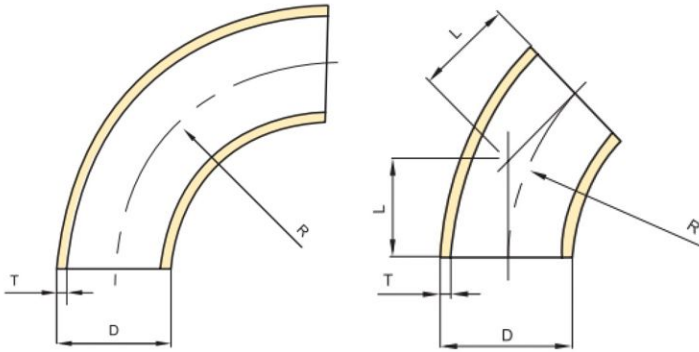


ELBOWS(LONG RADIUS)



MATERIALS : Cu-Ni 90/10, Cu-Ni 70/30

DIMENSION : DIN 86090

TYPE & CONSTRUCTION :

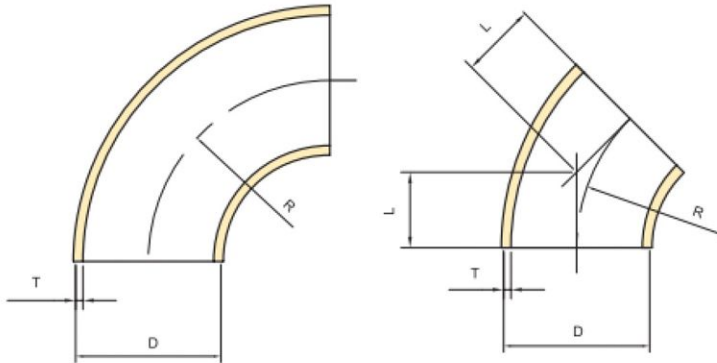
SEAMLESS (10 & Below)

SEAM WELDED (12 & Over)

Unit : mm

Size		T	R	L
N/D inch	O/D (D) mm			
1/2	20.0	1.0	25.0	10.4
3/4	25.0	1.5	27.5	11.4
1	30.0	1.5	33.5	14.0
1 1/4	38.0	1.5	45.0	19.0
1 1/2	44.5	1.5	51.0	21.0
2	57.0	1.5	72.0	30.0
2 1/2	76.1	2.0	95.0	39.0
3	88.9	2.0	114.5	47.0
4	108.0	2.5	142.5	59.0
5	133.0	2.5	181.0	75.0
6	159.0	2.5	216.0	89.0
7	193.7	2.5	270.0	112.0
8	219.1	3.0	305.0	126.0
10	267.0	3.0	378.0	157.0
12	323.9	4.0	457.0	189.0
14	368.0	4.0	533.0	221.0
16	419.0	4.0	610.0	252.0
18	457.2	4.0	686.0	284.0
20	508.0	4.5	762.0	316.0
24	610.0	5.0	914.0	379.0

ELBOWS(SHORTRADIUS)



MATERIALS : Cu-Ni 90/10, Cu-Ni 70/30

DIMENSION : According to JMS 7354 Radius

TYPE & CONSTRUCTION :

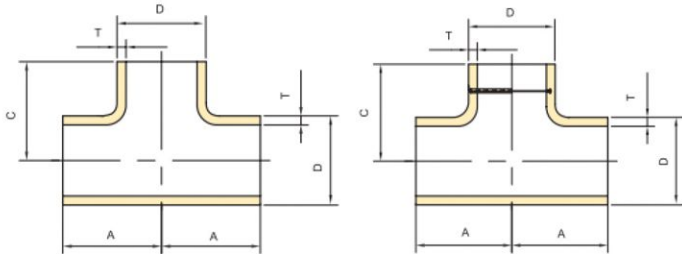
SEAMLESS (10 & Below)

SEAM WELDED (12 & Over)

Unit : mm

Size		T	R	L
N/D inch	O/D (D) mm			
1	30.0	1.5	40	12
1 1/4	38.0	1.5	40	14
1 1/2	44.5	1.5	40	17
2	57.0	1.5	50	22
2 1/2	76.1	2.0	65	27
3	88.9	2.5	80	33
4	108.0	2.5	100	41
5	133.0	2.5	125	52
6	159.0	2.5	150	62
7	193.7	2.5	180	75
8	219.1	3.0	200	87
10	267.0	3.0	250	106
12	323.9	4.0	300	126
14	368.0	4.0	350	146
16	419.0	4.0	400	166
18	457.2	4.0	450	188
20	508.0	4.5	500	209
24	610.0	5.0	600	253

TEE(EQUAL PIECES)



MATERIALS : Cu-Ni 90/10, Cu-Ni 70/30

DIMENSION : DIN 86088 (8 & Below)

ANSI B16.9 (10 & Over)

TYPE & CONSTRUCTION :

SEAMLESS One Piece (8 & Below)

SEAM & Branch Welded Piece (8 & Over)

Unit : mm

Size		T	R	L
N/D inch	O/D (D) mm			
1/2	20.0	1.0	25	25
3/4	25.0	1.5	29	29
1	30.0	1.5	38	38
1 1/4	38.0	1.5	48	48
1 1/2	44.5	1.5	57	57
2	57.0	1.5	64	64
2 1/2	76.1	2.0	76	76
3	88.9	2.0	86	86
4	108.0	2.5	105	105
5	133.0	2.5	124	124
6	159.0	2.5	143	143
8	219.1	3.0	178	178
10	267.0	3.0	216	216
12	323.9	4.0	254	254
14	368.0	4.0	279	279
16	419.0	4.0	305	305
18	457.2	4.0	343	343
20	508.0	4.5	381	381
24	610.0	5.0	432	432

TEE (REDUCING PIECES)

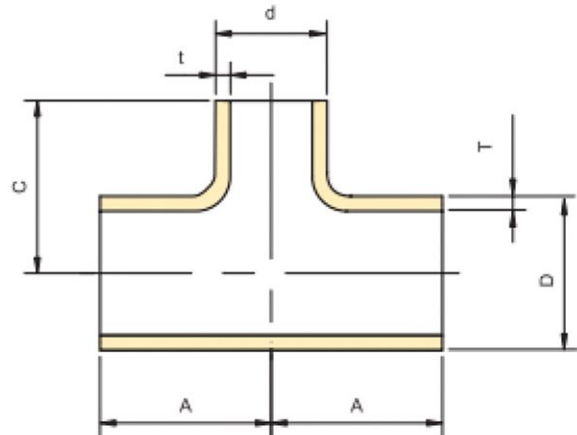
MATERIALS : Cu-Ni 90/10, Cu-Ni 70/30

DIMENSION : DIN 86088 (8 & Below)

ANSI B16.9 (10 & Over)

TYPE & CONSTRUCTION :

SEAMLESS One Piece (8 & Below)



Unit : mm

Size				T	t	A	C
N/D (inch)		O/D (mm)					
D	d	D	d				
1 1/4	1	38.0	30.0	1.5	1.5	48	48
1 1/2	1	44.5	30.0	1.5	1.5	57	57
1 1/2	1 1/4	44.5	38.0	1.5	1.5	57	57
2	1	57.0	30.0	1.5	1.5	64	64
2	1 1/4	57.0	38.0	1.5	1.5	64	64
2	1 1/2	57.0	44.5	1.5	1.5	64	64
2 1/2	1	76.1	30.0	2.0	1.5	76	82
2 1/2	1 1/4	76.1	38.0	2.0	1.5	76	80
2 1/2	1 1/2	76.1	44.5	2.0	1.5	76	78
2 1/2	2	76.1	57.0	2.0	1.5	76	76
3	1 1/4	88.9	38.0	2.0	1.5	86	98
3	1 1/2	88.9	44.5	2.0	1.5	86	95
3	2	88.9	57.0	2.0	1.5	86	90
3	2 1/2	88.9	76.1	2.0	2.0	86	86
4	1 1/2	108.0	44.5	2.5	1.5	105	105
4	2	108.0	57.0	2.5	1.5	105	105
4	2 1/2	108.0	76.1	2.5	2.0	105	105
4	3	108.0	88.9	2.5	2.0	105	105
5	2	133.0	57.0	2.5	1.5	124	124
5	2 1/2	133.0	76.1	2.5	2.0	124	124
5	3	133.0	88.9	2.5	2.0	124	124
5	4	133.0	108.0	2.5	2.5	124	124
6	2 1/2	159.0	76.1	2.5	2.0	143	143
6	3	159.0	88.9	2.5	2.0	143	143
6	4	159.0	108.0	2.5	2.5	143	143
6	5	159.0	133.0	2.5	2.5	143	143

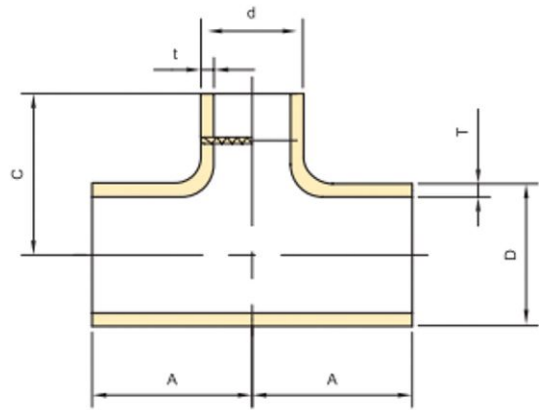
TEE (REDUCING PIECES)

MATERIALS : Cu-Ni 90/10, Cu-Ni 70/30

DIMENSION : DIN 86088 | ANSI B16.9

TYPE & CONSTRUCTION :

SEAM & BRANCH Welded Piece (Run 8 & Over)



Unit : mm

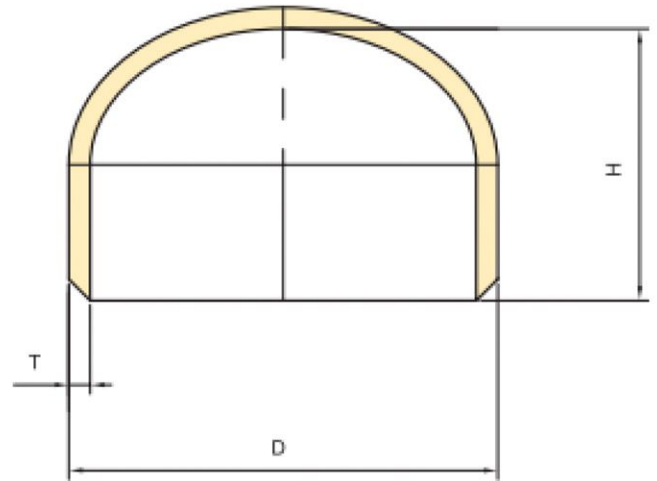
Size				T	t	A	C
N/D (inch)		O/D (mm)					
D	d	D	d				
8	4	219.1	108.0	3.0	2.5	178	56
8	5	219.1	133.0	3.0	2.5	178	162
8	6	219.1	159.0	3.0	2.5	178	168
10	4	267.0	108.0	3.0	2.5	216	184
10	5	267.0	133.0	3.0	2.5	216	191
10	6	267.0	159.0	3.0	2.5	216	194
10	8	267.0	219.1	3.0	3.0	216	203
12	5	323.9	133.0	4.0	2.5	216	216
12	6	323.9	159.0	4.0	2.5	254	219
12	8	323.9	219.1	4.0	3.0	254	229
12	10	323.9	267.0	4.0	3.0	254	241
14	6	368.0	159.0	4.0	2.5	254	238
14	8	368.0	219.1	4.0	3.0	279	248
14	10	368.0	267.0	4.0	3.0	279	257
14	12	368.0	323.9	4.0	4.0	279	270
16	8	419.1	219.1	4.0	3.0	305	273
16	10	419.1	267.0	4.0	3.0	305	283
16	12	419.1	323.9	4.0	4.0	305	295
16	14	419.1	368.0	4.0	4.0	305	305
18	10	457.2	267.0	4.0	3.0	343	308
18	12	457.2	323.9	4.0	4.0	343	321
18	14	457.2	368.0	4.0	4.0	343	330
18	16	457.2	419.1	4.0	4.0	343	330
20	12	508.0	323.9	4.5	4.0	381	346
20	14	508.0	368.0	4.5	4.0	381	356
20	16	508.0	419.1	4.5	4.0	381	356
20	18	508.0	457.2	4.5	4.0	381	368
24	14	610.0	368.0	5.0	4.0	432	406
24	16	610.0	419.1	5.0	4.0	432	406
24	18	610.0	457.2	5.0	4.0	432	419
24	20	610.0	508.0	5.0	4.5	432	432

END CAPS

MATERIALS : Cu-Ni 90/10, Cu-Ni 70/30

DIMENSION : DIN86011

TYPE & CONSTRUCTION : SEAMLESS One Piece



Unit : mm

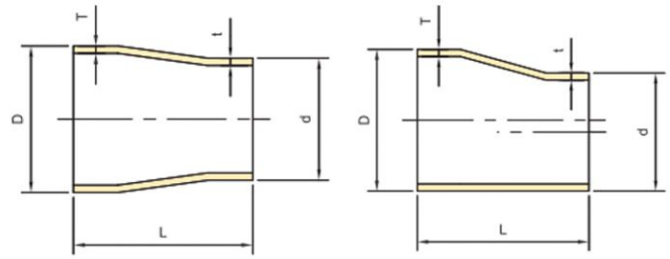
Size		T	t
N/D inch	O/D (D) mm		
1	30.0	1.5	19.0
1 1/4	38.0	1.5	20.5
1 1/2	44.5	1.5	22.0
2	57.0	1.5	28.0
2 1/2	76.1	2.0	32.0
3	88.9	2.0	36.0
4	108.0	2.5	40.0
5	133.0	2.5	44.0
6	159.0	2.5	49.0
8	219.1	3.0	61.0
10	267.0	3.0	70.0
12	323.9	4.0	81.0
14	368.0	4.0	89.0
16	419.0	4.0	99.0
18	457.2	4.0	107.0
20	508.0	4.5	116.0
24	610.0	5.0	136.0

REDUCER (CONCENTRIC, CCENTRIC)

MATERIALS : Cu-Ni 90/10, Cu-Ni 70/30

DIMENSION : DIN86089

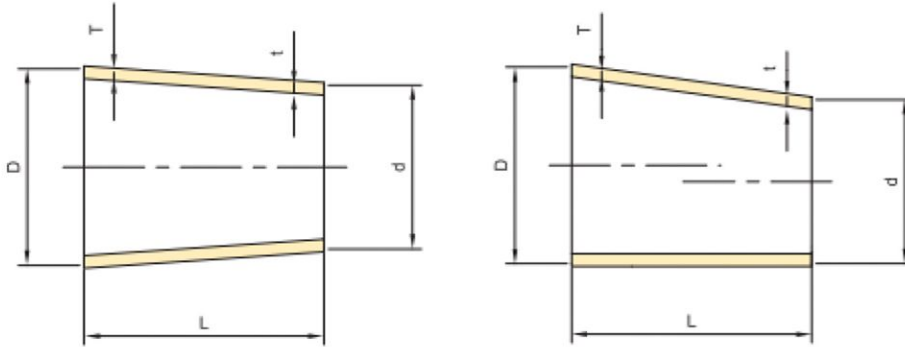
TYPE & CONSTRUCTION : SEAMLESS One Piece



Unit : mm

Size				T	t	L
N/D (inch)		O/D (mm)				
D	d	D	d	10B	10B	
1	3/4	30.0	25.0	1.5	1.5	35
1 1/4	3/4	38.0	25.0	1.5	1.5	50
1 1/4	1	38.0	30.0	1.5	1.5	50
1 1/2	3/4	44.5	25.0	1.5	1.5	80
1 1/2	1	44.5	30.0	1.5	1.5	80
1 1/2	1 1/4	44.5	38.0	1.5	1.5	80
2	3/4	57.0	25.0	1.5	1.5	80
2	1	57.0	30.0	1.5	1.5	80
2	1 1/4	57.0	38.0	1.5	1.5	80
2	1 1/2	57.0	44.5	1.5	1.5	80
2 1/2	1	76.1	30.0	2.0	1.5	90
2 1/2	1 1/4	76.1	38.0	2.0	1.5	90
2 1/2	1 1/2	76.1	44.5	2.0	1.5	90
2 1/2	2	76.1	57.0	2.0	1.5	90
3	1 1/4	88.9	38.0	2.0	1.5	90
3	1 1/2	88.9	44.5	2.0	1.5	90
3	2	88.9	57.0	2.0	1.5	90
3	2 1/2	88.9	76.1	2.0	1.5	90
4	1 1/4	108.0	38.0	2.5	1.5	100
4	1 1/2	108.0	44.5	2.5	1.5	100
4	2	108.0	57.0	2.5	1.5	100
4	2 1/2	108.0	76.1	2.5	2.0	100
4	3	108.0	88.9	2.5	2.0	100
5	2	133.0	57.0	2.5	1.5	140
5	2 1/2	133.0	76.1	2.5	2.0	140
5	3	133.0	88.9	2.5	2.0	140
5	4	133.0	108.0	2.5	2.5	140
4	2 1/2	159.0	76.1	2.5	2.0	150
4	3	159.0	88.9	2.5	2.0	150
4	4	159.0	108.0	2.5	2.5	150
4	5	159.0	133.0	2.5	2.5	150
8	4	219.1	108.0	3.0	2.5	155
8	5	219.1	133.0	3.0	2.5	155
8	6	219.1	159.0	3.0	2.5	155
10	5	267.0	133.0	3.0	2.5	210
10	6	267.0	159.0	3.0	2.5	210
10	8	267.0	219.1	3.0	3.0	210

REDUCER (CONCENTRIC, ECCENTRIC)



MATERIALS : Cu-Ni 90/10, Cu-Ni 70/30

DIMENSION : DIN86089

TYPE & CONSTRUCTION : SEAM Welded Piece

Unit : mm

Size				T	t	L
N/D (inch)		O/D (mm)				
D	d	D	d	10B	10B	
12	6	323.9	159	4.0	2.5	210
12	8	323.9	219.1	4.0	3.0	210
12	10	323.9	267	4.0	3.0	210
14	8	368	219.1	4.0	3.0	330
14	10	368	267	4.0	3.0	330
14	12	368	323.9	4.0	4.0	330
16	10	419.1	267	4.0	3.0	356
16	12	419.1	323.9	4.0	4.0	356
16	14	419.1	368	4.0	4.0	356
18	8	457.2	219.1	4.0	3.0	381
18	10	457.2	267	4.0	3.0	381
18	12	457.2	323.9	4.0	4.0	381
18	14	457.2	368	4.0	4.0	381
18	16	457.2	419.1	4.0	4.0	381
20	10	508	267	4.5	3.0	508
20	12	508	323.9	4.5	4.0	508
20	14	508	368	4.5	4.0	508
20	16	508	419.1	4.5	4.0	508
20	18	508	457.2	4.5	4.0	508
24	14	610	368	5.0	4.0	508
24	16	610	419.1	5.0	4.0	508
24	18	610	457.2	5.0	4.0	508
24	20	610	508	5.0	4.5	508

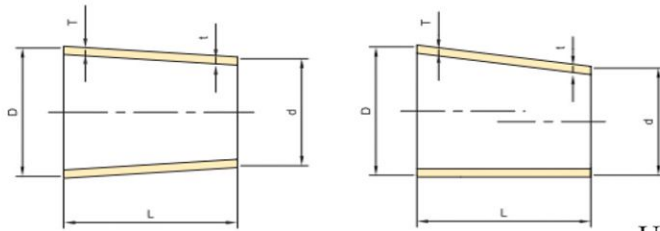
REDUCER (CONCENTRIC, ECCENTRIC)

MATERIALS : Cu-Ni 90/10, Cu-Ni 70/30

DIMENSION : JMS 7354

TYPE & CONSTRUCTION :

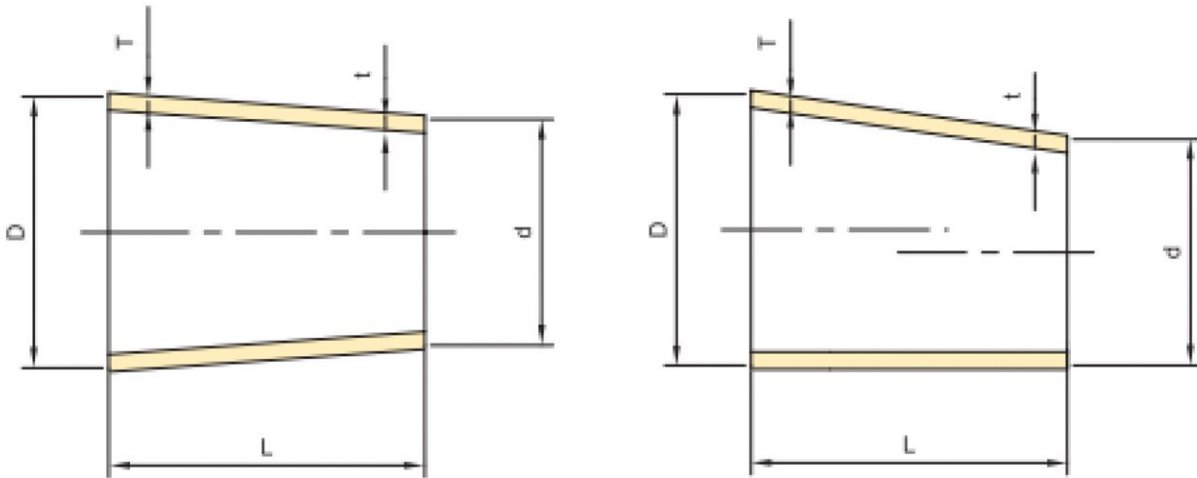
SEAMLESS One Piece



Unit : mm

Size				T	t	L
N/D (inch)		O/D (mm)				
D	d	D	d	10B	10B	
1	3/4	30.0	25.0	1.5	1.5	100
1 1/4	3/4	38.0	25.0	1.5	1.5	100
1 1/4	1	38.0	30.0	1.5	1.5	100
1 1/2	3/4	44.5	25.0	1.5	1.5	100
1 1/2	1	44.5	30.0	1.5	1.5	100
1 1/2	1 1/4	44.5	38.0	1.5	1.5	100
2	3/4	57.0	25.0	1.5	1.5	100
2	1	57.0	30.0	1.5	1.5	100
2	1 1/4	57.0	38.0	1.5	1.5	100
2	1 1/2	57.0	44.5	1.5	1.5	100
2 1/2	1	76.1	30.0	2.0	1.5	100
2 1/2	1 1/4	76.1	38.0	2.0	1.5	100
2 1/2	1 1/2	76.1	44.5	2.0	1.5	100
2 1/2	2	76.1	57.0	2.0	1.5	100
3	1 1/4	88.9	38.0	2.0	1.5	100
3	1 1/2	88.9	44.5	2.0	1.5	100
3	2	88.9	57.0	2.0	1.5	100
3	2 1/2	88.9	76.1	2.0	1.5	100
4	1 1/4	108.0	38.0	2.5	1.5	100
4	1 1/2	108.0	44.5	2.5	1.5	100
4	2	108.0	57.0	2.5	1.5	100
4	2 1/2	108.0	76.1	2.5	2.0	100
4	3	108.0	88.9	2.5	2.0	100
5	2	133.0	57.0	2.5	1.5	100
5	2 1/2	133.0	76.1	2.5	2.0	100
5	3	133.0	88.9	2.5	2.0	100
5	4	133.0	108.0	2.5	2.5	100
6	2 1/2	159.0	76.1	2.5	2.0	100
6	3	159.0	88.9	2.5	2.0	100
6	4	159.0	108.0	2.5	2.5	100
6	5	159.0	133.0	2.5	2.5	100
8	4	219.1	108.0	3.0	2.5	200
8	5	219.1	133.0	3.0	2.5	150
8	6	219.1	159.0	3.0	2.5	150
10	5	267.0	133.0	3.0	2.5	200
10	6	267.0	159.0	3.0	2.5	200
10	8	267.0	219.1	3.0	3.0	150

REDUCER(CONCENTRIC, ECCENTRIC)



MATERIALS : Cu-Ni 90/10, Cu-Ni 70/30

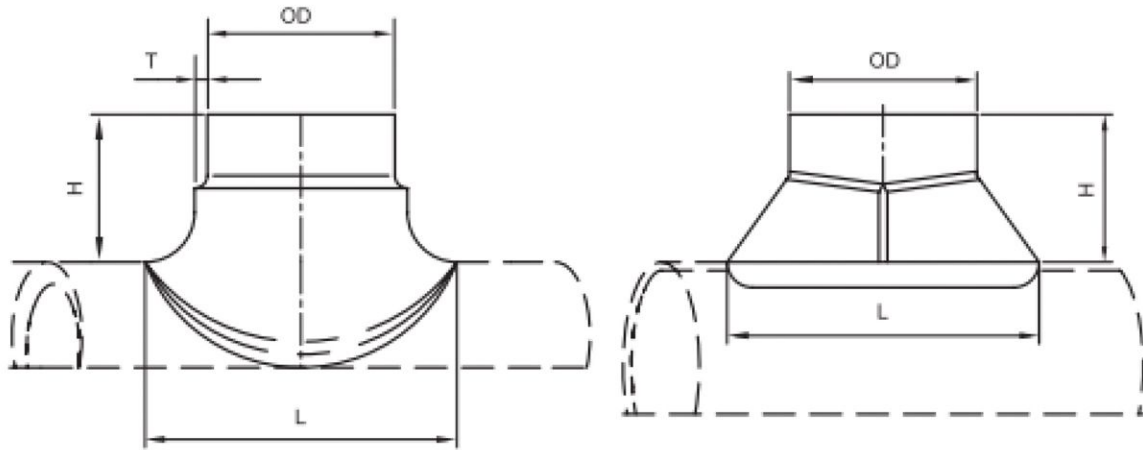
DIMENSION : JMS 7354

TYPE & CONSTRUCTION : SEAM Welded Piece

Unit : mm

Size				T	t	L
N/D (inch)		O/D (mm)				
D	d	D	d	10B	10B	
12	6	323.9	159	4.0	2.5	200
12	8	323.9	219.1	4.0	3.0	150
12	10	323.9	267	4.0	3.0	100
14	8	368	219.1	4.0	3.0	200
14	10	368	267	4.0	3.0	150
14	12	368	323.9	4.0	4.0	100
16	10	419.1	267	4.0	3.0	200
16	12	419.1	323.9	4.0	4.0	150
16	14	419.1	368	4.0	4.0	100
18	8	457.2	219.1	4.0	3.0	200
18	10	457.2	267	4.0	3.0	200
18	12	457.2	323.9	4.0	4.0	200
18	14	457.2	368	4.0	4.0	150
18	16	457.2	419.1	4.0	4.0	100
20	10	508	267	4.5	3.0	200
20	12	508	323.9	4.5	4.0	200
20	14	508	368	4.5	4.0	200
20	16	508	419.1	4.5	4.0	150
20	18	508	457.2	4.5	4.0	100
24	14	610	368	5.0	4.0	200
24	16	610	419.1	5.0	4.0	200
24	18	610	457.2	5.0	4.0	150
24	20	610	508	5.0	4.5	100

BRANCHES(SADDLE)



MATERIALS : Cu-Ni 90/10, Cu-Ni 70/30

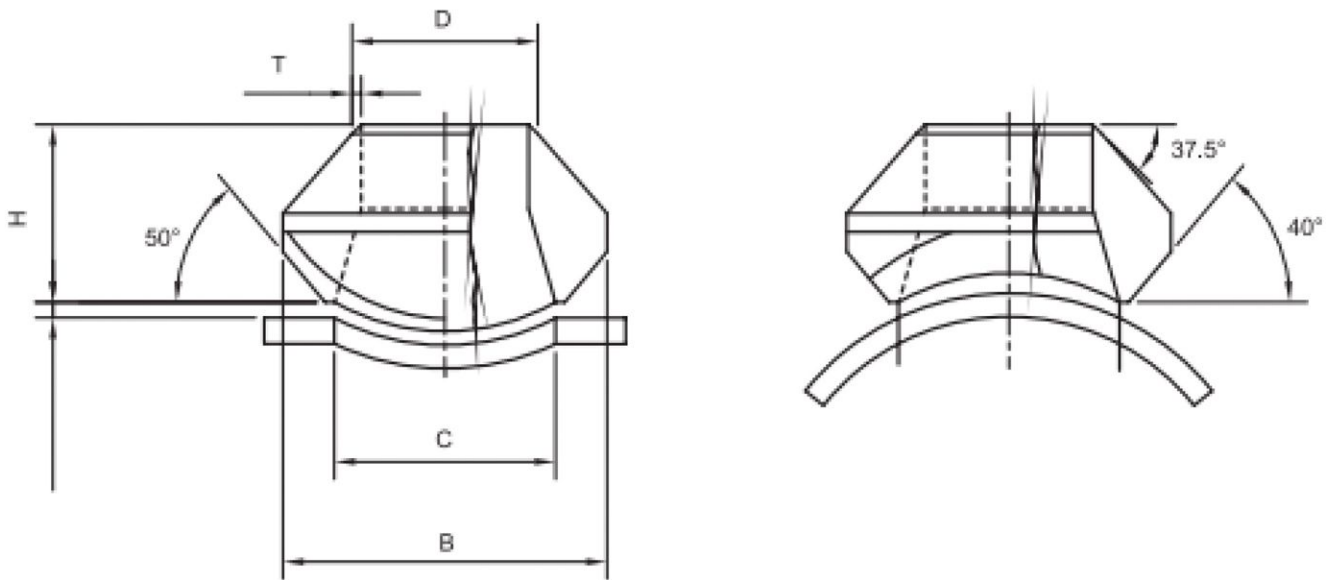
DIMENSION : DIN86087

TYPE & CONSTRUCTION : SEAMLESS (8" & below) Seam Welded

Unit : mm

Outside Diameter of Branch Pipe		Wall Thickness T	Height H	Length L
N/D (inch)	O/D (mm)			
1 1/2	44.5	1.5	35	74
2	57	1.5	40	97
2 1/2	76.1	2.0	50	126
3	88.9	2.5	55	149
4	108	2.5	75	188
5	133	2.5	85	233
6	159	2.5	95	279
8	219.1	3.0	125	379
10	267	3.0	155	447
12	323.9	4.0	185	560
14	368	4.0	200	613
16	419	4.0	225	680
18	457.2	4.0	250	800
20	508	4.5	275	880
24	610	5.0	300	1020

BRANCHES(WELDOLETS)



MATERIALS : Cu-Ni 90/10, Cu-Ni 70/30

TYPE & CONSTRUCTION : Forgings or Machined Bar

Unit : mm

Outlet Size		T	H	B	C
N/D (inch)	O/D (mm)				
1/2	20	1.0	19.1	34.9	23.8
3/4	25	1.5	22.2	44.5	30.2
1	30	1.5	27.0	54.0	36.5
1 1/4	38	1.5	31.8	65.1	44.5
1 1/2	44.5	1.5	33.3	73.0	50.8
2	57	1.5	38.1	88.9	65.1
2 1/2	76.1	2.0	41.3	103.2	76.2
3	88.9	2.5	44.5	122.2	93.7
4	108	2.5	50.8	152.4	120.7
5	133	2.5	57.2	179.4	141.3
6	159	2.5	60.3	215.9	169.9
8	219	3.0	69.9	263.5	220.7
10	267	3.0	77.8	322.3	274.7
12	323.9	4.0	85.7	377.8	325.4
14	368	4.0	88.9	409.6	357.2
16	419	4.0	93.7	463.6	408.0
18	457.2	4.0	96.8	520.7	458.8
20	508	4.5	101.6	571.5	508.0
24	610	5.0	115.9	689.0	614.4