



## ANSI B16.9 CS Concentric Reducer Butt Welding Pipe Fitting

Our Product Introduction

### Basic Information

- Place of Origin: CHINA
- Brand Name: DEYE
- Certification: ISO9001:2015 PED
- Model Number: PF-CR-06
- Minimum Order Quantity: 1PCS
- Price: USD0.58-USD100 for seamless fittings
- Packaging Details: Fumigation-Free wooden cases / Pallets
- Delivery Time: 30 days for normal orders
- Payment Terms: L/C, T/T, D/P
- Supply Ability: 200tons each month



### Product Specification

- MOQ: 1 Piece
- Surface Treatment: Sand Blasting, Anti-rust Paint, Oil Coating, Etc.
- Application: Petroleum, Chemical, Power, Gas, Metallurgy, Shipbuilding, Construction, Etc.
- Standard: ASME, ANSI, JIS, DIN, EN, ISO, GB
- Payment Term: T/T, L/C,
- Size: 1/2"-48"
- Certificate: ISO, API, CE, Etc.
- Package: Wooden Cases, Wooden Pallet, Etc.
- Highlight: **B16.9 cs concentric reducer,  
ANSI cs concentric reducer,  
1/2" carbon steel pipe and fittings**

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## Product Description

pipefittings concentric reducers as per ANSI B16.9

**Concentric Reducer** is one type of Pipefitings as per ASME B16.9 specification applied in industrial construction pipelines.

it is used to reduce the flow size of the pipe from the bigger to smaller one. There are two kinds of reducers- concentric reducer

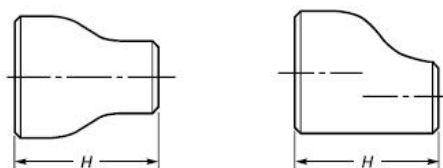
and eccentric reducer. Reducer The former one is in the shape of a cone used for gradual reducing of the size of the pipe.

The latter one has its one edge facing the mouth of the connecting pipe reducing the chances of air accumulation.

### Product Information

|                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product Name      | Concentric Reducers and Eccentric Reducers ANSI B16.9 Butt-Welding Pipe Fitting                                                                                                                                                                                                                                                                                                                                                                                                           |
| Types             | Con. Reducers, Ecc. reducers, Y tees, caps, Stub Ends, Long and short lap joint stub ends<br>LR Elbows, SR Elbow, 180deg Returns, Bends, Reducing Elbow, straight Tee, Equal Tee,                                                                                                                                                                                                                                                                                                         |
| Size              | seamless con. reducers from 1/2" 24", ERW / Welded concentric reducers (1/2" 72")                                                                                                                                                                                                                                                                                                                                                                                                         |
| Wall Thickness    | SCH20,SCH30,STD,SCH40,SCH60,XS,SCH80,SCH100,SCH120,SCH140 ,SCH160,XXS, DIN, SGP JIS thickness                                                                                                                                                                                                                                                                                                                                                                                             |
| Mat. Standard     | ASTMA234,ASTM A420,ASTM A312, ANSI B16.9/B16.28/B16.25,ASME B16.9,<br>JIS B2311-1997/2312, JIS B2311/B2312, DIN 2605-1/2617/2615,<br>GB 12459-99,EN Standard etc.                                                                                                                                                                                                                                                                                                                         |
| Material Grade    | Carbon steel material grade: A234 WPB, WP5, WP6, WP9,WP11,WP12, WP22, A420WPL6, WPL8, WP91<br>12CrMo, 15Cr5Mo, 1Cr5Mo, 12Cr1MoV , WPHY 42, WPHY 46, WPHY 52, WPH 60, WPHY 65 & WPHY 70<br>ST37.0,ST35.8,ST37.2,ST35.4/8,ST42,ST45,ST52,ST52.4<br>STP G38,STP G42,STPT42,STB42,STS42,STPT49,STS49<br><br>Stainless Steel304, 304L, 304H. 316, 316L, 316H, 321, 347, 347H, Duplex SS 2507, DSS2205, UNS31803 UNS32750 1.4301,1.4306, 1.4401, 1.4435, 1.4406, 1.4404, 1.4462, 1.4410, 1.4501 |
| Surface           | Black painting, varnish paint, anti rust oil, hot galvanized, cold galvanized, 3PE,etc.                                                                                                                                                                                                                                                                                                                                                                                                   |
| Transport Package | Plastic film,wooden cases ,wooden pallet,or as per customers' requests                                                                                                                                                                                                                                                                                                                                                                                                                    |

### Technical datas



Con. reducers as per ASME B16.9 Butt welding Fittings

| Nominal Pipe Size (NPS) | Outside Diameter at Bevel |           | End-to-End, H | Nominal Pipe Size (NPS) | Outside Diameter at Bevel |           | End-to-End,H |
|-------------------------|---------------------------|-----------|---------------|-------------------------|---------------------------|-----------|--------------|
|                         | Large End                 | Small End |               |                         | Large End                 | Small End |              |
| 3/4x1/2                 | 26.7                      | 21.3      | 38            | 5X4                     | 141.3                     | 114.3     | 127          |
| 3/4x3/8                 | 26.7                      | 17.3      | 38            | 5x3-1/2                 | 141.3                     | 101.6     | 127          |
| 1x3/4                   | 33.4                      | 26.7      | 51            | 5X3                     | 141.3                     | 88.9      | 127          |
| 1x1/2                   | 33.4                      | 21.3      | 51            | 5 x2-1/2                | 141.3                     | 73.0      | 127          |
| 1-1/4x1                 | 42.2                      | 33.4      | 51            | 5X2                     | 141.3                     | 60.3      | 127          |
| 1-1/4x3/4               | 42.2                      | 26.7      | 51            | 6X5                     | 168.3                     | 141.3     | 140          |
| 1-1/4x1/2               | 42.2                      | 21.3      | 51            | 6X4                     | 168.3                     | 114.3     | 140          |
| 1-1/2x1-1/4             | 48.3                      | 42.2      | 64            | 6 x3-1/2                | 168.3                     | 101.6     | 140          |
| 1-1/2x1                 | 48.3                      | 33.4      | 64            | 6x3                     | 168.3                     | 88.9      | 140          |
| 1-1/2x3/4               | 48.3                      | 26.7      | 64            | 6x2-1/2                 | 168.3                     | 73.0      | 140          |
| 1-1/2x1/2               | 48.3                      | 21.3      | 64            | 8x6                     | 219.1                     | 168.3     | 152          |
| 2 X 1-1/2               | 60.3                      | 48.3      | 76            | 8X5                     | 219.1                     | 141.3     | 152          |
| 2 X 1-1/4               | 60.3                      | 42.2      | 76            | 8X4                     | 219.1                     | 114.3     | 152          |
| 2X1                     | 60.3                      | 33.4      | 76            | 8x3-1/2                 | 219.1                     | 101.6     | 152          |
| 2 X3/4                  | 60.3                      | 26.7      | 76            | 10 X 8                  | 273.0                     | 219.1     | 178          |
| 2-1/2X2                 | 73.0                      | 60.3      | 89            | 10 x 6                  | 273.0                     | 168.3     | 178          |

|               |       |       |     |         |       |       |     |
|---------------|-------|-------|-----|---------|-------|-------|-----|
| 2-1/2X1-1/2   | 73.0  | 48.3  | 89  | 10 x 5  | 273.0 | 141.3 | 178 |
| 2-1/2X1-1/4   | 73.0  | 42.2  | 89  | 10 x 4  | 273.0 | 114.3 | 178 |
| 2-1/2 X 1     | 73.0  | 33.4  | 89  | 12 x 10 | 323.8 | 273.0 | 203 |
| 3 X 2-1/2     | 88.9  | 73.0  | 89  | 12 x 8  | 323.8 | 219.1 | 203 |
| 3x2           | 88.9  | 60.3  | 89  | 12 x 6  | 323.8 | 168.3 | 203 |
| 3 x 1-1/2     | 88.9  | 48.3  | 89  | 12 x 5  | 323.8 | 141.3 | 203 |
| 3 x 1-1/4     | 88.9  | 42.2  | 89  | 14 x 12 | 355.6 | 323.8 | 330 |
| 3-1/2 x 3     | 101.6 | 88.9  | 102 | 14 X 10 | 355.6 | 273.0 | 330 |
| 3-1/2 x 2-1/2 | 101.6 | 73.0  | 102 | 14 X 8  | 355.6 | 219.1 | 330 |
| 3-1/2 X 2     | 101.6 | 60.3  | 102 | 14 x 6  | 355.6 | 168.3 | 330 |
| 3-1/2 x 1-1/2 | 101.6 | 48.3  | 102 | 16 x 14 | 406.4 | 355.6 | 356 |
| 3-1/2 x 1-1/4 | 101.6 | 42.2  | 102 | 16 x 12 | 406.4 | 323.8 | 356 |
| 4 x 3-1/2     | 114.3 | 101.6 | 102 | 16 x 10 | 406.4 | 273.0 | 356 |
| 4X3           | 114.3 | 88.9  | 102 | 16 x 8  | 406.4 | 219.1 | 356 |
| 4 X 2-1/2     | 114.3 | 73.0  | 102 | 18 x 16 | 457   | 406.4 | 381 |
| 4X2           | 114.3 | 60.3  | 102 | 18 x 14 | 457   | 355.6 | 381 |
| 4 x1-1/2      | 114.3 | 48.3  | 102 | 18 x 12 | 457   | 323.8 | 381 |
|               |       |       |     | 18 x 10 | 457   | 273.0 | 381 |

| Nominal Pipe Size (NPS) | Outside Diameter at Bevel |           | End-to-End, H | Nominal Pipe Size (NPS) | Outside Diameter at Bevel |           | End-to-End, H |
|-------------------------|---------------------------|-----------|---------------|-------------------------|---------------------------|-----------|---------------|
|                         | Large End                 | Small End |               |                         | Large End                 | Small End |               |
| 20 X 18                 | 508                       | 457.0     | 508           | 36 x 34                 | 914                       | 864       | 610           |
| 20 X 16                 | 508                       | 406.4     | 508           | 36 x 32                 | 914                       | 813       | 610           |
| 20 x 14                 | 508                       | 355.6     | 508           | 36 x 30                 | 914                       | 762       | 610           |
| 20 x 12                 | 508                       | 323.8     | 508           | 36 x 26                 | 914                       | 660       | 610           |
|                         |                           |           |               | 36 x 24                 | 914                       | 610       | 610           |
| 22 X 20                 | 559                       | 508.0     | 508           |                         |                           |           |               |
| 22 X 18                 | 559                       | 457.0     | 508           | 38 x 36                 | 965                       | 914       | 610           |
| 22 x 16                 | 559                       | 406.4     | 508           | 38 x 34                 | 965                       | 864       | 610           |
| 22 X 14                 | 559                       | 355.4     | 508           | 38 X 32                 | 965                       | 813       | 610           |
|                         |                           |           |               | 38 x 30                 | 965                       | 762       | 610           |
|                         |                           |           |               | 38 X 28                 | 965                       | 711       | 610           |
| 24 X 22                 | 610                       | 559.0     | 508           | 38 x 26                 | 965                       | 660       | 610           |
| 24 X 20                 | 610                       | 508.0     | 508           |                         |                           |           |               |
| 24 x 18                 | 610                       | 457.0     | 508           | 40 x 38                 | 1 016                     | 965       | 610           |
| 24 X 16                 | 610                       | 406.4     | 508           | 40 x 36                 | 1 016                     | 914       | 610           |
|                         |                           |           |               | 40 X 34                 | 1 016                     | 864       | 610           |
| 26 x 24                 | 660                       | 610.0     | 610           | 40 X 32                 | 1 016                     | 813       | 610           |
| 26 X 22                 | 660                       | 559.0     | 610           | 40 x 30                 | 1 016                     | 762       | 610           |
| 26 X 20                 | 660                       | 508.0     | 610           |                         |                           |           |               |
| 26 X 18                 | 660                       | 457.0     | 610           | 42 X 40                 | 1 067                     | 1 016     | 610           |
|                         |                           |           |               | 42 X 38                 | 1 067                     | 965       | 610           |
| 28 X 26                 | 711                       | 660.0     | 610           | 42 x 36                 | 1 067                     | 914       | 610           |
| 28 X 24                 | 711                       | 610.0     | 610           | 42 X 34                 | 1 067                     | 864       | 610           |
| 28 x 20                 | 711                       | 508.0     | 610           | 42 X 32                 | 1 067                     | 813       | 610           |
| 28 X 18                 | 711                       | 457.0     | 610           | 42 X 30                 | 1 067                     | 762       | 610           |
| 30 X 28                 | 762                       | 711.0     | 610           | 44 X 42                 | 1 118                     | 1 067     | 610           |
| 30 X 26                 | 762                       | 660.0     | 610           | 44 X 40                 | 1 118                     | 1 016     | 610           |
| 30 X 24                 | 762                       | 610.0     | 610           | 44 X 38                 | 1 118                     | 965       | 610           |
| 30 X 20                 | 762                       | 508.0     | 610           | 44 X 36                 | 1 118                     | 914       | 610           |
| 32 X 30                 | 813                       | 762.0     | 610           | 46 X 44                 | 1 168                     | 1 118     | 711           |
| 32 X 28                 | 813                       | 711.0     | 610           | 46 X 42                 | 1 168                     | 1 067     | 711           |
| 32 x 26                 | 813                       | 660.0     | 610           | 46 x 40                 | 1 168                     | 1 016     | 711           |
| 32 x 24                 | 813                       | 610.0     | 610           | 46 x 38                 | 1 168                     | 965       | 711           |
| 34 x 32                 | 864                       | 813.0     | 610           | 48 x 46                 | 1 219                     | 1 168     | 711           |
| 34 X 30                 | 864                       | 762.0     | 610           | 48 X 44                 | 1 219                     | 1 118     | 711           |
| 34 x 26                 | 864                       | 660.0     | 610           | 48 x 42                 | 1 219                     | 1 067     | 711           |
| 34 x 24                 | 864                       | 610.0     | 610           | 48 x 40                 | 1 219                     | 1 016     | 711           |

#### Thickness List for pipefittings ANSI B16.9

| NPS | Outside Diameter | Different thickness with tolerance of +-12.5% |       |      |       |       |      |       |        |        |     |
|-----|------------------|-----------------------------------------------|-------|------|-------|-------|------|-------|--------|--------|-----|
|     |                  | Sch20                                         | Sch30 | STD  | Sch40 | Sch60 | XS   | Sch80 | Sch120 | Sch160 | XXS |
| 1/8 | 10.3             | —                                             | —     | 1.73 | 1.73  | —     | 2.41 | 2.41  | —      | —      | —   |



|       |           |           |      |      |           |         |           |          |     |                      |
|-------|-----------|-----------|------|------|-----------|---------|-----------|----------|-----|----------------------|
| WP911 | 0.09–0.13 | 0.30–0.60 | 0.02 | 0.01 | 0.10–0.50 | 8.5–9.5 | 0.90–1.10 | 0.40 max | ... | Vanadium 0.18–0.25   |
|       |           |           |      |      |           |         |           |          |     | Columbium 0.060–0.10 |
|       |           |           |      |      |           |         |           |          |     | Nitrogen 0.04–0.09   |
|       |           |           |      |      |           |         |           |          |     | Aluminum 0.04 max    |
|       |           |           |      |      |           |         |           |          |     | Boron 0.0003–0.006   |
|       |           |           |      |      |           |         |           |          |     | Tungsten 0.90–1.10   |

**A** When fittings are of welded construction, the grade and marking symbol shown above shall be supplemented by letter “W”.

**B** Fittings made from bar or plate may have 0.35 max carbon.

**C** Fittings made from forgings may have 0.35 max carbon and 0.35 max silicon with no minimum.

**D** For each reduction of 0.01 % below the specified carbon maximum, an increase of 0.06 % manganese above the specified maximum will be permitted, up to a maximum of 1.35 %.

**E** The sum of Copper, Nickel, Chromium, and Molybdenum shall not exceed 1.00 %.

**F** The sum of Chromium and Molybdenum shall not exceed 0.32 %.

#### Tensile Requirements

| Grade and Marking Symbol                     | WPB       | WPC,                  |           | WP11 CL1,            |           | WP11 CL3,           |           |           |           |
|----------------------------------------------|-----------|-----------------------|-----------|----------------------|-----------|---------------------|-----------|-----------|-----------|
|                                              |           | WP11 CL2,<br>WP12 CL2 | WP1       | WP22 CL1,<br>WP5 CL1 | WPR       | WP22 CL3<br>WP5 CL3 | WP9 1     | WP91 1    | WP12 CL1  |
|                                              |           |                       |           | WP9 CL1              |           | WP9 CL3             |           |           |           |
| Tensile strength, range ksi [MPa]            | 60–85     | 70–95                 | 55–80     | 60–85                | 63–88     | 75–100              | 85–110    | 90–120    | 60–85     |
|                                              | [415–585] | [485–655]             | [380–550] | [415–585]            | [435–605] | [520–690]           | [585–760] | [620–840] | [415–585] |
| Yield strength, min, ksi [MPa]               | 35 [240]  | 40 [275]              | 30 [205]  | 30 [205]             | 46 [315]  | 45 [310]            | 60 [415]  | 64 [440]  | 32 [220]  |
| (0.2 % offset or 0.5 % extension-under-load) |           |                       |           |                      |           |                     |           |           |           |

#### Production Process

Elbow Marking process and reequipment



ELBOW Shaper Machining



Tee form Process and equipment ↵



Reducer Form process and equipment ↵



## Sand blasted process and equipment



## Beveling Process



## Painting Shop



## Package For shipment



## Reference Standards

### ASME B16.9 Specification for Butt Welded Fittings

ASME B16.9 specification is designed for butt welded fittings applied in industrial construction pipelines. Including elbow, tee, cross, cap, reducer, and etc.

### Standard Scope

The standard includes specifications of NPS 1/2 to NPS 48 (DN15-DN1200) factory-made wrought butt-welded pipe fittings overall dimensions, tolerances ratings, test methods and markings.

### Special Fittings

Special fittings here refer to special sizes, forms and tolerances that agreed between buyer and manufacturer.

### Fabricated Fittings

Fabricated laterals and other fittings by circumferential or intersection welds are considered pipe fabrication could not apply this standard.

Units under ASME B16.9 shall be stated in both SI (Metric) and U.S. Customary units. Designation for size is NPS.

### Reference Standards

It is not considered practical to identify the specific edition of each standard and specification in the individual references. A product made comply with a prior edition of referenced standards and in all other respects conforming to this standard will be considered complied.

ASME B16.5: Pipe Flanges and Flanged Fittings: NPS 1/2 Through NPS 24 Metric/Inch Standard

ASME B16.25: For Buttwelding Ends

ASME B31: Code for Pressure Piping

ASME B31.3: Process Piping

ASME B36.10M, Welded and Seamless Wrought Steel Pipe

ASME B36.19M, Stainless Steel Pipe

ASME Boiler and Pressure Vessel Code

ASTM A234/A234M-17, Specification for Piping Fittings of Wrought Carbon Steel and Alloy Steel for Moderate and High Temperature Service

ASTM A403/A403M-16, Specification for Wrought Austenitic Stainless Steel Piping Fittings

ASTM A420/A420M-16, Specification for Piping Fittings of Wrought Carbon Steel and Alloy Steel for Low Temperature Service

ASTM A815/A815M-14e1, Specification for Wrought Ferritic, Ferritic/Austenitic and Martensitic Stainless Steel Piping Fittings

ASTM A960/A960M-16a, Specification for Common Requirements for Wrought Steel Piping Fittings

ASTM E29-13, Practice for Using Significant Digits in Test Data to Determine Conformance With Specifications

ASTM B361-16, ASTM B363-14, ASTM B366/B366M-17: For other material metals. (Aluminum, Titanium, Nickel, and alloy).

## FAQ/ Customer Question and Answers

### Q: Customer asked for butt weld fittings in A105:

A: Most common carbon steel butt weld fitting material is A234WPB. It is equivalent to A105 flanges, however there is no such thing as an A105 or A106 butt weld fitting. A106 Gr.B is for pipe grade. The A234WPB fittings are made from A106GR.B pipes. A105 is a material from Bar forged to be High pressure Fittings or Flange

### Q: Customer requests "Normalized" butt weld fittings:

A: This is also a misconception since flanges are available in A105 and A105 N, where N stands for normalized. However, there is no such thing as A234WPBN. Manufactures normalize their butt weld fittings was considered that normalized heat treating process was done, Especially for the elbows and Tees Customer needing "normalized" butt weld fittings should request WPL6 fittings which are high yield and are normalized as a standard procedure.

### Q: Customer forgets to mention welded or seamless butt weld fitting:

A: Butt weld fittings are available in both welded and seamless configuration. A seamless butt weld carbon steel or stainless-steel fitting is made of seamless pipe and is generally more expensive. Seamless pipe fittings are NOT common in sizes bigger than 12". Welded pipe fittings are made of ERW welded carbon steel or stainless-steel pipe. They are available in sizes 1/2" to 72" and are more affordable than seamless fittings.

### : What is a 3R or 3D elbow pipe fitting?

A: First, the terms 3R or 3D are used synonymously. A 3R butt weld elbow has a bending radius that is 3 times the nominal pipe size. A 3R elbow is equal to 3D Elbows

## Our Service

1. Technical support
2. Raw Material Quality control.
3. Inspection during the production time.
4. Final Test includes Surface, Dimension, PT Test, RT test, ultrasonic Test
5. Test Report each shipment
4. Flexible Delivery terms. EXW FOB CIF CFR DDP DDU
5. Flexible payment Ways: LC. TT. DP
6. Customized Package includes Logo. Cases Dimension.
7. 18 months quality Guarantee time.
9. Free replacement by air if any error founded
10. 24 hours to Feedback your questions



+8613292824811



sales@deyepiping.com



pip-ing-industry.com

No. 368 Youyi St. Shijiazhuang, Hebei, China