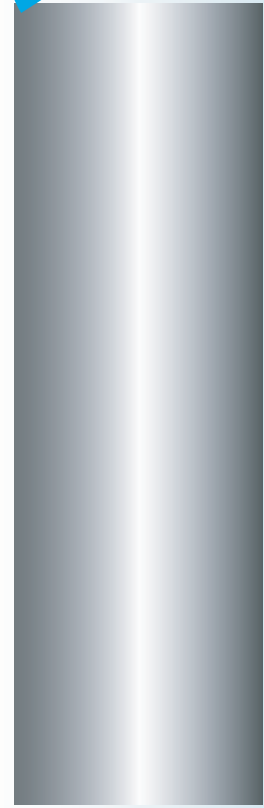




레벨 게이지  
(Level Gauge)

FTC<sup>®</sup>



◆ ENGINEERING REFERENCE DATA

**TYPES & MODELS OF LIQUID LEVEL GAUGES**

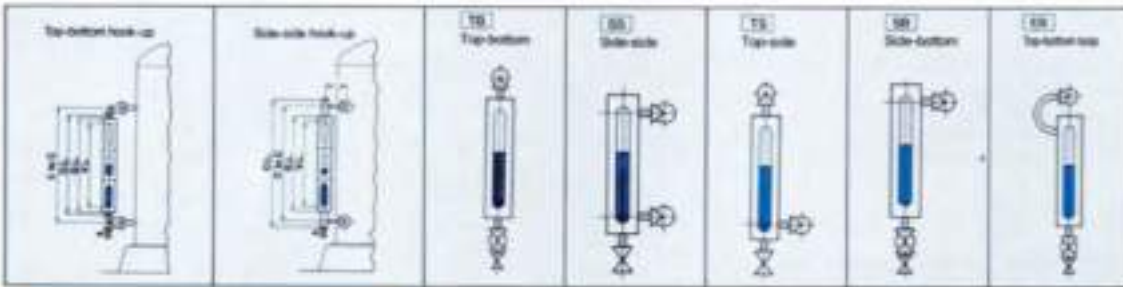
TYPE	MODEL	MODEL OF VALVES	MAX	DESIGN
	(REELEX)		PRESSURE	PRESSURE
STANDARD	SRG-1	SS-1,SO-1	30kgf/cm <sup>2</sup>	20kgf/cm <sup>2</sup>
	SRG-2	SS-1, SO-1	50kgf/cm <sup>2</sup>	40kgf/cm <sup>2</sup>
	SRG-3	SS-1, SO-1	120kgf/cm <sup>2</sup>	100kgf/cm <sup>2</sup>
	SRG-4	SS-1, SO-1	200kgf/cm <sup>2</sup>	180kgf/cm <sup>2</sup>
ZIGZAG COUPLING	SRZG-1	SS-1,SO-1	30kgf/cm <sup>2</sup>	20kgf/cm <sup>2</sup>
HEATING & COOLING	SRJG-1,SRJG-2	SS-1,SO-1	30kgf/cm <sup>2</sup>	20kgf/cm <sup>2</sup>
	SRJG-3		60kgf/cm <sup>2</sup>	40kgf/cm <sup>2</sup>
	SRJG-4		90kgf/cm <sup>2</sup>	60kgf/cm <sup>2</sup>
NON-FROSTING	SRLNG-1	SS-1,SO-1	30kgf/cm <sup>2</sup>	20kgf/cm <sup>2</sup>
COLOR-REFLEX	SRG-1BC	SS-1,SO-1	30kgf/cm <sup>2</sup>	20kgf/cm <sup>2</sup>
LARGE CHAMBER	SRLG-1	SS-1	30kgf/cm <sup>2</sup>	20kgf/cm <sup>2</sup>
	SRLG-2	SO-1	45kgf/cm <sup>2</sup>	30kgf/cm <sup>2</sup>
LARGE CHAMBER NON-FROSTING	SRLNG-1	SS-1,SO-1	70kgf/cm <sup>2</sup>	20kgf/cm <sup>2</sup>
			90kgf/cm <sup>2</sup>	30kgf/cm <sup>2</sup>

MODEL	MODEL OF VALVES	MAX PRESSURE	DESIGN
			PRESSURE
STG-1	SS-1,SO-1	30kgf/cm <sup>2</sup>	20kgf/cm <sup>2</sup>
STG-2	SS-1,SO-1	50kgf/cm <sup>2</sup>	40kgf/cm <sup>2</sup>
STG-3	SS-1,SO-1	120kgf/cm <sup>2</sup>	100kgf/cm <sup>2</sup>
STG-4	SS-1,SO-1	200kgf/cm <sup>2</sup>	180kgf/cm <sup>2</sup>
STZG-1	SS-1,SO-1	30kgf/cm <sup>2</sup>	20kgf/cm <sup>2</sup>
STJG-1,STJG-2	SS-1,SO-1	30kgf/cm <sup>2</sup>	20kgf/cm <sup>2</sup>
STJG-3		60kgf/cm <sup>2</sup>	40kgf/cm <sup>2</sup>
STJG-4		90kgf/cm <sup>2</sup>	60kgf/cm <sup>2</sup>
STLNG-1		30kgf/cm <sup>2</sup>	20kgf/cm <sup>2</sup>
STG-1BC	SS-1,SO-1	30kgf/cm <sup>2</sup>	20kgf/cm <sup>2</sup>
STLG-1	SS-1,SO-1	30kgf/cm <sup>2</sup>	20kgf/cm <sup>2</sup>
STLG-2		45kgf/cm <sup>2</sup>	30kgf/cm <sup>2</sup>
STLNG-1	SS-1,SO-1	45kgf/cm <sup>2</sup>	30kgf/cm <sup>2</sup>

ENGINEERING REFERENCE DATA

HOOK-UPS

Dimensions of FTC direct reading gauges are determined according to the following items  
 ● center-to-center dimension (C to C) ● Visible length (V.L) ● Gauge length (G.L) ● Overall length (O.L)

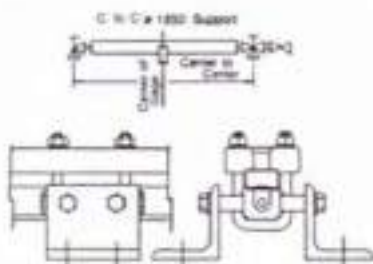


DIMENSIONS

GLASS SIZE and No of SEC	VL	GL	STANDARD O.L		STANDARD CoC		WEIGHT WITHOUT VALVES	GLASS SIZE and No of SEC	VL	GL	STANDARD O.L		STANDARD CoC		WEIGHT WITHOUT VALVES
			TB	SS	TB	SS					TB	SS	TB	SS	
#1 X 1	90	130	145	200	320	140	4kgs	#8 X 3	965	1000	1020	1075	1195	1015	27kgs
#2 X 1	115	155	170	225	345	165	4.5	#9 X 3	1025	1060	1080	1135	1255	1075	28.5
#3 X 1	140	180	195	250	370	190	5	#10 X 3	1205	1240	1260	1315	1435	1255	31.5
#4 X 1	165	205	220	275	395	215	5.5	#7 X 4	1140	1175	1195	1250	1370	1190	32
#5 X 1	195	235	250	305	425	245	7	#8 X 4	1300	1340	1360	1410	1530	1350	36
#6 X 1	225	265	280	335	455	275	7.5	#9 X 4	1360	1400	1420	1490	1610	1430	38
#7 X 1	255	295	310	365	485	305	8	#10 X 4	1620	1660	1680	1730	1850	1670	42
#57 X 1	275	315	330	385	505	325	8.5	#7 X 5	1435	1475	1495	1545	1665	1485	39
#8 X 1	295	335	350	405	525	345	9	#8 X 5	1535	1575	1595	1645	1765	1585	42.5
#9 X 1	315	355	380	425	545	365	9.5	#8 X 5	1635	1675	1695	1745	1865	1685	45
#10 X 1	375	415	430	485	605	425	10.5	#9 X 5	1735	1775	1795	1845	1965	1785	47.5
#54 X 2	390	430	445	500	620	440	12.5	#10 X 5	2035	2075	2095	2145	2265	2085	52.5
#5 X 2	430	470	485	540	660	480	13.5	#7 X 6	1730	1770	1790	1840	1960	1780	47
#6 X 2	490	530	545	600	720	540	15	#8 X 6	1970	2010	2030	2080	2200	2020	54
#7 X 2	550	590	605	660	780	600	16	#9 X 6	2090	2130	2150	2200	2320	2140	57
#57 X 2	590	630	645	700	820	640	17	#7 X 7	2025	2065	2085	2135	2255	2075	55
#8 X 2	630	670	685	740	860	680	18	#8 X 7	2305	2345	2365	2415	2535	2355	63
#9 X 2	670	710	725	780	900	720	19	#9 X 7	2445	2485	2505	2555	2675	2495	67
#10 X 2	790	830	845	900	1020	840	22	#7 X 8	2320	2360	2380	2430	2550	2370	63
#6 X 3	755	795	810	865	985	805	22.8	#8 X 8	2640	2680	2700	2750	2870	2690	72
#7 X 3	845	885	900	955	1075	895	23.5	#9 X 8	2800	2840	2860	2910	3030	2850	76
#57 X 3	905	945	960	1015	1135	955	25.5								

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 2meters long.



GLASS TABLE

No.	L	W	t	Remark
1	115	34	17	
2	140	"	"	
3	165	"	"	
4	190	"	"	
54	200	"	"	
5	220	"	"	*
6	250	"	"	*
7	280	"	"	*
57	300	"	"	
8	320	"	"	*
9	340	"	"	*
10	400	"	"	

Level Gauge

◆ ENGINEERING REFERENCE DATA

**DIMENSIONS ITEMS**

Dimensions of **FTC** direct reading gauges are determined according to the following items.

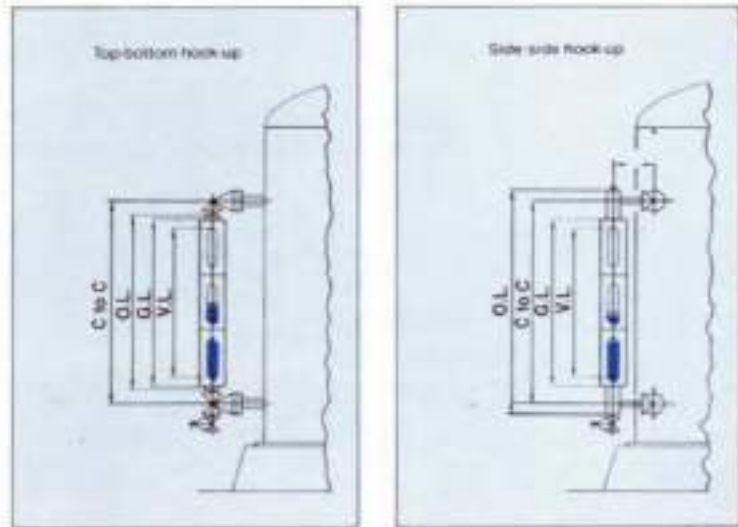
- Center-to-center dimension (C to C)
- Visible length (V.L.)
- Gauge length (G.L.)
- Overall length (O.L.)

Refer to dimensions listed in each catalog.

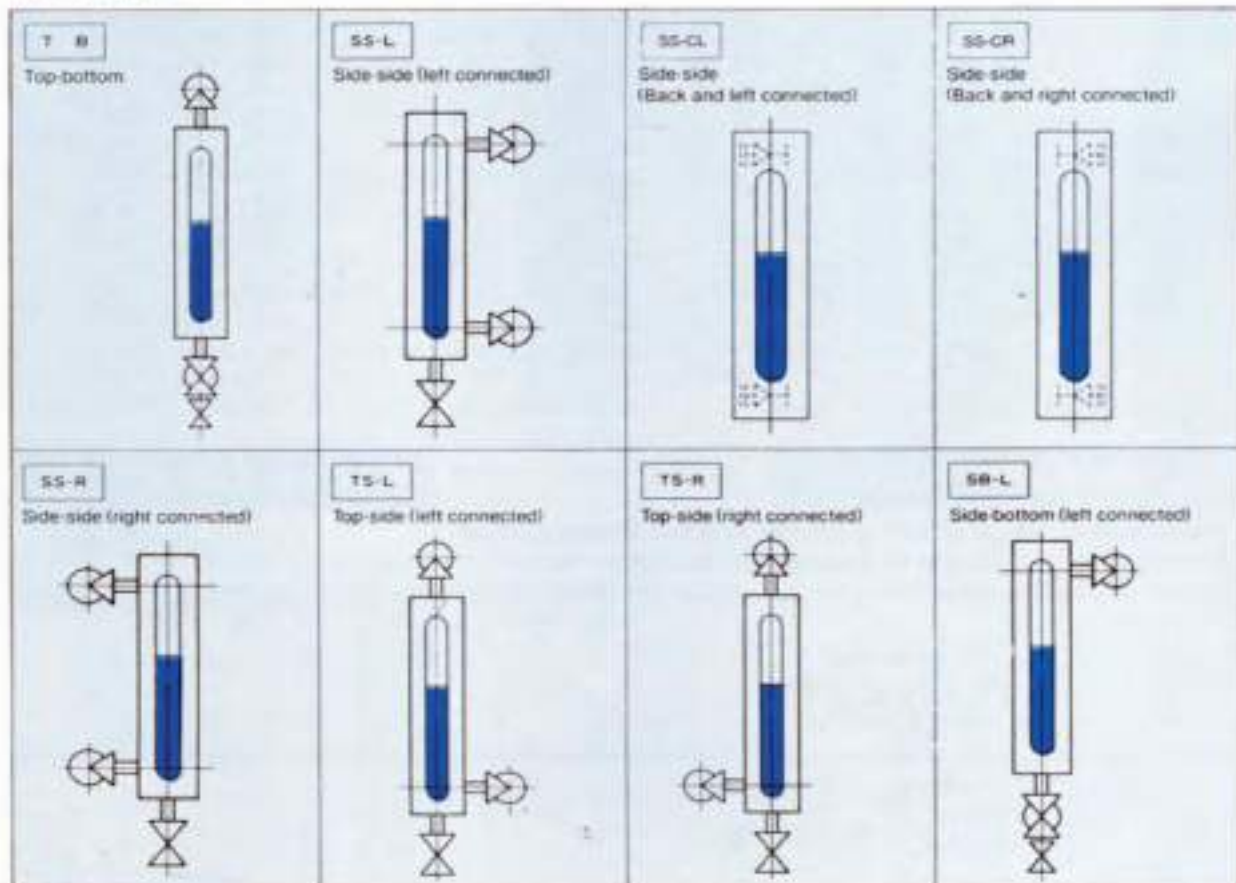
**CODES FOR HOOK-UP**

Hook-up of **FTC** direct reading gauges are standardized to the following fifteen codes.

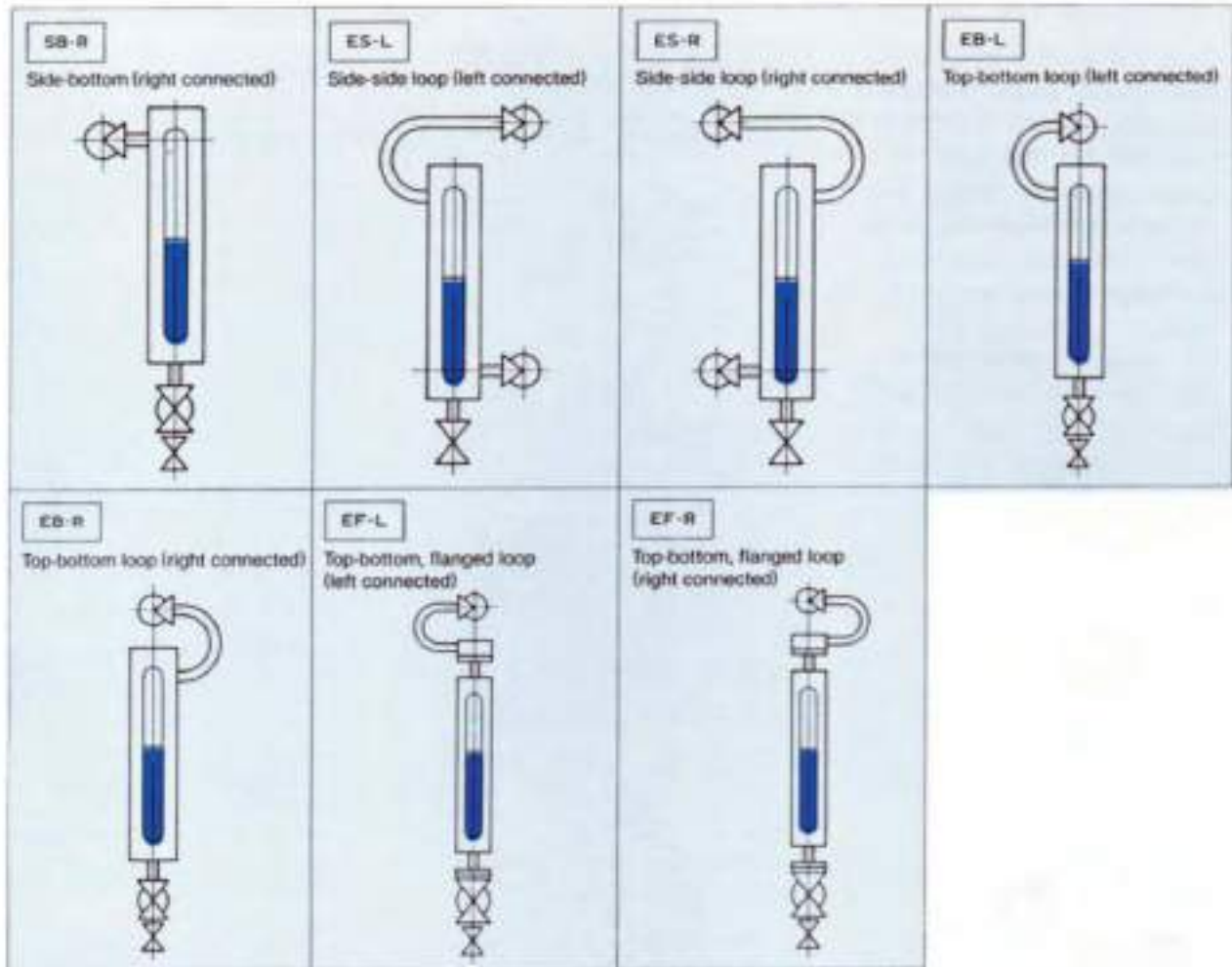
For details of hook-up, refer to each catalog as hook-up procedures may differ in each type. Nonstandard hook-up procedures are available on request. Unless otherwise specified, left connected hookup is selected as a standard.



Code Hook-up



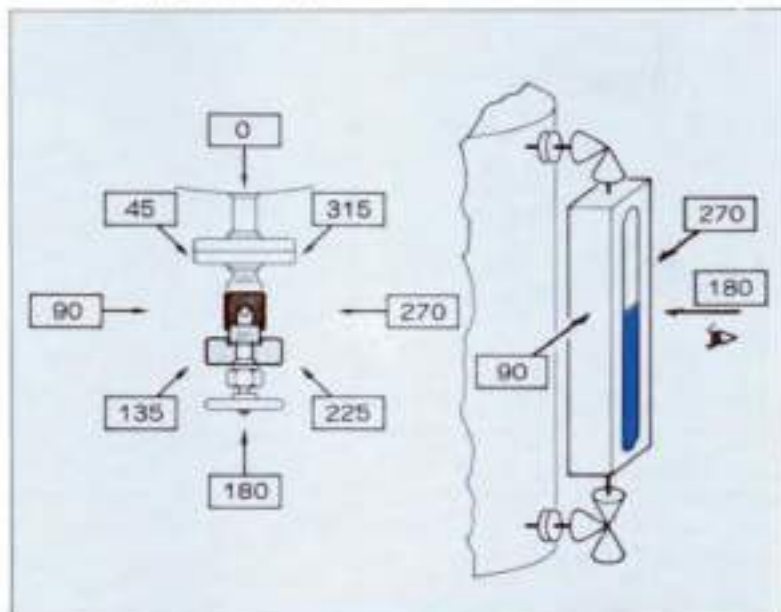
◆ ENGINEERING REFERENCE DATA



See page 20 for flanged gauges which have not top and bottom gauge valves.

**NOZZLE ORIENTATIONS OF  
FTC DIRECT READING  
LIQUID LEVEL GAUGES**

Nozzle orientation of FTC direct reading gauges is coded every 45° anti-clockwise. Therefore specify the angle of orientation (for example 90) if any specific nozzle orientation is requested. Unless otherwise specified nozzle orientation of 0° is selected.


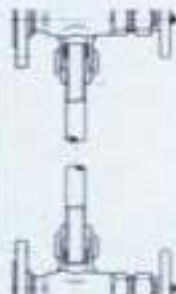
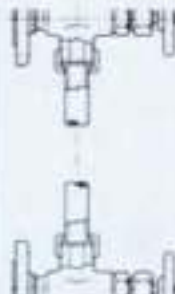


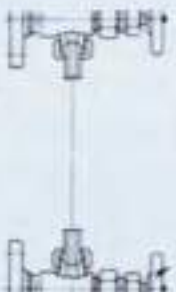

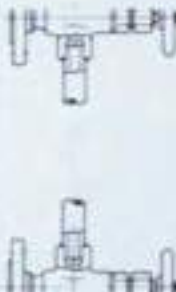
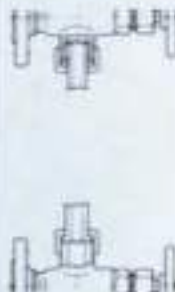


◆ ENGINEERING REFERENCE DATA

**GAUGE CONNECTIONS**

Gauges Connection of FTC direct reading gauges is coded according to the specifications listed in the table. Gauges connection means the connection between the gauges valve (including gauges cock and gauges holder) and the nipple.

For details of gauges connection, refer to the FTC Gauges Valve List(See page 10) as selection of gauges 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 gauges	Tubular gauges	Tubular, reflex and transparent gauges
Remarks	Molded gland packing	Yearn 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 gauges	Reflex and transparent gauges	Reflex and transparent gauges	Reflex and transparent gauges	Reflex and transparent gauges	Reflex and transparent gauges
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

◆ ENGINEERING REFERENCE DATA

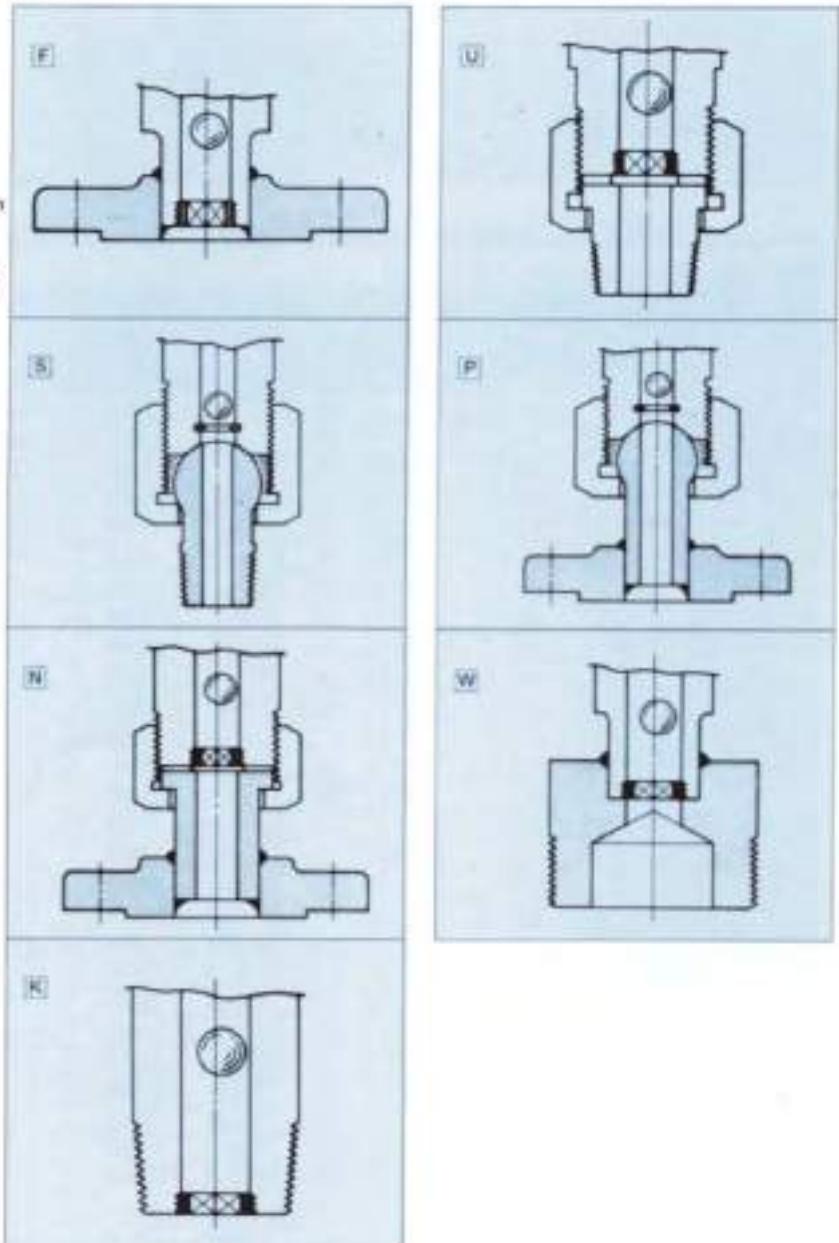
VESSEL CONNECTIONS

The connection of the FTC direct reading gauge is provided for vessels such as tanks, drums etc. It is known as the vessel connection and standardized to meet various requirements. When making an inquiry or order, give the details of specifications such as applicable standard, size, type, pressure rating etc.

(Example) 3/4" ANSI 300# RF Flanged  
1/2" BS 10 Bar Screwed

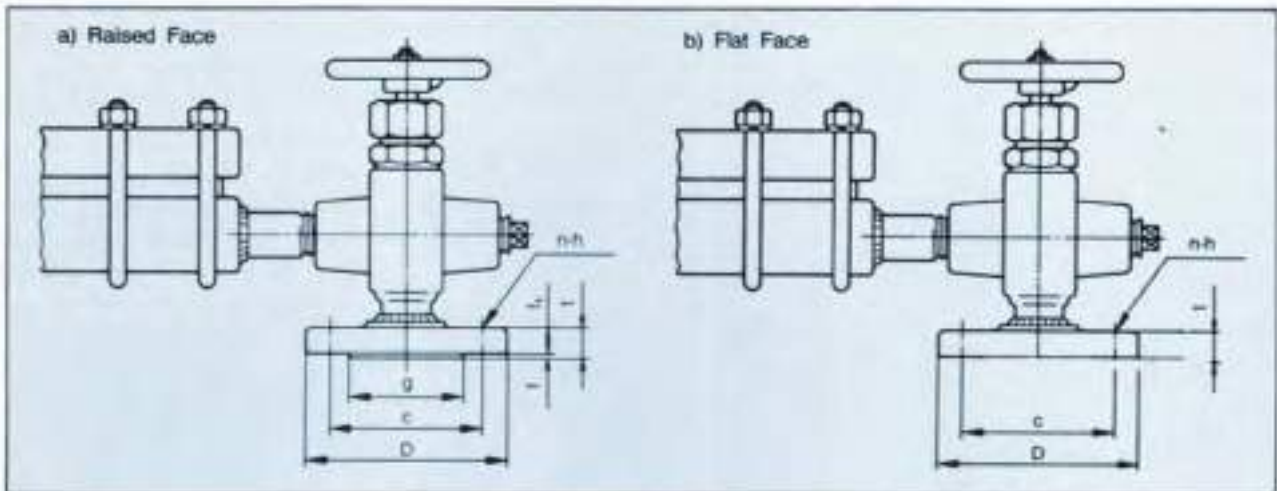
(Vessel connection)

- F Flanged connection
- U Union and screwed connection
- S Spherical union and screwed connection
- P Spherical union and flanged connection
- N Union and flanged connection
- W Socket welded connection
- K Solid shank connection
- Z Other connections



◆ ENGINEERING REFERENCE DATA

FLANGE DIMENSIONS FOR GAUGE VALVES



Flange Dimensions(American Standard ANSI B16.5-1981 and The Japan Petroleum Institute Standard JPI 7S-15-84)

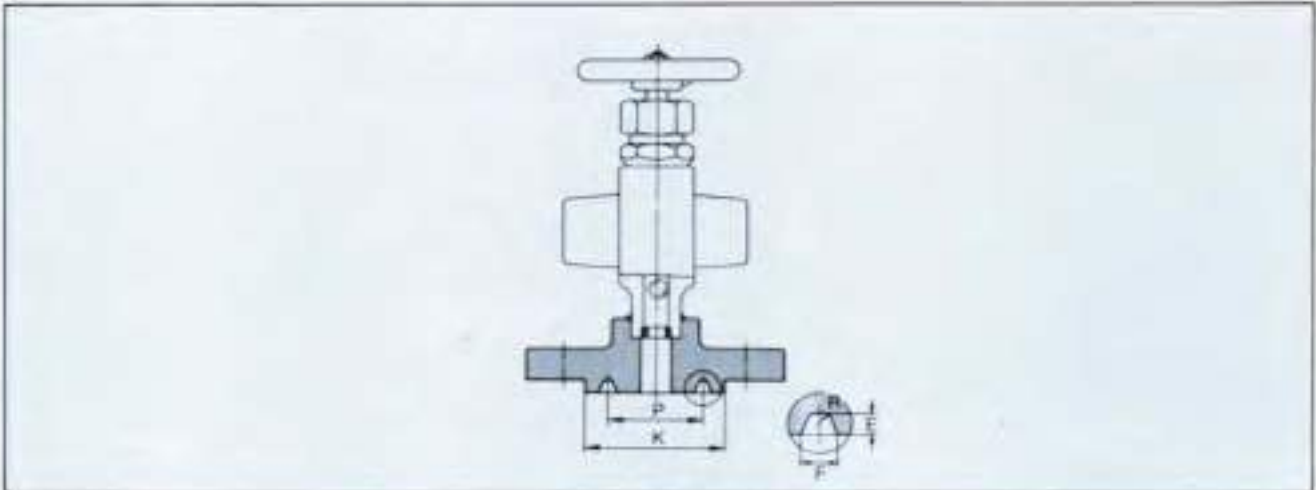
unit : mm

Standard	Nominal Size		Outside Diameter of Flange D	Dimensions of Flange				Bolt Hole		
	mm	in		t <sub>1</sub>	t (t=t <sub>1</sub> +f)	t	Diameter g	Diameter of Bolt Circle c	Number n	Diameter h
CLASS 150 ANSI B 16.5 TABLE H8 JPI-7S-15-84	15	1/2	89	—	11.5	1.6	34.9	60.3	4	16
	20	3/4	98	—	13.0	1.6	42.9	69.9	4	16
	25	1	108	—	14.5	1.6	50.8	79.4	4	16
	40	1 1/2	127	—	17.5	1.6	73.0	98.4	4	16
	50	2	152	—	19.5	1.6	92.1	120.6	4	20
CLASS 300 ANSI B 16.5 TABLE H11 JPI-7S-15-84	15	1/2	95	—	14.5	1.6	34.9	66.7	4	16
	20	3/4	117	—	16.0	1.6	42.9	82.5	4	20
	25	1	124	—	17.5	1.6	50.8	88.9	4	20
	40	1 1/2	156	—	21.0	1.6	73.0	114.3	4	23
	50	2	165	—	22.5	1.6	92.1	127.0	8	20
CLASS 600 ANSI B 16.5 TABLE H17 JPI-7S-15-84	15	1/2	95	14.5	20.9	6.4	34.9	66.7	4	16
	20	3/4	117	16.0	22.4	6.4	42.9	82.5	4	20
	25	1	124	17.5	23.9	6.4	50.8	88.9	4	20
	40	1 1/2	156	22.5	28.9	6.4	73.0	114.3	4	23
	50	2	165	25.5	31.9	6.4	92.1	127.0	8	20
CLASS 900 ANSI B 16.5 TABLE H20 JPI-7S-15-84	15	1/2	121	22.5	28.9	6.4	34.9	82.5	4	23
	20	3/4	130	25.5	31.9	6.4	42.9	88.9	4	23
	25	1	149	29.0	35.4	6.4	50.8	101.6	4	26
	40	1 1/2	178	32.0	38.4	6.4	73.0	123.8	4	29
	50	2	216	38.5	44.9	6.4	92.1	165.1	8	26
CLASS 1500 ANSI B 16.5 TABLE H23 JPI-7S-15-84	15	1/2	121	22.5	28.9	76.4	34.9	82.5	4	23
	20	3/4	130	25.5	31.9	6.4	42.9	88.9	4	23
	25	1	149	29.0	35.4	6.4	73.0	123.8	4	29
	40	1 1/2	178	32.0	38.4	6.4	73.0	123.8	4	29
	50	2	216	38.5	44.9	6.4	92.1	165.1	8	26
CLASS 2500 ANSI B 16.5 TABLE H26 JPI-7S-15-84	15	1/2	133	30.5	36.9	6.4	34.9	88.9	4	23
	20	3/4	140	32.0	38.4	6.4	42.9	95.2	4	23
	25	1	159	35.0	41.4	6.4	73.0	146.0	4	32
	40	1 1/2	203	44.5	50.9	6.4	73.0	146.0	4	32
	50	2	235	51.0	57.4	6.4	92.1	171.4	8	29



◆ ENGINEERING REFERENCE DATA

RING TYPE JOINT



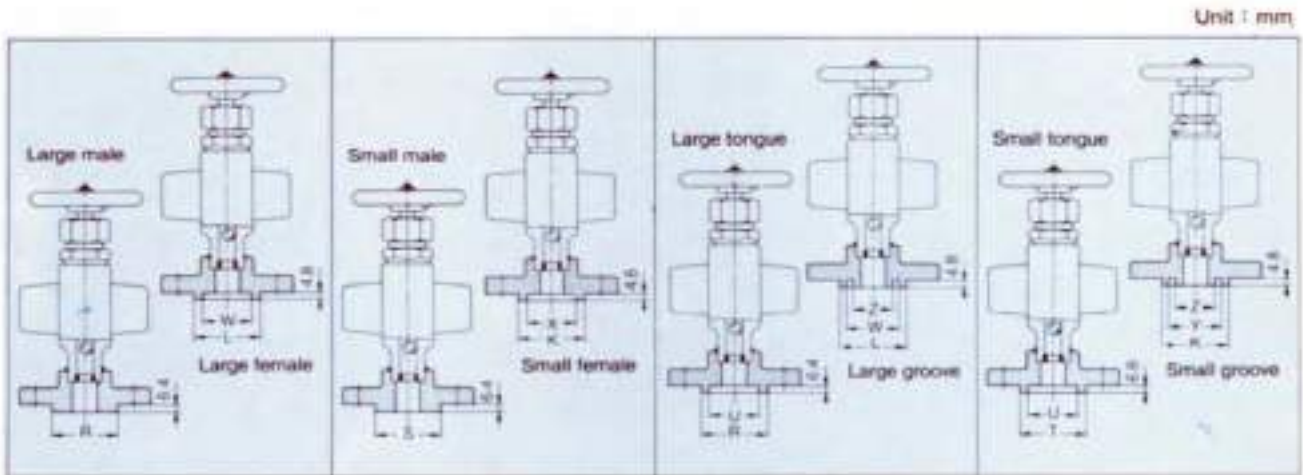
Flange Dimensions(American Standard ANSI B16.5-1981 and The Japan Petroleum Institute Standard JPI 7S-15-84)

unit : mm

Standard	Nominal Size		Pitch Diameter P	Dimensions of Groove				Groove Number
	mm	in		Depth E	Width F	Radius at Bottom R	Diameter of Raised portion K	
CLASS 150 ANSI B 16.5 TABLE H5 JPI-7S-15-84	15	1/2	—	—	—	—	—	—
	20	3/4	—	—	—	—	—	—
	25	1	47.63	6.35	8.74	0.8	63.5	R15
	40	1 1/2	65.08	6.35	8.74	0.8	82.5	R19
CLASS 300 ANSI B 16.5 TABLE H5 JPI-7S-15-84	50	2	82.55	6.35	8.74	0.8	102.0	R22
	15	1/2	34.13	5.56	7.14	0.8	51.0	R11
	20	3/4	42.86	6.35	8.74	0.8	63.5	R13
	25	1	50.80	6.35	8.74	0.8	70.0	R16
CLASS 600 ANSI B 16.5 TABLE H5 JPI-7S-15-84	40	1 1/2	68.26	6.35	8.74	0.8	90.5	R20
	50	2	82.55	7.92	11.91	0.8	108.0	R23
	15	1/2	34.13	5.56	7.14	0.8	51.0	R11
	20	3/4	42.86	6.35	8.74	0.8	63.5	R13
CLASS 900 ANSI B 16.5 TABLE H5 JPI-7S-15-84	25	1	50.80	6.35	8.74	0.8	70.0	R16
	40	1 1/2	68.25	6.35	8.74	0.8	92.0	R20
	50	2	95.25	7.92	11.91	0.8	124.0	R24
	15	1/2	39.69	6.35	8.74	0.8	60.5	R12
CLASS 1500 ANSI B 16.5 TABLE H5 JPI-7S-15-84	20	3/4	44.45	6.35	8.74	0.8	66.5	R14
	25	1	50.80	6.35	8.74	0.8	71.5	R16
	40	1 1/2	68.26	6.35	8.74	0.8	92.0	R20
	50	2	95.25	7.92	11.91	0.8	124.0	R24
CLASS 2500 ANSI B 16.5 TABLE H5 JPI-7S-15-84	15	1/2	42.86	6.35	8.74	0.8	65.0	R13
	20	3/4	50.80	6.35	8.74	0.8	73.0	R16
	25	1	60.33	6.35	8.74	0.8	82.5	R18
	40	1 1/2	82.55	7.92	11.91	0.8	114.0	R23
	50	2	101.60	7.92	11.91	0.8	133.0	R26

◆ ENGINEERING REFERENCE DATA

**DIMENSIONS OF OTHER FLANGES  
(MALE AND FEMALE FACE, TONGUE AND GROOVE FLANGE)**



Flange Dimensions(American Standard ANSI B16.5-1981 and The Japan Petroleum Institute Standard JPI 7S-15-84)

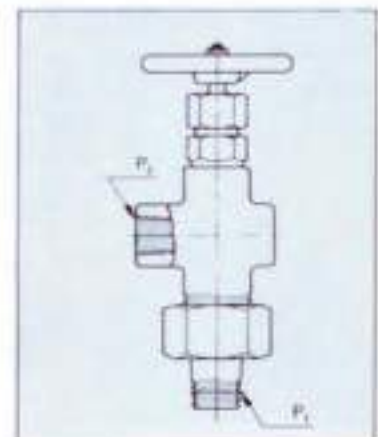
Unit : mm

Nominal Size		Outside Diameter						Inside Diameter		Outside Diameter of Seat(min.)		Nominal Size	
		Large male Large tongue	Small male	Small tongue	Large female Large groove	Small female	Small groove	Large tongue Small tongue	Large groove Small groove	Small female Small groove	Large female Large groove		
mm	in	R	S	T	W	X	Y	U	Z	K	L	mm	in
15	1/2	34.9	18.3	35.1	36.5	19.9	36.5	25.4	23.8	44	46	15	1/2
20	3/4	42.9	23.8	42.9	44.4	25.4	44.4	33.3	31.8	52	54	20	3/4
25	1	50.8	30.2	37.8	52.4	31.8	49.2	38.1	36.5	57	62	25	1
1 1/2	73.0	44.4	63.5	74.6	46.0	65.1	54.0	52.4	73	64	40	1 1/2	
50	2	92.1	57.2	82.6	93.7	58.8	84.1	73.0	71.4	92	103	50	2

**Screwed Connections for gauge valves**

Standard screwed connections mainly used for gauge valves are as follows

Standard	American Standard USAS B2.1 Taper pipe thread		Japanese Industrial Standard JIS B0203 Taper pipe thread		Deutsche Normen DIN 3858		British Standard BS 21-1973 Taper pipe thread	
Nominal Size	1/2	3/4	1/2	3/4	1/2	3/4	1/2	3/4
Designation P <sub>1</sub>	1/2NPT	3/4NPT	R1/2	R3/4	R1/2	R3/4	R1/2	R3/4
Designation P <sub>2</sub>	1/2NPT	3/4NPT	Rc1/2	Rc3/4	Rc1/2	Rc3/4	Rc1/2	Rc3/4



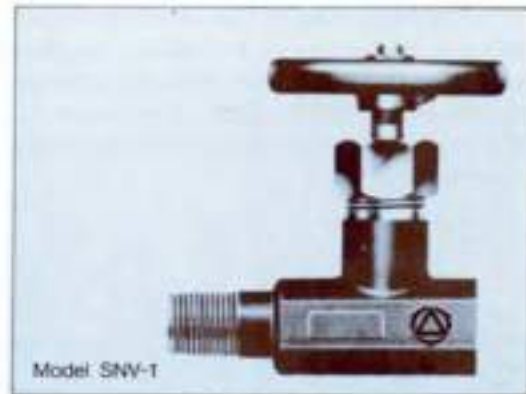
◆ ENGINEERING REFERENCE DATA

**DRAIN VALVE**

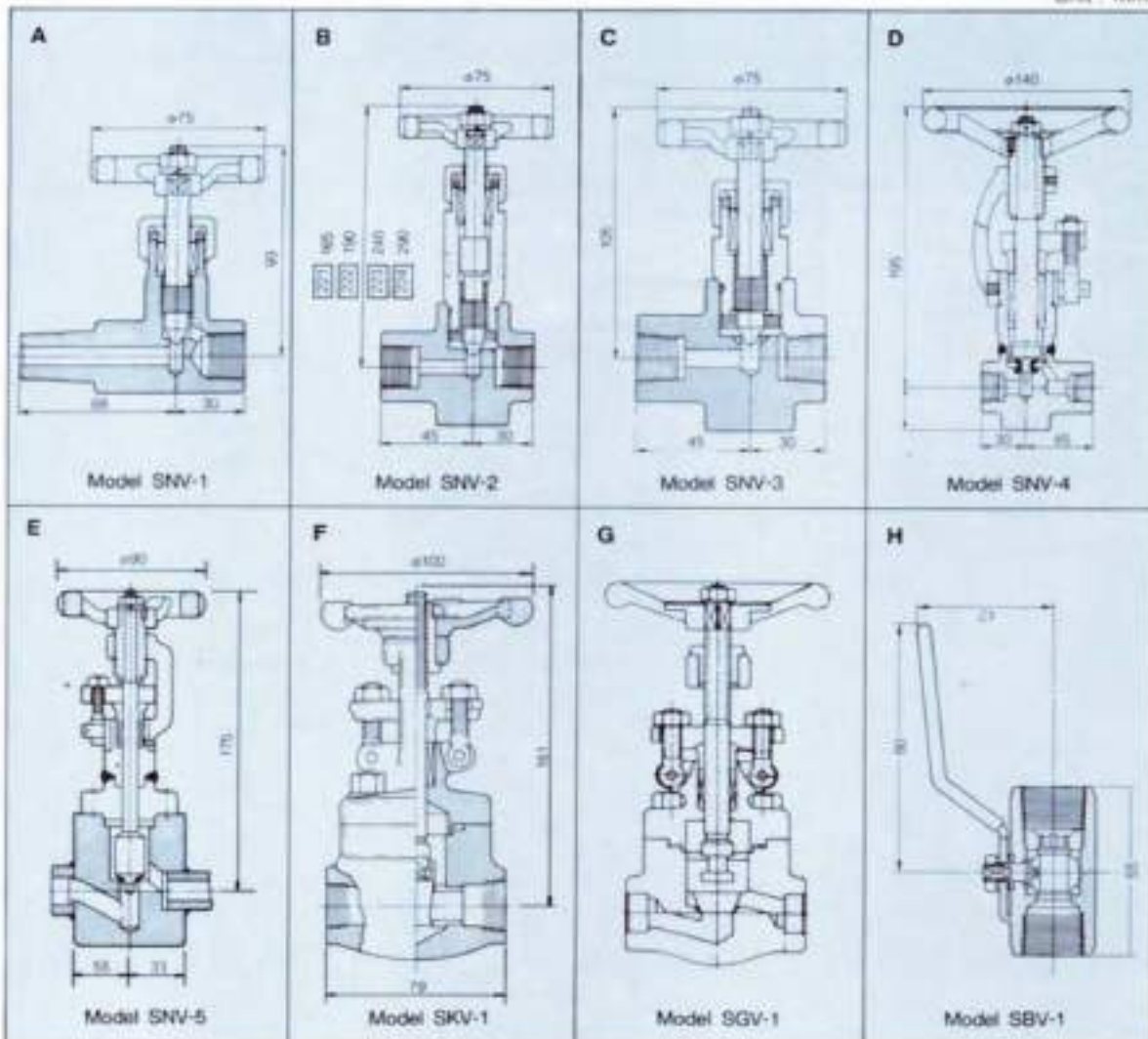
Drain valves for FTC direct reading liquid level gauge are standardized according to pressures, temperatures and service conditions. When the drain valve is used with a gauge, specify the code in Group 11. Refer to the following table for code numbers.

**Selection of drain valves**

- Select the size, body and trim materials according to the table.
- Use the drain valve in the range of available rating
- Combine the codes for gauge valves.



Unit : mm



◆ ENGINEERING REFERENCE DATA

**DRAIN & CONNECTIONS**

When ordering gauges, it is absolutely essential to specify the end connection of the drain valve (or bottom gauges valve if no drain valve is provided) accurately, as misspecification will result in modifications being required. The following drain end connections are standardized to meet user needs.

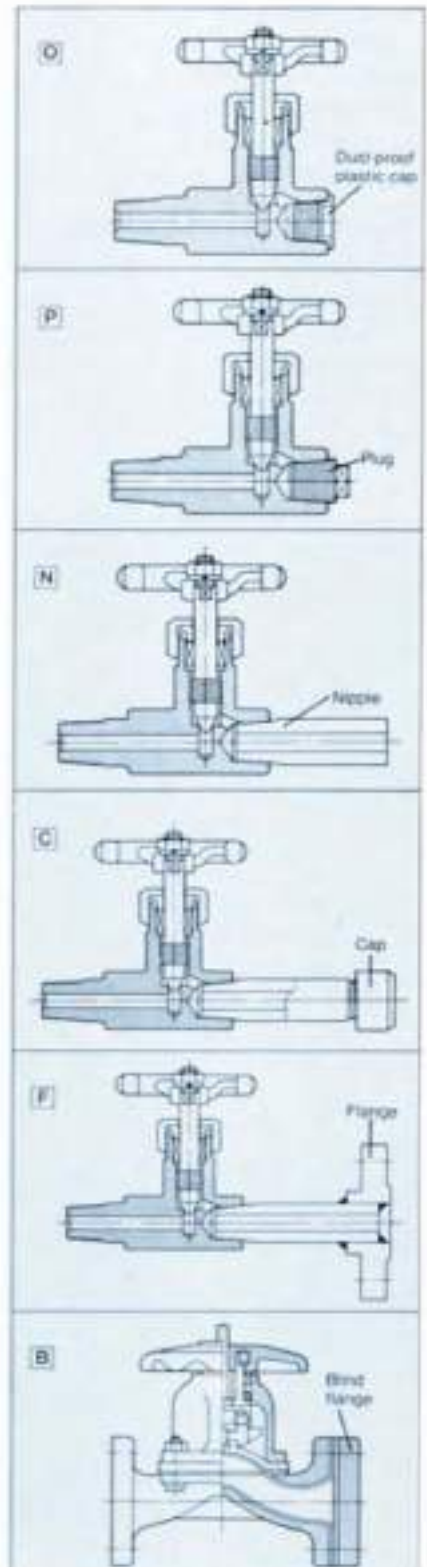
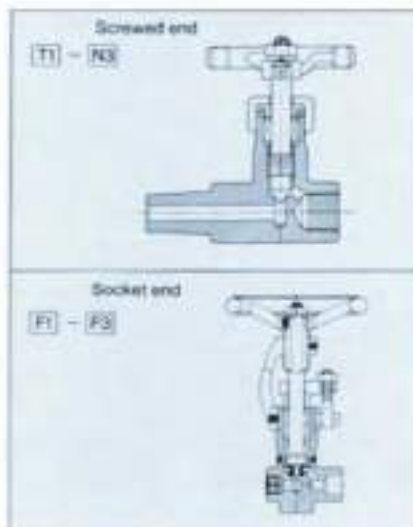
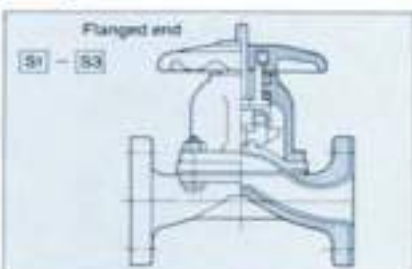
(drain end connection)

- T1** PT 1/2"
- T2** PT 3/4"
- T3** PT 1"
- N1** 1/2" NPT (F)
- N2** 3/4" NPT (F)
- N3** 1" NPT (F)
- S1** 1/2" Socket
- S2** 3/4" Socket
- S3** 1" Socket
- F1** 1/2" Flanged
- F2** 3/4" Flanged
- F3** 1" Flanged
- Z** Other Specifications

(drain end)

- O** Dust-proof plastic cap inserted (Unless otherwise specified, **O** is applied as a standard specification.)
- P** With plug
- C** (Nipple) with cap
- F** (Nipple) with flange
- B** With blind flange
- N** With nipple
- Z** Other specifications

Note: (Nipple) means that the cap or flange may be attached without any nipple in some types.



◆ ENGINEERING REFERENCE DATA

GAUGE VALVES

1. MODEL : SS-1



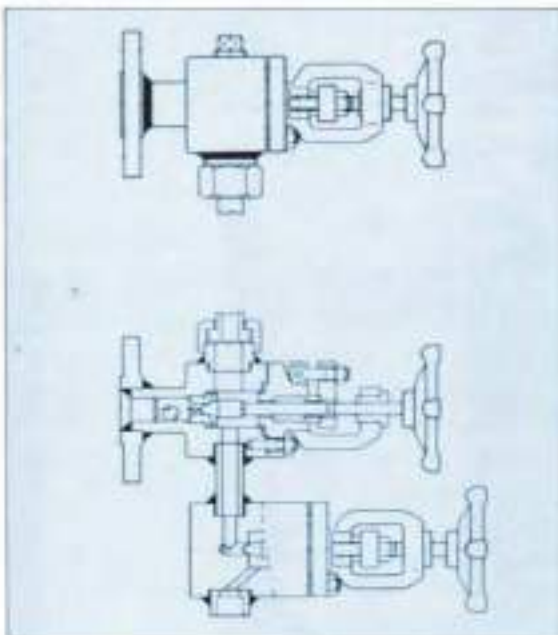
Straight type

2. MODEL : SO-1



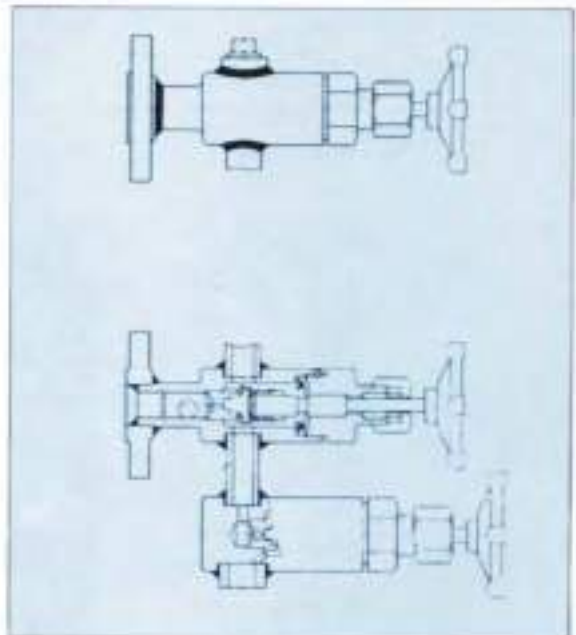
Off-set type

3. SB-1



Straight type

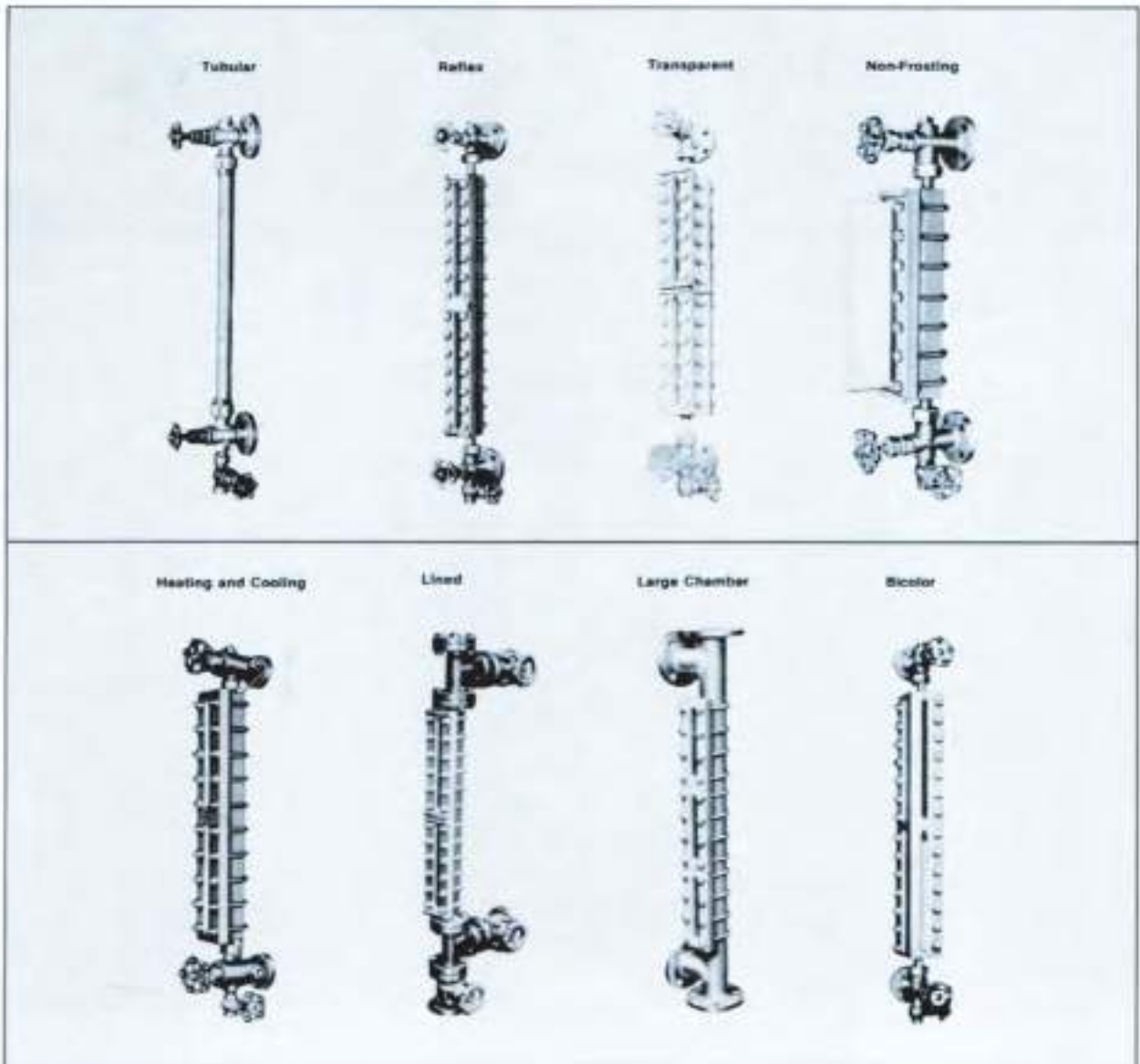
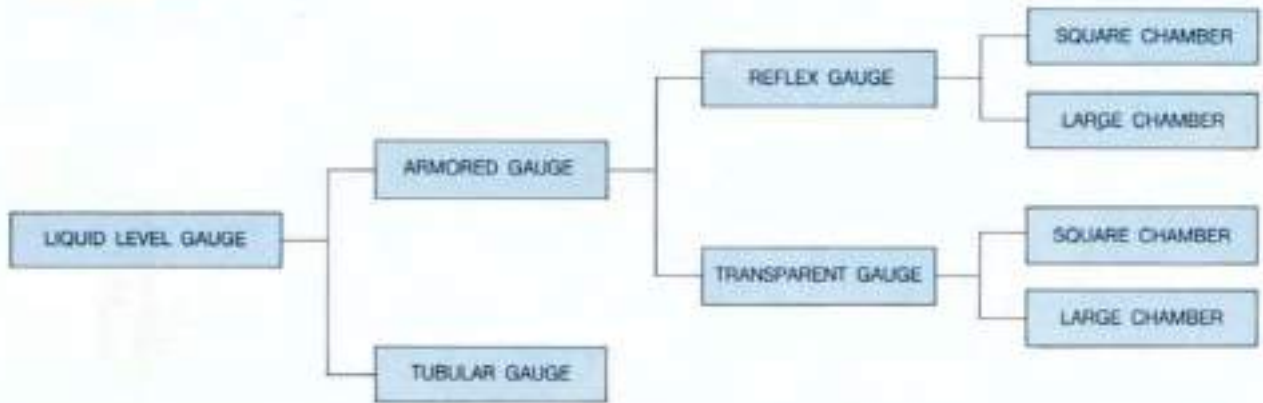
4. SB-2



Straight type

◆ TYPES OF LIQUID LEVEL GAUGES

LEVEL GAUGE






◆ TYPES OF LIQUID LEVEL GAUGES

DESCRIPTION

Tubular type level gauges are widely used for low pressure services up to 5Kgf/Cm and maximum temperature of 100°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. For those gauges of their center to center dimensions in excess of 1,800mm, intermediate couplings are used to connect tubular glasses. Depending on nature of liquids, tubes made of various plastic resins are also available. Tubular glass with a linear red coating on the back is available to make level observation more clear.

MODEL

SBG-1	SBG-2	SBG-3
 <p>VALVE MATERIAL : CARBON STEEL STAINLESS STEEL BRONZE VALVE TYPE : STANDARD SIZE : 15A, 20A, 25A</p>	 <p>VALVE MATERIAL : CARBON STEEL STAINLESS STEEL BRONZE VALVE TYPE : OFF-SET SIZE : 15A, 20A, 25A</p>	 <p>VALVE MATERIAL : PVC SIZE : 15A, 20A, 25A</p>

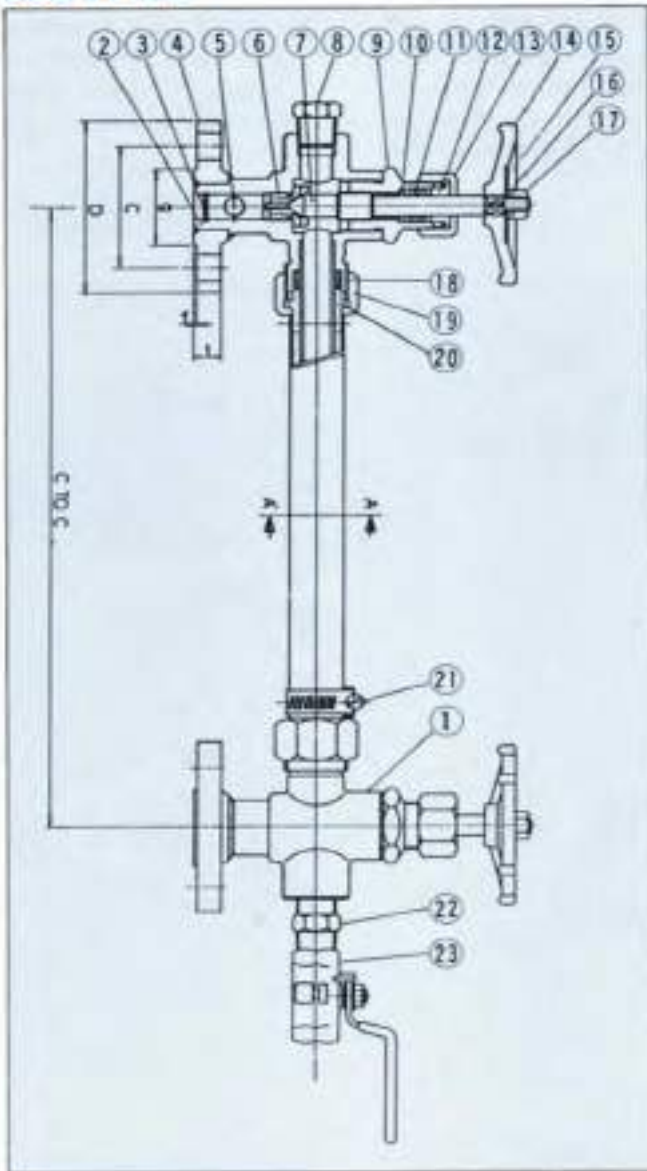
SPECIFICATIONS

- GLASS TUBE SIZE : OUT SIZE Dia : 19mm, IN SIDE Dia : 15mm
- STANDARD CONNECTION : VESSEL : 20A JIS 10Kgf/cm<sup>2</sup> RF FLANGED  
DRAIN : PT 1/2"
- CENTER TO CENTER RANGE : 300-2000mm
- VISIBLE GLASS : C to C minus 200mm
- GLASS LENGTH : C to C minus 30mm
- WORKING PRESSURE : 5Kgf/cm<sup>2</sup>G(MAX)
- WORKING TEMPERATURE : 100°C(MAX)
- SHELL TEST PRESSURE : 7Kgf/cm<sup>2</sup>G
- OPTIONAL CONNECTION : VESSEL : 1/2" JIS or NPT MALE  
1/2" MALE FOR WELDING  
FLANGED to REQUIREMENTS

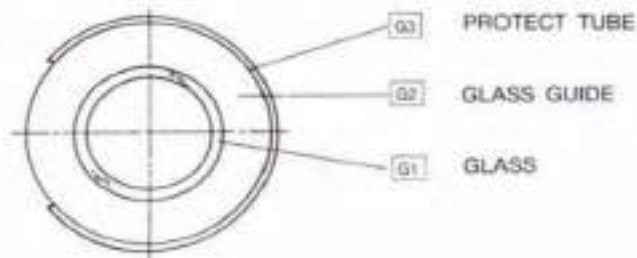
◆ GENERAL ARRANGEMENT DRAWINGS

DRAWINGS

SBG-1 TYPE



No	PARTS	QTY
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 : SBG-1  
SBG-2



◆ ARMORED GAUGE

■ Reflex Gauge :

Gauge Glasses are designed for direct observation of Liquid Levels in tanks. The inner surface of the glass has reflecting prisms. Liquid Level shows black(Liquid/s Color) empty space shows white reflect.

■ Liquid Chamber :





Reflex Gauge and Transparent Gauge. all flat glass gauges have a one-piece chamber machined out of steel bar. Carbon steel, stainless steels. Other a special metals may be specified. Carefully machined gasket seats and specially selected gasket provide positive seal between glass and chamber. Carbon steel chamber are rust-proofed.





■ Transparent Gauge :

See through observation of level

■ Glass :

Toughened Alumina silicate Glass ALMAX II for high temperature and high pressure or borosilicate glass highly resistant to thermal shock.

<p>TYPE : R</p> 	<p><b>REFLEX GAUGE</b></p> <p>available zig-zag gauge construction</p>
<p>TYPE : T</p> 	<p><b>TRANSPARENT GAUGE</b></p> <p>Explosion-proof or optical illuminators touse for option</p>
<p>TYPE : RF</p> 	<p><b>NON-FROSTING of REFLEX and TRANSPARENT GAUGE</b></p> <p>For low temperature applications, with a special frost preventing unit that protects beyond the cover bolts so that frost cannot build up across the vision slot in the cover</p>
<p>TYPE : TF</p> 	<p>For low temperature applications, with a special frost preventing unit that protects beyond the cover bolts so that frost cannot build up across the vision slot in the cover</p>

<p>TYPE : RJ</p> 	<p><b>JACKETED of REFLEX and TRANSPARENT GAUGE</b></p> <p>For use with heated gauges, have a jacket surrounding the heating medium</p>
<p>TYPE : TJ</p> 	<p>For use with heated gauges, have a jacket surrounding the heating medium</p>
<p>TYPE : RC</p> 	<p><b>LARGE CHAMBER REFLEX and TRANSPARENT GAUGE</b></p> <p>For easy level reading of boiling liquids. The gauge valves should be insulated and the gauge equipped with a non-frosting unit both the gauges are 45 and 36mm diameter of in side inside chamber.</p>
<p>TYPE : TC</p> 	<p>For easy level reading of boiling liquids. The gauge valves should be insulated and the gauge equipped with a non-frosting unit both the gauges are 45 and 36mm diameter of in side inside chamber.</p>

◆ 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 the 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. Type SRG reflex gauges have a number of further advantages including light weight, availability of long visible lengths and low price.

**MODEL**

SRG-1, 2



MATERIAL : CARBON STEEL  
STAINLESS STEEL  
BRONZE  
PRESSURE : 1 ~ 50kg/cm<sup>2</sup>  
SIZE : 15A, 20A, 25A

SRG-3, 4



MATERIAL : CARBON STEEL  
STAINLESS STEEL  
PRESSURE : 50 ~ 200kg/cm<sup>2</sup>  
SIZE : 15A, 20A, 25A

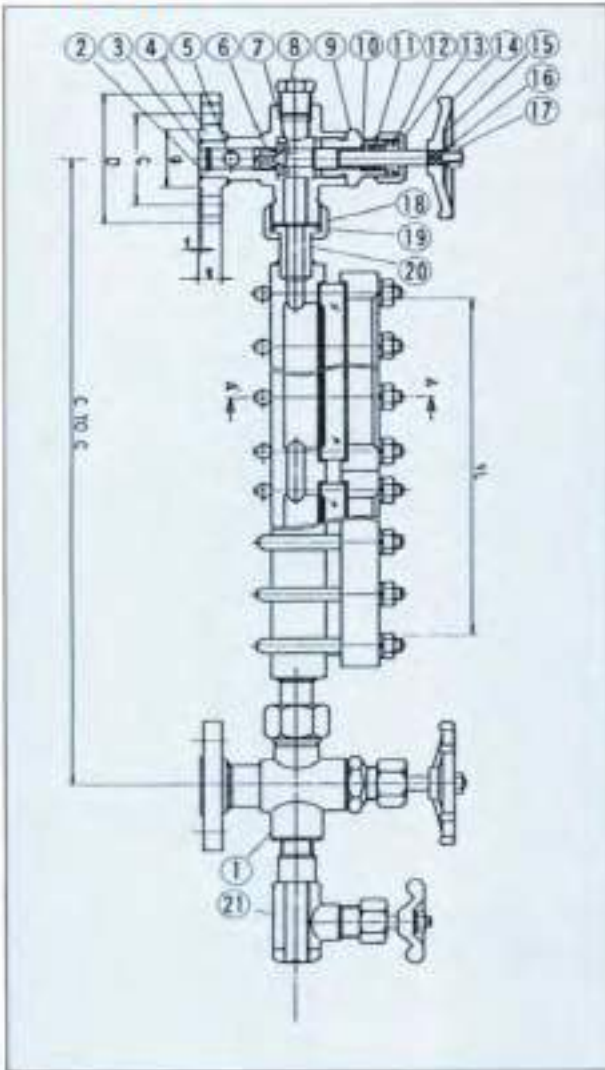
**SPECIFICATIONS**

- TYPE : REFLEX
- VISIBLE LENGTH : 171 to 4000mm MAX
- MAXIMUM NO. of SECTION : 5 SECTION
- VESSEL CONNECTION : 3/4" or 1" FLANGED BY YOUR REQUIREMENT.
- SHELL TEST PRESSURE : WORKING PRESSURE × 1.5

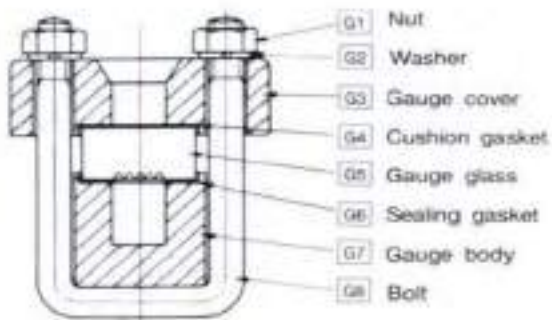
◆ GENERAL ARRANGEMENT DRAWINGS

DRAWINGS

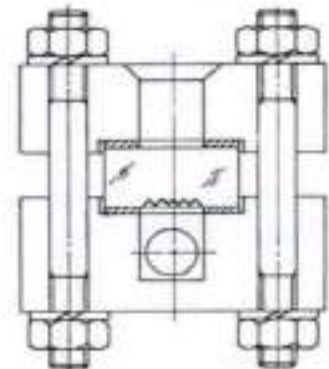
SRG-1 TYPE



No	PARTS	QTY
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 : SRG-1  
SRG-2



MODEL : SRG-3  
SRG-4

◆ 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.

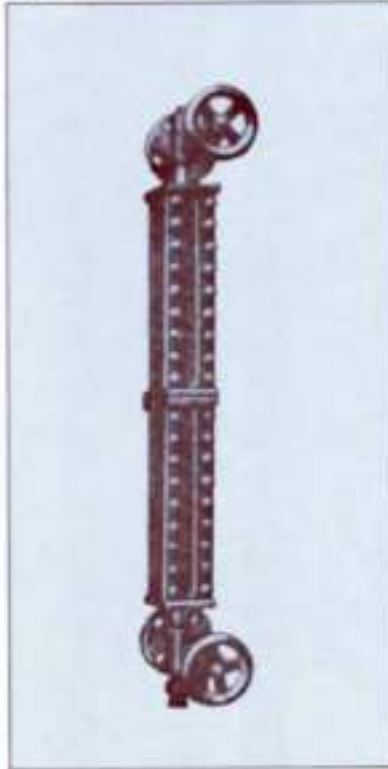
MODEL

STG - 1



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

STG - 2



MATERIAL : CARBON STEEL  
STAINLESS STEEL  
PRESSURE : 1-70kg/cm<sup>2</sup>  
SIZE : 20A, 25A

STG - 3, 4



MATERIAL : CARBON STEEL  
STAINLESS STEEL  
PRESSURE : 1-180kg/cm<sup>2</sup>  
SIZE : 20A, 25A

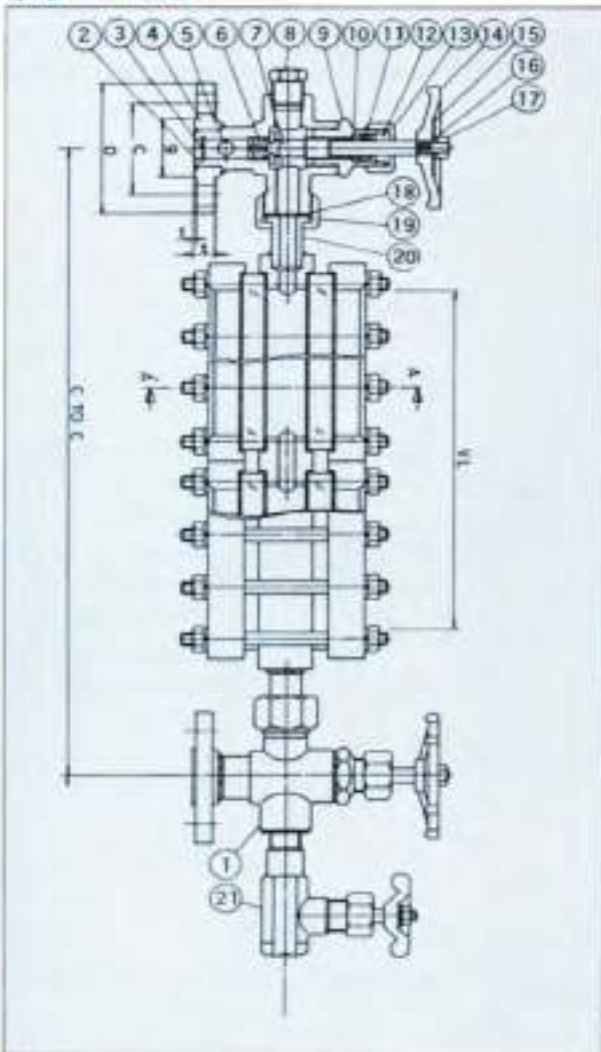
SPECIFICATIONS

- TYPE : TRANSPARENT
- VISIBLE LENGTH : 171 to 4000mm MAX
- MAXIMUM NO. OF SECTION : 5 SECTION
- VESSEL CONNECTION : 3/4" or 1" FLANGED BY YOUR REQUIREMENT.
- SHELL TEST PRESSURE : WORKING PRESSURE × 1.5

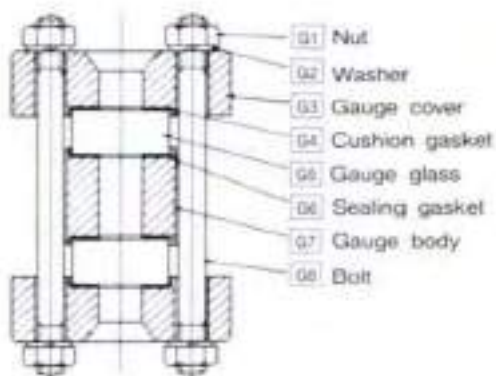
◆ GENERAL ARRANGEMENT DRAWINGS

DRAWINGS

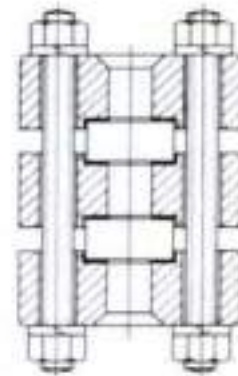
STG-1 TYPE



No	PARTS	QTY
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 : STG-1  
STG-2



MODEL : STG-3  
STG-4

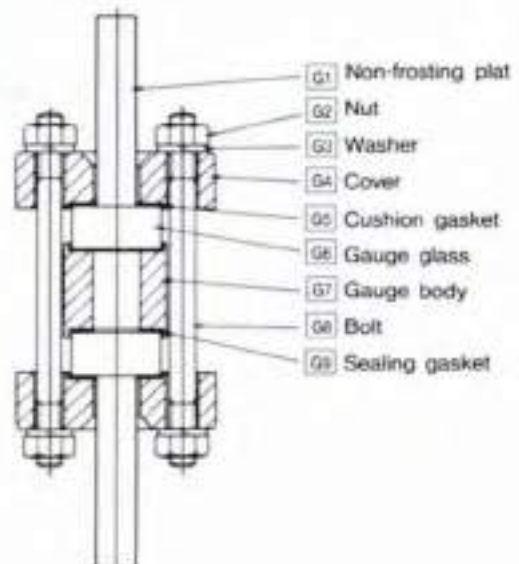
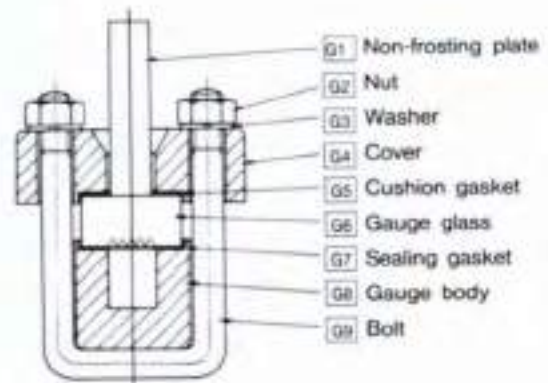
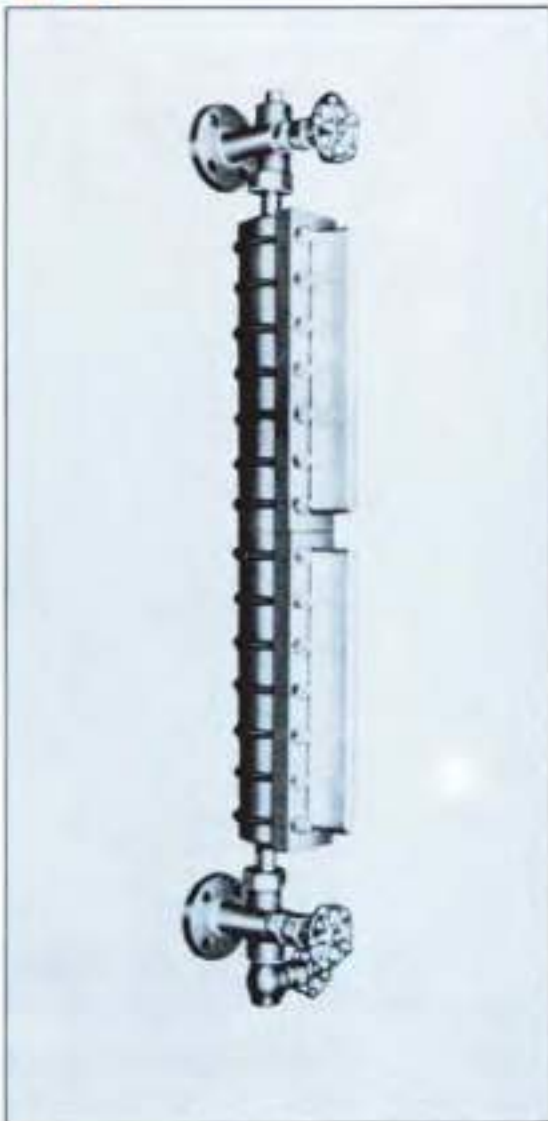
◆ NON-FROSTING TYPE LEVEL GAUGE

DESCRIPTION

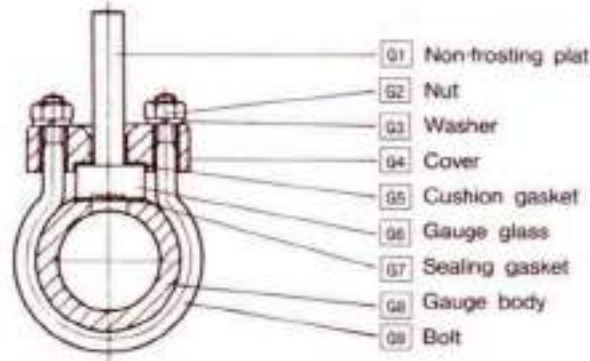
In extremely low-temperature applications, frost or ice may form on the observation part and cover of the gauge making it difficult to read the liquid level. In such cases an acryl window is mounted against the outer surface or the glass to provide clear reading. Depending upon the thickness of the thermal insulation the height of the window (dimension H in the figure below) may be selected as 75, 100 or 150mm

MODEL

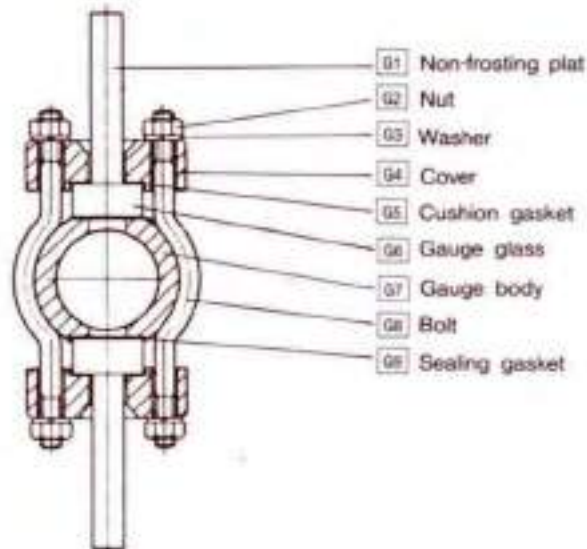
SRNG - 1



◆ NON-FROSTING TYPE LEVEL GAUGE



MODEL : SRLNG-1



MODEL : STLNG-1

TEMPERATURE RATING & DIMENSIONS OF NON-FROSTING PLATES

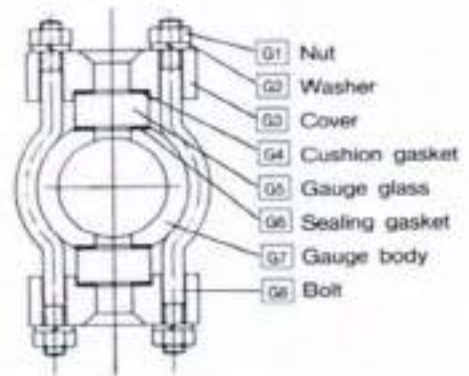
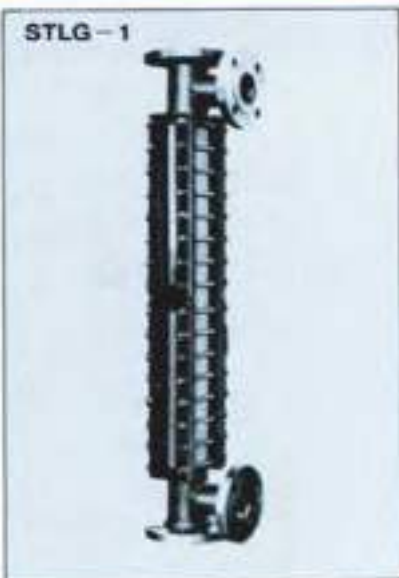
TEMPERATURE (°C)	0~-20	-21~-45	-46~-100	-101~-160	-160~-200
MATERIALS	S 25C STPG 38	A350 LF1 STPL 39	A350 LF3 STPL 46	SUS304	SUS304
ACRYL Hight(H)	75	100	150	200	250

◆ LARGE CHAMBER TYPE LEVEL GAUGE

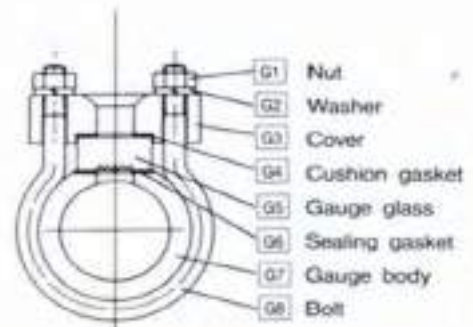
DESCRIPTION

When liquids boil, bubbling makes the surface level indistinct. In this type of gauge 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 STPG or SUSATB pressure pipe and is rated for 15 kg/cm<sup>2</sup>

MODEL



MODEL STLG-1 TYPE  
 MATERIAL : CARBON STEEL  
 STAINLESS STEEL  
 PRESSURE : 1~150kg/cm<sup>2</sup>  
 SIZE : 40A, 50A



MODEL SRLG-2 TYPE  
 MATERIAL : CARBON STEEL  
 STAINLESS STEEL  
 PRESSURE : 1~150kg/cm<sup>2</sup>  
 SIZE : 40A, 50A



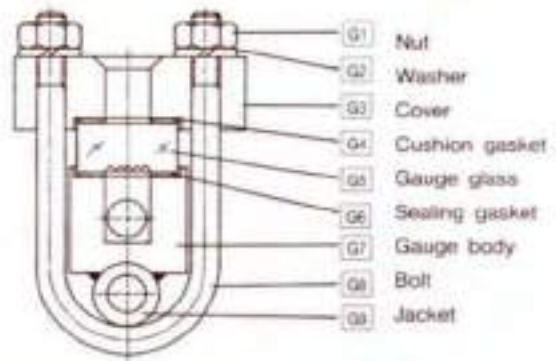
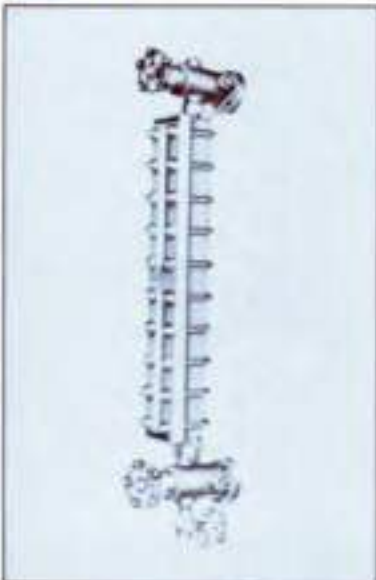
◆ HEATING OR COOLING TYPE LEVEL GAUGE

DESCRIPTION

This level gauge is designed for use with liquid of poor fluidity and therefor difficult to measure. A Jacket is fitted up the lever 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 same gauge can be used as a cooling type gauge.

MODEL

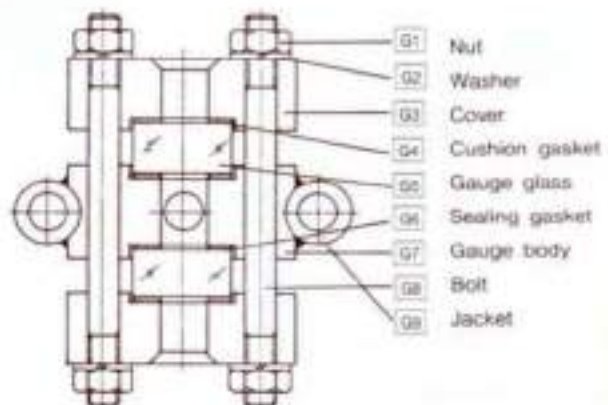
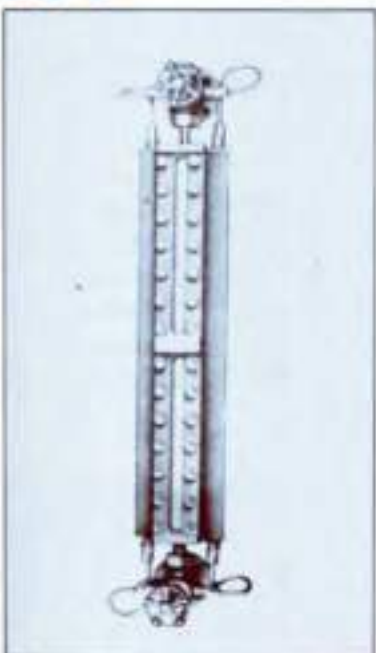
SRJG-1



MODEL SRJG-1 TYPE

MATERIAL : CARBON STEEL  
STAINLESS STEEL  
PRESSURE : 1-200kg/cm<sup>2</sup>  
SIZE : 20A, 25A

STJG-2



MODEL STJG-2 TYPE

MATERIAL : CARBON STEEL  
STAINLESS STEEL  
PRESSURE : 1-200kg/cm<sup>2</sup>  
SIZE : 20A, 25A