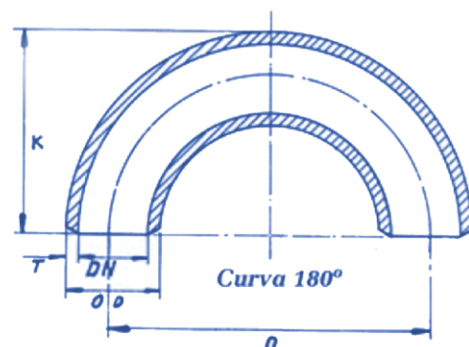
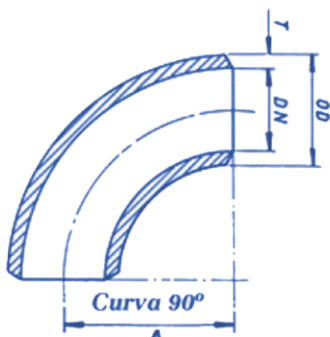
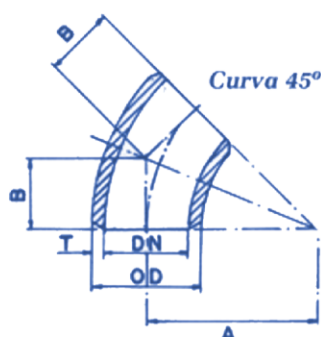


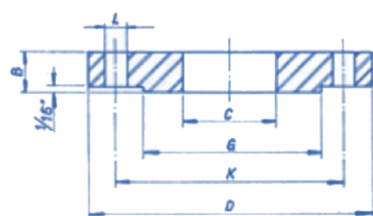
Curvas



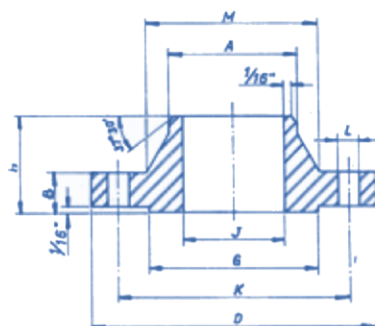
Curvas Raios Longos 45° - 90° - 180°

DIÂMETRO NOMINAL	Diâmetro Externo	Espessura da parede T		45°			90°			180°			
				Centro a face	Peso aproximado		Centro a face	Peso aproximado		Centro a face	Altura da Área	Peso aproximado	
		Std.	X-S	B	Std.	X-S	A	Std.	X-S	O	K	Std.	X-S
DN	OD			pol./Inch .			pol./Inch .			pol./Inch .	pol./Inch .		
		pol./Inch.			Pounds			Pounds				Pounds	
	mm	mm		mm	Quilos		mm	Quilos		mm	mm	Quilos	
1/2"	0.840	0.109	0.147	5/8	0.09	0.11	1.1/2	0.17	0.22	3	1.7/8	0.35	0.45
	21,30	2,77	3,73	15,87	0,04	0.05	38,10	0,08	0,089	76,20	47,62	0,16	0,204
3/4"	1.050	0.113	0.154	15/32	0.09	0.11	1.1/8	0.17	0.23	2.1/4	1.11/16	0.35	0.46
	26,67	2,87	3,91	11,91	0.04	0.05	28,60	0,08	0,10	57,20	42,90	0,16	0,21
1"	1.315	0.133	0.179	5/8	0.17	0.22	1.1/2	0.34	0.45	3	2.3/16	0.69	0.89
	33,40	3,38	4,55	15,90	0,08	0,10	38,10	0,15	0,20	76,20	55,60	0,31	0,40
1.1/4"	1.660	0.140	0.191	25/32	0.29	0.39	1.7/8	0.58	0.77	3.3/4	2.3/4	1.17	1.54
	42,18	3,58	4,85	19,84	0,13	0,18	47,60	0,26	0,35	95,20	69,80	0,53	0,70
1.1/2"	1.900	0.145	0.200	15/16	0.42	0.56	2.1/4	0.84	1.12	4.1/2	3.1/4	1.68	2.24
	48,26	3,68	5,08	23,83	0,19	0,25	57,20	0,38	0,51	114,30	82,60	0,76	1,02
2"	2.375	0.154	0.218	1.1/4	0.75	1.04	3	1.50	2.07	6	4.3/16	3.00	4.14
	60,32	3,91	5,54	31,80	0,34	0,47	76,20	0,68	0,94	152,40	106,40	1,36	1,88
2.1/2"	2.875	0.203	0.276	1.9/16	1.49	1.98	3.3/4	2.98	3.95	7.1/2	5.3/16	5.96	7.90
	73,02	5,16	7,01	39,76	0,68	0,90	95,20	1,35	1,79	190,50	131,80	2,70	3,58
3"	3.500	0.216	0.300	1.7/8	2.34	3.17	4.1/2	4.68	6.33	9	6.1/4	9.36	12.70
	88,90	5,49	7,62	47,60	1,06	1,44	114,30	2,12	2,87	228,60	158,80	4,25	5,76
3.1/2"	4.000	0.226	0.318	2.3/16	3.28	4.52	5.1/4	6.56	9.04	10.1/2	7.1/4	13.10	18.10
	101,60	5,74	8,08	55,60	1,49	2,05	133,40	2,98	4,10	266,70	184,20	5,94	8,21
4"	4.500	0.237	0.337	2.1/2	4.45	6.20	6	8.90	12.40	12	8.1/4	17.80	24.80
	114,30	6,02	8,56	63,60	2,02	2,81	152,40	4,04	5,62	304,80	209,60	8,07	11,20
5"	5.563	0.258	0.375	3.1/8	7.55	10.70	7.1/2	15.10	21.40	15	10.5/16	30.2	42.80
	141,30	6,55	9,52	79,40	3,42	4,85	190,50	6,85	9,71	381,00	261,90	13,70	19,40
6"	6.625	0.280	0.432	3.3/4	11,8	17,7	9	23.50	35.30	18	12.5/16	47.00	70.50
	168,30	7,11	10,97	95,30	5,30	8,03	228,60	10,70	16,00	457,20	312,70	21,30	32,00
8"	8.625	0.322	0.500	5	23.50	35.80	12	47.00	71.00	24	16.5/16	94.00	143.00
	219,10	8,18	12,70	127,00	10,70	16,20	304,80	21,30	32,20	609,60	414,30	42,60	64,90
10"	10.750	0.365	0.500	6.1/4	41.80	56.00	15	83.00	112.00	30	20.3/8	167.00	224.00
	723,00	9,27	12,70	158,80	18,90	25,40	381,00	37,60	50,80	762,00	517,50	75,80	102,00
12"	12.750	0.375	0.500	7.1/2	61.50	81.00	18	123.00	162.00	36	24.3/8	246.00	324.00
	323,80	9,52	12,70	190,50	27,90	36,70	457,20	55,80	73,50	914,40	619,10	112,00	147,00
14"	14.000	0.375	0.500	8.3/4	79.00	104.00	21	158.00	208.00	42.00	28.00	316.00	416.00
	355,60	9,52	12,70	222,20	35,80	47,20	533,40	71,70	94,30	1067,00	711,20	143,00	189,00
16"	16.000	0.375	0.500	10	104.00	137.00	24	207.00	273.00	48.00	32.00	414.00	546.00
	406,40	9,52	12,70	254,00	47,20	62,10	609,60	93,90	124,00	1219,00	812,80	188,00	248,00
18"	18.000	0.375	0.500	11.1/4	132.00	174.00	27	263.00	347.00	54.00	36.00	526.00	694.00
	457,20	9,52	12,70	285,80	59,90	78,90	685,80	119,00	157,00	1372,00	914,40	239,00	315,00
20"	20.000	0.375	0.500	12.1/2	162.00	214.00	30	323.00	428.00	60	40	646.00	856.00
	508,00	9,52	12,70	317,50	73,50	97,10	762,00	147,00	194,00	1524	1016	293	388
22"	22.000	0.375	0.500	13.3/4	196.00	260.00	33	392.00	520.00	66	44	784.00	1040.00
	558,80	9,52	12,70	349,30	89,00	118,00	838,20	178,00	236,00	1676	1118	356	472
24"	24.000	0.375	0.500	15	234.00	311.00	36	468.00	622.00	72	48	936.00	1244.00
	609,60	9,52	12,70	381,00	106,00	141,00	914,40	212,00	282,00	1829	1219	425	564

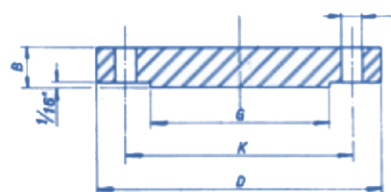
Flanges



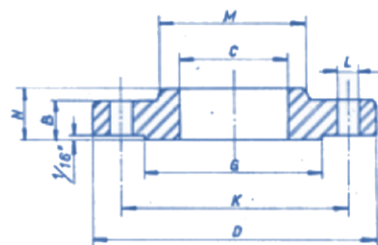
Flange sobreposto plano em aço carbono



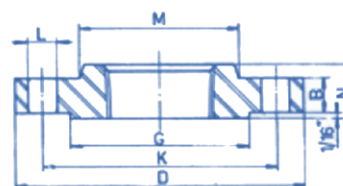
Flange com pescoço em aço carbono forjado



Flange cego em aço carbono forjado



Flange sobreposto em aço carbono forjado



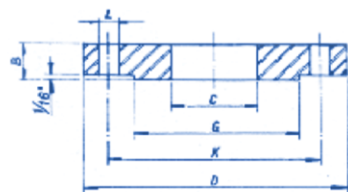
Flange roscado em aço carbono forjado

Flanges 150 LBS - ANSI B 16.5

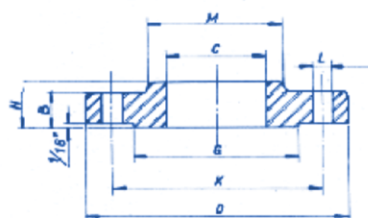
Diâmetro	Med.	Medidas comuns							Furos		Medidas diversas		
Nominal	em	Common Dimensions							Drilling		Different Dimensions		
Nominal	Dimensions	D	G	M	B	Nº	L	K	J	C	A	H	N
Pipe Size	in												
1/2"	pol./Inch. mm	3.1/2 88,9	1.3/8 34,9	1.3/16 30,2	7/16 11,1	4	5/8 15,9	2.3/8 60,3	0.62 15,7	0.88 22,4	0.84 21,3	1.7/8 47,6	5/8 15,9
3/4"	pol./Inch. mm	3.7/8 98,4	1.11/16 42,9	1.1/2 38,1	1.1/2 12,7	4	5/8 15,9	2.3/4 69,8	0.82 20,8	1.09 27,7	1.05 26,7	2.1/16 52,4	5/8 15,9
1"	pol./Inch. mm	4.1/4 108	2 50,8	1.15/16 49,2	9/16 14,3	4	5/8 15,9	3.1/8 79,4	1.05 26,7	1.36 34,5	1.32 33,5	2.3/16 55,6	11/16 17,5
1.1/4"	pol./Inch. mm	4.5/8 117	2.1/2 63,5	2.5/16 58,7	5/8 15,9	4	5/8 15,9	3.1/2 88,9	1.38 35,1	1.70 43,2	1.66 42,2	2.1/4 57,2	13/16 20,6
1.1/2"	pol./Inch. mm	5 127	2.7/8 73,0	2.9/16 65,1	11/16 17,5	4	5/8 15,9	3.7/8 98,4	1.61 40,9	1.95 49,5	1.90 48,3	2.7/16 61,9	7/8 22,2
2"	pol./Inch. mm	6 152	3.5/8 92,1	3.1/16 77,8	3/4 19,0	4	3/4 19,0	4.3/4 121	2.07 52,6	2.44 62,0	2.38 60,5	2.1/2 63,5	1 25,4
2.1/2"	pol./Inch. mm	7 178	4.1/8 105	3.9/16 90,5	7/8 22,2	4	3/4 19,0	5.1/2 140	2.47 62,7	2.94 74,7	2.88 73,2	2.3/4 69,8	1.1/8 28,6
3"	pol./Inch. mm	7.1/2 190	5 127	4.1/4 108	15/16 23,8	4	3/4 19,0	6 152	3.07 78,0	3.57 90,7	3.50 88,9	2.3/4 69,8	1.3/16 30,2
3.1/2"	pol./Inch. mm	8.1/2 216	5.1/2 140	4.13/16 122	15/16 23,8	8	3/4 19,0	7 178	3.55 90,2	4.07 103	4.00 102	2.13/16 71,4	1.1/4 31,8
4"	pol./Inch. mm	9 229	6.3/16 157	5.5/16 135	15/16 23,8	8	3/4 19,0	7.1/2 190	4.03 102	4.57 116	4.50 114	3 76,2	1.5/16 33,3
5"	pol./Inch. mm	10 254	7.5/16 186	6.7/16 164	15/16 23,8	8	7/8 22,2	8.1/2 216	5.05 128	5.66 144	5.56 141	3.1/2 88,9	1.7/16 36,5
6"	pol./Inch. mm	11 279	8.1/2 216	7.9/16 192	1 25,4	8	7/8 22,2	9.1/2 241	6.07 154	6.72 171	6.62 168	3.1/2 88,9	1.9/16 39,7
8"	pol./Inch. mm	13.1/2 343	10.5/8 270	9.11/16 246	1.1/8 28,6	8	7/8 22,2	11.3/4 298	7.98 203	8.72 221	8.62 219	4 102	1.3/4 44,4
10"	pol./Inch. mm	16 406	12.3/4 324	12 305	1.3/16 30,2	12	1 25,4	14.1/4 362	10.02 255	10.88 276	10.75 273	4 102	1.15/16 49,2
12"	pol./Inch. mm	19 483	15 381	14.3/8 365	1.1/4 31,8	12	1 25,4	17 432	12.00 305	12.88 327	12.75 324	4.1/2 114	2.3/16 55,6
14"	pol./Inch. mm	21 533	16.1/4 413	15.3/4 400	1.3/8 34,9	12	1.1/8 28,6	18.3/4 476	13.25 336,5	14.14 259	14.00 356	5 127	2.1/4 57,2
16"	pol./Inch. mm	23.1/2 597	18.1/2 470	18 457	1.7/16 36,5	16	1.1/8 28,6	21.1/4 540	15.25 387	16.16 410	16.00 406	5 127	2.1/2 63,5
18"	pol./Inch. mm	25 635	21 533	19.7/8 505	1.9/16 39,7	16	1.1/4 31,8	22.3/4 578	17.25 438	18.18 462	18.00 457	5.1/2 140	2.11/16 68,3
20"	pol./Inch. mm	27.1/2 698	23 584	22 559	1.11/16 42,9	20	1.1/4 31,8	25 635	19.25 489	20.20 513	20.00 508	5.11/16 144	2.7/8 73,0
24"	pol./Inch. mm	32 813	27.1/4 692	26.1/8 664	1.7/8 47,6	20	1.3/8 34,9	29.1/2 749	23.25 590,5	24.25 616	24.00 610	6 152	3.1/4 82,6

O ressalto da face de 1,6 mm está incluído na espessura e na altura total do flange.
The raised face of 1,6 mm is included in the thickness and in the overall height of the flange.

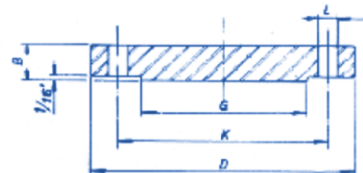
Flanges



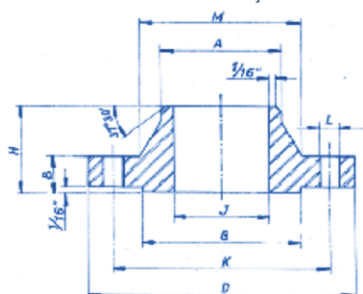
Flange sobreposto plano
em aço carbono



Flange sobreposto em aço
carbono forjado



Flange cego em aço
carbono forjado



Flange com pescoço em aço
carbono forjado

Flanges 300 LBS - ANSI B 16.5

Diâmetro	Med.	Medidas comuns							Furos		Medidas diversas		
Nominal	em	Common Dimensions							Drilling		Different Dimensions		
Nominal	Dimension	D	G	M	B	Nº	L	K	J	C	A	H	N
Pipe Size	in												
1/2"	pol./Inch. mm	3.3/4 95,2	1.3/8 34,9	1.1/2 38,1	9/16 14,3	4	5/8 15,9	2.5/8 66,7	0.62 15,7	8.88 22,4	0.84 21,3	2.1/16 52,4	7/8 22,2
3/4"	pol./Inch. mm	4.5/8 117	1.11/16 42,9	1.7/8 47,6	5/8 15,9	4	3/4 19,0	3.1/4 82,6	0.82 20,8	1.09 27,7	1.05 26,7	2.1/4 57,2	1 25,4
1"	pol./Inch. mm	4.7/8 124	2 50,8	2.1/8 54,0	11/16 17,5	4	3/4 19,0	3.1/2 88,9	1.05 26,7	1.36 34,5	1.32 33,4	2.7/16 61,9	1.1/16 27,0
1.1/4"	pol./Inch. mm	5.1/4 133	2.1/2 63,5	2.1/2 63,5	3/4 19,0	4	3/4 19,0	3.7/8 98,4	1.38 35,1	1.70 43,2	1.66 42,2	2.9/16 65,1	1.1/16 27,0
1.1/2"	pol./Inch. mm	6.1/8 156	2.7/8 73,0	2.3/4 69,8	13/16 20,6	4	7/8 22,2	4.1/2 114	1.61 40,9	1.95 49,5	1.90 48,3	2.11/16 68,3	1.3/16 30,2
2"	pol./Inch. mm	6.1/2 165	3.5/8 92,1	3.5/16 84,1	7/8 22,2	8	3/4 19,0	5 127	2.07 52,6	2.44 62,0	2.38 60,3	2.3/4 69,8	1.5/16 33,3
2.1/2"	pol./Inch. mm	7.1/2 190	4.1/8 105	3.15/16 100	1 25,4	8	7/8 22,2	5.7/8 149	2.47 62,7	2.94 74,7	2.88 73,0	3 76,2	1.1/2 38,1
3"	pol./Inch. mm	8.1/4 210	5 127	4.5/8 117	1.1/8 28,6	8	7/8 22,2	6.5/8 168	3.07 78,0	3.57 90,7	3.50 88,9	3.1/8 79,4	1.11/16 42,9
3.1/2"	pol./Inch. mm	9 229	5.1/2 140	5.1/4 133	1.3/16 30,2	8	7/6 22,2	7.1/4 184	3.55 90,2	4.07 103	4.00 102	3.3/16 81,0	1.3/4 44,4
4"	pol./Inch. mm	10 254	6.3/16 157	5.3/4 146	1.1/4 31,8	8	7/8 22,2	7.7/8 200	4.03 102	4.57 116	4.50 114	3.3/8 85,7	1.7/8 47,6
5"	pol./Inch. mm	11 279	7.5/16 186	7 178	1.3/8 34,9	8	7/8 22,2	9.1/4 235	5.05 128	5.66 144	5.56 141	3.7/8 98,4	2 50,8
6"	pol./Inch. mm	12.1/2 318	8.1/2 216	8.1/8 206	1.7/16 36,5	12	7/8 22,2	10.5/8 270	6.07 154	6.72 171	6.62 168	3.7/8 98,4	2.1/16 52,4
8"	pol./Inch. mm	15 381	10.5/8 270	10.1/4 260	1.5/8 41,3	12	1 25,4	13 330	7.98 203	8.72 221	8.62 219	4.3/8 111	2.7/16 61,9
10"	pol./Inch. mm	17.1/2 444	12.3/4 324	12.5/8 321	1.7/8 47,6	16	1.1/8 28,6	5.1/4 387	10.02 255	10.88 276	10.75 273	4.5/8 117	2.5/8 66,7
12"	pol./Inch. mm	20.1/2 52	15 381	14.3/4 375	2 50,8	16	1.1/4 31,8	17.3/4 451	12.00 305	12.88 327	12.75 324	5.1/8 30	2.7/8 73
14"	pol./Inch. mm	23 584	16.1/4 413	16.3/4 425	2.1/8 54	20	1.1/4 31,8	20.1/4 514	13.29 336,5	4.14 359	14.00 356	5.5/8 143	3 76,2
16"	pol./Inch. mm	25.1/2 648	18.1/2 470	19 483	2.1/4 57,2	20	1.3/8 34,9	22.1/2 572	15.25 387	16.16 410	16.00 406	5.3/4 146	3.1/4 82,6
18"	pol./Inch. mm	28 711	21 533	21 533	2.3/8 60,3	24	1.3/8 34,9	24.3/4 629	17.25 438	18.18 462	18.00 457	6.1/4 159	3.1/2 88,9
20"	pol./Inch. mm	30.1/2 775	23 584	23.1/8 587	2.1/2 63,5	24	1.3/8 34,9	27 686	19.25 489	20.20 513	20.0 508	6.3/8 162	3.3/4 95,2
24"	pol./Inch. mm	36 914	27.1/4 692	27.5/8 702	2.3/4 69,8	24	1.5/8 41,3	32 813	23.25 590,5	24.25 61	24.00 610	6.5/8 168	4.3/16 106

O ressalto da face de 1,6 mm está incluído na espessura e na altura total do flange.
The raised face of 1,6 mm is included in the thickness and in the overall height of the flange.