

REFLEX GAGES

QUEST-TEC GLASS-TRAC

Glass-Trac Reflex Gages use prism glass to provide an excellent indication of the liquid level. All liquids appear black in contrast to the mirror-like surface above. The clean line of separation can be sighted from many yards away. Reflex Gages are made in three pressures series (maximum 4000 psig @100°F) and are tapped for 1/2" or 3/4" NPT connections.

The standard Glass-Trac level gages are designed for minimum -20°F service.

On Glass-Trac Reflex Close Hook-Up Gages with 1/2" NPT connections, the center-to-center dimension is the same as the overall length on a standard gage. On Close Hook-Up Gages with 3/4" NPT connections, the center-to-center dimension is the same as the overall length on standard gages plus 3/8".



Typical Reflex
Top/Bottom



Typical Reflex
Close Hook Up

MATERIALS

Body (Liquid Chamber): Accurately machined from square tubes to provide perfect seating for gage glasses. Glass is recessed for protection. Body materials include 316 stainless steel and carbon steel.

Cover: Glass-Trac gage covers are made of carbon steel or 316 stainless steel in all sizes and pressure ratings for higher strength and dependable service. All covers are machined to provide recessed seating protection for the glass.

Glass: All standard Glass-Trac Reflex Gages use tempered borosilicate glass in nine standard lengths. Each glass has expertly molded reflecting prisms.

Gaskets: High grade non-asbestos is used in gaskets and cushions for Glass-Trac gages. The machined recess in the gage body and cover protects the gasket and cushion as well as the glass.

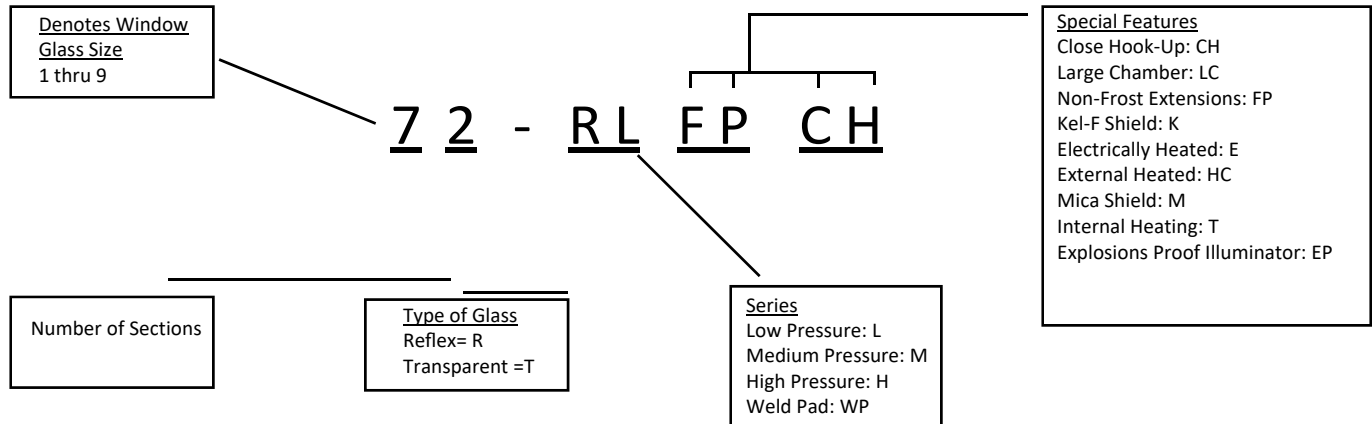
Bolts: Glass-Trac gage bolts are made of alloy steel, ASTM A-193 Grade B7.

Nuts: Gage nuts are made of steel, ASTM A-194 Grade 2H.

(Torque instructions for gage bolts are on the back cover)

MODEL CODE BREAKDOWN

PRESSURE RATINGS & DIMENSIONS



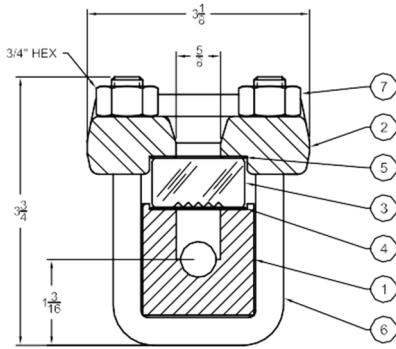
REFLEX GAGES

SIZE & WEIGHTS											
SIZE NUMBERS			OVER-ALL LENGTH (IN.)			VISIBLE GLASS (IN.) B	GLASS SIZE C	CLOSE HOOK-UP CENTER-TO-CENTER (IN.)		APPROX. WT. (LBS.)	
LOW PRESS.	MID PRESS.	HIGH PRESS.	A (STD)* ½" OR ¾" NPT	A (CH) ½" NPT	A (CH) ¾" NPT			D ½" NPT	D ¾" NPT	LOW PRESS.	MID-HIGH PRESS.
SINGLE-SECTION GAGE											
11RL	11RM	11RH	5.25	8.875	9.25	3.75	3.75	5.25	5.625	7	8
21RL	21RM	21RH	6.25	9.875	10.25	4.75	4.75	6.25	6.625	8	9
31RL	31RM	31RH	7.25	10.875	11.25	5.75	5.75	7.25	7.625	9	11
41RL	41RM	41RH	8.25	11.875	12.25	6.75	6.75	8.25	8.625	10	12
1RL	51RM	51RH	9.375	13	13.375	7.875	7.875	9.375	9.75	12	14
61RL	61RM	61RH	10.625	14.25	14.625	9.125	9.125	10.625	11	14	16
71RL	71RM	71RH	11.75	15.375	15.75	10.25	10.25	11.75	12.125	15	18
81RL	81RM	81RH	13.375	17	17.375	11.875	11.875	13.375	13.75	17	20
91RL	91RM	91RH	14.125	17.75	18.125	12.625	12.625	14.125	14.5	18	21
TWO-SECTION GAGE											
32RL	32RM	32RH	14.5	18.125	18.5	13	5.75	14.5	14.875	19	22
42RL	42RM	42RH	16.5	20.125	20.5	15	6.75	16.5	16.875	22	25
52RL	52RM	52RH	18.75	22.375	22.75	17.25	7.875	18.75	19.125	24	28
62RL	62RM	62RH	21.25	24.875	25.25	19.75	9.125	21.25	21.625	27	32
72RL	72RM	72RH	23.5	27.25	27.5	22	10.125	23.5	23.875	29	35
82RL	82RM	82RH	26.75	30.375	30.75	25.25	11.875	26.75	27.125	34	40
92RL	92RM	92RH	28.25	31.875	32.25	26.75	12.625	28.25	28.625	37	43
THREE-SECTION GAGE											
63RL	63RM	63RH	31.875	35.5	35.875	30.375	9.125	31.875	32.25	41	48
73RL	73RM	73RH	35.25	38.875	39.25	33.75	10.25	35.25	35.875	45	53
83RL	83RM	83RH	40.125	43.75	44.125	38.625	11.875	40.125	40.5	52	60
93RL	93RM	93RH	42.375	46	46.375	40.875	12.625	42.375	42.75	55	64
FOUR-SECTION GAGE											
74RL	74RM	74RH	47	50.875	51	45.5	10.25	47	47.375	60	71
84RL	84RM	84RH	53.5	57.125	57.5	52	11.875	53.5	53.875	69	80
94RL	94RM	94RH	56.5	60.125	60.5	55	12.625	56.5	56.875	72	85
FIVE-SECTION GAGE											
75RL	75RM	75RH	58.25	62.375	62.75	57.25	10.25	58.75	59.125	74	88
85RL	85RM	85RH	66.875	70.5	70.875	65.375	11.875	66.875	67.25	86	100
95RL	95RM	95RH	70.625	74.25	74.625	69.125	12.625	70.625	71	90	106

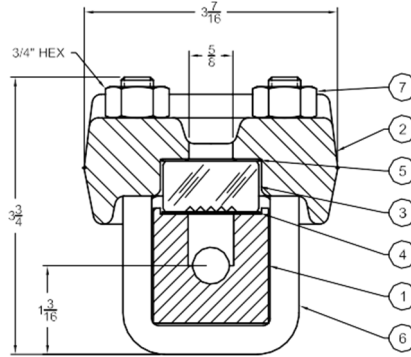
*3/4" NPT Tapped High Pressure Gages Add 1-1/2" to 'A' Dimension

REFLEX GAGES CONNECTIONS

Reflex Gages -StraightThru Connections



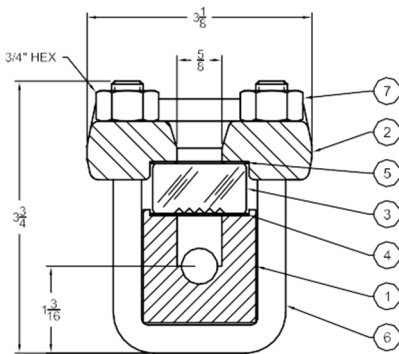
Section "X-X"
Low Pressure



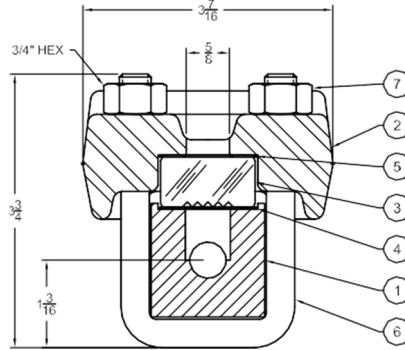
Section "X-X"
Mid/High Pressure

Item No.	Name	Material
1	Chamber	Carbon Steel
2	Cover	Carbon Steel
3	Glass	Tempered
4	Gasket	Non-Asbestos
5	Cushion	Non-Asbestos
6	Bolt	ASTM A193 B7
7	Nut	ASTM A193 B7

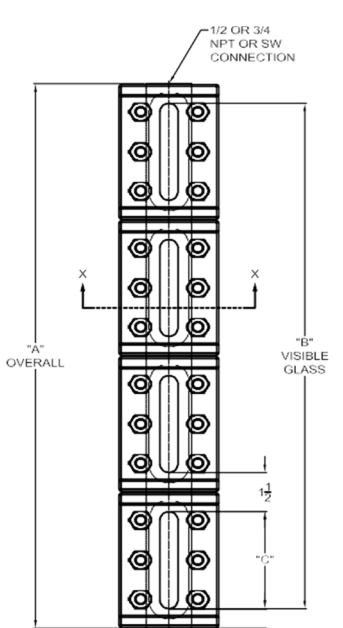
Reflex Gages -Close Hook-Up Connections



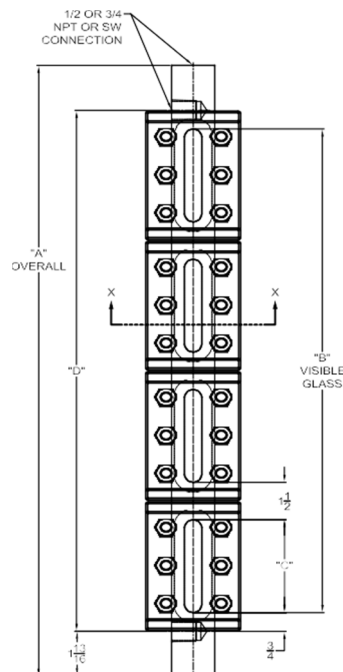
Section "X-X"
Low Pressure



Section "X-X"
Mid/High Pressure



STANDARD



CLOSE HOOK-UP

Pressure Ratings At °F*

Low Pressure Gage**

Glass Size	100°F	200°F	300°F	400°F	500°F	600°F	700°F
1	2400	2320	2240	2150	2000	1780	1520
2	2325	2250	2170	2090	1940	1720	1470
3	2250	2180	2100	2020	1880	1670	1420
4	2175	2100	2020	1940	1820	1600	1370
5	2100	2030	1960	1880	1750	1550	1320
6	2025	1950	1890	1810	1680	1500	1280
7	1950	1890	1820	1750	1630	1440	1230
8	1875	1820	1750	1680	1560	1390	1180
9	1800	1740	1680	1620	1510	1340	1140

Mid-Pressure Gage**

Glass Size	100°F	200°F	300°F	400°F	500°F	600°F	700°F
1	3000	2900	2800	2690	2500	2220	1890
2	2910	2820	2720	2600	2420	2150	1840
3	2820	2720	2625	2530	2350	2080	1780
4	2725	2640	2560	2460	2270	2040	1740
5	2630	2540	2460	2360	2190	1950	1660
6	2535	2450	2360	2270	2110	1875	1600
7	2440	2360	2280	2190	2030	1805	1540
8	2345	2270	2190	2110	1960	1740	1480
9	2250	2180	2100	2020	1880	1670	1420

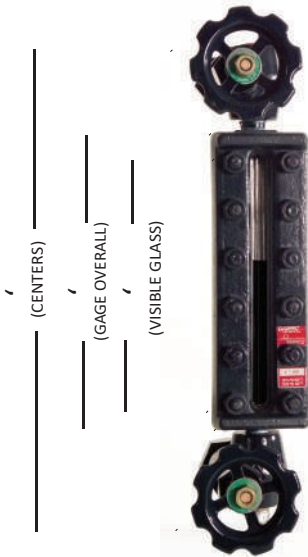
High Pressure Gage**

Glass Size	100°F	200°F	300°F	400°F	500°F	600°F	700°F
ALL	4000	3890	3790	3700	3470	3080	2530

**Gages for service up to 800°F are available. Consult QTS for applications and ratings

**Saturated steam to 300 WSP. Above 300 WSP, use transparent gage with mica shields.

INSTALLATION: STANDARD GAGES (TOP/BOTTOM CONNECTION)



Note: Use the following constants for other level gages.

1. Low pressure (series L) large chamber, add 1" to dimensions "A" and "D"
2. Low pressure (series L), mid pressure (series M) externally heated/ cooled, add 2-1/4" to above "D" dimensions
3. For valve Types 3, 5, or 7 add 7/8" to Column "D" to obtain minimum centers
4. For High Pressure (series H) with 3/4" NPT, add 1 1/2" to dimensions "A" and "D"
5. For a 1/2" NPT Female Spherical Gage Connection add 1-7/8"

SIZE NO.		A GAGE OVERALL	B VISIBLE GLASS	C VISIBLE GLASS	D* MINIMUM VALVE CENTER-TO-CENTER WITH GAGE CONNECTION							
					FOR GAGES TAPPED 1/2" NPT				FOR GAGES TAPPED 3/4" NPT			
					** 1/2"- NPT FEMALE SCREWED CAT. 1S, 2S, 4S	** 1/2"- NPT FEMALE SCREWED CAT. 1U, 2U, 4U	1/2"-NPT MALE UNION FIG. VIII	1/2"-NPT MALE SPHERICAL FIG. XIV	**3/4"-NPT FEMALE SCREWED CAT. 1S, 2S, 4S	3/4"-NPT FEMALE SCREWED CAT. 1U, 2U, 4U	3/4"-NPT MALE UNION FIG. XI	3/4"-NPT MALE SPHERICAL FIG. X
1	1	5 1/4	3 3/4	3 3/4	8 1/2	11	11 5/8	12 3/4	8 3/4	11 5/8	11 1/2	12 5/8
2	1	6 1/4	4 3/4	4 3/4	9 1/2	12	12 5/8	13 3/4	9 3/4	12 5/8	12 1/2	13 5/8
3	1	7 1/4	5 3/4	5 3/4	10 1/2	13	13 5/8	14 3/4	10 3/4	13 5/8	13 1/2	14 5/8
4	1	8 1/4	6 3/4	6 3/4	11 1/2	14	14 5/8	15 3/4	11 3/4	14 5/8	14 1/2	15 5/8
5	1	9 3/8	7 7/8	7 7/8	12 5/8	15 1/8	15 3/4	16 7/8	12 7/8	15 3/4	15 5/8	16 3/4
6	1	10 5/8	9 1/8	9 1/8	13 7/8	16 3/8	17	18 1/8	14 1/8	17	16 7/8	18
7	1	11 3/4	10 1/4	10 1/4	15	17 1/2	18 1/8	19 1/4	15 1/4	18 1/8	18	19 1/8
8	1	13 3/8	11 7/8	11 7/8	16 5/8	19 1/8	19 3/4	20 7/8	16 7/8	19 3/4	19 5/8	20 3/4
9	1	14 1/8	12 5/8	12 5/8	17 3/8	19 7/8	20 1/2	21 5/8	17 5/8	20 1/2	20 3/8	21 1/2
3	2	14 1/2	13	5 3/4	17 3/4	20 1/4	20 7/8	22	18	20 7/8	20 3/4	21 7/8
4	2	16 1/2	15	6 3/4	19 3/4	22 1/4	22 7/8	24	20	22 7/8	22 3/4	23 7/8
5	2	18 3/4	17 1/4	7 7/8	22	24 1/2	25 1/8	26 1/4	22 1/4	25 1/8	25	26 1/8
6	2	21 1/4	19 3/4	9 1/8	24 1/2	27	27 5/8	28 3/4	24 3/4	27 5/8	27 1/2	28 5/8
7	2	23 1/2	22	10 1/4	26 3/4	29 1/4	29 7/8	31	27	29 7/8	29 3/4	30 7/8
8	2	26 3/4	25 1/4	11 7/8	30	32 1/2	33 1/8	34 1/4	30 1/4	33 1/8	33	34 1/8
9	2	28 1/4	26 3/4	12 5/8	31 1/2	34	34 5/8	35 3/4	31 3/4	34 5/8	34 1/2	35 5/8
6	3	31 7/8	30 3/8	9 1/8	35 1/8	37 5/8	38 1/4	39 3/8	35 5/8	38 1/4	38 1/8	39 1/4
7	3	35 1/4	33 3/4	10 1/4	38 1/2	41	41 5/8	42 3/4	38 3/4	41 5/8	41 1/2	42 5/8
8	3	40 1/8	38 5/8	11 7/8	43 3/8	45 7/8	46 1/2	47 5/8	43 5/8	46 1/2	46 3/8	47 1/2
9	3	42 3/8	40 7/8	12 5/8	45 5/8	48 1/8	48 3/4	49 7/8	45 7/8	48 3/4	48 5/8	49 3/4
7	4	47	45 1/2	10 1/4	50 1/4	52 3/4	53 3/8	54 1/2	50 1/2	53 5/8	53 1/4	54 3/8
8	4	53 1/2	52	11 7/8	56 3/4	59 1/4	59 7/8	61	57	59 7/8	59 3/4	60 7/8
9	4	56 1/2	55	12 5/8	59 3/4	62 1/4	62 7/8	64	60	62 7/8	62 3/4	63 7/8
7	5	58 3/4	57 1/4	10 1/4	62	64 1/2	65 1/8	66 1/4	62 1/4	65 1/8	65	66 1/8
8	5	66 7/8	65 3/8	11 7/8	70 1/8	72 5/8	73 1/4	74 3/8	70 3/8	73 1/4	73 1/8	74 1/4
9	5	70 5/8	69 1/8	12 5/8	73 7/8	76 3/8	77	78 1/8	74 1/8	77	76 7/8	78
8	6	80 1/4	78 3/4	11 7/8	83 1/2	86	86 5/8	87 3/4	83 3/4	86 5/8	86 1/2	87 5/8
9	6	84 3/4	83 1/4	12 5/8	88	90 1/2	91 1/8	92 1/4	88 1/4	91 1/8	91	92 1/8
8	7	93 5/8	92 1/8	11 7/8	96 7/8	99 3/8	100	101 1/8	97 1/8	100	99 7/8	101
9	7	98 7/8	97 3/8	12 5/8	102 1/8	104 5/8	105 1/4	106 3/8	102 3/8	105 1/4	105 1/8	106 1/4
8	8	107	105 1/2	11 7/8	110 1/4	112 3/4	113 3/8	114 1/2	110 1/2	113 3/8	113 1/4	114 3/8
9	8	113	111 1/2	12 5/8	116 1/4	118 3/4	119 3/8	120 1/2	116 1/2	119 3/8	119 1/4	120 3/8
8	9	120 3/8	118 7/8	11 7/8	123 5/8	126 1/8	126 3/4	127 7/8	123 7/8	126 3/4	126 5/8	127 3/4
9	9	127 1/8	125 5/8	12 5/8	130 3/8	132 7/8	133 1/2	134 5/8	130 5/8	133 1/2	133 3/8	134 1/2

*Dimensions in column "D" apply to low-pressure (series L), mid-pressure (series M), 1/2" NPT high-pressure (series H), frost free (all series), and internally heated/cooled reflex and transparent level gages tapped 1/2" NPT or 3/4" NPT. For installation dimensions on other level gages see footnote.

**These dimensions use close pipe nipples. For short 1/2" nipple add 3/4", for short 3/4" nipple add 1-1/4"

INSTALLATION: CLOSE HOOK-UP GAGES (SIDE/SIDE CONNECTED GAGE CONNECTIONS)

SIZE NO.	MINIMUM CENTER-TO-CENTER TANK CONNECTIONS					
	STRAIGHT-THRU 1/2" VALVE 3/4"		OFFSET VALVE HANDLES 1/2" INSIDE 3/4"		OFFSET VALVE HANDLES 1/2" OUTSIDE 3/4"	
11	5 1/4"	5 5/8"	3 1/2"	3 7/8"	7"	7 3/8"
21	6 1/4"	6 5/8"	4 1/2"	4 7/8"	8"	8 3/8"
31	7 1/4"	7 5/8"	5 1/2"	5 7/8"	9"	9 3/8"
41	8 1/4"	8 5/8"	6 1/2"	6 7/8"	10"	10 3/8"
51	9 3/8"	9 3/4"	7 5/8"	8"	11 1/8"	11 1/2"
61	10 5/8"	11"	8 7/8"	9 1/4"	12 3/8"	12 3/4"
71	11 3/4"	12 1/8"	10"	10 3/8"	13 1/2"	13 7/8"
81	13 3/8"	13 3/4"	11 5/8"	12"	15 1/8"	15 1/2"
91	14 1/8"	14 1/2"	12 3/8"	12 3/4"	15 7/8"	16 1/4"
32	14 1/2"	14 7/8"	12 3/4"	13 1/8"	16 1/4"	16 5/8"
42	16 1/2"	16 7/8"	14 3/4"	15 1/8"	18 1/4"	18 5/8"
52	18 3/4"	19 1/8"	17"	17 3/8"	20 1/2"	20 7/8"
62	21 1/4"	21 5/8"	19 1/2"	19 7/8"	23"	23 3/8"
72	23 1/2"	23 7/8"	21 3/4"	22 1/8"	25 1/4"	25 5/8"
82	26 3/4"	27 1/8"	25"	25 3/8"	28 1/2"	28 7/8"
92	28 1/4"	28 5/8"	26 1/2"	26 7/8"	30"	30 3/8"
63	31 7/8"	32 1/4"	30 1/8"	30 1/2"	33 5/8"	34"
73	35 1/4"	35 5/8"	33 1/2"	33 7/8"	37"	37 3/8"
83	40 1/8"	40 1/2"	38 3/8"	38 3/4"	41 7/8"	42 1/4"
93	42 3/8"	42 3/4"	40 5/8"	41"	44 1/8"	44 1/2"
74	47"	47 3/8"	45 1/4"	45 5/8"	48 3/4"	49 1/8"
84	53 1/2"	53 7/8"	51 3/4"	52 1/8"	55 1/4"	55 5/8"
94	56 1/2"	56 7/8"	54 3/4"	55 1/8"	58 1/4"	58 5/8"
75	58 3/4"	59 1/8"	57"	57 3/8"	60 1/2"	60 7/8"
85	66 7/8"	67 1/4"	65 1/8"	65 1/2"	68 5/8"	69"
95	70 5/8"	71"	68 7/8"	69 1/8"	72 3/8"	72 3/4"
86	80 1/4"	80 5/8"	78 1/2"	78 7/8"	82"	82 3/8"
96	84 3/4"	85 1/8"	83"	83 3/8"	86 1/2"	86 7/8"
87	93 5/8"	94"	91 7/8"	92 1/4"	95 3/8"	95 3/4"
97	98 7/8"	99 1/4"	97 1/8"	97 1/2"	100 5/8"	101"
88	107"	107 3/8"	105 1/4"	105 5/8"	108 3/4"	109 1/8"
98	113"	113 3/8"	111 1/4"	111 5/8"	114 3/4"	115 1/8"
89	120 3/8"	120 3/4"	118 5/8"	119"	122 1/8"	122 1/2"
99	127 1/8"	127 1/2"	125 3/8"	125 3/4"	128 7/8"	129 1/4"