

## Check Valve Lift Type

### Model 70N

- Pump check valve
- One-way zone isolation
- Return flow prevention

The Model 70N Check Valve is a non-slam, lift type, non return valve that opens to allow flow in the required direction and smoothly closes drip tight to prevent back flow.

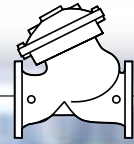


### Features and Benefits

- **Non-slam closing** – Eliminates system surges
- **In-line serviceable** – Easy maintenance
- **Flexible design** – Convertible to hydraulic valve
- **"Y" or angle, wide body** – Minimized pressure loss
- **Semi-straight flow** – Non-turbulent flow
- **Stainless Steel raised seat** – Cavitation damage resistant
- **Obstacle free, full bore** – Uncompromising reliability

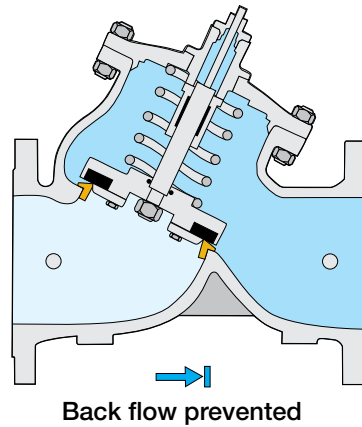
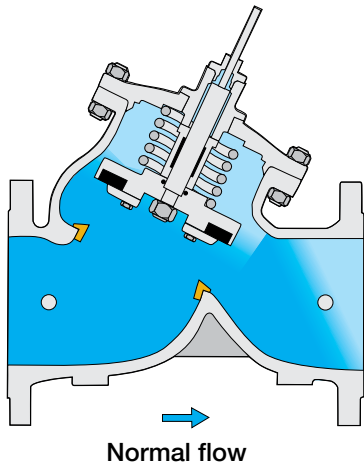
### Major Additional Features

- Valve position indicator – **70N-I**
- Electric limit switch – **70N-S**
- Double check valve – **72N**

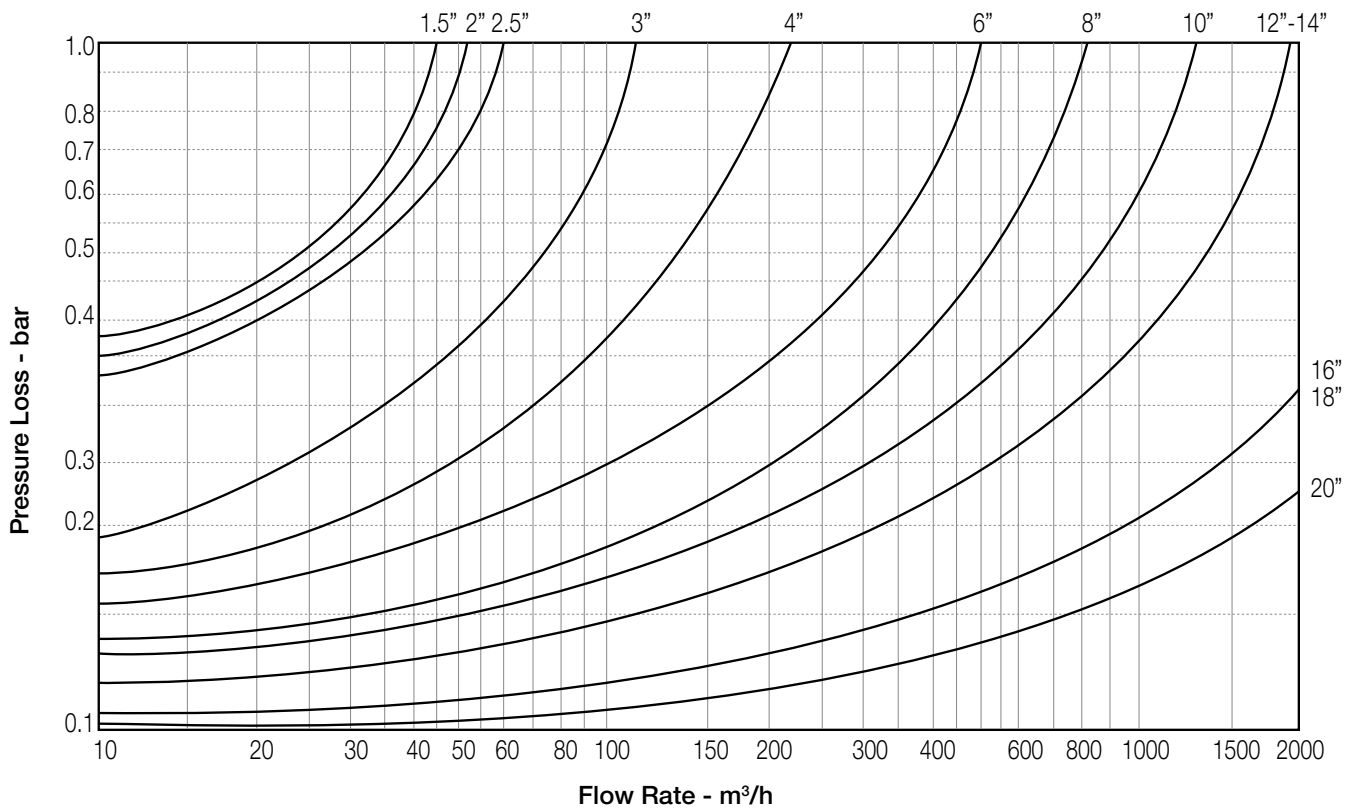


## Operation

The Model 70N is built on a standard 700 Series body assembly and reacts to differential pressure across its seal disk. It opens and closes in a non-slam manner according to the flow. A spring provides additional closing force.

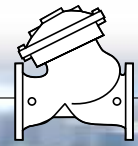


## Flow Chart



### Notes:

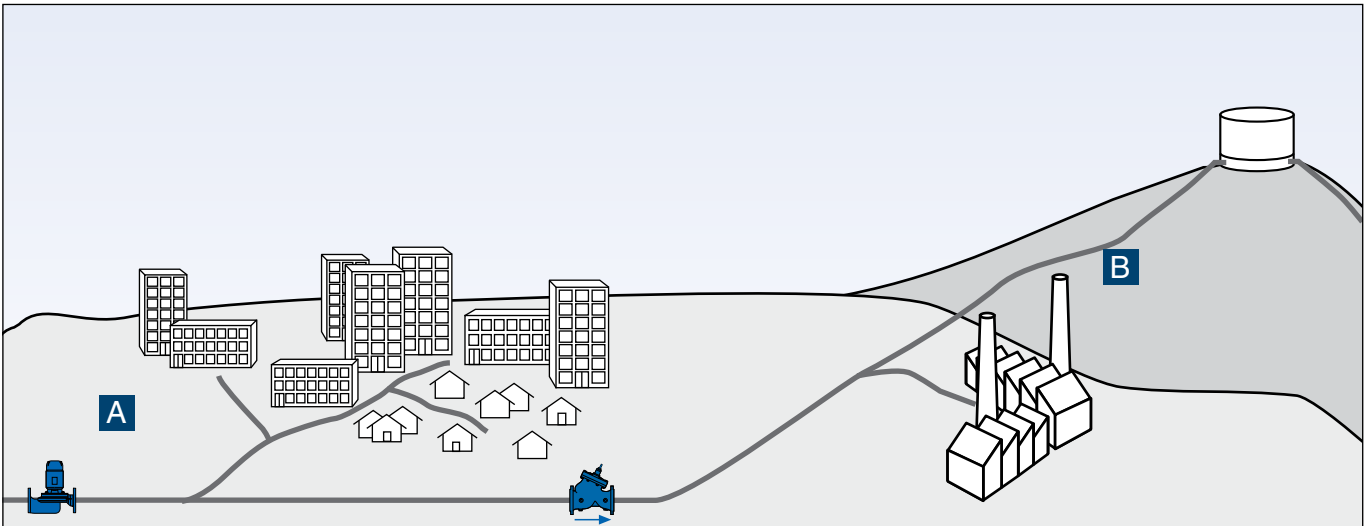
- Recommended continuous flow velocity: 0.3-6.0 m/sec ; 1-20 ft/sec
- Minimum operating pressure: 0.7 bar ; 10 psi.



## Typical Applications

### One-Way Zone Isolation

In complex distribution networks, multiple zones are supplied from multiple sources. Each zone has its own characteristic demands and each source has its characteristic capacity. Often each source is designated to serve a specific zone, with a backup supply designed into the system.

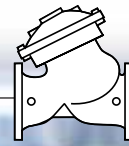


In this system, source **A** supplies zone **A** and backs up the farther zone. Source **B** supplies zone **B**, but does not have enough capacity to backup any other zone.

The Model 70N Check Valve, installed between the zones, allows flow from source **A** to zone **B**, but not from source **B** to zone **A**.

### Pump Check Valve





### Technical Data

**Size Range:** DN40-900 ; 1½-36"

**End Connections (Pressure Ratings):**

**Flanged:** ISO PN16, PN25 (ANSI Class 150, 300)

**Threaded:** BSP or NPT

**Others:** Available on request

**Valve Patterns:** "Y" (globe) & angle, globe (DN600-900 ; 24"-36")

**Working Temperature:** Water up to 80°C ; 180°F

**Standard Materials:**

**Body & Actuator:** Ductile Iron

**Internals:** Stainless Steel, Bronze & coated Steel

**Diaphragm:** Synthetic Rubber Nylon fabric-reinforced

**Seals:** Synthetic Rubber

**Coating:** Fusion Bonded Epoxy, RAL 5005 (Blue) approved for drinking water or Electrostatic Polyester Powder

### Differential Pressure Calculation

$$\Delta P = \left( \frac{Q}{Kv; Cv} \right)^2$$

**ΔP** = Differential Pressure for fully open valve (bar; psi)

**Q** = Flow rate (m³/h; gpm)

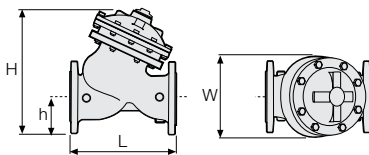
**Kv** = Metric system - valve flow coefficient (flow in m³/h at 1 bar ΔP with 15°C water)

**Cv** = US system - Valve flow coefficient (flow in gpm at 1 psi ΔP with 60°F water)

$$Cv = 1.155 Kv$$

### Flow Data & Dimensions Table

DN / Size		40	1.5"	50	2"	65	2.5"	80	3"	100	4"	150	6"	200	8"	250	10"	300	12"	350	14"	400	16"	450	18"	500	20"		
Flow Data	700 & 700ES	Kv / Cv - Flat																											
	700 & 700EN	Kv / Cv - "Y" Flat																											
	700 & 700EN	Kv / Cv - "Y" V-Port																											
700-ES	PN16; 25	L (mm / inch)																											
	PN16; 25	W (mm / inch)																											
	PN16; 25	h (mm / inch)																											
	PN16; 25	H (mm / inch)																											
	PN16; 25	Weight (Kg/lb)																											
700-EN	PN16; 25	L (mm / inch)																											
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700 Flanged	"Y" PN16 Class 150	L (mm / inch)																											
		W (mm / inch)																											
		h (mm / inch)																											
		H (mm / inch)																											
		Weight (Kg/lb)																											
	"Y" PN25 Class 300	L (mm / inch)																											
		W (mm / inch)																											
		h (mm / inch)																											
		H (mm / inch)																											
		Weight (Kg/lb)																											
700 Threaded	"Y" PN16; 25 Class 150; 300	L (mm / inch)																											
		W (mm / inch)																											
		h (mm / inch)																											
		H (mm / inch)																											
		Weight (Kg/lb)																											
	Angle PN16; 25 Class 150; 300	L (mm / inch)																											
		W (mm / inch)																											
		R (mm / inch)																											
		h (mm / inch)																											
		H (mm / inch)																											



### Specify when ordering:

- Size
- Main model
- Additional features
- Pattern
- Body material
- End connection
- Coating
- Voltage & main valve position
- Tubing & Fittings materials
- Operational data (according to model)
- Pressure data
- Flow data
- Reservoir level data
- Settings

\* Use BERMAD's Waterworks Ordering Guide

DN / Size		600	24"	700	28"	750	30"	800	32"	900	36"
Globe PN16 Class 150	L (mm / inch)	1,450	57.1	1,650	65	1,750	68.9	1,850	72.8	1,850	72.8
	W (mm / inch)	1,250	49.2	1,250	49.2	1,250	49.2	1,250	49.2	1,250	49.2
	h (mm / inch)	470	18.5	490	19.3	520	20.5	553	21.8	600	23.6
	H (mm / inch)	1,965	77.4	1,985	78.1	2,015	79.3	2,048	80.6	2,095	82.5
	Weight (Kg/lb)	3,250	7,150	3,700	8,140	3,900	8,580	4,100	9,020	4,250	9,350
Globe PN25 Class 300	L (mm / inch)	1,500	59.1	1,650	65	1,750	68.9	1,850	72.8	1,850	72.8
	W (mm / inch)	1,250	49.2	1,250	49.2	1,250	49.2	1,250	49.2	1,250	49.2
	h (mm / inch)	470	18.5	490	19.3	520	20.5	553	21.8	600	23.6
	H (mm / inch)	1,965	77.4	1,985	78.1	2,015	79.3	2,048	80.6	2,095	82.5
	Weight (Kg/lb)	3,500	7,700	3,700	8,140	3,900	8,580	4,100	9,020	4,250	9,370

