



CATÁLOGO LINHA INOX



ACESSÓRIOS



CONEXÕES



UNIÕES
ROSCADAS



VÁLVULAS

SUPRIR



SUPRIR

APRESENTAÇÃO



Desde 1990 nossa história é baseada no estabelecimento de parcerias consolidadas fornecendo produtos de elevado padrão de qualidade, compromisso com atendimento a nossos clientes dentro dos prazos requeridos e total garantia e assistência técnica aos nossos produtos. Nossa meta é garantir sempre o alto padrão de serviço pré e pós-venda.

Presente nos segmentos de máquinas e implementos agrícolas, equipamentos industriais, eletrodomésticos, usinas em geral e em uma ampla gama de aplicações, nossos produtos possuem uma rede de distribuição e representantes comerciais que atingem todo território nacional. Essa é nossa forma de contribuir para o crescimento sustentável de nossos parceiros em todos os estados do Brasil.



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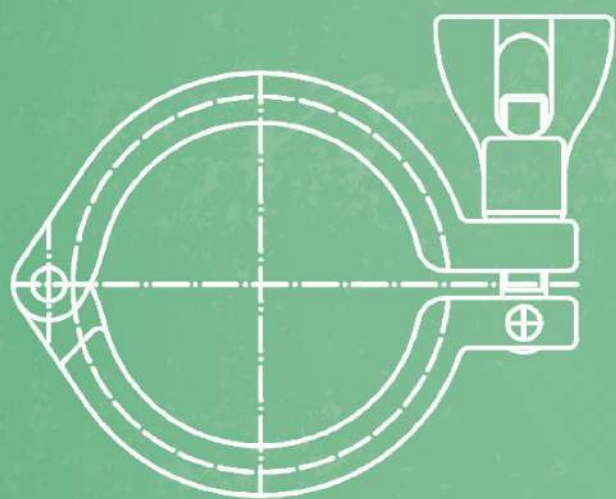
26 TUBOS REDONDOS

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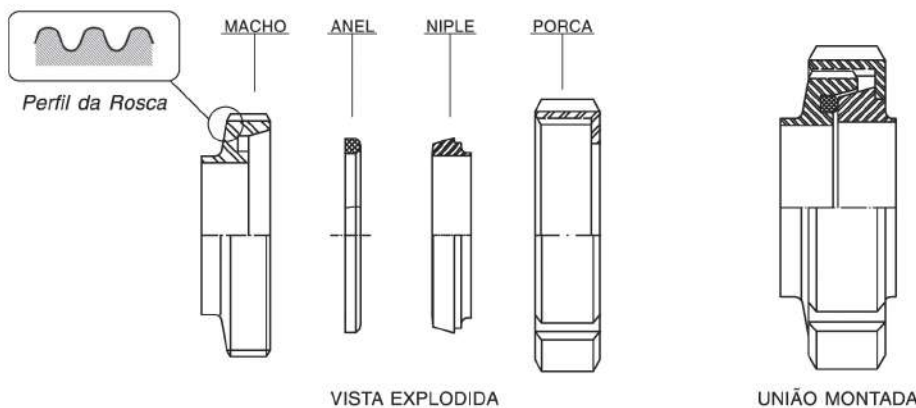


UNIÕES ROSCADAS

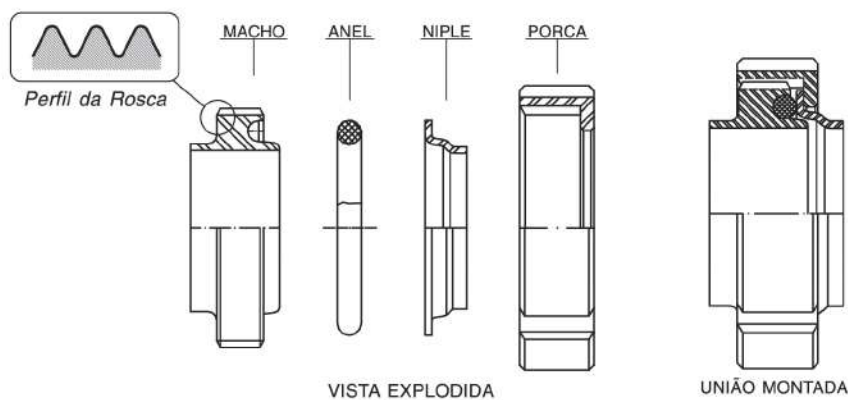


UNIÕES ROSCADAS (NORMALIZADAS PADRÃO INTERNACIONAL)

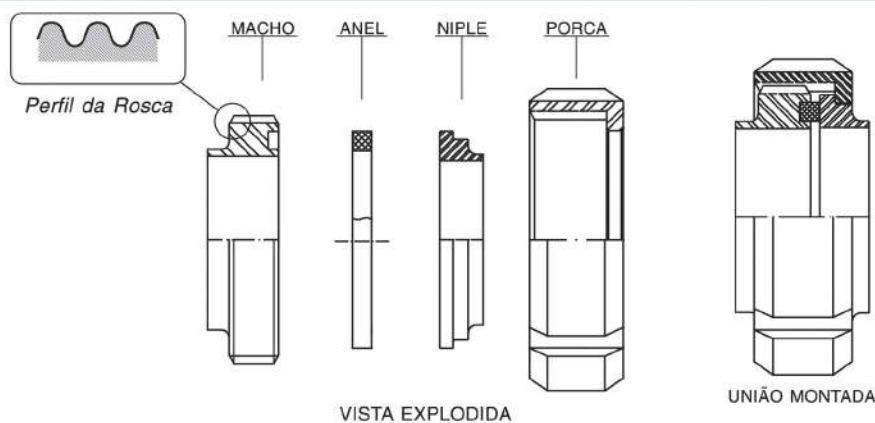
DIN (Norma 11851)



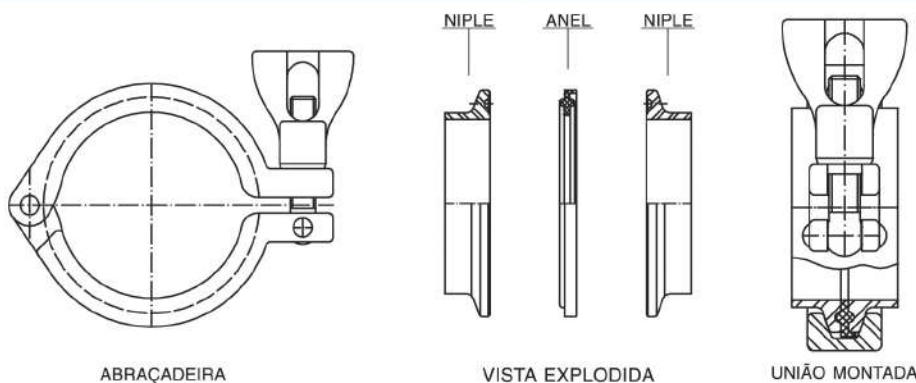
RJT (Norma BS1864)



SMS (Norma 1145)



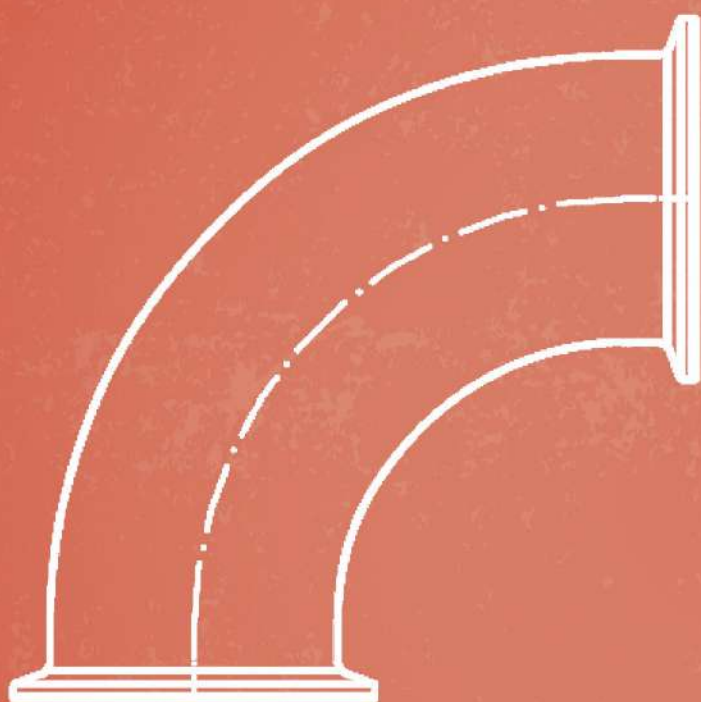
TC (Norma ISO 2852)



ABRAÇADEIRA

VISTA EXPLODIDA

UNIÃO MONTADA

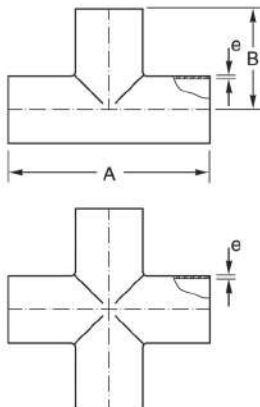


CONEXÕES



CONEXÕES TUBULARES SOLDAS

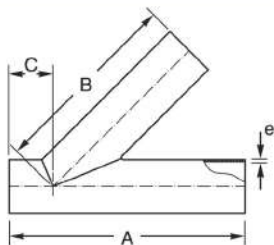
Tee reto solda/ Cruzeta solda



Bitola	A	B	e
1"	100,0	50,0	1,5
1½"	114,0	57,0	1,5
2"	150,4	75,2	1,5
2½"	170,0	85,0	2,0
3"	170,0	85,0	2,0
4"	217,0	108,5	2,0
6"	370,0	185,0	2,0

* Outras bitolas sob consulta.

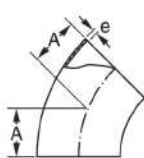
Tee 45° solda



Bitola	A	B	C	e
1"	152,4	127,0	25,8	1,5
1½"	187,3	157,1	30,4	1,5
2"	222,2	180,9	41,5	2,0
2½"	254,0	215,7	43,0	2,0
3"	276,0	225,2	47,8	2,0
4"	325,4	263,4	62,0	2,0

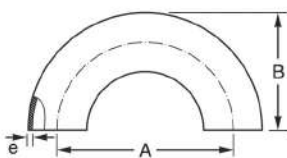
*Fornecemos também com outros ângulos e na opção de redução

Curva 45° solda



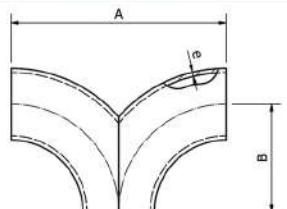
Bitola	A	e
1"	14,9	1,5
1½"	22,3	1,5
2"	29,7	1,5
2½"	37,2	2,0
3"	44,6	2,0
4"	59,6	2,0
6"	89,2	3,0

Curva 180° solda



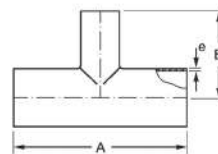
Bitola	A	B	e
1"	76,2	50,8	1,5
1½"	114,3	76,2	1,5
2"	152,4	101,6	1,5
2½"	190,5	127,0	2,0
3"	228,6	152,4	2,0
4"	304,8	203,2	2,0
6"	457,2	304,8	3,0

Tee Curvo Solda



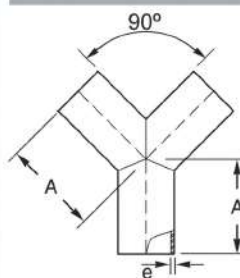
Bitola	A	B	e
1"	76,2	38,1	1,5
1½"	114,4	57,2	1,5
2"	152,4	76,2	1,5
2½"	190,6	95,3	2,0
3"	228,6	114,3	2,0
4"	304,8	152,4	2,0
6"	457,2	228,6	3,0

Tee reto de redução solda



Bitola	A	B	e
1½"x1"	114,0	57,0	1,5
2"x1"	150,4	75,2	1,5
2"x1½"	150,4	75,2	1,5
2½"x1"	170,0	85,0	2,0
2½"x1½"	170,0	85,0	2,0
2½"x2"	170,0	85,0	2,0
3"x1"	170,0	85,0	2,0
3"x1½"	170,0	85,0	2,0
3"x2"	170,0	85,0	2,0
3"x2½"	170,0	85,0	2,0
4"x1"	217,0	108,5	2,0
4"x1½"	217,0	108,5	2,0
4"x2"	217,0	108,5	2,0
4"x2½"	217,0	108,5	2,0
4"x3"	217,0	108,5	2,0

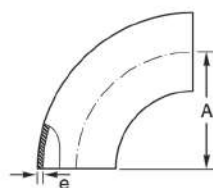
Tee tipo "Y" Solda



Bitola	A	e
1"	45,0	1,5
1½"	65,0	1,5
2"	85,0	2,0
2½"	95,0	2,0
3"	100,0	2,0
4"	135,0	2,0

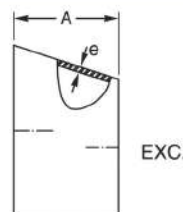
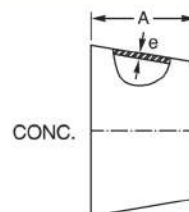
* Outras bitolas sob consulta.

Curva 90° solda



Bitola	A	e
1"	38,1	1,5
1½"	57,2	1,5
2"	76,2	1,5
2½"	95,3	2,0
3"	114,3	2,0
4"	152,4	2,0
6"	228,6	3,0

Redução cônica Concêntrica/Excêntrica



Bitola	CONC./EXC.	
	A	e
1½"x1"	42,0	2,0
2"x1"	78,0	2,0
2"x1½"	42,0	2,0
2½"x1"	123,0	2,0
2½"x1½"	87,0	2,0
2½"x2"	45,0	2,0
3"x1"	161,0	2,0
3"x1½"	124,0	2,0

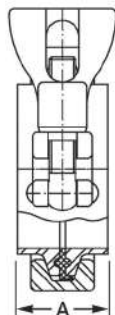
Bitola	CONC./EXC.	
	A	e
3"x2"	82,0	2,0
3"x2½"	42,0	2,0
4"x1"	247,0	2,0
4"x1½"	211,0	2,0
4"x2"	169,0	2,0
4"x2½"	129,0	2,0
4"x3"	87,0	2,0

* Outras bitolas sob consulta

* Dimensões em milímetros (mm).

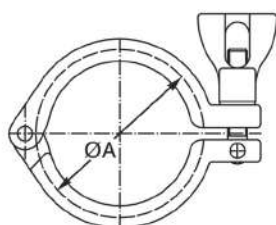
CONEXÕES TERMINAIS E ACESSÓRIOS TC

União TC



Bitola	CURTA LONGA	
	A	
1/2"	27,0	45,0
3/4"	27,0	45,0
1"	27,0	45,0
1 1/2"	27,0	45,0
2"	27,0	45,0
2 1/2"	27,0	45,0
3"	27,0	45,0
4"	34,0	59,0
6"	45,0	59,0
8"	53,0	65,0

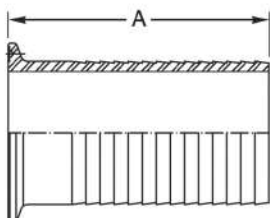
Abraçadeira TC



Bitola	normal	Pressão de Serviço
	ØA	(kgf/cm²)
1/2"	30,0	40,0
3/4"	30,0	40,0
1"	54,0	34,0
1 1/2"	54,0	34,0
2"	67,0	28,0
2 1/2"	81,0	26,0
3"	94,0	22,0
4"	122,0	12,0
6"	172,0	8,0

*As pressões acima referem-se à t = 20°C.
Para t = 120°C reduzi-las em 40%.

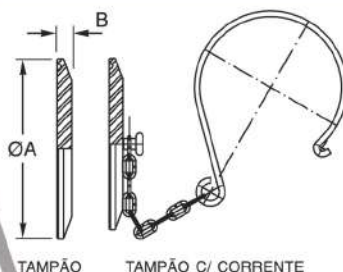
Niple adaptador TC x Mangueira



Bitola	A
1"	73,0
1 1/2"	93,0
2"	93,0
2 1/2"	113,0
3"	113,0
4"	116,0
6"	142,0

*É fornecido também com redução.

Tampão TC



Bitola	ØA	B
	A	
1"	50,0	6,4
1 1/2"	50,0	6,4
2"	64,0	6,4
2 1/2"	77,0	6,4
3"	91,0	6,4
4"	119,0	7,9
6"	167,0	7,9

TAMPÃO

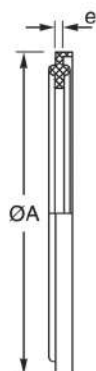
TAMPÃO C/ CORRENTE

Niple solda TC



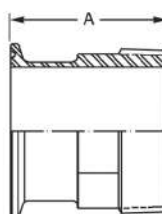
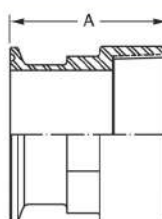
Bitola	CURTO LONGO	
	ØA	B
1/2"	25,0	12,7
3/4"	25,0	12,7
1"	50,0	12,7
1 1/2"	50,0	12,7
2"	64,0	12,7
2 1/2"	77,0	12,7
3"	91,0	12,7
4"	119,0	15,9
6"	167,0	21,5
8"	220,6	25,4

Anel de vedação TC



Bitola	ØA	e
1/2"	22,0	4,5
3/4"	22,0	4,5
1"	52,0	1,8
1 1/2"	52,0	1,8
2"	66,0	1,8
2 1/2"	79,0	1,8
3"	93,0	1,8
4"	121,0	1,8
6"	169,0	1,8
8"	223,0	1,8

Niple adaptador TC x BSP/NPT tipo L/N

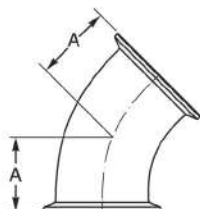


Bitola	TIPO L		TIPO N	
	BSP	NPT	BSP	NPT
A				
1"	60,0	60,0	60,0	60,0
1 1/2"	65,0	62,0	65,0	62,0
2"	70,0	64,0	70,0	64,0
2 1/2"	75,0	72,0	75,0	72,0
3"	80,0	76,0	80,0	76,0
4"	91,0	81,0	89,0	81,0

* Dimensões em milímetros (mm).

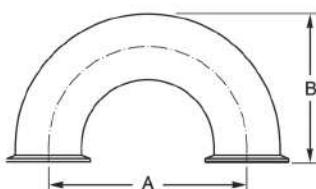
CONEXÕES TUBULARES TC

Curva 45° 2TC



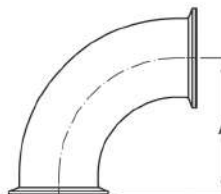
Bitola	A
1"	28,0
1½"	35,0
2"	42,0
2½"	50,0
3"	57,0
4"	76,0
6"	111,0

Curva 180° 2TC



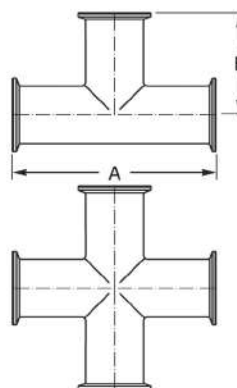
Bitola	A	B
1"	76,2	64,0
1½"	114,3	89,0
2"	152,4	114,0
2½"	190,5	140,0
3"	228,6	165,0
4"	304,8	219,0
6"	457,2	326,0

Curva 90° 2TC



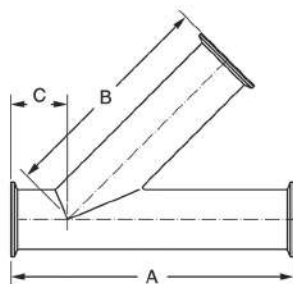
Bitola	A
1"	51,0
1½"	70,0
2"	89,0
2½"	108,0
3"	127,0
4"	168,0
6"	250,0

Tee reto 3TC / Cruzeta 4TC



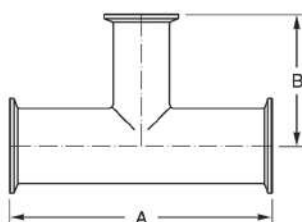
Bitola	A	B
1"	125,4	62,7
1½"	139,4	69,7
2"	175,8	87,9
2½"	195,4	97,7
3"	195,4	97,7
4"	248,8	124,4
6"	413,0	206,5

Tee 45° 3TC



Bitola	A	B	C
1"	178,0	140,0	39,0
1½"	213,0	170,0	43,0
2"	248,0	194,0	54,0
2½"	279,0	228,0	56,0
3"	301,0	238,0	61,0
4"	357,0	279,3	78,0

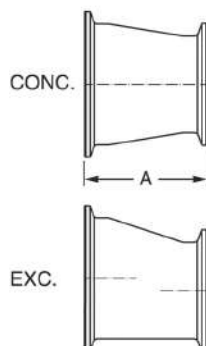
Tee redução 3TC



Bitola	A	B
1½"x1"	139,4	69,7
2"x1"	175,8	87,9
2"x1½"	175,8	87,9
2½"x1"	195,4	97,7
2½"x1½"	195,4	97,7
2½"x2"	195,4	97,7
3"x1"	195,4	97,7
3"x1½"	195,4	97,7

Bitola	A	B
3"x2"	195,4	97,7
3"x2½"	195,4	97,7
4"x1"	248,8	124,4
4"x1½"	248,8	124,4
4"x2"	248,8	124,4
4"x2½"	248,8	124,4
4"x3"	248,8	124,4
6"x4"	413,0	206,5

Redução cônica Concêntrica/Excêntrica 2TC



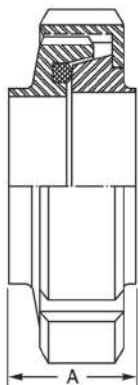
Bitola	A
1½"x1"	67,4
2"x1"	103,4
2"x1½"	67,4
2½"x1"	148,4
2½"x1½"	112,4
2½"x2"	70,4
3"x1"	186,4
3"x1½"	149,4
3"x2"	107,4
3"x2½"	67,4

Bitola	A
4"x1"	275,6
4"x1½"	239,6
4"x2"	197,6
4"x2½"	157,6
4"x3"	115,6

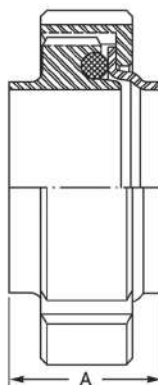
* Outras bitolas sob consulta

* Dimensões em milímetros (mm).

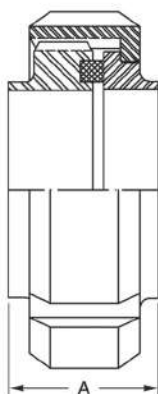
CONEXÕES TERMINAIS ROSCADAS

União solda DIN


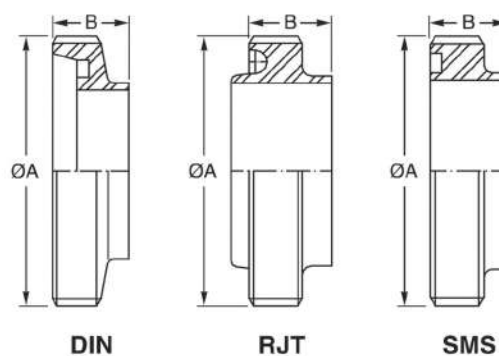
Bitola	A
½"	34,0
¾"	34,0
1"	38,0
1½"	38,0
2"	39,0
2½"	40,0
3"	49,0
4"	50,0
5"	62,0
6"	70,0

União solda RJT


Bitola	A
1"	36,0
1½"	36,0
2"	36,0
2½"	36,0
3"	36,0
4"	36,0
6"	48,0

União solda SMS


Bitola	A
1"	30,5
1½"	30,5
2"	31,5
2½"	35,5
3"	39,5
4"	54,5

Macho solda


Bitola	DIN		RJT		SMS	
	ØA	B	ØA	B	ØA	B
1"	52,0	22,0	45,0	22,0	40,0	15,0
1½"	65,0	22,0	58,0	22,0	60,0	20,0
2"	78,0	22,0	72,0	22,0	70,0	20,0
2½"	95,0	26,0	85,0	22,0	85,0	24,0
3"	109,0	30,0	98,0	22,0	98,0	24,0
4"	129,0	30,0	123,0	27,0	132,0	35,0
5"	170,0	46,0	*	*	*	*
6"	190,0	50,0	175,0	27,0	*	*

* Sob consulta

* Dimensões em milímetros (mm).

UNIÕES ROSCADAS

CONEXÕES

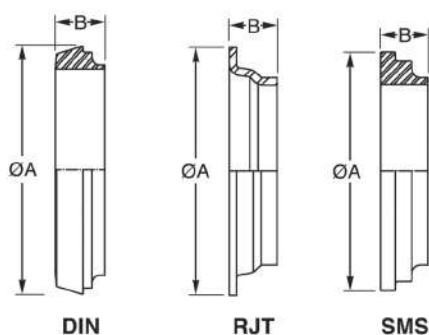
VÁLVULAS

ACESSÓRIOS

TABELA DE MEDIDAS

CONEXÕES TERMINAIS ROSCADAS

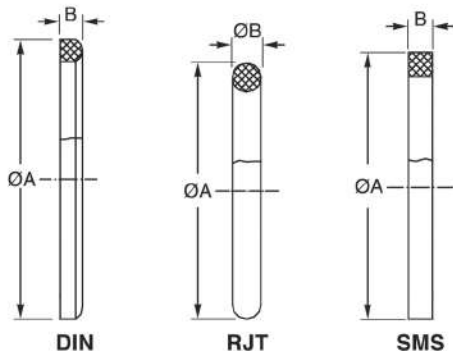
Niple solda



Bitola	DIN		RJT		SMS	
	ØA	B	ØA	B	ØA	B
1"	44,0	18,0	41,0	13,0	36,0	13,0
1½"	56,0	20,0	54,0	13,0	55,0	13,0
2"	69,0	20,0	67,0	14,0	65,0	13,0
2½"	86,0	24,0	80,0	14,0	80,0	13,0
3"	100,0	24,0	93,0	16,0	93,0	13,0
4"	120,0	27,0	118,0	16,0	127,0	17,0
5"	150,0	28,0	*	*	*	*
6"	176,0	37,0	168,0	20,0	*	*

* Sob consulta

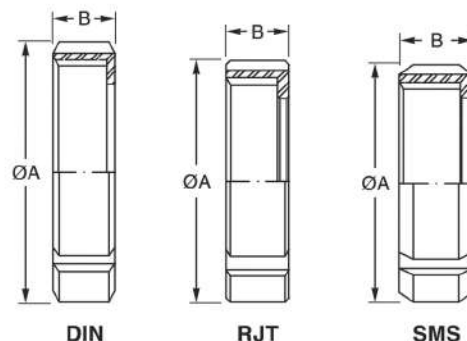
Anel de vedação



Bitola	DIN		RJT		SMS	
	ØA	B	ØA	ØB	ØA	B
1"	40,0	5,0	40,0	6,6	32,0	5,5
1½"	52,0	5,0	53,0	6,6	48,0	5,5
2"	64,0	5,0	65,0	6,6	61,0	5,5
2½"	81,0	5,0	78,0	6,6	73,5	5,5
3"	95,0	5,0	91,0	6,6	86,0	5,5
4"	114,0	6,0	116,0	6,6	103,5	5,5
5"	141,0	7,0	*	*	*	*
6"	169,0	7,5	158,0	6,6	*	*

* Sob consulta

Porca circular

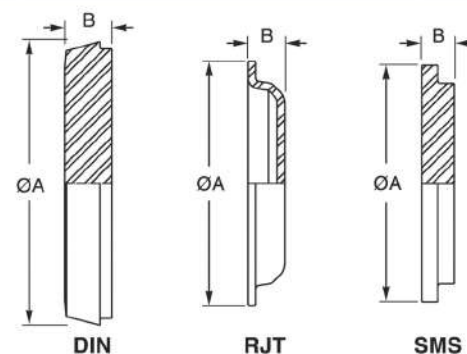


Bitola	DIN		RJT		SMS	
	ØA	B	ØA	B	ØA	B
1"	63,0	21,0	59,0	22,0	51,0	20,0
1½"	78,0	21,0	72,0	22,0	74,0	25,0
2"	92,0	22,0	86,0	22,0	84,0	26,0
2½"	112,0	25,0	98,0	22,0	100,0	30,0
3"	127,0	29,0	111,0	22,0	114,0	32,0
4"	148,0	31,0	136,0	22,0	154,0	45,0
5"	178,0	35,0	*	*	*	*
6"	210,0	40,0	225,0	26,0	*	*

* Sob consulta

* Fornecemos também Porca Tampão e Porca Tampão com corrente.

Tampão plano



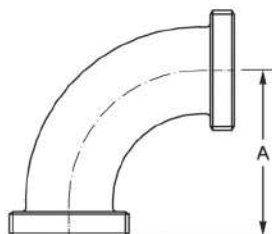
Bitola	DIN		RJT		SMS	
	ØA	B	ØA	B	ØA	B
1"	44,0	10,0	42,0	8,0	36,0	8,0
1½"	56,0	13,0	54,0	8,0	55,0	8,0
2"	69,0	15,0	67,0	9,0	66,0	8,5
2½"	86,0	16,0	80,0	10,0	80,0	9,0
3"	100,0	16,0	93,0	10,0	94,0	9,0
4"	121,0	20,0	118,0	10,0	127,0	9,0
5"	150,0	17,0	*	*	*	*
6"	176,0	24,0	168,0	10,0	*	*

* Fornecemos também Tampão com corrente.

* Sob consulta

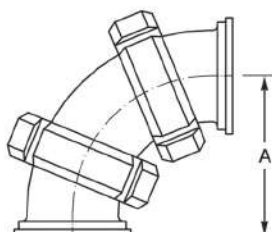
* Dimensões em milímetros (mm).

CONEXÕES TUBULARES ROSCADAS

Curva 90° 2M


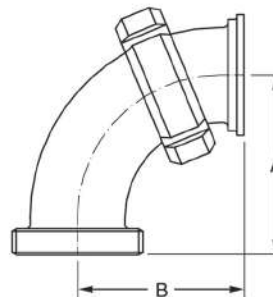
Bitola	DIN	RJT	SMS
	A		
1"	60,0	60,0	53,0
1½"	79,0	79,0	77,0
2"	98,0	98,0	96,0
2½"	121,0	118,0	119,0
3"	144,0	137,0	138,0
4"	182,0	179,0	187,0
5"	237,0	*	*
6"	279,0	256,0	*

* Sob consulta

Curva 90° 2NP


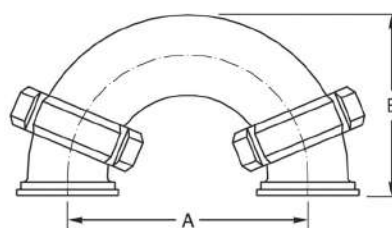
Bitola	DIN	RJT	SMS
	A		
1"	58,0	51,0	51,0
1½"	77,0	70,0	70,0
2"	96,0	90,0	89,0
2½"	119,0	109,0	108,0
3"	138,0	130,0	127,0
4"	180,0	168,0	169,0
5"	219,0	*	*
6"	266,0	249,0	*

* Sob consulta

Curva 90° MNP


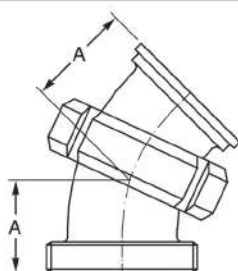
Bitola	DIN		RJT		SMS	
	A	B	A	B	A	B
1"	60,0	58,0	60,0	51,0	53,0	51,0
1½"	79,0	77,0	79,0	70,0	77,0	70,0
2"	98,0	96,0	98,0	90,0	96,0	89,0
2½"	121,0	119,0	118,0	109,0	119,0	108,0
3"	144,0	138,0	137,0	130,0	138,0	127,0
4"	182,0	180,0	179,0	168,0	187,0	169,0
5"	237,0	219,0	*	*	*	*
6"	279,0	266,0	255,0	249,0	*	*

* Sob consulta.

Curva 180° 2NP


Bitola	DIN	RJT	SMS
	A	B	
1"	76,0	69,0	64,0
1½"	114,0	96,0	89,0
2"	152,0	122,0	116,0
2½"	191,0	151,0	141,0
3"	229,0	176,0	168,0
4"	305,0	230,0	219,0
5"	381,0	282,0	*
6"	457,0	342,0	325,0

* Sob consulta.

Curva 45° MNP


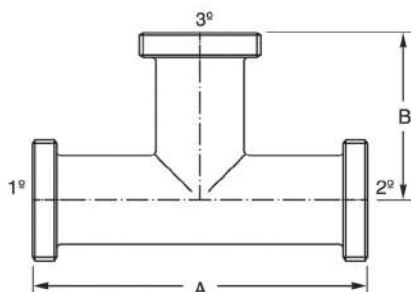
Bitola	DIN		RJT		SMS	
	A	B	A	B	A	B
1"	37,0	33,0	37,0	28,0	30,0	28,0
1½"	44,0	42,0	45,0	35,0	42,0	35,0
2"	52,0	50,0	52,0	44,0	50,0	43,0
2½"	63,0	61,0	59,0	51,0	61,0	50,0
3"	75,0	69,0	67,0	61,0	69,0	58,0
4"	90,0	87,0	87,0	76,0	93,0	77,0
6"	139,0	126,0	116,0	109,0	95,0	*

* Sob consulta.

* Dimensões em milímetros (mm).

CONEXÕES TUBULARES ROSCADAS

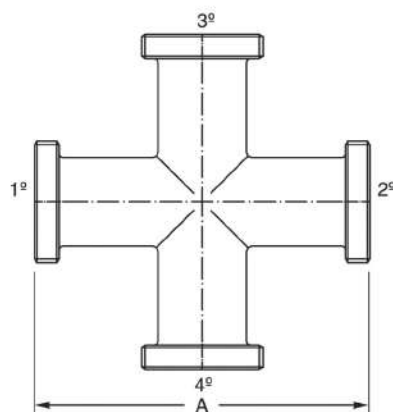
Tee reto 3M



Bitola	DIN		RJT		SMS	
	A	B	A	B	A	B
1"	144,0	72,0	144,0	72,0	130,0	65,0
1½"	158,0	79,0	158,0	79,0	154,0	77,0
2"	194,4	97,2	194,4	97,2	190,4	95,2
2½"	222,0	111,0	214,0	107,0	218,0	109,0
3"	230,0	115,0	214,0	107,0	218,0	109,0
4"	277,0	138,5	271,0	135,5	287,0	143,5

* Outras bitolas sob consulta.

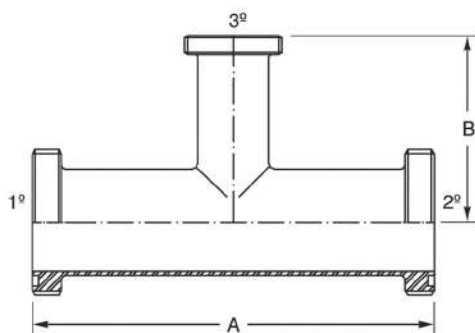
Cruzeta 4M



Bitola	DIN	RJT	SMS
	A		
1"	144,0	144,0	130,0
1½"	158,0	158,0	154,0
2"	194,4	194,4	190,4
2½"	222,0	214,0	218,0
3"	230,0	214,0	218,0
4"	277,0	271,0	287,0

* Outras bitolas sob consulta.

Tee de redução 3M



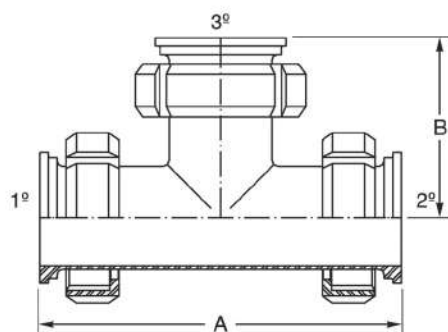
Bitola	DIN		RJT		SMS	
	A	B	A	B	A	B
1½"x1"	158,0	79,0	158,0	79,0	154,0	77,0
2"x1"	194,4	97,2	194,4	97,2	190,4	95,2
2"x1½"	194,4	97,2	194,4	97,2	190,4	95,2
2½"x1"	222,0	111,0	214,0	107,0	218,0	109,0
2½"x1½"	222,0	111,0	214,0	107,0	218,0	109,0
2½"x2"	222,0	111,0	214,0	107,0	218,0	109,0
3"x1"	230,0	115,0	214,0	107,0	218,0	109,0
3"x1½"	230,0	115,0	214,0	107,0	218,0	109,0
3"x2"	230,0	115,0	214,0	107,0	218,0	109,0
3"x2½"	230,0	115,0	214,0	107,0	218,0	109,0
4"x1"	277,0	138,5	271,0	135,5	287,0	143,5
4"x1½"	277,0	138,5	271,0	135,5	287,0	143,5
4"x2"	277,0	138,5	271,0	135,5	287,0	143,5
4"x2½"	277,0	138,5	271,0	135,5	287,0	143,5
4"x3"	277,0	138,5	271,0	135,5	287,0	143,5

* Outras bitolas sob consulta.

* Dimensões em milímetros (mm).

CONEXÕES TUBULARES ROSCADAS

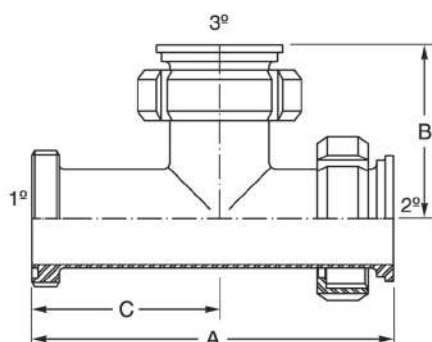
Tee 3NP



Bitola	DIN		RJT		SMS	
	A	B	A	B	A	B
1"	136,0	68,0	126,0	63,0	126,0	63,0
1½"	154,0	77,0	140,0	70,0	140,0	70,0
2"	190,4	95,2	178,4	89,2	176,4	88,2
2½"	218,0	109,0	198,0	99,0	196,0	98,0
3"	218,0	109,0	202,0	101,0	196,0	98,0
4"	271,0	135,5	249,0	124,5	251,0	125,5

* Outras bitolas sob consulta.

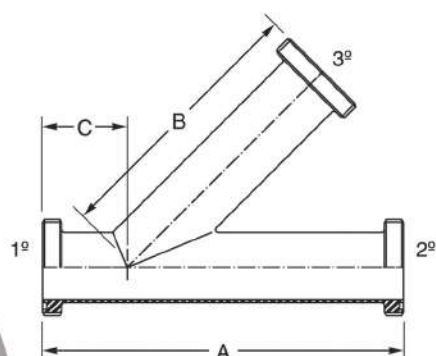
Tee MNPNP



Bitola	DIN			RJT			SMS		
	A	B	C	A	B	C	A	B	C
1"	140,0	68,0	72,0	135,0	63,0	72,0	128,0	63,0	65,0
1½"	156,0	77,0	79,0	149,0	70,0	79,0	147,0	70,0	77,0
2"	192,4	95,2	97,2	186,4	89,2	97,2	183,4	88,2	95,2
2½"	220,0	109,0	111,0	206,0	99,0	107,0	207,0	98,0	109,0
3"	224,0	109,0	115,0	208,0	101,0	107,0	207,0	98,0	109,0
4"	274,0	135,5	138,5	260,0	124,5	135,5	269,0	125,5	143,5

* Outras bitolas sob consulta.

Tee 45° 3M



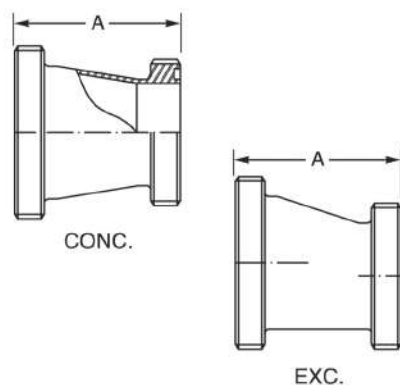
Bitola	DIN			RJT			SMS		
	A	B	C	A	B	C	A	B	C
1"	196,0	149,0	48,0	197,0	149,0	48,0	182,0	142,0	41,0
1½"	231,0	179,0	52,0	232,0	179,0	53,0	227,0	177,0	50,0
2"	266,0	203,0	64,0	267,0	203,0	64,0	262,0	201,0	62,0
2½"	306,0	242,0	69,0	298,0	238,0	65,0	302,0	240,0	67,0
3"	336,0	255,0	78,0	320,0	247,0	70,0	324,0	249,0	72,0
4"	323,0	303,0	82,0	317,0	300,0	79,0	333,0	308,0	87,0

* Outras bitolas sob consulta.

* Dimensões em milímetros (mm).

CONEXÕES TUBULARES ROSCADAS

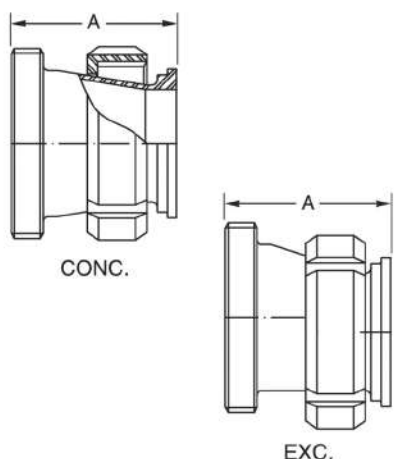
Redução cônica 2M



Bitola	DIN CONC./EXC.	RJT CONC./EXC.	SMS CONC./EXC.
	A		
1½"x1"	86,0	86,0	77,0
2"x1"	122,0	122,0	113,0
2"x1½"	86,0	86,0	82,0
2½"x1"	171,0	167,0	162,0
2½"x1½"	135,0	131,0	131,0
2½"x2"	93,0	89,0	89,0
3"x1"	213,0	200,0	200,0
3"x1½"	176,0	168,0	168,0

Bitola	DIN CONC./EXC.	RJT CONC./EXC.	SMS CONC./EXC.
	A		
3"x2"	134,0	126,0	126,0
3"x2½"	98,0	86,0	90,0
4"x1"	299,0	296,0	297,0
4"x1½"	263,0	260,0	266,0
4"x2"	221,0	218,0	224,0
4"x2½"	185,0	178,0	188,0
4"x3"	147,0	136,0	146,0

Redução cônica MNP

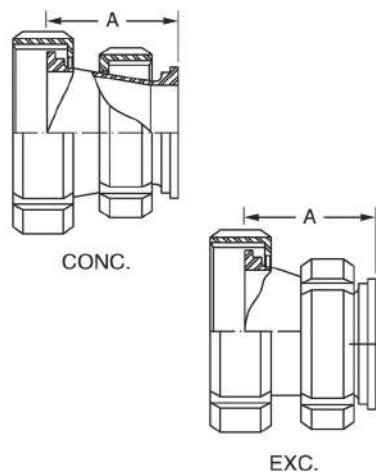


Bitola	DIN CONC./EXC.	RJT CONC./EXC.	SMS CONC./EXC.
	A		
1½"x1"	82,0	77,0	75,0
2"x1"	118,0	113,0	111,0
2"x1½"	84,0	77,0	75,0
2½"x1"	167,0	158,0	160,0
2½"x1½"	133,0	122,0	124,0
2½"x2"	91,0	81,0	82,0
3"x1"	209,0	96,0	198,0
3"x1½"	174,0	159,0	161,0

Bitola	DIN CONC./EXC.	RJT CONC./EXC.	SMS CONC./EXC.
	A		
3"x2"	132,0	118,0	119,0
3"x2½"	96,0	78,0	79,0
4"x1"	295,0	287,0	295,0
4"x1½"	261,0	251,0	259,0
4"x2"	219,0	210,0	217,0
4"x2½"	183,0	170,0	177,0
4"x3"	141,0	130,0	135,0

* Fornecemos também na ordem de soldagem NPM.

Redução cônica 2NP



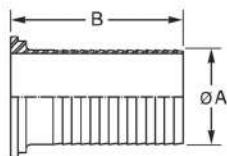
Bitola	DIN CONC./EXC.	RJT CONC./EXC.	SMS CONC./EXC.
	A		
1½"x1"	80,0	68,0	68,0
2"x1"	116,0	105,0	104,0
2"x1½"	80,0	69,0	68,0
2½"x1"	165,0	150,0	149,0
2½"x1½"	131,0	114,0	113,0
2½"x2"	89,0	73,0	71,0
3"x1"	203,0	190,0	187,0
3"x1½"	168,0	153,0	150,0

Bitola	DIN CONC./EXC.	RJT CONC./EXC.	SMS CONC./EXC.
	A		
3"x2"	126,0	112,0	108,0
3"x2½"	90,0	72,0	68,0
4"x1"	292,0	276,0	277,0
4"x1½"	258,0	240,0	241,0
4"x2"	216,0	199,0	199,0
4"x2½"	180,0	159,0	159,0
4"x3"	183,0	119,0	117,0

* Dimensões em milímetros (mm).

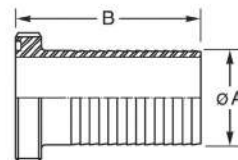
CONEXÕES ROSCADAS

Niple adaptador para mangueira



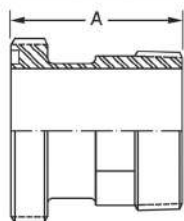
Bitola (Pol.)	ØA (mm)	DIN B	RJT B	SMS B
1"	25,4	78,0	73,0	73,0
1½"	38,1	100,0	93,0	93,0
2"	50,8	100,0	94,0	93,0
2½"	63,5	124,0	114,0	113,0
3"	76,2	124,0	116,0	113,0
4"	101,6	127,0	116,0	117,0

Macho adaptador para mangueira



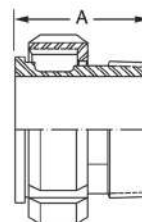
Bitola (Pol.)	ØA (mm)	DIN B	RJT B	SMS B
1"	25,4	82,0	82,0	75,0
1½"	38,1	102,0	102,0	100,0
2"	50,8	102,0	102,0	100,0
2½"	63,5	126,0	122,0	124,0
3"	76,2	130,0	122,0	124,0
4"	101,6	130,0	127,0	135,0

Macho adaptador tipo N



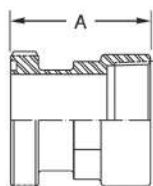
Bitola	DIN		RJT		SMS	
	BSP	NPT	BSP	NPT	BSP	NPT
	A					
1"	69,0	69,0	69,0	69,0	63,0	63,0
1½"	74,0	71,0	74,0	71,0	72,0	69,0
2"	79,0	73,0	79,0	73,0	77,0	71,0
2½"	88,0	85,0	84,0	81,0	86,0	83,0
3"	97,0	93,0	89,0	85,0	91,0	87,0
4"	103,0	95,0	100,0	92,0	111,0	103,0

Niple porca adaptador tipo N



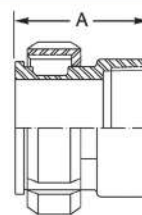
Bitola	DIN		RJT		SMS	
	BSP	NPT	BSP	NPT	BSP	NPT
	A					
1"	67,0	67,0	60,0	60,0	60,0	60,0
1½"	72,0	69,0	65,0	62,0	65,0	62,0
2"	77,0	71,0	71,0	65,0	70,0	64,0
2½"	86,0	83,0	76,0	73,0	75,0	72,0
3"	91,0	87,0	83,0	79,0	80,0	76,0
4"	101,0	93,0	89,0	81,0	90,0	82,0

Macho adaptador tipo L



Bitola	DIN		RJT		SMS	
	BSP	NPT	BSP	NPT	BSP	NPT
	A					
1"	69,0	69,0	69,0	69,0	63,0	63,0
1½"	74,0	71,0	74,0	71,0	72,0	69,0
2"	79,0	73,0	79,0	73,0	77,0	71,0
2½"	88,0	85,0	84,0	81,0	86,0	83,0
3"	97,0	93,0	89,0	85,0	91,0	87,0
4"	105,0	95,0	102,0	92,0	113,0	103,0

Niple porca adaptador tipo L



Bitola	DIN		RJT		SMS	
	BSP	NPT	BSP	NPT	BSP	NPT
	A					
1"	67,0	67,0	60,0	60,0	60,0	60,0
1½"	72,0	69,0	65,0	62,0	65,0	62,0
2"	77,0	71,0	71,0	65,0	70,0	64,0
2½"	86,0	83,0	76,0	73,0	75,0	72,0
3"	91,0	87,0	83,0	79,0	80,0	76,0
4"	103,0	93,0	91,0	81,0	92,0	82,0

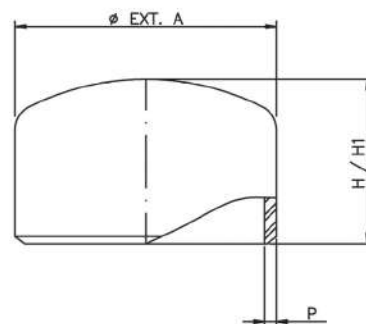
* Todos os adaptadores podem ser fornecidos com redução.

* Dimensões em milímetros (mm).

CONEXÕES SCH SOLDA

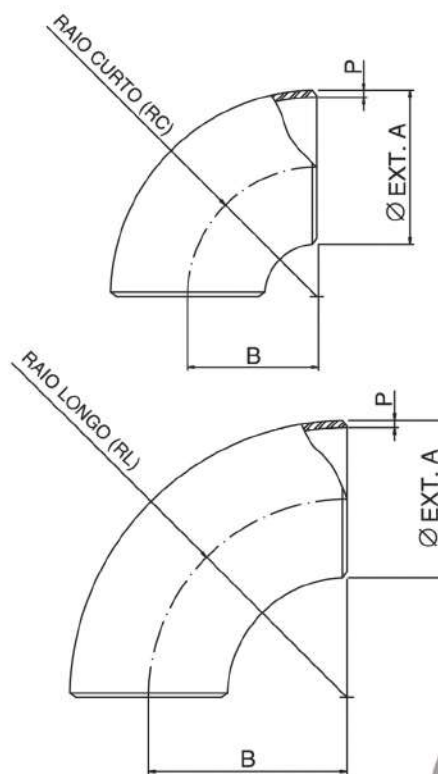
Caps

Diâmetro Nominal em Polegadas (DN)	Diâmetro Externo em milímetros ØA	H	H1	Espessura de Parede P		
				SCH 5-S	SCH 10-S	SCH 40-S
1/2"	21,3	25,4	25,4	1,65	2,11	2,77
3/4"	26,7	25,4	25,4	1,65	2,11	2,87
1"	33,5	38,1	38,1	1,65	2,77	3,38
1.1/4"	42,2	38,1	38,1	1,65	2,77	3,56
1.1/2"	48,3	38,1	38,1	1,65	2,77	3,68
2"	60,5	38,1	44,5	1,65	2,77	3,91
2.1/2"	73,2	38,1	50,8	2,11	3,05	5,16
3"	88,9	50,8	63,5	2,11	3,05	5,49
3.1/2"	101,6	63,5	76,2	2,11	3,05	5,74
4"	114,3	63,5	76,2	2,11	3,05	6,02
5"	141,2	76,2	88,9	2,77	3,40	6,55
6"	168,2	88,9	101,6	2,77	3,40	7,11
8"	219,0	101,6	127,0	2,77	3,76	8,18
10"	273,1	127,0	152,4	3,40	4,19	9,27
12"	323,9	152,4	177,8	3,96	4,57	9,53
14"	355,6	165,1	190,5	3,96	4,78	11,13
16"	406,4	177,8	203,2	4,19	4,78	12,70
18"	457,2	203,2	228,6	4,19	4,78	14,27
20"	508,0	228,6	254,0	4,78	5,54	15,09



Curva 90°

Diâmetro Nominal em Polegadas (DN)	Diâmetro Externo em milímetros ØA	Centro a Face B		Espessura de Parede P		
		Raio Curto (R.C.)	Raio Longo (R.L.)	SCH 5-S	SCH 10-S	SCH 40-S
1/2"	21,3	-----	38,1	1,65	2,11	2,77
3/4"	26,7	-----	28,4	1,65	2,11	2,87
1"	33,5	25,4	38,1	1,65	2,77	3,38
1.1/4"	42,2	31,8	47,6	1,65	2,77	3,56
1.1/2"	48,3	38,1	57,2	1,65	2,77	3,68
2"	60,5	50,8	76,2	1,65	2,77	3,91
2.1/2"	73,2	63,5	95,3	2,11	3,05	5,16
3"	88,9	76,2	114,3	2,11	3,05	5,49
3.1/2"	101,6	88,9	133,4	2,11	3,05	5,74
4"	114,3	101,6	152,4	2,11	3,05	6,02
5"	141,2	127,0	190,5	2,77	3,40	6,55
6"	168,2	152,4	228,6	2,77	3,40	7,11
8"	219,0	203,2	304,8	2,77	3,76	8,18
10"	273,1	254,0	381,0	3,40	4,19	9,27
12"	323,9	304,8	457,2	3,96	4,57	9,53
14"	355,6	355,6	533,4	3,96	4,78	11,13
16"	406,4	406,4	609,6	4,19	4,78	12,70
18"	457,2	457,2	685,8	4,19	4,78	14,27
20"	508,0	508,0	762,0	4,78	5,54	15,09

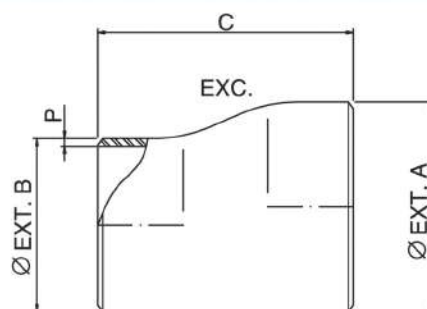
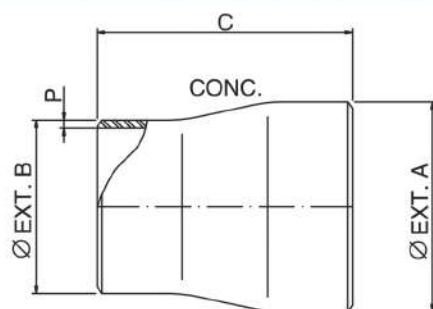


* Norma ANSI B 16.9

* Dimensões em milímetros (mm).

CONEXÕES SCH SOLDA

Redução Cônica Concêntrica/Excêntrica



Diâmetro Nominal em Polegadas (DN)	Diâmetro Externo em milímetros ØA	Diâmetro Externo em milímetros ØB	C
3/4"x1/2"	26,7	21,3	38,1
1"x1/2"	33,5	21,3	50,8
1"x3/4"	33,5	26,7	50,8
1.1/4"x1/2"	42,2	21,3	50,8
1.1/4"x3/4"	42,2	26,7	50,8
1.1/4"x1"	42,2	33,5	50,8
1.1/2"x1/2"	48,3	21,3	63,5
1.1/2"x3/4"	48,3	26,7	63,5
1.1/2"x1"	48,3	33,5	63,5
1.1/2"x1.1/4"	48,3	42,2	63,5
2"x1/2"	60,5	21,3	76,2
2"x3/4"	60,5	26,7	76,2
2"x1"	60,5	33,5	76,2
2"x1.1/4"	60,5	42,2	76,2
2"x1.1/2"	60,5	48,3	76,2
2.1/2"x1/2"	73,2	21,3	88,9
2.1/2"x3/4"	73,2	26,7	88,9
2.1/2"x1"	73,2	33,5	88,9
2.1/2"x1.1/4"	73,2	42,2	88,9
2.1/2"x1.1/2"	73,2	48,3	88,9
2.1/2"x2"	73,2	60,5	88,9
3"x1/2"	88,9	21,3	88,9
3"x3/4"	88,9	26,7	88,9
3"x1"	88,9	33,5	88,9
3"x1.1/4"	88,9	42,2	88,9
3"x1.1/2"	88,9	48,3	88,9
3"x2"	88,9	60,5	88,9
3"x2.1/2"	88,9	73,2	88,9
3.1/2"x1.1/4"	101,6	42,2	101,6
3.1/2"x1.1/2"	101,6	48,3	101,6
3.1/2"x2"	101,6	60,5	101,6
3.1/2"x2.1/2"	101,6	73,2	101,6
3.1/2"x3"	101,6	88,9	101,6
4"x1"	114,3	33,5	101,6
4"x1.1/4"	114,3	42,2	101,6
4"x1.1/2"	114,3	48,3	101,6
4"x2"	114,3	60,5	101,6
4"x2.1/2"	114,3	73,2	101,6
4"x3"	114,3	88,9	101,6
4"x3.1/2"	114,3	101,6	101,6
5"x1.1/4"	141,2	42,2	127,0
5"x1.1/2"	141,2	48,3	127,0
5"x2"	141,2	60,5	127,0
5"x2.1/2"	141,2	73,2	127,0
5"x3"	141,2	88,9	127,0
5"x3.1/2"	141,2	101,6	127,0
5"x4"	141,2	114,3	127,0
6"x2"	168,2	60,5	139,7

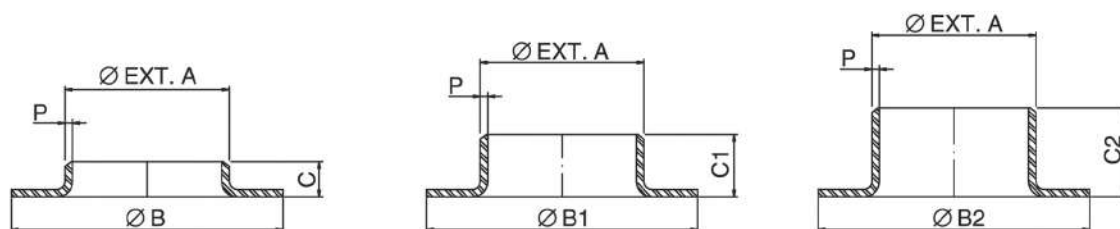
Diâmetro Nominal em Polegadas (DN)	Diâmetro Externo em milímetros ØA	Diâmetro Externo em milímetros ØB	C
6"x2.1/2"	168,2	73,2	139,7
6"x3"	168,2	88,9	139,7
6"x3.1/2"	168,2	101,6	139,7
6"x4"	168,2	114,3	139,7
6"x5"	168,2	141,2	139,7
8"x3"	219,0	88,9	152,4
8"x3.1/2"	219,0	101,6	152,4
8"x4"	219,0	114,3	152,4
8"x5"	219,0	141,2	152,4
8"x6"	219,0	168,2	152,4
10"x3"	273,1	88,9	177,8
10"x4"	273,1	114,3	177,8
10"x5"	273,1	141,2	177,8
10"x6"	273,1	168,2	177,8
10"x8"	273,1	219,0	177,8
12"x4"	323,9	114,3	203,2
12"x5"	323,9	141,2	203,2
12"x6"	323,9	168,2	203,2
12"x8"	323,9	219,0	203,2
12"x10"	323,9	273,1	203,2
14"x5"	355,6	141,2	330,2
14"x6"	355,6	168,2	330,2
14"x8"	355,6	219,0	330,2
14"x10"	355,6	273,1	330,2
14"x12"	355,6	323,9	330,2
16"x6"	406,4	168,2	355,6
16"x8"	406,4	219,0	355,6
16"x10"	406,4	273,1	355,6
16"x12"	406,4	323,9	355,6
16"x14"	406,4	355,6	355,6
18"x8"	457,2	219,0	381,0
18"x10"	457,2	273,1	381,0
18"x12"	457,2	323,9	381,0
18"x14"	457,2	355,6	381,0
18"x16"	457,2	406,4	381,0
20"x8"	508,0	219,0	508,0
20"x10"	508,0	273,1	508,0
20"x12"	508,0	323,9	508,0
20"x14"	508,0	355,6	508,0
20"x16"	508,0	406,4	508,0
20"x18"	508,0	457,2	508,0

* Norma ANSI B 16.9

* Dimensões em milímetros (mm).

CONEXÕES SCH SOLDA

Pestanas

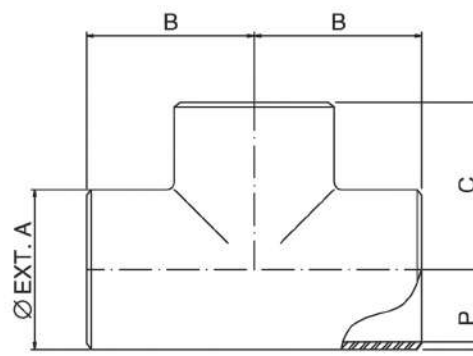


Diâmetro Nominal em Polegadas (DN)	Diâmetro Externo em milímetros ØA	Pestana Curta		Pestana MSS - SP 43		Pestana ANSI B 16.9		Espessura de Parede P		
		B	C	B1	C1	B2	C2	SCH 5-S	SCH 10-S	SCH 40-S
1/2"	21,3	45	7	35,0	50,8	35,0	76,2	1,65	2,11	2,77
3/4"	26,7	55	8	43,0	50,8	43,0	76,2	1,65	2,11	2,87
1"	33,5	62	10	50,8	50,8	50,8	101,6	1,65	2,77	3,38
1.1/4"	42,2	72	12	63,5	50,8	63,5	101,6	1,65	2,77	3,56
1.1/2"	48,3	80	12	73,0	50,8	73,0	101,6	1,65	2,77	3,68
2"	60,5	100	14	92,5	63,5	92,5	152,4	1,65	2,77	3,91
2.1/2"	73,2	118	14	104,8	63,5	104,8	152,4	2,11	3,05	5,16
3"	88,9	130	15	127,0	63,5	127,0	152,4	2,11	3,05	5,49
3.1/2"	101,6	150	16	139,7	76,2	139,7	152,4	2,11	3,05	5,74
4"	114,3	162	18	157,2	76,2	157,5	152,4	2,11	3,05	6,02
5"	141,2	190	20	185,8	76,2	185,8	203,2	2,77	3,40	6,55
6"	168,2	216	24	215,9	88,9	215,9	203,2	2,77	3,40	7,11
8"	219,0	274	26	259,9	101,6	269,9	203,2	2,77	3,76	8,18
10"	273,1	333	26	323,9	127,0	323,9	254,0	3,40	4,19	9,27
12"	323,9	389	28	381,0	152,4	381,0	254,0	3,96	4,57	9,53
14"	355,6	420	30	412,8	152,4	412,8	304,8	3,96	4,78	11,13

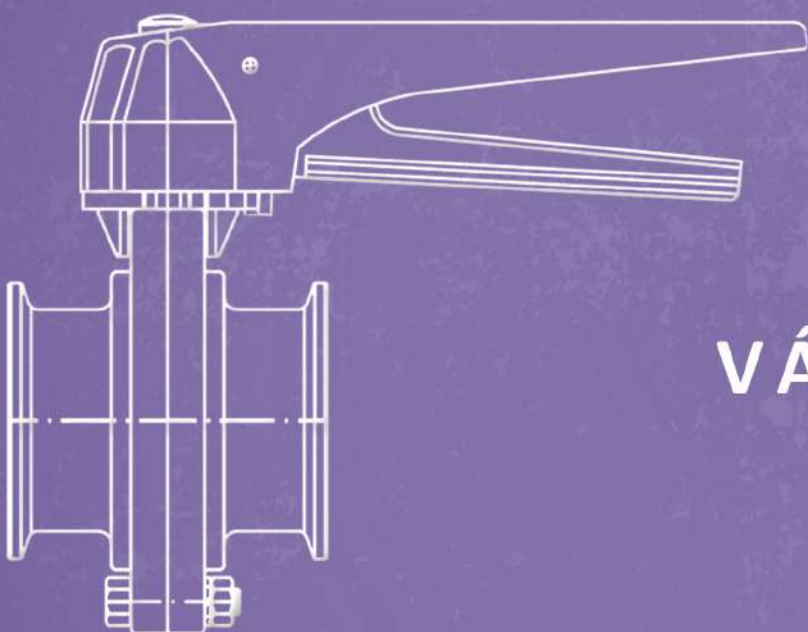
Tee reto 90°

Diâmetro Nominal em Polegadas (DN)	Diâmetro Externo em milímetros ØA	Centro a Face B		Espessura de Parede P		
		B	C	SCH 5-S	SCH 10-S	SCH 40-S
1/2"	21,3	25,4	25,4	1,65	2,11	2,77
3/4"	26,7	28,5	28,5	1,65	2,11	2,87
1"	33,5	38,1	38,1	1,65	2,77	3,38
1.1/4"	42,2	47,8	47,8	1,65	2,77	3,56
1.1/2"	48,3	57,2	57,2	1,65	2,77	3,68
2"	60,5	63,5	63,5	1,65	2,77	3,91
2.1/2"	73,2	76,2	76,2	2,11	3,05	5,16
3"	88,9	85,9	85,9	2,11	3,05	5,49
3.1/2"	101,6	95,3	95,3	2,11	3,05	5,74
4"	114,3	104,7	104,7	2,11	3,05	6,02
5"	141,2	130,0	130,0	2,77	3,40	6,55
6"	168,2	142,8	142,8	2,77	3,40	7,11
8"	219,0	177,8	177,8	2,77	3,76	8,18
10"	273,1	215,9	215,9	3,40	4,19	9,27
12"	323,9	254,0	254,0	3,96	4,57	9,53
14"	355,6	279,4	279,4	3,96	4,78	11,13
16"	406,4	304,8	304,8	4,19	4,78	12,70
18"	457,2	342,9	342,9	4,19	4,78	14,27
20"	508,0	381,0	381,0	4,78	5,54	15,09

* Norma ANSI B 16.9



* Dimensões em milímetros (mm).

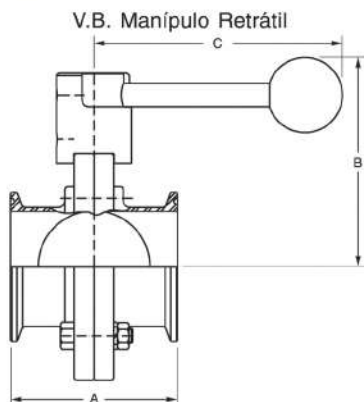


VÁLVULAS

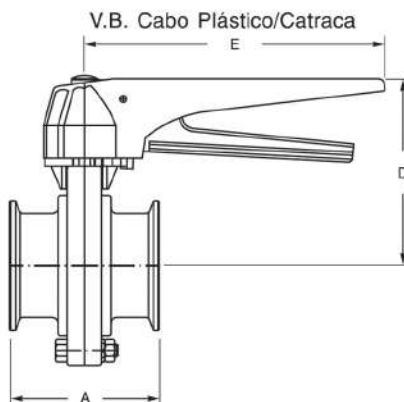


VÁLVULAS BORBOLETA

Manual



Esta válvula possui uma posição intermediária de 45° (entre fechamento e abertura), permanecendo assim, ela permite esta regulagem de fluxo.



Esta válvula possui várias posições, incluindo fechamento e abertura.

• Pressão de teste hidrostático:

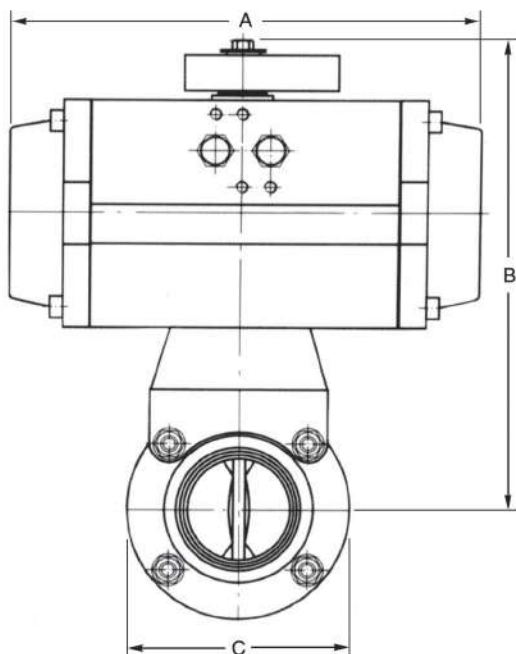
1" à 3" • 13 kgf/cm² a 22° C
4" • 6 kgf/cm² a 22° C

• Temperatura máxima de trabalho:

EPDM • 90° C
Silicone • 140° C
Viton • 250° C

Bitola	DIN				RJT		SMS		V.B. Manipulo Retrátil		V.B. Cabo Plástico/Catraca	
	Sol	2TC	2M	MNP	2M	MNP	2M	MNP				
	A								B	C	D	E
1"	48,0	73,0	92,0	88,0	92,0	83,0	78,0	76,0	73,0	115,0	79,0	148,0
1½"	48,0	73,0	92,0	90,0	92,0	83,0	88,0	81,0	80,0	115,0	86,0	148,0
2"	48,0	73,0	92,0	90,0	92,0	84,0	88,0	81,0	87,0	115,0	94,0	148,0
2½"	52,0	77,0	104,0	102,0	96,0	88,0	100,0	89,0	95,0	115,0	101,0	148,0
3"	52,0	77,0	112,0	106,0	96,0	90,0	100,0	89,0	100,0	167,0	106,0	148,0
4"	64,0	96,0	124,0	121,0	118,0	107,0	134,0	116,0	116,0	167,0	120,0	148,0

Pneumática



Para operações automatizadas a Válvula Borboleta pode ser fornecida com Atuador pneumático com acionamento por AR retorno por AR ou acionamento por AR e retorno por Mola, assumindo a posição NF (normalmente fechada) ou NA (normalmente aberta).

• Acessórios

- Uma ou duas chaves de fim de curso (microswitches) para indicação remota da posição da válvula (alternativa também disponível na Válvula Manual).
- Válvula Solenóide para controle do ar no Atuador.
- E outros como caixa de sinalização.

• Torque da Válvula Borboleta

Bitola	1"	1½"	2"	2½"	3"	4"
Torque kgf/m	0,6	1,0	1,5	1,5	1,9	2,5

• Ar Comprimido

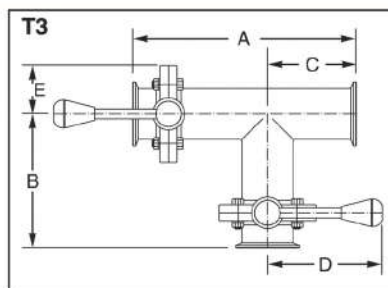
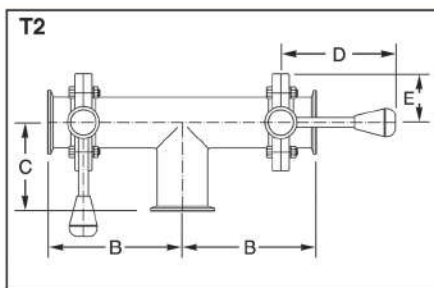
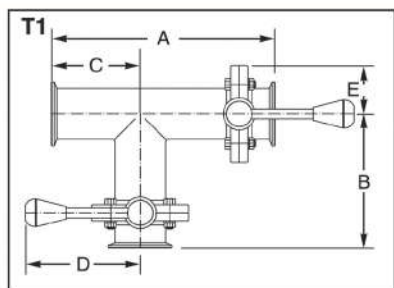
- Pressão mínima recomendável: 6,0 kgf/cm².
- Pressão máxima recomendável: 10,0 kgf/cm².

Bitola	Atuador Ar/Ar		Atuador Ar/Mola		C
	A	B	A	B	
1"	130,0	147,0	232,0	166,0	69,0
1½"	130,0	157,0	232,0	176,0	81,0
2"	144,0	181,0	270,0	203,0	98,0
2½"	144,0	185,0	270,0	207,0	111,0
3"	162,0	225,0	297,0	234,0	127,0
4"	162,0	240,0	332,0	268,0	150,0

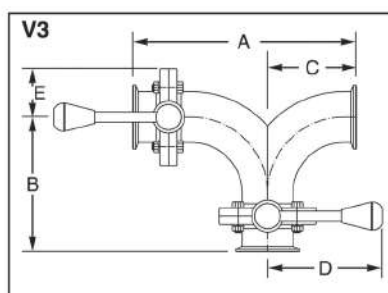
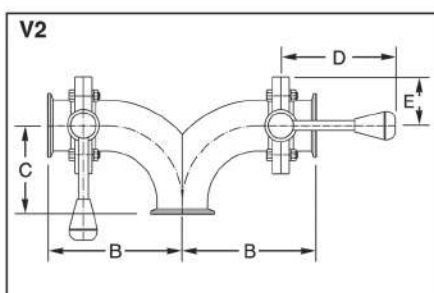
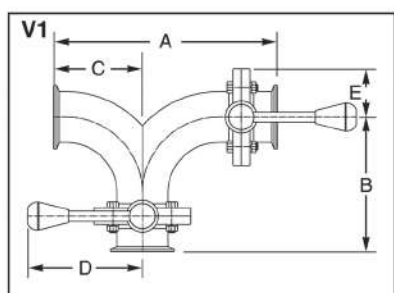
* Dimensões em milímetros (mm).

VÁLVULAS BORBOLETA

Multivias tipo: T e Multivias tipo: V



		Solda	TC	DIN	RJT	SMS	Solda	TC	DIN	RJT	SMS	Solda	TC	DIN	RJT	SMS		
Bitola		A					B					C					D	E
Tipo: T1, T2 e T3	1"	148,0	173,4	192,0	192,0	178,0	98,0	110,7	120,0	120,0	113,0	50,0	62,7	72,0	72,0	65,0	115	35
	1½"	162,0	187,4	206,0	206,0	202,0	105,0	117,7	127,0	127,0	125,0	57,0	69,7	79,0	79,0	77,0	115	41
	2"	198,4	223,8	242,4	242,4	238,4	123,2	135,9	145,2	145,2	143,2	75,2	87,9	97,2	97,2	95,2	115	49
	2½"	222,0	247,4	274,0	266,0	270,0	137,0	149,7	163,0	159,0	161,0	85,0	97,7	111,0	107,0	109,0	115	56
	3"	222,0	247,4	282,0	266,0	270,0	137,0	149,7	167,0	159,0	161,0	85,0	97,7	115,0	107,0	109,0	167	61
	4"	281,0	312,8	341,0	335,0	351,0	172,5	188,4	202,5	199,5	207,5	108,5	124,4	138,5	135,5	143,5	167	75



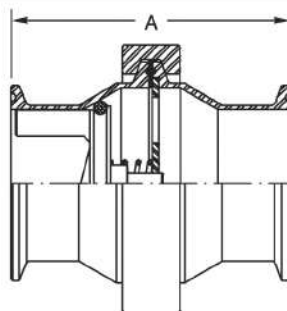
Tipo: V1, V2 e V3	Bitola	Solda	TC	DIN	RJT	SMS	Solda	TC	DIN	RJT	SMS	Solda	TC	DIN	RJT	SMS	D	E
		A					B					C						
	1"	124	150	168	169	154	86	99	108	108	101	38	51	60	60	53	115	35
	1½"	162	188	206	207	202	105	118	127	127	125	57	70	79	79	77	115	41
	2"	200	226	244	245	240	124	137	146	146	144	76	89	98	98	96	115	49
	2½"	243	268	295	287	291	147	160	173	170	171	95	108	121	118	119	115	56
	3"	281	306	341	325	329	166	179	196	189	190	114	127	144	137	138	167	61
	4"	369	401	429	423	439	216	194	246	243	251	152	168	182	179	187	167	75

* Para as normas DIN, RJT e SMS foram considerados terminais tipo macho. As Válvulas Multivias tipos T e V também permitem acionamento pneumático.

* Outro tipo de multivia (conforme necessidade do cliente) que difere dos tipos: T1; T2; T3; V1; V2 e V3, sob consulta.

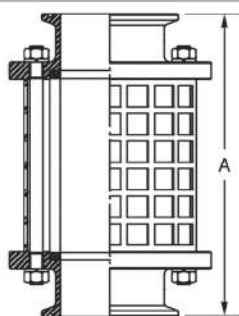
VÁLVULAS E VISORES

Válvula de retenção



Bitola	DIN				RJT		SMS		Pressão Máxima de Trabalho (kgf/cm²)	Pressão Mínima de Abertura (kgf/cm²)
	Solda	2TC	2M	MNP	2M	MNP	2M	MNP		
	A									
1"	78,0	103,0	122,0	118,0	122,0	113,0	108,0	106,0	34,0	0,01
1½"	96,0	121,0	140,0	138,0	140,0	131,0	136,0	129,0	34,0	0,02
2"	96,0	121,0	140,0	138,0	140,0	132,0	136,0	129,0	28,0	0,02
2½"	102,0	127,0	154,0	152,0	146,0	138,0	150,0	139,0	26,0	0,02
3"	102,0	127,0	162,0	156,0	146,0	140,0	150,0	139,0	22,0	0,03
4"	146,0	178,0	206,0	203,0	200,0	189,0	216,0	198,0	12,0	0,03

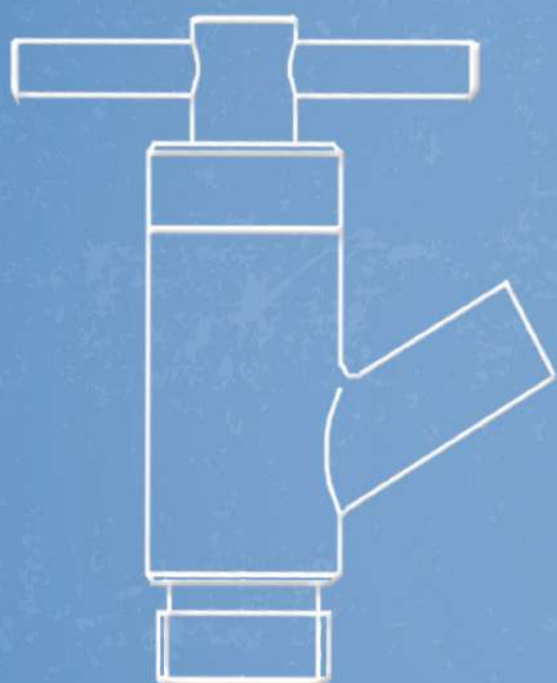
Visor de linha tubular



Bitola	DIN				RJT		SMS	
	Solda	2TC	2M	MNP	2M	MNP	2M	MNP
	A							
1"	145,0	170,0	189,0	185,0	189,0	180,0	175,0	173,0
1½"	145,0	170,0	189,0	187,0	189,0	180,0	185,0	178,0
2"	145,0	170,0	189,0	187,0	189,0	181,0	185,0	178,0
2½"	149,0	174,0	201,0	199,0	193,0	185,0	197,0	186,0
3"	153,0	178,0	213,0	207,0	197,0	191,0	201,0	190,0
4"	171,0	203,0	231,0	228,0	225,0	214,0	241,0	223,0

*Os visores acima possuem vidros temperados de alta resistência a ataques químicos, tolera choques térmicos (variações baixas e altas de temperatura) no máximo 265°C e suporta a temperatura máxima 320°C.

* Dimensões em milímetros (mm).

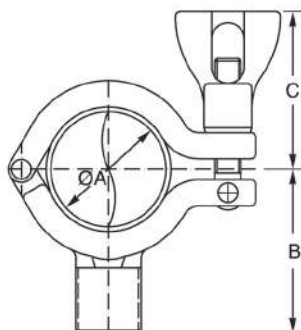


ACESSÓRIOS



ACESSÓRIOS

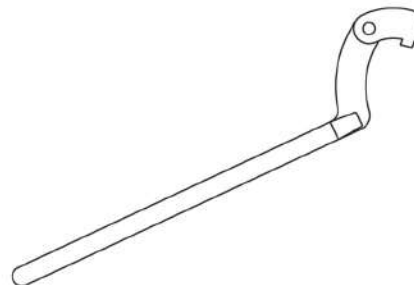
Abraçadeira suporte para tubo



Bitola	ØA	B	C
1"	25,4	38,0	
1½"	38,1	44,0	
2"	50,8	50,0	54,0
2½"	63,5	57,0	
3"	76,2	63,0	
4"	101,6	76,0	

ROSCA BSP/N (Macho) ½"

Chaves articuladas para porcas circulares

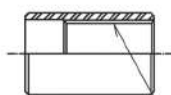


Bitola

1"
1½"
2"
2½"
3"
4"

* Para adquirir esta chave, nos informar a Bitola.

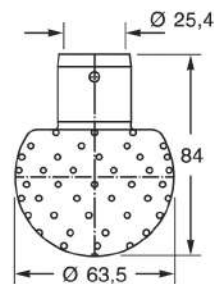
Luva para abraçadeira



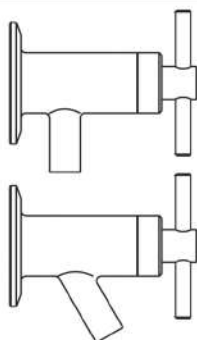
ROSCA BSP/L (Fêmea) ½"

* Esta Luva geralmente acompanha Abraçadeira Suporte para Tubo (vide ilustração da Abraçadeira Suporte p/ Tubo)

Aspersor "Spray-Ball"

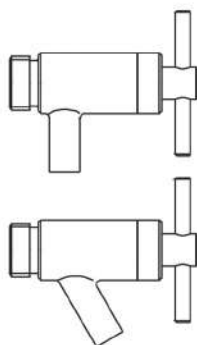


Torneira de amostra



Terminais

Solda	½" e ¾"
TC	½" e ¾"
TC	1" e 1½"



Roscas (tipo Macho)

BSP	½"
BSP	¾"
NPT	½"
NPT	¾"

Padrão	Ø furo	Vazão a 2 kgf/cm² m³/h	Ø do leque m
360°	3/32"	16	4,0
	1/16"	10	3,8
270° superior	3/32"	15	4,0
	1/16"	09	3,8
270° inferior	3/32"	15	4,0
	1/16"	09	3,8
180° superior	3/32"	10	3,9
	1/16"	06	3,7
180° inferior	3/32"	08	4,1
	1/16"	05	3,9
150° lateral	3/32"	09	2,0
150° superior	3/32"	09	4,2
150° inferior	3/32"	12	3,8

* Pode ser fornecido com outras dimensões.

* Dimensões em milímetros (mm).



TABELA DE **MEDIDAS**





TUBOS (com costura)

externo (mm)	Denominação	Peso teórico (kg/m)	Norma ASTM			Aplicações Típicas	Qualidades			
			A-312	A-269	A-249		304	304L	316	316L
8.00x1.00	-----	0.175	B	A	B	Diversas	A	A	A	A
9.53x0.89	3/8" - OD	0.196	B	A	B	Diversas	A	A	A	A
9.53x1.00	3/8" - OD	0.213	B	A	B	Diversas	A	A	A	A
9.53x1.20	3/8" - OD	0.257	B	A	B	Diversas	A	A	A	A
12.70x1.00	1/2" - OD	0.292	B	A	B	Diversas	A	A	A	A
12.70x1.20	1/2" - OD	0.355	B	A	B	Diversas	A	A	A	A
12.70x1.50	1/2" - OD	0.420	B	A	B	Diversas	A	A	A	A
15.87x1.00	5/8" - OD	0.374	B	A	B	Diversas	A	B	A	B
15.87x1.20	5/8" - OD	0.454	B	A	B	Diversas	A	B	A	B
15.87x1.50	5/8" - OD	0.539	B	A	B	Diversas	A	B	A	B
17.15x1.65	3/8"sch-10	0.643	A	B	B	Diversas	A	A	A	A
17.15x2.31	3/8"sch-40	0.860	A	B	B	Diversas	A	A	A	A
19.05x1.00	3/4" - OD	0.454	B	A	A	Diversas	A	B	A	B
19.05x1.20	3/4" - OD	0.554	B	A	A	Diversas	A	A	A	A
19.05x1.50	3/4" - OD	0.660	B	A	A	Diversas	A	A	A	A
19.05x2.00	3/4" - OD	0.854	B	A	A	Diversas	A	A	A	A
21.34x1.65	1/2"sch-5	0.816	A	B	B	Diversas	A	A	A	A
21.34x2.11	1/2"sch-10	1.02	A	B	B	Diversas	A	A	A	A
21.34x2.77	1/2"sch-40	1.29	A	B	B	Diversas	A	B	A	B
22.2x1.00	7/8" - OD	0.53	B	A	B	Diversas	A	B	A	B
22.2x1.20	7/8" - OD	0.658	B	A	B	Diversas	A	B	A	B
22.2x1.50	7/8" - OD	0.780	B	A	B	Diversas	A	B	A	B
25.40x1.00	1" - OD	0.780	B	A	B	Diversas	A	B	A	B
25.40x1.20	1" - OD	0.759	B	A	A	Diversas	A	B	A	B
25.40x1.50	1" - OD	0.901	B	A	A	Diversas	A	A	A	A
25.40x2.00	1" - OD	1.176	B	A	A	Diversas	A	A	A	A
26.67x1.65	3/4"sch-5	1.030	B	A	A	Diversas	A	A	A	A
26.67x2.11	3/4"sch-10	1.300	B	A	A	Diversas	A	A	A	A
26.67x2.87	3/4"sch-40	1.710	B	A	A	Diversas	A	A	A	A
31.75x1.00	1 1/4" - OD	0.769	B	A	A	Diversas	A	B	A	B
31.75x1.20	1 1/4" - OD	0.947	B	A	A	Diversas	A	B	A	B
31.75x1.50	1 1/4" - OD	1.136	B	A	A	Diversas	A	B	A	B
31.75x2.00	1 1/4" - OD	1.500	B	A	A	Diversas	A	B	A	B
33.40x1.65	1"sch-5	1.316	A	B	B	Diversas	A	A	A	A
33.40x2.77	1"sch-10	2.132	A	B	B	Diversas	A	A	A	A
33.40x3.38	1"sch-40	2.540	A	B	B	Diversas	A	A	A	A
38.10x1.00	1 1/2" - OD	0.934	B	A	A	Diversas	A	B	A	B
38.10x1.20	1 1/2" - OD	1.144	B	A	A	Diversas	A	B	A	B
38.10x1.50	1 1/2" - OD	1.376	B	A	A	Diversas	A	B	A	B
38.10x2.00	1 1/2" - OD	1.809	B	A	A	Diversas	A	B	A	B
42.16x1.65	1 1/4"sch-5	1.670	A	B	B	Diversas	A	A	A	A
42.16x2.77	1 1/4"sch-10	2.730	A	B	B	Diversas	A	A	A	A
42.16x3.56	1 1/4"sch-40	3.457	A	B	B	Diversas	A	A	A	A
48.26x1.65	1 1/2"sch-5	1.930	A	B	B	Diversas	A	A	A	A
48.26x2.77	1 1/2"sch-10	3.160	A	B	B	Diversas	A	A	A	A
48.26x3.68	1 1/2"sch-40	4.110	A	B	B	Diversas	A	A	A	A
50.80x1.00	2" - OD	1.251	B	A	A	Diversas	A	B	A	B
50.80x1.20	2" - OD	1.560	B	A	A	Diversas	A	B	A	B
50.80x1.50	2" - OD	1.830	B	A	A	Diversas	A	B	A	B
50.80x2.00	2" - OD	2.440	B	A	A	Diversas	A	B	A	B
60.33x1.65	2"sch-5	2.423	A	B	B	Diversas	A	A	A	A
60.33x2.77	2"sch-10	3.990	A	B	B	Diversas	A	A	A	A
60.33x3.91	2"sch-40	5.541	A	B	B	Diversas	A	A	A	A
63.50x1.20	2 1/2" - OD	1.871	B	A	B	Diversas	A	B	A	B
63.50x1.50	2 1/2" - OD	2.330	B	A	B	Diversas	A	B	A	B
63.50x2.00	2 1/2" - OD	3.100	B	A	B	Diversas	A	B	A	B
73.03x2.11	2 1/2"sch-5	3.750	A	B	B	Diversas	A	A	A	A
73.03x3.05	2 1/2"sch-10	5.330	A	B	B	Diversas	A	A	A	A
73.03x5.16	2 1/2"sch-40	8.750	A	B	B	Diversas	A	A	A	A
76.20x1.20	3" - OD	2.253	B	A	B	Diversas	A	B	A	B
76.20x1.50	3" - OD	2.801	B	A	B	Diversas	A	B	A	B
76.20x2.00	3" - OD	3.740	B	A	B	Diversas	A	B	A	B



TUBOS (com costura)

Ø externo (mm)	Denominação	Peso teórico (kg/m)	Norma ASTM			Aplicações Típicas	Qualidades			
			A-312	A-269	A-249		304	304L	316	316L
88.90x2.11	3"sch-5	4.580	A	B	B	Diversas	A	A	A	A
88.90x3.05	3"sch-10	6.540	A	B	B	Diversas	A	A	A	A
88.90x5.49	3"sch-40	11.45	A	B	B	Diversas	A	A	A	A
101.60x1.50	4" - OD	3.830	B	A	B	Diversas	A	B	A	B
101.60x2.00	4" - OD	4.986	B	A	B	Diversas	A	B	A	B
114.30x2.11	4"sch-5	5.920	A	B	B	Diversas	A	B	A	B
114.30x3.05	4"sch-10	8.480	A	B	B	Diversas	A	A	A	A
114.30x6.02	4"sch-40	16.300	A	B	B	Diversas	A	A	A	A
152.40x1.50	6" - OD	5.750	B	B	B	Diversas	A	B	A	B
152.40x2.00	6"-OD	7.670	B	B	B	Diversas	A	B	A	B
168.28x2.77	6"sch-5	11.470	A	C	C	Diversas	A	B	A	B
168.28x3.40	6"sch-10	14.030	A	C	C	Diversas	A	B	A	B
168.28x7.11	6"sch-40	28.650	A	C	C	Diversas	A	B	A	B
203.20x2.00	8" - OD	10.200	Sem Norma			Diversas	A	B	A	B
203.20x2.50	8" - OD	12.800	Sem Norma			Papel e Celulose				
219.08x2.77	8"sch-5	15.000	-			Condução				
219.08x3.76	8"sch-10	20.240	-			Condução				
219.08x8.18	8"sch-40	43.120	-			Papel e Celulose				
254.00x2.00	10" - OD	12.800	Sem Norma			Papel e Celulose				
254.00x2.50	10" - OD	16.000	Sem Norma			Condução				
254.00x3.00	10" - OD	18.920	Sem Norma			Condução				
273.05x3.40	10"sch-5	22.940	-			Condução				
273.05x4.20	10"sch-10	28.170	-			Condução				
273.05x9.27	10"sch-40	60.300	-			Papel e Celulose				
304.80x2.00	12"-OD	15.400	Sem Norma			Papel e Celulose				
304.80x2.50	12"-OD	19.200	Sem Norma				A	B	A	B
304.80x3.00	12" -OD	22.760	Sem Norma			Condução				
323.85x3.96	12"sch-5	31.690	Sem Norma			Condução				
323.85x4.57	12"sch-10	36.500	-			Condução				
323.85x9.52	12"sch-40	74.850	Sem Norma			Condução				
355.60x2.00	14" - OD	17.900	Sem Norma			Papel e Celulose				
355.60x2.50	14" - OD	22.300	Sem Norma				A	B	A	B
355.60x3.00	14" - OD	26.590	Sem Norma			Condução				
355.60x3.96	14"sch-5	34.400	Sem Norma			Condução				
355.60x4.78	14"sch-10	41.300	Sem Norma			Condução				
406.40x3.00	16" - OD	30.420	Sem Norma			Papel e Celulose				
406.40x4.20	16"sch-5	41.500	Sem Norma			Condução				
406.40x4.78	16"sch-10	47.300	Sem Norma			Condução				
457.20x3.00	18" - OD	34.250	Sem Norma			Papel e Celulose				
457.20x4.20	18"sch-5	46.800	Sem Norma			Condução				
457.20x4.75	18"sch-10	53.200	Sem Norma			Condução				
508.00x3.00	20" - OD	38.080	Sem Norma			Papel e Celulose				
508.00x4.78	20"sch-5	59.300	Sem Norma			Condução				
508.00x5.54	20"sch-10	68.600	Sem Norma			Condução				

CANTONEIRAS (abas iguais) (Peso estimado por metro)

Dimensões	Massa Linear
1"x 1/8"	1.27
1"x 3/16"	1.73
1"x 1/4"	2.22
1.1/4"x 1/8"	1.50
1.1/4"x 3/16"	2.20
1.1/4"x 1/4"	2.86
1.1/2"x 1/8"	1.83
1.1/2"x 3/16"	2.68

Dimensões	Massa Linear
1.1/2"x 1/4"	3.48
2"x 1/8"	2.50
2"x 3/16"	3.63
2"x 1/4"	4.75
2.1/2"x 3/16"	4.57
2.1/2"x 1/4"	6.10
3"x 1/4"	7.30
4"x 1/4"	10.00

TUBOS QUADRADOS (Uso geral - aço inox 304)

Dimensões (mm)	Peso/mt (Kg)	Dimensões (mm)	Peso/mt (Kg)	Dimensões (mm)	Peso/mt (Kg)	Dimensões (mm)	Peso/mt (Kg)	Dimensões (mm)	Peso/mt (Kg)
20x20x1.00	0.613	30x30x1.50	1.380	35x35x1.50	1.619	50x50x2.00	3.091	80x80x2.00	3.091
20x20x1.20	0.730	30x30x2.00	1.840	35x35x2.00	2.134	50x50x3.00	4.561	80x80x3.00	4.561
20x20x1.50	0.901	30x30x3.00	2.640	35x35x3.00	3.128	60x60x1.20	2.262	90x90x1.50	2.262
20x20x2.00	1.176	32x32x1.00	1.034	40x40x1.00	1.251	60x60x1.50	2.816	90x90x2.00	2.816
25x25x1.00	0.779	32x32x1.20	1.235	40x40x1.20	1.496	60x60x2.00	3.729	90x90x3.00	3.729
25x25x1.20	0.929	32x32x1.50	1.533	40x40x1.50	1.858	60x60x3.00	5.519	100x100x1.20	5.519
25x25x1.50	1.150	32x32x2.00	2.018	40x40x2.00	2.453	70x70x1.50	3.295	100x100x1.50	3.295
25x25x2.00	1.508	32x32x3.00	2.952	40x40x3.00	3.604	70x70x2.00	4.368	100x100x2.00	4.368
30x30x1.00	0.932	35x35x1.00	1.092	50x50x1.20	1.879	70x70x3.00	6.580	100x100x2.50	6.580
30x30x1.20	1.113	35x35x1.20	1.304	50x50x1.50	2.337	80x80x1.50	3.773	100x100x3.00	3.773

BARRAS (Peso estimado por metro)

Pol.	mm	●	◆	■	Pol.	mm	●	◆	■
1/8	3.17	0.062	0.068	0.079	3 3/8	85.73	45.27	49.98	57.63
5/32	9.97	0.097	0.107	0.120	3 1/2	88.90	48.68	53.74	61.98
3/16	4.76	0.149	0.154	0.178	3 5/8	92.08	52.22	57.66	66.49
7/32	5.55	0.189	0.209	0.242	3 3/4	95.25	55.88	61.69	71.15
1/4	6.35	0.250	0.270	0.320	3 7/8	98.43	60.67	65.88	75.96
9/32	7.14	0.314	0.346	0.400	4	101.60	63.58	70.26	80.97
5/16	7.93	0.390	0.430	0.490	4 1/8	104.78	67.62	74.65	86.10
3/8	9.53	0.560	0.620	0.710	4 1/4	107.95	71.78	79.24	91.39
7/16	11.11	0.760	0.840	0.970	4 3/8	111.13	76.06	83.98	96.85
1/2	12.70	0.990	1.100	1.270	4 1/2	114.30	80.47	88.84	102.46
9/16	14.28	1.260	1.390	1.600	4 5/8	117.48	85.01	93.85	108.23
5/8	15.87	1.550	1.710	1.980	4 3/4	120.65	89.66	98.98	114.16
11/16	17.46	1.880	2.070	2.390	4 7/8	123.83	94.44	104.27	120.25
3/4	19.05	2.240	2.460	2.850	5	127.00	99.80	109.68	126.50
13/16	20.63	2.620	2.890	3.340	5 1/4	133.36	109.50	120.94	140.50
7/8	22.22	3.040	3.350	3.870	5 1/2	139.71	120.20	132.73	154.20
15/16	23.81	3.490	3.850	4.440	5 3/4	146.06	131.40	145.7	168.53
1	25.40	3.970	4.380	5.060	6	152.40	143.10	157.93	183.48
1 1/16	26.97	4.490	4.950	5.710	6 1/4	158.76	155.20	171.39	199.12
1 1/8	28.57	5.030	5.550	6.400	6 1/2	165.11	167.90	185.38	215.36
1 3/16	30.16	5.600	6.180	7.140	6 3/4	171.46	181.10	199.91	232.25
1 1/4	31.75	6.210	6.850	7.910	7	177.81	194.70	214.99	249.77
1 5/16	33.34	6.850	7.550	8.720	7 1/4	184.16	209.70	230.62	267.93
1 3/8	34.92	7.510	8.290	9.570	7 1/2	190.51	223.80	246.80	286.72
1 7/16	36.51	8.210	9.060	10.460	7 3/4	196.85	238.90	263.50	306.12
1 1/2	38.10	8.840	9.860	11.390	8	203.20	254.60	280.77	326.12
1 9/16	39.69	9.700	10.700	12.350	8 1/4	209.55	270.70	298.59	346.90
1 5/8	41.27	10.490	11.570	13.360	8 1/2	215.90	287.40	316.97	368.24
1 3/4	44.45	12.170	13.420	15.500	8 3/4	222.25	304.60	335.88	390.22
1 7/8	47.62	13.910	15.410	17.790	9	228.60	322.10	355.35	412.84
2	50.80	15.900	17.530	20.240	8 1/4	234.95	340.30	375.37	436.09
2 1/16	52.39	16.910	18.640	21.520	9 1/2	241.30	359.00	395.93	459.98
2 1/8	53.97	17.950	19.790	22.850	9 3/4	247.65	378.10	417.05	484.51
2 3/16	55.56	19.020	20.970	24.210	10	254.00	397.80	438.71	509.67
2 1/4	57.15	20.120	22.190	25.620	10 1/2	266.70	438.50	483.67	561.92
2 5/16	58.73	21.250	23.440	27.060	11	279.40	481.20	530.83	616.71
2 3/8	60.33	22.420	24.720	28.540	11 1/2	292.70	526.00	582.58	676.82
2 7/16	61.91	23.610	26.030	30.600	12	304.80	572.70	631.74	733.93
2 1/2	63.50	24.840	27.380	31.620	13	330.20	672.60	741.42	861.35
2 5/8	66.68	27.380	30.190	38.870	14	335.60	779.70	859.87	998.96
2 3/4	69.85	30.050	33.140	38.270	15	381.00	894.90	987.09	1146.77
2 7/8	73.03	32.050	36.220	41.820	16	406.40	1017.30	1123.09	1304.77
3	76.20	35.770	39.430	45.540	17	431.80	1148.50	1267.87	1472.96
3 1/8	79.30	38.810	42.790	49.410	18	457.20	1287.60	1421.42	1651.35
3 1/4	82.55	41.880	46.340	53.440	20	508.00	1589.50	1754.83	2038.70

**CHAPAS (Peso estimado por metro)**

Espessuras			Dimensões						
mm	Pol.	NºU.S.G.	Kg/m²	2mx1(Kg)	2mx1,20 (Kg)	3mx1 (Kg)	3mx1,20 (Kg)	3mx1,50 (Kg)	6mx1,5 (Kg)
0.30	-	30	2.47	4.9	5.9	7.4	8.9	11.1	22.2
0.40	1/64	28	3.30	6.6	7.9	9.9	11.9	14.8	29.6
0.50	-	26	4.12	8.2	9.9	12.4	14.8	18.5	37.0
0.60	-	24	4.94	9.9	11.9	14.8	17.8	22.5	44.4
0.80	1/32	22	6.59	13.2	15.8	19.8	23.7	29.6	59.2
1.00	-	20	8.24	16.5	19.8	24.7	29.7	37.1	74.2
1.20	-	18	9.89	19.8	23.7	29.7	35.6	44.5	89.0
1.50	1/16	16	12.36	24.7	29.7	37.1	44.5	55.6	111.2
2.00	5/64	14	16.48	33.0	39.6	49.4	59.3	74.2	148.4
2.50	-	13	20.60	41.2	49.4	61.8	74.2	92.7	185.4
2.75	7/64	12	22.66	45.3	54.4	68.0	81.6	102.0	204.0
3.00	1/8	11	24.72	49.4	59.3	74.2	89.1	111.2	222.4
3.50	9/64	10	28.84	57.7	69.2	86.5	103.8	129.8	259.6
4.00	5/32	9	32.96	65.9	79.1	98.9	118.7	148.3	296.6
4.50	11/64	8	37.08	74.2	89.0	111.2	133.5	166.8	333.6
4.76	3/16	7	39.22	78.4	94.1	117.7	141.2	176.5	353.0
5.00	-	6	41.20	82.4	98.9	123.6	148.3	185.4	370.8
5.50	7/32	5	45.32	90.6	108.8	136.0	163.2	203.9	407.8
6.00	-	4	49.44	98.9	118.7	148.3	178.0	222.5	445.0
6.35	1/4	3	52.32	104.6	125.6	157.0	188.4	235.4	470.8
7.93	5/16	0	65.34	130.7	156.8	196.0	235.2	294.0	588.0
10.00	3/8		82.40	164.8	197.8	247.2	296.6	370.8	741.6
12.70	1/2		104.65	209.3	251.2	313.9	376.7	470.9	941.8
16.00	5/8		131.84	263.7	316.4	395.5	474.6	593.3	1186.6
19.00	3/4		156.56	313.1	375.7	469.7	563.6	704.5	1409.0
22.00	7/8		181.28	362.6	435.1	543.8	652.6	815.7	1631.4
25.40	1		209.30	418.6	502.3	627.9	753.5	941.8	1883.6
32.00	1 1/4		263.68	527.4	632.8	731.0	949.2	1186.5	2373.0
38.10	1 1/2		313.94	627.9	753.5	941.8	1130.2	1412.7	2825.4
45.00	1 3/4		370.80	741.6	889.9	1112.4	1334.9	1668.6	3337.2
50.80	2		418.59	813.2	1004.6	1255.8	1506.9	1883.6	3767.2
								2410.2	4820.4

BARRAS CHATAS (Peso estimado por metro)

Largura	Espessura								
	1/8"	3/16"	1/4"	5/16"	3/8"	1/2"	5/8"	3/4"	1"
1/2"	0.320	0.470	0.630	0.790	-	-	-	-	-
5/8"	0.400	0.590	0.790	0.990	1.190	-	-	-	-
3/4"	0.470	0.710	0.950	1.185	1.420	1.900	-	-	-
7/8"	0.550	0.830	1.110	1.385	1.660	2.210	-	-	-
1"	0.630	0.950	1.270	1.581	1.900	2.530	3.160	3.790	-
1 1/4"	0.790	1.190	1.580	1.978	2.370	3.160	3.950	4.740	6.320
1 1/2"	0.950	1.430	1.900	2.371	2.850	3.790	4.740	5.690	7.590
1 3/4"	1.110	1.660	2.220	2.767	3.320	4.430	5.540	6.640	8.860
2"	1.270	1.900	2.530	3.170	3.800	5.060	6.330	7.590	10.120
2 1/4"	1.420	2.130	2.850	3.570	4.270	5.690	7.120	8.540	11.390
2 1/2"	1.580	2.370	3.160	3.950	4.740	6.330	7.910	9.490	12.650
2 3/4"	1.740	2.610	3.480	4.350	5.220	6.960	8.700	10.440	13.920
3"	1.900	2.850	3.800	4.750	5.700	7.600	9.490	11.390	15.180
3 1/4"	2.050	3.080	4.110	5.140	6.170	8.222	10.280	12.330	16.440
3 1/2"	2.210	3.320	4.420	5.530	6.640	8.860	11.070	13.280	17.710
3 3/4"	2.370	3.560	4.740	5.930	7.120	9.490	11.860	14.230	18.970
4"	2.540	3.800	5.060	6.330	7.590	10.120	12.650	15.180	20.240
4 1/4"	2.652	4.030	5.380	6.710	8.075	10.760	13.440	16.140	21.500
4 1/2"	2.850	4.270	5.690	7.110	8.540	11.390	14.230	17.080	22.770
5"	3.170	4.750	6.330	7.910	9.490	12.650	15.810	18.980	25.300
5 1/2"	3.480	5.220	6.960	8.700	10.440	13.920	17.390	20.810	27.830
6"	3.790	5.690	7.500	9.490	11.390	15.180	18.970	22.770	30.360

CHAPAS - TOLERÂNCIA DE ESPESSURA

Chapas e Bobinas Laminadas a Quente		Chapas, Tiras, Bobinas e Blanques laminados a frio	
Espessura (mm)	Tolerância Permissível (mm)	Espessura (mm)	Tolerância Permissível (mm)
$2,60 \leq e < 3,00$	$\pm 0,20$	$0,40 \leq e < 0,60$	$\pm 0,04$
$3,00 \leq e < 3,50$	$\pm 0,24$	$0,60 \leq e \leq 0,80$	$\pm 0,05$
$3,50 \leq e < 4,00$	-0,25 0,3	$0,81 \leq e \leq 1,00$	$\pm 0,06$
$4,00 \leq e < 5,00$	-0,25 0,33	$1,01 < e \leq 1,50$	$\pm 0,08$
$5,00 \leq e < 6,50$	-0,25 0,38	$1,51 < e \leq 2,50$	$\pm 0,10$
$6,50 \leq e \leq 8,00$	-0,25 0,55	$2,51 < e \leq 3,00$	$\pm 0,13$
$8,00 < e \leq 10,00$	-0,25 1,14	$3,01 < e \leq 3,50$	$\pm 0,17$
$12,00 < e \leq 19,05$	-0,25 1,4		
$20,00 < e \leq 25,00$	-0,25 1,52		
$25,40 < e < 50,80$	-0,25 1,78		
50,8	-0,25 3,2		

TUBOS RETÂNGULARES

Dimensões (mm)	Peso/mt(kg)	Dimensões (mm)	Peso/mt(kg)	Dimensões (mm)	Peso/mt(kg)	Dimensões (mm)	Peso/mt(kg)
15 x 30 x 1.00	0.676	20 x 40 x 2.00	1.840	30 x 60 x 1.20	1.680	40 x 80 x 3.00	5.519
15 x 30 x 1.20	0.811	25 x 50 x 1.00	1.090	30 x 60 x 1.50	2.090	50 x 100 x 1.50	3.520
15 x 30 x 1.50	1.014	25 x 50 x 1.20	1.300	30 x 60 x 2.00	2.760	50 x 100 x 2.00	4.670
20 x 30 x 1.00	0.779	25 x 50 x 1.50	1.610	30 x 60 x 3.00	4.070	50 x 100 x 3.00	6.930
20 x 30 x 1.20	0.929	25 x 50 x 2.00	2.130	40 x 60 x 1.20	1.879	60 x 100 x 1.50	3.773
20 x 30 x 1.50	1.150	30 x 50 x 1.00	1.251	40 x 60 x 1.50	2.337	60 x 100 x 2.00	5.006
20 x 30 x 2.00	1.508	30 x 50 x 1.20	1.496	40 x 60 x 2.00	3.091	60 x 100 x 3.00	7.554
20 x 40 x 1.00	0.932	30 x 50 x 1.50	1.858	40 x 60 x 3.00	4.561	80 x 100 x 1.50	4.270
20 x 40 x 1.20	1.113	30 x 50 x 2.00	2.453	40 x 80 x 1.50	2.816	80 x 100 x 2.00	5.949
20 x 40 x 1.50	1.380	30 x 50 x 3.00	3.604	40 x 80 x 2.00	3.729	80 x 100 x 3.00	8.527

TIPOS DE MATÉRIAS-PRIMAS EM AÇO E ELASTÔMEROS

AÇO INOX

AISI 304 ou 316: Sob consulta 304L ou 316L a partir de barras laminadas, chapas e microfundidos conforme normas ASTM 351 e 745 graus CF8 e CF8M.

INOX AISI 304: De uso geral, é indicado para quase todos os líquidos agressivos.

INOX AISI 316: Tem maior resistência à corrosão que o inox 304 a partir de 400° C ou para produtos específicos.

INOX AISI 316L: É indicado para casos que se desenvolve corrosão intercristalina em peças soldadas e não solubilizadas.

INOX 430: Indicado para construção civil e arquitetura; utensílios domésticos (pias, talheres, etc.), eletrodomésticos (geladeiras, fogões, etc.), cunhagem de moedas e balcões frigoríficos.

INOX 3CR12/ 410 D: Aplicado em transportes: carros ferroviários, ônibus, entre outros. Em usinas de açúcar e álcool coletores de bagaço, lateral das mesas alimentadoras, piso e lateral de mesas intermediárias, condutores de cana, Shut Donelly, difusores, coletores de caldo. Prédios, mobiliários urbanos, vigas para pontes, etc.

ELASTÔMEROS (Borracha - Grau Alimentício)

BUNA: Borracha de uso geral, resistente a óleos e gorduras, porém não adequada para ácidos muito fortes e elevadas temperaturas. Temperatura máxima 80° C.

EPDM: Resistente a ácidos solventes oxidantes, óleos e gorduras. Temperatura máxima 90° C.

SILICONE: Resistente a alguns ácidos, oxidantes, óleos e gorduras. Temperatura máxima 140° C.

VITON: Resistente a quase todos os líquidos agressivos. É especialmente indicado à concentrações elevadas. Temperatura máxima 250° C.

TERMINAIS E ADAPTADORES HIDRÁULICOS



Terminais Standard



Terminais Interlock



Adaptadores



Acessórios

LINHA TRANSPower

**Correias Industriais, Mangueiras PVC,
Mangueiras Hidráulicas e Mangueiras Industriais.**





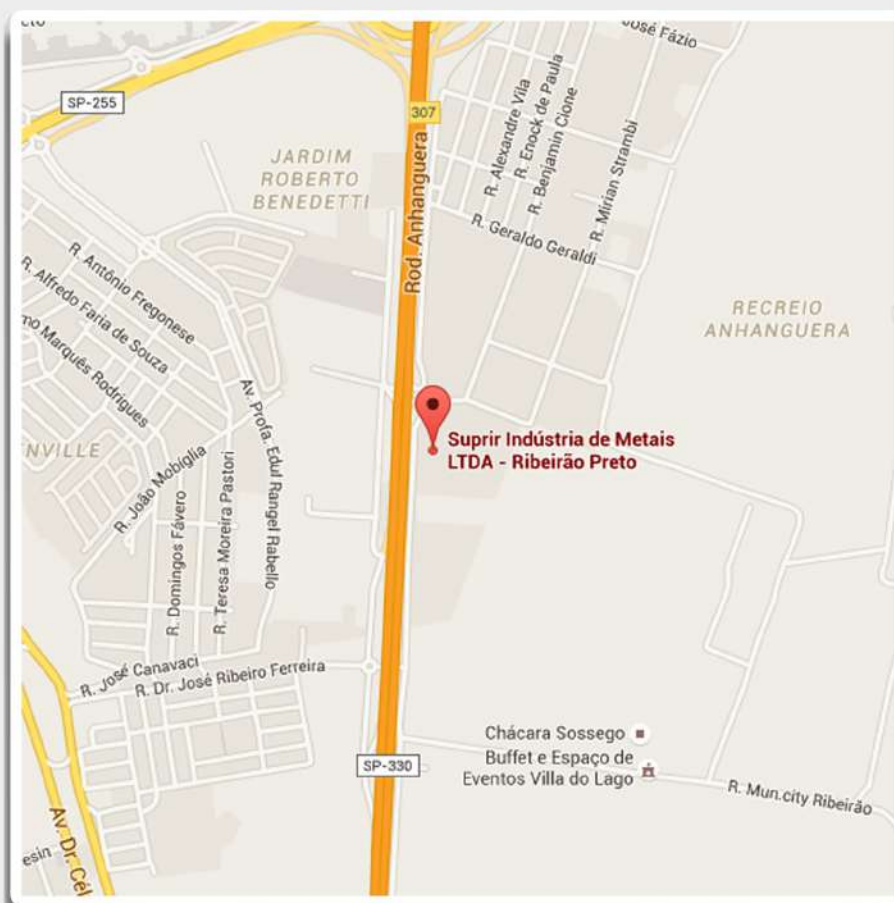
ANOTAÇÕES

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ANOTAÇÕES

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SUPRIR

Rodovia Anhanguera S/N Km 307 | CEP 14097-140 |
Ribeirão Preto | SP | Fone (16) 2102-6500 | Fax (16) 2102-6501
Suprir Indústria de Metais Ltda.

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