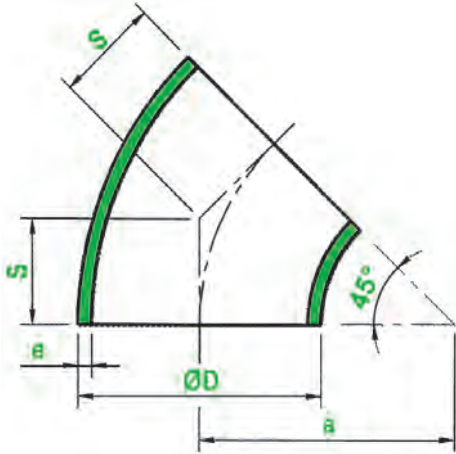


Elbows Short Radius

10 Bar

14 Bar

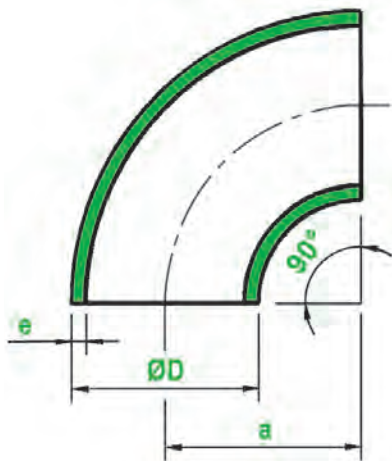
45°



Material : CuNi 90/10 | CuNi 70/30

Outside Diameter of Pipe - ØD		DIN 86090							
		10 Bar				14 Bar			
Nominal (Inch)	Actual (mm)	e (mm)	a (mm)	s (mm)	kg /pc	e (mm)	a (mm)	s (mm)	kg /pc
SEAMLESS									
1/2	20	1.0	22.4	8.92	0.007	1.5	22.4	8.92	0.009
3/4	25	1.5	24.6	9.77	0.01	1.5	24.6	9.77	0.01
1	30	1.5	30.0	12	0.02	2.0	30.0	12	0.027
1¼	38	1.5	32.5	14	0.04	2.0	32.5	14	0.053
1½	44.5	1.5	40	17	0.06	2.0	40	17	0.08
2	57	1.5	52.5	22	0.10	2.0	52.5	22	0.133
2½	76.1	2.0	70	29	0.22	2.0	70	29	0.22
3	88.9	2.0	82.5	34	0.32	2.5	82.5	34	0.40
4	108	2.5	100	41	0.58	2.5	100	41	0.58
5	133	2.5	125	52	0.90	3.0	125	52	1.08
6	159	2.5	150	62	1.30	3.0	150	62	1.56
7	193.7	2.5	180	75	1.90	3.5	180	75	2.66
8	219.1	3.0	210	87	3.00	3.5	210	87	3.50
10	267	3.0	255	106	4.40	4.0	255	106	5.87
12	323.9	4.0	305	126	8.60	5.0	305	126	10.75
SEAM WELDED									
14	368	4.0	352.5	146	11.30	5.5	352.5	146	15.54
16	419.1	4.0	400	166	16.40	6.0	400	166	21.87
18	457.2	4.0	455	188	20.40	6.0	455	188	30.60
20	508	4.5	505	209	28.10	6.5	505	209	42.15
24	610	5.0	610	253	40.90	8.0	610	253	65.45

90°



Material : CuNi 90/10 | CuNi 70/30

SEAMLESS									
1/2	20	1.0	22.4	-	0.014	1.5	22.4	-	0.021
3/4	25	1.5	24.6	-	0.02	1.5	24.6	-	0.02
1	30	1.5	30.0	-	0.04	2.0	30.0	-	0.053
1¼	38	1.5	32.5	-	0.08	2.0	32.5	-	0.107
1½	44.5	1.5	40	-	0.12	2.0	40	-	0.16
2	57	1.5	52.5	-	0.20	2.0	52.5	-	0.27
2½	76.1	2.0	70.0	-	0.44	2.0	70	-	0.44
3	88.9	2.0	82.5	-	0.64	2.5	114.5	-	0.80
4	108	2.5	100	-	1.16	2.5	100	-	1.16
5	133	2.5	125	-	1.80	3.0	181	-	2.16
6	159	2.5	150	-	2.60	3.0	216	-	3.12
7	193.7	2.5	180	-	3.80	3.5	270	-	5.32
8	219.1	3.0	210	-	6.00	3.5	305	-	7.00
10	267	3.0	255	-	8.80	4.0	378	-	11.74
12	323.9	4.0	305	-	17.20	5.0	457	-	21.50
SEAM WELDED									
14	368	4.0	352.5	-	22.60	5.5	533.5	-	31.08
16	419.1	4.0	400	-	32.80	6.0	609.5	-	43.74
18	457.2	4.0	455	-	40.80	6.0	686	-	61.20
20	508	4.5	505	-	56.20	6.5	762	-	84.30
24	610	5.0	610	-	81.80	8.0	915	-	130.90



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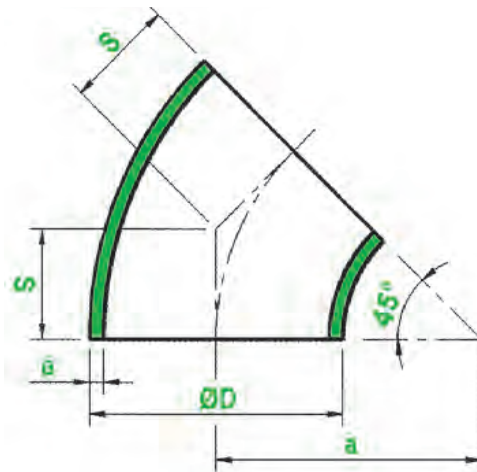
45° Elbows Long Radius

10 Bar

14 Bar

16 Bar

20 Bar



Material : CuNi 90/10 | CuNi 70/30

Outside Diameter of Pipe - ØD		DIN 86090								EEMUA 146							
Nominal (Inch)	Actual (mm)	10 Bar				14 Bar				16 Bar				20 Bar			
		e (mm)	a (mm)	s (mm)	kg /pc	e (mm)	a (mm)	s (mm)	kg /pc	e (mm)	a (mm)	s (mm)	kg /pc	e (mm)	a (mm)	s (mm)	kg /pc
SEAMLESS																	
1/2	20	1.0	25	10.4	0.01	1.5	25	10.4	0.015	-	-	-	-	-	-	-	-
3/4	25	1.5	27.5	11.4	0.02	1.5	27.5	11.4	0.02	2.0	31.2	18	0.026	2.0	31.2	18	0.026
1	30	1.5	33.5	14	0.03	2.0	33.5	14	0.04	2.5	38	22	0.06	2.5	38	22	0.06
1¼	38	1.5	45	19	0.05	2.0	45	19	0.066	2.5	48	25	0.09	2.5	48	25	0.09
1½	44.5	1.5	51	21	0.07	2.0	51	21	0.092	2.5	57	29	0.13	2.5	57	29	0.13
2	57	1.5	72	30	0.13	2.0	72	30	0.171	2.5	76	35	0.23	2.5	76	35	0.23
2½	76.1	2.0	95	39	0.30	2.0	95	39	0.30	2.5	95	44	0.38	2.5	95	44	0.38
3	88.9	2.0	114.5	47	0.43	2.5	114.5	47	0.54	2.5	114	51	0.54	2.5	114	51	0.54
4	108	2.5	142.5	59	0.82	2.5	142.5	59	0.82	3.0	152	64	1.05	3.0	152	64	1.05
5	133	2.5	181	75	1.29	3.0	181	75	1.55	-	-	-	-	-	-	-	-
6	159	2.5	216	89	1.85	3.0	216	89	2.22	3.0	229	95	2.35	3.5	229	95	2.74
7	193.7	2.5	270	112	2.82	3.5	270	112	3.94	-	-	-	-	-	-	-	-
8	219.1	3.0	305	126	4.33	3.5	305	126	5.04	4.0	305	127	5.75	4.5	305	127	6.47
10	267	3.0	378	157	6.55	4.0	378	157	8.73	4.5	381	159	9.85	5.5	381	159	12.04
12	323.9	4.0	457	189	12.80	5.0	457	189	16.00	5.5	457	190	17.53	7.0	457	190	22.30
SEAM WELDED																	
14	368	4.0	533.5	221	17.00	5.5	533.5	221	23.37	6.5	533	222	27.46	8.0	533	222	33.80
16	419.1	4.0	609.5	252	29.90	6.0	609.5	252	33.20	7.0	610	254	38.50	9.0	610	254	49.50
18	457.2	4.0	686	284	30.70	6.0	686	284	46.05	8.0	686	286	54.10	9.5	686	286	64.25
20	508	4.5	762	316	41.90	6.5	762	316	62.85	8.5	762	318	70.93	11.0	762	318	91.80
24	610	5.0	915	379	60.62	8.0	915	379	97.00	10.5	914	381	126.42	13.0	914	381	156.60
28	711	-	-	-	-	-	-	-	-	12.0	1067	438	196.30	15.0	1067	438	245.40
32	813	-	-	-	-	-	-	-	-	13.5	1219	502	288.00	17.0	1219	502	363.85
36	914	-	-	-	-	-	-	-	-	15.5	1372	565	418.60	19.0	1372	565	513.13



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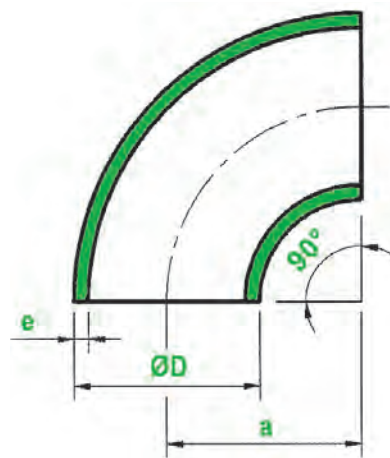
90° Elbows Long Radius

10 Bar

14 Bar

16 Bar

20 Bar



Material : CuNi 90/10 | CuNi 70/30

Outside Diameter of Pipe - ØD		DIN 86090						EEMUA 146					
Nominal (Inch)	Actual (mm)	10 bar			14 Bar			16 Bar			20 Bar		
		e (mm)	a (mm)	kg /pc	e (mm)	a (mm)	kg /pc	e (mm)	a (mm)	kg /pc	e (mm)	a (mm)	kg /pc
SEAMLESS													
1/2	20	1.0	25	0.02	1.5	25.0	0.03	-	-	-	-	-	-
3/4	25	1.5	27.5	0.04	1.5	27.5	0.053	2.0	31.20	0.076	2.0	31.20	0.076
1	30	1.5	33.5	0.06	2.0	33.5	0.08	2.5	38	0.12	2.5	38	0.12
1¼	38	1.5	45	0.10	2.0	45.0	0.133	2.5	48	0.18	2.5	48	0.18
1½	44.5	1.5	51	0.14	2.0	51.0	0.187	2.5	57	0.26	2.5	57	0.26
2	57	1.5	72	0.26	2.0	72.0	0.347	2.5	76	0.46	2.5	76	0.46
2½	76.1	2.0	95	0.61	2.0	95.0	0.61	2.5	95	0.76	2.5	95	0.76
3	88.9	2.0	114.5	0.87	2.5	114.5	1.08	2.5	114	1.08	2.5	114	1.08
4	108	2.5	142.5	1.64	2.5	142.5	1.64	3.0	152	2.10	3.0	152	2.10
5	133	2.5	181	2.58	3.0	181	3.10	-	-	-	-	-	-
6	159	2.5	216	3.70	3.0	216	4.44	3.0	229	4.70	3.5	229	5.48
7	193.7	2.5	270	5.65	3.5	270	7.88	-	-	-	-	-	-
8	219.1	3.0	305	8.66	3.5	305	10.08	4.0	305	11.50	4.5	305	12.94
10	267	3.0	378	13.10	4.0	378	17.46	4.5	381	19.70	5.5	381	24.08
12	323.9	4.0	457	25.61	5.0	457	32.00	5.5	457	35.06	7.0	457	44.60
SEAM WELDED													
14	368	4.0	533.5	34.00	5.5	533.5	46.74	6.5	533	54.92	8.0	533	67.60
16	419.1	4.0	609.5	39.40	6.0	609.5	66.40	7.0	610	77.00	9.0	610	99.00
18	457.2	4.0	686	48.40	6.0	686	72.63	8.0	686	108.20	9.5	686	128.50
20	508	4.5	762	75.62	6.5	762	125.70	8.5	762	141.86	11.0	762	183.60
24	610	5.0	915	121.24	8.0	915	194.00	10.5	914	252.94	13.0	914	313.30
28	711	-	-	-	-	-	-	12.0	1067	392.60	15.0	1067	490.80
32	813	-	-	-	-	-	-	13.5	1219	577.90	17.0	1219	727.70
36	914	-	-	-	-	-	-	15.5	1372	837.20	19.0	1372	1026.26



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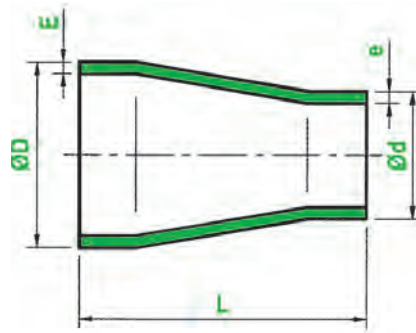
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Concentric Reducers

10 Bar

14 Bar



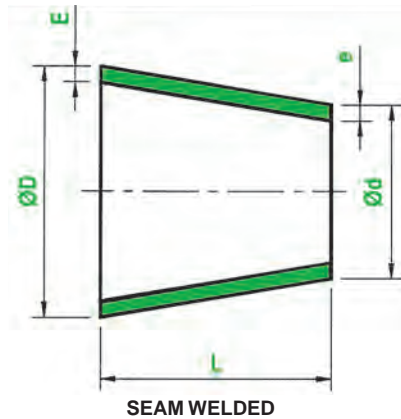
Material : CuNi 90/10 | CuNi 70/30

Outside Diameter of Pipe						DIN 86089							
ØD x Ød		ØD x Ød				10 Bar				14 Bar			
Nominal (Inch)		Actual (mm)				E (mm)	e (mm)	L (mm)	kg /pc	E (mm)	e (mm)	L (mm)	kg /pc
SEAMLESS													
3/4	x	1/2	25	x	20	1.5	1.0	30	0.03	1.5	1.5	30	0.038
1	x	1/2	30	x	20	1.5	1.0	35	0.04	2.0	1.5	35	0.046
1	x	3/4	30	x	25	1.5	1.5	35	0.05	2.0	1.5	35	0.056
1 1/4	x	1/2	38	x	20	1.5	1.0	50	0.06	2.0	1.5	50	0.067
1 1/4	x	3/4	38	x	25	1.5	1.5	50	0.07	2.0	1.5	50	0.077
1 1/4	x	1	38	x	30	1.5	1.5	50	0.08	2.0	2.0	50	0.086
1 1/2	x	1/2	44.5	x	20	1.5	1.0	80	0.09	2.0	1.5	80	0.098
1 1/2	x	3/4	44.5	x	25	1.5	1.5	80	0.11	2.0	1.5	80	0.117
1 1/2	x	1	44.5	x	30	1.5	1.5	80	0.12	2.0	2.0	80	0.126
1 1/2	x	1 1/4	44.5	x	38	1.5	1.5	80	0.13	2.0	2.0	80	0.135
2	x	3/4	57	x	25	1.5	1.5	80	0.13	2.0	1.5	80	0.137
2	x	1	57	x	30	1.5	1.5	80	0.14	2.0	2.0	80	0.145
2	x	1 1/4	57	x	38	1.5	1.5	80	0.15	2.0	2.0	80	0.156
2	x	1 1/2	57	x	44.5	1.5	1.5	80	0.16	2.0	2.0	80	0.168
2 1/2	x	1	76.1	x	30	2.0	1.5	90	0.24	2.0	2.0	90	0.245
2 1/2	x	1 1/4	76.1	x	38	2.0	1.5	90	0.25	2.0	2.0	90	0.255
2 1/2	x	1 1/2	76.1	x	44.5	2.0	1.5	90	0.26	2.0	2.0	90	0.269
2 1/2	x	2	76.1	x	57	2.0	1.5	90	0.29	2.0	2.0	90	0.298
3	x	1 1/4	88.9	x	38	2.0	1.5	90	0.29	2.5	1.5	90	0.33
3	x	1 1/2	88.9	x	44.5	2.0	1.5	90	0.30	2.5	1.5	90	0.35
3	x	2	88.9	x	57	2.0	1.5	90	0.32	2.5	1.5	90	0.38
3	x	2 1/2	88.9	x	76.1	2.0	2.0	90	0.40	2.5	2.0	90	0.48
4	x	1 1/2	108	x	44.5	2.5	1.5	100	0.46	2.5	2.0	100	0.468
4	x	2	108	x	57	2.5	1.5	100	0.48	2.5	2.0	100	0.521
4	x	2 1/2	108	x	76.1	2.5	2.0	100	0.57	2.5	2.0	100	0.594
4	x	3	108	x	88.9	2.5	2.0	100	0.61	2.5	2.5	100	0.61
5	x	2	133	x	57	2.5	1.5	140	0.80	3.0	1.5	140	0.86
5	x	2 1/2	133	x	76.1	2.5	2.0	140	0.93	3.0	2.0	140	1.06
5	x	3	133	x	88.9	2.5	2.0	140	0.98	3.0	2.5	140	1.13
5	x	4	133	x	108	2.5	2.5	140	1.16	3.0	2.5	140	1.34
6	x	2 1/2	159	x	76.1	2.5	2.0	150	1.13	3.0	2.0	150	1.35
6	x	3	159	x	88.9	2.5	2.0	150	1.19	3.0	2.5	150	1.42
6	x	4	159	x	108	2.5	2.5	150	1.38	3.0	2.5	150	1.65
6	x	5	159	x	133	2.5	2.5	150	1.51	3.0	3.0	150	1.81
7	x	3	193.7	x	88.9	2.5	2.0	155	1.39	3.5	2.5	155	1.94
7	x	4	193.7	x	108	2.5	2.5	155	1.58	3.5	2.5	155	2.21
7	x	5	193.7	x	133	2.5	2.5	155	1.71	3.5	3.0	155	2.39
7	x	6	193.7	x	159	2.5	2.5	155	1.86	3.5	3.0	155	2.60

Concentric Reducers

10 Bar

14 Bar



Material : CuNi 90/10 | CuNi 70/30

Outside Diameter of Pipe					DIN 86089								
ØD x Ød		ØD x Ød			10 Bar				14 Bar				
Nominal (Inch)		Actual (mm)			E (mm)	e (mm)	L (mm)	kg /pc	E (mm)	e (mm)	L (mm)	kg /pc	
8	x	4	219.1	x	108	3.0	2.5	155	2.47	3.5	2.5	155	2.88
8	x	5	219.1	x	133	3.0	2.5	155	2.60	3.5	3.0	155	3.03
8	x	6	219.1	x	159	3.0	2.5	155	2.74	3.5	3.0	155	3.20
8	x	7	219.1	x	193.7	3.0	2.5	155	2.93	3.5	3.5	155	3.42
10	x	5	267	x	133	3.0	2.5	210	3.30	4.0	3.0	210	4.40
10	x	6	267	x	159	3.0	2.5	210	3.49	4.0	3.0	210	4.65
10	x	7	267	x	193.7	3.0	2.5	210	3.75	4.0	3.5	210	5.00
10	x	8	267	x	219.1	3.0	3.0	210	4.25	4.0	3.5	210	5.65
SEAM WELDED													
12	x	5	323.9	x	133	4.0	2.5	210	5.30	5.0	3.0	210	6.62
12	x	6	323.9	x	159	4.0	2.5	210	5.60	5.0	3.0	210	7.00
12	x	7	323.9	x	193.7	4.0	2.5	210	6.02	5.0	3.5	210	7.52
12	x	8	323.9	x	219.1	4.0	3.0	210	6.30	5.0	3.5	210	7.90
12	x	10	323.9	x	267	4.0	3.0	210	6.88	5.0	4.0	210	8.60
14	x	6	368	x	159	4.0	2.5	300	8.75	5.5	3.0	300	12.03
14	x	7	368	x	193.7	4.0	2.5	300	9.34	5.5	3.0	300	12.84
14	x	8	368	x	219.1	4.0	3.0	300	9.76	5.5	3.5	300	13.42
14	x	10	368	x	267	4.0	3.0	300	10.57	5.5	4.0	300	14.53
14	x	12	368	x	323.9	4.0	4.0	300	11.53	5.5	5.0	300	15.85
16	x	7	419.1	x	193.7	4.0	2.5	325	11.04	6.0	3.5	325	16.56
16	x	8	419.1	x	219.1	4.0	3.0	325	11.50	6.0	3.5	325	17.25
16	x	10	419.1	x	267	4.0	3.0	300	12.38	6.0	4.0	325	18.57
16	x	12	419.1	x	323.9	4.0	4.0	300	13.42	6.0	5.0	325	20.13
16	x	14	419.1	x	368	4.0	4.0	300	14.22	6.0	5.5	325	21.33
18	x	8	457.2	x	219.1	4.0	3.0	350	13.14	6.0	3.5	350	19.70
18	x	10	457.2	x	267	4.0	3.0	350	14.08	6.0	4.0	350	21.10
18	x	12	457.2	x	323.9	4.0	4.0	350	15.20	6.0	5.0	350	22.80
18	x	14	457.2	x	368	4.0	4.0	350	16.06	6.0	5.5	350	24.10
18	x	16	457.2	x	419.1	4.0	4.0	350	17.07	6.0	6.0	350	25.80
20	x	10	508	x	267	4.5	3.0	375	18.07	6.5	4.0	375	26.10
20	x	12	508	x	323.9	4.5	4.0	375	19.42	6.5	5.0	375	28.05
20	x	14	508	x	368	4.5	4.0	375	20.47	6.5	5.5	375	29.60
20	x	16	508	x	419.1	4.5	4.0	375	21.68	6.5	6.0	375	31.30
20	x	18	508	x	457.2	4.5	4.0	375	22.57	6.5	6.0	375	32.60
24	x	14	610	x	368	5.0	4.0	400	27.19	8.0	5.5	400	43.50
24	x	16	610	x	419.1	5.0	4.0	400	28.62	8.0	6.0	400	45.80
24	x	18	610	x	457.2	5.0	4.0	400	29.69	8.0	6.0	400	47.50
24	x	20	610	x	508	5.0	4.5	400	31.12	8.0	6.5	400	49.80



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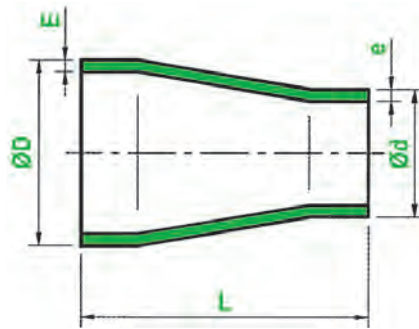
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Concentric Reducers

16 Bar

20 Bar



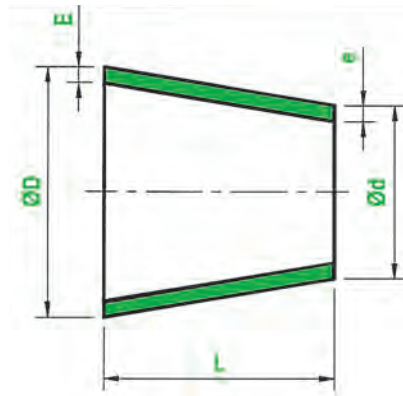
Material : CuNi 90/10 | CuNi 70/30

Outside Diameter of Pipe						EEMUA 146							
ØD x Ød			ØD x Ød			16 Bar				20 Bar			
Nominal (Inch)			Actual (mm)			E (mm)	e (mm)	L (mm)	kg /pc	E (mm)	e (mm)	L (mm)	kg /pc
SEAMLESS													
1	x	3/4	30	x	25	2.5	2.0	51	0.09	2.5	2.0	51	0.09
1¼	x	3/4	38	x	25	2.5	2.0	51	0.10	2.5	2.0	51	0.10
1¼	x	1	38	x	30	2.5	2.5	51	0.11	2.5	2.5	51	0.11
1½	x	3/4	44.5	x	25	2.5	2.0	64	0.14	2.5	2.0	64	0.14
1½	x	1	44.5	x	30	2.5	2.5	64	0.15	2.5	2.5	64	0.15
1½	x	3/4	44.5	x	38	2.5	2.5	64	0.17	2.5	2.5	64	0.17
2	x	1	57	x	30	2.5	2.5	76	0.21	2.5	2.5	76	0.21
2	x	1¼	57	x	38	2.5	2.5	76	0.23	2.5	2.5	76	0.23
2	x	1½	57	x	44.5	2.5	2.5	76	0.25	2.5	2.5	76	0.25
2½	x	1¼	76.1	x	38	2.5	2.5	89	0.34	2.5	2.5	89	0.34
2½	x	1½	76.1	x	44.5	2.5	2.5	89	0.36	2.5	2.5	89	0.36
2½	x	2	76.1	x	57	2.5	2.5	89	0.40	2.5	2.5	89	0.40
3	x	1½	88.9	x	44.5	2.5	2.5	89	0.40	2.5	2.5	89	0.40
3	x	2	88.9	x	57	2.5	2.5	89	0.44	2.5	2.5	89	0.44
3	x	2½	88.9	x	76.1	2.5	2.5	89	0.50	2.5	2.5	89	0.50
4	x	2	108	x	57	3.0	2.5	102	0.68	3.0	2.5	102	0.68
4	x	2½	108	x	78.1	3.0	2.5	102	0.76	3.0	2.5	102	0.76
4	x	3	108	x	88.9	3.0	2.5	102	0.82	3.0	2.5	102	0.82
6	x	2	159	x	57	3.0	2.5	140	1.30	3.5	2.5	140	1.50
6	x	2½	159	x	76.1	3.0	2.5	140	1.35	3.5	2.5	140	1.56
6	x	3	159	x	88.9	3.0	2.5	140	1.42	3.5	2.5	140	1.65
6	x	4	159	x	108	3.0	3.0	140	1.54	3.5	3.0	140	1.78
8	x	2½	219.1	x	76.1	4.0	2.5	152	2.45	4.5	2.5	152	2.74
8	x	3	219.1	x	88.9	4.0	2.5	152	2.55	4.5	2.5	152	2.87
8	x	4	219.1	x	108	4.0	3.0	152	2.72	4.5	3.0	152	3.05
8	x	6	219.1	x	159	4.0	3.0	152	3.16	4.5	3.5	152	3.54
10	x	4	267	x	108	4.5	3.0	178	4.11	5.5	3.0	178	5.00
10	x	6	267	x	159	4.5	3.0	178	4.69	5.5	3.5	178	5.70
10	x	8	267	x	219.1	4.5	4.0	178	5.36	5.5	4.5	178	6.53

Concentric Reducers

16 Bar

20 Bar



SEAM WELDED

Material : CuNi 90/10 | CuNi 70/30

Outside Diameter of Pipe					EEMUA 146								
ØD x Ød		ØD x Ød			16 Bar				20 Bar				
Nominal (Inch)		Actual (mm)			E (mm)	e (mm)	L (mm)	kg /pc	E (mm)	e (mm)	L (mm)	kg /pc	
SEAM WELDED													
12	x	6	323.9	x	159	5.5	3.0	203	7.39	7.0	3.5	203	9.35
12	x	8	323.9	x	219.1	5.5	4.0	203	8.33	7.0	4.5	203	10.55
12	x	10	323.9	x	267	5.5	4.5	203	9.09	7.0	5.5	203	11.52
14	x	8	368	x	219.1	6.5	4.0	330	17.28	8.0	4.5	330	21.16
14	x	10	368	x	267	6.5	4.5	330	18.73	8.0	5.5	330	22.95
14	x	12	368	x	323.9	6.5	5.5	330	20.44	8.0	7.0	330	25.06
16	x	10	419.1	x	267	7.0	4.5	356	23.51	9.0	5.5	356	30.05
16	x	12	419.1	x	323.9	7.0	5.5	356	25.51	9.0	7.0	356	32.62
16	x	14	419.1	x	368	7.0	6.5	356	27.04	9.0	8.0	356	34.60
18	x	12	457.2	x	323.9	8.0	5.5	381	32.72	9.5	7.0	381	38.85
18	x	14	457.2	x	368	8.0	6.5	381	34.61	9.5	8.0	381	41.10
18	x	16	457.2	x	419.1	8.0	7.0	381	36.80	9.5	9.0	381	43.70
20	x	14	508	x	368	8.5	6.5	508	52.07	11.0	8.0	508	67.38
20	x	16	508	x	419.1	8.5	7.0	508	55.17	11.0	9.0	508	71.39
20	x	18	508	x	457.2	8.5	8.0	508	57.48	11.0	9.5	508	74.38
24	x	16	610	x	419.1	10.5	7.0	508	75.49	13.0	9.0	508	93.46
24	x	18	610	x	457.2	10.5	8.0	508	78.34	13.0	9.5	508	96.99
24	x	20	610	x	508	10.5	8.5	508	82.15	13.0	11.0	508	101.70
28	x	18	711	x	457.2	12.0	8.0	610	117.58	15.0	9.5	610	146.97
28	x	20	711	x	508	12.0	8.5	610	122.62	15.0	11.0	610	153.52
28	x	24	711	x	610	12.0	10.5	610	133.30	15.0	13.0	610	166.62
32	x	24	813	x	610	13.5	10.5	610	161.42	17.0	13.0	610	203.26
32	x	28	813	x	711	13.5	12.0	610	173.09	17.0	15.0	610	217.96
36	x	24	914	x	610	15.5	10.5	610	274.48	19.0	13.0	610	336.45
36	x	28	914	x	711	15.5	12.0	610	287.89	19.0	15.0	610	353.89
36	x	32	914	x	813	15.5	13.5	610	301.43	19.0	17.0	610	369.49



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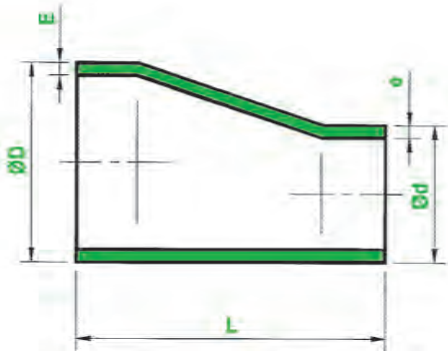
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Eccentric Reducers

10 Bar

14 Bar



Material : CuNi 90/10 | CuNi 70/30

Outside Diameter of Pipe													
ØD x Ød		ØD x Ød		10 Bar				14 Bar					
Nominal (Inch)		Actual (mm)		E (mm)	e (mm)	L (mm)	kg /pc	E (mm)	e (mm)	L (mm)	kg /pc		
SEAMLESS													
1/2	x	3/8	20	x	16	1.0	1.0	30	0.01	1.5	1.5	30	0.011
3/4	x	3/8	25	x	16	1.5	1.0	30	0.02	1.5	1.5	30	0.023
3/4	x	1/2	25	x	20	1.5	1.0	30	0.03	1.5	1.5	30	0.033
1	x	3/8	30	x	16	1.5	1.0	35	0.03	2.0	1.5	35	0.035
1	x	1/2	30	x	20	1.5	1.0	35	0.04	2.0	1.5	35	0.042
1	x	3/4	30	x	25	1.5	1.5	35	0.05	2.0	1.5	35	0.054
1 1/4	x	3/8	38	x	16	1.5	1.0	50	0.05	2.0	1.5	50	0.055
1 1/4	x	1/2	38	x	20	1.5	1.0	50	0.06	2.0	1.5	50	0.063
1 1/4	x	3/4	38	x	25	1.5	1.5	50	0.07	2.0	1.5	50	0.074
1 1/4	x	1	38	x	30	1.5	1.5	50	0.08	2.0	2.0	50	0.085
1 1/2	x	1/2	44.5	x	20	1.5	1.0	80	0.09	2.0	1.5	80	0.098
1 1/2	x	3/4	44.5	x	25	1.5	1.5	80	0.11	2.0	1.5	80	0.113
1 1/2	x	1	44.5	x	30	1.5	1.5	80	0.12	2.0	2.0	80	0.124
1 1/2	x	1 1/4	44.5	x	38	1.5	1.5	80	0.13	2.0	2.0	80	0.133
2	x	3/4	57	x	25	1.5	1.5	80	0.13	2.0	1.5	80	0.136
2	x	1	57	x	30	1.5	1.5	80	0.14	2.0	2.0	80	0.145
2	x	1 1/4	57	x	38	1.5	1.5	80	0.15	2.0	2.0	80	0.155
2	x	1 1/2	57	x	44.5	1.5	1.5	80	0.16	2.0	2.0	80	0.17
2 1/2	x	1	76.1	x	30	2.0	1.5	90	0.24	2.0	2.0	90	0.245
2 1/2	x	1 1/4	76.1	x	38	2.0	1.5	90	0.25	2.0	2.0	90	0.255
2 1/2	x	1 1/2	76.1	x	44.5	2.0	1.5	90	0.26	2.0	2.0	90	0.273
2 1/2	x	2	76.1	x	57	2.0	1.5	90	0.29	2.0	2.0	90	0.292
3	x	1 1/4	88.9	x	38	2.0	1.5	90	0.29	2.5	1.5	90	0.29
3	x	1 1/2	88.9	x	44.5	2.0	1.5	90	0.30	2.5	1.5	90	0.30
3	x	2	88.9	x	57	2.0	1.5	90	0.32	2.5	1.5	90	0.32
3	x	2 1/2	88.9	x	76	2.0	2.0	90	0.40	2.5	2.0	90	0.40
4	x	1 1/2	108	x	44.5	2.5	1.5	100	0.46	2.0	2.0	90	0.48
4	x	2	108	x	57	2.5	1.5	100	0.48	2.0	2.0	90	0.50
4	x	2 1/2	108	x	76.1	2.5	2.0	100	0.57	2.0	2.0	90	0.55
4	x	3	108	x	88.9	2.5	2.0	100	0.61	2.5	2.5	90	0.61
4	x	3	108	x	88.9	2.5	2.5	100	0.61	2.5	2.5	100	0.61
5	x	2	133	x	57	2.5	1.5	140	0.80	3.0	1.5	140	0.86
5	x	2 1/2	133	x	76.1	2.5	2.0	140	0.93	3.0	2.0	140	1.06
5	x	3	133	x	88.9	2.5	2.0	140	0.98	3.0	2.5	140	1.13
5	x	4	133	x	108	2.5	2.5	140	1.16	3.0	2.5	140	1.34
6	x	2 1/2	159	x	76.1	2.5	2.0	150	1.13	3.0	2.0	150	1.35
6	x	3	159	x	88.9	2.5	2.0	150	1.19	3.0	2.5	150	1.42
6	x	4	159	x	108	2.5	2.5	150	1.38	3.0	2.5	150	1.65
6	x	5	159	x	133	2.5	2.5	150	1.51	3.0	3.0	150	1.81
7	x	3	193.7	x	88.9	2.5	2.0	155	1.39	3.5	2.5	155	1.94
7	x	4	193.7	x	108	2.5	2.5	155	1.58	3.5	2.5	155	2.21
7	x	5	193.7	x	133	2.5	2.5	155	1.71	3.5	3.0	155	2.39
7	x	6	193.7	x	159	2.5	2.5	155	1.85	3.5	3.0	155	2.60



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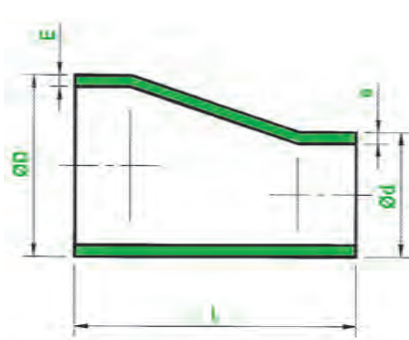
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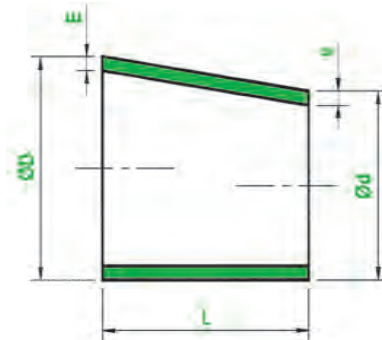
Eccentric Reducers

10 Bar

14 Bar



SEAMLESS



SEAM WELDED

Material : CuNi 90/10 | CuNi 70/30

Outside Diameter of Pipe													
ØD x Ød		ØD x Ød		10 Bar				14 Bar					
Nominal (Inch)		Actual (mm)		E (mm)	e (mm)	L (mm)	kg /pc	E (mm)	e (mm)	L (mm)	kg /pc		
SEAMLESS													
8	x	4	219.1	x	108	3.0	2.5	155	2.47	3.5	2.0	155	2.88
8	x	5	219.1	x	133	3.0	2.5	155	2.60	3.5	3.0	155	3.03
8	x	6	219.1	x	159	3.0	2.5	155	2.74	3.5	3.0	155	3.20
8	x	7	219.1	x	193.7	3.0	2.5	155	2.93	3.5	3.0	155	3.42
SEAM WELDED													
10	x	5	267	x	133	3.0	2.5	210	3.30	4.0	3.0	210	4.40
10	x	6	267	x	159	3.0	2.5	210	3.49	4.0	3.0	210	4.65
10	x	7	267	x	193.7	3.0	2.5	210	3.75	4.0	3.5	210	5.00
10	x	8	267	x	219.1	3.0	3.0	210	4.25	4.0	3.5	210	5.65
12	x	5	323.9	x	133	4.0	2.5	210	5.30	5.0	3.0	210	6.62
12	x	6	323.9	x	159	4.0	2.5	210	5.60	5.0	3.0	210	7.00
12	x	7	323.9	x	193.7	4.0	2.5	210	6.02	5.0	3.5	210	7.52
12	x	8	323.9	x	219.1	4.0	3.0	210	6.30	5.0	3.5	210	7.90
12	x	10	323.9	x	267	4.0	3.0	210	6.88	5.0	4.0	210	8.60
14	x	6	368	x	159	4.0	2.5	300	8.75	5.5	3.0	300	12.03
14	x	7	368	x	193.7	4.0	2.5	300	9.34	5.5	3.0	300	12.84
14	x	8	368	x	219.1	4.0	3.0	300	9.76	5.5	3.5	300	13.42
14	x	10	368	x	267	4.0	3.0	300	10.57	5.5	4.0	300	14.53
14	x	12	368	x	323.9	4.0	4.0	300	11.53	5.5	5.0	300	15.85
16	x	7	419.1	x	193.7	4.0	2.5	325	11.04	6.0	3.5	325	16.56
16	x	8	419.1	x	219.1	4.0	3.0	325	11.50	6.0	3.5	325	17.25
16	x	10	419.1	x	267	4.0	3.0	325	12.38	6.0	4.0	325	18.57
16	x	12	419.1	x	323.9	4.0	4.0	325	13.42	6.0	5.0	325	20.13
16	x	14	419.1	x	368	4.0	4.0	325	14.22	6.0	5.5	325	21.33
18	x	8	457.2	x	219.1	4.0	3.0	350	13.14	6.0	3.5	350	19.70
18	x	10	457.2	x	267	4.0	3.0	350	14.08	6.0	4.0	350	21.10
18	x	12	457.2	x	323.9	4.0	4.0	350	15.20	6.0	5.0	350	22.80
18	x	14	457.2	x	368	4.0	4.0	350	16.06	6.0	5.5	350	24.10
18	x	16	457.2	x	419.1	4.0	4.0	350	17.07	6.0	6.0	350	25.60
20	x	10	508	x	267	4.5	3.0	375	18.07	6.5	4.0	375	26.10
20	x	12	508	x	323.9	4.5	4.0	375	19.42	6.5	5.0	375	28.05
20	x	14	508	x	368	4.5	4.0	375	20.47	6.5	5.5	375	29.60
20	x	16	508	x	419.1	4.5	4.0	375	21.68	6.5	6.0	375	31.30
20	x	18	508	x	457.2	4.5	4.0	375	22.57	6.5	6.0	375	32.60
24	x	14	610	x	368	5.0	4.0	400	27.19	8.0	5.5	400	43.50
24	x	16	610	x	419.1	5.0	4.0	400	28.62	8.0	6.0	400	45.80
24	x	18	610	x	457.2	5.0	4.0	400	29.69	8.0	6.0	400	47.50
24	x	20	610	x	508	5.0	4.5	400	31.12	8.0	6.5	400	49.80



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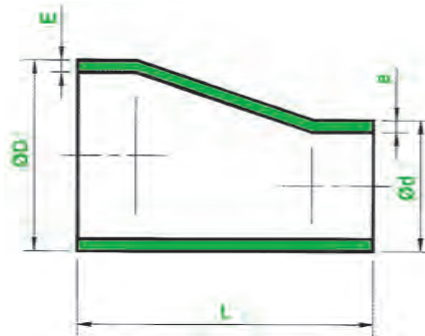
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Eccentric Reducers

16 Bar

20 Bar



Material : CuNi 90/10 | CuNi 70/30

Outside Diameter of Pipe						EEMUA 146							
ØD x ød			ØD x ød			16 Bar				20 Bar			
Nominal (Inch)			Actual (mm)			E (mm)	e (mm)	L (mm)	kg /pc	E (mm)	e (mm)	L (mm)	kg /pc
SEAMLESS													
1	x	3/4	30	x	25	2.5	2.0	51	0.09	2.5	2.0	51	0.09
1¼	x	3/4	38	x	25	2.5	2.0	51	0.10	2.5	2.0	51	0.10
1¼	x	1	38	x	30	2.5	2.5	51	0.11	2.5	2.5	51	0.11
1½	x	3/4	44.5	x	25	2.5	2.0	64	0.14	2.5	2.0	64	0.14
1½	x	1	44.5	x	30	2.5	2.5	64	0.15	2.5	2.5	64	0.15
1½	x	1¼	44.5	x	38	2.5	2.5	64	0.17	2.5	2.5	64	0.17
2	x	1	57	x	30	2.5	2.5	76	0.21	2.5	2.5	76	0.21
2	x	1¼	57	x	38	2.5	2.5	76	0.23	2.5	2.5	76	0.23
2	x	1½	57	x	44.5	2.5	2.5	76	0.25	2.5	2.5	76	0.25
2½	x	1¼	76.1	x	38	2.5	2.5	89	0.34	2.5	2.5	89	0.34
2½	x	1½	76.1	x	44.5	2.5	2.5	89	0.36	2.5	2.5	89	0.36
2½	x	2	76.1	x	57	2.5	2.5	89	0.40	2.5	2.5	89	0.40
3	x	1½	88.9	x	44.5	2.5	2.5	89	0.40	2.5	2.5	89	0.40
3	x	2	88.9	x	57	2.5	2.5	89	0.44	2.5	2.5	89	0.44
3	x	2½	88.9	x	76.1	2.5	2.5	89	0.50	2.5	2.5	89	0.50
4	x	2	108	x	57	3.0	2.5	102	0.68	3.0	2.5	102	0.68
4	x	2½	108	x	76.1	3.0	2.5	102	0.76	3.0	2.5	102	0.76
4	x	3	108	x	88.9	3.0	2.5	102	0.82	3.0	2.5	102	0.82
6	x	2	159	x	57	3.0	2.5	140	1.30	3.5	2.5	140	1.50
6	x	2½	159	x	76.1	3.0	2.5	140	1.35	3.5	2.5	140	1.56
6	x	3	159	x	88.9	3.0	2.5	140	1.42	3.5	2.5	140	1.65
6	x	4	159	x	108	3.0	3.0	140	1.54	3.5	3.0	140	1.78
8	x	2½	219.1	x	76.1	4.0	2.5	152	2.45	4.5	2.5	152	2.74
8	x	3	219.1	x	88.9	4.0	2.5	152	2.55	4.5	2.5	152	2.87
8	x	4	219.1	x	108	4.0	3.0	152	2.72	4.5	3.0	152	3.05
8	x	6	219.1	x	159	4.0	3.0	152	3.16	4.5	3.5	152	3.54



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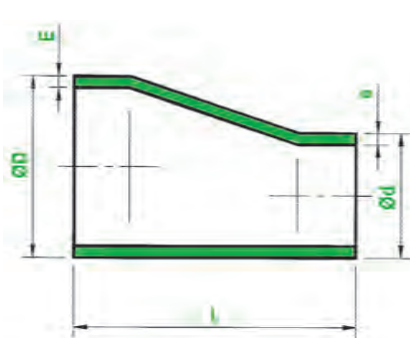
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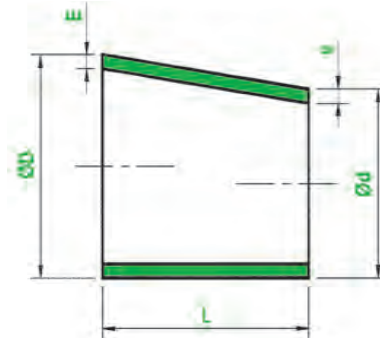
Eccentric Reducers

16 Bar

20 Bar



SEAMLESS



SEAM WELDED

Material : CuNi 90/10 | CuNi 70/30

Outside Diameter of Pipe					EEMUA 146								
ØD x Ød		ØD x Ød			16 Bar				20 Bar				
Nominal (Inch)		Actual (mm)			E (mm)	e (mm)	L (mm)	kg /pc	E (mm)	e (mm)	L (mm)	kg /pc	
SEAM WELDED													
10	x	4	267	x	108	4.5	3.0	178	4.11	5.5	3.0	178	5.00
10	x	6	267	x	159	4.5	3.0	178	4.69	5.5	3.5	178	5.70
10	x	8	267	x	219.1	4.5	4.0	178	5.36	5.5	4.5	178	6.53
12	x	6	323.9	x	159	5.5	3.0	203	7.39	7.0	3.5	203	9.35
12	x	8	323.9	x	219.1	5.5	4.0	203	8.33	7.0	4.5	203	10.55
12	x	10	323.9	x	267	5.5	4.5	203	9.09	7.0	5.5	203	11.52
14	x	8	368	x	219.1	6.5	4.0	330	17.28	8.0	4.5	330	21.16
14	x	10	368	x	267	6.5	4.5	330	18.73	8.0	5.5	330	22.95
14	x	12	368	x	323.9	6.5	5.5	330	20.44	8.0	7.0	330	25.06
16	x	10	419.1	x	267	7.0	4.5	356	23.51	9.0	5.5	356	30.05
16	x	12	419.1	x	323.9	7.0	5.5	356	25.51	9.0	7.0	356	32.62
16	x	14	419.1	x	368	7.0	6.5	356	27.04	9.0	8.0	356	35.60
18	x	12	457.2	x	323.9	8.0	5.5	381	32.72	9.5	7.0	381	38.85
18	x	14	457.2	x	368	8.0	6.5	381	34.61	9.5	8.0	381	41.10
18	x	16	457.2	x	419.1	8.0	7.0	381	36.80	9.5	9.0	381	43.70
20	x	14	508	x	368	8.5	6.5	508	52.07	11.0	8.0	508	67.38
20	x	16	508	x	419.1	8.5	7.0	508	55.17	11.0	9.0	508	71.39
20	x	18	508	x	457.2	8.5	8.0	508	57.48	11.0	9.5	508	74.38
24	x	16	610	x	419.1	10.5	7.0	508	75.49	13.0	9.0	508	93.46
24	x	18	610	x	457.2	10.5	8.0	508	78.34	13.0	9.5	508	96.99
24	x	20	610	x	508	10.5	8.5	508	82.15	13.0	11.0	508	101.70
28	x	18	711	x	457.2	12.0	8.0	610	117.58	15.0	9.5	610	146.97
28	x	20	711	x	508	12.0	8.5	610	122.82	15.0	11.0	610	153.52
28	x	24	711	x	610	12.0	10.5	610	133.30	15.0	13.0	610	166.62
32	x	24	813	x	610	13.5	10.5	610	161.42	17.0	13.0	610	203.26
32	x	28	813	x	711	13.5	12.0	610	173.09	17.0	15.0	610	217.96
36	x	24	914	x	610	15.5	10.5	610	274.48	19.0	13.0	610	336.45
36	x	28	914	x	711	15.5	12.0	610	287.89	19.0	15.0	610	352.89
36	x	32	914	x	813	15.5	13.5	610	301.43	19.0	17.0	610	369.49



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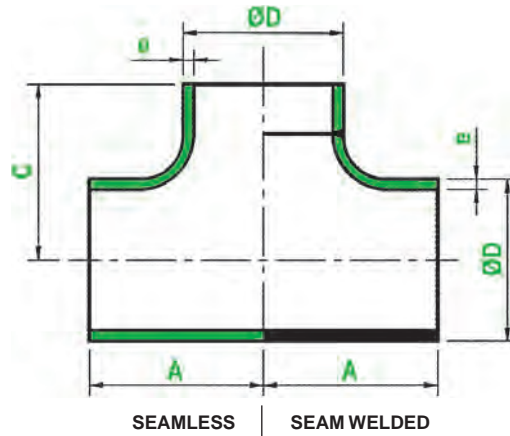
Equal Tees

10 Bar

14 Bar

16 Bar

20 Bar



Material : CuNi 90/10 | CuNi 70/30

Outside Diameter of Pipe - ØD		DIN 86088								EEMUA 146							
Nominal (Inch)	Actual (mm)	10 Bar				14 Bar				16 Bar				20 Bar			
		e (mm)	A (mm)	C (mm)	kg /pc	e (mm)	A (mm)	C (mm)	kg /pc	e (mm)	A (mm)	C (mm)	kg /pc	e (mm)	A (mm)	C (mm)	kg /pc
SEAMLESS																	
1/2	20	1.0	25	25	0.05	1.5	25	25	0.075	-	-	-	-	-	-	-	-
3/4	25	1.5	29	29	0.07	1.5	29	29	0.07	2.0	29	29	0.013	2.0	29	29	0.093
1	30	1.5	38	38	0.10	2.0	38	38	0.133	2.5	38	38	0.18	2.5	38	38	0.18
1¼	38	1.5	48	48	0.13	2.0	48	48	0.173	2.5	48	48	0.29	2.5	48	48	0.29
1½	44.5	1.5	57	57	0.19	2.0	57	57	0.251	2.5	57	57	0.43	2.5	57	57	0.43
2	57	1.5	64	64	0.29	2.0	64	64	0.387	2.5	64	64	0.57	2.5	64	64	0.57
2½	76.1	2.0	76	76	0.65	2.0	76	76	0.65	2.5	76	76	0.88	2.5	76	76	0.88
3	88.9	2.0	86	86	0.82	2.5	86	86	1.03	2.5	86	86	1.16	2.5	86	86	1.16
4	108	2.5	105	105	1.60	2.5	105	105	1.60	3.0	105	105	2.09	3.0	105	105	2.09
5	133	2.5	124	124	2.80	3.0	124	124	3.36	-	-	-	-	-	-	-	-
6	159	2.5	143	143	4.40	3.0	143	143	5.28	3.0	143	143	4.07	3.5	143	143	4.74
7	193.7	2.5	157	157	4.70	3.0	157	157	6.60	-	-	-	-	-	-	-	-
8	219.1	3.0	178	178	12.80	3.5	178	178	14.95	4.0	178	178	17.00	4.5	178	178	19.10
SEAM WELDED																	
10	267	3.0	216	216	16.60	4.0	216	216	22.10	4.5	216	216	24.90	5.5	216	216	30.40
12	323.9	4.0	254	254	31.50	5.0	254	254	39.40	5.5	254	254	43.30	7.0	254	254	55.10
14	368	4.0	279	279	39.40	5.5	279	279	54.20	6.5	279	279	64.05	8.0	279	279	78.80
16	419.1	4.0	305	305	55.10	6.0	305	305	82.65	7.0	305	305	96.40	9.0	305	305	124.00
18	457.2	4.0	343	343	67.65	6.0	343	343	101.50	8.0	343	343	135.3	9.5	343	343	160.65
20	508	4.5	381	381	92.80	6.5	381	381	134.10	8.5	381	381	175.3	11.0	381	381	226.90
24	610	5.0	432	432	126.60	8.0	432	432	202.60	10.5	432	432	265.9	13.0	432	432	329.20
28	711	-	-	-	-	-	-	-	-	12.0	521	521	427.00	15.0	521	521	533.75
32	813	-	-	-	-	-	-	-	-	13.5	597	597	546.10	17.0	597	597	687.70
36	914	-	-	-	-	-	-	-	-	15.5	673	673	794.10	19.0	673	673	973.40



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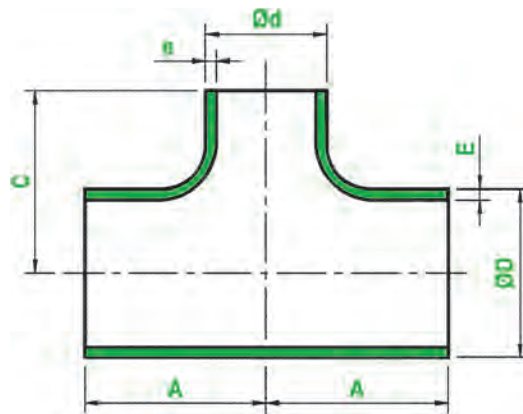
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Reducing Tees

10 Bar

14 Bar



Material : CuNi 90/10 | CuNi 70/30

Outside Diameter of Pipe						DIN 86088									
ØD x Ød			ØD x Ød			10 Bar					14 Bar				
Nominal (Inch)		Actual (mm)				E (mm)	e (mm)	A (mm)	C (mm)	kg /pc	E (mm)	e (mm)	A (mm)	C (mm)	kg /pc
SEAMLESS															
1	x	1/2	30	x	20	1.5	1.0	38	30	0.07	2.0	1.5	38	30	0.08
1	x	3/4	30	x	25	1.5	1.5	38	33	0.07	2.0	1.5	38	33	0.08
1 1/4	x	1	38	x	30	1.5	1.5	48	42	0.10	2.0	2.0	48	42	0.13
1 1/2	x	1	44.5	x	30	1.5	1.5	57	45	0.21	2.0	2.0	57	45	0.23
1 1/2	x	1 1/4	44.5	x	38	1.5	1.5	57	51	0.21	2.0	2.0	57	51	0.23
2	x	1	57	x	30	1.5	1.5	64	51	0.32	2.0	2.0	64	51	0.35
2	x	1 1/4	57	x	38	1.5	1.5	64	57	0.32	2.0	2.0	64	57	0.35
2	x	1 1/2	57	x	44.5	1.5	1.5	64	63	0.32	2.0	2.0	64	63	0.35
2 1/2	x	1	76.1	x	30	2.0	1.5	76	56	0.65	2.0	2.0	76	56	0.85
2 1/2	x	1 1/4	76.1	x	38	2.0	1.5	76	62	0.65	2.0	2.0	76	62	0.85
2 1/2	x	1 1/2	76.1	x	44.5	2.0	1.5	76	71	0.67	2.0	2.0	76	71	0.89
2 1/2	x	2	76.1	x	57	2.0	1.5	76	73	0.67	2.0	2.0	76	73	0.89
3	x	1 1/4	88.9	x	38	2.0	1.5	86	73	0.87	2.5	1.5	86	73	1.08
3	x	1 1/2	88.9	x	44.5	2.0	1.5	86	76	0.87	2.5	1.5	86	76	1.08
3	x	2	88.9	x	57	2.0	1.5	86	80	0.89	2.5	1.5	86	80	1.10
3	x	2 1/2	88.9	x	76.1	2.0	2.0	86	83	0.92	2.5	2.0	86	83	1.15
4	x	1 1/2	108	x	44.5	2.5	1.5	105	89	1.60	2.5	2.0	105	89	1.70
4	x	2	108	x	57	2.5	1.5	105	90	1.60	2.5	2.0	105	90	1.70
4	x	2 1/2	108	x	76.1	2.5	2.0	105	92	1.65	2.5	2.0	105	92	1.75
4	x	3	108	x	88.9	2.5	2.0	105	96	1.65	2.5	2.5	105	96	1.65
5	x	2	133	x	57	2.5	1.5	124	98	3.00	3.0	1.5	124	98	3.60
5	x	2 1/2	133	x	76.1	2.5	2.0	124	105	3.10	3.0	2.0	124	105	3.70
5	x	3	133	x	88.9	2.5	2.0	124	108	3.25	3.0	2.5	124	108	3.90
5	x	4	133	x	108	2.5	2.5	124	117	3.30	3.0	2.5	124	117	3.95
6	x	2 1/2	159	x	76.1	2.5	2.0	143	118	4.40	3.0	2.0	143	118	5.25
6	x	3	159	x	88.9	2.5	2.0	143	121	4.50	3.0	2.5	143	121	5.40
6	x	4	159	x	108	2.5	2.5	143	130	4.60	3.0	2.5	143	130	5.50
6	x	5	159	x	133	2.5	2.5	143	136	4.60	3.0	3.0	143	136	5.50
8	x	4	219.1	x	108	3.0	2.5	178	156	12.60	3.5	2.5	178	156	14.75
8	x	5	219.1	x	133	3.0	2.5	178	162	12.70	3.5	3.0	178	162	14.85
8	x	6	219.1	x	159	3.0	2.5	178	168	12.80	3.5	3.0	178	168	14.95



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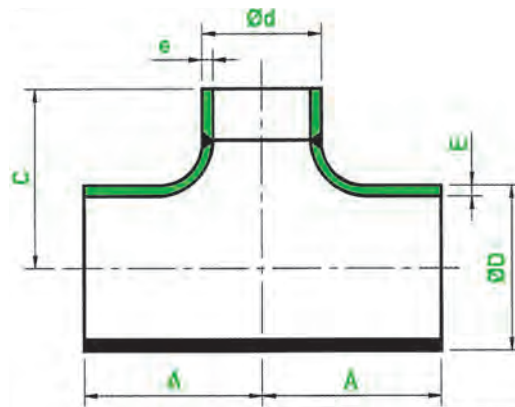
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Reducing Tees

10 Bar

14 Bar



Material : CuNi 90/10 | CuNi 70/30

Outside Diameter of Pipe						DIN 86088									
ØD x Ød			ØD x Ød			10 Bar					14 Bar				
Nominal (Inch)			Actual (mm)			E (mm)	e (mm)	A (mm)	C (mm)	kg /pc	E (mm)	e (mm)	A (mm)	C (mm)	kg /pc
10	x	4	267	x	108	3.0	2.5	194	209	12.50	4.0	2.5	194	209	16.70
10	x	5	267	x	133	3.0	2.5	217	219	13.50	4.0	3.0	217	219	18.00
10	x	6	267	x	159	3.0	2.5	240	229	14.80	4.0	3.0	240	229	19.75
10	x	7	267	x	193.7	3.0	2.5	267	243	15.20	4.0	3.5	267	243	20.25
10	x	8	267	x	219.1	3.0	3.0	290	259	16.60	4.0	3.5	290	259	22.10
SEAM WELDED															
12	x	5	323.9	x	133	4.0	2.5	217	247	28.60	5.0	3.0	217	247	35.75
12	x	6	323.9	x	159	4.0	2.5	240	257	30.45	5.0	3.0	240	257	38.00
12	x	7	323.9	x	193.7	4.0	2.5	267	272	32.60	5.0	3.5	267	272	40.75
12	x	8	323.9	x	219.1	4.0	3.0	290	287	34.60	5.0	3.5	290	287	43.25
12	x	10	323.9	x	267	4.0	3.0	324	317	37.80	5.0	4.0	324	317	47.25
14	x	6	368	x	159	4.0	2.5	240	279	37.40	5.5	3.0	240	279	51.40
14	x	7	368	x	193.7	4.0	2.5	267	294	39.85	5.5	3.5	267	294	54.20
14	x	8	368	x	219.1	4.0	3.0	290	309	42.10	5.5	3.5	290	309	57.90
14	x	10	368	x	267	4.0	3.0	324	339	45.55	5.5	4.0	324	339	62.65
14	x	12	368	x	323.9	4.0	4.0	380	369	52.00	5.5	5.0	380	369	71.50
16	x	7	419.1	x	193.7	4.0	2.5	267	319	49.10	6.0	3.5	267	319	73.65
16	x	8	419.1	x	219.1	4.0	3.0	290	335	52.10	6.0	3.5	290	335	78.15
16	x	10	419.1	x	267	4.0	3.0	324	365	56.40	6.0	4.0	324	365	84.60
16	x	12	419.1	x	323.9	4.0	4.0	380	395	64.80	6.0	5.0	380	395	97.20
16	x	14	419.1	x	368	4.0	4.0	407	410	68.90	6.0	5.5	407	410	103.35
18	x	10	457.2	x	267	4.0	3.0	324	383	55.70	6.0	4.0	324	383	83.55
18	x	12	457.2	x	323.9	4.0	4.0	380	413	64.60	6.0	5.0	380	413	96.90
18	x	14	457.2	x	368	4.0	4.0	407	428	68.90	6.0	5.5	407	428	103.35
18	x	16	457.2	x	419.1	4.0	4.0	440	453	74.60	6.0	6.0	440	453	111.90
20	x	12	508	x	323.9	4.5	4.0	380	439	72.50	6.5	5.0	380	439	104.70
20	x	14	508	x	368	4.5	4.0	407	454	77.40	6.5	5.5	407	454	111.80
20	x	16	508	x	419.1	4.5	4.0	440	479	83.90	6.5	6.0	440	479	121.20
20	x	18	508	x	457.2	4.5	4.0	500	509	94.10	6.5	6.0	500	509	135.90
24	x	14	610	x	368	5.0	4.0	407	505	109.95	8.0	5.5	407	505	175.90
24	x	16	610	x	419.1	5.0	4.0	440	530	117.85	8.0	6.0	440	530	188.55
24	x	18	610	x	457.2	5.0	4.0	500	555	130.35	8.0	6.0	500	555	208.60
24	x	20	610	x	508	5.0	4.5	540	580	141.85	8.0	6.5	540	580	226.95



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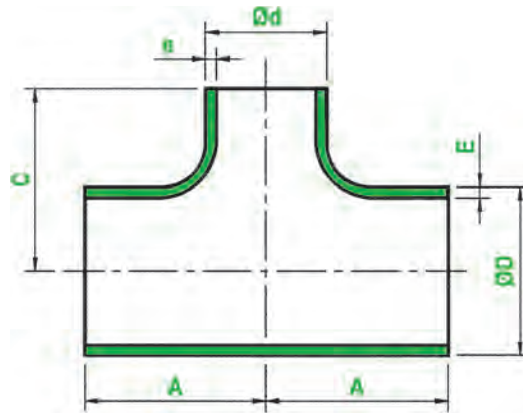
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Reducing Tees

16 Bar

20 Bar



Material : CuNi 90/10 | CuNi 70/30

Outside Diameter of Pipe					EEMUA 146										
ØD x Ød		ØD x Ød			16 Bar					20 Bar					
Nominal (Inch)		Actual (mm)			E (mm)	e (mm)	A (mm)	C (mm)	kg /pc	E (mm)	e (mm)	A (mm)	C (mm)	kg /pc	
SEAMLESS															
1	x	3/4	30	x	25	2.5	2.0	38	38	0.17	2.5	2.0	38	38	0.17
1¼	x	3/4	38	x	25	2.5	2.0	48	48	0.28	2.5	2.0	48	48	0.28
1¼	x	1	38	x	30	2.5	2.5	48	48	0.28	2.5	2.5	48	48	0.28
1½	x	3/4	44.5	x	25	2.5	2.0	57	57	0.37	2.5	2.0	57	57	0.37
1½	x	1	44.5	x	30	2.5	2.5	57	57	0.40	2.5	2.5	57	57	0.40
1½	x	1¼	44.5	x	38	2.5	2.5	57	57	0.41	2.5	2.5	57	57	0.41
2	x	1	57	x	30	2.5	2.5	64	51	0.51	2.5	2.5	64	51	0.51
2	x	1¼	57	x	38	2.5	2.5	64	57	0.54	2.5	2.5	64	57	0.54
2	x	1½	57	x	44.5	2.5	2.5	64	60	0.55	2.5	2.5	64	60	0.55
2½	x	1¼	76.1	x	38	2.5	2.5	76	64	0.83	2.5	2.5	76	64	0.83
2½	x	1½	76.1	x	44.5	2.5	2.5	76	67	0.84	2.5	2.5	76	67	0.84
2½	x	2	76.1	x	57	2.5	2.5	76	70	0.85	2.5	2.5	76	70	0.85
3	x	1½	88.9	x	44.5	2.5	2.5	86	73	1.10	2.5	2.5	86	73	1.10
3	x	2	88.9	x	57	2.5	2.5	86	76	1.12	2.5	2.5	86	76	1.12
3	x	2½	88.9	x	76.1	2.5	2.5	86	83	1.15	2.5	2.5	86	83	1.15
4	x	2	108	x	57	3.0	2.5	105	89	1.90	3.0	2.5	105	89	1.90
4	x	2½	108	x	76.1	3.0	2.5	105	95	1.92	3.0	2.5	105	95	1.92
4	x	3	108	x	88.9	3.0	2.5	105	98	1.95	3.0	2.5	105	98	1.95
6	x	2½	159	x	76.1	3.0	2.5	143	121	3.95	3.5	2.5	143	121	4.60
6	x	3	159	x	88.9	3.0	2.5	143	124	4.00	3.5	2.5	143	124	4.65
6	x	4	159	x	108	3.0	3.0	143	130	4.05	3.5	3.0	143	130	4.72
8	x	3	219.1	x	88.9	4.0	2.5	178	152	16.60	4.5	2.5	178	152	18.70
8	x	4	219.1	x	108	4.0	3.0	178	156	16.90	4.5	3.0	178	156	19.00
8	x	6	219.1	x	159	4.0	3.0	178	168	17.00	4.5	3.5	178	168	19.10



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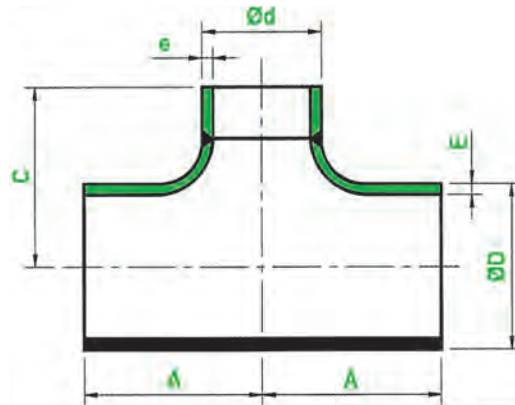
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Reducing Tees

16 Bar

20 Bar



Material : CuNi 90/10 | CuNi 70/30

Outside Diameter of Pipe						EEMUA 146									
ØD x Ød			ØD x Ød			16 Bar					20 Bar				
Nominal (Inch)			Actual (mm)			E (mm)	e (mm)	A (mm)	C (mm)	kg /pc	E (mm)	e (mm)	A (mm)	C (mm)	kg /pc
10	x	4	267	x	108	4.5	3.0	216	184	21.60	5.5	3.0	216	184	26.40
10	x	6	267	x	159	4.5	3.0	216	194	21.75	5.5	3.5	216	194	26.60
10	x	8	267	x	219.1	4.5	4.0	216	203	21.90	5.5	4.5	216	203	26.75
SEAM WELDED															
12	x	6	323.9	x	159	5.5	3.0	254	219	38.50	7.0	3.5	254	219	49.00
12	x	8	323.9	x	219.1	5.5	4.0	254	229	39.60	7.0	4.5	254	229	50.40
12	x	10	323.9	x	267	5.5	4.5	254	241	40.70	7.0	5.5	254	241	51.80
14	x	8	368	x	219.1	6.5	4.0	279	248	58.80	8.0	4.5	279	248	72.35
14	x	10	368	x	267	6.5	4.5	279	257	59.70	8.0	5.5	279	257	73.50
14	x	12	368	x	323.9	6.5	5.5	279	270	61.50	8.0	7.0	279	270	75.70
16	x	10	419.1	x	267	7.0	4.5	305	283	89.60	9.0	5.5	305	283	115.20
16	x	12	419.1	x	323.9	7.0	5.5	305	295	91.40	9.0	7.0	305	295	117.50
16	x	14	419.1	x	368	7.0	6.5	305	305	93.50	9.0	8.0	305	305	120.20
18	x	12	457.2	x	323.9	8.0	5.5	343	321	126.30	9.5	7.0	343	321	150.00
18	x	14	457.2	x	368	8.0	6.5	343	330	128.30	9.5	8.0	343	330	152.35
18	x	16	457.2	x	419.1	8.0	7.0	343	330	129.90	9.5	9.0	343	330	154.25
20	x	14	508	x	368	8.5	6.5	381	356	162.00	11.0	8.0	381	356	209.65
20	x	16	508	x	419.1	8.5	7.0	381	356	164.20	11.0	9.0	381	356	212.50
20	x	18	508	x	457.2	8.5	8.0	381	368	168.30	11.0	9.5	381	368	217.80
24	x	8	610	x	419.1	10.5	7.0	432	406	248.30	13.0	9.0	432	406	307.40
24	x	10	610	x	457.2	10.5	8.0	432	419	251.70	13.0	9.5	432	419	311.60
24	x	12	610	x	508	10.5	8.5	432	432	255.30	13.0	11.0	432	432	310.10
29	x	10	711	x	457.2	12.0	8.0	521	470	394.60	15.0	9.5	521	470	493.25
29	x	12	711	x	508	12.0	8.5	521	483	398.20	15.0	11.0	521	483	497.75
29	x	14	711	x	610	12.0	10.5	521	508	409.90	15.0	13.0	521	508	512.40
32	x	8	813	x	508	13.5	8.5	597	533	495.00	17.0	11.0	597	533	623.30
32	x	10	813	x	610	13.5	10.5	597	559	506.80	17.0	13.0	597	559	638.20
32	x	12	813	x	711	13.5	12.0	597	572	518.80	17.0	15.0	597	572	653.30
36	x	10	914	x	610	15.5	10.5	673	610	723.60	19.0	13.0	673	610	887.00
36	x	12	914	x	711	15.5	12.0	673	622	735.40	19.0	15.0	673	622	901.45
36	x	14	914	x	813	15.5	13.5	673	648	754.40	19.0	17.0	673	648	924.75



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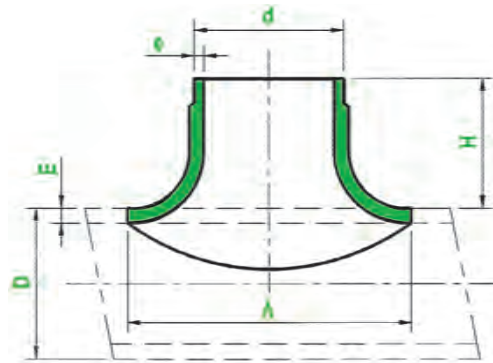


Saddles

10 Bar

14 Bar

With Equal Or Reduced Branch



Material : CuNi 90/10 | CuNi 70/30

Outside Diameter of Pipe						DIN 86087									
ØD x ød		ØD x ød		10 Bar					14 Bar						
Nominal (Inch)		Actual (mm)		E (mm)	e (mm)	H (mm)	A (mm)	kg /pc	E (mm)	e (mm)	H (mm)	A (mm)	kg /pc		
SEAMLESS															
1/2	x	1/2	20	x	20	1.0	1.0	20	32	0.05	1.5	1.5	20	32	0.052
3/4	x	1/2	25	x	20	1.5	1.0	20	40	0.05	1.5	1.5	20	40	0.052
3/4	x	3/4	25	x	25	1.5	1.5	22	40	0.06	1.5	1.5	22	40	0.062
1	x	3/4	30	x	25	1.5	1.5	22	40	0.06	2.0	1.5	22	40	0.062
1	x	1	30	x	30	1.5	1.5	30	50	0.10	2.0	2.0	30	50	0.12
1 1/4	x	1	38	x	30	1.5	1.5	30	50	0.10	2.0	2.0	30	50	0.12
1 1/4	x	1 1/4	38	x	38	1.5	1.5	35	64	0.11	2.0	2.0	35	64	0.13
1 1/2	x	1 1/4	44.5	x	38	1.5	1.5	35	64	0.14	2.0	2.0	35	64	0.15
1 1/2	x	1 1/2	44.5	x	44.5	1.5	1.5	35	74	0.15	2.0	2.0	35	74	0.17
2	x	1 1/4	57	x	38	1.5	1.5	35	64	0.15	2.0	2.0	35	64	0.17
2	x	1 1/2	57	x	44.5	1.5	1.5	35	74	0.17	2.0	2.0	35	74	0.185
2	x	2	57	x	57	1.5	1.5	40	97	0.25	2.0	2.0	40	97	0.27
2 1/2	x	1 1/4	76.1	x	38	2.0	1.5	35	64	0.30	2.0	2.0	35	64	0.32
2 1/2	x	1 1/2	76.1	x	44.5	2.0	1.5	35	74	0.34	2.0	2.0	35	74	0.38
2 1/2	x	2	76.1	x	57	2.0	1.5	40	97	0.48	2.0	2.0	40	97	0.50
2 1/2	x	2 1/2	76.1	x	76.1	2.0	2.0	50	126	0.52	2.0	2.0	50	126	0.55
3	x	1 1/4	88.9	x	38	2.0	1.5	35	64	0.36	2.5	1.5	35	64	0.45
3	x	1 1/2	88.9	x	44.5	2.0	1.5	35	74	0.44	2.5	1.5	35	74	0.55
3	x	2	88.9	x	57	2.0	1.5	40	97	0.50	2.5	1.5	40	97	0.62
3	x	2 1/2	88.9	x	76.1	2.0	2.0	50	126	0.56	2.5	2.0	50	126	0.70
3	x	3	88.9	x	88.9	2.0	2.0	55	149	0.76	2.5	2.5	55	149	0.95
4	x	1 1/2	108	x	44.5	2.5	1.5	35	74	0.32	2.5	2.0	35	74	0.34
4	x	2	108	x	57	2.5	1.5	40	97	0.40	2.5	2.0	40	97	0.42
4	x	2 1/2	108	x	76.1	2.5	2.0	50	126	0.65	2.5	2.0	50	126	0.68
4	x	3	108	x	88.9	2.5	2.0	55	149	0.79	2.5	2.5	55	149	0.83
4	x	4	108	x	108	2.5	2.5	75	188	1.30	2.5	2.5	75	188	1.35
5	x	2	133	x	57	2.5	1.5	40	97	0.40	3.0	1.5	40	97	0.48
5	x	2 1/2	133	x	76.1	2.5	2.0	50	126	0.80	3.0	2.0	50	126	0.96
5	x	3	133	x	88.9	2.5	2.0	55	149	1.00	3.0	2.5	55	149	1.20
5	x	4	133	x	108	2.5	2.5	75	188	1.20	3.0	2.5	75	188	1.44
5	x	5	133	x	133	2.5	2.5	85	233	1.70	3.0	3.0	85	233	2.04
6	x	2 1/2	159	x	76.1	2.5	2.0	50	126	0.65	3.0	2.0	50	126	0.78
6	x	3	159	x	88.9	2.5	2.0	55	149	1.00	3.0	2.5	55	149	1.20
6	x	4	159	x	108	2.5	2.5	75	188	1.20	3.0	2.5	75	188	1.44
6	x	5	159	x	133	2.5	2.5	85	233	2.00	3.0	3.0	85	233	2.40
6	x	6	159	x	159	2.5	2.5	95	279	2.60	3.0	3.0	95	279	3.12
7	x	2 1/2	193.7	x	76.1	2.5	2.0	50	126	0.95	3.5	2.5	50	126	1.33
7	x	3	193.7	x	88.9	2.5	2.0	55	149	1.30	3.5	2.5	55	149	1.82
7	x	4	193.7	x	108	2.5	2.5	75	188	1.40	3.5	2.5	75	188	1.96
7	x	5	193.7	x	133	2.5	2.5	85	233	1.90	3.5	3.0	85	233	2.66
7	x	6	193.7	x	159	2.5	2.5	95	279	2.50	3.5	3.0	95	279	3.50
7	x	7	193.7	x	193.7	2.5	2.5	110	334	3.20	3.5	3.5	110	334	4.48



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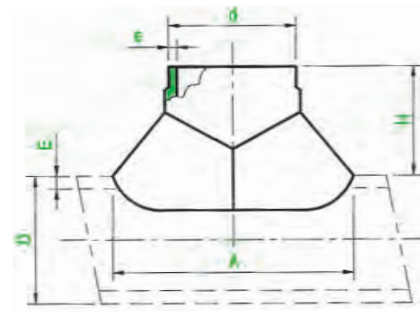
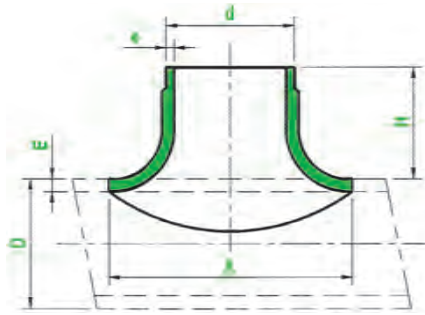


Saddles

10 Bar

14 Bar

With Equal Or Reduced Branch



Material : CuNi 90/10 | CuNi 70/30

Outside Diameter of Pipe				DIN 86087											
ØD x ød		ØD x ød		10 Bar					14 Bar						
Nominal (Inch)		Actual (mm)		E (mm)	e (mm)	H (mm)	A (mm)	kg /pc	E (mm)	e (mm)	H (mm)	A (mm)	kg /pc		
SEAMLESS															
8	x	3	219.1	x	88.9	3.0	2.0	55	149	1.30	3.5	2.5	55	149	1.52
8	x	4	219.1	x	108	3.0	2.5	75	188	1.80	3.5	2.5	75	188	2.10
8	x	5	219.1	x	133	3.0	2.5	85	233	2.70	3.5	3.0	85	233	3.15
8	x	6	219.1	x	159	3.0	2.5	95	279	3.80	3.5	3.0	95	279	4.43
8	x	7	219.1	x	193.7	3.0	2.5	110	334	4.50	3.5	3.5	110	334	5.25
8	x	8	219.1	x	219.1	3.0	3.0	125	379	5.70	3.5	3.5	125	379	6.65
10	x	4	267	x	108	3.0	2.5	75	188	1.80	4.0	2.5	75	188	2.40
10	x	5	267	x	133	3.0	2.5	85	233	2.30	4.0	3.0	85	233	3.06
10	x	6	267	x	159	3.0	2.5	95	279	3.70	4.0	3.0	95	279	4.93
10	x	7	267	x	193.7	3.0	2.5	110	334	4.70	4.0	3.5	110	334	6.27
10	x	8	267	x	219.1	3.0	3.0	125	379	6.10	4.0	3.5	125	379	8.13
10	x	10	267	x	267	3.0	3.0	155	447	8.70	4.0	4.0	155	447	11.60
SEAM WELDED															
12	x	5	323.9	x	133	4.0	2.5	85	233	2.60	5.0	3.0	85	233	3.25
12	x	6	323.9	x	159	4.0	2.5	95	279	3.80	5.0	3.0	95	279	4.75
12	x	7	323.9	x	193.7	4.0	2.5	110	334	4.90	5.0	3.5	110	334	6.20
12	x	8	323.9	x	219.1	4.0	3.0	125	379	7.70	5.0	3.5	125	379	9.60
12	x	10	323.9	x	267	4.0	3.0	155	447	10.00	5.0	4.0	155	447	12.50
12	x	12	323.9	x	323.9	4.0	4.0	185	560	13.00	5.0	5.0	185	560	16.25
14	x	6	368	x	159	4.0	2.5	95	279	3.85	5.5	3.0	95	279	5.30
14	x	7	368	x	193.7	4.0	2.5	110	334	4.20	5.5	3.5	110	334	5.80
14	x	8	368	x	219.1	4.0	3.0	125	379	4.35	5.5	3.5	125	379	6.00
14	x	10	368	x	267	4.0	3.0	155	447	7.30	5.5	4.0	155	447	10.00
14	x	12	368	x	323.9	4.0	4.0	185	560	9.45	5.5	5.0	185	560	13.00
14	x	14	368	x	368	4.0	4.0	200	613	12.35	5.5	5.5	200	613	17.00
16	x	8	419.1	x	219.1	4.0	3.0	125	379	4.35	6.0	3.5	125	379	6.50
16	x	10	419.1	x	267	4.0	3.0	155	447	6.65	6.0	4.0	155	447	10.00
16	x	12	419.1	x	323.9	4.0	4.0	185	560	9.35	6.0	5.0	185	560	14.00
16	x	14	419.1	x	368	4.0	4.0	200	613	12.00	6.0	5.5	200	613	18.00
16	x	16	419.1	x	419.1	4.0	4.0	225	680	17.35	6.0	6.0	225	680	26.00
18	x	10	457.2	x	267	4.0	3.0	155	447	6.30	6.0	4.0	155	447	9.45
18	x	12	457.2	x	323.9	4.0	4.0	185	560	8.00	6.0	5.0	185	560	12.00
18	x	14	457.2	x	368	4.0	4.0	200	613	9.70	6.0	5.5	200	613	14.60
18	x	16	457.2	x	419.1	4.0	4.0	225	680	14.85	6.0	6.0	225	680	22.30
18	x	18	457.2	x	457.2	4.0	4.0	250	800	21.70	6.0	6.0	250	800	32.60
20	x	12	508	x	323.9	4.5	4.0	185	560	9.00	6.5	5.0	185	560	13.00
20	x	14	508	x	368	4.5	4.0	200	613	10.80	6.5	5.5	200	613	15.60
20	x	16	508	x	419.1	4.5	4.0	225	680	16.80	6.5	6.0	225	680	24.30
20	x	18	508	x	457.2	4.5	4.0	250	800	22.80	6.5	6.0	250	800	32.95
20	x	20	508	x	508	4.5	4.5	275	880	28.80	6.5	6.5	275	880	41.60
24	x	14	610	x	368	5.0	4.0	200	613	11.10	8.0	5.5	200	613	17.77
24	x	16	610	x	419.1	5.0	4.0	225	680	17.25	8.0	6.0	225	680	27.55
24	x	18	610	x	457.2	5.0	4.0	250	800	22.80	8.0	6.0	250	800	36.45
24	x	20	610	x	508	5.0	4.5	275	880	26.70	8.0	6.5	275	880	42.65
24	x	24	610	x	610	5.0	5.0	300	1020	47.20	8.0	8.0	300	1020	75.50



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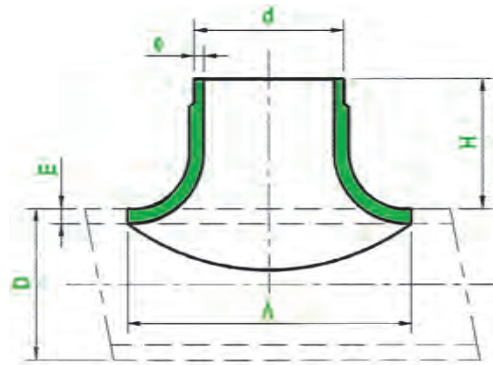


Saddles

16 Bar

20 Bar

With Equal Or Reduced Branch



Material : CuNi 90/10 | CuNi 70/30

Outside Diameter of Pipe						EEMUA 146									
ØD x ød			ØD x ød			16 Bar					20 Bar				
Nominal (Inch)			Actual (mm)			E (mm)	e (mm)	H (mm)	A (mm)	kg /pc	E (mm)	e (mm)	H (mm)	A (mm)	kg /pc
SEAMLESS															
1/2	x	-	16	x	16	2.0	2.0	20	32	0.06	2.0	2.0	20	32	0.06
3/4	x	-	25	x	25	2.0	2.0	22	40	0.08	2.0	2.0	22	40	0.08
1	x	-	30	x	-	2.5	2.5	30	50	0.11	2.5	2.5	30	50	0.11
1¼	x	1¼	38	x	38	2.5	2.5	35	64	0.18	2.5	2.5	35	64	0.18
1½	x	1¼	44.5	x	38	2.5	2.5	35	64	0.23	2.5	2.5	35	64	0.23
1½	x	1½	44.5	x	44.5	2.5	2.5	35	74	0.25	2.5	2.5	35	74	0.25
2	x	1¼	57	x	38	2.5	2.5	35	64	0.25	2.5	2.5	35	64	0.25
2	x	1½	57	x	44.5	2.5	2.5	35	74	0.28	2.5	2.5	35	74	0.28
2	x	2	57	x	57	2.5	2.5	40	97	0.40	2.5	2.5	40	97	0.40
2½	x	1¼	76.1	x	38	2.5	2.5	35	64	0.37	2.5	2.5	35	64	0.37
2½	x	1½	76.1	x	44.5	2.5	2.5	35	74	0.42	2.5	2.5	35	74	0.42
2½	x	2	76.1	x	57	2.5	2.5	40	97	0.60	2.5	2.5	40	97	0.60
2½	x	2½	76.1	x	76.1	2.5	2.5	50	126	0.65	2.5	2.5	50	126	0.65
3	x	1¼	88.9	x	38	2.5	2.5	35	64	0.45	2.5	2.5	35	64	0.45
3	x	1½	88.9	x	44.5	2.5	2.5	35	74	0.55	2.5	2.5	35	74	0.55
3	x	2	88.9	x	57	2.5	2.5	40	97	0.62	2.5	2.5	40	97	0.62
3	x	2½	88.9	x	76.1	2.5	2.5	50	126	0.70	2.5	2.5	50	126	0.70
3	x	3	88.9	x	88.9	2.5	2.5	55	149	0.95	2.5	2.5	55	149	0.95
4	x	1½	108	x	44.5	3.0	2.5	35	74	0.38	3.0	2.5	35	74	0.38
4	x	2	108	x	57	3.0	2.5	40	97	0.48	3.0	2.5	40	97	0.48
4	x	2½	108	x	76.1	3.0	2.5	50	126	0.78	3.0	2.5	50	126	0.78
4	x	3	108	x	88.9	3.0	2.5	55	149	0.94	3.0	2.5	55	149	0.94
4	x	4	108	x	108	3.0	3.0	75	188	1.56	3.0	3.0	75	188	1.56
6	x	2½	159	x	76.1	3.0	2.5	50	126	0.78	3.5	2.5	50	126	0.91
6	x	3	159	x	88.9	3.0	2.5	55	149	1.20	3.5	2.5	55	149	1.40
6	x	4	159	x	108	3.0	3.0	75	188	1.44	3.5	3.0	75	188	1.68
6	x	6	159	x	159	3.0	3.0	95	279	3.12	3.5	3.5	95	279	3.64
8	x	3	219.1	x	88.9	4.0	2.5	55	149	1.73	4.5	2.5	55	149	1.94
8	x	4	219.1	x	108	4.0	3.0	75	188	2.40	4.5	3.0	75	188	2.70
8	x	6	219.1	x	159	4.0	3.0	95	279	5.06	4.5	3.5	95	279	5.69
8	x	8	219.1	x	219.1	4.0	4.0	125	379	7.60	4.5	4.5	125	379	8.55
10	x	4	267	x	108	4.5	3.0	75	188	2.70	5.5	3.0	75	188	3.30
10	x	6	267	x	159	4.5	3.0	95	279	5.54	5.5	3.5	95	279	6.77
10	x	8	267	x	219.1	4.5	4.0	125	379	9.14	5.5	4.5	125	379	11.17
10	x	10	267	x	267	4.5	4.5	155	447	13.05	5.5	5.5	155	447	15.95



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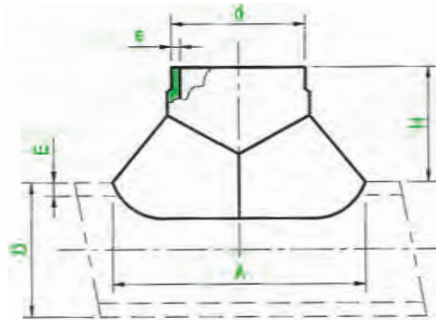


Saddles

16 Bar

20 Bar

With Equal Or Reduced Branch



Material : CuNi 90/10 | CuNi 70/30

Outside Diameter of Pipe				EEMUA 146											
ØD x Ød		ØD x Ød		16 Bar						20 Bar					
Nominal (Inch)		Actual (mm)		E (mm)	e (mm)	H (mm)	A (mm)	kg /pc	E (mm)	e (mm)	H (mm)	A (mm)	kg /pc		
SEAM WELDED															
12	x	8	323.9	x	219.1	5.5	4.0	125	379	6.60	7.0	4.5	125	379	8.40
12	x	10	323.9	x	267	5.5	4.5	155	447	12.10	7.0	5.5	155	447	15.40
12	x	12	323.9	x	323.9	5.5	5.5	185	560	15.40	7.0	7.0	185	560	19.60
14	x	8	368	x	219.1	6.5	4.0	125	379	7.10	8.0	4.5	125	379	8.75
14	x	10	368	x	267	6.5	4.5	155	447	11.80	8.0	5.5	155	447	14.55
14	x	12	368	x	323.9	6.5	5.5	185	560	15.40	8.0	7.0	185	560	18.95
14	x	14	368	x	368	6.5	6.5	200	613	20.10	8.0	8.0	200	613	24.75
16	x	10	419.1	x	267	7.0	4.5	155	447	11.65	9.0	5.5	155	447	15.00
16	x	12	419.1	x	323.9	7.0	5.5	185	560	16.35	9.0	7.0	185	560	21.00
16	x	14	419.1	x	368	7.0	6.5	200	613	19.50	9.0	8.0	200	613	25.10
16	x	16	419.1	x	419.1	7.0	7.0	225	680	28.20	9.0	9.0	225	680	36.25
18	x	12	457.2	x	323.9	8.0	5.5	185	560	16.00	9.5	7.0	185	560	19.00
18	x	14	457.2	x	368	8.0	6.5	200	613	19.45	9.5	8.0	200	613	23.10
18	x	16	457.2	x	419.1	8.0	7.0	225	680	29.70	9.5	9.0	225	680	35.25
18	x	18	457.2	x	457.2	8.0	8.0	250	800	43.40	9.5	9.5	250	800	51.55
20	x	14	508	x	368	8.5	6.5	200	613	20.40	11.0	8.0	200	613	26.40
20	x	16	508	x	419.1	8.5	7.0	225	680	31.75	11.0	9.0	225	680	41.10
20	x	18	508	x	457.2	8.5	8.0	250	800	43.10	11.0	9.5	250	800	55.80
20	x	20	508	x	508	8.5	8.5	275	880	54.40	11.0	11.0	275	880	70.40
24	x	16	610	x	419.1	10.5	7.0	225	680	36.15	13.0	9.0	225	680	44.75
24	x	18	610	x	457.2	10.5	8.0	250	800	47.85	13.0	9.5	250	800	59.25
24	x	20	610	x	508	10.5	8.5	275	880	56.00	13.0	11.0	275	880	69.30
24	x	24	610	x	610	10.5	10.5	300	1020	99.20	13.0	13.0	300	1020	122.80
28	x	18	711	x	457.2	12.0	8.0	250	800	77.70	-	-	-	-	-
28	x	20	711	x	508	12.0	8.5	275	880	105.10	-	-	-	-	-
28	x	24	711	x	610	12.0	10.5	300	1020	137.15	-	-	-	-	-
28	x	28	711	x	711	12.0	12.0	360	1225	182.85	-	-	-	-	-
32	x	20	813	x	508	13.5	8.5	275	880	118.10	-	-	-	-	-
32	x	24	813	x	610	13.5	10.5	300	1020	163.15	-	-	-	-	-
32	x	28	813	x	711	13.5	12.5	360	1225	208.15	-	-	-	-	-
32	x	32	813	x	813	13.5	13.5	410	1400	225.00	-	-	-	-	-
36	x	24	914	x	610	15.5	10.5	300	1020	206.70	-	-	-	-	-
36	x	28	914	x	711	15.5	12.5	360	1225	246.85	-	-	-	-	-
36	x	32	914	x	813	15.5	13.5	410	1400	294.45	-	-	-	-	-
36	x	36	914	x	914	15.5	15.5	460	1550	357.00	-	-	-	-	-



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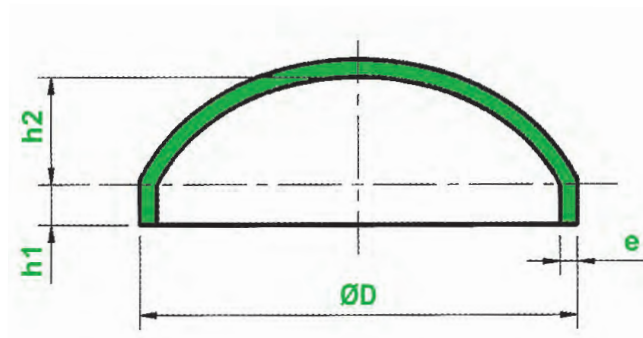
End Caps

10 Bar

14 Bar

16 Bar

20 Bar



Material : CuNi 90/10 | CuNi 70/30

Outside Diameter of Pipe - ØD		DIN 28011								EEMUA 146					
Nominal (Inch)	Actual (mm)	10 Bar				14 Bar				16 Bar			20 Bar		
		e (mm)	h1 (mm)	h2 (mm)	kg /pc	e (mm)	h1 (mm)	h2 (mm)	kg /pc	e (mm)	h1 + h2 (mm)	kg /pc	e (mm)	h1 + h2 (mm)	kg /pc
SEAMLESS															
1	30	1.5	14	5	0.07	2.0	14.0	5.0	0.09	2.5	16.72	0.078	2.5	16.72	0.078
1¼	38	1.5	14	6.5	0.10	2.0	14.0	6.5	0.133	2.5	18.04	0.085	2.5	18.04	0.085
1½	44.5	1.5	14	8	0.12	2.0	14.0	8.0	0.16	2.5	19.6	0.13	2.5	19.6	0.13
2	57	1.5	18	10	0.18	2.0	18.0	10.0	0.24	2.5	22	0.19	2.5	22	0.19
2½	76.1	2.0	18	14	0.31	2.0	18.0	14.0	0.413	2.5	25.7	0.31	2.5	25.7	0.31
3	88.9	2.0	20	16	0.39	2.5	20.0	16.0	0.53	2.5	28.2	0.40	2.5	28.2	0.40
4	108	2.5	20	20	0.75	2.5	20.0	20.0	0.75	3.0	31.7	0.75	3.0	31.7	0.75
5	133	2.5	20	24	0.95	3.0	20.0	24.0	1.20	-	-	-	-	-	-
6	159	2.5	20	29	1.35	3.0	20.0	29.0	1.60	3.0	41	1.50	3.5	44	1.75
7	193.7	2.5	20	36	1.95	3.5	20.0	36.0	2.40	-	-	-	-	-	-
8	219.1	3.0	20	41	2.60	3.5	20.0	41.0	3.10	4.0	55	2.75	4.5	60	3.10
10	267	3.0	20	50	3.85	4.0	20.0	50.0	4.85	4.5	69	4.90	5.5	69	5.96
12	323.9	4.0	20	61	6.60	5.0	20.0	61.0	8.20	5.5	80	9.17	7.0	85	11.68
14	368	4.0	20	69	8.80	5.5	20.0	69.0	12.60	6.5	93	14.05	8.0	103	17.30
16	419.1	4.0	20	79	12.20	6.0	25.0	79.0	17.40	7.0	102	18.60	9.0	112	23.90
18	457.2	4.0	20	87	12.55	6.0	25.0	87.0	17.90	8.0	119	22.75	9.5	119	27.00
20	508	4.5	20	96	18.80	6.5	25.0	96.0	26.35	8.5	129	31.70	11.0	139	41.00
24	610	5.0	20	115	26.70	8.0	35.0	115.0	49.60	10.5	148	56.16	13.0	163	68.30
28	711	-	-	-	-	-	-	-	-	12.0	176	85.55	15.0	191	106.90
32	813	-	-	-	-	-	-	-	-	13.5	200	125.40	17.0	210	157.90
36	914	-	-	-	-	-	-	-	-	15.5	221	175.40	19.0	231	215.00



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