



## ASME ANSI ASTM 900LBS Forged Carbon Steel Flanges With RTJ Face

Our Product Introduction

### Basic Information

- Place of Origin: CHINA
- Brand Name: DEYE
- Certification: ISO9001:2015 PED
- Model Number: PF-FL-RTJ07
- Minimum Order Quantity: 10PCS
- Price: USD10-USD100 each pcs
- Packaging Details: Fumigation Ply-wooden cases
- Delivery Time: 30 days for usual order
- Payment Terms: T/T, L/C, D/P



### Product Specification

- Standard: ASME B16.5, ASME B16.47, API 6A, EN 1092-1, BS 4504, BS 10, DIN, JIS, GOST.
- Material: A105, A105N, A350LF2, A182F22, F11, F56, F60, Stainless Steel
- Size: 1/2"(DN15)-88"(DN2200)
- Types: Weld Neck, Slip On, Blind, Socket Weld, Threaded, Lap Joint, Spectacle, Paddle, Long Weld Neck, Spacer, Orifice, Reduced, Plate
- Pressure Rating: Class 150, 300, 400, 600, 900, 1500, 2500; PN 6, PN 10, PN 16, PN 25, PN 40, PN 63, PN 100, PN 160, PN 250, PN 320, PN 400.
- Surface: Black, Golden Yellow, Cold Galvanized, HDG. Anti-Rust Oil
- Highlight: **900LBS forged carbon steel flanges, ASTM forged carbon steel flanges, ASME carbon steel forged flanges**

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## Product Description

### ANSI ASME ASTM 900LBS Carbon Forged Steel Flange With RTJ Face

Class 900LBS Flange are used for High pressure pipeline with working pressure of 150Bar, PN150. Its Dimensions are according to the ANSI B16.5 standard which covers flanges from 1/2 inches to 24 inches in nominal sizes. The 900 Lb Flange Dimensions include the wall thicknesses ranging from 7/8 inches to 5 1/2 inches and the outer diameters ranging from 4 3/4 inches to 41 inches. Connect Type Type can be LJF, LMF, RTJ, SMF, RF, FF. The CL900# flanges can be designed into different types includes Weld Neck Flanges, Slip on flanges, Blind Flanges, Thread Flanges, Socket Weld Flange, Plate flanges etc as per different application and Installation.

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

|                     |                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Product Name</b> | ANSI STEEL RTJ FLANGE WITH 900LBS                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Types</b>        | Plate, Welding Neck, Slip on, Blind, Lap joint, Threaded Flange ,socket welding, Long weld neck, Loose Flanges,, Orifice, Blinds, customized, |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Face Finish</b>  | RFlat Face (FF), Raised Face (RF), Ring Type Joint (RTJ)                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Standard</b>     | ANSI                                                                                                                                          | ANSI B16.5 ASME B16.47 series A/B, API605, AWWAC207                                                                                                                                                                                                                                                                                                                                                                                                                              |
|                     | DIN                                                                                                                                           | DIN 2631 DIN2632 DIN2543 DIN2502 2573 2527 2565 DIN2566 DIN 2641,2642,                                                                                                                                                                                                                                                                                                                                                                                                           |
|                     | GOST                                                                                                                                          | GOST 12820-80,GOST 12821-80,Gost Blind                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|                     | EN                                                                                                                                            | EN1092-1:2002                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|                     | JIS                                                                                                                                           | JIS B2220-2004, KS D3576, KS B6216,KS B1511-2007,JIS B2261; JIS B8210                                                                                                                                                                                                                                                                                                                                                                                                            |
|                     | BS                                                                                                                                            | BS4504,BS10 Table D/E                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|                     | UNI                                                                                                                                           | UNI 2253-67,UNI6091-67,UNI2276-67,UNI2280-67,UNI6089-67                                                                                                                                                                                                                                                                                                                                                                                                                          |
|                     | SABS                                                                                                                                          | SABS 1123                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Material</b>     | ANSI                                                                                                                                          | CS A105/SA 105N<br>Steels for Low Temperature Service: A 350 Grade LF 1, A350LF2, A350LF4, A350LF6, A350LF8. CL1/CL2, LF3 CL1/CL2,<br>Stainless Steel SS 304/304L,316/316L, SS321, SS347H, SS316TI, SS304HM SS316H, 904L, UNS31803, UNS32750, UNS32760<br>Alloy Steel: WHPY45/52/65/80/A 182 Grade F 5, A 182 Grade F 9, A 182 Grade F 11, F 12, F22, F91, A694 F42, F46, F48, F50, F52, F56, F60, F65, F70, A516.60, 65, 70 (Spectacle Blind Flange, Spacer Ring/Spade Flange), |
|                     |                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|                     |                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|                     | DIN                                                                                                                                           | CS RST37.2;S235JR SS 304/304L,316/316L, Stainless steel 1.4301, 1.4404, SAF2205, SAF2507,                                                                                                                                                                                                                                                                                                                                                                                        |
|                     | GOST                                                                                                                                          | CS CT20;16MN;SS 304/304L,316/316L                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|                     | EN                                                                                                                                            | CS RST37.2;S235JR;C22.8SS 304/304L,316/316L                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|                     | JIS                                                                                                                                           | CS SS400,SF440,SS 304/304L, 316/316L                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|                     | BS                                                                                                                                            | CSRST37.2;S235JR;C22.8;Q235SS 304/304L,316/316L                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|                     | UNI                                                                                                                                           | CSRST37.2;S235JR;C22.8;Q235SS 304/304L,316/316L                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|                     | SABS                                                                                                                                          | CSRST37.2;S235JR;Q235;SS 304/304L,316/316L                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Pressure</b>     | ANSI                                                                                                                                          | Class 150, 300, 600, 900, 1500 2500lbs, with welded thickness of STD, SCH40, SCH80, SCH160. SCHXXS                                                                                                                                                                                                                                                                                                                                                                               |
|                     | DIN                                                                                                                                           | PN6,PN10,PN16,PN25,PN40,PN64,PN100                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|                     | GOST                                                                                                                                          | PN6,PN10,PN16,PN25                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|                     | EN                                                                                                                                            | PN6,PN10,PN16,PN25,PN40,PN64,PN100                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|                     | JIS                                                                                                                                           | 1K,2K,5K,10K,16K,20K,30K,40K                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|                     | BS                                                                                                                                            | PN6,PN10,PN16,PN25,PN40,PN64,PN100                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|                     | UNI                                                                                                                                           | PN6,PN10,PN16,PN25,PN40                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|                     | SABS                                                                                                                                          | 600KPA,1000,1600,2500,4000                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Size</b>         | ANSI                                                                                                                                          | 1/2" – 60"                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|                     | DIN                                                                                                                                           | DN15-DN2000                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|                     | GOST                                                                                                                                          | DN10-DN1600                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|                     | EN                                                                                                                                            | DN15-DN2000                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|                     | JIS                                                                                                                                           | 15A-1500A                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|                     | BS                                                                                                                                            | DN15-DN2000                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|                     | UNI                                                                                                                                           | DN10-DN2000                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|                     | SABS                                                                                                                                          | DN10-DN600                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

|                |                                                                                                                                                                                                                     |
|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Surface</b> | Oil Black Paint, varnish, Golden yellow paint, anti-rust oil, galvanizing, Cold and Hot Dip Galvanized etc, Zinc plating. chrome plating. Black treatment, anodize, powder coating. punishment, brass plating. etc. |
|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

#### **Features /Characteristics**

- Carbon steel flanges shall not be used in services above 425 °C
- High-temperature service: Standard carbon steel material shall be ASTM A 105, a material that can be safely used for temperatures between minus 29 °C and 425 °C.
- Low-temperature Service: Carbon steel flanges used for services below minus 29 °C, shall conform to the impact-testing requirements of ASME B 31.3.
- ASTM A 350-LF2 shall be the standard material for low temperature applications
- High-Yield Service: High strength carbon steel flanges ASTM A694 should fit API Std. 5L pipe Grade X42 to X65.
- Material for low-alloy steel flanges (11/4 Cr – 1/2 Mo) shall be ASTM A 182-F11. Material for intermediate alloy steel flanges (11/2 Cr – 5 Mo) shall be ASTM A 182-F5.

#### **Technology/ How to use and install the different flange types**

##### **WELDING NECK FLANGES**

They are connected to the pipe by means of a Butt weld connection. They are used when X-ray testing is required or if the torque over unions are maximum. Its long tapered neck optimizes the stress distribution.



##### **SLIP-ON FLANGES**

This kind of flanges are installed with two weld bead, sliding the pipe inside. Thus installation costs are lower, so less accuracy is required for pipe cutting.



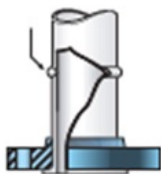
##### **THREADED FLANGES**

They are usually installed with the pipe previously threaded, in places where welding cannot be done. We do not recommend to install if there are high pressure variations in the system



##### **LAP JOINT FLANGES**

They slide on an overlapped gasket. They are commonly used where it is necessary to dismantle in order to be cleaned or repaired. Dismantling cost decreases due to the ease of flange turning and drilling alignment.



##### **SOCKET WELD FLANGES**

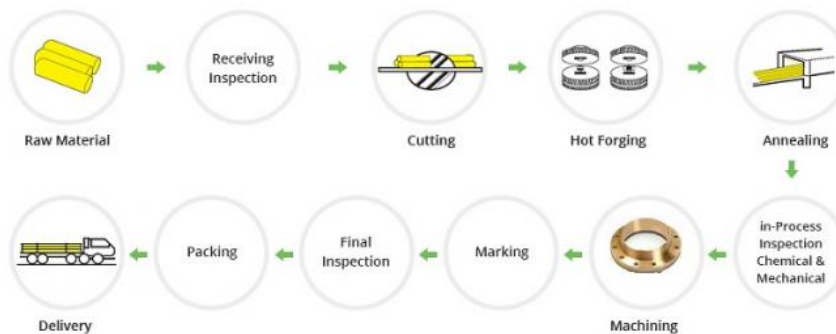
This kind of flange is especially designed for lower small diameters and high pressures. The pipe is inserted into the flange up to the seat and then is fillet welded against the cube.



| ASTM<br>Designation | Tensile strength |         | Fluency limit<br>mm. | Elongation in 50   |                  | Stress<br><br>% min. | Brinell             | Charpy - V              |                     |    |     |
|---------------------|------------------|---------|----------------------|--------------------|------------------|----------------------|---------------------|-------------------------|---------------------|----|-----|
|                     | Ksi min.         | MPa     | Ksi min.             | M<br>P % min.<br>a | Hardness<br>(HB) |                      | Energy J            |                         | Testing<br>Temp. °C |    |     |
|                     |                  |         |                      |                    |                  |                      | Min.<br>1 Test tube | Average<br>3 Test tubes |                     |    |     |
| A105 - 05           |                  |         |                      |                    |                  |                      |                     |                         |                     |    |     |
|                     |                  | 70      | 485                  | 36                 | 2<br>5 22<br>0   | 30                   | 187 max.            |                         |                     |    |     |
| A182 - 07           |                  |         |                      |                    |                  |                      |                     |                         |                     |    |     |
| Gr<br>ad<br>es      | F1               | 70      | 485                  | 40                 | 2<br>7 20<br>5   | 30                   | 143 - 192           |                         |                     |    |     |
|                     | F5               | 70      | 485                  | 40                 | 2<br>7 20<br>5   | 35                   | 143 - 217           |                         |                     |    |     |
|                     | F11 Cl. 1        | 60      | 415                  | 30                 | 2<br>0 20<br>5   | 45                   | 121 - 174           |                         |                     |    |     |
|                     | F11 Cl. 2        | 70      | 485                  | 40                 | 2<br>7 20<br>5   | 30                   | 143 - 207           |                         |                     |    |     |
|                     | F11 Cl. 3        | 75      | 515                  | 45                 | 3<br>1 20<br>0   | 30                   | 156 - 207           |                         |                     |    |     |
|                     | F22 Cl. 1        | 60      | 415                  | 30                 | 2<br>0 20<br>5   | 35                   | 170 max.            |                         |                     |    |     |
|                     | F22 Cl. 3        | 75      | 515                  | 45                 | 3<br>1 20<br>0   | 30                   |                     |                         |                     |    |     |
|                     | F304             | 751     | 5151                 | 30                 | 2<br>0 30<br>5   | 50                   | 156 - 207           |                         |                     |    |     |
|                     | F304L            | 702     | 4852                 | 25                 | 1<br>7 30<br>0   | 50                   |                     |                         |                     |    |     |
|                     | F316             | 751     | 5151                 | 30                 | 2<br>0 30<br>5   | 50                   |                     |                         |                     |    |     |
|                     | F316L            | 702     | 4852                 | 25                 | 1<br>7 30<br>0   | 50                   |                     |                         |                     |    |     |
|                     | F321             | 751     | 5151                 | 30                 | 2<br>0 30<br>5   | 50                   |                     |                         |                     |    |     |
| A350 - 04           |                  |         |                      |                    |                  |                      |                     |                         |                     |    |     |
| Gr<br>ad<br>es      |                  |         |                      |                    | 2<br>0<br>5      |                      |                     |                         |                     |    |     |
|                     | LF1              | 60 - 85 | 415 - 585            | 30                 | 3 4              | 2 25                 | 38                  | 197 max.                | 14                  | 18 | -29 |
|                     | LF2 Cl. 1        | 70 - 95 | 485 - 655            | 36                 | 3 4              | 5 22                 | 30                  | 197 max.                | 16                  | 20 | -46 |
|                     | LF2 Cl. 2        | 70 - 95 | 485 - 655            | 36                 | 3 4              | 0 22                 | 30                  | 197 max.                | 20                  | 27 | -18 |

|                |         |           |                     |             |             |    |          |    |    |      |
|----------------|---------|-----------|---------------------|-------------|-------------|----|----------|----|----|------|
| LF3 Cl. 1      | 70 - 95 | 485 - 655 | 37.5 <sup>3 4</sup> | 2<br>6<br>0 | 22          | 35 | 197 max. | 16 | 20 | -101 |
| LF3 Cl. 2      | 70 - 95 | 485 - 655 | 37.5 <sup>3 4</sup> | 2<br>6<br>0 | 22          | 35 | 197 max. | 20 | 27 | -101 |
| A694 - 03      |         |           |                     |             |             |    |          |    |    |      |
| Gr<br>ad<br>es | F42     | 60        | 415                 | 42          | 2<br>9<br>0 | 20 |          |    |    |      |
|                | F52     | 66        | 455                 | 52          | 3<br>6<br>0 | 20 |          |    |    |      |
|                | F56     | 68        | 470                 | 56          | 3<br>8<br>5 | 20 |          |    |    |      |
|                | F60     | 75        | 515                 | 60          | 4<br>1<br>5 | 20 |          |    |    |      |
|                | F65     | 77        | 530                 | 65          | 4<br>5<br>0 | 20 |          |    |    |      |
|                | F70     | 82        | 565                 | 70          | 4<br>8<br>5 | 18 |          |    |    |      |

### Production Process



### Flanged Standard

#### ASME B16.5

This is the most used flange standard worldwide. The standard includes forged, cast and laminated flanges. It covers service, materials, dimensions, tolerances, marking and testing for flanges. It also describes all flange types for size 1/2" to 24" Class 150#, 300#, 400#, 600#, 900# & 1500#, and 1/2" to 12" Class 2500#.

#### ASME B16.36

This standard is applicable to flanges for flow measurement with orifice plate. ASME B16.36 flanges have the same dimensions as B16.5 flanges except for the minimum thickness that is increased to allow measurement orifices. Moreover, two slots and bolts allow flange separation and the replacement of the measurement plate. It covers sizes from 1" to 24" Class 300# to 1500#, and sizes 1" to 12" Class 2500#.

#### MSS SP-44

An standardization used for thin thicknesses and high strength. It covers ranges from 12" to 60" Class 150# to 600# and up to 48" Class 900# only for blind and welding neck flanges. Outside diameter and drilling template matches with ASME up to 36. Therefore, they can be used with valves and pumps according to ASME.

#### ASME B16.47

This standard covers the previous one complementing it with materials, pressure ratings and temperatures from ASME B16.5. A type class is similar to MSS-SP44. B type is the same as API 605.

#### ASME B16.20

It includes materials, dimensions and marking of rings for steel flanges 1/2 to 24" Class 150# to 1500#, and 36" Class 900#.

#### API 6 A

API 6 A specification has been created for wellheads and Christmas trees. It includes the standardization of lap joint flanges, which are dimensionally replaceable with ASME B16.5 ones but adding some tolerances with all sizes. However, as API materials are more resistant, the maximum service pressure of API/ASME union is limited to that of lower performance flange.

#### EN1092-1

This European Standard for a single series of flanges specifies requirements for circular steel

flanges in PN designations PN 2,5 to PN 400 and nominal sizes from DN 10 to DN 4000.

This European Standard specifies the flange types and their facings, dimensions, tolerances, threading, bolt sizes, flange jointing face surface finish, marking, materials, pressure/ temperature ratings and approximate flange masses.

For the purpose of this European Standard, "flanges" include also lapped ends and collars. This European Standard applies to flanges manufactured in accordance with the methods described in Table 1. Non-gasketed pipe joints are outside the scope of this European Standard.

#### **Application/Usage**

A flange is a method of connecting pipes, valves, pumps, and other equipment to form a piping system to convey the water, steam, air, gas and oil. It also provides easy access for cleaning, inspection, or modification.



**SHIJIAZHUANG DEYE PIPING INDUSTRY CO., LTD Pipefittings Department)**



+8613292824811



[sales@deyepiping.com](mailto:sales@deyepiping.com)



[piping-industry.com](http://piping-industry.com)

No. 368 Youyi St. Shijiazhuang, Hebei, China