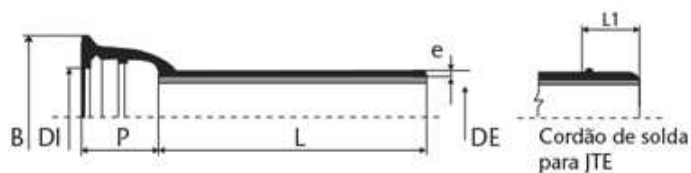


# PASQUETTI

tubos e conexões de ferro fundido



## Tubo de ferro fundido Classe K7



Tubo de ferro fundido Classe K7 com juntas JGS, JTI ou JTE. Fabricado em ferro fundido dúctil conforme norma NBR 7675 para transporte de água bruta ou tratada.

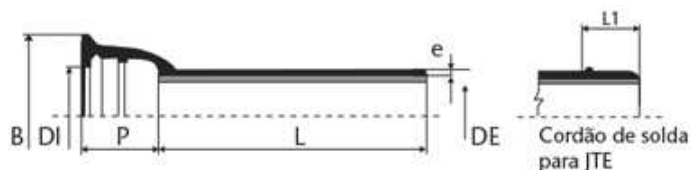
Dimensões								Massa	
DN	L	L1	DE	DI Bolsa	B	P	e nom Ferro	Por Metro	Total
	m	mm	mm	mm	mm	mm	mm	Kg	Kg
150	6	-	170	173	243	100,5	5,2	23,3	139,8
200	6	-	222	225	296	106,5	5,4	31,9	191,4
250	6	-	274	277	353	105,5	5,5	40,3	241,8
300	6	-	326	329	410	107,5	5,7	49,8	298,8
350	6	-	378	381	465	110,5	5,9	64,9	389,4
400	6	-	429	432	517	112,5	6,3	77,9	467,4
450	6	-	480	483	575	115,5	6,7	91,7	550,2
500	6	-	532	535	630	117,5	7	106,1	636,6
600	6	135	635	638	739	122,5	7,7	137,9	827,4
700	7	148	738	741	863	147,5	8,4	176,5	1235,5
800	7	150	842	845	974	147,5	9,1	216,3	1514,1
900	7	148	945	948	1082	147,5	9,8	259,4	1815,8
1000	7	155	1048	1051	1191	157,5	10,5	316,2	2213,4
1200	7	165	1255	1258	1412	167,5	11,9	411,9	2883,3

### Revestimento:

Revestimento Interno: Argamassa de cimento alto-forno

Revestimento Externo: Zinco metálico e pintura betuminosa

# Tubo de ferro fundido Classe K9



Tubo Classe K9 com juntas JGS, JTI ou JTE. Tubo de ferro fundido dúctil fabricado conforme norma NBR 7675 para transporte de água bruta ou tratada.

Dimensões								Massas	
DN	L	L1	DE	DI Bolsa	B	P	e nom Ferro	Por Metro	Total
	mm	mm	mm	mm	mm	mm	mm	Kg	Kg
80	6	-	98	101	168	92,5	6	14,5	87
100	6	-	118	121	189	94,5	6	18,1	108,6
150	6	-	170	173	243	100,5	6	27,3	163,8
200	6	-	222	225	296	106,5	6,3	36,7	220,2
250	6	-	274	277	353	105,5	6,8	48	288
300	6	115	326	329	410	107,5	7,2	60,4	362,4
350	6	114	378	381	465	110,5	7,7	79,7	478,2
400	6	113	429	432	517	112,5	8,1	94,7	568,2
450	6	120	480	483	575	115,5	8,6	111,8	670,8
500	6	125	532	535	630	117,5	9	129,3	775,8
600	6	135	635	638	739	122,5	9,9	168,4	1010,4
700	7	148	738	741	863	147,5	10,8	215,1	1505,7
800	7	150	842	845	974	147,5	11,7	264,1	1848,7
900	7	148	945	948	1082	147,5	12,6	317,2	2220,4
1000	7	155	1048	1051	1191	157,5	13,5	375	2625
1200	7	165	1255	1258	1412	167,5	15,3	505,3	3537,1

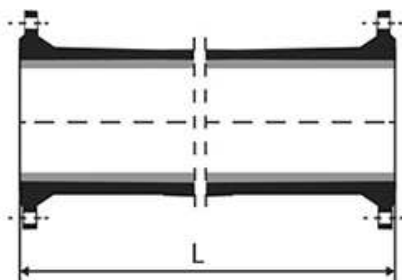
## Revestimento:

Revestimento Interno: Argamassa de cimento alto-forno

Revestimento Externo: Zinco metálico e pintura betuminosa



## Tubo com Flanges



Tubo com flanges, montado por dilatação térmica, interferência e roscado, é destinado para transporte de água bruta ou tratada, podendo ser com ou sem aba de vedação. Tubo de ferro fundido dúctil fabricado conforme norma NBR 7675.

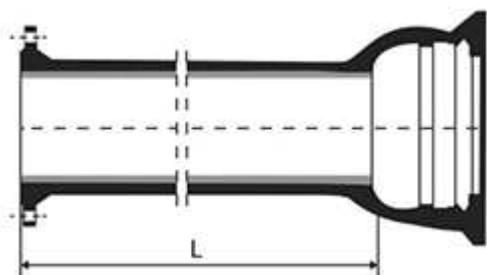
Dimensões					Flanges		
Tubo Cilíndrico					Tipos de Flanges		
DN	Comprimento Máximo L	DE	e nom Ferro	Massa com Cimento	PN 10	PN 16	PN 25
	m	mm	mm	Kg/m	Kg	Kg	Kg
80	5,8	98	6,0	13,9	4,0	4,0	4,0
100	5,8	118	6,0	17,2	4,5	4,5	5,0
150	5,8	170	6,0	26,0	8,0	8,0	9,0
200	5,8	222	6,3	34,8	10,0	10,0	12,0
250	5,8	274	6,8	45,4	14,5	14,5	17,5
300	5,8	326	7,2	57,1	18,0	18,0	23,0
350	5,8	378	7,7	75,5	23,0	26,0	34,0
400	5,8	429	8,1	89,5	28,0	34,0	45,0
450	5,8	480	8,6	105,1	34,5	42,0	53,5
500	5,8	532	9,0	121,8	38,0	53,0	65,0
600	5,8	635	9,9	158,2	56,0	82,0	96,0
700	6,8	738	14,4	260,1	76,0	91,0	126,0
800	6,8	842	15,6	318,9	98,0	-	-
900	6,8	945	16,8	383,0	125,0	-	-
1000	6,8	1048	18,0	452,3	150,0	-	-
1200	6,8	1255	20,4	607,8	220,0	-	-

### Revestimentos:

Revestimento Interno: Argamassa de cimento alto-forno

Revestimento Externo: Zinco metálico e pintura betuminosa

# Tubo Flange e Bolsa



Tubo com flange e bolsa. Tubo de ferro fundido dúctil fabricado conforme norma NBR 7675. Montado por dilatação térmica, interferência e roscado, é destinado para transporte de água bruta ou tratada, podendo ser com ou sem aba de vedação.

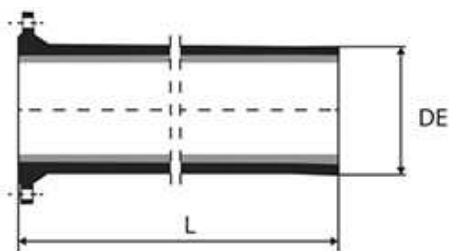
Dimensões					Flanges			
DN	Tubo Cilíndrico				Bolsa	Tipos de Flanges		
	Comprimento Máximo L	DE	e nom Ferro	Massa com Cimento	Massa	PN 10	PN 16	PN 25
	m	mm	mm	Kg/m	Kg	Kg	Kg	Kg
80	5,8	98	6,0	13,9	3,4	4,0	4,0	4,0
100	5,8	118	6,0	17,2	4,3	4,5	4,5	5,0
150	5,8	170	6,0	26,0	7,1	8,0	8,0	9,0
200	5,8	222	6,3	34,8	10,3	10,0	10,0	12,0
250	5,8	274	6,8	45,4	14,2	14,5	14,5	17,5
300	5,8	326	7,2	57,1	18,6	18,0	18,0	23,0
350	5,8	378	7,7	75,5	23,7	23,0	26,0	34,0
400	5,8	429	8,1	89,5	29,3	28,0	34,0	45,0
450	5,8	480	8,6	105,1	35,6	34,5	42,0	53,5
500	5,8	532	9,0	121,8	42,8	38,0	53,0	65,0
600	5,8	635	9,9	158,2	59,3	56,0	82,0	96,0
700	6,8	738	14,4	260,1	79,1	76,0	91,0	126,0
800	6,8	842	15,6	318,9	102,6	98,0	-	-
900	6,8	945	16,8	383,0	129,9	125,0	-	-
1000	6,8	1048	18,0	452,3	161,3	150,0	-	-
1200	6,8	1255	20,4	607,8	237,7	220,0	-	-

## Revestimentos:

Revestimento Interno: Argamassa de cimento alto-forno

Revestimento Externo: Zinco metálico e pintura betuminosa

## Tubo Flange e Ponta



Tubo com flange e ponta. Tubo de ferro fundido dúctil fabricado conforme norma NBR 7675. Montado por dilatação térmica, interferência e roscado, é destinado para transporte de água bruta ou tratada, podendo ser com ou sem aba de vedação.

Dimensões					Flanges			
DN	Tubo Cilíndrico				Bolsa	Tipos de Flanges		
	Comprimento Máximo L	DE	e nom Ferro	Massa com Cimento	Massa	PN 10	PN 16	PN 25
	m	mm	mm	Kg/m	Kg	Kg	Kg	Kg
80	5,8	98	6,0	13,9	3,4	4,0	4,0	4,0
100	5,8	118	6,0	17,2	4,3	4,5	4,5	5,0
150	5,8	170	6,0	26,0	7,1	8,0	8,0	9,0
200	5,8	222	6,3	34,8	10,3	10,0	10,0	12,0
250	5,8	274	6,8	45,4	14,2	14,5	14,5	17,5
300	5,8	326	7,2	57,1	18,6	18,0	18,0	23,0
350	5,8	378	7,7	75,5	23,7	23,0	26,0	34,0
400	5,8	429	8,1	89,5	29,3	28,0	34,0	45,0
450	5,8	480	8,6	105,1	35,6	34,5	42,0	53,5
500	5,8	532	9,0	121,8	42,8	38,0	53,0	65,0
600	5,8	635	9,9	158,2	59,3	56,0	82,0	96,0
700	6,8	738	14,4	260,1	79,1	76,0	91,0	126,0
800	6,8	842	15,6	318,9	102,6	98,0	-	-
900	6,8	945	16,8	383,0	129,9	125,0	-	-
1000	6,8	1048	18,0	452,3	161,3	150,0	-	-
1200	6,8	1255	20,4	607,8	237,7	220,0	-	-

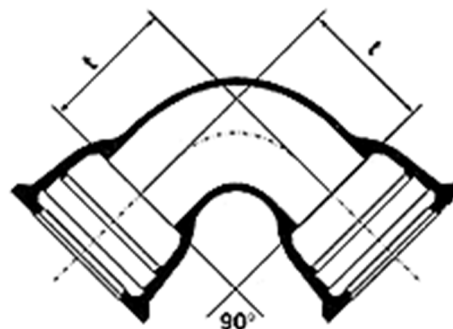
## Revestimentos

Revestimento Interno: Argamassa de cimento alto-forno

Revestimento Externo: Zinco metálico e pintura betuminosa

## CURVA 90° COM BOLSAS - JGS

Abrev: C90JGS

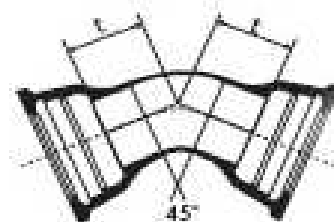


Dimensões			Massa		
DN	t	e	JGS	JTI	JTE
	mm	mm	Kg	Kg	Kg
80	100	7,0	10,0	10,0	-
100	120	7,2	13,2	13,2	-
150	170	7,8	21,6	21,6	-
200	220	8,4	33,9	33,9	-
250	270	9,0	47,9	47,9	-
300	320	9,6	70,4	70,4	144,6
350	370	10,2	96,0	96,0	175,0
400	420	10,8	105,0	105,0	206,0
450	470	11,4	163,0	163,0	280,4
500	520	12,0	178,0	178,0	327,8
600	620	13,2	274,0	274,0	477,4

### Revestimento:

internamente e externamente, pintura betuminosa.

## CURVA 45° COM BOLSAS - JGS



Abrev: C45|GS

Dimensões			Massa		
DN	t	e	JGS	JTI	JTE
	mm	mm	Kg	Kg	Kg
80	55	7,0	9,1	9,1	-
100	65	7,2	12,9	12,9	-
150	85	7,8	18,7	18,7	-
200	110	8,4	29,0	29,0	-
250	130	9,0	39,2	39,2	-
300	150	9,6	53,4	53,4	127,6
350	175	10,2	61,3	61,3	140,3
400	195	10,8	83,0	83,0	184,0
450	220	11,4	105,5	105,5	22,9
500	240	12,0	128,0	128,0	277,8
600	285	13,2	175,0	175,0	378,4
700	330	14,4	322,0	-	611,6
800	370	15,6	416,0	-	735,4
900	415	16,8	500,0	-	910,1
1000	460	18,0	710,0	-	1257,2
1200	550	20,4	1050,0	-	1607,6

### Revestimento:

- internamente e externamente, pintura betuminosa.



## CURVA 22° 30' COM BOLSAS JGS

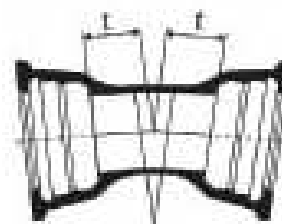


Dimensões			Massa		
DN	t	e	JGS	JTI	JTE
	mm	mm	Kg	Kg	Kg
80	40	7,0	8,5	8,5	-
100	40	7,2	11,4	11,4	-
150	55	7,8	17,6	17,6	-
200	65	8,4	26,2	26,2	-
250	75	9,0	33,8	33,8	-
300	85	9,6	45,2	45,2	119,4
350	95	10,2	50,1	50,1	129,1
400	110	10,8	63,1	63,1	164,1
450	120	11,4	81,0	81,0	230,8
500	130	12,0	97,4	97,4	247,2
600	150	13,2	157,0	157,0	360,4
700	175	14,4	222,0	-	511,6
800	195	15,6	324,0	-	643,4
900	220	16,8	372,0	-	782,1
1000	240	18,0	520,0	-	1067,2
1200	285	20,4	654,0	-	1211,6

### Revestimento:

- internamente e externamente, pintura betuminosa.

## CURVA 11° 15' COM BOLSAS JGS



11° 15'

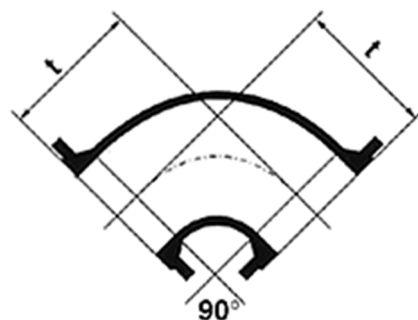
Abrev: C11JGS

DN	Dimensões		Massas		
	t mm	e mm	JGS Kg	JTI Kg	JTE Kg
80	30	7,0	8,8	8,8	-
100	30	7,2	10,8	10,8	-
150	35	7,8	16,8	16,8	-
200	40	8,4	27,6	27,6	-
250	50	9,0	34,2	34,2	-
300	55	9,6	44,6	44,6	118,8
350	60	10,2	48,0	48,0	127,0
400	65	10,8	56,1	56,1	157,1
450	70	11,4	71,0	71,0	188,4
500	75	12,0	81,6	81,6	231,4
600	85	13,2	106,0	106,0	309,4
700	95	14,4	190,0	-	479,6
800	110	15,6	272,0	-	591,4
900	120	16,8	310,0	-	720,1
1000	130	18,0	392,0	-	939,2
1200	150	20,4	582,0	-	1139,6

### Revestimento:

- internamente e externamente, pintura betuminosa.

## CURVA 90° COM FLANGES



Abrev.:

PN 10: C90FF10

PN 16: C90FF16

PN 25: C90FF25

DN	Dimensões		Massa		
	t	e	PN 10	PN 16	PN 25
	mm	mm	Kg	Kg	Kg
50	150,0		6,0	6,0	6,0
80	165,0		9,5	9,5	9,5
100	180,0		11,0	11,0	12,0
150	220,0		18,0	18,0	20,0
200	260,0		28,0	28,0	32,0
250	350,0		46,0	46,0	53,0
300	400,0		66,0	66,0	76,0
350	450,0		87,0	93,0	110,0
400	500,0		110,0	121,0	144,0
450	550,0		195,0	210,0	233,0
500	600,0		174,0	204,0	228,0
600	700,0		267,0	320,0	348,0
700	800,0		380,0	410,0	480,0
800	900,0		525,0	563,0	662,0
900	1000,0		690,0	738,0	858,0
1000	1100,0		892,0	975,0	1132,0
1200	1300,0		1421,0	1549,0	1749,0

### Revestimento:

- internamente e externamente, pintura betuminosa.

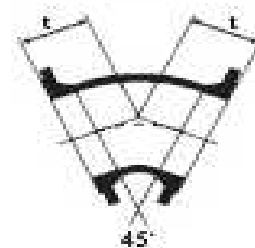
## CURVA 45° COM FLANGES

Abrev.:

PN 10: C45FF10

PN 16: C45FF16

PN 25: C45FF25



Dimensões			Massa		
DN	t	e	PN 10	PN 16	PN 25
	mm	mm	Kg	Kg	Kg
80	130,0		9,5	9,5	9,5
100	140,0		10,5	10,5	11,5
150	160,0		17,0	17,0	19,0
200	180,0		26,0	26,0	30,0
250	350,0		52,0	52,0	59,0
300	400,0		74,0	74,0	84,0
350	300,0		74,0	80,0	97,0
400	325,0		91,0	102,0	125,0
450	350,0		158,0	173,0	196,0
500	375,0		138,0	168,0	192,0
600	425,0		204,0	257,0	285,0
700	480,0		295,0	325,0	395,0
800	530,0		400,0	438,0	536,0
900	580,0		516,0	564,0	685,0
1000	630,0		664,0	747,0	903,0
1200	750,0		1043,0	1171,0	1371,0

Revestimento:

- internamente e externamente, pintura betuminosa.



## CURVA 22° 30' COM FLANGES

Abrev.:

PN 10: C22FF10

PN 16: C22FF16

PN 25: C22FF25



DN	Dimensões		Massa		
	t mm	e mm	PN 10 Kg	PN 16 Kg	PN 25 Kg
80	105,0		13,0	13,0	13,0
100	110,0		17,0	17,0	18,0
150	119,0		28,0	28,0	30,0
200	131,0		41,0	41,0	45,0
250	149,0		56,0	56,0	62,0
300	210,0		73,0	73,0	83,0
350	179,0		99,0	105,0	121,0
400	239,0		124,0	136,0	158,0
450	209,0		156,0	171,0	194,0
500	224,0		180,0	210,0	234,0
600	254,0		258,0	305,0	333,0
700	284,0		344,0	374,0	444,0
800	314,0		472,0	510,0	608,0
900	344,0		605,0	653,0	773,0
1000	374,0		781,0	865,0	1021,0
1200	434,0		1110,0	1238,0	1438,0

Revestimento:

internamente e externamente, pintura betuminosa.

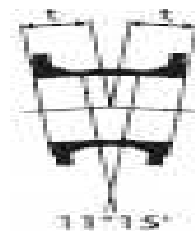
## CURVA 11° 15' COM FLANGES

Abrev.:

PN 10: C11FF10

PN 16: C11FF16

PN 25: C11FF25

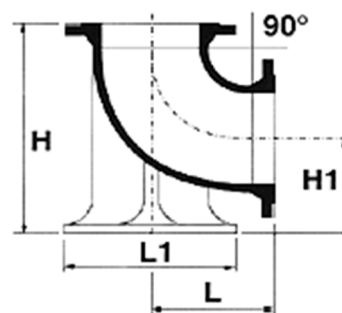


Dimensões			Massa		
DN	t	e	PN 10	PN 16	PN 25
	mm	mm	Kg	Kg	Kg
80	113,0		11,0	11,0	11,0
100	115,0		16,0	16,0	17,0
150	113,0		25,0	25,0	27,0
200	132,0		36,0	36,0	40,0
250	104,0		49,0	49,0	55,0
300	175,0		62,0	62,0	72,0
350	124,0		83,0	88,0	105,0
400	134,0		104,0	116,0	138,0
450	144,0		132,0	147,0	170,0
500	154,0		149,0	179,0	203,0
600	174,0		207,0	259,0	287,0
700	194,0		274,0	304,0	374,0
800	213,0		374,0	412,0	510,0
900	234,0		473,0	521,0	641,0
1000	253,0		609,0	693,0	849,0
1200	293,0		927,0	1055,0	1255,0

Revestimento:

- internamente e externamente, pintura betuminosa.

## CURVA 90° COM FLANGES E PÉ



Abrev.:

PN 10: CP90FF10

PN 16: CP90FF16

PN 25: CP90FF25

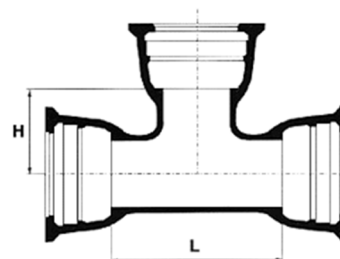
Dimensões					Massa		
DN	L	L1	H	H1	PN 10	PN 16	PN 25
	mm	mm	mm	mm	Kg	Kg	Kg
80	165	180	275,0	110,0	14,1	14,1	14,1
100	180	200	305,0	125,0	17,0	17,0	18,0
150	220	250	380,0	160,0	28,0	28,0	30,0
200	260	300	450,0	190,0	43,5	43,5	47,0
250	350	350	575,0	225,0	71,0	71,0	78,0
300	400	400	655,0	255,0	102,0	102,0	112,0
350	450	450	740,0	290,0	136,0	141,0	159,0
400	500	500	820,0	320,0	172,0	183,0	206,0
450	550	550	905,0	355,0	231,0	246,0	269,0
500	600	600	985,0	385,0	276,0	306,0	330,0
600	700	700	1150,0	450,0	423,0	476,0	504,0
700	800	800	1320	520	550,0	560,0	590

Revestimento:

- internamente e externamente, pintura betuminosa.

## TÊ COM BOLSAS - JGS

Abrev.: TJGS



		Corpo		Derivação		Massa		
DN	dn	L	e1	H	e2	JGS	JTI	JTE
		mm	mm	mm	mm	Kg	Kg	Kg
80	80	170,0	7,0	155,0	7,0	11,0	11,0	-
100	80	170,0	7,2	95,0	7,0	17,1	17,1	-
	100	190,0	7,2	95,0	7,2	18,4	18,4	-
150	80	170,0	7,8	120,0	7,0	22,9	22,9	-
	100	195,0	7,8	120,0	7,2	25,0	25,0	-
	150	285,0	7,8	125,0	7,8	29,7	29,7	-
200	80	175,0	8,4	145,0	7,0	32,3	32,3	-
	100	200,0	8,4	145,0	7,2	32,8	32,8	-
	150	255,0	8,4	150,0	7,8	38,9	38,9	-
	200	315,0	8,4	155,0	8,4	45,5	45,5	-
250	80	180,0	9,0	170,0	7,0	39,0	39,0	-
	100	200,0	9,0	170,0	7,2	39,5	39,5	-
	250	375,0	9,0	190,0	9,0	58,9	58,9	-
300	80	180,0	9,6	195,0	7,0	50,0	50,0	124,2
	100	205,0	9,6	195,0	7,2	54,7	54,7	128,9
	150	260,0	9,6	200,0	7,8	57,5	57,5	131,7
	200	320,0	9,6	205,0	8,4	67,6	67,6	141,8
	250	375,0	9,6	210,0	9,0	77,6	77,6	151,8
	300	435,0	9,6	220,0	9,6	83,0	83,0	157,2

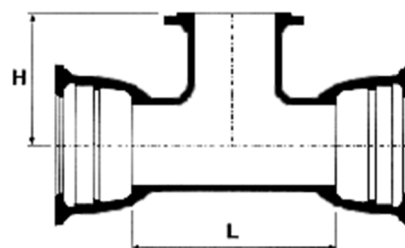


		Corpo		Derivação		Massa		
DN	dn	L	e1	H	e2	JGS	JTI	JTE
		mm	mm	mm	mm	Kg	Kg	Kg
350	100	205,0	10,2	220,0	7,2	65,0	65,0	144,0
	200	328,0	10,2	235,0	8,4	76,2	76,2	155,2
	250	360,0	10,2	250,0	9,0	77,0	77,0	156,0
	350	495,0	10,2	250,0	10,2	105,0	105,0	184,0
400	80	185,0	10,8	245,0	7,0	74,5	74,5	175,5
	100	210,0	10,8	245,0	7,2	73,9	73,9	174,9
	200	325,0	10,8	260,0	8,4	92,2	92,2	193,2
	300	440,0	10,8	270,0	9,6	114,6	114,6	215,6
	400	560,0	10,8	280,0	10,8	132,9	132,9	233,9
500	80	190,0	12,0	295,0	7,0	103,0	103,0	252,8
	100	215,0	12,0	295,0	7,2	103,0	103,0	252,8
	200	330,0	12,0	310,0	8,4	118,1	118,1	267,9
	300	450,0	12,0	320,0	9,6	157,4	157,4	307,2
	500	680,0	12,0	340,0	12,0	198,0	198,0	347,8
600	100	220,0	13,2	345,0	7,2	140,0	140,0	343,4
	200	340,0	13,2	360,0	8,4	168,0	168,0	371,4
	300	455,0	13,2	370,0	9,6	197,0	197,0	400,4
	400	570,0	13,2	380,0	10,8	225,0	225,0	428,4
	600	800,0	13,2	400,0	13,2	287,0	287,0	490,4

**Revestimento:**

- internamente e externamente, pintura betuminosa.

## TÊ COM BOLSAS JGS E FLANGE



Abrev:

PN10: TJGSF10

PN16: TJGSF16

PN25: TJGSF25

Dimensões						Tipos de massa								
		Corpo		Derivação		JGS			JTI			JTE		
DN	dn	L	e1	H	e2	PN 10	PN 16	PN 25	PN 10	PN 16	PN 25	PN 10	PN 16	PN 25
		mm	mm	mm	mm	Kg	Kg	Kg	Kg	Kg	Kg	Kg	Kg	Kg
80	50	170,0	7,0	155,0	7,0	11,0	11,0	11,0	11,0	11,0	11,0	-	-	-
	80	170,0	7,0	165,0	7,0	14,7	14,7	14,7	14,7	14,7	14,7	-	-	-
100	50	200,0	7,2	175,0	7,0	13,0	13,0	13,0	13,0	13,0	13,0	-	-	-
	80	170,0	7,2	175,0	7,0	17,7	17,7	17,7	17,7	17,7	17,7	-	-	-
	100	190,0	7,2	180,0	7,2	19,3	19,3	20,5	19,3	19,3	20,5	-	-	-
150	50	170,0	7,8	210,0	7,8	19,2	19,2	19,2	19,2	19,2	19,2	-	-	-
	80	170,0	7,8	205,0	7,0	23,3	23,3	23,3	23,3	23,3	23,3	-	-	-
	100	195,0	7,8	210,0	7,2	25,2	25,2	27,8	25,2	25,2	27,8	-	-	-
	150	255,0	7,8	220,0	7,8	31,0	31,0	30,0	31,0	31,0	30,0	-	-	-
200	50	175,0	8,4	230,0	7,0	25,6	25,6	25,6	25,6	25,6	-	-	-	-
	80	175,0	8,4	235,0	7,0	33,6	33,6	33,6	33,6	33,6	-	-	-	-
	100	200,0	8,4	240,0	7,2	34,5	34,5	39,0	34,5	34,5	-	-	-	-
	150	255,0	8,4	250,0	7,8	39,8	39,8	45,0	39,8	39,8	-	-	-	-
	200	315,0	8,4	260,0	8,4	41,5	41,5	53,0	41,5	41,5	-	-	-	-
250	50	195,0	9,0	260,0	7,0	35,5	35,5	35,5	35,5	35,5	-	-	-	-
	80	180,0	9,0	265,0	7,0	39,7	39,7	39,7	39,7	39,7	-	-	-	-
	100	200,0	9,0	270,0	7,2	41,0	41,0	41,3	41,0	41,0	-	-	-	-
	250	375,0	9,0	300,0	9,0	62,8	62,8	64,9	62,8	62,8	-	-	-	-
300	100	205,0	9,6	300,0	7,2	59,0	59,0	60,0	59,0	59,0	-	130,2	130,2	131,2
	150	260,0	9,6	275,0	7,8	60,0	60,0	63,0	60,0	60,0	-	131,2	131,2	134,2

Dimensões						Tipos de massa								
DN	dn	Corpo		Derivação		JGS			JTI			JTE		
		L	e1	H	e2	PN 10	PN 16	PN 25	PN 10	PN 16	PN 25	PN 10	PN 16	PN 25
		mm	mm	mm	mm	Kg	Kg	Kg	Kg	Kg	Kg	Kg	Kg	Kg
	200	320,0	9,6	320,0	8,4	70,0	70,0	78,0	70,0	70,0	-	141,2	141,2	149,2
	250	380,0	9,6	330,0	9,0	82,3	83,2	85,3	82,3	83,2	-	153,5	154,4	156,5
	300	435,0	9,6	340,0	9,6	87,3	87,3	94,0	87,3	87,3	-	158,5	158,5	165,2
350	100	205,0	10,2	330,0	7,2	53,8	53,8	65,0	53,8	53,8	-	128,3	128,3	139,5
	200	365,0	10,2	350,0	8,4	82,0	82,0	84,0	82,0	82,0	-	156,5	156,5	158,5
	250	385,0	10,2	380,0	9,0	85,1	86,1	88,1	85,1	86,1	-	159,6	160,6	162,6
	350	495,0	10,2	380,0	10,2	112,0	115,0	123,0	112,0	115,0	-	186,5	189,5	197,5
400	100	210,0	10,8	420,0	7,2	75,2	75,2	76,5	75,2	75,2	-	172,2	172,2	173,5
	200	325,0	10,8	440,0	8,4	93,8	93,8	96,1	93,8	93,8	-	190,8	190,8	193,1
	300	440,0	10,8	400,0	9,6	115,7	115,7	120,9	115,7	115,7	-	212,7	212,7	217,9
	400	560,0	10,8	420,0	10,8	139,0	151,0	162,0	139,0	151,0	-	236,0	248,0	259,0
450	450	620,0	11,4	460,0	11,4	Consultar					-	-	-	-
500	100	215,0	12,0	405,0	7,2	106,8	106,8	105,7	106,8	106,8	-	249,7	249,7	248,6
	200	330,0	12,0	425,0	8,4	126,0	126,2	126,8	126,0	126,2	-	268,9	269,1	269,7
	300	445,0	12,0	460,0	9,6	163,0	163,0	166,0	163,0	163,0	-	305,9	305,9	308,9
	400	565,0	12,0	480,0	10,8	192,0	198,0	209,0	192,0	198,0	-	334,9	340,9	351,9
	500	680,0	12,0	500,0	12,0	223,0	238,0	250,0	223,0	238,0	-	365,9	380,9	392,9
600	100	220,0	13,2	480,0	7,2	140,0	140,0	140,0	140,0	140,0	-	336,4	336,4	336,4
	200	340,0	13,2	500,0	8,4	165,0	175,0	177,0	165,0	175,0	-	361,4	371,4	373,4
	300	455,0	13,2	520,0	9,6	205,0	205,0	210,0	205,0	205,0	-	401,4	401,4	406,4

Dimensões						Tipos de massa								
DN	dn	Corpo		Derivação		JGS			JTI			JTE		
		L	e1	H	e2	PN 10	PN 16	PN 25	PN 10	PN 16	PN 25	PN 10	PN 16	PN 25
		mm	mm	mm	mm	Kg	Kg	Kg	Kg	Kg	Kg	Kg	Kg	Kg
	400	570,0	13,2	540,0	10,8	244,0	251,0	266,0	244,0	251,0	-	440,4	447,4	462,4
	600	800,0	13,2	580,0	13,2	334,1	352,0	367,0	334,1	352,0	-	530,5	548,4	563,4
700	200	345,0	14,4	525,0	8,4	249,0	272,0	278,0	-	-	-	530,9	547,9	552,9
	600	925,0	14,4	585,0	13,2	496,0	468,5	482,5	-	-	-	712,7	738,7	752,7
	700	925,0	14,4	600,0	14,4	536,0	481,5	516,5	-	-	-	811,9	751,7	786,7
800	200	350,0	15,6	585,0	8,4	317,0	355,0	355,0	-	-	-	629,3	612,5	-
	400	580,0	15,6	615,0	10,8	464,0	464,0	439,3	-	-	-	761,3	709,3	-
	600	1045,0	15,6	645,0	13,2	596,0	630,3	644,9	-	-	-	893,3	920,3	-
	800	1045,0	15,6	675,0	15,6	596,4	679,3	715,6	-	-	-	893,7	969,3	-
900	200	355,0	16,8	645,0	8,4	323,9	335,0	410,0	-	-	-	711,6	787,7	-
	400	590,0	16,8	675,0	10,8	502,2	508,4	519,7	-	-	-	889,9	896,1	-
	600	1170,0	16,8	705,0	13,2	763,0	789,5	803,4	-	-	-	1369,7	Consultar	-
	800	1170,0	16,8	750,0	15,6	854,6	883,2	932,8	-	-	-	1412,7	Consultar	-
	900	1170,0	16,8	750,0	16,8	925,2	949,4	1010,0	-	-	-	1443,7	Consultar	-
1000	200	360,0	18,0	705,0	8,4	456,0	485,0	494,2	-	-	-	960,2	1004,2	-
	400	595,0	18,0	735,0	10,8	596,0	637,4	659,8	-	-	-	1100,2	1141,6	-
	600	1290,0	18,0	765,0	13,2	949,2	936,8	982,2	-	-	-	1442,2	1461,0	-
	800	1290,0	18,0	800,0	15,6	1015,2	1082,0	1144,2	-	-	-	1508,2	1586,2	-
	1000	1290,0	18,0	825,0	18,0	1093,0	1124,0	1310,2	-	-	-	1628,2	1574,2	-
1200	200	370,0	20,4	850,0	8,4	650,0	756,0	928,0	-	-	-	1261,6	-	-
	600	840,0	20,4	885,0	13,2	1118,5	1326,0	1385,0	-	-	-	1831,6	-	-
	800	1070,0	20,4	915,0	15,6	1569,0	1606,0	1637,0	-	-	-	2074,6	-	-

**Revestimento:**

- internamente e externamente, pintura betuminosa.

\* Flanges orientáveis



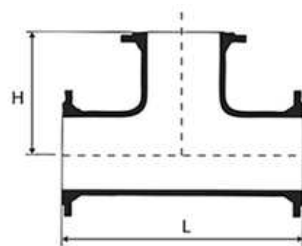
## TÊ COM FLANGES

Abrev.:

PN 10: TFF10

PN 16: TFF16

PN 25: TFF25

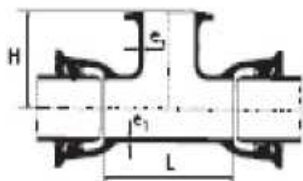
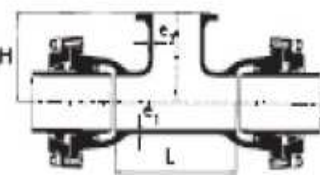
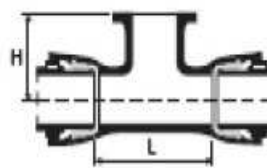


DN	dn	Dimensões e Massas				
		L	H	Massas		
				PN 10	PN 16	PN 25
		mm	mm	kg	kg	kg
80	50	320	160	19,0		
	80	330	165	15,3		
100	50	360	160	16,0		
	80	360	175	18,1	19,3	
	100	360	180	18,5	20,0	
150	50	440	210	26,0		
	80	440	205	30,0	32,0	
	100	440	210	28,5	31,0	
	150	440	220	32,0	35,0	
200	50	520	235	48,0	52,0	
	80	520	235	43,5	51,0	
	100	520	240	41,0	45,0	
	150	520	250	44,0	49,0	
	200	520	260	47,0	53,0	
250	50	700	265	67,0	73,0	
	80	700	265	69,0	75,0	
	100	700	260	67,0	75,0	
	150	700	300	71,0	82,0	
	200	700	325	73,0	82,0	
	250	700	350	80,0	91,0	
300	80	800	295	88,6	89,9	
	100	800	300	92,0	103,0	
	200	800	350	100,0	112,0	
	300	800	400	119,0	134,0	
350	100	850	325	112,0	118,0	135,0
	200	850	325	117,0	123,0	142,0
	300	850	425	133,0	139,0	160,0
	350	850	425	139,0	148,0	173,0
400	80	900	350	152,0		168,0

	100	900	350	138,0	149,0	172,0
	150	900	350	207,0	150,0	172,0
	200	900	350	142,0	153,0	178,0
	300	900	450	159,0	171,0	198,0
	400	900	450	172,0	189,0	223,0
450	100	925	375	173,0	188,0	212,0
	200	925	375	180,0	195,0	220,0
	300	900	475	187,0	202,0	230,0
	400	900	475	204,0	225,0	259,0
	450	925	475	207,0	229,0	264,0
500	100	1000	400	205,0	235,0	259,0
	200	1000	400	209,0	239,0	265,0
	300	1000	500	219,0	249,0	278,0
	400	1000	500	234,0	270,0	305,0
	500	1000	500	243,0	293,0	329,0
600	100	1100	450	293,0	350,0	379,0
	200	1100	450	298,0	346,0	376,0
	300	1100	550	303,0	355,0	388,0
	400	1100	550	316,0	375,0	414,0
	500	1100	550	313,0	380,0	420,0
	600	1100	550	352,0	432,0	474,0
700	200	650	525	267,0	297,0	367,0
	400	870	555	341,0	376,0	456,0
	600	1215	600	495,0	505,0	520,0
	700	1200	600	478,0	523,0	628,0
800	200	690	585	350,0	389,0	487,0
	400	910	615	438,0	482,0	589,0
	600	1350	645	609,0	674,0	784,0
	800	1350	675	658,0	716,0	863,0
900	200	730	645	434,0	482,0	603,0
	400	950	675	537,0	592,0	720,0
	600	1500	705	782,0	856,0	990,0
	800	1500	748	930,0	940,0	950,0
	900	1500	750	854,0	925,0	1107,0
1000	200	770	765	544,0	626,0	785,0
	400	990	825	663,0	751,0	920,0
	600	1650	825	1001,0	1110,0	1280,0
	1000	1650	855	1106,0	1230,0	1465,0

**Revestimento:** Revestimento: internamente e externamente, pintura betuminosa. \* Flanges orientáveis

## TÊ COM BOLSAS JTI JTE JPK E FLANGE

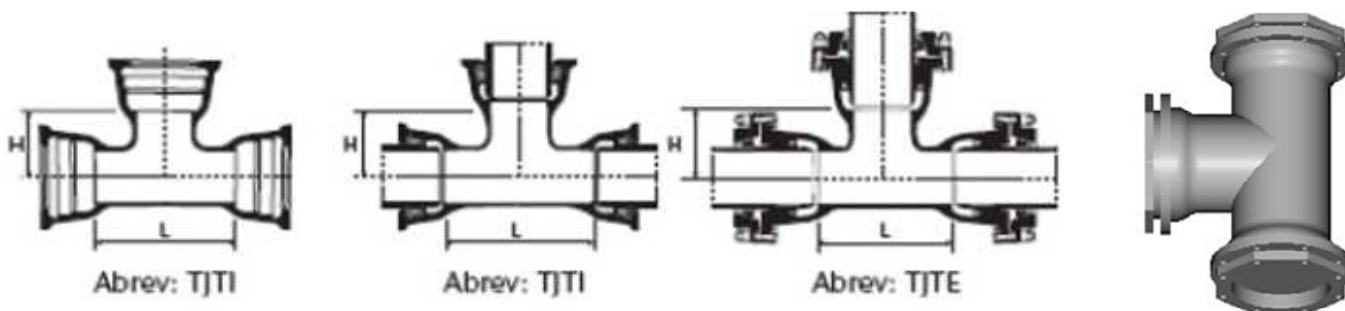

 Abrev: TJTIF10  
 TJTIF16  
 TJTIF25

 Abrev: TJTEF10  
 TJTEF16  
 TJTEF25

 Abrev: TJPKF10  
 TJPKF16  
 TJPKF25

DN	dn	Dimensões				Massas						
		Corpo		Derivação		Massas JTIF			Massas JTEF			Massas JPKF
		L	e1	H	e2	PN 10	PN 16	PN 25	PN 10	PN 16	PN 25	PN 10, 16 e 25
		m	mm	mm	mm	kg	kg	kg	kg	kg	kg	kg
80	50	170,0	7,0	155,0	7,0	11,0			-			-
	80	170,0	7,0	165,0	7,0	14,7			-			-
100	50	200,0	7,2	175,0	7,0	13,0			-			-
	80	200,0	7,2	175,0	7,0	17,7			-			-
	100	190,0	7,2	180,0	7,2	19,3	20,5					
150	50	170,0	7,8	210,0	7,8	19,2			-			-
	80	170,0	7,8	205,0	7,0	23,3			-			-
	100	195,0	7,8	210,0	7,2	25,2	27,8					
	150	305,0	7,8	220,0	7,8	31,0	30,0					
200	50	175,0	8,4	230,0	8,4	25,6			-			-
	80	175,0	8,4	235,0	7,0	33,6			-			-
	100	190,0	8,4	250,0	7,2	34,5	39,0					
	150	255,0	8,4	250,0	7,8	39,8	45,0					
	200	300,0	8,4	250,0	8,4	41,5	53,0					
250	50	180,0	9,0	260,0	7,0	35,5			-			-
	80	180,0	9,0	265,0	7,0	39,7			-			-
	100	190,0	9,0	260,0	7,2	41,0	41,3					
	250	365,0	9,0	290,0	9,0	62,8	64,9					
300	100	290,0	9,6	290,0	7,2	59,0	60,0	130,2	131,2			
	200	320,0	9,6	320,0	8,4	70,0	70,0	78,0	141,2	141,2	149,2	
	250	360,0	9,6	330,0	9,0	82,3	83,2	85,3	153,5	154,4	156,5	
	300	435,0	9,6	340	9,6	87,3	87,3	94,0	158,5	158,5	165,2	
350	100	205,0	10,2	330,0	7,2	53,8	65,0	128,3	139,5			
	200	360,0	10,2	350,0	8,4	82,0	82,0	84,0	156,5	156,5	158,5	

	250	370,0	10,2	355,0	9,0	85,1	86,1	88,1	159,6	160,6	162,6	
	350	495,0	10,2	380,0	10,2	112,0	115,0	123,0	186,5	189,5	197,5	
400	100	210,0	10,8	360,0	7,2	75,2		76,5	172,3		173,5	
	200	325,0	10,8	380,0	8,4	93,8	93,8	96,1	190,8	190,8	193,1	
	300	440,0	10,8	400,0	9,6	115,7	115,7	120,9	212,7	212,7	217,9	
	400	560,0	10,8	420,0	10,8	139,0	151,0	162,0	236,0	248,0	259,0	
450	450	620	11,4	460,0	11,4	Consultar						
500	100	215,0	12,0	420,0	7,2	106,8		105,7	249,7		248,6	
	200	330,0	12,0	425,0	8,4	126,0	126,2	126,8	268,9	269,1	269,7	
	300	445,0	12,0	460,0	9,6	163,0	163,0	166,0	305,9	305,9	308,9	
	400	565,0	12,0	480,0	10,8	192,0	198,0	209,0	334,9	340,9	351,9	
	500	680,0	12,0	500,0	12,0	223,8	238,0	250,0	365,9	380,9	392,9	
600	100	220,0	13,2	480,0	7,2	140,0			336,4			
	200	340,0	13,2	500,0	8,4	165,0	175,0	177,0	361,4	371,4	373,4	
	300	455,0	13,2	520,0	9,6	205,0	205,0	210	401,4	401,4	406,4	
	400	570,0	13,2	540,0	10,8	244,0	251,0	266,0	440,4	477,4	462,4	
	600	800,0	13,2	580,0	13,2	334,1	352,0	367,0	530,5	548,4	563,4	
700	200	345,0	14,4	525,0	8,4				530,9	547,9	552,9	
	600	925,0	14,4	585,0	13,2				712,7	738,7	752,7	
	700	925,0	14,4	600,0	14,4				811,9	751,7	786,7	
800	200	350,0	15,6	585,0	8,4				629,3	612,5	614,5	
	400	580,0	15,6	615,0	10,8				761,3	709,3	720,3	
	600	1045,0	15,6	645,0	13,2				893,3	920,3	934,9	
	800	1045,0	15,6	675,0	15,6				893,7	969,3	1005,6	
900	200	355,0	16,8	645,0	8,4				711,6	783,7	713,6	
	400	590,0	16,8	675,0	10,8				889,9	896,1	907,4	
	600	1170,0	16,8	705,0	13,2				1369,7	Consultar		
	800	1170,0	16,8	750,0	15,6				1412,7			
	900	1170,0	16,8	750,0	16,8				1443,7			
1000	200	360,0	18,0	705,0	8,4				960,2	1004,2	975,1	
	400	595,0	18,0	735,0	10,8				1100,2	1141,6	1152,8	
	600	1290,0	18,0	765,0	13,2				1442,2	1461,0	1475,2	
	800	1290,0	18,0	800,0	15,6				1508,2	1586,2	1637,2	
	1000	1290,0	18,0	825,0	18,0				1628,2	1574,2	1803,2	
1200	200	370,0	20,4	825,0	8,4				1261,6	1155,6	1433,6	
	600	840,0	20,4	885,0	13,2				1831,6	1605,6	1872,6	
	800	1070,0	20,4	915,0	15,6				2074,6	2093,6	2142,6	

**Revestimento:** internamente e externamente, pintura betuminosa. - \* Flanges orientáveis

## TÊ COM BOLSAS - JTI JTE



DN	dn	Dimensões e Massas					
		Corpo		Derivação		Massas JTI	Massas JTE
		L	e1	H	e2		
		m	mm	mm	mm	kg	
80	80	170,0	7,0	85,0	7,0	14,0	
100	80	190,0	7,2	95,0	7,0	17,1	
	100	190,0	7,2	95,0	7,2	18,4	
150	80	170,0	7,8	120,0	7,0	22,9	
	100	195,0	7,8	120,0	7,2	25,0	
	150	295,0	7,8	140,0	7,8	29,7	
200	80	175,0	8,4	145,0	7,0	32,3	
	100	200,0	8,4	145,0	7,2	32,8	
	150	255,0	8,4	150,0	7,8	38,9	
	200	315,0	8,4	155,0	8,4	45,5	
250	80	180,0	9,0	170,0	7,0	39,0	
	100	200,0	9,0	170,0	7,2	39,5	
	250	375,0	9,0	190,0	9,0	58,9	
300	80	180,0	9,6	195,0	7,0	50,0	124,2
	100	205,0	9,6	195,0	7,2	54,7	128,9
	150	235,0	9,6	175,0	7,8	57,5	131,7
	200	320,0	9,6	205,0	8,4	67,6	141,8
	250	375,0	9,6	210,0	9,0	77,6	151,8
	300	435,0	9,6	220,0	9,6	83,0	157,2
350	100	205,0	10,2	220,0	7,2	65,0	144,0



	200	360,0	10,2	235,0	8,4	76,2	152,2
	250	360,0	10,2	250,0	9,0	77,0	156,0
	350	495,0	10,2	250,0	10,2	105,0	184,0
400	80	210,0	10,8	245,0	7,0	74,5	175,5
	100	210,0	10,8	245,0	7,2	73,9	174,9
	200	325,0	10,8	260,0	8,4	92,2	193,2
	300	440,0	10,8	270,0	9,6	114,6	215,6
	400	560,0	10,8	280,0	10,8	132,9	233,9
500	80	215,0	12,0	325,0	7,0	103,0	252,8
	100	215,0	12,0	325,0	7,2	103,0	252,8
	200	330,0	12,0	310,0	8,4	118,1	267,9
	300	450,0	12,0	320,0	9,6	157,4	307,2
	500	680,0	12,0	340,0	12,0	198,0	347,8
600	100	220,0	13,2	345,0	7,2	140,0	343,4
	200	340,0	13,2	360,0	8,4	168,0	371,4
	300	455,0	13,2	370,0	9,6	197,0	400,4
	400	570,0	13,2	380,0	10,8	225,0	428,4
	600	800,0	13,2	400,0	13,2	287,0	490,4

### Revestimento:

- internamente e externamente, pintura betuminosa.

\* Usar o anel JTI nas derivações (dn).

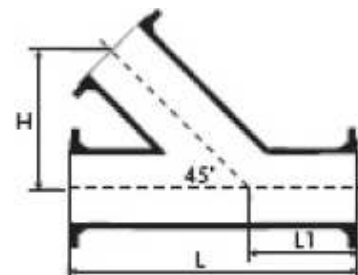
## JUNÇÃO 45° COM FLANGES

Abrev.:

PN 10: YFF10

PN 16: YFF16

PN 25: YFF25

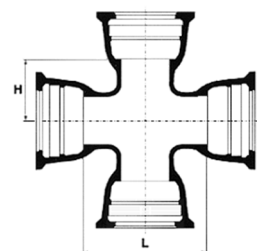


DN	dn	Dimensões e Massas					
		L	L <sub>1</sub>	H	Massas		
					PN 10	PN 16	PN 25
mm	mm	mm	kg	kg	kg		
50	50	360	90	170	11,1		
80	80	400	90	195	17,2		
100	80	430	125	215	20,8	21,0	
	100	430	102	215	21,0	22,5	
150	100	530	118	270	33,0	36,0	
	150	530	88	270	36,0	39,0	
200	100	600	95	321	47,0	52,0	
	150	600	134	321	51,0	56,0	
	200	600	95	321	55,0	60,0	
250	150	700	55	363	72,0	79,0	
	200	700	100	363	76,0	84,0	
	250	700	115	363	80,0	90,0	
300	200	800	128	412	103,0	114,0	
	250	800	127	412	140,4	159,0	
	300	800	127	412	140,4	159,0	
400	300	960	145	472	168,0	178,0	205,0
	400	960	145	512	173,0	189,0	222,0

### Revestimento:

- internamente e externamente, pintura betuminosa.

# CRUZETA COM BOLSAS - JGS

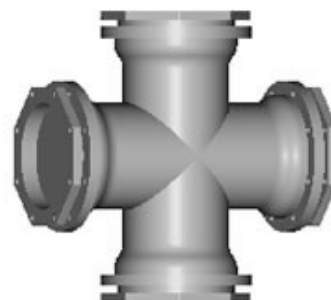
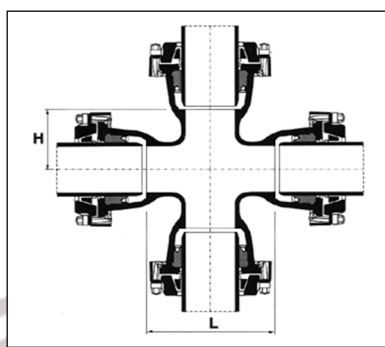
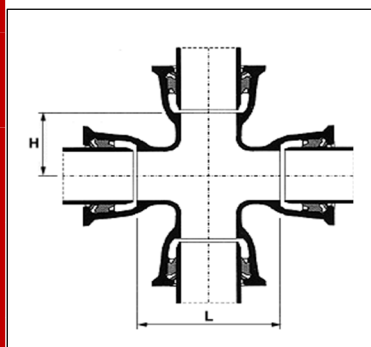


**Abrev. XJGS**

DN	dn	Dimensões e Massas		
		L	H	Massas
		mm	mm	kg
80	80	160	80	16,0
100	80	165	95	23,1
	100	190	95	25,1
150	80	165	120	27,9
	100	195	120	29,7
	150	255	125	37,95
200	80	170	145	33,6
	100	200	145	38,2
	150	255	150	46,3
	200	315	155	55,65
250	80	170	170	42,70
	100	200	170	44,00
	250	375	190	77,40
300	80	175	195	50,10
	100	205	195	56,6
	200	320	205	75,20
	300	435	220	104,0
350	100	224	238	64,5
	200	360	244	82,7
	250	360	247	92,2
400	80	210	250	79,80
	100	210	245	82,20
	200	325	260	104,0
	400	560	280	158,8
500	80	225	320	108,0
	100	225	320	107,0
	200	330	305	132,0
	300	450	320	160,0
	500	680	340	223,0

**Revestimento:** internamente e externamente, pintura betuminosa.

## CRUZETA COM BOLSAS - JTI JTE



Abrev: XJTI

DN	dn	Dimensões e Massas			
		L	H	Massas	
				JTI	JTE
mm	mm	kg	kg		
80	80	160	80	16,0	-
100	80	165	95	23,1	-
	100	190	95	25,1	-
150	80	165	120	27,90	-
	100	195	120	29,70	-
	150	255	125	37,95	-
200	80	170	145	33,6	-
	100	200	145	38,20	-
	150	255	150	46,30	-
	200	315	155	55,65	-
250	80	170	170	42,70	-
	100	200	170	44,00	-
	250	375	190	77,40	-
300	80	175	195	50,10	125,50*
	100	205	195	56,6	132,00
	200	320	205	75,20	150,60

	<b>300</b>	<b>435</b>	<b>220</b>	<b>104,0</b>	<b>254,80</b>
<b>350</b>	<b>100</b>	<b>224</b>	<b>238</b>	-	<b>142,5</b>
	<b>200</b>	<b>360</b>	<b>244</b>	-	<b>160,7</b>
	<b>250</b>	<b>360</b>	<b>247,0</b>	-	<b>170,2</b>
<b>400</b>	<b>80</b>	<b>210</b>	<b>250</b>	-	<b>175,80</b>
	<b>100</b>	<b>210</b>	<b>245</b>	-	<b>178,20</b>
	<b>200</b>	<b>325</b>	<b>260</b>	-	<b>200,00</b>
	<b>400</b>	<b>560</b>	<b>280</b>	-	<b>350,80</b>
<b>500</b>	<b>80</b>	<b>225</b>	<b>320</b>	-	<b>255,20*</b>
	<b>100</b>	<b>225</b>	<b>320</b>	-	<b>254,20</b>
	<b>200</b>	<b>330</b>	<b>305</b>	-	<b>279,20</b>
	<b>300</b>	<b>450</b>	<b>320</b>	-	<b>382,60</b>
	<b>500</b>	<b>680</b>	<b>340</b>	-	<b>514,40</b>
<b>600</b>	<b>100</b>	<b>220</b>	<b>345</b>	-	<b>314,00</b>
	<b>200</b>	<b>340</b>	<b>355</b>	-	<b>346,00</b>
	<b>300</b>	<b>455</b>	<b>370</b>	-	<b>453,40</b>
	<b>400</b>	<b>570</b>	<b>380</b>	-	<b>507,00</b>
	<b>600</b>	<b>800</b>	<b>400</b>	-	<b>672,00</b>

### Revestimento:

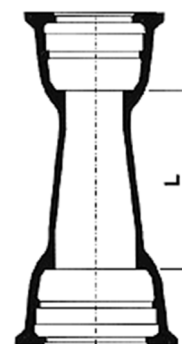
- internamente e externamente, pintura betuminosa.

\* Usar o anel JTI nas derivações (dn).



## REDUÇÃO COM BOLSAS - JGS

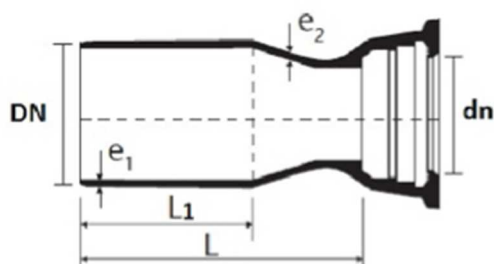
Abrev: RJGS



DN	dn	L	e1	e2	RJGS
		mm	mm	mm	kg
350	200	360	10,2	8,4	47,38
	250	260	10,2	9,0	46,40
	300	160	10,2	9,6	45,01
400	250	360	10,8	9,0	59,20
	300	260	10,8	9,6	55,14
	350	160	10,8	10,2	56,21
500	350	360	12,0	10,2	100,98
	400	260	12,0	10,8	112,00
600	400	460	13,2	10,8	139,50
	500	260	13,2	12,0	148,50
700	500	480	14,4	12,0	222,90
	600	280	14,4	13,2	193,52
800	600	480	15,6	13,2	299,60
	700	280	15,6	14,4	264,52
900	700	480	16,8	14,4	391,96
	800	280	16,8	15,6	329,25
1000	800	480	18,0	15,6	431,70
	900	280	18,0	16,8	447,04
1200	1000	480	20,4	18,0	700,00
1400	1200	345	22,8	20,4	714,00
1500	1200	395	24,0	20,4	824,00
	1400	100	24,0	22,8	795,00
1600	1200	645	25,2	20,4	1065,00
	1400	350	25,2	22,8	1009,00
	1500	400	25,2	24,0	1187,00
1800	1600	340	27,6	25,2	1267,00
2000	1800	360	30,0	27,6	1776,00

**Revestimento:** internamente e externamente, pintura betuminosa.

## REDUÇÃO PONTA E BOLSA - JGS



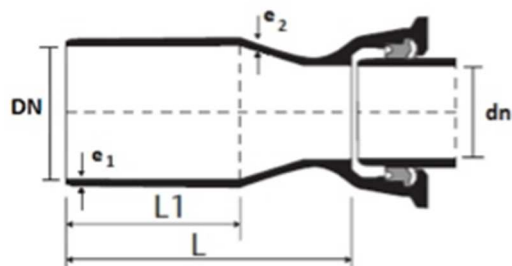
Abrev: **RPBJGS**

DN	dn	L	e1	L1	e2	Massas
						JGS
		mm	mm	mm	mm	kg
80	75	200	7,0	82	7,0	5,20
100	80	200	7,2	92	7,0	7,80
150	80	300	7,8	98	7,0	11,50
	100	300	7,8	98	7,2	12,50
200	80	300	8,4	104	7,0	12,30
	100	300	8,4	104	7,2	14,60
	150	300	8,4	104	7,8	17,00
250	150	350	9,0	104	7,8	22,10
	200	250	9,0	104	8,4	22,30
300	150	450	9,6	105	7,8	28,80
	200	350	9,6	105	8,4	28,85
	250	250	9,6	105	9,0	30,50
350	200	460	10,2	108	8,4	38,00
	250	360	10,2	108	9,0	36,50
	300	260	10,2	108	9,6	39,60
400	250	470	10,8	110	9,0	48,20
	300	370	10,8	110	9,6	44,80
	350	270	10,8	110	9,6	42,40
500	350	480	12,0	115	9,6	78,70
	400	380	12,0	115	10,8	62,40
600	400	580	13,2	120	10,8	105,00
	500	380	13,2	120	12,0	90,00

### Revestimento:

- internamente e externamente, pintura betuminosa.

## REDUÇÃO PONTA E BOLSA - JTI



Abrev: **RPBJTI**



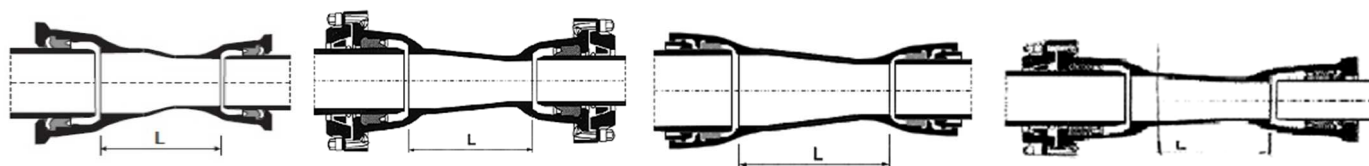
DN	dn	L	e1	L1	e2	Massas
						JTI
						kg
80	75	200	7,0	82	7,0	5,20
100	80	200	7,2	92	7,0	7,80
150	80	300	7,8	98	7,0	11,50
	100	300	7,8	98	7,2	12,50
200	80	300	8,4	104	7,0	12,30
	100	300	8,4	104	7,2	14,60
	150	300	8,4	104	7,8	17,00
250	150	350	9,0	104	7,8	22,10
	200	250	9,0	104	8,4	22,30
300	150	450	9,6	105	7,8	28,80
	200	350	9,6	105	8,4	28,85
	250	250	9,6	105	9,0	30,50
350	200	460	10,2	108	8,4	38,00
	250	360	10,2	108	9,0	36,50
	300	260	10,2	108	9,6	39,60
400	250	470	10,8	110	9,0	48,20
	300	370	10,8	110	9,6	44,80
	350	270	10,8	110	9,6	42,40
500	350	480	12,0	115	9,6	78,70
	400	380	12,0	115	10,8	62,40
600	400	580	13,2	120	10,8	105,00
	500	380	13,2	120	12,0	90,00

### Revestimento:

- internamente e externamente, pintura betuminosa.

\* Usar o anel JTI no diâmetro menor (dn).

## REDUÇÃO COM BOLSAS - JTI, JTE, JTETI e JPK

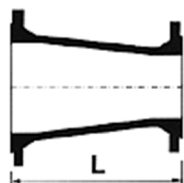


		mm	mm	mm	kg	kg	kg	kg
350	200	360	10,2	8,4	47,38		86,88	
	250	260	10,2	9,0	46,40		85,90	
	300	160	10,2	9,6	45,01	121,61	84,51	
400	250	360	10,8	9,0	59,20		109,70	
	300	260	10,8	9,6	55,14	142,74	105,64	
	350	160	10,8	10,2	56,21	146,21	106,71	
500	350	360	12,0	10,2	100,98	215,38	175,88	
	400	260	12,0	10,8	112,00	237,40	186,90	
600	400	460	13,2	10,8	139,50	291,70	241,20	
	500	260	13,2	12,0	148,50	176,60	250,20	
700	500	480	14,4	12,0		442,58		
	600	280	14,4	13,2		440,00		
800	600	480	15,6	13,2		561,00		
	700	280	15,6	14,4		569,00		
900	700	480	16,8	14,4		741,79		
	800	280	16,8	15,6		694,00		
1000	800	480	18,0	15,6		865,00		
	900	280	18,0	16,8		925,69		
1200	1000	480	20,4	18,0		1252,40		
1400	1200	345	22,8	20,4				725
1500	1200	395	24,0	20,4				888
	1400	100	24,0	22,8				883
1600	1200	645	25,2	20,4				1178
	1400	350	25,2	22,8				1146
	1500	400	25,2	24,0				1132
1800	1600	340	27,6	25,2				1640
2000	1800	360	30,0	27,6				Consultar

### Revestimento:

- internamente e externamente, pintura betuminosa.

## REDUÇÃO COM FLANGES



**Redução concêntrica**

Abrev.:

PN 10: RFF10

PN 16: RFF16

PN 25: RFF25



**Redução excêntrica**

Abrev.:

PN 10: REFF10

PN 16: REFF16

PN 25: REFF25



Dimensões			Tipos de massa					
DN	dn	L	Concêntrica			Excêntrica		
			PN 10	PN 16	PN 25	PN 10	PN 16	PN 25
		mm	Kg	Kg	Kg	Kg	Kg	Kg
80	50	200	8,4	8,4	8,4	8,0	8,0	8,0
	75	205	8,3	8,3	8,3	-	-	-
100	50	300	15,5	15,5	16,0	9,5	9,5	10,0
	80	200	9,5	9,5	9,5	9,5	9,5	10,0
150	80	400	25,6	25,6	26,5	17,2	17,2	18,2
	100	300	15,5	15,5	17,0	15,0	15,0	16,5
200	100	600	30,5	30,5	33,0	27,5	27,5	30,0
	150	300	22,0	22,0	25,0	22,0	22,0	25,0
250	100	300	40,0	42,4	53,3	39,0	39,0	43,0
	150	600	45,0	45,0	49,0	-	-	-
	200	300	30,0	30,0	35,5	30,0	30,0	35,0
300	150	600	52,0	52,0	58,0	46,0	46,0	52,0
	200	600	58,0	58,0	65,0	51,0	51,0	58,0
	250	300	40,0	40,0	49,0	40,0	40,0	49,0
350	200	600	46,0	46,0	92,0	-	-	-
	250	600	85,2	85,2	89,0	-	-	-
	300	300	49,5	52,0	66,0	-	-	-



Dimensões			Tipos de massa					
			Concêntrica			Excêntrica		
DN	dn	L	PN 10	PN 16	PN 25	PN 10	PN 16	PN 25
		mm	Kg	Kg	Kg	Kg	Kg	Kg
400	250	600	78,0	84,0	98,0	72,0	77,0	92,0
	300	600	76,0	82,0	98,0	79,0	84,0	101,0
	350	310	58,0	67,0	86,0	-	-	-
450	300	600	94,0	101,0	118,0	-	-	-
	350	600	97,0	107,0	127,0	-	-	-
	400	300	105,0	119,0	140,0	-	-	-
500	350	600	132,9	132,9	146,0	-	-	-
	400	600	110,0	130,0	153,0	-	-	-
	450	300	125,0	165,0	165,0	-	-	-
600	400	600	190,0	192,0	220,0	-	-	-
	450	600	190,0	192,0	220,0	-	-	-
	500	600	149,0	190,0	216,0	-	-	-
700	600	600	195,0	236,0	285,0	-	-	-
800	700	600	250,0	285,0	396,0	-	-	-
900	800	600	308,0	352,0	461,0	-	-	-
1000	900	600	373,0	438,0	576,0	-	-	-
1200	1000	790	614,0	720,0	898,0	-	-	-

**Revestimento:** internamente e externamente, pintura betuminosa.

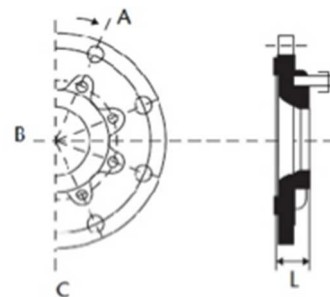
## PLACA DE REDUÇÃO

Abrev.:

PN 10: PR10

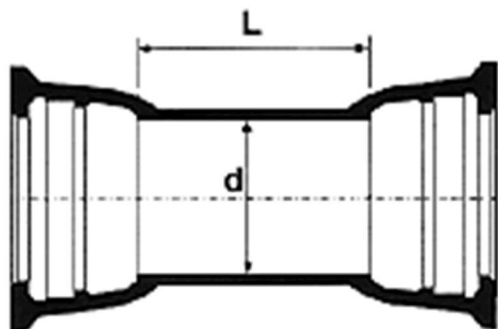
PN 16: PR16

PN 25: PR25



DN	dn	Dimensões e Massas					
		PN 10		PN16		PN25	
		L	Massas	L	Massas	L	Massas
		mm	kg	mm	kg	mm	kg
100	50	40	5,0	40	5,0	40	5,0
200	80	40	13,0	40	13,0	40	17,0
	100	40	13,0	40	13,0	47	17,0
250	200	44	32,0	44	32,0	50	37,0
350	150	48	38,0	54	50,0	60	59,0
	250	48	32,0	54	36,0	60	48,0
400	150	48	38,0	54	45,0	60	56,0
	200	48	39,5	54	40,0	60	59,0
	250	48	39,0	54	46,0	60	61,0
	300	49	38,0	55	44,0	61	60,0
450	350	52	45,0	58	57,0	63	70,0
500	350	54	56,0	60	70,0	65	85,0
	400	54	53,0	60	65,0	65	83,0
600	150	33	138,0	39	164,0	45	178,0
	450	50	94,0	53	120,0	76	134,0
700	500	56	102,0	67	134,0	76	178,0
900	700	63	165,0	73	200,0	86	237,0
1000	700	63	222,0	73	285,0	90	277,0
	800	68	209,0	77	260,0	90	308,0

## LUVA COM BOLSAS - JGS



Abrev: LJGS



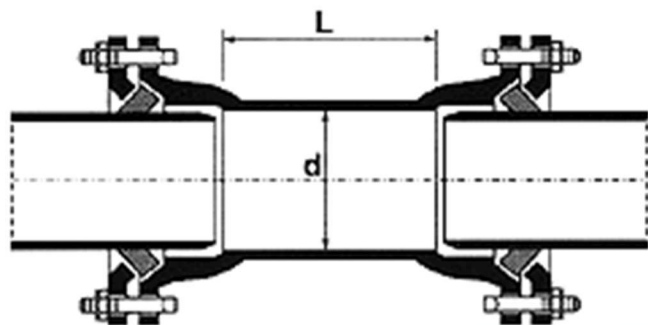
DN	d	e	L	LJGS
	mm	mm	mm	kg
50	78	7,0	155	3,70
75	104	7,0	160	5,44
80	109	7,0	160	10,00
100	130	7,2	160	11,70
150	183	7,8	165	16,70
200	235	8,4	170	24,20
250	288	9,0	175	30,20
300	340	9,6	180	38,90
350	393	10,2	185	48,20
400	445	10,8	190	52,20
450	498	11,4	195	69,20
500	550	12,0	200	81,00
600	655	13,2	210	125,00
700	760	14,4	220	181,00
800	865	15,6	230	324,40
900	970	16,8	240	340,00
1000	1075	18,0	250	350,00
1200	1285	20,4	270	436,00

### Revestimento:

- internamente e externamente, pintura betuminosa.

Nota: Esta peça não é indicada para utilização como luva de correr, para esta finalidade indica-se a luva com junta JM.

## LUVA DE CORRER COM BOLSA JUNTA MECÂNICA LCRJM



Abrev: LCRJM

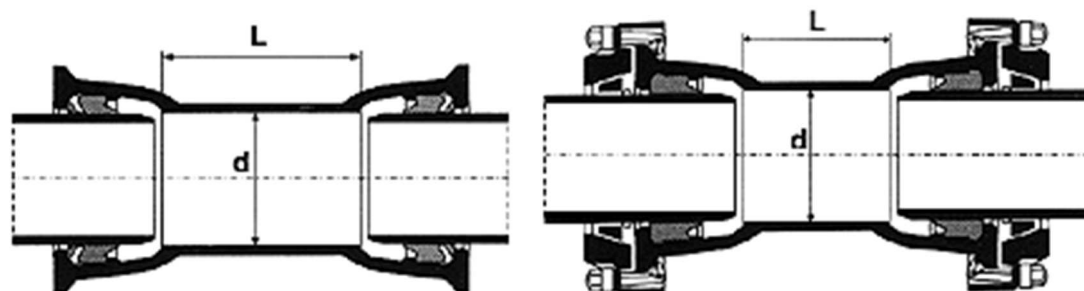


DN	d	e	L	Massas
	mm	mm	mm	kg
50	78	7,0	155	14,64
75	104	7,0	160	12,94
80	109	7,0	160	14,34
100	130	7,2	160	19,14
150	183	7,8	165	27,56
200	235	8,4	170	41,36
250	288	9,0	175	64,48
300	340	9,6	180	76,68
350	393	10,2	185	111,43
400	445	10,8	190	133,50
450	494	11,4	195	159,30
500	550	12,0	200	194,00
600	655	13,2	210	242,40
700	760	14,4	220	324,12
800	865	15,6	230	419,84
900	970	16,8	240	539,60
1000	1075	18,0	250	700,00
1200	1285	20,4	270	922,00

### Revestimento:

- internamente e externamente, pintura betuminosa.

## LUVA COM BOLSAS - JTI JTE



Abrev: LJTI

Abrev: LJTE

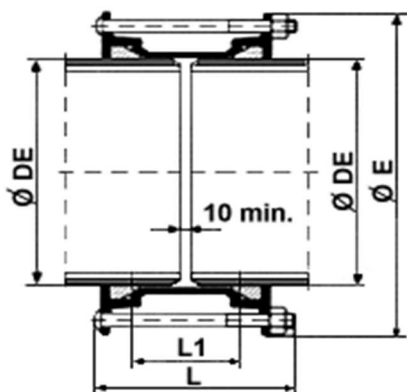
DN	d	e	L	LJTI	LJTE
	mm	mm	mm	kg	kg
50	78	7,0	155	3,70	-
75	104	7,0	160	5,44	-
80	109	7,0	160	10,00	-
100	130	7,2	160	11,70	-
150	183	7,8	165	16,70	-
200	235	8,4	170	24,20	-
250	288	9,0	175	30,20	-
300	340	9,6	180	38,90	113,10
350	393	10,2	185	48,20	127,20
400	445	10,8	190	52,20	153,20
450	498	11,4	195	69,20	184,60
500	550	12,0	200	81,00	230,80
600	655	13,2	210	125,00	328,40
700	760	14,4	220	-	470,56
800	865	15,6	230	-	643,40
900	970	16,8	240	-	778,10
1000	1075	18,0	250	-	897,20
1200	1285	20,4	270	-	993,60

### Revestimento:

- internamente e externamente, pintura betuminosa.



## COUPLING



Abrev.: **COUPLING**

DN	Diâmetro Externo DE		Dimensões e Massas									
	Mínimo	Máximo	L			L1			E	Massas		
			PN10	PN16	PN25	PN10	PN16	PN25		PN10	PN16	PN25
	mm	mm	mm	mm	mm	mm	mm	mm	mm	kg	kg	kg
1400	1460	1464	292		295	178		180	1587	166		190
1500	1563	1567	292		457	178		180	1709	180		200
1600	1666	1670	292	295	457	178	180	180	1808	190	205	235
1800	1873	1877	411		Consultar	254		Consultar	2010	397		Consultar
2000	2074	2083	411		Consultar	254		Consultar	2215	431		Consultar

### Revestimento:

- peças metálicas (exceto parafusos): interna e externamente com epOxi,
- parafusos: revestimento à base de zinco.

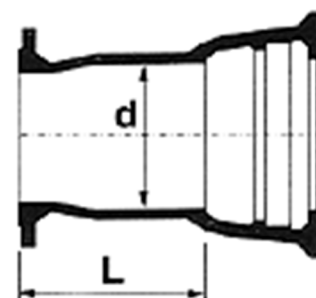
### Deflexão angular admissível no assentamento (2 juntas):

- DN 1400 a 1600: 2u

### Torque de aperto dos parafusos:

- DN 1400: 28 m.daN

## EXTREMIDADE FLANGE E BOLSA - JGS



Abrev:

PN 10: EFJGS10

PN 16: EFJGS16

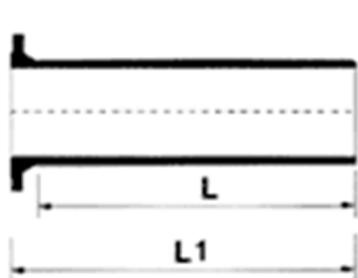
PN 25: EFJGS25

DN	d	e	L	Massas EFJGS		
				PN10	PN16	PN25
				kg	kg	kg
80	109	7,0	110	8,1		
100	130	7,2	110	9,8		10,5
150	183	7,8	115	15,7		16,5
200	235	8,4	120	20,9		23,8
250	288	9,0	130	28,8		33,7
300	340	9,6	130	37,6		41,0
350	393	10,2	155	44,0	49,8	56,0
400	445	10,8	150	53,1	60,2	70,4
450	498	11,4	165	69,6	74,0	85,0
500	550	12,0	165	81,6	95,8	105,6
600	655	13,2	180	106,0	133,0	147,0
700	760	14,4	190	163,0	237,0	187,5
800	865	15,6	200	210,0	219,5	244,0
900	970	16,8	210	258,0	296,5	300,0
1000	1075	18,0	220	321,0	361,0	380,0
1200	1285	20,4	240	460,0	437,5	487,5
1400	1477	22,8	310	716,0	768,0	897,0
1500	1580	24,0	360	898,0	986,0	1122,0
1600	1683	25,2	330	963,0	1046,0	1194,0
1800	1889	27,6	387	1212,0	1305,0	1502,0
2000	2095	30,0	395	1659,0	1789,0	2084,0

### Revestimento:

- internamente e externamente, pintura betuminosa.

## EXTREMIDADE FLANGE E PONTA



Para juntas  
JGS, JM e JTI

Abrev.:  
PN 10: **EFP10**  
PN 16: **EFP16**  
PN 25: **EFP25**



Para juntas  
JTE e JPK

Abrev.:  
PN 10: **EFP10T**  
PN 16: **EFP16T**  
PN 25: **EFP25T**

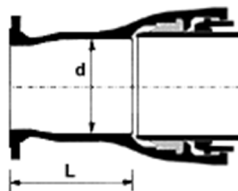
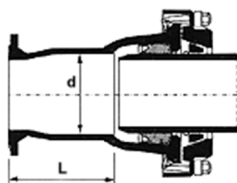
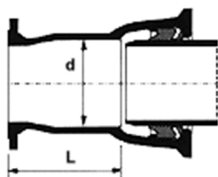


DN	Dimensões e Massas					
	L	L <sub>1</sub>	L <sub>2</sub>	Massas		
				JGS	JTI	JTE
mm	mm	mm	kg	kg	kg	
80 *	350	215	-	8,5		
100 *	360	215	-	10,9		10,2
150 *	380	225	-	17,7		16,6
200 *	400	230	-	23,2	23,2	24,5
250 *	420	240	-	32,0	32,0	35,5
300	440	250	115,0	53,7	43,3	47,5
350	460	260	114,0	52,0	52,0	64,0
400	480	270	113,0	73,5	73,5	81,0
450	500	280	120,0	78,0	84,0	96,0
500	520	290	125,0	114,0	131,0	121,0
600	560	310	135,0	152,0	173,0	168,0
700	600	330	148,0	203,0	221,0	229,0
800	600	330	150,0	246,0	248,0	294,0
900	600	330	148,0	333,3	295,0	355,0
1000	600	330	155,0	363,0	430,0	447,0
1200	600	330	165,0	456,0	506,0	620,0

**Revestimento:** internamente e externamente, pintura betuminosa.

\* Nestes diâmetros, só existe a EFP. A EFPT está elevada aos diâmetros aonde existe o travamento externo.

## EXTREMIDADE FLANGE E BOLSA - JTI, JTE E JPK



Abrev:

 PN 10: **EFJTI10**

 PN 16: **EFJTI16**

 PN 25: **EFJTI25**

Abrev:

 PN 10: **EFJTE10**

 PN 16: **EFJTE16**

 PN 25: **EFJTE25**

Abrev:

 PN 10: **EFJPK10**

 PN 16: **EFJPK16**

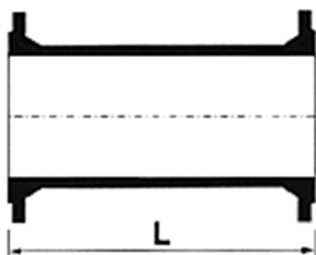
 PN 25: **EFJPK25**

DN	d	e	L	Massas EFJTI			Massas EFJTE			Massas EFJPK		
				PN10	PN16	PN25	PN10	PN16	PN25	PN10	PN16	PN25
				kg	kg	kg	kg	kg	kg	kg	kg	kg
80	109	7,0	110	9,3			-			-		
100	130	7,2	110	9,8		10,5	-			-		
150	183	7,8	115	15,7		16,5	-			-		
200	235	8,4	120	20,9		23,8	-			-		
250	288	9,0	130	28,8		33,7	-			-		
300	340	9,6	130	37,6		41,0	74,7		78,1	-		
350	393	10,2	155	44,0	49,8	56,0	83,5	89,3	95,5	-		
400	445	10,8	150	53,1	60,2	70,4	103,6	110,7	120,9	-		
450	498	11,4	165	69,6	74,0	85,0	120,1	124,5	135,5	-		
500	550	12,0	165	81,6	95,8	105,6	132,1	146,3	156,1	-		
600	655	13,2	180	106,00	133,0	147,00	156,5	183,5	197,5	-		
700	760	14,4	190	-			307,8	381,8	332,3	-		
800	865	15,6	200	-			354,8	364,3	388,8	-		
900	970	16,8	210	-			402,8	414,3	444,8	-		
1000	1075	18,0	220	-			465,8	505,8	524,8	-		
1200	1285	20,4	240	-			604,8	582,3	632,3	-		
1400	1477	22,8	310	-			-			740	792	921
1500	1580	24,0	360	-			-			972	1060	1186
1600	1683	25,2	330	-			-			1076	1159	1307
1800	1889	27,6	387	-			-			1505	1588	-
2000	2095	30,0	395	-			-			Consultar		

### Revestimento:

- internamente e externamente, pintura betuminosa.

## TOCO COM FLANGES



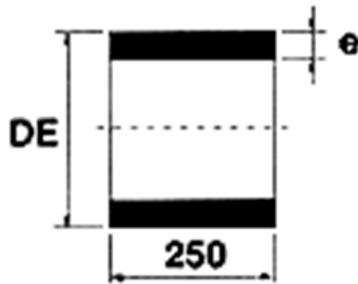
Abrev.:  
 PN 10: TOF10  
 PN 16: TOF16  
 PN 25: TOF25

DN	Dimensões e Massas					
	Massas L = 0,25 m			Massas L = 0,50 m		
	PN 10	PN 16	PN 25	PN 10	PN 16	PN 25
	kg	kg	kg	kg	kg	kg
50	7,5			10,0		
80	11,5			15,0		
100	14,0		15,0	19,0		
150	24,0		26,0	32,0		34,0
200	32,0		36,0	43,0		47,0
250	44,0		50,0	60,0		67,0
300	56,0		66,0	76,0		86,0
350	70,0	76,0	92,0	88,0	94,0	110,0
400	85,0	97,0	119,0	114,0	126,0	148,0
450	95,0	110,0	133,0	137,0	152,0	175,0
500	116,0	146,0	170,0	156,0	186,0	210,0
600	165,0	217,0	245,0	217,0	269,0	297,0
700	219,0	249,0	319,0	286,0	316,0	386,0
800	279,0	317,0	415,0	361,0	399,0	497,0
900	350,0	398,0	518,0	450,0	498,0	618,0
1000	419,0	503,0	659,0	538,0	622,0	778,0
1200	597,0	725,0	925,0	755,0	883,0	1083,0

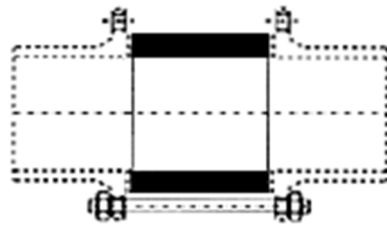
### Revestimento:

- internamente e externamente, pintura betuminosa.

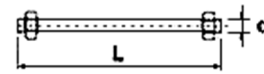
## CARRETEL



**Carretel simples**  
Abrev.: CLS



**Carretel com tirantes**  
Abrev.:  
PN 10: CLC10  
PN 16: CLC16  
PN 25: CLC25



**Tirantes**  
Abrev.:  
PN 10: TPC10  
PN 16: TPC16  
PN 25: TPC25



Dimensões e Massas															
DN	Carretel a Recortar L=0,25m			Tirantes											
				PN 10				PN 16				PN 25			
	e	DE	Massas	Quan- tidade	L	d	Massas	Quan- tidade	L	d	Massas	Quan- tidade	L	d	Massas
mm	mm	Kg	mm		mm	kg	mm		mm	kg	mm		mm	kg	
50	24,0	98,0	10,0	4	360	16	2,5	4	360	16	2,5	4	360	16	2,5
80	26,0	130,0	15,5	8	360	16	5,0	8	360	16	5,0	8	360	16	5,0
100	26,5	153,0	19,0	8	360	16	5,0	8	360	16	5,0	8	370	20	7,0
150	29,5	209,0	30,0	8	370	20	7,0	8	370	20	7,0	8	380	24	9,6
200	32,0	264,0	42,0	8	370	20	7,0	12	370	20	10,6	12	380	24	14,5
250	34,5	319,0	55,0	12	370	20	10,6	12	380	24	14,4	12	430	27	20,4
300	34,5	369,0	62,0	12	380	20	10,6	12	390	24	14,4	16	430	27	27,2
400	38,5	477,0	95,0	16	400	24	19,2	16	430	27	27,2	16	460	33	44,8
450	38,5	527,0	114,27	20	400	24	22,3	20	430	27	31,4	20	460	33	49,8
500	41,0	582,0	125,0	20	400	24	24,0	20	450	30	44,6	20	460	33	56,0
600	41,0	682,0	148,0	20	430	27	34,0	20	460	33	56,0	20	480	36	71,0
700	48,5	797,0	204,0	24	430	27	40,8	24	460	33	67,2	24	490	39	107,0
800	52,0	904,0	249,0	24	450	30	53,5	24	480	36	85,5	24	520	45	153,1
900	52,0	1004,0	278,0	28	450	30	62,4	28	480	36	99,4	28	520	45	178,6
1100	55,5	1111,0	329,0	28	460	33	78,4	28	480	39	124,9	28	550	52	253,1
1200	60,0	1320,0	424,0	32	480	36	113,6	32	520	45	204,2	32	550	52	289,3

**Revestimento:** internamente e externamente, pintura betuminosa.



# CAP JGS JTI TJTI TJTE

DN 80 a 250

DN 300 a 600

DN 80 a 250

DN 300 a 600



Abrev.: KJTI

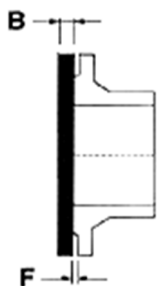
Abrev.: KJTE

DN	P mm	Massa		
		JGS Kg	JTI Kg	JTE Kg
80	82	3,2	3,2	-
100	88	4,7	4,7	-
150	94	9,4	9,4	-
200	100	13,6	13,6	-
250	103	18,7	18,7	-
300	105	32,1	32,1	69,8
350	107	40,3	40,3	79,3
400	110	51,5	51,5	99,5
450	113	64,8	64,8	121,8
500	115	78,5	78,5	155,2
600	120	113,7	113,7	201,8

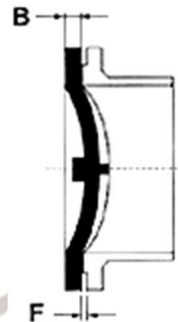
**Revestimento:** internamente e externamente, pintura betuminosa.

## FLANGE CEGO

DN 50 a 200



DN 250 a 1200



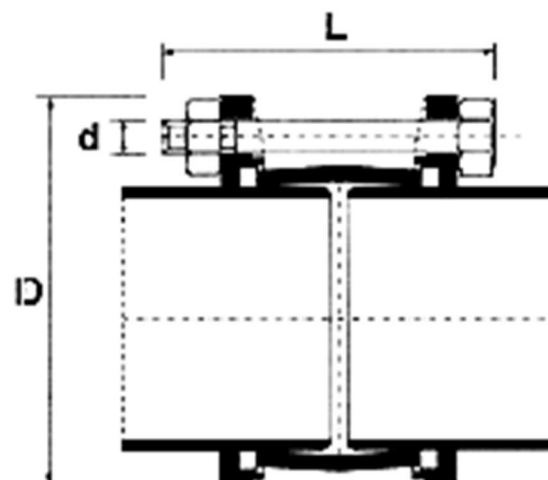
Abrev.:  
PN 10: FC10  
PN 16: FC16  
PN 25: FC25

DN	Dimensões e Massas						
	F	PN 10		PN 16		PN 25	
		B	Massas	B	Massas	B	Massas
	mm	mm	kg	mm	kg	mm	kg
50	3	16,0	2,4	16	2,4	16	2,4
80	3	16,0	3,6	16	3,6	16	3,6
100	3	16,0	4,3	16	4,3	16	4,8
150	3	16,0	7,2	16	7,2	17	8,3
200	3	17,0	11,0	17	11,0	19	13,3
250	3	19,0	17,0	19	17,0	21,5	21,0
300	4	20,5	24,0	20,5	24,0	23,5	30,0
350	4	20,5	30,0	22,5	33,0	26	43,0
400	4	20,5	36,0	24	44,0	28	58,0
450	4	21,5	68,0	26	75,5	30,5	87,0
500	4	22,5	56,0	27,5	77,0	32,5	94,0
600	5	25,0	85,0	31	121,0	37	144,0
700	5	27,5	123,0	34,5	156,0	41,5	215,0
800	5	30,0	172,0	38	218,0	46	304,0
900	5	32,5	224,0	41,5	286,0	50,5	397,0
1000	5	35,0	293,0	45	387,0	55	535,0
1200	5	40,0	575,0	52	662,0	64	843,0

**Revestimento:** Internamente e externamente, pintura betuminosa.

# JUNTA GIBAULT

Abrev.:JGI



DN	Dimensões e Massas					
	D	Parafusos		Quantidade de Parafusos	Massas com Parafusos	PSA
		d	L			
	mm	mm	mm	kg	MPa	
50	168	20	130	3	4,6	2,5
80	198	20	130	3	7,0	2,5
100	223	20	160	3	9,0	2,5
150	282	24	200	3	14,2	2,5
200	339	24	200	3	17,5	2,5
250	394	24	200	4	29,4	1,6
300	448	24	200	4	34,0	1,6
350	503	24	200	6	46,3	1,6
400	565	24	200	6	54,3	1,6
500	671	24	230	6	68,5	1,6
600	775	24	230	6	101,0	1,6

Revestimento:

- internamente e externamente, pintura betuminosa.

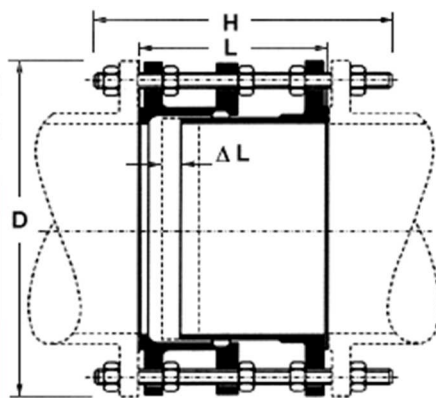
## JUNTA DE DESMONTAGEM TRAVADA AXIALMENTE

### Descrição

É utilizada em canalizações flangeadas e deve ser instalada próxima a registros, válvulas e aparelhos. Soltando os tirantes, a junta pode retrair-se axialmente, permitindo a retirada daqueles elementos da canalização.

#### ABREVIATURAS

PN	Abreviaturas
10	JDTA10
16	JDTA16
25	JDTA25



$\Delta L$ : Variação axial máxima  
±25mm

DN	Dimensões e Massas											
	PN 10				PN 16				PN 25			
	D	L	H	Massas	D	L	H	Massas	D	L	H	Massas
	mm	mm	mm	kg	mm	mm	mm	kg	mm	mm	mm	kg
100	220	200	313	21	220	200	313	22	235	223	340	33
150	285	200	320	35	285	200	320	36	300	230	358	54
200	340	220	341	49	340	220	341	53	360	230	362	78
250	400	220	345	65	400	230	362	78	425	250	392	105
300	455	220	360	92	455	250	410	117	485	250	410	168
400	565	230	370	155	580	270	430	205	620	280	480	310
500	670	260	390	200	715	280	440	304	730	300	480	409
600	780	260	410	259	840	300	480	415	845	320	520	545
700	895	260	410	324	910	300	480	460	960	340	530	717
800	1015	290	460	443	1025	320	520	600	1085	360	600	1000
900	1115	290	460	509	1125	320	520	685	1185	380	600	1110
1000	1230	290	480	610	1255	340	560	899	1320	400	650	1590
1200	1455	320	520	935	1485	360	600	1388	1530	450	720	2340
1400	1675	380	645	1297	1685	380	645	1690				
1500	1785	400	675	1798	1820	400	725	2005				

## Características Construtivas

Nº	Componentes		Materiais
1	Corpo	DN 100 a 250	Aço carbono soldado
		DN 300 a 1500	Ferro dúctil NBR6916 classe 42012
2	Contra-flange	DN 100 a 250	Aço carbono soldado
		DN 300 a 1500	Ferro dúctil NBR6916 classe 42012
3	Pistão	DN 100 a 250	Aço carbono soldado
		DN 300 a 1500	Ferro dúctil NBR6916 classe 42012
4	Anel de vedação		Borracha
5	Tirante		Aço carbono galvanizado
6	Porca		Aço carbono galvanizado

**Flanges:** Gabaritos de furação conforme Norma ABNT NBR 7675 (ISO 2531) classes PN 10, 16 e 25.

**Pressão Máxima de Serviço:** 2,5 MPa

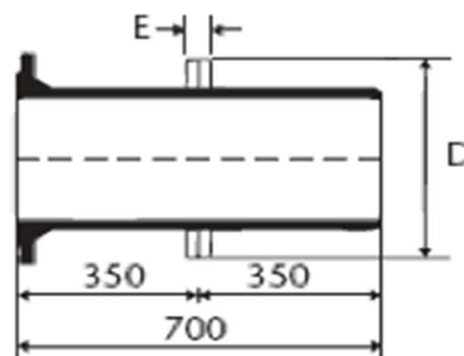
**Revestimento :** Pintura epóxi poliamida.

**Nota:** Esta junta deve ser montada entre flanges com gabarito de furação conforme mostrado anteriormente. O cliente deve verificar a compatibilidade desta junta com as peças adjacentes.

**Especificações Técnicas:** Junta de Desmontagem Travada Axialmente (DNs < 250 mm). Junta de Desmontagem Travada Axialmente, corpo, pistão e contraflange confeccionado em aço carbono. Pintura em epóxi pó depositado eletrostaticamente, espessura mínima 300 micra. Anel de vedação confeccionado em borracha (EPDM). Parafusos e porcas confeccionados em aço SAE 1020 revestidos com galvanização eletrolítica. Extremidades flangeadas com gabarito de furação de acordo com a norma NBR 7675 (ISO 2531) PN 10, 16 ou 25.

**JDTA (DNs > 250 mm):** Junta de Desmontagem Travada Axialmente, corpo, pistão e contraflange confeccionado em ferro fundido dúctil (NBR 6916 classe 42012). Pintura de fundo com primer epóxi de alta espessura, bi-componente, curado com poliamida e sem pigmentos anticorrosivos tóxicos. Acabamento fosco, azul RAL 5005, espessura mínima de película seca de 150 micra. Anel de vedação confeccionado em borracha sintética (Buna-N). Parafusos e porcas confeccionados em aço SAE 1020 revestidos com galvanização eletrolítica. Extremidades flangeadas gabarito de furação de acordo com a norma NBR 7675 (ISO 2531) PN 10, 16 ou 25.

## EXTREMIDADE FLANGE E PONTA COM ABA DE VEDAÇÃO



Abrev.:

PN 10: EPFAV10

PN 16: EPFAV16

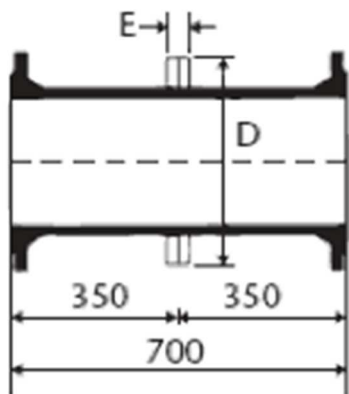
PN 25: EPFAV25

Dimensões e Massas						
DN	D	E	Massas			Empuxo Axial Máximo Admissível
			Ponta e Flange			
			PN 10	PN 16	PN 25	
			kg	kg	kg	
mm	mm					kN
80	200	20	17,0			17
100	218	20	21,0			30
150	270	20	32,0		33,0	66
200	322	20	46,0		48,0	118
250	374	20	58,0		61,5	184
300	426	20	75,0		81,0	265
350	478	25	89,0	92,5	101,0	360
400	529	25	108,0	114,0	127,0	470
500	632	25	147,0	164,0	177,0	740
600	735	25	197,0	226,0	241,0	1060
700	858	30	244,0	272,0	299,0	1440
800	952	30	314,0	335,0	389,0	1880
900	1095	30	345,0	408,0	474,0	2830
1000	1198	40	487,0	533,0	619,0	2950
1200	1405	40	637,0	695,0	817,0	4250

### Revestimento:

- internamente e externamente, pintura betuminosa.





## TOCO COM FLANGES E ABA DE VEDAÇÃO

Abrev.: PN 10: TOFAV10

Abrev.: PN 16: TOFAV16

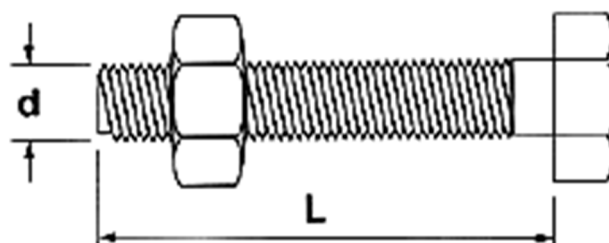
Abrev.: PN 25: TOFAV25

DN	Dimensões e Massas					
	D	E	Massas			Empuxo Axial Máximo Admissível
			Toco com Flanges			
			PN 10	PN 16	PN 25	
	mm	mm	kg	kg	kg	
80	200	20	20,0			
100	218	20	25,5			30
150	270	20	40,0		42,0	66
200	322	20	56,0		60,0	118
250	374	20	72,5		79,0	184
300	426	20	93,0		104,0	265
350	478	25	112,0	118,5	135,0	360
400	529	25	136,0	148,0	172,0	470
500	632	25	197,0	217,0	242,0	740
600	735	25	253,0	308,0	337,0	1060
700	858	30	320,0	363,0	425,0	1440
800	952	30	412,0	452,0	555,0	1880
900	1095	30	470,0	557,0	683,0	2830
1000	1198	40	637,0	725,0	889,0	2950
1200	1405	40	857,0	979,0	1201,0	4250

### Revestimento:

- internamente e externamente, pintura betuminosa.

## ACESÓRIOS PARA JUNTAS COM FLANGES: PARAFUSOS



Abrev.:

PN 10: PPFQ10\*

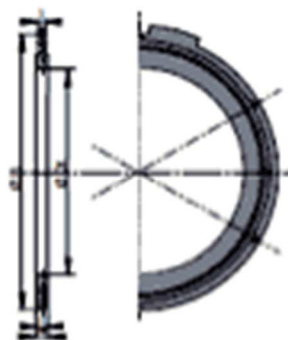
PN 16: PPFQ16\*

PN 25: PPFQ25\*

DN	Dimensões e Massas											
	PN 10				PN 16				PN 25			
	d	L	Quant.	Massas	d	L	Quant.	Massas	d	L	Quant.	Massas
			por	por			por	por			por	por
			Junta	Junta			Junta	Junta			Junta	Junta
mm	mm		kg	mm	mm		kg	mm	mm		kg	
50	16	80	4	0,7	16	80	4	0,7	16	80	4	0,7
80	16	80	8	1,4	16	80	8	1,4	16	80	8	1,4
100	16	80	8	1,4	16	80	8	1,4	20	90	8	2,6
150	20	90	8	2,6	20	90	8	2,6	24	100	8	4,4
200	20	90	8	2,6	20	90	12	3,96	24	100	12	6,6
250	20	90	12	4	24	100	12	6,6	27	120	13	11,2
300	20	100	12	4	24	100	12	6,6	27	120	16	14,9
350	20	100	16	5,3	24	110	16	8,8	30	130	16	18,2
400	24	110	16	8,8	27	120	16	14,9	33	130	16	23,5
450	24	110	20	11	27	120	20	18,6	33	140	20	29,4
500	24	110	20	11	30	130	20	22,8	33	140	20	29,4
600	27	120	20	18,6	33	140	20	29,4	36	140	20	37,6
700	27	130	24	22,3	33	160	24	35,4	39	170	24	56,9
800	30	140	24	27,4	36	160	24	45,1	45	190	24	90,5
900	30	140	28	31,9	36	170	28	52,6	45	200	28	105,6
1000	33	150	28	41,2	39	180	28	66,4	52	220	28	156,8
1200	36	160	32	60,2	45	200	32	120,7	52	240	32	179,2

\* parafusos de aço galvanizado a fogo, conforme NBR 7675.

## ACESSÓRIOS PARA JUNTAS COM FLANGES: ARRUELAS



Arruela com alma metálica e dispositivo de apoio moldados DN 50 a DN 300



Arruela com alma metálica moldada e dispositivo de apoio DN 350 a DN 1200

### ABMF

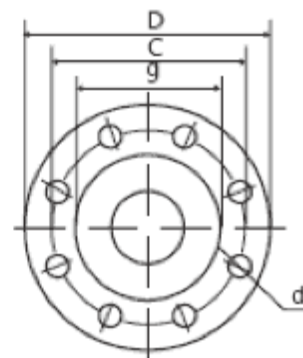
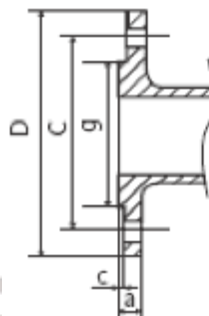
PN	DN	B	DI	i	e	Massa
bar	mm					Kg
10 - 40	50	109	65	8	10	0,087
	80	144	95	8	10	0,129
	100	165	115	8	10	0,143
	150	221	171	8	10	0,203
	200	276	226	8	10	0,263
	250	331	278	8	10	0,319
	300	380	324	8	10	0,394
	350	439	371	9,5	16	0,890
	400	490	422	9,5	16	1,005

10 - 25*	450	540	472	9,5	16	1,100
	500	595	527	9,5	16	1,235
	600	697	621	9,5	16	1,800
	700	806	730	9,5	16	2,040
	800	913	827	9,5	16	2,845
	900	1013	927	9,5	16	3,155
	1000	1126	1040	9,5	16	3,500
	1200	1343	1247	9,5	16	4,945

\*Em caso de PN 40, consultar.

## DIMENSÕES JUNTA COM FLANGE PN 10

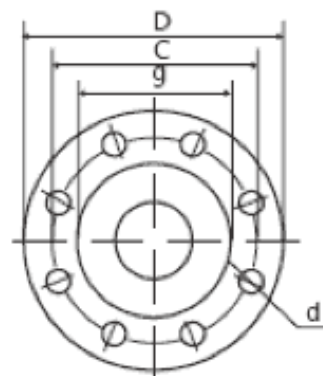
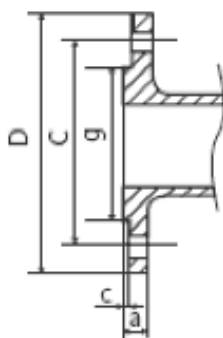
Abrev.: FA10



DN	D	C	d	Parafusos		a	Ressalto	
				Quantidade	Dimensão nominal		g	c
50	165	125	19	4	M16	19	99	3
80	200	160	19	8	M16	19	132	3
100	220	180	19	8	M16	19	156	3
150	285	240	23	8	M20	19	211	3
200	340	295	23	8	M20	20	266	3
250	400	350	23	12	M20	22	319	3
300	455	400	23	12	M20	24,5	370	4
350	505	460	23	16	M20	24,5	429	4
400	565	515	28	16	M24	24,5	480	4
450	615	565	28	20	M24	25,5	530	4
500	670	620	28	20	M24	26,5	582	4
600	780	725	31	20	M27	30	682	5
700	895	840	31	24	M27	32,5	794	5
800	1015	950	34	24	M30	35	901	5
900	1115	1050	34	28	M30	37,5	1001	5
1000	1230	1160	37	28	M33	40	1112	5
1200	1455	1380	40	32	M36	45	1328	5
1400	1675	1590	43	36	M39	46	1530	5
1600	1915	1820	49	40	M45	49	1750	5
1800	2115	2020	49	44	M45	52	1950	5
2000	2325	2230	49	48	M45	55	2150	5

## DIMENSÕES JUNTA COM FLANGE PN 16

Abrev. FA16

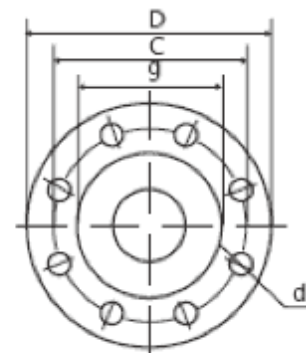
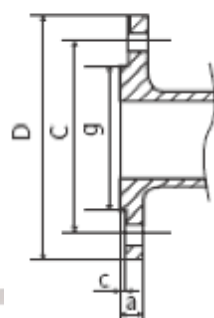


DN	D	C	d	Parafusos		a	Ressalto	
				Quantidade	Dimensão nominal		g	c
50	165	125	19	4	M16	19	99	3
80	200	160	19	8	M16	19	132	3
100	220	180	19	8	M16	19	156	3
150	285	240	23	8	M20	19	211	3
200	340	295	23	12	M20	20	266	3
250	400	355	28	12	M24	22	319	3
300	455	410	28	12	M24	24,5	370	4
350	520	470	28	16	M24	26,5	429	4
400	580	525	31	16	M27	28	480	4
450	640	585	31	20	M27	30	548	4
500	715	650	34	20	M30	31,5	609	4
600	840	770	37	20	M33	36	720	5
700	910	840	37	24	M33	39,5	794	5
800	1025	950	40	24	M36	43	901	5
900	1125	1050	40	28	M36	46,5	1001	5
1000	1255	1170	43	28	M39	50	1112	5
1200	1485	1390	49	32	M45	57	1328	5
1400	1685	1590	49	36	M45	60	1530	5
1600	1930	1820	56	40	M52	65	1750	5
1800	2130	2020	56	44	M52	70	1950	5
2000	2345	2230	62	48	M56	75	2150	5



## DIMENSÕES JUNTA COM FLANGE PN 25

Abrev. FA25

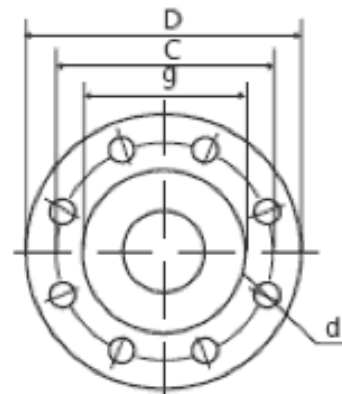
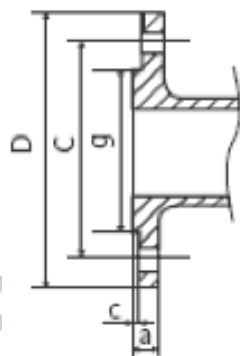


DN	D	C	d	Parafusos		a	Ressalto	
				Quantidade	Dimensão nominal		g	c
50	165	125	19	4	M16	19	99	3
80	200	160	19	8	M16	19	132	3
100	235	190	23	8	M20	19	156	3
150	300	250	28	8	M24	20	211	3
200	360	310	28	12	M24	22	274	3
250	425	370	31	12	M27	24,5	330	3
300	485	430	31	16	M27	27,5	389	4
350	555	490	34	16	M30	30	448	4
400	620	550	37	16	M33	32	503	4
450	670	600	37	20	M33	34,5	548	4
500	730	660	37	20	M33	36,5	609	4
600	845	770	40	20	M36	42	720	5
700	960	875	43	24	M39	46,5	820	5
800	1085	990	49	24	M45	51	928	5
900	1185	1090	49	28	M45	55,5	1028	5
1000	1320	1210	56	28	M52	60	1140	5
1200	1530	1420	56	32	M52	69	1350	5
1400	1755	1640	62	36	M56	74	1560	5
1600	1975	1860	62	40	M56	81	1780	5
1800	2195	2070	70	44	M64	88	1985	5
2000	2425	2300	70	48	M64	95	2210	5



## DIMENSÕES JUNTA COM FLANGE PN 40

Abrev.: FA40



DN	D	C	d	Parafusos			Ressalto	
				Quantidade	Dimensão nominal	a	g	c
50	165	125	19	4	M16	19	99	3
80	200	160	19	8	M16	19	132	3
100	235	190	23	8	M20	19	156	3
150	300	250	28	8	M24	26	211	3
200	375	320	31	12	M27	30	284	3
250	450	385	34	12	M30	34,5	345	3
300	515	450	34	16	M30	39,5	409	4
350	580	510	37	16	M33	44	465	4
400	660	585	40	16	M36	48	535	4
450	685	610	40	20	M36	49	560	4
500	755	670	43	20	M39	52	615	4
600	890	795	49	20	M45	58	735	5

## PRESSÕES DE SERVIÇO ADMISSÍVEIS - PEÇAS COM FLANGES

DN	PN 10		
	PSA	PMS	PTA
	MPa	MPa	MPa
80	1,6	2,0	2,5
100 e 150	1,6	2,0	2,5
200 a 300	1,0	1,2	1,7
350 a 1200	1,0	1,2	1,7
DN	PN 16		
	PSA	PMS	PTA
	MPa	MPa	MPa
80	1,6	2,0	2,5
100 e 150	1,6	2,0	2,5
200 a 300	1,6	2,0	2,5
350 a 1200	1,6	2,0	2,5
DN	PN 25		
	PSA	PMS	PTA
	MPa	MPa	MPa
80	4,0	4,8	5,3
100 e 150	2,5	3,0	3,5
200 a 300	2,5	3,0	3,5
350 a 1200	2,5	3,0	3,5
DN	PN 40		
	PSA	PMS	PTA
	MPa	MPa	MPa
80	4,0	4,8	5,3
100 e 150	4,0	4,8	5,3
200 a 600	4,0	4,8	5,3

- PSA - Pressão de serviço admissível**  
 Pressão interna, excluindo o golpe de ariete, que um componente pode suportar com total segurança, de forma contínua, em regime hidráulico permanente.
- PMS - Pressão máxima de serviço**  
 Pressão interna máxima, incluindo o golpe de ariete, que um componente pode suportar em serviço.
- PTA - Pressão de teste admissível**  
 Pressão hidrostática máxima, que pode ser aplicada no teste de campo, a um componente de uma canalização recém-instalada. **1 MPa = 10,19 kgf/cm<sup>2</sup> = 101,9 m.c.a**