

P-220 Valves

Featuring Spike-Guard™ Solenoid Technology

1", 1½", 2", 3"
Electric, Pressure-regulating
Globe, Angle
Commercial

Application: These heavy-duty glass-filled nylon valves are specially designed for commercial applications with pressures up to 220 psi, but also have the ability to pressure regulate the flow through the valve anywhere from 5–100 psi.

Specifications

Recommended flow range (by size):

1" (25mm):	5–35 GPM (20–159 LPM)
1½" (40mm):	30–110 GPM (114–400 LPM)
2" (50mm):	80–180 GPM (300–600 LPM)
3" (75mm):	150–300 GPM (568–1100 LPM)

Operating pressure (by model):

Electric:	10–220 psi (0,7–15 Bar)
Pressure-regulating:	
– 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)

Solenoid (24 V ac, 50/60 Hz Standard):

– Inrush:	(50 Hz) 0.17 amps (60 Hz) 0.12 amps
– Holding:	(50 Hz) 0.15 amps (60 Hz) 0.1 amps

Dimensions (by size):

1" (25mm):	6¾" H x 3⅝" W (171 x 92mm)
1½" (40mm):	7¼" H x 3⅝" W (184 x 92mm)
2" (50mm):	9½" H x 6⅞" W (241 x 156mm)
3" (75mm):	10¼" H x 6⅞" W (273 x 156mm)

Burst pressure safety rating:

750 psi (50 Bar)

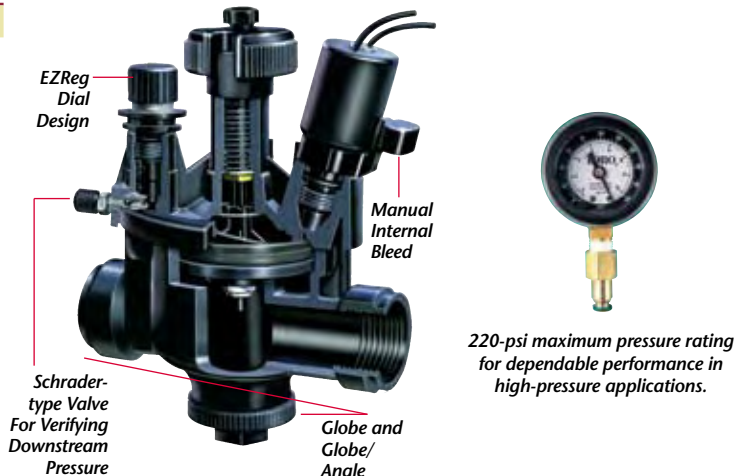
Body configurations:

Type	Size			
	1"	1½"	2"	3"
FxF NPT	✓	✓	✓	✓
Globe/Angle	✓	✓	✓	✓
Flow Control with	✓	✓	✓	✓



Features

- The Spike-Guard™ solenoid features very low power consumption, which reduces wire size requirements, allows twice as many valves to run simultaneously on a transformer and lowers power costs
- With a lightning rating exceeding 20,000 volts, the new 220 Series brass valves offer nearly three times the lightning protection of competitive products
- Precise, pressure control option with compact EZReg™ (can be factory installed) dial design. Technology does not effect friction loss unlike competitive valves.
- Tough, glass-filled nylon and stainless steel construction
- 1", 1½", 2" and 3" (25mm, 40mm, 50mm and 75mm) female inlet/outlet
- External manual bleed
- Pressure regulates in electric or manual modes and is serviceable under pressure
- No external tubing for either electric or pressure-regulating models
- Internal downstream manual bleed allows for manually setting pressure regulation
- Standard, built-in Schrader-type valve for downstream pressure verification
- Flow control independent of solenoid
- Self-aligning bonnet to ensure correct installation
- Self-cleaning, stainless steel metering rod
- Low-flow capability down to 5 GPM (20 LPM) with EZReg
- Low-power requirement for longer wire runs
- Recycled water solenoid and warning tag
- Five-year warranty



220-psi maximum pressure rating for dependable performance in high-pressure applications.

P-220 Valves

Electric & Pressure-regulating



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. Flow rates are recommended not to exceed 5 psi loss. 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. Flow rates are recommended not to exceed 0,3 bar loss. Values shown in bar.

* Data taken with EZReg pressure regulation device installed. Data remains the same with or without pressure regulation.

Precise Pressure Regulation

An accurate and visibly adjustable dial, coupled with a forward-flow valve design allows the 220 Series with the EZReg module to regulate with flows of only 5 GPM (1" valve) and requires only 10 psi differential to operate. The pressure regulator is perfect



for retrofit projects and can be easily and quickly installed (even under pressure) with no danger of water geysers from the removed solenoid area or valve opening. The EZReg regulates in the manual mode should power be unavailable. A standard, Schrader-type valve permits quick verification of downstream operating pressure.

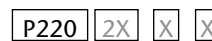
Valve Wire Sizing Chart

Maximum One-way Distance (in ft.) Between Controller and Valve Using Spike-Guard™ Solenoid*

Ground Wire	Control Wire						
	18	16	14	12	10	8	6
18	2040	2520	2940	3280	3540	3720	3860
16	2520	3260	4000	4660	5220	5620	5920
14	2940	4000	5180	6360	7420	8300	8960
12	3280	4660	6360	8240	10100	11800	13180
10	3540	5220	7420	10100	13180	16060	18770
8	3720	5260	8300	11800	16060	20800	25540
6	3860	5960	8960	13180	18700	25540	33080

* Solenoid Model: 24 V ac Pressure: 150 psi Voltage Drop: 4 V Minimum Operating Voltage: 20 V Amperage (peak) 0.12 A

Specifying Information



Type	Configuration	Solenoid	Size
P220—P-220 Series Plastic Valve	26—NPT, Electric 27—NPT, Pressure-regulated (5–100)	0—Solenoid 6—Less Solenoid 9—DC Latching Solenoid	4—1" (25mm) 6—1½" (40mm) 8—2" (50mm) 0—3" (75mm)

Options for P-220 Series

- EZR-30 EZReg, 5–30 psi Regulator Module
- EZR-100 EZReg, 5–100 psi Regulator Module
- RW60-Kit Recycled Water (Lavender) Solenoid Assembly (24 V ac, 60 Hz) and Warning Tag)
- DCLS-P Potted DC Latching Solenoid Assembly

Example: A 1" (25mm) P-220 Series plastic electric, pressure-regulating valve with a 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.