

Technical Data

Size Range: DN40-500 ; 1½-20"

End Connections (Pressure Ratings):

Flanged: ISO PN16, PN25, PN40 ; ANSI Class 150, 300, 400

Threaded: BSP or NPT

Others: Available on request

Valve Patterns: "Y" (globe) & angle

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

Standard Materials:

Body: Cast Carbon Steel; Ductile Iron; Stainless Steel 316

Cover: Stainless Steel 316; Bronze

Internals: Stainless Steel & Bronze

Seals: Synthetic Rubber

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

Differential Pressure Calculation

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

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)

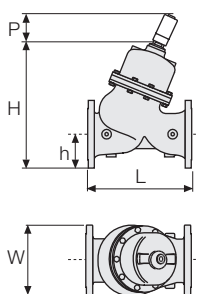
Cv = US system - Valve flow coefficient
(flow in gpm at 1 psi ΔP with 60°F water)

$$Cv = 1.155 Kv$$

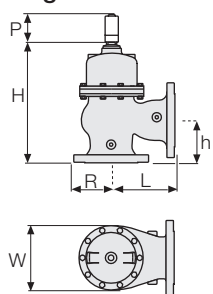
Flow Data & Dimensions Table

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	800 "Y"																													
	800 Angle																													
	800 "Y" Flanged																													
800 "Y" Flanged	PN10; 16 Class 150	L (mm / inch)	205 8.1	210 8.3	222 8.7	250 9.8	320 12.6	415 16.3	500 19.7	605 23.8	725 28.5	733 28.9	990 39.0	1,000 39.4	1,100 43.3	1,250 49.6	1,440 56.7	1,850 72.8	2,140 84.4	2,300 90.9	2,330 91.7	2,350 92.5	2,380 93.3	2,410 94.1	2,440 94.9	2,470 95.7	2,500 96.5	2,530 97.3	2,560 98.1	
		W (mm / inch)	156 6.1	166 6.5	190 7.5	200 7.9	229 9.0	286 11.3	344 13.5	408 16.1	484 19.1	536 21.1	600 23.6	638 25.1	716 28.2	762 29.9	820 32.3	880 34.6	940 36.9	1,000 39.4	1,060 41.7	1,120 44.1	1,180 46.4	1,240 48.8	1,300 51.2	1,360 53.5	1,420 55.9	1,480 58.3	1,540 60.6	1,600 63.0
		h (mm / inch)	78 3.1	83 3.3	95 3.7	100 3.9	115 4.5	143 5.6	172 6.8	204 8.0	242 9.5	268 10.6	300 11.8	319 12.6	358 14.1	399 15.7	439 17.3	479 18.8	519 20.4	559 22.0	599 23.6	639 25.1	679 26.7	719 28.3	759 29.9	799 31.5	839 33.1	879 34.7	919 36.3	959 37.9
		H (mm / inch)	260 10.2	265 10.4	278 10.9	327 12.9	409 16.1	526 20.7	650 25.6	763 30.0	942 37.1	969 38.1	1,154 45.4	1,173 46.2	1,211 47.7	1,250 49.2	1,420 56.3	1,590 63.4	1,760 70.5	1,930 77.6	2,100 84.7	2,270 91.8	2,440 98.9	2,610 106.0	2,780 113.1	2,950 120.2	3,120 127.3	3,290 134.4	3,460 141.5	3,630 148.6
		P (mm / inch)	-	-	-	-	-	135 5.3	135 5.3	142 5.6	154 6.1	154 6.1	191 7.5	191 7.5	191 7.5	228 9.0	228 9.0	265 10.4	265 10.4	302 11.9	302 11.9	339 13.3	339 13.3	376 14.8	376 14.8	413 16.3	413 16.3	450 17.7	450 17.7	487 19.2
		Weight (Kg/lb)	10.7 24	13 29	16 35	28 62	48 106	94 207	162 356	272 598	455 1,001	482 1,060	1,000 2,200	1,074 2,363	1,096 2,411	1,119 2,460	1,142 2,509	1,165 2,558	1,188 2,607	1,211 2,656	1,234 2,705	1,257 2,754	1,280 2,803	1,303 2,852	1,326 2,901	1,349 2,950	1,372 3,000	1,395 3,049	1,418 3,098	1,441 3,147
	PN25; 40 Class 300	L (mm / inch)	205 8.1	210 8.3	222 8.7	264 10.4	335 13.2	433 17.0	524 20.6	637 25.1	762 30.0	767 30.2	1,024 40.3	1,030 40.6	1,136 44.7	1,250 49.6	1,440 56.7	1,850 72.8	2,140 84.4	2,300 90.9	2,330 91.7	2,350 92.5	2,380 93.3	2,410 94.1	2,440 94.9	2,470 95.7	2,500 96.5	2,530 97.3	2,560 98.1	
		W (mm / inch)	156 6.1	166 6.5	190 7.5	210 8.3	254 10.0	318 12.5	382 15.0	446 17.6	522 20.6	590 23.2	650 25.6	714 28.1	778 30.6	842 33.1	906 35.6	970 38.1	1,034 40.7	1,098 43.2	1,162 45.7	1,226 48.2	1,290 50.8	1,354 53.3	1,418 55.8	1,482 58.3	1,546 60.8	1,610 63.3	1,674 65.8	
		h (mm / inch)	78 3.1	83 3.3	95 3.7	105 4.1	127 5.0	159 6.3	191 7.5	223 8.8	261 10.3	295 11.6	325 12.8	357 14.1	389 15.3	421 16.6	453 17.8	485 20.0	517 21.2	549 22.4	581 23.6	613 24.8	645 26.0	677 27.2	709 28.4	741 29.6	773 30.8	805 32.0	837 33.2	
		H (mm / inch)	260 10.2	265 10.4	278 10.9	332 13.1	422 16.6	542 21.3	666 26.2	783 30.8	961 37.8	996 39.2	1,179 46.4	1,208 47.6	1,241 48.9	1,274 49.9	1,457 57.0	1,639 64.1	1,821 71.2	2,003 78.3	2,185 85.4	2,367 92.5	2,549 99.6	2,731 106.7	2,913 113.8	3,095 120.9	3,277 128.0	3,459 135.1	3,641 142.2	
		P (mm / inch)	-	-	-	-	-	135 5.3	135 5.3	142 5.6	154 6.1	154 6.1	191 7.5	191 7.5	191 7.5	228 9.0	228 9.0	265 10.4	265 10.4	302 11.9	302 11.9	339 13.3	339 13.3	376 14.8	376 14.8	413 16.3	413 16.3	450 17.7	450 17.7	
		Weight (Kg/lb)	11.8 26	15 33	18.4 40	32 70	56 123	106 233	190 418	307 675	505 1,111	549 1,208	1,070 2,354	1,095 2,409	1,129 2,484	1,154 2,539	1,179 2,594	1,204 2,649	1,229 2,704	1,254 2,759	1,279 2,814	1,304 2,869	1,329 2,924	1,354 2,979	1,379 3,034	1,404 3,089	1,429 3,144	1,454 3,199	1,479 3,254	
PN10; 16 Class 150	L (mm / inch)	124 4.9	124 4.9	149 5.9	152 6.0	190 7.5	225 8.9	265 10.4	320 12.6	396 15.6	400 15.7	450 17.7	450 17.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	W (mm / inch)	156 6.1	166 6.5	190 7.5	200 7.9	229 9.0	285 11.2	344 13.5	408 16.1	496 19.5	528 20.8	598 23.5	640 25.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	R (mm / inch)	78 3.1	83 3.3	95 3.7	100 3.9	115 4.5	143 5.6	172 6.8	204 8.0	248 9.8	264 10.4	299 11.8	320 12.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	h (mm / inch)	85 3.3	85 3.3	109 4.3	102 4.0	127 5.0	152 6.0	203 8.0	219 8.6	273 10.7	279 11.0	369 14.5	370 14.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	H (mm / inch)	252 9.9	252 9.9	271 10.7	308 12.1	390 15.4	476 18.7	619 24.4	717 28.2	911 35.9	915 36.0	1,144 45.0	1,144 45.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Weight (Kg/lb)	10.7 24.0	13 29.0	16 35.0	26 57.0	46 101	90 198	153 337	259 570	433 953	459 1,010	950 2,090	1,020 2,244	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
PN25; 40 Class 300	L (mm / inch)	124 4.9	124 4.9	149 5.9	159 6.3	200 7.9	234 9.2	277 10.9	336 13.2	415 16.3	419 16.5	467 18.4	467 18.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	W (mm / inch)	150 5.9	155 6.1	190 7.5	200 7.9	254 10.0	318 12.5	381 15.0	446 17.6	522 20.6	586 23.1	650 25.6	716 28.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	R (mm / inch)	78 3.1	85 3.3	95 3.7	105 4.1	127 5.0	159 6.3	191 7.5	223 8.8	261 10.3	293 11.5	325 12.8	358 14.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	h (mm / inch)	85 3.3	85 3.3	109 4.3	109 4.3	135 5.3	165 6.5	216 8.5	236 9.3	294 11.6	299 11.8	386 15.2	386 15.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	H (mm / inch)	252 9.9	264 10.4	271 10.7	315 12.4	398 15.7	491 19.3	632 24.9	733 28.9	930 36.6	935 36.8	1,160 45.7	1,160 45.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	Weight (Kg/lb)	11.8 26	15 33	18.4 40	30 66	54 119	101 222	179 394	292 642	481 1,058	523 1,151	1,017 2,237	1,051 2,312	-	-	-	-	-	-	-	-	-	-	-	-	-	-			

"Y" Pattern



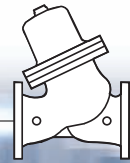
Angle Pattern



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





High Pressure, Check Valve Lift Type

Model 80N

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

The Model 80N 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.

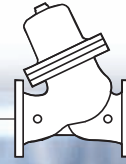


Features and Benefits

- **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

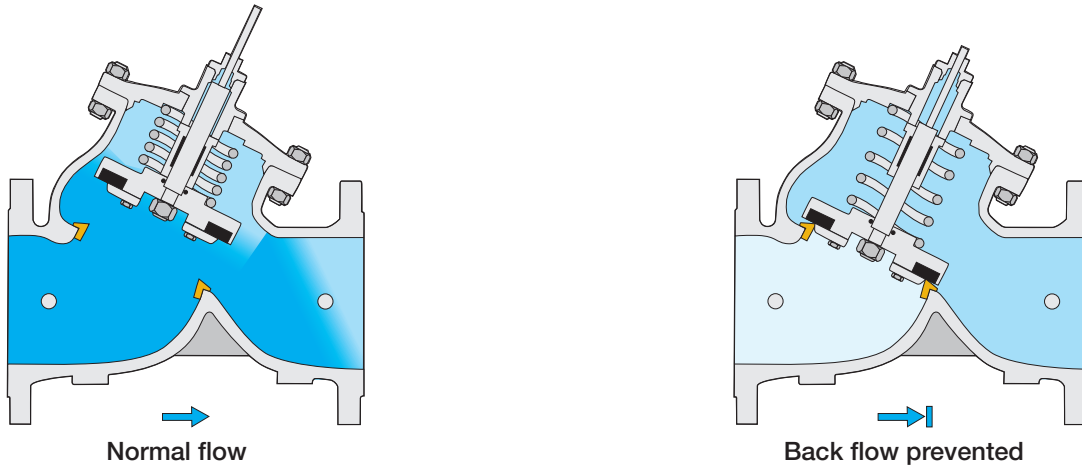
Major Additional Features

- Valve position indicator – **80N-I**
- Electric limit switch – **80N-S**
- Double check valve – **82N**

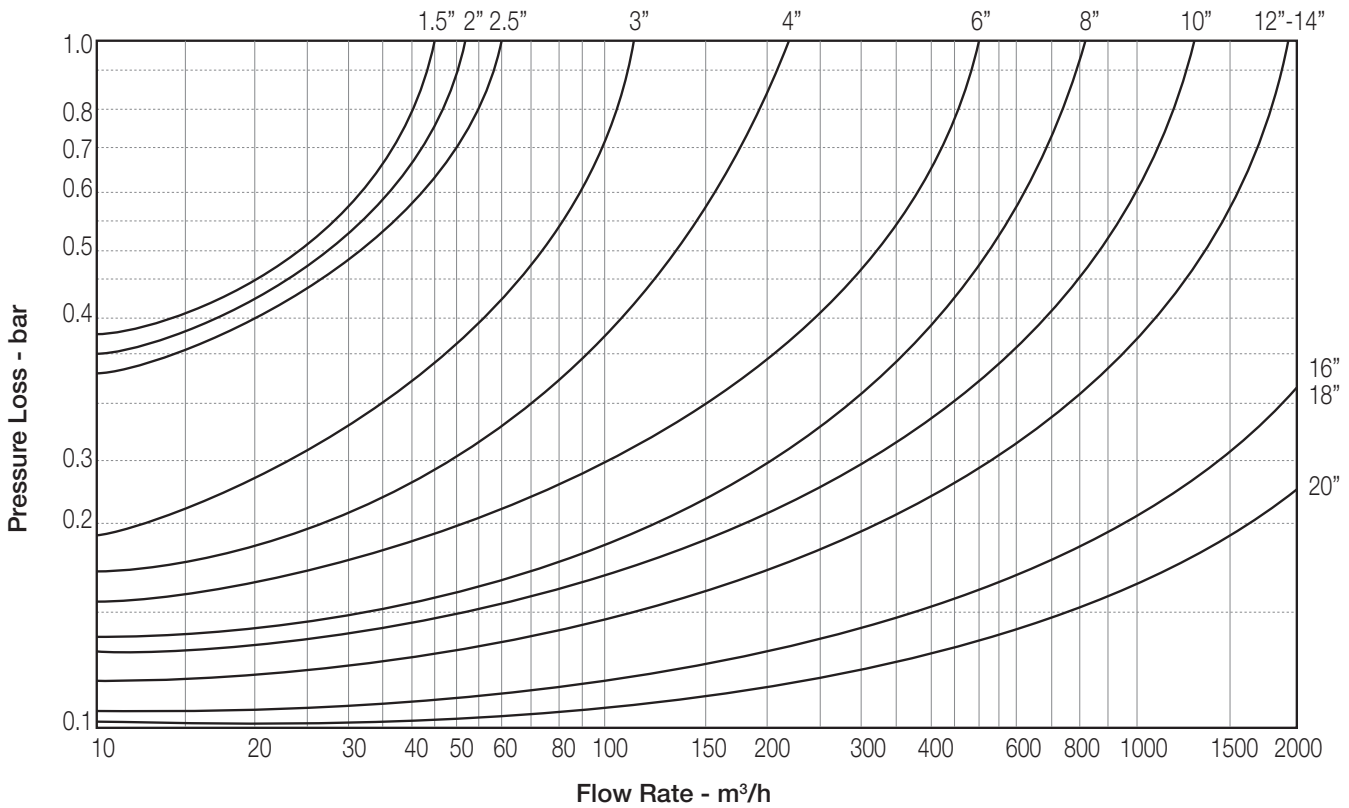


Operation

The Model 80N is built on a standard 800 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.

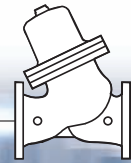


Flow Chart



Notes:

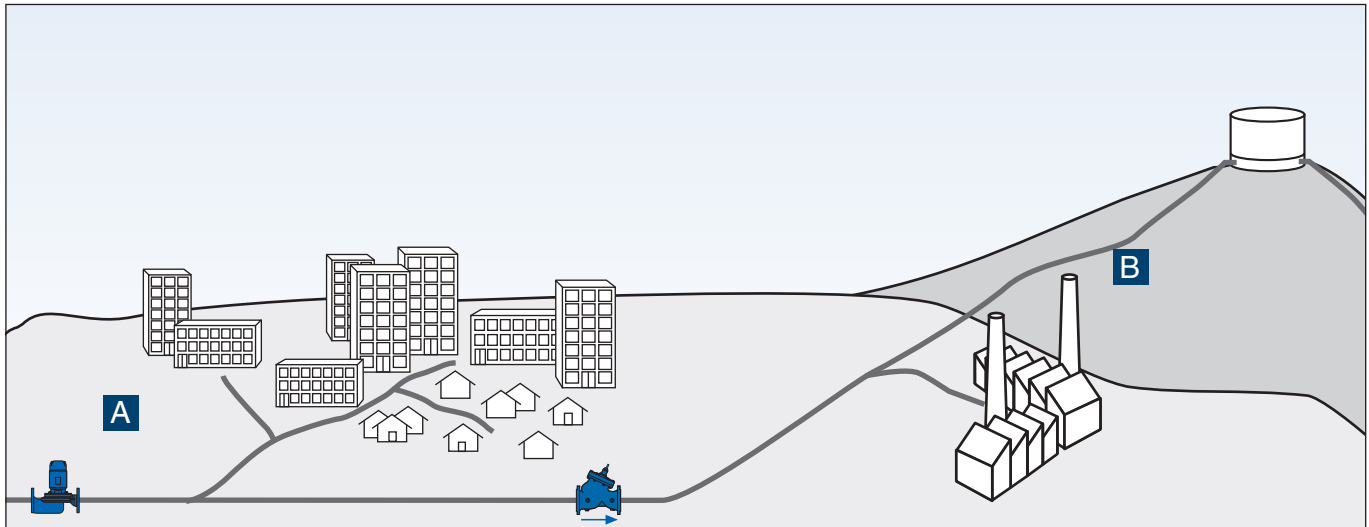
- Recommended continuous flow velocity: 0.3-6.0 m/sec ; 1-20 ft/sec
- Minimum operating pressure: 0.7 bar ; 10 psi.



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 80N 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

