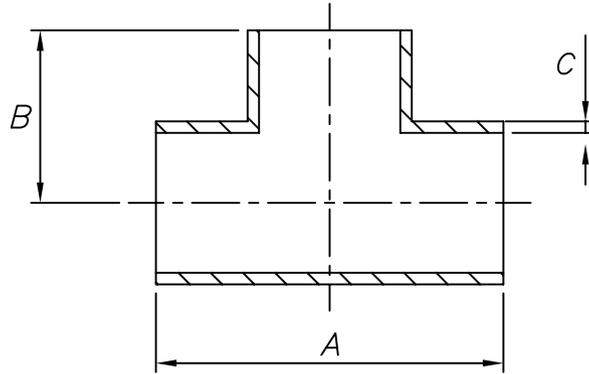


DIÂMETRO NOMINAL POL.(INCH)	DN			E (até esp. limite)			Esp. limite	E1 (acima esp. limite)		
	MIN.	NOM.	MAX.	MIN.	NOM.	MAX.		MIN.	NOM.	MAX.
1/2	20,5	21,3	22,9	22,0	25,0	22,9	4,57	22,0	25,0	28,0
3/4	25,9	26,7	28,3	22,0	25,0	28,3	3,81	22,0	25,0	28,0
1	32,6	33,4	35,0	35,0	38,0	35,0	4,57	35,0	38,0	41,0
1.1/4	41,4	42,2	43,8	35,0	38,0	43,8	4,83	35,0	38,0	41,0
1.1/2	47,5	48,3	49,9	35,0	38,0	49,9	5,08	35,0	38,0	41,0
2	59,5	60,3	61,9	35,0	38,0	61,9	5,59	41,0	44,0	47,0
2.1/2	72,2	73,0	74,6	35,0	38,0	74,6	7,11	48,0	51,0	54,0
3	87,3	88,9	90,5	48,0	51,0	90,5	7,62	61,0	64,0	67,0
3.1/2	100,0	101,6	103,2	61,0	64,0	103,2	8,13	73,0	76,0	79,0
4	112,7	114,3	115,9	61,0	64,0	115,9	8,64	73,0	76,0	79,0
5	139,7	141,3	143,7	70,0	76,0	82,0	9,65	83,0	89,0	95,0
6	166,7	168,3	170,7	83,0	89,0	95,0	10,92	96,0	102,0	108,0
8	217,5	219,1	221,5	96,0	102,0	108,0	12,70	121,0	127,0	133,0
10	269,8	273,0	277,0	121,0	127,0	133,0	12,70	146,0	152,0	158,0
12	320,6	323,8	327,8	146,0	152,0	158,0	12,70	172,0	178,0	184,0
14	352,4	355,6	359,6	159,0	165,0	171,0	12,70	185,0	191,0	197,0
16	403,2	406,4	410,4	172,0	178,0	184,0	12,70	197,0	203,0	206,0
18	403,2	457,0	410,4	197,0	203,0	209,0	12,70	223,0	229,0	235,0
20	503,2	508,0	514,4	223,0	229,0	235,0	12,70	248,0	254,0	260,0
22	554,2	559,0	565,4	248,0	254,0	260,0	12,70	248,0	254,0	260,0
24	605,2	610,0	616,4	261,0	267,0	273,0	12,70	299,0	305,0	311,0
26	655,6	660,4	666,8	257,0	267,0	277,0	---	---	---	---
28	706,4	711,2	717,6	257,0	267,0	277,0	---	---	---	---
30	757,2	762,0	768,4	257,0	267,0	277,0	---	---	---	---
32	808,2	813,0	819,4	257,0	267,0	277,0	---	---	---	---
36	909,2	914,0	920,4	257,0	267,0	277,0	---	---	---	---
40	1011,2	1016,0	1022,4	295,0	305,0	315,0	---	---	---	---
42	1062,2	1067,0	1073,4	295,0	305,0	315,0	---	---	---	---



QG IND. E COM. DE ACESSÓRIOS INDUSTRIAIS LTDA.

TÍTULO:	CAPS			CÓDIGO:	IT-008	FOLHA:	01	REV.:	04
MATERIAL:	AÇO INOX TP304/L, TP316/L AÇO CARBONO WPB, WP11, WP22			NORMA:	ASTM A403 - ASME B16.9 ASTM A234 - ASME B16.9				
ESCALA:	S/ESCALA	DATA:	07/08/20	DESENHISTA:	SILVANA	VERIFICAÇÃO:	SIDNEY	APROVAÇÃO:	IVO

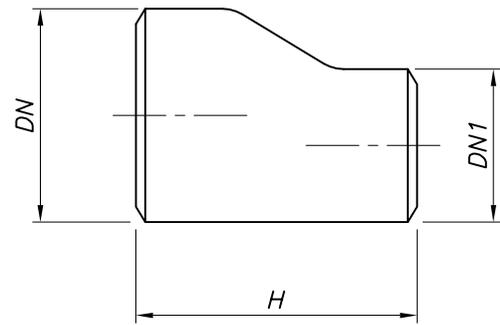
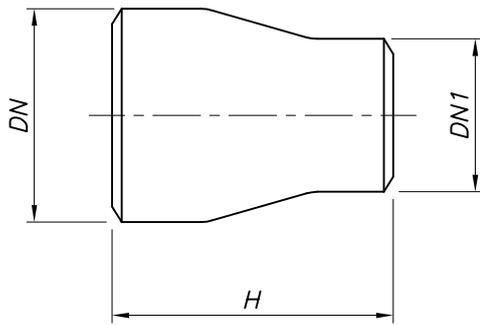


DIÂMETRO NOMINAL POL.(INCH)	ϕ	A	B	C
1/2	21,34	50,00	25,00	1,65
3/4	26,67	58,00	29,00	1,65
1	33,40	76,00	38,00	1,65
1.1/4	42,16	96,00	48,00	1,65
1.1/2	48,26	114,00	57,00	1,65
2	60,33	128,00	64,00	1,65
2.1/2	73,03	152,00	76,00	2,11
3	88,90	172,00	86,00	2,11
4	114,30	210,00	105,00	2,11
6	168,28	286,00	143,00	2,77
8	219,08	356,00	178,00	2,77



QG IND. E COM. DE ACESSÓRIOS INDUSTRIAIS LTDA.

TÍTULO:		EQUAL TEE SCHEDULE 5		CÓDIGO:	FOLHA:	REV.:
				IT-008	02	04
MATERIAL:			NORMA:			
AÇO INOX TP 304/L, 316/L			ASTM A403 - ASME B16.9			
ESCALA:	DATA:	DESENHISTA:	VERIFICAÇÃO:	APROVAÇÃO:		
S/ESCALA	26/07/19	SILVANA	SIDNEY	IVO		



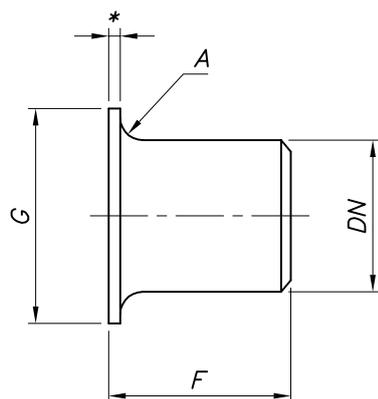
DIÂMETRO NOMINAL POL.(INCH)	DN / DN1		
	MIN.	NOM.	MAX.
1/2	20,5	21,3	22,9
3/4	25,9	26,7	28,3
1	32,6	33,4	35,0
1.1/4	41,4	42,2	43,8
1.1/2	47,5	48,3	49,9
2	59,5	60,3	61,9
2.1/2	72,2	73,0	74,6
3	87,3	88,9	90,5
3.1/2	100,0	101,6	103,2
4	112,7	114,3	115,9
5	139,7	141,3	143,7
6	166,7	168,3	170,7
8	217,5	219,1	221,5
10	269,8	273,0	277,0
12	320,6	323,8	327,8
14	352,4	355,6	359,6
16	403,2	406,4	410,4
18	403,2	457,0	410,4
20	503,2	508,0	514,4
22	554,2	559,0	565,4
24	605,2	610,0	616,4
26	655,6	660,4	666,8
28	706,4	711,2	717,6
30	757,2	762,0	768,4
32	808,2	813,0	819,4
36	909,2	914,0	920,4
40	1011,2	1016,0	1022,4
42	1062,2	1067,0	1073,4

DIMENSÃO NOMINAL POL.(INCH)	H		
	MIN.	NOM.	MAX.
3/4 X 1/2 A 3/4 X 3/8	36,0	38,0	40,0
1 X 3/4 A 1 X 1.1/2	49,0	51,0	53,0
1.1/4 X 1 A 1.1/4 X 1/2	49,0	51,0	53,0
1.1/2 X 1.1/4 A 1.1/2 X 1/2	62,0	64,0	66,0
2 X 1.1/2 A 2 X 3/4	74,0	76,0	78,0
2.1/2 X 2 A 2.1/2 X 1	87,0	89,0	91,0
3 X 2.1/2 A 3 X 1.1/4	87,0	89,0	91,0
4 X 3 A 4 X 1.1/2	100,0	102,0	104,0
5 X 4 A 5 X 2	125,0	127,0	129,0
6 X 5 A 6 X 2.1/2	138,0	140,0	142,0
8 X 6 A 8 X 3.1/2	150,0	152,0	154,0
10 X 8 A 10 X 4	176,0	178,0	180,0
12 X 10 A 12 X 5	201,0	203,0	205,0
14 X 12 A 14 X 6	328,0	330,0	332,0
16 X 14 A 16 X 8	354,0	356,0	358,0
18 X 16 A 18 X 10	379,0	381,0	383,0
20 X 18 A 20 X 12	506,0	508,0	510,0
22 X 20 A 22 X 14	506,0	508,0	510,0
24 X 22 A 24 X 16	506,0	508,0	510,0
26 X 24 A 26 X 18	605,0	610,0	615,0
28 X 26 A 28 X 18	605,0	610,0	615,0
30 X 28 A 30 X 20	605,0	610,0	615,0
32 X 30 A 32 X 24	605,0	610,0	615,0
36 X 32 A 36 X 24	605,0	610,0	615,0
40 X 36 A 40 X 30	605,0	610,0	615,0
42 X 40 A 42 X 30	605,0	610,0	615,0

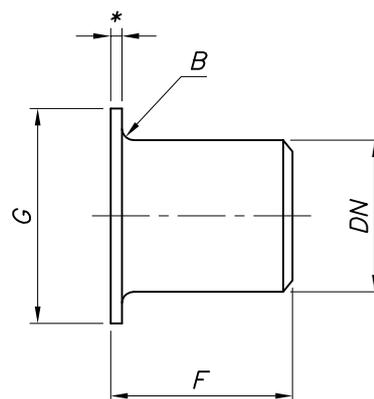


QG IND. E COM. DE ACESSÓRIOS INDUSTRIAIS LTDA.

TÍTULO:	REDUÇÃO CONCÊNTRICA / EXCÊNTRICA	CÓDIGO:	IT-008	FOLHA:	03	REV.:	04
MATERIAL:	AÇO INOX TP304/L, TP316/L AÇO CARBONO WPB, WP11, WP22	NORMA:	ASTM A403 - ASME B16.9 ASTM A234 - ASME B16.9				
ESCALA:	S/ESCALA	DATA:	07/08/20	DESENHISTA:	SILVANA	VERIFICAÇÃO:	SIDNEY
				APROVAÇÃO:		IVO	



TIPO A



TIPO B

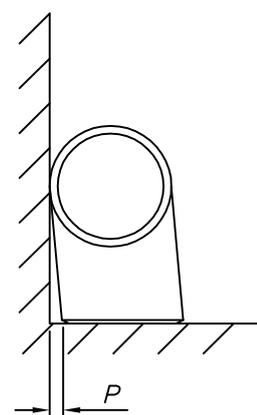
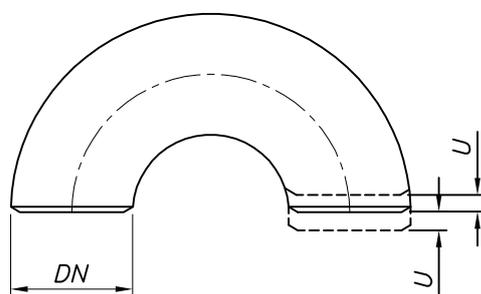
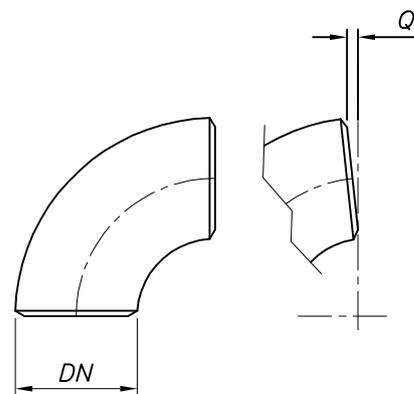
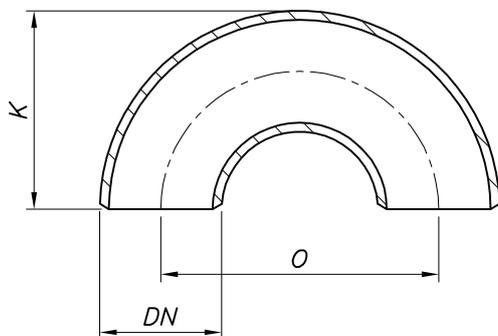
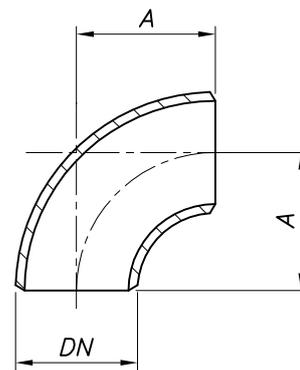
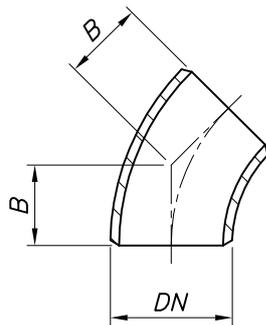
* – A espessura da aba não deve ser menor do que a espessura nominal de parede.

DIÂMETRO NOMINAL POL. (INCH)	DN			A		B	F			G	
	MIN.	NOM.	MAX.	MIN.	MAX.	MAX.	MIN.	NOM.	MAX.	MIN.	MAX.
1/2	20.6	21.3	22.1	2.3	3.1	0.8	49.2	50.8	52.4	34.3	35.1
3/4	25.9	26.7	27.4	2.3	3.1	0.8	49.2	50.8	52.4	42.1	42.9
1	32.8	33.5	34.3	2.3	3.1	0.8	49.2	50.8	52.4	50.0	50.8
1.1/4	41.4	42.2	42.9	4.0	4.8	0.8	49.2	50.8	52.4	62.7	63.5
1.1/2	47.5	48.3	49.0	5.6	6.4	0.8	49.2	50.8	52.4	72.4	73.2
2	59.7	60.5	61.3	7.1	7.9	0.8	61.9	63.5	65.1	91.1	91.9
2.1/2	72.4	73.2	74.0	7.1	7.9	0.8	61.9	63.5	65.1	103.8	104.6
3	88.1	88.9	89.7	8.9	9.7	0.8	61.9	63.5	65.1	126.2	127.0
4	113.5	114.3	115.1	10.4	11.2	0.8	74.6	76.2	77.8	156.4	157.2
5	140.5	141.2	142.8	9.6	11.2	1.6	74.6	76.2	77.8	184.9	185.7
6	167.4	168.2	169.8	11.1	12.7	1.6	87.3	88.9	90.5	215.1	215.9
8	218.2	219.0	220.6	11.1	12.7	1.6	100.0	101.6	103.2	268.9	269.7
10	272.3	273.1	275.4	11.1	12.7	1.6	124.7	127.0	129.3	322.3	323.9
12	323.1	323.9	326.2	11.1	12.7	1.6	150.1	152.4	154.7	379.4	381.0
14	354.8	355.6	357.9	11.1	12.7	1.6	150.1	152.4	154.7	411.2	412.8
16	405.6	406.4	408.7	11.1	12.7	1.6	150.1	152.4	154.7	468.3	469.9
18	456.4	457.2	459.5	11.1	12.7	1.6	150.1	152.4	154.7	531.8	533.4
20	507.2	508.0	511.1	11.1	12.7	1.6	150.1	152.4	154.7	582.6	584.2
24	608.8	609.6	612.7	11.1	12.7	1.6	150.1	152.4	154.7	690.6	692.2



QG IND. E COM. DE ACESSÓRIOS INDUSTRIAIS LTDA.

TÍTULO: PESTANA LAP JOINT		CÓDIGO: IT-008	FOLHA: 04	REV.: 02
MATERIAL: INOX TP 304 E 304L, 316 E 316L		NORMA: ASTM A403 – MSS-SP-43		
ESCALA: S/ESCALA	DATA: 15/06/18	DESENHISTA: SILVANA	VERIFICAÇÃO: SIDNEY	APROVAÇÃO: IVO



QG IND. E COM. DE ACESSÓRIOS INDUSTRIAIS LTDA.

TÍTULO: CURVA 45°/90°/180° RAILO LONGO		CÓDIGO: IT-008	FOLHA: 06a	REV.: 03
MATERIAL: AÇO INOX TP304/L, TP316/L AÇO CARBONO WPB, WP11, WP22		NORMA: ASTM A403 - ASME B16.9 ASTM A234 - ASME B16.9		
ESCALA: S/ESCALA	DATA: 26/07/19	DESENHISTA: SILVANA	VERIFICAÇÃO: SIDNEY	APROVAÇÃO: IVO

DIÂMETRO NOMINAL POL.(INCH)	Diâm. Ext.		A		B		K		O			P TOLERÂNCIA	Q TOLERÂNCIA	U TOLERÂNCIA			
	MIN.	NOM.	MAX.	MIN.	NOM.	MAX.	MIN.	NOM.	MAX.	MIN.	NOM.				MAX.		
1/2	20,5	21,3	22,9	36	38	40	14	16	18	42	48	54	70,0	76	82,0	+/- 1mm	+/- 1mm
3/4	25,9	26,7	28,3	36	38	40	17	19	21	45	51	57	70,0	76	82,0		
1	32,6	33,4	35,0	36	38	40	20	22	24	50	56	62	70,0	76	82,0		
1.1/4	41,4	42,2	43,8	46	48	50	23	25	27	64	70	76	89,0	95	101,0		
1.1/2	47,5	48,3	49,9	55	57	59	27	29	31	77	83	89	108,0	114	120,0		
2	59,5	60,3	61,9	74	76	78	33	35	37	100	106	112	146,0	152	158,0		
2.1/2	72,2	73,0	74,6	93	95	97	42	44	46	126	132	138	184,0	190	196,0		
3	87,3	88,9	90,5	112	114	116	49	51	53	153	159	165	223,0	229	235,0		
3.1/2	100,0	101,6	103,2	131	133	135	55	57	59	178	184	190	261,0	267	273,0		
4	112,7	114,3	115,9	150	152	154	62	64	66	204	210	216	299,0	305	311,0		
5	139,7	141,3	143,7	188	190	192	77	79	81	256	262	268	375,0	381	387,0		
6	166,7	168,3	170,7	227	229	231	93	95	97	307	313	319	451,0	457	463,0		
8	217,5	219,1	221,5	303	305	307	125	127	129	408	414	420	604,0	610	616,0		
10	269,8	273,0	277,0	379	381	383	157	159	161	512	518	524	752	762	772		
12	320,6	323,8	327,8	455	457	459	188	190	192	613	619	625	904	914	924		
14	352,4	355,6	359,6	531	533	535	220	222	224	705	711	717	1057	1067	1077		
16	403,2	406,4	410,4	608	610	612	252	254	256	807	813	819	1209	1219	1229		
18	453,8	457,0	461,0	684	686	688	284	286	288	908	914	920	1362	1372	1382		
20	503,2	508,0	514,4	760	762	764	316	318	320	1010	1016	1022	1514	1524	1534		
22	554,2	559,0	565,4	836	838	840	341	343	345	1112	1118	1124	1666	1676	1686		
24	605,2	610,0	616,4	912	914	916	379	381	383	1213	1219	1225	1819	1829	1839		
26	655,6	660,4	666,8	988	991	994	402	405	408	...	...	...	...	...	...
28	706,4	711,2	717,6	1064	1067	1070	435	438	441	...	...	...	...	...	...
30	757,2	762,0	768,4	1140	1143	1146	467	470	473	...	...	...	...	...	...
32	808,2	813,0	819,4	1214	1219	1224	497	502	507	...	...	...	...	...	...
36	909,2	914,0	920,4	1367	1372	1377	560	565	570	...	...	...	...	...	...
40	1011,2	1016,0	1022,4	1519	1524	1529	627	632	637	...	...	...	...	...	...
42	1062,2	1067,0	1073,4	1595	1600	1605	655	660	665	...	...	...	...	...	...



QG IND. E COM. DE ACESSÓRIOS INDUSTRIAIS LTDA.

TÍTULO: CURVA 45°/90°/180° RAILO LONGO

MATERIAL: AÇO INOX TP304/L, TP316/L
AÇO CARBONO WPB, WP11, WP22

ESCALA: S/ESCALA

CÓDIGO: IT-008

NORMA: ASTM A403 - ASME B16.9
ASTM A234 - ASME B16.9

DATA: 26/07/19

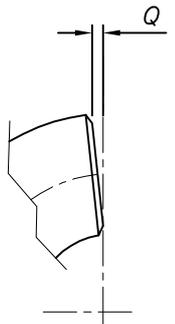
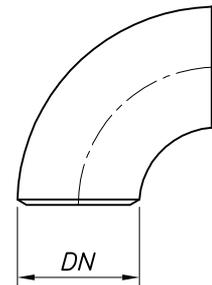
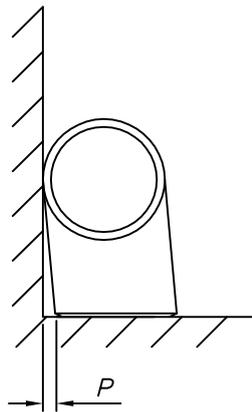
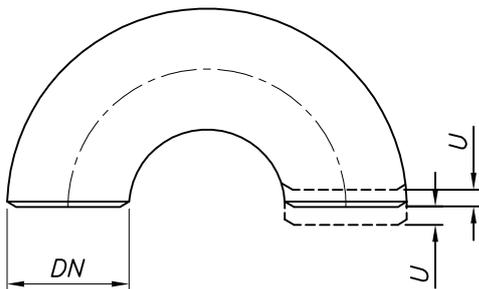
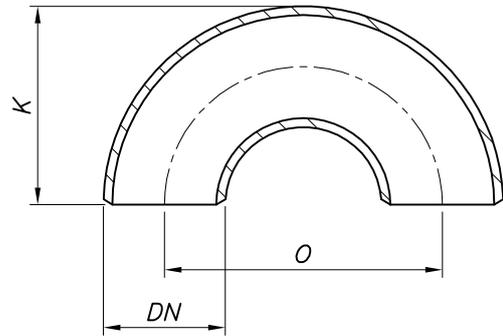
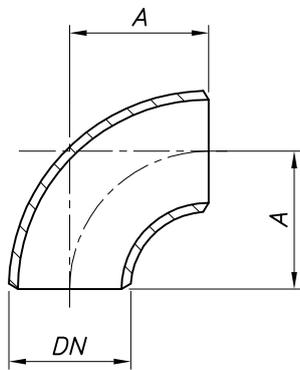
DESENHISTA: SILVANA

FOLHA: 06b

REV.: 03

VERIFICAÇÃO: SIDNEY

APROVAÇÃO: IVO



DIÂMETRO NOMINAL POL.(INCH)	Diâm. Ext.			A			K			O			P	Q	U
	MIN.	NOM.	MAX.	MIN.	NOM.	MAX.	MIN.	NOM.	MAX.	MIN.	NOM.	MAX.	TOLER.	TOLER.	TOLER.
1	32,6	33,4	35,0	23	25	27	35	41	47	45,0	51	57,0	± 2mm	± 1mm	± 1mm
1.1/4	41,4	42,2	43,8	30	32	34	46	52	58	58,0	64	70,0			
1.1/2	47,5	48,3	49,9	36	38	40	56	62	68	70,0	76	82,0			
2	59,5	60,3	61,9	49	51	53	75	81	87	96,0	102	108,0			
2.1/2	72,2	73,0	74,6	62	64	66	94	100	106	121,0	127	133,0			
3	87,3	88,9	90,5	74	76	78	115	121	127	146,0	152	158,0			
3.1/2	100,0	101,6	103,2	87	89	91	134	140	146	172,0	178	184,0			
4	112,7	114,3	115,9	100	102	104	153	159	165	197,0	203	209,0			
5	139,7	141,3	143,7	125	127	129	191	197	203	248,0	254	260,0	± 4mm	± 2mm	± 2mm
6	166,7	168,3	170,7	150	152	154	231	237	243	299,0	305	311,0			
8	217,5	219,1	221,5	201	203	205	307	313	319	400,0	406	412,0	± 5mm	± 3mm	
10	269,8	273,0	277,0	252	254	256	385	391	397	498	508	518			
12	320,6	323,8	327,8	303	305	307	461	467	473	600	610	620	± 6mm	± 3mm	
14	352,4	355,6	359,6	354	356	358	527	533	539	701	711	721			
16	403,2	406,4	410,4	404	406	408	604	610	616	803	813	823	± 10mm	± 4mm	
18	453,8	457,0	461,0	455	457	459	680	686	692	904	914	924			
20	503,2	508,0	514,4	506	508	510	756	762	768	1006	1016	1026	± 10mm	± 4mm	
22	554,2	559,0	565,4	557	559	561	832	838	844	1108	1118	1128			
24	605,2	610,0	616,4	608	610	612	908	914	920	1209	1219	1229			



QG IND. E COM. DE ACESSÓRIOS INDUSTRIAIS LTDA.

TÍTULO: CURVA 90°/180° RAIO CURTO

MATERIAL: AÇO INOX TP304/L, TP316/L
AÇO CARBONO WPB, WP11, WP22

ESCALA: S/ESCALA

CÓDIGO: IT-008

NORMA: ASTM A403 - ASME B16.9
ASTM A234 - ASME B16.9

DATA: 26/07/19

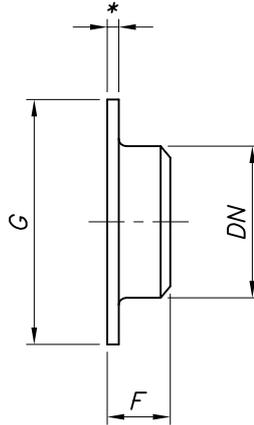
DESENHISTA: SILVANA

FOLHA: 07

VERIFICAÇÃO: SIDNEY

APROVAÇÃO: IVO

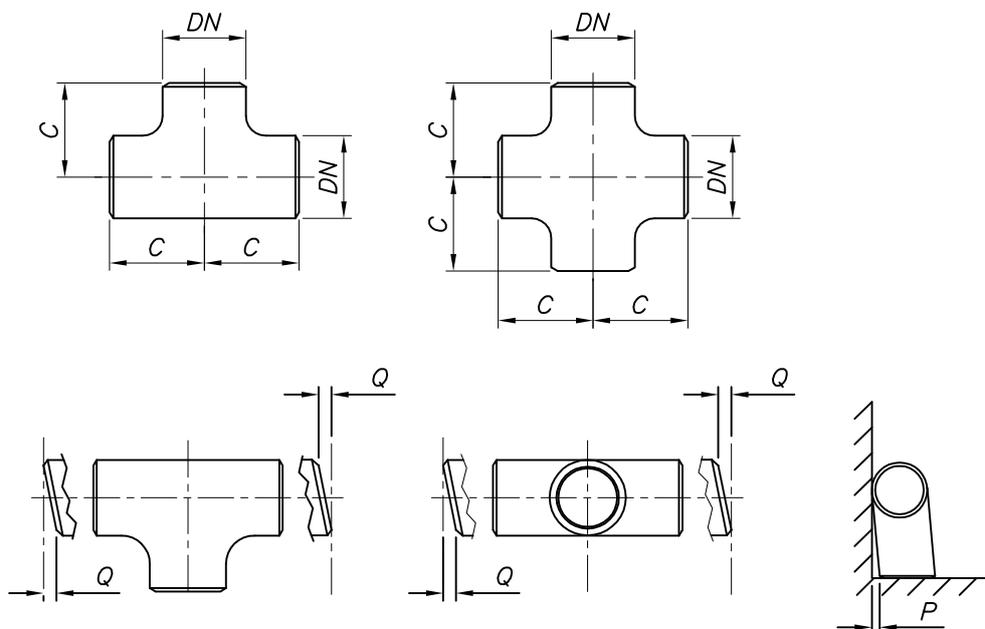
REV.: 03



DIÂMETRO NOMINAL POL.(INCH)	DN			F			G		
	MIN.	NOM.	MAX.	MIN.	NOM.	MAX.	MIN.	NOM.	MAX.
1/2	20.5	21.3	22.1	6	7	8	43	45	47
3/4	25.9	26.7	27.5	7	8	9	53	55	57
1	32.7	33.5	34.3	8	9	10	60	62	64
1.1/4	41.4	42.2	43.0	9	10	11	70	72	74
1.1/2	47.5	48.3	49.1	11	12	13	78	80	82
2	59.7	60.5	61.3	12	13	14	98	100	102
2.1/2	72.4	73.2	74.0	13	14	15	116	118	120
3	88.1	88.9	89.7	14	15	16	128	130	132
3.1/2	100.8	101.6	102.4	15	16	17	148	150	152
4	113.5	114.3	115.1	17	18	19	160	162	164
5	140.4	141.2	142.8	18	20	22	187	190	193
6	167.4	168.2	169.8	22	24	26	213	216	219
8	218.2	219.0	220.6	24	26	28	271	274	277
10	272.3	273.1	275.5	24	26	28	330	333	336
12	323.1	323.9	326.3	26	28	30	386	389	392

* ESTA DIMENSÃO NÃO PODE SER MENOR DO QUE A ESPESSURA DA PAREDE DA DIMENSÃO DN

	QG IND. E COM. DE ACESSÓRIOS INDUSTRIAIS LTDA.					
	TÍTULO: PESTANA CURTA SCHEDULE			CÓDIGO: IT-008	FOLHA: 09	REV.: 02
	MATERIAL: INOX TP 304 E 304L, 316 E 316L		NORMA: ASTM A403			
	ESCALA: S/ESCALA	DATA: 15/06/18	DESENHISTA: SILVANA	VERIFICAÇÃO: SIDNEY	APROVAÇÃO: IVO	

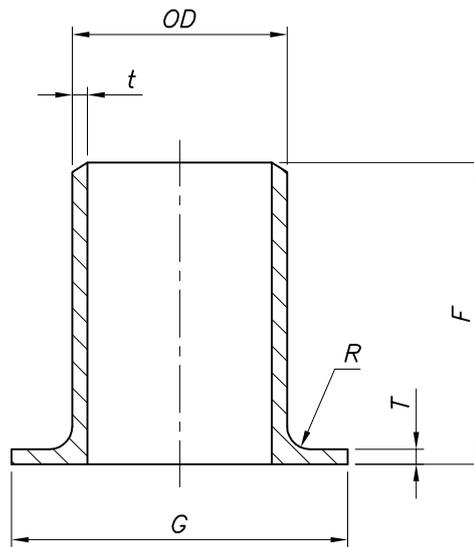


DIÂMETRO NOMINAL POL.(INCH)	DN			C			P	Q
	MIN.	NOM.	MAX.	MIN.	NOM.	MAX.	TOLERÂNCIA	TOLERÂNCIA
1/2	20,5	21,3	22,9	23,0	25,0	27,0	+/- 2mm	+/- 1mm
3/4	25,9	26,7	28,3	27,0	29,0	31,0		
1	32,6	33,4	35,0	36,0	38,0	40,0		
1.1/4	41,4	42,2	43,8	46,0	48,0	50,0		
1.1/2	47,5	48,3	49,9	55,0	57,0	59,0		
2	59,5	60,3	61,9	62,0	64,0	66,0		
2.1/2	72,2	73,0	74,6	74,0	76,0	78,0	+/- 4mm	+/- 2mm
3	87,3	88,9	90,5	84,0	86,0	88,0	+/- 5mm	+/- 3mm
4	112,7	114,3	115,9	103,0	105,0	107,0	+/- 6mm	+/- 3mm
5	139,7	141,3	143,7	122,0	124,0	126,0		
6	166,7	168,3	170,7	141,0	143,0	145,0		
8	217,5	219,1	221,5	176,0	178,0	180,0		
10	269,8	273,0	277,0	214,0	216,0	218,0	+/- 10mm	+/- 4mm
12	320,6	323,8	327,8	252,0	254,0	256,0		
14	352,4	355,6	359,6	277,0	279,0	281,0		
16	403,2	406,4	410,4	303,0	305,0	307,0		
18	453,8	457,0	461,0	341,0	343,0	345,0	+/- 10mm	+/- 5mm
20	503,2	508,0	514,4	379,0	381,0	383,0		
24	605,2	610,0	616,4	430,0	432,0	434,0		
30	757,2	762,0	768,4	556,0	559,0	562,0		
32	808,2	813,0	819,4	592,0	597,0	602,0	+/- 19mm	+/- 5mm
36	909,2	914,0	920,4	668,0	673,0	678,0		
40	1011,2	1016,0	1022,4	744,0	749,0	754,0		
42	1062,2	1067,0	1073,4	757,0	762,0	767,0		



QG IND. E COM. DE ACESSÓRIOS INDUSTRIAIS LTDA.

TÍTULO: TEE RETO / CRUZETA		CÓDIGO: IT-008	FOLHA: 05	REV.: 03
MATERIAL: AÇO INOX TP304/L, TP316/L AÇO CARBONO WPB, WP11, WP22		NORMA: ASTM A403 - ASME B16.9 ASTM A234 - ASME B16.9		
ESCALA: S/ESCALA	DATA: 26/07/19	DESENHISTA: SILVANA	VERIFICAÇÃO: SIDNEY	APROVAÇÃO: IVO

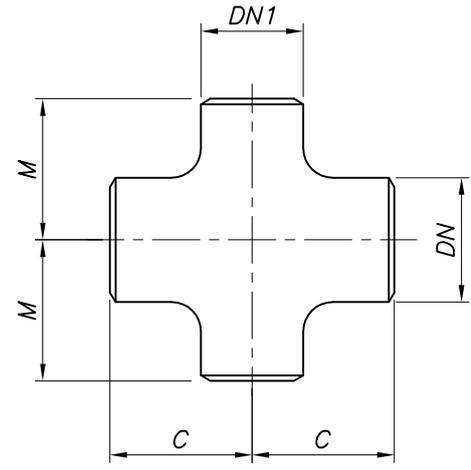
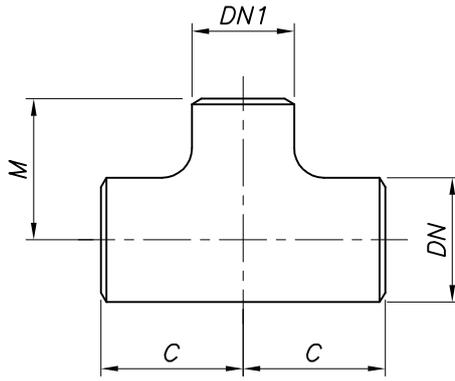


DIÂMETRO NOMINAL POL.(INCH)	DIÂMETRO EXTERNO (OD) mm	ESPESSURA DA PAREDE (t)			G	F		R (MAX)	
		SCH 5S	SCH 10S	SCH 40S		MAX.	ASME	MSS	TIPO A	TIPO B
1/2	21.3	1.65	2.11	2.77	35.1	76.0	50.8	3.1	0.8
3/4	26.7	1.65	2.11	2.87	42.9	76.0	50.8	3.1	0.8
1	33.5	1.65	2.77	3.38	50.8	102.0	50.8	3.1	0.8
1.1/4	42.2	1.65	2.77	3.56	63.5	102.0	50.8	4.8	0.8
1.1/2	48.3	1.65	2.77	3.68	73.2	102.0	50.8	6.4	0.8
2	60.5	1.65	2.77	3.91	91.9	152.0	63.5	7.9	0.8
2.1/2	73.2	2.11	3.05	5.16	104.6	152.0	63.5	7.9	0.8
3	88.9	2.11	3.05	5.49	127.0	152.0	63.5	9.7	0.8
4	114.3	2.11	3.05	6.02	139.7	152.0	76.2	9.7	0.8
5	141.2	2.77	3.40	6.55	185.7	203.0	76.2	11.2	1.6
6	168.2	2.77	3.40	7.11	215.9	203.0	88.9	12.7	1.6
8	219.0	2.77	3.76	8.18	269.7	203.0	101.6	12.7	1.6
10	273.1	3.40	4.19	9.27	323.9	254.0	127.0	12.7	1.6
12	323.9	3.96	4.57	9.53	381.0	254.0	152.4	12.7	1.6
14	355.6	3.96	4.78	11.13	412.8	305.0	152.4	12.7	1.6
16	406.4	4.20	4.78	12.70	469.9	305.0	152.4	12.7	1.6
18	457.2	4.20	4.78	14.27	533.4	305.0	152.4	12.7	1.6
20	508.0	4.78	5.54	15.01	584.2	305.0	152.4	12.7	1.6
24	609.6	5.54	6.35	17.48	692.2	305.0	152.4	12.7	1.6



QG IND. E COM. DE ACESSÓRIOS INDUSTRIAIS LTDA.

TÍTULO: PESTANA STUB END		CÓDIGO: IT-008	FOLHA: 10	REV.: 02
MATERIAL: INOX TP 304 E 304L, 316 E 316L		NORMA: ASTM A403 - MSS-SP 43		
ESCALA: S/ESCALA	DATA: 15/06/18	DESENHISTA: SILVANA	VERIFICAÇÃO: SIDNEY	APROVAÇÃO: IVO



DIÂMETRO NOMINAL POL.(INCH)	DN			DN1			C			M			DIÂMETRO NOMINAL POL.(INCH)	DN			DN1			C			M		
	MIN.	NOM.	MAX.		MIN.	NOM.	MAX.	MIN.	NOM.	MAX.	MIN.	NOM.	MAX.		MIN.	NOM.	MAX.	MIN.	NOM.	MAX.	MIN.	NOM.	MAX.	MIN.	NOM.	MAX.
1/2 X 3/8	20,5	21,3	22,9	16,5	17,3	18,9	23,0	25,0	27,0	23,0	25,0	27,0	3 X 1.1/4	87,3	88,9	90,5	41,4	42,2	43,8	84,0	86,0	88,0	68,0	70,0	72,0
1/2 X 1/4	20,5	21,3	22,9	20,5	21,3	22,9	23,0	25,0	27,0	23,0	25,0	27,0	4 X 3	112,7	114,3	115,9	87,3	88,9	90,5	103,0	105,0	107,0	96,0	98,0	100,0
3/4 X 1/2	25,9	26,7	28,3	20,5	21,3	22,9	27,0	29,0	31,0	27,0	29,0	31,0	4 X 2.1/2	112,7	114,3	115,9	72,2	73,0	74,6	103,0	105,0	107,0	93,0	95,0	97,0
3/4 X 3/8	25,9	26,7	28,3	16,5	17,3	18,9	27,0	29,0	31,0	27,0	29,0	31,0	4 X 2	112,7	114,3	115,9	59,5	60,3	61,9	103,0	105,0	107,0	87,0	89,0	91,0
1 X 3/4	32,6	33,4	35,0	25,9	26,7	28,3	36,0	38,0	40,0	36,0	38,0	40,0	4 X 1.1/2	112,7	114,3	115,9	47,5	48,3	49,9	103,0	105,0	107,0	84,0	86,0	88,0
1 X 1/2	32,6	33,4	35,0	20,5	21,3	22,9	36,0	38,0	40,0	36,0	38,0	40,0	5 X 4	139,7	141,3	143,7	112,7	114,3	115,9	122,0	124,0	126,0	115,0	117,0	119,0
1.1/4 X 1	41,4	42,2	43,8	32,6	33,4	35,0	46,0	48,0	50,0	46,0	48,0	50,0	5 X 3	139,7	141,3	143,7	87,3	88,9	90,5	122,0	124,0	126,0	109,0	111,0	113,0
1.1/4 X 3/4	41,4	42,2	43,8	25,9	26,7	28,3	46,0	48,0	50,0	46,0	48,0	50,0	5 X 2.1/2	139,7	141,3	143,7	72,2	73,0	74,6	122,0	124,0	126,0	106,0	108,0	110,0
1.1/4 X 1/2	41,4	42,2	43,8	20,5	21,3	22,9	46,0	48,0	50,0	46,0	48,0	50,0	5 X 2	139,7	141,3	143,7	59,5	60,3	61,9	122,0	124,0	126,0	103,0	105,0	107,0
1.1/2 X 1.1/4	47,5	48,3	49,9	41,4	42,2	43,8	55,0	57,0	59,0	55,0	57,0	59,0	6 X 5	166,7	168,3	170,7	139,7	141,3	143,7	141,0	143,0	145,0	135,0	137,0	139,0
1.1/2 X 1	47,5	48,3	49,9	32,6	33,4	35,0	55,0	57,0	59,0	55,0	57,0	59,0	6 X 4	166,7	168,3	170,7	112,7	114,3	115,9	141,0	143,0	145,0	128,0	130,0	132,0
1.1/2 X 3/4	47,5	48,3	49,9	25,9	26,7	28,3	55,0	57,0	59,0	55,0	57,0	59,0	6 X 3	166,7	168,3	170,7	87,3	88,9	90,5	141,0	143,0	145,0	122,0	124,0	126,0
1.1/2 X 1/2	47,5	48,3	49,9	20,5	21,3	22,9	55,0	57,0	59,0	55,0	57,0	59,0	6 X 2.1/2	166,7	168,3	170,7	72,2	73,0	74,6	141,0	143,0	145,0	119,0	121,0	123,0
2 X 1.1/2	59,5	60,3	61,9	47,5	48,3	49,9	62,0	64,0	66,0	58,0	60,0	62,0	8 X 6	217,5	219,1	221,5	166,7	168,3	170,7	176,0	178,0	180,0	166,0	168,0	170,0
2 X 1.1/4	59,5	60,3	61,9	41,4	42,2	43,8	62,0	64,0	66,0	55,0	57,0	59,0	8 X 5	217,5	219,1	221,5	139,7	141,3	143,7	176,0	178,0	180,0	160,0	162,0	164,0
2 X 1	59,5	60,3	61,9	32,6	33,4	35,0	62,0	64,0	66,0	49,0	51,0	53,0	8 X 4	217,5	219,1	221,5	112,7	114,3	115,9	176,0	178,0	180,0	154,0	156,0	158,0
2 X 3/4	59,5	60,3	61,9	25,9	26,7	28,3	62,0	64,0	66,0	42,0	44,0	46,0	10 X 8	269,8	273,0	277,0	217,5	219,1	221,5	214,0	216,0	218,0	201,0	203,0	205,0
2.1/2 X 2	72,2	73,0	74,6	59,5	60,3	61,9	74,0	76,0	78,0	68,0	70,0	72,0	10 X 6	269,8	273,0	277,0	166,7	168,3	170,7	214,0	216,0	218,0	192,0	194,0	196,0
2.1/2 X 1.1/2	72,2	73,0	74,6	47,5	48,3	49,9	74,0	76,0	78,0	65,0	67,0	69,0	10 X 5	269,8	273,0	277,0	139,7	141,3	143,7	214,0	216,0	218,0	189,0	191,0	193,0
2.1/2 X 1.1/4	72,2	73,0	74,6	41,4	42,2	43,8	74,0	76,0	78,0	62,0	64,0	66,0	10 X 4	269,8	273,0	277,0	112,7	114,3	115,9	214,0	216,0	218,0	182,0	184,0	186,0
2.1/2 X 1	72,2	73,0	74,6	32,6	33,4	35,0	74,0	76,0	78,0	55,0	57,0	59,0	12 X 10	320,6	323,8	327,8	269,8	273,0	277,0	252,0	254,0	256,0	239,0	241,0	243,0
3 X 2.1/2	87,3	88,9	90,5	72,2	73,0	74,6	84,0	86,0	88,0	81,0	83,0	85,0	12 X 8	320,6	323,8	327,8	217,5	219,1	221,5	252,0	254,0	256,0	227,0	229,0	231,0
3 X 2	87,3	88,9	90,5	59,5	60,3	61,9	84,0	86,0	88,0	74,0	76,0	78,0	12 X 6	320,6	323,8	327,8	166,7	168,3	170,7	252,0	254,0	256,0	217,0	219,0	221,0
3 X 1.1/2	87,3	88,9	90,5	47,5	48,3	49,9	84,0	86,0	88,0	71,0	73,0	75,0	12 X 5	320,6	323,8	327,8	139,7	141,3	143,7	252,0	254,0	256,0	214,0	216,0	218,0



QG IND. E COM. DE ACESSÓRIOS INDUSTRIAIS LTDA.

TÍTULO: **TEE RETO E CRUZETA DE REDUÇÃO**

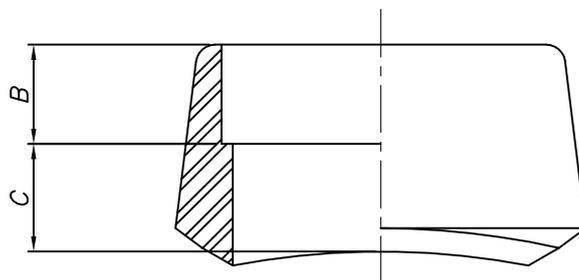
MATERIAL: AÇO INOX TP304/L, TP316/L
AÇO CARBONO WPB, WP11, WP22

ESCALA: S/ESCALA DATA: 02/08/19 DESENHISTA: SILVANA

CÓDIGO: IT-008 FOLHA: 15 REV.: 00

NORMA: ASTM A403 - ASME B16.9
ASTM A234 - ASME B16.9

VERIFICAÇÃO: SIDNEY APROVAÇÃO: IVO



Dimensões em mm

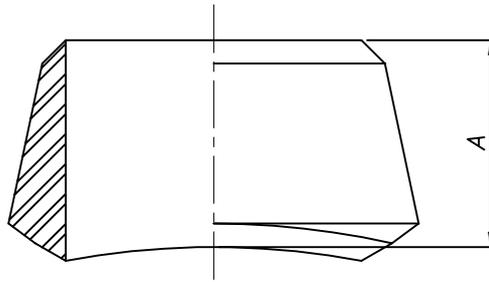
Ø EXT DN. (MM)	Ø NOM. POL. (INCH)	B Min. (a)	Medida "C"	
			Classe 3000	Classe 6000
6	1/8	9,7	10,4	–
8	1/4	9,7	10,4	–
10	3/8	9,7	12,7	–
15	1/2	9,7	15,7	23,9
20	3/4	12,7	15,7	25,4
25	1	12,7	22,4	28,7
32	1.1/4	12,7	22,4	30,2
40	1.1/2	12,7	23,9	31,8
50	2	15,7	23,9	36,6
65	2.1/2	15,7	25,4	–
80	3	15,7	30,2	–
100	4	19,1	30,2	–

(a): Medida "B", encaixe mínimo conforme ASME B16.11



QG IND. E COM. DE ACESSÓRIOS INDUSTRIAIS LTDA.

TÍTULO: COLAR RETO SOCKETWELDING 3000# / 6000#		CÓDIGO: IT-009	FOLHA: 14	REV.: 02
MATERIAL: Grau WPB, 304/L, 316/L		NORMA: ASTM A105, A182/MSS SP-97		
ESCALA: S/ESCALA	DATA: 06/04/18	DESENHISTA: SILVANA	VERIFICAÇÃO: SIDNEY	APROVAÇÃO: IVO



Dimensões em mm

Ø EXT DN. (MM)	Ø NOM. POL. (INCH)	Medida "A"					
		STANDARD		Extra-Forte		SCH 160	
		Curto	Completo	Curto	Completo	Curto	Completo
6	1/8	15,7	–	15,7	–	–	–
8	1/4	15,7	–	15,7	–	–	–
10	3/8	19,1	–	19,1	–	–	–
15	1/2	19,1	19,1	19,1	19,1	28,4	28,4
20	3/4	22,4	22,4	22,4	22,4	31,8	31,8
25	1	26,9	26,9	26,9	26,9	38,1	38,1
32	1.1/4	31,8	31,8	31,8	31,8	44,5	44,5
40	1.1/2	33,3	33,3	33,3	33,3	50,8	50,8
50	2	38,1	38,1	38,1	38,1	55,4	55,4
65	2.1/2	41,1	41,1	41,1	41,1	62,0	62,0
80	3	44,5	44,5	44,5	44,5	73,2	73,2
90	3.1/2	47,8	50,8	47,8	50,8	–	–
100	4	50,8	50,8	50,8	50,8	84,1	84,1
125	5	57,2	57,2	57,2	57,2	93,7	93,7
150	6	60,5	60,5	77,7	77,7	104,6	104,6
200	8	69,9	69,9	98,6	98,6	–	–
250	10	77,7	77,7	93,7	88,9	–	–
300	12	85,9	85,9	103,1	100,1	–	–
350	14	88,9	88,9	100,1	104,6	–	–
400	16	93,7	93,7	106,2	112,8	–	–
450	18	96,8	103,1	111,3	119,1	–	–
500	20	101,6	117,3	119,1	127,0	–	–
600	24	115,8	136,7	139,7	139,7	–	–

Tolerancias para medida "A":
 6 – 20 +/- 0,8 mm
 25 – 100 +/- 1,6 mm
 125 – 300 +/- 3,2 mm
 350 – 600 +/- 4,8 mm

	QG IND. E COM. DE ACESSÓRIOS INDUSTRIAIS LTDA.								
	TÍTULO:	COLAR RETO PARA SOLDA DE TOPO	CÓDIGO:	IT-009	FOLHA:	15	REV.:	02	
	MATERIAL:	Grau WPB, 304/L, 316/L		NORMA:	ASTM A105, 182/MSS SP-97				
	ESCALA:	S/ESCALA	DATA:	06/04/18	DESENHISTA:	SILVANA	VERIFICAÇÃO:	SIDNEY	APROVAÇÃO: