

TORO**Count on it.**

P-220 Series

V A L V E S

COMMERCIAL

When a high-pressure rating and pressure regulation are a requirement, P-220 are the valves to choose. A 220-psi rating allows these plastic valves to withstand the high pressures of commercial applications. With the optional EZReg™ feature, pressure regulation is as simple as dialing in the setting.



P-220 Series Plastic Valves

1"–3" (25–75mm) Pressure-regulating Models

Features

- 220-psi (15 Bar) maximum pressure rating
- Tough, 33% glass-filled nylon (GFN) and stainless steel construction
- Globe/Angle configuration
- Rugged, reinforced bonnet design withstands tough and high-pressure applications
- Precise pressure control option with compact EZReg dial-design technology (factory- or field-installed—no need to remove solenoid)
- Pressure regulates in electric and manual modes, serviceable under pressure
- Forward-flow design for more precise regulation

- Standard, built-in Schrader-type valve for downstream pressure verification
- Anti-vandal dust cap on pressure-regulating models
- No external tubing for either electric or pressure-regulating models
- Internal downstream manual bleed keeps valve box dry
- External manual bleed for system flushing
- Ergonomic manual flow control: adjustable to zero flow
- Flow control independent of solenoid
- Tough, double-beaded, fabric-reinforced rubber diaphragm rated at 750-psi (50 Bar) burst pressure
- Self-aligning bonnet to ensure correct installation
- Stainless steel spare nut for convenience
- Skirt on flow control for debris resistance



- Self-cleaning, stainless steel metering rod
- Brass flow control stem—2" and 3" (50mm and 75mm) models
- Positive O-ring seal on inlet plug prevents leaks
- Low-flow capability down to 5 GPM (20 LPM)
- Easily serviced without system removal
- Proven, encapsulated, injection-molded solenoid with captured hex plunger and spring
- Low-power requirement for longer wire runs
- 18" (45cm) lead wires for easy installation
- Recycled water solenoid with tag assembly available as a service kit (Part No. RW60-Kit)
- Five-year warranty

External manual bleed screw

Ergonomic, manual flow control handle (removable)

EZReg pressure-regulating module or port plug

Standard Schrader valve for operating pressure readings

Anchored studs and nut design

Tough GFN bonnet for 220-psi rating

Globe/angle body for 1" to 3" sizes

Aerospace locknut

Solenoid with captured hex plunger and spring

Debris skirt

Internal manual bleed Spare nut

Brass flow control stem on 2" and 3" (not illustrated)

Fabric reinforced 750-psi rated, double-beaded diaphragm

Self-cleaning, stainless-steel metering rod

O-ring seal cap plug

Specifying Information

P220 2X X X

Type	Configuration	Solenoid	Size
P220—P-220 Series Plastic Valve	23—BSP, Electric 24—BSP, Pressure-regulated (5–100) 26—NPT, Electric 27—NPT, Pressure-regulated (5–100)	0–60 Hz Solenoid 5–50 Hz Solenoid 6—Less Solenoid	4—1" (25mm) 6—1½" (40mm) 8—2" (50mm) 0—3" (75mm)

Example: A 1" (25mm) P-220 Series plastic electric, pressure-regulating valve with 60 Hz solenoid, would be specified as: **P220-27-04**

Note: Less solenoid available in 1" (25mm), 1½" (40mm), 2" (50mm) and 3" (75mm) electric NPT and BSP versions only. EZReg is a trademark of The Toro Company.

Specifications

- Flow range:
 - 1"—5–50 GPM (25mm—20–200 LPM)
 - 1½"—30–110 GPM (40mm—120–400 LPM)
 - 2"—80–180 GPM (50mm—300–680 LPM)
 - 3"—150–300 GPM (75mm—600–1100 LPM)
- Operating pressure:
 - Electric: 10–220 psi (0,7–15 Bar)
- Pressure regulating models:
 - Outlet: EZR-30 5–30 psi, ± 3 psi (0,3–2,0 Bar, ± 0,2 Bar)
 - Outlet: EZR-100 5–100 psi, ± 3 psi (0,3–7,0 Bar, ± 0,2 Bar)
 - Inlet: 15–220 psi (1,0–15 Bar)
- Minimum pressure differential (between inlet and outlet required for regulation): 10 psi (0,7 Bar)
- Burst pressure safety rating: 750 psi (50 Bar)
- Body styles:
 - Globe/angle valve—1", 1½", 2" and 3" (25mm, 40mm, 50mm, 75mm) female-threaded inlet and outlet
- BSP threads available
- E2003 DC-latching solenoid available
- Solenoid: 24 V ac (standard)
 - Inrush: 0.40 amps, 11.50 VA
 - Holding: 0.20 amps, 5.75 VA
- Dimensions:
 - 1"—6¾" H x 3⅝" W (25mm—171mm x 92mm)
 - 1½"—7¼" H x 3⅝" W (40mm—184mm x 92mm)
 - 2"—9½" H x 6⅛" W (50mm—241mm x 156mm)
 - 3"—10¾" H x 6⅛" W (75mm—273mm x 156mm)



P-220 Series Friction Loss Data—U.S.

Size	Configuration	GPM Flow																											
		5	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	180	200	225	250	275	300						
1" (25mm)	Globe	4.00	4.20	3.20	4.10	7.20	10.90																						
	Angle	4.00	4.20	3.10	2.70	4.80	7.90																						
1½" (40mm)	Globe				1.60	2.30	3.60	5.20	7.00	9.20	11.70	14.40	17.50																
	Angle				1.30	1.60	2.80	4.00	5.50	7.10	9.00	11.00	13.30																
2" (50mm)	Globe									2.10	2.70	3.30	4.00	4.80	5.60	6.50	7.50	8.05											
	Angle									1.20	1.60	2.00	2.40	2.80	3.30	3.90	4.40	5.10											
3" (75mm)	Globe																2.50	3.00	4.10	5.30	6.70	8.30	10.10						
	Angle																1.90	2.40	3.30	4.30	5.50	6.90	8.50						

Note: For optimum performance when designing a system, be sure to calculate total friction loss to ensure sufficient downstream pressure. For optimum regulation performance, size regulating valves toward the higher flow ranges. Values shown in psi.

P-220 Series Friction Loss Data—Metric

Size	Configuration	LPM Flow																										
		40	60	80	100	120	140	160	180	200	250	300	350	400	450	500	550	600	700	800	900	1000	1100					
25mm (1")	Globe	0,29	0,25	0,25	0,26	0,32	0,43	0,55	0,69	0,82																		
	Angle	0,29	0,35	0,21	0,20	0,21	0,29	0,38	0,49	0,61																		
40mm (1½")	Globe					0,12	0,14	0,18	0,23	0,28	0,43	0,62	0,85	1,11														
	Angle					0,09	0,10	0,13	0,17	0,22	0,34	0,48	0,65	0,85														
50mm (2")	Globe											0,14	0,20	0,25	0,32	0,40	0,48	0,54										
	Angle											0,08	0,12	0,15	0,19	0,24	0,29	0,32										
75mm (3")	Globe																	0,18	0,24	0,32	0,41	0,52	0,65					
	Angle																	0,14	0,19	0,26	0,34	0,43	0,54					

Note: For optimum performance when designing a system, be sure to calculate total friction loss to ensure sufficient downstream pressure. For optimum regulation performance, size regulating valves toward the higher flow ranges. Values shown in bar. For kPa values, multiply tabular values by 100. For Kg/cm² values, multiply tabular values by 1,02.



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