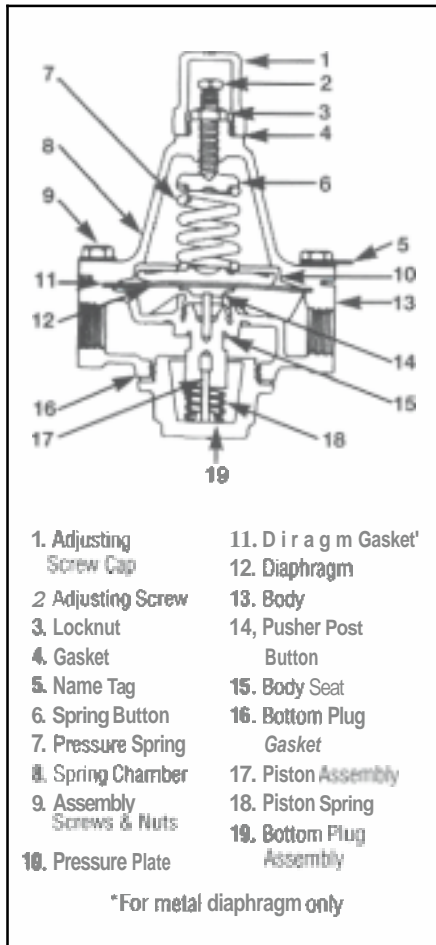




TECHSPEC



DESCRIPTION

The Type BCA is a direct acting, single seated, spring loaded diaphragm-type pressure reducing and regulating valve that automatically reduces a high inlet pressure to a lower delivery pressure and maintains the lower pressure within reasonably close limits.

SPECIFICATIONS DATA

Service: Ammonia, gas or liquid

Sizes: 3/8", 1/2", 3/4", 1", 1-1/4", and 1-1/2"

Connections: Threaded female inlet and outlet

Body: Cast grey iron

Maximum temperature and initial pressure:

200°F at 200 psi

400°F at 150 psi

Outlet pressure range: 75-150 psi

Maximum pressure reduction: 125 psi

Capacity: For specific capacity information, consult the factory.

GENERAL INSTALLATION INSTRUCTIONS

The Type BCA regulator should be installed in the horizontal position with the spring chamber upright. For other installation requirements consult the factory. For ease of operation and maintenance, it is suggested that manual shut-off valves be installed upstream and downstream from the valve. Before installing the valve, the piping and valve should be thoroughly flushed out to remove any foreign material. Install the valve with the inlet pipe fitted to the inlet connection identified on the valve body. Use a good pipe joint compound on the male pipe threads and do not overtighten the valve connections.

OPERATING INSTRUCTIONS

Adjusting the Delivery Pressure

The regulator's delivery pressure setting is adjusted by means of the adjusting screw (2) at the top of the spring chamber after unscrewing the leakproof cap and loosening the adjusting screw lock nut (3). To increase the delivery pressure, turn the adjusting screw clockwise (into the spring chamber). To decrease the delivery pressure, turn the adjusting screw counter-clockwise (out of the spring chamber). Tighten the adjusting screw lock nut after the adjustment has been made and install the leakproof cap.

NOTE: When adjusting the delivery pressure, allow a slight pressure to continually flow through the valve.

MAINTENANCE INSTRUCTIONS

The following procedures are provided for servicing the recommended spare parts for the Type BCA regulator. Repair parts can easily be installed without removing the regulator from the line.

Caution: Before attempting to replace any spare parts be sure to shut off all pressure connections to the valve. With the valve closed, however, system pressure could still be locked between the shut-off valves and the inlet and/or outlet sides of the regulator. Before proceeding with any valve service be certain to relieve the pressure from BOTH sides of the regulator.

Refer to the Type BCA regulator cut away view for parts identification.



Type BCA PRESSURE REGULATOR

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Dated	OCTOBER 1995

Servicing the Pressure Spring (7), Diaphragm Assembly (11) and Diaphragm Gasket (12)

1. Unscrew the leakproof cap from the top of the spring chamber. If necessary, remove and replace the cap gasket.
2. Loosen the lock nut (3) 1/4 turn and turn the adjusting screw (2) counter-clockwise until the pressure spring (7) is no longer under tension.

NOTE: If the pressure spring is not being changed, then when installing the adjusting screw during reassembly, turn the screw clockwise until the lock nut just touches the spring chamber. The pressure setting should then be very close to its original setting.

3. Remove the assembly screws (9) and nuts securing the spring chamber (8) to the valve body (13). During reassembly, tighten the screw evenly in an alternate diagonal pattern.
4. Lift the spring chamber (8) from the valve body, then remove the spring button (6), pressure spring (7), and pressure plate (10).

INSTALLATION, MAINTENANCE, & REPAIR PARTS INFORMATION

5. Remove the diaphragm(s) (11) and diaphragm gasket (12). It is recommended that the gasket be replaced whenever the diaphragms are replaced.
6. Remove the pusher post button (14) from the protruding pusher post. During reassembly, be sure the pusher post seat is centered properly on the pusher post.
7. Inspect all parts and replace if necessary. Reassemble the valve in reverse order. After placing the valve in service, readjust the delivery pressure as detailed under Operating Instructions.

Service the Piston Assembly (18), Body Seal (15) and Bottom Plug Gasket (17).

1. Unscrew the bottom plug (20) from the valve body (13) and remove the bottom gasket (17). The piston spring (19) and piston (18) will normally "drift" out with the bottom plug.

NOTE: It is not necessary to relieve the load on the pressure spring (7) when removing parts through the bottom of the valve.

2. Unscrew the body seat (15) by turning in a counter-clockwise direction and lift it out of the valve body. Inspect the body seat for wear and replace if necessary.
3. Examine the bottom plug gasket (20), and the piston assembly (18), and replace if necessary.

NOTE: The piston assembly (18) consists of the piston and pusher post and is offered only as a complete assembly.

4. Reassemble the parts in reverse order. When installing the piston assembly (18) in the valve body, be sure the pusher post is inserted in the hole in the pusher post button. After placing the valve in service, check and adjust the delivery pressure settings as outlined under Operating Instructions.

SPECIFICATIONS

Each Type BCA pressure regulator is equipped with a pressure spring selected to provide the desired outlet or reduced pressure setting. The range of adjustment or satisfactory "working range" of individual springs is shown below for

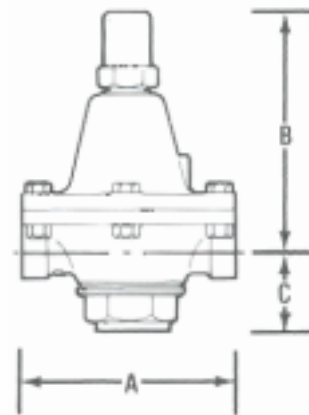
each valve size. Every regulator has the "set" pressure and range of adjustment stamped on a tag fastened to the valve. The ranges shown below are recommended for best performance.

SPRING RANGE TABLE

SPRING PART NO. AND RANGES (in psi)											
3/8"		1/2"		3/4"		1"		1-1/4"		1-1/2"	
SPRING NO.	ADJ. RANGE	SPRING NO.	ADJ. RANGE	SPRING NO.	ADJ. RANGE	SPRING NO.	ADJ. RANGE	SPRING NO.	ADJ. RANGE	SPRING NO.	ADJ. RANGE
109	2-15	109	2-10	110	2-15	5356	2-15	737	2-20	737	2-20
110	10-50	110	2-35	111	10-30	737	10-40	1163	10-30	1163	10-30
111	40-80	111	20-50	113	20-75	1163	30-60	1303	20-60	1303	20-60
113	75-150	113	40-120	212	60-125	1303	50-100	2245	100-175	2245	100-175
212	125-200	212	100-200	5697	100-200	2245	125-200	5698	150-200	5698	150-200

DIMENSIONS AND WEIGHTS

PIPE SIZE	DIMENSIONS			SHIP. WT. (lbs.)
	A	B	C	
3/8"	3-7/8"	5-1/8"	1-3/4"	5-3/4
1/2"	4-1/2"	5-1/4"	2-1/8"	8-1/2
3/4"	5-1/8"	5-5/8"	2-1/8"	10
1"	5-7/8"	6-1/2"	2-1/8"	13-1/2
1-1/4"	6-3/4"	6-7/8"	2-5/8"	20
1-1/2"	6-3/4"	6-7/8"	2-5/8"	20



PART NO.	DESCRIPTION	MATERIAL	NO. RECD.	3/8"	1/2"	3/4"	1"	1-1/4"	1-1/2"
				DWG. NO.	DWG. NO.	DWG. NO.	DWG. NO.	DWG. NO.	DWG. NO.
2	Adjusting Screw	Steel Cad. Pltd.	1	1334	1007	1334	932	932	932
3	Lock Nut	Steel Cad. Pltd.	1	1336	1336	1336	1568	1568	1568
5	Name tag	Brass	1	1564	1564	1564	1565	1565	1565
6	Spring Button	Steel	1	105	105	105	226	226	226
7	Adjusting Screw	Steel	1	++	++	++	++	++	++
8	Spring Chamber	Cast Iron	1	1752	1549	1576	1768	1786	1786
9a	Assembly Screws	Steel Cad. Pltd.	6	330	1551	1551	334	894	894
9b	Assembly Nuts	Steel Cad. Pltd.	6	323	1552	1552	1552	805	805
10	Pressure Plate	Cast Iron	1	151	1563	625	1767	1767	1767
11	Diaphragm	Monel	3 OR 4	2595	2599	2605	2606	2612	2612
12*	Diaphragm Gasket	Asbestos	1	1764	1581	1583	1782	1803	1803
13	Body	Cast Iron	1	1760	1560	1575	1778	1799	1799
14	Pusher Post Button	303 S. St.	1	2596	2600	2600	2600	2613	2613
15	Body Seat	303 S. St.	1	5011	4989	4989	4993	5019	5019
17	Bottom Plug Gasket	Cpr. Asbestos	1	1751	1561	1561	1699	1699	1699
18	Piston Assembly:		1	5013	4991	4991	4995	5021	5021
	Piston	303 S. St.	+						
	Pusher Post	Monel	+						
19	Piston Spring	Monel	1	1618	1747	1747	1747	1747	1747
20	Bottom Plug Assembly:		1	5014	4992	4992	4996	4996	4996
	Pusher Post		+						
	Bottom Plug		+						

* For metal diaphragm only

+ Sold as a complete assembly only

++ See ranges and spring drawing numbers on previous page

HOW TO ORDER

To order repair parts, refer to the cut away view of the Type BCA to identify the part required.

When ordering, please use the part names listed and provide the valve serial number stated on the identification tag. Also state the following:

Repair parts for Type BCA* and provide:

1. Valve size
2. Service (Ammonia, specify gas or liquid)
3. Inlet pressure
4. Outlet or delivery pressure range and setting

5. Part description
6. Quantity of each part
7. Valve assembly or serial number stated on the metal identification tag under the adjusting screw lock nut.

CASH ACME

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