



MODEL POSR-2

PRESSURE REDUCING REGULATOR – PILOT OPERATED



MODEL POSR-2

**STEAM SERVICE
ONLY**

The Model POSR-2 is a pilot operated regulator primarily for use with steam. The external pilot valve is supplied from a main valve body tapped connection. Sizes are 1", 1-1/2", 2", 3" and 4" (DN25, 40, 50, 80 and 100). Handles pressure drops up to 200 psi with adjustable outlet pressures between 5 and 150 psig.

FEATURES

- Hardened Trim:** Hardened pilot and main valve trim for long life.
- Bellows Seal:** The pilot uses a bellows as a frictionless seal for the pilot valve plug. It was incorporated to insure that the pilot maintains its sensitivity and smooth operation in older steam systems that are chemically treated and systems that are used intermittently. Prevents common "sticking" of pilot valve.
- High Sensitivity:** Four pilot range springs provide high sensitivity and contribute to the valve's excellent stability.
- Two Body Materials:** Cast iron or cast steel.
- Easy to Install:** A 1/4" NPT sensing line and the valve body are the only connections required.

APPLICATIONS

Primarily used in steam distribution systems for the first pressure letdown to comply with commercial codes. Used in hospitals, hotels, motels, office buildings, factories, apartment buildings, warehouses, shopping malls, green houses, university buildings, sport complexes and airports.

Used on stills, cookers, dryers, presses, pasteurizers, purifiers, sterilizers, mangles, washers, rendering machines, bleachers, vulcanizers, oil heaters, molding machines, steam jacketed equipment, kilns, retorts, heat exchangers, paper and board machines, steam driven auxiliaries, blowers, pumps and centrifuges.

STANDARD/GENERAL SPECIFICATIONS

Body Sizes: 1", 1-1/2", 2", 3" and 4"
(DN25, 40, 50, 80 and 100).

End Connections: NPT – Body sizes 1", 1-1/2" and 2"
(DN25, 40 & 50)
F-to-F dimensions per ISA S75.12-1987.

Flanged – CI Body: 125# FF/250# RF
Integral – 1-1/2", 2", 3" and 4"
(DN 40, 50, 80 and 100).
CS Body: 150# RF/300# RF
Separable – 1", 1-1/2", 2" and 3"
(DN25, 40, 50 and 80).
150# RF/300# RF Integral – 4"
(DN 100)

Dimensions: See Tables 6, 7 and 8 for F-to-F dimensions per mounting position. 250# and 300# flanges per ISA S75.03-1984. 125# and 150# flanges not standard.

Main Valve Body/ Bonnet/Cyl./ Head — CI/DI/CS/CS — DI/CI
CS/DI/CS/CS — DI/CI
CS/DI/CS/CS — DI/CS

Pilot Body/ Spring Chamber Materials CI = Cast Iron
CS = Carbon Steel

Combinations: DI = Ductile Iron

See Table 1 for materials specifications.

Inlet Pressure:

Body Material	Max. Pressure *	
	psig	(Barg)
CI	250	(17.2)
CS	300	(20.7)

* Function of end connection; see Table 1.

Temperature: Maximum 450°F (232°C) @ inlet.

Outlet Pressure: 5–150 psig (0.34–10.3 Barg) in four range springs. See Table 2.

Pressure Drop: Maximum – 200 psid (13.8 Bard).
Minimum – Body sizes 1", 1-1/2" and 2" (DN25, 40 and 50) — 15 psid (1.03 Bard).
Body sizes 3" and 4" (DN 80 and 100) — 20 psid (1.38 Bard).

Capacity – Cv:

Body Size	Max Cv
1" (DN 25)	11
1-1/2" (DN40)	20
2" (DN50)	39
3" (DN80)	66
4" (DN100)	88

See Table 5 for capacity in #/Hr at various pressure conditions.
See Table 4 for wide open Cv's and orifice size; use for safety relief valve sizing.

Seat Leakage: Class IV per ANSI/FCI 70-2.

Painting: Standard enamel per Cashco Spec. #S-1545. SST, brass and copper are non-painted.
Optional: See Opt-95.

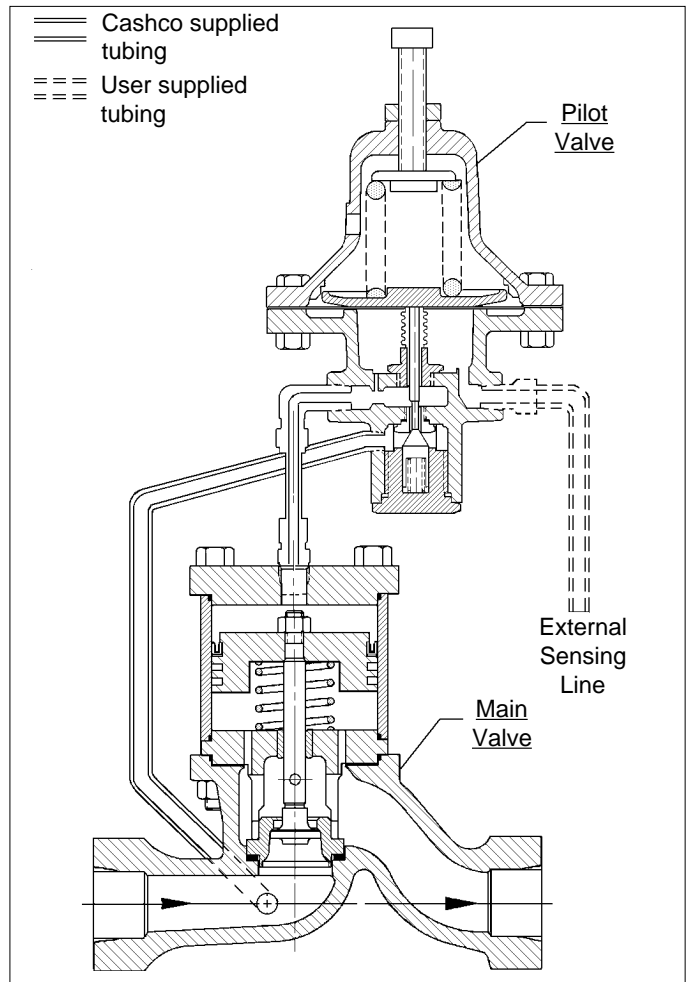


FIGURE 1: POSR-2

MAIN VALVE MATERIAL SPECIFICATIONS

Body:	CI – ASTM A126, Class B. CS – ASTM A216, Gr. WCB.	Orientation:	Three possible arrangements, dependent on flow direction. <i>See Figure 2.</i>
Bonnet:	DI – ASTM A395. NOTE: <i>Cage integral with bonnet.</i>	Cylinder/Bonnet Bolting:	CS, zinc plated.
Cylinder:	CS – ASTM A513. Interior surface coated with salt nitrated melonite, mechanically polished.	Gaskets:	<u>Seat ring</u> – 304 SST/carbon <u>Cylinder</u> – TFE
Head:	CS – ASTM A285, Gr. B/C.	Piping Inter-connectors:	<u>Pipe</u> – CS, Schedule 80; ASTM A53, Gr. B, or ASTM A106, Gr. B. <u>Fittings:</u> Malleable iron, Class 300.
Trim:	Trim designation number S2; <i>see Table 3.</i>	Tube and Fittings:	<u>Tube:</u> Annealed copper, 1/4" OD, 0.030 inch wall thickness. <u>Fittings:</u> Brass, 1/4" Tube x 1/4" NPT.

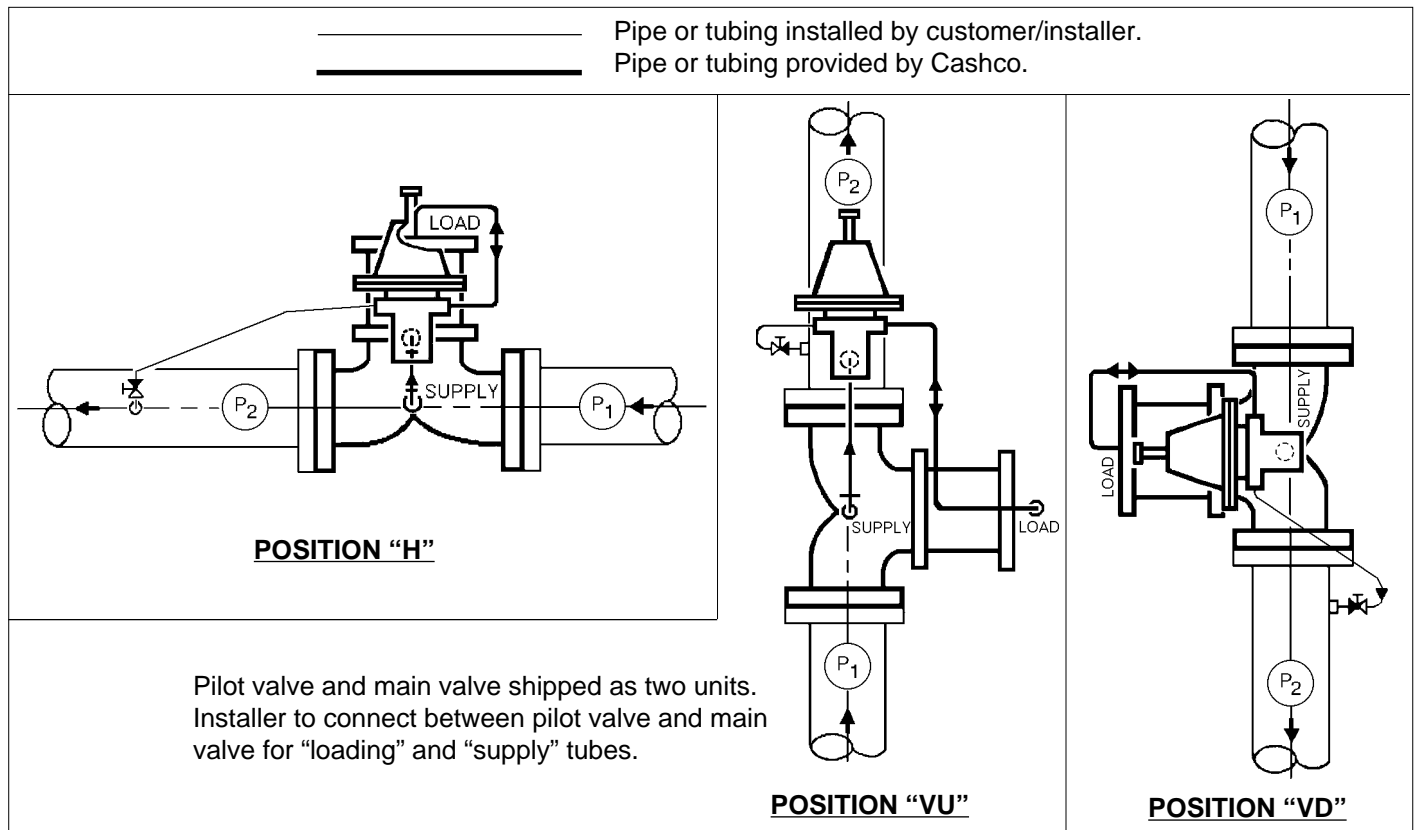


FIGURE 2
Orientation/Arrangement

PILOT VALVE MATERIAL SPECIFICATIONS

Body:	DI – ASTM A395.	Trim:	Trim designation number S2; <i>see Table 3.</i>
Spring Chamber:	CI – ASTM A126, Cl. B. CS – ASTM A216, Gr. WCB.	Gaskets:	<u>Seat ring</u> – Annealed copper. <u>Diaphragm</u> – Aramid/SBR; non-asbestos.

Body Cap:	SST – ASTM A582, Type 416.	Spring Button:	Cl.
Range Spring:	Heat treated CS, zinc plated.	Pressure Plate:	Cl.
Adjusting Screw & Lock Nut:	CS, zinc plated.		

OPTION SPECIFICATIONS

Option -3:	<u>HAND WHEEL & LOCKING LEVER.</u> Utilize when pressure setting changes are frequent.	Option-95:	<u>EPOXY PAINTED.</u> Two-step epoxy coated for severe ambient conditions to minimize external corrosion. Applied to all exposed parts <u>except</u> those of SST, copper and brass. Procedures and specifications per Cashco spec #S-1547.
Option-56:	<u>SPECIAL CLEANING.</u> Cleaning per Cashco Spec #S-1542. Higher degree of cleaning than the standard commercial cleaning.		

PRINCIPLES OF OPERATION

The POSR-2 pilot obtains its operating medium from the main valve body inlet. Downstream pressure P_2 registers on the underside of the main valve's piston and the pilot valve's diaphragm.

The loading pressure on the main valve's piston is higher than the downstream P_2 pressure by the sum of the pressures required to overcome the main valve's unbalance plug force and the piston spring's force.

The pilot has a downstream bleed orifice that bleeds part of the loading medium downstream. In operation, the pilot valve's plug can flow more medium than is bled downstream. This increases the loading pressure on the main valve's piston which increases the opening of the valve's plug. Partially closing the pilot valve's plug will reduce its flow to less than the amount bleeding downstream, and allows the loading pressure on the main valve's piston to decay, allowing partial closing of the main valve's plug.

The pilot valve's diaphragm senses the downstream P_2 pressure and compares the force generated to the force developed by the pilot's range spring.

If during operation the downstream P_2 pressure falls

below the set point, the main valve's piston senses the reduced pressure on its underside and instantly moves down. This increases the flow through the main valve's plug. At the same time, the pilot senses the reduced pressure and the pilot valve's plug increases its opening. This action elevates the loading pressure on the upper side of the main valve's piston, opens the main valve's plug more and increases flow enough to restore the downstream P_2 pressure to the set point.

If the downstream P_2 pressure rises above the set point, the force developed by the increased pressure on the underside of the piston instantly moves it upward and partially closes the main valve's plug. Meanwhile, the pilot valve's plug partially closes and allows the loading pressure to decay. The reduced loading pressure on the upper side of the piston closes the main valve's plug enough to restore the downstream P_2 pressure to the setpoint.

Pressure setpoint is adjusted by changing the compression of the pilot's range spring. Compressing the range spring will increase the downstream P_2 pressure. Relaxing the range spring decreases the downstream P_2 pressure. See Figure 3.

APPLICATION AND SELECTION

The following procedure will help determine a suitable selection for an application.

- STEP 1. FOUR KNOWNS. The following minimal parameters/data must be available before a selection procedure can begin:
- a. Inlet Pressure – P_1 (upstream pressure), weight density.
 - b. Outlet Pressure – P_2 (downstream pressure). How much can P_2 vary as flow varies; i.e. acceptable "droop".
 - c. Desired Capacity – C_v , #/Hr; minimum and maximum.
 - d. Steam Temperature – T_1 , saturated, degrees superheat, actual temperature; weight density.

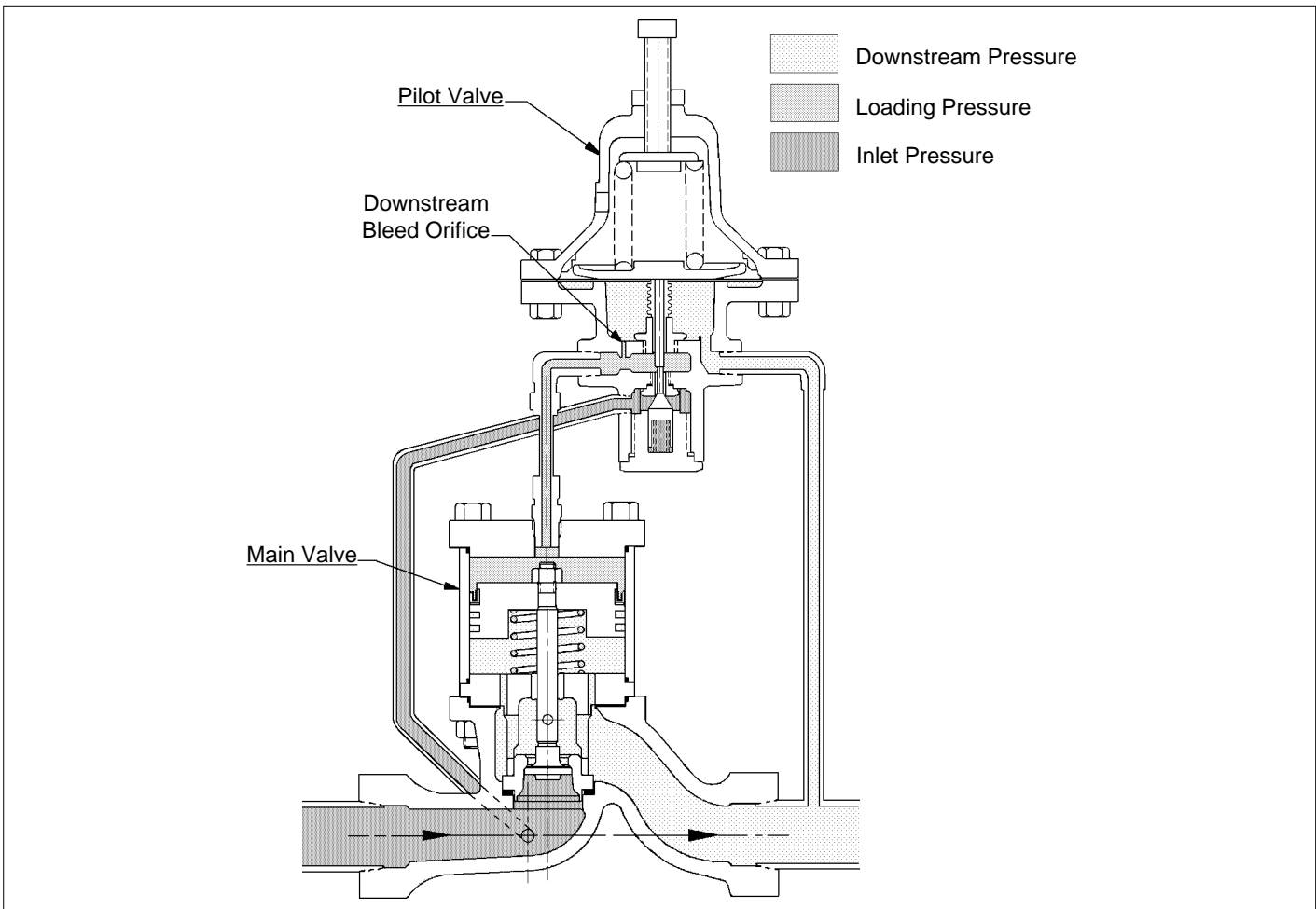


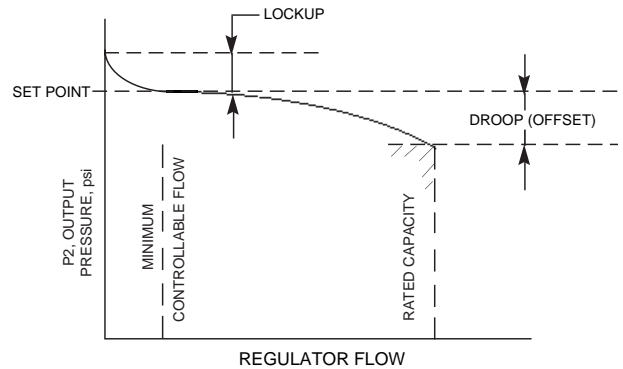
FIGURE 3:

STEP 2. INLET PRESSURE AND TEMPERATURE. Ensure that the actual design inlet pressure and temperature limits do not exceed the limits established in Table 1 for the materials and end connection-type being applied.

STEP 3. OUTLET PRESSURE. There is a separate P vs. T rating for outlet of the POSR-2, with the outlet rating being lower; see limits established in Table 1.

All pilot operated pressure reducing regulators “droop” or “falloff” from a setpoint pressure level at a given flow as the flow rate increases. This deviation in setpoint is described as “% droop”. Droop is expressed on increasing flow, starting from a minimum flow level.

The “% droop” must be known to enter the capacity tables. The acceptable level of setpoint deviation should be known for the min-to-max flow variations.



A regulator may have a setpoint up to 15% below the lower stated range spring level. (Tags will show the standard ranges.) A setpoint above the higher range spring level is not recommended. Setpoint at the upper limit of a range spring is acceptable. If final setpoint is questionable and expected near the upper limit, the next higher range spring should be utilized. Best performance will be obtained when the lowest range spring is utilized.

See Table 1 for outlet pressure, operating pressure and emergency overpressure levels. Reaching the emergency overpressure levels may cause internal damage to the pilot on main valve, requiring maintenance.

STEP 6.

PIPE ORIENTATION. See Figure 2. The orientation for best operation is with a horizontal pipe; this position gives the best “drainage” for any condensate formed. Trapped condensate can adversely affect operation.

STEP 4.

PRESSURE DROP. Maximum $\Delta P = 200$ psid (13.8 Bard) for all body sizes. Minimum $\Delta P = 15$ psid (1.03 Bard) for 1" through 2" body sizes, and $\Delta P = 20$ psid (1.38 Bard) for 3" and 4" body sizes. Do not exceed or go below these limits.

For vertical pipe orientation there are two arrangements depending on whether flow is “up” or “down”; see *Figure 2*.

STEP 5.

CAPACITY. With the four knowns of Step 1, calculate the Cv Required. Consult your Cashco Sales Representative for sizing, selection and noise prediction by computer.
Alternate – Using the flow rate and pressures, enter Table 5 to find the body size capable of passing the required flow rate.

STEP 7.

SAFETY RELIEF VALVE. A downstream safety relief is recommended for main or pilot valve internals failure. If flow is isolated downstream (not recommended), a sentinel relief valve must be provided to relieve seat leakage buildup.

TECHNICAL SPECIFICATIONS

**TABLE 1
DESIGN PRESSURE-TEMPERATURE
MATERIAL SPECIFICATIONS**

Material Specifications				Main Valve End Conns.	Inlet		Outlet								
							* Operating Pressure	** Emergency Overpressure Spring Range							
Main Valve		Pilot Valve		psig (Barg)	°F (°C)	psig (Barg)		10–40 psig	5–15 psig						
Descrip. (Abbr.)	ASTM No.	Descrip. (Abbr.)	ASTM No.				psig (Barg)	Temp	psig (Barg)	psig (Barg)	psig (Barg)				
CI/DI/CS/CS	A126-CI. B/ A395/ A513/ A285, Gr. B	DI/CI	A395/ A126, CI. B	125# Flgd.	145 (10.)	375 (191)	1.10 x UVRS up to 125 psig (up to 8.6 Barg)	145 (10.0)	100 (6.9)						
					140 (9.7)	400 (205)		140 (9.7)	100 (6.9)						
					130 (9.0)	425 (219)		130 (9.0)	100 (6.9)						
					125 (8.6)	450 (232)		125 (8.6)	100 (6.9)						
CS/DI/CS/CS	A216, Gr. WCB/ A395/ A513/ A285, Gr. B	DI/CI	A395/ A126, CI. B	250# Flgd. or NPT	270 (18.6)	425 (219)	1.10 x UVRS up to 150 psig (up to 10.3 Barg)	150 (10.3)	100 (6.9)						
					250 (17.2)	450 (232)									
					DI/CS	A395/A216, Gr. WCB				150# Flgd.	200 (13.8)	400 (205)	1.10 x UVRS up to 150 psig (up to 10.3 Barg)	150 (10.3)	100 (6.9)
											185 (12.7)	450 (232)			
		DI/CI	A395/ A126, CI. B	300# Flgd. or NPT	200 (13.8)	400 (205)	1.10 x UVRS up to 150 psig (up to 10.3 Barg)	150 (10.3)	100 (6.9)						
					185 (12.7)	450 (232)									
		DI/CS	A395/ A216, Gr. WCB	300# Flgd. or NPT	300 (20.7)	450 (232)	1.10 x UVRS up to 150 psig (up to 10.3 Barg)	150 (10.3)	100 (6.9)						
					300 (20.7)	450 (232)				200 (13.8)	100 (6.9)				

* Limit is the lower pressure value of 125/150 psig (8.6/10.3 Barg), or the factor x UVRS (UVRS = “Upper Value of Range Spring). **Example:** Steel body – for a 30-80 psig (2.1–5.5 Barg) standard range spring, the 1.10 x UVRS value = 1.10 x 80 = 88 psig; 88 < 150, therefore pressure limit = 88 psig (1.10 x 5.5 = 6.1 Barg; 6.1 < 10.3, therefore pressure limit = 6.1 Barg).

** **Emergency Overpressure.** Safety relief valve $P_{\text{setpoint}} + P_{\text{accumulation}}$ must not exceed this pressure level.

NOTE: All outlet temperature levels are thermodynamically determined by the maximum inlet pressure/temperature conditions.

TABLE 2
RANGE SPRINGS

Outlet Range		Emergency Overpressure	
psig	(Barg)	psig	(Barg)
5-15	(.34-1.03)	100	(6.9)
10-40	(.69-2.8)	200	(13.8)
30-80	(2.1-5.5)		
70-150	(4.8-10.3)		

TABLE 3
TRIM MATERIALS

Part	SST Trim Designation Number		Part
	Main Valve	Pilot Valve	
	S2	S2	
Plug/Stem	17-4 PH Cond. H-1075 RC ≈ 32-35	Hardened 416 SST RC ≈ 35-39	Plug/Stem
			Stem Extension
Seat Ring	Hardened 416 SST RC ≈ 35-39	Hardened 416 SST Rc ≈ 35-39	Seat Ring
Piston	Brass	302 SST	Diaphragm
Piston Spring	17-4 PH SST	302 SST	Piston Spring
Piston Seal	SST / TFE	Brass	Bellows Assembly
Stem Nut	CS, Zinc Plated		
Stem Guide	17-4 PH Cond. H-1075	316 SST	Screen

TABLE 4
WIDE OPEN CAPACITY – MAX Cv
(Use for Safety Relief Valve Sizing)

Body Size		Orifice Size		Max Cv
in	(mm)	in	(mm)	
1"	(DN25)	.75	(19)	11
1-1/2"	(DN40)	1.25	(32)	20
2"	(DN50)	1.75	(44)	39
3"	(DN 80)	2.50	(64)	66
4"	(DN100)	2.88	(73)	88

TABLE 5
STEAM CAPACITIES IN LBS/HR; SATURATED STEAM

Outlet Press. P2,psig	Inlet Press. P1,psig	Press. Drop psi	#/Hr @ 1" Body Size				#/Hr @ 1-1/2" Body Size				#/Hr @ 2" Body Size				#/Hr @ 3" Body Size				#/Hr @ 4" Body Size			
			DROOP				DROOP				DROOP				DROOP				DROOP			
			2.5%	5.0%	7.5%	10.0%	2.5%	5.0%	7.5%	10.0%	2.5%	5.0%	7.5%	10.0%	2.5%	5.0%	7.5%	10.0%	2.5%	5.0%	7.5%	10.0%
10	25	15	167	333	500	667	303	606	909	1212	591	1182	1773	2364	LO DP	LO DP	LO DP	LO DP	LO DP	LO DP	LO DP	LO DP
	50	40	288	575	863	1150	523	1046	1568	2091	1019	2039	3058	4078	1725	3450	5176	6901	2300	4600	6901	9201
	75	65	410	819	1229	1639	745	1490	2235	2980	1453	2905	4358	5810	2458	4916	7374	9833	3278	6555	9833	13110
	100	90	729	1563	1771	2084	1326	2842	3221	3789	2586	5542	6280	7389	4376	9378	10628	12504	5835	12504	14171	16672
	125	115	1136	2273	SONIC	SONIC	2066	4132	4362	4591	4029	8057	8505	8953	6818	13636	14393	15151	9090	18181	19191	20201
	150	140	1363	SONIC	SONIC	SONIC	2477	4944	5170	5386	4831	SONIC	SONIC	SONIC	8176	16315	17062	17773	10901	21754	22749	23697
	175	165	1600	SONIC	SONIC	SONIC	2908	SONIC	SONIC	SONIC	5671	SONIC	SONIC	SONIC	9597	19092	SONIC	SONIC	12796	25456	26409	27225
200	190	1807	SONIC	SONIC	SONIC	3285	SONIC	SONIC	SONIC	6406	SONIC	SONIC	SONIC	10841	SONIC	SONIC	SONIC	14454	28755	29831	30754	
15	50	35	285	570	856	1141	519	1037	1556	2074	1011	2022	3033	4045	1711	3422	5134	6845	2282	4563	6845	9126
	75	60	406	812	1219	1625	739	1477	2216	2954	1440	2880	4321	5761	2437	4875	7312	9749	3250	6499	9749	12999
	100	85	729	1563	1771	2084	1326	2842	3221	3789	2586	5542	6280	7389	4376	9378	10628	12504	5835	12504	14171	16672
	125	110	1136	2273	2399	2525	2066	4132	4362	4591	4029	8057	8505	8953	6818	13636	14393	15151	9090	18181	19191	20201
	150	135	1363	2719	SONIC	SONIC	2477	4944	5170	5386	4831	9641	10082	10502	8176	16315	17062	17773	10901	21754	22749	23697
	175	160	1600	SONIC	SONIC	SONIC	2908	5785	6002	6188	5671	SONIC	SONIC	SONIC	9597	19092	19807	20419	12796	25456	26409	27225
	200	185	1807	SONIC	SONIC	SONIC	3285	6535	SONIC	SONIC	6406	SONIC	SONIC	SONIC	10841	21566	22373	23065	14454	28755	29831	30754
20	50	30	279	558	837	1116	507	1015	1522	2030	989	1979	2968	3958	1674	3349	5023	6698	2233	4465	6698	8930
	75	55	395	790	1184	1579	718	1436	2153	2871	1400	2799	4199	5598	2369	4737	7106	9474	3158	6316	9474	12632
	100	80	729	1563	1771	2084	1326	2842	3221	3789	2586	5542	6280	7389	4376	9378	10628	12504	5835	12504	14171	16672
	125	105	1136	2273	2399	2525	2066	4132	4362	4591	4029	8057	8505	8953	6818	13636	14393	15151	9090	18181	19191	20201
	150	130	1363	2719	2844	2962	2477	4944	5170	5386	4831	9641	10082	10502	8176	16315	17062	17773	10901	21754	22749	23697
	175	155	1600	3182	3301	3403	2908	5785	6002	6188	5671	11282	11704	12066	9597	19092	19807	20419	12796	25456	26409	27225
	200	180	1807	3594	3729	3844	3285	6535	6780	6990	6406	12744	13221	13630	10841	21566	22373	23065	14454	28755	29831	30754
25	50	25	269	537	805	1074	488	976	1464	1953	952	1904	2856	3808	1611	3222	4833	6444	2148	4296	6444	8591
	75	50	393	785	1178	1571	714	1428	2142	2856	1392	2785	4177	5569	2356	4712	7069	9425	3142	6283	9425	12567
	100	75	715	1532	1737	2043	1300	2786	3157	3715	2535	5433	6157	7243	4290	9193	10419	12258	5720	12258	13892	16344
	125	100	1136	2273	2399	2525	2066	4132	4362	4591	4029	8057	8505	8953	6818	13636	14393	15151	9090	18181	19191	20201
	150	125	1363	2719	2844	2962	2477	4944	5170	5386	4831	9641	10082	10502	8176	16315	17062	17773	10901	21754	22749	23697
	175	150	1600	3182	SONIC	SONIC	2908	5785	6002	6188	5671	11282	11704	12066	9597	19092	19807	20419	12796	25456	26409	27225
	200	175	1807	SONIC	SONIC	SONIC	3285	6535	6780	6990	6406	SONIC	SONIC	SONIC	10841	21566	22373	23065	14454	28755	29831	30754
35	50	15	229	458	688	917	417	834	1250	1667	813	1625	2438	3251	LO DP	LO DP	LO DP	LO DP	LO DP	LO DP	LO DP	LO DP
	75	40	380	761	1141	1522	692	1383	2075	2767	1349	2698	4047	5395	2283	4565	6848	9131	3044	6087	9131	12174
	100	65	500	1000	1500	2000	909	1818	2728	3637	1773	3546	5319	7092	3000	6001	9001	12001	4000	8001	12001	16002
	125	90	860	1843	2089	2457	1564	3351	3797	4468	3049	6534	9405	8712	5160	11057	12531	14743	6880	14743	16708	19657
	150	115	1333	2666	2814	2962	2424	4847	5116	5386	4726	9452	9977	10502	7998	15996	16884	17773	10664	21327	22512	23697
	175	140	1566	3124	3267	3403	2846	5680	5940	6188	5550	11076	11583	12066	9393	18745	19602	20419	12524	24993	26136	27225
	200	165	1807	3594	SONIC	SONIC	3285	6535	6780	6990	6406	12744	13221	13630	10841	21566	22373	23065	14454	28755	29831	30754
50	75	25	335	671	1006	1342	610	1220	1830	2439	1189	2378	3567	4757	2012	4025	6037	8050	2683	5366	8050	10733
	100	50	482	963	1445	1927	876	1751	2627	3503	1708	3415	5123	6831	2890	5780	8670	11560	3853	7706	11560	15413
	125	75	844	1809	2050	2412	1535	3289	3727	4385	2993	6413	7268	8551	5065	10853	12300	14471	6753	14471	16400	19294
	150	100	1284	2568	2711	2853	2335	4669	4929	5188	4552	9105	9611	10117	7704	15408	16264	17120	10272	20544	21686	22827
	175	125	1541	3074	3215	3349	2801	5590	5846	6089	5462	10900	11399	11874	9243	18447	19291	20094	12325	24596	25721	26793
	200	150	1807	3594	3729	3844	3285	6535	6780	6990	6406	12744	13221	13630	10841	21566	22373	23065	14454	28755	29831	30754
	250	200	2267	4581	4651	4722	4121	8328	8457	8586	8036	16240	16491	16742	13600	27483	27908	28333	18133	36644	37210	37777
75	100	25	391	783	1174	1565	712	1423	2135	2846	1388	2775	4162	5550	2348	4696	7044	9392	3131	6261	9392	12523
	125	50	557	1114	1671	2228	1013	2026	3038	4051	1975	3950	5925	7900	3342	6684	10026	13368	4456	8912	13368	17825
	150	75	967	2071	2347	2762	1757	3766	4268	5021	3427	7343	8323	9791	5799	12427	14084	16570	7733	16570	18779	22093
	175	100	1460	2920	3082	3244	2654	5308	5603	5898	5176	10351	10926	11501	8759	17517	18490	19463	11678	23356	24654	25951
	200	125	1700	3393	3548	3696	3091	6169	6452	6720	6028	12030	12581	13105	10202	20359	21290	22178	13602	27145	28387	29570
	250	175	2188	4352	4515	4655	3978	7913	8209	8463	7757	15431	16008	16503	13126	26113	27091	27929	17502	34818	36121	37238
	300	250	2267	4581	4651	4722	4121	8328	8457	8586	8036	16240	16491	16742	13600	27483	27908	28333	18133	36644	37210	37777
100	125	25	440	879	1319	1759	799	1599	2398	3197	1559	3117	4676	6235	2638	5276	7913	10551	3517	7034	10551	14068
	150	50	623	1246	1869	2492	1133	2266	3398	4531	2209	4418	6627	8835	3738	7476	11214	14952	4984	9968	14952	19936
	175	75	1078																			

MOUNTING POSITION "H"

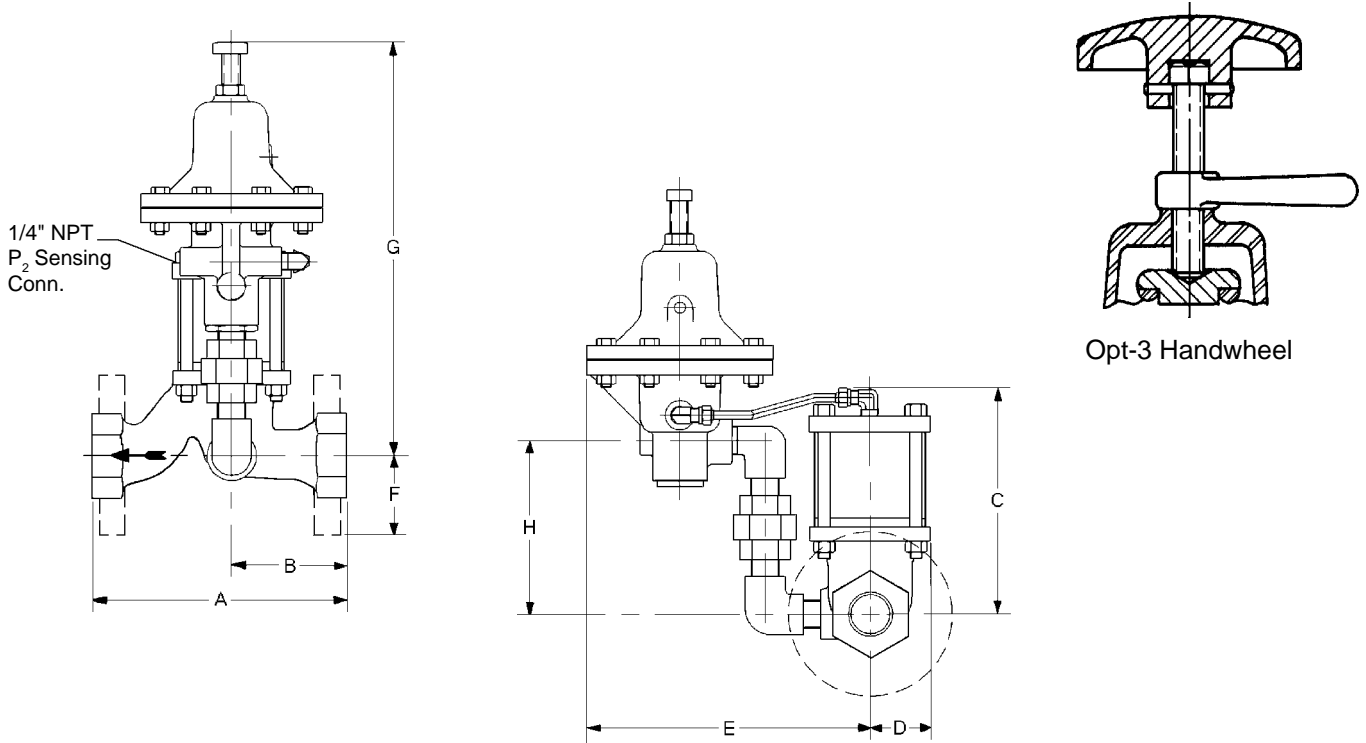


TABLE 6
DIMENSIONS & WEIGHT – POSITION "H"

(In Inches & Pounds)

Valve Size In.	"A"					"B"					"C"	"D"	"E"	"F"	"G" *	"H"	Approx. Weight Lbs.
	NPT	125# Flgd.	250# Flgd.	150# Flgd.	300# Flgd.	NPT	125# Flgd.	250# Flgd.	150# Flgd.	300# Flgd.							
1"	7.75	NA	NA	7.75	7.75	3.50	NA	NA	3.50	3.50	6.75	1.81	8.44	2.44	12.59	5.16	27
1-1/2"	9.25	NA	9.25	9.25	9.25	4.12	NA	4.12	4.12	4.12	7.19	1.81	8.94	3.06	12.59	5.16	31
2"	10.50	10.50	10.50	10.50	10.50	4.62	4.62	4.62	4.62	4.62	9.62	3.06	9.94	3.25	13.09	5.66	62
3"	NA	12.50	12.50	12.50	12.50	NA	5.50	5.50	5.50	5.50	11.94	4.00	10.44	4.12	14.09	6.66	121
4"	NA	13.88	14.50	13.88	14.50	NA	6.94	7.25	6.94	7.25	12.69	5.00	11.44	5.00	14.09	6.66	222

* Add 1.69" for Opt-3 Handwheel

(In Millimeters & Kilograms)

Valve Size DN	"A"					"B"					"C"	"D"	"E"	"F"	"G" *	"H"	Approx. Weight Kg.
	NPT	125# Flgd.	250# Flgd.	150# Flgd.	300# Flgd.	NPT	125# Flgd.	250# Flgd.	150# Flgd.	300# Flgd.							
25	197	NA	NA	197	197	89	NA	NA	89	89	171	46	214	62	320	131	12
40	235	NA	235	235	235	105	NA	105	105	15	183	46	227	78	320	131	14
50	267	267	267	267	267	117	117	117	117	117	244	78	252	83	332	144	28
80	NA	318	318	318	318	NA	140	140	140	140	303	102	265	105	358	169	55
100	NA	352	368	352	368	NA	176	184	176	184	322	127	290	127	358	169	101

* Add 43 mm for Opt-3 Handwheel

MOUNTING POSITION "VU"

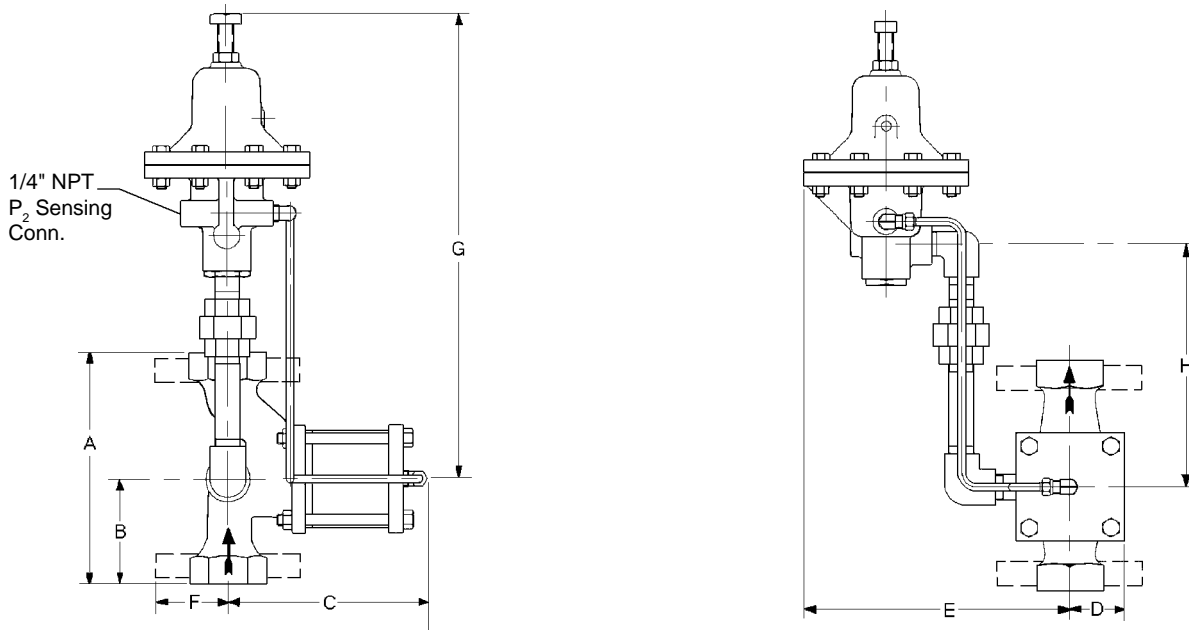


TABLE 7
DIMENSIONS & WEIGHT – POSITION "VU"

(In Inches & Pounds)

Valve Size In.	"A"					"B"					"C"	"D"	"E"	"F"	"G" *	"H"	Approx. Weight Lbs.
	NPT	125# Flgd.	250# Flgd.	150# Flgd.	300# Flgd.	NPT	125# Flgd.	250# Flgd.	150# Flgd.	300# Flgd.							
1"	7.75	NA	NA	7.75	7.75	3.50	NA	NA	3.50	3.50	6.75	1.81	8.94	2.44	15.59	8.16	27
1-1/2"	9.25	NA	9.25	9.25	9.25	4.12	NA	4.12	4.12	4.12	7.19	1.81	9.94	3.06	17.09	9.66	31
2"	10.50	10.50	10.50	10.50	10.50	4.62	4.62	4.62	4.62	4.62	9.62	3.06	9.94	3.25	18.09	10.66	62
3"	NA	12.50	12.50	12.50	12.50	NA	5.50	5.50	5.50	5.50	11.94	4.00	10.94	4.12	19.59	12.16	121
4"	NA	13.88	14.50	13.88	14.50	NA	6.94	7.25	6.94	7.25	12.69	5.00	11.94	5.00	20.09	12.66	222

* Add 1.69" for Opt-3 Handwheel

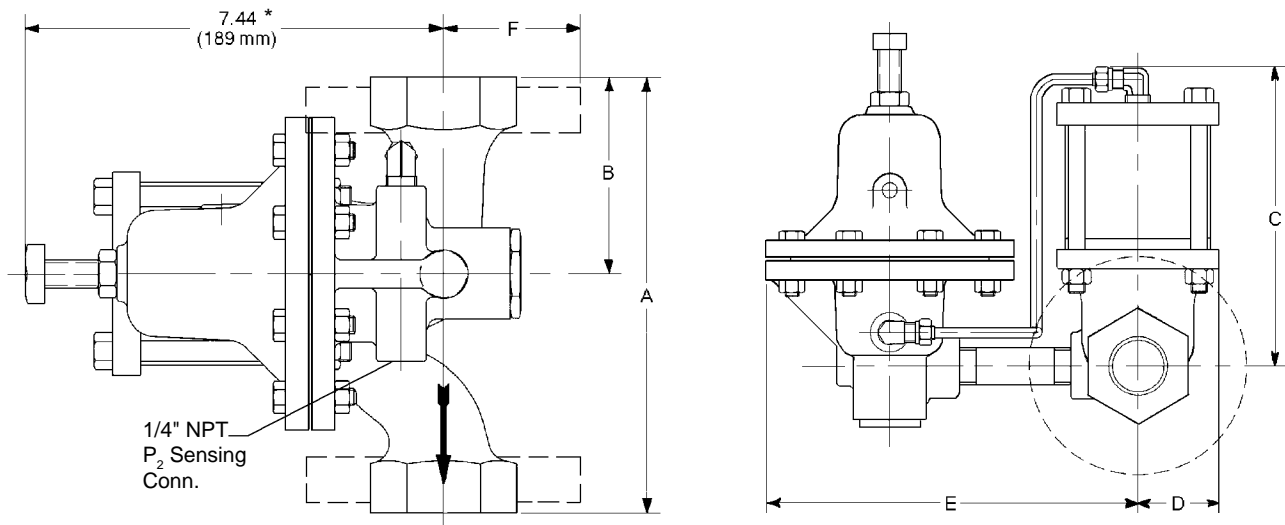
(In Millimeters & Kilograms)

Valve Size DN	"A"					"B"					"C"	"D"	"E"	"F"	"G" *	"H"	Approx. Weight Kg.
	NPT	125# Flgd.	250# Flgd.	150# Flgd.	300# Flgd.	NPT	125# Flgd.	250# Flgd.	150# Flgd.	300# Flgd.							
25	197	NA	NA	197	197	89	NA	NA	89	89	171	46	227	62	396	207	12
40	235	NA	235	235	235	105	NA	105	105	105	183	46	252	78	434	245	14
50	267	267	267	267	267	117	117	117	117	117	244	78	252	83	459	271	28
80	NA	318	318	318	318	NA	140	140	140	140	303	102	278	105	498	309	55
100	NA	352	368	352	368	NA	176	184	176	184	322	127	303	127	510	322	101

* Add 43 mm for Opt-3 Handwheel

* Add 43 mm for Opt-3 Handwheel

MOUNTING POSITION "VD"



* Add 1.69" or 43 mm for Opt-3 Handwheel

TOP VIEW

TABLE 8
DIMENSIONS & WEIGHT – POSITION "VD"

(In Inches & Pounds)

Valve Size In.	"A"					"B"					"C"	"D"	"E"	"F"	Approx. Weight Lbs.
	NPT	125# Flgd.	250# Flgd.	150# Flgd.	300# Flgd.	NPT	125# Flgd.	250# Flgd.	150# Flgd.	300# Flgd.					
1"	7.75	NA	NA	7.75	7.75	3.50	NA	NA	3.50	3.50	6.75	1.81	8.38	2.44	25
1-1/2"	9.25	NA	9.25	9.25	9.25	4.12	NA	4.12	4.12	4.12	7.19	1.81	8.88	3.06	29
2"	10.50	10.50	10.50	10.50	10.50	4.62	4.62	4.62	4.62	4.62	9.62	3.06	9.38	3.25	60
3"	NA	12.50	12.50	12.50	12.50	NA	5.50	5.50	5.50	5.50	11.94	4.00	10.38	4.12	119
4"	NA	13.88	14.50	13.88	14.50	NA	6.94	7.25	6.94	7.25	12.69	5.00	11.38	5.00	220

(In Millimeters & Kilograms)

Valve Size DN	"A"					"B"					"C"	"D"	"E"	"F"	Approx. Weight Kg.
	NPT	125# Flgd.	250# Flgd.	150# Flgd.	300# Flgd.	NPT	125# Flgd.	250# Flgd.	150# Flgd.	300# Flgd.					
25	197	NA	NA	197	197	89	NA	NA	89	89	171	46	213	62	11
40	235	NA	235	235	235	105	NA	105	105	105	183	46	225	78	13
50	267	267	267	267	267	117	117	117	117	117	244	78	238	83	27
80	NA	318	318	318	318	NA	140	140	140	140	303	102	264	105	54
100	NA	352	368	352	368	NA	176	184	176	184	322	127	289	127	100

PRODUCT CODE 07/15/94

TABLE 2

MATERIALS		MOUNTING POSITION*		
MAIN VALVE	PILOT VALVE	"H"	"VD"	"VU"
BODY/CYLINDER/BONNET	BODY/SPRING CHAMBER	CODE	CODE	CODE
CI/CS/DI	DI/IR	A	6	J
CS/CS/DI	DI/IR	B	7	K
CS/CS/DI	DI/CS	C	8	L

* "H" - Horizontal Pipe
 "VD" - Vertical Pipe, flow downwards
 "VU" - Vertical Pipe, flow upwards

TABLE 1

SIZE	AVAILABLE END CONNECTIONS		CODE
	NPT	FLGD.	
1"	Yes	Yes*	1
1-1/2"	Yes	Yes	G
2"	Yes	Yes	2
3"	No	Yes	3
4"	No	Yes	4

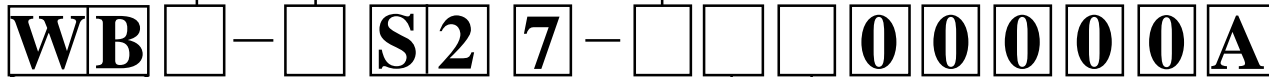
*CS body only

Materials & Mtg. Position

TABLE 3

END CONNECTIONS	CODE
NPT-Screwed	1
Flanged - 125 lb. (IR Body Only)	3
Flanged - 250 lb. (IR Body Only)	5
Flanged - 150 lb. (CS Body Only)	6
Flanged - 300 lb. (CS Body Only)	7

End Connections



MODEL "POSR-2" PILOT OPERATED PRESSURE REDUCING REGULATOR

Options

When ordering a valve per one of Cashco's special drawings, the code "X" and the 5-digit number following override all other options. Otherwise, proceed with the following.

TABLE 4

RANGE SPRING (psig)	CODE
5-15	1
10-40	2
30-80	3
70-150	4

Range Spring

TABLE 5

DESCRIPTION	OPT.	CODE
Standard Construction	—	0
Special Construction	—	X
Handwheel & Lock Lever	-3	3
Special Cleaning per Cashco Spec. #S-1542	-56	N
Epoxy Painted	-95	W

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