



## Control Valves



### Universal StopCocks™ - 1/4" PVC

For on/off, restricted flow or sampling applications, the Hayward StopCock is easily adaptable to any piping connection. Furnished with the valve is a 1/4" NPT female pipe thread, 1/4" NPT male pipe thread and hose barb end connectors for 1/4" through 7/16" I.D. tubing. These allow the valve to be fitted with up to six different end connection combinations. Simply attach the end connections you need – they are all supplied with each valve.



#### Features

- Six Different End Connections
- All Plastic, No Rust, No Corrosion
- EPDM Seats and Seals
- Hex Wrench Included
- Rated to 150 PSI @ 70°F
- Ideal for Labs & Sampling
- End Connection Combinations
  - FPT X FPT, FPT X MPT,
  - FPT X Hose, MPT X MPT,
  - MPT X Hose, Hose X Hose

### Needle Valves - 1/4", 3/8" and 1/2" - PVC or PPL

Needle Valves are used for accurate metering of fluids. Turning the thumb-wheel moves a tapered piston into the PTFE seat to control the flow down to a few drops per minute. Precision-molded, fine-pitched stem threads permit this very fine metering flow control.



#### Features

- Lugs for Panel Mounting
- Adjustable Without Tools
- Fine Pitch Stem Thread
- Rated at 150 PSI @ 70°F
- PVC or PPL Construction
- FPM Seals
- PTFE Seats
- All Plastic, No Rust or Corrosion
- Threaded NPT Connections

### Angle Valves - 1/4" to 2" - PVC

Hayward Angle Valves are used in tight spaces where a 90° change in flow direction is needed and there is insufficient room for extra fittings. Since they are globe valves, they are ideal for sampling and throttling applications.



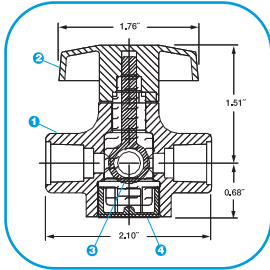
#### Features

- All Plastic, No Rust or Corrosion
- No Required Adjustments
- FPM Seat and Seals
- Threaded NPT Connections
- Space Saving 90° Design
- Fine Pitch Stem Threads
- Mounting Lugs on 1/4" Valve
- Rated at 150 PSI @ 70°F



## Technical Information

### Universal StopCock™



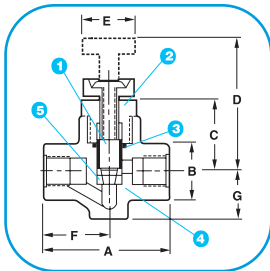
#### Parts List

1. StopCock Body
2. Handle
3. Plug
4. Retainer Cap

### Dimensions - Inches / Millimeters

End Conn.	Length
FPT X FPT	2.10 / 53
FPT X MPT	2.82 / 72
FPT X Hose	3.11 / 79
MPT X MPT	3.54 / 90
MPT X Hose	3.83 / 97
Hose X Hose	4.11 / 104

### Needle Valves



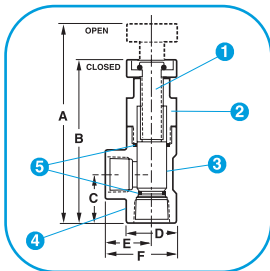
#### Parts List

1. Stem
2. Bonnet
3. O-Ring
4. Body
5. TFE Seat

### Dimensions - Inches / Millimeters

Size	A	B	C	D	E	F	G	Weight (lb / kg)
1/4"	2.50 / 64	0.88 / 22	1.44 / 37	2.50 / 64	1.06 / 27	1.25 / 32	0.81 / 21	0.20 / .06
3/8"	2.50 / 64	1.19 / 30	1.44 / 37	2.50 / 64	1.06 / 27	1.25 / 32	0.81 / 21	0.22 / .06
1/2"	2.50 / 64	1.19 / 30	1.44 / 37	2.50 / 64	1.06 / 27	1.25 / 32	0.81 / 21	0.25 / .06

### Angle Valves



#### Parts List

1. Stem
2. Bonnet
3. Piston
4. Body
5. O-Ring

### Dimensions - Inches / Millimeters

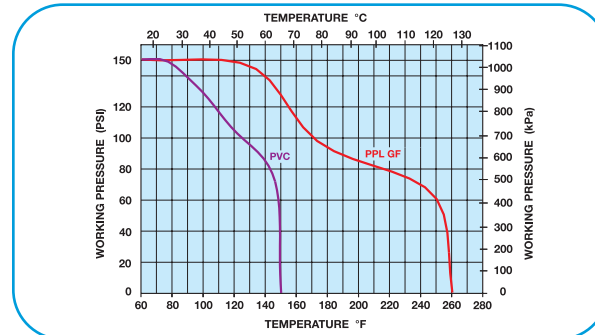
Size	A	B	C	D	E	F	Weight (lb / kg)	Cv
1/4"	3.63 / 92	3.19 / 81	1.06 / 27	1.00 / 25	0.88 / 22	1.38 / 35	.13 / .06	1.0
1/2"	5.88 / 149	4.94 / 125	1.50 / 38	1.38 / 35	1.44 / 37	2.06 / 52	.38 / .17	5.0
3/4"	6.38 / 162	5.19 / 132	1.88 / 48	1.56 / 40	1.63 / 41	2.44 / 62	.50 / .20	10.0
1"	7.44 / 189	6.19 / 157	2.06 / 52	1.94 / 49	1.94 / 49	2.75 / 70	.63 / .29	16.0
1-1/2"	10.25 / 260	8.31 / 211	2.63 / 67	2.63 / 67	2.44 / 62	3.75 / 95	1.75 / .80	45.0
2"	11.81 / 300	9.44 / 240	3.00 / 76	3.13 / 80	2.8 8 / 73	4.44 / 113	2.63 / 1.20	70.0

#### Pressure Loss Calculation Formula

$$\Delta P = \left[ \frac{Q}{Cv} \right]^2$$

$\Delta P$  = Pressure Drop  
 $Q$  = Flow in GPM  
 $Cv$  = Flow Coefficient

### Operating Temperature/Pressure



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