



## Sch10s Sch40s 180deg Steel Pipe Bends And Elbows For Chemical Industry

Our Product Introduction

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### Basic Information

- Place of Origin: China
- Brand Name: DEYE
- Certification: ISO9001: 2015
- Model Number: PF-EL-S-05
- Minimum Order Quantity: 10pcs
- Price: USD 2-100 dollars for SS36L Elbow
- Packaging Details: Ply-Wooden Cases, Pallets , cartons
- Delivery Time: 10 work days
- Supply Ability: 25 tons for one 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: **180deg steel pipe bends and elbows,**  
**Sch40s steel pipe bends and elbows,**  
**Sch10s stainless steel pipe bends**



### More Images



## Product Description

### Sch10s Sch40s Stainless Steel Pipe Fittings 180 Deg Bends For Chemical Industry

#### Brief Introduction

**Stainless steel pipe elbow: 180 degree elbow** is like 45 or 90 degree elbow, but the flow direction change is 180 degree. It looks like the flow fluid get back to the same direction from the joint. The shape is like two 90 degree elbows welded together. It is also called "U bend" or "return bend".

#### Products Information/Specification:

Products Name	Butt-Welding Stainless steel seamless and welded Pipe Fitting
Types	180deg Returns, LR Elbows, SR Elbow, 180deg Returns, Bends, Reducing Elbow, Straight Tee, Equal Tee, Y Tee Con. Reducers, Ecc. reducers caps, Stub Ends,
Size	1/2"-72"
Wall Thickness	SCH5S, SCH10s, SCH20S, SCH30, STD, SCH40S, SCH60, XS, SCH80S, SCH100, SCH120, SCH160S, XXS, DIN, SGP JIS thickness
Standard	ASTMA312, WP403 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	Stainless Steel 304, 304L, 304H, 316, 316L, 316H, 310, SS321, SS321H, 347, 347H, 904L
	Duplex SS 2507, DSS2205, UNS31803 UNS32750
	1.4301, 1.4306, 1.4401, 1.4435, 1.4406, 1.4404
	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	Sandblast, acid pickling, Polished

#### Features /Characteristics

- Buttweld fittings are pipe fittings used to change the pathway of a pipeline (elbows), reduce/increase the pipe bore size (reducers), branch (tees, cross) or blind a pipeline (butt weld cap)
- Buttweld fittings are available in multiple shapes (elbows, tees, reducers, crosses, caps, stub ends), material grades (carbon, high-yield carbon, low-alloy, stainless, duplex, and nickel alloys), and dimensions (2 to 24 inches in seamless or welded, 26"-72" in welded).
- The key specifications for buttweld fittings are the ASME B16.9 (carbon and alloy fittings) and the MSS SP 43 (that integrates ASME B16.9 for stainless steel, duplex, and nickel alloy BW fittings).
- butt weld pipe fittings are sold as SCH10S, SCH10S, SCH20S, SCH40S, STD, SCH40, SCH80S, SCH80, SCH160S, XXS
- Welded butt weld fittings are more common in stainless steel due to cost advantage. Sch 10S, SCH40S SS fittings are also more common in stainless steel butt weld fittings.
- Common material for butt weld fittings are A234 WPB, High Yield Carbon Steel, Stainless Steel 304 and 316 and Nickel Alloys.
- Welded pipe fittings in carbon steel and stainless steel are the joining components that make possible the assembly of valves, pipes and equipment onto the piping system.

#### Technology/ Technical Data Sheets

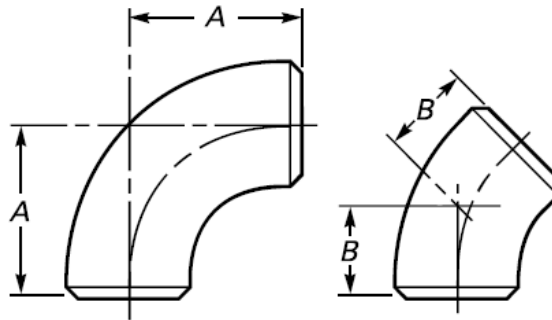
##### Thickness List for pipefittings ANSI B16.9

Unit: mm

Pipe Size DN (in)	Outside Dimeter D	Normal Wall Thickness														
		Sch5s	Sch10S	Sch10	Sch20	Sch30	Sch40s	STD	Sch40	Sch80s	XS	Sch80	Sch100	Sch140	Sch160	XXS
1/8	10.3	—	1.24	—	—	—	1.73	1.73	1.73	2.41	2.41	2.41	—	—	—	—
1/4	13.7	—	1.65	—	—	—	2.24	2.24	2.24	3.02	3.02	3.02	—	—	—	—
3/8	17.1	—	1.65	—	—	—	2.31	2.31	2.31	3.20	3.20	3.20	—	—	—	—
1/2	21.3	1.65	2.11	—	—	—	2.77	2.77	2.77	3.73	3.73	3.73	—	—	4.78	7.47
3/4	26.7	1.65	2.11	—	—	—	2.87	2.87	2.87	3.91	3.91	3.91	—	—	5.56	7.82
1	33.4	1.65	2.77	—	—	—	3.38	3.38	3.38	4.55	4.55	4.55	—	—	6.35	9.09
1 1/4	42.2	1.65	2.77	—	—	—	3.56	3.56	3.56	4.85	4.85	4.85	—	—	6.35	9.70
1 1/2	48.3	1.65	2.77	—	—	—	3.68	3.68	3.68	5.08	5.08	5.08	—	—	7.14	10.15
2	60.3	1.65	2.77	—	—	—	3.91	3.91	3.91	5.54	5.54	5.54	—	—	8.74	11.07
2 1/2	73.0	2.11	3.05	—	—	—	5.16	5.16	5.16	7.01	7.01	7.01	—	—	9.53	14.02
3	88.9	2.11	3.05	—	—	—	5.49	5.49	5.49	7.62	7.62	7.62	—	—	11.13	15.24
3 1/2	101.6	2.11	3.05	—	—	—	5.74	5.74	5.74	8.08	8.08	8.08	—	—	—	—

4	114.3	2.11	3.05	—	—	—	6.02	6.02	6.02	8.56	8.56	8.56	—	—	13.49	17.12
5	141.3	2.77	3.40	—	—	—	6.55	6.55	6.55	9.53	9.53	9.53	—	—	15.88	19.05
6	168.3	2.77	3.40	—	—	—	7.11	7.11	7.11	10.97	10.97	10.97	—	—	18.26	21.95
8	219.1	2.77	3.76	—	6.35	7.04	8.18	8.18	8.18	12.70	12.70	12.70	15.09	20.62	23.01	22.23
10	273.1	3.40	4.19	—	6.35	7.80	9.27	9.27	9.27	12.70	12.70	12.70	15.09	18.26	25.40	28.58
12	323.9	3.96	4.57	—	6.35	8.38	9.53	9.53	10.31	12.70	12.70	12.70	17.48	21.44	28.58	33.32
14	355.6	3.96	4.78	6.35	7.92	9.53	—	9.53	11.13	—	12.70	12.70	19.05	23.83	31.75	35.71
16	406.4	4.19	4.78	6.35	7.92	9.53	—	9.53	12.70	—	12.70	12.70	21.44	26.19	36.53	40.49
18	457.2	4.19	4.78	6.35	7.92	11.13	—	9.53	14.27	—	12.70	12.70	23.83	29.36	39.67	45.24
20	508.0	4.78	5.54	6.35	9.53	12.70	—	9.53	15.09	—	12.70	12.70	26.19	32.54	44.45	50.01
22	558.8	4.78	5.54	6.35	9.53	12.70	—	9.53	—	—	12.70	12.70	28.58	34.93	47.63	53.98
24	609.6	5.54	6.35	6.35	9.53	14.27	—	9.53	17.48	—	12.70	12.70	30.96	38.89	52.37	59.54
26	660.4	—	—	7.92	12.70	—	—	9.53	—	—	12.70	12.70	—	—	—	—
28	711.2	—	—	7.92	12.70	15.88	—	9.53	—	—	12.70	12.70	—	—	—	—
30	762.0	6.35	7.92	7.92	12.70	15.88	—	9.53	—	—	12.70	12.70	—	—	—	—
32	812.8	—	—	7.92	12.70	15.88	—	9.53	17.48	—	12.70	12.70	—	—	—	—
34	863.6	—	—	7.92	12.70	15.88	—	9.53	17.48	—	12.70	12.70	—	—	—	—
36	914.4	—	—	7.92	12.70	15.88	—	9.53	17.48	—	12.70	12.70	—	—	—	—
38	965.2	—	—	—	—	—	—	9.53	—	—	12.70	12.70	—	—	—	—
40	1016.0	—	—	—	—	—	—	9.53	—	—	12.70	12.70	—	—	—	—
42	1066.8	—	—	—	—	—	—	9.53	—	—	12.70	12.70	—	—	—	—
44	1117.6	—	—	—	—	—	—	9.53	—	—	12.70	12.70	—	—	—	—
46	1168.4	—	—	—	—	—	—	9.53	—	—	12.70	12.70	—	—	—	—
48	1219.2	—	—	—	—	—	—	9.53	—	—	12.70	12.70	—	—	—	—

Table 1 Dimensions of Long Radius Elbows

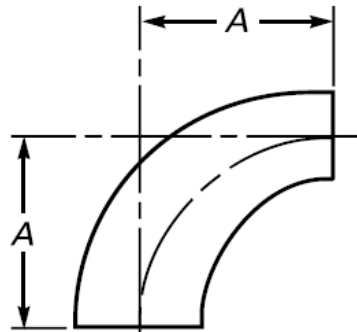


GENERAL NOTE: All dimensions are in millimeters.

Normal 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

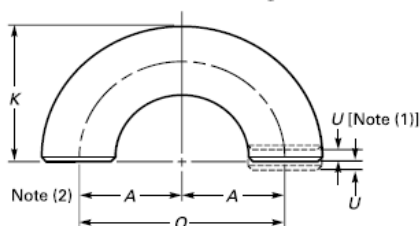
40	1 016.0	1 524	632
42	1 067.0	1 600	660
44	1 118.0	1 676	695
46	1 168.0	1 753	727
48	1 219.0	1 829	759

**Table 2 Dimensions of Long Radius Reducing Elbow**

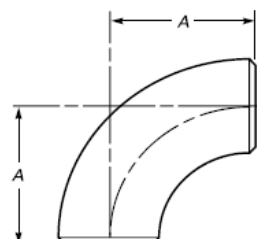


Nominal Pipe Size (NPS)	Outside Diameter at Bevel		Center-to-End, A	Nominal Pipe Size (NPS)	Outside Diameter at Bevel		Center-to-End, A
	Large End	Small End			Large End	Small End	
2 x 1-1/2"	60.3	48.3	76	10 x 8	273.0	219.1	381
2 x 1-1/4"	60.3	42.2	76	10 x 6	273.0	168.3	381
2 x 1"	60.3	33.4	76	10 x 5	273.0	141.3	381
2-1/2 x 2"	73.0	60.3	95	12 x 10	323.8	273.0	457
2-1/2 x 1-1/2"	73.0	48.3	95	12 x 8	323.8	219.1	457
2-1/2 x 1-1/4"	73.0	42.2	95	12 x 6	323.8	168.3	457
3 x 2-1/2"	88.9	73.0	114	14 x 12	355.6	323.8	533
3 x 2"	88.9	60.3	114	14 x 10	355.6	273.0	533
3 x 1-1/2"	88.9	48.3	114	14 x 8	355.6	219.1	533
3-1/2 x 3"	101.6	88.9	133	16 x 14	406.4	355.6	610
3-1/2 x 2-1/2"	101.6	73.0	133	16 x 12	406.4	323.8	610
3-1/2 x 2"	101.6	60.3	133	16 x 10	406.4	273.0	610
4 x 3-1/2"	114.3	101.6	152	18 x 16	457.0	406.4	686
4 x 3"	114.3	88.9	152	18 x 14	457.0	355.6	686
4 x 2-1/2"	114.3	73.0	152	18 x 12	457.0	323.8	686
4 x 2"	114.3	60.3	152	18 x 10	457.0	273.0	686
5 x 4"	141.3	114.3	190	20 x 18	508.0	457.0	762
5 x 3-1/2"	141.3	101.6	190	20 x 16	508.0	406.4	762
5 x 3"	141.3	88.9	190	20 x 14	508.0	355.6	762
5 x 2-1/2"	141.3	73.0	190	20 x 12	508.0	323.8	762
				20 x 10	508.0	273.0	762
6 x 5"	168.3	141.3	229				
6 x 4"	168.3	114.3	229	24 x 22	610.0	559.0	914
6 x 3-1/2"	168.3	101.6	229	24 x 20	610.0	508.0	914
6 x 3"	168.3	88.9	229	24 x 18	610.0	457.0	914
				24 x 16	610.0	406.4	914
8 x 6"	219.1	168.3	305	24 x 14	610.0	355.6	914
8 x 5"	219.1	141.3	305	24 x 12	610.0	323.8	914
8 x 4"	219.1	114.3	305	•••	•••	•••	•••

**Table 3 Dimensions of Long Radius Returns**



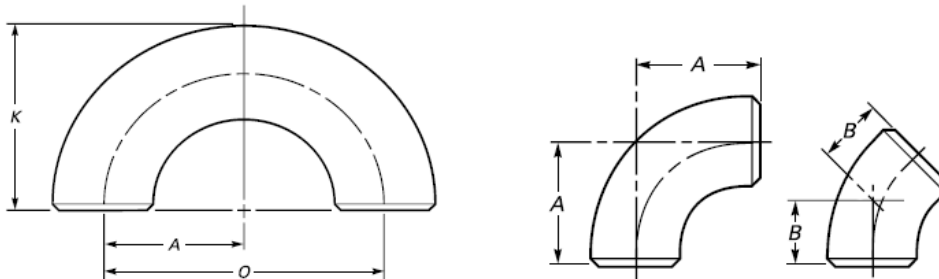
**Table 4 Dimensions of Short Radius Elbows**



Nominal Pipe Size NPS	Outside Diameter at Bevel	Center-to-Center	Back-to-Face	Nominal Pipe Size (NPS)	Outside Diameter at Bevel	Center-to-End,
			K			A
1/2	21.3	76	48			
3/4	26.7	76	51			
1	33.4	76	56	1	33.4	25
1 1/4	42.2	95	70	1 1/4	42.2	32
1 1/2	48.3	114	83	1 1/2	48.3	38
2	60.3	152	106	2	60.3	51
2 1/2	73.0	190	132	2 1/2	73.0	64
3	88.9	229	159	3	88.9	76
3 1/2	101.6	267	184	3 1/2	101.6	89
4	114.3	305	210	4	114.3	102
5	141.3	381	262	5	141.3	127
6	168.3	457	313	6	168.3	152
8	219.1	610	414	8	219.1	203
10	273.0	762	518	10	273.0	254
12	323.8	914	619	12	323.8	305
14	355.6	1 067	711	14	355.6	356
16	406.4	1 219	813	16	406.4	406
18	457.0	1 372	914	18	457.0	457
20	508.0	1 524	1 016	20	508.0	508
22	559.0	1 676	1 118	22	559.0	559
24	610.0	1 829	1 219	24	610.0	610

Table 5 Dimensions of Short Radius 180-deg Returns

Table 6 Dimensions of 3D Elbow




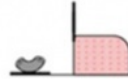

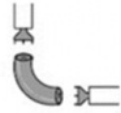
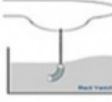



Nominal Pipe Size (NPS)	Outside Diameter at Bevel	Center-to-Center	Back-to-Face	Pipe Size (NPS)	Outside Diameter at Bevel	90-deg Elbows A	45-deg Elbows B
1	33.4	51	41	3/4	26.7	57	24
1-1/4"	42.2	64	52	1	33.4	76	31
1-1/2"	48.3	76	62	1 1/4	42.2	95	39
2	60.3	102	81	1 1/2	48.3	114	47
2-1/2"	73.0	127	100	2	60.3	152	63
3	88.9	152	121	2 1/2	73.0	190	79
3-1/2"	101.6	178	140	3	88.9	229	95
4	114.3	203	159	3 1/2	101.6	267	111
5	141.3	254	197	4	114.3	305	127
6	168.3	305	237	5	141.3	381	157
8	219.1	406	313	6	168.3	457	189
10	273.0	508	391	8	219.1	610	252
12	323.8	610	467	10	273.0	762	316
14	355.6	711	533	12	323.8	914	378
16	406.4	813	610	14	355.6	1 067	441
18	457.0	914	686	16	406.4	1 219	505
20	508.0	1 016	762	18	457.0	1 372	568
22	559.0	1 118	838	20	508.0	1 524	632
24	610.0	1 219	914	22	559.0	1 676	694
				24	610.0	1 829	757
				26	660.0	1 981	821
				28	711.0	2 134	883
				30	762.0	2 286	964
				32	813.0	2 438	1 010
				34	864.0	2 591	1 073
				36	914.0	2 743	1 135
				38	965.0	2 896	1 200
				40	1 016.0	3 048	1 264
				42	1 067.0	3 200	1 326
				44	1 118.0	3 353	1 389

GENERAL NOTES: All dimensions are in millimeters.

	46	1 168.0	3 505	1 453
	48	1 219.0	3 658	1 516

### Production Process

<b>1 Receiving Inspection</b>	<b>2 Cutting</b>	<b>3 Forming</b>	<b>4 Heat Treatment</b>
			
<b>5 Shot Blasting &amp; Cleaning</b>	<b>6 Beveling</b>	<b>7 Cleaning</b>	<b>8 Package</b>
			

### 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.

### **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. Manufacturers 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 pipe schedule:

**A:** Butt weld 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:

**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.

**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 butt weld 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

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