauge valve and steam or heated water is passed through this Jacket to improve the fluidity of the liquid and this make measuring easy. This type gauge can be used as a cooling type gauge.

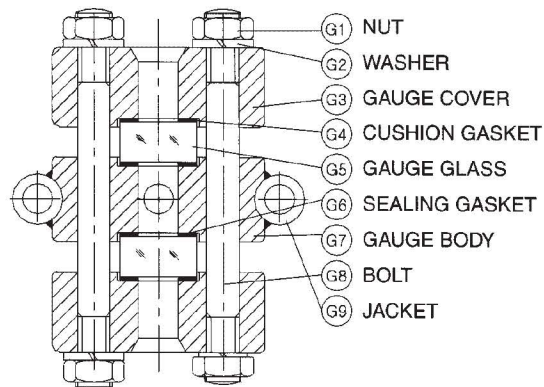
## MODEL

### SHRJG-1



MODEL : SHRJG-1  
MATERIAL : CARBON STEEL, STAINLESS STEEL  
MAX. PRESSURE : 45Kg/cm<sup>2</sup>G  
SIZE : 15A, 20A, 25A

### SHTJG-1

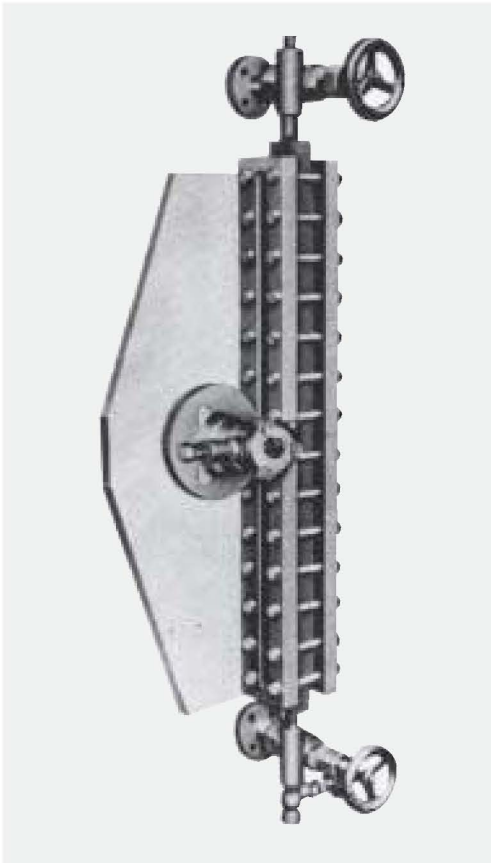


MODEL : SHTJG-1  
MATERIAL : CARBON STEEL, STAINLESS STEEL  
MAX. PRESSURE : 250Kg/cm<sup>2</sup>G  
SIZE : 15A, 20A, 25A

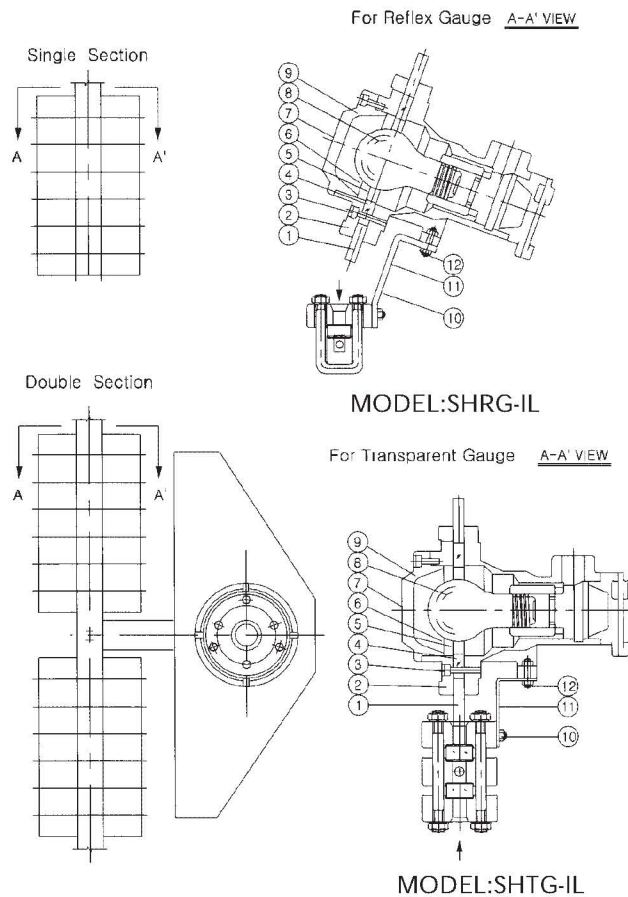
# ILLUMINATOR

## DESCRIPTION

Complete Range of Size : Single and Double Section SEOJIN Explosion-proof Illuminators are made in Single and Double Section styles for Transparent and Reflex Gauges. Double Section illuminators require only one bulb for complete illumination of two gauge sections.



Illuminator Explosion-Proof  
JIS · d2G4



## SPECIFICATIONS

### ELECTRICITY

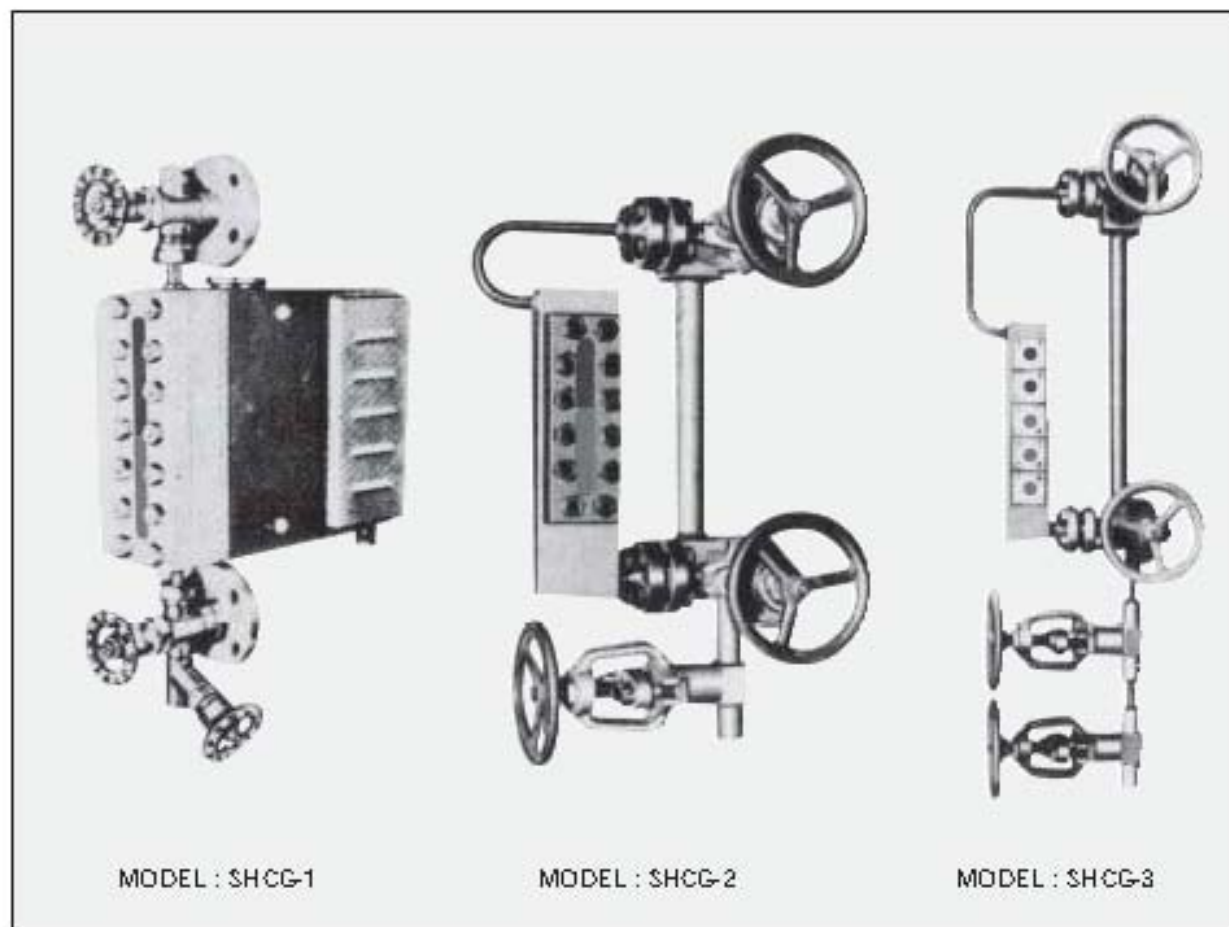
- Voltage : 110 ~ 240V: 60Hz, 50Hz
- Bulb Light : 30W, 60W, 100W
- Explosion-proof : d2G4
- Approved by :
- Applications :

NO.	DESCRIPTION	MATERIAL	Q'TY
1	REFLECTOR	METHACRYLATE	1
2	COVER	AC4C	1
3	BOLT	SUS 304	1
4	GLASS PLATE	GLASS	3
5	O-RING	NBR	1
6	GASKET	T#1000	1
7	COVER	AC4C	1
8	BULB LIGHT		1
9	LIGHT HOUSING	AC4C	
10	BOLT	SS41	2
11	HOLDER	SS412	1
12	BOLT NUT	SS412	2

## TWO COLOR TYPE LEVEL GAUGE

Steam Space - Red  
Boiler Water - Green

— The level confirmed



### ■ FEATURES OF TWO COLOR WATER LEVEL GAUGE

1. Distinct water level :

The water level is remarkably distinct and confirmed from far distance since an illuminator is fitted at the rear of water level gauge by which visible surface into two section, on the red-steam space, and another green-boiler water.

2. Correct water level is indicated always :

As the Two Color separation is based on the principle of optical science, normal water level can be indicated always even in an instantaneous change of water level.

3. Remote observation possible :

The water level appeared on the visible surface can be transferred to the operation (control) room by fitting several reflex mirrors(to the most convenient place for an operator to watch).

As the most improved method, television observation is utilized, therefore, we have also researched and developed those water level gauges suitable for television observation, and obtained good experimental results by changing filter glass of two colors(red and green) and employed in great numbers.

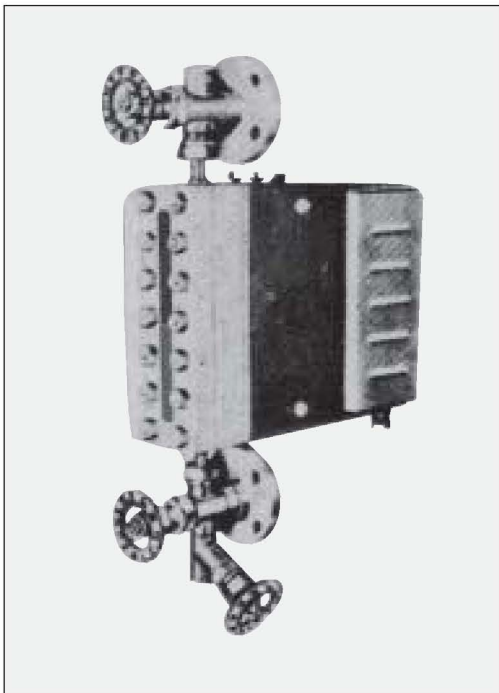
# TWO-COLOR TYPE LEVEL GAUGE

## DESCRIPTION

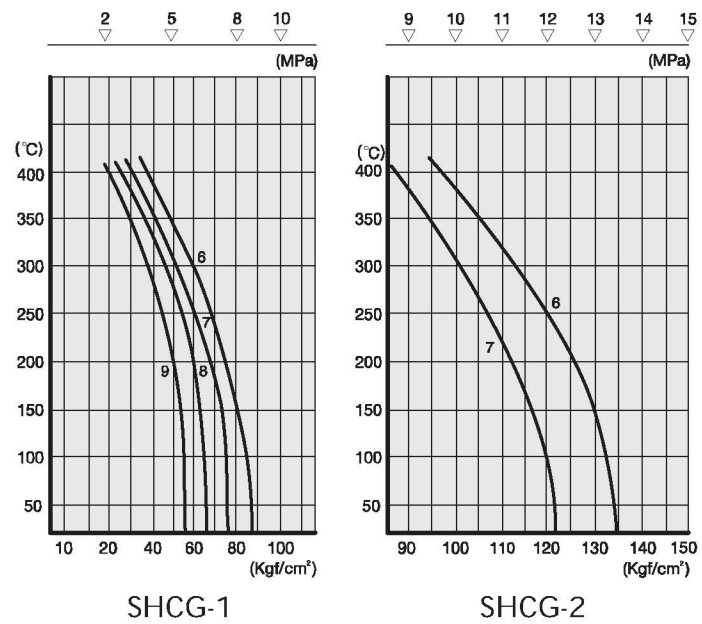
This water level gauge is of the most excellent construction and function as the two-color type gauge, especially has enjoyed great reputation for the ones installed on the boilers at the independent power generation plant or vessel.

## MODEL

### SHCG-1



### PRESSURE / TEMPERATURE CO-RELATION CHART



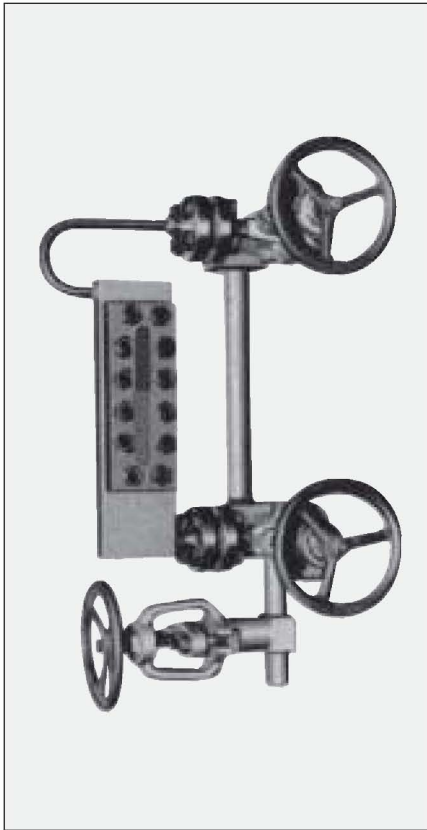
## SPECIFICATIONS

- SIZE OF GLASS : NO. 6 ~ NO. 9
- MAX. PRESSURE : SHCG-1: 60kgf/cm<sup>2</sup>  
SHCG-2: 100kgf/cm<sup>2</sup>
- MAX. TEMPERATURE : SHCG-1: SAT. TEMPERATURE  
SHCG-2: SAT. TEMPERATURE.

## DIMENSIONS

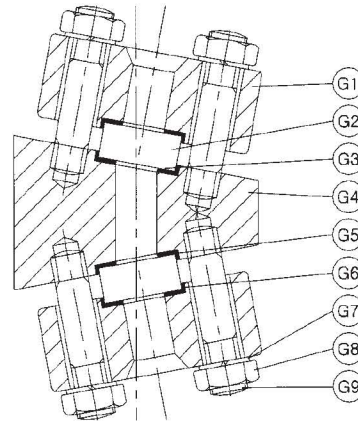
Type	Installation Direction		Gauge Facing Direction	Glass No.	Dimension(mm)				Gauge Valve or, Gock Type
	Left-Hand	Right-Hand			H	l <sub>1</sub>	l <sub>2</sub>	V. L	
SHCG-1			Facing any Direction	No. 6	500	250	250	225	Gauge Cock
				No. 7	530	265	265	255	
				No. 8	570	285	285	295	Gauge Valve
				No. 9	600	300	300	315	

# Two-Color Single-Window Type Level Gauge



SHCG-2

Body of the color type gauges are V shaped at an angle, as you see in the following cross sectional view, in order to split light from illuminator (installed behind the gauge) into two colors which are green and red. The covers of these models are all provided with rib reinforcement.



- G1. COVER PLATE
- G2. GAUGE GLASS
- G3. MICA GASKET
- G4. GAUGE BODY
- G5. SEALING GASKET
- G6. CUSHION GASKET
- G7. WASHER
- G8. NUT
- G9. BOLT

## DIMENSIONS

Unit:mm

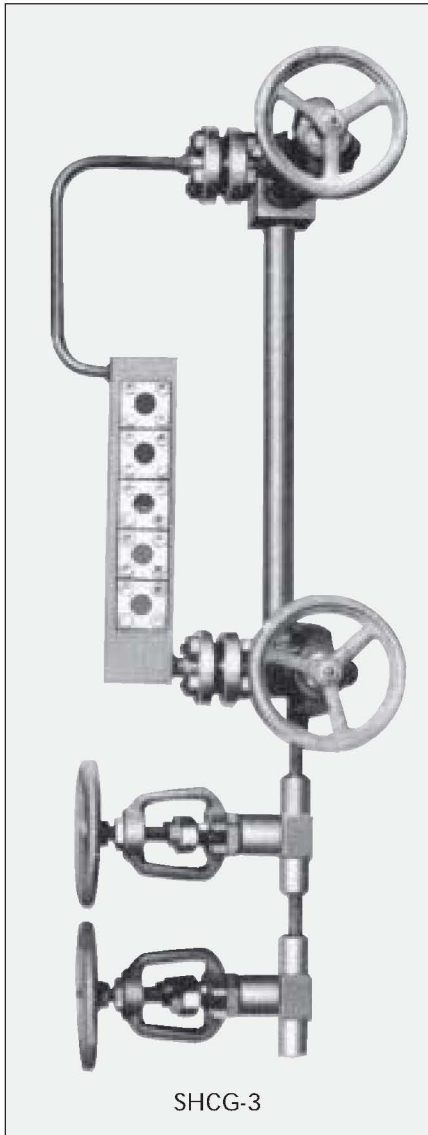
Types & Models	Side of Gauge Mounting against Boiler Drum	Direction of Gauge Front	Dimensions				
			No.	Center to Center H	ℓ 1	ℓ 2	(V. length) B
SHCG-2		Free choice	6	510	195	315	225
			7	530	200	330	255
			8	570	220	350	295
			9	590	230	360	315

**NOTE:** For Model SHCG-2; No. 6 and No. 7 size glasses are standard. Please consult with factory when No. 8 or No. 9 size glass is required to be used. The last code B of Model indicates the mode of installation, Side & Side or Back & Back.

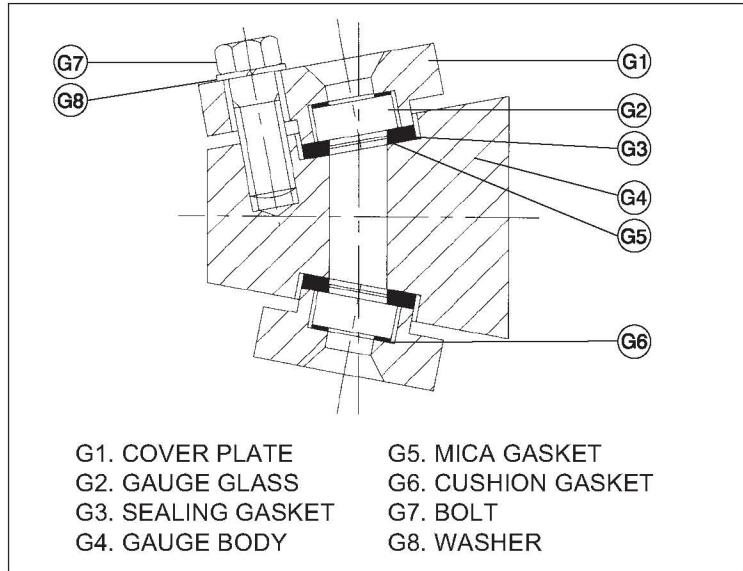
# Two-Color Multi-Port Type Level Gauge

This multi-port two color level gauge is provided with from 5 or 7 round windows or ports and is designed to handle the pressures and temperatures higher than the single window type level gauges. Impacts from external pressure and heat are distributed to each of the ports, thereby eliminating or minimizing the glass breakage and increasing the structural durability.

Max. Pressure : 150kgf/cm<sup>2</sup> at the saturated temperature.



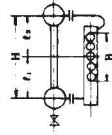
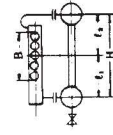
SHCG-3



- G1. COVER PLATE
- G2. GAUGE GLASS
- G3. SEALING GASKET
- G4. GAUGE BODY
- G5. MICA GASKET
- G6. CUSHION GASKET
- G7. BOLT
- G8. WASHER

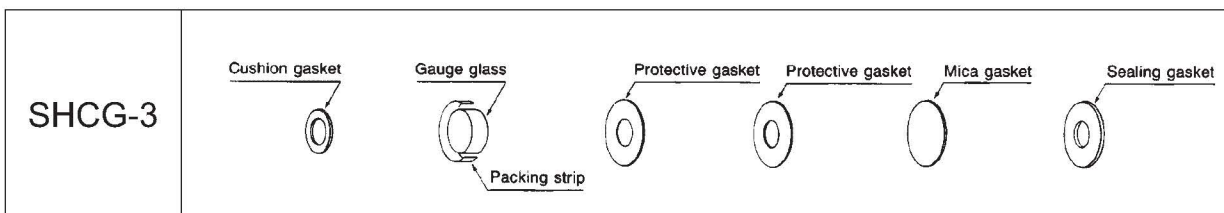
## DIMENSION TABLE

Unit : mm

Models	Side of Gauge Mounting against Boiler Drum	No. of Ports	Center to Center H	ℓ 1	ℓ 2	Visible Length B
SHCG-3		5	600	240	360	310
	Right hand					
		7	760	320	440	454
	Left hand					

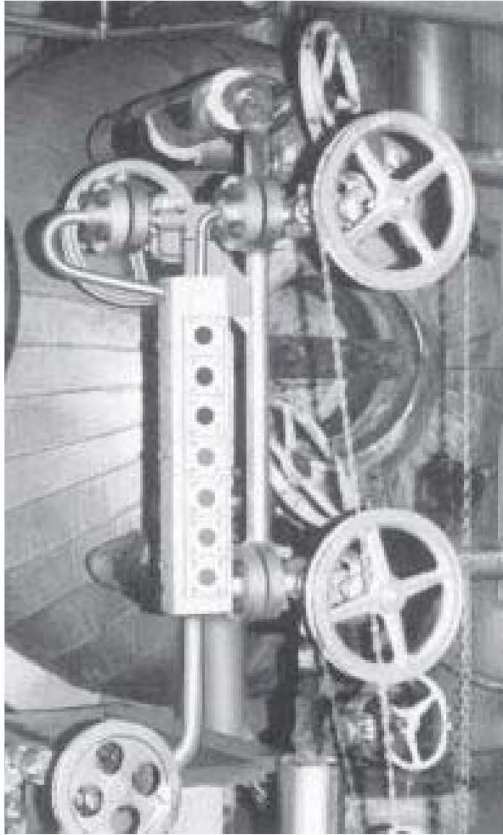
The dimensions in the table show are standard. Consult with our factory when other dimensions are required.

## COMBINATION AND SET OF COMPOSING PARTS





# Two-Color Multi-Port Type Level Gauge

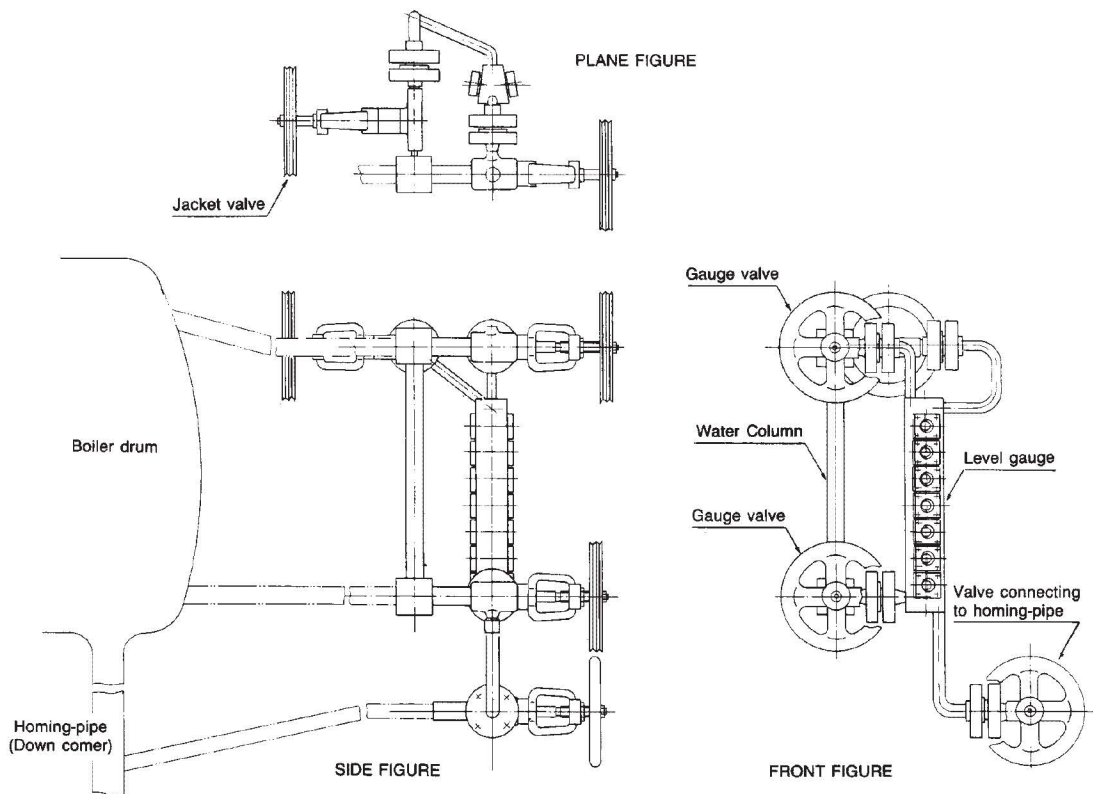


Model SHCG-3 is the multi-port type water level gauge that has been designed and developed by us for use of the boilers of thermal power stations, based on our own technology accumulated through our 70years experience as the manufacturer of water level gauges.

The body of the gauge has been machined out of the best selected steel material compatible against high temperature, and every component assembled in the gauge is the quality part passed our strict quality control system. Our long experienced engineering technics have been applied to analyze structural strength of the gauge, so that it has made the gauge most suitable for steam service of the ultra super high pressure 225 kgf/cm<sup>2</sup>

A difference of water level between the level in the boiler drum and that of the gauge, which is bound to occur due to high temperature, is eliminated to the minimum because of a special plumbing layout that was specifically designed and engineered by us. Also, every prudent consideration has been added in order to prevent an occurrence of sudden and abnormal change of the water level that has oftenly seen with the conventional type level gauge put in use under very critical steam servicing condition.

The gauge being with multiple numbers of ports, it offers a feature of economical maintenance since replacement of gauge glass can be carried out for each port independently.



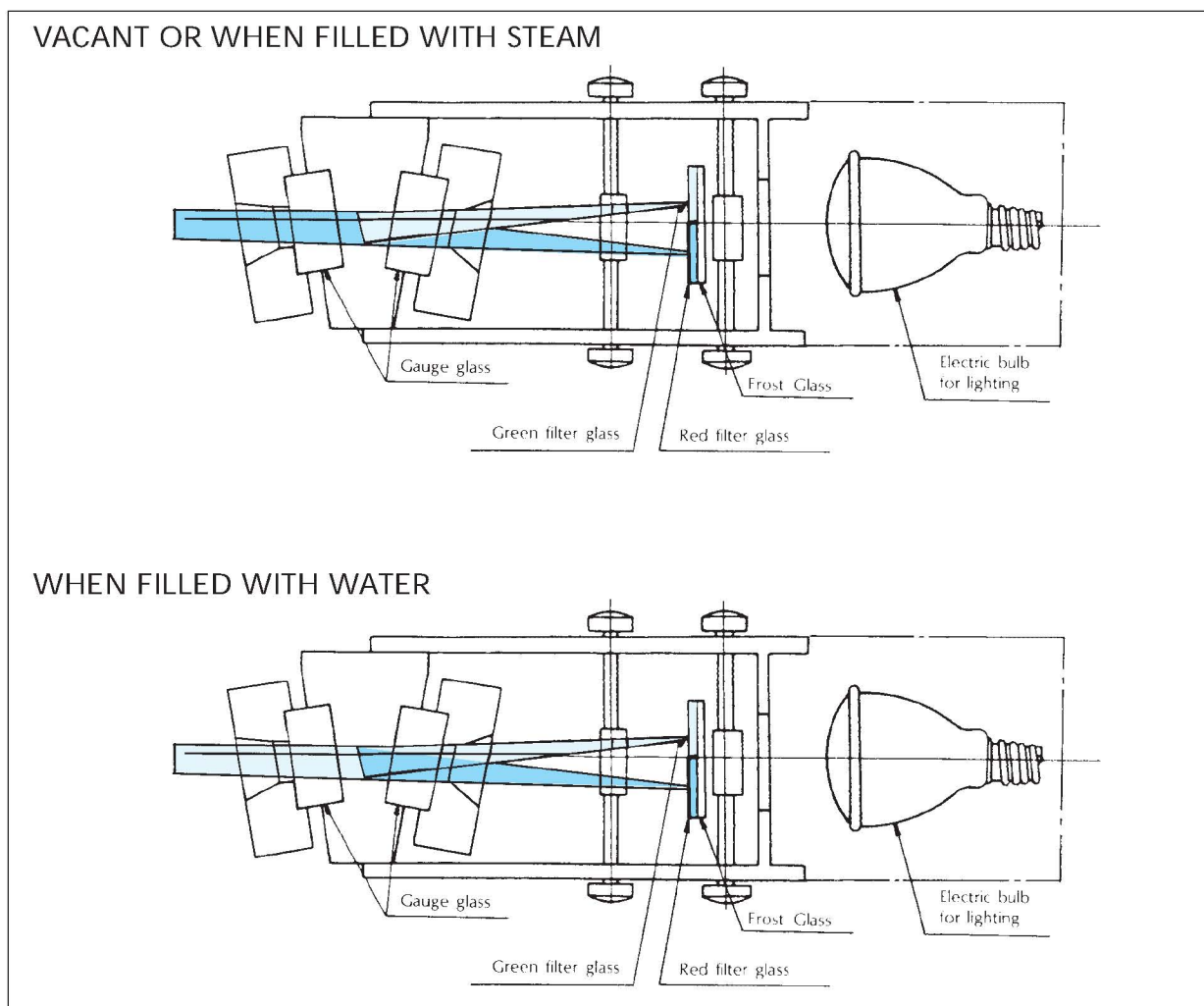
# Two-Color Illuminators

## THEORY OF TWO-COLOR GAUGE:

Two-Color gauge is so planned as to display red color for vapor part and green color for water part by employing the refractive difference between steam and water.

1. In order to bring the effect, a pair of confronting gauge glasses is placed at an angle which forms a prism when water in a gauge chamber comes up.
2. As you see in the following illustrations, red light which has come through a red filter glass passes through the two gauge glasses and the vacant gauge chamber to reach an observer's eyes.  
The green light which goes into the chamber at an different angle from that of the red light will not come out from the opposite window.
3. However, when the chamber is filled with water, the green light with a larger refractive index comes out from the opposite window to reach the observer's eyes while the red light with a smaller refractive index does not come out from the window.

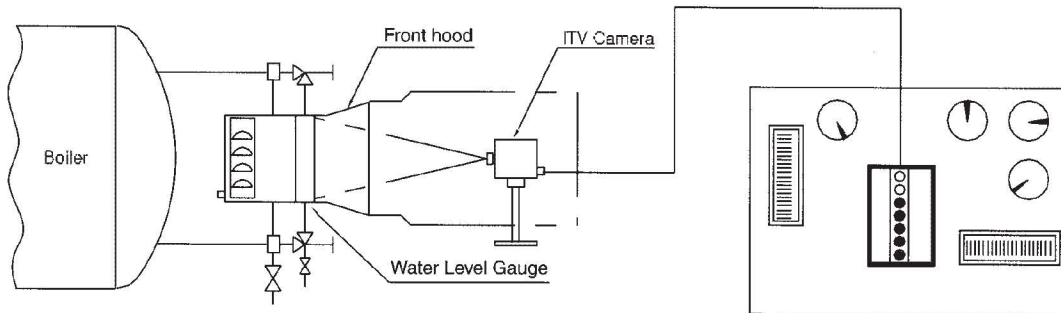
The light source, the red and green filter glasses, and gauge are so arranged as to cause the effect. The colors instantly change following a change of the level in the gauge.



# OBSERVATION METHOD

## ■ OBSERVATION BY TELEVISION

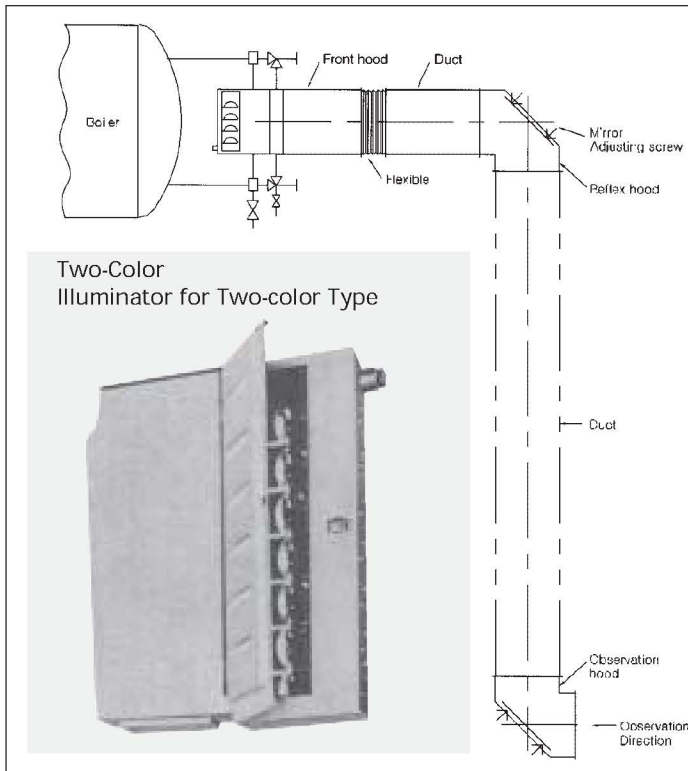
Steam space appears white and water section black. Filter is not red/green, so please specify clearly as "Television Observation" without fail as special color is used.



Television Observation Device

## ■ OBSERVATION BY REFLEX MIRROR

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



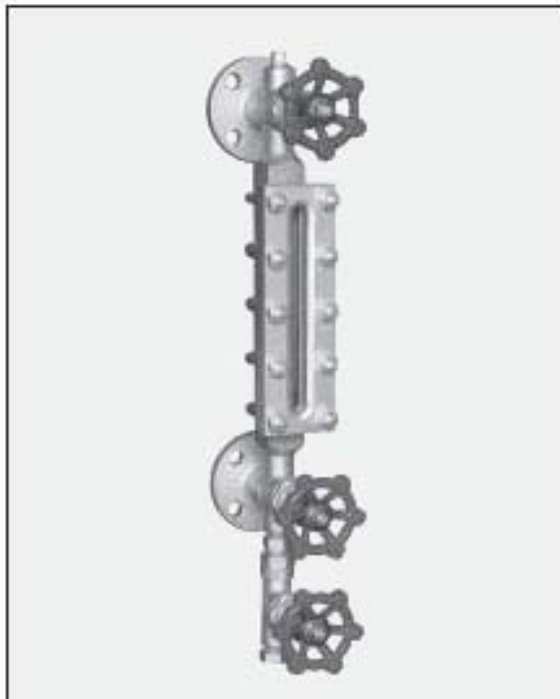
# BOILER WATER REFLEX LEVEL GAUGE

## DESCRIPTION

Reflex type gauge glass, which have several grooves on the back face of the flat glass for reflective purpose, indicates water portion black and steam portion silvery white due to reflection effect, assuring accurate observation of the water level.

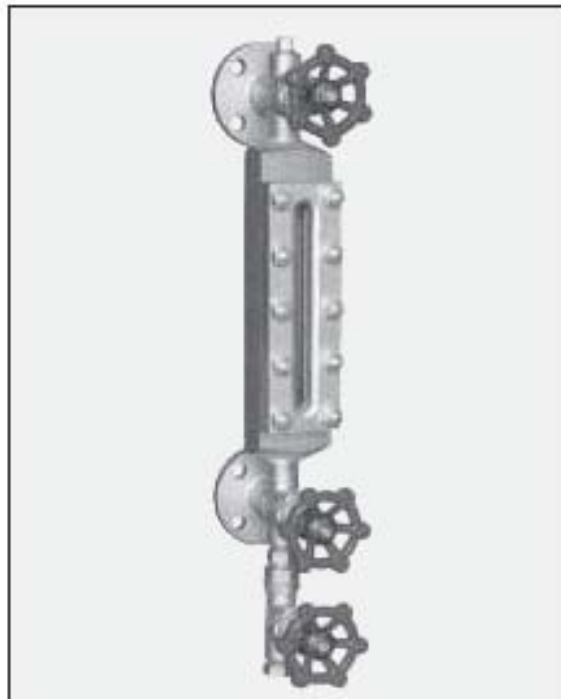
## MODEL

SHRG-1B



MATERIAL : CARBON STEEL  
STAINLESS STEEL BRONZE  
PRESSURE : 1 - 30kg/cm<sup>2</sup>  
SIZE : 15A, 20A, 25A

SHRG-2B



MATERIAL : CARBON STEEL  
STAINLESS STEEL  
PRESSURE : 1 - 100kg/cm<sup>2</sup>  
SIZE : 15A, 20A, 25A

## SPECIFICATIONS

- TYPE : REFLEX
- VISIBLE LENGTH : 90 TO 4000mm MAX
- MAXIMUM NO. of SECTION : 5 SECTIONS
- VESSEL CONNECTION : 3/4 or 1" FLANGED ON REQUEST
- TEST PRESSURE : Working pressure  $\times$  1.5

# BOILER WATER TRANSPARENT LEVEL GAUGE

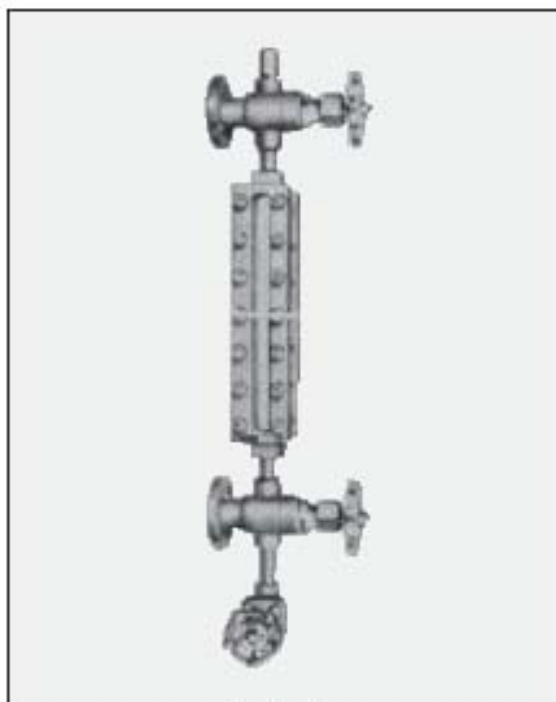
## DESCRIPTION

Designed for a wide range of pressure and temperature applications. The transparent type level gauge is suitable for observation of the level of corrosive and colored liquids. The type is preferably used for reservoir tanks that require a comparatively long visible length.

The type of level gauge utilizes two pieces of tempered flat gauge glasses, each of which is placed in front and rear of gauge body and is sandwiched by gauge covers and tightened by bolts from both sides of the gauge.

## MODEL

SHTG-1B



MATERIAL : CARBON STEEL  
STAINLESS STEEL  
PRESSURE : 1 - 30kg/cm<sup>2</sup>  
SIZE : 20A, 25A

SHTG-2B



MATERIAL : CARBON STEEL  
STAINLESS STEEL  
PRESSURE : 30 - 60kg/cm<sup>2</sup>  
SIZE : 20A, 25A

## SPECIFICATIONS

- TYPE : TRANSPARENT
- VISIBLE LENGTH : 90 TO 4000mm MAX
- MAXIMUM NO. of SECTION : 5 SECTIONS
- VESSEL CONNECTION : 3/4 or 1" FLANGED ON REQUEST.
- TEST PRESSURE : Working pressure x 1.5

# MAGNETIC FLOAT TYPE LEVEL GAUGE

## ■ INTRODUCTION

In nowadays, the security and environment preservation are the most important topic in the chemical industry. For this reason, the instruments of level gauge also have been required more complete. In order to meet this need, we have developed MG type Magnetic level indicator since 1987. We are also very proud that, so many our products have been used in the dangerous of flammable, explosive and toxic places for along time, and have had a great reputation.

As a specialist of the level indicator, we have improved our products by our long and rich experiences. We are full of confidence to present the all kind of MG type Magnetic level indicator, which can meet wide range variety of high pressure and vacuum, high temperature use.



## ■ OUTLINE OF MG TYPE LEVEL INDICATOR

MG type level indicator is an instrument for indicating the fluid level. It has a magnetic float inside the non magnetic column and an indicator outside the column. The indicator indicates the fluid level by means of magnetic force of magnetic float inside the column.

The indicator is completely separated from the fluid container.

The level of liquid phase and gaseous phase can be distinguished clearly by the red and green colors.

## ■ FEATURE

It changes the image of sight glass gauge.

1. Non visible part is very small and can be connected in series to inspect any height of the level.
2. It can measure the boundary surface of two kinds liquid which have different specific gravity.
3. It can be used for the underground tank.
4. It can be on off control by using of level switch.

We can ensure it is distinguished safety.

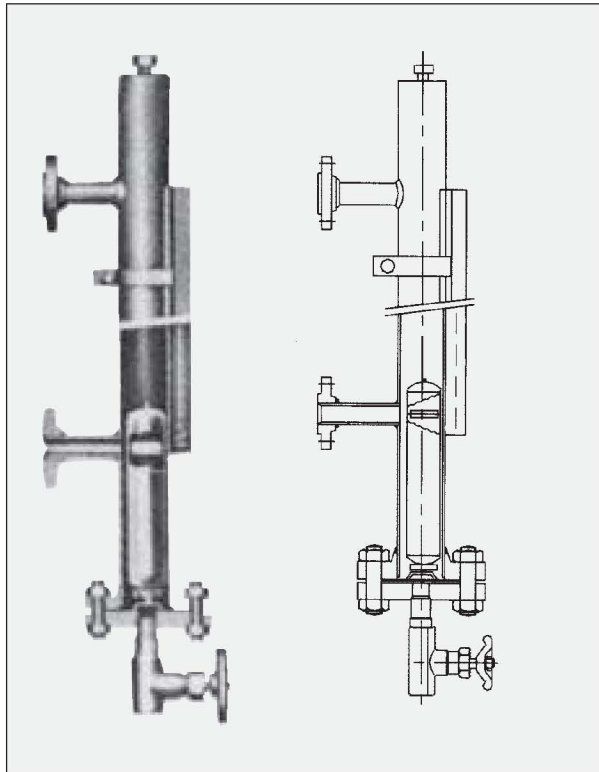
1. There is no trouble of broken glass as there is no glass component in it.
2. The level switch is explosion proof(d2G4 class), so it may be used for the explosive, flammable and toxic fluid.

# MAGNETIC FLOAT TYPE LEVEL GAUGE

## MODEL : SHMG-50A

### STANDARD SPECIFICATION

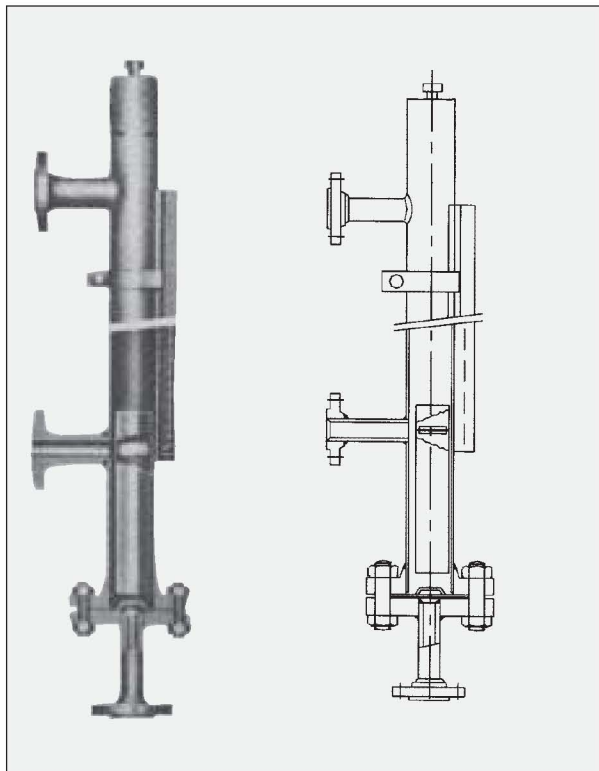
- COLUMN SIZE : 2B (50A)
- SCHEDULE : SCH. 10S, 20S, 40S, etc.
- FLANGE RATING : 150LB ~ 1500LB (10K-63K)
- MATERIAL : SUS304, SUS316, PVC, etc.
- INDICATOR METHOD : Magnetic
- MAX. PRESSURE : 200 kgf/cm<sup>2</sup>
- MAX. TEMPERATURE : 350 °C
- SPECIFIC GRAVITY : MIN.0.45
- VISCOSITY : MAX 50cp



## MODEL : SHMG-65A

### STANDARD SPECIFICATION

- COLUMN SIZE : 2-1/2B (65A)
- SCHEDULE : SCH. 10S, 20S, 40S, etc.
- FLANGE RATING : 2500LB
- MATERIAL : SUS304, SUS316, SUS316L, etc.
- INDICATOR METHOD : Magnetic
- MAX. PRESSURE : 200 kgf/cm<sup>2</sup>
- MAX. TEMPERATURE : 450 °C
- SPECIFIC GRAVITY : MIN. 0.45
- VISCOSITY : MAX 50cp

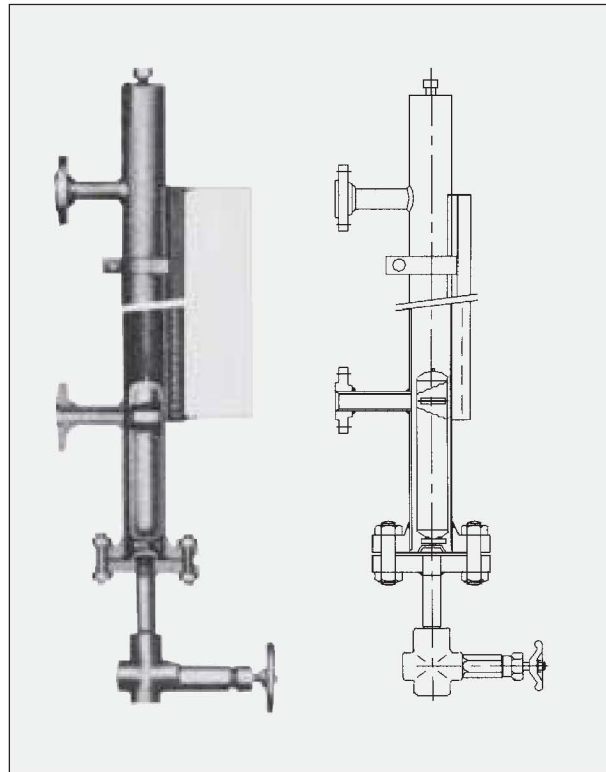


# MAGNETIC FLOAT TYPE LEVEL GAUGE

## ■ MODEL : SHMG-NF

### ■ STANDARD SPECIFICATION

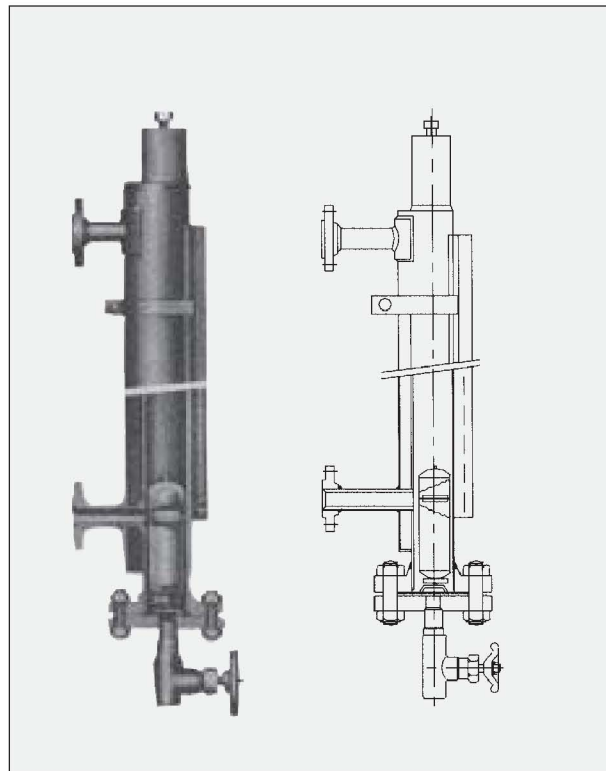
- COLUMN SIZE : 2B
- SCHEDULE : SCH. 10S, 20S, 40S, etc.
- FLANGE RATING : 150LB ~ 1500LB
- MATERIAL : SUS304, SUS316, SUS316L, etc.
- INDICATOR METHOD : Magnetic
- MAX. PRESSURE : 20 kgf/cm<sup>2</sup>
- MAX. TEMPERATURE : -200 °C
- SPECIFIC GRAVITY : MIN. 0.35
- VISCOSITY : MAX 50cp



## ■ MODEL : SHMG-JA

### ■ STANDARD SPECIFICATION

- COLUMN SIZE : 2B, JACKET PIPE:3B
- SCHEDULE : SCH. 20S, 40S, etc.
- FLANGE RATING : 150LB ~ 600LB
- MATERIAL : SUS304, SUS316, etc.  
JACKET : SUS304, etc.
- INDICATOR METHOD : Magnetic
- MAX. PRESSURE : 200 kgf/cm<sup>2</sup>
- MAX. TEMPERATURE : 350 °C
- SPECIFIC GRAVITY : MIN. 0.41
- VISCOSITY : MAX 50cp



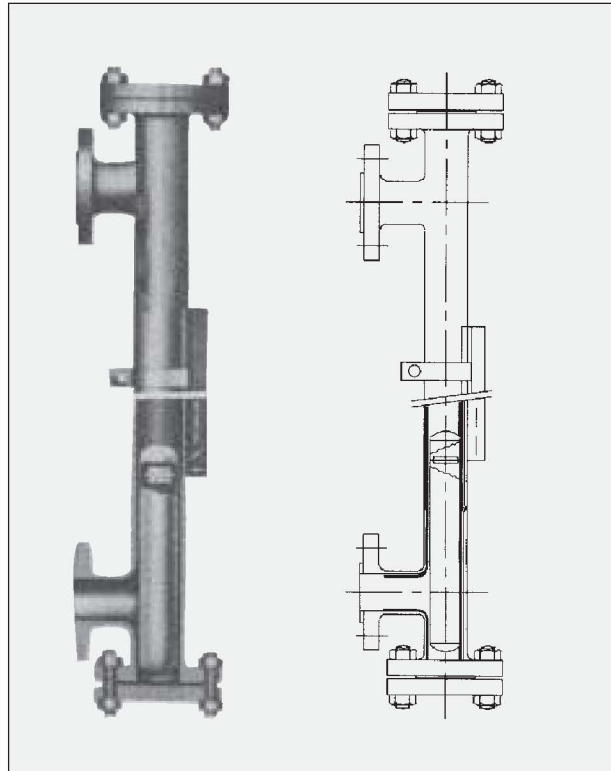


# MAGNETIC FLOAT TYPE LEVEL GAUGE

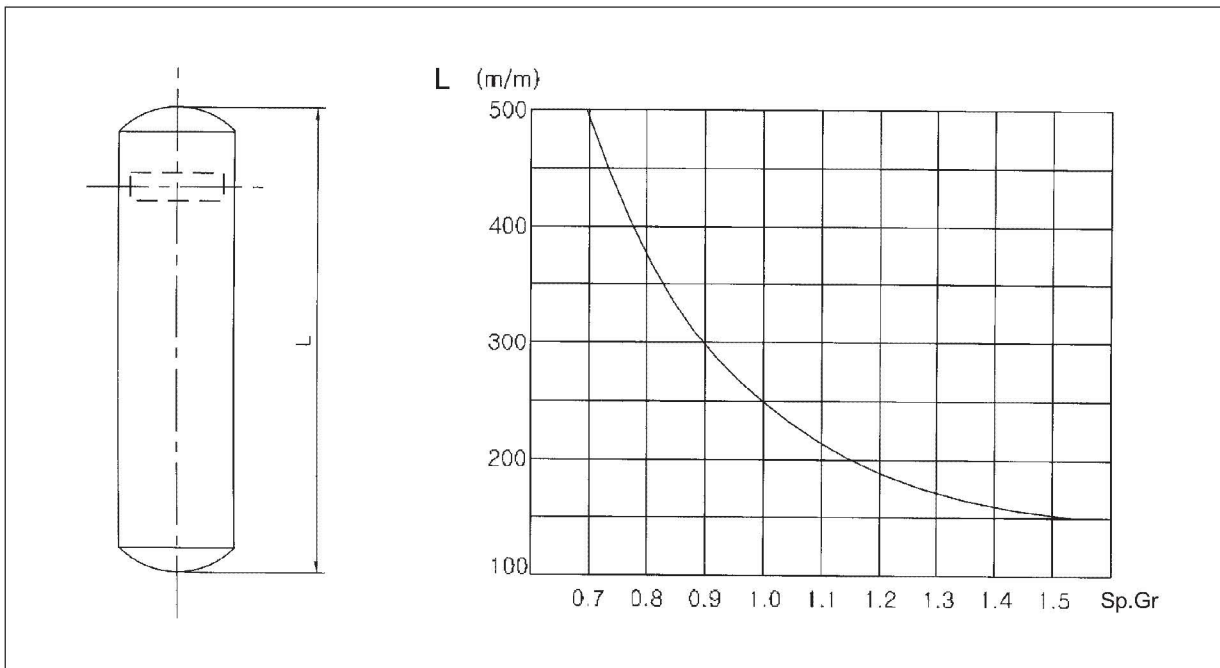
## ■ MODEL : SHMG-LD

### ■ STANDARD SPECIFICATION

- COLUMN SIZE : 65A
- SCHEDULE : SCH. 10S, 40S
- FLANGE RATING : 150LB ~ 600LB
- COLUMN MATERIAL : SUS304
- LINING MATERIAL : TEFLON FEP, PFA, RUBBER
- INDICATOR METHOD : Magnetic
- MAX. PRESSURE : 50 kgf/cm<sup>2</sup>
- MAX. TEMPERATURE : -196 °C
- SPECIFIC GRAVITY : MIN. 0.7
- VISCOSITY : MAX 50cp



### ■ FLOAT LENGTH



# MAGNETIC FLOAT TYPE LEVEL INDICATORS

■ **MODEL:SHMG** —□—□□□□

## GENERAL SEOJIN

magnetic float type level indicators has been developed to comply with the requirements of the SOLAS 1981, 1983 amends. The indicators construction is accepted by marine classification authorities throughout the world.

## HIGH VISIBILITY

Brilliantly colored flags are easy to read, even at great distances. The indicator is isolated from the measured media; therefore, site indicators can be used where sight glasses are not even a consideration.

## ENVIRONMENTALLY SAFE

Monitored liquid is contained inside a pressure tight housing.

## EFFICIENT

Continuous level indication without external power.

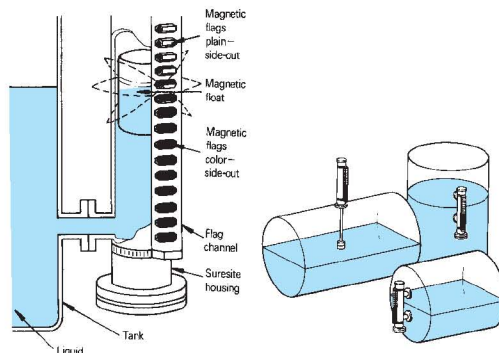
## ELECTRONIC CONTROL

Attach optional point level switches and/or continuous level transmitters to extend capabilities beyond those of a simple sight glass replacement.

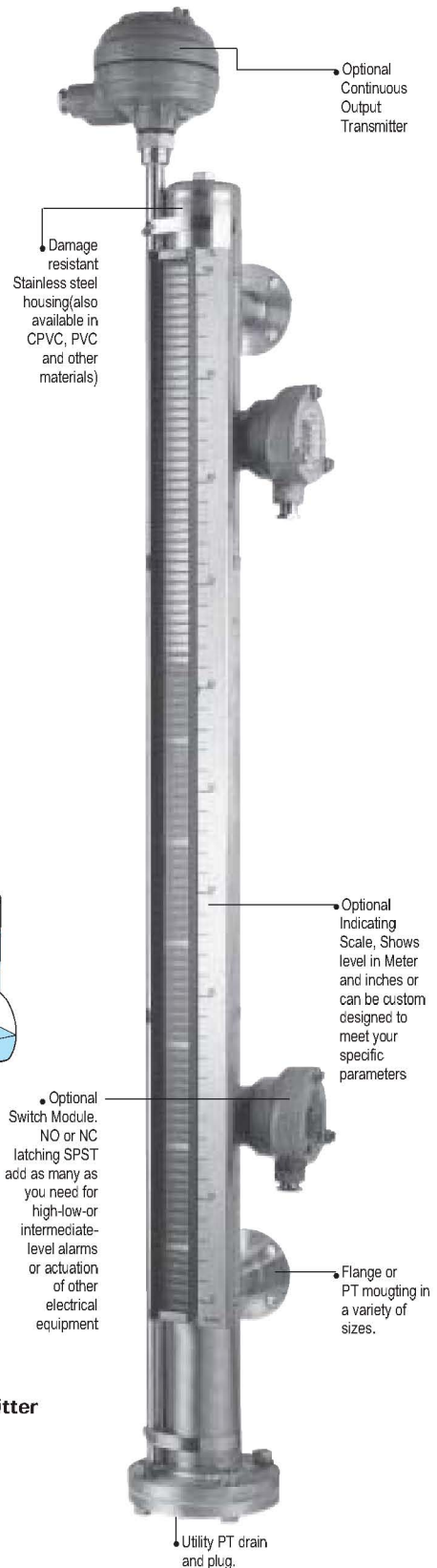
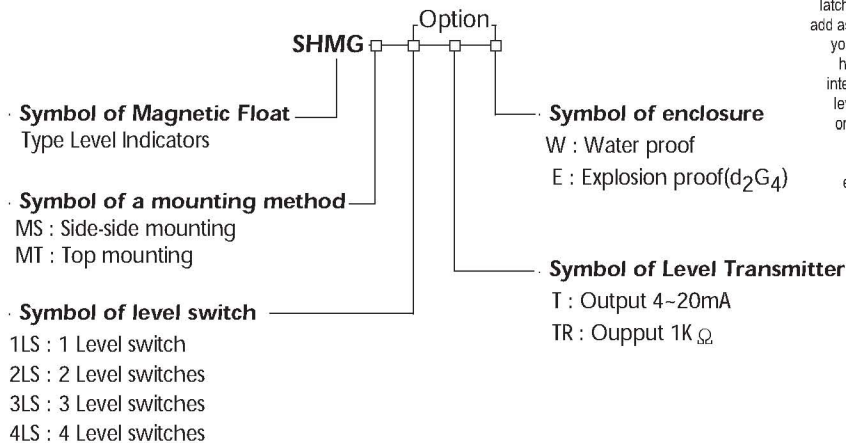
## WIDELY USED TO MEASURE

H.F.O, D.O, L.O, F.W, petrochemistry chemical and often replace gauge glasses.

## OPERATING PRINCIPLE



## MODEL NUMBER CODE SYSTEM



## FLOW SIGHT GLASS



# SEOJIN SIGHT GLASS

## ■ GENERAL

- Sight Glass is used for monitoring the running of a fluid in tubes and pipelines.  
Rapper or Ball may be mounted for easier observation according to the fluid parameters.
- Lantern Type Sight Glass is used for the observation of the media with slurry and a flow of powder. The same inside diameter as pipeline may be kept, the scale may also be drawn on the outside glass on request.

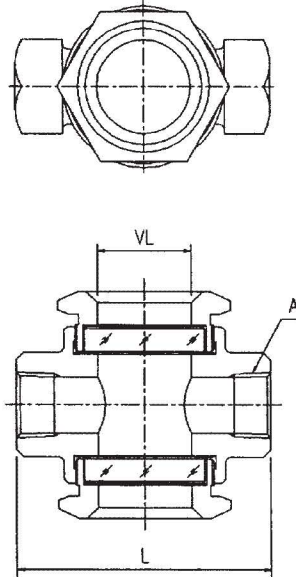


# SEE THROUGH TYPE SIGHT GLASS

## MODEL : SHSG-1S

### SPECIFICATION

CONNECTIONS ..... SCREWED END  
 MAX. PRESSURE ..... 20 kgf/cm<sup>2</sup>  
 MAX. TEMPERATURE ..... 300°C  
 GLASS ..... TEMPERED GLASS



### Dimensions

SIZE A(in)	L	H(APPROX.)	VL
8(1/4)	100	70	30
10(3/8)	100	70	30
15(1/2)	120	95	40
20(3/4)	120	95	40
25(1)	130	115	50
32(1 1/4)	145	130	65
40(1 1/2)	145	130	65
50(2)	160	140	80

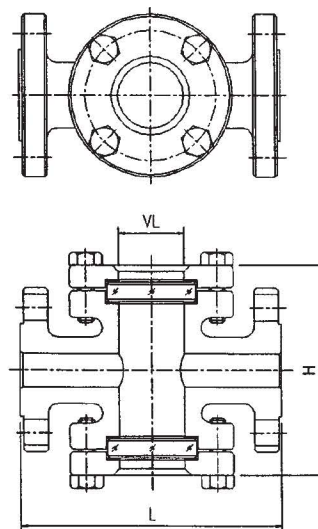
### Materials

BODY
FC20 (CAST IRON)
SCS13(CAST STAINLESS STEEL)
SCS14(CAST STAINLESS STEEL)
SCPH2(CAST STEEL)

## MODEL : SHSG-1F

### SPECIFICATION

CONNECTIONS ..... FLANGED END  
 MAX. PRESSURE ..... 20 kgf/cm<sup>2</sup>  
 MAX. TEMPERATURE ..... 300°C  
 GLASS ..... TEMPERED GLASS



### Dimensions

SIZE A(in)	L	H(APPROX.)	VL
15(1/2)	155	125	40
20(3/4)	155	125	40
25(1)	170	135	50
32(1 1/4)	200	155	65
40(1 1/2)	200	155	65
50(2)	220	170	75
65(2 1/2)	270	205	105
80(3)	270	205	105
100(4)	320	235	130
125(5)	380	280	170
150(6)	420	330	200
200(8)	500	380	250
250(10)	540	420	300

### Materials

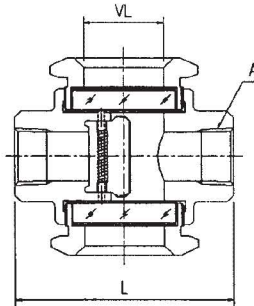
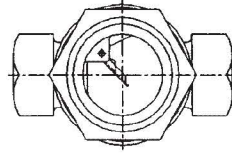
BODY
FC20 (CAST IRON)
SCS13(CAST STAINLESS STEEL)
SCS14(CAST STAINLESS STEEL)
SCPH2(CAST STEEL)

# FLAPPER TYPE SIGHT GLASS

## MODEL : SHSG-2S

### SPECIFICATION

CONNECTIONS ..... SCREWED END  
 MAX. PRESSURE ..... 20 kgf/cm<sup>2</sup>  
 MAX. TEMPERATURE ..... 300 °C  
 GLASS ..... TEMPERED GLASS



### Dimensions

SIZE A(in)	L	H(APPROX.)	VL
8(1/4)	100	70	30
10(3/8)	100	70	30
15(1/2)	120	95	40
20(3/4)	120	95	40
25(1)	130	115	50
32(11/4)	145	130	65
40(11/2)	145	130	65
50(2)	160	140	80

### Materials

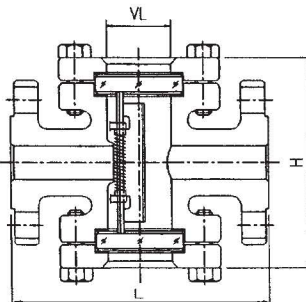
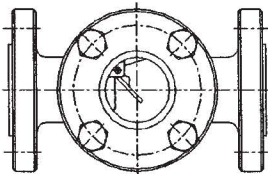
BODY
FC20 (CAST IRON)
SCS13(CAST STAINLESS STEEL)
SCS14(CAST STAINLESS STEEL)
SCPH2(CAST STEEL)

SEOJIN sight glass with flapper makes it easy to monitor the state of fluid flow by opening and closing the flapper.

## MODEL : SHSG-2F

### SPECIFICATION

CONNECTIONS ..... FLANGED END  
 MAX. PRESSURE ..... 20 kgf/cm<sup>2</sup>  
 MAX. TEMPERATURE ..... 300 °C  
 GLASS ..... TEMPERED GLASS



### Dimensions

SIZE A(in)	L	H(APPROX.)	VL
15(1/2)	155	125	40
20(3/4)	155	125	40
25(1)	170	135	50
32(11/4)	200	155	65
40(11/2)	200	155	65
50(2)	220	170	75
65(21/2)	270	205	105
80(3)	270	205	105
100(4)	320	235	130
125(5)	380	280	170
150(6)	420	330	200
200(8)	500	380	250
250(10)	540	420	300

### Materials

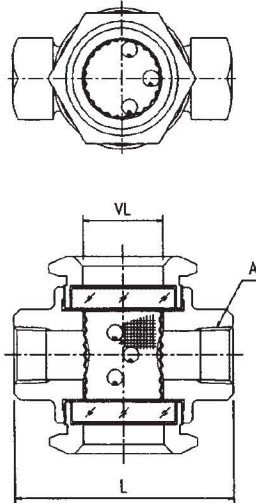
BODY
FC20 (CAST IRON)
SCS13(CAST STAINLESS STEEL)
SCS14(CAST STAINLESS STEEL)
SCPH2(CAST STEEL)

# BALL TYPE SIGHT GLASS

## MODEL : SHSG-3S

### SPECIFICATION

CONNECTIONS ..... SCREWED END  
 MAX. PRESSURE ..... 20 kgf/cm<sup>2</sup>  
 MAX. TEMPERATURE ..... 300 °C  
 GLASS ..... TEMPERED GLASS



### Dimensions

SIZE A(in)	L	H(APPROX.)	VL
8(1/4)	100	70	30
10(3/8)	100	70	30
15(1/2)	120	95	40
20(3/4)	120	95	40
25(1)	130	115	50
32(11/4)	145	130	65
40(11/2)	145	130	65
50(2)	160	140	80

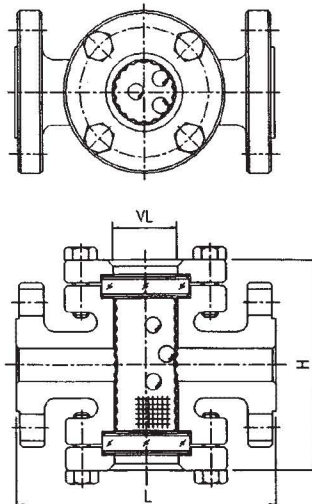
### Materials

BODY
FC20 (CAST IRON)
SCS13(CAST STAINLESS STEEL)
SCS14(CAST STAINLESS STEEL)
SCPH2(CAST STEEL)

## MODEL : SHSG-3F

### SPECIFICATION

CONNECTIONS ..... FLANGED END  
 MAX. PRESSURE ..... 20 kgf/cm<sup>2</sup>  
 MAX. TEMPERATURE ..... 300 °C  
 GLASS ..... TEMPERED GLASS



### Dimensions

SIZE A(in)	L	H(APPROX.)	VL
15(1/2)	155	125	40
20(3/4)	155	125	40
25(1)	170	135	50
32(11/4)	200	155	65
40(11/2)	200	155	65
50(2)	220	170	75
65(21/2)	270	205	105
80(3)	270	205	105
100(4)	320	235	130
125(5)	380	280	170
150(6)	420	330	200
200(8)	500	380	250
250(10)	540	420	300

### Materials

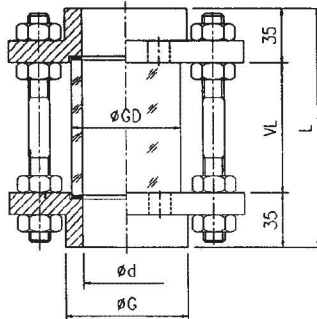
BODY
FC20 (CAST IRON)
SCS13(CAST STAINLESS STEEL)
SCS14(CAST STAINLESS STEEL)
SCPH2(CAST STEEL)

# LANTERN TYPE SIGHT GLASS

## MODEL : SHSG-4S

### SPECIFICATION

CONNECTIONS ..... FLANGED END  
 MAX. PRESSURE ..... 7 kgf/cm<sup>2</sup>  
 MAX. TEMPERATURE ..... 100 °C  
 GLASS ..... HARD GLASS



### Materials

BODY
SS400 (STEEL PLATE)
SUS304 (STAINLESS STEEL PLATE)
SUS316 (STAINLESS STEEL PLATE)
SUS316L (STAINLESS STEEL PLATE)

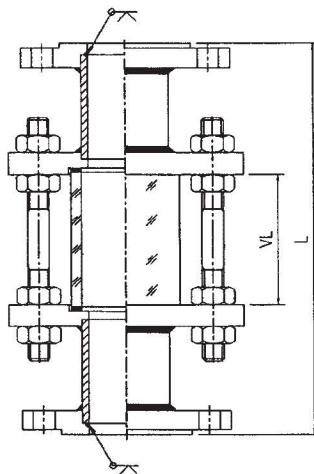
### Dimensions

SIZE	L	VL	ØGD	ØD	ØG
15	150	75	35	15	40
20	150	75	40	20	50
25	150	75	45	25	60
32	150	75	60	32	75
40	150	75	60	40	75
50	150	75	65	50	90
65	150	75	85	65	110
80	150	75	100	80	120
100	150	75	125	100	145
125	150	75	150	125	175
150	150	75	180	150	210
200	150	75	230	200	260

## MODEL : SHSG-4F

### SPECIFICATION

CONNECTIONS ..... FLANGED END  
 MAX. PRESSURE ..... 7 kgf/cm<sup>2</sup>  
 MAX. TEMPERATURE ..... 100 °C  
 GLASS ..... HARD GLASS



### Dimensions

SIZE	L	VL
15(1/2)	220	75
20(3/4)	220	75
25(1)	220	75
32(11/4)	220	75
40(11/2)	220	75
50(2)	240	75
65(21/2)	240	75
80 (3)	240	75
100(4)	260	75
125(5)	280	75
150(6)	280	75
200(8)	280	75

### Materials

BODY
SS400 (STEEL PLATE)
SUS304 (STAINLESS STEEL PLATE)
SUS316 (STAINLESS STEEL PLATE)
SUS316L (STAINLESS STEEL PLATE)

SEOJIN LANTERN SIGHTGLASS IS USED FOR LOW PRESSURE AND CAN BE CHECKED THE STATE OF FLUID FLOW FROM ANY DIRECTION

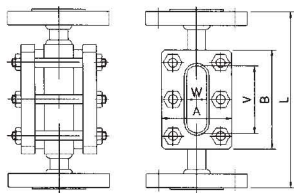


# SIDE TYPE SIGHT GLASS

## MODEL : SHSG-5FA



FIG-1



Max. Pressure:150kgf/cm<sup>2</sup>

### Dimensions

(Unit:mm)

Size	Fig.No.	V	W	A	B	L
15	Fig-1	90	16	72	130	210
20	Fig-1	90	16	72	130	210
25	Fig-1	90	16	72	130	210

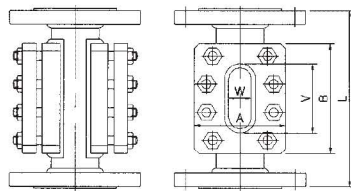
### SPECIFICATION

CONNECTIONS .....FLANGED END  
 MAX. TEMPERATURE .....300 °C  
 GLASS .....TEMPERED, PYREX, BORO-SILICATE

## MODEL : SHSG-5FB



FIG-2



Max. Pressure:30kgf/cm<sup>2</sup>

### Dimensions

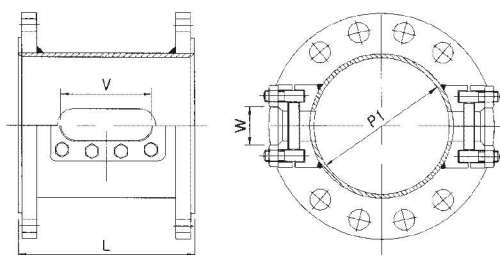
(Unit:mm)

Size	Fig.No.	V	W	A	B	L
40	Fig-2,3	80	30	90	120	230
50	Fig-2,3	80	30	90	120	230
65	Fig-2,3	80	30	90	120	250
80	Fig-2,3	80	35	100	120	250
100	Fig-2,3	80	35	100	120	260
125	Fig-2,3	80	40	110	130	280
150	Fig-2,3	80	40	110	130	280
200	Fig-2,3	80	60	130	130	290
250	Fig-2,3	80	60	130	130	300
300	Fig-2,3	80	60	130	130	320

## MODEL : SHSG-5FC



FIG-3

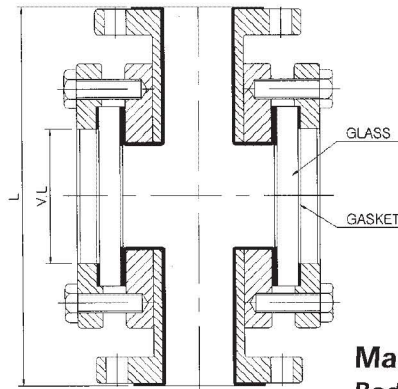


### SPECIFICATION

CONNECTIONS ..... FLANGED END  
 MAX. PRESSURE ..... 10kgf/cm<sup>2</sup>G~30kg/cm<sup>2</sup>G  
 MAX. TEMPERATURE ..... 300 °C  
 GLASS ..... TEMPERED, PYREX, BORO-SILICATE

# LINED TYPE SIGHT GLASS

## MODEL : SHSG-LD



### Material

**Body** : CS, 304SS, 316SS, etc.  
**Lining** : Teflon-PTFE, Rubber, etc.  
**Flange** : KS, JIS, JPI, ANSI, etc.  
**Glass** : Tempered, Pyrex, Borosilicate.

## CHARACTERISTICS DATA

(Unit : mm)

Nominal Size	25	40	50	80	100	150	200	250
Max Service Temperature	180℃							
Max Service Pressure	10kg/cm <sup>2</sup> up to 20kg/cm <sup>2</sup>							

## DIMENSIONAL DATA

(Unit : mm)

Nominal Size	25	40	50	80	100	150	200
Face to Face(L)	152	178	191	222	298	387	406
Sight Opening Diameter(V.L)	50	65	75	105	130	200	260

# SPECIAL TYPE SIGHT GLASS

## MODEL : SHSG-NF



### Materials

BODY
FC20 (CAST IRON)
SCS13(CAST STAINLESS STEEL)
SCS14(CAST STAINLESS STEEL)
SCPH2(CAST STEE)

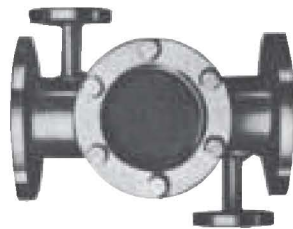
## MODEL : SHWPG-W2



### Dimensions

SIZE A( # )	L	H	V.L	B1
15(1/2)	75	65	37	65
20(3/4)	75	65	37	65
25(1)	80	75	37	65
32(1 1/4)	120	95	37	
40(1 1/2)	120	85	37	
50(2)	130	105	37	

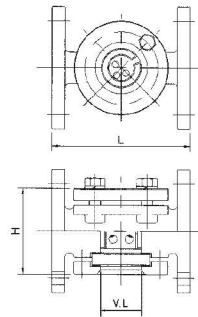
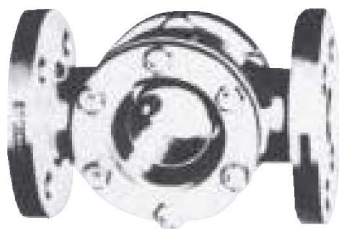
## MODEL : SHSG-JA



### Dimensions

SIZE A( # )	L	H(approx.)	V.L
8(1/4)	100	70	30
10(3/8)	120	105	40
15(1/2)	120	105	40
20(3/4)	120	105	40
25(1)	130	115	50
32(1 1/4)	145	130	65
40(1 1/2)	160	130	65
50(2)	180	140	80

## MODEL : SHSG-3FP



### Dimensions

SIZE A( # )	L	H(approx.)	V.L
15(1/2)	155	125	40
20(3/4)	155	125	40
25(1)	170	135	50
32(1 1/4)	200	155	65
40(1 1/2)	200	155	65
50(2)	220	170	75
65(2 1/2)	270	205	105
80(3)	270	205	105
100(4)	320	235	130
125(5)	380	280	170
150(6)	420	330	200
200(8)	500	380	260
250(10)	540	420	300

### SPECIFICATION

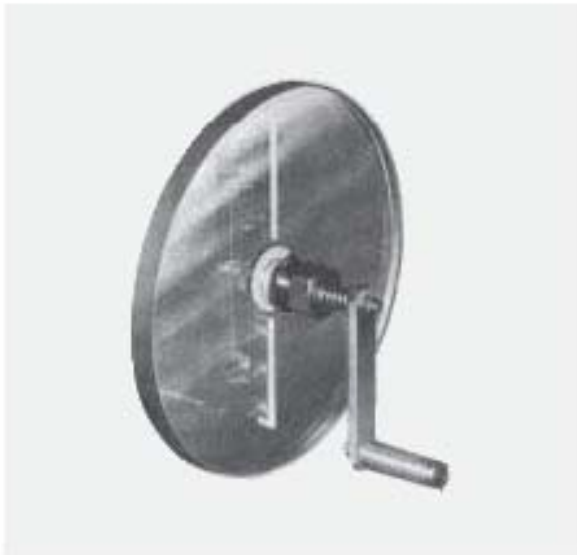
CONNECTIONS ..... SCREWED END  
 MAX. PRESSURE ..... 10kgf/cm<sup>2</sup>G~20kg/cm<sup>2</sup>G  
 MAX. TEMPERATURE ..... 100℃  
 GLASS..... TEMPERED, PYREX, BORO-SILICATE

### Speciality

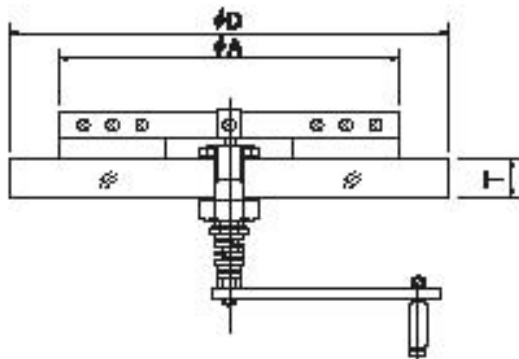
1. This has some balls which are different specific weight each other. Therefore balls move sensitively be the flow state of fluid.
2. This can use for any direction of fluid flow.
3. Structure is very simple, so there is no functional disorder due to dust, etc.

# WIPER TYPE SIGHT GLASS

## MODEL : SHSG-W1



Please refer to the dimensions below for the Wiper-attached Glass of SHSG-W1 type.

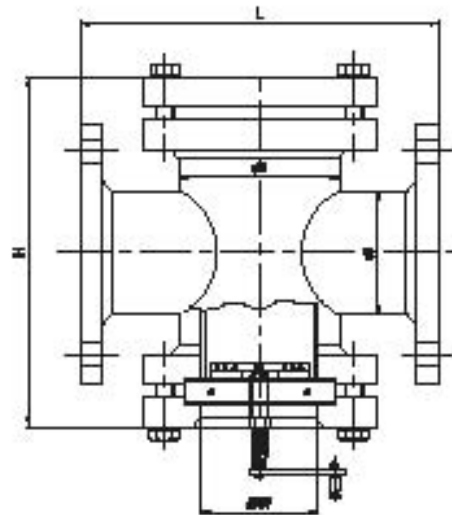


WT-300	280	350	24
WT-250	230	300	19
WT-200	190	240	19
WT-160	150	190	15
WT-130	120	160	15
WT-100	90	130	15
TYPE	A	D	T

## MODEL : SHSG-W2



The SHSG-W2 type Wiper-attached Cross Glass will be used in the piping lines having the same specifications as the Window.



W2-250	300	550	485	250A	300A
W2-200	250	500	430	200A	250A
W2-150	200	420	350	150A	200A
W2-125	150	360	340	120A	150A
W2-100	125	320	330	100A	125A
W2-80	102	270	245	80A	100A
TYPE	W	L	H	$\phi P$	$\phi D$

# WELDING PAD GAUGE

## DESCRIPTION

The gauges are welded directly to the gauge body. The tables below show visible lengths. Depending upon the application, extra-long types are also manufactured.

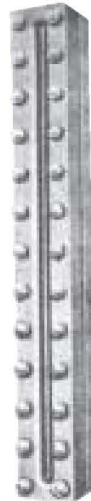
### MODEL : SHWPG-1(CIRCLE)



Type	Visible diam	Bodydiam
W - 20	20	75
W - 25	25	80
W - 40	40	100
W - 50	50	110
W - 70	70	135
W - 80	80	145
W - 90	90	155
W - 100	100	185
W - 130	130	210
W - 160	160	240
W - 200	200	280

Pressure 30kg/cm<sup>2</sup>-g  
Material SS, SUS

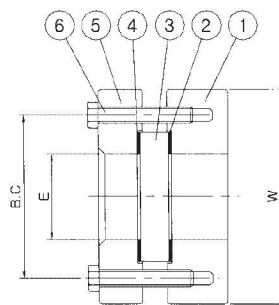
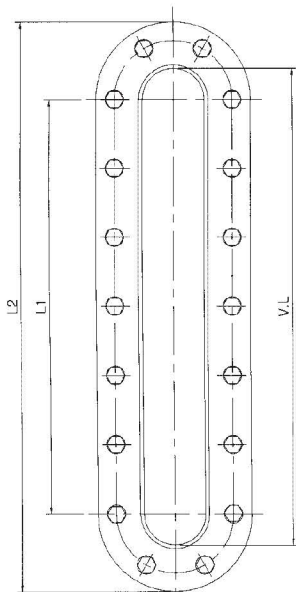
### MODEL : SHWPG-2(RECTANGULAR)



Type	Visible length	Visible Width	Bodydiam
R-3 T-3	140	16	185
R-4 T-4	165	16	210
R-5 T-5	195	16	240
R-6 T-6	225	16	270
R-7 T-7	225	16	300
R-8 T-8	295	16	340
R-9 T-9	315	16	360
R-10 T-10	375	16	420

R = reflex      T = transparent  
Pressure 30kg/cm<sup>2</sup>-g      Material SS, SUS

### MODEL : SHWPG-3(OVAL)



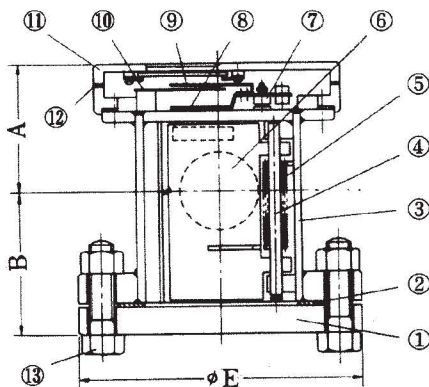
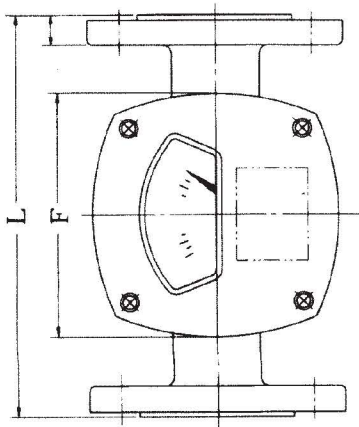
No	DESCRIPTION
1	GAUGE BODY
2	GASKET
3	GLASS
4	CUSHION GASKET
5	GLASS COVER
6	BOLT

	L2	L1	V.L	W	B.C	E
Size	Free	Free	Free	Free	Free	Free

# Sight Glass & Flow Switch



**MODEL:SHSG-6F(Indicator)**



## ■ FEATURES

Only indicator type angle position of flapper shift the external by magnetic combination method. This meter is property in inspecting slurry.

As seperated in indicator and sensor, easy in mainterance.

## ■ SPECIFICATION

Accuracy	±3%
Max. Pressure	10kgf/cm <sup>2</sup> G (Standard) 15kgf/cm <sup>2</sup> G (Option)
Max. Temperature	120 °C
Structure	Water-proof of outdoor
Connection	JIS 10K FR, other
Range ability	10 : 2
Material	Body : SS41, SUS304, SUS316 Indicator : ADC

## ■ MATERIAL OF CONSTRUCTION

No.	PART NAME	No.	PART NAME
1	Blind Flange	8	Magnet(s)
2	Gasket	9	Pointer
3	Body	10	Scale
4	Shaft	11	Cover
5	Spring	12	Packing
6	Flopper	13	Bolt, Nut
7	Bearing		

# Sight Glass & Flow Switch

## ■ FLOW RANGE & DIMENSION

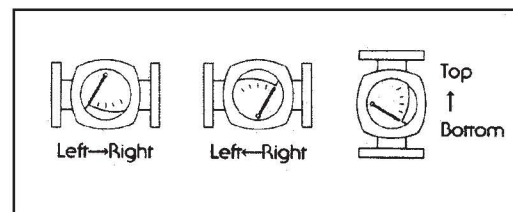
FLUID SIZE	WATER(m³/h)	AIR(Nm³/h) 0.5kgf/cm²G 20℃	STEAM(kg/h) 3kgf/cm²G	DIMENSION(mm)					
				A	B	φE	F	L	
								Flange	Screw
15A	0.2 ~ 1	6 ~ 30	10 ~ 50	78	56	155	135	220	150
	0.4 ~ 2	12 ~ 60	20 ~ 100						
25A	0.2 ~ 1	6 ~ 30	10 ~ 50	78	56	155	135	220	160
	0.4 ~ 2	12 ~ 60	20 ~ 100						
32A	0.4 ~ 2	12 ~ 60	20 ~ 100	84	59	155	135	220	180
	1 ~ 5	30 ~ 150	40 ~ 200						
40A	0.4 ~ 2	12 ~ 60	20 ~ 100	84	59	155	135	220	200
	1 ~ 5	30 ~ 150	40 ~ 200						
50A	0.5 ~ 2.5	16 ~ 80	24 ~ 120	88	66	155	135	220	200
	2 ~ 10	60 ~ 300	80 ~ 400						
65A	0.6 ~ 3	20 ~ 100	30 ~ 150	93	71	155	135	220	220
	3 ~ 15	90 ~ 450	120 ~ 600						
80A	1.6 ~ 8	50 ~ 250	80 ~ 400	99	85	200	135	260	220
	6 ~ 30	180 ~ 900	240 ~ 1,200						
100A	2 ~ 10	60 ~ 300	100 ~ 500	103	88	235	196	300	
	8 ~ 40	240 ~ 1,200	240 ~ 1,200						
125A	4 ~ 20	120 ~ 600	200 ~ 1,000	138	130	265	196	330	
	16 ~ 80	500 ~ 2,500	700 ~ 3,500						
150A	6 ~ 30	120 ~ 600	200 ~ 1,000	140	130	300	196	380	
	20 ~ 100	600 ~ 3,000	900 ~ 4,500						
200A	8 ~ 40	120 ~ 600		199	174	385	310	480	
	30 ~ 150	700 ~ 4,500							
230A	10 ~ 50	300 ~ 1,500		209	224	430	310	650	
	60 ~ 300	1,800 ~ 9,000							
250A	20 ~ 100	600 ~ 3,000		224	246	480	310	680	
	80 ~ 400	2,400 ~ 12,000							
300A	30 ~ 150	900 ~ 4,500		283	286	540	310	720	
	110 ~ 550	3,000 ~ 15,000							

**Note :** Maximum scale can be randomly chosen within the range on the table  
 Maximum scale is 20% of maximum scale and 0 ~ minimum scale is non-measurable  
 item condition can change according to situation

## ■ CAUTION OF INSTALLATION

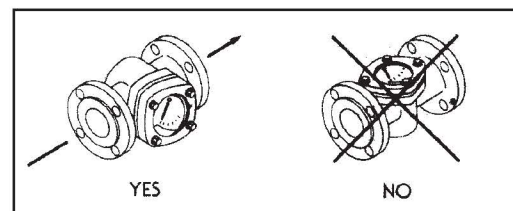
### (1) Flow direction

Available of manufacturing the both of vertical and horizontal.  
 Refer to the right pictures.



### (2) Method of installing pipe

As installing in horizontal pipe.  
 Like to the right picture, scale face must install in vertical.



# Sight Glass & Flow Switch

## ASG PRODUCTS



MODEL : SHSG-7F



MODEL : SHSG-7S



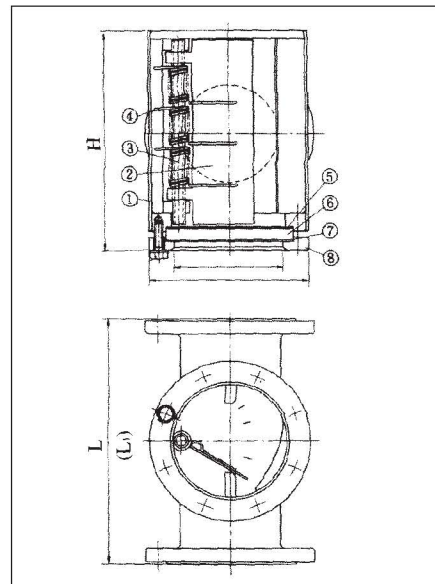
MODEL : SHSG-7F

## FEATURE

- This meter is representative flapper type to have the function of flow status of fluid.
- If the fluid have color, meter is able to inspect the being of air bubble by sight glass.

## STANDARD SPECIFICATION

Size	15A ~ 300A
Accuracy	± 5% (F.S)
Structure	Water-proof of outdoor
Material	SS41, SUS304, SUS316
Connection	Screw 15 ~ 65A JIS 10K RF Flange 25A over



## STANDARD SPECIFICATION

SIZE	L1	L	H	
15A	1/2B	150	160	100
20A	3/4B	160	160	100
25A	1B	180	220	110
32A	1 1/4B	200	220	120
40A	1 1/2B	220	220	125
50A	2B	220	220	135
65A	2 1/2B	260	260	155
80A	3B		300	170
100A	4B		330	195
125A	5B		330	220
150A	6B		480	250
200A	8B		650	300
250A	10B		680	350
300A	12B		720	405

PART NO.	TITLE	MATERIAL		
		No.1	No.2	No.3
1	Body	SS41	SUS304	SUS316
2	Flapper	SUS304, SUS316		
3	Shaft	SUS304, SUS316		
4	Spring	SUS304, SUS316		
5	Packing	NBR, Viton, Teflon		
6	Sight Glass	Safe Glass		
7	Hard Board	SUS304		
8	Viewing Cover	AL, SUS304, SUS316		

※ L1 : Screw type



# Sight Glass & Flow Switch

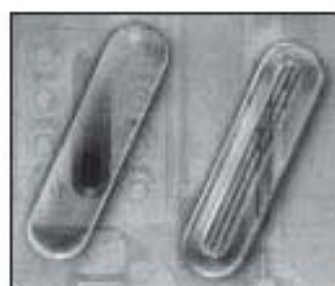
## ■ FLOW RANGE

SIZE	FLUID	WATER m <sup>3</sup> /h			GAS Nm <sup>3</sup> /h	PRESSURE LIMIT Kgf/cm <sup>2</sup>
		MIN.	STANDARD	MAX.	0.5kgf/cm <sup>2</sup> G	
15A	1/2B	~ 1.5	0.5- 2	- 5	15 - 60	10
20A	3/4B	~ 1.5	0.5- 2	- 5	15 - 60	10
25A	1B	~ 3	1- 5	- 8	30 -150	10
32A	1 1/4B	~ 3	1- 5	- 8	30 -150	10
40A	1 1/2B	~ 5	3- 10	- 15	60 -300	10
50A	2B	~ 8	3- 15	- 20	60 -300	10
65A	2 1/2B	~ 15	8- 30	- 40	300 -900	10
80A	3B	~ 25	15- 40	- 60	600 -1,200	10
100A	4B	~ 40	12- 80	- 100	900 -2,000	10
125A	5B	~ 60	25- 100	- 140	450 -3,000	10
150A	6B	~ 80	30- 150	- 200	600 -4,500	8
200A	8B	~ 120	60- 300	- 350	1,500 -9,000	6
250A	10B	~ 200	100- 400	- 450	3,000 -12,000	5
300A	12B	~ 250	150- 550	- 600	4,500 -15,000	2

- Maximum scale can be randomly chosen within the range on the table.
- Minimum scale is 20% of Maximum scale and 0-minimum scale is non-measurable.
- Maximum operating temperature is 120 °C
- Item's condition can change according to situation.
- Range ability : 5 : 1

### ■ All kinds of Glass for Level Gauge.

1. Borosilicate Glass
2. Aluminasilicate Glass
3. Tempered Glass



### ■ All kinds of Glass for Sight Glass.

1. Borosilicate Glass
2. Aluminasilicate Glass
3. Tempered Glass
4. Hard Glass
5. Poly carbonate
6. Quartz

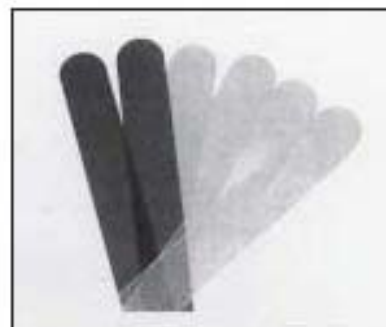


### ■ Mica Shield.

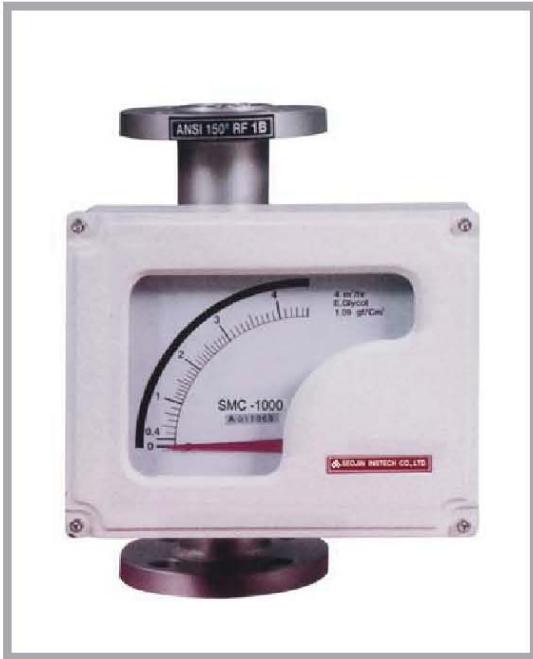
#### How to use Mica Shield.

The mica shield must be supported by a glass with a perfectly flat surface. For this reason, only transparent glasses can be mica-protected; this is not possible for glasses provided with reflex grooves. Sight glasses must be mica-protected on the side facing the medium when used with steam at pressure 35 bar or with media which cause rapid wear of the glass.

Mica is a naturally-occurring substance. Only high-quality mica offers the desired sight glass protection.



# METAL FLOW METER



■ MODEL: SMC-1000

## Conception and Characteristic

- This product is a strong flowmeter enduring high pressure and high temperature as it was made by 100% metal.
- This product's accuracy is very high because measuring flow part and indicating part are split each other. Therefore indicating part is not always being disturbing by fluid.
- Sanitarily designed, use of this product has been very wide to industries of food, beverage, petrochemical, nuclear-powered, etc.
- This product is being used for local indication, and scale ability is 10 : 1.
- Operating system is by magnet, be careful to apply this product to fluid lines having lots of iron dregs and bigger particles.
- All the function is the same to the model SMC-1000, but Alarm function is added to SMC-2000
- All the function is the same to the model SMC-1000, but function of DC output signal 4~20mA is added to SMC-3000

## Standard Specification

Direction	Mounting	Size	Material	Internal pressure		Internal temperature	Fluid type	
							Liquid	Gas
BOTTOM -TOP	FLANGE	15A-100A	SUS304	ST.	10kgf/cm <sup>2</sup>	ST. 120°C	FS	FS
	SCREW	15A- 65A	SUS316	SP.	20kgf/cm <sup>2</sup>	SP. 200°C	±15%	±20%

## Model code

SMC	-	□	-	□	-	□	DESCRIPTION
TYPE		1000					LOCAL INDICATOR
		2000					LOCAL INDICATOR WITH ALARM
		3000					LOCAL INDICATOR WITH ELECTRIC SIGNAL (4-20mA)
MATERIAL				2			SUS 304
				3			SUS 316
				0			OTHER
CONNECTION						F	JIS 10K RF, ANSI 150# RF DIN, ETC
						S	PT, NPT
						O	OTHER

# METAL FLOW METER

## Flux Index

(Based on pressure 1ATM. Temperature 20° C in case of Gas)

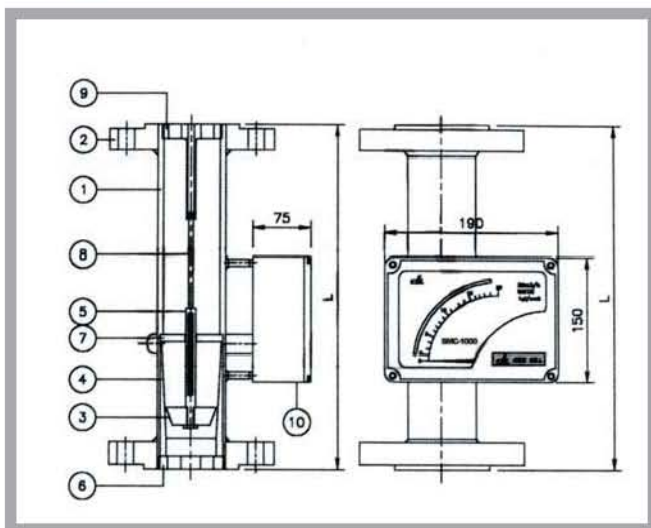
Classification SIZE		Standard Flow Ranger H2O (m3/h)	Manufacturable flow range		Pressure loss mmH2O	distance between face to face (mm) L
			Liquid(m3/h)	Gas(m3/h)		
15A	1/2B	0.1 — 1	0.03 - 0.3	0.3 - 3	500	250
			0.15 - 1.5	2 - 20		
20A	3/4B	0.15 — 1.5	0.03 - 0.3	0.3 - 3	500	250
			0.2 - 2	3 - 30		
25A	1B	0.35 — 3.5	0.15 - 1.5	1.5 - 15	500	250
			0.5 - 5	6 - 60		
32A	1 1/4B	0.6 — 6	0.3 - 3	3 - 30	500	250
			0.7 - 7	10 - 100		
40A	1 1/2B	1.0 — 10	0.4 - 4	4.5 - 45	700	250
			1.5 - 15	5 - 150		
50A	2B	1.5 — 15	1 - 10	5 - 50	500	250
			2 - 20	20 - 200		
65A	2 1/2B	2.5 — 25	1.5 - 15	9 - 90	600	250
			3 - 30	40 - 400		
80A	3B	4.0 — 40	2 - 20	15 - 150	700	250
			5 - 50	70 - 700		
100A	4B	6.0 — 60	5 - 50	20 - 200	900	375
			7 - 70	100 - 1000		

REMARK: Minimum flow we can manufacture is mentioned at the above and maximum flow we can manufacture is mentioned at the below.

Please discuss with our staff when you would like to order bigger size than 80A.

We can manufacture up to 150A in case of material being measured is liquid.

## External drawing



## Part material

번호	PART LIST	MATERIAL	
		NO. 2	NO. 3
1	Body	SUS 304	SUS 316
2	Flabge	SUS 304	SUS 316
3	Float	SUS 304	SUS 316
4	Taper Tube	SUS 304	SUS 316
5	Magnet Rod	SUS304+ALNICO	SUS316+ALNICO
6	Lower Stopper	SUS 304	SUS 316
7	Collar	SUS 304	SUS 316
8	Guide	SUS 304	SUS 316
9	Upper Stopper	SUS 304	SUS 316
10	Indicator	ADC12	





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