

# REGULATORS

## 455 Series

### Pressure Regulating Valve

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Model	<b>455 Series</b>
Service	<b>Steam, Water, Air &amp; Other Gases</b>
Sizes	<b>1/2", 3/4", 1", 1 1/4", 1 1/2", 2", 2 1/2", 3", 4"</b>
Connections	<b>NPT, 125# &amp; 250# Flanges</b>
Body Material	<b>1/2" - 1 1/2" Bronze 2" - 4" Cast Iron</b>
Seat & Disc	<b>Stainless Steel</b>
Diaphragm	<b>Neoprene/Nylon</b>
Max. Inlet Pressure	<b>250 PSIG</b>
Min. Inlet Pressure	<b>5 PSIG</b>
Max. Diff. Pressure	<b>125 PSI</b>
Min. Diff. Pressure	<b>20% of Inlet Pressure</b>



#### DESIGN PRESSURE/TEMPERATURE RATING – PMA/TMA

<b>NPT</b>	<b>250 PSIG @ 400°F</b>
<b>125# FLG</b>	<b>125 PSIG @ 450°F</b>
<b>250# FLG</b>	<b>250 PSIG @ 450°F</b>

#### PRESSURE-ADJUSTING SPRING RANGES

Size	Outlet Pressure (PSIG)	Spring No.	Spring Case Dia. (in.)
1/2" - 1 1/2"	1-6	5	6
	5-20	3	6
	15-45	2	6
	40-70	1	6
	60-125	1	5
2" - 4"	1-6	4	13
	5-20	4	9
	15-45	3	9
	40-70	3	7
	60-125	2	7

#### TYPICAL APPLICATIONS

The **455 Series** are balanced, Externally-Sensed Pressure Regulating Valves are used for reducing pressure in steam, air and water systems. Commonly used in heating and other process applications. Externally-sensed regulators are often more accurate than internally-sensed regulators because the sensing line is connected close to the process it is intending to control and is far enough away from the outlet of the regulator to not be affected by turbulence.

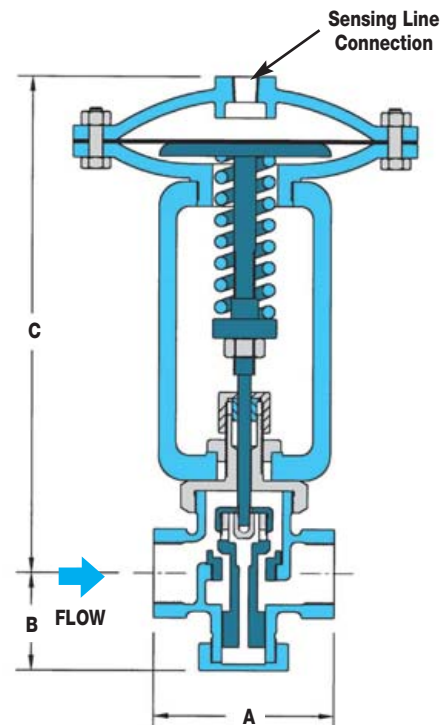
#### HOW TO SIZE/ORDER

From the Capacity chart, find the inlet pressure and required regulator outlet pressure. Follow across chart to nearest capacity of application service medium that meets or slightly exceeds demand requirements. Follow vertically up to determine appropriate size. When exact application values are not shown, interpolation between values is acceptable. From the Spring Ranges chart, select the ideal spring range that accommodates the required outlet set pressure. Confirm that system pressure requirements can be accommodated by valve. Example:

Application: 1000 lbs/hr of 20 PSIG Steam reduced to 5 PSIG  
Size/Model: 1 1/2" **455-Series, 1-6 PSIG spring range**

#### FEATURES

- Operates with minimum inlet pressures of 5 PSIG
- Stainless steel internals
- Excellent for use in steam systems that contain large amounts of scale and other contamination
- Balance valve for more precise control of downstream pressure



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#### DIMENSIONS & WEIGHTS – inches/pounds

Size	Face-to-Face A			B	C	Sensing Line Connection NPT	Weight (lbs)
	NPT Threaded	125# Flanged	250# Flanged				
1/2"	4 1/4			2 3/8	10 1/4	1/4"	15
3/4"	4 1/4			2 3/8	10 1/4	1/4"	15
1"	4 1/8			2 3/8	10 1/4	1/4"	15
1 1/4"	5			3 1/8	10 3/4	1/4"	18
1 1/2"	5 1/4			3 3/8	11	1/4"	20
2"	9 1/2	10 3/8	10 7/8	5 3/4	18 1/2	3/8"	75
2 1/2"		10 5/8	11 1/4	6 1/4	18 3/4	3/8"	95
3"		10 7/8	11 5/8	7 1/8	19 1/4	3/8"	135
4"		12 1/2	13 1/8	8 1/4	20	3/8"	158

DIRECT-OPERATED  
REGULATING VALVES

#### CAPACITIES – Steam (lbs/hr); Water (GPM)

Inlet/Outlet Pressures (PSIG)

Inlet Press.	Outlet Press.	1/2"		3/4"		1"		1 1/4"		1 1/2"		2"		2 1/2"		3"		4"	
		Steam	Water	Steam	Water	Steam	Water	Steam	Water	Steam	Water	Steam	Water	Steam	Water	Steam	Water	Steam	Water
5	2	53	4.3	95	7.8	191	15.6	276	22.5	403	33.0	572	47.0	890	73.0	1166	95.0	1484	121
	10	95	7.1	171	12.7	342	25.0	494	37.0	722	54.0	1026	76.0	1596	119	2090	156	2660	198
20	5	73	5.6	131	10.1	263	20.0	380	29.0	555	42.0	788	60.0	1226	94.0	1606	123	2044	157
	0-5	157	9.7	283	17.4	565	35.0	816	50.0	1193	75.0	1696	105	2638	163	3454	213	4396	271
30	10	125	7.9	225	14.2	450	28.0	650	41.0	950	60.0	1350	85.0	2100	133	2750	174	3500	221
	0-10	200	11.2	360	20.1	720	40.0	1040	58.0	1520	85.0	2160	121	3360	188	4400	246	5600	313
50	20	145	7.9	261	14.2	522	28.0	754	41.0	1102	60.0	1566	85.0	2436	133	3190	174	4060	221
	25	107	5.6	193	10.1	385	20.0	556	29.0	813	42.0	1156	60.0	1798	94.0	2354	123	2996	157
	0-20	295	13.7	531	24.6	1062	49.0	1534	71.0	2242	104	3186	148	4956	230	6490	301	8260	383
75	30	245	11.2	441	20.1	882	40.0	1274	58.0	1862	85.0	2646	121	4116	188	5390	247	6860	313
	40	185	7.9	333	14.2	666	28.0	962	41.0	1406	60.0	1998	85.0	3108	133	4070	174	5180	221
	0-30	402	16.8	724	30.2	1447	60.0	2090	87.0	3055	127	4342	181	6754	282	8844	369	11256	470
100	50	327	12.5	589	22.5	1177	45.0	1700	65.0	2485	95.0	3532	135	5494	210	7194	275	9156	350
	60	255	9.7	459	17.4	918	35.0	1326	50.0	1938	74.0	2754	105	4284	163	5610	213	7140	271
	0-50	522	17.7	940	31.8	1879	64.0	2714	92.0	3967	134	5638	191	8770	297	11484	389	14616	495
125	60	455	15.8	819	28.5	1638	57.0	2366	82.0	3458	120	4914	171	7644	266	10010	348	12740	443
	80	325	11.2	585	20.1	1170	40.0	1690	58.0	2470	85.0	3510	121	5460	188	7150	246	9100	313
	0-60	635	20.2	1143	36.3	2286	73.0	3302	105	4826	153	6858	218	10668	339	13970	443	17780	564
150	70	575	18.5	1035	33.4	2070	67.0	2990	96.0	4370	141	6210	200	9660	311	12650	408	16100	519
	100	420	12.5	756	22.5	1512	45.0	2184	65.0	3192	95.0	4536	135	7056	210	9240	275	11760	350
	0-70	750	22.4	1350	40.2	2700	80.0	3900	116	5700	170	8100	241	12600	376	16500	492	21000	626
200	100	612	17.7	1102	31.8	2203	64.0	3182	92.0	4651	134	6610	191	10282	297	13464	389	17136	495
	125	435	12.5	783	22.5	1566	45.0	2262	65.0	3306	95	4698	135	7308	210	9570	275	12180	350
	0-100	977	25.0	1759	45.0	3517	90.0	5080	130	7425	190	10552	270	16414	420	21494	550	27356	700
250	125	850	21.7	1530	39.0	3060	78.0	4420	113	6460	165	9180	234	14280	364	18700	476	23800	606
0-125	1180	28.0	2124	50.3	4248	101	6136	145	8968	212	12744	302	19824	470	25960	615	33040	783	

Note: Air in SCFM (Standard Cubic Feet per Minute) = Steam (lbs/hr) x 0.36