

**Masoneilan®
Models 525 and 526
Pressure Regulators –
Steam, Gas or Liquid Service**

Specification Data

CY5256

09/96



**Pressure Reducing
Back Pressure and
Differential Pressure Control**



Table of Contents

General Data	3
Ratings (ANSI Class)	3
Body Materials	3
End Connections	3
Trim Materials	3
Bonnet Packing	3
Flow Coefficients - C_v	3
Critical Flow Factor - F_L	3
Capacity Charts	4
Steam	4
Air	5
Water	6
Materials	7
Dimensions	8
Weights	9

Foreword

The Models 525 and 526 double seated regulators are designed to handle a wide variety of process pressure control applications. Construction features have been carefully selected to provide optimum performance. Those include:

- **Top and Bottom Guiding.** A well accepted industry standard particularly suited for double seated plugs to provide adequate support against side loads.
- **High Capacity with Low Recovery.** Flow capacity is at top levels for contemporary double seated regulators and is attained with very little pressure recovery as indicated by a high critical flow factor.
- **Reduced Capacity Trim.** 0.4 Factor Trim - the most practical double seated trim design giving a substantial reduction in capacity while maintaining desirable flow characteristics.

- **High Performance Materials.** Materials of construction have been selected for high performance and long life when handling the high pressure drop capabilities of the valve.
- **High Temperature Applications.** For temperatures over the rating of the diaphragm material, the regulator must be mounted with the actuator below the center line of the regulator body. The diaphragm will be protected from the high temperature by a condensate barrier in the sensing line and actuator diaphragm case. If installed otherwise, an adequate condensate barrier must be incorporated. Consult factory for more information.
- **Configurations.** Models 525 and 526 Regulators are designed for use with the 10900 Series Actuators for reducing, back pressure and differential pressure applications. Refer to Specification Data CY5010 for actuator selection.

General Data

Function	Model
pressure reducing	525
differential pressure reducing	525-50
back pressure	526
differential back pressure	526-50

Service
steam, gas, liquids

Body Configuration
high capacity globe with double seated top and bottom guided plug

Trim
full area reduced capacity disk type quick opening plug

Ratings (ANSI Class)

Body Size (in.)	ANSI Class			
	125	150	300	600
.5				•
.75				•
1	•	•	•	•
1.5	•	•	•	•
2	•	•	•	•
2.5	•	•	•	•
3	•	•	•	•
4	•	•	•	•

Body Materials and End Connections

Body Material	End Connections	Size (in.)							
		.5	.75	1	1.5	2	2.5	3	4
Cast Iron	ANSI Class 125 Flat Face Flange			•	•	•	•	•	•
	ANSI Class 150 Raised Face Flange			•	•	•	•	•	•
Carbon Steel & St. St.	ANSI Class 300 Raised Face Flange			•	•	•	•	•	•
	ANSI Class 600 Raised Face Flange			•	•	•	•	•	•
	ANSI Class 600 Threaded	•	•	•	•	•			
For availability of other alloys consult factory	Ring Type Joint			•	•	•	•	•	•
	Butt Weld						•	•	•
	Socket Weld	•	•	•	•	•			

Trim Materials

316 Stainless Steel Plug and Seat Rings
316 Stainless Steel Plug and Seat Rings Hardfaced

For availability of other alloys consult factory

Bonnet Packing

Packing Material	Remarks
Crane 285K PTFE w/Aramid Core	-20°F to 450°F
Flexible Graphite	450°F to 800°F
Chesterton 324 (100% Teflon Ring)	-20°F to 450°F

Flow Coefficients - Rated C_v

Trim Size	Size (in.)							
	.5	.75	1	1.5	2	2.5	3	4
Full Area	2.7	6	9	21	36	54	75	125
0.4 Factor	—	—	3.6	8.4	14.4	21.6	30	50

Critical flow factor – F_L
Full area trim – $F_L = 0.9$
0.4 factor trim – $F_L = 0.95$

Regulator Capacity^①

Saturated Steam (lb/hr) - Full Area Trim^②

Inlet Pressure psig	Outlet Pressure psig	Size (in.)							
		.5	.75	1	1.5	2	2.5	3	4
30	.5 - 10	225	500	780	1710	2930	4400	6100	10100
	20	160	360	540	1250	2100	3200	4450	7400
50	.5 - 20	320	710	1090	2500	4270	6250	8900	14600
	30	275	605	890	2100	3550	5250	7350	12500
	40	200	440	670	1550	2600	3900	5500	9100
60	.5 - 25	370	820	1220	2930	4900	7300	10100	17100
	40	295	655	980	2250	3900	5800	8050	13500
	50	215	470	720	1550	2800	4200	5850	9750
75	.5 - 30	450	980	1460	3420	5850	8800	12200	20800
	50	355	785	1200	2700	4650	7000	9700	16000
	60	285	635	945	2200	3750	5600	7800	13000
100	.5 - 50	580	1220	1890	4450	7550	11100	15800	26900
	60	510	1100	1650	3850	6550	9900	14000	23000
	80	375	810	1200	2800	4800	7300	10200	16500
125	.5 - 60	710	1520	2380	5500	9150	14000	19500	31800
	80	595	1300	2000	4500	7700	11500	16000	27000
	100	470	1000	1500	3550	6050	9200	12500	21000
150	.5 - 70	840	1830	2750	6350	11000	16500	23200	37800
	100	690	1500	2250	5150	8750	13000	18500	30500
	125	495	1150	1600	3750	6400	9400	13500	23000
160	.5 - 80	890	1950	2900	6800	11500	17000	24500	40000
	100	770	1650	2500	5700	10000	15000	20500	34500
	120	640	1380	2100	4800	8100	12500	17200	28500
	140	500	1070	1650	3900	6550	9650	14000	23000
175	.5 - 90	975	2100	3150	7300	12200	19000	27000	44000
	100	865	1900	2850	6600	11000	17600	24000	40000
	125	730	1600	2400	5600	9700	14500	20000	33000
	160	425	910	1420	3240	5500	8100	11600	19200
200	5 - 100	1100	2450	3650	8550	14500	22000	30500	50000
	125	935	2000	3100	7250	12000	18000	25500	42500
	160	710	1550	2350	5450	9400	14000	18500	32500
225	.5 - 120	1200	2700	4250	9400	16000	24500	33500	56000
	160	945	2050	3100	7200	12500	18800	26000	43000
250	.5 - 130	1350	2900	4500	10000	17000	26000	36500	61000
	160	1150	2450	3750	8500	14400	22200	30500	51000

① Regulatory Capacity Tables are included to provide convenience on common application limitations. If your particular service conditions are not listed in the Regulator Capacity Table, calculate the required C_v for selecting the correct regulator size.

② This Regulator Capacity Table is based on full area trim. Multiply capacity by 0.4 when using (0.4) factor trim.

Regulator Capacity^①

Air (scfm) - Full Area Trim^②

Inlet Pressure psig	Outlet Pressure psig	Size (in.)							
		.5	.75	1	1.5	2	2.5	3	4
30	.5 - 10	77	165	255	570	980	1550	2020	3450
	20	55	120	175	425	705	1060	1500	2950
50	.5 - 20	105	245	365	810	1410	2160	2940	5000
	30	91	200	295	695	1180	1780	2480	4200
	40	67	150	225	510	880	1300	1800	3100
60	.5 - 25	120	275	405	950	1620	2450	3350	5700
	40	95	215	320	715	1250	1900	2600	4400
	50	72	155	240	545	940	1400	2000	3250
75	.5 - 30	155	325	500	1160	2000	2950	4150	6800
	50	120	260	395	935	1580	2450	3300	5400
	60	97	210	315	725	1300	1900	2650	4300
100	.5 - 50	190	425	650	1490	2490	3750	5250	8750
	60	170	370	560	1350	2250	3350	4650	7800
	80	125	270	415	950	1600	2400	3450	5700
125	.5 - 60	240	520	770	1810	3050	4650	6500	10800
	80	200	440	660	1500	2550	3950	5500	9150
	100	160	350	520	1250	2100	3100	4350	7300
150	.5 - 70	280	610	935	2140	3680	5500	7750	12800
	100	225	500	765	1750	2850	4550	6350	10500
	125	165	370	540	1250	2150	3250	4550	7550
160	.5 - 80	295	650	975	2350	3850	5700	8150	13400
	100	255	555	850	1950	3350	5000	7050	11500
	120	210	460	705	1600	2750	4250	5850	9750
	140	155	340	510	1250	2050	3100	4250	7200
175	.5 - 90	325	710	1080	2450	4850	6300	8950	14600
	100	295	645	970	2250	3750	5700	8000	13000
	125	250	540	825	1900	3200	4850	6800	11500
	160	140	310	470	1100	1850	2800	4000	6600
200	5 - 100	365	815	1220	2850	4900	7350	10200	16600
	125	315	705	1050	2400	4050	6300	8550	14500
	160	240	525	800	1850	3150	4700	6650	11000
225	.5 - 120	405	895	1340	3050	5300	7950	11000	18300
	160	325	715	1100	2500	4300	6450	9000	14500
250	.5 - 130	445	975	1460	3350	5700	8550	12200	19900
	160	390	830	1300	2950	5000	7350	10500	17000

① Regulatory Capacity Tables are included to provide convenience on common application limitations. If your particular service conditions are not listed in the Regulator Capacity Table, calculate the required C_v for selecting the correct regulator size.

② This Regulator Capacity Table is based on full area trim. Multiply capacity by 0.4 when using (0.4) factor trim.

Regulator Capacity^①

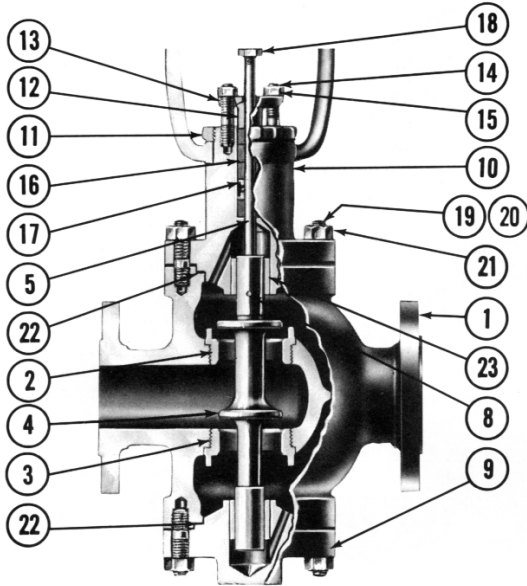
Water (gpm) - Full Area Trim^②

Pressure Drop Inlet Pressure Minus Outlet Pressure	Size (in.)							
	.5	.75	1	1.5	2	2.5	3	4
10	8	18	28	65	110	165	230	380
15	10	23	35	78	140	200	280	460
20	12	26	40	90	160	240	330	550
25	13	30	45	100	180	265	370	600
30	14	33	50	115	200	290	400	660
35	16	35	53	120	210	310	440	720
40	17	38	56	130	230	340	470	760
45	18	40	60	140	240	360	500	800
50	19	42	64	145	250	375	510	830
60	21	46	70	160	280	410	560	920
70	22	50	75	170	300	450	610	1000
80	24	54	80	185	320	480	650	1100
90	25	56	85	200	340	500	700	1160
100	27	60	90	210	360	540	750	1250
120	29	65	98	225	390	580	800	1300
140	32	70	105	240	420	630	880	1400
160	34	75	115	260	460	660	920	1500
180	37	80	120	270	490	710	980	1600
210	39	85	130	290	520	760	1050	1750
230	40	90	135	300	540	780	1100	1800

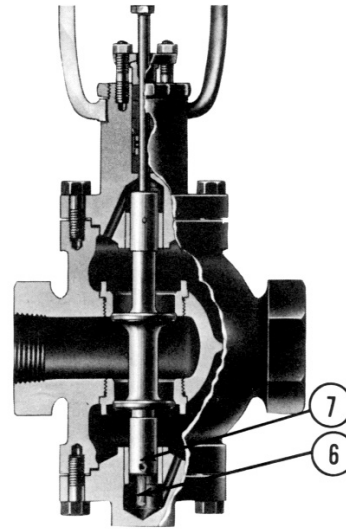
① Regulatory Capacity Tables are included to provide convenience on common application limitations. If your particular service conditions are not listed in the Regulator Capacity Table, calculate the required C_v for selecting the correct regulator size.

② This Regulator Capacity Table is based on full area trim. Multiply capacity by 0.4 when using (0.4) factor trim.

Materials



Model 525 Reducing Regulator
Model 525-50 Differential Pressure Reducing Regulator

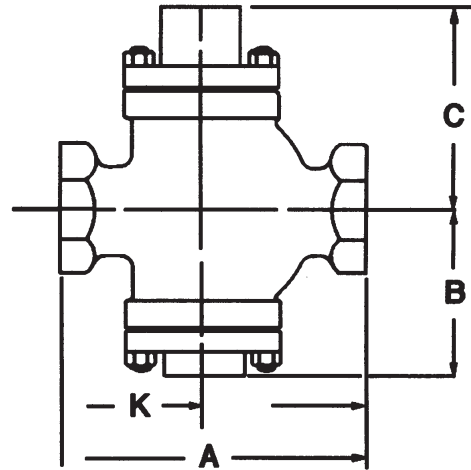
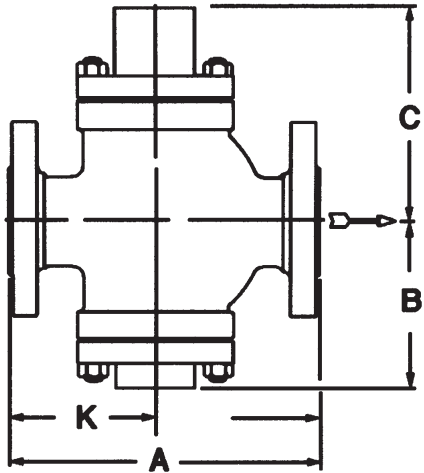


Model 526 Back Pressure Regulator
Model 526-50 Differential Back Pressure Regulator

Ref. No.	Temperature Range		-20°F	450°F	800°F
	Description		Materials		
1	Body		Cast Iron ASTM A126 CL 8		
			Carbon Steel ASTM A216 Gr WCB		
			316 Stainless Steel		
2	Seat Rings	Large Bore	316 Stainless Steel		
			316 Stainless Steel Hardfaced		
3		Small Bore	316 Stainless Steel		
			316 Stainless Steel Hardfaced		
4	Plug		316 Stainless Steel		
			316 Stainless Steel Hardfaced		
5	Plug Stem		316 Stainless Steel		
6	Plug Stop				
7	Plug Stop Pin				
8	Plug Pin				
9	Blindhead				
10	Bonnet		Carbon Steel		
11	Drive Nut				
12	Packing Follower		303 Stainless Steel		
13	Packing Flange		Carbon Steel		
14	Packing Flange Studs		304 Stainless Steel		
15	Packing Flange Stud Nuts				
16	Packing		Crane 285K PTFE w/Aramid Core		
			Flexible Graphite		
			Chesterton 324 (100% Teflon)		
17	Lantern Ring		303 Stainless Steel		
18	Stem Locknuts		Carbon Steel		
19	Body Studs		Chrome Molybdenum Alloy Steel (Steel Bodies)		
20	Body Cap Screws		Carbon Steel (Iron Bodies)		
21	Body Stud Nuts		Carbon Steel (Steel Bodies)		
22	Body Gasket		304 Stainless Steel w/Graphite Filler Spiral Wound		
23	Guide Bushing		Type 440C Stainless Steel		

NOTE: The Plug stop (Ref. 6) and plug stop pin (Ref. 7) are installed in the bottom of the plug on Model 526 back pressure regulators with the 10900 Series Actuators No. 3½ case (80-250 psi range) and No. 4 case (60-125 psi range) to prevent overtravel.

Dimensions (in.)



Size (in.)	ANSI Class										B	C
	125 150 Flanged		300 Flanged		600 Flanged		600 RT Joint		Threaded Socket Weld			
	A	K	A	K	A	K	A	K	A	K		
.5	–	–	–	–	–	–	–	–	6	2.875	4.5	5.6875
.75	–	–	–	–	–	–	–	–	6	2.875	4.5	5.6875
1	7.25	3.625	7.75	3.875	8.25	4.125	8.25	4.125	6	2.875	4.5	5.6875
1.5	8.75	4.0625	9.25	4.3125	9.875	4.625	9.875	4.625	8	3.6875	5.375	6
2	10	4.625	10.5	4.875	11.25	5.25	11.375	5.3125	9.25	4.125	6	7.1875
2.5	10.875	5.0625	11.5	5.375	12.25	5.75	12.375	5.8125	–	–	6.375	7.6875
3	11.75	5.5	12.5	5.875	13.25	6.25	13.375	6.3125	–	–	7.75	9.1875
4	13.875	6.5625	14.5	6.875	15.5	7.375	15.625	7.4375	–	–	8.125	9.375

Approximate Shipping Weights (lbs.)

Regulator with Spring Diaphragm Actuator

Size (in.)	ANSI Class		
	125 Iron	150 300 Steel	600 Threaded Butt Weld Socket Weld
.5	–	–	85
.75	–	–	85
1	85	80	95
1.5	100	105	115
2	140	145	160
2.5	155	165	170
3	215	240	250
4	280	300	330

For L.P. Diff. Actuators add 25 lbs.

For H.P. Diff. Actuators add 35 lbs.

Notes

Notes

Sales Office Locations

BELGIUM

Dresser Valves Europe
Boulevard du Souverain 207 B2
Vorstlaan,
B-1160 Brussels, Belgium
Phone: +32-2-344-0970
Fax: +32-2-344-1123

BRAZIL

Dresser Industria e Comercio Ltda
Divisao Masoneilan
Rua Funchal, 129 - Conj. 5A
04551-060 - Sao Paulo - SP Brazil
Phone: 55-11-2146-3600
Fax: 55-11-2146-3610

CANADA

Ontario
Dresser - Masoneilan
DI Canada, Inc.
835 Harrington Court, 2nd Floor
Burlington, Ontario L7N 3P3, Canada
Phone: 905-335-3529
Fax: 905-336-7628

CHINA

Dresser Flow Solutions
Beijing Rep. Office
Suite 1703, Capital Mansion
6 Xinyuannan Rd. Chaoyang District
Beijing 100004, China
Phone: +86-10-8486-4515
Fax: +86-10-8486-5305

FRANCE

Masoneilan - Dresser Produits
Industriels
Energy 5
130/190 Boulevard de Verdun
92413 Courbevoie cedex, France
Phone: +33-1-4904-9000
Fax: +33-1-4904-9010

Dresser Produits Industriels S.A.S.,
Masoneilan Customer Service Centre
55 rue de la Mouche, Zone Industrielle
69540 Irigny, France
Phone: +33-4-72-39-06-29
Fax: +33-4-72-39-21-93

GERMANY

Dresser Valves Europe GmbH
Heiligenstrasse 75
Viersen D-41751, Germany
Phone: +49-2162-8170-0
Fax: +49-2162-8170-280

Dresser Valves Europe GmbH
Umlandstrasse 58
60314 Frankfurt, Germany
Phone: +49-69-439350
Fax: +49-69-4970802

INDIA

Dresser Valve India Pvt. Ltd.
305/306, "Midas", Sahar Plaza
Mathurdas VasANJI Road
J.B. Nagar, Andheri East
Mumbai, 400059, India
Phone: +91-22-8354790
Fax: +91-22-8354791

Dresser Valve India Pvt. Ltd.
205, Mohta Building
4 Bhikaji Cama Place
New Delhi, 110 066, India
Phone: +91-11-2-6164175
Fax: +91-11-5-1659635

ITALY

Dresser Italia S.r.l.
Masoneilan Operations
Via Cassano, 77
80020 Casavatore, Napoli Italy
Phone: +39-081-7892-111
Fax: +39-081-7892-208

JAPAN

Niigata Masoneilan Co. Ltd. (NIMCO)
20th Floor, Marive East Tower
WBG 2-6 Nakase, Mihama-ku,
Chiba-shi, Chiba 261-7120 Japan
Phone: +81-43-297-9222
Fax: +81-43-299-1115

KOREA

Dresser Korea Inc.
2109 Kuk Dong Building
60-1, ChoongMoo-ro 3-ka
Joong-gu, Seoul, Korea 100-705
Phone: +82-2-2274-0748
Fax: +82-2-2274-0720

KUWAIT

Dresser Flow Solutions
Middle East Operations
10th Floor, Al Rashed Complex
Fahad Salem Street, P.O. Box 242
Safat, 13003, Kuwait
Phone: +965-9061157
Fax: +965-3987879

MALAYSIA

Dresser Flow Solutions
Business Suite, 19A-9-1, Level 9
UOA Centre, No. 19, Jalan Pinang
50450 Kuala Lumpur, West Malaysia
Phone: +60-3-2161-0322
Fax: +60-3-2163-3612

MEXICO

Dresser Valve de Mexico, S.A. de C.V.
Henry Ford No. 114, Esq. Fulton
Fraccionamiento Industrial San
Nicolas
54030 Tlalnepantla Estado de Mexico
Phone: 52-5-310-9863
Fax: 52-5-310-5584

THE NETHERLANDS

Dresser Valves Europe
Steenhouwerstraat 11
3194 AG Hoogvliet, The Netherlands
Phone: +31-10-438-4122
Fax: +31-10-438-4443

RUSSIA

DS Controls
Nekhinskaya Street, 61
Veliky Novgorod
Russia, 173021
Phone: +7-8162-15-7898
Fax: +7-8162-15-7921

SAUDI ARABIA

Dresser AL Rushaid
Valve & Instrument Co., Ltd.
(Darvico)
P.O. Box 10145
Jubail Industrial City 31961,
Saudi Arabia
Phone: +966-3-341-0278
Fax: +966-3-341-7624

SINGAPORE

Dresser Singapore Pte Ltd.
16 Tuas Avenue 8
Singapore 639231
Phone: +65-6-6861-6100
Fax: +65-6-6861-7172

SOUTH AFRICA

Dresser Limited
P.O. Box 2234
16 Edendale Road
Eastleigh, Edenvale 1610
Republic of South Africa
Phone: +27-11-452-1550
Fax: +27-11-452-6542

SPAIN

Masoneilan S.A.
C/Murcia 39 C
08830 Sant Boi de Llobregat
Barcelona, Spain
Phone: +34-93-652-6430
Fax: +34-93-652-6444

UNITED ARAB EMIRATES

Dresser Flow Solutions
Middle East Operations
P.O. Box 61302
Roundabout 8
Units JA01 & JA02
Jebel Ali Free Zone
Dubai, U. A. E.
Phone: +971-4-8838-752
Fax: +971-4-8838-038

UNITED KINGDOM

DI U.K. Ltd.
East Gillibrands
Skelmersdale,
Lancashire WN8 9TU, England
Phone: +44-1695-52600
Fax: +44-1695-52601

DI U.K. Ltd.
Unit 4, Suite 1.1, Nobel House
Grand Union Office Park
Packet Boat Lane
Uxbridge, Middlesex UB8 2GH
Phone: +44-1895-454-900
Fax: +44-1895-454-919

UNITED STATES

Dresser - Masoneilan
85 Bodwell Street
Avon, MA 02322-1190
Phone: 508-586-4600
Fax: 508-427-8971

Dresser - Masoneilan
4841 Leopard Street
Corpus Christi, TX 78408-2621
Phone: 361-881-8182
Fax: 361-881-8246

Dresser - Masoneilan
Dresser Direct
1250 Hall Court
Deer Park, TX 77536
Phone: 281-884-1000
Fax: 281-884-1010

Dresser Flow Solutions
(Contractor Sales)
16240 Port Northwest Drive
Houston, TX 77041
Phone: 832-590-2303
Fax: 832-590-2529

Dresser - Masoneilan
12015 Mora Drive, Unit 2
Santa Fe Springs, CA 90670
Phone: 562-941-7610
Fax: 562-941-7810

