JERGUSON®
A Division Of The Clark-Reliance Corporation

Specialists in Liquid Level Indication

LIQUID LEVEL GAGES

Section:	J100
Bulletin:	J100.16
Date:	11/1/03
Supercedes:	1/1/99

Gage Assemblies for Process Steam Applications to 1500 W.S.P.

- High Safety Factor
- Less Danger of Mechanical Damage
- Constructed for Long Trouble-Free Service

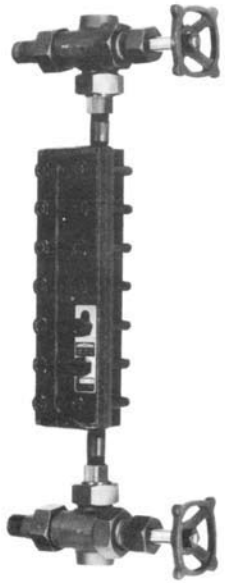
Jerguson Process Steam Gage assemblies are designed for use on heat exchangers, steam traps, condensers and similar pressure vessel applications. They are not intended for use on boilers for ASME Sec. I code applications. See separate sheet for boiler drum water level gages.

On all gages for steam or condensate service over 300 WSP, gage glasses are protected by mica shields. This protects the glass from the corrosive and erosive effects of the boiler water and extends the service life of the glass.

Pressure to 300 WSP SERIES R-300L Gage No. 67 P/C Valves

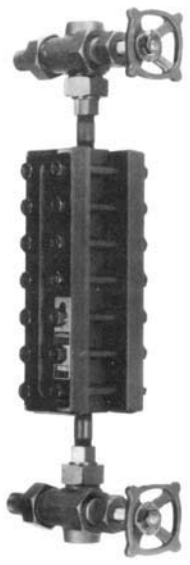
Gage Size	Dim. A	Dim. B	Quan. Per Sec. U-Bolt	Quan. Per Sec. Nut	Rating
111-R-12	18	10¼	7	(2) PER U-BOLT	300 W.S.P.
112-R-12	19	11¼	7		
113-R-12	20	12¼	8		
115-R-12	22	14¼	9		
118-R-12	25	17¼	10		
120-R-12	27	19¼	12		

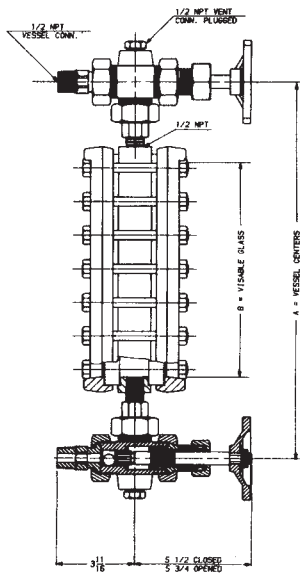
Pressure to 300 WSP Series R-20 Gage No. 67 P/C Valves



Gage Size	Dim. A	Dim. B	Quan. Per Sec. U-Bolt	Quan. Per Sec. Nut	Rating
11-R-20	12	3¾	3	(2) PER BOLT	300 W.S.P.
12-R-20	13	4¾	3		
13-R-20	14	5¾	4		
14-R-20	15	6¾	5		
15-R-20	16	7⅞	5		
16-R-20	17	9⅛	6		
17-R-20	18	10¼	7		
18-R-20	20	11⅞	8		
19-R-20	20	12⅝	8		

Pressure to 600 WSP Series TM-20 Gage No. 67 P/C Valves

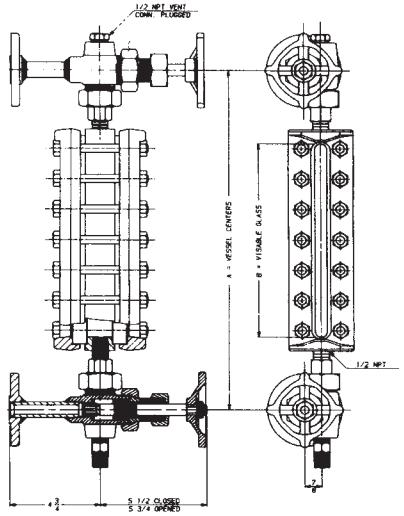




Gage Size	Dim. A	Dim. B	Quan. Per Sec. Bolt	Quan. Per Sec. Nut	Rating
11-TM-20	12	3¾	6	(1) PER BOLT	600 W.S.P.
12-TM-20	13	4¾	6		600 W.S.P.
13-TM-20	14	5¾	8		600 W.S.P.
14-TM-20	15	6¾	10		600 W.S.P.
15-TM-20	16	7⅞	10		550 W.S.P.
16-TM-20	17	9⅛	12		500 W.S.P.
17-TM-20	18	10¼	14		450 W.S.P.
18-TM-20	20	11⅞	16		400 W.S.P.
19-TM-20	20	12⅝	16		350 W.S.P.

SERIES PS LIQUID LEVEL GAGES

Pressure To 600 W.S.P.



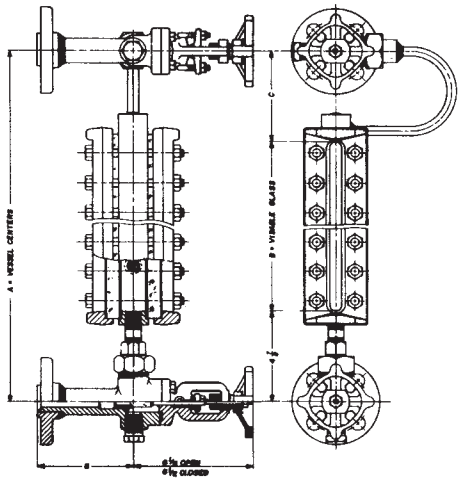
SERIES TM-32 Gage
No. 67 P/C Valves

Gage Size	Dim. A	Dim. B	Quan. Per Sec. Bolt	Quan. Per Sec. Nut	Rating
15-TM-32	16	7⅞	10	(1) PER U-BOLT	Pressures to 600 W.S.P
16-TM-32	17	9⅛	12		
17-TM-32	18	10¼	14		
18-TM-32	20	11⅞	16		
19-TM-32	21	12⅝	16		

For pressures in the 600 WSP range, most operators prefer to see no threaded connection between the flanged vessel connection and the valve seat. The No. 67 valves illustrated have this feature. The vertical rising ballcheck is downstream from the seat providing accessibility without the necessity of disassembling the valve.

When multiple section gages are used, expansion loops are suggested to relieve piping strain.

Pressure To 750 W.S.P.

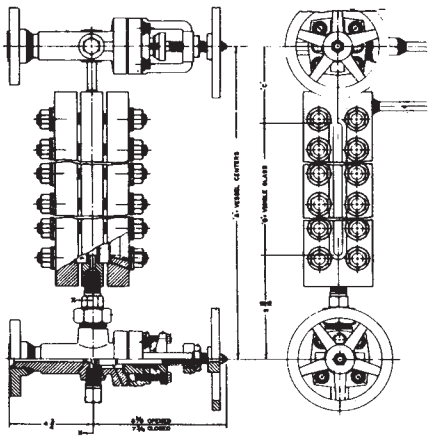


SERIES TM-32 Gage
No. 74BL Valves

Gage Size	Dim. A	Dim. B	Dim. C	Quan. /Sec. Bolt	Quan. /Sec. Nut	Rating
11-TM-32	12½	3¾	3⅞	6	(1) PER BOLT	Pressures to 750 W.S.P.
11-TM-32	13	3¾	4⅜	6		
12-TM-32	14	4¾	4⅜	6		
13-TM-32	15	5¾	4⅜	8		
14-TM-32	16	6¾	4⅜	10		
15-TM-32	17	7⅞	4¼	10		
16-TM-32	18	9⅛	4	12		
17-TM-32	19	10¼	3⅞	14		
18-TM-32	21	11⅞	4¼	16		
19-TM-32	22	12⅝	4½	16		

Thermal stresses caused by temperatures prevalent at operating pressures of 750 WSP are such to make it advisable to furnish a built-in expansion loop. This will take up any differential in expansion rate between the vessel and gage glass eliminating stresses in the assembly.

Pressure To 1500 W.S.P.



SERIES TM-40 Gage
No. 74H Valves

Gage Size	Dim. A	Dim. B	Dim. C	Quan. /Sec. Bolt	Quan. /Sec. Nut	Rating
11-TM-40	14	3⅝	4⁹⁄₁₆	6	(2) PER BOLT	Pressures to 1500 W.S.P.
12-TM-40	15	4⅝	4⁹⁄₁₆	8		
13-TM-40	16	5⅝	4⁹⁄₁₆	8		
14-TM-40	17	6⅝	4⁹⁄₁₆	10		
15-TM-40	18	7¾	4⁷⁄₁₆	10		
16-TM-40	20	9	5³⁄₁₆	12		
17-TM-40	21	10⅛	5⅛	14		
18-TM-40	22	11¾	4⅞	16		
19-TM-40	23	12½	4¹⁵⁄₁₆	16		

For this high pressure series Jerguson recommends a 74-H valve which is specially designed for high pressure steam service. The stem has Acme threads to allow easier opening and stem operation, a loose knob construction for the disc and a stellited seat. The special spring washers used under the gage nuts absorb expansion and contraction and maintain the proper clamping load of the cover without retorquing the nuts.

NOTE: Pressure 600 W.S.P. and above have spiral wound gasketed union gage connections.

STEAM RATINGS

The steam ratings tabulated in the bulletin are based on an operating temperature no higher than 25° F more than the saturation temperature of the steam pressure at which the gage is rated. It has been determined that although operating temperatures in the shell of the vessel may be much higher, the temperature of the steam rarely goes as high as 25° F over saturation temperature at the point of installation of the gage.

INSTALLATION CONSIDERATIONS

When installing multi-section gages on steam service, it is necessary to allow for differential expansion which may occur between the vessel and the gage assembly. Expansion, if not compensated for, can cause severe stresses in the equipment and at connections. The use of expansion loops is recommended. On Jerguson Process Steam Gage assemblies for 750 WSP and higher, expansion loops are furnished integral with the gage chamber.

The 1500 WSP design includes a stack of spring washers under each cover nut to maintain the necessary torque, without regard to operating temperatures or gasket compression.

ISO 9001 REGISTERED Clark-Reliance

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