

Valves Technical Y-Check Valves



Features - PVC Gray, PVC Clear & CPVC

Spears® Y-Check Valves are an angle type check valve that automatically stops reverse flow by the dead weight of the disc plug. Y-checks are less affected by turbulent flow and typically have lower shutoff characteristics than ball checks. Valves are available in PVC Gray, PVC Clear, and CPVC materials in IPS Sizes 1/2" through 4" with Socket, SR Threaded or Flanged end connections, plus True Union styles with Socket and SR Threaded ends.

- Chemical & Corrosion Resistant PVC, PVC Clear, and CPVC Construction
- Improved Flow Characteristics Over Ball Checks, Outperforms Spring Loaded Designs
- Easy Access Cap for In-Line Clean Out & Servicing
- Optional True Union Design for Easy Valve Service Replacement
- Standard O-ring type EPDM or FKM Seat & Seals
- Sizes 1/2" – 2" Pressure Rated to 150 psi @ 73°F, Sizes 3" – 4" Pressure Rated to 90 psi @ 73°F
- Suitable for either Horizontal or Vertical Up-flow Installations
- Assembled with Silicone-Free, Water Soluble Lubricants

Sample Engineering Specification

All thermoplastic valves shall be Y-Check configuration manufactured to ASTM F 1970 and constructed from PVC, ASTM D 1784 Cell Classification 12454, or CPVC, ASTM D 1784 Cell Classification 23447. All valves shall have Buttress thread bonnet and standard O-ring type seating disc. All O-rings shall be EPDM or FKM. All 1/2" – 2" valves shall be pressure rated at 150 psi and all 3" – 4" valves shall be pressure rated at 90 psi for water at 73°F, as manufactured by Spears® Manufacturing Company.

Quick-View Valve Selection Chart

Valve Size	O-ring Material	PVC Part Number ^{1,2,3}					Pressure Rating
		Socket	SR Threaded	Flanged	Soc Union	SR Thd Union	
1/2	EPDM	1622-005	1621-005SR	1623-005	162A-005	162B-005SR	150 psi Non-Shock Water @ 73°F
	FKM	1632-005	1631-005SR	1633-005	163A-005	163B-005SR	
3/4	EPDM	1622-007	1621-007SR	1623-007	162A-007	162B-007SR	
	FKM	1632-007	1631-007SR	1633-007	163A-007	163B-007SR	
1	EPDM	1622-010	1621-010SR	1623-010	162A-010	162B-010SR	
	FKM	1632-010	1631-010SR	1633-010	163A-010	163B-010SR	
1-1/4	EPDM	1622-012	1621-012SR	1623-012	162A-012	162B-012SR	
	FKM	1632-012	1631-012SR	1633-012	163A-012	163B-012SR	
1-1/2	EPDM	1622-015	1621-015SR	1623-015	162A-015	162B-015SR	
	FKM	1632-015	1631-015SR	1633-015	163A-015	163B-015SR	
2	EPDM	1622-020	1621-020SR	1623-020	162A-020	162B-020SR	
	FKM	1632-020	1631-020SR	1633-020	163A-020	163B-020SR	
3	EPDM	1622-030	1621-030SR	1623-030	162A-030	162B-030SR	90 psi Non-Shock Water @ 73°F
	FKM	1632-030	1631-030SR	1633-030	163A-030	163B-030SR	
4	EPDM	1622-040	1621-040SR	1623-040	162A-040	162B-040SR	
	FKM	1632-040	1631-040SR	1633-040	163A-040	163B-040SR	

1: For CPVC Y-Check, add the letter "C" to the part number (e.g. 1622-005C)
 2: For PVC Clear Y-Check, add the letters "CL" to the part number (e.g. 1622-005CL) or (e.g. 162A-005CL)
 3: For CPVC or PVC Clear Special Reinforced Y-Check, (e.g. 1621-005CSR) or (e.g. 1621-005CLSR)

Replacement Parts (next page)

NO.	COMPONENT	QTY.	MATERIAL
1	Body ¹ (SOC/SR/FLG/UNION)	1	PVC/CLEAR/CPVC
2	Seat	1	EPDM/FKM
3	Compressor Assembly ²	1	PVC/CPVC
4	Bonnet O-ring	1	EPDM/FKM
5	Bonnet Nut	1	PVC/CPVC
6	Bonnet	1	PVC/CPVC
7	Retaining Clip	1	PP
8	Plug O-ring	1	EPDM/FKM
9	Plug	1	PVC/CPVC
10	Union O-ring	2	EPDM/FKM
11	Union Socket End	2	PVC/CPVC
12	Union SR Threaded End	2	PVC/CPVC

1 - Body Includes: Body (1), Spigot Adapters (2), SS Collars (2)
 - Flange Body Includes: Body (1), Spigot Hubs (2), Flange Rings (2)
 - Union Body Includes: Body (1), Spigot Ends (2), Nuts (2)
 2 - Compressor Assembly Includes: Compressor (1), Weight (1), Compressor Plug (1)

Temperature Pressure Rating

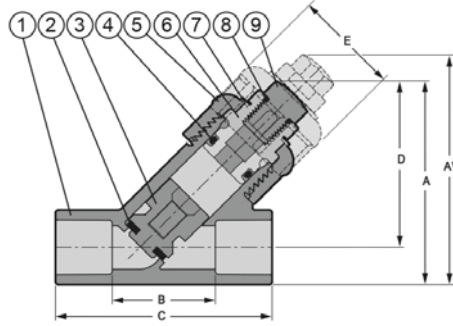
System Operating Temperature °F (°C)		100 (38)	110 (43)	120 (49)	130 (54)	140 (60)	150 (66)	160 (71)	170 (77)	180 (82)	190 (88)	200 (93)	210 (99)	
Valve Pressure Rating psi (MPa)	1/2" - 2"	PVC	150 (1.03)	135 (.93)	110 (.76)	75 (.52)	50 (.34)	-0-	-0-	-0-	-0-	-0-	-0-	
		CPVC	150 (1.03)	140 (.97)	130 (.90)	120 (.83)	110 (.76)	100 (.70)	90 (.62)	80 (.55)	70 (.48)	60 (.41)	50 (.34)	-0-
	3" - 4"	PVC	90 (.70)	85 (.62)	75 (.52)	60 (.41)	40 (.30)	-0-	-0-	-0-	-0-	-0-	-0-	-0-
		CPVC	90 (.70)	85 (.62)	80 (.55)	75 (.52)	70 (.48)	60 (.41)	50 (.34)	45 (.31)	40 (.30)	35 (.24)	30 (.21)	-0-

C_v Values

Size	Values
1/2	6.7
3/4	12.6
1	22.9
1-1/4	33.8
1-1/2	50.7
2	79.2
3	235
4	387

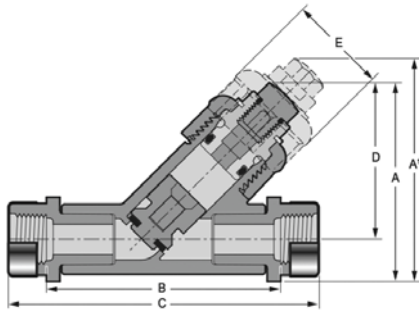


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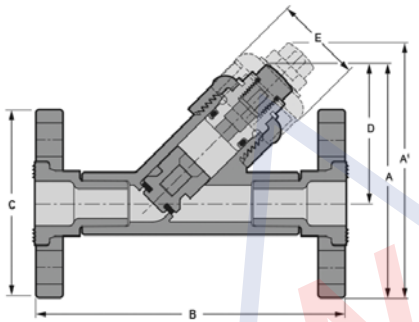
Socket Y-Check Dimensions & Weights

Nominal Size	Dimension Reference (inches, ± 1/16)						Approx. Wt. (Lbs.)	
	A ¹	A	B	C	D	E	Socket	
							PVC	CPVC
1/2	4-1/32	3-5/32	1-19/32	3-11/32	2-19/32	1-5/8	.31	.33
3/4	4-27/32	3-27/32	2	4	3-5/32	2	.50	.53
1	5-5/8	4-1/2	2-15/32	4-23/32	3-5/8	2-1/4	.85	.90
1-1/4	6-1/2	5-5/16	3-1/32	5-9/16	4-9/32	2-13/16	1.21	1.28
1-1/2	7-17/32	6-1/32	3-19/32	6-5/16	4-7/8	3-5/32	1.66	1.76
2	8-15/32	6-29/32	4-31/32	7-1/2	5-1/2	3-23/32	2.96	3.10
3	12-15/32	9-21/32	6-9/16	10-11/32	7-9/16	5-1/4	5.34	5.64
4	15-17/32	12-11/16	8-5/8	13-1/8	9-25/32	6-17/32	9.97	10.45



SR Threaded Y-Check Dimensions & Weights

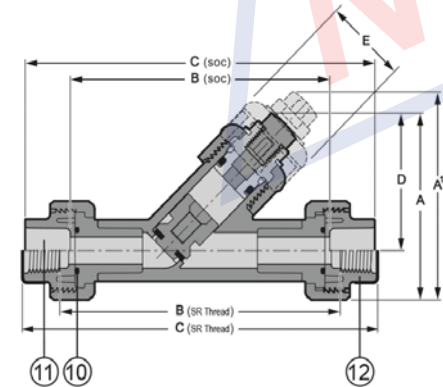
Nominal Size	Dimension Reference (inches, ± 1/16)						Approx. Wt. (Lbs.)	
	A ¹	A	B	C	D	E	SR Threaded	
							PVC	CPVC
1/2	4-5/32	3-9/32	3-27/32	5-1/8	2-19/32	1-5/8	.31	.33
3/4	5	4	4-3/4	5-31/32	3-5/32	2	.50	.53
1	5-25/32	4-21/32	5-9/32	6-15/16	3-5/8	2-1/4	.85	.90
1-1/4	6-23/32	5-1/2	6-1/4	7-31/32	4-9/32	2-13/16	1.21	1.28
1-1/2	7-25/32	6-9/32	7-5/32	8-7/8	4-7/8	3-5/32	1.66	1.76
2	8-3/4	7-3/16	8-5/16	10-1/8	5-1/2	3-23/32	2.96	3.10
3	12-3/4	9-15/16	11-17/32	14-5/16	7-9/16	5-1/4	5.34	5.64
4	15-25/32	12-11/16	14-11/32	17-11/32	9-25/32	6-17/32	9.97	10.45



Flanged Y-Check Dimensions & Weights

Nominal Size	Dimension Reference (inches, ± 1/16)						Approx. Wt. (Lbs.)	
	A ¹	A	B	C	D	E	Flanged	
							PVC	CPVC
1/2	5-7/32	4-11/32	5-23/32	3-1/2	2-19/32	1-5/8	.82	.85
3/4	6-1/16	5-3/32	6-7/16	3-7/8	3-5/32	2	1.23	1.28
1	6-7/8	5-3/4	7-5/32	4-1/4	3-5/8	2-1/4	1.70	1.81
1-1/4	7-25/32	6-9/16	8-1/8	4-5/8	4-9/32	2-13/16	2.40	2.52
1-1/2	8-7/8	7-3/8	9-5/32	5	4-7/8	3-5/32	3.07	3.25
2	10-1/32	8-15/32	10-1/2	5-31/32	5-1/2	3-23/32	5.20	5.42
3	13-29/32	11-5/16	12-1/16	7-1/2	7-9/16	5-1/4	9.44	10.07
4	17-13/32	14-5/16	15-11/16	9-1/16	9-25/32	6-17/32	14.87	16.15

Note: 4" flanged Y-Check use split flange ring



True Union Y-Check Dimensions & Weights

Nominal Size	Dimension Reference (inches, ± 1/16)								Approx. Wt. (Lbs.)	
	A ¹	A	B		C		D	E	Union	
			Socket	SR Thread	Socket	SR Thread			PVC	CPVC
1/2	4-3/8	3-1/2	5-3/32	5-1/2	6-7/8	7	2-19/32	1-5/8	.49	.53
3/4	5-5/16	4-9/32	5-7/8	6-13/32	7-29/32	8	3-5/32	2	.80	.85
1	6-1/16	4-29/32	6-15/32	7-5/16	8-3/4	9	3-5/8	2-1/4	1.13	1.20
1-1/4	7-1/16	5-13/16	7-7/16	8-7/32	10-1/8	10-5/32	4-9/32	2-13/16	1.84	1.90
1-1/2	8-1/8	6-5/8	8-1/4	9	11	11-1/16	4-7/8	3-5/32	2.44	2.52
2	9-7/32	7-5/8	9-13/32	10-13/16	12-7/16	12-13/16	5-1/2	3-23/32	4.33	4.45
3	13-7/16	10-5/8	13-5/8	15-11/32	17-13/32	18-7/32	7-9/16	5-1/4	10.35	10.55
4	16-3/4	13-5/8	17-3/32	19-9/32	21-21/32	22-5/16	9-25/32	6-17/32	18.51	18.80

Drain Plug Tap Size

Y-Check Size	Tap Size (NPT)	Y-Check Size	Tap Size (NPT)
1/2	1/4 - 18	1-1/2	1-11-1/2
3/4	1/4 - 18	2	1-11-1/2
1	3/8 - 18	3	1-11-1/2
1-1/4	1/2 - 14	4	1-11-1/2

Suitable for Oil-Free air handling to 25 psi, not for distribution of compressed air or gas
See Spears® Product Sourcebook for product offerings

Spears® Manufacturing Company