



**ROCHESTER
GAUGES, INC.**

ISO 9001:2008 CERTIFIED

Jr. & Sr. Bolted Gauge Installation

MS-501/502
(Mounting
Standard)

Jr. & Sr. Bolted Gauge Installation

READ COMPLETELY BEFORE ATTEMPTING INSTALLATION

WARNING: Improper installation or use of this product may cause serious injury or property damage.

These instructions are prepared to assist tradesmen and others generally familiar with liquid storage tank equipment. Consumers are not qualified to perform the installation described below.

IS THE GAUGE RIGHT FOR YOUR APPLICATION?

Gauges should only be installed in applications recommended by the manufacturer. Verify that the gauge is the proper gauge for your application prior to attempting installation.

The float may or may not have a counterbalance depending on the intended application. Applications for light specific gravity liquids or large tanks normally require counterbalancing of the float.

The gauge, mounting gasket and mounting adapter (if applicable) must be constructed of materials compatible with the liquid to be measured and the service environment. The float, mounting screws and head must be adequately rated for your specific pressure and temperature service.

IS THE GAUGE THE PROPER SIZE?

As a general rule, the float pivot point should be on the horizontal centerline of the tank when installed. The float length dimension (measured from the float pivot point to the end of the float) should be proportional to the inside tank height and is usually slightly less than $\frac{1}{2}$ of the vertical inside height of the tank.

Gauges can be constructed for side, top or angle mounting but must be installed in the position for which they are constructed. Hold the gauge by the support (see Figure A) in the intended mounting attitude and operate the float to see if it is correct for your application (see Figure B).

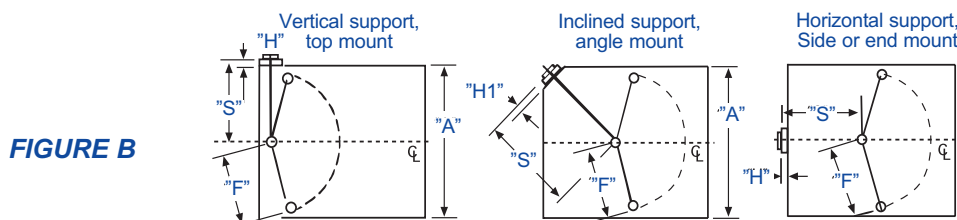
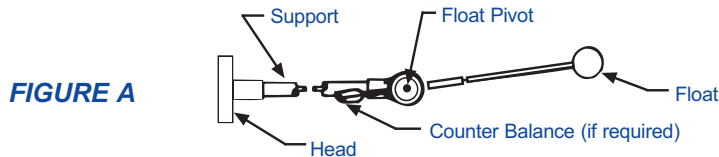
CAUTION: Improper gauge or dial selection or application may result in inaccurate readings. Release of tank contents as well as damage to equipment and safety hazard may result if tank is overfilled. Fuel exhaustion may occur if tank contents are less than indicated. LP Gas & NH₃ gauge dials require an appropriate temperature chart.

WARNING: Determine and install the appropriate gauge & gasket based on system requirements. The gasket type supplied may not be suitable for all applications and for those applications other gasket materials may be available. The information contained herein is intended for guideline use only and the suitability of any part for a particular application must be determined by the user prior to installation. Improper gasket selection or application may result in seal failure, subsequent release of tank contents and serious injury and or property damage.

WARNING: This gauge is not a substitute for a fixed liquid level gauge or weight measurement device, which may be required for filling. This document is not instructions for tank filling.

GAUGE REMOVAL WARNING: Should it appear necessary, to remove the gauge from the tank, do not attempt removal unless under competent supervision with all due precautions taken against the hazards of released liquid or high pressure and/or flammable gas.

HAZARDS: A hazard of fire or explosion may exist if proper methods are not used when removing or installing the gasket. Replace gasket if gauge head is removed. Do not reuse gasket. When reinstalling gauge align head for proper orientation of the float inside tank.



See reverse side for dimensional data, materials of construction, performance, and advice on how to order.

The Measure of Excellence

[METRIC]

Installation*

A. Gauges are normally fastened to tank using a mounting adapter which has previously been welded or otherwise installed into the tank or it's fittings. Check adapter for correct dimensions and finish, see dimensions below.

Check color stripe on O.D. of gasket for material.

BLUE STRIPE= NEOPRENE. Order Senior™ part # 0015-00836 or Junior™ part # 0015-00855 recommended for anhydrous ammonia.

RED STRIPE= BUNA-N. Order Senior™ part # 0015-00004 or Junior™ part # 0015-00007, recommended for specific LP Gas & petroleum applications.

GREEN STRIPE = VITON. Order Senior™ part # 0015-00415 or Junior™ part # 0015-00039.

WHITE GASKET = TEFLON. Order Senior™ part # 0015-00401 or Junior™ part # 0015-00405.

SPIRAL WOUND TEFLON AND STAINLESS STEEL. Order Senior™ part # 0015-00462.

YELLOW STRIPE = NEOPRENE. Narrow, Senior™ part # 0015-01008 for special refrigerant service applications.

CAUTION: Use spiral wound gasket only with stainless steel gauge head and allen head cap screws.

B. Fit gasket onto gauge boss.

C. Carefully insert float into adapter or coupling and work gauge's gear housing and support through adapter being careful not to bend or damage them.

D. Check to see that gasket is properly seated in adapter gasket recess.

E. Align head for proper orientation of float inside of tank. Torque screws evenly in several steps to the desired torque value. When torquing use a crossing torque pattern.

F. Leak test.

NOTE: See 115-793 for replacement gasket instructions.
See 115-794 for replacement dial instructions.

CAUTION: Do not over torque. Do not re-torque later unless leaking. Over tightening may cause damage to head and gasket.

SCREW SIZE	DRY TORQUE	GASKET TYPE
¼-28	20 TO 50 IN.LB [2,3 to 5,6 Nm]	BUNA, NEOPRENE, VITON, TEFLON
⅜-24	30 TO 60 IN.LB [3,4 to 6,8 Nm]	BUNA, NEOPRENE, VITON, TEFLON
½-24	115 TO 125 IN.LB [13,0 to 14,1 Nm]	SPIRAL WOUND GASKET (used with stainless steel head and special mounting screws)
⅝-24	115 TO 125 IN.LB [13,0 to 14,1 Nm]	NEOPRENE, NARROW, YELLOW STRIPE

* Materials and specifications are subject to change without notice.
Pressure ratings subject to change due to temperature and other environmental considerations.

MS — 502 SR. GAUGES [See MS-512 for Metric]

MS-501 JR. GAUGES [See MS-511 for metric]

DRAWING NUMBER
MS-501 & MS-502

NOTES:

- Drill Letter I (.272—.279) DIA X .75 ^{+0.06}/₋₀
Cyl. Depth. Tap .3125—24 UNF—2B X .50 ^{+0.06}/₋₀
Full Thread Depth. TYP. 4 Places.
- Drill 5.5 MM (.216 — .221) DIA X .75 ^{+0.06}/₋₀
Cyl. Depth. Tap .250—28 UNF -2B X .50 ^{+0.06}/₋₀
Full Thread Depth TYP. 4 Places.
- Tapped Holes To Be To Face Within ½°
- Gasket Recess To Be With Bore Within .030 T.I.R.
- Tapped Holes To Be With Gasket Recess Within .025 T.I.R.
- Some SR. Industrial Gauges Are Furnished With .250 — 28 UNF—2A Mounting Screws, For These Gauges Drill & Tap for .250—28 UNF And Not For .3125—24 UNF.
- For SR. Industrial Gauges Using 0015—00079 Or Similar Flat Gasket, Delete .062 x 2.093 Gasket Recess.

D	NOTES 1 & 2 REVISED, 2B THD. WAS 2A.	H—5175	6-26-91
LET	REVISIONS	#E.R.	DAT
TOLERANCES 2PL NOT SHOWN ±.005	3PL ±.005	ANGLES MAT'L COMMERCIAL TOLERANCES	DO NOT SCALE DRAWING
—		DATE 3-13-91	PART NAME GAUGE MOUNTING DIMENSIONS
—		DRAWING NUMBER MS-501 & MS-502	

11/23/09