# 3000# 6000# Forged Carbon Steel High Pressure Union With SW Ends

Our Product Introduction

## Basic Information

- Place of Origin: CHINA
- Brand Name: DEYE
- Certification: ISO9001:2015 PED
- Model Number: PF-BS-F8
- Minimum Order Quantity: 10PCS
- Price: USD2-USD50 each pc as per different material
- Packaging Details: cartons + ply-wooden cases
- Delivery Time: 7 days for stock items
- Payment Terms: L/C, , T/T, D/P
- Supply Ability: 10000pcs each momth

## Product Specification

- Standard: ANSI B16.11
- Material: A105, A105N. A350LF2, F22, SS316, SS304, DUPLEX SS, ALLOY STEEL
- Rating: 2000#, 3000#, 6000#, 9000#
- Size: 1/4"-4"
- Connection: Socket Welded SW Threaded NPT BSPT BSPP
- Surface: Black, Pickling, Anti-rust Oil
- Highlight: **Forged high pressure union**, **6000# high pressure union**, **3000# carbon steel union**

## Product Description

**3000# 6000# Forged Carbon Steel High Pressure Union With SW Ends**

**High pressure forged Union ANSI B16.11**: This type of pipe fitting is almost similar union to coupling in terms of functions, but just with a difference, i.e. a union can be removed easily any time while the coupling cannot. A variety of dielectric unions are used to join pipes made of different materials to avoid any kind of galvanic corrosion between them. These pipe fittings comprise of a nut, female and male ended threads.

### Product Information/Product Description/Basis Information/Specification

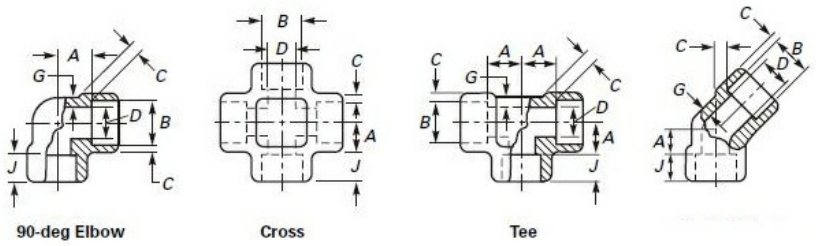
| | |
|---|---|
| Production Name | ANSI B16.11 Forged pipefittings with Socket Welded ends or Threaded ends |
| Types | 90deg Elbow, 45deg Elbows, Street elbow, Tee, cross, full Coupling, half coupling, square Cap, square plug, Hex. Nipples, Bushing, Union, Barrel Nipple, Boss, weldolet, socketolet, threadolet etc |
| Size Range | 1/8" 3/4" 3/8" 1/2" 3/4" 1" 1-1/4" 1-1/2" 2" 2-1/2" 3" 4" |
| Threaded Types | NPT ANSI B16.25 DIN BSPT |
| Material | Carbon Steel: ASTM A105 ,A 182 Grade F 1, A 182 Grade F 5, A 182 Grade F 9, A 182 Grade F 11, f12, f22 A 350 Grade LF 1, A 350 Grade LF2, A 350 Grade LF 4, A 350 Grade LF6, LF8 |
| | Stainless Steel: F304(L), F316(L),SS321, SS347H, 904L DUPELX SS 2507, 2205, UNS31803, UNS32750 18Cr-10Ni-Tl 25Cr-20NI 22Cr-5Ni-3Mo-N 25Cr-7Ni-4Mo-N 24Cr-lONi-4Mo-V 25Cr-7Ni-3.5Mo-W-Cb 25Cr-7Ni-3.5Mo-N-Cu-W |
| Standard | ANSI B16.11, MSS-SP 97, JIS, etc |
| Pressure | 2000lbs, 3000lbs, 6000lbs, 9000lbs, etc |

### Features /Characteristics

Strength and Durability: Forged pipe fittings are known for their superior strength and durability compared to fittings made through other manufacturing methods. The forging process creates a dense and compact structure that can handle high-pressure and high-temperature applications.
Leak-Free Performance: The tight grain structure of forged fittings ensures a leak-free connection. The absence of porosity or voids in the metal reduces the risk of leaks or failures, making them suitable for critical applications where leakage is not acceptable.
Pressure Ratings: Forged pipe fittings generally have higher pressure ratings compared to fittings made by other methods. This makes them ideal for systems that operate under high pressure conditions.
Resistance to Corrosion: Forged fittings are available in various materials such as carbon steel, stainless steel, and alloy steel, which offer excellent resistance to corrosion. The choice of material depends on the specific requirements of the application, ensuring compatibility with the transported fluid or gas.
Wide Range of Shapes and Sizes: Forged pipe fittings are available in a wide range of shapes and sizes to meet different piping system requirements. Common types include elbows, tees, crosses, couplings, unions, caps, and plugs.
Versatility: Forged fittings are suitable for use in various industries such as oil and gas, petrochemicals, power generation, and chemical processing. They can handle different types of fluids, gases, and temperatures, making them versatile for diverse applications.
Quality and Consistency: Due to the controlled forging process, forged pipe fittings exhibit consistent quality and dimensional accuracy. This ensures that the fittings can be easily installed and provide a reliable connection within the piping system.
Longevity: With their robust construction and resistance to wear and tear, forged fittings offer a longer service life compared to other types of fittings. Proper installation, maintenance, and adherence to recommended operating conditions can further enhance their longevity.

### Technology/ Technical Data Sheets

**Dimension of socket welding Fittings for 90-Deg Elbow, Cross, Tee, 45deg elbow**




90-deg Elbow Cross Tee

| Nominal Pipe Size | Socket Bore Diameter, B [Note (1)] | Bore Diameter of Fittings, D [Note (1)] Class Designation 3000 | 6000 | 9000 | Socket Wall Thickness, C [Note (2)] Class Designation 3000 Avg. | 3000 Min. | 6000 Avg. | 6000 Min. | 9000 Avg. | 9000 Min. | Body Wall, G Class Designation 3000 Min. | 6000 Min. | 9000 Min. | Min. Depth of Socket, J |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ⅛ | 0.440 | 0.299 | 0.189 | ... | 0.125 | 0.125 | 0.156 | 0.135 | ... | ... | 0.095 | 0.124 | ... | 0.38 |
| | 0.420 | 0.239 | 0.126 | ... | | | | | | | | | | |
| ¼ | 0.575 | 0.394 | 0.280 | ... | 0.149 | 0.130 | 0.181 | 0.158 | ... | ... | 0.119 | 0.145 | ... | 0.38 |
| | 0.555 | 0.334 | 0.220 | ... | | | | | | | | | | |
| ⅜ | 0.710 | 0.523 | 0.389 | ... | 0.158 | 0.138 | 0.198 | 0.172 | ... | ... | 0.126 | 0.158 | ... | 0.38 |
| | 0.690 | 0.463 | 0.329 | ... | | | | | | | | | | |
| ½ | 0.875 | 0.652 | 0.494 | 0.282 | 0.184 | 0.161 | 0.235 | 0.204 | 0.368 | 0.322 | 0.147 | 0.188 | 0.294 | 0.38 |
| | 0.855 | 0.592 | 0.434 | 0.222 | | | | | | | | | | |
| ¾ | 1.085 | 0.854 | 0.642 | 0.464 | 0.193 | 0.168 | 0.274 | 0.238 | 0.385 | 0.337 | 0.154 | 0.219 | 0.308 | 0.50 |
| | 1.065 | 0.794 | 0.582 | 0.404 | | | | | | | | | | |
| 1 | 1.350 | 1.079 | 0.845 | 0.629 | 0.224 | 0.196 | 0.312 | 0.273 | 0.448 | 0.392 | 0.179 | 0.250 | 0.358 | 0.50 |
| | 1.330 | 1.019 | 0.785 | 0.569 | | | | | | | | | | |
| 1¼ | 1.695 | 1.410 | 1.190 | 0.926 | 0.239 | 0.208 | 0.312 | 0.273 | 0.478 | 0.418 | 0.191 | 0.250 | 0.382 | 0.50 |
| | 1.675 | 1.350 | 1.130 | 0.866 | | | | | | | | | | |
| 1½ | 1.935 | 1.640 | 1.368 | 1.130 | 0.250 | 0.218 | 0.351 | 0.307 | 0.500 | 0.438 | 0.200 | 0.281 | 0.400 | 0.50 |
| | 1.915 | 1.580 | 1.308 | 1.070 | | | | | | | | | | |
| 2 | 2.426 | 2.097 | 1.717 | 1.533 | 0.273 | 0.238 | 0.430 | 0.374 | 0.545 | 0.477 | 0.218 | 0.344 | 0.436 | 0.62 |
| | 2.406 | 2.037 | 1.657 | 1.473 | | | | | | | | | | |
| 2½ | 2.931 | 2.529 | ... | ... | 0.345 | 0.302 | ... | ... | ... | ... | 0.276 | ... | ... | 0.62 |
| | 2.906 | 2.409 | ... | ... | | | | | | | | | | |
| 3 | 3.560 | 3.128 | ... | ... | 0.375 | 0.327 | ... | ... | ... | ... | 0.300 | ... | ... | 0.62 |
| | 3.535 | 3.008 | ... | ... | | | | | | | | | | |
| 4 | 4.570 | 4.086 | ... | ... | 0.421 | 0.368 | ... | ... | ... | ... | 0.337 | ... | ... | 0.75 |
| | 4.545 | 3.966 | ... | ... | | | | | | | | | | |

General Note: Dimensions are in millimeters.

## Application/Usage

Forged high pressure fittings are commonly used in a variety of industries and applications involving high pressure fluid or gas systems. Some specific applications and uses of forged high pressure fittings include: Oil and Gas Industry, Power Generation, Chemical Processing,Pharmaceutical industry, Water Treatment, Mining and Construction, Aerospace and Defense HVAC and Piping

## Forged fittings ANSI B16.11 Material Specification

Forged high pressure pipefittings here mentioned below are only a few of those covered by B16.11 standard. The physical and chemical values indicated correspond to the latest issued standard, although they are affected by modifications year after year, so we suggest to use them only as a guide.

### Chemical Composition

| ASTM Designation | | Analysis in % C | Mn | Si | Max. P | Max. S | Cr | Ni | Mo |
|---|---|---|---|---|---|---|---|---|---|
| A105 - 05 | | | | | | | | | |
| | | max. 0.35 | 0.60 - 1.05 | 0.10 - 0.35 | 0.035 | 0.04 | max. 0.3 [3 4] | max. 0.4 [3 4] | max. 0.12 [3] |
| A182 - 07 | | | | | | | | | |
| Grades | F1 F5 | max. 0.25 | 0.60 - 0.90 | 0.15 - 0.35 | 0.045 | 0.045 | 4.00 - 6.00 | max. 0.50 | 0.44 - 0.65 |
| | F11 Cl. 1 | max. 0.15 | 0.30 - 0.60 | max. 0.50 | 0.030 | 0.030 | 1.00 - 1.50 | | 0.44 - 0.65 |
| | | 0.05 - 0.15 | 0.30 - 0.60 | 0.50 - 1.00 | 0.030 | 0.030 | | | 0.44 - 0.65 |
| | F11 Cl. 2 / Cl. 3 | 0.10 - 0.20 | 0.30 - 0.80 | 0.50 - 1.00 | 0.040 | 0.040 | 1.00 - 1.50 | 8.00 - 11.00 | 0.44 - 0.65 |
| | F22 Cl. 1 / Cl. 3 | 0.05 - 0.15 | 0.30 - 0.60 | max. 0.5 | 0.040 | 0.040 | 2.00 - 2.50 | | 0.87 - 1.13 |
| | F304 [1] | max. 0.08 | max. 2.00 | max. 1.00 | 0.045 | 0.030 | 18.00 - 20.00 | | |
| | F304 L [1] | max. 0.030 | max. 2.00 | max. 1.00 | 0.045 | 0.030 | 18.00 - 20.00 | 8.00 - 13.00 | |
| | F316 [1] | max. 0.08 | max. 2.00 | max. 1.00 | 0.045 | 0.030 | 16.00 - 18.00 | 10.00 - 14.00 | 2.00 - 3.00 |
| | F316L [1] | max. 0.030 | max. 2.00 | max. 1.00 | 0.045 | 0.030 | 16.00 - 18.00 | 10.00 - 15.00 | 2.00 - 3.00 |
| | F321 [2] | max. 0.08 | max. 2.00 | max. 1.00 | 0.045 | 0.030 | 17.00 - 19.00 | 9.00 - 12.00 | |
| A350 - 04 | | | | | | | | | |
| Grades | LF1 | max. 0.30 | 0.60 - 1.35 | 0.15 - 0.30 | 0.035 | 0.040 | max. 0.3 [3 4] | max. 0.4 [3] | max. 0.12 [3] |
| | LF2 Cl. 1 | max. 0.30 | 0.60 - 1.35 | 0.15 - 0.30 | 0.035 | 0.040 | max. 0.3 [3 4] | max. 0.4 [3] | max. 0.12 [3] |
| | LF2 Cl. 2 LF3 | max. 0.30 | 0.60 - 1.35 | 0.20 - 0.35 | 0.035 | 0.040 | max. 0.3 [3 4] | max. 0.4 [3] | max. 0.12 [3] |
| | | max. 0.20 | max. 0.90 | 0.20 - 0.35 | 0.035 | 0.040 | max. 0.3 [3 4] | 3.3 - 3.7 | max. 0.12 [3] |
| A694 - 03 | | | | | | | | | |
| Grades | F42 / F52 / F56 F60 / F65 / F70 | max. 0.26 | max. 1.4 | 0.15 - 0.35 | 0.025 | 0.025 | | | |

## PHYSICAL PROPERTIES

| ASTM Designatioin | | Tensile strength | | Fluency limit Elongation in 50 mm. | | | Stress | Brinell |
|---|---|---|---|---|---|---|---|---|
| | | Ksi min. | MPa | Ksi min. | MPa | % min. | % min. | Hardness (HB) |
| A105 - 05 | | | | | | | | |
| | | 70 | 485 | 36 | 250 | 22 | 30 | 187 max. |
| A182 - 07 | | | | | | | | |
| Grades | F1 | 70 | 485 | 40 | 275 | 20 | 30 | 143 - 192 |
| | F5 | 70 | 485 | 40 | 275 | 20 | 35 | 143 - 217 |
| | F11 Cl. 1 | 60 | 415 | 30 | 205 | 20 | 45 | 121 - 174 |
| | F11 Cl. 2 | 70 | 485 | 40 | 275 | 20 | 30 | 143 - 207 |
| | F11 Cl. 3 | 75 | 515 | 45 | 310 | 20 | 30 | 156 - 207 |
| | F22 Cl. 1 | 60 | 415 | 30 | 205 | 20 | 35 | 170 max. |
| | F22 Cl. 3 | 75 | 515 | 45 | 310 | 20 | 30 | |
| | F304 | 751 | 5151 | 30 | 205 | 30 | 50 | 156 - 207 |
| | F304L | 702 | 4852 | 25 | 170 | 30 | 50 | |
| | F316 | 751 | 5151 | 30 | 205 | 30 | 50 | |
| | F316L | 702 | 4852 | 25 | 170 | 30 | 50 | |
| | F321 | 751 | 5151 | 30 | 205 | 30 | 50 | |
| A350 - 04 | | | | | | | | |
| Grades | LF1 | 60 - 85 | 415 - 585 | 30 3 4 | 205 | 25 | 38 | 197 max. |
| | LF2 Cl. 1 | 70 - 95 | 485 - 655 | 36 3 4 | 250 | 22 | 30 | 197 max. |
| | LF2 Cl. 2 | 70 - 95 | 485 - 655 | 36 3 4 | 250 | 22 | 30 | 197 max. |
| | LF3 Cl. 1 | 70 - 95 | 485 - 655 | 37.5 3 4 | 260 | 22 | 35 | 197 max. |
| | LF3 Cl. 2 | 70 - 95 | 485 - 655 | 37.5 3 4 | 260 | 22 | 35 | 197 max. |
| A694 - 03 | | | | | | | | |
| Grades | F42 | 60 | 415 | 42 | 290 | 20 | | |
| | F52 | 66 | 455 | 52 | 360 | 20 | | |
| | F56 | 68 | 470 | 56 | 385 | 20 | | |
| | F60 | 75 | 515 | 60 | 415 | 20 | | |
| | F65 | 77 | 530 | 65 | 450 | 20 | | |
| | F70 | 82 | 565 | 70 | 485 | 18 | | |

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