

Single-Seated, Balanced Tight-Closing for Air or Steam Excellent for Dirty Systems

SERIES 455 PRESSURE REGULATING VALVES

Applications

The Series 455 Pressure Regulating Valves are balanced, single-seated, tight-closing and recommended for dead end or continuous service. Used for the reduction of air or steam pressure in:

- Industrial Plants
- Public Buildings
- Hotels
- Institutions
- Power Plants, etc.
- Heating Systems

Features

- Balanced main valve for accurate control of reduced pressure
- Fluctuations of inlet-pressure do not effect reduced pressure
- Excellent for use in dirty steam systems
- Reduced pressure ranges from 1 to 125 lbs
- Ideal for low-pressure heating systems.
- Stainless steel trim

How It Works

Series 455 Pressure Regulating Valves are actuated by a diaphragm and an adjustable loading spring, that can be adjusted within the reduced pressure ranges shown on the back of this page.

Downstream (*or control*) pressure is admitted to the diaphragm housing through a $\frac{1}{4}$ " or $\frac{3}{8}$ " top hole, connected by piping to the downstream side approximately 10 pipe diameters from the valve.

The Series 455 Pressure Regulating Valves utilize an internal balancing valve, which allows the high-pressure medium to pass through the center hole in the main valve to the bottom end of the piston, balancing the forces of the valve. This means that variations in the inlet pressure have minimal effect on the reduced pressure.

Because there are no small orifices to clog, the 455 is an excellent alternative to pilot operated valves in dirty systems.



SELF CONTAINED
REGULATORS

Watson McDaniel reserves the right to change the designs and/or materials of its products without notice.



WATSON McDANIEL COMPANY

975 Madison Ave. Valley Forge Corporate Center Norristown, PA 19403
www.watsonmcdaniel.com 610 666-5711 Fax 610 666-0404

Manufacturers of:

**PRESSURE & TEMPERATURE REGULATORS - RELIEF VALVES - STEAM TRAPS - CLEAN STEAM PRODUCTS
LIQUID DRAINERS - PRESSURE PUMPS - EJECTORS - SPECIALTY PRODUCTS**



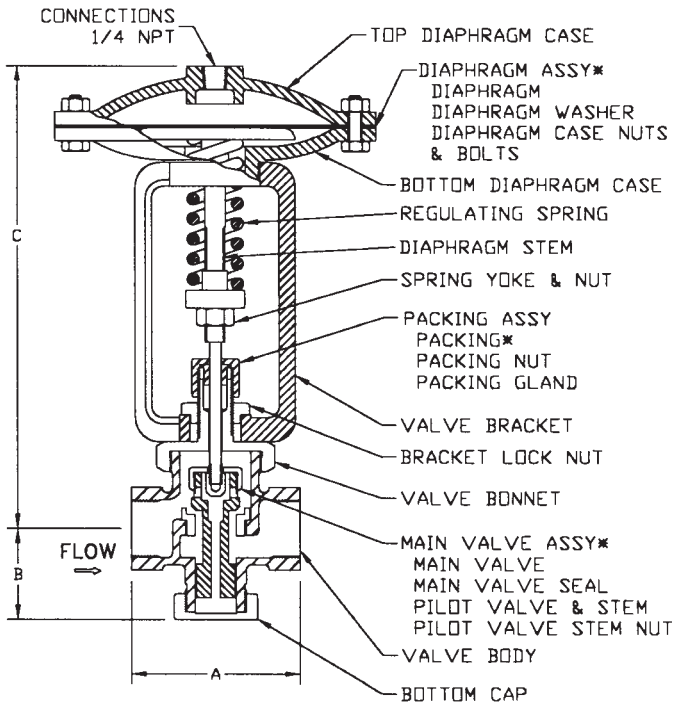
ASME Sect VIII Div I

PR-170

(1/01)

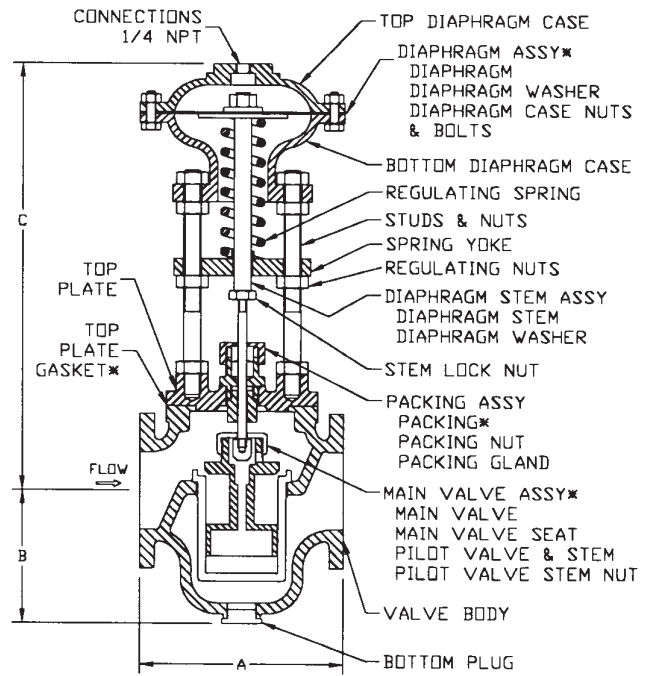
Series 455 Specifications

Screwed Connections



* RECOMMENDED SPARE PARTS KIT
(DISASSEMBLY INSTRUCTIONS PROVIDED)

Flanged Connections



* RECOMMENDED SPARE PARTS KIT
(DISASSEMBLY INSTRUCTIONS PROVIDED)

Dimensions & Weights

Screwed Connections

Size	A	B	C	Shipping Weight
1/2"	4 1/4"	2 3/8"	10 1/4"	15 lbs
3/4"	4 1/4"	2 3/8"	10 1/4"	15 lbs
1"	4 1/8"	2 3/8"	10 1/4"	15 lbs
1 1/4"	5"	3 1/8"	10 3/4"	18 lbs
1 1/2"	5 1/4"	3 3/8"	11"	20 lbs
2"	9 1/2"	5 3/4"	18 1/2"	75 lbs

Flanged Connections

Size	A		B	C	Shipping Weight
	125#	250#			
2"	10 3/8"	10 7/8"	5 3/4"	18 1/2"	75 lbs
2 1/2"	10 5/8"	11 1/4"	6 1/4"	18 3/4"	95 lbs
3"	10 7/8"	11 5/8"	7 1/8"	19 1/4"	135 lbs
4"	12 1/2"	13 1/8"	8 1/4"	20"	158 lbs

Valve Materials List

Body, 1/2" to 1 1/2"Bronze (*screwed*)
 Body, 2" Cast Iron (*screwed*)
 Body, 2" to 4"Cast Iron (*flanged*)
 Diaphragm Case, 1/2" to 1 1/2"Bronze
 Diaphragm Case, 2" to 4"Cast Iron
 DiaphragmNeoprene w/Nylon Insert
 Main ValveStainless Steel
 Main Valve SeatStainless Steel
 SpringCadmium-plated Steel

Nonshock Pressures & Temperatures Spring Reduced Pressure Ranges

Bronze (*screwed*).....250 psig at 406°F
 Cast Iron (*screwed*).....250 psig at 406°F
 Cast Iron (125-lb *flanged*)125 psig at 353°F
 Cast Iron (250-lb *flanged*)250 psig at 406°F

Valve Size (inches)	Reduced Pressure Range (psig)	Case Size (inches)	Spring No.
1/2 to 1 1/2	1 - 6	6	4
1/2 to 1 1/2	5 - 20	6	3
1/2 to 1 1/2	15 - 45	6	2
1/2 to 1 1/2	40 - 70	6	1
1/2 to 1 1/2	60 - 125	5	1
2 to 4	1 - 6	13	4
2 to 4	5 - 20	9	4
2 to 4	15 - 45	9	3
2 to 4	40 - 70	7	3
2 to 4	60 - 125	7	2

Capacity: See table on page PR-570-3.

Rated Cv									
Size	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
Cv	2.5	4.5	9.0	13	19	27	42	55	70

NOTE: Minimum pressure drop must be at least 20% of the inlet pressure.