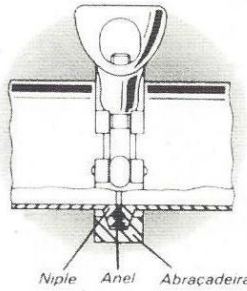


SEÇÃO I

CONEXÕES TC

- Uniãoões
- Niples
- Tampões
- Anéis



Niple Anel Abraçadeira

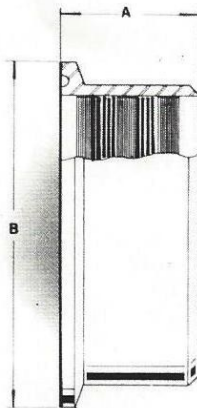
União TC • niple, anel, abraçadeira

Bitolas

pol.	1	1½	2	2½	3	4	6
mm.	25	38	51	63,5	76	102	152

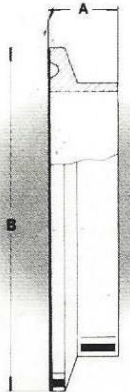
Niple Expansão TC

BITOLAS		Dimensões	
Ø		mm.	
mm.	pol.	A	B
25	1	19.0	50.4
38	1½	22.0	50.4
51	2	25.4	63.9
63,5	2½	28.6	77.4
76	3	30.0	90.9
102	4	30.0	118.9



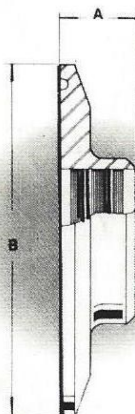
Niple Solda TC

BITOLAS		Curto		Longo	
Ø		A	B	A	B
mm.	pol.				
25	1	14.0	50.4	22	50.4
38	1½	14.0	50.4	22	50.4
51	2	14.0	63.9	22	63.9
63,5	2½	14.0	77.4	22	77.4
76	3	14.0	90.9	22	90.9
102	4	16.0	118.9	22	118.9
152	6	28	166.7	38	166.7



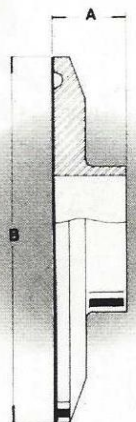
Niple de Redução Expansão TC

BITOLAS		Dimen.	
Ø		mm.	
mm.	pol.	A	B
51 x 25	2 x 1	20.0	63.9
51 x 38	2 x 1½	22.0	63.9
63,5 x 38	2½ x 1½	22.0	77.4
63,5 x 51	2½ x 2	25.0	77.4
76 x 51	3 x 2	25.0	90.9
76 x 63,5	3 x 2½	28.0	90.9



Niple de Redução Solda TC

BITOLAS		Dimen.	
Ø		mm.	
mm.	pol.	A	B
38 x 25	1½ x 1	13.0	50.4
51 x 25	2 x 1	13.0	63.9
51 x 38	2 x 1½	13.0	63.9
63,5 x 38	2½ x 1½	13.0	77.4
63,5 x 51	2½ x 2	13.0	77.4
76 x 51	3 x 2	13.0	90.9
76 x 63,5	3 x 2½	13.0	90.9



Anel de Vedação TC

BITOLAS		Dimen.		
Ø		mm.		
mm.	pol.	A	B	C
25	1	1.8	52.2	50.2
38	1½	1.8	52.2	50.2
51	2	1.8	65.8	63.7
63,5	2½	1.8	79.3	77.2
76	3	1.8	92.8	90.7
102	4	1.8	120.8	110.0
127	5	1.8	144.0	142.0
152	6	1.8	168.6	166.6

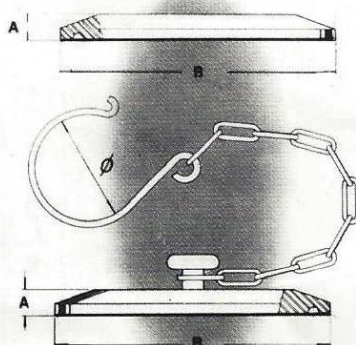


TEFLON

ELASTÔMEROS
BUNA-N
VITON
EPDM
SILICONE

Tampão TC

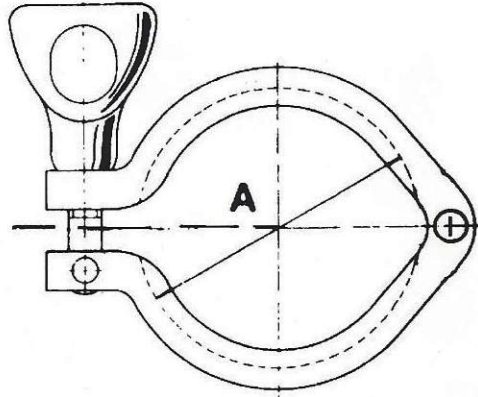
BITOLAS		Dimen.	
Ø		mm.	
mm.	pol.	A	B
25	1	6	50.4
38	1½	6	50.4
51	2	6	63.9
63,5	2½	6	77.4
76	3	6	90.9
102	4	6	118.9
152	6	11	166.7



SEÇÃO I - CONEXÕES TC

Abraçadeiras • Curvas

A Abraçadeira TC tem proteção contra escape.
A borboleta da abraçadeira aperta e alinha os niples corretamente.



Abraçadeira TC

BITOLAS Ø		Dim. mm.
mm.	pol.	A
25	1	54
38	1½	54
51	2	67
63,5	2½	81
76	3	94
102	4	122
152	6	172

Pressões de Serviço *

Modelo	Abraçadeira TC						
Bitolas pol. (mm)	1(25)	1½(38)	2(51)	2½(63,5)	3(76)	4(102)	6(152)
kPa a 20° C	3500	3500	3000	2800	2400	1400	1000
kPa a 120° C	1700	1700	1700	1400	1000	850	500

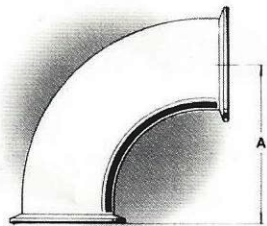
* As pressões dos serviços foram baseadas em testes, com material de vedação BUNA-N, expansão correta dos niples, ausência de pressão de choque e parafusos apertados.

$$\text{kPa} \times 0,0102 = \text{Kg}^*/\text{cm}^2$$

Bitola de 1" a 2" • espessura 1.50 mm
Bitola de 2½" a 4" • espessura 2.00 mm

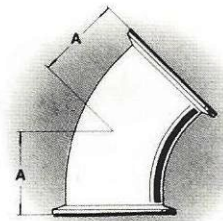
Curva 90° 2TC

BITOLAS Ø		Dim. mm.
mm.	pol.	A
25	1	51
38	1½	70
51	2	89
63,5	2½	108
76	3	127
102	4	168
152	6	267



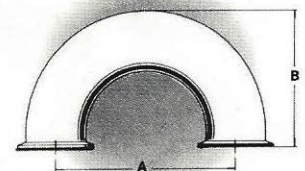
Curva 45° 2TC

BITOLAS Ø		Dim. mm.
mm.	pol.	A
25	1	28
38	1½	35
51	2	42
63,5	2½	49
76	3	57
102	4	74



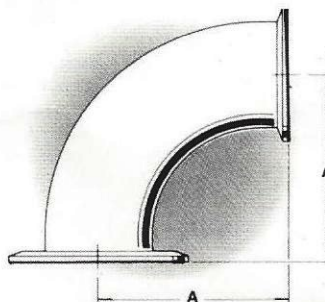
Curva 180° 2 TC

BITOLAS Ø		Dimensões mm.	
mm.	pol.	A	B
25	1	76	64
38	1½	116	89
51	2	154	115
63,5	2½	194	140
76	3	230	165
102	4	305	219
152	6	457	343



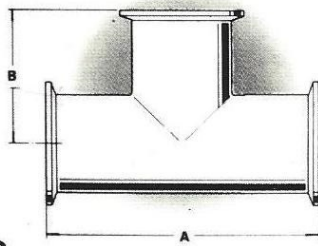
Curva de Redução 90° 2TC

BITOLAS Ø		Dim. mm.
mm.	pol.	A
38 x 25	1½ x 1	51
51 x 25	2 x 1	51
51 x 38	2 x 1½	70
63.5 x 38	2½ x 1½	70
63.5 x 51	2½ x 2	89
76 x 51	3 x 2	89
76 x 63.5	3 x 2½	108



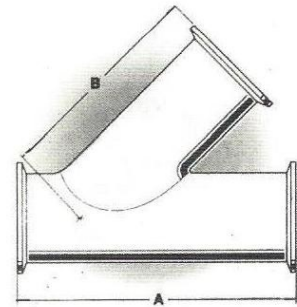
Tê Reto 3TC **Tês • Cruzetas • Reduções • Adaptadores**

BITOLAS		Dimensões	
Ø		mm.	
mm.	pol.	A	B
25	1	109.0	41.7
38	1½	142.0	53.0
51	2	180.5	65.7
63,5	2½	218.0	78.5
76	3	253.0	90.8
102	4	338.0	116.0



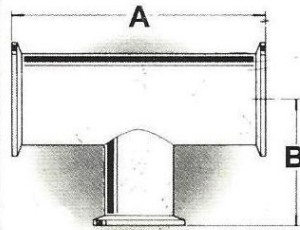
Tê a 45° 3TC

BITOLAS		Dimensões	
Ø		mm.	
mm.	pol.	A	B
25	1	178	142
38	1½	213	172
51	2	248	196
63,5	2½	280	231
76	3	299	242
102	4	357	294



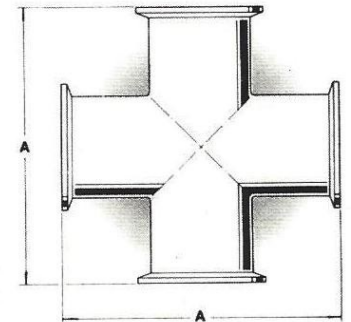
Tê Reto Redução 3TC

BITOLAS		Dimens.	
Ø		mm.	
mm.	pol.	A	B
38 x 25	1½ x 1	142.0	41.7
51 x 25	2 x 1	180.5	65.7
51 x 38	2 x 1½	180.5	65.7
63.5 x 25	2½ x 1	218.0	78.5
63.5 x 38	2½ x 1½	218.0	78.5
65.5 x 51	2½ x 2	218.0	78.5
76 x 25	3 x 1	253.0	90.8
76 x 38	3 x 1½	253.0	90.8
76 x 51	3 x 2	253.0	90.8
76 x 63.5	3 x 2½	253.0	90.8
102 x 25	4 x 1	338.0	116.0
102 x 38	4 x 1½	338.0	116.0
102 x 51	4 x 2	338.0	116.0
102 x 63.5	4 x 2½	338.0	116.0
102 x 76	4 x 3	338.0	116.0



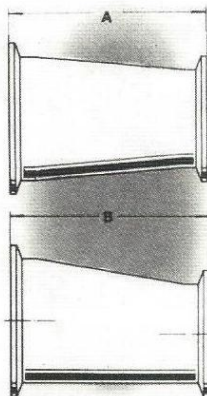
Cruzeta 4 TC

BITOLAS		Dim.
Ø		mm.
mm.	pol.	A
25	1	109
38	1½	142
51	2	180.5
63,5	2½	218.0
76	3	253.0
102	4	338.0



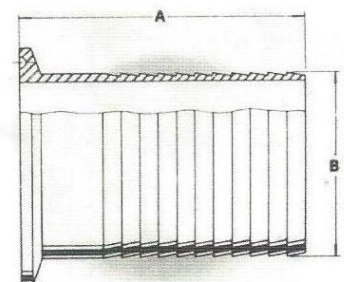
Redução Cônica 2TC

BITOLAS		Dimens.	
Ø		mm.	
mm.	pol.	A	B
38 x 25	1½ x 1	69.0	70
51 x 25	2 x 1	110.0	112
51 x 38	2 x 1½	69.0	70
63.5 x 38	2½ x 1½	110.0	112
63.5 x 51	2½ x 2	69.0	70
76 x 51	3 x 2	110.0	112
76 x 63.5	3 x 2½	69.0	70
102 x 76	4 x 3	110.0	112



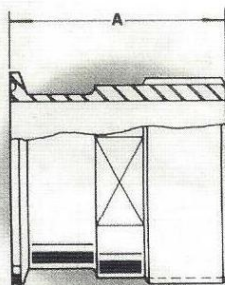
Niple Adaptador TC x Mangueira

BITOLAS		Dimensões	
Ø		mm.	
mm.	pol.	A	B
25	1	80.0	25.4
38	1½	80.0	38.1
51	2	80.0	50.8
63,5	2½	80.0	63.5
76	3	80.0	76.2
102	4	80.0	101.6



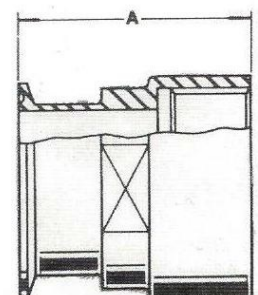
Niple Adaptador Tipo N

BITOLAS		Dim. A
Ø		mm.
mm.	pol.	BSP/NPT
25	1	53
38	1½	58
51	2	63
63,5	2½	68
76	3	73
102	4	82



Niple Adaptador Tipo L

BITOLAS		Dimensões	
Ø		mm.	
mm.	pol.	BSP	NPT
25	1	60	60
38	1½	65	63
51	2	70	64
63,5	2½	75	72
76	3	82	76
102	4	89	81

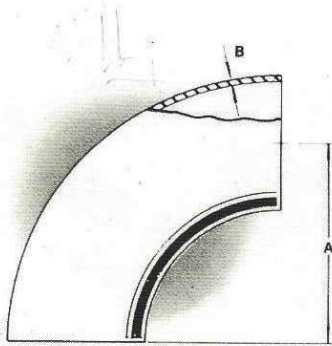


SEÇÃO II - CONEXÕES SOLDAS

- Curvas • Reduções
- Tês • Cruzetas

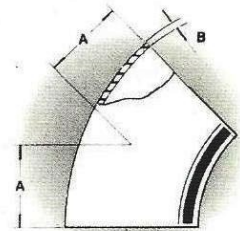
Curva 90° Solda

BITOLAS		Dimens. A	
Ø		mm.	
mm.	pol.	NORMAL	B
25	1	38	1.5
38	1½	57	1.5
51	2	76	1.5
63,5	2½	95	2.0
76	3	114	2.0
102	4	153	2.0



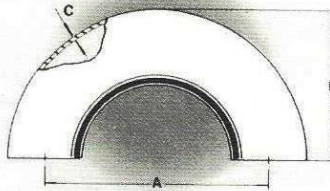
Curva 45° Solda

BITOLAS		Dimens. A	
Ø		mm.	
mm.	pol.	A	B
25	1	15	1.5
38	1½	22	1.5
51	2	29	1.5
63,5	2½	36	2.0
76	3	44	2.0
102	4	58	2.0



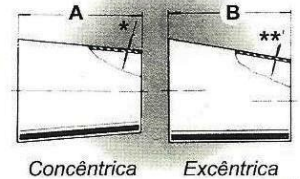
Curva 180° Solda

BITOLAS		Dimensões		
Ø		mm.		
mm.	pol.	A	B	C
25	1	76	51	1.5
38	1½	116	76	1.5
51	2	154	102	1.5
63,5	2½	194	127	2.0
76	3	230	152	2.0
102	4	305	203	2.0



Redução Cônica Solda

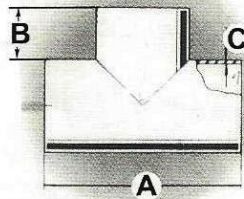
BITOLAS		Dimens. mm.	
Ø		mm.	
mm.	pol.	A	B
38 x 25	1½ x 1	41	42
51 x 25	2 x 1	82	84
51 x 38	2 x 1½	41	42
63,5 x 38	2½ x 1½	82	84
63,5 x 51	2½ x 2	41	42
76 x 51	3 x 2	82	84
76 x 63,5	3 x 2½	41	42
102 x 76	4 x 3	82	84



* Bitola de 1" a 2" parede 1,5mm
* Bitola de 2½" a 4" parede 2,0mm

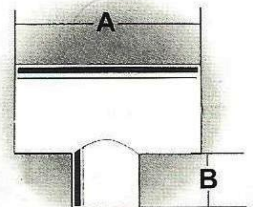
Tê Reto Solda

BITOLAS		Dimensões		
Ø		mm.		
mm.	pol.	A	B	C
25	1	81.0	27.7	1.5
38	1½	114.0	39.0	1.5
51	2	152.5	51.7	1.5
63,5	2½	190.0	64.5	2.0
76	3	225.0	76.8	2.0
102	4	310.0	102.0	2.0



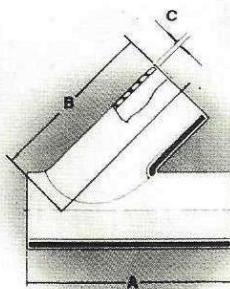
Tê Reto Redução Solda

BITOLAS		Dimens. mm.	
Ø		mm.	
mm.	pol.	A	B
38 x 25	1½ x 1	114.00	27.70
51 x 25	2 x 1	152.50	51.70
51 x 38	2 x 1½	152.50	51.70
63,5 x 25	2½ x 1	190.00	64.50
63,5 x 38	2½ x 1½	190.00	64.50
65,5 x 51	2½ x 2	190.00	64.50
76 x 25	3 x 1	225.00	76.80
76 x 38	3 x 1½	225.00	76.80
76 x 51	3 x 2	225.00	76.80
76 x 63,5	3 x 2½	225.00	76.80
102 x 25	4 x 1	310.00	102.00
102 x 38	4 x 1½	310.00	102.00
102 x 51	4 x 2	310.00	102.00
102 x 63,5	4 x 2½	310.00	102.00
102 x 76	4 x 3	310.00	102.00



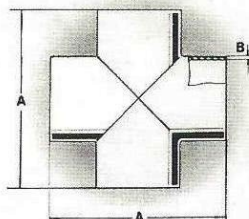
Tê a 45° Solda

BITOLAS		Dimensões		
Ø		mm.		
mm.	pol.	A	B	C
25	1	152	129	1.5
38	1½	187	159	1.5
51	2	222	183	2.0
63,5	2½	254	218	2.0
76	3	273	229	2.0
102	4	325	278	2.0



Cruzeta Solda

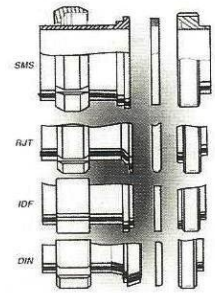
BITOLAS		Dimensões	
Ø		mm.	
mm.	pol.	A	B
25	1	81.0	1.5
38	1½	114.0	1.5
51	2	152.5	1.5
63,5	2½	190.0	2.0
76	3	225.0	2.0
102	4	310.0	2.0



Seção III - Conexões Roscadas SMS • RJT • IDF Uniãoes • Machos

União - Macho, Anel, Niple, Porca Bitola

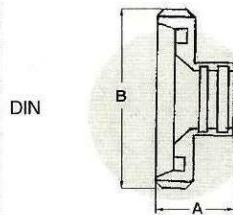
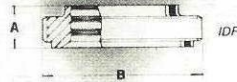
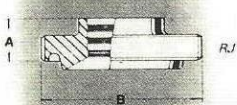
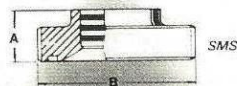
pol.	1	1½	2	2½	3	4	6
mm.	25	38	51	63.5	76	102	152



Roscas - SMS, RJT, IDF, DIN

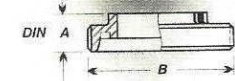
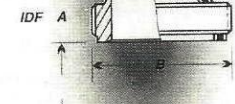
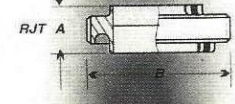
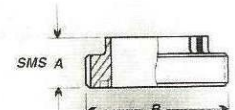
BITOLAS Ø		Dimensões (mm)		Roscas
mm.	pol.	A	B	
38 x 25	1½ x 1	25	59.8	SMS
51 x 25	2 x 1	26	69.8	
51 x 38	2 x 1½	28	69.8	
63.5 x 25	2½ x 1	30	84.8	
63.5 x 38	2½ x 1½	28	84.8	
63.5 x 51	2½ x 2	30	84.8	
76 x 38	3 x 1½	30	97.8	
76 x 51	3 x 2	31	97.8	
76 x 63.5	3 x 2½	35	97.8	RJT
38 x 25	1½ x 1	24	57.7	
51 x 25	2 x 1	28	71.6	
51 x 38	2 x 1½	28	71.6	
63.5 x 38	2½ x 1½	32	84.6	
63.5 x 51	2½ x 2	32	84.6	
76 x 51	3 x 2	32	97.6	
76 x 63.5	3 x 2½	32	97.6	
38 x 25	1½ x 1	22	50.6	IDF
51 x 25	2 x 1	26	63.6	
51 x 38	2 x 1½	22	63.6	
63.5 x 38	2½ x 1½	26	77.3	
63.5 x 51	2½ x 2	22	77.3	
76 x 51	3 x 2	26	90.6	
76 x 63.5	3 x 2½	22	90.6	
38 x 25	1½ x 1	24	64.6	
51 x 25	2 x 1	28	77.6	
51 x 38	2 x 1½	28	77.6	
63.5 x 25	2½ x 1	32	94.6	
63.5 x 38	2½ x 1½	32	94.6	
63.5 x 51	2½ x 2	32	94.6	
76 x 38	3 x 1½	38	108.5	
76 x 51	3 x 2	38	108.5	
76 x 63.5	3 x 2½	38	108.5	

Macho Redução Expansão



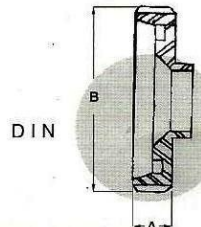
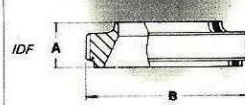
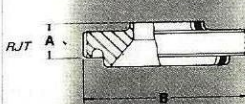
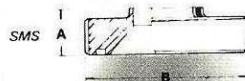
BITOLAS Ø		Dimensões (mm)		Roscas	
mm.	pol.	A	B		
25	1	15	44.8	SMS	
38	1½	20	59.8		
51	2	20	69.8		
63.5	2½	24	84.8		
76	3	24	97.8		
102	4	35	131.8		
152.0	6	31.0	178.2		
25	1	24	44.7		RJT
38	1½	24	57.7		
51	2	24	71.6		
63.5	2½	24	84.6		
76	3	24	97.6		
102	4	24	123.6		
152	6	24	174		
25	1	21	36.6	IDF	
38	1½	21	50.6		
51	2	21	63.6		
63.5	2½	21	77.3		
76	3	21	90.7		
102	4	21	118.0		
13	½	20	27.8		DIN
19	¾	20	33.8		
25	1	20	51.7		
38	1½	20	64.6		
51	2	20	77.6		
63.5	2½	26	94.6		
76	3	30	109.5		
102	4	30	128.8		
127	5	46	158.8		
152	6	46	187		

Macho Solda



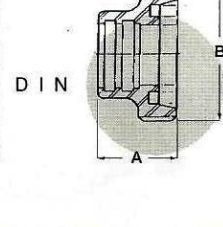
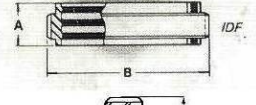
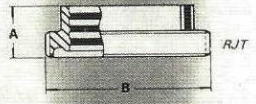
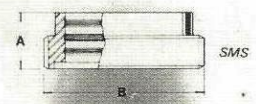
BITOLAS Ø		Dimensões (mm)		Roscas
mm.	pol.	A	B	
38 x 25	1½ x 1	24	59.8	SMS
51 x 25	2 x 1	24	69.8	
51 x 38	2 x 1½	24	69.8	
63.5 x 25	2½ x 1	24	84.8	
63.5 x 38	2½ x 1½	24	84.8	
63.5 x 51	2½ x 2	24	84.8	
76 x 38	3 x 1½	24	97.8	
76 x 51	3 x 2	24	97.8	
76 x 63.5	3 x 2½	24	97.8	RJT
38 x 25	1½ x 1	24	57.7	
51 x 25	2 x 1	24	71.6	
51 x 38	2 x 1½	24	71.6	
63.5 x 38	2½ x 1½	24	84.6	
63.5 x 51	2½ x 2	24	84.6	
76 x 51	3 x 2	24	97.6	
76 x 63.5	3 x 2½	24	97.6	
38 x 25	1½ x 1	21	50.6	IDF
51 x 25	2 x 1	21	63.6	
51 x 38	2 x 1½	21	63.6	
63.5 x 38	2½ x 1½	21	77.3	
63.5 x 51	2½ x 2	21	77.3	
76 x 51	3 x 2	21	90.6	
76 x 63.5	3 x 2½	21	90.6	
38 x 25	1½ x 1	20	64.6	
51 x 25	2 x 1	20	77.6	
51 x 38	2 x 1½	20	77.6	
63.5 x 25	2½ x 1	22	94.6	
63.5 x 38	2½ x 1½	22	94.6	
63.5 x 51	2½ x 2	22	94.6	
76 x 38	3 x 1½	26	108.5	
76 x 51	3 x 2	26	108.5	
76 x 63.5	3 x 2½	26	108.5	

Macho Redução Solda



BITOLAS Ø		Dimensões (mm)		Roscas	
mm.	pol.	A	B		
25	1	20	39.8	SMS	
38	1½	23	59.8		
51	2	25	69.8		
63.5	2½	30	84.8		
76	3	35	97.8		
102	4	45	131.8		
25	1	20	44.7		RJT
38	1½	24	57.7		
51	2	28	71.6		
63.5	2½	32	84.6		
76	3	32	97.6		
25	1	19.5	36.6	IDF	
38	1½	20	50.6		
51	2	20	63.6		
63.5	2½	25	77.3		
76	3	30	90.6		
25	1	29	51.6		DIN
38	1½	33	64.6		
51	2	35	77.6		
63.5	2½	38	94.6		
76	3	42	108.5		
102	4	54	129.8		

Macho Expansão

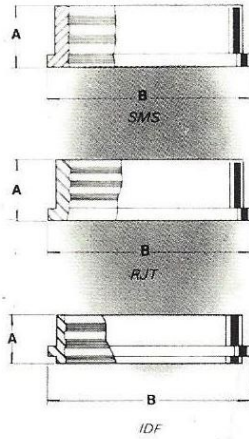


Seção III • Conexões Roscadas

• Nipples • Porcas • Tampões • Anéis

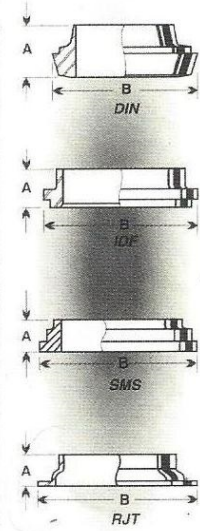
BITOLAS Ø		Dim. (mm)		Roscas
mm.	pol.	A	B	
25	1	17	35.5	SMS
38	1½	20	55	
51	2	20	65	
63.5	2½	25	80	
76	3	30	93	
102	4	40	133	
25	1	20	41	RJT
38	1½	24	54	
51	2	28	67	
63.5	2½	32	79	
76	3	32	92	
25	1	17	34	IDF
38	1½	20	47	
51	2	20	60	
63.5	2½	25	74	
76	3	30	87	
102	4	40	133	

Niple Expansão



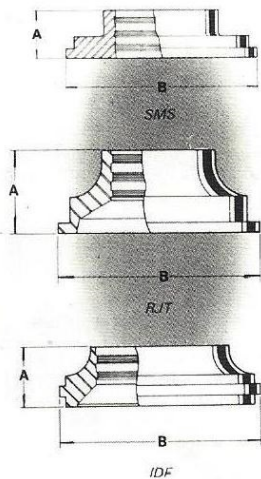
BITOLAS Ø		Dim. (mm)		Roscas
mm.	pol.	A	B	
25	1	7.5	35.5	SMS
38	1½	9	55	
51	2	9	65	
63.5	2½	10	80	
76	3	10	93	
102	4	12	127	
152	6	15	168	
25	1	13	41	RJT
38	1½	13	54	
51	2	13	68	
63.5	2½	13	79	
76	3	13	92	
102	4	25	118	
25	1	15	34	IDF
38	1½	15	47	
51	2	15	60	
63.5	2½	15	74	
76	3	15	87	
102	4	15	114	
25	1	22	44	DIN
38	1½	26	56	
51	2	28	68	
63.5	2½	32	86	
76	3	37	100	
102	4	44	121	
152	6	45	168	

Niple Solda



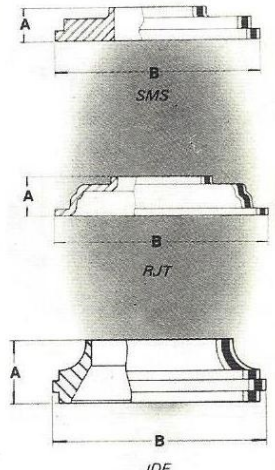
Niple de Redução Expansão

BITOLAS Ø		Dimensões (mm)		Roscas
mm.	pol.	A	B	
38 x 25	1½ x 1	17	55	SMS
51 x 25	2 x 1	17	65	
51 x 38	2 x 1½	20	65	
63.5 x 38	2½ x 1½	20	80	
63.5 x 51	2½ x 2	20	80	
76 x 51	3 x 2	20	93	
76 x 63.5	3 x 2½	25	93	
38 x 25	1½ x 1	24	54	RJT
51 x 25	2 x 1	30	67	
51 x 38	2 x 1½	30	67	
63.5 x 38	2½ x 1½	32	79	
63.5 x 51	2½ x 2	32	79	
76 x 51	3 x 2	32	92	
76 x 63.5	3 x 2½	32	92	
38 x 25	1½ x 1	19	47	IDF
51 x 25	2 x 1	19	60	
51 x 38	2 x 1½	19	60	
63.5 x 38	2½ x 1½	25	74	
63.5 x 51	2½ x 2	25	74	
76 x 51	3 x 2	30	87	
76 x 63.5	3 x 2½	30	87	



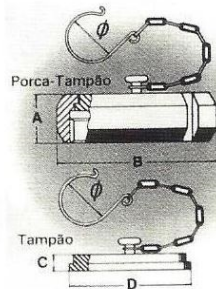
Niple de Redução Solda

BITOLAS Ø		Dimensões (mm)		Roscas
mm.	pol.	A	B	
38 x 25	1½ x 1	13	55	SMS
51 x 25	2 x 1	13	65	
51 x 38	2 x 1½	13	65	
63.5 x 38	2½ x 1½	13	80	
63.5 x 51	2½ x 2	13	80	
76 x 51	3 x 2	13	93	
76 x 63.5	3 x 2½	13	93	
38 x 25	1½ x 1	13	54	RJT
51 x 25	2 x 1	13	68	
51 x 38	2 x 1½	13	68	
63.5 x 38	2½ x 1½	13	80	
63.5 x 51	2½ x 2	13	80	
76 x 51	3 x 2	13	93	
76 x 63.5	3 x 2½	13	93	
38 x 25	1½ x 1	19	47	IDF
51 x 25	2 x 1	19	60	
51 x 38	2 x 1½	19	60	
63.5 x 38	2½ x 1½	25	74	
63.5 x 51	2½ x 2	25	74	
76 x 51	3 x 2	24	87	
76 x 63.5	3 x 2½	24	87	



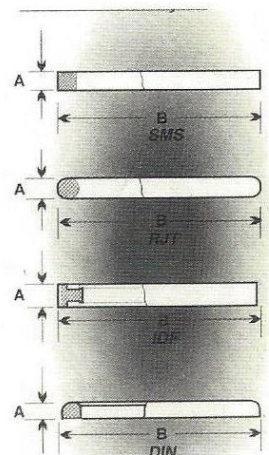
Porca - Porca Tampão - Tampão

BITOLAS Ø		Dimensões (mm)				Roscas
mm.	pol.	A	B	C	D	
25	1	20	51	3	35.5	SMS
38	1½	25	74	4	55	
51	2	26	84	4	65	
63.5	2½	30	100	4	80	
76	3	32	114	5	93	
102	4	45	154	6	127	
152	6	40	210	16	168	
25	1	22.2	59	10	42	RJT
38	1½	22.2	72	10	54	
51	2	22.2	86	10	68	
63.5	2½	22.2	99	10	80	
76	3	22.2	112	10	93	
102	4	22.2	136	12	117	
152	6	27	191	13	167	
25	1	30	48	10	34	IDF
38	1½	30	64	10	47	
51	2	30	77	10	60	
63.5	2½	30	91	10	74	
76	3	30	106	10	87	
102	4	30	135	10	101	
25	1	21	63	13	44	DIN
38	1½	21	78	13	56	
51	2	22	92	14	68	
63.5	2½	25	112	16	86	
76	3	29	127	16	100	
102	4	31	148	20	121	
152	6	40	210	16	168	



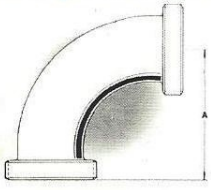
Anel de Vedação

BITOLAS Ø		Dimensões (mm)		Roscas
mm.	pol.	A	B	
25	1	5.5	32.0	SMS
38	1½	5.5	48.0	
51	2	5.5	61.0	
63.5	2½	5.5	73.5	
76	3	5.5	86.0	
102	4	5.5	113.0	
25	1	6.0	39.2	RJT
38	1½	6.0	51.8	
51	2	6.0	64.8	
63.5	2½	6.0	77.3	
76	3	6.0	88.8	
102	4	6.0	115.7	
25	1	7.0	32.5	IDF
38	1½	7.0	46.0	
51	2	7.0	59.5	
63.5	2½	7.0	73.0	
76	3	7.0	86.5	
102	4	7.0	111.0	
25	1	5.0	40.0	DIN
38	1½	5.0	52.0	
51	2	5.0	64.0	
63.5	2½	5.0	81.0	
76	3	5.0	95.0	
102	4	5.0	114.0	



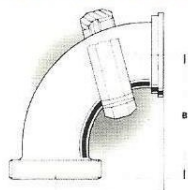
Elastômeros:
(BUNA-N, VITON, EPDM)
Silicone
Teflon

Seção III • Conexões Roscadas • Curvas



Curva 90° 2M
(2 Machos)

BITOLAS Ø		Dim. (mm)		Roscas
mm.	pol.	A	B	
25	1	53		SMS
38	1½	77		
51	2	96		
63.5	2½	119		
76	3	138		
102	4	188		
25	1	65		RJT
38	1½	84		
51	2	103		
63.5	2½	122		
76	3	141		
102	4	180		
25	1	59		IDF
38	1½	78		
51	2	97		
63.5	2½	116		
76	3	135		
102	4	174		
25	1	60		DIN
38	1½	79		
51	2	98		
63.5	2½	120		
76	3	144		
102	4	183		

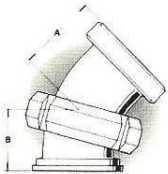
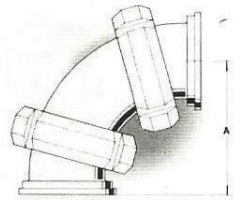


Curva 90° M-NP (Macho x Niple-Porca)

BITOLAS Ø		Dimensões (mm)		Roscas
mm.	pol.	A	B	
25	1	45	53	SMS
38	1½	66	77	
51	2	85	96	
63.5	2½	104	119	
76	3	124	138	
102	4	165	188	
25	1	51	65	RJT
38	1½	70	84	
51	2	89	103	
63.5	2½	108	122	
76	3	127	141	
102	4	178	180	
25	1	50	59	IDF
38	1½	69	78	
51	2	88	97	
63.5	2½	107	116	
76	3	126	135	
102	4	174	174	
25	1	56	60	DIN
38	1½	75	79	
51	2	96	98	
63.5	2½	115	120	
76	3	134	144	
102	4	176	183	

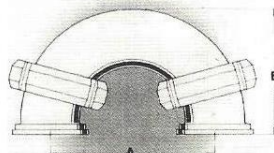
Curva 90° 2NP
(2 Niples Porcas)

BITOLAS Ø		Dim. (mm)		Roscas
mm.	pol.	A	B	
25	1	45		SMS
38	1½	66		
51	2	85		
63.5	2½	104		
76	3	124		
102	4	165		
25	1	51		RJT
38	1½	70		
51	2	89		
63.5	2½	108		
76	3	127		
102	4	178		
25	1	50		IDF
38	1½	69		
51	2	88		
63.5	2½	107		
76	3	126		
102	4	174		
25	1	56		DIN
38	1½	75		
51	2	96		
63.5	2½	115		
76	3	134		
102	4	176		



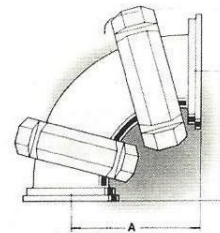
Curva 45° M-NP
(Macho x Niple-Porca)

BITOLAS Ø		Dimensões (mm)		Roscas
mm.	pol.	A	B	
25	1	30	22	SMS
38	1½	42	31	
51	2	49	38	
63.5	2½	60	45	
76	3	68	54	
102	4	93	70	
25	1	42	28	RJT
38	1½	49	35	
51	2	56	42	
63.5	2½	63	49	
76	3	71	57	
102	4	90	83	
25	1	36	27	IDF
38	1½	43	34	
51	2	50	41	
63.5	2½	57	48	
76	3	65	56	
102	4	79	79	
25	1	37	33	DIN
38	1½	44	40	
51	2	51	49	
63.5	2½	61	56	
76	3	74	64	
102	4	88	81	



Curva 180° 2 NP
(2 Niples-Porcas)

BITOLAS Ø		Dimensões (mm)		Roscas
mm.	pol.	A	B	
25	1	76	58	SMS
38	1½	116	79	
51	2	154	111	
63.5	2½	194	136	
76	3	230	162	
102	4	305	215	
25	1	76	64	RJT
38	1½	116	89	
51	2	154	115	
63.5	2½	194	140	
76	3	230	165	
102	4	305	228	
25	1	76	63	IDF
38	1½	116	88	
51	2	154	114	
63.5	2½	194	139	
76	3	230	164	
102	4	305	224	
25	1	76	69	DIN
38	1½	116	94	
51	2	154	122	
63.5	2½	194	147	
76	3	230	172	
102	4	305	226	



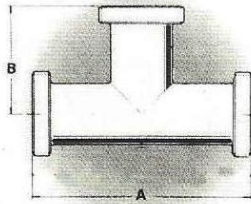
Curva de Redução 90° 2NP
(2 Niples-Porcas)

BITOLAS Ø		Dimensões (mm)		Roscas
mm.	pol.	A	B	
38 x 25	1½ x 1	51	45	SMS
51 x 25	2 x 1	51	45	
51 x 38	2 x 1½	70	66	
63.5 x 38	2½ x 1½	70	66	
63.5 x 51	2½ x 2	89	85	
76 x 51	3 x 2	89	85	
76 x 63.5	3 x 2½	108	104	
38 x 25	1½ x 1	51	51	RJT
51 x 25	2 x 1	51	51	
51 x 38	2 x 1½	70	70	
63.5 x 38	2½ x 1½	70	70	
63.5 x 51	2½ x 2	89	89	
76 x 51	3 x 2	89	89	
76 x 63.5	3 x 2½	108	108	
38 x 25	1½ x 1	57	50	IDF
51 x 25	2 x 1	57	50	
51 x 38	2 x 1½	76	69	
63.5 x 38	2½ x 1½	82	69	
63.5 x 51	2½ x 2	101	84	
76 x 51	3 x 2	100	84	
76 x 63.5	3 x 2½	119	107	
38 x 25	1½ x 1	58	56	DIN
51 x 25	2 x 1	58	56	
51 x 38	2 x 1½	77	75	
63.5 x 38	2½ x 1½	77	75	
63.5 x 51	2½ x 2	96	96	
76 x 51	3 x 2	96	96	
76 x 63.5	3 x 2½	115	115	

Seção III
• Conexões Roscadas
• Tês • Cruzetas

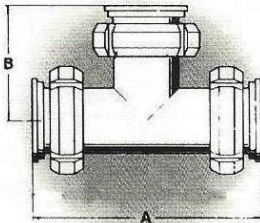
BITOLAS Ø		Dim. (mm)		Roscas
mm.	pol.	A	B	
25	1	121.0	42.7	SMS
38	1½	154	59.0	
51	2	191.5	71.7	
63.5	2½	238.0	88.5	
76	3	273	100.8	
102	4	380	137.0	RJT
25	1	129.0	51.7	
38	1½	162.0	63.0	
51	2	200.5	75.7	
63.5	2½	238.0	88.5	
76	3	273.0	100.8	
102	4	358.0	126.0	IDF
25	1	123.0	48.7	
38	1½	156.0	60.0	
51	2	194.5	72.7	
63.5	2½	235.0	85.5	
76	3	267.0	97.8	
102	4	352.0	123.0	DIN
25	1	125.0	49.0	
38	1½	158.0	61.0	
51	2	196.5	73.7	
63.5	2½	240.0	89.5	
76	3	285.0	106.8	
102	4	370.0	132.0	

Tê Reto 3M (3 Machos)



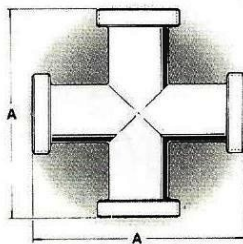
BITOLAS Ø		Dim. (mm)		Roscas
mm.	pol.	A	B	
25	1	96.0	81.5	SMS
38	1½	132.0	123.0	
51	2	170.5	161.5	
63.5	2½	208.0	199	
76	3	245.0	235	
102	4	334.0	322	RJT
25	1	107.0	94	
38	1½	140.0	127	
51	2	178.0	165.5	
63.5	2½	216.0	203	
76	3	251.0	238	
102	4	360.0	335	IDF
25	1	111	42.7	
38	1½	144	54	
51	2	182	66.7	
63.5	2½	220	79.5	
76	3	255	91.8	
102	4	340	117	DIN
25	1	125.0	103	
38	1½	166.0	140	
51	2	208.0	180.5	
63.5	2½	252.0	222	
76	3	299.0	262	
102	4	398.0	354	

Tê Reto 3 NP
(3 Nipples-Porcas)



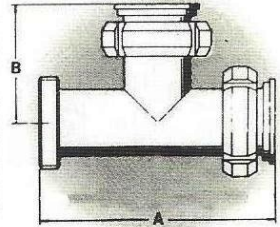
BITOLAS Ø		Dim. (mm)		Roscas
mm.	pol.	A	B	
25	1	121.0		SMS
38	1½	154.0		
51	2	191.5		
63.5	2½	238.0		
76	3	273.0		
102	4	380.0		RJT
25	1	129.0		
38	1½	162.0		
51	2	200.5		
63.5	2½	238.0		
76	3	273.0		
102	4	358.0		IDF
25	1	123.0		
38	1½	156.0		
51	2	194.5		
63.5	2½	235.0		
76	3	267.0		
102	4	352.0		DIN
25	1	125.0		
38	1½	158.0		
51	2	196.5		
63.5	2½	240.0		
76	3	285.0		
102	4	370.0		

Cruzeta 4M
(4 Machos)
Prolongada



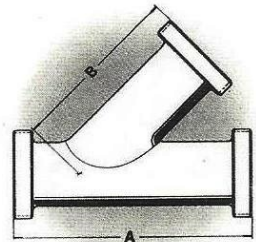
BITOLAS Ø		Dim. (mm)		Roscas
mm.	pol.	A	B	
25	1	103.5	81.5	SMS
38	1½	143.0	123.0	
51	2	181.5	161.5	
63.5	2½	223.0	199.0	
76	3	259.0	235.0	
102	4	357.0	322.0	RJT
25	1	118.0	94	
38	1½	151.0	127.0	
51	2	189.5	165.5	
63.5	2½	227.0	203.0	
76	3	262.0	238.0	
102	4	359.0	335.0	IDF
25	1	117	42.7	
38	1½	150	54.0	
51	2	188.5	66.7	
63.5	2½	226.0	79.5	
76	3	261.0	91.8	
102	4	346.0	117.0	DIN
25	1	125.0	103.0	
38	1½	162.0	140.0	
51	2	202.5	180.5	
63.5	2½	247.0	222.0	
76	3	292.0	262.0	
102	4	384.0	354.0	

Tê Reto M-NP-NP
(Macho x Niple- porca
x Niple Porca)



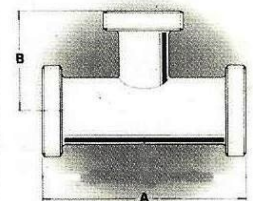
BITOLAS Ø		Dim. (mm)		Roscas
mm.	pol.	A	B	
25	1	121.0	144	SMS
38	1½	154.0	179	
51	2	192.5	203	
63.5	2½	238.0	242	
76	3	273.0	253	
102	4	380.0	313	RJT
25	1	129.0	156	
38	1½	162.0	186	
51	2	200.5	210	
63.5	2½	238.0	245	
76	3	273.0	256	
102	4	358.0	310	IDF
25	1	123.0	150	
38	1½	156.0	180	
51	2	194.5	204	
63.5	2½	235.0	239	
76	3	267.0	250	
102	4	352.0	299	DIN
25	1	125.0	151	
38	1½	158.0	181	
51	2	196.5	205	
63.5	2½	240.0	243	
76	3	285.0	259	
102	4	370.0	308	

Tê a 45° 3M
(3 Machos)



BITOLAS Ø		Dimensões (mm)		Roscas
mm.	pol.	A	B	
38 x 25	1½ x 1	154.0	42.7	SMS
51 x 25	2 x 1	192.5	71.7	
51 x 38	2 x 1½	192.5	71.7	
63.5 x 38	2½ x 1½	238.0	84.5	
63.5 x 51	2½ x 2	238.0	84.5	
76 x 51	3 x 2	273.0	96.8	
76 x 63.5	3 x 2½	273.0	100.8	
102 x 76	4 x 3	380.0	137.0	RJT
38 x 25	1½ x 1	162.0	51.7	
51 x 25	2 x 1	200.5	75.7	
51 x 38	2 x 1½	200.5	75.7	
63.5 x 38	2½ x 1½	238.0	88.5	
63.5 x 51	2½ x 2	238.0	88.5	
76 x 51	3 x 2	273.0	100.8	
76 x 63.5	3 x 2½	273.0	100.8	
102 x 76	4 x 3	358	126.0	IDF
38 x 25	1½ x 1	156.0	48.7	
51 x 25	2 x 1	194.5	53.8	
51 x 38	2 x 1½	194.5	53.8	
63.5 x 38	2½ x 1½	235.0	85.5	
63.5 x 51	2½ x 2	235.0	85.5	
76 x 51	3 x 2	267.0	97.8	
76 x 63.5	3 x 2½	267.0	97.8	
102 x 76	4 x 3	352.0	123.0	DIN
38 x 25	1½ x 1	158.0	49.7	
51 x 25	2 x 1	196.5	73.7	
51 x 38	2 x 1½	196.5	73.7	
63.5 x 38	2½ x 1½	240.0	89.5	
63.5 x 51	2½ x 2	240.0	89.5	
76 x 51	3 x 2	285.0	98.8	
76 x 63.5	3 x 2½	285.0	98.8	
102 x 76	4 x 3	370.0	132.0	

Tê Reto de
Redução 3M
(3 Machos)

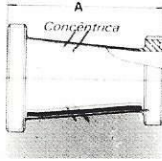


Seção III - Conexões Roscadas

- Reduções
- Adaptadores

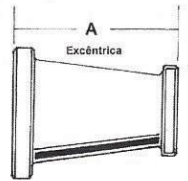
Redução Cônica 2M (2 Machos)

BITOLAS Ø		Dimensões A mm.			
mm.	pol.	SMS	RJT	IDF	DIN
38 x 25	1½ x 1	76	89	83	85
51 x 25	2 x 1	117	130	124	126
51 x 38	2 x 1½	81	89	83	85
63.5 x 38	2½ x 1½	126	130	124	129
63.5 x 51	2½ x 2	85	89	83	88
76 x 51	3 x 2	126	130	124	137
76 x 63.5	3 x 2½	89	89	83	96
102 x 76	4 x 3	141	130	124	142



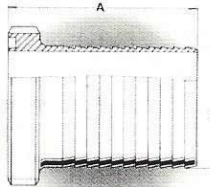
Redução Cônica 2M (2 Machos)

BITOLAS Ø		Dimensões A mm.			
mm.	pol.	SMS	RJT	IDF	DIN
38 x 25	1½ x 1	77	90	84	86
51 x 25	2 x 1	119	132	126	128
51 x 38	2 x 1½	82	90	84	86
63.5 x 38	2½ x 1½	128	132	126	131
63.5 x 51	2½ x 2	86	90	84	89
76 x 51	3 x 2	128	132	130	139
76 x 63.5	3 x 2½	90	90	84	97
102 x 76	4 x 3	143	132	126	144



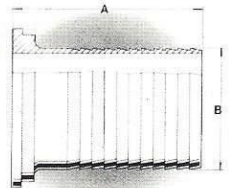
Macho Adaptador x Mangueira

BITOLAS Ø		Dimensões mm				
mm.	pol.	A				B
		SMS	RJT	IDF	DIN	
25	1	95	104	101	102	25
38	1½	100	104	101	102	38
51	2	100	104	101	102	51
63.5	2½	104	104	101	105	63
76	3	104	104	101	110	76
102	4	115	104	101	110	102



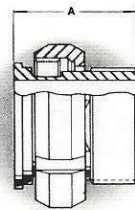
Niple Adaptador x Mangueira

BITOLAS Ø		Dimensões mm				
mm.	pol.	A				B
		SMS	RJT	IDF	DIN	
25	1	87.5	93	95	102	25
38	1½	89	93	95	106	38
51	2	89	93	95	108	51
63.5	2½	89	93	95	112	63
76	3	90	93	95	117	76
102	4	92	105	95	124	102



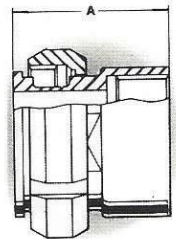
Niple - Porca Adaptador Tipo N SMS / RJT / IDF x BSP / NPT

BITOLAS Ø		Dimensões mm			
mm.	pol.	A			
		SMS	RJT	IDF	DIN
25	1	57	53	70	58
38	1½	65	58	75	63
51	2	70	63	80	70
63.5	2½	80	68	85	75
76	3	90	73	90	80



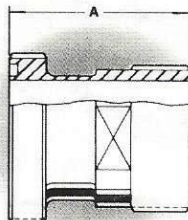
Niple - Porca Adaptador Tipo L SMS / RJT / IDF x BSP / NPT

BITOLAS Ø		Dimensões A mm							
mm.	pol.	SMS		RJT		IDF		DIN	
		BSP	NPT	BSP	NPT	BSP	NPT	BSP	NPT
25	1	64	64	60	60	68	68	65	65
38	1½	72	70	65	63	82	80	70	68
51	2	77	71	70	64	87	81	77	71
63.5	2½	87	84	75	72	92	89	82	79
76	3	97	93	80	76	97	93	87	83



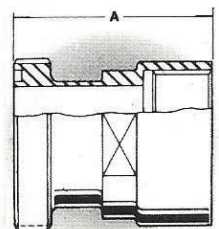
Macho Adaptador Tipo N SMS / RJT / IDF x BSP / NPT

BITOLAS Ø		Dimensões mm			
mm.	pol.	A			
		SMS	RJT	IDF	DIN
25	1	55	67	61	62
38	1½	65	72	66	67
51	2	70	77	71	72
63.5	2½	79	82	76	80
76	3	84	87	81	90



Macho Adaptador Tipo L SMS / RJT / IDF x BSP / NPT

BITOLAS Ø		Dimensões A mm							
mm.	pol.	SMS		RJT		IDF		DIN	
		BSP	NPT	BSP	NPT	BSP	NPT	BSP	NPT
25	1	62	62	74	74	68	68	69	69
38	1½	72	70	79	77	73	71	74	72
51	2	77	71	84	78	78	72	79	73
63.5	2½	86	83	89	86	83	80	87	84
76	3	91	87	94	90	88	84	97	108

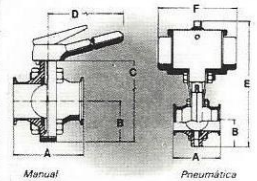


Seção IV - Válvulas

• Borboleta • Macho • Pneumática

Válvula Borboleta

BITOLAS		Dimensões A (mm)										Dimensões (mm)				
Ø		TC	SMS			RJT		IDF		DIN		B	C	D	E	F
mm.	pol.	2TC	2M	M-NP	2M	M-NP	2M	M-NP	2M	M-NP	B	C	D	E	F	
25	1	72	76	70	94	83	88	82	90	88	35.3	72	150	220	160	
38	1½	72	86	81	94	83	88	82	90	88	41.3	85	150	240	160	
51	2	74	88	83	96	85	90	84	92	90	49.5	100	150	250	160	
63.5	2½	78	100	91	100	89	94	88	102	92	59.2	121.8	180	260	160	
76	3	98	120	111	120	110	114	108	132	124	64.8	133	180	300	160	
102	4	102	142	121	120	110	114	108	132	124	75.2	154	180	320	160	
127	5	-	-	-	-	-	-	-	164	138	92.4	185	250	-	-	
152	6	132	142	121	120	110	-	-	172	152	100.3	210	250	400	160	

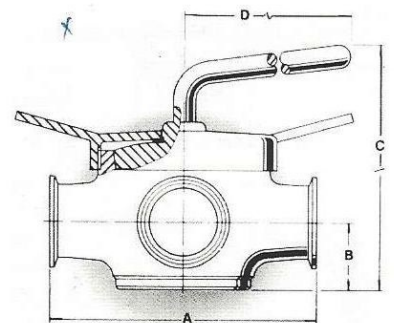


Vedações - EPDM - Viton - Silicone

Opções: Fim de Curso - Solenóide

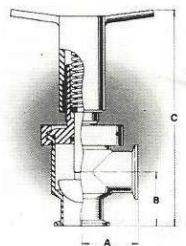
Válvula Macho

BITOLAS		Dimensões A (mm)										Dimensões (mm)		
Ø		TC	SMS			RJT		IDF		DIN		B	C	D
mm.	pol.	2TC	2M	M-NP	2M	M-NP	2M	M-NP	2M	M-NP	B	C	D	
		3TC	3M	2M-NP	3M	2M-NP	3M	2M-NP	3M	2M-NP				
25	1	125	130	130	152	140	142	142	144	140	30	145	150	
38	1½	150	165	165	178	165	165	165	169	165	40	160	150	
51	2	185	200	200	213	200	200	200	204	202	48	200	200	



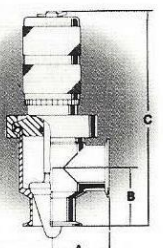
Válvula de Segurança

BITOLAS		Dimensões A (mm)					Dimensões B (mm)					Dimensões C (mm)				
Ø		TC	SMS	RJT	IDF	DIN	TC	SMS	RJT	IDF	DIN	TC	SMS	RJT	IDF	DIN
mm.	pol.	2TC	2M	2M	2M	2M	2TC	2M	2M	2M	2M	2TC	2M	2M	2M	2M
25	1	51	53	65	59	60	51	53	65	59	60	233	235	247	241	242
38	1½	51	58	65	59	60	51	58	65	59	60	233	240	247	241	242
51	2	64	71	78	72	73	50	57	64	58	59	238	245	252	246	247
63.5	2½	77	88	91	85	89	66	77	80	74	78	273	284	287	281	285
76	3	83	94	97	91	100	80	91	94	88	97	308	319	322	316	325
102	4	105	124	121	110	119	105	124	121	110	119	406	425	422	411	420



Válvula de Regulagem de Fluxo (Micrométrica)

BITOLAS		Dimensões A (mm)					Dimensões B (mm)					Dimensões C (mm)				
Ø		TC	SMS	RJT	IDF	DIN	TC	SMS	RJT	IDF	DIN	TC	SMS	RJT	IDF	DIN
mm.	pol.	2TC	2M	2M	2M	2M	2TC	2M	2M	2M	2M	2TC	2M	2M	2M	2M
25	1	51	53	65	59	60	51	53	65	59	60	200	202	214	208	209
38	1½	51	58	65	59	60	51	58	65	59	60	206	213	220	214	209
51	2	64	71	78	72	73	50	57	64	58	59	210	217	224	218	219
63.5	2½	77	88	91	85	89	66	77	80	74	78	377	388	391	385	389
76	3	83	94	97	91	100	80	91	94	88	97	411	422	425	419	428
102	4	105	124	121	110	119	105	124	121	110	119	479	498	495	484	493



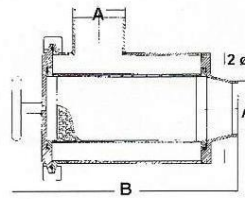
Seção IV - Válvulas

- Borboleta
- Macho
- Pneumática

Pressão de Abertura

Rosca Macho BSP ou NPT 1/2" ou 3/4"
kPa x 0,0102 = Kg*/cm²

BITOLAS Ø		Tipo Mola	Pres. kPa
mm	pol.		
25	1	1	980
		2	2450
38	1½	1	640
		2	1450
51	2	1	250
		2	640
63.5	2½	3	500
76	3	3	350
102	4	3	200



Filtro de Linha

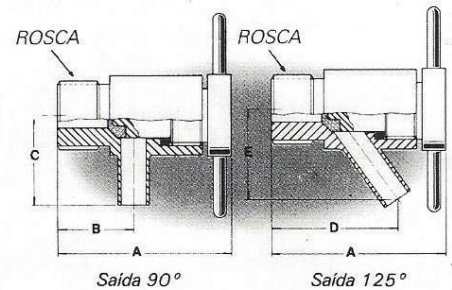
Bitolas Ø		Dimensões mm		
mm	pol.	A	B	C
25	1	25	367	102
38	1½	38	367	102
51	2	51	367	102
63.5	2½	63.5	367	152
76	3	76	367	152
102	4	102	367	152

- Amostra
- Retenção
- Quebra Vácuo

Válvulas de Amostra

Dimensões (mm) M BSP				
A	B	C	D	E
65	29	35	48	35

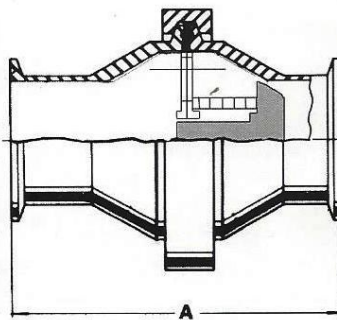
Na entrada desta válvula podem ser conectados niples adaptadores tipo L, com rosca sanitária.



Tipo Torneira (Torneira de Prova)

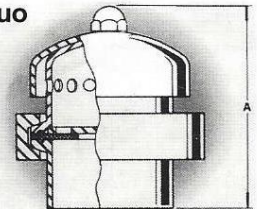
Válvula de Retenção

BITOLAS Ø		Dimensões A (mm.)				
mm.	pol.	TC	SMS	RJT	IDF	DIN
		2TC	2M	2M	2M	2M
25	1	104	108	132	120	122
38	1½	117	131	145	133	135
51	2	117	131	145	133	135
63,5	2½	123	145	151	139	147
76	3	127	149	155	143	161
102	4	172	210	204	182	200



Válvula Quebra Vácuo

Bitolas Ø		Dim. A mm
mm	pol.	TC
51	2	80

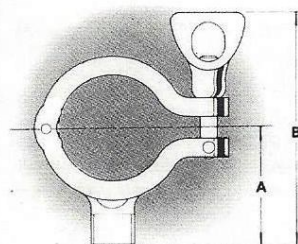


4" - sob consulta
Utilizada em tanques de processo

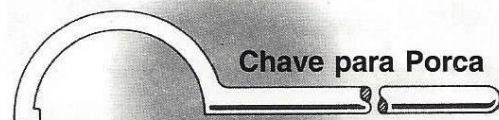
Seção V - Acessórios

Abraçadeira Suporte

Bitolas Ø		Dimensões mm	
mm	pol.	A	B
25	1	45	102
38	1½	52	108
51	2	58	114
63.5	2½	64	121
76	3	71	127
102	4	83	140
152	6	109	165



Em aço Inox AISI 304/316
Para suporte de tubulação
M BSP 1/2 pol. (13mm)
* Especifique: Código e Bitola



Chave para Porca

Bitolas						
pol.	1	1½	2	2½	3	4
mm.	25	38	51	63.5	76	102

Conexões: SMS - RJT - IDF - DIN
Para aperto de uniões roscadas
Em aço inox AISI 304/316.

Luva para Abraçadeira

Como meio de união entre o suporte e abraçadeira.

Em aço inox AISI 304/316
Solda x Fêmea BSP 1/2 pol. (13mm)