

# TYPE 701 WATER PRESSURE REGULATOR

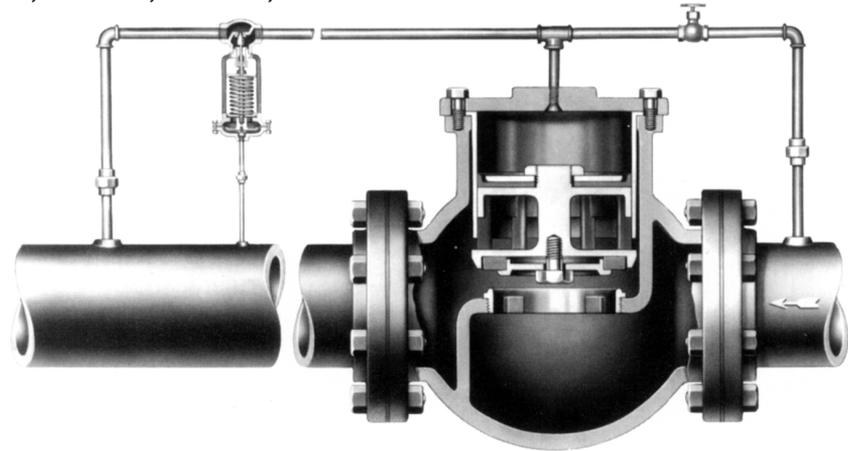
External Pilot Type  
Adjustable Spring Range 8-30; 28-50; 45-75; 70-100

**Service:** The Type 701 water reducing valve is intended for use wherever water at a higher pressure is to be reduced to a pressure between 8 and 100 p.s.i. and where a tight closing valve of heavy and durable construction is needed. Typical applications are on the discharge of pumps supplying water for general plant use and for regulating pressure on plumbing systems.

**Materials:** The valve body and cover are cast iron. The internal parts are bronze except the rubber disc and leather cup. Sizes 2, 2½ and 3 inch have screwed or flanged ends. Larger sizes made with flanged ends only.

**Construction:** The inner valve carries a rubber composition disc which closes against a renewable seat bushing. The upper part of the inner valve is a piston, fitted with a leather cup and sliding in a cylinder. The piston has a larger area than the seat bore. The pilot valve is a ½" No. 100 diaphragm control valve with needle point main valve.

**Operation:** When the reduced pressure is below normal, a small amount of water flows continuously through the restricting needle valve and pilot valve into the low pressure pipe. As the water pressure transmitted



through the tee to the top of the piston is considerably lower than the inlet pressure under the disc, the inner valve is held open. When the reduced pressure under the diaphragm of the pilot valve exceeds normal, the pilot valve begins to close, causing the pressure above the main valve piston to increase and force the inner valve toward the seat until normal reduced pressure is restored.

**Adjustment:** The reduced pressure can be adjusted to the desired valve by means of the pilot valve spring. The restricting valve is used to control the speed of operation of the main valve. When this needle valve is nearly closed the reduced pressure is kept within closer limits and the main valve opens quickly but closes slowly.

### INITIAL PRESSURE AND TEMPERATURE LIMITS

**Body:** Cast Iron, Screwed  
**Water:** 250 psi 125°F.  
Not used for air or steam

**Body:** Cast Iron, 125 lb. Flanges  
**Water:** 200 psi 125°F.  
Not used for air or steam

**Body:** Cast Iron, 250 lb. Flanges  
**Water:** 250 psi 125°F.  
Not used for air or steam

### Higher Temperatures-Consult Factory

#### Reduced Pressures

Different springs required to cover this range each adjustable over part of range. Spring ranges -8 to 30; 28 to 50; 45 to 75; 70 to 100.

*Water capacity table page 15.*

## DIMENSIONS—WEIGHTS (approximate)

Size Inches	Dimensions Globe—F. to F.—Inches			Dimensions Angle—Cen. to Flg.—Inches			Shipping Weight		
	Screwed	125# Flanged	250#	Screwed	125# Flanged	250#	Screwed	125# Flanged	250#
2	7 <sup>7</sup> / <sub>16</sub>	8 <sup>1</sup> / <sub>4</sub>	8 <sup>3</sup> / <sub>4</sub>	3 <sup>3</sup> / <sub>16</sub>	4 <sup>1</sup> / <sub>4</sub>	4 <sup>3</sup> / <sub>4</sub>	43	52	60
2½	8 <sup>1</sup> / <sub>2</sub>	9 <sup>1</sup> / <sub>2</sub>	10 <sup>1</sup> / <sub>2</sub>	3 <sup>15</sup> / <sub>16</sub>	4 <sup>3</sup> / <sub>4</sub>	5 <sup>1</sup> / <sub>16</sub>	53	65	72
3	9 <sup>1</sup> / <sub>2</sub>	10 <sup>1</sup> / <sub>2</sub>	11 <sup>1</sup> / <sub>4</sub>	4 <sup>1</sup> / <sub>2</sub>	5 <sup>1</sup> / <sub>4</sub>	5 <sup>5</sup> / <sub>16</sub>	73	85	100
4	—	12 <sup>1</sup> / <sub>2</sub>	12 <sup>1</sup> / <sub>2</sub>	—	6 <sup>1</sup> / <sub>2</sub>	6 <sup>5</sup> / <sub>16</sub>	—	120	140
5	—	14 <sup>1</sup> / <sub>2</sub>	15 <sup>1</sup> / <sub>2</sub>	—	7 <sup>1</sup> / <sub>2</sub>	7 <sup>15</sup> / <sub>16</sub>	—	170	195
6	—	16 <sup>1</sup> / <sub>2</sub>	17 <sup>1</sup> / <sub>2</sub>	—	8 <sup>1</sup> / <sub>2</sub>	8 <sup>5</sup> / <sub>16</sub>	—	200	235
8	—	19 <sup>1</sup> / <sub>2</sub>	20 <sup>1</sup> / <sub>2</sub>	—	9 <sup>1</sup> / <sub>2</sub>	9 <sup>5</sup> / <sub>16</sub>	—	395	445
*10	—	20 <sup>1</sup> / <sub>2</sub>	21 <sup>1</sup> / <sub>2</sub>	—	—	—	—	465	520

\*Globe pattern only