

TRANSPARENT TUBULAR LEVEL GAUGE "TTG"

Simple, low cost and reliable gauge for direct reading of clean liquid levels at low temperature and pressure conditions.

SALIENT FEATURES

- Offset valves permit cleaning of gauge glass & its removal on line
- Wide choice of MOCs
- IBR certified gauge for steam service on demand
- PTFE lined gauge for corrosive liquids

CONSTRUCTION AND OPERATION

Gauge is fitted between two end blocks through gland packings. The gauge is mounted parallel to tank so as to form a close loop, causing tank liquid to seek its level in the gauge. 'C' channels/ tie rods are provided to protect gauge from accidental blows. End blocks are provided with vent plug, drain valve & integral offset valves.



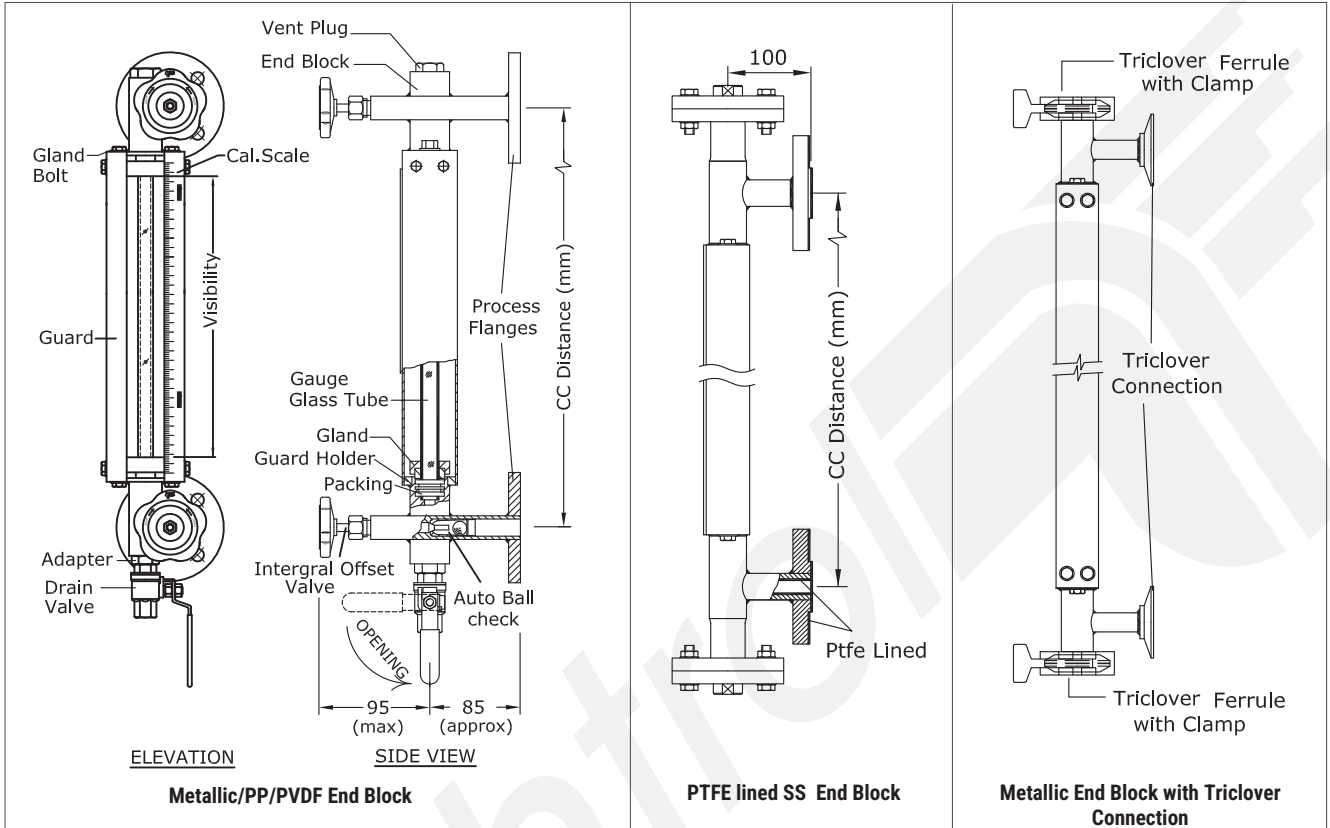
Metallic

PP

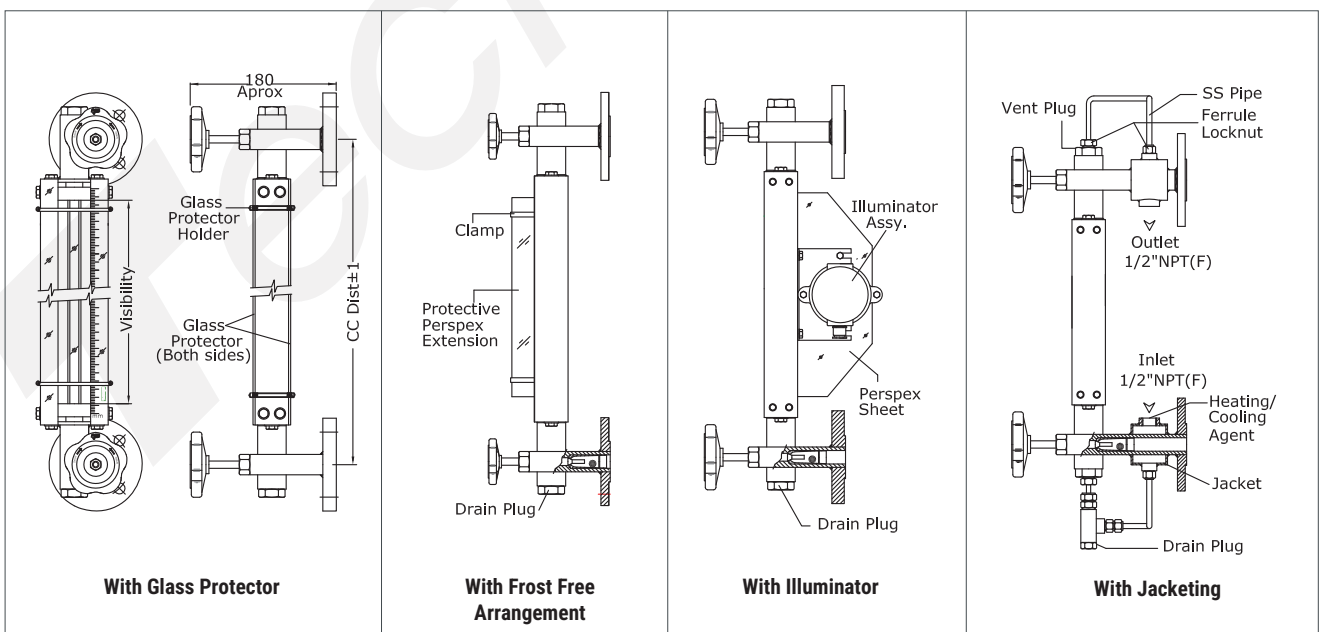


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SCHEMATIC DIAGRAM



SPECIAL FEATURES



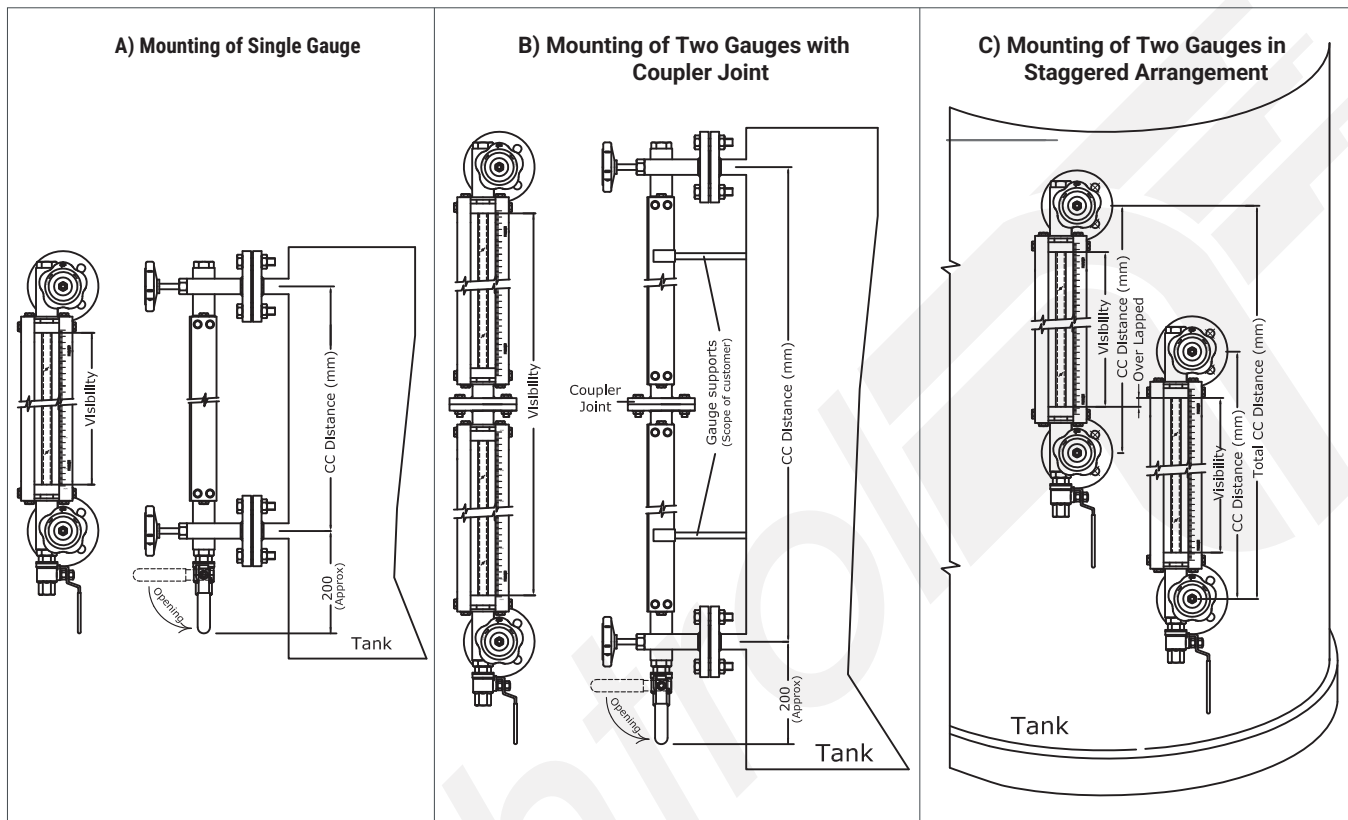
SPECIFICATIONS

Gauge Glass Tube	Tempered borosilicate heavy wall 16 mm, 19 mm or 25 mm OD			
End Block MOC	CS /ASTM A105/ SS304 /316 /316L	PP or PVDF	PTFE lined SS304 with 19 mm OD Glass	Sanitary Finish SS316/ SS316L
End Block Type	1) Without Valve 2) Integral Offset Needle Valve 3) Integral Offset Needle Valve with autoball check		Without Valve	Without Valve
Autoball Check MOC	SS316/SS316L	PP/ PVDF capsule with PTFE ball	NA	NA
'C' Channel Guards	CS, SS304, SS316	FRP	SS304	SS304
Tie Rod Guards	CS, SS304	CS, SS304	SS304	SS304
Packing	PTFE			
Gland MOC	CI / SS316	PP	SS316	SS316
Process Connection	Flanged, Screwed	Flanged	Flanged	Triclover Ferrule
Vent & Drain MOC	CS/ASTM A105/ SS304/ SS316/ SS316L	PP or PVDF	PTFE	SS316/316L
Vent 16 mm Gauge Glass 19 mm Gauge Glass 25 mm Gauge Glass	1/2" BSP Plug or Ball Valve (with Plug if reqd.) 3/4" BSP Plug or 1/2" BSP Ball Valve (with Plug if reqd.) 1" BSP Plug or 1/2" BSP Ball Valve (with Plug if reqd.)		½" BSP PTFE Plug or 1"NB PTFE lined SS304 Flanged Ball Valve	Triclover Ferrule with Clamp
Drain	½" BSP Plug or Ball Valve (with Plug if reqd.)		½" BSP PTFE Plug or 1" NB PTFE lined SS304 Flanged Ball Valve	Triclover Ferrule with Clamp
Scale MOC	Polycarbonate (screen printed), SS304 (etched)			
Scale Calibration	LC= 2 mm (Polycarbonate scale), LC = 5 mm or 0.5 cm (SS304 scale)			
CC Distance	300 to 1500 mm in single section and upto 3000 mm in dual section. Dual section achieved through flanged coupler.			
Visibility	CC Distance – 150 mm			
Max Temperature	200 °C	70 °C PP 100 °C PVDF	100 °C	200 °C
Test Pressure at Amb Temperature	Vacuum to 10 Kg/cm²	Vacuum to 2 Kg/cm²	Vacuum to 2 Kg/cm²	Vacuum to 10 Kg/cm²
Accessories	1) Tank isolation valves with nuts, bolts & gaskets 2) Counter flanges with nuts, bolts & gaskets			
Special Features				
Glass Protector	3 mm thick perspex shield to protect gauge glass and for personnel safety			
Auto Ball Check	SS316 or PTFE ball to minimize liquid loss during glass breakage			
Frost-free	20 mm thk x 35 mm extension perspex shield to prevent frost formation on outer surface of gauge glass for clear visual reading of liquid at low temp.			
Illuminator	To provide uniform light along the length of gauge glass in poorly lit area. It consists of perspex reflector, illuminated through a LED bulb, 80 to 250 VAC with Al. Enclosure IP65 /Ex d Gr IIB or IIC. The length of single illuminator is 1200 mm max.			
Jacketing	For preventing solidification of process liquid. It consists of a SS pipe with "NPT (F)" inlet & outlet at bottom & top end blocks for heating/cooling agent.			

Note 1 - All CI/CS components are epoxy powder coated

Note 2 - Separate catalogue is available for IBR

TYPICAL INSTALLATIONS



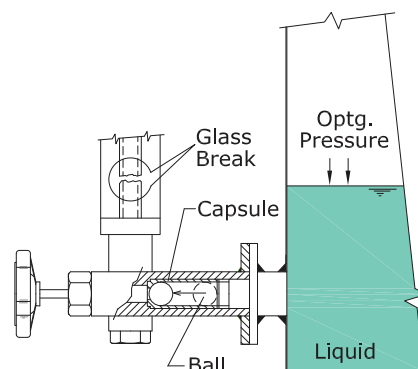
For longer CC distance, two gauges are supplied with coupler joint as shown in fig B. Alternatively, two gauges can be installed in staggered arrangement to achieve CC distance as shown in fig C.

WORKING OF AUTOBALL CHECK

It consists of a capsule and free moving ball along its inner race, between the stopper & orifice. During glass breakage, the high pressure from vessel side (Optg. Pr + Liquid Column) moves the ball to block the orifice and minimize liquid loss from tank.

APPLICATIONS

- ▶ Storage /Process Tanks of Water, Brine, Oils, Solvents, Alcohol, Diesels.
- ▶ Dosing Tanks of Acids & Alkalies in WTP, STP and ETP.



MODEL IDENTIFICATION

	TTG -	1	M	A	1	I	3	1	1	2	1	W
1. Gauge Glass Size												
16 mm OD	1											
25 mm OD	2											
19 mm OD	3											
2. End Block MOC												
CS	M											
ASTM A105	A											
SS304	N											
SS316	S											
SS316L	L											
PP	P											
PVDF	D											
PTFE lined SS304	T											
Others	O											
3. End Block Type												
Without valve	W											
Integral Offset Needle Valve	V											
Integral Offset Needle Valve with Auto Ball Check	A											
Others	O											
4. Guards												
CS 'C' Channels	1											
FRP 'C' Channels	2											
SS304 'C' Channels	3											
CS Tie Rods	4											
SS304 Tie Rods	5											
SS316 'C' Channels	6											
Others	0											
5. Gland MOC												
CI	I											
SS316	S											
PP	P											
6. Process Connection Size												
1/2"	1											
3/4"	2											
1"	3											
1-1/2"	4											
Others	0											
7. Process Connection Type												
ASME 150# Flange	1											
DIN Flange	2											
BSP (M) Screwed	3											
NPT (M) Screwed	4											
Triclover Ferrule	5											
Others	0											

8. Vent & Drain Size			
1/2"BSP x 1/2"BSP	1		
3/4"BSP x 1/2"BSP	2		
1"BSP x 1/2"BSP	3		
Others	0		
9. Vent & Drain Type			
Plug x Plug	1		
Plug x Ball Valve	2		
Plug x Ball Valve with plug	3		
Ball Valve x Ball Valve	4		
Ball Valve with Plug x Ball Valve with Plug	5		
Plug x Flanged ball Valve	6		
Others	0		
10. Calibrated Scale			
Without		W	
Polycarbonate in mm (LC= 2 mm)	1		
SS304 in mm (LC= 5 mm)	2		
SS304 in cm (LC = 0.5 cm)	3		
Others	0		
11. Special Features			
Without		W	
Frost Free Extension		F	
Illuminator		I	
Jacketing		J	
Glass Protector		G	

ORDERING INFORMATION

Model Number, CC Distance, Liquid, Operating Temperature & Pressure and Accessories (if required).

*All dimensions in mm except specified

PUNE TECHTROL PRIVATE LIMITED

CIN: U31909PN1997PTC063403

Regd. & Sales: S-18, MIDC Bhosari, Pune - 411026, India
+91-20-66342900 | ho@punetechtrol.com

Works: J-52/7, MIDC Bhosari, Pune - 411026, India
+91-20-67313600 | www.punetechtrol.com

