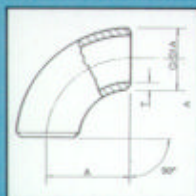




**ELBOWS,
EQUAL TEES,
CONCENTRIC
REDUCERS,
END CAPS,
STUB ENDS,
COLLARS**

90° Elbows (L.R.) Grades: 304L, 316L



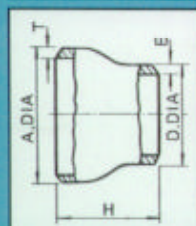
STANDARD RANGE																
Nominal Bore	15	20	25	32	40	50	65	80	90	100	125	150	200	250	300	
Outside diameter	21,34	26,67	33,40	42,18	48,26	60,33	73,00	88,90	101,60	114,30	141,30	168,28	219,08	273,05	323,87	
Material Thickness T	Schedule 5	1,65	1,65	1,65	1,65	1,65	2,11	2,11	2,11	3,11	2,77	2,77	2,77	3,40	3,96	
	Schedule 10	2,11	2,11	2,77	2,77	2,77	3,05	3,05	3,05	3,05	3,40	3,40	3,76	4,19	4,57	
	Schedule 40	2,77	2,87	3,38	3,56	3,68	3,91	5,16	5,49	5,74	6,02	6,55	7,11	8,18	9,27	9,53
	Schedule 80	3,73	3,91	4,55	4,85	5,08	5,54	7,01	7,62	8,08	8,56	9,53	10,97	12,70	12,70	12,70
Centre to centre A	38,10	28,58	38,10	47,63	57,15	76,20	95,25	114,30	113,35	152,40	190,50	228,60	304,80	381,00	457,20	

Equal tees Grades: 304L, 316L



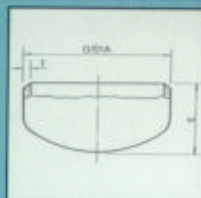
STANDARD RANGE																
Nominal Bore	15	20	25	32	40	50	65	80	90	100	125	150	200	250	300	
Outside diameter	21,34	26,67	33,40	42,18	48,26	60,33	73,00	88,90	101,60	114,30	141,30	168,28	219,08	273,05	323,87	
Material Thickness T	Schedule 5	1,65	1,65	1,65	1,65	1,65	2,11	2,11	2,11	3,11	2,77	2,77	2,77	3,40	3,96	
	Schedule 10	2,11	2,11	2,77	2,77	2,77	3,05	3,05	3,05	3,05	3,40	3,40	3,76	4,19	4,57	
	Schedule 40	2,77	2,87	3,38	3,56	3,68	3,91	5,16	5,49	5,74	6,02	6,55	7,11	8,18	9,27	9,53
	Schedule 80	3,73	3,91	4,55	4,85	5,08	5,54	7,01	7,62	8,08	8,56	9,53	10,97	12,70	12,70	12,70
Centre to centre C	25,40	28,58	38,10	47,63	57,15	63,50	76,20	85,73	95,25	104,78	123,83	142,88	177,80	215,90	254,00	

Concentric Reducers Grades: 304L, 316L



STANDARD RANGE																
Nominal Bore		25 x 15	40 x 25	50 x 25	50 x 40	80 x 40	80 x 50	100 x 50	100 x 80	150 x 80	150 x 100	200 x 100	200 x 150	250 x 150	250 x 200	300 x 200
Outside Dia. A		33,40	48,26	60,33	60,33	88,90	88,90	114,30	114,30	168,30	168,30	219,10	219,10	273,10	273,10	304,80
Outside Dia. D		21,34	33,40	33,40	48,26	48,26	60,33	60,33	88,90	88,90	114,30	114,30	168,30	168,30	219,10	219,10
Material Thickness	Schedule 5	T 1,65	1,65	1,65	1,65	2,11	2,11	2,11	2,11	2,77	2,77	2,77	2,77	3,40	3,40	3,90
		E 1,65	1,65	1,65	1,65	1,65	1,65	1,65	2,11	2,11	2,11	2,11	2,77	2,77	2,77	2,77
	Schedule 10	T 2,77	2,77	2,77	2,77	3,05	3,05	3,05	3,05	3,40	3,40	3,70	3,70	4,19	4,19	4,57
		E 2,11	2,77	2,77	2,77	2,77	2,77	2,77	3,05	3,05	3,05	3,05	3,40	3,40	3,77	3,77
	Schedule 40	T 3,38	3,68	3,91	3,91	5,49	5,49	6,02	6,02	7,11	7,11	8,18	8,18	9,27	9,27	9,53
		E 2,77	3,38	3,57	3,68	3,68	3,91	3,91	5,49	5,49	6,02	6,02	7,11	7,11	8,18	8,18
	Schedule 80	T 4,55	5,08	5,54	5,54	7,62	7,62	8,56	8,56	10,97	10,97	12,70	12,70	12,70	12,70	12,70
		E 3,73	4,55	4,55	5,08	5,08	5,54	5,54	7,62	7,62	8,56	8,56	10,97	10,97	12,70	12,70
Length H		50,80	63,50	76,20	76,20	88,10	88,10	101,60	101,60	139,70	139,70	152,40	152,40	177,80	177,80	203,20

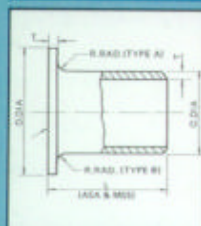
End caps Grades: 304L, 316L



STANDARD RANGE																
Nominal Bore	15	20	25	32	40	50	65	80	90	100	125	150	200	250	300	
Outside diameter	21,34	26,67	33,40	42,16	48,26	60,33	73,00	88,90	101,60	114,30	141,30	168,28	219,08	273,05	323,87	
Material Thickness T	Schedule 5	1,65	1,65	1,65	1,65	1,65	2,11	2,11	2,11	2,11	2,77	2,77	2,77	3,40	3,96	
	Schedule 10	2,11	2,11	2,77	2,77	2,77	3,05	3,05	3,05	3,05	3,40	3,40	3,76	4,19	4,57	
	Schedule 40	2,77	2,87	3,38	3,56	3,68	3,91	5,16	5,49	5,74	6,02	6,55	7,11	8,18	9,27	9,53
	Schedule 80	3,73	3,91	4,55	4,85	5,08	5,54	7,01	7,62	8,08	8,56	9,53	10,97	12,70	12,70	12,70
Length E	25,4	25,4	38,1	38,1	38,1	38,1	38,1	50,8	63,5	63,5	76,2	88,9	101,60	127,00	152,40	

All dimensions in mm. Dimensions conform to ASA B36.19 for Sch. 5 and 10 and ASA B16.9 for Sch. 40 and 80. Tolerances in accordance with MSS SP43.

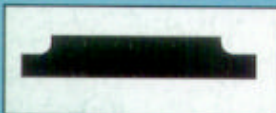
Stub ends Grades: 304L, 316L



STANDARD RANGE																
Nominal Bore	15	20	25	32	40	50	65	80	90	100	125	150	200	250	300	
Outside diameter	21,34	26,67	33,40	42,16	48,26	60,33	73,00	88,90	101,60	114,30	141,30	168,28	219,08	273,05	323,87	
Material Thickness T	Schedule 5	1,65	1,65	1,65	1,65	1,65	2,11	2,11	2,11	2,11	2,77	2,77	2,77	3,40	3,96	
	Schedule 10	2,11	2,11	2,77	2,77	2,77	3,05	3,05	3,05	3,05	3,40	3,40	3,76	4,19	4,57	
	Schedule 40	2,77	2,87	3,38	3,56	3,68	3,91	5,16	5,49	5,74	6,02	6,55	7,11	8,18	9,27	9,53
	Schedule 80	3,73	3,91	4,55	4,85	5,08	5,54	7,01	7,62	8,08	8,56	9,53	10,97	12,70	12,70	12,70
O/Dia. of lap D	34,93	42,85	50,80	63,50	73,03	92,08	101,78	127,00	139,70	157,15	185,72	215,90	269,87	323,85	381,00	
L	ASA	76,20	76,20	101,60	101,60	101,60	152,40	152,40	152,40	152,40	203,20	203,20	203,20	254,00	254,00	
	MSS	50,80	50,80	50,80	50,80	50,80	63,50	63,50	63,50	76,20	76,20	76,20	88,90	101,60	127,00	152,40
Radius R	Type A	3,18	3,18	3,18	4,75	6,35	7,92	7,92	9,53	9,53	11,10	11,10	12,70	12,70	12,70	12,70
	Type B & C	0,79	0,79	0,79	0,79	0,79	0,79	0,79	0,79	0,79	0,79	1,54	1,54	1,54	1,54	1,54

All dimensions in mm. Dimensions conform to ASA B36.19 for Sch. 5 and 10 and ASA B16.9 for Sch. 40 and 80. Tolerances in accordance with MSS SP43. *Grooved surface for improved sealing. †Type 'A' for use with lap joint flanges. Type 'B' and 'C' for use with slip-on flanges. Types 'B' and 'C' have the same dimensions but the lap of 'C' is flared over leaving a rounded edge at the ID of the lap. The lap face of the type 'C' is not machined. Type 'C' is available only in the MSS length in Sch. 5 and 10.

Collars Grades: 304L, 316L



Nominal bore	Thickness mm	ID	Thickness mm
15	2-3	50	2-3
20	2-3	75	2-3
25	2-3	100	2-3
32	2-3	125	2-3
40	2-3	150	2-3
50	2-3	200	2-3
65	2-3	250	2-3
80	2-3	300	2-3
100	2-3		
150	2-3		
200	2-3		
250	2-3		
300	2-3		