



SALVADOR INDUSTRIAL CO., LIMITED  
NINGBO SALVADOR PIPING SYSTEM CO.,LTD

# PPH Pipes & Fittings & Valves





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### Company Profile »

SWD PLASTIC (Salvador Industrial Co., Ltd) is a leading manufacturer and exporter of plastic pipes, valves and fittings, we are committed to provide piping system solutions to customers all over the world. Salvador Industrial stick to the principle of "Quality First, Service First, Continuous Improvement and Innovation to meet the requirements of Customers".

SWD Products are widely used in Agricultural Irrigation, Wastewater Treatment, Aquaculture, Pharmaceutical Industry, Electroplating, Papermaking Industry, Chemical Industry, Mining plant, Power Station, Drainage, and other applications involving corrosive fluid transfer. Most of our products confirm to ANSI, DIN, BS, JIS & TIS standard and have been already exported to the countries below: United States, Canada, Germany, UK, Spain, Austria, Mexico, Argentina, Chile, Colombia, Peru, Russia, Saudi Arabia, UAE, Iran, Iraq, Syria, Yemen, Vietnam, Thailand, Philippines, Indonesia, Malaysia, Sri Lanka, Zambia, Morocco, Algeria etc. with very good reputation.

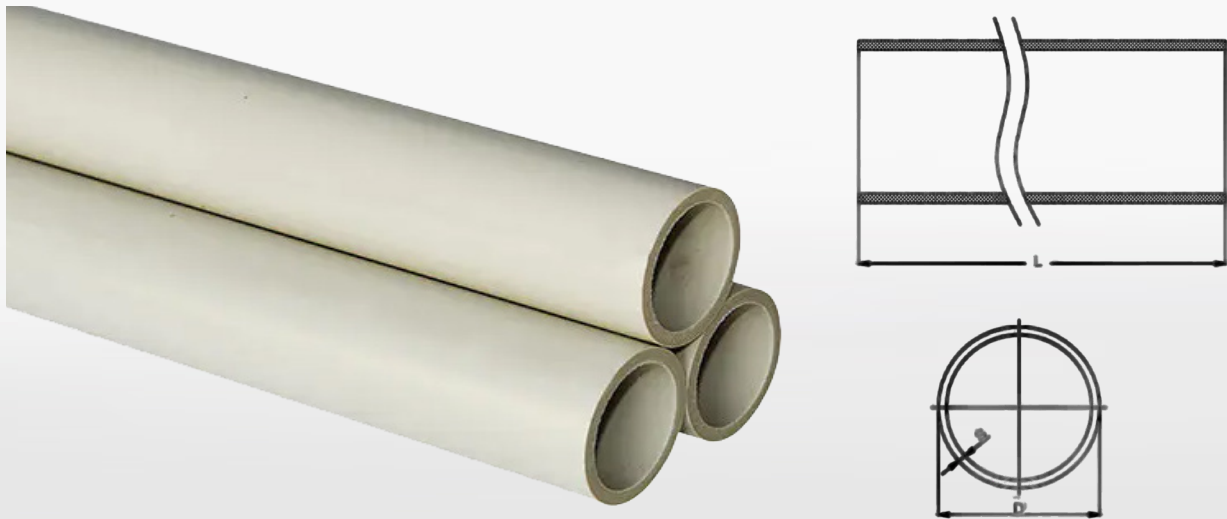
With rich experience in piping & duct systems, we will provide best solutions and services to you. Welcome to our company visit and discuss business, sincerely hope our professional technology and individual service can win your trust and favor, looking forward to cooperate with friends all over the world, let's do win-win business together!

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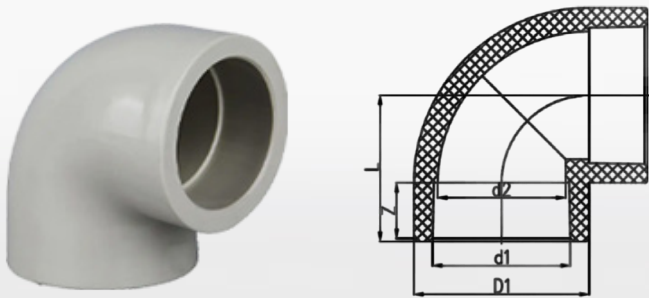


PPH Pipe (DIN PN16)



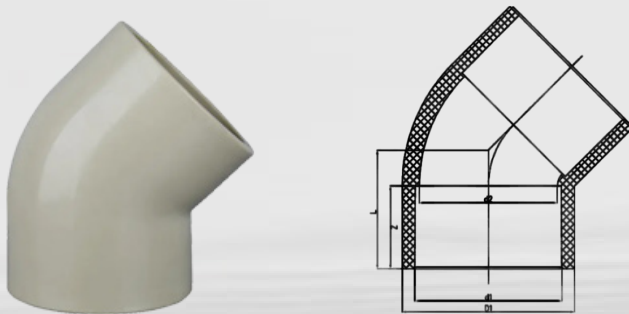
| Nominal Diameter | Outer diameter |                | PN2.5                  | PN3.2                  | PN4                      | PN6                     | PN1.0                 | PN16                      |
|------------------|----------------|----------------|------------------------|------------------------|--------------------------|-------------------------|-----------------------|---------------------------|
|                  |                |                | ISO S <sup>2</sup> -20 | ISO S <sup>2</sup> -16 | ISO S <sup>2</sup> -12.5 | ISO S <sup>2</sup> -8.3 | ISO S <sup>2</sup> -5 | ISO S <sup>2</sup> -3.125 |
|                  |                |                | SDR <sup>n</sup> 41    | SDR <sup>n</sup> 33    | SDR <sup>n</sup> 26      | SDR <sup>n</sup> 17.6   | SDR <sup>n</sup> 11   | SDR <sup>n</sup> 7.25     |
|                  | S <sup>3</sup> | S <sup>3</sup> | S <sup>3</sup>         | S <sup>3</sup>         | S <sup>3</sup>           | S <sup>3</sup>          | S <sup>3</sup>        | S <sup>3</sup>            |
|                  | mm             | mm             | mm                     | mm                     | mm                       | mm                      | mm                    | mm                        |
| 10               | -              | -              | -                      | -                      | -                        | -                       | -                     | 2                         |
| 12               | -              | -              | -                      | -                      | -                        | -                       | -                     | 2                         |
| 16               | -              | -              | -                      | -                      | -                        | -                       | 2                     | 2.3                       |
| 20               | -              | -              | -                      | -                      | -                        | 1.8                     | 2.5                   | 2.8                       |
| 25               | -              | -              | -                      | -                      | -                        | 1.8                     | 2.7                   | 3.5                       |
| 32               | -              | -              | -                      | -                      | -                        | 1.9                     | 3                     | 4.5                       |
| 40               | -              | -              | -                      | -                      | 1.8                      | 2.3                     | 3.7                   | 5.6                       |
| 50               | -              | -              | -                      | 1.8                    | 2                        | 2.9                     | 4.6                   | 6.9                       |
| 63               | -              | -              | 1.8                    | 2                      | 2.5                      | 3.6                     | 5.8                   | 8.7                       |
| 75               | -              | -              | 1.9                    | 2.4                    | 2.9                      | 4.3                     | 6.9                   | 10.4                      |
| 90               | -              | -              | 2.2                    | 2.8                    | 3.5                      | 5.1                     | 8.2                   | 12.5                      |
| 110              | -              | -              | 2.7                    | 3.5                    | 4.3                      | 6.3                     | 10                    | 15.2                      |
| 125              | -              | -              | 3.1                    | 3.9                    | 4.9                      | 7.1                     | 11.4                  | -                         |
| 140              | -              | -              | 3.5                    | 4.4                    | 5.4                      | 8                       | 12.8                  | -                         |
| 160              | -              | -              | 3.9                    | 5                      | 6.2                      | 9.1                     | 14.6                  | -                         |
| 180              | -              | -              | 4.4                    | 5.6                    | 7                        | 10.2                    | 16.4                  | -                         |
| 200              | -              | -              | 4.9                    | 6.2                    | 7                        | 11.4                    | 18.2                  | -                         |
| 225              | -              | -              | 5.5                    | 7                      | 8.7                      | 12.8                    | 20.5                  | -                         |
| 250              | -              | -              | 6.1                    | 7.8                    | 9.7                      | 14.2                    | 22.8                  | -                         |
| 280              | -              | -              | 6.9                    | 8.7                    | 10.8                     | 15.9                    | 25.5                  | -                         |
| 315              | -              | -              | 7.7                    | 9.8                    | 12.2                     | 17.9                    | 29.7                  | -                         |
| 355              | -              | -              | 8.7                    | 11                     | 13.7                     | 20.1                    | 32.3                  | -                         |
| 400              | 6              | 8              | 9.8                    | 12.2                   | 15.4                     | 22.7                    | 36.4                  | -                         |
| 450              | 6              | 8              | 11                     | 13.7                   | 17.4                     | 25.5                    | 41                    | -                         |
| 500              | 8              | 10             | 12.2                   | 15.4                   | 19.3                     | 28.3                    | 45.5                  | -                         |
| 560              | 10             | -              | 13.7                   | 17.4                   | 21.6                     | 31.7                    | -                     | -                         |
| 640              | 10             | -              | 15.4                   | 19.6                   | 24.3                     | 35.7                    | -                     | -                         |
| 710              | 12             | -              | 17.4                   | 22.1                   | 27.4                     | 40.2                    | -                     | -                         |
| 800              | 12             | -              | 19.6                   | 24.9                   | 30.8                     | -                       | -                     | -                         |
| 900              | 15             | -              | 22                     | 28                     | 34.7                     | -                       | -                     | -                         |
| 1000             | 15             | -              | 24.4                   | 31.1                   | 38.5                     | -                       | -                     | -                         |
| 1200             | 18             | -              | 29.3                   | 37.3                   | -                        | -                       | -                     | -                         |
| 1400             | 20             | -              | 34.2                   | 43.5                   | -                        | -                       | -                     | -                         |

PPH 90° Elbow (DIN PN16)



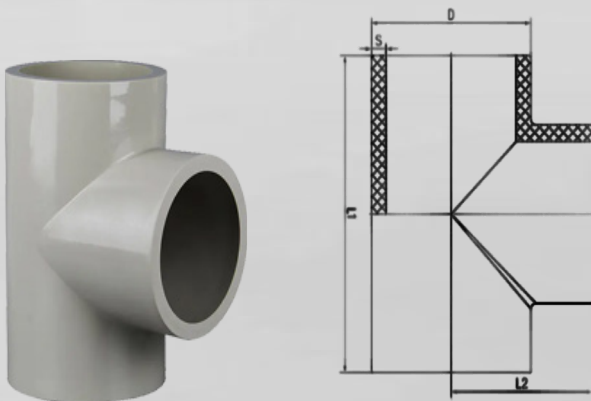
| Nominal | Socket Type |       |      | Structural Diameter |      |      |
|---------|-------------|-------|------|---------------------|------|------|
| SIZE    | d1          | d2    | l    | D                   | d    | H    |
| 20      | 19.3        | 19    | 16.2 | 28                  | 13   | 27.2 |
| 25      | 24.1        | 23.8  | 18.2 | 33.6                | 18   | 32.4 |
| 32      | 31          | 30.7  | 20.2 | 42.4                | 25   | 37.4 |
| 40      | 39          | 38.6  | 22.2 | 52.6                | 31   | 42.6 |
| 50      | 49          | 48.6  | 25.2 | 66                  | 39   | 50.1 |
| 63      | 61.9        | 61.4  | 28.6 | 84.4                | 49   | 61.2 |
| 75      | 73.6        | 72.3  | 31.5 | 95.8                | 58.2 | 69.8 |
| 90      | 88.3        | 86.9  | 36.2 | 113.7               | 69.8 | 81.4 |
| 110     | 108         | 106.4 | 42   | 138.4               | 85.4 | 97.2 |

PPH 45° Elbow (DIN PN16)



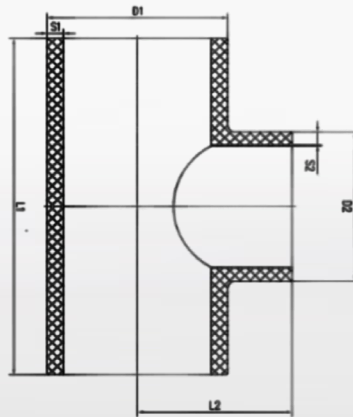
| Nominal | Socket Type |       |      | Structural Diameter |      |      |
|---------|-------------|-------|------|---------------------|------|------|
| SIZE    | d1          | d2    | l    | D                   | d    | H    |
| 20      | 19.3        | 19    | 16.2 | 28                  | 13   | 27.2 |
| 25      | 24.1        | 23.8  | 18.2 | 33.6                | 18   | 32.4 |
| 32      | 31          | 30.7  | 20.2 | 42.4                | 25   | 37.4 |
| 40      | 39          | 38.6  | 22.2 | 52.6                | 31   | 42.6 |
| 50      | 49          | 48.6  | 25.2 | 66                  | 39   | 50.1 |
| 63      | 61.9        | 61.4  | 28.6 | 84.4                | 49   | 61.2 |
| 75      | 73.6        | 72.3  | 31.5 | 95.8                | 58.2 | 69.8 |
| 90      | 88.3        | 86.9  | 36.2 | 113.7               | 69.8 | 81.4 |
| 110     | 108         | 106.4 | 42   | 138.4               | 85.4 | 97.2 |

PPH Tee (DIN PN16)



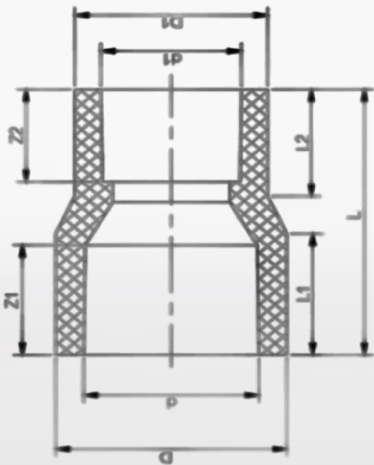
| Nominal | Socket Type |       |      | Structural Diameter |      |      |
|---------|-------------|-------|------|---------------------|------|------|
| SIZE    | d1          | d2    | l    | D                   | d    | H    |
| 20      | 19.3        | 19    | 16.2 | 28                  | 13   | 27.2 |
| 25      | 24.1        | 23.8  | 18.2 | 33.6                | 18   | 32.4 |
| 32      | 31          | 30.7  | 20.2 | 42.4                | 25   | 37.4 |
| 40      | 39          | 38.6  | 22.2 | 52.6                | 31   | 42.6 |
| 50      | 49          | 48.6  | 25.2 | 66                  | 39   | 50.1 |
| 63      | 61.9        | 61.4  | 28.6 | 84.4                | 49   | 61.2 |
| 75      | 73.6        | 72.3  | 31.5 | 95.8                | 58.2 | 69.8 |
| 90      | 88.3        | 86.9  | 36.2 | 113.7               | 69.8 | 81.4 |
| 110     | 108         | 106.4 | 42   | 138.4               | 85.4 | 97.2 |

## PPH Reducing Tee (DIN PN16)



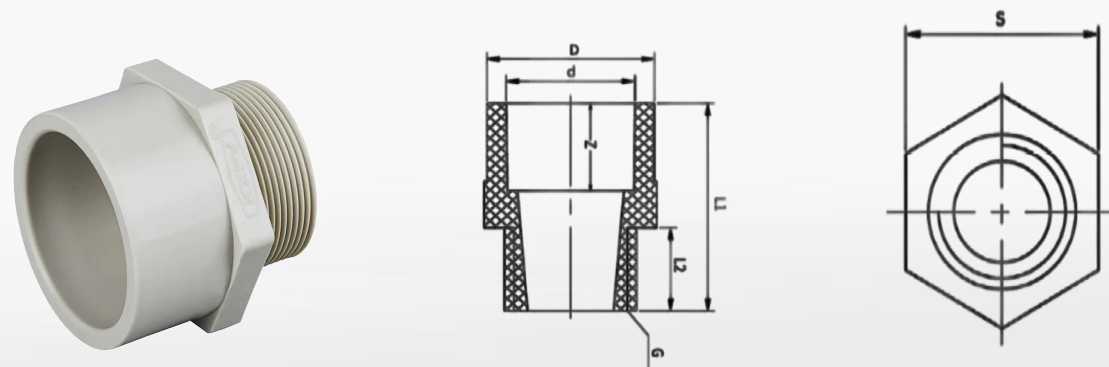
| Nominal | Socket Type |       |      |      |      |      | Structural Diameter |       |       |
|---------|-------------|-------|------|------|------|------|---------------------|-------|-------|
| SIZE    | d1          | d2    | I1   | d3   | d4   | I2   | D1                  | D2    | L     |
| 25*20   | 24.1        | 23.8  | 18.2 | 19.3 | 19   | 16.2 | 33.6                | 28    | 63.1  |
| 32*20   | 31          | 30.7  | 20.2 | 19.3 | 19   | 16.2 | 42.4                | 28    | 74    |
| 32*25   | 31          | 30.7  | 20.2 | 19.3 | 23.8 | 18.2 | 42.4                | 33.6  | 74    |
| 40*20   | 39          | 38.6  | 22.2 | 19.3 | 19   | 16.2 | 52.6                | 28    | 75.4  |
| 40*25   | 39          | 38.6  | 22.2 | 24.1 | 23.8 | 18.2 | 52.6                | 33.6  | 75.4  |
| 40*32   | 39          | 38.6  | 22.2 | 31   | 30.7 | 20.2 | 52.6                | 42.4  | 84.1  |
| 50*20   | 49          | 48.6  | 25.2 | 19.3 | 19   | 16.2 | 66                  | 28    | 80.5  |
| 50*25   | 49          | 48.6  | 25.2 | 24.1 | 23.8 | 18.2 | 66                  | 33.6  | 85.5  |
| 50*32   | 49          | 48.6  | 25.2 | 31   | 30.7 | 20.2 | 66                  | 42.4  | 90.5  |
| 50*40   | 49          | 48.6  | 25.2 | 39   | 38.6 | 22.2 | 66                  | 52.6  | 101.5 |
| 63*20   | 61.9        | 61.4  | 28.6 | 19.3 | 19   | 16.2 | 84.4                | 28    | 90    |
| 63*25   | 61.9        | 61.4  | 28.6 | 24.1 | 23.8 | 18.2 | 84.4                | 33.6  | 95    |
| 63*32   | 61.9        | 61.4  | 28.6 | 31   | 30.7 | 20.2 | 84.4                | 42.4  | 102   |
| 63*40   | 61.9        | 61.4  | 28.6 | 39   | 38.6 | 22.2 | 84.4                | 52.6  | 115   |
| 63*50   | 61.9        | 61.4  | 28.6 | 49   | 48.6 | 25.2 | 84.4                | 66    | 122.4 |
| 75*32   | 73.6        | 72.3  | 31.5 | 31   | 30.7 | 20.2 | 95.8                | 42.4  | 108   |
| 75*40   | 73.6        | 72.3  | 31.5 | 39   | 38.6 | 22.2 | 95.8                | 52.6  | 115   |
| 75*50   | 73.6        | 72.3  | 31.5 | 49   | 48.6 | 25.2 | 95.8                | 66    | 122   |
| 75*63   | 73.6        | 72.3  | 31.5 | 61.9 | 61.4 | 28.6 | 95.8                | 84.4  | 138.2 |
| 90*40   | 88.3        | 86.9  | 36.2 | 39   | 38.6 | 22.2 | 113.7               | 52.6  | 126.5 |
| 90*50   | 88.3        | 86.9  | 36.2 | 49   | 48.6 | 25.2 | 113.7               | 66    | 130.5 |
| 90*63   | 88.3        | 86.9  | 36.2 | 61.9 | 61.4 | 28.6 | 113.7               | 84.4  | 150.2 |
| 90*75   | 88.3        | 86.9  | 36.2 | 73.6 | 72.3 | 31.5 | 113.7               | 95.8  | 164.1 |
| 110*50  | 107.9       | 106.4 | 42   | 49   | 48.6 | 25.2 | 138.4               | 66    | 165   |
| 110*63  | 107.9       | 106.4 | 42   | 61.9 | 61.4 | 28.6 | 138.4               | 84.4  | 185   |
| 110*75  | 107.9       | 106.4 | 42   | 73.6 | 72.3 | 31.5 | 138.4               | 95.8  | 193.8 |
| 110*90  | 107.9       | 106.4 | 42   | 88.3 | 86.9 | 36.2 | 138.4               | 113.7 | 193.8 |

## PPH Reducing Coupling Tee (DIN PN16)



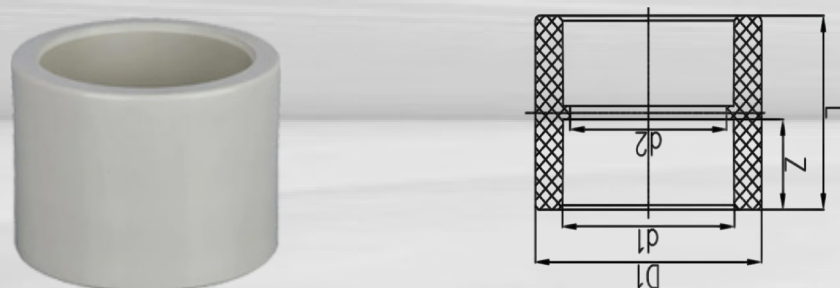
| Nominal | Socket Type |       |      |      |      |      | Structural Diameter |       |       |
|---------|-------------|-------|------|------|------|------|---------------------|-------|-------|
| SIZE    | d1          | d2    | I1   | d3   | d4   | I2   | D1                  | D2    | L     |
| 25*20   | 24.1        | 23.8  | 18.2 | 19.3 | 19   | 16.2 | 33.6                | 28    | 34.9  |
| 32*20   | 31          | 30.7  | 20.2 | 19.3 | 19   | 16.2 | 42.4                | 28    | 37.5  |
| 32*25   | 31          | 30.7  | 20.2 | 24.1 | 23.8 | 18.2 | 42.4                | 33.6  | 42.4  |
| 40*20   | 39          | 38.6  | 22.2 | 19.3 | 19   | 16.2 | 52.6                | 28    | 40.5  |
| 40*25   | 39          | 38.6  | 22.2 | 24.1 | 23.8 | 18.2 | 52.6                | 33.6  | 42    |
| 40*32   | 39          | 38.6  | 22.2 | 31   | 30.7 | 20.2 | 52.6                | 42.4  | 51.4  |
| 50*20   | 49          | 48.6  | 25.2 | 19.3 | 19   | 16.2 | 66                  | 28    | 43    |
| 50*25   | 49          | 48.6  | 25.2 | 24.1 | 23.8 | 18.2 | 66                  | 33.6  | 48    |
| 50*32   | 49          | 48.6  | 25.2 | 31   | 30.7 | 20.2 | 66                  | 42.4  | 51    |
| 50*40   | 49          | 48.6  | 25.2 | 39   | 38.6 | 22.2 | 66                  | 52.6  | 59.2  |
| 63*20   | 61.9        | 61.4  | 28.6 | 19.3 | 19   | 16.2 | 84.4                | 28    | 48.3  |
| 63*25   | 61.9        | 61.4  | 28.6 | 24.1 | 23.8 | 18.2 | 84.4                | 33.6  | 51    |
| 63*32   | 61.9        | 61.4  | 28.6 | 31   | 30.7 | 20.2 | 84.4                | 42.4  | 53.2  |
| 63*40   | 61.9        | 61.4  | 28.6 | 39   | 38.6 | 22.2 | 84.4                | 52.6  | 56    |
| 63*50   | 61.9        | 61.4  | 28.6 | 49   | 48.6 | 25.2 | 84.4                | 66    | 69.7  |
| 75*32   | 73.6        | 72.3  | 31.5 | 31   | 30.7 | 20.2 | 95.8                | 42.4  | 65.8  |
| 75*40   | 73.6        | 72.3  | 31.5 | 39   | 38.6 | 22.2 | 95.8                | 52.6  | 68.5  |
| 75*50   | 73.6        | 72.3  | 31.5 | 49   | 48.6 | 25.2 | 95.8                | 66    | 72    |
| 75*63   | 73.6        | 72.3  | 31.5 | 61.9 | 61.4 | 28.6 | 95.8                | 84.4  | 78.4  |
| 90*40   | 88.3        | 86.9  | 36.2 | 39   | 38.6 | 22.2 | 113.7               | 56    | 78    |
| 90*50   | 88.3        | 86.9  | 36.2 | 49   | 48.6 | 25.2 | 113.7               | 66    | 81.5  |
| 90*63   | 88.3        | 86.9  | 36.2 | 61.9 | 61.4 | 28.6 | 113.7               | 84.4  | 86.4  |
| 90*75   | 88.3        | 86.9  | 36.2 | 73.6 | 72.3 | 31.5 | 113.7               | 95.8  | 89.9  |
| 110*50  | 107.9       | 106.4 | 42   | 49   | 48.6 | 25.2 | 138.4               | 66    | 90    |
| 110*63  | 107.9       | 106.4 | 42   | 61.9 | 61.4 | 28.6 | 138.4               | 84.4  | 95.6  |
| 110*75  | 107.9       | 106.4 | 42   | 73.6 | 72.3 | 31.5 | 138.4               | 138.4 | 100.1 |
| 110*90  | 107.9       | 106.4 | 42   | 88.3 | 86.9 | 36.2 | 138.4               | 138.4 | 104.1 |

## PPH Male Adapter (DIN PN16)



| Nominal   | Socket Type |       |    | Structural Diameter |      |      |    |    |
|-----------|-------------|-------|----|---------------------|------|------|----|----|
| SIZE      | d1          | d2    | L  | D                   | d    | L    | W  | PT |
| 20X1/2"   | 22.4        | 21.25 | 30 | 29                  | 13   | 53.5 | 29 | 14 |
| 25X3/4"   | 26.45       | 25.42 | 35 | 34                  | 17   | 61.5 | 34 | 14 |
| 32X1"     | 32.55       | 31.37 | 40 | 41                  | 22.5 | 69.5 | 41 | 11 |
| 40X1-1/4" | 38.6        | 37.31 | 44 | 47                  | 31   | 73   | 47 | 11 |
| 50X1-1/2" | 48.7        | 47.21 | 55 | 58                  | 36   | 86   | 58 | 11 |
| 63X2"     | 60.8        | 59.1  | 63 | 72                  | 47   | 100  | 72 | 11 |

## PPH Coupling (DIN PN16)



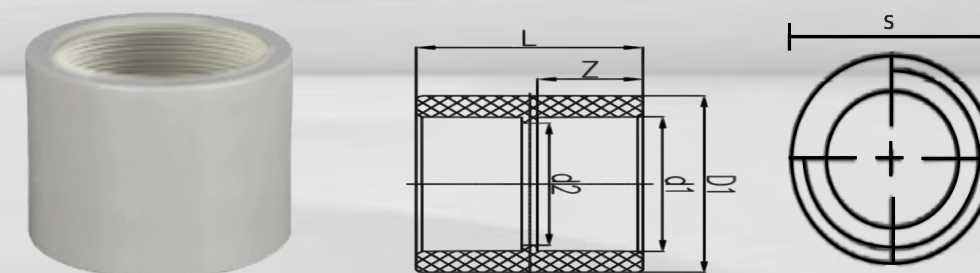
| Nominal | Socket Type |       |      | Structural Diameter |      |      |
|---------|-------------|-------|------|---------------------|------|------|
| SIZE    | d1          | d2    | L    | D                   | d    | H    |
| 20      | 19.3        | 19    | 16.2 | 28                  | 13   | 27.2 |
| 25      | 24.1        | 23.8  | 18.2 | 33.6                | 18   | 32.4 |
| 32      | 31          | 30.7  | 20.2 | 42.4                | 25   | 37.4 |
| 40      | 39          | 38.6  | 22.2 | 52.6                | 31   | 42.6 |
| 50      | 49          | 48.6  | 25.2 | 66                  | 39   | 50.1 |
| 63      | 61.9        | 61.4  | 28.6 | 84.4                | 49   | 61.2 |
| 75      | 73.6        | 72.3  | 31.5 | 95.8                | 58.2 | 69.8 |
| 90      | 88.3        | 86.9  | 36.2 | 113.7               | 69.8 | 81.4 |
| 110     | 108         | 106.4 | 42   | 138.4               | 85.4 | 97.2 |

## PPH Cap (DIN PN16)



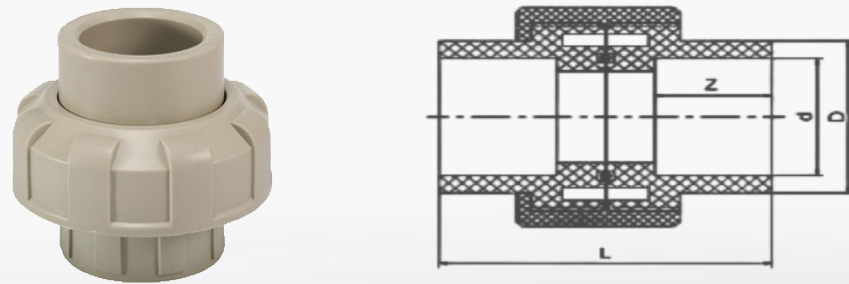
| Nominal | Socket Type |       |      | Structural Diameter |      |
|---------|-------------|-------|------|---------------------|------|
| SIZE    | d1          | d2    | L    | D                   | L    |
| 20      | 19.3        | 19    | 16.2 | 28                  | 27.2 |
| 25      | 24.1        | 23.8  | 18.2 | 33.6                | 32.4 |
| 32      | 31          | 30.7  | 20.2 | 42.4                | 37.4 |
| 40      | 39          | 38.6  | 22.2 | 52.6                | 42.6 |
| 50      | 49          | 48.6  | 25.2 | 66                  | 50.1 |
| 63      | 61.9        | 61.4  | 28.6 | 84.4                | 61.2 |
| 75      | 73.6        | 72.3  | 31.5 | 95.8                | 69.8 |
| 90      | 88.3        | 86.9  | 36.2 | 113.7               | 81.4 |
| 110     | 108         | 106.4 | 42   | 138.4               | 97.2 |

## PPH Female Adapter (DIN PN16)



| Nominal   | Socket Type |       |    | Structural Diameter |      |      |    |    |
|-----------|-------------|-------|----|---------------------|------|------|----|----|
| SIZE      | d1          | d2    | L  | D1                  | D2   | d    | L  | PT |
| 20X1/2"   | 22.4        | 21.25 | 30 | 29.5                | 32.5 | 18   | 49 | 14 |
| 25X3/4"   | 26.45       | 25.42 | 35 | 34                  | 42   | 23.5 | 58 | 14 |
| 32X1"     | 32.55       | 31.37 | 40 | 41                  | 50   | 30   | 66 | 11 |
| 40X1-1/4" | 38.6        | 37.31 | 44 | 47                  | 55   | 36   | 71 | 11 |
| 50X1-1/2" | 48.7        | 47.21 | 55 | 58                  | 63   | 46   | 83 | 11 |
| 63X2"     | 60.8        | 59.1  | 63 | 72                  | 77   | 58   | 94 | 11 |

## PPF Union (DIN PN16)



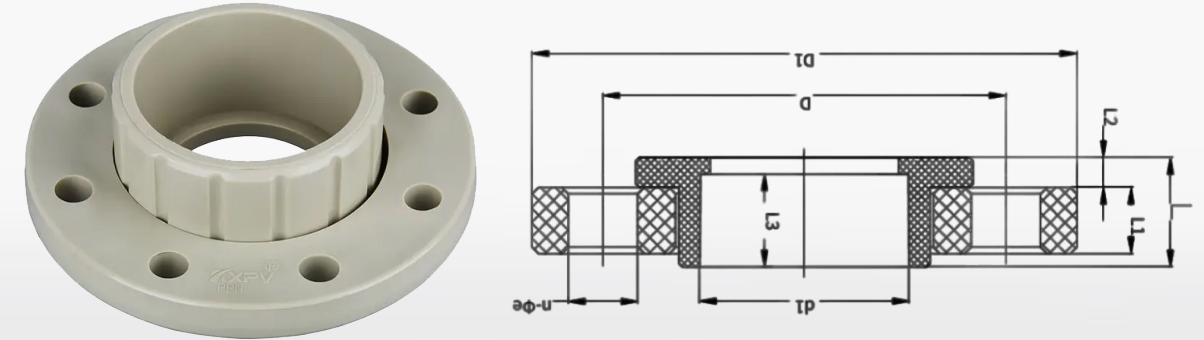
| DN  | (mm) |     |     |    |
|-----|------|-----|-----|----|
|     | D    | d   | L   | Z  |
| 15  | 49   | 20  | 48  | 16 |
| 20  | 55   | 25  | 52  | 20 |
| 25  | 68   | 32  | 60  | 22 |
| 32  | 78   | 40  | 71  | 27 |
| 40  | 93   | 50  | 80  | 31 |
| 50  | 103  | 63  | 100 | 38 |
| 65  | 118  | 75  | 111 | 44 |
| 80  | 154  | 90  | 135 | 51 |
| 100 | 188  | 110 | 157 | 61 |

## PPH Rods & PPH Plates (DIN PN16)



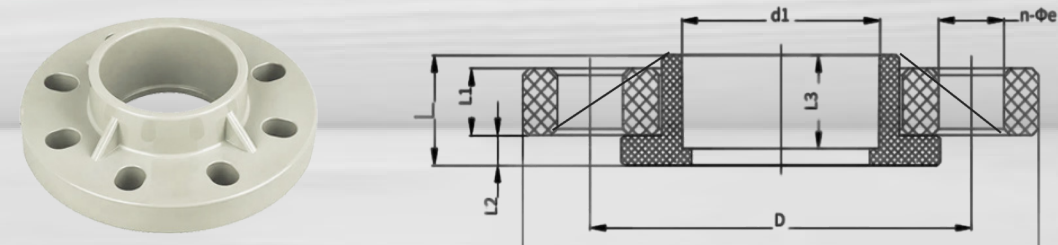
| DN  | mm  |     |     | mm   |
|-----|-----|-----|-----|------|
|     | d   | L   | H   |      |
| 1.5 | 1.5 | 1   | 1.2 | 1000 |
| 2   | 2   | 1.5 | 1.7 | 1000 |
| 2.5 | 2.5 | 2.5 | 2.2 | 1000 |

## PPH VAN STONE FLANGE (DIN PN16)



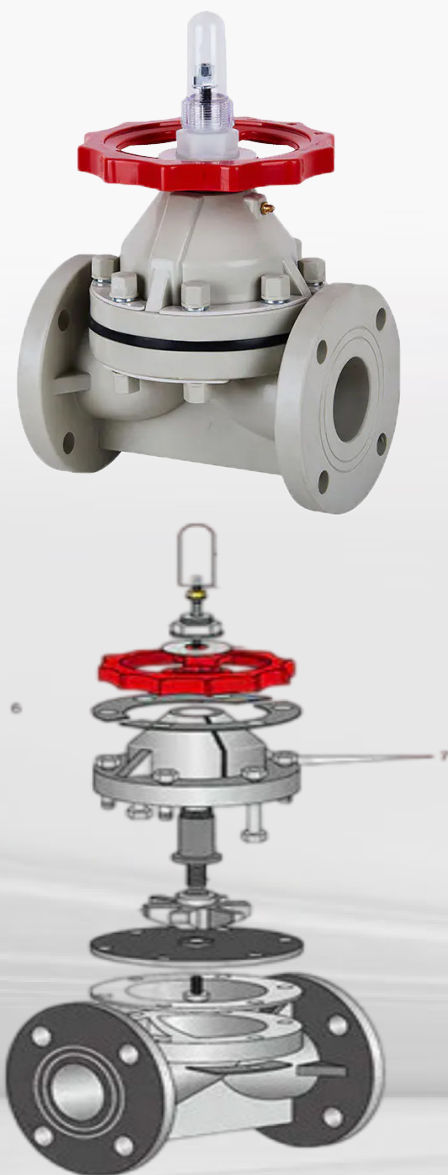
| SIZE | D   | C   | d  | D1 | d1   | d2   | I   | H  | T  | n-φe |
|------|-----|-----|----|----|------|------|-----|----|----|------|
| 20   | 95  | 65  | 15 | 29 | 19.3 | 19   | 2.3 | 28 | 16 | 4-14 |
| 25   | 105 | 75  | 20 | 34 | 24.1 | 23.8 | 2.8 | 30 | 17 | 4-14 |
| 32   | 115 | 85  | 25 | 42 | 31   | 30.7 | 3   | 34 | 18 | 4-18 |
| 40   | 140 | 100 | 32 | 52 | 39   | 38.6 | 3.7 | 37 | 20 | 4-18 |
| 50   | 150 | 110 | 40 | 61 | 49   | 48.6 | 4.6 | 40 | 22 | 4-18 |
| 63   | 165 | 125 | 50 | 75 | 61.9 | 61.4 | 5.8 | 45 | 24 | 4-18 |

## PPH TS Flange/One Piece Flange (DIN PN16)



| SIZE | D   | D1  | C   |     | d   | d1   |        | d2    |       | H  | T  | I    | n-φe |      |
|------|-----|-----|-----|-----|-----|------|--------|-------|-------|----|----|------|------|------|
|      |     |     | DIN | JIS |     | DIN  | JIS    | DIN   | JIS   |    |    |      | DIN  | JIS  |
| 20   | 95  | 32  | 65  | 7   | 15  | 19.3 | 20.3   | 19    | 21.78 | 35 | 14 | 32   | 4-15 | 4-15 |
| 25   | 105 | 35  | 75  | 75  | 20  | 24.1 | 26.3   | 23.8  | 25.7  | 40 | 15 | 37   | 4-15 | 4-15 |
| 32   | 125 | 42  | 85  | 90  | 25  | 31   | 32.33  | 30.7  | 31.67 | 45 | 16 | 40   | 4-19 | 4-19 |
| 40   | 140 | 52  | 100 | 100 | 32  | 39   | 38.43  | 38.6  | 37.57 | 49 | 16 | 44   | 4-19 | 4-19 |
| 50   | 150 | 62  | 110 | 105 | 43  | 49   | 48.46  | 48.6  | 47.54 | 59 | 18 | 54   | 4-19 | 4-19 |
| 63   | 165 | 76  | 125 | 120 | 55  | 61.9 | 60.56  | 61.4  | 59.44 | 66 | 20 | 61   | 4-19 | 4-19 |
| 75   | 185 | 90  | 145 | 140 | 65  | 73.6 | 76.88  | 72.3  | 75.9  | 70 | 22 | 61   | 4-19 | 4-19 |
| 90   | 200 | 108 | 160 | 150 | 80  | 88.3 | 89.67  | 86.9  | 88.86 | 73 | 22 | 64.5 | 8-19 | 8-19 |
| 110  | 220 | 132 | 180 | 175 | 100 | 108  | 114.97 | 106.4 | 113.8 | 93 | 22 | 83.5 | 8-19 | 8-19 |

PPH DIAPHRAGM VALVE

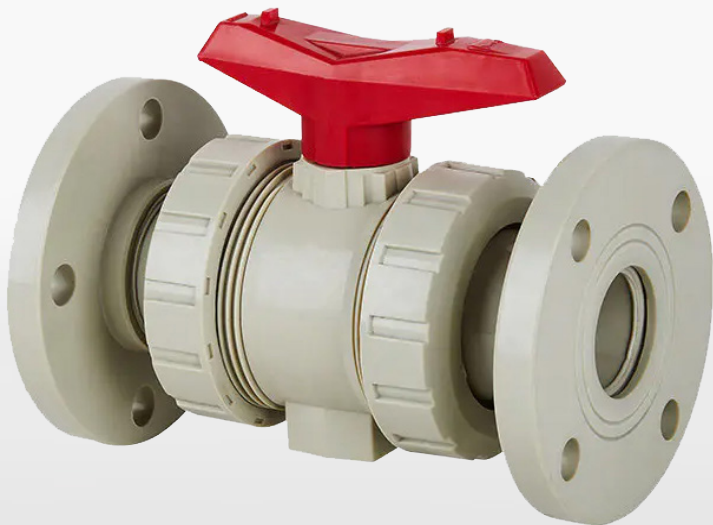


| No. | Name                       | Material                                             |
|-----|----------------------------|------------------------------------------------------|
| 1   | Cover limit                | AS                                                   |
| 2   | Stud                       | Steel, StainlessSteel.                               |
| 3   | Retaining Nut              | FRPP                                                 |
| 4   | Washer                     | FRPP                                                 |
| 5   | Wheel                      | Alloy material                                       |
| 6   | Platen                     | Steel, StainlessSteel                                |
| 7   | Double headed stud and Nut | Steel, StainlessSteel                                |
| 8   | Bonnet                     | FRPP、PVDF、UPVC、CPVC、PPH                              |
| 9   | Yoke Nut                   | Ht300 Steel                                          |
| 10  | Stem                       | Steel, StainlessSteel                                |
| 11  | Disc                       | FRPP、PVDF、UPVC、CPVC、PPH、Steel、StainlessSteel、C.I.FRP |
| 12  | Flim                       | EPDM、FPM                                             |
| 13  | Diaphragm                  | F46.PFA                                              |
| 14  | Body                       | FRPP、PVDF、UPVC、CPVC、PPH                              |
| 15  | Platen                     | Steel, StainlessSteel                                |

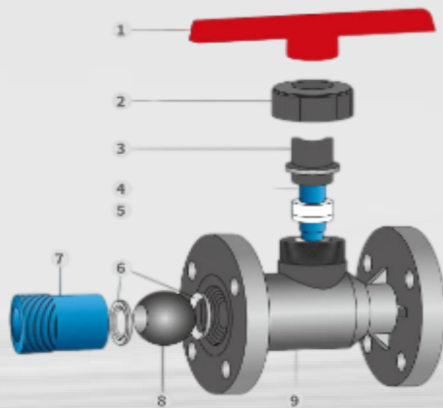
Size: 1/2"-4"  
Joint End: Socket(ANSI/DIN/JIS/CNS)  
Thread(PT/NPT/BSPF)  
Working Pressure: 150PSI

| DN(mm)     | D1  | D   |     |     |       | L   |     |     |       | h  | n  |     |     |      |    | Φ   |     |      |
|------------|-----|-----|-----|-----|-------|-----|-----|-----|-------|----|----|-----|-----|------|----|-----|-----|------|
|            |     | D   | JIS | DIN | ANSI  | L   | JIS | DIN | ANSI  |    | n  | JIS | DIN | ANSI | Φ  | JIS | DIN | ANSI |
| 15(1/2")   | 95  | 65  | 70  | 65  | 2.38  | 125 | 110 | 130 | 4.33  | 14 | 4  | 4   | 4   | 4    | 14 | 15  | 14  | 0.63 |
| 20(3/4")   | 105 | 75  | 75  | 75  | 2.76  | 135 | 120 | 150 | 4.72  | 16 | 4  | 4   | 4   | 4    | 14 | 15  | 14  | 0.63 |
| 25(1")     | 115 | 85  | 90  | 85  | 3.13  | 145 | 130 | 160 | 5.12  | 16 | 4  | 4   | 4   | 4    | 14 | 19  | 14  | 0.63 |
| 32(1 1/4") | 135 | 100 | 100 | 100 | 3.45  | 160 |     |     |       | 18 | 4  | 4   | 4   | 4    | 14 | 19  | 18  | 0.63 |
| 40(1 1/2") | 145 | 110 | 105 | 110 | 3.88  | 180 | 180 | 200 | 7.09  | 18 | 4  | 4   | 4   | 4    | 18 | 19  | 18  | 0.63 |
| 50(2")     | 160 | 125 | 120 | 125 | 4.74  | 210 | 210 | 230 | 8.27  | 21 | 4  | 4   | 4   | 4    | 18 | 19  | 18  | 0.75 |
| 65(2 1/2") | 180 | 145 | 140 | 145 | 5.49  | 250 | 250 | 290 | 9.84  | 22 | 4  | 4   | 4   | 4    | 18 | 19  | 18  | 0.75 |
| 80(3")     | 195 | 160 | 150 | 160 | 6     | 300 | 280 | 310 | 11.02 | 25 | 8  | 8   | 8   | 8    | 18 | 19  | 18  | 0.75 |
| 100(4")    | 215 | 180 | 175 | 180 | 7.5   | 350 | 340 | 350 | 13.39 | 25 | 8  | 8   | 8   | 8    | 18 | 19  | 18  | 0.75 |
| 125(5")    | 245 | 210 | 210 | 210 | 8.5   | 400 | 410 | 400 | 16.14 | 30 | 8  | 8   | 8   | 8    | 18 | 23  | 18  | 0.87 |
| 150(6")    | 280 | 240 | 240 | 240 | 9.51  | 455 | 480 | 480 | 18.9  | 30 | 8  | 8   | 8   | 8    | 23 | 23  | 23  | 0.87 |
| 200(8")    | 335 | 295 | 290 | 295 | 11.75 | 570 | 570 | 600 | 22.44 | 35 | 8  | 12  | 8   | 8    | 23 | 23  | 23  | 0.87 |
| 250(10")   | 390 | 350 | 355 | 350 | 14.03 | 680 | 680 | 680 | 26.77 | 38 | 12 | 12  | 12  | 12   | 23 | 25  | 23  | 0.97 |
| 300(12")   | 445 | 500 | 500 | 400 | 16.7  | 680 |     |     |       | 38 | 12 | 16  | 12  | 12   | 23 | 25  | 23  | 0.97 |

PPH FlangedType Ball Valve



| No.     | Item          | Material      | Qty | Unit |
|---------|---------------|---------------|-----|------|
| 3/4/8/9 | O-ring        | EPDM/VITON    | 7   | pcs  |
| 1       | End Connector | UPVC/CPVC/PPH | 2   | pcs  |
| 2       | Union Nut     | UPVC/CPVC/PPH | 2   | pcs  |
| 5       | Handle Cap    | ABS           | 1   | pcs  |
| 6       | Stem          | UPVC/CPVC/PPH | 1   | pcs  |
| 7       | Handle        | ABS           | 1   | pcs  |
| 10      | Seal Carrier  | UPVC/CPVC/PPH | 1   | pcs  |
| 11      | Seat          | PTFE          | 2   | pcs  |
| 12      | Ball          | UPVC/CPVC/PPH | 1   | pcs  |
| 13      | Body          | UPVC/CPVC/PPH | 1   | pcs  |
| 14      | Flange buckle | UPVC/CPVC/PPH | 2   | pcs  |

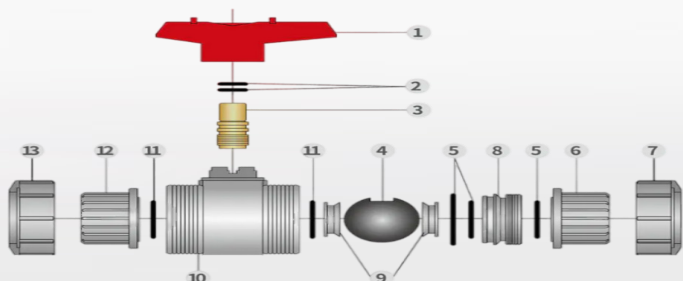
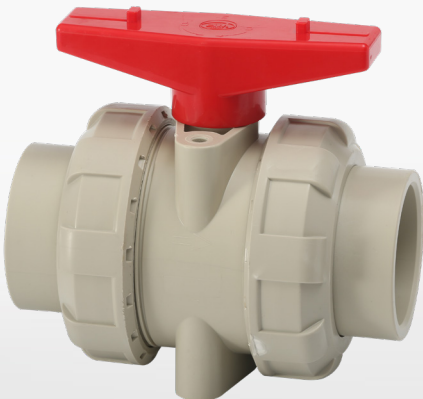


Size:1/2"-4"  
Flange:ANSI/DIN/JIS  
Working Pressure:150 PSI

| SIZE       | d  | C    |     |     | D   | L     | L1    | W   | H1    | H2    | F   | M  | I   | n-φ e |
|------------|----|------|-----|-----|-----|-------|-------|-----|-------|-------|-----|----|-----|-------|
|            |    | ANSI | JIS | DIN |     |       |       |     |       |       |     |    |     |       |
| 1/2"(15)   | 15 | 60.5 | 70  | 65  | 95  | 144   | 52    | 84  | 52.5  | 27.5  | 31  | —  | M6  | 4-15  |
| 3/4"(20)   | 20 | 70   | 75  | 75  | 105 | 142   | 54    | 90  | 59    | 32    | 33  | —  | M6  | 4-15  |
| 1"(25)     | 25 | 79.2 | 90  | 85  | 125 | 162   | 62    | 106 | 67.5  | 37.25 | 40  | —  | M6  | 4-19  |
| 1-1/4"(32) | 32 | 89   | 100 | 100 | 140 | 184   | 70    | 116 | 77.5  | 42.75 | 52  | —  | M8  | 4-19  |
| 1-1/2"(40) | 40 | 98   | 105 | 110 | 150 | 192.5 | 79.5  | 128 | 90    | 50    | 52  | —  | M8  | 4-19  |
| 2"(50)     | 50 | 121  | 120 | 125 | 165 | 217   | 85    | 140 | 106   | 60    | 70  | —  | M8  | 4-19  |
| 2-1/2"(65) | 63 | 140  | 140 | 145 | 182 | 304.5 | 132.5 | 210 | 136.5 | 76.5  | 84  | 45 | M10 | 4-19  |
| 3"(80)     | 75 | 150  | 152 | 160 | 200 | 330   | 150   | 235 | 149.5 | 86    | 84  | 45 | M10 | 8-19  |
| 4"(100)    | 90 | 175  | 191 | 180 | 228 | 378   | 172   | 260 | 175   | 107   | 121 | 49 | M12 | 8-19  |



## PPH True Union Ball Valve



| No.     | Item          | Material           | Qty | Unit |
|---------|---------------|--------------------|-----|------|
| 3/4/8/9 | O-ring        | EPDM/VITON         | 7   | pcs  |
| 1       | End Connector | UPVC/CPVC/PPH/PVDF | 2   | pcs  |
| 2       | Union Nut     | UPVC/CPVC/PPH/PVDF | 2   | pcs  |
| 5       | Handle Cap    | ABS                | 1   | pcs  |
| 6       | Stem          | UPVC/CPVC/PPH/PVDF | 1   | pcs  |
| 7       | Handle        | ABS                | 1   | pcs  |
| 10      | Seal Carrier  | UPVC/CPVC/PPH/PVDF | 1   | pcs  |
| 11      | Seat          | PTFE               | 2   | pcs  |
| 12      | Ball          | UPVC/CPVC/PPH/PVDF | 1   | pcs  |
| 13      | Body          | UPVC/CPVC/PPH/PVDF | 1   | pcs  |

Size:1/2"-4"  
Joint End:Socket(ANSI/DIN/JIS/CNS)  
Threaded(NPT/BSPT)  
Working Pressure:150 PSI

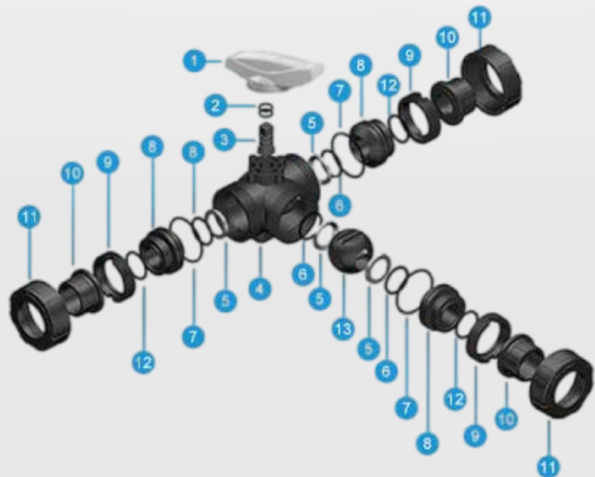
UNIT:MM

| SIZE       | d  | d1    |        |       |      | d2    |        |        |       |
|------------|----|-------|--------|-------|------|-------|--------|--------|-------|
|            |    | ANSI  | DIN    | JIS   | CNS  | ANSI  | DIN    | JIS    | CNS   |
| 1/2"(15)   | 15 | 21.4  | 20.25  | 22.3  | 22.4 | 21.25 | 20.05  | 21.85  | 21.9  |
| 3/4"(20)   | 20 | 26.75 | 25.25  | 26.3  | 26.4 | 26.58 | 25.05  | 25.85  | 25.9  |
| 1"(25)     | 25 | 33.52 | 32.25  | 32.33 | 34.5 | 33.28 | 32.05  | 31.85  | 33.9  |
| 1-1/4"(32) | 32 | 42.28 | 40.25  | 38.43 | 42.5 | 42.05 | 40.05  | 37.85  | 41.9  |
| 1-1/2"(40) | 40 | 48.4  | 50.25  | 48.46 | 48.6 | 48.12 | 50.05  | 47.75  | 47.9  |
| 2"(50)     | 50 | 60.45 | 63.25  | 60.56 | 60.6 | 60.18 | 63.05  | 59.75  | 59.9  |
| 2-1/2"(65) | 63 | 73.3  | 75.25  | 76.6  | 76.7 | 72.85 | 75.05  | 75.87  | 75.9  |
| 3"(80)     | 75 | 89.25 | 90.35  | 89.6  | 89.7 | 88.7  | 90.05  | 88.83  | 88.9  |
| 4"(100)    | 90 | 114.6 | 110.35 | 114.7 | 115  | 114.1 | 110.05 | 113.98 | 113.8 |

UNIT:MM

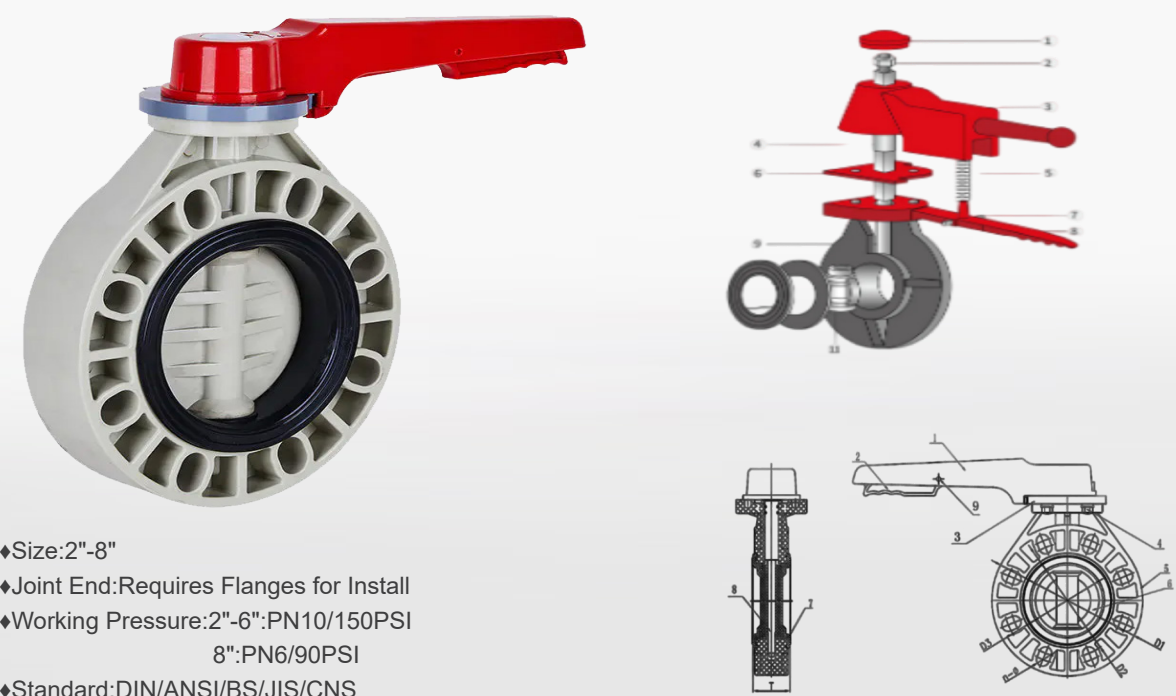
| SIZE       | D    | L     | L1   | L2    | L3    | W   | H1    | H2    | F   | M  | I   | Operating torque (N.M) |
|------------|------|-------|------|-------|-------|-----|-------|-------|-----|----|-----|------------------------|
| 1/2"(15)   | 54   | 106   | 23   | 60    | 52    | 84  | 52.5  | 27.5  | 31  | -  | M6  | 2                      |
| 3/4"(20)   | 63   | 114   | 26   | 62    | 54    | 90  | 59    | 32    | 33  | -  | M6  | 2.5                    |
| 1"(25)     | 73.5 | 128   | 29   | 70    | 62    | 106 | 67.5  | 37.25 | 40  | -  | M6  | 4                      |
| 1-1/4"(32) | 84.5 | 144   | 33   | 78    | 70    | 116 | 77.5  | 42.75 | 52  | -  | M8  | 5                      |
| 1-1/2"(40) | 98   | 158.5 | 35.5 | 87.5  | 79.5  | 128 | 90    | 50    | 52  | -  | M8  | 7.5                    |
| 2"(50)     | 118  | 172   | 38.5 | 95    | 85    | 140 | 106   | 60    | 70  | -  | M8  | 8.5                    |
| 2-1/2"(65) | 150  | 278   | 64.5 | 144.5 | 132.5 | 198 | 136.5 | 76.5  | 84  | 45 | M10 | 13                     |
| 3"(80)     | 169  | 310   | 70   | 166   | 150   | 218 | 149.5 | 86    | 84  | 45 | M10 | 16                     |
| 4"(100)    | 190  | 352   | 84   | 181   | 157   | 235 | 166   | 98    | 121 | 49 | M12 | 25                     |

## PPH Three Way Ball Valve



| NO. | Name               | Material | Pcs   |
|-----|--------------------|----------|-------|
| 1   | Handle             | PVC      | 1Pc   |
| 2   | Stem O-Ring        | EPDM     | 2Pcs  |
| 3   | Stem               | PVC      | 1Pc   |
| 4   | Body               | PVC      | 1Pc   |
| 5   | Ball Seat          | PTFE     | 4 Pcs |
| 6   | Ball Seat o-ring   | EPDM     | 2Pcs  |
| 7   | Radial Seal o-ring | EPDM     | 3Pcs  |
| 8   | Ball Seat o-ring   | PVC      | 3Pcs  |
| 9   | Threaded Ring      | PVC      | 3Pcs  |
| 10  | End connector      | PVC      | 3Pcs  |
| 11  | Union Nut          | PVC      | 3Pcs  |
| 12  | Socket seal o-ring | EPDM     | 3Pcs  |
| 13  | PVC                | CPVC     | 1Pc   |

## PPH Butterfly Valve (Lever Handle)

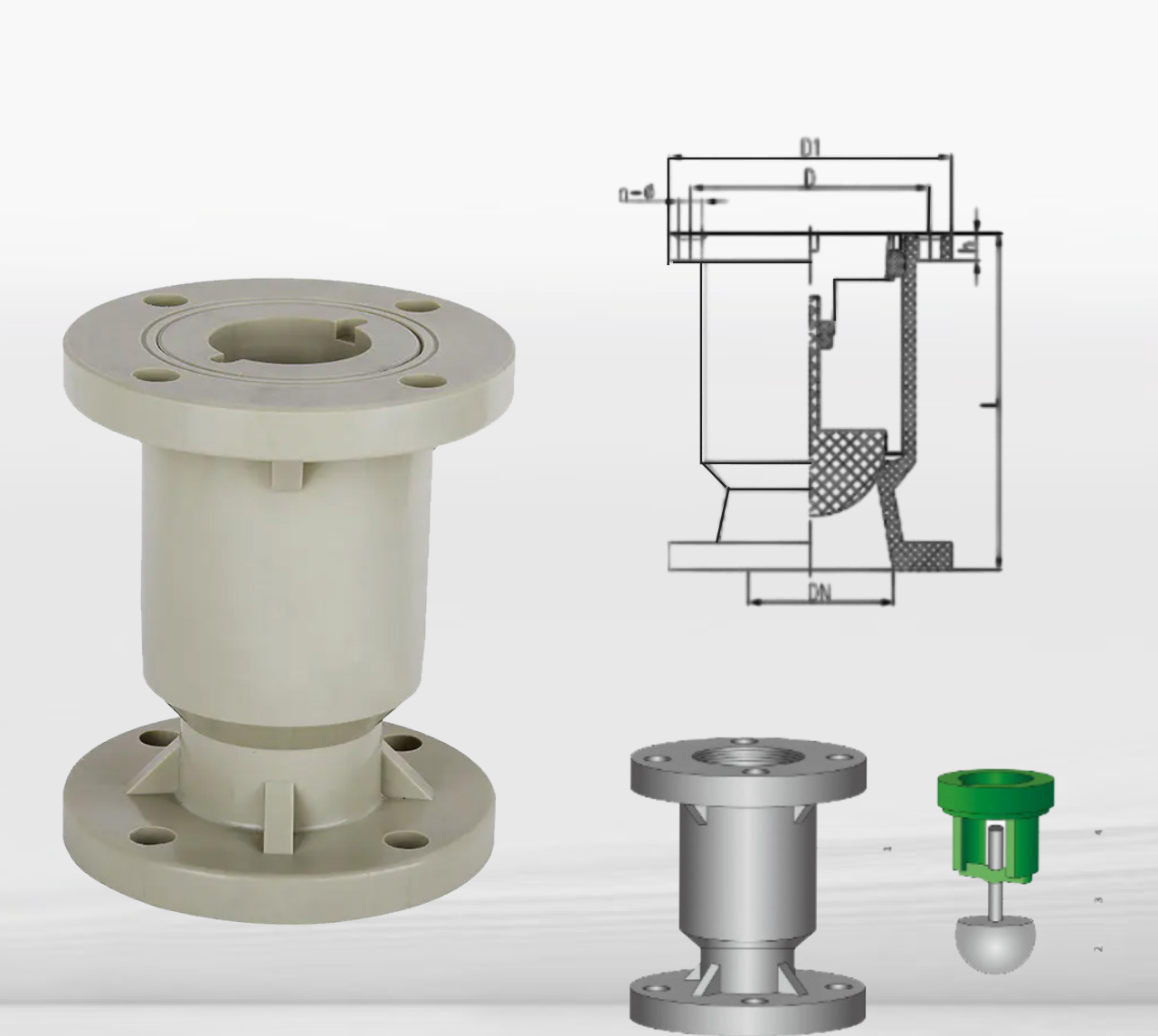


- ◆Size:2"-8"
- ◆Joint End:Requires Flanges for Install
- ◆Working Pressure:2"-6":PN10/150PSI  
8":PN6/90PSI
- ◆Standard:DIN/ANSI/BS/JIS/CNS

| Specification of Material |           |                         |     |     |            |          |     |
|---------------------------|-----------|-------------------------|-----|-----|------------|----------|-----|
| NO.                       | PART      | MATERIAL                | QTY | NO. | PART       | MATERIAL | QTY |
| 1                         | Body      | PVC/C-PVC/PPH           | 1   | 9   | Cap        | ABS      | 2   |
| 2                         | Seat Seal | EPDM/FPM                | 1   | 10  | Handle     | ABS      | 1   |
| 3                         | Disc      | PVC/CPVC/PPH            | 1   | 11  | Spring     | 304      | 1   |
| 4                         | O-Ring    | EPDM/FPM                | 2   | 12  | Lever      | ABS      | 1   |
| 5                         | Stem      | Steel/SS420/SS304/SS316 | 1   | 13  | Set-Pin    | STEEL    | 1   |
| 6                         | Baffle    | ABS                     | 1   | 14  | Bolt       | STEEL    | 1   |
| 7                         | Plate     | ABS                     | 1   | 15  | Mark Cap   | ABS      | 1   |
| 8                         | Screw     | Steel                   | 2   | 16  | Logo Plate | ABS      | 1   |

| Dimensions Unit:mm |            |      |        |      |      |      |      |       |
|--------------------|------------|------|--------|------|------|------|------|-------|
| Size               | Inch<br>DN | 2"   | 2 1/2" | 3"   | 4"   | 5"   | 6"   | 8"    |
| P.C.D.<br>ØD1      | ØD         | 160  | 180    | 196  | 228  | 258  | 287  | 344   |
|                    | DIN        | 125  | 145    | 160  | 180  | 210  | 240  | 295   |
|                    | ANSI       | 121  | 140    | 152  | 191  | 216  | 241  | 298   |
|                    | JIS        | 120  | 140    | 150  | 175  | 210  | 240  | 290   |
|                    | Ød         | 48   | 63     | 78   | 98   | 122  | 146  | 199   |
|                    | L          | 43   | 46     | 49   | 54   | 64   | 70   | 88    |
|                    | Ø1         | 124  | 124    | 124  | 124  | 170  | 170  | 170   |
|                    | L1         | 190  | 190    | 240  | 240  | 310  | 310  | 310   |
|                    | W          | 55   | 55     | 55   | 55   | 72   | 72   | 72    |
|                    | H1         | 100  | 112    | 120  | 140  | 168  | 181  | 215   |
|                    | H2         | 143  | 155    | 172  | 194  | 223  | 239  | 280   |
|                    | H          | 223  | 245    | 270  | 308  | 352  | 382  | 452   |
| n-Øe               | DIN        | 4-19 | 4-19   | 8-19 | 8-19 | 8-19 | 8-23 | 8-23  |
|                    | ANSI       | 4-19 | 4-19   | 4-19 | 8-19 | 8-19 | 8-23 | 8-23  |
|                    | JIS        | 4-19 | 4-19   | 8-19 | 8-19 | 8-19 | 8-23 | 12-23 |
| PN                 | PSI        | 150  | 150    | 150  | 150  | 150  | 150  | 100   |
|                    | MPa        | 1    | 1      | 1    | 1    | 1    | 1    | 0.6   |

## PPH H41F-10S Vertical Check Valve



| DN(mm)     | D1  | D   |     |       | L   | h  | n  |     |      | Φ   |     |      |
|------------|-----|-----|-----|-------|-----|----|----|-----|------|-----|-----|------|
|            |     | GB  | JIS | ANSI  |     |    | GB | JIS | ANSI | JIS | DIN | ANSI |
| 15(1/2")   | 95  | 65  | 70  | 2.38  | 120 | 15 | 4  | 4   | 4    | 14  | 15  | 16   |
| 20(3/4")   | 105 | 75  | 75  | 2.76  | 120 | 16 | 4  | 4   | 4    | 14  | 15  | 16   |
| 25(1")     | 115 | 85  | 90  | 3.13  | 130 | 16 | 4  | 4   | 4    | 14  | 19  | 16   |
| 32(1 1/4") | 135 | 100 | 100 | 3.45  | 145 | 18 | 4  | 4   | 4    | 18  | 19  | 16   |
| 40(1 1/2") | 145 | 110 | 105 | 3.88  | 168 | 20 | 4  | 4   | 4    | 18  | 19  | 16   |
| 50(2")     | 160 | 125 | 120 | 4.74  | 180 | 20 | 4  | 4   | 4    | 18  | 19  | 19   |
| 65(2 1/2") | 180 | 145 | 140 | 5.49  | 225 | 22 | 4  | 4   | 4    | 19  | 19  | 19   |
| 80(3")     | 195 | 160 | 150 | 6     | 260 | 25 | 8  | 8   | 4    | 19  | 19  | 19   |
| 100(4")    | 215 | 180 | 175 | 7.5   | 280 | 25 | 8  | 8   | 8    | 19  | 19  | 19   |
| 125(5")    | 245 | 210 | 210 | 8.5   | 350 | 30 | 8  | 8   | 8    | 23  | 23  | 22   |
| 150(6")    | 280 | 240 | 240 | 9.51  | 400 | 30 | 8  | 8   | 8    | 23  | 23  | 22   |
| 200(8")    | 335 | 295 | 290 | 11.75 | 400 | 35 | 8  | 12  | 8    | 23  | 23  | 22   |
| 250(10")   | 390 | 350 | 355 | 14.03 | 450 | 38 | 12 | 12  | 12   | 25  | 25  | 25   |
| 300(12")   | 445 | 400 | 400 | 17    | 450 | 38 | 12 | 16  | 12   | 25  | 25  | 25   |

## PPH Foot Valve



| No. | Item              | Material      | Qty | Unit |
|-----|-------------------|---------------|-----|------|
| 1   | Valve Bonnet      | UPVC/CPVC/PPH | 1   | pcs  |
| 2   | Foot valve Gasket | UPVC/CPVC/PPH | 1   | pcs  |
| 3   | Seat Seal         | EPDM/VITON    | 1   | pcs  |
| 4   | Gasket            | UPVC/CPVC/PPH | 1   | pcs  |
| 5   | Ball              | UPVC/CPVC/PPH | 1   | pcs  |
| 6   | Body              | UPVC/CPVC/PPH | 1   | pcs  |

| No. | Item              | Material      | Qty | Unit |
|-----|-------------------|---------------|-----|------|
| 1   | Valve Bonnet      | UPVC/CPVC/PPH | 1   | pcs  |
| 2   | Foot valve Gasket | UPVC/CPVC/PPH | 1   | pcs  |
| 3   | Seat Seal         | EPDM/VITON    | 1   | pcs  |
| 4   | Gasket            | UPVC/CPVC/PPH | 1   | pcs  |
| 5   | Ball              | UPVC/CPVC/PPH | 1   | pcs  |
| 6   | Body              | UPVC/CPVC/PPH | 1   | pcs  |
| 7   | Spring            | SUS304        | 1   | pcs  |

Size:1"-3"  
 Joint End:Socket(ANSI/  
 DIN/JIS/CNS)  
 Threaded:(NPT/BSPT)  
 Ball/ Half Ball  
 Working Pressure:150PSI

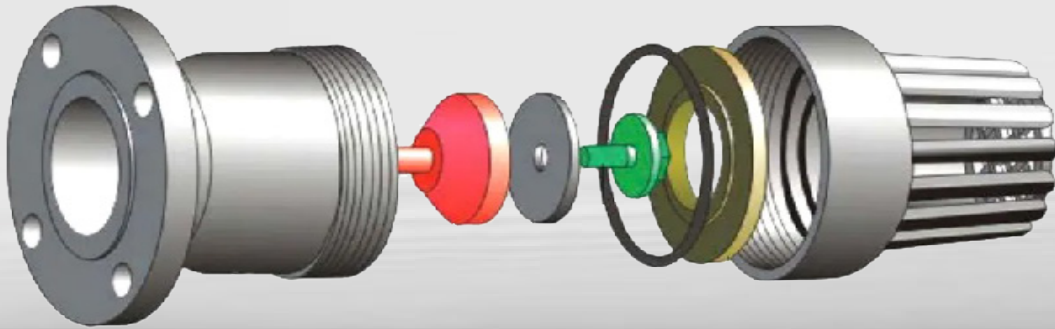
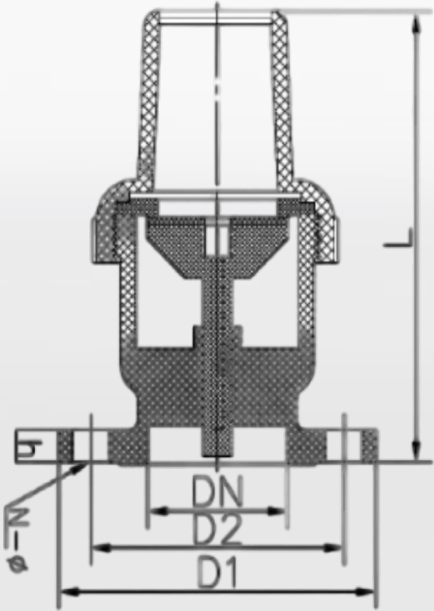
UNIT:MM

| SIZE       | d  | d1    |       |       |      | d2    |       |       |      | D    | L     | L1   |
|------------|----|-------|-------|-------|------|-------|-------|-------|------|------|-------|------|
|            |    | ANSI  | DIN   | JIS   | CNS  | ANSI  | DIN   | JIS   | CNS  |      |       |      |
| 1/2"(15)   | 15 | 21.4  | 20.25 | 22.3  | 22.4 | 21.25 | 20.05 | 21.85 | 21.9 | 54   | 91    | 23   |
| 3/4"(20)   | 20 | 26.75 | 25.25 | 26.3  | 26.4 | 26.58 | 25.05 | 25.85 | 25.9 | 63   | 106.5 | 26   |
| 1"(25)     | 25 | 33.52 | 32.25 | 32.33 | 34.5 | 33.28 | 32.05 | 31.85 | 33.9 | 73.5 | 125   | 29   |
| 1-1/4"(32) | 32 | 42.28 | 40.25 | 38.43 | 42.5 | 42.05 | 40.05 | 37.85 | 41.9 | 84.5 | 141   | 33   |
| 1-1/2"(40) | 40 | 48.4  | 50.25 | 48.46 | 48.6 | 48.12 | 50.05 | 47.75 | 47.9 | 98   | 150.5 | 35.5 |
| 2"(50)     | 50 | 60.45 | 63.25 | 60.56 | 60.6 | 60.18 | 63.05 | 59.75 | 59.9 | 119  | 169.5 | 38.5 |
| 2-1/2"(65) | 63 | 73.3  | 75.25 | 76.6  | 76.7 | 72.85 | 75.05 | 75.87 | 75.9 | 150  | 295   | 64.5 |
| 3"(80)     | 75 | 89.25 | 90.35 | 89.6  | 89.7 | 88.7  | 90.05 | 88.83 | 88.9 | 169  | 335   | 70   |

## PPH Flanged Type Foot Valve



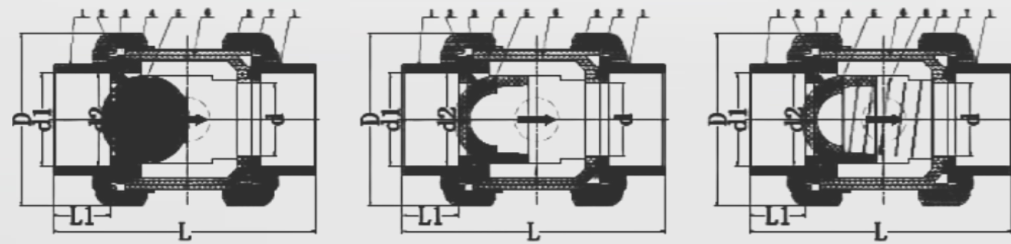
Size:4"-6"  
 Joint End:Socket(ANSI/DIN/JIS/CNS)  
 Threaded:(NPT/BSPT)  
 Working Pressure:150PSI



| DN(mm)    | D1  | D2  |     |       | L   | h  | n-Φ      |        |        |
|-----------|-----|-----|-----|-------|-----|----|----------|--------|--------|
|           |     | GB  | JIS | ANSI  |     |    | GB       | JIS    | ANSI   |
| 15(1/2")  | 105 | 65  | 70  | 2.38  | 140 | 15 | 4-Φ17X20 | 4-Φ19  | 4-Φ16  |
| 20(3/4")  | 105 | 75  | 75  | 2.76  | 168 | 16 | 4-Φ17X20 | 4-Φ19  | 4-Φ16  |
| 25(1")    | 115 | 85  | 90  | 3.13  | 189 | 16 | 4-Φ17X20 | 4-Φ19  | 4-Φ16  |
| 35(1/2")  | 135 | 100 | 100 | 3.45  | 210 | 18 | 4-Φ17X20 | 4-Φ19  | 4-Φ19  |
| 40(13/4") | 145 | 110 | 105 | 3.77  | 238 | 18 | 4-Φ17X20 | 4-Φ19  | 4-Φ19  |
| 50(2")    | 160 | 125 | 120 | 4.74  | 215 | 17 | 4-Φ17X20 | 4-Φ19  | 4-Φ19  |
| 65(21/2") | 170 | 145 | 140 | 5.49  | 235 | 14 | 4-Φ17X20 | 4-Φ19  | 4-Φ19  |
| 80(3")    | 192 | 160 | 150 | 6     | 265 | 21 | 8-Φ18X20 | 8-Φ19  | 4-Φ19  |
| 100(4")   | 220 | 180 | 175 | 7.5   | 315 | 23 | 8-Φ18X20 | 8-Φ19  | 8-Φ19  |
| 125(5")   | 250 | 210 | 210 | 8.5   | 335 | 31 | 8-Φ19    | 8-Φ23  | 8-Φ22  |
| 150(6")   | 282 | 240 | 240 | 9.51  | 335 | 31 | 8-Φ21    | 8-Φ23  | 8-Φ22  |
| 200(8")   | 335 | 295 | 290 | 11.75 | 380 | 32 | 8-Φ23    | 12-Φ23 | 8-Φ22  |
| 250(10")  | 395 | 350 | 355 | 14.25 | 550 | 37 | 12-Φ25   | 12-Φ25 | 12-Φ25 |
| 300(12")  | 445 | 400 | 400 | 17    | 550 | 40 | 12-Φ25   | 16-Φ25 | 12-Φ25 |

| No. | Item        | Material | Qty  | Unit |
|-----|-------------|----------|------|------|
| 1   | Bottom Body | PVC      | 1    | pcs  |
| 2   | Upper Body  | PVC      | 1    | pcs  |
| 3   | Valve Disc  | PVC      | 1    | pcs  |
| 4   | Seat Seal   | EPDM     | 1    | pcs  |
| 5   | O-Ring      | EPDM     | 1    | pcs  |
| 6   | Bolt        | SUS304   | 8-12 | pcs  |
| 7   | Bolt gasket | SUS304   | 8-12 | pcs  |
| 8   | Nut         | SUS304   | 8-12 | pcs  |
| 9   | Net Cover   | PVC      | 1    | pcs  |
| 10  | Buckle      | PVC      | 2    | pcs  |

## PPH True Union Check Valve

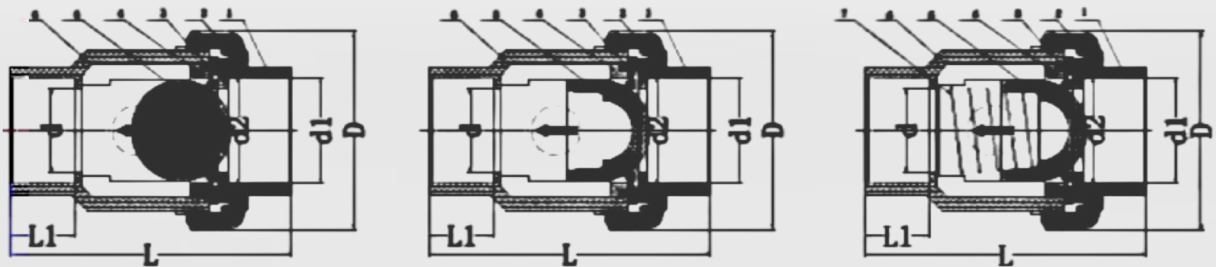


| No. | Item          | Material      | Qty | Unit |
|-----|---------------|---------------|-----|------|
| 1   | End Connector | UPVC/CPVC/PPH | 2   | PCS  |
| 2   | Union Nut     | UPVC/CPVC/PPH | 2   | PCS  |
| 3   | Seat Seal     | EPDM/VITON    | 1   | PCS  |
| 4   | Gasket        | UPVC/CPVC/PPH | 1   | PCS  |
| 5   | Ball          | UPVC/CPVC/PPH | 1   | PCS  |
| 6   | Body          | UPVC/CPVC/PPH | 1   | PCS  |
| 7   | O-Ring        | EPDM/VITON    | 1   | PCS  |

Size: 1/2"-3"  
 Joint End:Socket(ANSI/DIN/JIS/CNS)  
 Threaded:(NPT/BSPT)  
 Full Ball/Half Ball  
 Working Pressure:150PSI

| SIZE       | d  | d1    |       |       |      | d2    |       |       |      | D    | L     | L1   |
|------------|----|-------|-------|-------|------|-------|-------|-------|------|------|-------|------|
|            |    | ANSI  | DIN   | JIS   | CNS  | ANSI  | DIN   | JIS   | CNS  |      |       |      |
| 1/2"(15)   | 15 | 21.4  | 20.25 | 22.3  | 22.4 | 21.25 | 20.05 | 21.85 | 21.9 | 54   | 91    | 23   |
| 3/4"(20)   | 20 | 26.75 | 25.25 | 26.3  | 26.4 | 26.58 | 25.05 | 25.85 | 25.9 | 63   | 106.5 | 26   |
| 1"(25)     | 25 | 33.52 | 32.25 | 32.33 | 34.5 | 33.28 | 32.05 | 31.85 | 33.9 | 73.5 | 125   | 29   |
| 1-1/4"(32) | 32 | 42.28 | 40.25 | 38.43 | 42.5 | 42.05 | 40.05 | 37.85 | 41.9 | 84.5 | 141   | 33   |
| 1-1/2"(40) | 40 | 48.4  | 50.25 | 48.46 | 48.6 | 48.12 | 50.05 | 47.75 | 47.9 | 98   | 150.5 | 35.5 |
| 2"(50)     | 50 | 60.45 | 63.25 | 60.56 | 60.6 | 60.18 | 63.05 | 59.75 | 59.9 | 119  | 169.5 | 38.5 |

## PPH Single Union Check Valve

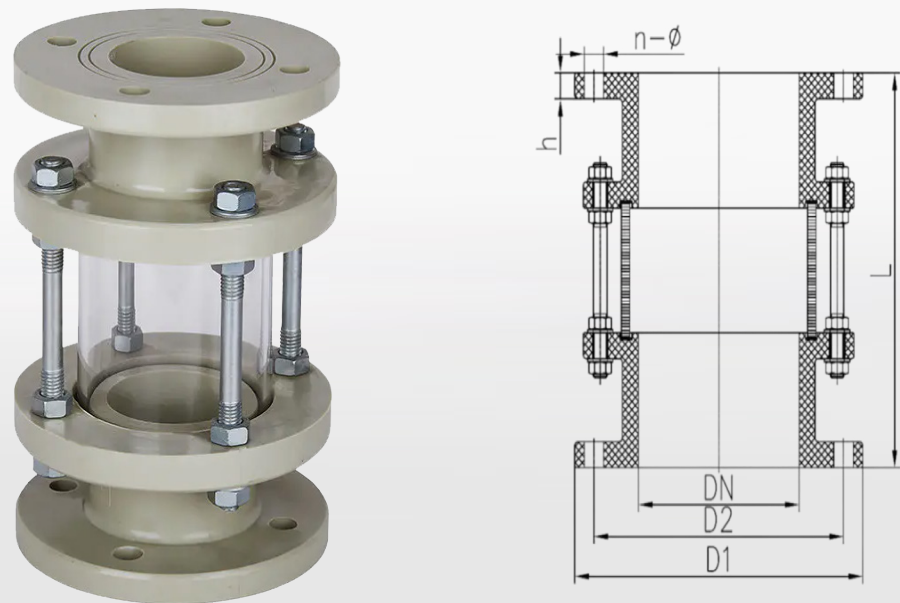


| No. | Item          | Material      | Qty | Unit |
|-----|---------------|---------------|-----|------|
| 1   | End Connector | UPVC/CPVC/PPH | 1   | pcs  |
| 2   | Union Nut     | UPVC/CPVC/PPH | 1   | pcs  |
| 3   | Seat Seal     | EPDM/VITON    | 1   | pcs  |
| 4   | Gasket        | UPVC/CPVC/PPH | 1   | pcs  |
| 5   | Ball          | UPVC/CPVC/PPH | 1   | pcs  |
| 6   | Body          | UPVC/CPVC/PPH | 1   | pcs  |
| 7   | Spring        | SUS304        | 1   | pcs  |

| No. | Item          | Material      | Qty | Unit |
|-----|---------------|---------------|-----|------|
| 1   | End Connector | UPVC/CPVC/PPH | 1   | pcs  |
| 2   | Union Nut     | UPVC/CPVC/PPH | 1   | pcs  |
| 3   | Seat Seal     | EPDM/VITON    | 1   | pcs  |
| 4   | Gasket        | UPVC/CPVC/PPH | 1   | pcs  |
| 5   | Ball          | UPVC/CPVC/PPH | 1   | pcs  |
| 6   | Body          | UPVC/CPVC/PPH | 1   | pcs  |

| SIZE       | d  | d1    |       |       |      | d2    |       |       |      | D    | L     | L1   |
|------------|----|-------|-------|-------|------|-------|-------|-------|------|------|-------|------|
|            |    | ANSI  | DIN   | JIS   | CNS  | ANSI  | DIN   | JIS   | CNS  |      |       |      |
| 1/2"(15)   | 15 | 21.4  | 20.25 | 22.3  | 22.4 | 21.25 | 20.05 | 21.85 | 21.9 | 54   | 91    | 23   |
| 3/4"(20)   | 20 | 26.75 | 25.25 | 26.3  | 26.4 | 26.58 | 25.05 | 25.85 | 25.9 | 63   | 106.5 | 26   |
| 1"(25)     | 25 | 33.52 | 32.25 | 32.33 | 34.5 | 33.28 | 32.05 | 31.85 | 33.9 | 73.5 | 125   | 29   |
| 1-1/4"(32) | 32 | 42.28 | 40.25 | 38.43 | 42.5 | 42.05 | 40.05 | 37.85 | 41.9 | 84.5 | 141   | 33   |
| 1-1/2"(40) | 40 | 48.4  | 50.25 | 48.46 | 48.6 | 48.12 | 50.05 | 47.75 | 47.9 | 98   | 150.5 | 35.5 |
| 2"(50)     | 50 | 60.45 | 63.25 | 60.56 | 60.6 | 60.18 | 63.05 | 59.75 | 59.9 | 119  | 169.5 | 38.5 |
| 2-1/2"(65) | 63 | 73.3  | 75.25 | 76.6  | 76.7 | 72.85 | 75.05 | 75.87 | 75.9 | 150  | 245   | 64.5 |
| 3"(80)     | 75 | 89.25 | 90.35 | 89.6  | 89.7 | 88.7  | 90.05 | 88.83 | 88.9 | 169  | 270   | 70   |

PPH Sight Glass



| DN(mm)     | D1  | D2  |     |       | L   | h  | N-Φ   |        |       |
|------------|-----|-----|-----|-------|-----|----|-------|--------|-------|
|            |     | GB  | JIS | ANSI  |     |    | JIS   | DIN    | ANSI  |
| 25(1/2")   | 115 | 85  | 100 | 3.13  | 238 | 15 | 4-Φ14 | 4-Φ19  | 4-Φ16 |
| 32(1 1/4") | 150 | 100 | 100 | 3.45  | 230 | 16 | 4-Φ18 | 4-Φ19  | 4-Φ16 |
| 40(1 1/2") | 150 | 110 | 105 | 3.88  | 230 | 16 | 4-Φ18 | 4-Φ19  | 4-Φ16 |
| 50(2")     | 165 | 125 | 120 | 4.74  | 233 | 17 | 4-Φ18 | 4-Φ19  | 4-Φ19 |
| 65(2 1/2") | 195 | 145 | 140 | 5.49  | 277 | 20 | 4-Φ18 | 4-Φ19  | 4-Φ19 |
| 80(3")     | 195 | 160 | 150 | 6     | 277 | 20 | 8-Φ18 | 4-Φ19  | 4-Φ19 |
| 100(4")    | 215 | 180 | 175 | 7.5   | 310 | 21 | 8-Φ18 | 8-Φ19  | 8-Φ19 |
| 125(5")    | 250 | 210 | 210 | 8.5   | 350 | 26 | 8-Φ18 | 8-Φ23  | 8-Φ22 |
| 150(6")    | 285 | 240 | 240 | 9.51  | 385 | 27 | 8-Φ23 | 8-Φ23  | 8-Φ22 |
| 200(8")    | 340 | 295 | 290 | 11.75 | 400 | 25 | 8-Φ23 | 12-Φ23 | 8-Φ22 |

Chemical Properties

◎ Excellent    ○ Good    △ Available    × Corrosion Not Recommended

| Chemicals    | Chemicals Formula                 | Concentration | Temp °C | U-PVC | C-PVC | PP | PVDF | PTFE | VITON | EPDM | NBR | CR | IIR | CSM |
|--------------|-----------------------------------|---------------|---------|-------|-------|----|------|------|-------|------|-----|----|-----|-----|
| Acetaldehyde | CH <sub>3</sub> CHO               | Pure          | 20      | ×     | ×     | ◎  | ×    | ◎    | △     | ◎    | ×   | △  | ◎   | ×   |
|              |                                   |               | 40      |       |       | ◎  |      | ◎    | △     | ◎    |     | ×  | ◎   |     |
|              |                                   |               | 60      |       |       | ○  |      | ◎    | ×     | ○    |     |    | ◎   |     |
|              |                                   |               | 80      |       |       |    |      | ◎    |       |      |     |    |     |     |
|              |                                   |               | 100     |       |       |    |      | ◎    |       |      |     |    |     |     |
|              |                                   |               | 120     |       |       |    |      | ◎    |       |      |     |    |     |     |
|              |                                   | 40            | 20      | ○     | ○     | ◎  | ×    | ◎    | ○     | ◎    | ×   | △  | ◎   | ×   |
|              |                                   |               | 40      | △     | △     | ◎  |      | ◎    | ○     | ◎    |     | ×  | ◎   |     |
|              |                                   |               | 60      | ×     |       | ◎  |      | ◎    | △     | ◎    |     |    | ◎   |     |
|              |                                   |               | 80      |       |       | ○  |      | ◎    | △     | ○    |     |    |     |     |
|              |                                   |               | 100     |       |       |    |      | ◎    |       |      |     |    |     |     |
|              |                                   |               | 120     |       |       |    |      | ◎    |       |      |     |    |     |     |
| Acetic Acid  | CH <sub>3</sub> COOH              | 10            | 20      | ◎     | ◎     | ◎  | ◎    | ◎    | ○     | ◎    | ○   | ○  | ◎   | ○   |
|              |                                   |               | 40      | ◎     | ◎     | ◎  | ◎    | ◎    | ○     | ◎    |     | ○  | ○   | △   |
|              |                                   |               | 60      | ◎     | ◎     | ◎  | ◎    | ◎    | △     | ○    |     | △  | ○   | ×   |
|              |                                   |               | 80      |       | ◎     | ◎  | ◎    | ◎    | ×     |      |     | ×  |     |     |
|              |                                   |               | 100     |       |       |    | ◎    | ◎    |       |      |     |    |     |     |
|              |                                   |               | 120     |       |       |    | ○    | ◎    |       |      |     |    |     |     |
|              |                                   | 20            | 20      | ◎     | ◎     | ◎  | ◎    | ◎    | ○     | ◎    | ×   | ×  | ×   | ×   |
|              |                                   |               | 40      | ◎     | ◎     | ◎  | ◎    | ◎    | △     | ◎    |     |    |     |     |
|              |                                   |               | 60      | ◎     | ○     | ◎  | ◎    | ◎    | △     |      |     |    |     |     |
|              |                                   |               | 80      |       | △     | ○  | ○    | ◎    | ×     |      |     |    |     |     |
|              |                                   |               | 100     |       |       |    | ○    | ◎    |       |      |     |    |     |     |
|              |                                   |               | 120     |       |       |    | ○    | ◎    |       |      |     |    |     |     |
|              |                                   | 50            | 20      | ◎     | ◎     | ◎  | ◎    | ◎    | △     | ○    | ×   | ×  | ×   | ×   |
|              |                                   |               | 40      | ◎     | ○     | ◎  | ◎    | ◎    | ×     |      |     |    |     |     |
|              |                                   |               | 60      | ○     | △     | ◎  | ◎    | ◎    |       |      |     |    |     |     |
|              |                                   |               | 80      |       | ×     |    | ○    | ◎    |       |      |     |    |     |     |
|              |                                   |               | 100     |       |       |    | ○    | ◎    |       |      |     |    |     |     |
|              |                                   |               | 120     |       |       |    |      | ◎    |       |      |     |    |     |     |
|              |                                   | 80            | 20      | ◎     | ○     | ◎  | ◎    | ◎    | ×     | △    | ×   | ×  | ×   | ×   |
|              |                                   |               | 40      | ◎     | △     | ◎  | ◎    | ◎    |       |      |     |    |     |     |
|              |                                   |               | 60      | △     | ×     | △  | ○    | ◎    |       |      |     |    |     |     |
|              |                                   |               | 80      |       |       |    | △    | ◎    |       |      |     |    |     |     |
|              |                                   |               | 100     |       |       |    |      | ◎    |       |      |     |    |     |     |
|              |                                   |               | 120     |       |       |    |      | ◎    |       |      |     |    |     |     |
| Acetone      | CH <sub>3</sub> COCH <sub>3</sub> | Pure          | 20      | ×     | ×     | ◎  | ×    | ◎    | ×     | ◎    | ×   | ○  | ○   | △   |
|              |                                   |               | 40      |       |       | ◎  |      | ◎    |       |      |     | ○  | ○   | ×   |
|              |                                   |               | 60      |       |       | △  |      | ◎    |       |      |     |    |     |     |
|              |                                   |               | 80      |       |       |    |      | ◎    |       |      |     |    |     |     |
|              |                                   |               | 100     |       |       |    |      | ◎    |       |      |     |    |     |     |
|              |                                   |               | 120     |       |       |    |      | ◎    |       |      |     |    |     |     |

⊙ Excellent    ○ Good    △ Available    × Corrosion Not Recommended

| Chemicals        | Chemicals Formula                               | Concentration | Temp °C | U-PVC | C-PVC | PP | PVDF | PTFE | VITON | EPDM | NBR | CR | IIR | CSM |
|------------------|-------------------------------------------------|---------------|---------|-------|-------|----|------|------|-------|------|-----|----|-----|-----|
| Acetylene        | C <sub>2</sub> HC                               |               | 20      | ⊙     | ×     | ⊙  | ⊙    | ⊙    | ⊙     | △    | ⊙   |    | △   |     |
|                  |                                                 |               | 40      | ⊙     |       | ⊙  | ⊙    | ⊙    | ⊙     | △    | ⊙   |    | ×   |     |
|                  |                                                 |               | 60      | ○     |       | ⊙  | ⊙    | ⊙    | ⊙     | ×    | ○   |    |     |     |
|                  |                                                 |               | 80      |       |       | ○  | ⊙    | ⊙    | ⊙     |      |     |    |     |     |
|                  |                                                 |               | 100     |       |       |    |      | ⊙    | ○     |      |     |    |     |     |
|                  |                                                 |               | 120     |       |       |    |      | ○    |       |      |     |    |     |     |
|                  |                                                 |               | 80      |       |       |    | ×    | ⊙    |       |      |     |    |     |     |
|                  |                                                 |               | 100     |       |       |    |      | ⊙    |       |      |     |    |     |     |
|                  |                                                 |               | 120     |       |       |    |      | ⊙    |       |      |     |    |     |     |
| Aluminum Nitrate | Al(NO <sub>3</sub> ) <sub>3</sub>               | Satu          | 20      | ⊙     | ⊙     | ⊙  | ⊙    | ⊙    | ⊙     | ⊙    | ⊙   | ⊙  | ⊙   | ⊙   |
|                  |                                                 |               | 40      | ⊙     | ⊙     | ⊙  | ⊙    | ⊙    | ⊙     | ⊙    | ⊙   | ⊙  | ⊙   | ⊙   |
|                  |                                                 |               | 60      | ⊙     | ⊙     | ⊙  | ⊙    | ⊙    | ⊙     | ⊙    | ⊙   | ⊙  | ⊙   | ⊙   |
|                  |                                                 |               | 80      |       | ⊙     | ⊙  | ⊙    | ⊙    | ⊙     | ⊙    | ○   |    |     | ⊙   |
|                  |                                                 |               | 100     |       |       |    | ⊙    | ⊙    | ⊙     |      |     |    |     |     |
| Aluminum Sulfate | Al <sub>2</sub> (SO <sub>4</sub> ) <sub>3</sub> | Satu          | 20      | ⊙     | ⊙     | ⊙  | ⊙    | ⊙    | ⊙     | ⊙    | ⊙   | ⊙  | ⊙   | ⊙   |
|                  |                                                 |               | 40      | ⊙     | ⊙     | ⊙  | ⊙    | ⊙    | ⊙     | ⊙    | ⊙   | ⊙  | ⊙   | ⊙   |
|                  |                                                 |               | 60      | ⊙     | ⊙     | ⊙  | ⊙    | ⊙    | ⊙     | ⊙    | ⊙   | ○  | ○   | ○   |
|                  |                                                 |               | 80      |       | ⊙     | ⊙  | ⊙    | ⊙    | ⊙     |      |     |    |     |     |
|                  |                                                 |               | 100     |       |       |    | ⊙    | ⊙    |       |      |     |    |     |     |
| Ammonium Nitrate | NH <sub>4</sub> NO <sub>3</sub>                 |               | 20      | ⊙     | ○     | ⊙  | ⊙    | ⊙    | ⊙     | ⊙    | ⊙   | ⊙  | ⊙   | ⊙   |
|                  |                                                 |               | 40      | ⊙     | ○     | ⊙  | ⊙    | ⊙    | ⊙     | ⊙    | ⊙   | ⊙  | ⊙   | ⊙   |
|                  |                                                 |               | 60      | ○     | ○     | ⊙  | ⊙    | ⊙    | ⊙     | ⊙    | ⊙   | ⊙  |     |     |
|                  |                                                 |               | 80      |       |       | ⊙  | ⊙    | ⊙    | ⊙     | ⊙    | ⊙   | ○  |     |     |
|                  |                                                 |               | 100     |       |       |    | ⊙    | ⊙    |       |      |     |    |     |     |
| Arsenic Acid     | H <sub>3</sub> ASO <sub>4</sub>                 | Satu          | 20      | ⊙     | ⊙     | ⊙  | ⊙    | ⊙    | ⊙     | ⊙    | ⊙   | ⊙  | ⊙   | ⊙   |
|                  |                                                 |               | 40      | ○     | ○     | ⊙  | ⊙    | ⊙    | ⊙     | ⊙    | ⊙   | ⊙  | ⊙   | ⊙   |
|                  |                                                 |               | 60      | △     | ○     | ○  | ⊙    | ⊙    | ⊙     | ○    | ○   | ⊙  | ⊙   | ⊙   |
|                  |                                                 |               | 80      |       | △     | △  | ⊙    | ⊙    | ○     | ○    | ○   |    |     |     |
|                  |                                                 |               | 100     |       |       |    | ⊙    | ⊙    | ○     |      |     |    |     |     |
| Beer             |                                                 |               | 20      | ⊙     | ⊙     | ⊙  | ⊙    | ⊙    | ⊙     | ⊙    | ○   | ○  | ⊙   | ⊙   |
|                  |                                                 |               | 40      | ⊙     | ⊙     | ⊙  | ⊙    | ⊙    | ⊙     | ⊙    | ○   | ○  | ⊙   | ⊙   |
|                  |                                                 |               | 60      | ⊙     | ⊙     | ⊙  | ⊙    | ⊙    | ⊙     | ⊙    | ○   | ○  | ⊙   | ⊙   |
|                  |                                                 |               | 80      |       | ⊙     | ⊙  | ⊙    | ⊙    | ⊙     | ⊙    | ○   |    | ⊙   | ⊙   |
|                  |                                                 |               | 100     |       |       |    | ⊙    | ⊙    |       |      |     |    |     |     |
| Benzene          | C <sub>6</sub> H <sub>6</sub>                   | Pure          | 20      | △     | △     | ○  | ⊙    | ⊙    | ⊙     | ×    | ×   | ×  | ×   | ×   |
|                  |                                                 |               | 40      | ×     | ×     | △  | ○    | ⊙    | ○     |      |     |    |     |     |
|                  |                                                 |               | 60      |       |       |    | ○    | ⊙    | ○     |      |     |    |     |     |
|                  |                                                 |               | 80      |       |       |    | △    | ⊙    | ○     |      |     |    |     |     |
|                  |                                                 |               | 100     |       |       |    | ×    | ⊙    |       |      |     |    |     |     |
|                  |                                                 |               | 120     |       |       |    |      | ⊙    |       |      |     |    |     |     |
|                  |                                                 |               |         |       |       |    |      |      |       |      |     |    |     |     |
|                  |                                                 |               |         |       |       |    |      |      |       |      |     |    |     |     |
|                  |                                                 |               |         |       |       |    |      |      |       |      |     |    |     |     |
|                  |                                                 |               |         |       |       |    |      |      |       |      |     |    |     |     |

⊙ Excellent    ○ Good    △ Available    × Corrosion Not Recommended

| Chemicals       | Chemicals Formula                                                | Concentration | Temp °C | U-PVC | C-PVC | PP | PVDF | PTFE | VITON | EPDM | NBR | CR | IIR | CSM |
|-----------------|------------------------------------------------------------------|---------------|---------|-------|-------|----|------|------|-------|------|-----|----|-----|-----|
| Black Liquor    |                                                                  | Satu          | 20      | ⊙     | ⊙     | ⊙  | ⊙    | ⊙    | ⊙     | ⊙    | ⊙   | ⊙  | ⊙   | ⊙   |
|                 |                                                                  |               | 40      | ⊙     | ⊙     | ⊙  | ⊙    | ⊙    | ⊙     | ⊙    | ⊙   | ⊙  | ⊙   | ⊙   |
|                 |                                                                  |               | 60      | ○     | ⊙     | ⊙  | ⊙    | ⊙    | ⊙     | ⊙    | ⊙   | ⊙  | ⊙   | ⊙   |
|                 |                                                                  |               | 80      |       | ○     | ○  | ⊙    | ⊙    | ⊙     | ⊙    | ○   | ○  | ⊙   | ○   |
|                 |                                                                  |               | 100     |       |       |    |      | ⊙    | ⊙     | ⊙    |     |    |     |     |
|                 |                                                                  |               | 120     |       |       |    |      | ○    |       |      |     |    |     |     |
|                 |                                                                  |               |         |       |       |    |      |      |       |      |     |    |     |     |
| Bleaching Agent | Ca(ClO) <sub>2</sub> CaCl <sub>2</sub> -2H <sub>2</sub> O        |               | 20      | ⊙     | ⊙     |    | ⊙    | ⊙    | ⊙     | ⊙    | △   |    |     |     |
|                 |                                                                  |               | 40      | ⊙     | ⊙     |    | ⊙    | ⊙    | ⊙     | ⊙    |     |    |     |     |
|                 |                                                                  |               | 60      | ⊙     | ⊙     |    | ⊙    | ⊙    |       |      |     |    |     |     |
|                 |                                                                  |               | 80      |       |       |    | ⊙    | ⊙    |       |      |     |    |     |     |
|                 |                                                                  |               | 100     |       |       |    | ⊙    | ⊙    |       |      |     |    |     |     |
|                 |                                                                  |               | 120     |       |       |    | ⊙    | ⊙    |       |      |     |    |     |     |
|                 |                                                                  |               | 20      | ⊙     | ⊙     |    | ⊙    | ⊙    | ⊙     | ○    | △   |    |     |     |
|                 |                                                                  |               | 40      | ⊙     | ⊙     |    | ⊙    | ⊙    |       |      |     |    |     |     |
|                 |                                                                  |               | 60      | ⊙     | ⊙     |    | ⊙    | ⊙    |       |      |     |    |     |     |
|                 |                                                                  |               | 80      |       |       |    | ⊙    | ⊙    |       |      |     |    |     |     |
|                 |                                                                  |               | 100     |       |       |    | ⊙    | ⊙    |       |      |     |    |     |     |
|                 |                                                                  |               | 120     |       |       |    | ⊙    | ⊙    |       |      |     |    |     |     |
| Borax           | Na <sub>2</sub> B <sub>4</sub> O <sub>7</sub> 10H <sub>2</sub> O |               | 20      | ⊙     | ⊙     | ⊙  | ⊙    | ⊙    | ⊙     | ⊙    | ⊙   | ⊙  | ⊙   | ⊙   |
|                 |                                                                  |               | 40      | ⊙     | ⊙     | ⊙  | ⊙    | ⊙    | ⊙     | ⊙    | ○   | ⊙  | ⊙   | ⊙   |
|                 |                                                                  |               | 60      | ⊙     | ⊙     | ⊙  | ⊙    | ⊙    | ⊙     | ⊙    | △   | ⊙  | ⊙   | ⊙   |
|                 |                                                                  |               | 80      |       | ⊙     | ⊙  | ⊙    | ⊙    | ⊙     |      | ×   |    |     |     |
|                 |                                                                  |               | 100     |       |       |    | ⊙    | ⊙    |       |      |     |    |     |     |
| Boric Acid      | H <sub>3</sub> BO <sub>3</sub>                                   | Satu          | 20      | ⊙     | ⊙     | ⊙  | ⊙    | ⊙    | ⊙     | ⊙    | ⊙   | ⊙  | ⊙   | ⊙   |
|                 |                                                                  |               | 40      | ⊙     | ⊙     | ⊙  | ⊙    | ⊙    | ⊙     | ⊙    | ⊙   | ⊙  | ⊙   | ⊙   |
|                 |                                                                  |               | 60      | ⊙     | ⊙     | ⊙  | ⊙    | ⊙    | ⊙     | ⊙    | ⊙   | ⊙  | ⊙   | ⊙   |
|                 |                                                                  |               | 80      |       | ○     | ⊙  | ⊙    | ⊙    | ⊙     | ○    | ○   | △  | ○   | ○   |
|                 |                                                                  |               | 100     |       |       |    | ⊙    | ⊙    | ○     |      |     |    |     |     |
| Bormic Acid     | HBrO <sub>3</sub>                                                | Pure          | 20      | ⊙     | ⊙     | ×  | ⊙    | ⊙    |       |      |     |    |     |     |
|                 |                                                                  |               | 40      | ⊙     | ⊙     |    | ⊙    | ⊙    |       |      |     |    |     |     |
|                 |                                                                  |               | 60      |       | ⊙     |    | ⊙    | ⊙    |       |      |     |    |     |     |
|                 |                                                                  |               | 80      |       | ⊙     |    | ⊙    | ⊙    |       |      |     |    |     |     |
|                 |                                                                  |               | 100     |       |       |    | ⊙    | ⊙    |       |      |     |    |     |     |
| Butadiene       | CH <sub>2</sub> =CHCH=CH <sub>2</sub>                            | Gas           | 20      | ⊙     | ⊙     |    | ⊙    | ⊙    | ⊙     | ×    | ○   | ○  | ×   | ○   |
|                 |                                                                  |               | 40      | ⊙     | ⊙     |    | ⊙    | ⊙    | ⊙     |      | △   | ○  |     | ○   |
|                 |                                                                  |               | 60      | ⊙     |       |    | ⊙    | ⊙    | ⊙     |      |     | △  |     | △   |
|                 |                                                                  |               | 80      |       |       |    | ⊙    | ⊙    |       |      |     |    |     |     |
|                 |                                                                  |               | 100     |       |       |    | ⊙    | ⊙    |       |      |     |    |     |     |
|                 |                                                                  |               | 120     |       |       |    | ⊙    | ⊙    |       |      |     |    |     |     |
|                 |                                                                  |               |         |       |       |    |      |      |       |      |     |    |     |     |
|                 |                                                                  |               |         |       |       |    |      |      |       |      |     |    |     |     |
|                 |                                                                  |               |         |       |       |    |      |      |       |      |     |    |     |     |
|                 |                                                                  |               |         |       |       |    |      |      |       |      |     |    |     |     |

⊙ Excellent    ○ Good    △ Available    × Corrosion Not Recommended

| Chemicals     | Chemicals Formula                                               | Concentration | Temp °C | U-PVC | C-PVC | PP | PVDF | PTFE | VITON | EPDM | NBR | CR | IIR | CSM |
|---------------|-----------------------------------------------------------------|---------------|---------|-------|-------|----|------|------|-------|------|-----|----|-----|-----|
| Butane        | CH <sub>3</sub> (CH <sub>2</sub> ) <sub>2</sub> CH <sub>3</sub> | Gas           | 20      | ⊙     | ⊙     | ⊙  | ⊙    | ⊙    | ⊙     | ×    | ⊙   | ⊙  | ×   | ⊙   |
|               |                                                                 |               | 40      | ⊙     | ⊙     | ⊙  | ⊙    | ⊙    | ⊙     |      | ○   | △  |     |     |
|               |                                                                 |               | 60      | ⊙     | ⊙     | ⊙  | ⊙    | ⊙    | ⊙     |      |     |    |     |     |
|               |                                                                 |               | 80      |       | ⊙     | ⊙  | ⊙    | ⊙    | ⊙     |      |     |    |     |     |
|               |                                                                 |               | 100     |       |       |    |      | ⊙    |       |      |     |    |     |     |
|               |                                                                 |               | 120     |       |       |    |      | ⊙    |       |      |     |    |     |     |
| Butyl Alcohol | C <sub>4</sub> H <sub>9</sub> OH                                | Satu          | 20      | ⊙     | ⊙     | ⊙  | ⊙    | ⊙    | ⊙     | ○    | ⊙   | ⊙  | ⊙   | ⊙   |
|               |                                                                 |               | 40      | ⊙     | ⊙     | ⊙  | ⊙    | ⊙    | ○     | ⊙    | ○   | ⊙  | ⊙   | ⊙   |
|               |                                                                 |               | 60      | ○     | ⊙     | ⊙  | ⊙    | ⊙    | △     | ⊙    | ○   | ⊙  | ⊙   | ⊙   |
|               |                                                                 |               | 80      |       | ○     | ⊙  | ⊙    | ⊙    |       | ⊙    |     | ○  | ⊙   | ⊙   |
|               |                                                                 |               | 100     |       |       |    | ⊙    | ⊙    |       |      |     |    |     |     |
|               |                                                                 |               | 120     |       |       |    | ⊙    | ⊙    |       |      |     |    |     |     |
| Butyl Bromide | C <sub>4</sub> H <sub>9</sub> Br                                | Pure          | 20      |       |       |    | ⊙    | ⊙    |       |      |     |    |     |     |
|               |                                                                 |               | 40      |       |       |    | ⊙    | ⊙    |       |      |     |    |     |     |
|               |                                                                 |               | 60      |       |       |    | ⊙    | ⊙    |       |      |     |    |     |     |
|               |                                                                 |               | 80      |       |       |    | ⊙    | ⊙    |       |      |     |    |     |     |
|               |                                                                 |               | 100     |       |       |    | ⊙    | ⊙    |       |      |     |    |     |     |
|               |                                                                 |               | 120     |       |       |    | ⊙    | ⊙    |       |      |     |    |     |     |
| Butylene      | CH <sub>3</sub> CH <sub>2</sub> CH=CH <sub>2</sub>              |               | 20      |       |       |    | ⊙    | ⊙    | ⊙     |      |     |    |     |     |
|               |                                                                 |               | 40      |       |       |    | ⊙    | ⊙    | ⊙     |      |     |    |     |     |
|               |                                                                 |               | 60      |       |       |    | ⊙    | ⊙    | ⊙     |      |     |    |     |     |
|               |                                                                 |               | 80      |       |       |    | ⊙    | ⊙    | ○     |      |     |    |     |     |
|               |                                                                 |               | 100     |       |       |    | ⊙    | ⊙    |       |      |     |    |     |     |
|               |                                                                 |               | 120     |       |       |    | ⊙    | ⊙    |       |      |     |    |     |     |
| Carboic Acid  | H <sub>2</sub> CO <sub>3</sub>                                  | Satu          | 20      | ⊙     | ⊙     | ⊙  | ⊙    | ⊙    | ⊙     | ⊙    | ⊙   | ⊙  | ⊙   | ⊙   |
|               |                                                                 |               | 40      | ⊙     | ⊙     | ⊙  | ⊙    | ⊙    | ⊙     | ⊙    | ⊙   | ⊙  | ⊙   | ⊙   |
|               |                                                                 |               | 60      | ⊙     | ⊙     | ⊙  | ⊙    | ⊙    | ⊙     | ⊙    | ⊙   | ⊙  | ⊙   | ⊙   |
|               |                                                                 |               | 80      |       | ○     | ○  | ⊙    | ⊙    | ⊙     | ⊙    | ○   | ○  | ⊙   | ⊙   |
|               |                                                                 |               | 100     |       |       |    | ⊙    | ⊙    | ○     |      |     |    |     |     |
|               |                                                                 |               | 120     |       |       |    | ⊙    | ⊙    |       |      |     |    |     |     |
| Dextrose      | C <sub>6</sub> H <sub>12</sub> O <sub>6</sub>                   |               | 20      | ⊙     | ⊙     | ⊙  | ⊙    | ⊙    | ⊙     | ⊙    | ⊙   | ⊙  | ⊙   | ⊙   |
|               |                                                                 |               | 40      | ⊙     | ⊙     | ⊙  | ⊙    | ⊙    | ⊙     | ⊙    | ⊙   | ⊙  | ⊙   | ⊙   |
|               |                                                                 |               | 60      | ⊙     | ⊙     | ⊙  | ⊙    | ⊙    | ⊙     | ⊙    | ⊙   | ⊙  | ⊙   | ⊙   |
|               |                                                                 |               | 80      |       | ⊙     | ⊙  | ⊙    | ⊙    | ⊙     | ⊙    |     |    |     |     |
|               |                                                                 |               | 100     |       |       |    | ⊙    | ⊙    | ⊙     |      |     |    |     |     |
|               |                                                                 |               | 120     |       |       |    | ⊙    | ⊙    |       |      |     |    |     |     |

⊙ Excellent    ○ Good    △ Available    × Corrosion Not Recommended

| Chemicals            | Chemicals Formula                               | Concentration | Temp °C | U-PVC | C-PVC | PP | PVDF | PTFE | VITON | EPDM | NBR | CR | IIR | CSM |
|----------------------|-------------------------------------------------|---------------|---------|-------|-------|----|------|------|-------|------|-----|----|-----|-----|
| Plating Solutions    |                                                 |               | 20      | ⊙     | ⊙     | △  | ⊙    | ⊙    | ○     | ⊙    | ○   | ○  | ×   | △   |
|                      |                                                 |               | 40      | ⊙     | ⊙     | ×  | ⊙    | ⊙    | ○     | ○    | ○   | ○  |     | ×   |
|                      |                                                 |               | 60      | ⊙     | ⊙     |    | ⊙    | ⊙    | ○     | ○    | ○   | ×  |     |     |
|                      |                                                 |               | 80      |       | ⊙     |    | ⊙    | ⊙    |       |      |     |    |     |     |
|                      |                                                 |               | 100     |       |       |    |      | ⊙    |       |      |     |    |     |     |
|                      |                                                 |               | 120     |       |       |    |      | ⊙    |       |      |     |    |     |     |
|                      |                                                 |               |         |       |       |    |      |      |       |      |     |    |     |     |
| Glycerol (Glycerine) | C <sub>3</sub> H <sub>5</sub> (OH) <sub>3</sub> | Pure          | 20      | ⊙     | ⊙     | ⊙  | ⊙    | ⊙    | ⊙     | ⊙    | ⊙   | ⊙  | ⊙   | ⊙   |
|                      |                                                 |               | 40      | ⊙     | ⊙     | ⊙  | ⊙    | ⊙    | ⊙     | ⊙    | ⊙   | ⊙  | ⊙   | ⊙   |
|                      |                                                 |               | 60      | ⊙     | ⊙     | ⊙  | ⊙    | ⊙    | ⊙     | ⊙    |     | ⊙  | ⊙   | ⊙   |
|                      |                                                 |               | 80      |       |       | ⊙  | ⊙    | ⊙    | ⊙     | ⊙    |     |    |     |     |
|                      |                                                 |               | 100     |       |       |    | ⊙    | ⊙    |       |      |     |    |     |     |
|                      |                                                 |               | 120     |       |       |    | ⊙    | ⊙    |       |      |     |    |     |     |
|                      |                                                 |               |         |       |       |    |      |      |       |      |     |    |     |     |
| Hydronromic Acid     | HBr                                             | 20            | 20      | ⊙     | ⊙     | ⊙  | ⊙    | ⊙    | ⊙     | ⊙    | △   | ⊙  | ⊙   | ⊙   |
|                      |                                                 |               | 40      | ⊙     | ⊙     | ⊙  | ⊙    | ⊙    | ⊙     | ⊙    | △   | ⊙  | ⊙   | ⊙   |
|                      |                                                 |               | 60      | ○     | ○     | ⊙  | ⊙    | ⊙    | ⊙     | ⊙    | ×   |    |     |     |
|                      |                                                 |               | 80      |       | ○     | ⊙  | ⊙    | ⊙    | ○     | ○    |     |    |     |     |
|                      |                                                 |               | 100     |       |       |    | ⊙    | ⊙    |       |      |     |    |     |     |
|                      |                                                 |               | 120     |       |       |    | ○    | ⊙    |       |      |     |    |     |     |
|                      |                                                 |               |         |       |       |    |      |      |       |      |     |    |     |     |
|                      |                                                 | 47            | 20      | ⊙     | ⊙     | ⊙  | ⊙    | ⊙    | ⊙     | ⊙    | △   | ⊙  | ⊙   | ⊙   |
|                      |                                                 |               | 40      | ⊙     | ⊙     | ⊙  | ⊙    | ⊙    | ⊙     | ⊙    | ×   | ⊙  | ⊙   | ⊙   |
|                      |                                                 |               | 60      | ○     | ○     | ⊙  | ⊙    | ⊙    | ○     | ⊙    |     | ⊙  | ⊙   | ⊙   |
|                      |                                                 |               | 80      |       | ○     | ⊙  | ⊙    | ⊙    | △     |      | ×   | ×  | ×   |     |
|                      |                                                 |               | 100     |       |       |    | ⊙    | ⊙    |       |      |     |    |     |     |
|                      |                                                 |               | 120     |       |       |    | ○    | ⊙    |       |      |     |    |     |     |
|                      |                                                 |               |         |       |       |    |      |      |       |      |     |    |     |     |
| Hydrochloric Acid    | HCl                                             | 25            | 20      | ⊙     | ⊙     | ⊙  | ⊙    | ⊙    | ⊙     |      |     |    |     |     |
|                      |                                                 |               | 40      | ⊙     | ⊙     | ⊙  | ⊙    | ⊙    | ⊙     |      |     |    |     |     |
|                      |                                                 |               | 60      | ⊙     | ⊙     | ⊙  | ⊙    | ⊙    | ⊙     |      |     |    |     |     |
|                      |                                                 |               | 80      |       | ⊙     | ⊙  | ⊙    | ⊙    | ○     |      |     |    |     |     |
|                      |                                                 |               | 100     |       |       |    | ⊙    | ⊙    | △     |      |     |    |     |     |
|                      |                                                 |               | 120     |       |       |    | ○    | ⊙    |       |      |     |    |     |     |
|                      |                                                 |               |         |       |       |    |      |      |       |      |     |    |     |     |
|                      |                                                 | 35            | 20      | ⊙     | ⊙     | ⊙  | ⊙    | ⊙    | ⊙     | ○    | △   | ×  | ○   | ○   |
|                      |                                                 |               | 40      | ⊙     | ⊙     | ⊙  | ⊙    | ⊙    | ○     | ○    | ×   |    | ○   | △   |
|                      |                                                 |               | 60      | ⊙     | ⊙     | ⊙  | ⊙    | ⊙    | ×     | ×    |     |    | ×   | ×   |
|                      |                                                 |               | 80      |       | ○     | ○  | ⊙    | ⊙    |       |      |     |    |     |     |
|                      |                                                 |               | 100     |       |       |    | ⊙    | ⊙    |       |      |     |    |     |     |
|                      |                                                 |               | 120     |       |       |    | △    | ⊙    |       |      |     |    |     |     |
|                      |                                                 |               |         |       |       |    |      |      |       |      |     |    |     |     |
| Iodine               | I <sub>2</sub>                                  |               | 20      | △     |       | ⊙  | ⊙    | ⊙    | ○     | ×    |     | ×  |     |     |
|                      |                                                 |               | 40      | ×     |       |    | ⊙    | ⊙    |       |      |     |    |     |     |
|                      |                                                 |               | 60      |       |       |    | ⊙    | ⊙    |       |      |     |    |     |     |
|                      |                                                 |               | 80      |       |       |    | ⊙    | ⊙    |       |      |     |    |     |     |
|                      |                                                 |               | 100     |       |       |    |      | ⊙    |       |      |     |    |     |     |
|                      |                                                 |               | 120     |       |       |    |      | ⊙    |       |      |     |    |     |     |

⊙ Excellent   ○ Good   △ Available   × Corrosion Not Recommended

| Chemicals             | Chemicals Formula   | Concentration | Temp °C | U-PVC | C-PVC | PP | PVDF | PTFE | VITON | EPDM | NBR | CR | IIR | CSM |
|-----------------------|---------------------|---------------|---------|-------|-------|----|------|------|-------|------|-----|----|-----|-----|
| Nitroselrouse lacguer |                     |               | 20      | ×     |       | ⊙  | ⊙    | ⊙    | △     | ×    | ×   | ×  | ×   | ×   |
|                       |                     |               | 40      |       |       |    |      | ⊙    |       |      |     |    |     |     |
|                       |                     |               | 60      |       |       |    |      | ⊙    |       |      |     |    |     |     |
|                       |                     |               | 80      |       |       |    |      | ⊙    |       |      |     |    |     |     |
|                       |                     |               | 100     |       |       |    |      | ⊙    |       |      |     |    |     |     |
|                       |                     |               | 120     |       |       |    |      |      |       |      |     |    |     |     |
| Mercury               | Hg                  |               | 20      | ⊙     | ⊙     | ⊙  | ⊙    | ⊙    | ⊙     | ⊙    | ⊙   | ⊙  | ⊙   | ⊙   |
|                       |                     |               | 40      | ⊙     | ⊙     | ⊙  | ⊙    | ⊙    | ⊙     | ⊙    | ⊙   | ⊙  | ⊙   | ⊙   |
|                       |                     |               | 60      | ⊙     | ⊙     | ⊙  | ⊙    | ⊙    | ⊙     | ⊙    | ⊙   | ⊙  | ⊙   | ⊙   |
|                       |                     |               | 80      |       | ⊙     | ⊙  | ⊙    | ⊙    | ⊙     | ⊙    | ⊙   | ⊙  | ⊙   | ⊙   |
|                       |                     |               | 100     |       |       |    | ⊙    | ⊙    |       |      |     |    |     |     |
|                       |                     |               | 120     |       |       |    | ⊙    | ⊙    |       |      |     |    |     |     |
| Metthane              | CH <sub>4</sub>     |               | 20      | ⊙     | ⊙     | ⊙  | ⊙    | ⊙    | ⊙     | ⊙    | ⊙   | ⊙  | ⊙   | ⊙   |
|                       |                     |               | 40      | ⊙     | ⊙     | ⊙  | ⊙    | ⊙    | ⊙     | ⊙    | ⊙   | ⊙  | ⊙   | ⊙   |
|                       |                     |               | 60      | ○     | ○     | ○  | ⊙    | ⊙    | ⊙     | ⊙    |     |    |     |     |
|                       |                     |               | 80      |       |       |    | ⊙    | ⊙    | ⊙     | ○    |     |    |     |     |
|                       |                     |               | 100     |       |       |    | ⊙    | ⊙    | ○     |      |     |    |     |     |
|                       |                     |               | 120     |       |       |    | ⊙    | ⊙    |       |      |     |    |     |     |
| Methyl Formate        | HCOOCH <sub>3</sub> |               | 20      |       |       |    | ⊙    | ⊙    | ×     | ○    | ×   |    |     |     |
|                       |                     |               | 40      |       |       |    | ○    | ⊙    |       |      |     |    |     |     |
|                       |                     |               | 60      |       |       |    | △    | ⊙    |       |      |     |    |     |     |
|                       |                     |               | 80      |       |       |    | △    | ⊙    |       |      |     |    |     |     |
|                       |                     |               | 100     |       |       |    |      |      |       |      |     |    |     |     |
|                       |                     |               | 120     |       |       |    |      |      |       |      |     |    |     |     |
| Natural Gas           |                     |               | 20      | ⊙     |       |    | ⊙    | ⊙    | ⊙     | ⊙    | ⊙   |    |     | ⊙   |
|                       |                     |               | 40      | ⊙     |       |    | ⊙    | ⊙    |       |      |     |    |     |     |
|                       |                     |               | 60      | ○     |       |    | ⊙    | ⊙    |       |      |     |    |     |     |
|                       |                     |               | 80      |       |       |    | ⊙    | ⊙    |       |      |     |    |     |     |
|                       |                     |               | 100     |       |       |    |      | ⊙    |       |      |     |    |     |     |
|                       |                     |               | 120     |       |       |    |      | ⊙    |       |      |     |    |     |     |
| Nitric                | HNO <sub>3</sub>    | 10            |         | ⊙     | ⊙     | ⊙  | ⊙    | ⊙    | ⊙     | ⊙    | ×   | ○  | ⊙   |     |
|                       |                     |               |         | ⊙     | ⊙     | ⊙  | ⊙    | ⊙    | ⊙     | ⊙    |     | ○  | ○   | ○   |
|                       |                     |               |         | ⊙     | ⊙     | ⊙  | ⊙    | ⊙    | ⊙     | ○    |     | ×  | △   | △   |
|                       |                     |               |         |       | ○     | ○  | ⊙    | ⊙    | ⊙     | ×    |     |    |     |     |
|                       |                     |               |         |       |       |    | ⊙    | ⊙    | ⊙     |      |     |    |     |     |
|                       |                     |               |         |       |       |    | ⊙    | ⊙    |       |      |     |    |     |     |
|                       |                     | 30            | 20      | ⊙     | ⊙     | ⊙  | ⊙    | ⊙    | ⊙     | ○    | ×   | ×  | ⊙   | ⊙   |
|                       |                     |               | 40      | ⊙     | ○     | ⊙  | ⊙    | ⊙    | ⊙     | ○    |     |    | ○   | ○   |
|                       |                     |               | 60      | ○     | △     | ⊙  | ⊙    | ⊙    | ○     | ×    |     |    | ○   | ×   |
|                       |                     |               | 80      |       | △     | ○  | ⊙    | ⊙    | △     |      |     |    |     |     |
|                       |                     |               | 100     |       |       |    | ⊙    | ⊙    | △     |      |     |    |     |     |
|                       |                     |               | 120     |       |       |    | ○    | ⊙    |       |      |     |    |     |     |
|                       |                     | 50            | 20      | ⊙     | ⊙     | ⊙  | ⊙    | ⊙    | ⊙     | ×    | ×   | ×  | ×   | △   |
|                       |                     |               | 40      | ○     | ○     | ○  | ⊙    | ⊙    | ○     |      |     |    |     |     |
|                       |                     |               | 60      | ○     | △     | △  | ⊙    | ⊙    | △     |      |     |    |     |     |
|                       |                     |               | 80      |       | △     | △  | ⊙    | ⊙    | △     |      |     |    |     |     |
|                       |                     |               | 100     |       |       |    | △    | ⊙    |       |      |     |    |     |     |
|                       |                     |               | 120     |       |       |    |      | ⊙    |       |      |     |    |     |     |

⊙ Excellent   ○ Good   △ Available   × Corrosion Not Recommended

| Chemicals     | Chemicals Formula              | Concentration | Temp °C | U-PVC | C-PVC | PP | PVDF | PTFE | VITON | EPDM | NBR | CR | IIR | CSM |
|---------------|--------------------------------|---------------|---------|-------|-------|----|------|------|-------|------|-----|----|-----|-----|
| Nitric Acid   | HNO <sub>3</sub>               | 70            | 20      | ⊙     | ○     | △  | ⊙    | ⊙    | △     | ×    | ×   | ×  | ×   | ×   |
|               |                                |               | 40      | ○     | △     | ×  | ⊙    | ⊙    | ×     |      |     |    |     |     |
|               |                                |               | 60      | ×     | ×     |    | ○    | ⊙    |       |      |     |    |     |     |
|               |                                |               | 80      |       |       |    | △    | ⊙    |       |      |     |    |     |     |
|               |                                |               | 100     |       |       |    | ×    | ⊙    |       |      |     |    |     |     |
|               |                                |               | 120     |       |       |    |      |      |       |      |     |    |     |     |
|               |                                | 80            | 20      | ×     | ×     | ×  | ⊙    | ⊙    | △     | ×    | ×   | ×  | ×   | ×   |
|               |                                |               | 40      |       |       |    | ○    | ○    |       |      |     |    |     |     |
| Nitrous Acid  | HNO <sub>2</sub>               | 10            | 60      |       |       |    | ×    | ○    |       |      |     |    |     |     |
|               |                                |               | 80      |       |       |    |      | △    |       |      |     |    |     |     |
|               |                                |               | 100     |       |       |    |      | △    |       |      |     |    |     |     |
|               |                                |               | 120     |       |       |    |      |      |       |      |     |    |     |     |
|               |                                | 10            | 20      |       |       | △  | ⊙    | ⊙    | ⊙     | ○    | ×   |    |     |     |
|               |                                |               | 40      |       |       | ×  | ⊙    | ⊙    |       |      |     |    |     |     |
| Sulfuric Acid | H <sub>2</sub> SO <sub>4</sub> | 10            | 60      |       |       |    | ⊙    | ⊙    |       |      |     |    |     |     |
|               |                                |               | 80      |       |       |    | ⊙    | ⊙    |       |      |     |    |     |     |
|               |                                |               | 100     |       |       |    |      |      |       |      |     |    |     |     |
|               |                                |               | 120     |       |       |    |      |      |       |      |     |    |     |     |
|               |                                | 30            | 20      | ⊙     | ⊙     | ⊙  | ⊙    | ⊙    | ⊙     | ⊙    | ⊙   | ⊙  | ⊙   | ⊙   |
|               |                                |               | 40      | ⊙     | ⊙     | ⊙  | ⊙    | ⊙    | ⊙     | ⊙    | ⊙   | ⊙  | ⊙   | ⊙   |
|               |                                |               | 60      | ⊙     | ⊙     | ⊙  | ⊙    | ⊙    | ⊙     | ⊙    | ⊙   | ○  | ⊙   | ⊙   |
|               |                                |               | 80      |       | ⊙     | ⊙  | ⊙    | ⊙    | ⊙     | ○    | ○   | ○  | ○   | ○   |
|               |                                |               | 100     |       |       |    | ⊙    | ⊙    | ⊙     |      |     |    |     |     |
|               |                                |               | 120     |       |       |    | ⊙    | ⊙    | ⊙     |      |     |    |     |     |
|               |                                | 50            | 20      | ⊙     | ⊙     | ⊙  | ⊙    | ⊙    | ⊙     | ⊙    | ⊙   | ○  | ⊙   | ⊙   |
|               |                                |               | 40      | ⊙     | ⊙     | ⊙  | ⊙    | ⊙    | ⊙     | ⊙    | ○   | ○  | ⊙   | ⊙   |
|               |                                |               | 60      | ⊙     | ⊙     | ⊙  | ⊙    | ⊙    | ⊙     | ⊙    | ○   | ○  | ⊙   | ⊙   |
|               |                                |               | 80      |       | ⊙     | ⊙  | ⊙    | ⊙    | ⊙     | ○    | △   |    | ○   | ○   |
|               |                                |               | 100     |       |       |    | ⊙    | ⊙    | ⊙     |      |     |    |     |     |
|               |                                |               | 120     |       |       |    | ○    | ⊙    | ⊙     |      |     |    |     |     |
|               |                                | 60            | 20      | ⊙     | ⊙     | ⊙  | ⊙    | ⊙    | ⊙     | ⊙    | ⊙   | ○  | ⊙   | ⊙   |
|               |                                |               | 40      | ⊙     | ⊙     | ⊙  | ⊙    | ⊙    | ⊙     | ⊙    | ⊙   | ○  | ⊙   | ⊙   |
|               |                                |               | 60      | ⊙     | ⊙     | ⊙  | ⊙    | ⊙    | ⊙     | ⊙    | ⊙   | △  | ⊙   | ⊙   |
|               |                                |               | 80      |       | ○     | ⊙  | ⊙    | ⊙    | ⊙     | △    | ○   |    | △   | △   |
|               |                                |               | 100     |       |       |    | ⊙    | ⊙    | ○     |      |     |    |     |     |
|               |                                |               | 120     |       |       |    | △    | ⊙    | △     |      |     |    |     |     |
|               |                                | 70            | 20      | ⊙     | ⊙     | ⊙  | ⊙    | ⊙    | ⊙     | ⊙    | ○   | ○  | ⊙   | ⊙   |
|               |                                |               | 40      | ⊙     | ⊙     | ⊙  | ⊙    | ⊙    | ⊙     | ⊙    | ○   | ○  | ○   | ○   |
|               |                                |               | 60      | ⊙     | ⊙     | ⊙  | ⊙    | ⊙    | ⊙     | ○    | ○   | △  | ○   | ○   |
|               |                                |               | 80      |       | ○     | ○  | ⊙    | ⊙    | ⊙     | ×    | ×   |    | ×   | ×   |
|               |                                |               | 100     |       |       |    | ⊙    | ⊙    | ○     |      |     |    |     |     |
|               |                                |               | 120     |       |       |    | △    | ○    | △     |      |     |    |     |     |

⊙ Excellent    ○ Good    △ Available    × Corrosion Not Recommended

| Chemicals     | Chemicals Formula              | Concentration | Temp °C | U-PVC | C-PVC | PP | PVDF | PTFE | VITON | EPDM | NBR | CR | IIR | CSM |
|---------------|--------------------------------|---------------|---------|-------|-------|----|------|------|-------|------|-----|----|-----|-----|
| Sulfuric Acid | H <sub>2</sub> SO <sub>4</sub> | 80            | 20      | ⊙     | ⊙     | ⊙  | ⊙    | ⊙    | ⊙     | ⊙    | ○   | ×  | ○   | ○   |
|               |                                |               | 40      | ⊙     | ⊙     | ⊙  | ⊙    | ⊙    | ⊙     | ⊙    | ○   |    | ○   | ○   |
|               |                                |               | 60      | ○     | ○     | ○  | ⊙    | ⊙    | ⊙     | ○    | △   |    | ○   | △   |
|               |                                |               | 80      |       | △     | ○  | ⊙    | ⊙    | ○     | ×    | ×   |    | ×   | ×   |
|               |                                |               | 100     |       |       |    | ○    | ⊙    | △     |      |     |    |     |     |
|               |                                |               | 120     |       |       |    | ×    | ○    |       |      |     |    |     |     |
|               |                                | 90            | 20      | ⊙     | ⊙     | ⊙  | ⊙    | ⊙    | ⊙     | ○    | △   | ×  | ○   | ○   |
|               |                                |               | 40      | ○     | ⊙     | ⊙  | ⊙    | ⊙    | ⊙     | ○    | △   |    | ○   | ○   |
|               |                                |               | 60      | ○     | ○     | ○  | ⊙    | ⊙    | ⊙     | △    | △   |    | ○   | △   |
|               |                                |               | 80      |       | △     | ○  | ⊙    | ⊙    | ○     | ×    | ×   |    | ×   | ×   |
|               |                                |               | 100     |       |       |    | ○    | ⊙    | △     |      |     |    |     |     |
|               |                                |               | 120     |       |       |    | ×    | ○    | ×     |      |     |    |     |     |
|               |                                | 93            | 20      | ⊙     | ⊙     | ⊙  | ⊙    | ⊙    | ⊙     | ○    | △   | ×  | ×   | ×   |
|               |                                |               | 40      | ○     | ○     | ⊙  | ⊙    | ⊙    | ⊙     | ○    | ×   |    |     |     |
|               |                                |               | 60      | ○     | ○     | ○  | ⊙    | ⊙    | ⊙     | △    |     |    |     |     |
|               |                                |               | 80      |       | △     | ○  | ⊙    | ⊙    | ○     | ×    |     |    |     |     |
|               |                                |               | 100     |       |       | △  | ○    | ⊙    | ×     |      |     |    |     |     |
|               |                                |               | 120     |       |       |    | ×    | ○    |       |      |     |    |     |     |
|               |                                | 94            | 20      | ⊙     | ⊙     | ○  | ⊙    | ⊙    | ⊙     | △    | ×   | ×  | ×   | ×   |
|               |                                |               | 40      | ○     | ○     | ○  | ⊙    | ⊙    | ○     | ×    |     |    |     |     |
|               |                                |               | 60      | ○     | △     | ○  | ⊙    | ⊙    | △     |      |     |    |     |     |
|               |                                |               | 80      |       |       | △  | ○    | ⊙    | △     |      |     |    |     |     |
|               |                                |               | 100     |       |       |    | △    | ⊙    |       |      |     |    |     |     |
|               |                                |               | 120     |       |       |    | ×    | ○    |       |      |     |    |     |     |
|               |                                | 95            | 20      | ⊙     | ⊙     | △  | ⊙    | ⊙    | ⊙     | ×    | ×   | ×  | ×   | ×   |
|               |                                |               | 40      | ○     | ○     |    | ⊙    | ⊙    | △     |      |     |    |     |     |
|               |                                |               | 60      | △     | △     |    | ⊙    | ⊙    | △     |      |     |    |     |     |
|               |                                |               | 80      |       |       |    | ○    | ⊙    |       |      |     |    |     |     |
|               |                                |               | 100     |       |       |    | △    | ⊙    |       |      |     |    |     |     |
|               |                                |               | 120     |       |       |    | ×    | ○    |       |      |     |    |     |     |
|               |                                | 96            | 20      | ⊙     | ○     | ×  | ⊙    | ⊙    | ○     | ×    | ×   | ×  | ×   | ×   |
|               |                                |               | 40      | △     | △     |    | ⊙    | ⊙    | △     |      |     |    |     |     |
|               |                                |               | 60      | ×     | ×     |    | ⊙    | ⊙    | ×     |      |     |    |     |     |
|               |                                |               | 80      |       |       |    | ⊙    | ⊙    |       |      |     |    |     |     |
|               |                                |               | 100     |       |       |    | △    | ⊙    |       |      |     |    |     |     |
|               |                                |               | 120     |       |       |    | ×    | ○    |       |      |     |    |     |     |
|               |                                | 98            | 20      | ○     | ○     | ×  | ⊙    | ⊙    | ×     | ×    | ×   | ×  | ×   | ×   |
|               |                                |               | 40      | △     | △     |    | ⊙    | ⊙    |       |      |     |    |     |     |
|               |                                |               | 60      | ×     | ×     |    | ○    | ⊙    |       |      |     |    |     |     |
|               |                                |               | 80      |       |       |    | △    | ⊙    |       |      |     |    |     |     |
|               |                                |               | 100     |       |       |    | ×    | ○    |       |      |     |    |     |     |
|               |                                |               | 120     |       |       |    |      | ○    |       |      |     |    |     |     |
|               |                                | 100           | 20      | ×     | ×     | ×  | ×    | ⊙    | ×     | ×    | ×   | ×  | ×   | ×   |
|               |                                |               | 40      |       |       |    |      | ⊙    |       |      |     |    |     |     |
|               |                                |               | 60      |       |       |    |      |      |       |      |     |    |     |     |
|               |                                |               | 80      |       |       |    |      |      |       |      |     |    |     |     |
|               |                                |               | 100     |       |       |    |      |      |       |      |     |    |     |     |
|               |                                |               | 120     |       |       |    |      |      |       |      |     |    |     |     |

⊙ Excellent    ○ Good    △ Available    × Corrosion Not Recommended

| Chemicals      | Chemicals Formula                                             | Concentration | Temp °C | U-PVC | C-PVC | PP | PVDF | PTFE | VITON | EPDM | NBR | CR | IIR |
|----------------|---------------------------------------------------------------|---------------|---------|-------|-------|----|------|------|-------|------|-----|----|-----|
| Sulfurous Acid | H <sub>2</sub> SO <sub>3</sub>                                |               | 20      | ⊙     | ⊙     | ⊙  | ⊙    | ⊙    | ⊙     | ⊙    | △   | ○  | ⊙   |
|                |                                                               |               | 40      | ⊙     | ⊙     | ⊙  | ⊙    | ⊙    | ⊙     | ⊙    |     | △  | ⊙   |
|                |                                                               |               | 60      | ⊙     | ⊙     | ⊙  | ⊙    | ⊙    | ⊙     | ○    |     |    | ○   |
|                |                                                               |               | 80      |       | ○     | ⊙  | ⊙    | ⊙    | ○     | △    |     |    | △   |
|                |                                                               |               | 100     |       |       |    | ⊙    | ⊙    | △     |      |     |    |     |
|                |                                                               |               | 120     |       |       |    |      | ⊙    |       |      |     |    |     |
| Toluene        | C <sub>6</sub> H <sub>5</sub> CH <sub>3</sub>                 |               | 20      | ×     | ×     | ⊙  | ⊙    | ⊙    | ⊙     | ×    | ×   | ×  | ×   |
|                |                                                               |               | 40      |       |       | △  | ⊙    | ⊙    |       |      |     |    |     |
|                |                                                               |               | 60      |       |       | ×  | ○    | ⊙    |       |      |     |    |     |
|                |                                                               |               | 80      |       |       |    | ○    | ⊙    |       |      |     |    |     |
|                |                                                               |               | 100     |       |       |    | △    | ○    |       |      |     |    |     |
|                |                                                               |               | 120     |       |       |    |      | △    |       |      |     |    |     |
| Vinegar        |                                                               |               | 20      | ⊙     | ⊙     | ⊙  | ⊙    | ⊙    | ⊙     | ⊙    | △   | ⊙  | ⊙   |
|                |                                                               |               | 40      | ⊙     | ⊙     | ⊙  | ⊙    | ⊙    | ⊙     | ⊙    |     | ⊙  | ⊙   |
|                |                                                               |               | 60      | ⊙     | ⊙     | ⊙  | ⊙    | ⊙    | ⊙     | ⊙    |     | ⊙  | ⊙   |
|                |                                                               |               | 80      |       | ○     | ⊙  | ⊙    | ⊙    |       |      |     |    |     |
|                |                                                               |               | 100     |       |       |    | ○    | ⊙    |       |      |     |    |     |
|                |                                                               |               | 120     |       |       |    | ○    | ⊙    |       |      |     |    |     |
| Potable Water  |                                                               |               | 20      | ⊙     | ⊙     | ⊙  | ⊙    | ⊙    | ⊙     | ⊙    | ⊙   | ⊙  | ⊙   |
|                |                                                               |               | 40      | ⊙     | ⊙     | ⊙  | ⊙    | ⊙    | ⊙     | ⊙    | ⊙   | ⊙  | ⊙   |
|                |                                                               |               | 60      | ⊙     | ⊙     | ⊙  | ⊙    | ⊙    | ⊙     | ⊙    | ⊙   | ⊙  | ⊙   |
|                |                                                               |               | 80      |       | ⊙     | ⊙  | ⊙    | ⊙    | ⊙     | ⊙    | ⊙   | ⊙  | ⊙   |
|                |                                                               |               | 100     |       |       |    | ⊙    | ⊙    |       |      |     |    |     |
|                |                                                               |               | 120     |       |       |    | ⊙    | ⊙    |       |      |     |    |     |
| Xylene         | C <sub>6</sub> H <sub>4</sub> (CH <sub>3</sub> ) <sub>2</sub> |               | 20      | ×     | ×     | ×  | ⊙    | ⊙    | ○     | ×    | △   | ×  | ×   |
|                |                                                               |               | 40      |       |       |    | ⊙    | ⊙    |       |      |     |    |     |
|                |                                                               |               | 60      |       |       |    | ⊙    | ⊙    |       |      |     |    |     |
|                |                                                               |               | 80      |       |       |    | ⊙    | ⊙    |       |      |     |    |     |
|                |                                                               |               | 100     |       |       |    | ⊙    | ⊙    |       |      |     |    |     |
|                |                                                               |               | 120     |       |       |    |      | ⊙    |       |      |     |    |     |

## Application>>





**SWD**

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