

S₄ WAFER CHECK VALVE - PVC, PP, PVDF

SPECIFICATIONS:

| | |
|---------------------------------|---------------------|
| - Sizes: | 2" to 20" |
| - Dimensions: | DN 50 - DN 500 |
| - Body Materials: | PVC-u - PP - PVDF |
| - O-rings: | EPDM, Viton, Teflon |
| - With or without return spring | |

RETURN SPRING (S₄-70)

| | |
|-----------|---------------------------|
| Material: | - 316 Stainless Steel |
| | - Hastelloy-C (WST 24610) |

Spacer Ring required for sch.80 pipes (contact factory)

Applications:

- Water and waste water treatment
- Contaminated and aggressive fluids
- Chemical industry
- Process technology
- Environmental technology
- Systems engineering

FEATURES:

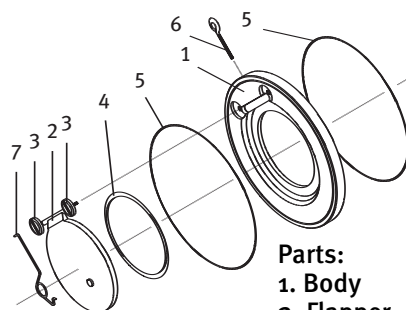
- Compact - Requires little space in piping system
- Economical - Simple and robust construction
- Easy installation - Wafer body slips between standard flanges
- Light weight
- chemical resistant
- no corrosion
- Available with or without spring
- Type S₄ 60: without return spring
- Type S₄ 70: with return spring

MOUNTING INSTRUCTIONS:

- The valve's wafer body slips between standard flanges and can be used in either vertical or horizontal installation.
- Use spring assisted type S₄ 70 valve for pulsating flow and horizontal piping.
- Use S₄ 60 valve for applications where it is not desirable for the process stream to come in contact with metals.
- In case of mounting on a pump (at pressure side) please note the following:
 - no direct mounting on pump flange or following elbow
 - for velocity relief zone allow 5 times the pipe diameter (ie install 4" valve at least 20" away from pump discharge).
- Praher offers full range of plastic spacer rings which are required for installation with SCH 80 pipe (the disc will open fully inside the spacer cavity and not slam against the inside pipe wall).



optional SPACER RING

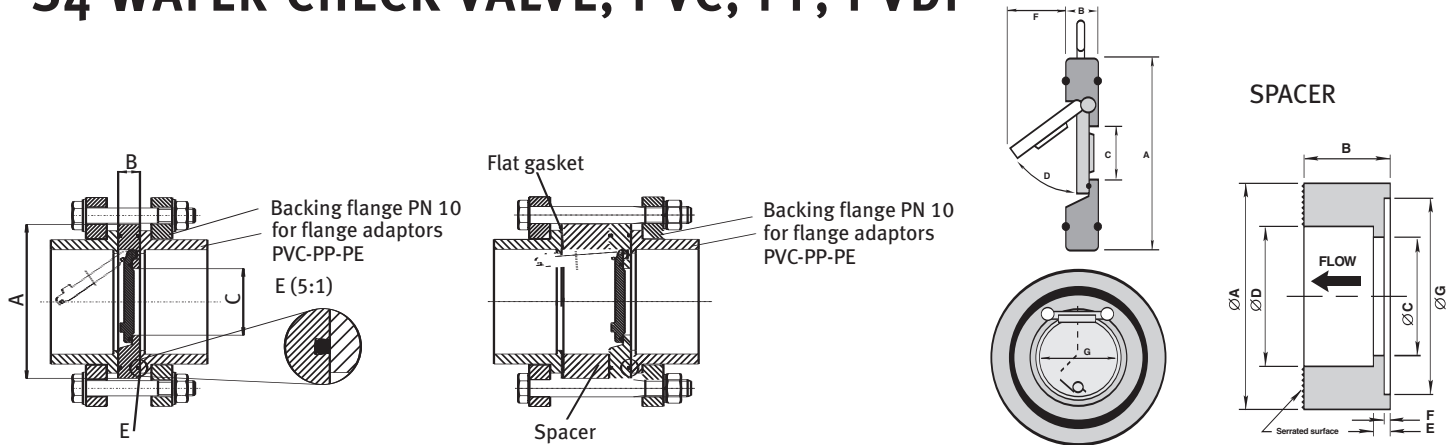


Parts:

1. Body
2. Flapper
3. Flapper mounting screw
4. O-Ring
5. O-Ring
6. Installation device
7. Spring

| size | Weights LB | | Cv Values | |
|------|----------------|-------------|-----------------------|--------------------|
| | Without Spacer | With Spacer | Sch 40 Without Spacer | Sch 80 With Spacer |
| 2" | 0.5 | 0.9 | 58 | 74 |
| 2.5" | 0.6 | 2.1 | 77 | 108 |
| 3" | 0.7 | 1.6 | 105 | 203 |
| 4" | 1.1 | 3.1 | 224 | 300 |
| 6" | 2.3 | 4.7 | 718 | 949 |
| 8" | 4.5 | 11.0 | 980 | 1175 |
| 10" | 7.0 | 17.4 | 1880 | 2050 |
| 12" | 11.5 | 28.3 | 2520 | 2940 |

S4 WAFER CHECK VALVE, PVC, PP, PVDF



| pipe size | inch | 2 | 2 1/2 | 3 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 |
|-------------------|------|------|-------|------|------|------|-------|-------|-------|-------|-------|-------|-------|
| pipe size DN | mm | 50 | 65 | 80 | 100 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 |
| A | mm | 109 | 123 | 137 | 164 | 220 | 275 | 330 | 380 | 440 | 491 | 541 | 596 |
| A | in | 4.3 | 4.85 | 5.39 | 6.45 | 8.66 | 10.82 | 12.99 | 14.96 | 17.32 | 19.33 | 21.3 | 23.46 |
| B | mm | 20 | 20 | 20 | 22 | 26 | 35 | 40 | 45 | 49 | 65 | 68 | 78 |
| B | in | .787 | .787 | .787 | .866 | 1.02 | 1.377 | 1.57 | 1.77 | 1.93 | 2.56 | 2.67 | 3 |
| C | mm | 32 | 40 | 52 | 70 | 112 | 150 | 190 | 216 | 266 | 310 | 350 | 400 |
| C | in | 1.26 | 1.57 | 2.04 | 2.76 | 4.4 | 5.9 | 7.48 | 8.62 | 10.47 | 12.2 | 13.78 | 15.75 |
| D° opening angle | deg | 68 | 73 | 75 | 73 | 72 | 77 | 73 | 74 | 70 | 70 | 70 | 70 |
| E | mm | 46 | 58 | 60 | 72 | 76 | 105 | 140 | 195 | N/A | N/A | N/A | N/A |
| E | in | 1.81 | 2.28 | 2.36 | 2.83 | 2.99 | 4.13 | 5.5 | 7.67 | N/A | N/A | N/A | N/A |
| F (with spring) | in | 1.8 | 2.0 | 2.9 | 3.6 | 5.8 | 7.5 | 9.0 | 10.2 | 9.64 | 11.22 | 13 | 15.15 |
| G (disc diameter) | mm | 45 | 60 | 72 | 90 | 132 | 176 | 222 | 260 | 300 | 340 | 390 | 440 |
| G (disc diameter) | in | 1.77 | 2.36 | 2.83 | 3.54 | 5.19 | 6.93 | 8.74 | 10.23 | 11.81 | 13.38 | 15.35 | 17.32 |
| Pressure PN | bar | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 3 | 3 | 2 | 2 |
| Pressure rating | PSI | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 43.5 | 43.5 | 27 | 27 |

| Working Pressure PSI | | PVC | | | | PP | | | | PVDF | | | |
|----------------------|--------------|---------------|---------------|---------------|--------------|---------------|---------------|---------------|--------------|---------------|---------------|---------------|--|
| Size | 20°C 68°F | 40°C 104°F | 60°C 140°F | 80°C 176°F | 20°C 68°F | 40°C 104°F | 60°C 140°F | 80°C 176°F | 20°C 68°F | 40°C 104°F | 60°C 140°F | 80°C 176°F | |
| 2" | 145 | 130 | 65 | 20 | 145 | 130 | 50 | 20 | 145 | 130 | 50 | 20 | |
| 2-1/2" | 145 | 130 | 65 | 20 | 145 | 130 | 50 | 20 | 145 | 130 | 50 | 20 | |
| 3" | 145 | 130 | 65 | 20 | 145 | 130 | 50 | 20 | 145 | 130 | 50 | 20 | |
| 4" | 145 | 110 | 50 | 20 | 145 | 110 | 50 | 20 | 145 | 110 | 50 | 20 | |
| 6" | 145 | 110 | 45 | 20 | 145 | 110 | 50 | 20 | 145 | 110 | 50 | 20 | |
| 8" | 100 | 87 | 45 | 15 | 100 | 87 | 30 | 15 | 100 | 87 | 30 | 15 | |
| 10" | 87 | 60 | 36 | 15 | 87 | 60 | 30 | 15 | 87 | 60 | 30 | 15 | |
| 12" | 87 | 60 | 36 | 15 | 87 | 60 | 30 | 15 | 87 | 60 | 30 | 15 | |

Spacer Dimensions PVC/PP/PVDF

| Valve Size/ Inch | A mm | B mm | C mm | D mm | E mm | F mm | G mm |
|---------------------|---------|---------|---------|---------|---------|---------|---------|
| 2" | 105 | 25 | 59 | 59 | 0 | 0 | 0 |
| 2.5" | 123 | 38 | 79 | 79 | 4 | 0 | 0 |
| 3" | 136 | 40 | 99 | 99 | 0 | 0 | 0 |
| 4" | 174 | 50 | 108 | 114 | 8 | 4 | 165 |
| 6" | 220 | 50 | 157 | 172 | 7 | 0 | 0 |
| 8" | 277 | 90 | 213 | 217 | 7 | 0 | 0 |
| 10" | 330 | 100 | 260 | 260 | 0 | 0 | 0 |
| 12" | 400 | 150 | 300 | 340 | 10 | 0 | 0 |
| 14" | 450 | 160 | 340 | 378 | 10 | 0 | 0 |
| 16" | 492 | 160 | 400 | 410 | 10 | 0 | 0 |

| Pressure to Open PSI | | | | Sealing Pressure | | Max. Allowable Flow Rates | |
|----------------------|-------------|--------|----------------|------------------------|-------------------------|---------------------------|---------|
| Size | With Spring | | Without Spring | With or Without Spring | At Start-Up & Shut Down | | Running |
| | Horiz. | Horiz. | Vert. | | | | |
| 2" | 0.3 | 0.1 | 0.2 | 1.0 | 50 | 60 | |
| 2-1/2" | 0.3 | 0.1 | 0.2 | 1.0 | 70 | 80 | |
| 3" | 0.3 | 0.1 | 0.2 | 1.0 | 110 | 125 | |
| 4" | 0.3 | 0.1 | 0.2 | 1.0 | 200 | 250 | |
| 6" | 0.3 | 0.1 | 0.2 | 1.0 | 320 | 400 | |
| 8" | 0.3 | 0.1 | 0.3 | 1.0 | 400 | 750 | |
| 10" | 0.3 | 0.1 | 0.3 | 1.0 | 600 | 1100 | |
| 12" | 0.3 | 0.1 | 0.3 | 1.0 | 750 | 1500 | |

Kv Values (1/min at delta P of 1 bar)

| Valve Size inch | DIN PIPE PN 10 w/o spacer PVC | ANSI PVC SCH 40 w/o spacer | ANSI PVC SCH 80 with spacer |
|--------------------|----------------------------------|-------------------------------|--------------------------------|
| 2" | 950 | 825 | 1050 |
| 2.5" | 1255 | 1105 | 1540 |
| 3" | 1650 | 1505 | 2905 |
| 4" | 3190 | 3200 | 4290 |
| 6" | 9500 | 10260 | 13550 |
| 8" | 14100 | 13990 | 16800 |
| 10" | 26900 | 26900 | 29300 |
| 12" | 32000 | 36000 | 42000 |
| 14" | 50000 | 50000 | 53000 |
| 16" | 60500 | 60500 | 64000 |
| 20" | 80500 | 80500 | 85000 |

Note: 2" through 12" are measured values.
14" through 20" are estimated values.