

PVDF Pining systems

PVDF is an extremely pure polymer and contains in comparison with a lot of other plastics no stabilizers UV-, Thermostabilizers, softener, lubricants or flame-retardant additives. Its particular suitable for ultra-pure water constructions and for the transport of clear chemical liquids in the semi-conductor industry. Due to its chemical inertness, reaction against most media is nearly impossible.

Advantages of PVDF

- * Wide temperature range, high heat deflection temperature
- * Very good chemical resistance, even in connection with high temperatures
- * good resistance against UV- and γ -radiations therefore high ageing resistance
- * Excellent abrasion resistance
- * Low friction coefficient
- * Good mechanical properties
- * Excellent insulaing characteristics in connection with very good electrical values
- * Flame retarding
- * Physiologically non-toxic
- * Good and easy processing
- * Good weldability
- * Good heat formability

Solubility

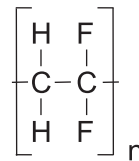
PVDF homopolymere swells in high polar solvents e.g.

- * Acetone
- * Ethyl acetate

Soluble in polar solvents e.g.

- * Dimethylformamide
- * Dimethylacetamide

Chemical structure



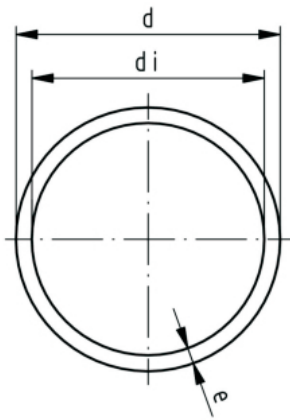
Application

- * Semiconductor
- * Glass etching
- * Electroplating
- * Water treatment
- * Photovoltaic
- * Iron and steel
- * Chemical industry
- * Electric power

Technical characteristics

| | Property | Standard | Unit | Data |
|---|---------------------------------------|--------------------------------|------------------------------------|------------------|
| | Specific density at 23°C | ISO 1183 | g/cm ³ | 1.78 |
| | Melt flow index MFR 230/5 | ISO 1133 | g/10min | 6 |
| Mechanical Properties | Tensile stress at yield | ISO 527 | Mpa | 50 |
| | Elongation at yield | ISO 527 | % | 9 |
| | Elongation at break | ISO 527 | % | 80 |
| | Impact strength unnotched at 23°C | ISO 179 | KJ/m ³ | 124 |
| | Impact strength notched at 23°C | ISO 179 | KJ/m ³ | 11 |
| | Flexural strength | ISO 178 | Mpa | 80 |
| | Modulus of elasticity | ISO 527 | Mpa | 2000 |
| | Thermal Properties | Vicat-Softening point VST/B/50 | ISO 306 | °C |
| Heat deflection temperature HDT/B | | ISO 75 | °C | 145 |
| Linear coefficient of thermal expansion | | DIN 53752 | K ⁻¹ × 10 ⁻⁴ | 1.2 |
| Thermal conductivity at 20°C | | DIN 52612 | W/(m×k) | 0.2 |
| Flammability | | UL 94 | - | V-0 |
| Electrical Properties | Specific volume resistance | VDE 0303 | OHM cm | 10 ¹³ |
| | Specific surface resistance | VDE 0303 | OHM | 10 ¹² |
| | Relative dielectric constant at 1 MHz | DIN 53483 | - | 7.25 |
| | Dielectric strength | VDE 0303 | KV/mm | 22 |
| | Physiologically non-toxic | EEC 90/128 | - | YES |
| | FDA | - | - | YES |
| | UV stabilized | - | - | YES |
| | Colour | - | - | Natural |

Note: The mentioned values are recommend values for the particular material
Part of the data comes from raw material manufacturers

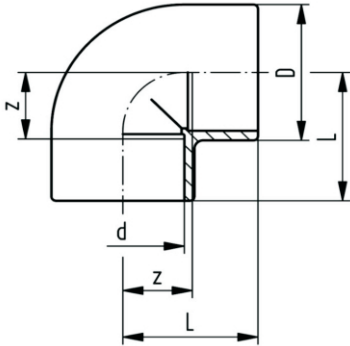


Pipe 4m PVDF SDR21 PN16

| d (mm) | PN (bar) | code | weight (kg/m) | di (mm) | e (mm) | L (mm) |
|-----------|-------------|---------------|------------------|------------|-----------|-----------|
| 16 | 16 | 000.00.016.16 | 0,14 | 12,2 | 1,5 | 4,000 |
| 20 | 16 | 000.00.020.16 | 0,21 | 16,2 | 1,9 | 4,000 |
| 25 | 16 | 000.00.025.16 | 0,27 | 21,2 | 1,9 | 4,000 |
| 32 | 16 | 000.00.032.16 | 0,44 | 27,2 | 2,4 | 4,000 |
| 40 | 16 | 000.00.040.16 | 0,55 | 35,2 | 2,4 | 4,000 |
| 50 | 16 | 000.00.050.16 | 0,85 | 44,0 | 3,0 | 4,000 |
| 63 | 16 | 000.00.063.16 | 1,09 | 57,0 | 3,0 | 4,000 |
| 75 | 16 | 000.00.075.16 | 1,55 | 67,8 | 3,6 | 4,000 |
| 90 | 16 | 000.00.090.16 | 2,22 | 81,4 | 4,3 | 4,000 |
| 110 | 16 | 000.00.110.16 | 3,32 | 99,4 | 5,3 | 4,000 |
| 125 | 16 | 000.00.125.16 | 4,24 | 113,0 | 6,0 | 4,000 |
| 140 | 16 | 000.00.140.16 | 5,31 | 126,6 | 6,7 | 4,000 |
| 160 | 16 | 000.00.160.16 | 6,96 | 144,6 | 7,7 | 4,000 |

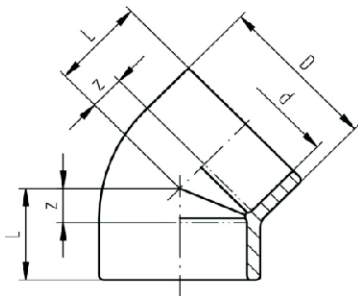
Pipe 4m PVDF SDR33 PN10

| d (mm) | PN (bar) | code | weight (kg/m) | di (mm) | e (mm) | L (mm) |
|-----------|-------------|---------------|------------------|------------|-----------|-----------|
| 63 | 10 | 000.01.063.10 | 0,93 | 58,0 | 2,5 | 4,000 |
| 75 | 10 | 000.01.075.10 | 1,11 | 70,0 | 2,5 | 4,000 |
| 90 | 10 | 000.01.090.10 | 1,48 | 84,4 | 2,8 | 4,000 |
| 110 | 10 | 000.01.110.10 | 2,20 | 103,2 | 3,4 | 4,000 |
| 125 | 10 | 000.01.125.10 | 2,84 | 117,2 | 3,9 | 4,000 |
| 140 | 10 | 000.01.140.10 | 3,52 | 131,4 | 4,3 | 4,000 |
| 160 | 10 | 000.01.160.10 | 4,54 | 150,2 | 4,9 | 4,000 |



Elbow 90° Socket-end PVDF PN16

| d (mm) | PN (bar) | code | weight (kg) | D (mm) | L (mm) | z (mm) |
|-----------|-------------|---------------|----------------|-----------|-----------|-----------|
| 20 | 16 | 010.00.020.16 | 0,04 | 29 | 31,0 | 15 |
| 25 | 16 | 010.00.025.16 | 0,06 | 35 | 33,0 | 15 |
| 32 | 16 | 010.00.032.16 | 0,10 | 43 | 40,5 | 21 |
| 40 | 16 | 010.00.040.16 | 0,16 | 52 | 46,5 | 25 |
| 50 | 16 | 010.00.050.16 | 0,27 | 64 | 54,5 | 30 |
| 63 | 16 | 010.00.063.16 | 0,48 | 81 | 63,0 | 35 |
| 75 | 16 | 010.00.075.16 | 0,59 | 92 | 71,5 | 39 |
| 90 | 16 | 010.00.090.16 | 1,09 | 113 | 86,0 | 50 |
| 110 | 16 | 010.00.110.16 | 1,55 | 133 | 100,5 | 59 |

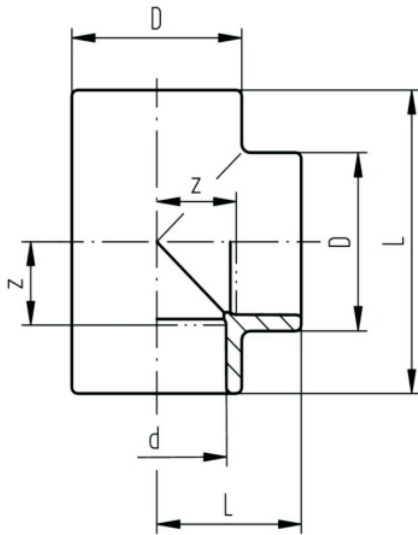


Elbow 45° Socket-end PVDF PN16

| d (mm) | PN (bar) | code | weight (kg) | D (mm) | L (mm) | z (mm) |
|-----------|-------------|---------------|----------------|-----------|-----------|-----------|
| 20 | 16 | 010.01.020.16 | 0,04 | 30 | 21,0 | 5 |
| 25 | 16 | 010.01.025.16 | 0,06 | 35 | 24,0 | 6 |
| 32 | 16 | 010.01.032.16 | 0,10 | 43 | 26,0 | 7 |
| 40 | 16 | 010.01.040.16 | 0,16 | 52 | 30,5 | 9 |
| 50 | 16 | 010.01.050.16 | 0,27 | 64 | 35,0 | 11 |
| 63 | 16 | 010.01.063.16 | 0,48 | 81 | 45,0 | 16 |
| 75 | 16 | 010.01.075.16 | 0,59 | 92 | 48,0 | 16 |
| 90 | 16 | 010.01.090.16 | 1,09 | 113 | 55,5 | 19 |
| 110 | 16 | 010.01.110.16 | 1,55 | 133 | 68,5 | 27 |



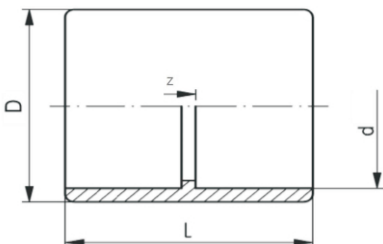
Tee Socket-end PVDF PN16



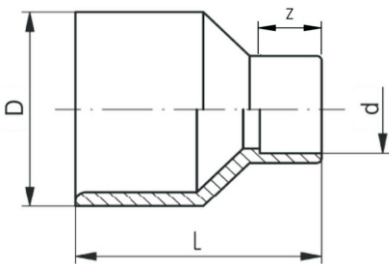
| d (mm) | PN (bar) | code | weight (kg) | D (mm) | L (mm) | z (mm) |
|-----------|-------------|---------------|----------------|-----------|-----------|-----------|
| 20 | 16 | 020.00.020.16 | 0,06 | 29 | 60 | 14,5 |
| 25 | 16 | 020.00.025.16 | 0,07 | 35 | 68 | 16,5 |
| 32 | 16 | 020.00.032.16 | 0,13 | 43 | 80 | 20,5 |
| 40 | 16 | 020.00.040.16 | 0,20 | 52 | 94 | 25,5 |
| 50 | 16 | 020.00.050.16 | 0,33 | 64 | 108 | 30,0 |
| 63 | 16 | 020.00.063.16 | 0,59 | 81 | 125 | 35,5 |
| 75 | 16 | 020.00.075.16 | 0,75 | 92 | 153 | 42,5 |
| 90 | 16 | 020.00.090.16 | 1,49 | 113 | 183 | 53,5 |
| 110 | 16 | 020.00.110.16 | 1,98 | 133 | 208 | 61,5 |



Socket Adaptor PVDF PN16

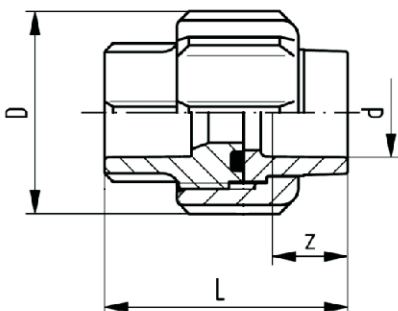


| d (mm) | PN (bar) | code | weight (kg) | D (mm) | L (mm) | z (mm) |
|-----------|-------------|---------------|----------------|-----------|-----------|-----------|
| 20 | 16 | 030.00.020.16 | 0,03 | 29 | 35 | 4 |
| 25 | 16 | 030.00.025.16 | 0,03 | 35 | 39 | 4 |
| 32 | 16 | 030.00.032.16 | 0,05 | 43 | 43 | 4 |
| 40 | 16 | 030.00.040.16 | 0,07 | 52 | 47 | 5 |
| 50 | 16 | 030.00.050.16 | 0,13 | 64 | 52 | 6 |
| 63 | 16 | 030.00.063.16 | 0,23 | 81 | 60 | 4 |
| 75 | 16 | 030.00.075.16 | 0,29 | 92 | 70 | 5 |
| 90 | 16 | 030.00.090.16 | 0,58 | 113 | 78 | 5 |
| 110 | 16 | 030.00.110.16 | 0,76 | 133 | 90 | 5 |



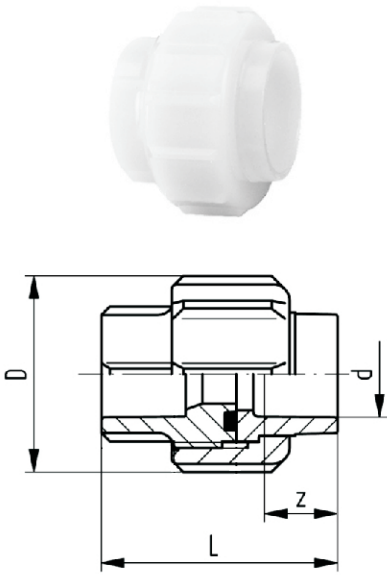
Reducer concentric Socket-end PVDF PN16

| d (mm) | PN (bar) | code | weight (kg) | D (mm) | L (mm) | z (mm) |
|-----------|-------------|---------------|----------------|-----------|-----------|-----------|
| 25/20 | 16 | 030.01.2520.6 | 0,02 | 29 | 40 | 15,5 |
| 32/20 | 16 | 030.01.3220.6 | 0,03 | 43 | 44 | 15,5 |
| 32/25 | 16 | 030.01.3225.6 | 0,04 | 43 | 44 | 17,5 |
| 40/20 | 16 | 030.01.4020.6 | 0,03 | 52 | 49 | 15,5 |
| 40/25 | 16 | 030.01.4025.6 | 0,05 | 52 | 49 | 17,5 |
| 40/32 | 16 | 030.01.4032.6 | 0,04 | 52 | 49 | 20,2 |
| 50/20 | 16 | 030.01.5020.6 | 0,06 | 64 | 55 | 15,5 |
| 50/25 | 16 | 030.01.5025.6 | 0,07 | 64 | 55 | 17,5 |
| 50/32 | 16 | 030.01.5032.6 | 0,08 | 64 | 55 | 20,2 |
| 50/40 | 16 | 030.01.5040.6 | 0,09 | 64 | 55 | 25,0 |
| 63/25 | 16 | 030.01.6325.6 | 0,11 | 81 | 64 | 17,5 |
| 63/32 | 16 | 030.01.6332.6 | 0,12 | 81 | 64 | 20,2 |
| 63/40 | 16 | 030.01.6340.6 | 0,13 | 81 | 64 | 20,5 |
| 63/50 | 16 | 030.01.6350.6 | 0,15 | 81 | 64 | 24,6 |
| 75/50 | 16 | 030.01.7550.6 | 0,18 | 92 | 64 | 24,6 |
| 75/63 | 16 | 030.01.7563.6 | 0,21 | 92 | 64 | 29,0 |
| 90/63 | 16 | 030.01.9063.6 | 0,35 | 113 | 87 | 29,0 |
| 90/75 | 16 | 030.01.9075.6 | 0,36 | 113 | 87 | 33,0 |
| 110/63 | 16 | 030.01.1163.6 | 0,48 | 133 | 87 | 29,0 |
| 110/90 | 16 | 030.01.1190.6 | 0,58 | 133 | 87 | 35,5 |



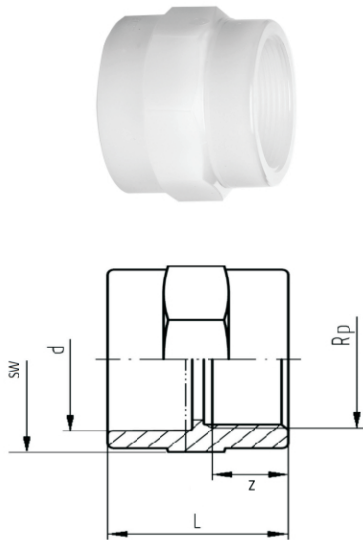
Union Socket-end PVDF-EPDM PN16

| d (mm) | PN (bar) | code | weight (kg) | D (mm) | L (mm) | z (mm) |
|-----------|-------------|---------------|----------------|-----------|-----------|-----------|
| 20 | 16 | 040.00.020.16 | 0,06 | 47 | 45 | 16 |
| 25 | 16 | 040.00.025.16 | 0,10 | 57 | 49 | 18 |
| 32 | 16 | 040.00.032.16 | 0,14 | 64 | 53 | 20 |
| 40 | 16 | 040.00.040.16 | 0,22 | 78 | 59 | 22 |
| 50 | 16 | 040.00.050.16 | 0,28 | 89 | 67 | 24 |
| 63 | 16 | 040.00.063.16 | 0,50 | 109 | 79 | 29 |



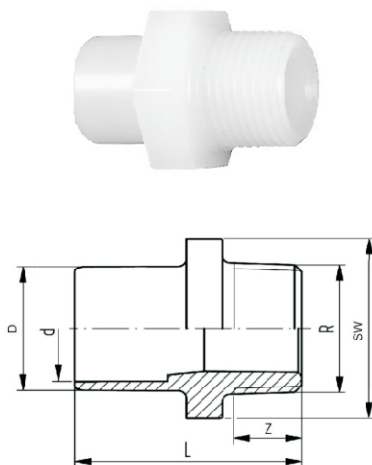
Union Socket-end PVDF-FPM PN16

| d (mm) | PN (bar) | code | weight (kg) | D (mm) | L (mm) | z (mm) |
|-----------|-------------|---------------|----------------|-----------|-----------|-----------|
| 20 | 16 | 040.01.020.16 | 0,06 | 47 | 45 | 16 |
| 25 | 16 | 040.01.025.16 | 0,10 | 57 | 49 | 18 |
| 32 | 16 | 040.01.032.16 | 0,14 | 64 | 53 | 20 |
| 40 | 16 | 040.01.040.16 | 0,22 | 78 | 59 | 22 |
| 50 | 16 | 040.01.050.16 | 0,28 | 89 | 67 | 24 |
| 63 | 16 | 040.01.063.16 | 0,50 | 109 | 79 | 29 |



Adaptor Female Thread R-thread Socket-end PVDF PN16

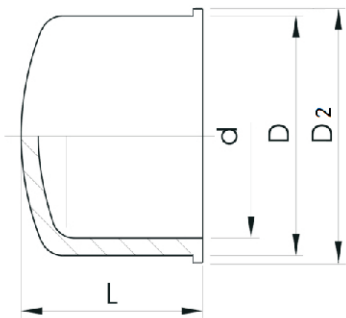
| R (inch) | d (mm) | PN (bar) | code | weight (kg) | SW (mm) | L (mm) | z (mm) |
|-------------|-----------|-------------|---------------|----------------|------------|-----------|-----------|
| 1/2 | 20 | 16 | 070.00.020.16 | 0,04 | 32 | 45 | 16 |
| 3/4 | 25 | 16 | 070.00.025.16 | 0,06 | 41 | 50 | 18 |
| 1 | 32 | 16 | 070.00.032.16 | 0,09 | 46 | 57 | 20 |
| 1-1/4 | 40 | 16 | 070.00.040.16 | 0,15 | 55 | 62 | 24 |
| 1-1/2 | 50 | 16 | 070.00.050.16 | 0,22 | 70 | 68 | 26 |
| 2 | 63 | 16 | 070.00.063.16 | 0,40 | 85 | 74 | 30 |



Adaptor Male Thread R-thread Socket-end PVDF PN16

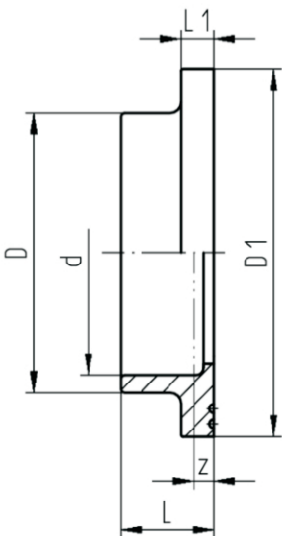
| R (inch) | d (mm) | PN (bar) | code | weight (kg) | SW (mm) | L (mm) | z (mm) |
|-------------|-----------|-------------|---------------|----------------|------------|-----------|-----------|
| 1/2 | 20 | 16 | 070.02.020.16 | 0,04 | 29 | 51 | 16 |
| 3/4 | 25 | 16 | 070.02.025.16 | 0,06 | 34 | 61 | 18 |
| 1 | 32 | 16 | 070.02.032.16 | 0,09 | 42 | 66 | 20 |
| 1-1/4 | 40 | 16 | 070.02.040.16 | 0,15 | 51 | 74 | 24 |
| 1-1/2 | 50 | 16 | 070.02.050.16 | 0,22 | 62 | 78 | 26 |
| 2 | 63 | 16 | 070.02.063.16 | 0,40 | 77 | 84 | 30 |

End Cap Socket-end PVDF PN16

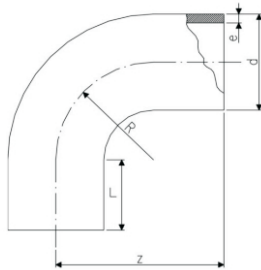


| d (mm) | PN (bar) | code | weight (kg) | D (mm) | L (mm) | D2 (mm) |
|-----------|-------------|---------------|----------------|-----------|-----------|------------|
| 20 | 16 | 060.00.020.16 | 0,02 | 29 | 27 | 32 |
| 25 | 16 | 060.00.025.16 | 0,03 | 35 | 30 | 37 |
| 32 | 16 | 060.00.032.16 | 0,05 | 43 | 35 | 46 |
| 40 | 16 | 060.00.040.16 | 0,07 | 52 | 39 | 57 |
| 50 | 16 | 060.00.050.16 | 0,13 | 64 | 49 | 69 |
| 63 | 16 | 060.00.063.16 | 0,24 | 81 | 59 | 86 |
| 75 | 16 | 060.00.075.16 | 0,30 | 92 | 66 | 97 |
| 90 | 16 | 060.00.090.16 | 0,53 | 113 | 77 | 119 |
| 110 | 16 | 060.00.110.16 | 0,81 | 133 | 92 | 139 |

Flange Adaptor Socket-end PVDF PN16



| d (mm) | PN (bar) | code | weight (kg) | D (mm) | D1 (mm) | L (mm) | L1 (mm) |
|-----------|-------------|---------------|----------------|-----------|------------|-----------|------------|
| 20 | 16 | 050.00.020.16 | 0,02 | 27 | 45 | 21 | 6 |
| 25 | 16 | 050.00.025.16 | 0,03 | 33 | 58 | 22 | 7 |
| 32 | 16 | 050.00.032.16 | 0,05 | 41 | 68 | 25 | 7 |
| 40 | 16 | 050.00.040.16 | 0,07 | 50 | 78 | 26 | 8 |
| 50 | 16 | 050.00.050.16 | 0,13 | 61 | 88 | 30 | 8 |
| 63 | 16 | 050.00.063.16 | 0,24 | 76 | 102 | 33 | 9 |
| 75 | 16 | 050.00.075.16 | 0,30 | 90 | 122 | 37 | 10 |
| 90 | 16 | 050.00.090.16 | 0,53 | 109 | 125 | 41 | 11 |
| 110 | 16 | 050.00.110.16 | 0,81 | 131 | 150 | 48 | 12 |



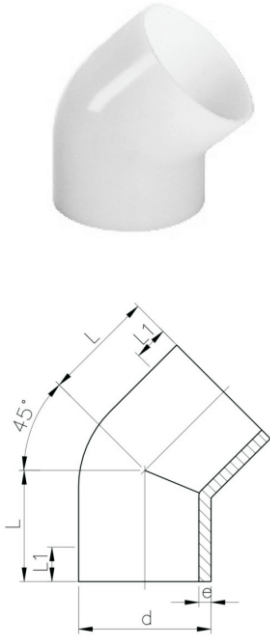
Elbow 90° Butt + IR PVDF SDR21 PN16

| d (mm) | PN (bar) | code | weight (kg) | e (mm) | z (mm) | R (mm) | L (mm) |
|-----------|-------------|---------------|----------------|-----------|-----------|-----------|-----------|
| 16 | 16 | 010.02.016.16 | 0,01 | 1,9 | 39 | 16 | 24 |
| 20 | 16 | 010.02.020.16 | 0,02 | 1,9 | 51 | 20 | 33 |
| 25 | 16 | 010.02.025.16 | 0,04 | 1,9 | 56 | 25 | 33 |
| 32 | 16 | 010.02.032.16 | 0,05 | 2,4 | 63 | 32 | 33 |
| 40 | 16 | 010.02.040.16 | 0,08 | 2,4 | 72 | 40 | 36 |
| 50 | 16 | 010.02.050.16 | 0,13 | 3,0 | 84 | 50 | 36 |
| 63 | 16 | 010.02.063.16 | 0,20 | 3,0 | 97 | 63 | 35 |
| 75 | 16 | 010.02.075.16 | 0,30 | 3,6 | 100 | 75 | 28 |
| 90 | 16 | 010.02.090.16 | 0,52 | 4,3 | 123 | 90 | 34 |
| 110 | 16 | 010.02.110.16 | 0,92 | 5,3 | 142 | 110 | 34 |
| 125 | 16 | 010.02.125.16 | 0,94 | 6,0 | 135 | 125 | 34 |
| 140 | 16 | 010.02.140.16 | 2,01 | 6,7 | 216 | 140 | 73 |
| 160 | 16 | 010.02.160.16 | 2,86 | 7,7 | 236 | 160 | 73 |

Elbow 90° Butt + IR PVDF SDR33 PN10

| d (mm) | PN (bar) | code | weight (kg) | e (mm) | z (mm) | R (mm) | L (mm) |
|-----------|-------------|---------------|----------------|-----------|-----------|-----------|-----------|
| 90 | 16 | 010.03.090.10 | 0,39 | 2,8 | 123 | 90 | 34 |
| 110 | 16 | 010.03.110.10 | 0,47 | 3,4 | 142 | 110 | 34 |
| 125 | 16 | 010.03.125.10 | 0,65 | 3,9 | 135 | 125 | 34 |
| 140 | 16 | 010.03.140.10 | 1,39 | 4,3 | 216 | 140 | 73 |
| 160 | 16 | 010.03.160.10 | 1,97 | 4,9 | 236 | 160 | 73 |

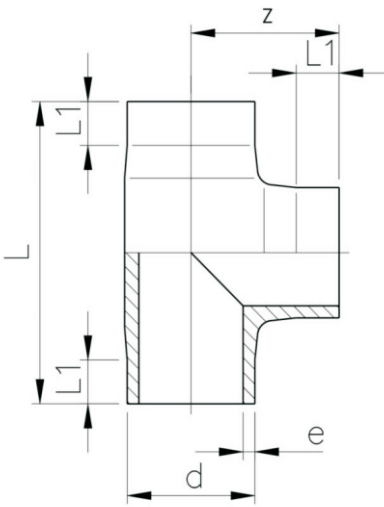
Elbow 45° Butt + IR PVDF SDR21 PN16



| d (mm) | PN (bar) | code | weight (kg) | e (mm) | L (mm) | R (mm) | L1 (mm) |
|-----------|-------------|---------------|----------------|-----------|-----------|-----------|------------|
| 20 | 16 | 010.04.020.16 | 0,02 | 1,9 | 43 | 20 | 33 |
| 25 | 16 | 010.04.025.16 | 0,03 | 1,9 | 45 | 25 | 33 |
| 32 | 16 | 010.04.032.16 | 0,05 | 2,4 | 52 | 32 | 33 |
| 40 | 16 | 010.04.040.16 | 0,08 | 2,4 | 58 | 40 | 36 |
| 50 | 16 | 010.04.050.16 | 0,13 | 3,0 | 66 | 50 | 36 |
| 63 | 16 | 010.04.063.16 | 0,17 | 3,0 | 75 | 63 | 35 |
| 75 | 16 | 010.04.075.16 | 0,14 | 3,6 | 48 | 75 | 28 |
| 90 | 16 | 010.04.090.16 | 0,26 | 4,3 | 59 | 90 | 34 |
| 110 | 16 | 010.04.110.16 | 0,48 | 5,3 | 68 | 110 | 34 |
| 140 | 16 | 010.04.140.16 | 0,89 | 6,7 | 85 | 140 | 73 |
| 160 | 16 | 010.04.160.16 | 1,37 | 7,7 | 103 | 160 | 73 |

Elbow 45° Butt + IR PVDF SDR33 Pn10

| d (mm) | PN (bar) | code | weight (kg) | e (mm) | L (mm) | R (mm) | L1 (mm) |
|-----------|-------------|---------------|----------------|-----------|-----------|-----------|------------|
| 90 | 10 | 010.05.090.10 | 0,17 | 2,8 | 59 | 90 | 36 |
| 110 | 10 | 010.05.110.10 | 0,32 | 3,4 | 68 | 110 | 45 |
| 140 | 10 | 010.05.140.10 | 1,47 | 4,3 | 85 | 140 | 57 |
| 160 | 10 | 010.05.160.10 | 0,99 | 4,9 | 103 | 160 | 65 |

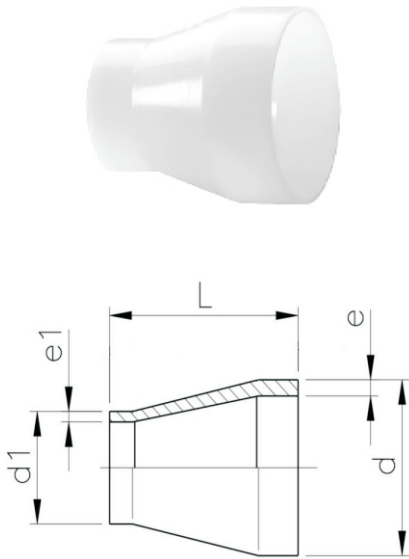


Tee Butt + IR PVDF SDR21 PN16

| d (mm) | PN (bar) | code | weight (kg) | e (mm) | L (mm) | z (mm) | L1 (mm) |
|-----------|-------------|---------------|----------------|-----------|-----------|-----------|------------|
| 20 | 16 | 020.01.020.16 | 0,02 | 1,9 | 70 | 35 | 15 |
| 25 | 16 | 020.01.025.16 | 0,04 | 1,9 | 80 | 40 | 15 |
| 32 | 16 | 020.01.032.16 | 0,06 | 2,4 | 89 | 45 | 17 |
| 40 | 16 | 020.01.040.16 | 0,09 | 2,4 | 100 | 50 | 16 |
| 50 | 16 | 020.01.050.16 | 0,16 | 3,0 | 120 | 60 | 23 |
| 63 | 16 | 020.01.063.16 | 0,26 | 3,0 | 149 | 75 | 28 |
| 75 | 16 | 020.01.075.16 | 0,40 | 3,6 | 174 | 87 | 28 |
| 90 | 16 | 020.01.090.16 | 0,63 | 4,3 | 181 | 92 | 33 |
| 110 | 16 | 020.01.110.16 | 1,15 | 5,3 | 223 | 110 | 33 |
| 125 | 16 | 020.01.125.16 | 1,22 | 6,0 | 279 | 139 | 52 |
| 140 | 16 | 020.01.140.16 | 2,28 | 6,7 | 308 | 154 | 60 |
| 160 | 16 | 020.01.160.16 | 2,64 | 7,7 | 279 | 140 | 45 |

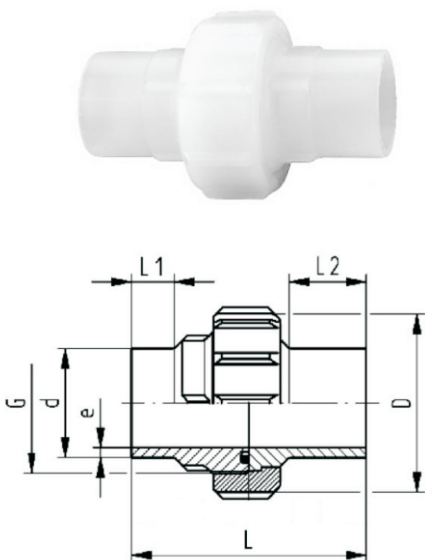
Tee Butt + IR PVDF SDR33 PN10

| d (mm) | PN (bar) | code | weight (kg) | e (mm) | L (mm) | z (mm) | L1 (mm) |
|-----------|-------------|---------------|----------------|-----------|-----------|-----------|------------|
| 90 | 10 | 020.01.090.10 | 0,47 | 2,8 | 181 | 92 | 33 |
| 110 | 10 | 020.01.110.10 | 0,94 | 3,4 | 223 | 110 | 33 |
| 125 | 10 | 020.01.125.10 | 0,90 | 3,9 | 279 | 139 | 52 |
| 140 | 10 | 020.01.140.10 | 1,90 | 4,3 | 308 | 154 | 60 |
| 160 | 10 | 020.01.160.10 | 1,74 | 4,9 | 279 | 140 | 45 |



Reducer concentric Butt + IR PVDF SDR21 PN16

| d (mm) | PN (bar) | code | weight (kg) | L (mm) | e (mm) | e1 (mm) |
|-----------|-------------|---------------|----------------|-----------|-----------|------------|
| 25/20 | 16 | 030.02.2520.6 | 0,01 | 50 | 1,9 | 1,9 |
| 32/20 | 16 | 030.02.3220.6 | 0,02 | 50 | 2,4 | 1,9 |
| 32/25 | 16 | 030.02.3225.6 | 0,02 | 50 | 2,4 | 1,9 |
| 40/20 | 16 | 030.02.4020.6 | 0,02 | 55 | 2,4 | 1,9 |
| 40/25 | 16 | 030.02.4025.6 | 0,03 | 55 | 2,4 | 1,9 |
| 40/32 | 16 | 030.02.4032.6 | 0,07 | 55 | 2,4 | 2,7 |
| 50/20 | 16 | 030.02.5020.6 | 0,04 | 60 | 3,0 | 1,9 |
| 50/25 | 16 | 030.02.5025.6 | 0,04 | 60 | 3,0 | 1,9 |
| 50/32 | 16 | 030.02.5032.6 | 0,08 | 60 | 3,0 | 2,4 |
| 50/40 | 16 | 030.02.5040.6 | 0,05 | 60 | 3,0 | 2,4 |
| 63/25 | 16 | 030.02.6325.6 | 0,05 | 75 | 3,0 | 1,9 |
| 63/32 | 16 | 030.02.6332.6 | 0,06 | 65 | 3,0 | 2,4 |
| 63/40 | 16 | 030.02.6340.6 | 0,06 | 65 | 3,0 | 2,4 |
| 63/50 | 16 | 030.02.6350.6 | 0,07 | 65 | 3,0 | 3,0 |
| 75/50 | 16 | 030.02.7550.6 | 0,20 | 148 | 3,6 | 3,0 |
| 75/63 | 16 | 030.02.7563.6 | 0,21 | 149 | 3,6 | 3,0 |
| 90/50 | 16 | 030.02.9050.6 | 0,12 | 90 | 4,3 | 3,0 |
| 90/63 | 16 | 030.02.9063.6 | 0,28 | 160 | 4,3 | 3,0 |
| 90/75 | 16 | 030.02.9075.6 | 0,30 | 162 | 4,3 | 3,6 |
| 110/63 | 16 | 030.02.1163.6 | 0,24 | 103 | 5,3 | 3,0 |
| 110/90 | 16 | 030.02.1190.6 | 0,53 | 180 | 5,3 | 4,3 |

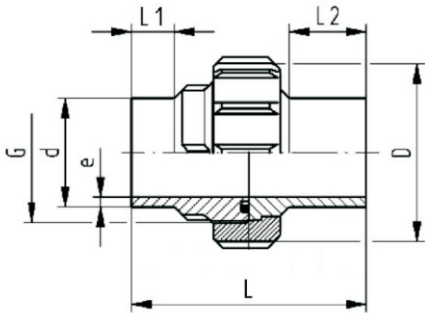


Union Butt + IR PVDF-EPDM SDR21 PN16

| d (mm) | PN (bar) | code | weight (kg) | D (mm) | G (inch) | L (mm) | L1 (mm) | L2 (mm) |
|-----------|-------------|---------------|----------------|-----------|-------------|-----------|------------|------------|
| 20 | 16 | 040.02.020.16 | 0,07 | 43 | 1 | 106 | 25 | 37 |
| 25 | 16 | 040.02.025.16 | 0,11 | 53 | 1-1/4 | 112 | 25 | 38 |
| 32 | 16 | 040.02.032.16 | 0,15 | 60 | 1-1/2 | 118 | 25 | 40 |
| 40 | 16 | 040.02.040.16 | 0,22 | 74 | 2 | 124 | 25 | 41 |
| 50 | 16 | 040.02.050.16 | 0,29 | 82 | 2-1/4 | 130 | 25 | 43 |
| 63 | 16 | 040.02.063.16 | 0,45 | 100 | 2-3/4 | 136 | 25 | 44 |



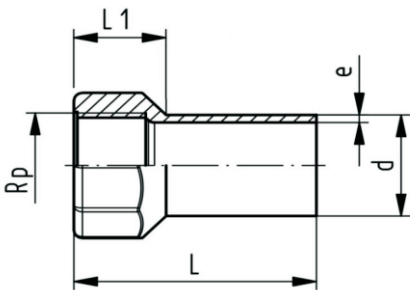
Union Butt + IR PVDF-FPM SDR21 PN16



| d (mm) | PN (bar) | code | weight (kg) | D (mm) | G (inch) | L (mm) | L1 (mm) | L2 (mm) |
|-----------|-------------|---------------|----------------|-----------|-------------|-----------|------------|------------|
| 20 | 16 | 040.03.020.16 | 0,07 | 43 | 1 | 106 | 25 | 37 |
| 25 | 16 | 040.03.025.16 | 0,11 | 53 | 1-1/4 | 112 | 25 | 38 |
| 32 | 16 | 040.03.032.16 | 0,15 | 60 | 1-1/2 | 118 | 25 | 40 |
| 40 | 16 | 040.03.040.16 | 0,22 | 74 | 2 | 124 | 25 | 41 |
| 50 | 16 | 040.03.050.16 | 0,29 | 82 | 2-1/4 | 130 | 25 | 43 |
| 63 | 16 | 040.03.063.16 | 0,45 | 100 | 2-3/4 | 136 | 25 | 44 |



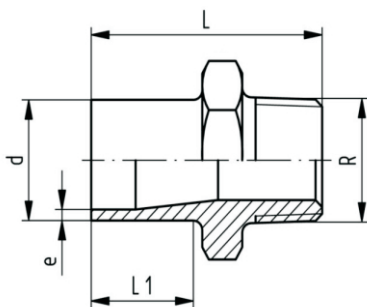
Adaptor Female Thread R-thread Butt + IR PVDF SDR21 PN16



| R (inch) | d (mm) | PN (bar) | code | weight (kg) | L (mm) | L1 (mm) | e (mm) |
|-------------|-----------|-------------|---------------|----------------|-----------|------------|-----------|
| 1/2 | 20 | 16 | 070.01.020.16 | 0,03 | 46 | 16 | 1,9 |
| 3/4 | 25 | 16 | 070.01.025.16 | 0,05 | 51 | 18 | 1,9 |
| 1 | 32 | 16 | 070.01.032.16 | 0,08 | 58 | 20 | 2,4 |
| 1-1/4 | 40 | 16 | 070.01.040.16 | 0,13 | 62 | 24 | 2,4 |
| 1-1/2 | 50 | 16 | 070.01.050.16 | 0,21 | 68 | 24 | 3,0 |
| 2 | 63 | 16 | 070.01.063.16 | 0,33 | 75 | 28 | 3,0 |



Adaptor Male Thread R-thread Butt + IR PVDF SDR21 PN16



| R (inch) | d (mm) | PN (bar) | code | weight (kg) | L (mm) | L1 (mm) | e (mm) |
|-------------|-----------|-------------|---------------|----------------|-----------|------------|-----------|
| 1/2 | 20 | 16 | 070.03.020.16 | 0,02 | 46 | 18 | 1,9 |
| 3/4 | 25 | 16 | 070.03.025.16 | 0,02 | 51 | 20 | 1,9 |
| 1 | 32 | 16 | 070.03.032.16 | 0,04 | 61 | 23 | 2,4 |
| 1-1/4 | 40 | 16 | 070.03.040.16 | 0,07 | 66 | 27 | 2,4 |
| 1-1/2 | 50 | 16 | 070.03.050.16 | 0,10 | 74 | 29 | 3,0 |
| 2 | 63 | 16 | 070.03.063.16 | 0,13 | 80 | 31 | 3,0 |

Stub Flange Butt + IR PVDF SDR21 PN16

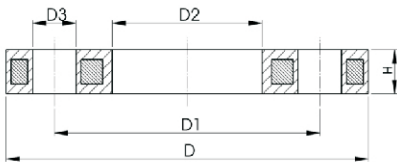


| d (mm) | PN (bar) | code | weight (kg) | D (mm) | D1 (mm) | L (mm) | L1 (mm) | e (mm) |
|-----------|-------------|---------------|----------------|-----------|------------|-----------|------------|-----------|
| 20 | 16 | 050.01.020.16 | 0,03 | 27 | 45 | 50 | 6 | 1,9 |
| 25 | 16 | 050.01.025.16 | 0,05 | 33 | 58 | 50 | 6 | 1,9 |
| 32 | 16 | 050.01.032.16 | 0,07 | 40 | 68 | 50 | 7 | 2,4 |
| 40 | 16 | 050.01.040.16 | 0,09 | 50 | 78 | 50 | 8 | 2,4 |
| 50 | 16 | 050.01.050.16 | 0,13 | 61 | 88 | 50 | 9 | 3,0 |
| 63 | 16 | 050.01.063.16 | 0,18 | 76 | 102 | 50 | 10 | 3,0 |
| 75 | 16 | 050.01.075.16 | 0,26 | 89 | 122 | 50 | 10 | 3,6 |
| 90 | 16 | 050.01.090.16 | 0,41 | 105 | 138 | 80 | 11 | 4,3 |
| 110 | 16 | 050.01.110.16 | 0,54 | 125 | 158 | 80 | 12 | 5,3 |
| 125 | 16 | 050.01.125.16 | 0,61 | 132 | 158 | 80 | 18 | 6,0 |
| 140 | 16 | 050.01.140.16 | 0,88 | 155 | 188 | 80 | 15 | 6,7 |
| 160 | 16 | 050.01.160.16 | 1,08 | 175 | 212 | 80 | 16 | 7,7 |

Stub Flange Butt + IR PVDF SDR33 PN10

| d (mm) | PN (bar) | code | weight (kg) | D (mm) | D1 (mm) | L (mm) | L1 (mm) | e (mm) |
|-----------|-------------|---------------|----------------|-----------|------------|-----------|------------|-----------|
| 90 | 16 | 050.02.090.10 | 0,36 | 105 | 138 | 80 | 11 | 2,8 |
| 110 | 16 | 050.02.110.10 | 0,48 | 125 | 158 | 80 | 12 | 3,4 |
| 125 | 16 | 050.02.125.10 | 0,56 | 132 | 158 | 80 | 14 | 3,9 |
| 140 | 16 | 050.02.140.10 | 0,67 | 155 | 188 | 80 | 18 | 4,3 |
| 160 | 16 | 050.02.160.10 | 0,95 | 175 | 212 | 80 | 16 | 4,9 |

Backing Ring Steel Insert Black DIN PN16



| d (mm) | PN (bar) | code | weight (kg) | D (mm) | D1 (mm) | D2 (mm) | D3 (mm) | H (mm) |
|-----------|-------------|---------------|----------------|-----------|------------|------------|------------|-----------|
| 20 | 16 | 050.03.020.16 | 0,24 | 95 | 65 | 28 | 14 | 12 |
| 25 | 16 | 050.03.025.16 | 0,31 | 108 | 75 | 34 | 14 | 14 |
| 32 | 16 | 050.03.032.16 | 0,42 | 115 | 85 | 42 | 14 | 16 |
| 40 | 16 | 050.03.040.16 | 0,64 | 140 | 100 | 51 | 18 | 18 |
| 50 | 16 | 050.03.050.16 | 0,70 | 150 | 110 | 62 | 18 | 18 |
| 63 | 16 | 050.03.063.16 | 0,79 | 165 | 125 | 78 | 18 | 18 |
| 75 | 16 | 050.03.075.16 | 1,10 | 187 | 145 | 92 | 18 | 18 |
| 90 | 16 | 050.03.090.16 | 1,17 | 202 | 160 | 108 | 18 | 20 |
| 110 | 16 | 050.03.110.16 | 1,61 | 222 | 180 | 128 | 18 | 20 |
| 125 | 16 | 050.03.125.16 | 1,45 | 222 | 180 | 135 | 18 | 20 |
| 140 | 16 | 050.03.140.16 | 2,00 | 250 | 210 | 158 | 18 | 24 |
| 160 | 16 | 050.03.160.16 | 2,61 | 286 | 240 | 178 | 22 | 24 |

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