

Converting a Threaded NPT Connection to a Flange Connection

Supplement to Fisher[®] L2, L2e, and L2sj Level Controller Instruction Manuals

This supplement contains information for converting L2, L2e, and L2sj level controller threaded NPT connections to flange type connections.

Refer to the Maintenance section of the appropriate instruction manual for instructions on removing the sensor from the controller, and disassembly of the sensor connector.

See figures 1, 2, and 3 for conversion and weld end details.

Note

Modification of the L2, L2e, or L2sj sensor to a flanged connection limits the pressure rating to the flange rating. Refer to tables 1 and 3.

Ensure flanges are marked with the appropriate pressure rating.

Flange Orientation

Orient the controller so that the case is level. See figure 4 for the proper sensor orientation for flange welding.

⚠ WARNING

To maintain code/standard compliance, weld fabrication must meet the requirements of ASME Section IX. Failures to meet these requirements could result in personal injury and/or property damage.

⚠ WARNING

To maintain compliance with NACE MR0175, weld fabrication must meet the requirements of NACE MR0175, paragraph 5.3. Failure to meet these requirements could result in personal injury and/or property damage.



Figure 1. Typical Sensor Connection

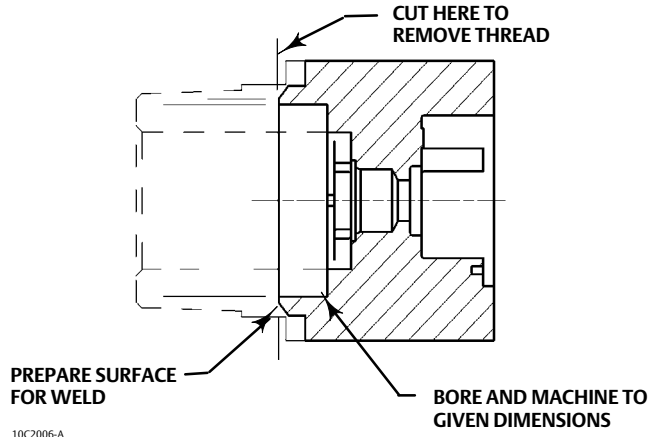
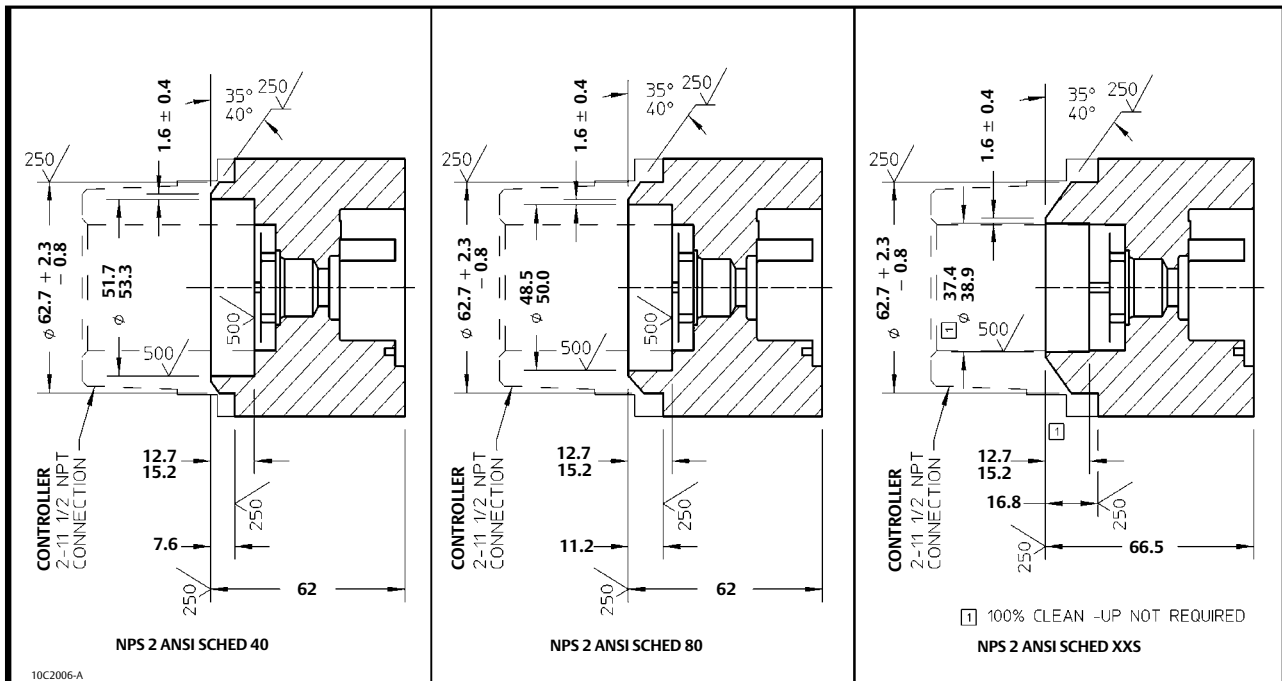


Figure 2. Sensor Connections (mm)



NOTE:
SEE FIGURE 1 FOR A TYPICAL SENSOR CONNECTION

Figure 3. Sensor Connections (Inches)

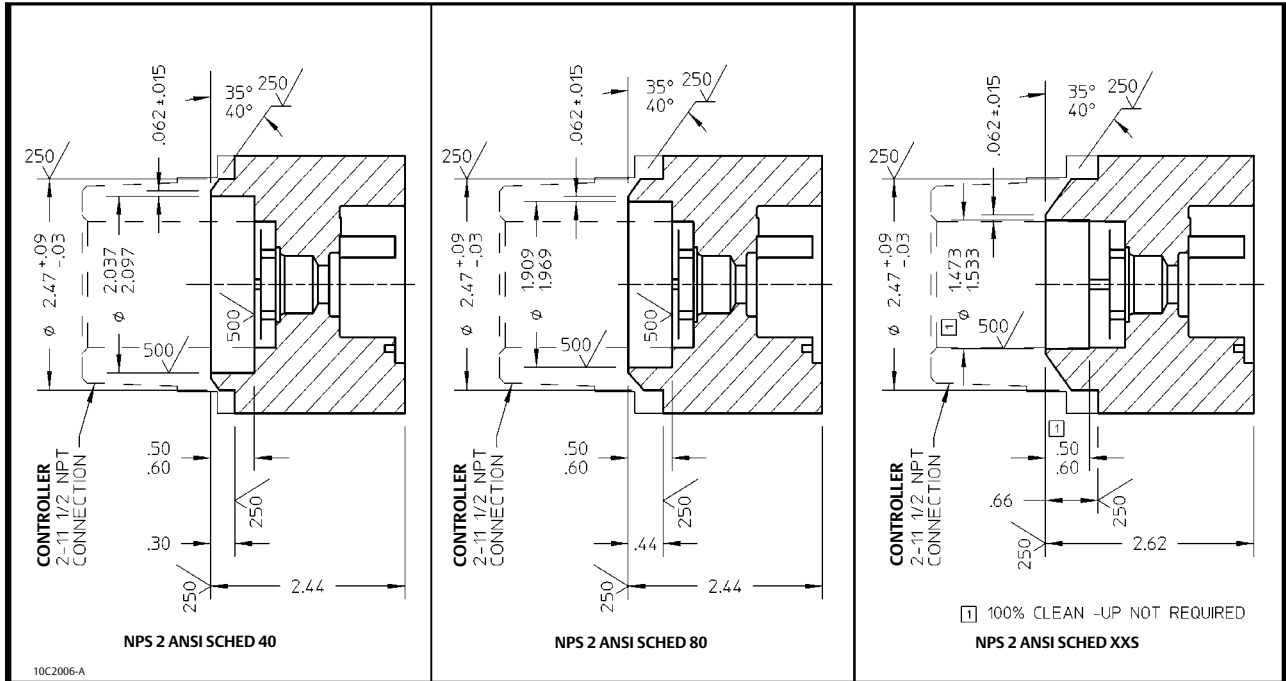
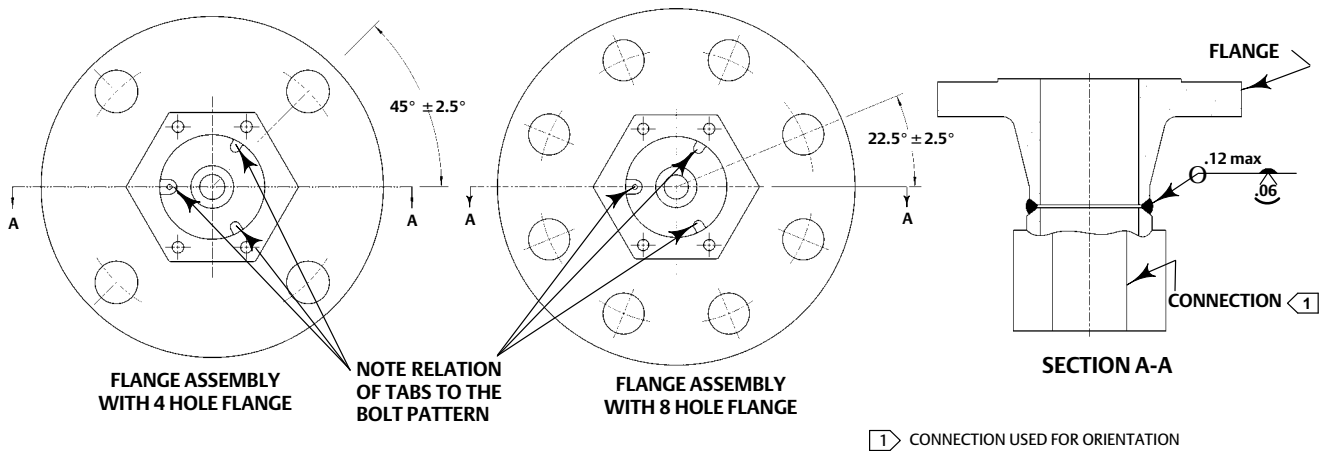


Figure 4. Sensor Orientation for Flange Mounting



Installation

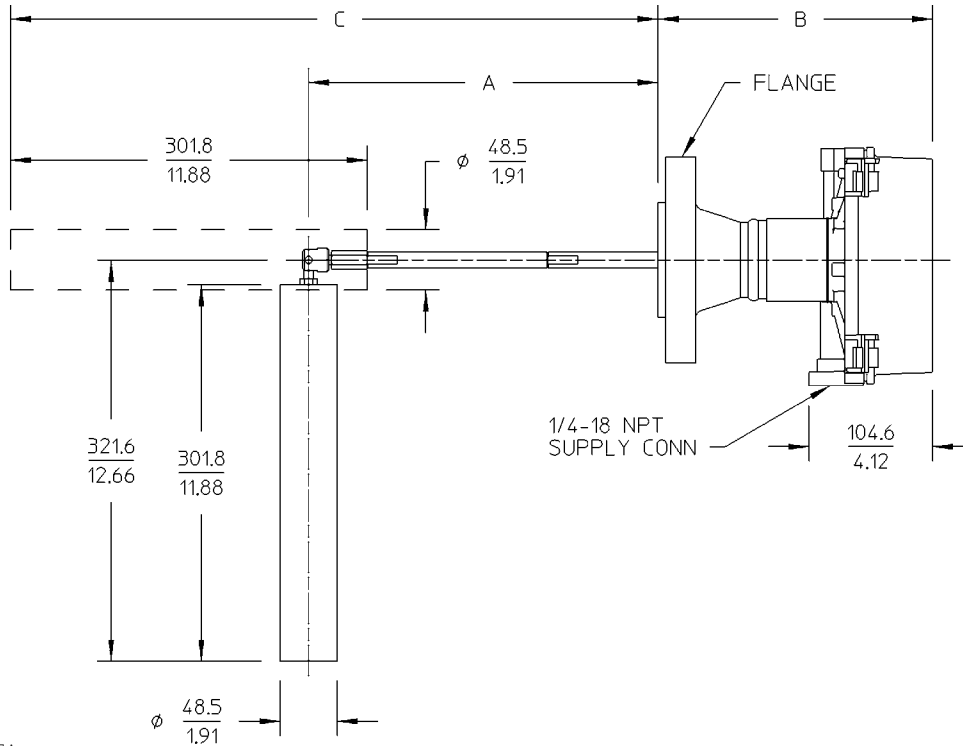
1. Install a suitable flange gasket.
2. Insert the displacer end of the sensor into the tank connection. Position the sensor so it can be bolted to the tank flange.
3. Complete the sensor flange to tank flange connection.

Refer to figure 5 for NPS 2X2 flange dimensions and figure 6 for NPS 2X4 flange dimensions for the L2 controller, figure 7 for NPS 2X2 flange dimensions and figure 8 for NPS 2X4 flange dimensions for the L2e controller, and figure 9 for NPS 2X4 flange dimensions for the L2sj controller.

Related Documents

- Fisher L2 Liquid Level Controller Instruction Manual (D103032X012)
- Fisher L2e Electric Level Controller Instruction Manual (D103531X012)
- Fisher L2sj Low Emission Liquid Level Controller Instruction Manual (D103216X012)

Figure 5. Fisher L2 Liquid Level Controller, NPS 2X2 Flange Dimensions (also see tables 1 and 2)



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Table 1. Fisher L2 Liquid Level Controller, NPS 2X2 Flange Dimensions (with one 6-inch extension)

PRESSURE RATING & TYPE	SCHEDULE 40 & 80			SCHEDULE XXS		
	A	B	C	A	B	C
	mm					
CL150 RF	312	217	566	307	222	561
CL300 RF	306	223	560	301	228	555
CL600 RF	296	232	550	291	237	545
INCH						
CL150 RF	12.28	8.53	22.28	12.09	8.72	22.09
CL300 RF	12.03	8.78	22.03	11.84	8.97	21.84
CL600 RF	11.66	9.15	21.66	11.47	9.34	21.47

Table 2. Fisher L2 Controller - NPS 2X2 Flange Dimensions (with one 6-inch extension)

PRESSURE RATING & TYPE	SCHEDULE 40 & 80			SCHEDULE XXS		
	A	B	C	A	B	C
	mm					
CL600 RTJ	294	234	548	290	239	544
CL900/CL1500 RF	268	261	522	263	266	517
CL900/CL1500 RTJ	266	263	520	261	268	515
INCH						
CL600 RTJ	11.59	9.22	21.59	11.41	9.41	21.41
CL900/CL1500 RF	10.53	10.28	20.53	10.34	10.47	20.34
CL900/CL1500 RTJ	10.47	10.34	20.47	10.28	10.53	20.28

Figure 6. Fisher L2 Liquid Level Controller, NPS 2X4 Flange Dimensions (also see tables 3 and 4)

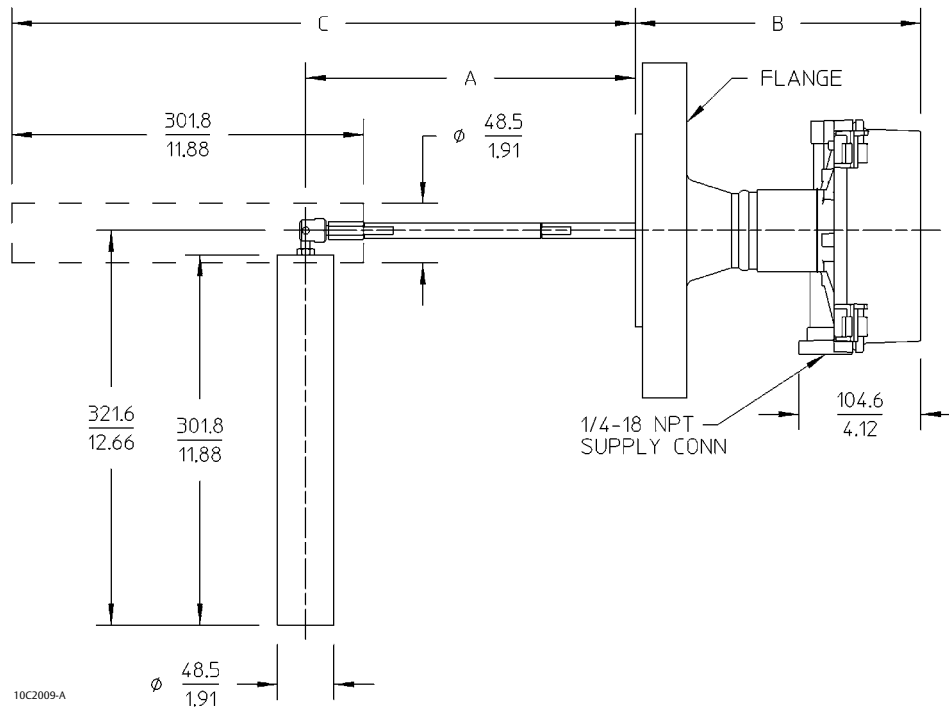


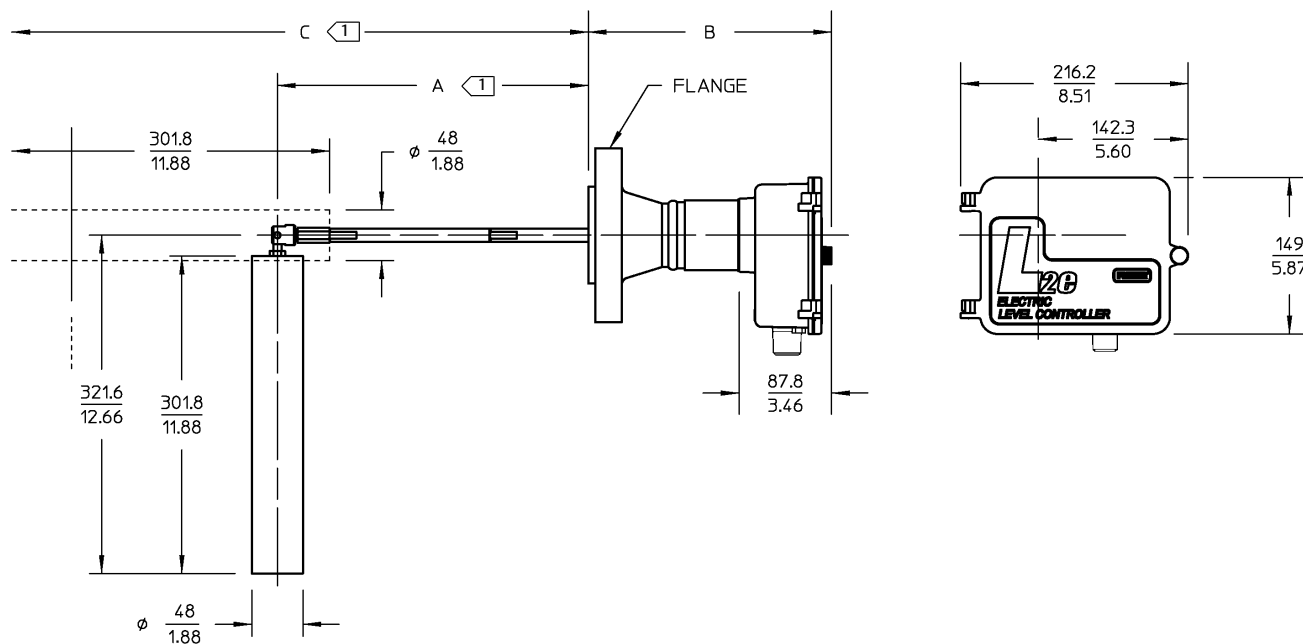
Table 3. Fisher L2 Liquid Level Controller, NPS 2X4 Inch Flange Dimensions (with one 6-inch extension)

PRESSURE RATING & TYPE	SCHEDULE 40 & 80			SCHEDULE XXS		
	A	B	C	A	B	C
	mm					
CL150 RF	307	222	561	303	226	557
CL300 RF	296	232	550	291	237	545
CL600 RF	283	245	537	279	250	533
CL600 RTJ	282	247	536	277	252	531
	INCH					
CL150 RF	12.09	8.72	22.09	11.91	8.91	21.91
CL300 RF	11.66	9.15	21.66	11.47	9.34	21.47
CL600 RF	11.15	9.66	21.15	10.97	9.84	20.97
CL600 RTJ	11.09	9.72	21.09	10.91	9.91	20.91

Table 4. Fisher L2 Controller - NPS 2X4 Inch Flange Dimensions (with one 6-inch extension)

PRESSURE RATING & TYPE	SCHEDULE 40 & 80			SCHEDULE XXS		
	A	B	C	A	B	C
	mm					
CL900 RF	261	268	515	256	272	510
CL900 RTJ	260	269	514	256	274	509
CL1500 RF	252	277	506	246	282	500
CL1500 RTJ	250	279	504	245	284	499
	INCH					
CL900 RF	10.28	10.53	20.28	10.09	10.72	20.09
CL900 RTJ	10.22	10.59	20.22	10.03	10.78	20.03
CL1500 RF	9.91	10.91	19.91	9.69	11.12	19.69
CL1500 RTJ	9.84	10.97	19.84	9.66	11.16	19.66

Figure 7. Fisher L2e Electric Level Controller, NPS 2X2 Flange Dimensions (also see tables 5 and 6)



1 DIMENSIONS WITH ONE 6-INCH EXTENSION
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Table 5. Fisher L2e Electric Level Controller, NPS 2X2 Flange Dimensions (with one 6-inch extension)

PRESSURE RATING & TYPE	SCHEDULE 40 & 80			SCHEDULE XXS		
	A	B	C	A	B	C
	mm					
CL150 RF	312	214	566	307	219	561
CL300 RF	306	220	560	301	225	555
CL600 RF	296	230	550	291	237	545
INCH						
CL150 RF	12.28	8.43	22.28	12.09	8.62	22.09
CL300 RF	12.03	8.68	22.03	11.84	8.87	21.84
CL600 RF	11.66	9.05	21.66	11.47	9.24	21.47

Table 6. Fisher L2e Controller - NPS 2X2 Flange Dimensions (with one 6-inch extension)

PRESSURE RATING & TYPE	SCHEDULE 40 & 80			SCHEDULE XXS		
	A	B	C	A	B	C
	mm					
CL600 RTJ	294	232	548	290	236	544
CL900/CL1500 RF	268	259	522	263	263	517
CL900/CL1500 RTJ	266	260	520	261	265	515
INCH						
CL600 RTJ	11.59	9.12	21.59	11.41	9.31	21.41
CL900/CL1500 RF	10.53	10.18	20.53	10.34	10.37	20.34
CL900/CL1500 RTJ	10.47	10.24	20.47	10.28	10.43	20.28

Figure 8. Fisher L2e Electric Level Controller, NPS 2X4 Flange Dimensions (also see tables 7 and 8)

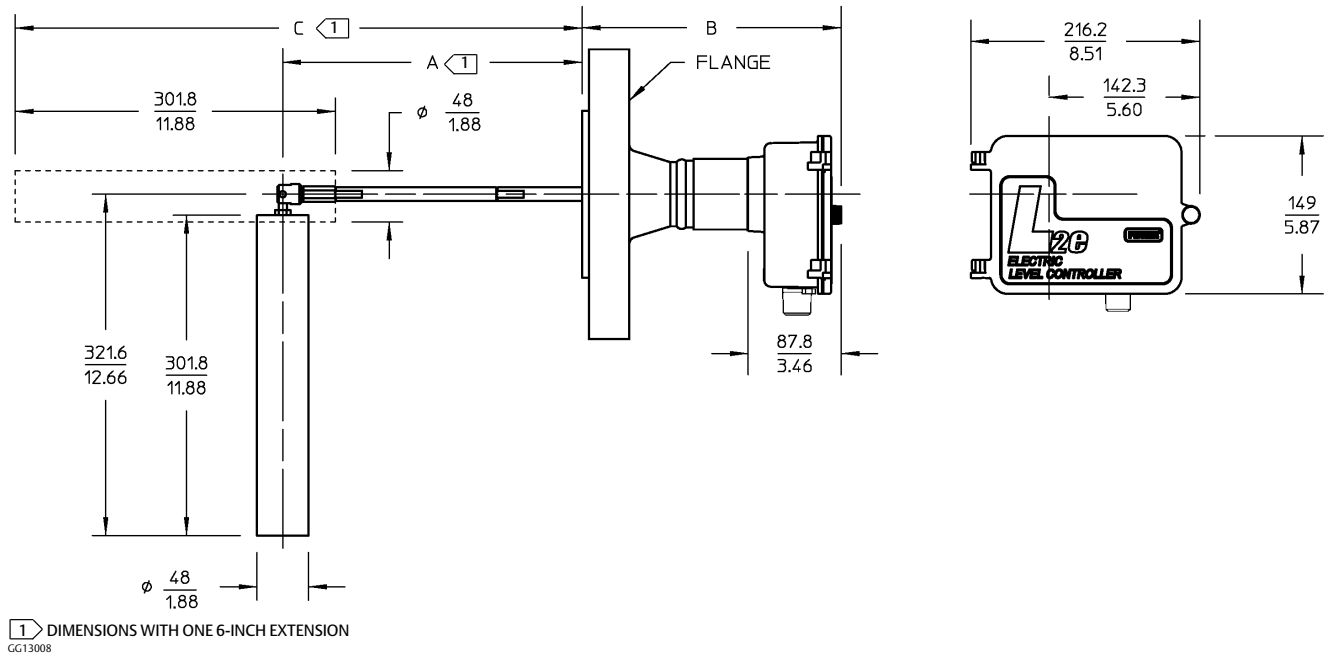


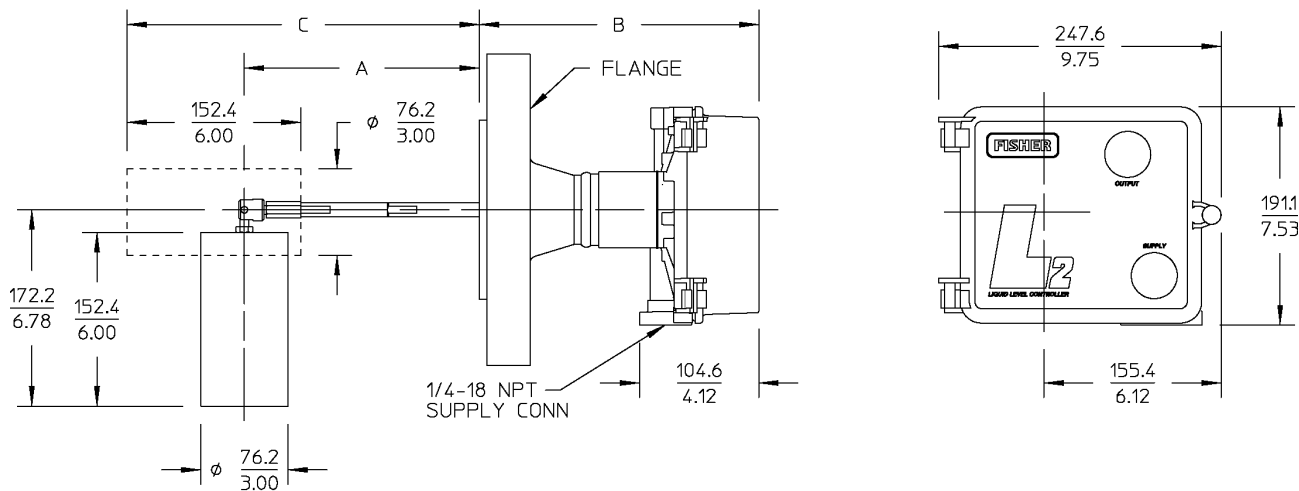
Table 7. Fisher L2e Electric Level Controller, NPS 2X4 Inch Flange Dimensions (with one 6-inch extension)

PRESSURE RATING & TYPE	SCHEDULE 40 & 80			SCHEDULE XXS		
	A	B	C	A	B	C
	mm					
CL150 RF	307	219	561	303	224	557
CL300 RF	296	230	550	291	235	545
CL600 RF	283	243	537	279	247	533
CL600 RTJ	282	244	536	277	249	531
INCH						
CL150 RF	12.09	8.62	22.09	11.91	8.81	21.91
CL300 RF	11.66	9.05	21.66	11.47	9.24	21.47
CL600 RF	11.15	9.56	21.15	10.97	9.74	20.97
CL600 RTJ	11.09	9.62	21.09	10.91	9.81	20.91

Table 8. Fisher L2e Controller - NPS 2X4 Inch Flange Dimensions (with one 6-inch extension)

PRESSURE RATING & TYPE	SCHEDULE 40 & 80			SCHEDULE XXS		
	A	B	C	A	B	C
	mm					
CL900 RF	261	265	515	256	270	510
CL900 RTJ	260	266	514	256	271	509
CL1500 RF	252	275	506	246	280	500
CL1500 RTJ	250	276	504	245	281	499
INCH						
CL900 RF	10.28	10.43	20.28	10.09	10.62	20.09
CL900 RTJ	10.22	10.49	20.22	10.03	10.68	20.03
CL1500 RF	9.91	10.81	19.91	9.69	11.02	19.69
CL1500 RTJ	9.84	10.87	19.84	9.66	11.06	19.66

Figure 9. Fisher L2sj Liquid Level Controller, NPS 2X4 Flange Dimensions (also see tables 9 and 10)



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Table 9. Fisher L2sj Liquid Level Controller, NPS 2X4 Inch Flange Dimensions (with 3-inch extension)

PRESSURE RATING & TYPE	SCHEDULE 40 & 80			SCHEDULE XXS		
	A	B	C	A	B	C
	mm					
CL150 RF	231	222	336	226	226	331
CL300 RF	220	232	325	215	237	320
CL600 RF	207	245	312	202	250	307
CL600 RTJ	206	247	310	201	252	306
INCH						
CL150 RF	9.09	8.72	13.22	8.91	8.91	13.03
CL300 RF	8.66	9.15	12.78	8.47	9.34	12.59
CL600 RF	8.15	9.66	12.27	7.97	9.84	12.09
CL600 RTJ	8.09	9.72	12.22	7.91	9.91	12.03

Table 10. Fisher L2sj Controller - NPS 2X4 Inch Flange Dimensions (with 3-inch extension)

PRESSURE RATING & TYPE	SCHEDULE 40 & 80			SCHEDULE XXS		
	A	B	C	A	B	C
	mm					
CL900 RF	185	268	290	180	272	285
CL900 RTJ	183	269	288	179	274	284
CL1500 RF	176	277	280	170	282	275
CL1500 RTJ	174	279	279	169	284	274
INCH						
CL900 RF	7.28	10.53	11.41	7.09	10.72	11.22
CL900 RTJ	7.22	10.59	11.34	7.03	10.78	11.16
CL1500 RF	6.91	10.91	11.03	6.69	11.12	10.82
CL1500 RTJ	6.84	10.97	10.97	6.66	11.16	10.78

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