

**ESMACIM**  
FLEXIBLES



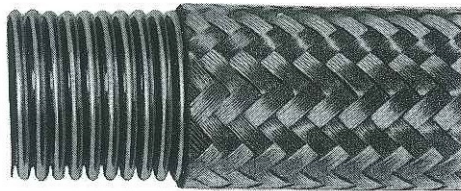
# INOFLEX - 117

## Tubo Flexible Ondulado de Ondas Paralelas Enteramente Metálico en Acero Inoxidable Stainless Steel Corrugated Flexible Metal Hose Tuyau Metallique Flexible Onduleux Acier Inoxydable

**Tipo Standard**  
**Normally Corrugated**  
**Type Standard**



°C	Coefficiente Coefficient Coefficient
100	1
150	0,95
200	0,88
250	0,79
300	0,75
350	0,72
400	0,70
500	0,63
600	0,57
700	0,50
800	0,41



### MATERIALES DE FABRICACION

Aceros inoxidables AISI-321, AISI-304L y AISI-316L.  
DIN-1.4541, 1.4306 y 1.4571

### REFUERZOS EXTERIORES

Por una o dos trenzados de hilos de acero inoxidable en AISI-304L.

### PRESION DE SERVICIO (según temperatura)

Las presiones indicadas en la tabla de características, se verán reducidas según la siguiente escala (ver tabla):

### MANUFACTURE

Stainless Steel, grades 321, 304L and 316L (AISI),  
Z 2 CN 18-10, Z 2 CND 17-13 (AFNOR), I 4306, I 4404,  
I 4435 (DIN) and on order for big quantities only.

### REINFORCEMENT

1 or 2 stainless steel wire braids.

### PRESSURE RANGE (depending operating temperature)

Correction factor for abnormal temperature application  
(see table):

### FABRICATION

Acier inoxydable, nuance: 304L, 321 et 316L (AISI),  
1.4306, 1.4541 et 1.4571 (DIN)

### REINFORCEMENT

1 ou 2 tresses de fils d'acier inoxydable 304L

### PRESION

Coefficient de correction pour température (voir table):

DIAMETROS DIAMETERS DIAMETRES					PRESIONES Kg/cm <sup>2</sup> PRESSURE Kg/cm <sup>2</sup> PRESSION Kg/cm <sup>2</sup>			RADIOS DE CURVATURA (mm.) BENDS (minimum radius) DIAMETRE D'ENROULEMENT	
Interiores Inside Intérieur		Exteriores Outside Exterieur			sin trenza without braid sans tresse	una trenza with one braid une tresse	dos trenzas with two braids deux tresses	estático static statique	dinámico dynamic dynamique
pulg. inches pouces	mm.	sin trenza without braid sans tresse	una trenza with one braid une tresse	dos trenzas with two braids deux tresses					
1/4	6	10	12	13,5	16	120	150	40	160
5/16	8	12,5	14	15,5	16	100	120	45	170
3/8	10	14,5	16	17,5	16	85	100	45	185
1/2	12	17	19	20	12	73	95	60	250
5/8	16	21	23	24,5	7	62	90	70	260
3/4	20	26,5	28	30	5	50	80	75	270
1"	25	31,5	34	36	4	40	64	85	285
1-1/4	32	40,5	43	45	3	35	50	110	300
1-1/2	40	48,5	51	53	2	30	40	145	360
2"	50	61	63	65	1,5	26	32	155	420
2-1/2	65	76	79	82	1	23	30	185	550
3"	80	95	98	100	0,7	19	26	210	650
4"	100	115	118	120	0,5	14	20	345	900
5"	125	143	146	148	0,3	10	14	525	1250
6"	150	168	171	174	0,2	7	12	700	1600
7"	175	195	199	202	0,2	7	12	800	1700
8"	200	220	223	227	0,2	4	7	1100	2000

Otros diámetros y presiones consultar

Other diameters and pressures to delivery

Autres diametres et pressions a consulter



# INOFLEX - 1.117

## Tubo Flexible Ondulado de Ondas Paralelas Enteramente Metálico en Acero Inoxidable Stainless Steel Corrugated Flexible Metal Hose Tuyau Metallique Flexible Onduleux Acier Inoxydable

### MATERIALES DE FABRICACION

Aceros inoxidable AISI-321, AISI-304L y AISI-316L.  
DIN-1.4541, 1.4306 y 1.4571

### REFUERZOS EXTERIORES

Por una o dos trenzados de hilos de acero inoxidable en AISI-304L.

### PRESION DE SERVICIO (según temperatura)

Las presiones indicadas en la tabla de características, se verán reducidas según la siguiente escala (ver tabla):

### MANUFACTURE

Stainless Steel, grades 321, 304L and 316L (AISI), Z 2 CN 18-10, Z 2 CND 17-13 (AFNOR), I 4306, I 4404, I 4435 (DIN) and on order for big quantities only.

### REINFORCEMENT

1 or 2 stainless steel wire braids.

### PRESURE RANGE (depending operating temperature)

Correction factor for adnormal temperature application (see table):

### FABRICATION

Acier inoxydable, nuance: 304L, 321 et 316L (AISI), 1.4306, 1.4541 et 1.4571 (DIN)

### REINFORCEMENT

1 ou 2 tresses de fils d'acier inoxydable 304L

### PRESION

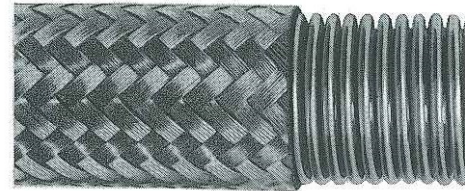
Coefficient de correction pour température (voir table):

°C	Coefficiente Coefficient Coefficient
100	1
150	0,95
200	0,88
250	0,79
300	0,75
350	0,72
400	0,70
500	0,63
600	0,57
700	0,50
800	0,41

Tipo "OMEGA"  
(Extra flexible)

"OMEGA" Corrugated  
(Extra flexibility)

Type "OMEGA"  
(Extra flexible)



DIAMETROS DIAMETERS DIAMETRES					PRESIONES Kg/cm <sup>2</sup> PRESSURE Kg/cm <sup>2</sup> PRESSION Kg/cm <sup>2</sup>			RADIOS DE CURVATURA (mm.) BENDS (minimum radius) DIAMETRE D'ENROULEMENT	
Interiores Inside Intérieur		Exteriores Outside Exterieur			sin trenza without braid sans tresse	una trenza with one braid une tresse	dos trenzas with two braids deux tresses	estático static statique	dinámico dynamic dynamique
pulg. inches pouces	mm.	sin trenza without braid sans tresse	una trenza with one braid une tresse	dos trenzas with two braids deux tresses					
5/16	8	12,5	14	15	10	120	160	30	170
3/8	10	15	16,5	18	10	90	100	35	180
1/2	12	20	22	24	8	75	90	50	175
5/8	16	23	25	27	4	65	70	55	180
3/4	20	28	30	32	3	56	65	60	185
1"	25	36	38	40	2	40	48	65	195
1-1/4	32	44	46	48	1,5	35	38	90	205
1-1/2	40	51	54	57	1,2	30	32	115	250
2"	50	66	69	72	0,7	25	28	125	300
2-1/2	65	81	84	87	0,6	23	27	150	375
3"	80	96	99	102	0,5	19	25	170	450
4"	100	127	130	133	0,3	14	18	225	625
5"	125	152	155	158	0,2	10	14	425	875
6"	150	174	177	180	0,15	7	12	575	1150

Otros diámetros y presiones consultar

Other diameters and pressures to delivery

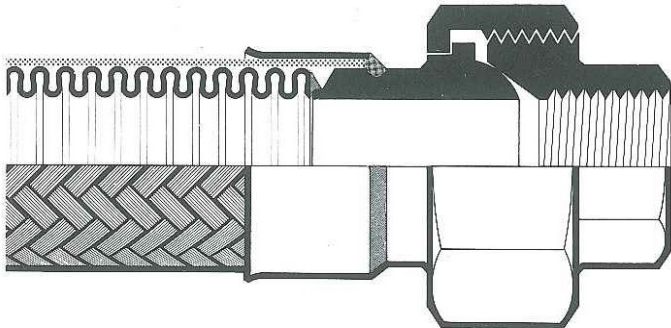
Autres diametres et pressions a consulter



# Racores para Tubo INOFLEX - 117 e INOFLEX 1.117

# Fittings for Tubing INOFLEX - 117 or INOFLEX 1.117

# Raccordements pour Tuyaux INOFLEX - 117 et INOFLEX 1.117



La soldadura para los racores de acero carbono e inoxidable se efectúa siempre por sistema "TIG" y para latón con plata.

**MATERIALES**

Acero carbono, acero inoxidable, latón.

Stainless steel and carbon steel welding under argon atmosphere (TIG process). Silver braze-welding for brass.

**MATERIALS**

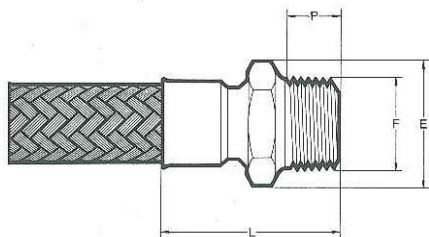
Carbon steel, stainless steel, brass.

Soudure inoxydable sous atmosphere d'argon (procede TIG) employée pour acier non allie ou acier inoxydable. Argent pour bronze.

**MATIERES**

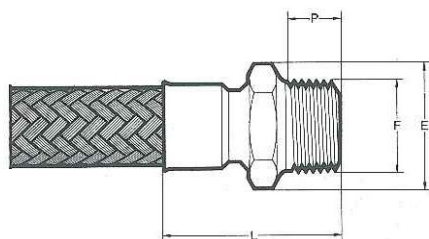
Acier non allie, acier inoxydable, bronze.

## Macho cilíndrico BSP • BSP Cylindrical Male • BSP Mamelon



DN	F	P	E	L
10	3/8"	14	17	55
12	1/2"	17	22	60
16	3/4"	18	27	70
20	3/4"	18	27	70
25	1"	22	35	75
32	1.1/4"	24	45	90
40	1.1/2"	24	50	90
50	2"	28	65	100
65	2.1/2"	31	80	125
80	3"	34	90	130
100	4"	40	115	160

## Macho NPT • NPT Conical Male • NPT Mamelon

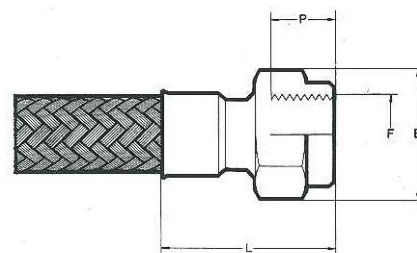


DN	F	P	E	L
10	3/8"	16	17	55
12	1/2"	20	22	60
16	3/4"	20	27	70
20	3/4"	20	27	70
25	1"	25	35	75
32	1.1/4"	26	45	90
40	1.1/2"	27	50	90
50	2"	27	65	100
65	2.1/2"	40	80	125
80	3"	42	90	130
100	4"	44	115	160



Hembra Fija BSP • BSP Female Fixed • BSP Femelle fixe

DN	F	P	E	L
10	3/8"	15	22	50
12	1/2"	20	27	65
16	3/4"	20	32	65
20	3/4"	20	32	65
25	1"	24	40	75
32	1.1/4"	25	50	85
40	1.1/2"	25	55	90
50	2"	25	70	90
65	2.1/2"	35	85	120
80	3"	37	100	130
100	4"	39	125	150

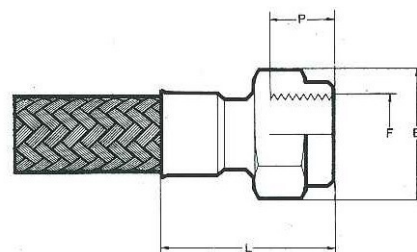


ASA B 2.1

DN	F	P	E	L
10	3/8"	15	22	50
12	1/2"	20	27	55
16	3/4"	20	32	65
20	3/4"	20	32	65
25	1"	24	40	75
32	1.1/4"	25	50	85
40	1.1/2"	25	55	90
50	2"	25	70	90
65	2.1/2"	35	85	120
80	3"	37	100	130
100	4"	39	125	150

Hembra Fija NPT • NPT Female Fixed • NPT Femelle fixe

Cónica NPT  
NPT conical  
NPT conique

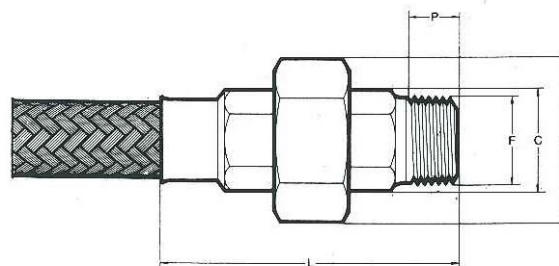


UNI 339

DN	F	P	C	E	L
10	3/8"	14	18	31	85
12	1/2"	17	22	38	90
16	3/4"	18	31	47	110
20	3/4"	18	31	47	110
25	1"	22	38	53	115
32	1.1/4"	24	47	66	135
40	1.1/2"	24	53	72	140
50	2"	28	66	89	150
65	2.1/2"	31	83	109	185
80	3"	34	96	123	195
100	4"	40	123	163	235

Tuerca Unión • Male Union • Union Male

Gas cónica  
BSP conical  
BSP conique

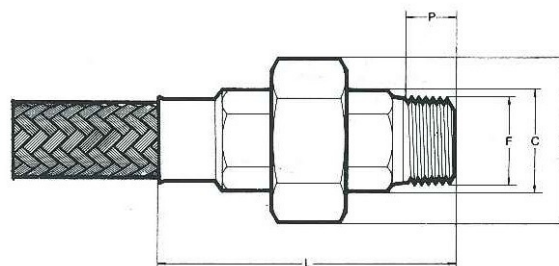


ASA B 2.1

DN	F	P	C	E	L
10	3/8"	16	18	31	85
12	1/2"	20	22	38	90
16	3/4"	20	31	47	110
20	3/4"	20	31	47	110
25	1"	25	38	53	115
32	1.1/4"	26	47	66	135
40	1.1/2"	27	53	72	140
50	2"	27	66	89	150
65	2.1/2"	40	83	109	185
80	3"	42	96	123	195
100	4"	44	123	163	235

Tuerca Unión • Male Union • Union Male

Cónica NPT  
NPT conical  
NPT conique

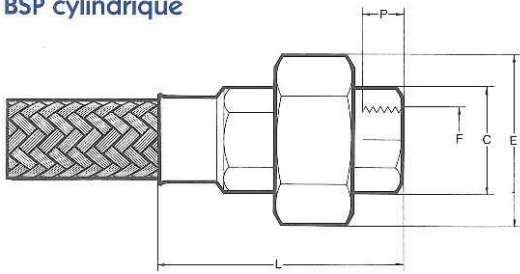




**Tuerca Unión • Female Union • Union Femelle**

**UNI 338**

Gas cilíndrica  
BSP cylindrical  
BSP cylindrique

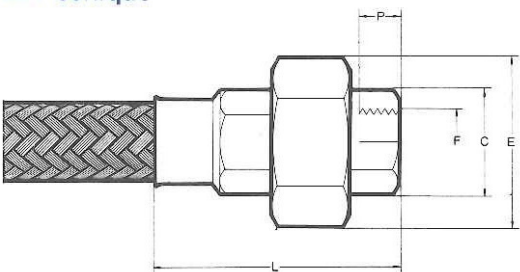


DN	F	P	C	E	L
10	3/8"	13	21	36	70
12	1/2"	15	25	43	75
16	3/4"	17	31	48	90
20	3/4"	17	31	48	90
25	1"	19	37	53	95
32	1.1/4"	22	47	70	110
40	1.1/2"	22	53	72	115
50	2"	26	66	89	125
65	2.1/2"	30	83	110	150
80	3"	35	96	125	160
100	4"	40	123	163	195

**Tuerca Unión • Female Union • Union Femelle**

**ASA B 2.1**

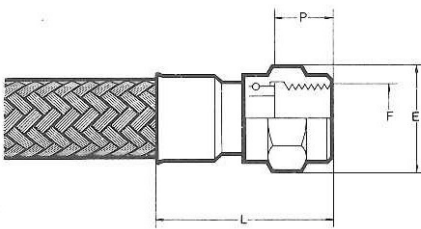
Cónica NPT  
NPT conical  
NPT conique



DN	F	P	C	E	L
10	3/8"	15	21	36	70
12	1/2"	20	25	43	75
16	3/4"	20	31	48	90
20	3/4"	20	31	48	90
25	1"	21	37	53	95
32	1.1/4"	25	47	70	110
40	1.1/2"	25	53	72	115
50	2"	25	66	89	125
65	2.1/2"	37	83	110	150
80	3"	37	96	125	160
100	4"	39	123	163	195

**Hembra recto BSP, asiento plano • BSP Female, flat face • BSP Tournant, face page**

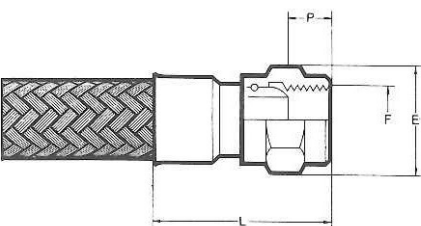
Gas cilíndrica  
BSP cylindrical  
BSP cylindrique



DN	F	P	E	L
10	3/8"	11,5	22	55
12	1/2"	13,5	27	65
16	3/4"	16,0	36	75
20	3/4"	16,0	36	75
25	1"	19,0	41	80
32	1.1/4"	19,0	50	95
40	1.1/2"	19,0	55	95
50	2"	22,0	70	100
65	2.1/2"	24,0	85	120
80	3"	26,0	95	125
100	4"	28,5	120	150

**Hembra recto BSP, asiento cónico • BSP Female, conical face • BSP Tournant, face conique**

Gas cilíndrica  
BSP cylindrical  
BSP cylindrique

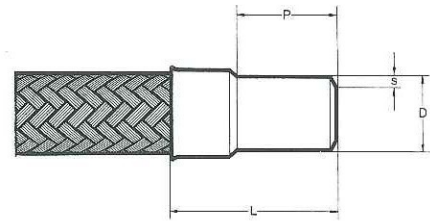


DN	F	P	E	L
10	3/8"	6,5	22	55
12	1/2"	8,0	27	65
16	3/4"	8,0	36	75
20	3/4"	8,0	36	75
25	1"	10,0	41	80
32	1.1/4"	12,0	50	95
40	1.1/2"	12,0	55	95
50	2"	15,0	70	100
65	2.1/2"	16,0	85	120
80	3"	16,0	95	125
100	4"	18,0	120	150



Tubular • Smooth Tube • Lisse

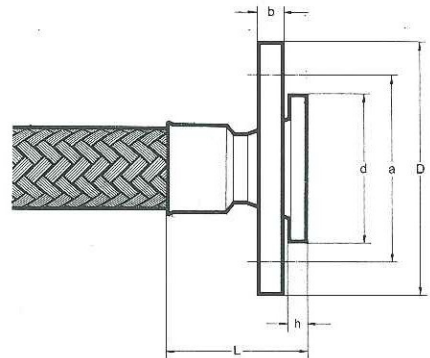
DN	mm.		Pulgadas • inches • pouces			
	øD	S	D	S	P	L
10	12/14	2	13,7	2,24	40	65
12	16/18	2	17,1	2,31	40	65
16	18/20	2	21,3	2,77	40	75
20	22/25	2,5	26,7	2,87	40	75
25	28/30	2,5	33,4	3,38	40	75
32	35/38	3	42,2	3,56	40	85
40	40/42	3	48,3	3,68	40	85
50	50/55	4	60,3	3,91	50	95
65			73,0	5,16	65	130
80			88,9	5,49	80	145
100			114,3	6,02	100	185
125			141,3	6,55	100	185
150			168,3	7,11	100	185
200			219,1	8,18	100	185
250			273,0	9,27	100	185
300			323,8	9,52	100	185



DIN 2652 - PN 6

Brida móvil • Floating flanges • Collet tournant

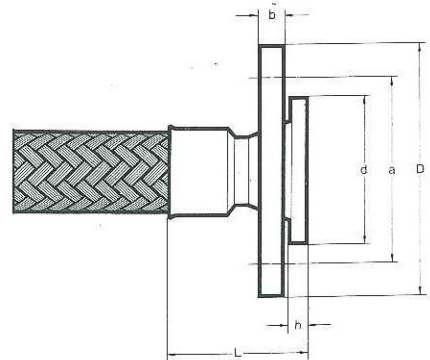
DN	D	b	a	taladros		d	h	l
				Nº	ø			
10	75	10	50	4	11,5	35	8	65
12	75	10	50	4	11,5	35	8	65
16	80	10	55	4	11,5	40	8	80
20	90	10	65	4	11,5	50	10	80
25	100	12	75	4	11,5	60	10	80
32	120	12	90	4	14,0	70	10	95
40	130	12	100	4	14,0	80	10	95
50	140	12	110	4	14,5	90	12	95
65	160	12	130	4	14,0	110	12	130
80	190	14	150	4	18,0	128	14	135
100	210	14	170	4	18,0	148	14	165
125	240	14	200	8	18,0	178	14	170
150	265	14	225	8	18,0	258	14	175
200	320	16	280	8	18,0	258	18	210
250	375	20	335	12	18,8	312	18	210
300	440	24	395	12	22,0	365	18	220



DIN 2653 - PN 10

Brida móvil • Floating flanges • Collet tournant

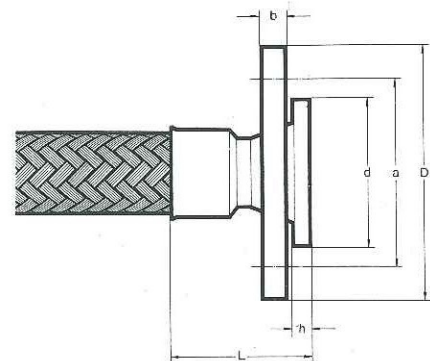
DN	D	b	a	taladros		d	h	l
				Nº	ø			
10	90	14	60	4	14	40	10	70
12	90	14	60	4	14	40	10	70
16	95	14	65	4	14	45	10	80
20	105	14	75	4	14	58	12	85
25	115	16	85	4	14	68	12	85
32	140	16	100	4	18	78	12	95
40	150	16	110	4	18	88	12	95
50	165	16	125	4	18	102	14	100
65	185	16	145	4	18	122	14	130
80	200	18	160	4	18	138	16	135
100	220	18	180	8	18	158	16	165
125	250	18	210	8	18	188	18	170
150	285	18	240	8	22	212	18	175
200	340	20	295	8	22	268	20	205
250	395	22	350	12	22	320	22	210
300	445	26	400	12	22	370	22	220



DIN 2654 - PN 16

Brida móvil • Floating flanges • Collet tournant

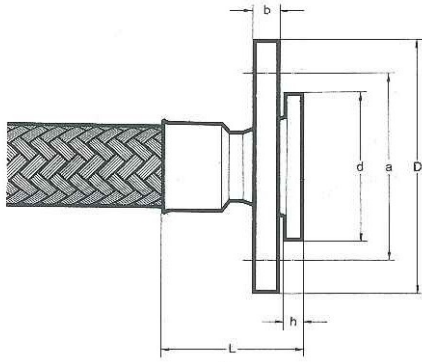
DN	D	b	a	taladros		d	h	l
				Nº	ø			
10	90	14	60	4	14	40	10	70
12	90	14	60	4	14	40	10	70
16	95	14	65	4	14	45	10	80
20	105	14	75	4	14	58	12	85
25	115	16	85	4	14	68	12	85
32	140	16	100	4	18	78	12	95
40	150	16	110	4	18	88	12	95
50	165	16	125	4	18	102	14	100
65	185	16	145	4	18	122	14	130
80	200	18	160	8	18	138	16	135
100	220	18	180	8	18	158	16	165
125	250	18	210	8	18	188	18	170
150	285	18	240	8	22	212	18	175
200	340	20	295	12	22	268	20	205
250	405	24	355	12	25	320	22	210
300	460	28	410	12	25	378	24	220





Brida móvil • Floating flanges • Collet tournant

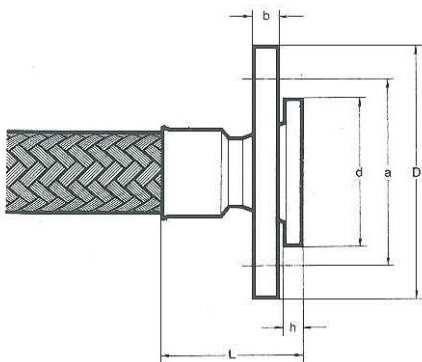
**DIN 2655 - PN 25**



DN	D	b	a	taladros		d	h	l
				N°	ø			
10	90	16	60	4	14	40	12	75
12	90	16	60	4	14	40	12	75
16	95	16	65	4	14	45	12	85
20	105	16	75	4	14	58	14	90
25	115	18	85	4	14	68	14	90
32	140	18	100	4	18	78	14	100
40	150	18	110	4	18	88	14	105
50	165	20	125	4	18	102	16	105
65	185	20	145	8	18	122	16	130
80	200	22	160	8	18	138	18	135
100	235	22	190	8	22	162	20	165
125	270	24	220	8	25	188	22	170
150	300	24	250	8	25	218	22	175
200	360	26	310	12	25	278	24	205
250	425	30	370	12	30	335	26	210
300	485	34	430	16	30	390	28	220

Brida móvil • Floating flanges • Collet tournant

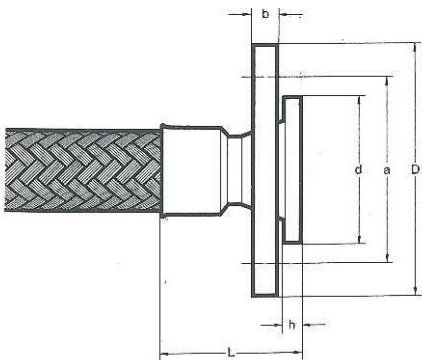
**DIN 2656 - PN 40**



DN	D	b	a	taladros		d	h	l
				N°	ø			
10	90	16	60	4	14	40	12	75
12	90	16	60	4	14	40	12	75
16	95	16	65	4	14	45	12	85
20	105	16	75	4	14	58	14	90
25	115	18	85	4	14	68	14	90
32	140	18	100	4	18	78	14	100
40	150	18	110	4	18	88	14	105
50	165	20	125	4	18	102	16	105
55	185	20	145	8	18	122	16	130
80	200	22	160	8	18	138	18	135
100	235	22	190	8	22	162	20	165
125	270	24	220	8	25	188	22	170
150	300	24	250	8	25	218	22	175
200	375	30	320	12	30	285	26	205
250	450	36	385	12	33	345	30	210
300	515	40	450	16	33	410	34	220

Brida móvil • Floating flanges • Collet tournant

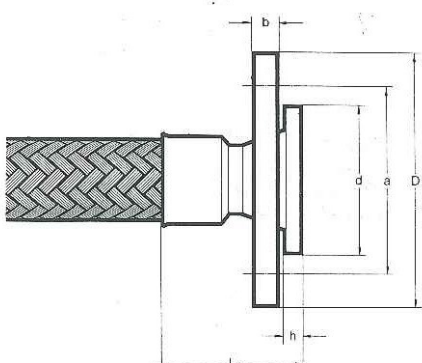
**ASA 150 lbs.**



DN	D	b	a	taladros		d	h	l
				N°	ø			
16	89,0	10	60,3	4	16	35,0	10	90
20	98,5	12	69,8	4	16	43,0	12	90
25	108,0	13	79,4	4	16	51,0	12	90
32	117,5	15	88,9	4	16	63,5	12	110
40	127,0	16	98,4	4	16	73,0	12	110
50	152,5	18	120,6	4	19	92,0	14	115
65	178,0	21	139,7	4	19	105,0	14	140
80	190,5	23	152,4	4	19	127,0	16	160
100	228,5	23	190,5	8	19	157,0	16	185
125	254,0	23	215,9	8	22	186,0	18	200
150	279,5	24	241,3	8	22	216,0	18	210
200	343,0	27	298,4	8	22	270,0	20	230
250	406,5	29	362,0	12	25	324,0	22	230
300	483,0	31	431,8	12	25	381,0	24	240

Brida móvil • Floating flanges • Collet tournant

**ASA 300 lbs.**



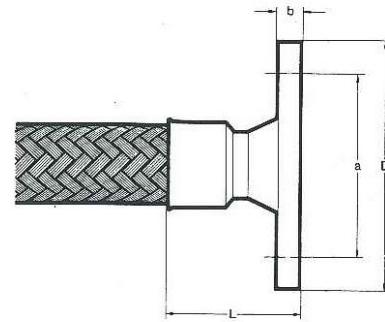
DN	D	b	a	taladros		d	h	l
				N°	ø			
16	95,0	13	66,7	4	16,0	35,0	10	90
20	117,5	15	82,5	4	19,0	43,0	12	90
25	124,0	17	88,9	4	19,0	51,0	12	90
32	133,5	18	98,4	4	19,0	63,5	12	110
40	155,5	20	114,3	4	22,0	73,0	12	110
50	165,0	21	127,0	8	19,0	92,0	14	115
65	190,5	24	149,2	8	22,0	105,0	14	140
80	209,5	27	168,3	8	22,0	127,0	16	160
100	254,0	30	200,0	8	22,0	157,0	16	185
125	279,5	34	235,0	8	22,0	186,0	18	200
150	317,5	35	269,9	12	22,0	216,0	18	210
200	381,0	39	330,2	12	25,0	270,0	20	230
250	444,5	45	387,3	16	28,5	324,0	22	230
300	521,0	49	450,8	16	32,0	381,0	24	240



## DIN 2631 - PN 6

DN	D	b	a	taladros		L
				N°	∅	
10	75	12	50	4	11	50
12	75	12	50	4	11	50
16	80	12	55	4	11	65
20	90	14	65	4	11	67
25	100	14	75	4	11	70
32	120	14	90	4	14	80
40	130	14	100	4	14	80
50	140	14	110	4	14	80
65	160	14	130	4	14	100
80	190	16	150	4	18	105
100	210	16	170	4*	18	130
125	240	18	200	8	18	135
150	265	18	225	8	18	140
200	320	20	280	8	18	155
250	375	22	335	12	18	160
300	440	22	395	12	22	165

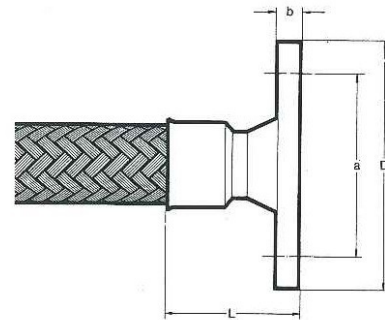
## Brida fija • Fixed flanges • Collet fixe



## DIN 2632 - PN 10

DN	D	b	a	taladros		L
				N°	∅	
10	90	14	60	4	14	60
12	90	14	60	4	14	60
16	95	14	65	4	14	70
20	105	16	75	4	14	75
25	115	16	85	4	14	75
32	140	16	100	4	18	85
40	150	16	110	4	18	85
50	165	18	125	4	18	90
65	185	18	145	4	18	110
80	200	20	160	4	18	115
100	220	20	180	8	18	135
125	250	22	210	8	18	140
150	285	22	240	8	22	140
200	340	24	295	8	22	165
250	395	26	350	12	22	170
300	445	26	400	12	22	170

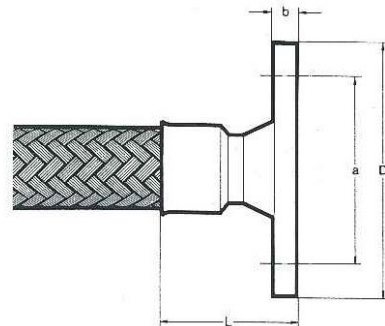
## Brida fija • Fixed flanges • Collet fixe



## DIN 2633 - PN 16

DN	D	b	a	taladros		L
				N°	∅	
10	90	14	60	4	14	60
12	90	14	60	4	14	60
16	95	14	65	4	14	70
20	105	16	75	4	14	75
25	115	16	85	4	14	75
32	140	16	100	4	18	85
40	150	16	110	4	18	85
50	165	18	125	4	18	90
65	185	18	145	4	18	110
80	200	20	160	8	18	115
100	220	20	180	8	18	135
125	250	22	210	8	18	140
150	235	22	240	8	22	140
200	340	24	295	12	22	165
250	405	26	355	12	25	170
300	460	28	410	12	25	180

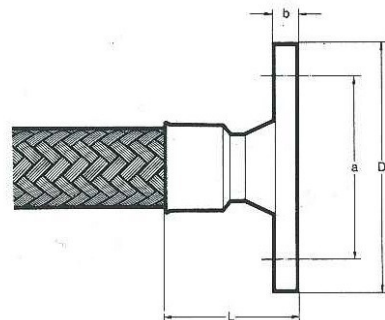
## Brida fija • Fixed flanges • Collet fixe



## DIN 2634 - PN 25

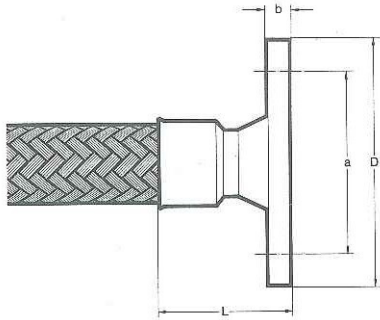
DN	D	b	a	taladros		L
				N°	∅	
10	90	16	60	4	14	60
12	90	16	60	4	14	60
16	95	16	65	4	14	70
20	105	18	75	4	14	75
25	115	18	85	4	14	75
32	140	18	100	4	18	85
40	150	18	110	4	18	90
50	165	20	125	4	18	95
65	185	22	145	8	18	115
80	200	24	160	8	18	125
100	235	24	190	8	22	150
125	270	26	220	8	25	155
150	300	28	250	8	25	160
200	360	30	310	12	25	180
250	425	32	370	12	30	190
300	485	34	430	16	30	195

## Brida fija • Fixed flanges • Collet fixe





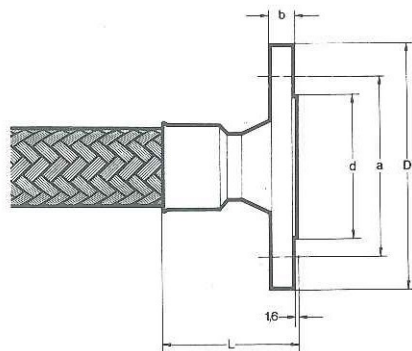
Brida fija • Fixed flanges • Collet fixe



DIN 2635 - PN 40

DN	D	b	a	taladros		l
				Nº	ø	
10	90	16	60	4	14	60
12	90	16	60	4	14	60
16	95	16	65	4	14	70
20	105	18	75	4	14	75
25	115	18	85	4	14	75
32	140	18	100	4	18	85
40	150	18	110	4	18	90
50	165	20	125	4	18	95
65	185	22	145	8	18	115
80	200	24	160	8	18	125
100	235	24	190	8	22	150
125	270	26	220	8	25	155
150	300	28	250	8	25	160
200	375	34	320	12	30	190
250	450	38	385	12	33	205
300	515	42	450	16	33	215

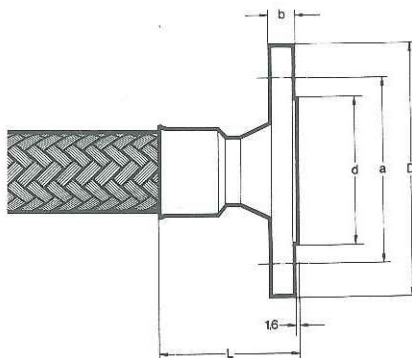
Brida fija • Fixed flanges • Collet fixe



DIN 2636 - PN 64

DN	D	b	a	taladros		d	h	l
				Nº	ø			
10	100	20	70	4	14	40	2	70
12	100	20	70	4	14	40	2	70
16	105	20	75	4	14	45	2	80
20	130	22	90	4	18	58	2	87
25	140	24	100	4	18	65	2	95
32	155	24	110	4	22	75	2	105
40	170	26	125	4	22	85	3	105
50	180	26	135	4	22	95	3	105
65	205	26	160	8	22	120	3	115
80	215	28	170	8	22	130	3	120
100	250	30	200	8	25	160	3	130

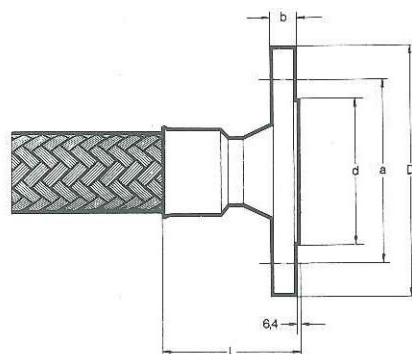
Brida fija • Fixed flanges • Collet fixe



DIN 2637 - PN 100

DN	D	b	a	taladros		d	h	l
				Nº	ø			
10	100	20	70	4	14	40	2	70
12	100	20	70	4	14	40	2	70
16	105	20	75	4	14	45	2	80
20	130	22	90	4	18	58	2	87
25	140	24	100	4	18	65	2	95
32	155	24	110	4	22	75	2	105
40	170	26	125	4	22	85	3	105
50	195	28	145	4	25	95	3	115
65	220	30	170	8	25	120	3	125
80	230	32	180	8	25	130	3	125
100	265	36	210	8	30	160	3	140

Brida fija • Fixed flanges • Collet fixe



ASA 150

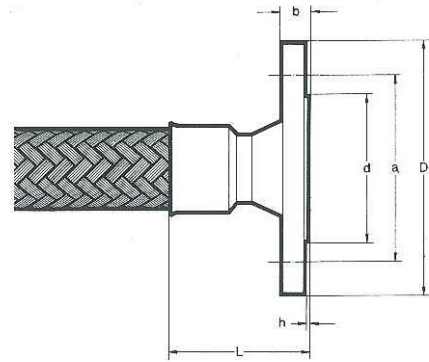
DN	D	b	a	taladros		d	l
				Nº	ø		
16	89,0	11,0	60,3	4	16	35,0	85
20	98,5	13,0	69,8	4	16	43,0	85
25	108,0	14,0	79,4	4	16	51,0	90
32	117,5	16,0	88,9	4	16	63,5	100
40	127,0	18,0	98,4	4	16	73,0	105
50	152,5	19,0	120,6	4	19	92,0	110
65	178,0	22,0	139,7	4	19	105,0	135
80	190,5	24,0	152,4	4	19	127,0	135
100	228,5	24,0	190,5	8	19	157,0	160
125	254,0	24,0	215,9	8	22	186,0	175
150	279,5	25,5	241,3	8	22	216,0	175
200	343,0	28,0	293,4	8	22	270,0	205
250	406,5	30,0	362,0	12	25	324,0	205
300	483,0	32,0	431,8	12	25	381,0	215



## ASA 300

DN	D	b	a	taladros		d	L
				Nº	ø		
16	95,0	14,0	66,7	4	16,0	35,0	85
20	117,5	16,0	82,5	4	19,0	43,0	90
25	124,0	18,0	88,9	4	19,0	51,0	95
32	133,5	19,0	98,4	4	19,0	63,5	110
40	155,5	21,0	114,3	4	22,0	73,0	115
50	165,0	22,0	127,0	8	19,0	92,0	115
65	190,5	25,5	149,2	8	22,0	105,0	140
80	209,5	28,5	168,3	8	22,0	127,0	145
100	254,0	32,0	200,0	8	22,0	157,0	170
125	279,5	35,0	235,0	8	22,0	186,0	185
150	317,5	36,5	269,9	12	22,0	116,0	185
200	381,0	41,0	330,2	12	25,0	270,0	210
250	444,5	47,5	387,3	16	28,5	324,0	220
300	521,0	51,0	450,8	16	32,0	381,0	230

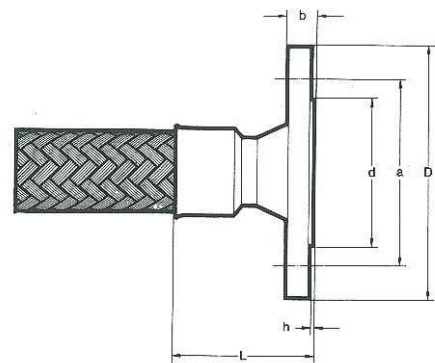
## Brida fija • Fixed flanges • Collet fixe



## ASA 600

DN	D	b	a	taladros		d	L
				Nº	ø		
16	95,0	14	66,7	4	16,0	35,0	90
20	117,5	16	82,5	4	19,0	43,0	95
25	124,0	18	88,9	4	19,0	51,0	105
32	133,5	21	98,4	4	19,0	63,5	115
40	155,5	22	114,3	4	22,0	73,0	120
50	165,0	25	127,0	8	19,0	92,0	125
65	190,5	29	149,2	8	22,0	105,0	195
80	209,5	32	168,3	8	22,0	127,0	155
100	273,0	38	215,9	8	25,5	157,0	195

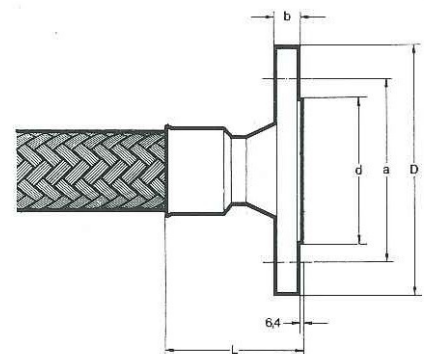
## Brida fija • Fixed flanges • Collet fixe



## ASA 900

DN	D	b	a	taladros		d	L
				Nº	ø		
16	120,5	22	82,5	4	22,0	35,0	100
20	130,0	25	88,9	4	22,0	43,0	110
25	149,0	29	101,6	4	25,5	51,0	115
32	159,0	29	111,1	4	25,5	63,5	125
40	178,0	32	123,8	4	28,5	73,0	135
50	216,0	38	165,0	8	25,5	92,0	155
65	244,5		190,5	8	28,5	105,0	175
80	241,0	38	190,5	8	25,5	127,0	175
100	292,0	44	235,0	8	32,0	157,0	205

## Brida fija • Fixed flanges • Collet fixe





# Datos técnicos

# Tecnical datum

# Renseigne technique

## TABLA DE RESISTENCIA QUIMICA

La siguiente tabla da algunas indicaciones que permitirán determinar la resistencia a la corrosión de diversos materiales utilizados en la fabricación de tubos y de sus racores.

Teniendo presente que ciertas aplicaciones reúnen varias exigencias a la vez o de forma variable, (mecánicas, físicas, higiénicas, químicas, económicas, etc.) debe considerarse que esta tabla indica valores de una manera general.

### SÍMBOLO

- Buena resistencia
- Utilizable con duración limitada
- No utilizable

## CHEMICAL RESISTANCE GUIDE

We have arranged in the following tabulation the rating of our common materials in respect to their chemical resistance toward various materials. This table should be used as a guide only since many factors such as concentration, temperature, intermittent or continuous exposure are involved. Where no rating is given, no data were available.

### SYMBOL

- Good resistance
- Recommended with limited resistance
- Not recommended

## GUIDE RESISTANCE CHIMIQUES

Cette liste n'est pas exhaustive, elle couvre un nombre très important de produits chimiques a les quelle résistent les matériaux ce panneau seulement sert comme guide orientative cars elle peut influir dans la conduite, la pression, temperature, concentration, etc.

### SYMBOLE

- Bon resistance
- Limité resistance
- Non recommandée

	Bronze Brass Bronze	Monel Monel Monel	Acero al Carbono Steel Acier Doux	Acero Inox. 18/8 Stainless steel 18/8 Acier Inox. 18/8	Acero Inox. 18/8 Mo. Stainless steel 18/8 Mo. Acier Inox. 18/8 Mo.
Aceite de calefacción .....	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Aceite de carburante .....	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Aceite de linaza .....	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Aceite de maiz .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Aceite de ricino .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Aceite de semilla de algodón .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Aceite Diesel .....	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Aceite en bruto .....	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
Acetato de amilo .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Acetato de etilo .....	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Acetileno .....	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Acetona .....	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Acido acético .....	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Acido benzoico .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Acido bórico .....	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Acido bromhídrico .....	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
Acido butílico .....	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Acido cianhídrico (ácido prúsico) .....	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Acido cítrico .....	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
Acido clórico .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



	Bronce Brass Bronze	Monel Monel Monel	Acero al Carbono Steel Acier Doux	Acero Inox. 18/8 Stainless steel 18/8 Acier Inox. 18/8	Acero Inox. 18/8 Mo. Stainless steel 18/8 Mo. Acier Inox. 18/8 Mo.
Acido clorhídrico (ácido muriático) .....	●	●	●	●	●
Acido crómico .....	●	◐	●	◐	◐
Acido esteárico .....	◐	○	●	◐	○
Acido fluorhídrico .....	●	◐	●	●	●
Acido fluorosilícico .....	◐	◐	●	●	●
Acido fórnico .....	◐	○	●	◐	○
Acido fosfórico .....	●	◐	●	●	◐
Acido láctico .....	◐	◐	●	◐	○
Acido muriático (ácido clorhídrico) .....	●	●	●	●	●
Acido nítrico .....	●	●	●	○	○
Acido oleico .....	◐	○	●	◐	○
Acido oxálico .....	◐	◐	●	●	◐
Acido palmítico .....	◐	○	●	○	○
Acido propanoico .....	◐	○	●	○	○
Acido prúsico (ácido cianhídrico) .....	●	◐	●	○	○
Acido sulfhídrico húmedo .....	●	◐	●	◐	○
Acido sulfhídrico seco .....	○	○	◐	○	○
Acido sulfhídrico 40% .....	●	◐	●	●	●
Acido sulfhídrico 40-80% .....	●	◐	●	●	●
Acido sulfhídrico 80-95% .....	◐	◐	●	◐	◐
Acido sulfhídrico 95-100% .....	◐	◐	◐	○	○
Acido sulfuroso .....	◐	◐	●	●	◐
Acido tánico (tanino) .....	○	○	●	○	○
Acido tartánico .....	○	○	●	◐	○
Agua .....	○	○	●	○	○
Agua de cloaca (materias fecales) .....	○	○	●	○	○
Agua de jabón .....	○	○	◐	○	○
Agua de mar .....	○	○	●	●	●
Agua de pozo .....	●	◐	●	○	○
Agua oxigenada .....	◐	◐	●	○	○
Agua potable .....	○	○	●	○	○
Alcohol .....	○	○	○	○	○
Alcohol amílico (pentanol) .....	○	○	○	○	○
Alcohol butílico (butanol) .....	○	○	○	○	○
Alcohol etílico (etanol) .....	○	○	○	○	○
Alcohol metílico (metanol) .....	○	○	◐	○	○
Almíbar de azúcar de caña .....	○	○	○	○	○



	Bronce Brass Bronze	Monel Monel Monel	Acero al Carbono Steel Acier Doux	Acero Inox. 18/8 Stainless steel 18/8 Acier Inox. 18/8	Acero Inox. 18/8 Mo. Stainless steel 18/8 Mo. Acier Inox. 18/8 Mo.
Almíbar de azúcar de remolacha .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Alquitrán .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Alquitrán de trementina .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Alúmina .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Almoníaco seco .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Almoníaco húmedo .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Anhídrido acético .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Anhídrido carbónico húmedo .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Anhídrido carbónico seco .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Anhídrido sulfúrico .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Anhídrido sulfuroso húmedo .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Anhídrido sulfuroso seco .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Anilina .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Asfalto .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Azúcar de uva (dextrosa, glucosa) .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Azufre derretido .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Azufre seco .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Barniz .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Barniz al aceite .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bebidas de gas carbónico .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Benceno (benzol) .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bencina .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Benzol (benceno) .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bicarbonato sódico .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bisulfato de sodio .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bisulfito de calcio .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bisulfito de sodio .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Borax (tetraborato de sosa) .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bromo húmedo .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bromo seco .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Butano .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Butanol (alcohol butílico) .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Café .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cal .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Carbonato de bario .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Carbonato de potasio .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Carbonato de sodio .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



	Bronze Brass Bronze	Monel Monel Monel	Acero al Carbono Steel Acier Doux	Acero Inox. 18/8 Stainless steel 18/8 Acier Inox. 18/8	Acero Inox. 18/8 Mo. Stainless steel 18/8 Mo. Acier Inox. 18/8 Mo.
Cerveza .....	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cianhidrico .....	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cianuro de potasio.....	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cianuro de sodio.....	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cloro húmedo .....	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
Cloro seco.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Cloroformo (tricloro metano).....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cloruro de aluminio.....	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
Cloruro de amonio .....	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Cloruro de azufre seco.....	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
Cloruro de bario.....	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cloruro de cal (polvo blanqueado) .....	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
Cloruro de calcio.....	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
Cloruro de cobre .....	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
Cloruro de etilo.....	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cloruro de magnesio .....	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Cloruro de metilo seco.....	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cloruro de potasio .....	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Cloruro de sodio.....	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
Cloruro férrico.....	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
Cloruro ferroso.....	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
Colas .....	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Colorantes de anilina.....	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
Creosota.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cromato de potasio .....	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cromato de sódico .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Dextrosa (azucar de uva, glucosa) .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Dicromato potásico.....	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Dicromato sódico.....	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Disolventes de pintura.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Etanol.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Eter .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Etileno-glicol .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fenol .....	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fosfato de sodio .....	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Freón.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Furfural.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>









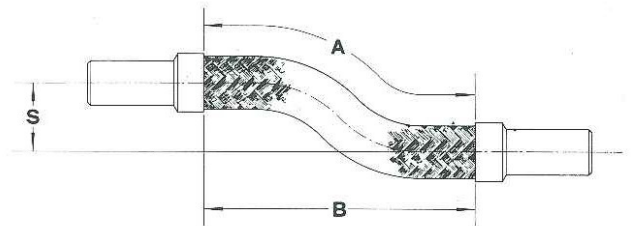
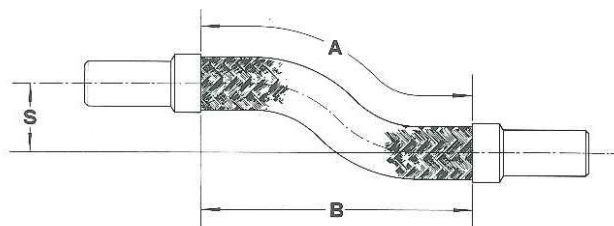


# Determinación de la Longitud Mínima para Instalaciones Fijas y Desalineadas

# Least Length Determination for Fixed and Bad Alignment Installation

# Determination des Longueurs Minimales pour Installations Fixes et Desaxages

		Radio de Curvatura (en milímetros) Bend Radius Rayon de Courbure												
		50	100	150	200	250	300	400	500	600	800	1000	1250	
Desviación Lateral "O" (en milímetros) Lateral deviation "O" (in millimeters) Déviation latérale "O" (en millimètres)	5	35 34	49	60	68	77	84	96	107	117	134	149	166	HL IL
	10	49 47	69 68	85	98	109	120	137	153	167	192	214	238	HL IL
	15	59 57	85 83	104 102	120 118	134	148	169	188	206	237	264	294	HL IL
	20	69 65	98 95	120 118	138 136	155 153	170	195	218	238	274	306	341	HL IL
	25	77 71	109 105	134 131	155 152	173 171	190	218	244	267	308	343	382	HL IL
	30	84 77	119 114	146 142	169 165	189 186	207 204	239	268	293	338	376	420	HL IL
	40	97 86	137 130	168 162	195 190	218 213	239	276	309	338	390	436	486	HL IL
	50	10 94	153 142	188 179	217 210	243 237	267 261	309	345	378	437	488	545	HL IL
	60	122 101	168 154	205 194	238 228	266 258	292 284	338	378	415	479	535	597	HL IL
	80	145 111	195 173	237 220	274 259	307 293	336 324	389	436	478	553	618	691	HL IL
	100	169 119	220 188	266 241	306 285	342 324	375 359	435	487	534	618	691	773	HL IL
	125	200 128	250 204	299 263	343 313	383 356	419	485	543	596	690	772	864	HL IL
	150		279 217	330 282	376 336	419 384	459	531	594	652	754	845	946	HL IL
	200		338 239	389 313	439 376	487 431	531	612	685	751	869	974	1090	HL IL
	250		399 256	447 337	499 408	540 470	597	685	765	885	975	1085	1220	HL IL
	300			507 358	558 435	609 564	659	758	839	916	1060	1190	1330	HL IL
	400			631 391	675 478	726 556	778	879	974	1065	1225	1370	1535	HL IL
	500				799 511	844 597	895	998	1100	1195	1370	1530	1715	HL IL



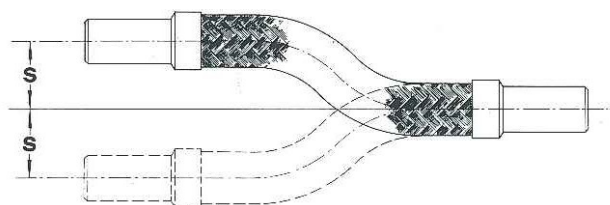


# Determinación de la longitud Mínima para Flexiones Continuas

## Least Length Determination for Continuous Flexure

### Determination des Longueurs Minimies pour Flexions Continues

		Radio de Curvatura (en milímetros) Bend Radius Rayon de Courbure											
		50	100	150	200	250	300	400	500	600	800	1000	1250
Desviación Lateral a ambos lados del eje "O" (en milímetros) Lateral deviation at both sides of axe "O" (in millimeters) Déviation latérale a tous deux côtés de l'axe "O" (en millimètres)	5	49	69	84	96	107	117	134	149	162	186	207	230
	10	69	98	119	137	153	167	192	214	233	268	298	331
	15	84	120	146	169	188	206	237	264	288	331	368	409
	20	97	138	169	195	218	238	274	306	334	384	427	476
	25	109	154	189	218	244	267	307	343	375	431	480	534
	30	119	169	207	239	267	293	337	376	411	473	527	587
	40	137	195	239	276	309	338	390	436	476	548	611	681
	50	153	217	267	309	345	378	437	488	534	615	686	764
	60	168	238	292	338	378	415	479	535	585	675	753	839
	80	195	274	336	389	436	478	553	618	677	871	871	972
	100	220	306	375	435	487	534	618	891	757	874	976	1090
	125		343	419	485	543	596	690	772	846	977	1095	1220
	150			459	531	594	652	754	845	926	1070	1200	1340
	200				612	685	751	869	974	1070	1235	1385	1545
	250					765	838	970	1090	1195	1380	1545	1780
	300						918	1065	1190	1305	1510	1690	1890
400							1225	1370	1505	1740	1950	2180	
500								1520	1680	1940	2175	2485	



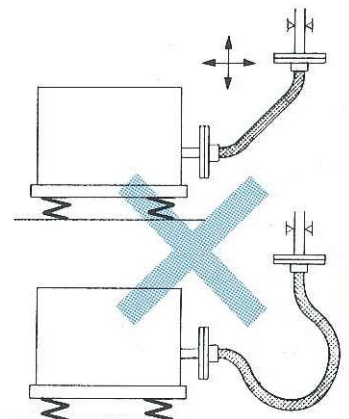
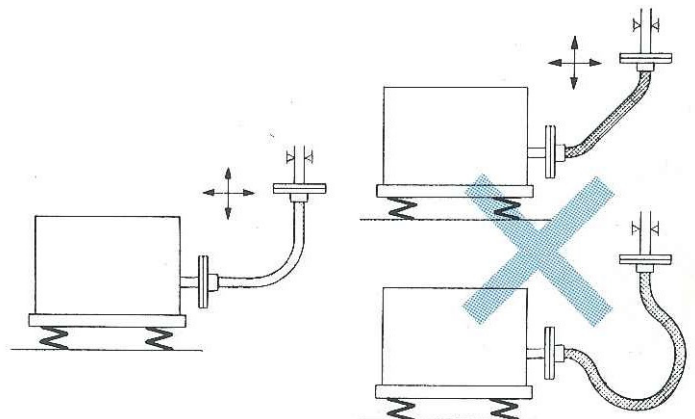
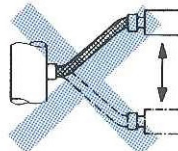
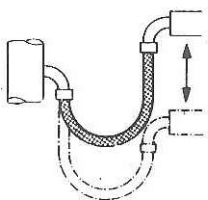
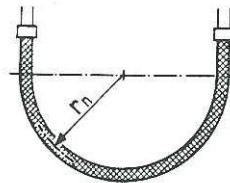
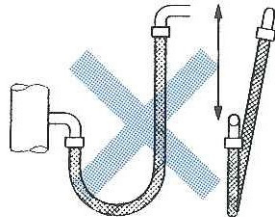
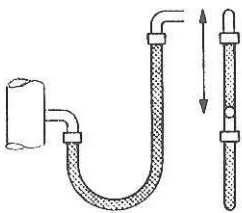
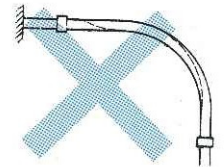
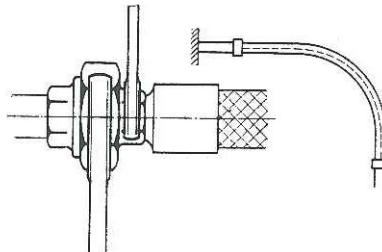
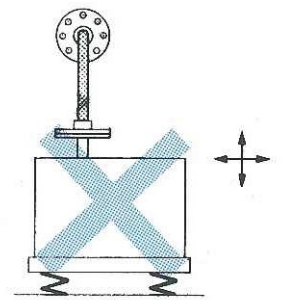
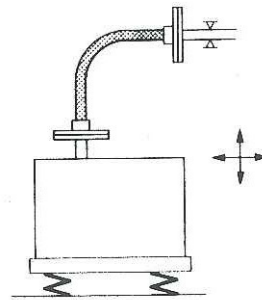
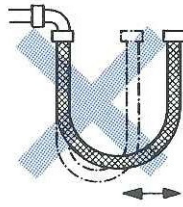
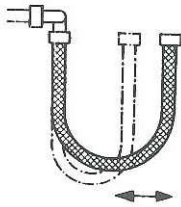
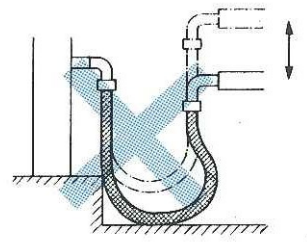
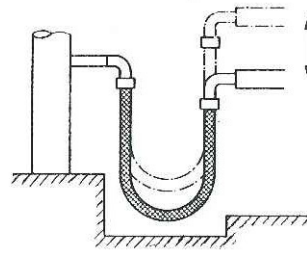
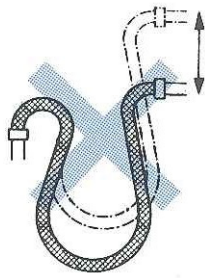
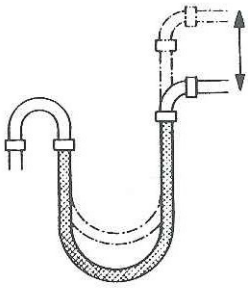


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Correct assembly  
Montage correct

Montaje incorrecto  
Wrong assembly  
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Montaje correcto  
Correct assembly  
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Wrong assembly  
Montage incorrect



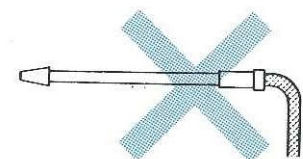
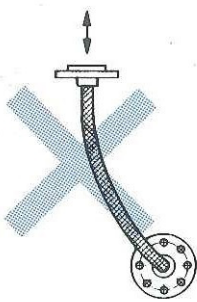
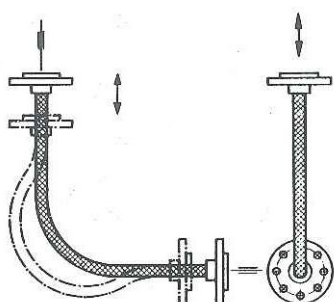
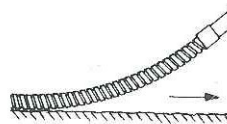
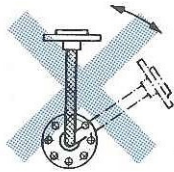
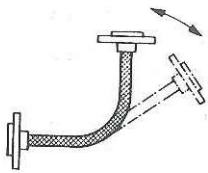
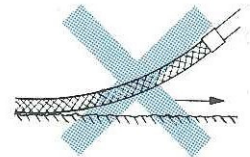
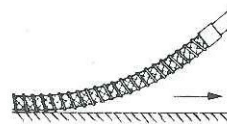
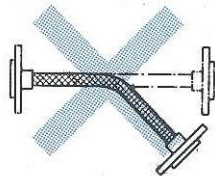
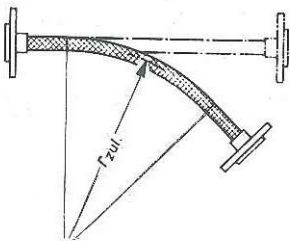
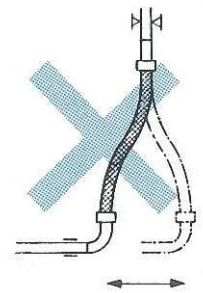
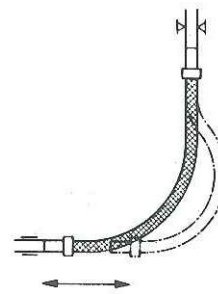
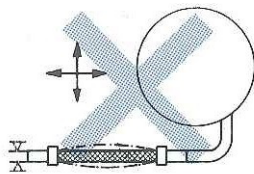
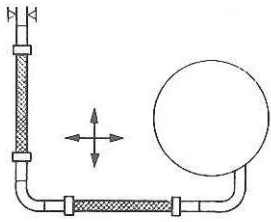
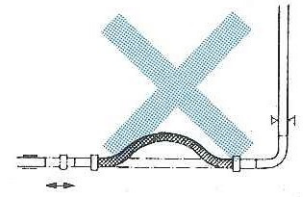
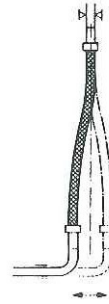
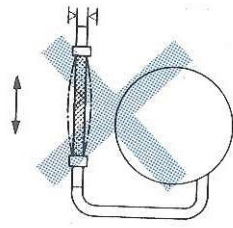
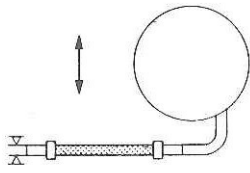


Montaje correcto  
Correct assembly  
Montage correct

Montaje incorrecto  
Wrong assembly  
Montage incorrect

Montaje correcto  
Correct assembly  
Montage correct

Montaje incorrecto  
Wrong assembly  
Montage incorrect



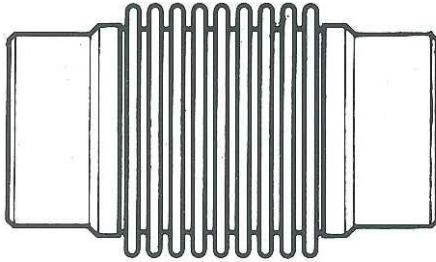


# Juntas de Expansión Axial en Acero Inoxidable

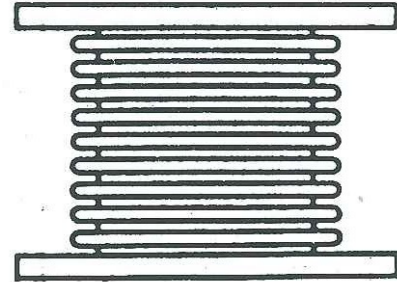
## Stainless Steel Axial Expansion Joints

### Joints Expansion Axial en Acier Inoxidable

Tipo  
Type  
Type **A**



Tipo  
Type  
Type **B**



### CARACTERISTICAS TECNICAS TECHNICS CHARACTERISTICS CARACTERISTIQUE TECHNIQUE

Diámetro nominal Nominal Diameter Diametre Nominal		Presión de trabajo Work pressure Pression de travail		Diámetro exterior External Diameter Diametre exterieur		Movimiento axial Axial movement Mouvement axial		Fuerza de compresión Compression force Force de compression		Área efectiva Effective area Aire effective		Longitudes Lengths Longeurs					
mm.	Inch.	bar	psi	mm.	Inch.	mm.	Inch.	Kg.	Lbs.	cm²	Sqr. Inch.	A		A,1		B	
												mm	Inch.	mm	Inch.	mm	Inch.
15	1/2	25	363			12	1/2	33	73	3,26	0,506	124	4,90	178	7,03	130	5,15
						25	1					172	6,79	226	8,92	178	7,04
						50	2					335	13,21	322	12,71	342	13,46
20	3/4	25	363			12	1/2	34	75	5,37	0,833	128	5,06	176	6,94	134	5,31
						25	1					173	6,85	221	8,73	180	7,10
						50	2					331	13,05	312	12,30	338	13,30
25	1	25	363			12	1/2	31	68	8,17	1,267	132	5,23	215	8,49	139	5,48
						25	1					179	7,05	261	10,30	175	6,88
						50	2					354	13,94	354	13,94	360	14,19
						75	3					446	17,59	446	17,59	453	17,84
32	1 1/4	25	363			12	1/2	75	165	13,30	2,061	136	5,38	219	8,64	146	5,74
						25	1					185	7,32	268	10,54	185	7,28
						50	2					362	14,25	361	14,24	371	14,62
						75	3					465	18,33	465	18,33	474	18,70
40	1 1/2	25	363			12	1/2	75	165	17,63	2,717	141	5,57	217	8,58	140	5,51
						25	1					188	7,44	265	10,44	185	7,28
						50	2					360	14,17	359	14,17	369	14,54
						75	3					455	17,92	455	17,92	464	18,29
50	2	25	363			12	1/2	100	220	30,41	4,714	222	8,75	222	8,76	145	5,70
						25	1					272	10,72	272	10,72	190	7,48
						50	2					372	14,64	371	14,64	381	15,01
						75	3					471	18,57	470	18,52	481	18,94
65	2 1/2	25	363			12	1/2	261	575	43,80	6,789	227	8,97	240	9,48	150	5,90
						25	1					265	10,47	277	10,92	185	7,28
						50	2					358	14,10	370	14,60	367	14,47
						75	3					450	17,75	463	18,25	460	18,12
80	3	25	363			12	1/2	205	450	62,78	9,731	233	9,19	259	10,20	160	6,29
						25	1					274	10,81	299	11,81	195	7,67
						50	2					375	14,77	400	15,77	388	15,28
						75	3					475	18,73	501	19,73	488	19,23
100	4	25	363			25	1	303	670	107,70	16,69	268	10,58			220	8,66
						50	2					362	14,25			300	11,81
						75	3					455	17,93			468	18,43



# Juntas de Expansión Axial en Acero Inoxidable

## Stainless Steel Axial Expansion Joints

### Joint Expansion Axial en Acier Inoxidable

#### CARACTERISTICAS TECNICAS TECHNICS CHARACTERISTICS CARACTERISTIQUE TECHNIQUE

Diámetro nominal Nominal Diameter Diametre Nominal		Presión de trabajo Work pressure Pression de travail		Diámetro exterior External Diameter Diametre exterieur		Movimiento axial Axial movement Mouvement axial		Fuerza de compresión Compression force Force de compression		Área efectiva Effective area Aire effective		Longitudes Lengths Longeurs					
mm.	Inch.	bar	psi	mm.	Inch.	mm.	Inch.	Kg.	Lbs.	cm²	Sqr. Inch.	A		A,1		B	
												mm	Inch.	mm	Inch.	mm	Inch.
125	5	25	363			25	1	616	1.360	162,91	25,25	271	10,67			220	8,66
						50	2					353	13,90			290	11,41
						75	3					445	17,54			458	18,04
150	6	25	363			25	1	1.104	2.475	227,50	35,36	265	10,43			220	8,66
						50	2					339	13,36			290	11,41
						75	3					424	16,73			440	17,35
200	8	16	232			25	1	1.139	2.510	385,30	59,72	304	11,97			240	9,45
						50	2					371	14,63			315	12,40
						75	3					469	18,46			484	19,09
200	8	25	363			25	1	1.878	4.140	385,30	59,72	304	11,97			240	9,45
						50	2					371	14,63			315	12,40
						75	3					469	18,46			484	19,09
250	10	6	87	312	12,30	50	2	441	972	670,1	103,9	359	14,17			300	11,81
						75	3					432	17,02			359	14,17
250	10	10	145	313	12,34	50	2	882	1.944	670,1	103,9	372	14,65			300	11,81
						75	3					450	17,72			359	14,17
250	10	16	232	314	12,38	50	2	1.323	2.917	670,1	103,9	384	15,14			300	11,81
						75	3					486	19,13			359	14,17
250	10	25	363	315	12,43	50	2	1.764	3.889	670,1	103,9	396	15,62			300	11,81
						75	3					486	19,13			359	14,17
300	12	6	87	363	14,30	50	2	517	1.140	923,5	143,2	359	14,17			320	12,60
						75	3					432	17,02			380	14,96
300	12	10	145	364	14,34	50	2	1.034	2.280	923,5	143,2	372	14,65			320	12,60
						75	3					450	17,72			380	14,96
300	12	16	232	365	14,38	50	2	1.551	3.419	923,5	143,2	384	15,14			320	12,60
						75	3					468	18,43			380	14,96
300	12	25	363	366	14,43	50	2	2.068	4.559	923,5	143,2	396	15,62			320	12,60
						75	3					486	19,13			380	14,96
350	14	6	87	394	15,54	50	2	565	1.246	1.102,4	170,9	359	14,14			280	11,05
						75	3					432	17,02			320	12,60
350	14	10	145	395	15,59	50	2	1.130	2.491	1.102,4	170,9	372	14,65			280	11,05
						75	3					450	17,72			320	12,60
350	14	16	232	397	15,63	50	2	1.695	3.737	1.102,4	170,9	384	15,14			280	11,05
						75	3					488	18,43			320	12,60
350	14	25	363	398	15,67	50	2	2.260	4.982	1.102,4	170,9	396	15,62			280	11,05
						75	3					486	19,13			320	12,60
400	16	6	87	458	18,06	50	2	698	1.539	1.464,4	227,0	371	14,63			350	13,77
						75	3					447	17,63			380	14,96
400	16	10	145	460	18,11	50	2	1.396	3.078	1.464,4	227,0	384	15,13			350	13,77
						75	3					466	18,35			380	14,96
400	16	16	232	461	18,17	50	2	2.095	4.619	1.464,4	227,0	397	15,63			350	13,77
						75	3					484	19,08			380	14,96
400	16	25	363	462	18,22	50	2	2.793	6.157	1.464,4	227,0	409	16,14			350	13,77
						75	3					503	19,81			380	14,96
450	18	6	87	509	20,06	50	2	780	1.720	1.829,2	283,6	371	14,63			350	13,77
						75	3					447	17,63			380	14,96
450	18	10	145	510	20,11	50	2	1.560	3.439	1.829,2	283,6	384	15,13			350	13,77
						75	3					466	18,35			380	14,96
450	18	16	232	512	20,17	50	2	2.341	5.161	1.829,2	283,6	397	15,63			350	13,77
						75	3					484	19,08			380	14,96



# Juntas de Expansión Axial en Acero Inoxidable

## Stainless Steel Axial Expansion Joints

### Joints Expansion Axial en Acier Inoxidable

#### CARACTERISTICAS TECNICAS TECHNICS CHARACTERISTICS CARACTERISTIQUE TECHNIQUE

Diámetro nominal Nominal Diameter Diametre Nominal		Presión de trabajo Work pressure Pression de travail		Diámetro exterior External Diameter Diametre extérieur		Movimiento axial Axial movement Mouvement axial		Fuerza de compresión Compression force Force de compression		Área efectiva Effective area Aire effective		Longitudes Lengths Longeurs					
mm.	Inch.	bar	psi	mm.	Inch.	mm.	Inch.	Kg.	Lbs.	cm <sup>2</sup>	Sqr. Inch.	A		A,1		B	
												mm	Inch.	mm	Inch.	mm	Inch.
450	18	25	363	513	20,22	50	2	3.121	6.881	1.829,2	283,6	409	16,14			350	13,77
						75	3					503	19,81			380	14,96
500	20	6	87	560	22,06	50	2	862	1.900	2.234,6	346,4	371	14,63			320	12,60
						75	3					447	17,63			350	13,77
500	20	10	145	561	22,11	50	2	1.725	3.803	2.234,6	346,4	384	15,13			320	12,60
						75	3					466	18,35			350	13,77
500	20	16	232	563	22,17	50	2	2.588	5.706	2.234,6	346,4	397	15,63			320	12,60
						75	3					484	19,08			350	13,77
500	20	25	363	564	22,22	50	2	3.450	7.606	2.234,6	346,4	409	16,14			320	12,60
						75	3					503	19,81			350	13,77
600	24	6	87	661	26,06	50	2	1.027	2.264	3.166,9	490,9	371	14,63			350	13,77
						75	3					447	17,63			380	14,96
600	24	10	145	663	26,11	50	2	2.054	4.528	3.166,9	490,9	384	15,13			350	13,77
						75	3					466	18,35			380	14,96
600	24	16	232	664	26,17	50	2	3.081	6.792	3.166,9	490,9	397	15,63			350	13,77
						75	3					484	19,08			380	14,96
600	24	25	363	666	26,22	50	2	4.108	9.056	3.166,9	490,9	397	15,63			350	13,77
						75	3					503	19,81			380	14,96
700	28	6	87	765	30,11	50	2	1.171	2.576	4.248	658,45	400	15,75			250	9,84
						75	3					490	19,29			340	13,39
700	28	10	145	767	30,19	50	2	1.171	2.576	4.248	658,45	400	15,75			250	9,84
						75	3					490	19,29			340	13,39
700	28	16	232	769	30,27	50	2	3.543	7.795	4.248	658,45	400	15,75			250	9,84
						75	3					490	19,29			340	13,39
700	28	25	363	771	30,35	50	2	4.724	10.393	4.248	658,45	400	15,75			250	9,84
						75	3					490	19,29			340	13,39
800	32	6	87	866	34,09	50	2	1.276	2.808	5.463	846,75	400	15,75			250	9,84
						75	3					490	19,29			340	13,39
800	32	10	145	868	34,17	50	2	2.575	5.665	5.463	846,75	400	15,75			250	9,84
						75	3					490	19,29			340	13,39
800	32	16	232	870	34,25	50	2	3.862	8.497	5.463	846,75	400	15,75			250	9,84
						75	3					490	19,29			340	13,39
800	32	25	363	872	34,33	50	2	5.149	11.328	5.463	846,75	400	15,75			250	9,84
						75	3					490	19,29			340	13,39
900	36	6	87	968	38,11	50	2	1.416	3.116	6.786	1.051,83	400	15,75			250	9,84
						75	3					490	19,29			340	13,39
900	36	10	145	970	38,19	50	2	2.858	6.288	6.786	1.051,83	400	15,75			250	9,84
						75	3					490	19,29			340	13,39
900	36	16	232	973	38,30	50	2	4.286	9.430	6.786	1.051,83	400	15,75			250	9,84
						75	3					490	19,29			340	13,39
900	36	25	363	976	38,42	50	2	5.715	12.573	6.786	1.051,83	400	15,75			250	9,84
						75	3					490	19,29			340	13,39
1.000	40	10	145	1.072	42,20	50	2	3.315	7.293	8.189	1.269,30	400	15,75			250	9,84
						75	3					490	19,29			340	13,39
1.000	40	16	232	1.075	42,32	50	2	4.972	10.939	8.189	1.269,30	400	15,75			250	9,84
						75	3					490	19,29			340	13,39
1.000	40	25	363	1.076	42,44	50	2	6.629	14.584	8.189	1.269,30	400	15,75			250	9,84
						75	3					490	19,29			340	13,39

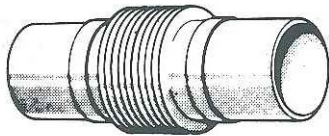


# Tipos Estándar de Juntas de Expansión

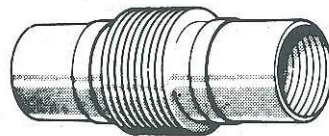
## Standard Types of Expansion Joints

### Types Standard de Joints Expansion

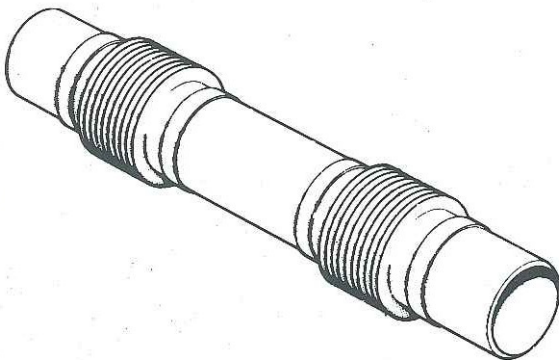
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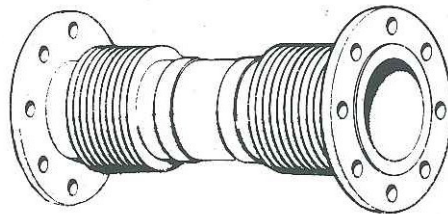
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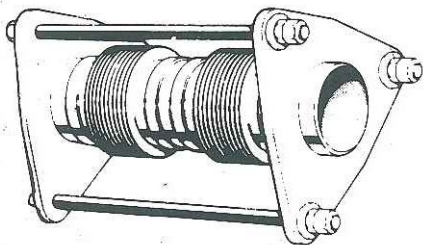
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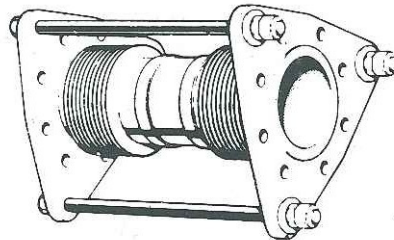
Tipo  
Type F  
Type



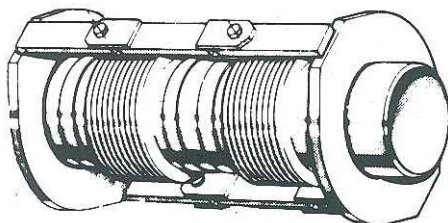
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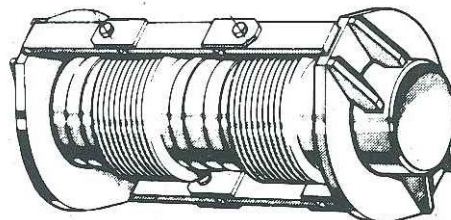
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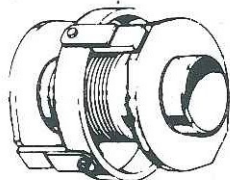
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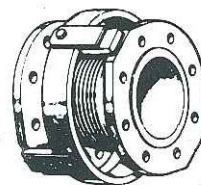
Tipo  
Type J  
Type



Tipo  
Type K  
Type



Tipo  
Type L  
Type





## **ESMACIM**

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