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IrriRich Valve Opening Pressures

Valve	Opening Pressure
1.5 inch NPT	10 PSI
1.5 Regulator NPT	11 PSI
2 inch NPT	10 PSI
2 inch Regulator NPT	12 PSI
3 inch NPT	7 PSI
3 inch Regulator NPT	8 PSI
3 inch SW	6 PSI
3 inch Regulator SW	8 PSI
4 inch SW	6 PSI
4 inch Regulator SW	8 PSI

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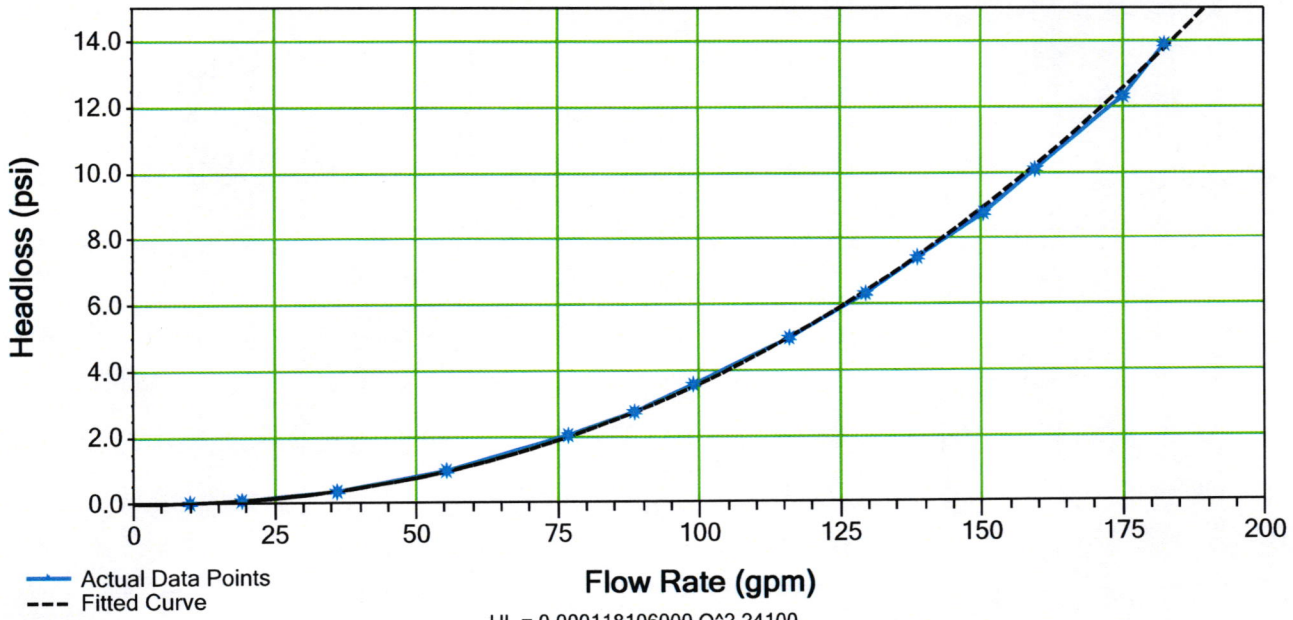
IrriRich 1.5 inch NPT valve



HL = 0.000118106000 Q^2.24100
R^2 = 1.000
CV = 54.6

Test psi: 50.0

Test Date: 12/16/16

Flow Rate (gpm)	Headloss (psi)	Estimate	Residual
10.0	0.02	0.02	2.8 %
19.2	0.09	0.09	-1.4 %
36.0	0.36	0.36	0.8 %
55.3	0.98	0.95	-3.2 %
76.8	2.04	1.98	-2.9 %
88.5	2.74	2.72	-0.6 %
99.0	3.57	3.50	-1.9 %
116.0	4.98	5.00	0.3 %
129.5	6.32	6.40	1.2 %
138.7	7.42	7.46	0.5 %
150.4	8.76	8.94	2.0 %
159.5	10.09	10.20	1.1 %
175.0	12.32	12.56	1.9 %
182.3	13.90	13.76	-1.0 %

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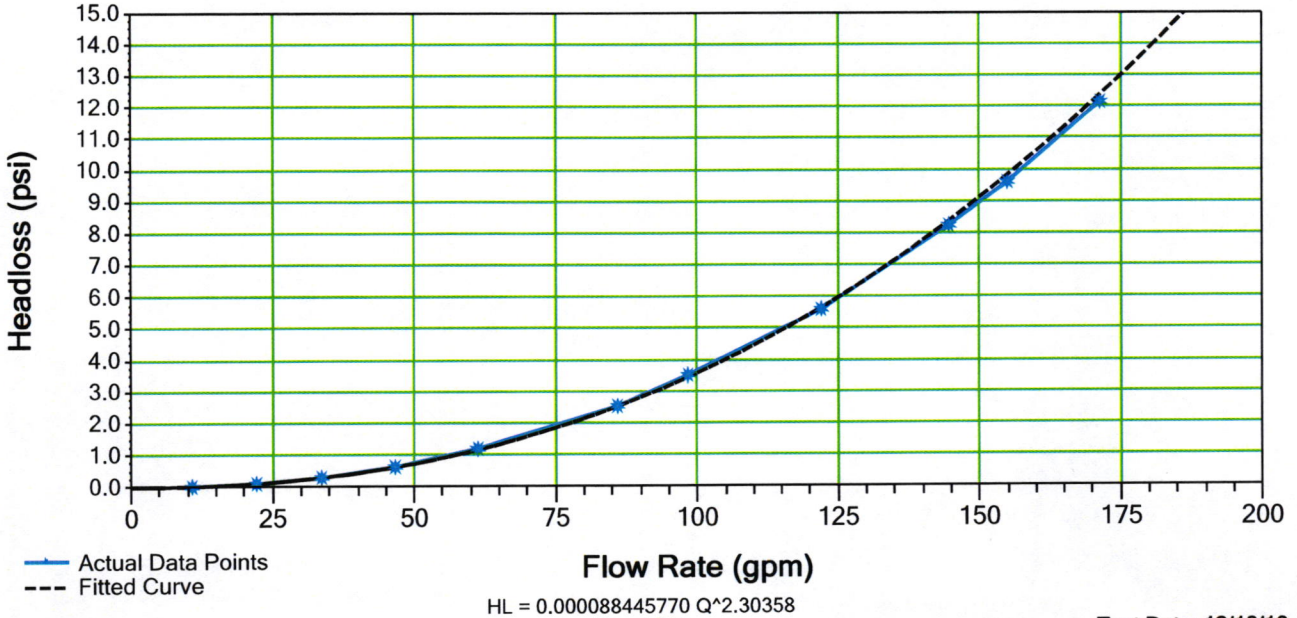
IrriRich 1.5 inch Regulator NPT valve



HL = 0.000088445770 Q^2.30358
R^2 = 1.000
CV = 56.9

Test psi: 50.0

Test Date: 12/16/16

Flow Rate (gpm)	Headloss (psi)	Estimate	Residual
10.7	0.02	0.02	3.8 %
22.1	0.11	0.11	0.5 %
33.6	0.30	0.29	-3.4 %
46.6	0.63	0.62	-2.2 %
61.2	1.19	1.16	-3.0 %
85.9	2.53	2.52	-0.3 %
98.4	3.52	3.45	-2.1 %
122.0	5.61	5.66	0.9 %
144.6	8.24	8.37	1.6 %
154.9	9.60	9.81	2.1 %
171.3	12.15	12.37	1.8 %

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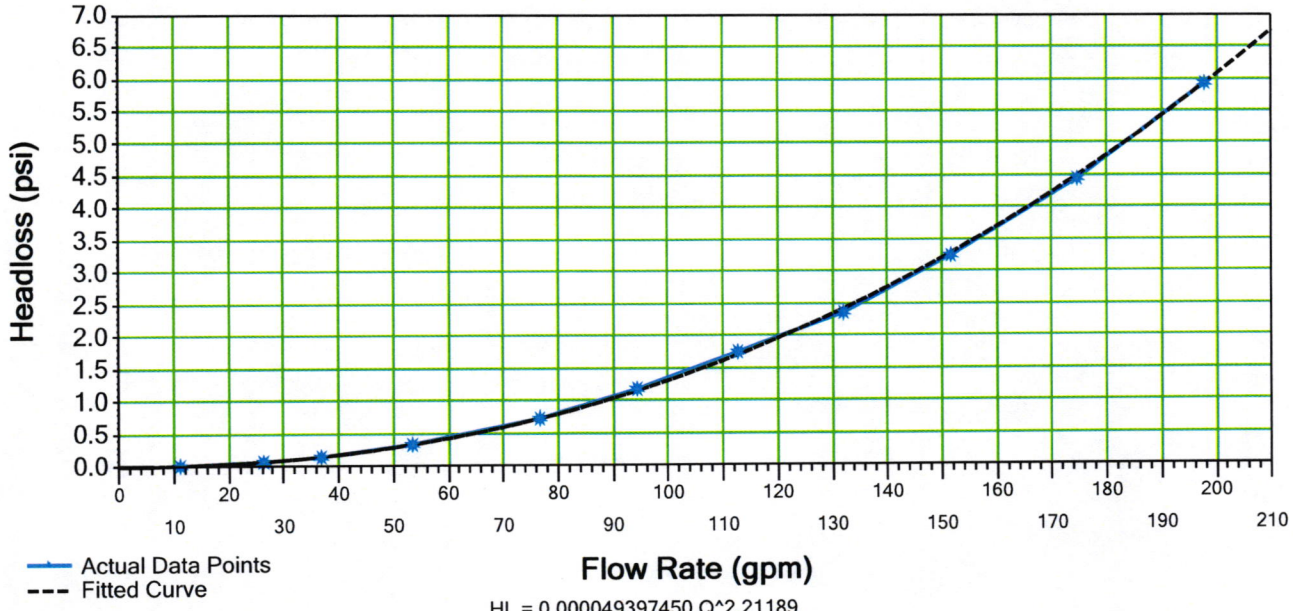
IrriRich 2 inch NPT Valve



HL = 0.000049397450 Q^2.21189
R^2 = 1.000
CV = 90.7

Test psi: 50.0

Test Date: 12/15/16

Flow Rate (gpm)	Headloss (psi)	Estimate	Residual
11.1	0.01	0.01	1.3 %
26.3	0.07	0.07	-2.5 %
36.8	0.14	0.14	2.5 %
53.4	0.33	0.33	-0.8 %
76.6	0.73	0.73	-0.4 %
94.3	1.18	1.15	-2.5 %
112.7	1.75	1.71	-2.5 %
132.0	2.36	2.42	2.6 %
151.6	3.25	3.29	1.2 %
174.6	4.45	4.50	1.0 %
197.8	5.93	5.93	-0.1 %

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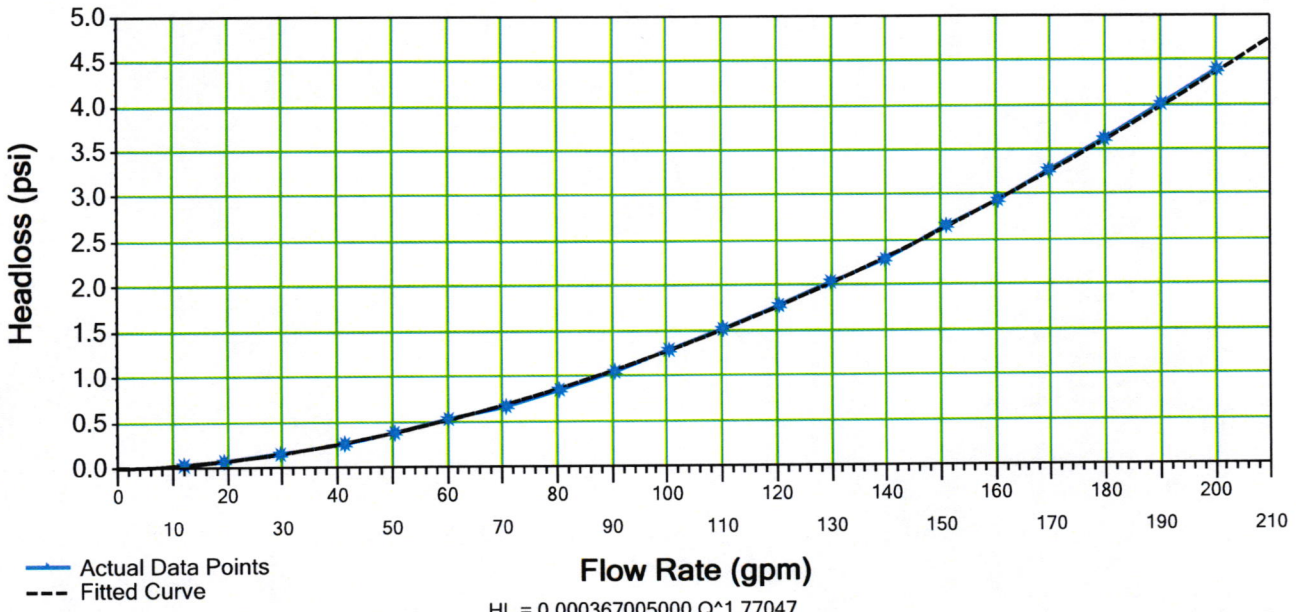
IrriRich 2 inch Regulator NPT Valve



HL = 0.000367005000 Q^1.77047
R^2 = 1.000
CV = 87.1

Test psi: 50.0

Test Date: 12/16/16

Flow Rate (gpm)	Headloss (psi)	Estimate	Residual
12.0	0.03	0.03	-0.4 %
19.3	0.07	0.07	-1.0 %
29.6	0.15	0.15	-1.5 %
41.3	0.26	0.27	2.4 %
50.4	0.38	0.38	-0.2 %
60.2	0.53	0.52	-2.1 %
70.7	0.67	0.69	2.9 %
80.4	0.85	0.87	1.9 %
90.5	1.05	1.07	1.8 %
100.4	1.29	1.28	-0.4 %
110.2	1.52	1.51	-0.4 %
120.5	1.78	1.77	-0.3 %
129.9	2.04	2.03	-0.7 %
139.8	2.29	2.31	0.8 %
151.0	2.66	2.65	-0.6 %
160.4	2.94	2.94	0.1 %
169.6	3.27	3.25	-0.6 %
179.8	3.62	3.60	-0.5 %
190.1	4.01	3.98	-0.8 %
200.3	4.39	4.36	-0.6 %

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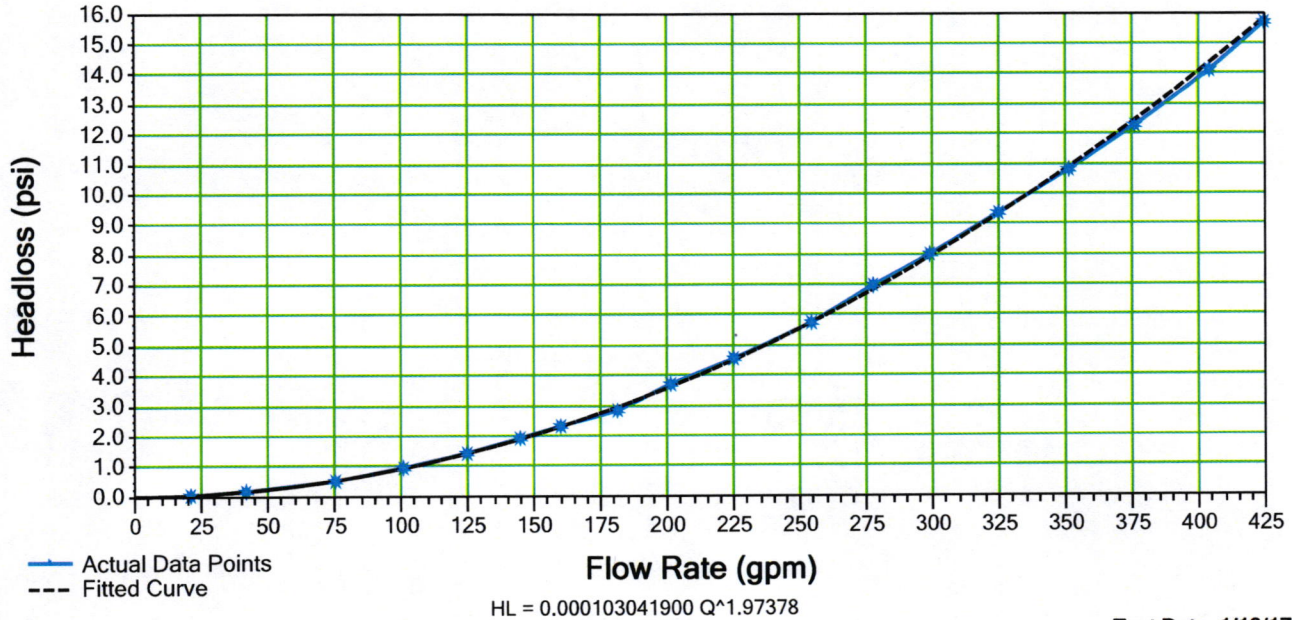
IrriRich 3 inch NPT valve



HL = 0.000103041900 Q^1.97378
R^2 = 1.000
CV = 105.4

Test psi: 50.0

Test Date: 1/19/17

Flow Rate (gpm)	Headloss (psi)	Estimate	Residual
20.9	0.04	0.04	3.8 %
41.7	0.17	0.16	-4.6 %
75.2	0.51	0.52	2.0 %
100.8	0.94	0.93	-1.3 %
124.6	1.42	1.41	-0.7 %
144.6	1.92	1.89	-1.5 %
159.9	2.32	2.31	-0.6 %
181.2	2.84	2.95	3.8 %
201.3	3.71	3.63	-2.1 %
225.0	4.56	4.53	-0.8 %
254.3	5.75	5.76	0.2 %
277.4	6.98	6.84	-2.0 %
298.9	8.00	7.93	-0.9 %
324.6	9.36	9.33	-0.3 %
351.1	10.80	10.89	0.8 %
375.7	12.27	12.45	1.4 %
403.8	14.11	14.36	1.7 %
424.3	15.70	15.83	0.8 %

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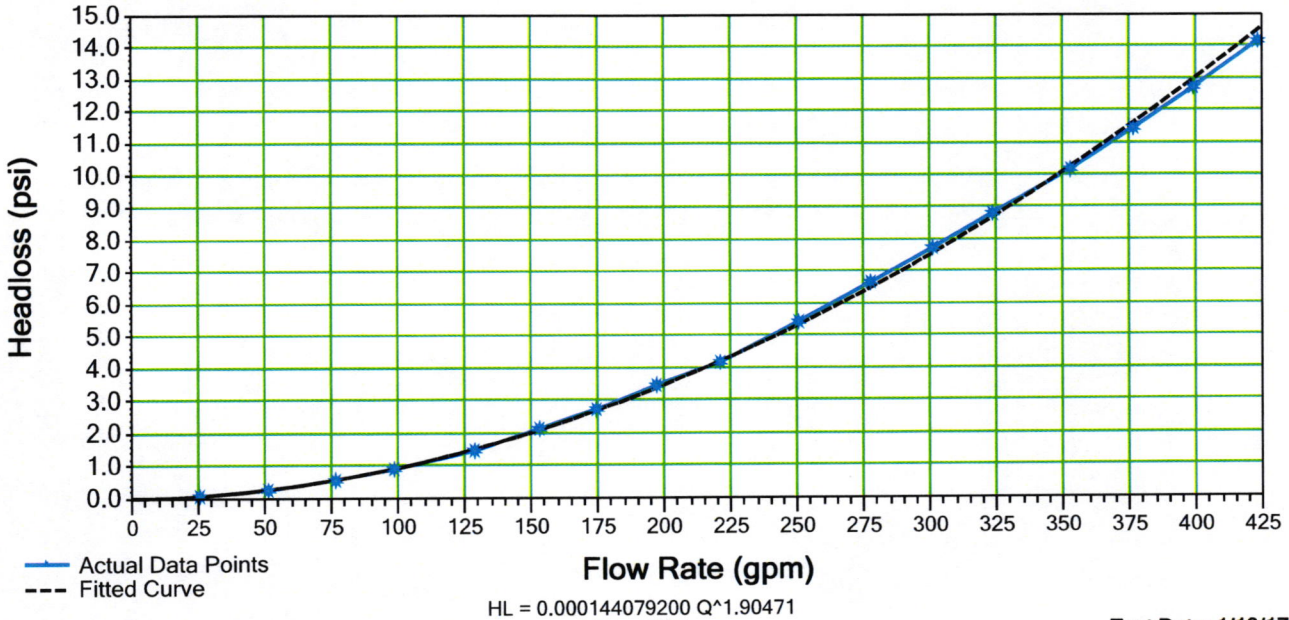
IrriRich 3 inch Regulator NPT valve



HL = 0.000144079200 Q^1.90471
R^2 = 1.000
CV = 106.8

Test psi: 50.0

Test Date: 1/19/17

Flow Rate (gpm)	Headloss (psi)	Estimate	Residual
25.4	0.07	0.07	-2.5 %
51.2	0.25	0.26	3.7 %
76.5	0.55	0.56	1.4 %
98.5	0.90	0.90	0.3 %
128.6	1.46	1.50	2.7 %
153.0	2.13	2.09	-2.0 %
174.4	2.72	2.68	-1.5 %
197.1	3.46	3.38	-2.3 %
221.0	4.17	4.21	0.9 %
250.5	5.43	5.34	-1.7 %
277.6	6.67	6.50	-2.7 %
301.1	7.74	7.58	-2.1 %
323.5	8.81	8.69	-1.3 %
352.8	10.16	10.25	0.9 %
376.4	11.43	11.60	1.5 %
398.9	12.70	12.96	2.0 %
423.1	14.15	14.49	2.4 %

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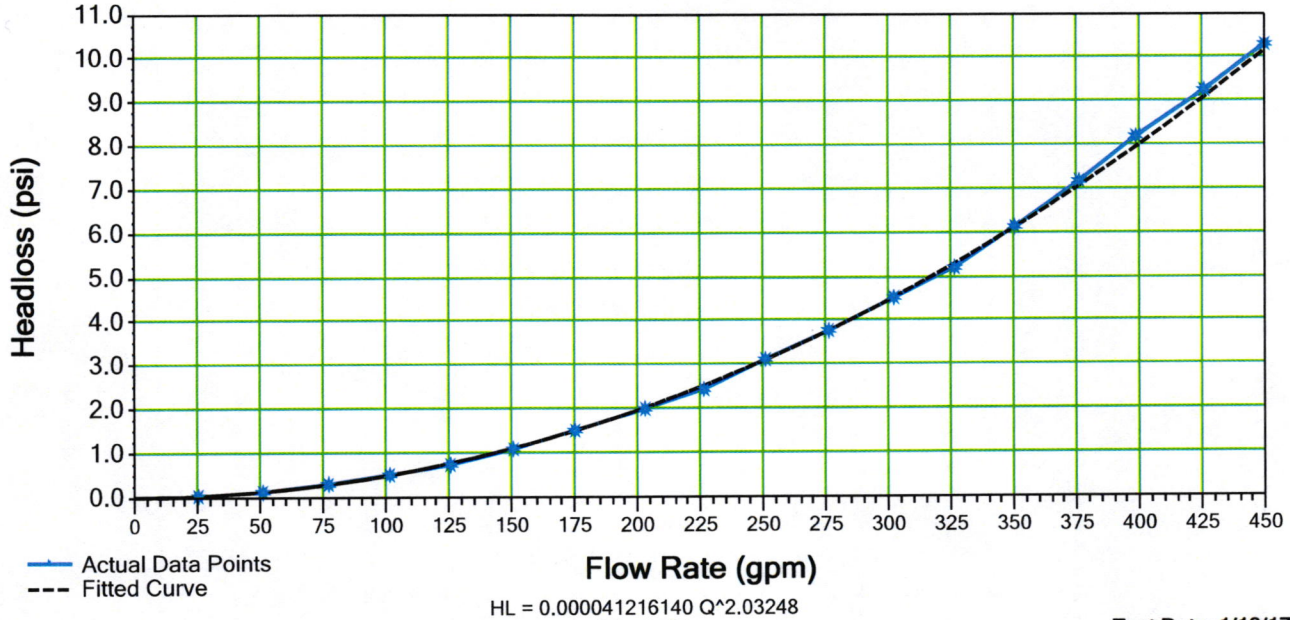
IrriRich 3in Regulator SW valve



HL = 0.000041216140 Q^2.03248
R^2 = 1.000
CV = 143.1

Test psi: 50.0

Test Date: 1/19/17

Flow Rate (gpm)	Headloss (psi)	Estimate	Residual
25.3	0.03	0.03	-2.4 %
51.0	0.12	0.12	1.5 %
77.1	0.29	0.28	-2.8 %
101.5	0.50	0.49	-1.3 %
125.5	0.73	0.76	3.9 %
150.7	1.08	1.10	2.0 %
175.1	1.50	1.49	-0.4 %
203.0	1.99	2.02	1.4 %
226.4	2.43	2.52	3.6 %
250.9	3.11	3.10	-0.2 %
276.2	3.77	3.77	0.1 %
302.1	4.52	4.53	0.2 %
326.4	5.20	5.30	1.9 %
350.3	6.13	6.12	-0.2 %
376.0	7.17	7.06	-1.5 %
398.5	8.19	7.95	-3.0 %
425.7	9.25	9.09	-1.7 %
449.7	10.30	10.16	-1.3 %

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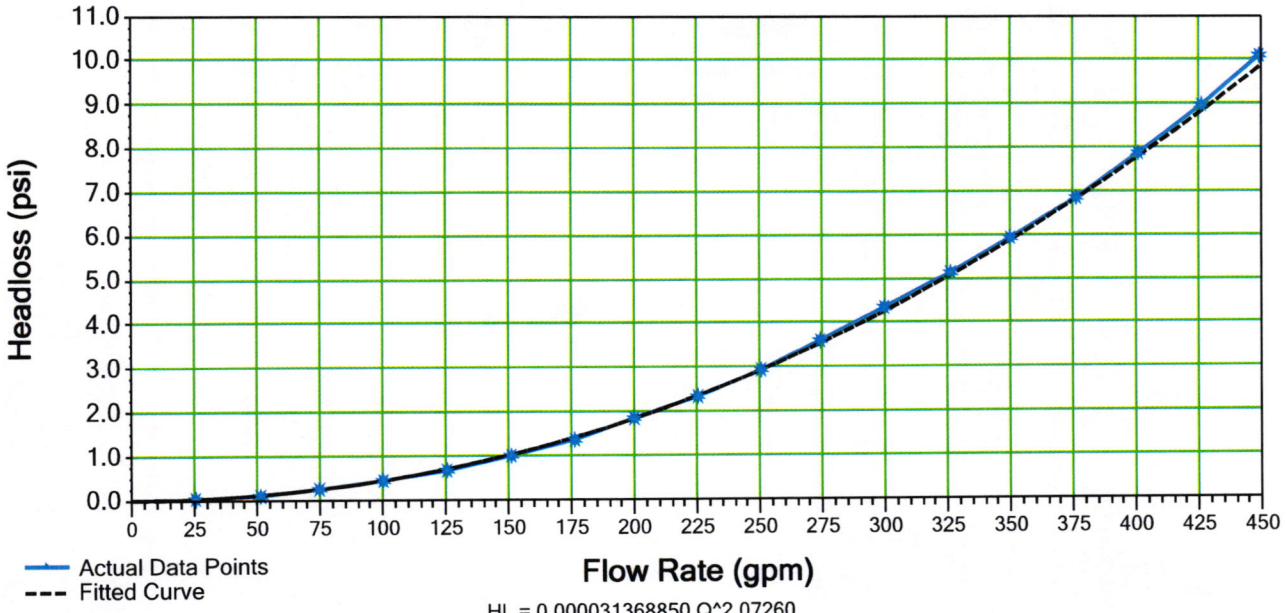
IrriRich 3in SW valve



HL = 0.000031368850 Q^2.07260
R^2 = 0.998
CV = 147.7

Test psi: 50.0

Test Date: 1/20/17

Flow Rate (gpm)	Headloss (psi)	Estimate	Residual
25.4	0.03	0.03	-17.2 %
51.3	0.09	0.11	18.1 %
74.7	0.25	0.24	-4.4 %
100.1	0.44	0.44	-0.2 %
125.4	0.67	0.70	4.4 %
151.0	1.00	1.03	2.9 %
176.2	1.36	1.42	4.1 %
199.8	1.85	1.84	-0.6 %
225.3	2.34	2.36	0.8 %
250.5	2.94	2.94	0.0 %
274.1	3.60	3.54	-1.6 %
299.6	4.35	4.26	-2.1 %
326.1	5.13	5.08	-1.0 %
349.8	5.93	5.87	-1.0 %
376.2	6.85	6.83	-0.3 %
400.7	7.87	7.78	-1.1 %
425.9	8.97	8.83	-1.6 %
448.7	10.10	9.84	-2.7 %

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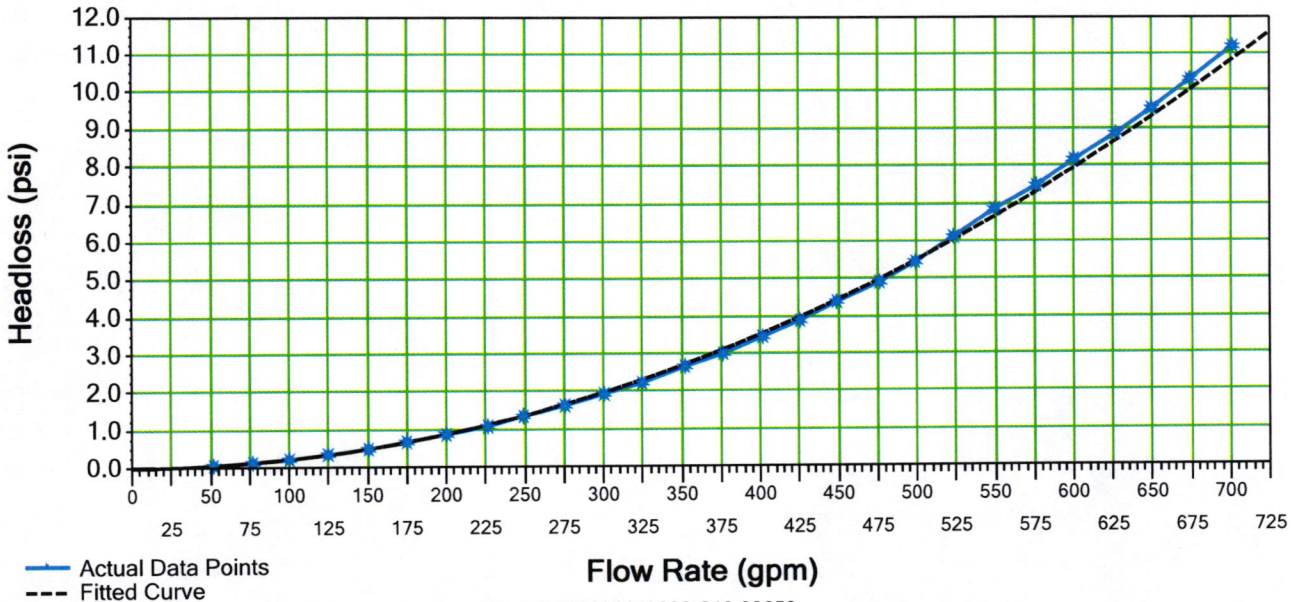
IrriRich 4 inch Regulator SW valve



HL = 0.000021140290 Q^2.00652
R^2 = 1.000
CV = 213.5

Test psi: 50.0

Test Date: 1/20/17

Flow Rate (gpm)	Headloss (psi)	Estimate	Residual
51.8	0.06	0.06	-3.1 %
76.9	0.13	0.13	-1.1 %
100.0	0.22	0.22	-1.0 %
124.7	0.35	0.34	-3.2 %
150.5	0.49	0.49	1.0 %
174.8	0.68	0.67	-1.8 %
199.9	0.87	0.87	0.5 %
226.3	1.08	1.12	3.7 %
249.1	1.35	1.36	0.7 %
275.5	1.63	1.66	2.1 %
300.4	1.93	1.98	2.5 %
324.7	2.22	2.31	4.1 %
352.1	2.66	2.72	2.3 %
376.4	3.00	3.11	3.6 %
401.6	3.45	3.55	2.7 %
425.6	3.88	3.98	2.6 %
448.9	4.39	4.43	1.0 %
476.3	4.91	4.99	1.7 %
499.2	5.45	5.49	0.7 %
523.6	6.11	6.04	-1.2 %
549.7	6.85	6.66	-2.9 %
576.3	7.47	7.32	-2.1 %
600.2	8.16	7.94	-2.8 %
626.7	8.85	8.66	-2.2 %
649.5	9.52	9.30	-2.3 %
673.9	10.31	10.02	-2.9 %
701.1	11.20	10.84	-3.3 %

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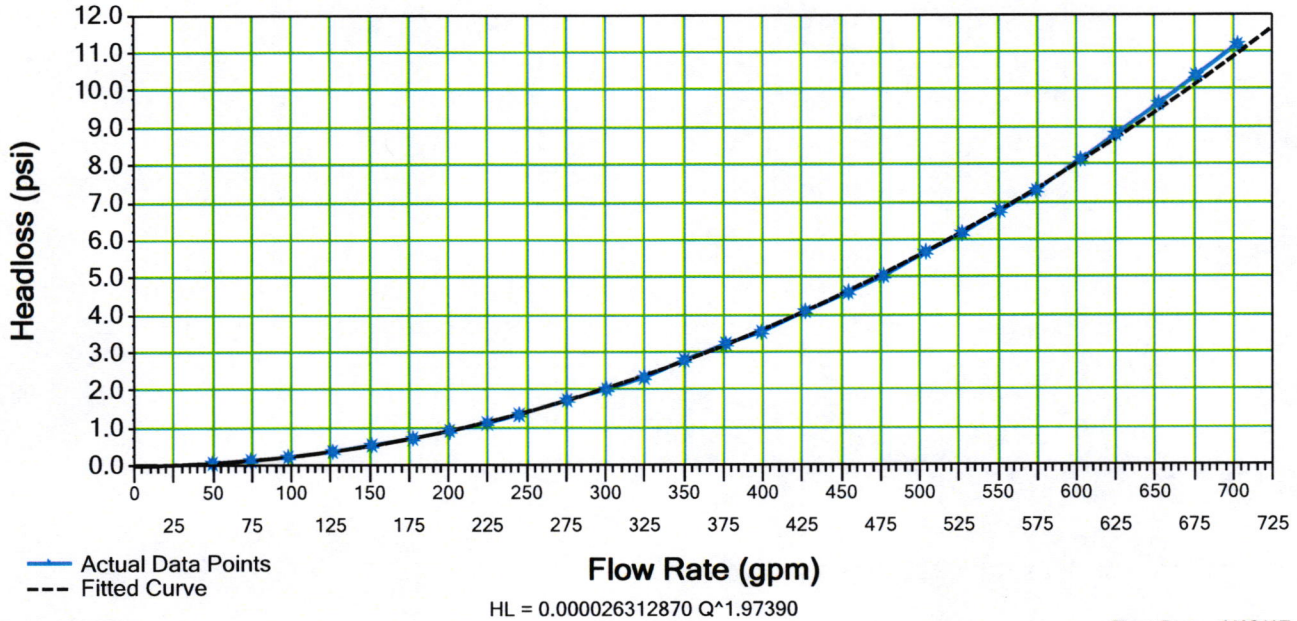
IrriRich 4 inch SW valve



HL = 0.000026312870 Q^1.97390
R^2 = 1.000
CV = 210.1

Test psi: 50.0

Test Date: 1/19/17

Flow Rate (gpm)	Headloss (psi)	Estimate	Residual
49.6	0.06	0.06	-2.6 %
74.1	0.13	0.13	-0.7 %
97.9	0.22	0.22	1.7 %
126.2	0.37	0.37	-0.2 %
151.2	0.54	0.53	-2.3 %
177.4	0.72	0.72	0.5 %
200.7	0.92	0.92	0.3 %
224.5	1.12	1.15	2.7 %
244.9	1.35	1.37	1.2 %
275.4	1.73	1.72	-0.4 %
300.5	2.02	2.05	1.3 %
324.7	2.33	2.39	2.3 %
350.2	2.79	2.77	-0.7 %
376.5	3.22	3.20	-0.8 %
399.1	3.54	3.58	1.2 %
427.2	4.09	4.10	0.2 %
454.5	4.59	4.63	0.9 %
477.0	5.03	5.10	1.3 %
503.9	5.67	5.68	0.2 %
527.2	6.17	6.21	0.6 %
551.1	6.76	6.78	0.3 %
574.3	7.31	7.35	0.6 %
602.6	8.13	8.08	-0.6 %
625.1	8.80	8.69	-1.2 %
652.2	9.62	9.45	-1.8 %

Flow Rate (gpm)	Headloss (psi)	Estimate	Residual
676.2	10.37	10.15	-2.2 %
702.4	11.19	10.94	-2.3 %

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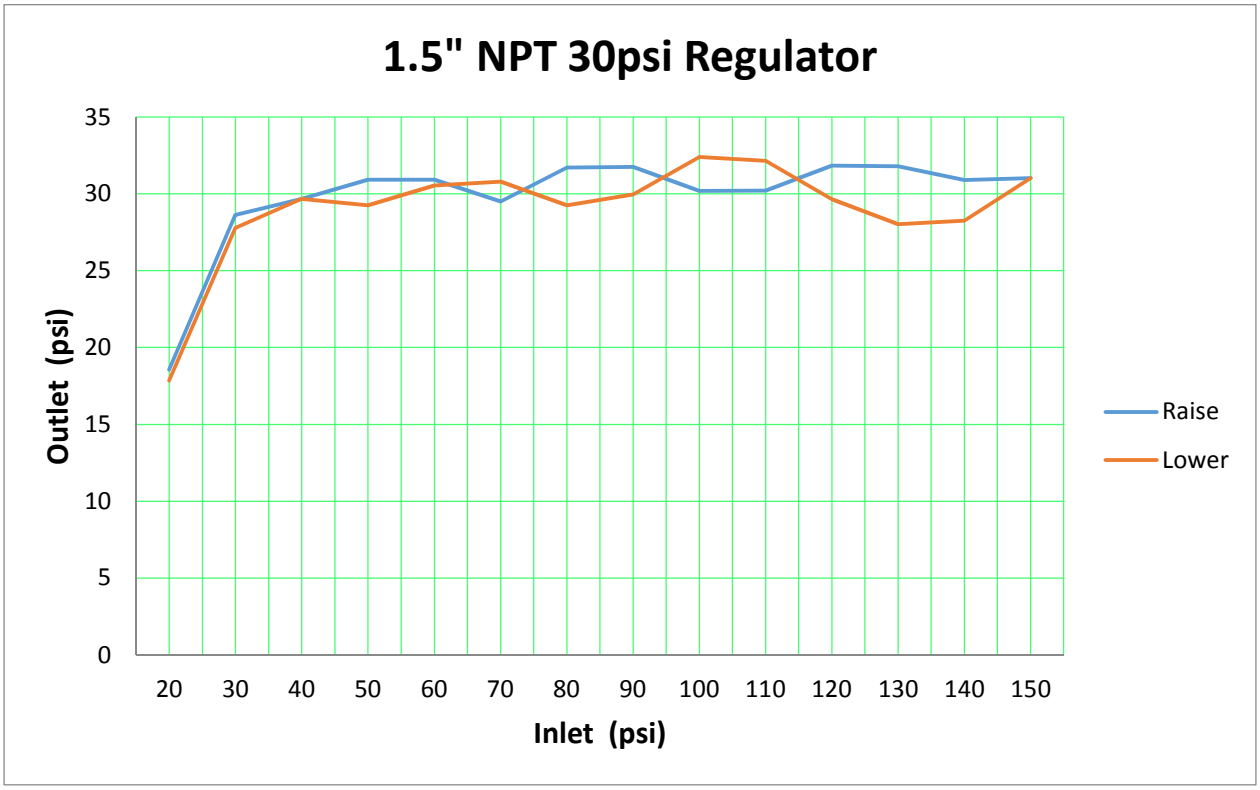

Inlet	Raise	Lower
20	18.56	17.84
30	28.63	27.78
40	29.66	29.67
50	30.91	29.25
60	30.91	30.55
70	29.5	30.79
80	31.72	29.25
90	31.75	29.97
100	30.19	32.39
110	30.22	32.15
120	31.83	29.65
130	31.8	28.03
140	30.89	28.26
150	31.02	31.02

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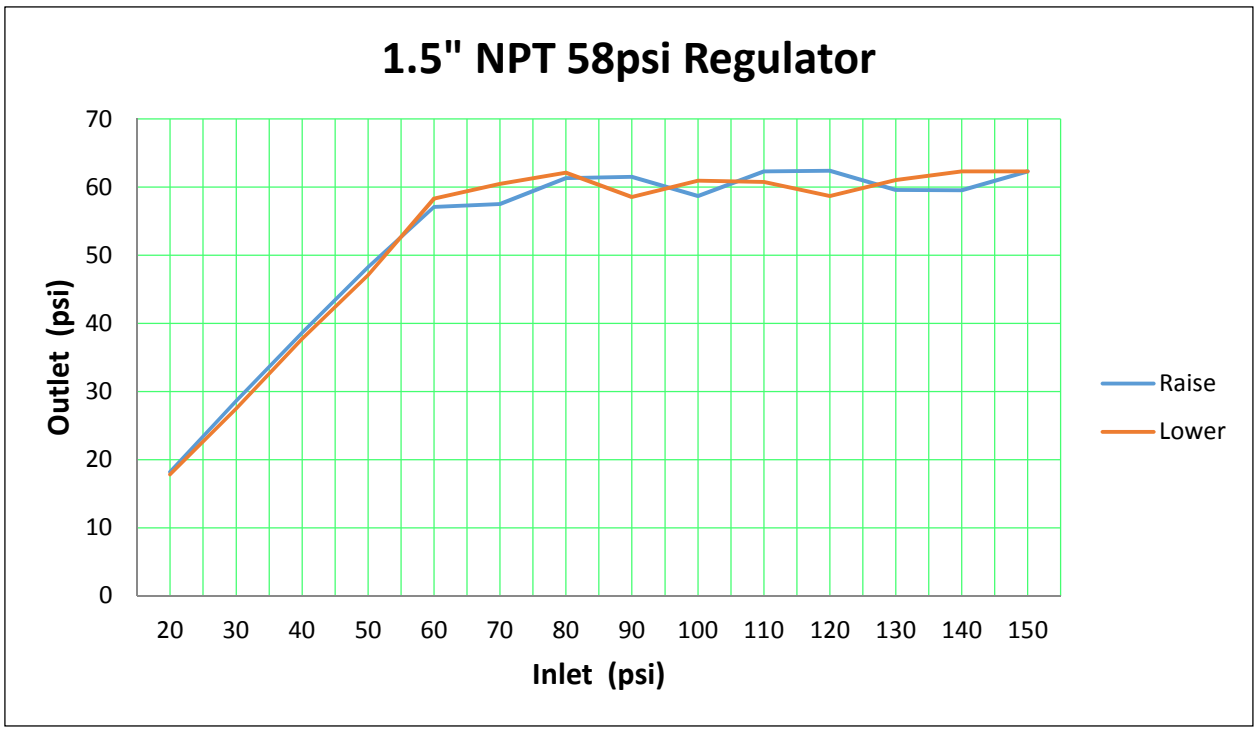

Inlet	Raise	Lower
20	18.2	17.84
30	28.63	27.52
40	38.66	37.77
50	48.25	47.1
60	57.11	58.34
70	57.53	60.5
80	61.31	62.1
90	61.5	58.55
100	58.67	60.97
110	62.31	60.76
120	62.42	58.67
130	59.6	61.02
140	59.55	62.3
150	62.3	62.3

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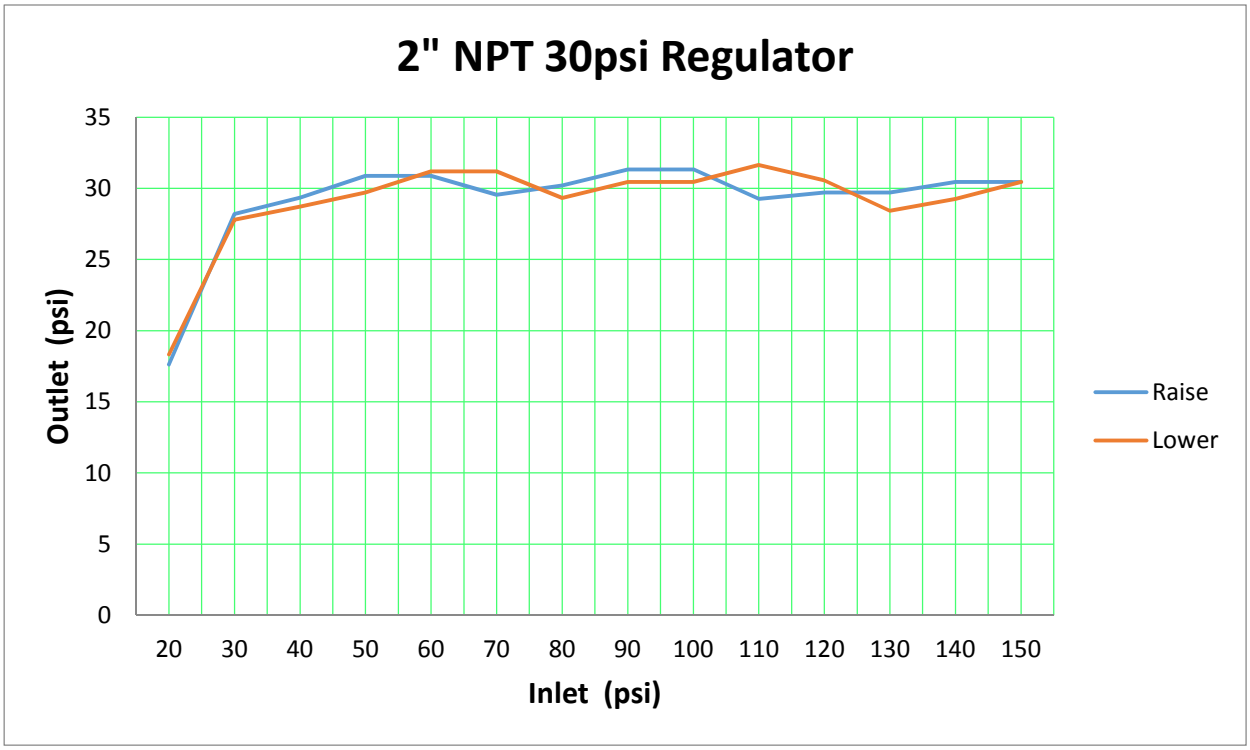

Inlet	Raise	Lower
20	17.6	18.33
30	28.2	27.8
40	29.34	28.73
50	30.87	29.72
60	30.87	31.2
70	29.55	31.2
80	30.21	29.32
90	31.32	30.45
100	31.32	30.45
110	29.26	31.64
120	29.71	30.57
130	29.71	28.43
140	30.45	29.26
150	30.45	30.45

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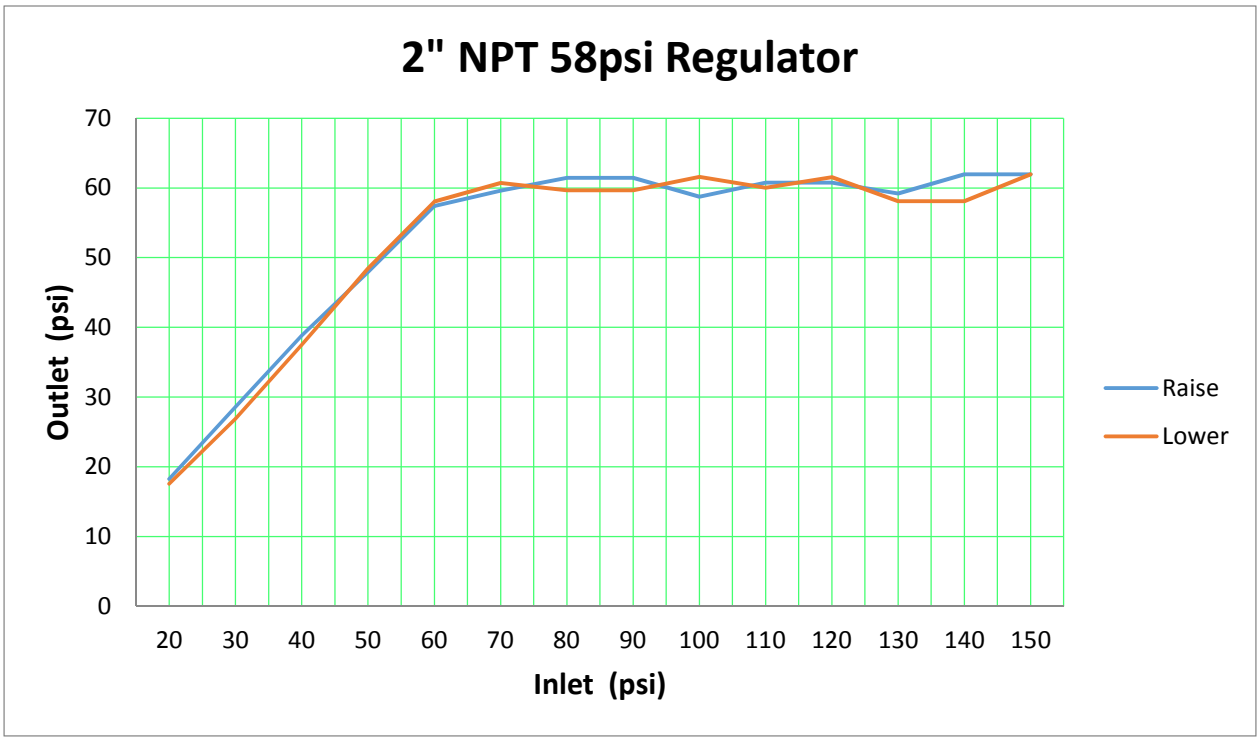

Inlet	Raise	Lower
20	18.24	17.56
30	28.6	26.89
40	38.8	37.5
50	47.92	48.4
60	57.4	58.05
70	59.61	60.7
80	61.43	59.65
90	61.43	59.65
100	58.76	61.57
110	60.75	60.03
120	60.75	61.53
130	59.21	58.12
140	61.97	58.12
150	61.97	61.97

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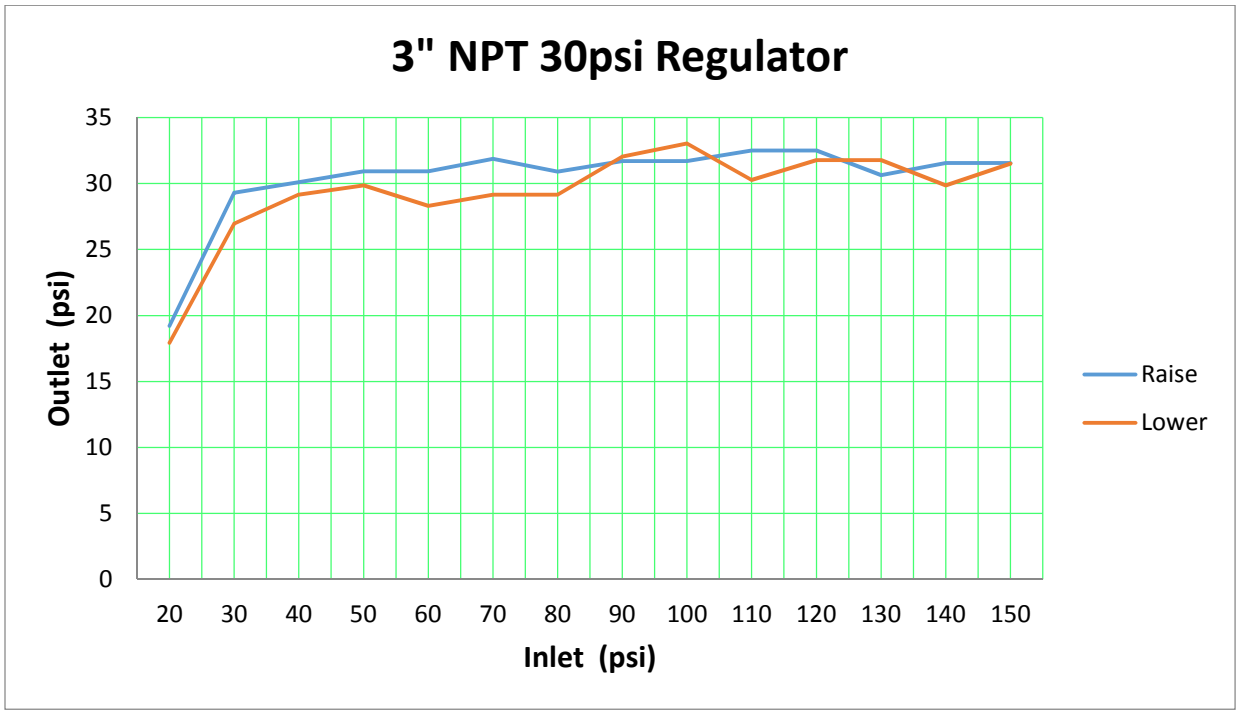

Inlet	Raise	Lower
20	19.22	17.93
30	29.31	26.95
40	30.1	29.15
50	30.94	29.87
60	30.94	28.3
70	31.87	29.15
80	30.9	29.15
90	31.7	32.05
100	31.7	33.05
110	32.5	30.27
120	32.5	31.77
130	30.64	31.77
140	31.55	29.85
150	31.55	31.5

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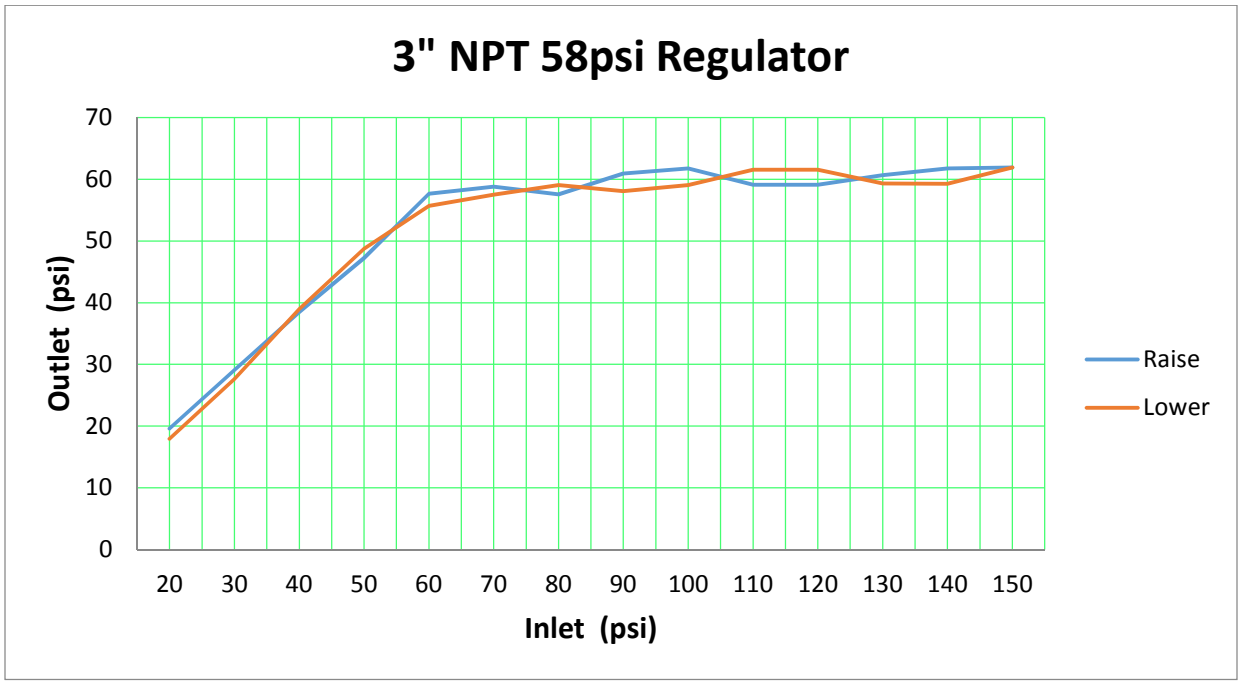

Inlet	Raise	Lower
20	19.62	17.94
30	29.1	27.66
40	38.46	39.02
50	47.26	48.76
60	57.64	55.7
70	58.79	57.5
80	57.54	59.05
90	60.93	58.09
100	61.75	59.07
110	59.12	61.56
120	59.12	61.56
130	60.65	59.32
140	61.75	59.25
150	61.93	61.93

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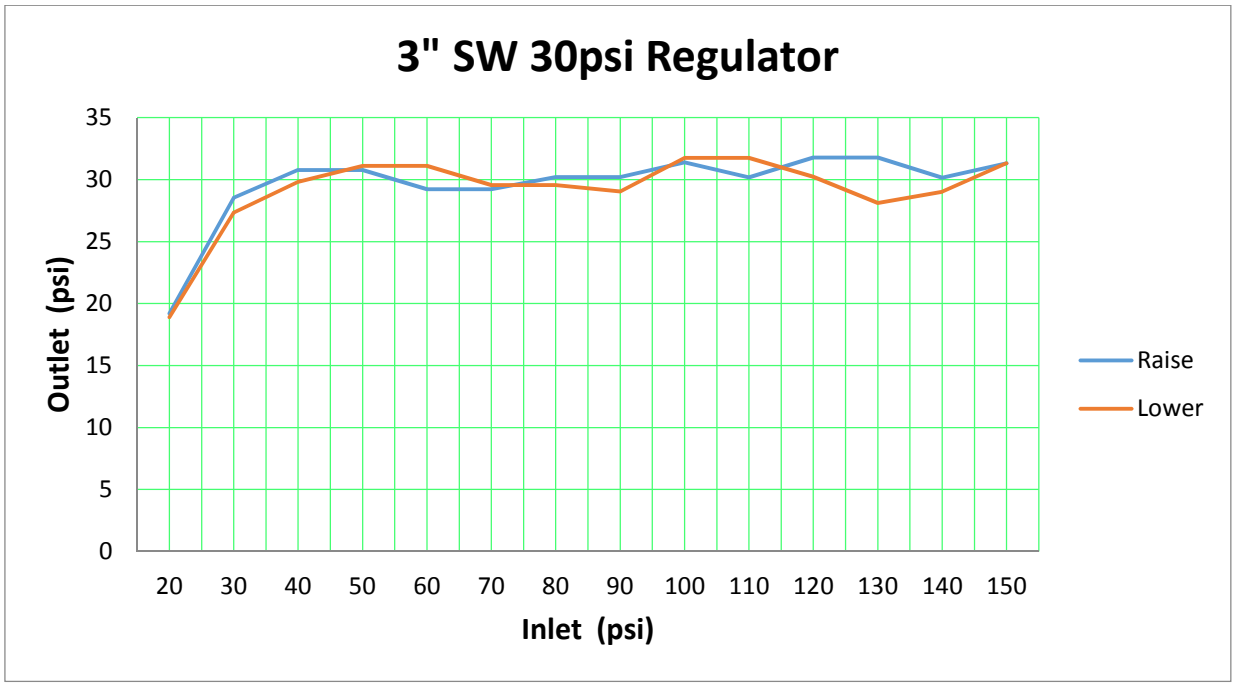

Inlet	Raise	Lower
20	19.21	18.91
30	28.52	27.33
40	30.76	29.81
50	30.76	31.1
60	29.21	31.1
70	29.21	29.55
80	30.2	29.55
90	30.2	29.05
100	31.4	31.75
110	30.17	31.75
120	31.77	30.24
130	31.77	28.1
140	30.16	29.02
150	31.32	31.32

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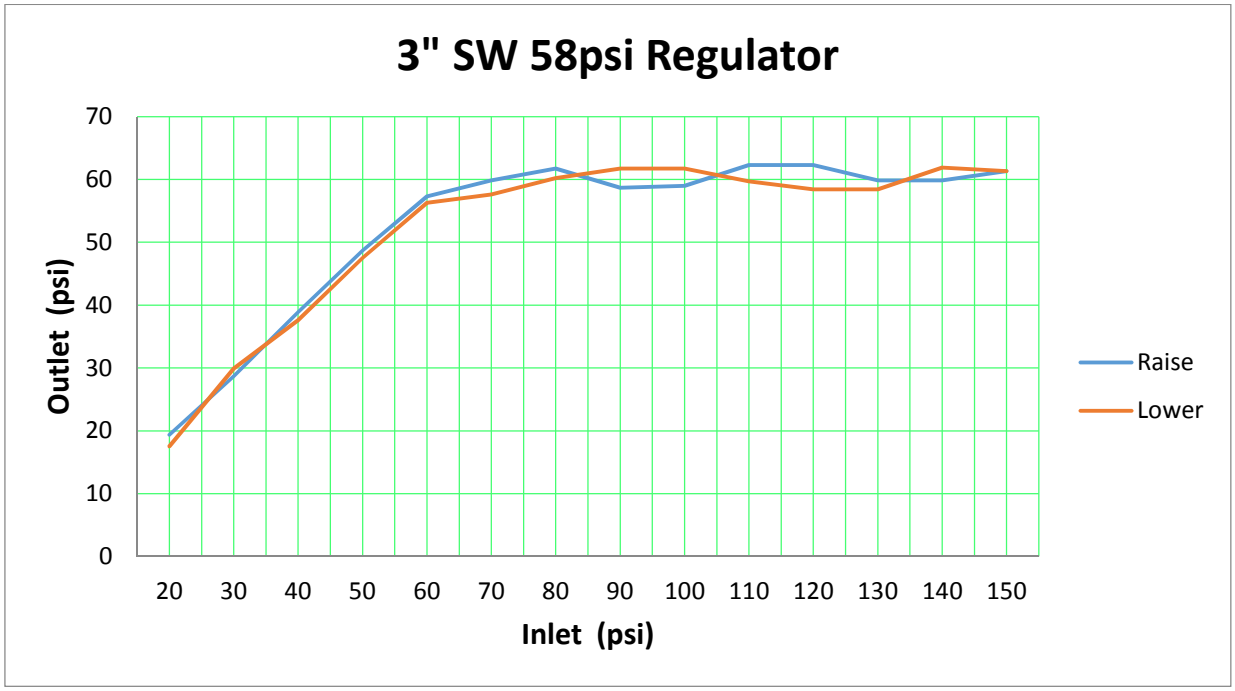

Inlet	Raise	Lower
20	19.35	17.54
30	28.67	29.89
40	38.87	37.59
50	48.67	47.54
60	57.32	56.3
70	59.87	57.63
80	61.75	60.21
90	58.65	61.74
100	58.97	61.75
110	62.31	59.67
120	62.31	58.42
130	59.87	58.42
140	59.87	61.9
150	61.34	61.34

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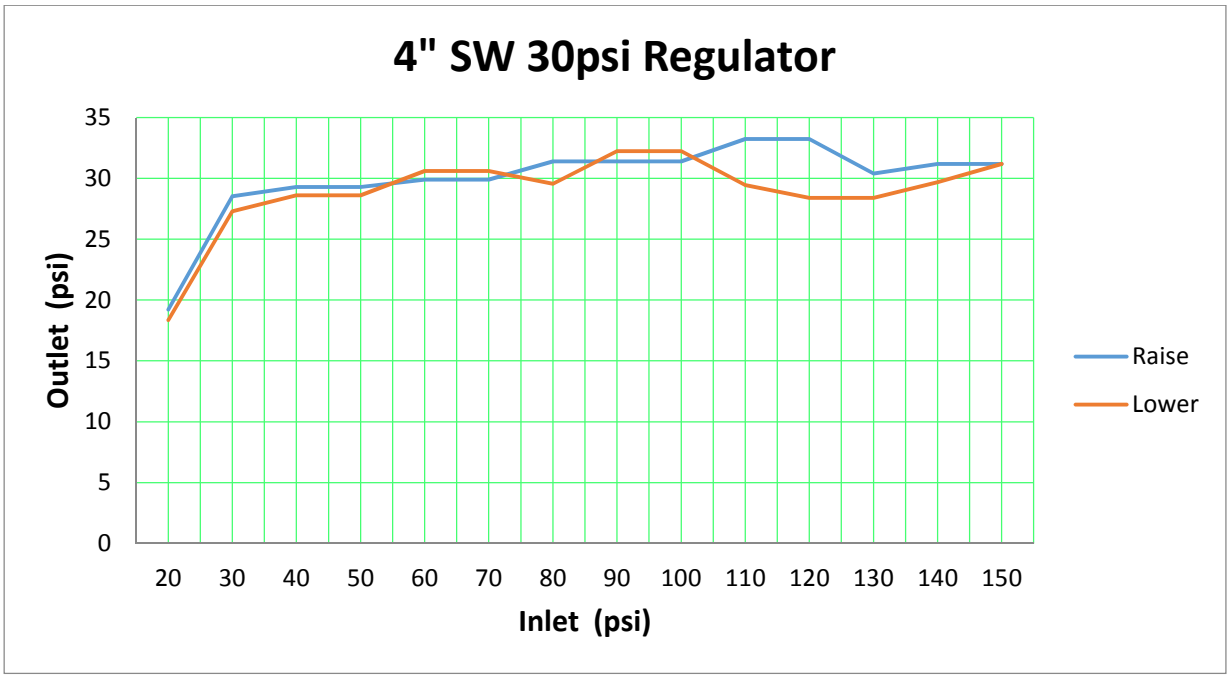

Inlet	Raise	Lower
20	19.21	18.36
30	28.52	27.3
40	29.3	28.6
50	29.3	28.6
60	29.9	30.6
70	29.9	30.6
80	31.4	29.55
90	31.4	32.25
100	31.4	32.25
110	33.25	29.46
120	33.25	28.4
130	30.4	28.4
140	31.2	29.7
150	31.2	31.2

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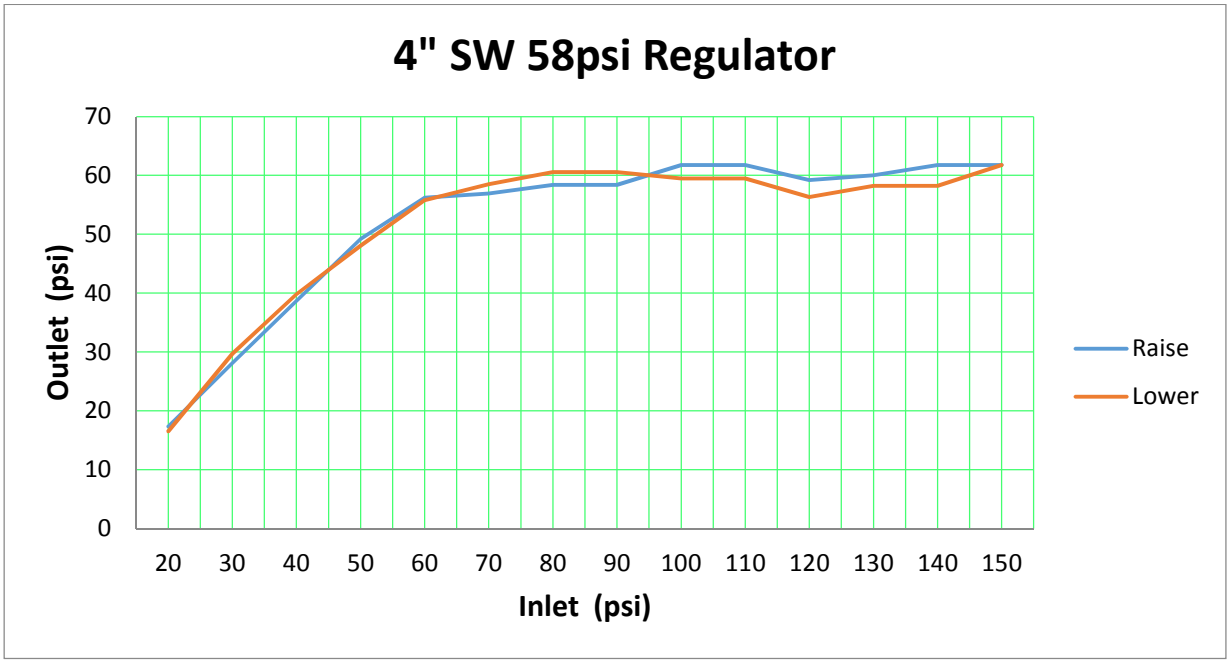

Inlet	Raise	Lower
20	17.35	16.52
30	28.12	29.66
40	38.63	39.78
50	49.21	48.04
60	56.21	55.78
70	56.91	58.5
80	58.42	60.55
90	58.42	60.55
100	61.76	59.47
110	61.76	59.47
120	59.23	56.34
130	60.05	58.25
140	61.76	58.25
150	61.76	61.76

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