

REGULATOR & PILOT: 3010 P and T SERIES PILOT-OPERATED REGULATING VALVES



3010P SERIES REGULATING VALVE WITH "MP" PRESSURE PILOT

- Max Inlet Pressure: 300 PSIG at 450 F
- Reduced Outlet Pressure Range: 3-200 PSIG
- Min Inlet Pressures:
15 PSIG standard main valve
- Ductile Iron or Cast Steel Construction Available

TYPICAL APPLICATIONS

The 3010 Series Regulator with the "P" Pressure Pilot is used for reducing steam pressure in piping mains and process applications. Pilot-operated regulators will maintain constant downstream pressure even when the inlet pressure to the regulator fluctuates or steam usage varies.

FEATURES

- The "MP" Pilot can maintain downstream pressure to ± 1 PSIG
- Choices of three overlapping pressure ranges
- Main valve head and seat can be fully removed while valve is inline for inspection and cleaning without special tools Fully guided stem assembly
- Pilot is easily installed using only four bolts
- Packless single seated design for dead tight shutoff

OPTIONS

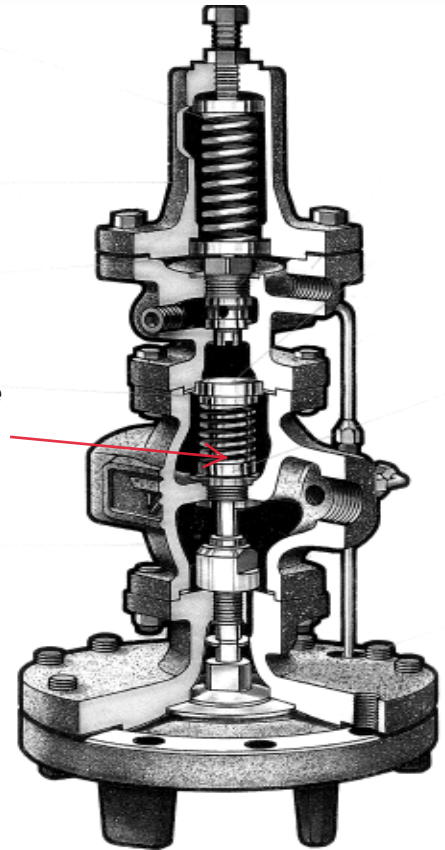
- Pressure and temperature pilots can be combined on the same regulator
- Solenoid pilot can be added for electrical on/off control of the regulator
- Can be used with solenoid and temperature pilots
- Can be used with electronic modulating pilot
- Carbon Steel Construction to 300 psig

MINIMUM OPERATING PRESSURES

Minimum Inlet Pressure:
15 PSIG

Minimum Differential Pressure:
10 PSI

Unique Feature Allows the Head and Seat to be Fully Removed For Service Without Removing the Lower Hood Making Dirt, Scale, and Debris Removal from the Seat Simple and Fast



PRESSURE-ADJUSTING SPRING RANGES "P"

PRESSURE RANGES	SPRING COLORS
3-25 PSIG	yellow
20-100 PSIG	blue
80-200 PSIG	red

PRESSURE-ADJUSTING SPRING RANGES "P5"

1-10 PSIG	yellow
10-25 PSIG	blue

The P-5 pilot is used for deaerator applications.

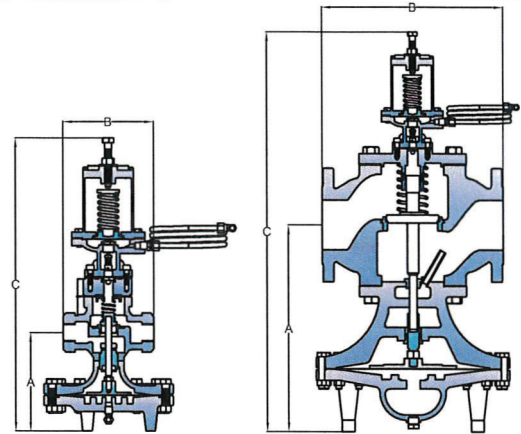
MATERIALS

Body	Ductile Iron
Cover	Ductile Iron
Gasket	Grafoil
Cover Screws	Steel
Pilot Adapter	Ductile Iron
Screen	Stainless Steel
Tubing	Copper
Valve Seat	Hardened SST (55 Rc)
Valve Disc	Hardened SST (55 Rc)
Diaphragm	Stainless Steel

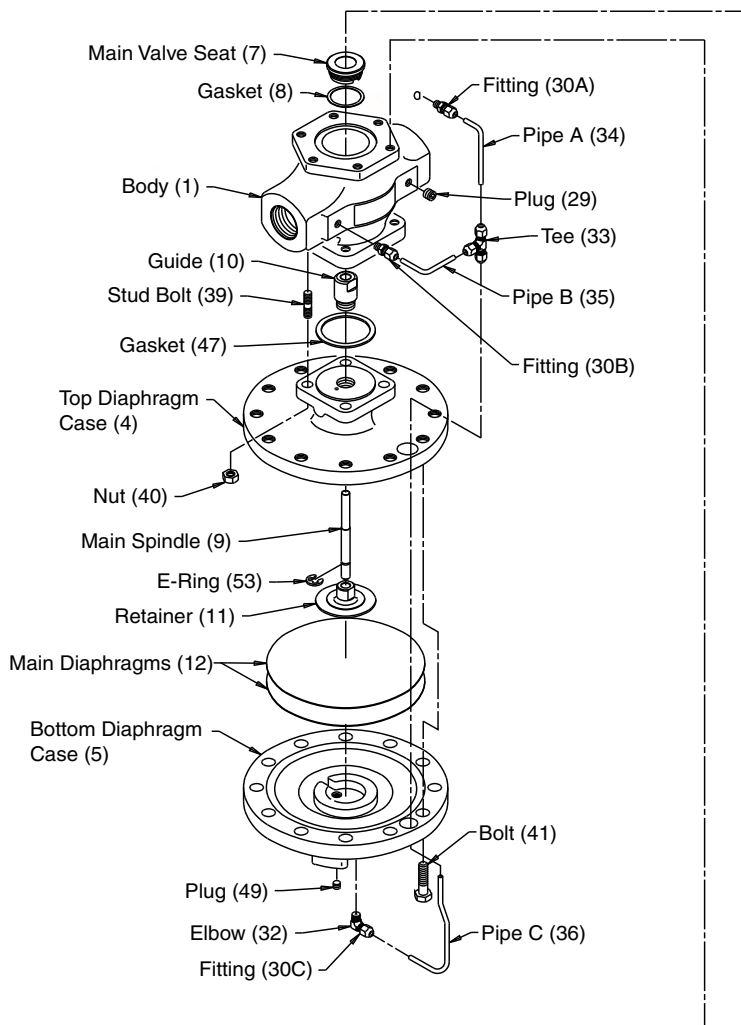
REGULATOR & PILOT : 3010P SERIES PILOT-OPERATED PRESSURE REGULATING VALVE



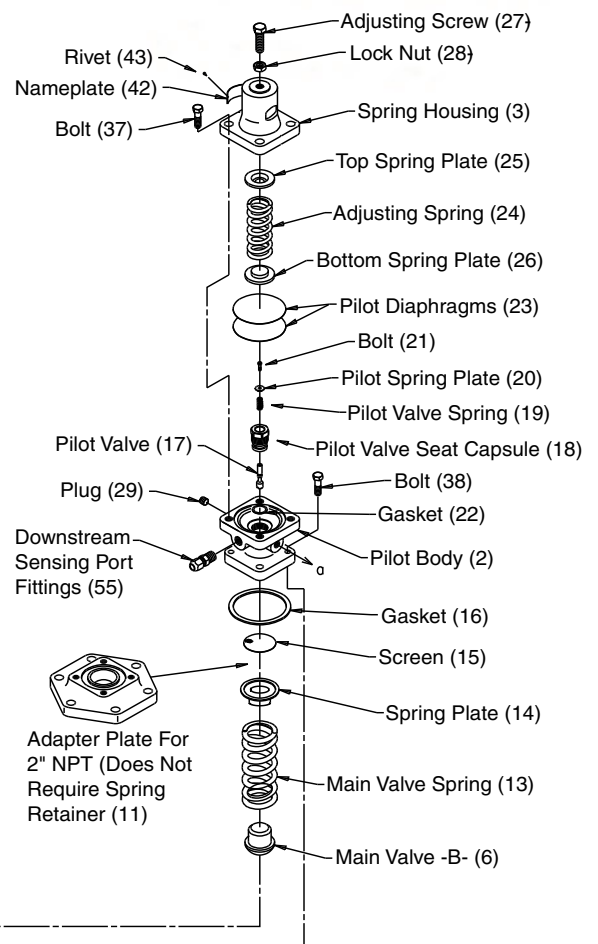
Size	Face to Face		Face to Face				Weight (lbs)		
	NPT	125#	150#	250#	300#	B	C	NPT	FLG
1/2"	5.5						15.5	27	
3/4"	5.5						15.5	27	
1"	6.5						16	35	
1 1/4"	7.2						17.5	39	
1 1/2"	7.2						17.5	39	
2"	9.2						19.5	63	
2 1/2"			10.5		11.5		21.8		150
3"			11.75		12.5		21.8		182
4"			13.5		14.25		25.7		252
6"			18.2		19				420



3010 II Figure 3-1



REPAIR PARTS IDENTIFICATION



NOTE: When ordering spare parts please specify valve size, connection and material

REGULATOR & PILOT : 3010P and T Series PILOT-OPERATED REGULATING VALVES



FULL PORT : SATURATED STEAM CAPACITIES

CAPACITIES – Steam (lbs/hr)		FULL PORT									
Inlet Pressure (PSIG)	Outlet Pressure (PSIG)	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	6"
C _v Factors		4	6.7	11	15	21	35	55	71	113	241
NOT RECOMMENDED UNDER 15 PSIG INLET PRESSURE											
15	0-3	190	325	550	750	1000	1800	2700	3500	5600	12000
	5	175	300	500	700	900	1700	2500	3200	5200	11100
	8	140	250	400	500	800	1300	2000	2600	4200	8900
20	0-5	210	375	625	850	1200	2100	3100	4000	6400	13700
	10	190	325	550	750	1000	1800	2700	3500	5600	12000
	12	170	300	500	675	950	1600	2500	3200	5100	10800
25	0-7	250	450	775	1050	1500	2600	3800	5000	7900	16900
	10	225	425	700	975	1300	2400	3600	4600	7300	15600
	15	200	350	600	800	1100	2000	3000	3900	6200	13200
30	0-12	275	500	800	1100	1500	2700	4100	5200	8300	17800
	15	250	450	750	1000	1400	2500	3800	4900	7800	16600
	20	225	375	650	850	1200	2100	3200	4100	6500	14000
35-40	0-18	350	600	1000	1350	1900	3300	5000	6400	10300	21900
	25	300	500	850	1150	1600	2800	4200	5400	8700	18500
	30	250	425	700	1000	1400	2500	3700	4700	7600	16100
45-50	0-20	400	700	1200	1650	2300	4100	6000	7800	12400	26500
	30	350	650	1100	1500	2000	3600	5400	6900	11000	23600
	40	275	500	800	1100	1500	2700	4100	5200	8300	17800
55-60	0-30	475	850	1350	1900	2600	4600	6900	8900	14200	30300
	35	425	775	1250	1700	2400	4300	6400	8200	13100	27900
	50	300	525	850	1200	1600	2900	4300	5600	8900	19000
65-75	0-35	575	1000	1650	2300	3200	5600	8300	10800	17200	36600
	50	475	825	1350	1900	2600	4600	6900	8900	14100	30100
	60	400	700	1150	1600	2200	3900	5800	7400	11800	25200
80-90	0-45	675	1200	1950	2700	3700	6600	9800	12700	20200	43100
	60	575	1000	1700	2300	3200	5700	8500	10900	17400	37100
	75	425	750	1200	1700	2300	4100	6100	7900	12600	27000
95-100	0-50	750	1300	2100	3000	4100	7300	10800	14000	22200	47500
	60	700	1200	2000	2700	3800	6700	10000	12900	20500	43800
	80	500	875	1400	1900	2700	4800	7100	9200	14700	31300
115-125	0-60	925	1650	2700	3700	5200	9100	14000	17500	28000	59500
	75	825	1475	2400	3300	4600	8200	12200	15700	25000	53500
	100	625	1100	1800	2500	3500	6200	9200	11900	19000	40400
135-150	0-75	1100	1900	3100	4300	6000	10600	15800	20400	32400	69100
	100	925	1600	2700	3600	5100	9000	13400	17400	27700	59000
	125	650	1150	1900	2600	3600	6400	9500	12300	19600	41900
160-175	0-85	1275	2250	3700	5000	7100	12500	18600	24000	38200	81400
	125	1000	1800	2900	4000	5600	9900	14700	18900	30100	64300
	150	750	1300	2100	2900	4100	7300	10800	14000	22200	47500
180-200	0-100	1450	2500	4200	5700	8000	14100	21000	27100	43100	92000
	125	1300	2300	3700	5100	7100	12600	18700	24100	38400	81900
	150	1075	1900	3100	4300	6000	10600	15700	20300	32300	68900
225	0-120	1575	2800	4600	6200	8700	15400	22900	29500	47000	100200
	150	1450	2500	4200	5700	8000	14100	21000	27200	43300	92300
	175	1350	2400	3900	5300	7400	13100	19500	25200	40100	85500
250	0-130	1750	3100	5100	6900	9700	17100	25500	32900	53400	111800
	150	1650	2900	4700	6500	9100	16000	23800	30800	49000	104600
	200	1200	2100	3500	4800	6700	11900	17600	22800	36200	77300
300	0-160	2045	3605	5920	8075	11310	19220	29610	38230	60840	129750
	175	1945	3425	5625	7670	10740	18925	28130	36320	57800	123270
	200	1780	3140	5155	7030	9840	17340	25780	33275	52960	112950

Note: For inlet pressures in shaded area, use low pressure main valve and this must be specified when ordering.

Capacities based on accuracy of plus or minus 2 psig under normal operating conditions. Accuracy may vary under load extreme conditions

Capacities may vary based on piping geometry, supply size, and reductions in piping. Consult Thermaflo for recommendations and review.

When sizing 3010-T and PT Regulators assume a pressure drop of 40% of inlet pressure to establish capacity if pressure drops is unknown

3010-T Pilot Operated Temperature Regulator



For Steam Service

The 3010-T is a rugged high performance externally piloted temperature regulator for large capacity applications such as heat exchangers, hot water storage tanks, boiler feed and surge tanks and parts washers. It is self-actuated and requires no external energy source. Capillary units mount in any position and can be easily disconnected and interchanged, offering the end user an

easy installation and maximum application flexibility. Available in sizes 1/2" through 6" with six temperature ranges and three capillary lengths. The 3010T can be fitted with an electric 120V on off solenoid valve for turning the valve on or off, and for high temperature shutdown using an external temperature switch

The thermal sensor connection is 3/4" and 1" when used with a thermowell. Pilots can be combined to control pressure and temperature.

3010T and PT Specifications

Application	Inlet Pressure psig (barg)	Reduced Pressure psig (barg)	Temperature Ranges °F (°C)	Temperature Accuracy °F (°C)	Capillary Lengths feet (meters)
Steam	NPT 10 - 300 (.69 - 20) 150 lb Flanged 10 - 185 (.69 - 13) 300 lb Flanged 10 - 300 (.69 - 20)	7 (.48)	18 - 59 (-8 - 15) 50 - 97 (10 - 36) 86 - 144 (30 - 62) 131 - 201 (55 - 94) 176 - 260 (80 - 127) 239 - 361 (115 - 183)	±4 (± 2 From Set Point Normal Conditions)	*6-1/2 (2) 9-1/2 (3) 16-1/2 (5)

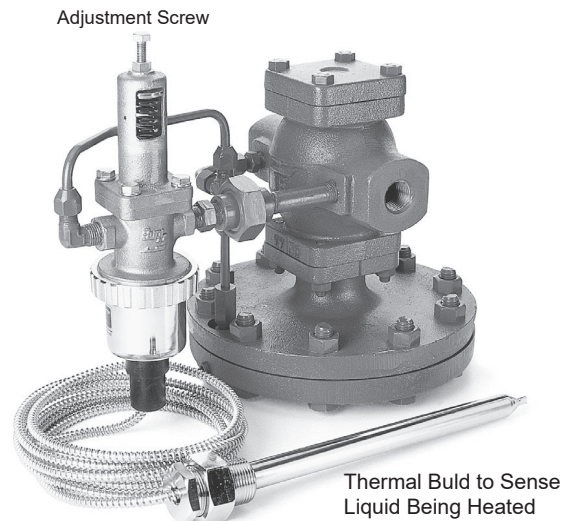
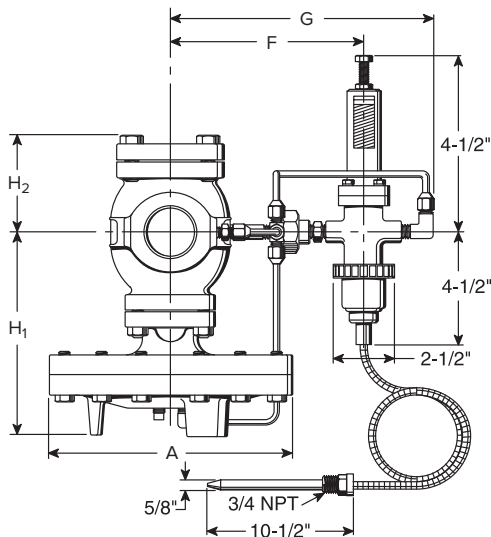
*Standard length. Note: If desired set temperature is in temperature range overlap, select lower range.

When sizing the 3010-T or PT a pressure drop of 40% of inlet pressure can be assumed to establish a steam flow capacity.

See the 3010P Sizing Chart for capacities. It is recommended to limit the inlet pressure to 150 psig maximum for the 3010-T or PT.

3010-T and PT Dimensions and Weights

Size	Face-to-Face						H ₁	H ₂	A	F	G	Weight											
	NPT		150#		300#							NPT		150#		300#							
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	lb	kg	lb	kg	lb	kg	lb	kg		
1/2	15	5-15/16	150	-	-	-	-	6-3/4	170	2-15/16	74	7-15/16	200	6-5/8	169	8-3/4	222	31	15	33	15	39	18
3/4	20	5-15/16	150	-	-	-	-	6-3/4	170	2-15/16	74	7-15/16	200	6-5/8	169	8-3/4	222	31	15	33	15	39	18
1	25	6-15/16	160	5-3/4	147	-	-	6-15/16	175	3-1/16	76	8-15/16	226	6-7/8	174	8-7/8	226	39	19	41	20	47	21
1-1/4	32	7-1/8	180	6-1/2	166	-	-	7-5/8	192	3-9/16	90	8-5/16	226	7-1/8	182	9-1/4	235	47	22	49	23	54	24
1-1/2	40	7-1/8	180	7-7/16	189	-	-	7-5/8	192	3-9/16	90	8-15/16	226	7-1/8	182	9-1/4	235	47	22	49	23	54	24
2	50	9-1/8	230	8-9/16	217	9-1/8	232	8-1/2	216	4-1/16	103	10-15/16	276	7-7/16	189	9-1/2	242	71	33	77	36	78	36
2-1/2	65	-	-	10-15/16	278	11-1/2	292	9-13/16	251	4-7/8	122	13-13/16	352	8-1/8	206	10-1/8	259	-	-	138	63	140	64
3	80	-	-	11-3/4	298	12-7/16	315	10-7/16	264	5-3/8	135	13-13/16	352	8-9/16	217	10-5/8	270	-	-	149	69	155	71
4	100	-	-	13-1/2	343	14-1/8	359	12-5/8	321	6-9/16	167	15-13/16	401	9-1/4	234	11-1/4	287	-	-	234	107	243	110



3010-T Temperature Regulators Use Side Mounted Pilots as Shown

Designs, materials, weights and performance ratings are approximate and subject to change without notice. www.thermafloengineering.com

Thermaflo Engineering Inc. 2880 Fair Avenue Newberry, South Carolina 29018 704-940-1228 www.thermafloengineering.com