BW SS316 45 Degree Stainless Steel Elbow 1/2"-72" With ISO9001 DN15-DN1800

Our Product Introduction

Basic Information

- Place of Origin: CHINA
- Brand Name: DEYE
- Certification: ISO9001:2015 PED
- Model Number: PF-EL-SS-09
- Minimum Order Quantity: 10PCS
- Price: USD2-10 for small sizes
- Packaging Details: plastic bag+cartons+ply wooden cases
- Delivery Time: 5-8 days for stock items
- Supply Ability: 100000 pcs month

Product Specification

- Material: SS316/SS316L, SS304/SS304L, SS321, UNS31803, UNS32750
- Connection: Butt Welded BW
- Thickness: Sch5s, Sch10s, Sch40s, Sch80s, Sch160s, Xs, Xxs
- Surface: Pickling, Polish
- Highlight: **SS316 45 degree stainless steel elbow**, **1/2" 45 degree stainless steel elbow**, **DN1800 45 degree steel pipe elbow**

More Images

Product Description

BW SS316 stainless Steel Pipe Fittings 45deg Elbow with ISO9001

Brief Introduction

The 45° pipe elbow is used to connect tubes at a 45° pipe angle. As the name suggests, this is a pipe fitting device which is bent in such a way to produce 45° change in the direction of flow of the fluid/gas in the pipe. The function of a 45° elbow is the same as a 90° elbow, but the measurement of dimensions is different to that of the 90° elbow. The radius of a 45° elbow is the same as the radius of the 90° LR (1.1/2D). However, the center to face dimension is not equivalent to the radius as in 90° LR elbows.

The details Specification as below

Products Name	ANSI B16.9 BW SS Smsl seamless and welded Pipe Fitting
Types	Short Raduis Elbow,Long Raduis Elbows, 180deg bends, Returns, Reducing Eblows, traight Tee, Equal Tee, Concentric. Reducers, Eccentric. redcuers, Y tees, caps, Stub Ends,
Size	1/2"-72" DN15-DN1800
Wall Thickness	SCH5S,SCH10s,SCH20S,SCH30,STD,SCH40S,SCH60,XS,SCH80S,SCH100,SCH120, SCH160S,XXS, DIN, SGP JIS thickness
Design Standard	ASTMA312, ASTM A403WP, A234WPB A420, ANSI B16.9/B16.28/B16.25
	JIS B2311-1997/2312, JIS B2311/B2312, DIN 2605-1/2617/2615,
	GB 12459-99,EN Standard etc.
Material List	Stainless Steel304, 304L, 304H, 316, 316L, 316H, 310, SS321, SS321H, 347, 347H, 904L
	Duplex SS 2507, DSS2205, UNS31803 UNS32750, UNS32760
	1.4301,1.4306, 1.4401, 1.4435, 1.4406, 1.4404, 1.4462, 1.4410, 1.4501
	Carbon Steel A234 WPB, WP5, WP9,WP11, WP22, A420WPL6, A420WPL8
	ST37.0,ST35.8,ST37.2,ST35.4/8,ST42,ST45,ST52,ST52.4
	STP G38,STP G42,STPT42,STB42,STS42,STPT49,STS49
Surface	Acid pickling, Polished
Application/Usage	Low and middle pressure fluid pipeline,boiler, petroleum and natural gas industry, drilling,chemical industry, electric industry,shipbuilding,fertilizer equipment and pipeline, structure,petrochemical,pharmaceutical industry,etc.

Features /Characteristics

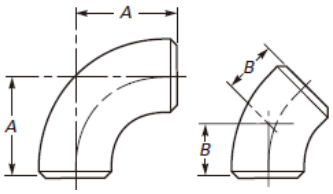
Elbows: Such pipe fittings are used to change the direction of the flow. Elbows They are majorly available in two standard types - 90 and 45 degree angles owing to their high demand in plumbing. The 90-degree elbow is primarily used to connect hoses to water pumps, valves, and deck drains, while the 45 degree elbow is mostly used in water supply facilities, electronic and chemical industrial pipeline networks, food, air-conditioning pipelines, garden production, agriculture, and solar-energy facility.

Thickness List as per ANSI B16.9, MSS SP-44

Nominal Pipe Size DN (in)	Outside Dimeter D	Norminal Wall Thickness (MM)									
		Sch5s	Sch10S	Sch10	Sch40s	Sch40	Sch80s	Sch80	Schl20	Sch160	XXS
1/8	10. 3	——	1. 24	——	1. 73	1. 73	2. 41	2. 41	——	——	——
1/4	13. 7	—	1. 65	—	2. 24	2. 24	3. 02	3. 02	—	—	—
3/8	17. 1	—	1. 65	—	2. 31	2. 31	3. 20	3. 20	—	—	—
1/2	21. 3	1.65	2. 11	——	2. 77	2. 77	3. 73	3. 73	——	4. 78	7. 47
3/4	26. 7	1.65	2. 11	——	2. 87	2. 87	3. 91	3. 91	——	5. 56	7. 82
1	33.4	1. 65	2. 77	—	3. 38	3. 38	4. 55	4. 55	—	6. 35	9. 09
1 1/4	42. 2	1.65	2. 77	—	3. 56	3. 56	4. 85	4. 85	—	6. 35	9. 70
1 1/2	48. 3	1.65	2. 77	——	3. 68	3. 68	5. 08	5. 08	——	7. 14	10. 15
2	60. 3	1. 65	2. 77	——	3. 91	3. 91	5. 54	5. 54	——	8. 74	11. 07
2 1/2	73. 0	2. 11	3. 05	—	5. 16	5. 16	7. 01	7.01	—	9. 53	14. 02
3	88. 9	2. 11	3. 05	—	5. 49	5. 49	7. 62	7. 62	—	11. 13	15. 24
3 1/2	101. 6	2. 11	3. 05	——	5. 74	5. 74	8. 08	8. 08	——	——	——
4	114. 3	2. 11	3. 05	——	6. 02	6. 02	8. 56	8. 56	11. 13	13. 49	17. 12
5	141. 3	2. 77	3. 40	—	6. 55	6. 55	9. 53	9. 53	12. 70	15. 88	19. 05
6	168. 3	2. 77	3. 40	—	7. 11	7. 11	10. 97	10. 97	14. 27	18. 26	21.95
8	219. 1	2. 77	3. 76	——	8. 18	8. 18	12. 70	12. 70	18. 26	23. 01	22.23
10	273. 1	3. 40	4. 19	——	9. 27	9.27	12. 70	15. 09	21. 44	28. 58	25. 40
12	323.9	3. 96	4. 57	—	9. 53	10. 31	12. 70	17. 48	25. 40	33. 32	25. 40
14	355. 6	3. 96	4. 78	6. 35	—	11. 13	—	19. 05	27. 79	35. 71	—
16	406. 4	4. 19	4. 78	6. 35	——	12. 70	——	21. 44	30. 96	40. 49	——
18	457. 2	4. 19	4. 78	6. 35	——	14. 27	——	23. 83	34. 96	45. 24	——

20	508. 0	4. 78	5. 54	6. 35	—	15. 09	—	26. 19	38. 10	50. 01	—
22	558. 8	4. 78	5. 54	6. 35	—	—	—	28. 58	41. 28	53. 98	—
24	609. 6	5. 54	6. 35	6. 35	——	17. 48	——	30. 96	46. 02	59. 54	——
26	660.4	——	——	7. 92	——	——	——	——	——	——	——
28	711.2	—	—	7. 92	—	—	—	—	—	—	—
30	762. 0	6. 35	7. 92	7. 92	—	—	—	—	—	—	—
32	812. 8	——	——	7. 92	——	17. 48	——	——	——	——	——
34	863. 6	——	——	7. 92	——	17. 48	——	——	——	——	——
36	914. 4	—	—	7. 92	—	17. 48	—	—	—	—	—
38	965.2	—	—	—	—	—	—	—	—	—	—
40	1016. 0	——	——	——	——	——	——	——	——	——	——
42	1066. 8	——	——	——	——	——	——	——	——	——	——
44	1117. 6	—	—	—	—	—	—	—	—	—	—
46	1168.4	—	—	—	—	—	—	—	—	—	—
48	1219. 2	—	—	—	—	—	—	—	—	—	—

Dimensions of Elbows



Normial Pipe Size (NPS)	Outside Diameter at Bevel	90-deg Elbows, A	45-deg Elbows, B
1/2	21.3	38	16
3/4	26.7	38	19
1	33.4	38	22
1 1/4	42.2	48	25
1 1/2	48.3	57	29
2	60.3	76	35
2 1/2	73.0	95	44
3	88.9	114	51
3 1/2	101.6	133	57
4	114.3	152	64
5	141.3	190	79
6	168.3	229	95
8	219.1	305	127
10	273.0	381	159
12	323.8	457	190
14	355.6	533	222
16	406.4	610	254
18	457.0	686	286
20	508.0	762	318
22	559.0	838	343
24	610.0	914	381
26	660.0	991	406
28	711.0	1 067	438
30	762.0	1 143	470
32	813.0	1 219	502
34	864.0	1 295	533
36	914.0	1 372	565
38	965.0	1 448	600
40	1 016.0	1 524	632
42	1 067.0	1 600	660
44	1 118.0	1 676	695
46	1 168.0	1 753	727
48	1 219.0	1 829	759

The most common used material for ss butt welded pipefittings is SS304/304L, SS316/316L, DUPLEX SAF2507, SAF2205,
Detail's specification of the material as below.

Material Analysis

304/304L (UNS S30400/S30403)
Chemical Composition%

C	Cr	Mn	Ni	P	S	Si
≤	--	≤	--	≤	≤	≤
0.035	18.0-20.0	2.00	8.0-13.0	0.045	0.03	1.00

Tensile Strength: ≥ 485 Mpa (70KSI)
Yield Strength: ≥170Mpa (25KSPI)
Elongation ≥ 40%

316/316L (UNS S31600/S31603)
Chemical Composition%

C	Cr	Mn	Mo	Ni	P	S	Si
≤	--	≤		--	≤	≤	≤
0.035	16.0-18.0	2.00	2.0-3.0	10.0-14.0	0.045	0.03	1.00

Tensile Strength: ≥ 485 Mpa (70KSI)
Yield Strength: ≥170Mpa (25KSPI)
Elongation ≥ 40%

SAF2205 (UNS31803)

C≤	Si ≤	Mn≤	P ≤	S ≤	Cr	Ni	Mo	Cu	N
0.03	1.0	2.0	0.03	0.02	22-23	4.5-6.5	3.0-3.50	/	0.14-0.2

SAF2205 Material Mechnical Performance

Test Items	Test Temp.	Performance	Standard Data
Tensile Strength	Room Temp.	Yield Strength s≥	450 Mpa
		Tensile Strength h ≥	620 Mpa
		Elongation % >	25
		Reduction of Area=>	/
Impact Value KV(J)	Room Temp.	**Lateral**	/
Brinell hardness	Room Temp.	≤	290
Rockwell hardness	Room Temp.	≥	/

Duplex SS SAF2507(UNS32750)

c ≤	Si≤	Mn≤	P≤	S≤	Cr	Ni	Mo	Cu≤	N
0.03	0.8	1.2	0.03	0.015	24-26	6.0-8.0	3.0-5.0	0.5	0.24-0.32

Mechanical Peformance

Test Items	Test Temp.	Performance		Standard Data
Tensile	Room Temp.	Yield Strength	Ø≤55 Rm≥	550 Mpa
			Ø >55 Rm≥	515 Mpa
		Tensile Strength	Ø≤55 R0.002 ≥	800 Mpa
			Ø >55 R0.002≥	760 Mpa
		Elongation A% (4D) >	Ø≤55 ≥	15
			Ø >55 ≥	15
Brinell hardness HB	Room Temp.	Ø≤5 ≤		310
		Ø >55 ≤		310

Designation: A 403/A 403M – 06 Standard Specification for Wrought Austenitic Stainless-Steel Piping Fittings

Other Referenced Documents
ASTM Standards:
A 351/A 351M Specification for Castings, Austenitic, for Pressure-Containing Parts
A 370 Test Methods and Definitions for Mechanical Testing of Steel Products
A 480/A 480M Specification for General Requirements for Flat-Rolled Stainless and Heat-Resisting Steel Plate, Sheet, and Strip
A 743/A 743M Specification for Castings, Iron-Chromium, Iron-Chromium-Nickel, Corrosion Resistant, for General Application
A 744/A 744M Specification for Castings, Iron-Chromium Nickel, Corrosion Resistant, for Severe Service
A 751 Test Methods, Practices, and Terminology for Chemical Analysis of Steel Products
A 960/A 960M Specification for Common Requirements for Wrought Steel Piping Fittings
E 112 Test Methods for Determining Average Grain Size
E 165 Test Method for Liquid Penetrant Examination

ASME Standards:
ASME B16.9 Factory-Made Wrought Steel Butt-Welding Fittings
ASME B16.11 Forged Steel Fittings, Socket-Welding and Threaded ends

MSS Standards: MSS SP-25 Standard Marking System for Valves, Fittings,
Flanges, and Unions

MSS SP-43 Standard Practice for Light Weight Stainless Steel Butt-Welding Fittings
MSS SP-79 Socket-Welding Reducer Inserts

Production Process

1. Raw material Receiving and Cutting

2.Material Identification

3. Elbows, Tees ,reducers, Caps, stub ends, kinds of pipefittings shape forming

4. Material wedling process (welded elbows)

5. Heat Treatment for SS pipefittings

6. Shot Blast and cleaning

7. Surface checking

8. After Polished

9. stainless steel Pipefittings Material In Stock

FAQ

Q:Customer asked for butt weld fittings in A105:
A: Most common carbon steel buttweld 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, Espeically 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 pipe schedule:
A: Buttweld fittings are sold as per pipe size but pipe schedule must be specified to match the ID of the fitting to the ID of the pipe. If no schedule is mentioned, we will assume a standard wall is requested.

Q; Customer forgets to mention welded or seamless butt weld fitting:
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 ½” to 72” and are more affordable than seamless fittings.

Q: What does Short Radius (SR) or Long Radius (LR) means?
A: You will often hear SR45 elbow or LR45 elbow. The 45 or 90 refers to the angle of the bend for buttweld fitting to change the direction of flow.
A long radius elbow (LR 90 Elbow or LR 45 elbow) will have a pipe bend that will be 1.5 times the size of the pipe. So, a 6 inch LR 90 has bending radius that is 1.5 x nominal pipe size.
A short radius elbow (SR45 or SR90) has a pipe bend that is equal to the size of the fitting, so a 6" SR 45 has a bending radius that is 6" nominal pipe size.
Q: 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

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