Techtrol Bi Color Multiport Level Gauge - TBLG

Techtrol™
Innovating Level Controls Since 1984

It is a high pressure level gauge with multi ports for continuous indication of water level in high pressure boilers, where presence of water is indicated by green color and steam /air by red color.

Salient Features :

- High quality mica for protecting the inner surface of glass from steam erosion.
- Option of IBR certification.
- Single or Double expansion loop to accommodate high temp & pressure conditions.

Construction & Operation :

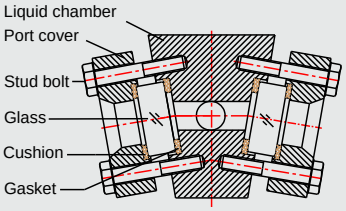
It consists of trapezoid shape liquid chamber with equi-spaced port along its non parallel sides. Circular gauge glass with mica is fitted on each port with gasket, cushion and cover plate (fig. 1).

An illuminator with bicolor glass filter (red & green) and a light source housed in a steel enclosure with ventilating louvers are fitted on the rear side of the gauge. Liquid chamber is fitted between two end blocks with isolation valves through single or double expansion loops (fig. 4). Stand pipe is provided with double expansion loop for better circulation and robustness. The gauge mounting is oriented on right or left side of the rear process connections (fig. 5). It is provided with two drain valves, as anyone of them worn out, other will remain in use.

The rays (fig. 2) from light source pass through bi-colored filter fall on inclined glass fitted on trapezoid shaped chamber and get refracted in steam or water according to its refractive index. It appears to the viewer as red color, when light passes through steam and green color when light passes through water, due to difference in their refractive index. Refer Table-1 for CC distance , Visibility and No. of Ports

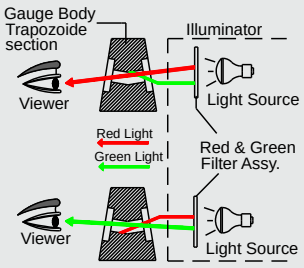
Port Assy :

Fig. 1



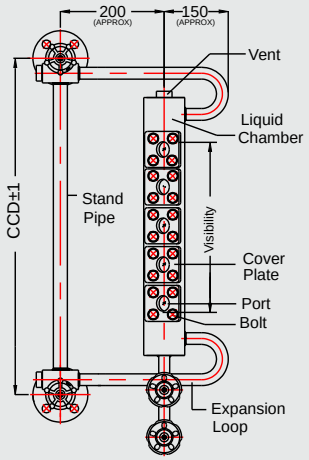
Sectional view

Fig. 2

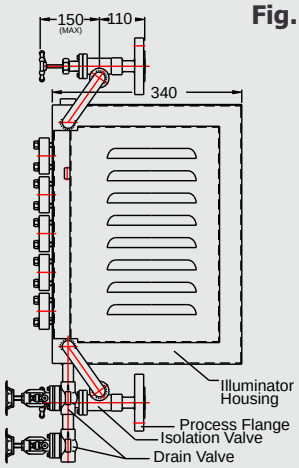


Water Zone

Fig. 3



Elevation



Side view

Gauge Mounting Orientation :

Fig. 5

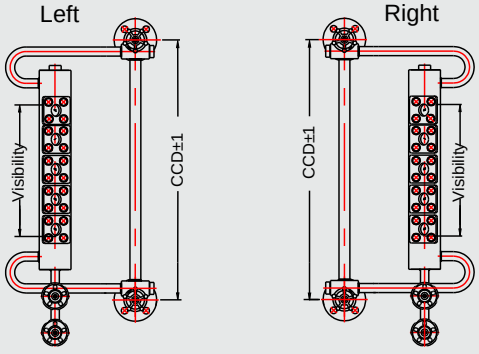
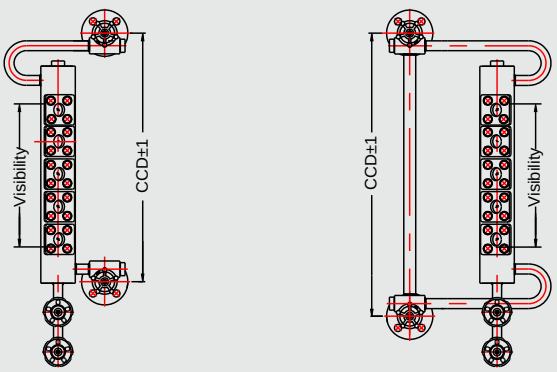


Fig. 4



a) Single Expansion Loop

b) Double Expansion Loop

Specifications :

Gauge Glass	:	Aluminosilicate
Gasket / Cushion	:	Graphite
Mica	:	High quality grade with clear transparency
Gauge Body	:	a) CS SA 516 Gr. 70 (IBR) b) CS SA 516 Gr. 70 or ASTM A182 F SS304 / SS316 (Non-IBR)
Port Cover	:	CS SA 516 Gr. 70 or ASTM A182 F SS304 / SS316
Bolts	:	ASTM A193 Gr. B7
Process Conn.	:	3/4" or 1" Socket weld / ANSI Flange
Process Conn. MOC	:	a) CS A 105 (IBR) , b) ASTM A 182 F SS304 / 316 (Non-IBR)
Isolation Valve	:	a) CS A 105, SS304 / SS316 x Integral Offset Needle Valve x ABC x Bolted bonnet (IBR) b) CS A 105, ASTM A 182 F SS304 / SS316 x Integral Offset Needle Valve x ABC x Bolted bonnet (Non-IBR)
Stand Pipe MOC	:	CS A 106 Gr B or ASTM A 312 TP SS304 / SS316
Expansion Loop MOC	:	CS A 106 Gr B or ASTM A 312 TP SS304 / SS316
Vent	:	1/2" NPT Plug
Drain Valves (2 Nos)	:	1/2" Socket Globe Valve x CS SA 516 Gr. 70 or ASTM A182 F SS304
CC Distance	:	600 to 1500mm
No. of Ports	:	5 to 21
CC Dist between Ports	:	70mm
Visible Port dia	:	15mm
Gauge Mtg. Orientation	:	Left or Right
Illuminator	:	LED bulb x 230VAC, 50 Hz
Max Temperature	:	300°C
Max Pressure	:	70 Kg/cm2

Applications :

Boiler Drum, Feed water Heater, Utility Boiler, Recovery Boilers, Refuse and Fluidized Bed Boilers, Small Industrial Boilers, Process Heaters.

Ordering Information :

Model No., CC Distance, No. of Ports and Optg, Temperature & Optg. Pressure.

Techtrol
Innovating Level Controls Since 1984

Model Identification :

TBLG - [ ][ ][ ][ ][ ][ ]

No. of Ports
(Refer Table)

Liquid chamber x Cover plate
- CS SA516 x CS SA 516 — 1
- SS304 x CS SA 516 — 2
- SS304x SS304 — 3
- SS316 x CS SA 516 — 4
- SS316 x SS316 — 5

Process Conn. Type
- 3/4" Socket Weld — 1
- 1" Socket Weld — 2
- 3/4" ANSI Flange — 3
- 1" ANSI Flange — 4
- Other — O

Process Conn. MOC
- CS A105 — 1
- SS304 — 2
- SS316 — 3

Gauge Mtg. Orientation
- Right — R
- Left — L

No. of Expansion loop
- Single (Pr. upto 50Kg/cm2) — S
- Double — D

Table : CC Dist Vs No.of Ports :

SL	CC Dist (Single Loop)	CC Dist (Double Loop)	Visibility	No of Ports
1	535	615	315	05
2	610	690	390	06
3	685	765	465	07
4	760	840	540	08
5	835	915	615	09
6	910	990	690	10
7	985	1065	765	11
8	1060	1140	840	12
9	1135	1215	915	13
10	1210	1290	990	14
11	1285	1365	1065	15
12	1360	1440	1140	16
13	1435	1515	1215	17
14	1510	1590	1290	18
15	1585	1665	1365	19
16	1660	1740	1440	20
17	1735	1815	1515	21

All dimensions in mm except specified

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IBR

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