



EUROPRESS

STAINLESS STEEL AND CARBON STEEL
PRESS FIT PIPE SYSTEMS

- 316 Stainless Steel System
- 316 Stainless Steel System Gas
- 304 Stainless Steel System
- Carbon Steel System

PRODUCT AND TECHNICAL MANUAL - v2

Efficient • Easy • Effortless



1AB E PIPE AS210 316/316L F42

The EUROPRESS Pressfitting System is an extremely fast and simple assembly system, producing reliable joints with high mechanical resistance, for civil, industrial and naval pipework system installations. Standard diameters range from 15 to 108 mm. Other sizes are available for special applications.

1.1 MATERIALS

Depending on the application, the following materials are used:

- stainless steel 316L
- stainless steel 304
- carbon steel

1.2 BENEFITS

The main benefits of the Europress System are:

- fast and easy assembly
- reliable, secure and long-lasting seals
- no fire risk during installation
- high corrosion resistance using 316 Stainless Steel

PRESS CHECK SLEEVES

Europress are at the forefront of pressing systems with the innovative Press check sleeve. Rather than wait to fill an installation with fluid to see if any joint leaks because it has not been pressed, Europress fittings up to and including 54mm have a thin coloured film applied externally on the O ring seat.

When the joint is pressed the film is shredded and detaches from the fitting for easy removal and visual witness to the completed press cycle.

- Blue sleeves – Stainless steel
- Yellow sleeves – Gas fittings
- Red sleeves – Carbon steel fittings



This Technical Manual provides basic information as a guide. It remains the responsibility of the user to ascertain the suitability and compatibility with their specific application.

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316L polished S/S tubing for a superior finish. High alloy austenitic Cr-Ni-Mo Fittings made from the same high grade 316 S/S with a choice of O-Rings for chemical suitability.



The speed of a pressfit system will amaze you. Competent tradesmen can install a press fit system without the need of qualified welders.

- Faster and Cheaper
- Less time on the job
- Cuts Costs up to 30%



Using Press fittings is up to 10 times faster than conventional Tig welding techniques for stainless steel. No need to completely drain pipe contents prior to alterations. Press Fittings can be crimped wet or dry.



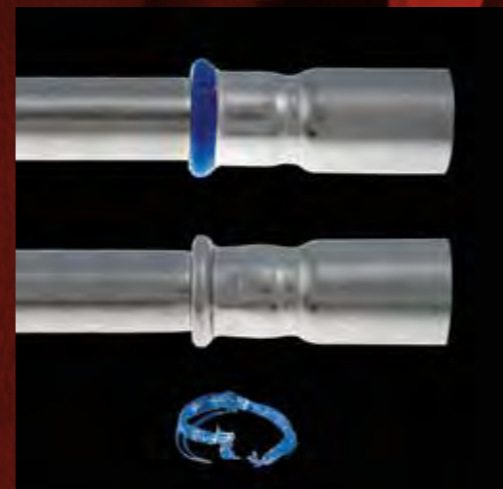
Pressing Tool with inbuilt safety features ensures each press is the same every time, no uncertainty of weld integrity.



25 Year Manufacturer backed product guarantee for all approved applications. Additionally, pressfit tightness is guaranteed by the manufacturer to be in excess of 30 years.



The Europress System is designed for use with common "M" profile Press Jaws, the system is bulk stocked in a number of locations Australia wide and is available through many Plumbing and Industrial outlets.



With the innovative Press Check Sleeve you don't have to wait until the system is full of product to discover leaks! The Press Check Sleeve, makes it easy to immediately identify any joints that have not been pressed.



NO NAKED FLAME
NO HOT WORK PERMITS
NO GAS BOTTLES
No fire hazard or heavy installation equipment, makes it easier to comply with OH&S requirements.

1.4 THE EUROPRESS PRESSFIT SYSTEM

The Europress Press Fit System is the ideal solution for installing Stainless Steel or Carbon Steel pipework.

Pressfitted pipe joints are fast, easy and risk-free.

Standard Europress Pipe is available in O.D. tube sizes – **15, 22, 28, 35, 42, 54, 76.1, 88.9, & 108**

This Technical Manual provides basic information as a guide. It remains the responsibility of the user to ascertain the suitability and compatibility with their specific application.

The pipe is pushed into the fitting, up to the stop, then the jaw attachments of the pressing tool press the toroidal end of the fitting into the pipe.

Pressing produces two deformations. The first, radial deformation, compresses the O-ring in the toroidal chamber and guarantees that the pipe is hermetically sealed. The second, geometric deformation of both fitting and pipe, creates a mechanical joint, resistant to slipping and rotation.

The resulting pressing profile varies according to diameter. **Fig 1** shows an assembled joint before and after pressing. Joints produced in this way are extremely strong, but flexible enough to withstand the stresses resulting from initial installation and those, such as vibrations and thermal expansion etc., that occurs in normal operating conditions. This is provided that installation has been carried out according to the instructions in this manual and complies with Australian Standard AS/NZS 3500.1.

Certifications

The Europress 316L Stainless Steel pipe and standard fittings have been certified for drinking water use by many national and international authorities. Notably it exceeds the demanding quality requirements of the Australian Watermark and the German Standard DVGW W534.



Watermark
AS 3688
AS 5200.053
WMKA22265



Activfire
AS 4118.2.1
VdS2344en
VdS2100-26en



2 EUROPRESS STAINLESS STEEL

All 316L pipes and pressfittings are made of austenitic stainless Cr- Ni-Mo steel, n. 1.4404 which conforms to Standard UNI EN 10088 (AISI 316L). 304 grade SS pipe n. 1.4307 is available as a more economic alternative to 316L. The nominal dimension used to identify both components of the joint refers to the outside diameter of the pipe.

2.1 PIPES

Pipes for use in mains systems are manufactured to AS 5200.053 and conform to Standard DVGW- GW 547/2004 and are marked as such. Dimensional tolerances conform to Standard EN ISO 1127 D4/T4. These pipes are sold in 6-metre lengths and are capped both ends.

Outside diam mm	15	22	28	35	42	54	76.1	88.9	108	139.7	168.3
Thickness	1	1.2	1.2	1.5	1.5	1.5	2	2	2	2	2

2.2 STAINLESS STEEL PRESSFITTINGS

Press fittings are manufactured from the same material as the pipes and conform to AS 3688

The special process used to make the press fittings can be broken down into the following main stages:

- cutting the pipe into sections and mechanical working
- forming the toroidal seat
- any welding of other parts of the fitting
- heat treatment in a controlled atmosphere at 1050°C to restore the material's original characteristics

All process stages conform to Standards UNI EN ISO 9001 and in compliance with related technical specifications from DVGW, VdS, etc.

2.3 GENERAL APPLICATIONS

The Europress Stainless Steel system is the ideal solution for drinking water systems as the AISI 316L stainless steel used is completely hygienic and highly corrosion resistant. The standard o-rings made of black EPDM, are resistant to aging, heat and chemical additives and are particularly suitable for all types of treated water.

The reliable, high-quality components are suitable for heating, cooling, compressed air, oil and diesel lines in the civil, industrial and manufacturing sectors.

Conditions of use

- Maximum operating pressure: 16 bar
- Operating temperature: -20°C +95°C
- Maximum temperature: 120°C (On approved applications.)
- Up to 40 Bar/580 psi available on approved applications. Please refer to technical department.

The Europress Pressfitting System complies with the CSIRO ACTIVFIRE certification and has been evaluated and verified as conforming to AS 4118.2.1-1995. It also has been granted the internationally recognized VdS-certification for fire extinguisher systems according to VdS CEA 4001 for both carbon steel and stainless steel products 22mm-108mm (DN20-DN100).

2.4 GAS APPLICATION

The Europress System meets AS 5200.053 and is approved in Australia, New Zealand and many European countries for use in gas distribution systems, with external above-ground pipes, installed inside or outside buildings. It can be used for all types of combustible gas, both natural and liquid. The O-ring gaskets are made of yellow HNBR, and are compatible with any of the gas varieties used and are resistant to ageing and heat.

Conditions of use

- Maximum operating pressure: 5 bar
- Operating temperature: -20 °C +70 °C

Certification

The Europress pressfittings comply with AS NZS 5601.1.2013 which requires certification as conforming to the German Standard DVGW VP614 for gas applications. To conform to this standard, each of the welded fittings, complete with o-rings, undergoes a special helium test. These fittings have a yellow label with

the letters "PN5" or equivalent yellow mark, to indicate their application.

3. EUROPRESS CARBON STEEL

3.1 Pipes and pressfittings

All pipes and pressfitting are made of carbon steel, E195 or E235 n. 1.0034 which conforms to Standard EN 10305.

The nominal dimension used to identify both components of the joint refers to the outside diameter of the pipe.

The following range of diameters and thicknesses can be used:

Outside diam mm	15	22	28	35	42	54	76.1	88.9	108
Thickness	1.2	1.2	1.5	1.5	1.5	1.5	2	2	2

Pipes are sold in 6-metre lengths and dimensional tolerances must conform to Standard EN 10305.

Pressfitting

The types of pressfittings available are listed in p 34-43 The special process used to make the press fittings can be broken down into the following main stages:

- cutting the pipe into sections and mechanical working
- forming the toroidal seat
- any welding of other parts of the fitting
- any annealing heat treatments
- zinc surface treatments

All process stages are subjected to a quality certified system conforming to Standard UN1 EN ISO 9001/2000.

Marking

All Europress pipes and press fittings are stamped in accordance with the relevant standard to indicate their application.

3.2 Various applications

The Europress Pressfit System in carbon steel is indicated for use in various types of civil and industrial installations where stainless steel pipework is not essential.

Typical applications are:

- closed-circuit heating and cooling water systems
- compressed air and inert gas systems
- closed-circuit sprinkler systems
- oil and diesel lines.

All applications should be checked with Europress Technical department.

The O-ring gaskets, made of black EPDM, are resistant to ageing, heat and chemical additives and are therefore particularly suitable for all types of treated water.

Conditions of use

- Maximum operating pressure: 16 bar
- Operating temperature: -20°C +85°C
- Maximum temperature: 120°C (On approved applications. Please refer to tech. dept.)

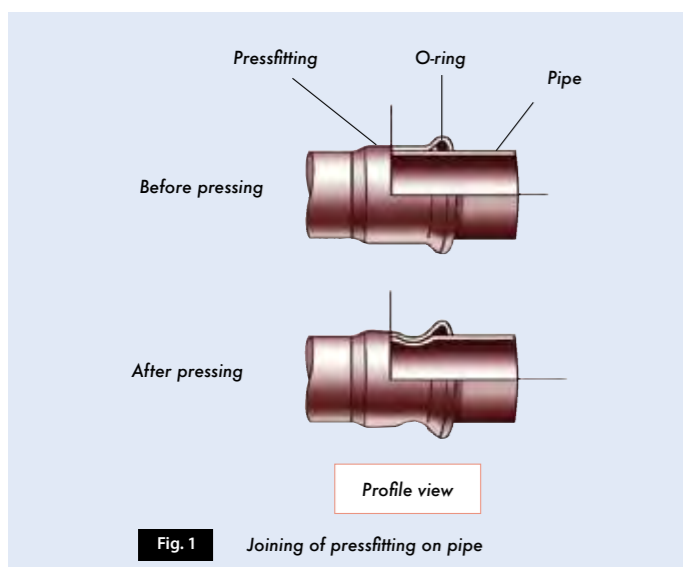


Fig. 1 Joining of pressfitting on pipe

4 STAINLESS STEEL PRESSFITTINGS

4.1 Standard and Gas Fittings

Stainless steel pipes type 1.4404 (316L) with Watermarked approval for potable water



Tube-Austenitic – 6 metre lengths

Part No.316L	DN	304	ext. Ø [mm]	thickness [mm]	lweight [kg/m]	weight [kg/6m]
STT0.316015	12	STT0.304015	15	1.0	0.351	2.11
STT0.316022	20	STT0.304022	22	1.2	0.625	3.75
STT0.316028	25	STT0.304028	28	1.2	0.805	4.83
STT0.316035	32	STT0.304035	35	1.5	1.258	7.55
STT0.316042	40	STT0.304042	42	1.5	1.521	9.13
STT0.316054	50	STT0.304054	54	1.5	1.972	11.83
STT0.316076	65	STT0.304076	76.1	2.0	3.711	22.27
STT0.316089	80	STT0.304089	88.9	2.0	4.352	26.11
STT0.316108	100	STT0.304108	108	2.0	5.308	31.8

Coupling

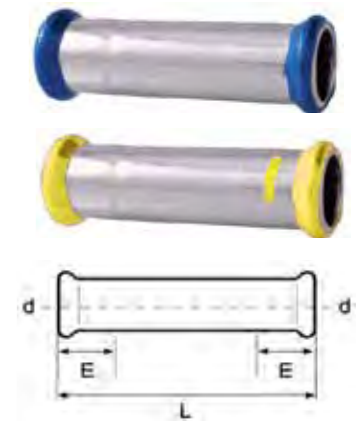
Part No.	DN	Gas Part No.	d	L	Z	weight g
SPP0.000015	12	GPP0.000015	15	52	10	39
SPP0.000022	20	GPP0.000022	22	59	13	62
SPP0.000028	25	GPP0.000028	28	61	13	78
SPP0.000035	32	GPP0.000035	35	72	18	109
SPP0.000042	40	GPP0.000042	42	79	15	147
SPP0.000054	50	GPP0.000054	54	90	16	205
SPP0.000076	65	GPP0.000076	76.1	142	32	604
SPP0.000089	80	GPP0.000089	88.9	163	37	837
SPP0.000108	100	GPP0.000108	108	192	38	1.193

Reducing Coupling (Spigot x Adaptor) Other Sizes Available

Part No.	DN	Gas Part No.	d-d1	L	H	weight g
SSP0.022015	20	GSP0.022015	22-15	60	39	45
SSP0.028015	25	GSP0.028015	28-15	72	51	56
SSP0.028022	25	GSP0.028022	28-22	67	44	65
SSP0.035015	32	*	35-15	82	61	89
SSP0.035022	32	GSP0.035022	35-22	83	60	98
SSP0.035028	32	GSP0.035028	35-28	73	49	112
SSP0.042015	40	*	42-15	91	70	118
SSP0.042022	40	*	42-22	87	64	125
SSP0.042028	40	GSP0.042028	42-28	98	74	140
SSP0.042035	40	GSP0.042035	42-35	79	52	120
SSP0.054015	50	*	54-15	110	89	197
SSP0.054022	50	*	54-22	107	84	191
SSP0.054028	50	GSP0.054028	54-28	99	75	193
SSP0.054035	50	GSP0.054035	54-35	128	101	237
SSP0.054042	50	GSP0.054042	54-42	97	65	191
SSP0.076042	65	GSP0.076042	76.1-42	151	119	425
SSP0.076054	65	GSP0.076054	76.1-54	140	103	451
SSP0.089054	80	GSP0.089054	88.9-54	156	119	586
SSP0.089076	80	GSP0.089076	88.9-76.1	156	101	653
SSP0.108054	100	GSP0.108054	108-54	204	167	880
SSP0.108076	100	GSP0.108076	108-76.1	196	141	978
SSP0.108089	100	GSP0.108089	108-88.9	190	127	992

Slip Coupling

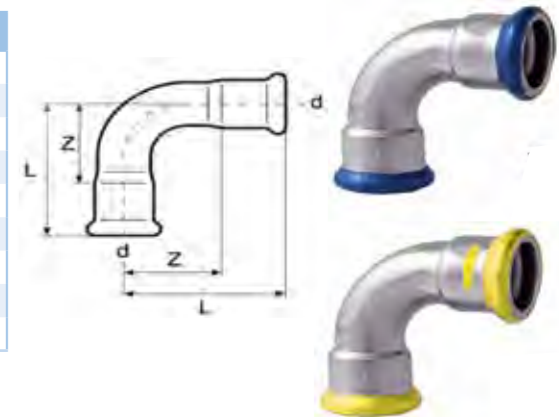
Part No.	DN	Gas Part No.	d	L	E	weight g
SPPS.000015	12	GPPS.000015	15	71	24	47
SPPS.000022	20	GPPS.000022	22	82	27	85
SPPS.000028	25	GPPS.000028	28	90	28	114
SPPS.000035	32	GPPS.000035	35	99	31	149
SPPS.000042	40	GPPS.000042	42	115	35	216
SPPS.000054	50	GPPS.000054	54	139	40	316
SPPS.000076	65	*	76.1	230	60	874
SPPS.000089	80	*	88.9	258	70	1,196
SPPS.000108	100	*	108	305	80	1,775



Elbow 90°

Part No.	DN	Gas Part No.	d	L	Z	Radius	weight g
SPP8.000015	12	GPP8.000015	15	48	27	1.2d	57
SPP8.000022	20	GPP8.000022	22	60	37	1.2d	97
SPP8.000028	25	GPP8.000028	28	71	47	1.2d	143
SPP8.000035	32	GPP8.000035	35	75	487	1.2d	173
SPP8.000042	40	GPP8.000042	42	89	57	1.2d	261
SPP8.000054	50	GPP8.000054	54	107	70	1.2d	391
SPP8.000076	65	GPP8.000076	76	150	95	1.2d	977
SPP8.000089	80	GPP8.000089	89	174	111	1.2d	1,325
SPP8.000108	100	GPP8.000108	108	215	138	1.2d	2,091

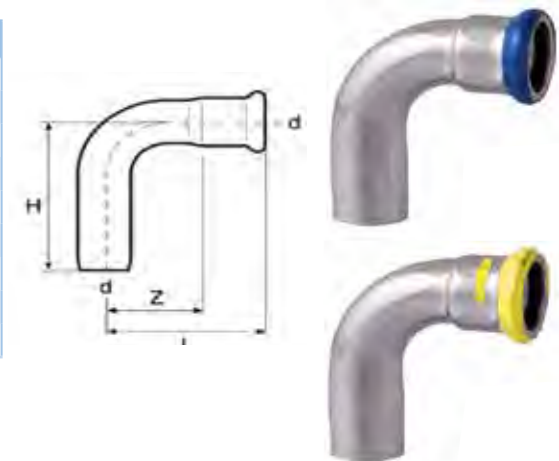
For sizes 15-54 radius 1.2 is SPP8, GPP8; radius 1.5 is SPP9, GPP9



Elbow 90° with Spigot End

Part No.	DN	Gas Part No.	d-d1	L	H	Z	Radius	Weight g
SPS8.000015	12	GPS8.000015	15	48	56	27	1.2d	58
SPS8.000022	20	GPS8.000022	22	60	68	37	1.2d	98
SPS8.000028	25	GPS8.000028	28	71	80	47	1.2d	147
SPS8.000035	32	GPS8.000035	35	75	83	48	1.2d	179
SPS8.000042	40	GPS8.000042	42	89	97	57	1.2d	260
SPS8.000054	50	GPS8.000054	54	107	116	70	1.2d	400
SPS8.000076	65	GPS8.000076	76.1	150	165	95	1.2d	982
SPS8.000089	80	GPS8.000089	88.9	174	190	111	1.2d	1.317
SPS8.000108	100	GPS8.000108	108	215	238	138	1.2d	2.068

For sizes 15-54 radius 1.2 is SPP8, GPP8; radius 1.5 is SPP9, GPP9



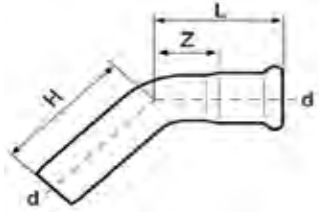
Elbow 45°

Part No.	DN	Gas Part No.	d	L	Z	Radius	weight g
SPP2.000015	12	GPP2.000015	15	37	16	1.5d	49
SPP2.000022	20	GPP2.000022	22	44	21	1.5d	81
SPP2.000028	25	GPP2.000028	28	51	27	1.5d	118
SPP2.000035	32	GPP2.000032	35	49	22	1.2d	152
SPP2.000042	40	GPP2.000040	42	63	31	1.2d	216
SPP2.000052	50	GPP2.000052	54	75	38	1.2d	323
SPP2.000076	65	GPP2.000076	76.1	98	43	1.2d	773
SPP2.000089	80	GPP2.000089	88.9	112	49	1.2d	991
SPP2.000108	100	GPP2.000108	108	138	61	1.2d	1,600

For sizes 15-54 radius 1.2 is SPP4, GPP4; radius 1.5 is SPP2, GPP2



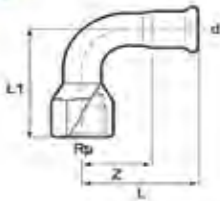
4.1 Standard and Gas Fittings



Elbow 45° with Spigot End

Part No.	DN	Gas Part No.	d	L	H	Z	Radius	weight g
SPS2.000015	12	GPS2.000015	15	37	48	16	53	1.2d
SPS2.000022	20	GPS2.000022	22	44	53	21	85	1.2d
SPS2.000028	25	GPS2.000028	28	51	60	27	117	1.2d
SPS2.000035	32	GPS2.000032	35	49	51	22	155	1.2d
SPS2.000042	40	GPS2.000042	42	63	72	31	203	1.2d
SPS2.000054	50	GPS2.000054	54	75	83	38	310	1.2d
SPS2.000076	65	GPS2.000076	76.1	98	117	43	767	1.2d
SPS2.000089	80	GPS2.000089	88.9	112	131	49	998	1.2d
SPS2.000108	100	GPS2.000108	108	138	154	61	1,510	1.2d

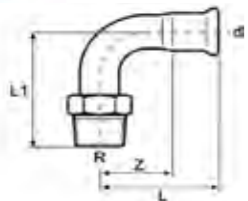
For sizes 15-54 radius 1.2 is SPS2, GPS2; radius 1.5 is SPS4, GPS4



Elbow 90° with Female Thread

Part No.	DN	d-Rp	L	L1	Z	weight g
SPF8.015015	12	15-1/2	48	58	27	76
SPF8.022020	20	22-3/4	60	68	37	124
SPF8.028025	25	28-1	71	81	47	176
SPF8.035032	32	35-1/4	87	95	60	284

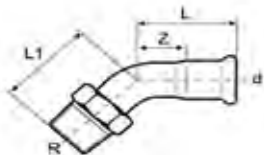
Radius 1.2 is SPF8; radius 1.5 is SPF9



Elbow 90° with Male Thread

Part No.	DN	d-R	L	L1	Z	weight g
SPM8.015015	12	15-1/2	48	58	27	78
SPM8.022020	20	22-3/4	60	69	37	124
SPM8.028025	25	28-1	71	81	47	188
SPM8.035032	32	35-1/4	87	94	60	276
SPM8.042040	40	42-1/2	115	116	83	390
SPM8.054050	50	54-2	142	143	105	680

Radius 1.2 is SPM8; radius 1.5 is SPM9



Elbow 45° with Male Thread

Part No.	DN	d-R	L	L1	Z	weight g
SPM2.015015	12	15-1/2	37	38	16	65
SPM2.022020	20	22-3/4	44	51	21	100

Radius 1.2 is SPM2; radius 1.5 is SPM4

4.1 Standard and Gas Fittings

90° Theded Female Lugged Elbow (flush wall mount)

Part No.	DN	Gas Part No.	d-G (ISO 228)	L	L1	Z	I	I1	H	G	weight g
SPFL.015015	12	GPFL.015015	15-1/2	46	43	25	12	12	34	5	104
SPFL.022020	20	GPFL.022020	22-3/4	52	51	29	16	13	40	6	147



90° Theded Female Lugged Elbow (extended offset wall mount)

Part No.	DN	d-G (ISO 228)	L	L1	Z	I	I1	weight g
SPFW.015015	12	15-1/2	46	65	25	36	12	156
SPFW.022020	20	22-3/4	52	65	29	32	13	178



Elbow Adaptor 90° with Female Thread

Part No.	DN	Gas Part No.	d-Rp	L	H	Z	Z1	weight g
SPFA.015015	12	GPFA.015015	15-1/2	53	36	32	24	121
SPFA.022020	20	GPFA.022020	22-3/4	57	46	34	33	180
SPFA.028025	25	GPFA.028025	28-1	71	54	47	38	329
SPFA.035032	32	GPFA.035032	35-1/4	72	62	45	45	455



Elbow Adaptor 90° with Male Thread

Part No.	DN	Gas Part No.	d-R	L	H	Z	weight g
SPMA.015015	12	GPMA.015015	15-1/2	53	36	32	90
SPMA.015020	12	*	15-3/4	62	38	41	140
SPMA.022020	20	GPMA.022020	22-3/4	58	40	35	145
SPMA.028025	25	GPMA.028025	28-1	63	44	39	248
SPMA.035032	32	GPMA.035032	35-1/4	71	48	44	354
SPMA.042040	40	*	42-1/2	81	53	49	432
SPMA.054050	50	*	54-2	92	59	55	720



Elbow 90 Spigot with Female Thread

Part No.	DN	d-Rp	L	H	Z	weight gram
SSFA.015015	12	15-1/2	35	53	23	72



4.1 Standard and Gas Fittings

4.1 Standard and Gas Fittings

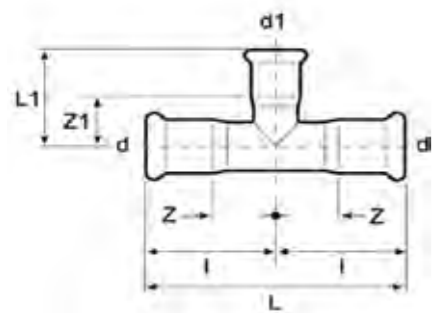


Equal Tee

Part No.	DN	Gas Part No.	d	L	L1	Z	Z1	l	weight g
SPPT.000015	12	GPPT.000015	15	74	35	16	14	37	71
SPPT.000022	20	GPPT.000022	22	82	40	18	17	41	110
SPPT.000028	25	GPPT.000028	28	92	45	22	21	46	146
SPPT.000035	32	GPPT.000035	35	102	55	24	28	51	193
SPPT.000042	40	GPPT.000042	42	118	61	27	29	59	278
SPPT.000054	50	GPPT.000054	54	142	72	34	35	71	406
SPPT.000076	65	GPPT.000076	76,1	232	115	61	60	116	1,170
SPPT.000089	80	GPPT.000089	88,9	262	127	68	64	131	1,556
SPPT.000108	100	GPPT.000108	108	312	155	79	78	156	2,276

Reducing Tee

Part No.	DN	Gas Part No.	d-d1-d	L	L1	Z	Z1	l	weight g
SPPT.022015	20-12	GPPT.022015	22-15-22	82	39	18	18	41	100
SPPT.028015	25-12	GPPT.028015	28-15-28	92	42	22	21	46	132
SPPT.028022	25-20	GPPT.028022	28-22-28	92	45	22	22	46	140
SPPT.035015	32-12	GPPT.035015	35-15-35	102	45	24	24	51	160
SPPT.035022	32-20	GPPT.035022	35-22-35	102	46	24	23	51	173
SPPT.035028	32-25	GPPT.035028	35-28-35	102	48	24	24	51	176
SPPT.042015	40-12	*	42-15-42	118	48	27	27	59	226
SPPT.042022	40-20	GPPT.042022	42-22-42	118	51	27	28	59	232
SPPT.042028	40-25	GPPT.042028	42-28-42	118	53	27	29	59	241
SPPT.042035	40-32	GPPT.042035	42-35-42	118	60	27	33	59	250
SPPT.054015	54-12	*	54-15-54	142	56	34	35	71	322
SPPT.054022	54-20	GPPT.054022	54-22-54	142	57	34	34	71	334
SPPT.054028	54-25	GPPT.054028	54-28-54	142	60	34	36	71	348
SPPT.054035	54-32	GPPT.054035	54-35-54	142	66	34	39	71	356
SPPT.054042	54-40	GPPT.054042	54-42-54	142	64	34	32	71	378
SPPT.076022	65-20	GPPT.076022	76.1-22-76.1	232	68	61	45	116	936
SPPT.076028	65-25	GPPT.076028	76.1-28-76.2	232	71	61	47	116	948
SPPT.076035	65-32	GPPT.076035	76.1-35-76.3	232	75	61	48	116	962
SPPT.076042	65-40	GPPT.076042	76.1-42-76.4	232	79	61	47	116	987
SPPT.076054	65-50	GPPT.076054	76.1-54-76.5	232	80	61	43	116	996
SPPT.089022	80-20	GPPT.089022	88.9-22-88.9	262	76	68	53	131	1,238
SPPT.089028	80-25	GPPT.089028	88.9-28-88.9	262	76	68	52	131	1,182
SPPT.089035	80-32	GPPT.089035	88.9-35-88.9	262	83	68	56	131	1,250
SPPT.089042	80-40	GPPT.089042	88.9-42-88.9	262	85	68	53	131	1,266
SPPT.089054	80-50	GPPT.089054	88.9-54-88.9	262	93	68	56	131	1,290
SPPT.089076	80-65	*	88.9-76.1-88.9	262	116	68	61	131	1,144
SPPT.108022	100-20	GPPT.108022	108-22-108	312	85	79	62	156	1,792
SPPT.108028	100-25	GPPT.108028	108-28-108	312	88	79	64	156	1,798
SPPT.108035	100-32	GPPT.108035	108-35-108	312	94	79	67	156	1,822
SPPT.108042	100-40	GPPT.108042	108-42-108	312	96	79	64	156	1,820
SPPT.108054	100-50	GPPT.108054	108-54-108	312	102	79	65	156	1,852
SPPT.108076	100-65	*	108-76.1-108	312	125	79	70	156	2,014
SPPT.108089	100-80	*	108-88.9-108	312	135	79	72	156	2,126



Female Centred Tee

Part No.	DN	Gas Part No.	d-Rp-d	L	L1	Z	Z1	l	weight g
SPFT.015015	12	GPFT.015015	15-1/2-15	74	37	16	25	37	84
SPFT.022015	20	GPFT.022015	22-1/2-22	82	41	18	29	41	122
SPFT.022020	20	GPFT.022020	22-3/4-22	82	41	18	28	41	139
SPFT.028015	25	GPFT.028015	28-1/2-28	92	44	22	32	46	153
SPFT.028020	25	GPFT.028020	28-3/4-28	92	45	22	32	46	170
SPFT.028025	25	*	28-1-28	92	48	22	32	46	194
SPFT.035015	32	GPFT.035015	35-1/2-35	102	48	24	36	51	189
SPFT.035020	32	GPFT.035020	35-3/4-35	102	48	24	35	51	206
SPFT.035032	32	*	35-1 1/4-35	102	57	24	40	51	295
SPFT.042015	40	GPFT.042015	42-1/2-42	118	46	27	34	59	264
SPFT.042020	40	*	42-3/4-42	118	52	27	39	59	268
SPFT.042040	40	*	42-1 1/2-42	118	59	27	42	59	427
SPFT.054015	50	GPFT.054015	54-1/2-54	142	55	34	43	71	372
SPFT.054020	50	GPFT.054020	54-3/4-54	142	58	34	45	71	376
SPFT.054050	50	GPFT.054050	54-2-54	142	69	34	47	71	608
SPFT.076020	65	GPFT.076020	76.1-3/4-76.1	232	68	61	55	116	1,038
SPFT.076050	65	GPFT.076050	76.1-2-76.1	232	81	61	59	116	1,264
SPFT.089020	80	GPFT.089020	88.9-3/4-88.9	262	87	68	74	131	1,353
SPFT.089050	80	GPFT.089050	88.9-2-88.9	262	88	68	66	131	1,579
SPFT.108020	100	GPFT.108020	108-3/4-108	312	86	79	73	156	1,946
SPFT.108050	100	GPFT.108050	108-2-108	312	98	79	76	156	2,171



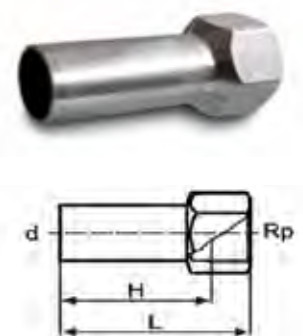
Male Centred Tee

Part No.	DN	d-R-d	L	L1	Z	Z1	l	weight g
SPMT.015015	12	15-1/2-15	74	38	16	15	37	86
SPMT.022020	20	22-3/4-22	82	43	18	17	41	126
SPMT.028025	25	28-1-28	92	50	22	21	46	188
SPMT.035032	32	35-1 1/4-35	102	56	24	28	51	258



Spigot Adaptor with Female Thread

Part No.	DN	Gas Part No.	d-Rp	L	H	weight g
SPF0.015015	12	GPF0.015015	15-1/2-15	53	20	52
SPF0.022015	20	GPF0.022015	22-1/2-22	52	17	77
SPF0.022020	20	GPF0.022020	22-3/4-22	56	20	75
SPF0.022025	20	GPF0.022025	22-1-22	70	31	105
SPF0.028025	25	GPF0.028025	28-1-28	62	22	103
SPF0.035025	32	GPF0.035025	35-1-35	81	38	136
SPF0.035032	32	GPF0.035032	35-1 1/4-35	72	28	170
SPF0.042040	40	GPF0.042040	42-1 1/2-42	74	25	252
SPF0.054050	50	GPF0.054050	54-2-54	106	52	328



Spigot Adaptor with Male Thread



Part No.	DN	d-R	L	weight g
SSM0.015015	12	15-1/2	70	60
SSM0.022020	20	22-3/4	75	78
SSM0.028025	25	28-1	75	124
SSM0.035032	32	35-1 1/4	80	195
SSM0.042040	40	42-1 1/2	91	233
SSM0.054050	50	54-2	102	419

Adaptor with Female Thread



Part No.	DN	Gas Part No.	d-Rp	L	Z	weight g
SPF0.015015	12	GPF0.015015	15-1/2	53	20	60
SPF0.015020	12	*	15-3/4	67	33	91
SPF0.022015	20	GPF0.022015	22-1/2	52	17	84
SPF0.022020	20	GPF0.022020	22-3/4	56	20	88
SPF0.022025	20	GPF0.022025	22-1	70	31	122
SPF0.028020	25	*	28-3/4	73	36	112
SPF0.028025	25	GPF0.028025	28-1	62	22	123
SPF0.028032	25	*	28-1 1/4	80	40	205
SPF0.035025	32	GPF0.035025	35-1	81	38	150
SPF0.035032	32	GPF0.035032	35-1 1/4	72	28	203
SPF0.035040	32	*	35-1 1/2	83	39	294
SPF0.042032	40	*	42-1 1/4	94	45	251
SPF0.042040	40	GPF0.042040	42-1 1/2	74	25	296
SPF0.054040	50	GPF0.054050	54-1 1/2	106	52	373
SPF0.054050	50	*	54-2	84	252	400

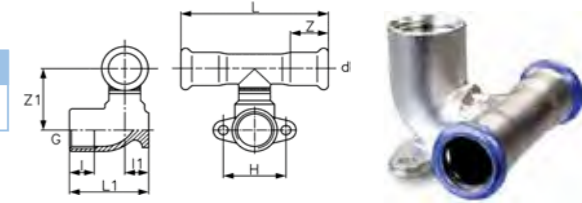
Adaptor with Male Thread



Part No.	DN	Gas Part No.	d-R	L	Z	weight g
SPM0.015010	12	*	15-3/8	50	29	50
SPM0.015015	12	GPM0.015015	15-1/2	53	32	58
SPM0.015020	12	*	15-3/4	64	43	75
SPM0.022015	20	GPM0.022015	22-1/2	68	45	76
SPM0.022020	20	GPM0.022020	22-3/4	58	35	79
SPM0.022025	20	GPM0.022025	22-1	72	49	130
SPM0.028020	25	GPM0.028020	28-3/4	74	50	102
SPM0.028025	25	GPM0.028025	28-1	64	40	130
SPM0.028032	25	*	28-1 1/4	80	56	196
SPM0.035025	32	GPM0.035025	35-1	83	56	163
SPM0.035032	32	GPM0.035032	35-1 1/4	71	44	190
SPM0.035040	32	GPM0.035040	35-1 1/2	84	57	223
SPM0.042032	40	*	42-1 1/4	94	62	241
SPM0.042040	40	GPM0.042040	42-1 1/2	76	44	224
SPM0.054040	50	*	54-1 1/2	106	69	302
SPM0.054050	50	GPM0.054050	54-2	87	50	405
SPM0.076065	65	GPM0.076065	76.1-2 1/2	125	70	889
SPM0.089080	80	GPM0.089080	88.9-3	140	77	1,272

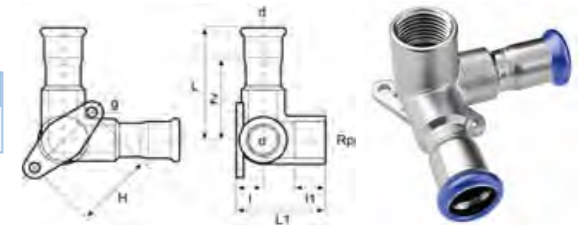
Off Centred Tee with Female Thread

Part No.	DN	d-G	L	L1	Z	Z1	H	I	I1	weight g
SPFM.015015	12	15-1/2	73	43	21	32	34	13	13	146



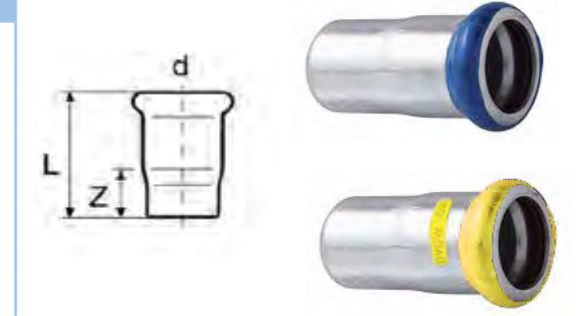
Lugged Elbow with Female Tap Outlet

Part No.	DN	d-Rp	L	L1	I	I1	Z	H	weight g
SPFC.015015	12	15-1/2	57	43	13	15	36	39	166



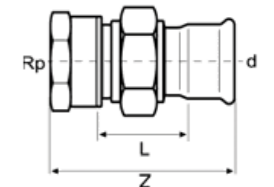
Cap

Part No.	DN	Gas Part No.	D	L	Z	weight g
SPE0.000015	12	GPE0.000015	15	37	16	28
SPE0.000022	20	GPE0.000022	22	41	18	45
SPE0.000028	25	GPE0.000028	28	46	22	63
SPE0.000035	32	GPE0.000035	35	51	24	78
SPE0.000042	40	GPE0.000042	42	59	27	119
SPE0.000054	50	GPE0.000054	54	72	35	185
SPE0.000076	65	*	76.1	95	40	441
SPE0.000089	80	*	88.9	107	44	544
SPE0.000108	100	*	108	127	50	862



Female Barrel Union Brass Nut EPDM Flat Seal x Adaptor

Part No.	DN	Gas Part No.	D-Rp	L	Z	weight g
SPFQ.015015	12	GPFQ.015015	15 - 1/2	73	41	150
SPFQ.015020	12	GPFQ.015020	15 - 3/4	76	43	205
SPFQ.022020	20	GPFQ.022020	22 - 3/4	63	28	220
SPFQ.022025	20	GPFQ.022025	22-1	67	30	270
SPFQ.028025	25	GPFQ.028025	28-1	71	33	420
SPFQ.035032	32	GPFQ.035032	35 - 1 1/4	77	34	520
SPFQ.042040	40	GPFQ.042040	42 - 1 1/2	82	33	590
SPFQ.054050	50	GPFQ.054050	54 - 2	95	37	1,080

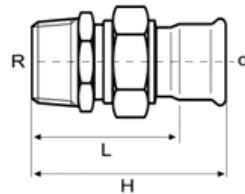


Female Barrel Union SS Nut, EPDM Flat Seal x Adaptor

Part No.	DN	Gas Part No.	D-Rp	L	Z	weight g
SPFN.015015	12	GPFN.015015	15 - 1/2	73	41	160
SPFN.015020	12	GPFN.015020	15 - 3/4	76	43	220
SPFN.022020	20	GPFN.022020	22 - 3/4	63	28	230
SPFN.022025	20	GPFN.022025	22-1	67	30	280
SPFN.028025	25	GPFN.028025	28-1	71	33	400
SPFN.035032	32	GPFN.035032	35 - 1 1/4	77	34	462
SPFN.042040	40	GPFN.042040	42 - 1 1/2	82	33	484
SPFN.054050	50	GPFN.054050	54 - 2	95	37	1,035



4.1 Standard and Gas Fittings



Male Barrel Union Brass Nut, EPDM Flat Seal x Adaptor

Part No.	DN	Gas Part No.	d-R	L	Z	weight g
SPMQ.015015	12	GPMQ.015015	15-1/2	56	150	150
SPMQ.015020	12	GPMQ.015020	15-3/4	59	168	180
SPMQ.022015	20	GPMQ.022015	22-1/2	44	225	240
SPMQ.022020	20	GPMQ.022020	22-3/4	46	195	220
SPMQ.022025	20	GPMQ.022025	22-1	50	237	280
SPMQ.028025	25	GPMQ.028025	28-1	54	366	400
SPMQ.035032	32	GPMQ.035032	35-1/4	59	495	540
SPMQ.042040	40	GPMQ.042040	42-1/2	58	578	630
SPMQ.054050	50	GPMQ.054050	54-2	67	988	1,060

Male Barrel Union SS Nut, EPDM Flat Seal x Adaptor

Part No.	DN	Gas Part No.	d-R	L	Z	weight g
SPMN.015015	12	GPMN.015015	15-1/2	77	56	165
SPMN.015020	12	GPMN.015015	15-3/4	80	59	190
SPMN.022015	20	GPMN.022020	22-1/2	67	44	250
SPMN.022020	20	GPMN.022020	22-3/4	69	46	230
SPMN.022025	20	GPMN.022020	22-1	73	50	290
SPMN.028025	25	GPMN.028025	28-1	78	54	390
SPMN.035032	32	GPMN.035032	35-1/4	85	59	540
SPMN.042040	40	GPMN.042040	42-1/2	90	58	610
SPMN.054050	50	GPMN.054050	54-2	104	67	1,010

Pipe-Pipe Barrel Union Brass Nut, EPDM Flat Seal x Adaptor

Part No.	DN	D	L	Z	weight g
SPPQ.051015	12	15	100	58	176
SPPQ.022022	20	22	94	48	247
SPPQ.028028	25	28	101	53	358
SPPQ.035035	32	35	109	56	579
SPPQ.042042	40	42	119	55	655
SPPQ.054054	50	54	130	56	1,001

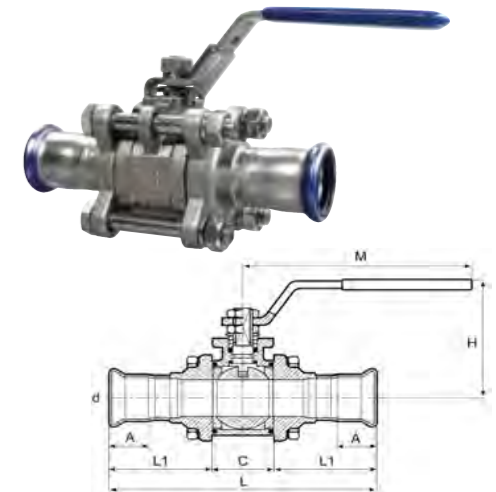
Pipe-Pipe Barrel Union SS Nut, EPDM Flat Seal x Adaptor

Part No.	DN	D	L	Z	weight g
SPPN.051015	12	15	99	57	189
SPPN.022022	20	22	94	48	245
SPPN.028028	25	28	100	52	374
SPPN.035035	32	35	110	57	574
SPPN.042042	40	42	119	55	635
SPPN.054054	50	54	128	54	955

4.1 Standard and Gas Fittings

3 Piece Ball Valve Adaptor Ends

Part No.	DN	d	L	L1	C	A	M	H	weight g
SPPV.000015	12	15	118	48	22	20	105	57	454
SPPV.000022	20	22	133	51	31	21	110	67	860
SPPV.000028	25	28	147.9	55	37.9	24	130	85	1,054
SPPV.000035	32	35	177	65	47	27	130	85	1,922
SPPV.000042	40	42	205	74	57	32	160	100	2,584
SPPV.000054	50	54	228	80	68	38	160	110	3,500
SPPV.000076	65	76.1	316	115	86	55	235	130	9,180
SPPV.000089	80	88.9	346	124	98	64	245	140	12,980
SPPV.000108	100	108	432	153	126	78	330	170	20,240



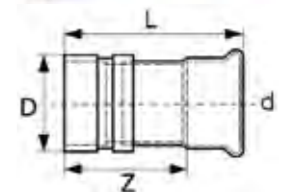
Welding Joint

Part No.	DN	d	L	weight g
SPB0.00015	12	15	26	20
SPB0.00022	20	22	28	30
SPB0.00028	25	28	31	40
SPB0.00032	32	35	35	54
SPB0.00040	40	42	39	75
SPB0.00054	50	54	44	106
SPB0.00076	65	76	69	316
SPB0.00089	80	89	80	424
SPB0.00108	100	108	96	621



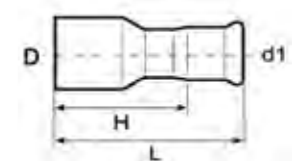
Roll Groove Adaptor

Part No.	DN	d-D	L	Z	weight g
SPR0.028025	25	28 x 33.7	87	63	171
SPR0.035032	32	35 x 42.4	94	68	239
SPR0.042040	40	42 x 48.3	105	74	298
SPR0.054050	50	54 x 60.3	99	62	397
SPR0.076065	65	76.0 x 76.1	130	95	986
SPR0.089080	80	88.9 x 88.9	166	103	1,230
SPR0.108100	100	108 x 114.4	184	107	1,393



Imperial Weld Adaptor

Part No.	DN	d-D	OD imp/mm	L	H	weight g
SPBJ.015015	12	15 x 1/2	0.840/21.3	60	39	45
SPBJ.022020	20	22 x 3/4	1.050/26.7	67	44	65
SPBJ.028025	25	28 x 1	1.315/33.4	73	49	112
SPBJ.035032	32	35 x 1 1/4	1.900/42.2	79	52	120
SPBJ.042040	40	42 x 1 1/2	1.900/48.3	97	65	191
SPBJ.054050	50	54 x 2	2.375/60.3	140	103	451
SPBJ.076065	65	76.1 x 2 1/2	2.87/73.0	156	101	653
SPBJ.076080	65	76.1 x 3	3.50/88.9	190	127	653
SPBJ.089080	80	88.9 x 3	3.50/88.9	190	127	992
SPBJ.108100	100	108 x 4	4.50/114.3	184	107	1,393



4.1 Standard and Gas Fittings

4.1 Standard and Gas Fittings

Adaptor Flange (large) Table E standard DIN & ANSI available

Part No.	DN	Nominal flange size	Inch size	D	P	L	T	Weight g
SPEF.015015	12	15	½"	95	67	30	6	344
SPEF.022020	20	20	¾"	102	73	32	6	*
SPEF.028025	25	25	1"	114	83	36	7	626
SPEF.035032	32	32	1¼"	121	87	41	8	716
SPEF.042040	40	40	1½"	133	98	46	9	1,005
SPEF.054050	50	50	2"	152	114	50	10	1,286
SPEF.076065	65	65	2½"	165	127	75	11	*
SPEF.076080	80	80	3"	185	146	77	11	1,676
SPEF.089080	80	80	3"	185	146	91	11	2,189
SPEF.108100	100	100	4"	215	178	107	13	3,304

Adaptor Flange DIN

Part No.	DN	Nominal flange size	Inch size	D	P	L	T	Weight g
SPDF.028025	25	25	1"	115	85	65	14	1,122
SPDF.042040	40	40	1½"	150	110	77	16	2,090
SPDF.054050	50	50	2"	165	125	86	18	2,838
SPDF.076080	65	80	3"	185	145	126	18	3,637
SPDF.089080	80	80	3"	200	160	147	20	4,405
SPDF.108100	100	100	4"	220	180	167	20	5,360

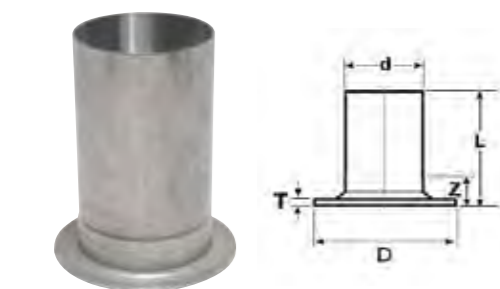
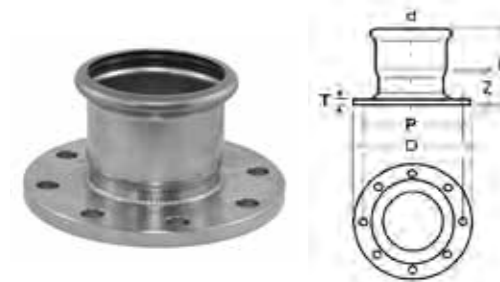
Adaptor Flange ANSI

Part No.	DN	Nominal flange size	Inch size	D	P	L	T	Weight g
SPAF.015015	12	15	½"	90	60.5	40	14	503
SPAF.022020	20	20	¾"	99	70	*	14	672
SPAF.028025	25	25	1"	108	79.5	43	14.5	993
SPAF.035032	32	32	1¼"	117	89	51	15	1,257
SPAF.042040	40	40	1½"	127	98.5	59	17.5	1,660
SPAF.054050	50	50	2"	152	120.5	66	19	2,565
SPAF.076065	65	65	2½"	178	139.5	*	22.5	*
SPAF.076080	65	80	3"	178	140	90	22.5	4,891
SPAF.089080	80	80	3"	191	152.5	96	24	4,450
SPAF.108100	100	100	4"	229	190.5	127	24	6,887

Stub Flange

Part No.	DN	d	D	Z	L	T	Weight g
SSJF.076080	65	76.1	106	28	128	3	563
SSJF.089080	80	88.9	125	26	149	3	764
SSJF.108100	100	108	158	22	175	4	1,263

Use in conjunction with backing rings on page 23



15° Bend

Part No.	d	H1	H	K	K1	weight g
SSS1.000015	15	122	60	21	83	76
SSS1.000022	22	124	50	7	81	110
SSS1.000028	28	136	45	7	47	146
SSS1.000035	35	234	62	30	110	381
SSS1.000042	42	276	94	41	144	558
SSS1.000054	54	337	117	65	165	869
SSS1.000076	76.1	230	226	65	65	1,607
SSS1.000089	88.9	260	240	80	80	2,109
SSS1.000108	108	291	222	95	95	2,546

30° Bend

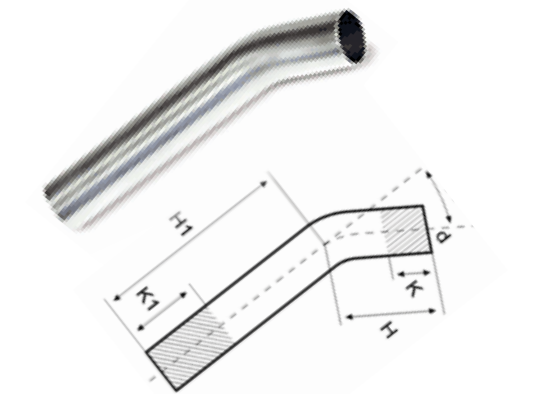
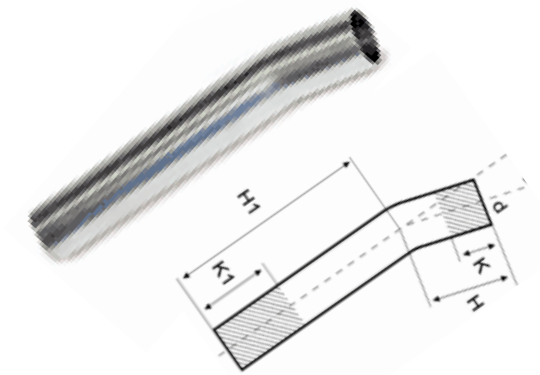
Part No.	d	H1	H	K	K1	weight g
SSS3.000015	15	122	60	21	83	76
SSS3.000022	22	124	50	6	80	110
SSS3.000028	28	130	54	7	47	144
SSS3.000035	35	218	80	30	110	382
SSS3.000042	42	274	98	44	144	560
SSS3.000054	54	324	137	65	165	905
SSS3.000076	76.1	200	202	66	66	1,410
SSS3.000089	88.9	262	264	80	80	2,183
SSS3.000108	108	259	272	95	95	2,622

45° Bend

Part No.	d	H1	H	K	K1	weight g
SSS4.000015	15	120	62	19	77	76
SSS4.000022	22	120	56	7	71	111
SSS4.000028	28	122	58	2	66	146
SSS4.000035	35	206	94	20	132	380
SSS4.000042	42	262	114	1	149	576
SSS4.000054	54	321	146	37	212	928
SSS4.000076	76.1	225	225	69	69	1,577
SSS4.000089	88.9	267	267	103	103	2,323
SSS4.000108	108	293	293	66	66	2,901

60° Bend

Part No.	d	H1	H	K	K1	weight g
SSS6.000015	15	122	60	21	83	76
SSS6.000022	22	118	60	5	63	112
SSS6.000028	28	116	71	7	47	140
SSS6.000035	35	226	101	30	110	383
SSS6.000042	42	251	124	44	145	564
SSS6.000054	54	308	162	65	165	889
SSS6.000076	76.1	219	223	70	70	1,479
SSS6.000089	88.9	250	257	80	80	1,996
SSS6.000108	108	288	298	95	95	2,780



4.1 Standard and Gas Fittings

75° Bend

Part No.	d	H1	H	K	K1	weight g
SSS7.000015	15	117	66	22	73	77
SSS7.000022	22	118	64	9	63	114
SSS7.000028	28	114	71	7	50	150
SSS7.000035	35	200	110	26	119	393
SSS7.000042	42	251	137	44	158	595
SSS7.000054	54	305	178	60	187	960
SSS7.000076	76.1	240	240	62	62	1,682
SSS7.000089	88.9	280	280	90	90	2,436
SSS7.000108	108	345	345	60	60	3,416

90° Bend

Part No.	d	H1	H	K	K1	weight g
SSS9.000015	15	120	70	22	72	59
SSS9.000022	22	120	70	9	59	102
SSS9.000028	28	125	97	7	47	153
SSS9.000035	35	200	120	30	110	183
SSS9.000042	42	250	160	44	144	565
SSS9.000054	54	305	200	65	165	868
SSS9.000076	76.1	250	250	62	62	1,752
SSS9.000089	88.9	291	291	90	90	2,532
SSS9.000108	108	364	364	45	45	3,604

Pipe Bridge

Part No.	d	L1	L2	L	weight g
SSSB.000015	15	202	38	65	74
SSSB.000022	22	233	40	68	158
SSSB.000028	28	303	64	93	258

Pipe Bridge Short

Part No.	d	L1	L2	L	weight g
SSSZ.000015	15	145	37	57	54
SSSZ.000022	22	181	40	60	122
SSSZ.000028	28	241	55	83	215

4.2 Stainless Steel Super Size Fittings

Tube - Austenitic - 6 metre lengths

Part No. 304L	DN	Part No. 304	Ext Ø (mm)	Thickness (mm)	weight kg/m	weight kg/6m
MTT0.316140	125	MTT0.316140	139.7	2.0	6.896	41.38
MTT0.316168	150	MTT0.316168	168.3	2.0	8.328	49.97

Coupling

Part No. 316L	DN	Part No. 304	d	Thickness (mm)	L	Z	weight g
MPP0.000140	125	RPP0.000140	139.7	2.6	394	198	2,031
MPP0.000168	150	RPP0.000168	168.3	2.6	274	38	3,350

Elbow 90°

Part No. 316L	DN	Part No. 304	d	Thickness (mm)	L	Z	weight g
MPP9.000140	125	RPP9.000140	139.7	2.6	314	216	3,813
MPP9.000168	150	RPP9.000168	168.3	2.6	375	257	7,340

Elbow 90° with spigot end

Part No. 316L	DN	Part No. 304	d	Thickness (mm)	L	H	Z	weight g
MPS8.000168	150	RPS8.000168	168.3	2.6	375	373	257	7,070

Elbow 45°

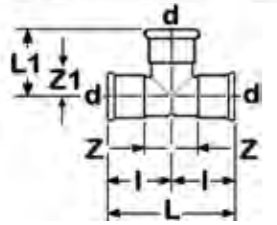
Part No. 316L	DN	Part No. 304	d	Thickness (mm)	L	Z	weight g
MPP4.000140	125	RPP4.000140	139.7	2.6	204	105	1,906
MPP4.000168	150	RPP4.000168	168.3	2.6	247	129	2,825

Elbow 45° with spigot end

Part No. 316L	DN	Part No. 304	d	Thickness (mm)	L	H	Z	weight g
MPS8.000168	150	RPS8.000168	168.3	2.6	247	245	129	5,270

4.2 Stainless Steel Super Size Fittings

4.2 Stainless Steel Super Size Fittings



Equal Tee

Part No. 316L	DN	Part No. 304	d	Thickness (mm)	L	L1	Z	Z1	I	Weight g
MPPT.000140	125	RPPT.000140	139.7	2.6	433	192	98.5	93.9	216.5	3,940
MPPT.000168	150	RPPT.000168	168.3	2.6	460	234	118	112	230	6,870

Reducing Tee

Part No. 316L	DN	Part No. 304	d	d1	Thickness (mm)	L	L1	Z	Z1	I	Weight g
MPPT.140076	125	RPPT.140076	2.6	139.7	76.1	433	145	98.5	90.4	216.5	3,330
MPPT.140089	125	RPPT.140089	2.6	139.7	88.9	433	155	98.5	97.4	216.5	3,620
MPPT.140108	125	RPPT.140108	2.6	139.7	108	433	171	98.5	100	216.5	3,650
MPPT.168054	150	RPPT.168054	2.6	168.3	54	460	133	118	96	230	5,780
MPPT.168076	150	RPPT.168076	2.6	168.3	76.1	460	157	118	102	230	5,990
MPPT.168089	150	RPPT.168089	2.6	168.3	88.9	460	167	118	104	230	6,070
MPPT.168108	150	RPPT.168108	2.6	168.3	108	460	183	118	106	230	5,840
MPPT.168140	150	RPPT.168140	2.6	168.3	139.7	460	218	118	120	230	5,220

Reducing Coupler (Spigot x Adaptor)

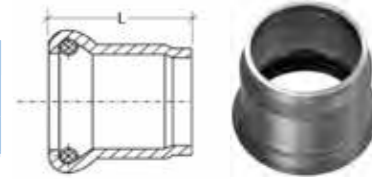
Part No. 316L	DN	Part No. 304	d	d1	Thickness (mm)	L	H	Weight g
MPP0.140076	125 x 65	RPP0.140076	139.7	76.1	2.6	340	282	2,220
MPP0.140108	125 x 100	RPP0.140108	139.7	108	2.6	307	236	2,100
MPP0.168076	150 x 65	RPP0.168076	168.3	76.1	2.6	379	321	*
MPP0.168089	150 x 80	RPP0.168089	168.3	88.9	2.6	379	321	3,830
MPP0.168108	150 x 100	RPP0.168108	168.3	108	2.6	360	289	3,760
MPP0.168140	150 x 125	RPP0.168140	168.3	139.7	2.6	422	324	2,930

End Cap

Part No. 316L	DN	Part No. 304	d	Thickness (mm)	L	Weight g
MPE0.000140	125	RPE0.000140	139.7	2.6		
MPE0.000168	150	RPE0.000168	168.3	2.6		

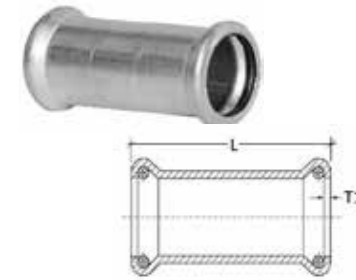
Weld End

Part No. 316L	DN	Part No. 304	d	Thickness (mm)	L	Weight g
MPB0.000140	125	RPB0.000140	139.7	2.6		
MPB0.000168	150	RPB0.000168	168.3	2.6	150	



Slip Coupling

Part No. 316L	DN	Part No. 304	d	Thickness (mm)	L	Z	Weight g
MPPS.000140	125	RPPS.000140	139.7	2.6			
MPPS.000168	150	RPPS.000168	168.3	2.6			



Adaptor Flange Table E

Part No. 316L	DN	Part No. 304	d	D	P	L	T	Z	Weight g
MPEF.140125	125	RPEF.140125	139.7	250	210	138	14	41	
MPEF.168150	150	RPEF.168150	168.3	285	235	158	14.5	54	6,755



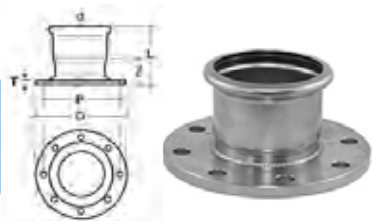
Adaptor Flange DIN

Part No. 316L	DN	Part No. 304	d	D	P	L	T	Z	Weight g
MPDF.140125	125	RPDF.140125	139.7	250	210	138	22	41	
MPDF.168150	150	RPDF.168150	168.3	285	240	160	22.6	54	7,573



Adaptor Flange ANSI 150

Part No. 316L	DN	Part No. 304	d	D	P	L	T	Z	Weight g
MPDF.140125	125	RPDF.140125	139.7	250	216	171	22.4	54	
MPDF.168150	150	RPDF.168150	168.3	285	241.5	171	23.9	54	8,862

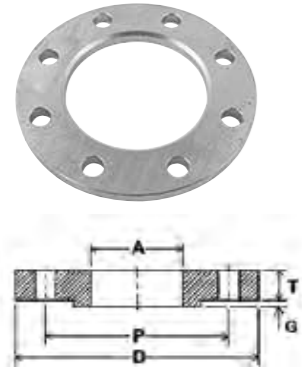


4.3 S.S. Backing Rings and Flanges

4.3 S.S. Backing Rings and Flanges

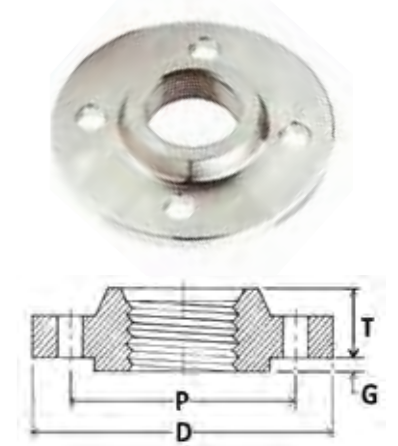
DIN Backing Rings – EN 1092-1

Part No	Nominal flange size	Inch equivalent	P (mm)	A (mm)	D (mm)	T (mm)	Bolt holes	Bolt
SBD6.015015	15	1/2"	65.0	29.0	95	14.0	4 x 14	M12
SBD6.022020	20	3/4"	75.0	34.0	105	16.0	4 x 14	M12
SBD6.028025	25	1"	85.0	40.0	115	16.0	4 x 14	M12
SBD6.035032	32	1 1/4"	100.0	46.0	140	18.0	4 x 18	M16
SBD6.040040	40	1 1/2"	110.0	54.0	150	18.0	4 x 18	M16
SBD6.054050	50	2"	125.0	61.0	165	20.0	4 x 18	M16
SBD6.076065	65	2 1/2"	145.0	83.0	185	22.0	8 x 18	M16
SBD6.076080	80	3"	160.0	97.0	200	20.0	8 x 18	M16
SBD6.089080	80	3"	160.0	97.0	200	20.0	8 x 18	M16
SBD6.108100	100	4"	180.0	110.0	220	22.0	8 x 18	M16
SBD6.139125	125	5"	210.0	141.0	250	22.0	8 x 18	M16
SBD6.168150	150	6"	240.0	169.0	285	24.0	8 x 22	M20



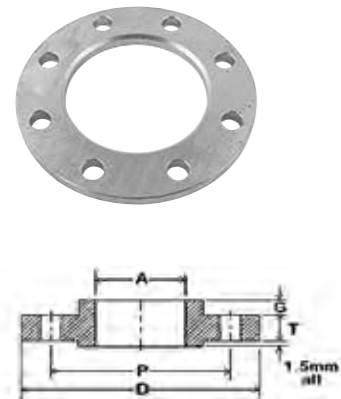
DIN Scr Flanges EN 1092-1

Part No	Nominal flange size	Inch size	P (mm)	D (mm)	T (mm)	G (mm)	Bolt holes No. x dia	Bolt
SFD6.000015	15	1/2"	65.0	95	16.0	2.0	4 x 14	M12
SFD6.000020	20	3/4"	75.0	105	18.0	2.0	4 x 14	M12
SFD6.000025	25	1"	85.0	115	18.0	2.0	4 x 14	M12
SFD6.000032	32	1 1/4"	100.0	140	18.0	2.0	4 x 18	M16
SFD6.000040	40	1 1/2"	110.0	150	18.0	3.0	4 x 18	M16
SFD6.000050	50	2"	125.0	165	18.0	3.0	4 x 18	M16
SFD6.000065	65	2 1/2"	145.0	185	22.0	3.0	8 x 18	M16
SFD6.000080	80	3"	160.0	200	22.0	3.0	8 x 18	M16
SFD6.000100	100	4"	180.0	220	22.0	3.0	8 x 18	M16
SFD6.000125	125	5"	210.0	250	22.0	3.0	8 x 18	M16
SFD6.000150	150	6"	240.0	285	24.0	3.0	8 x 22	M20



ANSI BACKING RINGS B16.5a 1992 - Table ASA. 150

Part No	Nominal flange size	Inch equivalent	P (mm)	A (mm)	D (mm)	T (mm)	Bolt holes	Bolt
SBA6.015015	15	1/2"	60.5	29.0	90	11.5	4 x 16	M12
SBA6.022020	20	3/4"	70.0	34.0	98	13.0	4 x 16	M12
SBA6.028025	25	1"	79.5	40.0	108	14.5	4 x 16	M12
SBA6.035032	32	1 1/4"	89.0	46.0	117	16.0	4 x 16	M12
SBA6.040040	40	1 1/2"	98.5	54.0	127	17.5	4 x 16	M12
SBA6.054050	50	2"	120.5	60.3	152	19.5	4 x 20	M16
SBA6.076065	65	2 1/2"	139.5	83.0	178	22.5	4 x 20	M16
SBA6.076080	80	3"	152.5	97.0	191	22.5	4 x 20	M16
SBA6.000089	80	3"	152.5	97.0	191	24.0	4 x 20	M16
SBA6.000100	100	4"	190.5	110.0	229	24.0	8 X 20	M16
SBA6.000125	125	5"	216.0	141.3	254	24.0	8 X 22	M20
SBA6.000150	150	6"	241.5	168.3	279	25.5	8 X 22	M20



ANSI Scr Flanges B16.5a 1992 - Table ASA. 150

Part No	Nominal flange size	Inch size	P (mm)	D (mm)	T (mm)	G (mm)	Bolt holes No. x dia	Bolt
SFA6.000015	15	1/2"	60.5	90	9.7	4.5	4 x 16	M12
SFA6.000020	20	3/4"	70.0	99	11.2	3.0	4 x 16	M12
SFA6.000025	25	1"	79.5	108	12.7	3.0	4 x 16	M12
SFA6.000032	32	1 1/4"	89.0	117	14.2	4.9	4 x 16	M12
SFA6.000040	40	1 1/2"	98.5	127	15.7	4.9	4 x 16	M12
SFA6.000050	50	2"	120.5	152	17.5	6.4	4 x 19	M16
SFA6.000065	65	2 1/2"	139.7	178	20.6	6.3	4 x 19	M16
SFA6.000080	80	3"	152.5	191	22.4	6.0	4 x 19	M16
SFA6.000100	100	4"	190.5	229	22.4	9.4	8 X 19	M16
SFA6.000125	125	5"	216.0	254	22.4	12.7	8 X 22	M20
SFA6.000150	150	6"	241.5	279	23.9	14.2	8 X 22	M20

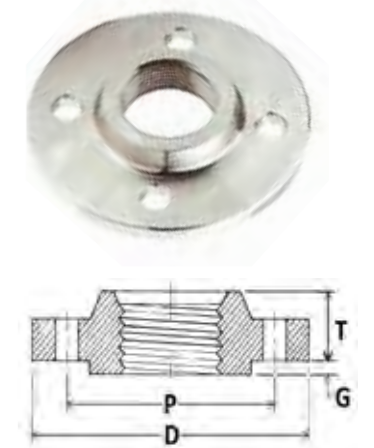


TABLE E BACKING RINGS NP 16 bar AS 2129 1994

Part No	Nominal flange size	Inch equivalent	P (mm)	A (mm)	D (mm)	T (mm)	Bolt holes	Bolt
SBE6.015015	15	1/2"	67.0	29.0	95	6.0	4 x 14	M12
SBE6.020022	20	3/4"	73.0	34.0	100	6.0	4 x 14	M12
SBE6.028025	25	1"	83.0	40.0	115	7.0	4 x 14	M12
SBE6.035032	32	1 1/4"	87.0	46.0	120	8.0	4 x 14	M12
SBE6.040040	40	1 1/2"	98.0	54.0	135	9.0	4 x 14	M12
SBE6.054050	50	2"	114.0	60.3	150	10.0	4 x 18	M16
SBE6.076065	65	2 1/2"	127.0	83.0	165	10.0	4 x 18	M16
SBE6.076080	80	3"	146.0	97.0	184	11.0	4 x 18	M16
SBE6.089080	80	3"	146.0	97.0	184	11.0	4 x 18	M16
SBE6.108100	100	4"	178.0	110.0	216	13.0	8 x 18	M16
SBE6.139125	125	5"	210.0	139.7	255	14.0	8x 18	M16
SBE6.168150	150	6"	235.0	168.3	280	17.0	8 x 22	M20

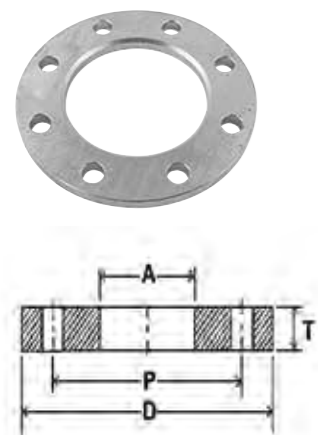
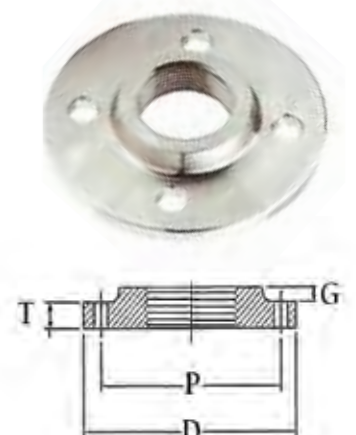


TABLE E Scr Flanges NP 16 bar AS 2129 1994

Part No	Nominal flange size	Inch size	P (mm)	D (mm)	T (mm)	Bolt holes No. x dia	Bolt
SFE6.000015	15	1/2"	67.0	95	16.0	4 x 16	M12
SFE6.000020	20	3/4"	73.0	100	17.0	4 x 16	M12
SFE6.000025	25	1"	83.0	115	18.0	4 x 16	M12
SFE6.000032	32	1 1/4"	87.0	120	19.0	4 x 16	M12
SFE6.000040	40	1 1/2"	98.0	135	21.0	4 x 16	M12
SFE6.000050	50	2"	114.0	150	22.0	4 x 19	M16
SFE6.000065	65	2 1/2"	127.0	165	26.0	4 x 19	M16
SFE6.000080	80	3"	146.0	185	27.0	4 x 19	M16
SFE6.000100	100	4"	178.0	215	33.0	4 x 19	M16
SFE6.000125	125	5"	210.0	255	33.0	8x 22	M20
SFE6.000150	150	6"	235.0	280	36.0	8 x 22	M20



Hot Galvanising

Part No.	ext. Ø	thickness	length	weight	
External Only	External & Internal	[mm]	[mm]	[m]	[kg/m]
CTT0.000015	CTT0.INT015	15	1.2	6m	0.408
CTT0.000022	CTT0.INT022	22	1.5	6m	0.758
CTT0.000028	CTT0.INT028	28	1.5	6m	0.980
CTT0.000035	CTT0.INT035	35	1.5	6m	1.239
CTT0.000042	CTT0.INT042	42	1.5	6m	1.498
CTT0.000054	CTT0.INT054	54	1.5	6m	1.942
CTT0.000076	CTT0.INT076	76.1	2	6m	3.655

Electrolytic Galvanising

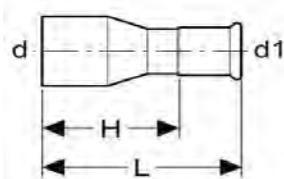
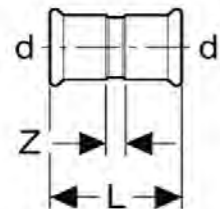
Part No.	ext. Ø	thickness	length	weight	
External Only	External & Internal	[mm]	[mm]	[m]	[kg/m]
CTT0.000089	CTT0.INT089	88.9	2	6m	4.286
CTT0.000108	CTT0.INT108	108	2	6m	5.228

Coupling

Part No.	DN	L	Z	weight g
CPP0.000015	12	52	10	39
CPP0.000022	20	59	13	60
CPP0.000028	25	61	13	77
CPP0.000035	32	72	18	108
CPP0.000042	40	79	15	146
CPP0.000054	50	90	16	210
CPP0.000076	65	142	32	629
CPP0.000089	80	163	37	835
CPP0.000108	100	192	38	1,230

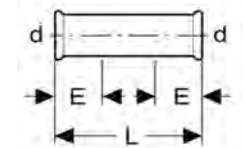
Reducing Coupling (Spigot x Adaptor)

Part No.	DN	L	H	weigh g
CSP0.022015	20	60	39	43
CSP0.028015	25	81	60	65
CSP0.028022	25	70	47	61
CSP0.035015	32	84	63	86
CSP0.035022	32	76	53	92
CSP0.035028	32	74	48	84
CSP0.042022	40	87	64	118
CSP0.042028	40	100	76	131
CSP0.042035	40	78	52	112
CSP0.054022	50	110	88	190
CSP0.054028	50	100	76	186
CSP0.054035	50	129	102	204
CSP0.054042	50	108	76	210
CSP0.076042	65	149	117	438
CSP0.076054	65	145	108	454
CSP0.089054	80	157	120	596
CSP0.089076	80	157	105	699
CSP0.108054	100	204	167	898
CSP0.108076	100	196	144	980
CSP0.108089	100	192	133	996



Slip Coupling

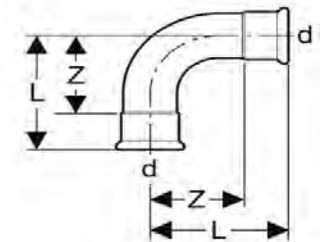
Part No.	DN	L	Z	weight g
CPPS.000015	12	73	24	54
CPPS.000022	20	83	27	82
CPPS.000028	25	92	28	111
CPPS.000035	32	101	31	149
CPPS.000042	40	118	35	212
CPPS.000054	50	142	40	319
CPPS.000076	65	232	60	985
CPPS.000089	80	262	70	1,292
CPPS.000108	100	312	80	1,878



Elbow 90° R 1.5

Part No.	DN	L	Z	weight g
CPP8.000015	12	41	20	48
CPP8.000022	20	49	26	84
CPP8.000028	25	59	35	120
CPP8.000035	32	72	45	165
CPP8.000042	40	91	59	256
CPP8.000054	50	110	73	386
CPP8.000076	65	150	95	994
CPP8.000089	80	174	111	1,364
CPP8.000108	100	215	138	2,060

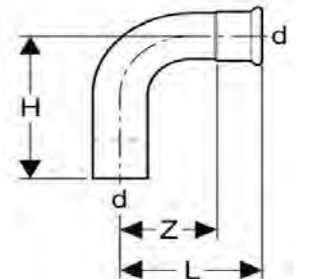
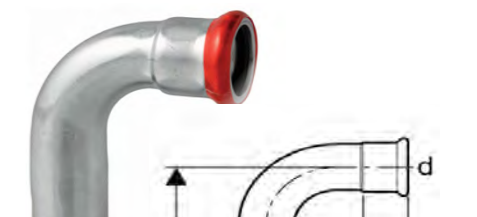
Radius 1.5 is CPP9 (dimensions will change)



Elbow 90° with Spigot End

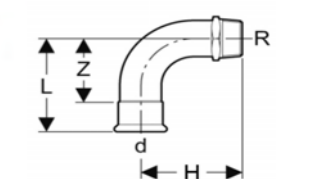
Part No.	DN	L	H	Z	weight g
CPS8.000015	12	41	49	20	58
CPS8.000022	20	49	59	26	98
CPS8.000028	25	59	69	35	147
CPS8.000035	32	72	83	45	179
CPS8.000042	40	91	96	59	260
CPS8.000054	50	110	116	73	400
CPS8.000076	65	150	166	95	982
CPS8.000089	80	174	190	111	1,317
CPS8.000108	100	215	230	138	2,068

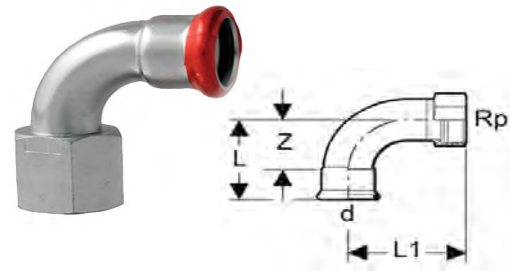
Radius 1.5 is CPP9 (dimensions will change)



Elbow Adaptor 90° with Male Thread

Part No.	DN	L	H	Z	weight g
CPM9.015015	12	41	40	20	70
CPM9.022020	20	49	54	26	106
CPM9.028025	25	59	68	35	174
CPM9.035032	32	72	102	45	292
CPM9.042040	40	91	116	59	376
CPM9.054050	50	110	142	73	666





Elbow Adaptor 90° with Female Thread

Part No.	DN	L	L1	Z	weight g
CPF9.015015	12	41	44	20	83
CPF9.022020	20	49	56	26	150
CPF9.028025	25	59	64	35	200

Elbow 45° R 1.2



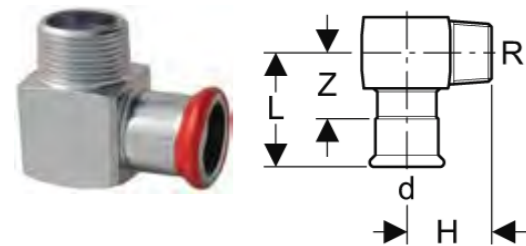
Part No.	DN	L	Z	weight g
CPP2.000015	12	41	20	48
CPP2.000022	20	49	26	84
CPP2.000028	25	59	35	120
CPP2.000035	32	72	45	165
CPP2.000042	40	91	59	256
CPP2.000052	50	110	73	386
CPP2.000076	65	150	95	994
CPP2.000089	80	174	111	1,364
CPP2.000108	100	215	138	2,060

Elbow 45° with Spigot End R1.2



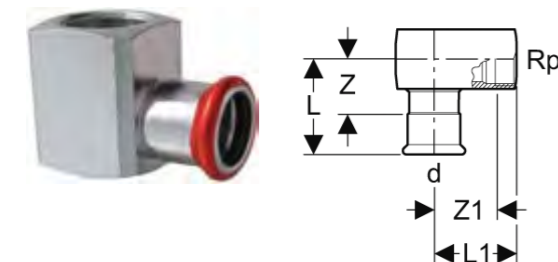
Part No.	DN	L	H	Z	weight g
CPS2.000015	12	41	49	20	48
CPS2.000022	20	49	59	26	89
CPS2.000028	25	59	69	35	120
CPS2.000035	32	72	83	45	164
CPS2.000042	40	91	96	59	255
CPS2.000054	50	110	116	73	382
CPS2.000076	65	150	166	95	1,006
CPS2.000089	80	174	190	111	1,378
CPS2.000108	100	215	230	138	2,028

Short Elbow Adaptor 90° with Male Thread



Part No.	DN	L	H	Z	weight g
CPMA.015010	12	34	23	13	86
CPMA.015015	12	34	28	13	93
CPMA.022020	20	39	36	16	190

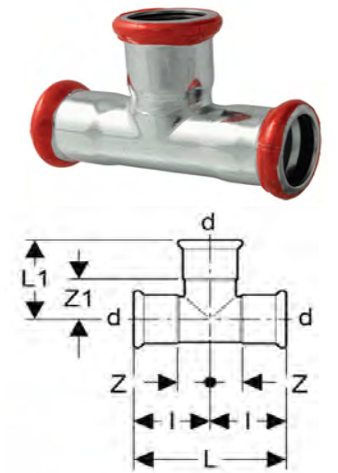
Short Elbow Adaptor 90° with Female Thread



Part No.	DN	L	H	Z	Z1	weight g
CPMA.015010	12	34	23	13	86	173
CPMA.015015	12	34	28	13	93	254
CPMA.022020	20	39	36	16	190	285
CPFA.028015	28	47	43	23	31	436

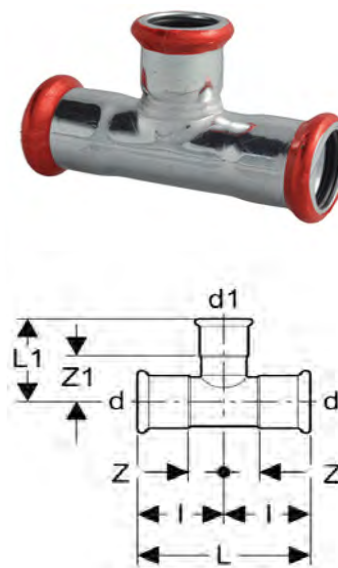
Equal Tee

Part No.	DN	L	L1	Z	Z1	l	weight g
CPPT.000015	12	74	36	16	15	37	69
CPPT.000022	20	82	43	18	20	41	109
CPPT.000028	25	92	46	22	22	46	146
CPPT.000035	32	102	54	24	27	51	195
CPPT.000042	40	118	60	27	28	59	271
CPPT.000054	50	142	73	34	36	71	397
CPPT.000076	65	232	121	61	66	116	1,220
CPPT.000089	80	262	126	68	63	131	1,640
CPPT.000108	100	312	152	79	75	156	2,392

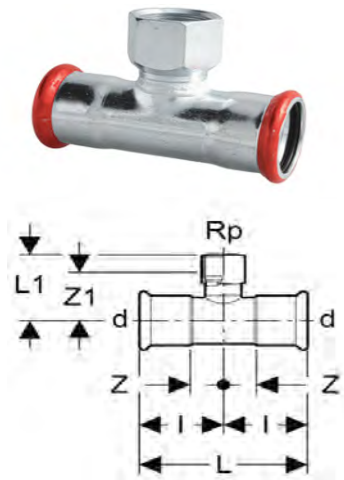


Reducing Tee

Part No.	DN	d-d1-d	L	L1	Z	Z1	l	weight g
CPPT.022015	20-12	22-15-22	82	40	18	19	41	99
CPPT.028015	25-12	28-15-28	92	42	22	21	46	127
CPPT.028022	25-20	28-22-28	92	46	22	23	46	136
CPPT.035015	32-12	35-15-35	102	45	24	24	51	157
CPPT.035022	32-20	35-22-35	102	46	24	23	51	172
CPPT.035028	32-25	35-28-35	102	48	24	24	51	181
CPPT.042015	40-12	42-15-42	118	52	27	31	59	218
CPPT.042022	40-20	42-22-42	118	54	27	31	59	228
CPPT.042028	40-25	42-28-42	118	53	27	29	59	234
CPPT.042035	40-32	42-35-42	118	57	27	30	59	250
CPPT.054015	54-12	54-15-54	142	54	34	33	71	321
CPPT.054022	54-20	54-22-54	142	56	34	33	71	338
CPPT.054028	54-25	54-28-54	142	59	34	35	71	352
CPPT.054035	54-32	54-35-54	142	64	34	37	71	356
CPPT.054042	54-40	54-42-54	142	68	34	36	71	375
CPPT.076022	65-20	76.1-22-76.1	232	68	61	45	116	986
CPPT.076028	65-25	76.1-28-76.2	232	71	61	47	116	981
CPPT.076035	65-32	76.1-35-76.3	232	75	61	48	116	998
CPPT.076042	65-40	76.1-42-76.4	232	79	61	47	116	1,015
CPPT.076054	65-50	76.1-54-76.5	232	80	61	43	116	1,034
CPPT.089022	80-20	88.9-22-88.9	262	76	68	53	131	1,306
CPPT.089028	80-25	88.9-28-88.9	262	76	68	52	131	1,240
CPPT.089035	80-32	88.9-35-88.9	262	83	68	57	131	1,295
CPPT.089042	80-40	88.9-42-88.9	262	85	68	53	131	1,336
CPPT.089054	80-50	88.9-54-88.9	262	93	68	56	131	1,372
CPPT.089076	80-65	88.9-76.1-88.10	262	128	68	73	131	1,572
CPPT.108022	100-20	108-22-108	312	85	79	62	156	1,831
CPPT.108028	100-25	108-28-108	312	88	79	64	156	1,820
CPPT.108035	100-32	108-35-108	312	94	79	66	156	1,835
CPPT.108042	100-40	108-42-108	312	96	79	64	156	1,849
CPPT.108054	100-50	108-54-108	312	102	79	65	156	1,872
CPPT.108076	100-65	108-76.1-108	312	125	79	70	156	2,119
CPPT.108089	100-80	108-88.9-108	312	135	79	72	156	2,100

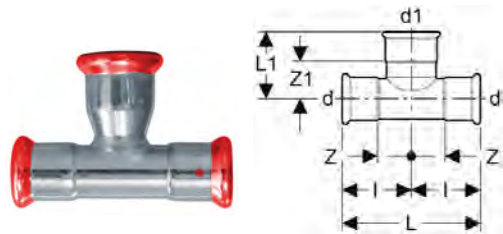


Female Centred Tee



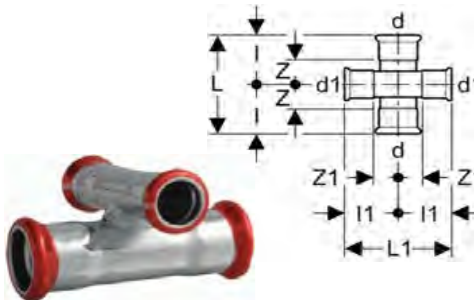
Part No.	DN	d-Rp-d	L	L1	Z	Z1	I	weight g
CPFT.015015	12	15-1/2-15	74	38	16	23	37	84
CPFT.022015	20	22-1/2-22	82	42	18	30	41	127
CPFT.022020	20	22-3/4-22	82	43	18	30	41	128
CPFT.028015	25	28-1/2-28	92	44	22	32	46	150
CPFT.028020	25	28-3/4-28	92	45	22	32	46	157
CPFT.035015	32	35-1/2-35	102	42	24	30	51	185
CPFT.035020	32	35-3/4-35	102	47	24	34	51	183
CPFT.042015	40	42-1/2-42	118	46	27	34	59	249
CPFT.042020	40	42-3/4-42	118	52	27	39	59	2545
CPFT.054015	50	54-1/2-54	142	55	34	43	71	350
CPFT.054020	50	54-3/4-54	142	58	34	45	71	360
CPFT.076020	65	76.1-3/4-76.1	232	68	61	55	116	1,258
CPFT.089020	80	88.9-3/4-88.9	262	87	68	74	131	1,254
CPFT.108020	100	108-3/4-108	312	86	79	73	156	1,812

Large Inlet Tee



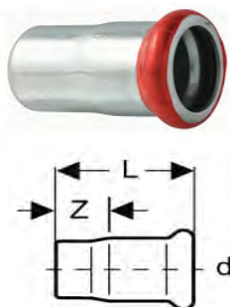
Part No.	DN	d-Rp-d	L	L1	Z	Z1	I	weight g
CPPT.015015	12	15-22-15	74	42	16	19	37	86
CPPT.022015	20	22-28-22	82	45	18	21	41	122

Off Centre Cross



Part No.	DN	d-d1	L	L1	Z	Z1	I	I1	weight g
CPPX.015015	12	15-15	74	74	16	16	37	37	102
CPPX.022015	20	22-15	82	74	18	16	41	37	132
CPPX.028020	25	28-15	92	74	22	16	46	37	160
CPPX.028020	25	28-22	92	82	22	18	46	41	188
CPPX.035015	32	35-22	102	82	24	18	51	41	220
CPPX.042020	40	42-22	118	82	27	18	59	41	282
CPPX.054015	50	54-22	142	82	34	15	71	41	390

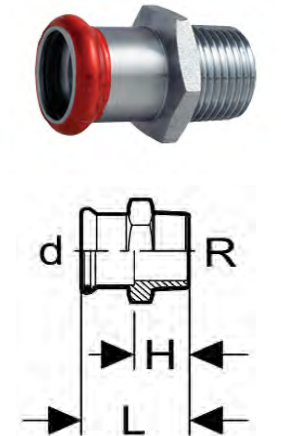
Cap



Part No.	DN	d	L	Z	weight g
CPE0.000015	12	15	38	17	28
CPE0.000022	20	22	42	19	45
CPE0.000028	25	28	51	24	82
CPE0.000035	32	35	51	24	82
CPE0.000042	40	42	59	27	116
CPE0.000054	50	54	73	36	178
CPE0.000076	65	76.1	95	40	376
CPE0.000089	80	88.9	115	52	504
CPE0.000108	100	108	130	53	760

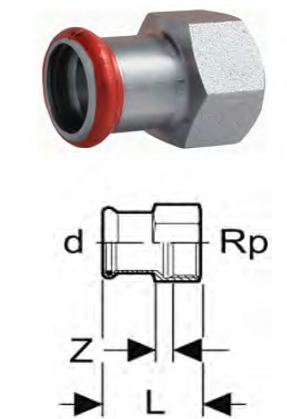
Adaptor with Male Thread

Part No.	DN	d-R	L	H	weight g
CPM0.015010	12	15-3/8	43	22	40
CPM0.015015	12	15-1/2	43	22	50
CPM0.015020	12	15-3/4	44	23	86
CPM0.022015	20	22-1/2	44	21	74
CPM0.022020	20	22-3/4	45	22	79
CPM0.022025	20	22-1	47	24	120
CPM0.028020	25	28-3/4	47	23	96
CPM0.028025	25	28-1	49	25	100
CPM0.035025	32	35-1	63	23	155
CPM0.035032	32	35-1/4	54	27	164
CPM0.035040	32	35-1/2	54	27	275
CPM0.042040	40	42-1/2	58	26	197
CPM0.054050	50	54-2	69	32	358
CPM0.076065	65	76.1-2-1/2	123	68	999
CPM0.089080	80	88.9-3	134	71	1,153
CPM0.108100	100	108-4	156	78	1,924



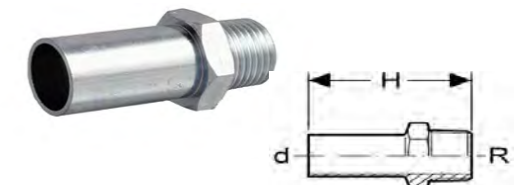
Adaptor with Female Thread

Part No.	DN	D-Rp	L	Z	weight g
CPF0.015010	12	15-3/8	35	4	54
CPF0.015016	13	15-1/2	37	4	82
CPF0.015020	12	15-3/4	38	4	91
CPF0.022015	20	22-1/2	37	3	88
CPF0.022020	20	22-3/4	40	4	88
CPF0.022025	20	22-1	43	4	105
CPF0.028020	25	28-1/2	45	9	174
CPF0.028021	26	28-3/4	43	6	158
CPF0.028025	25	28-1	45	5	97
CPF0.035025	32	35-1	45	8	223
CPF0.035032	32	35-1/4	73	25	198
CPF0.042040	40	42-1/2	75	20	248
CPF0.054050	50	54-2	85	18	476



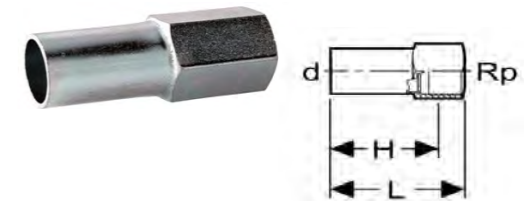
Spigot Adaptor with Male Thread

Part No.	DN	d-R	L	weight g
CSM0.015015	12	15-1/2	57	57
CSM0.022020	20	22-1/2	57	70
CSM0.028025	25	22-3/4	59	74

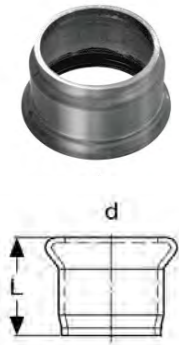


Spigot Adaptor with Female Thread

Part No.	DN	d-Rp-d	L	Z	weight g
CSF0.015015	12	15-3/8	74	64	64
CSF0.015016	13	15-1/2	61	49	73
CSF0.022015	20	22-1/2	61	49	69
CSF0.022020	20	22-3/4	65	52	124

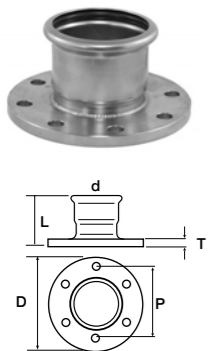


Welding Joint



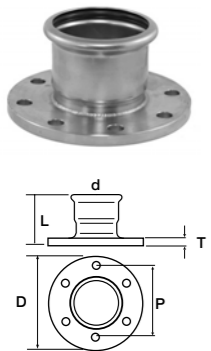
Part No.	DN	d	L	weight g
CPB0.00015	12	15	25	16
CPB0.00022	20	22	27	28
CPB0.00028	25	28	30	35
CPB0.00032	32	35	34	53
CPB0.00040	40	42	38	70
CPB0.00054	50	54	44	96
CPB0.00076	65	76	68	290
CPB0.00089	80	89	78	397
CPB0.00108	100	108	94	584

Adaptor Flange Table E



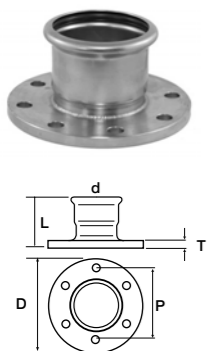
Part No	DN	Tube d (mm)	Flange Inch Size	D (mm)	P (mm)	L (mm)	T	Bolt holes	Bolt
CPEF.015015	12	15	1/2"	95	67	29	6	4 x 14	M12
CPEF.022020	20	22	3/4"	100	73	31	6	4 x 14	M12
CPEF.028025	25	28	1"	115	83	35	7	4 x 14	M12
CPEF.035032	32	35	1 1/4"	120	87	40	8	4 x 14	M12
CPEF.042040	40	42	1 1/2"	135	98	45	9	4 x 14	M12
CPEF.054050	50	54	2"	150	114	52	10	4 x 18	M16
CPEF.076065	65	76.1	2 1/2"	185	146	77	11	4 x 18	M16
CPEF.076080	80	76.1	3"	185	146	77	11	4 x 18	M16
CPEF.089080	80	88.9	3"	185	146	91	11	4 x 18	M16
CPEF.108100	100	108	4"	215	178	107	13	8 x 18	M16

Adaptor Flange DIN



Part No	DN	Tube d (mm)	Flange Inch Size	D (mm)	P (mm)	L (mm)	T	Bolt holes	Z	Weight g
CPDF.022020	20	22	3/4"	105	75	63	16	4 x 14	40	676
CPDF.028025	25	28	1"	115	85	67	16	4 x 14	43	1,224
CPDF.035032	32	35	1 1/4"	140	100	72	18	4 x 18	45	2,048
CPDF.042040	40	42	1 1/2"	150	110	80	18	4 x 18	48	2,394
CPDF.054050	50	54	2"	165	125	96	18	4 x 18	59	2,844
CPDF.076080	65	76.1	3"	185	145	134	18	4 x 18	79	3,584
CPDF.089080	80	88.9	3"	200	160	141	20	8 x 18	78	4,450
CPDF.108100	100	108	4"	220	180	166	20	8 x 18	89	5,271

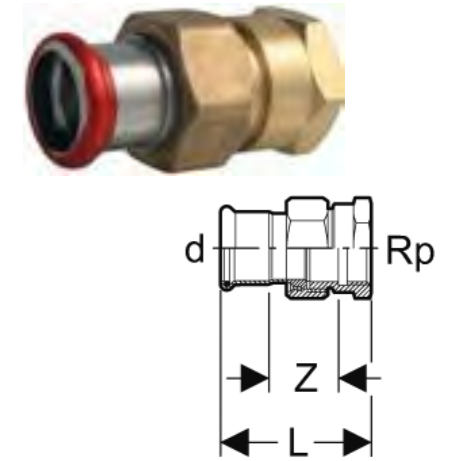
Adaptor Flange ANSI



Part No	DN	Normal flange size	Inch Size	D (mm)	P (mm)	L (mm)	T	Weight g
CPAF.015015	12	15	1/2"	90	60.5	40	14	503
CPAF.022020	20	20	3/4"	99	70	*	14	672
CPAF.028025	25	25	1"	108	79.5	43	14.5	993
CPAF.035032	32	32	1 1/4"	117	89	51	15	1,257
CPAF.042040	40	40	1 1/2"	127	98.5	59	17.5	1,660
CPAF.054050	50	50	2"	152	120.5	66	19	2,565
CPAF.076065	65	65	2 1/2"	178	139.5	*	22.5	*
CPAF.076080	65	80	3"	178	140	90	22.5	4,891
CPAF.089080	80	80	3"	191	152.5	96	24	4,450
CPAF.108100	100	100	4"	229	190.5	127	24	6,887

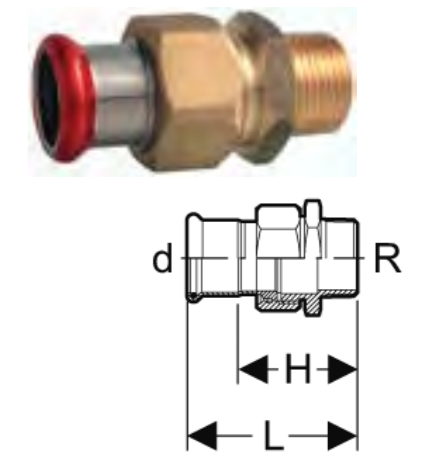
Female Barrel Union Brass Nut EPDM Flat Seal x Adaptor

Part No.	DN	d-Rp	L	Z	weight g
CPFQ.015015	12	15 - 1/2	59	27	160
CPFQ.015020	12	15 - 3/4	60	27	195
CPFQ.022020	20	22 - 3/4	63	28	220
CPFQ.022025	20	22-1	67	30	274
CPFQ.028025	25	28-1	71	33	440
CPFQ.035032	32	35 - 1 1/4	77	34	535
CPFQ.042040	40	42 - 1 1/2	82	33	610
CPFQ.054050	50	54 - 2	95	37	1,110



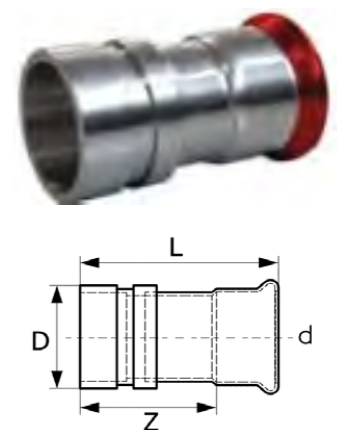
Male Barrel Union Brass Nut, EPDM Flat Seal x Adaptor

Part No.	DN	d-R	L	Z	weight g
CPMQ.015015	12	15-1/2	61	41	138
CPMQ.015020	12	15-3/4	65	44	170
CPMQ.022015	20	22-1/2	67	44	250
CPMQ.022020	20	22-3/4	69	46	220
CPMQ.022025	20	22-1	73	50	290
CPMQ.028025	25	28-1	76	52	440
CPMQ.035032	32	35-1 1/4	85	59	555
CPMQ.042040	40	42-1 1/2	90	58	651
CPMQ.054050	50	54-2	104	67	1,100



Roll Groove Adaptor

Part No.	DN	d	D	L	Z	weight g
SPR0.028025	25	28	33.7	74	50	152
SPR0.035032	32	35	42.4	79	52	212
SPR0.042040	40	42	48.3	86	54	260
SPR0.054050	50	54	60.3	99	62	367
SPR0.076065	65	76.1	76.1	108	53	802
SPR0.089080	80	88.9	88.9	119	56	991
SPR0.108100	100	108	114.4	128	51	1,055



15° Bend

Part No.	d	H1	H	K	K1	weight g
CSS1.000015	15	122	60	21	83	92
CSS1.000022	22	124	50	7	81	131
CSS1.000028	28	136	45	7	47	182
CSS1.000035	35	234	62	30	110	364
CSS1.000042	42	276	94	44	144	528
CSS1.000054	54	337	117	65	165	894
CSS1.000076	76.1	230	226	65	65	1,650
CSS1.000089	88.9	260	240	80	80	2,160
CSS1.000108	108	291	222	95	95	2,688

30° Bend

Part No.	d	H1	H	K	K1	weight g
CSS3.000015	15	122	60	21	83	92
CSS3.000022	22	124	50	6	80	130
CSS3.000028	28	130	54	7	47	176
CSS3.000035	35	218	80	30	110	362
CSS3.000042	42	274	98	44	144	551
CSS3.000054	54	324	137	65	165	886
CSS3.000076	76.1	200	202	66	66	1,413
CSS3.000089	88.9	262	264	80	80	2,209
CSS3.000108	108	259	272	95	95	2,554

45° Bend

Part No.	d	H1	H	K	K1	weight g
CSS4.000015	15	120	62	19	77	92
CSS4.000022	22	120	56	7	71	130
CSS4.000028	28	122	58	2	66	170
CSS4.000035	35	206	94	20	132	366
CSS4.000042	42	262	114	1	149	538
CSS4.000054	54	321	146	37	212	889
CSS4.000076	76.1	225	225	69	69	1,660
CSS4.000089	88.9	267	267	103	103	2,270
CSS4.000108	108	293	293	66	66	3,022

60° Bend

Part No.	d	H1	H	K	K1	weight g
CSS6.000015	15	122	60	21	83	70
CSS6.000022	22	118	60	5	63	130
CSS6.000028	28	116	71	7	47	176
CSS6.000035	35	226	101	30	110	396
CSS6.000042	42	251	124	44	145	544
CSS6.000054	54	308	162	65	165	857
CSS6.000076	76.1	219	223	70	70	1,537
CSS6.000089	88.9	250	257	80	80	2,090
CSS6.000108	108	288	298	95	95	2,542

90° Bend

Part No.	d	H1	H	K	K1	weight g
CSS9.000015	15	120	70	22	72	90
CSS9.000022	22	120	70	9	59	126
CSS9.000028	28	125	97	7	47	191
CSS9.000035	35	201	121	62	62	359
CSS9.000042	42	254	160	90	90	530
CSS9.000054	54	302	202	45	45	867
CSS9.000076	76.1	250	250	62	60	1,634
CSS9.000089	88.9	291	291	90	90	2,240
CSS9.000108	108	364	364	45	45	3,170

Pipe Bridge

Part No.	d	L1	L2	L	weight g
CSSB.00015	15	202	37	64	110
CSSB.00022	22	233	42	58	197
CSSB.00028	28	301	50	102	312

Pipe Bridge Short

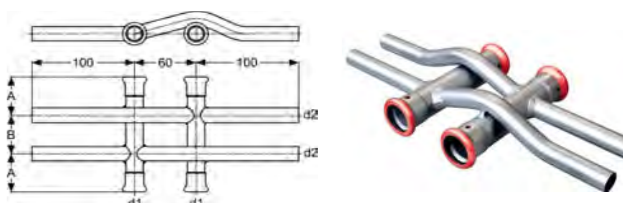
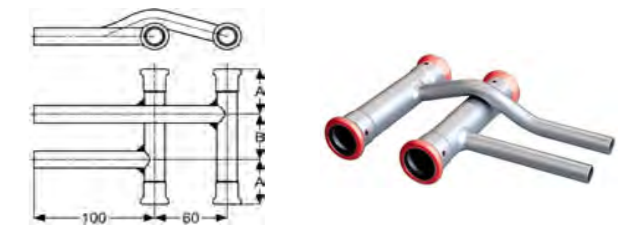
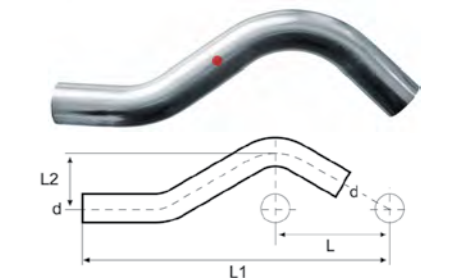
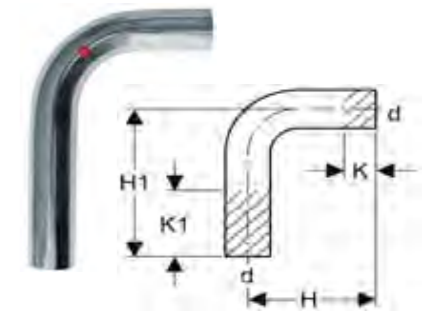
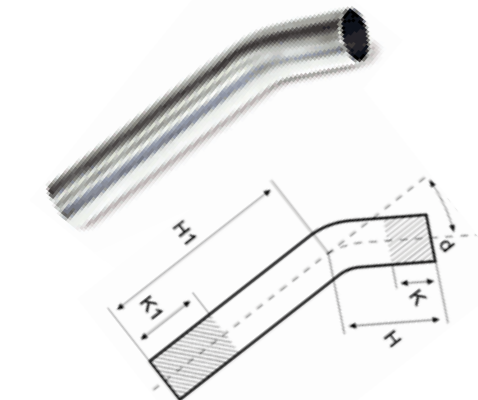
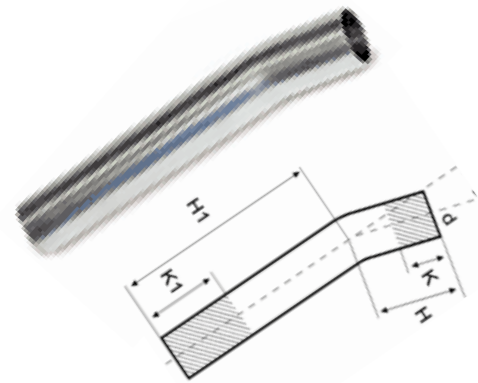
Part No.	d	L1	L2	L	weight g
CSSB.00015	15	145	37	57	81
CSSB.00022	22	175	52	65	145
CSSB.00028	28	226	65	74	240

Single Crossover

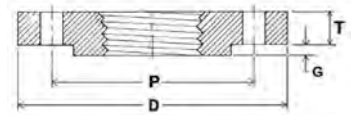
Part No.	d-d2	A	B	weight g
CPSI.015015	15-15	40	40	262
CPSI.022015	22-15	40	40	327
CPSI.028015	28-15	40	40	380

Double Crossover

Part No.	d-d2	A	B	weight g
CPSM.015015	15-15	40	40	360
CPSM.022015	22-15	40	40	422
CPSM.028015	28-15	40	40	487
CPSM.035015	35-15	40	40	528



5.2 GALVANISED THREADED FLANGES



DIN Scr Flanges EN 1092-1

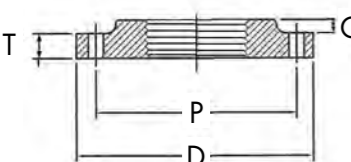
Part No	Pipe size d	Nominal flange size	Inch size	P (mm)	D (mm)	T (mm)	G (mm)	Bolt holes No. x dia	Bolt
CFDF.000015	15	15	1/2"	65.0	95	14.0	2.0	4 x 14	M12
CFDF.000020	22	20	3/4"	75.0	105	16.0	2.0	4 x 14	M12
CFDF.000025	28	25	1"	85.0	115	16.0	2.0	4 x 14	M12
CFDF.000035	35	32	1 1/4"	100.0	140	18.0	2.0	4 x 18	M16
CFDF.000040	42	40	1 1/2"	110.0	150	18.0	3.0	4 x 18	M16
CFDF.000050	54	50	2"	125.0	165	20.0	3.0	4 x 18	M16
CFDF.000065	76.1	65	2 1/2"	145.0	185	20.0	3.0	8 x 18	M16
CFDF.000080	88.9	80	3"	160.0	200	20.0	3.0	8 x 18	M16
CFDF.000100	108	100	4"	180.0	220	22.0	3.0	8 x 18	M16
CFDF.000125	139	125	5"	210.0	250	22.0	3.0	8 x 18	M16
CFDF.000150	168	150	6"	240.0	285	24.0	3.0	8 x 22	M20

ANSI Scr Flanges B16.5a 1992 - Table ASA. 150

Part No	Pipe size d	Nominal flange size	Inch size	P (mm)	D (mm)	T (mm)	G (mm)	Bolt holes No. x dia	Bolt
CFAF.000015	15	15	1/2"	60.5	90	9.7	4.5	4 x 16	M12
CFAF.000020	22	20	3/4"	70.0	99	11.2	3.0	4 x 16	M12
CFAF.000025	28	25	1"	79.5	108	12.7	3.0	4 x 16	M12
CFAF.000035	35	32	1 1/4"	89.0	117	14.2	4.9	4 x 16	M12
CFAF.000040	42	40	1 1/2"	98.5	127	15.7	4.9	4 x 16	M12
CFAF.000050	54	50	2"	120.5	152	17.5	6.4	4 x 19	M16
CFAF.000065	76.1	65	2 1/2"	139.7	177.8	20.6	6.3	4 x 19	M16
CFAF.000080	88.9	80	3"	152.5	191	22.4	6.0	4 x 19	M16
CFAF.000100	108	100	4"	190.5	229	22.4	9.4	8 X 19	M16
CFAF.000125	139	125	5"	216.0	254	22.4	12.7	8 X 22	M20
CFAF.000150	168	150	6"	241.5	279	23.9	14.2	8 X 22	M20

TABLE E Scr Flanges NP 16 bar AS 2129 1994

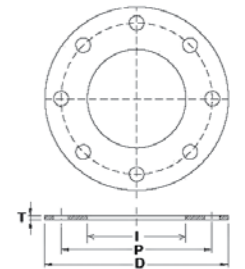
Part No	Pipe size d	Nominal flange size	Inch size	P (mm)	D (mm)	T (mm)	G (mm)	Bolt holes No. x dia	Bolt
CFEF.000015	15	15	1/2"	67.0	95	6.0	9.5	4 x 14	M12
CFEF.000020	22	20	3/4"	73.0	100	6.0	11.1	4 x 14	M12
CFEF.000025	28	25	1"	83.0	115	7.0	11.1	4 x 14	M12
CFEF.000035	35	32	1 1/4"	87.0	120	8.0	11.1	4 x 14	M12
CFEF.000040	42	40	1 1/2"	98.0	135	9.0	12.7	4 x 14	M12
CFEF.000050	54	50	2"	114.0	150	10.0	12.7	4 x 18	M16
CFEF.000065	76.1	65	2 1/2"	127	165.1	10.3	15.9	4 x 18	M16
CFEF.000080	88.9	80	3"	146.0	185	11.0	15.9	4 x 18	M16
CFEF.000100	108	100	4"	178.0	215	13.0	19	8 x 18	M16
CFEF.000125	139	125	5"	210.0	255	14.0	20	8 x 18	M16
CFEF.000150	168	150	6"	235.0	280	17.0	20	8 x 22	M20



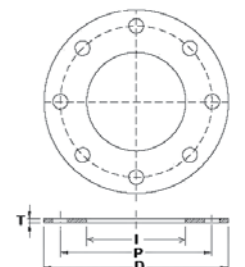
6.0 Gasket & O Rings 6.1 Flange Gaskets

DIN Gaskets

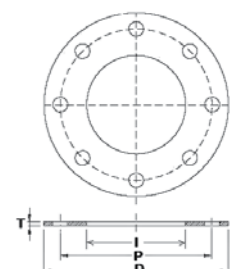
EPDM Part No	Pipe size (mm)	Nominal flange size	Inch size	P (mm)	I (mm)	D (mm)	T (mm)	Bolt holes No. x dia
EGDE.000015	15	15	1/2"	65	22	95	3	4 x 14
EGDE.000020	22	20	3/4"	75	27.0	105	3	4 x 14
EGDE.000025	28	25	1"	85	34.0	115	3	4 x 14
EGDE.000032	35	32	1 1/4"	100	43	140	3	4 x 18
EGDE.000040	42	40	1 1/2"	110	49	150	3	4 x 18
EGDE.000050	54	50	2"	125	61	165	3	4 x 18
EGDE.000065	76.1	65	2 1/2"	145	77	185	3	8 x 18
EGDE.000080	88.9	80	3"	160	89	200	3	8 x 18
EGDE.000100	108	100	4"	180	115	220	3	8 x 18
EGDE.000125	139	125	5"	210	141	250	3	8 x 18
EGDE.000150	168	150	6"	240	169	285	3	8 x 22



NBR Part No	Pipe size (mm)	Nominal flange size	Inch size	P (mm)	I (mm)	D (mm)	T (mm)	Bolt holes No. x dia
EGDR.000015	15	15	1/2"	65	22	95	3	4 x 14
EGDR.000020	22	20	3/4"	75	27.0	105	3	4 x 14
EGDR.000025	28	25	1"	85	34.0	115	3	4 x 14
EGDR.000032	35	32	1 1/4"	100	43	140	3	4 x 18
EGDR.000040	42	40	1 1/2"	110	49	150	3	4 x 18
EGDR.000050	54	50	2"	125	61	165	3	4 x 18
EGDR.000065	76.1	65	2 1/2"	145	77	185	3	8 x 18
EGDR.000080	88.9	80	3"	160	89	200	3	8 x 18
EGDR.000100	108	100	4"	180	115	220	3	8 x 18
EGDR.000125	139	125	5"	210	141	250	3	8 x 18
EGDR.000150	168	150	6"	240	169	285	3	8 x 22



FPM (known as FKM) Part No	Pipe size (mm)	Nominal flange size	Inch size	P (mm)	I (mm)	D (mm)	T (mm)	Bolt holes No. x dia
EGDG.000015	15	15	1/2"	65	22	95	3	4 x 14
EGDG.000020	22	20	3/4"	75	27.0	105	3	4 x 14
EGDG.000025	28	25	1"	85	34.0	115	3	4 x 14
EGDG.000032	35	32	1 1/4"	100	43	140	3	4 x 18
EGDG.000040	42	40	1 1/2"	110	49	150	3	4 x 18
EGDG.000050	54	50	2"	125	61	165	3	4 x 18
EGDG.000065	76.1	65	2 1/2"	145	77	185	3	8 x 18
EGDG.000080	88.9	80	3"	160	89	200	3	8 x 18
EGDG.000100	108	100	4"	180	115	220	3	8 x 18
EGDG.000125	139	125	5"	210	141	250	3	8 x 18
EGDG.000150	168	150	6"	240	169	285	3	8 x 22



6.1 Flange Gaskets

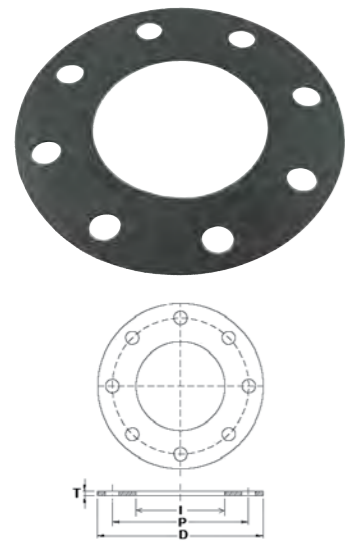
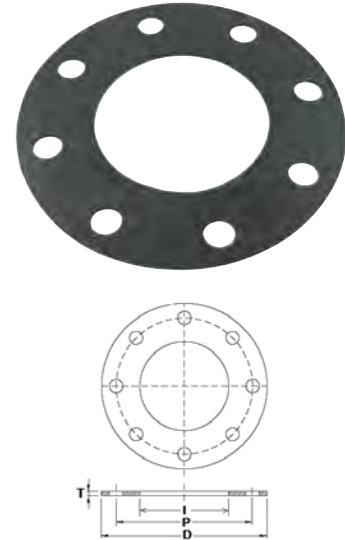
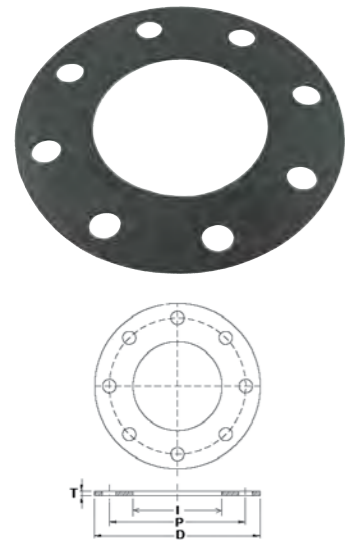
6.1 Flange Gaskets

Table E Gaskets

EPDM Part No	Pipe size (mm)	Nominal flange size	Inch size	P (mm)	I (mm)	D (mm)	T (mm)	Bolt holes No. x dia
EGEE.000015	15	15	1/2"	67	21	95	3	4 x 14
EGEE.000020	22	20	3/4"	73	27.0	101	3	4 x 14
EGEE.000025	28	25	1"	83	34.0	114	3	4 x 14
EGEE.000032	35	32	1 1/4"	87	43	121	3	4 x 14
EGEE.000040	42	40	1 1/2"	98	48	133	3	4 x 14
EGEE.000050	54	50	2"	114	60	152	3	4 x 19
EGEE.000065	76.1	65	2 1/2"	127	76	165	3	4 x 19
EGEE.000080	88.9	80	3"	146	89	184	3	4 x 19
EGEE.000100	108	100	4"	178	114	216	3	4 x 19
EGEE.000125	139	125	5"	210	140	254	3	8 x 17
EGEE.000150	168	150	6"	235	168	279	3	8 x 22

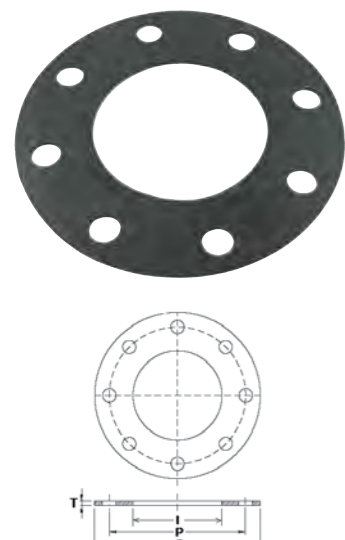
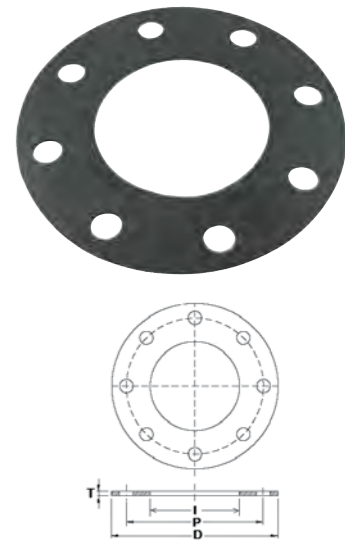
ANSI Gaskets Class 150

EPDM Part No	Pipe size (mm)	Nominal flange size	Inch size	P (mm)	I (mm)	D (mm)	T (mm)	Bolt holes No. x dia
EGAE.000015	15	15	1/2"	61	21	89	3	4 x 14
EGAE.000020	22	20	3/4"	70	26.9	99	3	4 x 14
EGAE.000025	28	25	1"	79	33.3	108	3	4 x 14
EGAE.000032	35	32	1 1/4"	89	42	118	3	4 x 14
EGAE.000040	42	40	1 1/2"	99	49	127	3	4 x 14
EGAE.000050	54	50	2"	121	61	152	3	4 x 18
EGAE.000065	76.1	65	2 1/2"	140	73	178	3	4 x 18
EGAE.000080	88.9	80	3"	152	89	191	3	4 x 18
EGAE.000100	108	100	4"	191	114	229	3	8 X 19
EGAE.000125	139	125	5"	216	141	254	3	8 X 19
EGAE.000150	168	150	6"	241	168	279	3	8 X 22



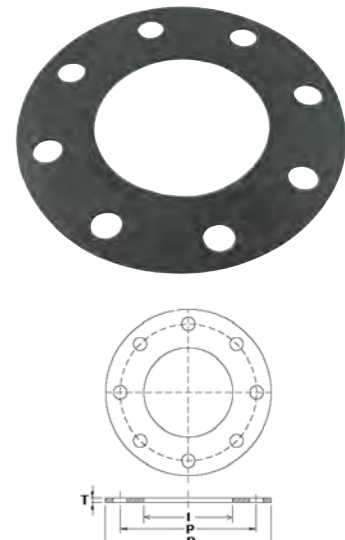
NBR Part No	Pipe size (mm)	Nominal flange size	Inch size	P (mm)	I (mm)	D (mm)	T (mm)	Bolt holes No. x dia
EGER.000015	15	15	1/2"	67	21	95	3	4 x 14
EGER.000020	22	20	3/4"	73	27.0	101	3	4 x 14
EGER.000025	28	25	1"	83	34.0	114	3	4 x 14
EGER.000032	35	32	1 1/4"	87	43	121	3	4 x 14
EGER.000040	42	40	1 1/2"	98	48	133	3	4 x 14
EGER.000050	54	50	2"	114	60	152	3	4 x 19
EGER.000065	76.1	65	2 1/2"	127	76	165	3	4 x 19
EGER.000080	88.9	80	3"	146	89	184	3	4 x 19
EGER.000100	108	100	4"	178	114	216	3	4 x 19
EGER.000125	139	125	5"	210	140	254	3	8 x 17
EGER.000150	168	150	6"	235	168	279	3	8 x 22

NBR Part No	Pipe size (mm)	Nominal flange size	Inch size	P (mm)	I (mm)	D (mm)	T (mm)	Bolt holes No. x dia
EGAR.000015	15	15	1/2"	61	21	89	3	4 x 14
EGAR.000020	22	20	3/4"	70	26.9	99	3	4 x 14
EGAR.000025	28	25	1"	79	33.3	108	3	4 x 14
EGAR.000032	35	32	1 1/4"	89	42	118	3	4 x 14
EGAR.000040	42	40	1 1/2"	99	49	127	3	4 x 14
EGAR.000050	54	50	2"	121	61	152	3	4 x 18
EGAR.000065	76.1	65	2 1/2"	140	73	178	3	4 x 18
EGAR.000080	88.9	80	3"	152	89	191	3	4 x 18
EGAR.000100	108	100	4"	191	114	229	3	8 X 19
EGAR.000125	139	125	5"	216	141	254	3	8 X 19
EGAR.000150	168	150	6"	241	168	279	3	8 X 22

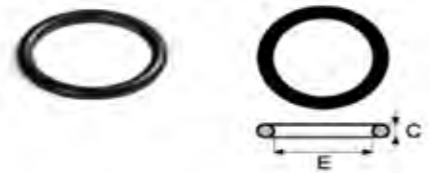


FPM (known as FKM) Part No	Pipe size (mm)	Nominal flange size	Inch size	P (mm)	I (mm)	D (mm)	T (mm)	Bolt holes No. x dia
EGEG.000015	15	15	1/2"	67	21	95	3	4 x 14
EGEG.000020	22	20	3/4"	73	27.0	101	3	4 x 14
EGEG.000025	28	25	1"	83	34.0	114	3	4 x 14
EGEG.000032	35	32	1 1/4"	87	43	121	3	4 x 14
EGEG.000040	42	40	1 1/2"	98	48	133	3	4 x 14
EGEG.000050	54	50	2"	114	60	152	3	4 x 19
EGEG.000065	76.1	65	2 1/2"	127	76	165	3	4 x 19
EGEG.000080	88.9	80	3"	146	89	184	3	4 x 19
EGEG.000100	108	100	4"	178	114	216	3	4 x 19
EGEG.000125	139	125	5"	210	140	254	3	8 x 17
EGEG.000150	168	150	6"	235	168	279	3	8 x 22

FPM (known as FKM) Part No	Pipe size (mm)	Nominal flange size	Inch size	P (mm)	I (mm)	D (mm)	T (mm)	Bolt holes No. x dia
EGAG.000015	15	15	1/2"	61	21	89	3	4 x 14
EGAG.000020	22	20	3/4"	70	26.9	99	3	4 x 14
EGAG.000025	28	25	1"	79	33.3	108	3	4 x 14
EGAG.000032	35	32	1 1/4"	89	42	118	3	4 x 14
EGAG.000040	42	40	1 1/2"	99	49	127	3	4 x 14
EGAG.000050	54	50	2"	121	61	152	3	4 x 18
EGAG.000065	76.1	65	2 1/2"	140	73	178	3	4 x 18
EGAG.000080	88.9	80	3"	152	89	191	3	4 x 18
EGAG.000100	108	100	4"	191	114	229	3	8 X 19
EGAG.000125	139	125	5"	216	141	254	3	8 X 19
EGAG.000150	168	150	6"	241	168	279	3	8 X 22



6.2 O-Rings



* Check with technical department before ordering

Seal Ring EPDM (black) for potable water STANDARD for stainless and carbon steel

Part No.	Ø	E	C	weight gram
EOOB.000015	15	15	2.6	0.3
EOOB.000022	22	22	3.2	0.7
EOOB.000028	28	28	3.1	0.8
EOOB.000035	35	35	3.1	1.0
EOOB.000042	42	42	4.1	2.2
EOOB.000054	54	54	4.1	2.8
EOOB.000076	76.1	76.8	8	11.5
EOOB.000089	88.9	89.3	8.2	17.5
EOOB.000108	108	108.6	11	33.8



* Check with technical department before ordering

Seal Ring FPM (green) for Oil, Hydrocarbon up to 180° C

Part No.	Ø	E	C	weight gram
EOOG.000015	15	15	2.6	0.3
EOOG.000022	22	22	3.2	0.7
EOOG.000028	28	28	3.1	0.8
EOOG.000035	35	35	3.1	1.0
EOOG.000042	42	42	4.1	2.2
EOOG.000054	54	54	4.1	2.8
EOOG.000076	76.1	76.8	8	11.5
EOOG.000089	88.9	89.3	8.2	17.5
EOOG.000108	108	108.6	11	33.8



* Check with technical department before ordering

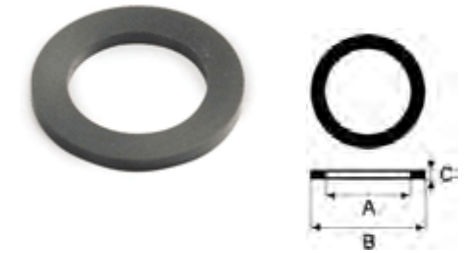
Seal Ring HNBR (yellow) for Gas

Part No.	Ø	E	C	weight gram
EOOY.000015	15	15	2.6	0.3
EOOY.000022	22	22	3.2	0.7
EOOY.000028	28	28	3.1	0.8
EOOY.000035	35	35	3.1	1.0
EOOY.000042	42	42	4.1	2.2
EOOY.000054	54	54	4.1	2.8
EOOY.000076	76.1	76.8	8	11.5
EOOY.000089	88.9	89.3	8.2	17.5
EOOY.000108	108	108.6	11	33.8

6.3 Barrel Union Flat Gaskets

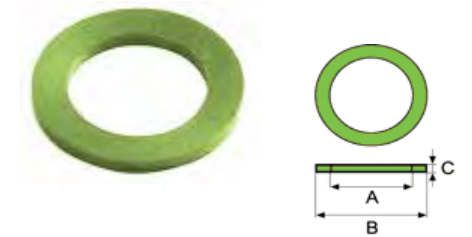
FLAT GASKET EPDM (black) Potable Water

Part No.	Ø	A	B	C	weight gram
EGGB.00015	15	15	23	2	0.5
EGGB.00022	22	22.5	29.6	2	0.7
EGGB.00028	28	27	38.6	2	1.4
EGGB.00035	35	35	44.6	2	1.3
EGGB.00042	42	40	50.6	2	1.7
EGGB.00054	54	53.5	67	3	4



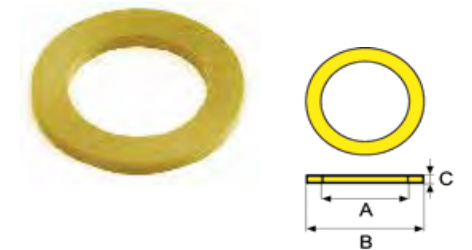
FLAT GASKET FPM (green) Oil, Hydrocarbon to 180° C

Part No.	Ø	A	B	C	weight gram
EGGG.00015	15	15	23	2	0.5
EGGG.00022	22	22.5	29.6	2	0.7
EGGG.00028	28	27	38.6	2	1.4
EGGG.00035	35	35	44.6	2	1.3
EGGG.00042	42	40	50.6	2	1.7
EGGG.00054	54	53.5	67	3	4



FLAT GASKET HNBR (yellow) Gas

Part No.	Ø	A	B	C	weight gram
EGGY.00015	15	15	23	2	0.5
EGGY.00022	22	22.5	29.6	2	0.7
EGGY.00028	28	27	38.6	2	1.4
EGGY.00035	35	35	44.6	2	1.3
EGGY.00042	42	40	50.6	2	1.7
EGGY.00054	54	53.5	67	3	4



O-RINGS and FLAT GASKETS

Made of synthetic rubber they guarantee that a joint is hermetically sealed. In no instance can common commercially available O-rings be substituted. Depending on the application, o-rings with the following materials are used:

EPDM - black (commonly associated to WATER applications)

The standard material, available in diameters from 15 to 168.3 mm, suitable for temperatures between -20 and +120 °C and for pressures up to a maximum of 16 bar. It has a host of applications and is used for drinking water, heating, cooling, steam, fire fighting, compressed air (oil free) and inert gas systems.

HNBR - yellow (commonly associated to GAS applications)

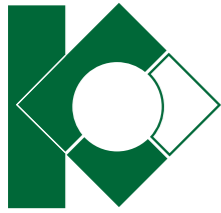
This material is used in gas systems. It is available in diameters from 15 to 108 mm and is suitable for temperatures between -20 and +70 °C and for pressures up to a maximum of 5 bar.

FPM - green, coinciding with FKM

This material is used for particularly testing conditions, with temperatures between -20 and + 180 °C and for pressures up to a maximum of 16 bar. It is available in diameters from 12 to 108 mm and is particularly suitable for solar systems. It is not recommended for systems with the presence of steam.

To fully understand the compatibility of the seals with the various types of fluids a brief chemical compatibility list is on page 73. All applications should be confirmed with the Technical department. Temperature, pressure and exact chemical specification needs to be known.

Flat seals are used in barrel union assemblies and as such are subject to multiple deformations when assembling/disassembling unions. The manufacturer recommends that seals are replaced each time the joint is disassembled.



Order Code

Kova Clamp **K S L P G . 4 2 0150**

Plates & Bolts
S: 316 SS
U: 304 SS
Z: Galvanised

Series
L: Light
T: Twin
H: Heavy

Material
P: Polypropylene
M: Polyamide
A: Aluminium Alloy
C: Steel
O: POM
S: Stainless Steel

Interior Surface
G: Grooved
S: Smooth
V: Anti Vibration Insert

Pipe O.D. (to 0.1mm)

Clamp Body Group
0: Single bolt 6 -12mm
1: Single bolt 6 -12mm
2: Single bolt 12.7-18mm
3: Single bolt 19-25mm
4: Single bolt 26.9-30mm
5: Single bolt 24-42mm
6: Single bolt 44.5-54mm
7: Single bolt 57.2-76.1mm
8: Single bolt 88.9-102mm

Combination
3: Hex head bolts, cover plate, clamp body, welded base plate
4: Hex head bolts, cover plate, clamp body, long base plate
6: Hex head bolts, cover plate, clamp body, rail nuts
9: stacking bolts, safety lock plate, clamp body



Order Code

Kova Clamp **K S H P G . 4 7 0761**

Plates & Bolts
S: 316 SS
U: 304 SS
Z: Galvanised

Series
L: Light
T: Twin
H: Heavy

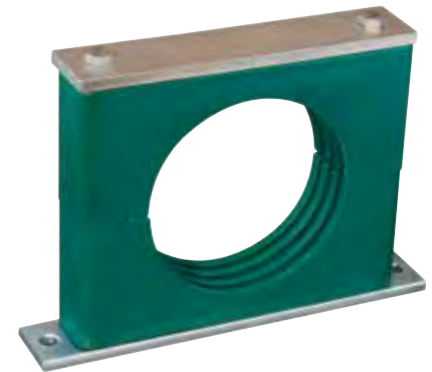
Material
P: Polypropylene
M: Polyamide
A: Aluminium Alloy
C: Steel
O: POM
S: Stainless Steel

Interior Surface
G: Grooved
S: Smooth
V: Anti Vibration Insert

Pipe O.D. (to 0.1mm)

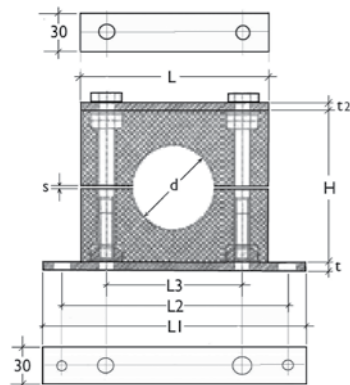
Clamp Body Group
(H)4: Double bolt 42-70mm
(H)5: Double bolt 70-88.9mm
(H)6: Double bolt 88.9-133mm
(H)7: Double bolt 133-168mm
(H)8: Double bolt 168-219mm
(H)9: Double bolt 219-324mm

Combination
3: Hex head bolts, cover plate, clamp body, welded base plate
4: Hex head bolts, cover plate, clamp body, long base plate
6: Hex head bolts, cover plate, clamp body, rail nuts
9: stacking bolts, safety lock plate, clamp body



Light Duty Clamp Sets

Light series Combination 4
 Bolted base, Hex head bolts, Cover plate, Clamp body, Long base plate



Part No	Clamp body group	d dia.	dia. code	L	L1	L2	L3	H	S tension clearance	t	t2
KZLPG.420150	2	15	0150	42	70	56	26	33	0.6	3	3
KZLPG.430220	3	22	0220	50	78	64	33	36	0.6	3	3
KZLPG.440280	4	28	0280	59	87	73	40	42	0.6	3	3
KZLPG.450350	5	35	0350	71	100	86	52	58	0.8	3	3
KZLPG.450420	5	42	0420	71	100	86	52	58	0.8	3	3
KZLPG.460540	6	54	0540	86	115	100	66	66	0.8	3	3
KZLPG.470761	7	76.1	0761	121	150	136	94	93	0.8	3	5
KZLPG.480889	8	88.9	0889	147	178	162	120	118	0.8	3	5

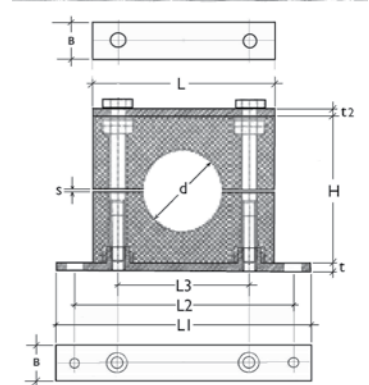
Other Sizes Available on Request

Heavy Duty Clamp Sets

Heavy series Combination 4
 Long base plate, Clamp body, Hex head bolts, Cover plate

Part No	Clamp body group	d dia.	dia. code	L	L1	B	L2	L3	H	s	t	t2
KZHPG.450761	5	76.1	0761	150	238	60	198	122	120	3	10	8
KZHPG.450889	5	88.9	889	150	238	60	198	122	120	3	10	8
KZHPG.461080	6	108	1080	205	309	80	259	168	167	4	15	12
KZHPG.471400	7	140	1400	250	370	90	310	205	200	4	15	12
KZHPG.471680	7	168	1680	250	370	90	310	205	200	4	15	12

Other Sizes Available on Request



7.3 Stacking Clamp Sets - Standard



Order Code

Kova Clamp **K S H P G . 9 5 0420**

Plates & Bolts
S: 316 SS
U: 304 SS
Z: Galvanised

Series
L: Light
T: Twin
H: Heavy

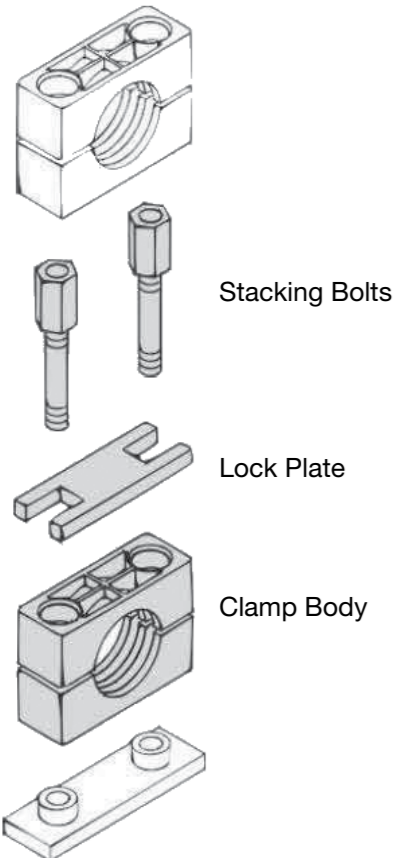
Material
P: Polypropylene
M: Polyamide
A: Aluminium Alloy
C: Steel
O: POM
S: Stainless Steel

Interior Surface
G: Grooved
S: Smooth
V: Anti Vibration Insert

Clamp Body Group
1: Double bolt 6-12mm
2: Double bolt 12.7-18mm
3: Double bolt 19-25mm
4: Double bolt 26.9-30mm
5: Double bolt 32-42mm
6: Double bolt 44.5-54mm
7: Double bolt 57.2-76.1mm
8: Double bolt 88.9-102mm

Combination
9: stacking bolts, safety lock plate, clamp body

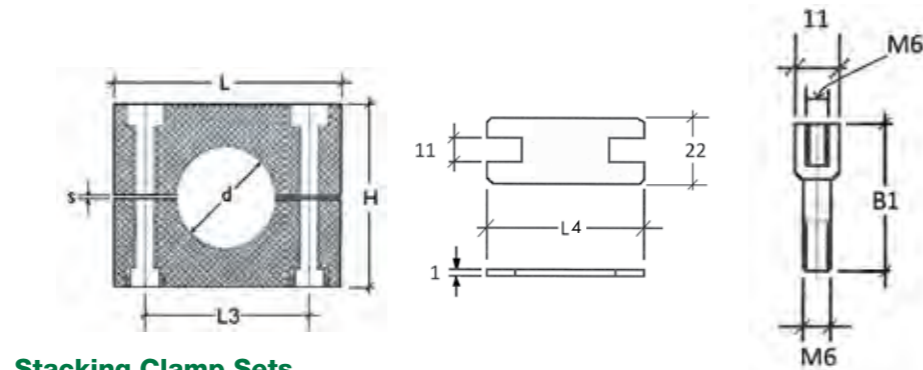
Pipe O.D. (to 0.1mm)



Stacking Bolts

Lock Plate

Clamp Body



Stacking Clamp Sets

Light Series Combination 9

1 Clamp body, 1 Safety locking plate, 2 Stacking bolts
 (Base plate separate option)

Part No	Clamp body group	d dia.	dia. code	L	L3	H	S tension clearance	L4 Lock Plate	B1 Bolt
KZLPG.920150	2	15	0150	42	26	33	0.6	40	40
KZLPG.930220	3	22	0220	50	33	36	0.6	47	44
KZLPG.940280	4	28	0280	59	40	42	0.6	56	48
KZLPG.950350	5	35	0350	71	52	58	0.8	69	64
KZLPG.950420	5	42	0420	71	52	58	0.8	69	64
KZLPG.960540	6	54	0540	86	66	66	0.8	85	73
KZLPG.970761	7	76.1	0761	121	94	93	0.8	117	99
KZLPG.980889	8	88.9	0889	147	120	118	0.8	143	124

Other Sizes Available on Request

7.4 Light duty Clamp set rail mounted



Light series Combination 6 - Hex head bolts, cover plate, clamp body, rail nuts

Kova Clamp **K S L P G . 6 7 0150**

Plates & Bolts
S: 316 SS
U: 304 SS
Z: Galvanised

Series
L: Light
T: Twin
H: Heavy

Material
P: Polypropylene
M: Polyamide
A: Aluminium Alloy
C: Steel
O: POM
S: Stainless Steel

Interior Surface
G: Grooved
S: Smooth
V: Anti Vibration Insert

Clamp Body Group
0: Single bolt 6 - 12mm
1: Double bolt 6 - 12mm
2: Double bolt 12.7 - 18mm
3: Double bolt 19 - 25mm
4: Double bolt 26.9 - 30mm
5: Double bolt 32 - 42mm
6: Double bolt 44.5 - 54mm
7: Double bolt 57.2 - 76.1mm
8: Double bolt 88.9 - 102mm

Combination
3: Hex head bolts, cover plate, clamp body, welded base plate
4: Hex head bolts, cover plate, clamp body, long base plate
5: Hex head bolts, cover plate, clamp body, rail nuts
9: Stacking bolts, safety lock plate, clamp body

Pipe O.D. (to 0.1mm)



The unique Kova nuts facilitate faster installation when used with the Kova rail. Kova rail comes standard in 28 x 30 x 3m but is available in lower profile 28x14 & 28x11.

Light duty Clamp set rail mounted

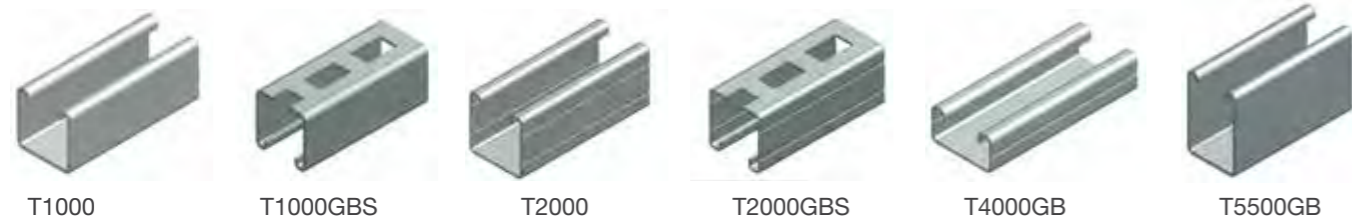
Light series Combination 6

Hex head bolts, cover plate, clamp body, rail nuts

Part #	Clamp body group	d dia.	dia. code	L	L1	L2	L3	H	s tension clearance	T	t1
KZLPG.620150	2	15	0150	42	70	56	26	33	0.6	3	3
KZLPG.630220	3	22	0220	50	78	64	33	36	0.6	3	3
KZLPG.640280	4	28	0280	59	87	73	40	42	0.6	3	3
KZLPG.650350	5	35	0350	71	100	86	52	58	0.8	3	3
KZLPG.650420	5	42	0420	71	100	86	52	58	0.8	3	3
KZLPG.660540	6	54	0540	86	115	100	66	66	0.8	3	3
KZLPG.670761	7	76.1	0761	121	150	136	94	93	0.8	3	5
KZLPG.680889	8	88.9	0889	147	178	162	120	118	0.8	3	5

Other Sizes Available on Request





Bolted Clip Head Stainless Steel

Part No.	Description	Width mm	Height mm	Length	Gauge mm	Finish	Load kg@ 250mm	Load kg@ 500mm	Load kg@ 750mm	Load kg@ 1500mm	Load kg@ 3000mm
T1000GB	standard	41	41	6m	2.5	Galvabond	1308	654	436	218	109
T1000HDGB	standard	41	41	6m	2.5	Hot Dip Galvanised	1308	654	436	218	109
T1000SS	standard	41	41	6m	2.5	Stainless Steel	1308	654	436	218	109
T1000GBS	standard, slotted	41	41	6m	2.5	Galvabond					
T2000GB	light weight, ribbed	41	41	6m	1.6	Galvabond	945	471	314	157	78
T2000HDGB	light weight, ribbed	41	41	6m	1.6	Hot Dip Galvanised	945	471	314	157	78
T2000GBS	light weight, ribbed, slotted	41	41	6m	1.6	Galvabond					
T3300GB	low profile	41	21	6m	2.5	Galvabond	945	471	314	157	78
T3300GBS	low profile, slotted	41	21	6m	2.5	Galvabond					
T3300HDGB	low profile	41	21	6m	2.5	Hot Dip Galvanised	945	471	314	157	78
T4000GB	low profile ribbed	41	21	6m	1.6	Galvabond	350	175	116	58	30
T5500GB	very heavy duty	41.3	61.9	6m	2.5	Galvabond	2488	1244	830	414	207

Kova Rails

Part No.	Description	Width mm	Height mm	Length	Thickness
KZL-R.011	Kova rail low profile	28	11	2m	2
KZL-R.014	Kova rail medium profile	28	14	2m	2
KZL-R.030	Kova rail high profile	28	30	2m	2



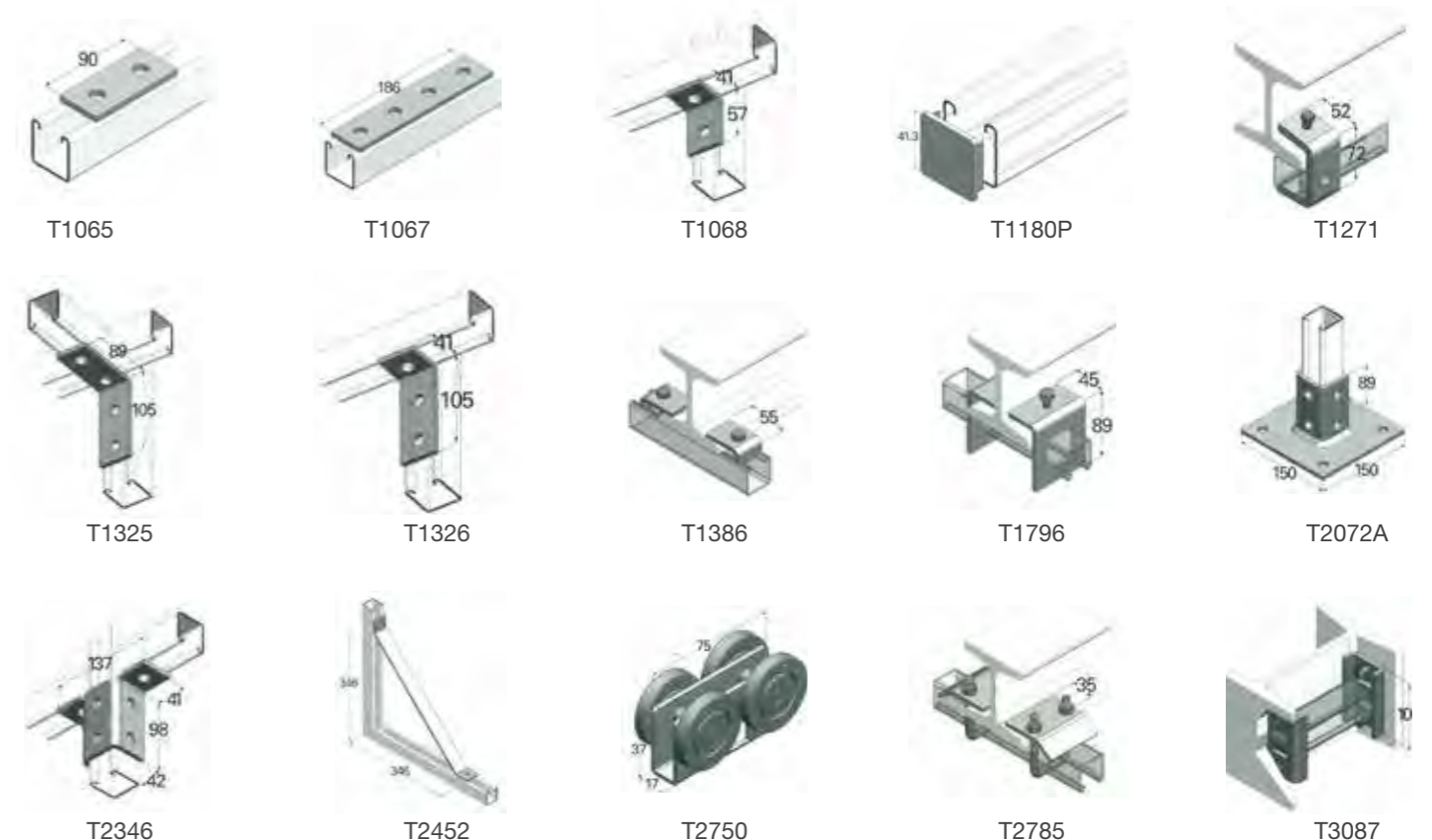
Angle

Part No.	Description	Width mm	Height mm	Length	Finish
HSEA3030-3	Slotted Angle 3mm	30	30	3m	Galvabond
ALA2016	Aluminium Angle 1.6mm	20	20	6.5m	Aluminium
ALA4016	Aluminium Angle 1.6mm	40	40	6.5m	Aluminium



Strut Fittings

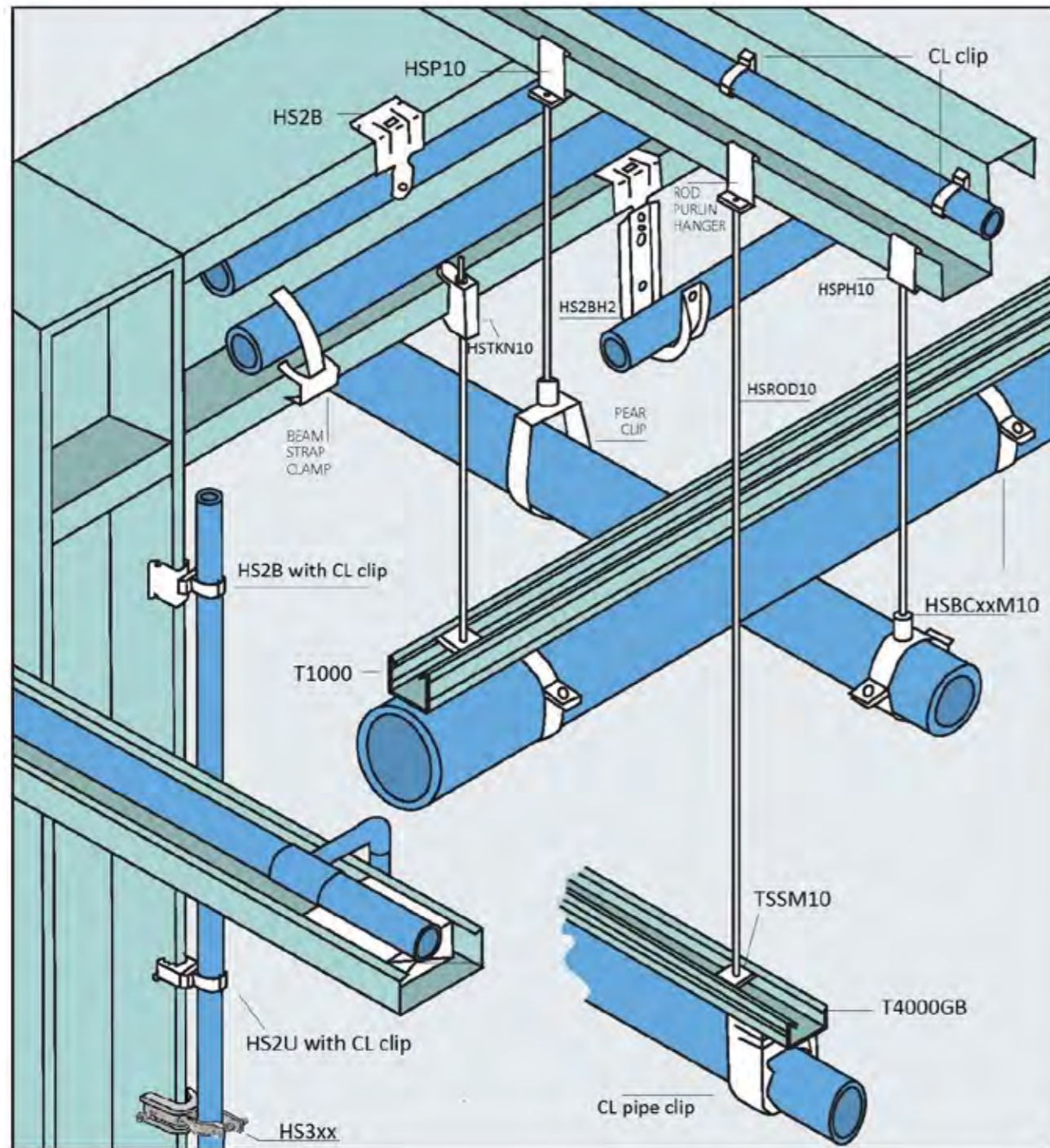
Part No.	Description	Width mm	Thickness
T1026	Strut Angle Bracket	Galvanised	0.17
T1031	T bracket 4 hole	Galvanised	0.44
T1036	L bracket 3 hole	Galvanised	0.11
T1045	Z fitting 3 hole	Galvanised	0.2
T1047	U fitting 5 hole	Galvanised	0.33
T1062	M8 plate	Galvanised	0.071
T1063	M10 plate	Galvanised	0.065
T1064	M12 plate	Galvanised	0.064
T1065	Joiner 2 hole	Galvanised	0.013
T1067	Joiner 4 hole	Galvanised	0.27
T1068	Angle bracket 41 x 57mm	Galvanised	0.14
T1180P	T2000B Channel end cap	Plastic	
T1271	Beam Clamps	Galvanised	0.47
T1325	Angle bracket 4 hole	Galvanised	0.28
T1326	Angle bracket 3 hole	Galvanised	0.24
T1386	H Beam clamp to strut	Galvanised	0.11
T1796	H beam clamp to strut	Galvanised	0.37
T2072A	Base plate 2 hole	Galvanised	1.5
T2346	Wing fitting HD	Galvanised	0.55
T2452	Angled brace	Galvanised	0.98
T2750	4 wheel strut trolley	Zinc plated	0.43
T2785	U bolt adjustable beam clamp	Zinc plated	0.43
T3087	Internal column bracket	Galvanised	0.84



8.1 Universal Cantilever Arms, Schematic

Cantilever Arms

Part No.	Description	Load kg	Weight kg	Finish
TCA150	Cantilever arms 150mm	516	0.63	Galvanised
TCA200	Cantilever arms 200mm	350		Galvanised
TCA300	Cantilever arms 300mm	258	1.03	Galvanised
TCA350	Cantilever arms 350mm	220		Galvanised
TCA450	Cantilever arms 450mm	178	1.42	Galvanised
TCA500	Cantilever arms 500mm	150		Galvanised
TCA650	Cantilever arms 650mm	129	1.81	Galvanised
TCA750	Cantilever arms 750mm	103	2.21	Galvanised
TCA900	Cantilever arms 900mm	86	2.6	Galvanised



8.1 Strut Fittings and Components

Strut Nuts

Part No.	Description	Finish
TSSN06	M6 Strut nut	Galvanised
TSSN06L	M6 Strut nut w long spring	Galvanised
TSSN06L-SS	M6 Strut nut w long spring	Stainless
TSSN8	M8 Strut nut	Galvanised
TSSN8S	M8 Strut nut w short spring	Galvanised
TSSN8L	M8 Strut nut w long spring	Galvanised
TSSN10	M10 Strut nut	Galvanised
TSSN10S	M10 Strut nut w short spring	Galvanised
TSSN10L	M10 Strut nut w long spring	Galvanised
TSSN10SS	M10 Strut nut stainless steel	Stainless
TSSN12	M12 Strut nut	Galvanised
TSSN12S	M12 Strut nut w short spring	Galvanised
TSSN12L	M12 Strut nut w long spring	Galvanised
TSSN12SS	M12 Strut nut stainless steel	Stainless
TSTN10	T-nut—strut nut fitted with M10 thread	Zinc plated
T2050	Threaded rod clamp fits m10 allthread with m10 stub thread	Zinc plated
KZL-N.M06	Kova Rail nuts Light series, plus Twin body group 1, M6	Zinc plated
KSL-N.M06	Kova Rail nuts Light series, plus Twin body group 1, M6	Stainless steel
KZT-N.M08	Kova Rail nuts Twin series body group 2,3, 4 & 5, M8	Zinc
KZH-N.M12	Kova Rail nuts Heavy series body group 4, M12	Zinc
KZL-U.M06	Strut nut adaptor attaches Kova clamps to Universal strut M6	Zinc plated
KSL-U.M07	Strut nut adaptor attaches Kova clamps to Universal strut M7	Stainless steel



Hanging System Components

Part No.	Description
HS1A	Long purlin clip can mount CL clips
HS2A	Beam clamp 3mm - 7mm Spring steel
HS2B	Beam clamp 8mm - 13mm Spring steel
HS2C	Beam clamp 14mm - 20mm Spring steel
HS2U	Beam clamp spring steel >16mm, suits 6mm bolts or 10mm
HS3	Universal clamp < 17mm beam
HS3-30	Universal clamp < 30mm beam
HS3-45	Universal clamp < 45mm beam
HSP10	Purlin clip for 10mm allthread
HSPH10	Heavy duty purlin clip for 10mm allthread
HSPH12	Heavy duty purlin clip for 12mm allthread
HSJM08	Threaded Rod Hex Joiner M8
HSJM10	Threaded Rod Hex Joiner M10
HSJM12	Threaded Rod Hex Joiner M12
HSN08	Threaded rod nut 8mm
HSN10	Threaded rod nut 10mm
HSN12	Threaded rod nut 12mm
HSTKN08	Beam clamp < 16mm, mounts 8mm threaded rod
HSTKN10	Beam clamp < 16mm, mounts 10mm threaded rod
HSTKN12	Beam clamp < 16mm, mounts 12mm threaded rod
JC2.530	Jack chain 2.5mm 30m bucket
TS2-GW	Heavy duty grey teflon tape 10 m
TS6	Anerobic Thread Sealant 250 ml



8.2 Clips



User-friendly single swing bolt design

Bolted Clip Head Insulated Zinc Plated

Part No.	Size Ømm range	Description	Europress Preferred
HZIP.000015	12 - 15	Insulated Zinc Bolted Clip Head M10	15
HZIP.000022	20 - 25	Insulated Zinc Bolted Clip Head M10	22
HZIP.000028	26 - 28	Insulated Zinc Bolted Clip Head M10	28
HZIP.000035	32 - 35	Insulated Zinc Bolted Clip Head M10	32
HZIP.000042	40 - 42	Insulated Zinc Bolted Clip Head M10	40
HZIP.000054	50 - 56	Insulated Zinc Bolted Clip Head M10	50
HZIP.000063	63 - 67	Insulated Zinc Bolted Clip Head M10	63
HZIP.000076	74 - 80	Insulated Zinc Bolted Clip Head M10	76.1
HZIP.000089	83 - 91	Insulated Zinc Bolted Clip Head M10	88.9
HZIP.000100	101 - 106	Insulated Zinc Bolted Clip Head M10	
HZIP.000108	108 - 114	Insulated Zinc Bolted Clip Head M10	108
HZIP.000144	140 - 144	Insulated Zinc Bolted Clip Head M10	139.7
HZIP.000169	165 - 169	Insulated Zinc Bolted Clip Head M10	168.3



Bolted Clip Head Stainless Steel

Part No.	Size Ømm range	Description
HSNP.000015	15	S.S. Bolted Clip Head M10
HSNP.000022	22	S.S. Bolted Clip Head M10
HSNP.000028	28	S.S. Bolted Clip Head M10
HSNP.000035	35	S.S. Bolted Clip Head M10
HSNP.000042	42	S.S. Bolted Clip Head M10
HSNP.000054	54	S.S. Bolted Clip Head M10
HSNP.000076	76.1	S.S. Bolted Clip Head M10
HSNP.000089	88.9	S.S. Bolted Clip Head M10
HSNP.000108	108	S.S. Bolted Clip Head M10

Clip Head Stainless Steel

Part No.	Size Ømm range	Description
HUNP.000015	15	S.S. Clip head w bolt, no bracket
HUNP.000022	22	S.S. Clip head w bolt, no bracket
HUNP.000028	28	S.S. Clip head w bolt, no bracket
HUNP.000035	35	S.S. Clip head w bolt, no bracket
HUNP.000042	42	S.S. Clip head w bolt, no bracket
HUNP.000054	54	S.S. Clip head w bolt, no bracket
HUNP.000076	76.1	S.S. Clip head w bolt, no bracket
HTNP.015108		Tee Bracket Stainless Steel for HUNP clip head

Clip Mounting

Part No.	Size Ømm range	Description
HSCMP08	M8	Mounting plate centre Zinc Plated
HSCMP 10	M10	Mounting plate centre Zinc Plated
HSCMP10SS	M10	Mounting plate centre Stainless Steel
HSCMP12	M12	Mounting plate centre Zinc Plated
HSHMP10	M10	Mounting plate horizontal Zinc Plated
HSHMP12	M12	Mounting plate horizontal Zinc Plated
HSVMP10	M10	Mounting plate vertical Zinc Plated
HSVMP12	M12	Mounting plate vertical Zinc Plated
HSCSP 10	M10	Mounting plate w M10 x 30 set screw
HSROD08	8mm x 3m	Threaded rod Zinc plated
HSROD08SS	8mm x 3m	Threaded rod 316 Stainless steel
HSROD10	10mm x 3m	Allthread zinc plated
HSROD10SS	10mm x 3m	Allthread Stainless Steel
HSROD12	12mm x 3m	Allthread zinc plated
HSROD12SS	12mm x 3m	Allthread Stainless Steel
HSSM10X40	M10 x 40mm	Stud Zinc plated

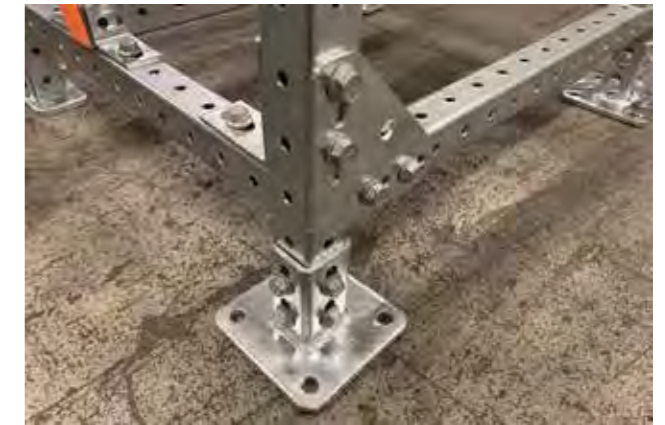


8.3 Promega Strut System

Link Promega is a recent addition to the global modular strut systems. This versatile comprehensive bolt together support system is available in:

40x40, 50x50, 80x80, 100x100, 100x120 and 100x150.

The system is stronger & faster to install using the unique self tapping screws into the precise hole patterns



Link Promega System Components

Part No.	Strut System Size mm	Description
LPAFP045	40 & 50	Flat L Plate 129 x 129
LPAFP080	80 x 80	Angle Flat L Plate 200 x 200
LPAFP100	100 x 100	Angle Flat L Plate 220 xc 220
LPB040.3	40 x 40	Beam Section 6m
LPB50.3	50 x 50	Beam Section 6m
LPB080.3	80 x 80	Beam Section 6m
LPB100.3	100 x 100	Beam Section 6m
LPB120.4	120 x 100	Beam Section 6m
LPB150.4	150 x 100	Beam Section 6m
LPBCB045	40 & 50	Braced Corner Bracket 110 x 110 x 26
LPBCB080	80 x 80	Braced Corner Bracket 80 x 140 x 140
LPBCB100	100, 120, 150	Braced Corner Bracket 140 x 140 x 100
LPBCB120	120	Braced Corner Bracket 140 x 140 x 120
LPCB.02	40 & 50	2 Hole L bracket 61 x 61 x 35
LPCB.04	40 & 50	4 Hole L bracket 104 x 104 x 35
LPCB4080	80 x 80	4 Hole Corner Bracket 70 x 70 x 80
LPCB6080	80 x 80	6 Hole Corner Bracket 140 x 70 x 80
LPCB6100	100 x 100	6 Hole Corner Bracket 140 x 70 x 100
LPCBR10080	100 to 80	Reducing Corner Bracket 140 x 100 x 140 x 80
LPCBR120100	120 to 100	Reducing Corner Bracket 140 x 120 x 140 x 100
LPCB040.05	40 x 40 x 500	Cantilever Bracket wall mount 125 x 125
LPCB040.10	40 x 40 x 1000	Cantilever Bracket wall mount 125 x 125
LPCB040.15	40 x 40 x 1500	Cantilever Bracket wall mount 125 x 125
LPCB041.05	40 x 40 x 500	Cantilever Bracket strut mount 70 x 135
LPCB041.10	40 x 40 x 1000	Cantilever Bracket strut mount 70 x 135
LPCB041.15	40 x 40 x 1500	Cantilever Bracket strut mount 70 x 135
LPCB050.05	50 x 50 x 500	Cantilever Bracket wall mount 125 x 125
LPCB050.10	50 x 50 x 1000	Cantilever Bracket wall mount 125 x 125
LPCB050.15	50 x 50 x 1500	Cantilever Bracket wall mount 125 x 125



8.2 Promega Strut System

8.2 Promega Strut System

Link Promega System Components

Part No.	Strut System Size mm	Description
LPCB051.05	50 x 50 x 500	Cantilever Bracket strut mount 70 x 135
LPCB051.10	50 x 50 x 1000	Cantilever Bracket strut mount 70 x 135
LPCB051.15	50 x 50 x 1500	Cantilever Bracket strut mount 70 x 135
LPCB080.05	80 x 80 x 500	Cantilever Bracket wall mount 200 x 200
LPCB080.10	80 x 80 x 1000	Cantilever Bracket wall mount 200 x 200
LPCB080.15	80 x 80 x 1500	Cantilever Bracket wall mount 200 x 200
LPCB100.05	100 x 100 x 500	Cantilever Bracket wall mount 250 x 250
LPCB100.10	100 x 100 x 1000	Cantilever Bracket wall mount 250 x 250
LPCB100.15	100 x 100 x 1500	Cantilever Bracket wall mount 250 x 250
LPBP040	40 x 40	Base Plate 125 x 125
LPBP050	50 x 50	Base Plate 125 x 125
LPBP080	80 x 80	Base Plate 200 x 200
LPBP100	100 x 100	Base Plate 250 x 250
LPBP120	120 x 100	Base Plate 250 x 250
LPBP150	150 x 100	Base Plate 300 x 300
LPENC040	40 x 40	End Cap Plastic 40 x 40
LPENC050	50 x 50	End Cap Plastic 50 x 50
LPENC080	80 x 80	End Cap Plastic 80 x 80
LPENC100	100 x 100	End Cap Plastic 100 x 100
LPENC120	120 x 100	End Cap Plastic 120 x 100
LPENC150	150 x 100	End Cap Plastic 150 x 100
LPES040	40	End Support/Base plate 70 x 135
LPES050	50	End Support/Base plate 70 x 135
LPES080	80	End Support post to rail 80 x 190
LPES100	100	End Support post to rail 100 x 210
LPES120	120	End Support post to rail 100 x 230
LPEXC040	40	Extension Coupling external joins 2 lengths 40 x 40 x 200
LPEXC050	50	Extension Coupling external joins 2 lengths 50 x 50 x 200
LPEXC080	80	Extension Coupling internal joins 2 lengths 70 x 70 x 367
LPEXC100	100	Extension Coupling internal joins 2 lengths 90 x 90 x 367
LPEXC120	120	Extension Coupling internal joins 2 lengths 110 x 90 x 367
LPEXC150	150	Extension Coupling internal joins 2 lengths 140 x 90 x 367
LPJP8100	100 x 100	8 Hole Joiner Plate clamps 2 adjoining beams 140 x 200
LPKB040	40 x 40	Beam Clamp LP strut to underside of I beam
LPKB050	50 x 50	Beam Clamp LP strut to underside of I beam
LPKB080	80	Beam Clamp LP strut to underside of I beam
LPKB100	100	Beam Clamp LP strut to underside of I beam
LPKB120	120 x 100	Beam Clamp LP strut to underside of I beam
LPKB150	150 x 100	Beam Clamp LP strut to underside of I beam
LPPJB40	40 x 40 x 125	Pivot joint Base floor mount

Link Promega System Components

Part No.	Strut System Size mm	Description
LPPJB50	50 x 50 x 125	Pivot joint Base floor mount
LPPJB100	100 x 100 x 250	Pivot joint Base floor mount
LPPJS040	40 x 40	Pivot Joint Strut mount
LPPJS050	50 x 50	Pivot Joint Strut mount
LPPJS080	80 x 80	Pivot Joint Strut mount
LPPJS100	100 x 100	Pivot Joint Strut mount
LPQN10	M10	Quick Nut zinc plated
LPQN12	M12	Quick Nut zinc plated
LPQS10.30	M10 x 30	Quick Stud zinc plated
LPQS10.70	M10 x 70	Quick Stud zinc plated
LPSA80	80	Strut Adapter mounts universal strut to LP post
LPSA100	100	Strut Adapter mounts universal strut to LP post
LPSFS10	10	Self Forming Screw M10
LPTFP045	40 & 50	Tee Flat Plate Fitting 106 x 127
LPTFP080	80 x 80	Tee Flat Plate Fitting 300 x 80 x 80
LPTFP100	100 x 100	Tee Flat Plate Fitting 300 x 100 x 100
LPTS1055	10 x 55	zinc plated threaded stud
LPTS10100	10 x 100	zinc plated threaded stud
LPTY.040	40 x 40	Branch support Tee
LPTY.050	50 x 50	Branch support Tee
LPUB4.1540	15-40 tube	U Bolt Support Bracket suits 40
LPUB4.5075	50-75 tube	U Bolt Support Bracket suits 40
LPUB4.75125	75-125 tube	U Bolt Support Bracket suits 40 (needs 2)
LPUB4.160300	160-300 tube	U Bolt Support Bracket suits 40 (needs 2)
LPUB5.1540	15-40 tube	U Bolt Support Bracket suits 50
LPUB5.5076	50-75 tube	U Bolt Support Bracket suits 50
LPUB5.75125	75-125 tube	U Bolt Support Bracket suits 50 (needs 2)
LPUB5.150300	150-300 tube	U Bolt Support Bracket suits 50 (needs 2)
LPUB1540	15-40 tube	U Bolt Bracket 80,100,120,150
LPUB5075	50-75 tube	U Bolt Bracket 80,100,120,150
LPUB75125	75-125 tube	U Bolt Bracket 80,100,120,150 (needs 2)
LPUB150300	150-300 tube	U Bolt Bracket 80,100,120,150 (needs 2)
LPUS040	40 X 40	U Shape Bracket cross beam to upright
LPUS050	50 x 50	U Shape Bracket cross beam to upright
LPUS080	80 x 80	U Shape Bracket cross beam to upright
LPUS100	100 x 100	U Shape Bracket cross beam to upright
LPUS120	120 x 100	U Shape Bracket cross beam to upright
LPUS150	150 x 100	U Shape Bracket cross beam to upright



9.1 Press Tools Klauke

9.1 PRESSING TOOLS

The pressing process is achieved using pressing tools with a range of jaw attachments that vary according to the fitting and pipe diameters.

Various types of pressing tools are commercially available:

- **electromechanical tools**, either battery or mains-powered versions (18V or 240 V), may be used for the full range of diameters.
- **electrohydraulic tools** are used primarily for larger diameters, from 76.1 to 168 mm.

The Europress System can be used with a wide variety of pressing tools, provided that these are equipped with Europress approved “M”-profile jaws. Please refer to the technical department to ensure the proposed presstool is suitable for the Europress system.

Features and benefits common to all these 3 Klauke models below

- LED display of tool information
- LED light illuminates workpiece
- “Quickstop” function for extra safety
- “Autostop” extends battery and tool life
- HPC monitoring gives precise press force
- Jaws rotate approx 350° for max access
- 2 component grip
- Automatic piston return
- Ergonomic design
- Mains power option

TBO2 unique features

- Compact lightweight unit only 1.7Kg without jaws, 2.3Kg incl. jaws
- 18volt/1.5Ah Li-ion Makita battery
- Constant thrust for nominal sizes up to 28mm
- One-handed operation
- Interchangeable mini jaws 15, 22, 28
- Short press cycle 5–6 seconds
- 15 min charge time
- 1.5 Ah produces 150 pressings (NS20)
- 3.0 Ah produces 300+ pressings (NS20)

TBO5 unique features

- Compact lightweight unit only 3.5Kg
- 18volt/3.0 Ah Li-ion Makita battery
- Constant thrust for nominal sizes to 54mm
- One-handed operation
- Interchangeable jaws or pressing chain
- Short press cycle
- 22 min charge time
- 3.0 Ah produces 300+ pressings (NS20)

TBO8 unique features

- Compact unit only 4.3Kg
- 18volt/3.0 Ah Li-ion Makita battery
- Constant thrust for nominal sizes to 108mm
- One-handed operation
- Interchangeable jaws or pressing chains
- Short press cycle
- 22 min charge time
- 3.0 Ah produces 300+ pressings (NS20)

9.1 Press Tools Klauke

Press tools, press heads, jaws, chains and adaptors

Press tools TB02, TB05 and TB08 come complete with carry case, battery and battery charger as pictured.

Press heads are sold separately as required.

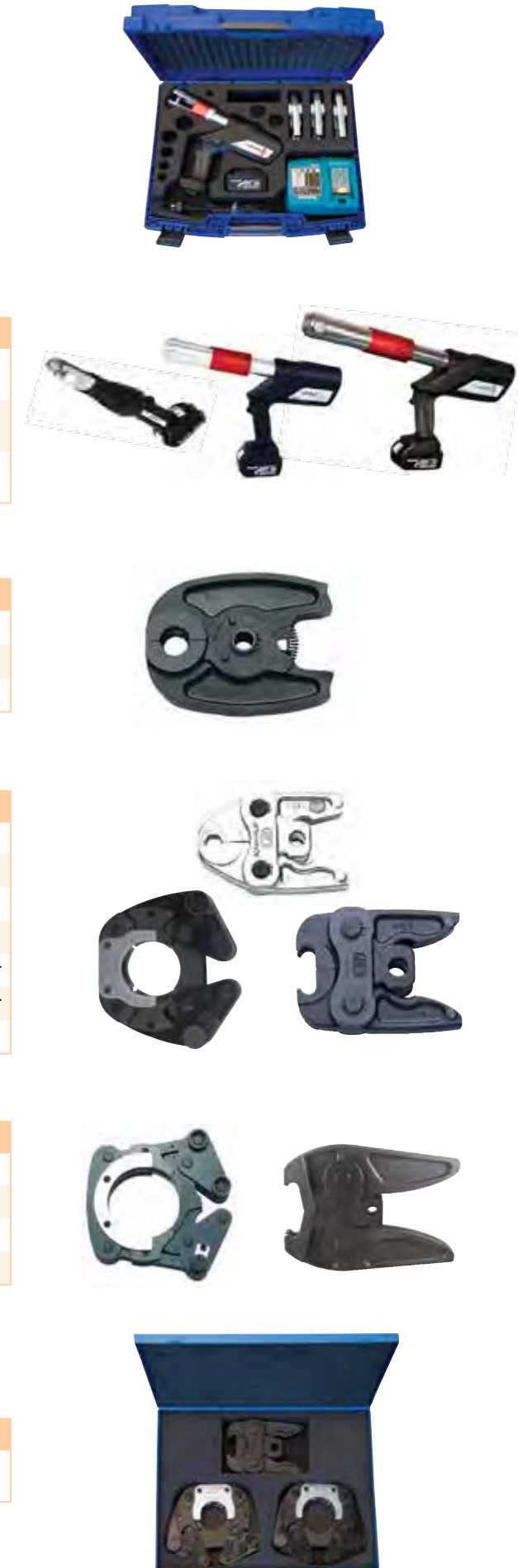
Item No.	Description	Sizes	Weight
TB02	Compact one-hand press tool	15, 22, 28	2.3kg
TB05	Balanced pistol style press tool	15, 22, 28, 35, 42, 54	3.5kg
TB08	Balanced pistol style press tool	15, 22, 28, 35, 42, 54, 76, 89, 108	2.3kg

Part No.	Description	To Suit
MK015	15mm Jaw Mini	Mini TB02 Crimping Tool Only
MK022	22mm Jaw Mini	Mini TB02 Crimping Tool Only
MK028	28mm Jaw Mini	Mini TB02 Crimping Tool Only

Part No.	Description	To Suit	Comments
MJ015	Ø15mm Jaw	TB05 & TB08	
MJ022	Ø22mm Jaw	TB05 & TB08	
MJ028	Ø28mm Jaw	TB05 & TB08	
MJ035	Ø35mm Jaw	TB05 & TB08	
MC042	42mm Pressing Chain	TB05 & TB08	Requires TA054 Adaptor
MC054	54mm Pressing Chain	TB05 & TB08	Requires TA054 Adaptor
TA054	42/54 Chain Adaptor	TB05 & TB08	Suits MC042 & MC054

Part No.	Description	To Suit	Comments
MC076	76.1mm Pressing Chain	TB08	Requires TA108 Adaptor
MC089	88.9mm Pressing Chain	TB08	Requires TA108 Adaptor
MC108	108mm Pressing Chain	TB08	Requires TA108 Adaptor
MJ035	Jaw Adaptor	TB08	Suits 75, 89 & 108 press chains

Part No.	Description	To Suit	Comments
TD054	Pressing Chain Set 42, 54mm Adaptor	TB05 & TB08	Complete in metal case



9.1 Press Tools Klauke



PRESSING HEADS & ACCESSORIES

Item No.	Description
TBC18	18V Battery Charger



Part No.	Description
TBT12	240V to 12V Adaptor (replaces Battery)
TBT18	240V to 18V Adaptor (replaces Battery)



Part No.	Description
TBB23	12V 3.0 Ah Lithium Ion Battery
TBB81	18V 1.5 Ah Lithium Ion Battery
TBB83	18V 3.0 Ah Lithium Ion Battery



Item No.	Description
TM05	Manual Hydraulic Pressing Tool (For Use in Fire and Explosion Protected Areas)



Item No.	Description
TXH	Remote Hydraulic Power Pack 18 V Battery (For Use in Fire and Explosion Protected Areas) Drive unit 700 Bar, Suits 15–108mm, LED Display. High Capacity Motor for Continuous and Maximum Working Speed. Only 6.4 kg, Shatter Proof Housing, Data Transmission via USB Adaptor. 2 Batteries, Charger, 2m Hydraulic, Upholstered Carry Belt, 1.5m Remote operation.



Part No.	Description
TXHH2	2m Hydraulic Oil Filled Hose to Suit TBH
TXHH4	4m Hydraulic Oil Filled Hose to Suit TBH
TXHH6	6m Hydraulic Oil Filled Hose to Suit TBH



Part No.	Description
TXRC15	Remote Controlled, Hand Operated 1.5m
TXFC15	Remote Controlled, Foot Operated 1.5m



Part No.	Description	To Suit
TX02	Hydraulic Pressing Head	15 – 28mm
TX05	Hydraulic Pressing Head	15 – 54mm
TX08	Hydraulic Pressing Head	15 – 108mm

9.2 Press Tools Novopress



All press tools come in robust carry case c/w battery & battery charger. provision in the case for storing jaws and extra batteries -sold as per individual requirements



The Comfort-line range of press tools have many valuable features to make working easier, faster and safer. The LED indicators located under the transparent start button gives information about the battery condition and the status of the pressing units or non-conformances.

TBO3

- 1.7Kg including battery
- One hand operation
- Rotatable head
- 240W
- 30mm stroke
- 19 kN piston force
- Patented no leak internal seal design

- 40 – 180 press cycles
- 30 / 60 min charge time
- Suitable for 15, 22 & 28 mm sizes use MK...Y series jaws)
- Takes either 12volt 1.5 Ah or 3.0 Ah Li-ion Milwaukee batteries



TBO6

- 2.8 Kg including battery
- 450W
- 32 kN piston force
- 40 mm piston stroke
- 80 – 160 press cycles
- 30 / 60 min charge time
- Brushless motor technology
- Data downloadable with NovoCheck app
- 2 year maintenance interval with unlimited press cycles

- Suitable for up to 35mm sizes (use MJ...Y series jaws)
- Suitable for 42 mm & 54 sizes (use press collars with TA054Y adaptor)
- Takes either 18volt 1.5 Ah or 3.0 Ah Li-ion Milwaukee battery



TBO9

- 3.9 Kg including battery
- 450W
- 32 kN piston force
- 80 mm piston stroke
- Up to 250 press cycles
- 30 / 60 min charge time
- Brushless motor technology
- Back stroke limitation for smaller sizes saves time
- Data downloadable with NovoCheck app
- 2 year maintenance interval with unlimited press cycles

- Suitable for up to 35mm sizes (use MJ...Y jaws)
- Suitable for 42 & 54 mm sizes (use press collars with TA054Y adaptor)
- Suitable for 76, 89 & 108 mm sizes (use press collars with TA221 & TA222 adaptor)
- Takes either 18volt 1.5 Ah or 3.0 Ah Li-ion Milwaukee batteries



TB10

- Press sizes - suitable for 76 - 168 sizes, using MU collars
- Weight incl. permanently attached adaptor jaw, incl battery 13kg
- 18 volt/3.0 Ah Li-ion battery
- Power consumption 400 W
- Piston force 100 kN
- Piston stroke 60 mm
- Battery capacity 15-20 press cycles
- Charging time approx 60 min
- Jaws rotate 180°



9.2 Press Tools Novopress

9.2 Press Tools Novopress



Item No.	Description	Sizes	Weight
TB03	Compact one-hand press tool	15, 22, 28	1.7kg
TB06	Comfortline press tool	15, 22, 28, 35, 42, 54	2.8kg
TB09	Comfortline press tool	15, 22, 28, 35, 42, 54, 76, 89, 108	3.9kg
TB10	Extra heavy duty tool for super sizes	76, 89, 108, 139.7, 168.3	13kg



Item No.	Description	To Suit Tool
MK015Y	15mm Jaw mini	TB03 mini press tool
MK022Y	22mm Jaw mini	TB03 mini press tool
MK028Y	28mm Jaw mini	TB03 mini press tool



Item No.	Description	To Suit Tool	Requires
MJ015Y	15 mm Jaw	TB06 or TB09	no adaptor needed
MJ022Y	22 mm Jaw	TB06 or TB09	no adaptor needed
MJ028Y	28 mm Jaw	TB06 or TB09	no adaptor needed
MJ035Y	35 mm Jaw	TB06 or TB09	no adaptor needed



Item No.	Description	To Suit Tool	Requires
MU042Y	42mm Spring press sling	TB06 or TB09	TA054Y
MU054Y	54mm Spring press sling	TB06 or TB09	TA054Y
TA054Y	Jaw Adaptor for 42, 54 & high pressure	TB06, TB09	



Item No.	Description	To Suit Tool
TD054Y	Press Chains MU042Y, MU054Y & Chain Adaptor TA054Y in impact resistant plastic carry case	TB06 or TB09



Item No.	Description	To Suit Tool	Requires
MU076Y	Ø76 mm Spring Press sling	TB09	TA221 Y Adaptor
MU089Y	Ø89 mm Spring Press sling	TB09	TA221 Y Adaptor
MU108Y	Ø108 mm Press sling	TB09	requires both TA221Y & TA222Y Adaptor



Item No.	Description	To Suit Tool
TA221Y	Jaw Adaptor	TB09
TA222Y	Jaw Adaptor	TB09



Item No.	Description	To Suit Tool
MU168Y	Ø169 mm Spring Press Sling	Only with TB10 which has integral Adaptor on the tool

High Pressure spring press collar

Item No.	Description	To Suit Tool	Requires
MX028Y	M28 Spring press collar High Pressure	TB06 or TB09	TA054 Y Adaptor
MX035Y	M35 Spring press collar High Pressure	TB06 or TB09	TA054 Y Adaptor
MX042Y	M42 Spring press collar High Pressure	TB06 or TB09	TA054 Y Adaptor
MX054Y	M54 Spring press collar High Pressure	TB06 or TB09	TA054 Y Adaptor
MX076Y	M76.1 Spring press collar High Pressure	TB10	
MX089Y	M88.9 Spring press collar High Pressure	TB10	
MX108Y	M108 Spring press collar High Pressure	TB10	



Item No.	Description	To Suit Tool
TBB22Y	12 v 3.0 Ah Lithium Ion battery	TB03
TBB83Y	18v 3.0 Ah Lithium Ion battery	TB06, TB09, TB10
TBB84Y	18v 4.0 Ah Lithium Ion battery	TB06, TB09, TB10
TBB85Y	18v 5.0 Ah Lithium Ion battery	TB06, TB09, TB10



Item No.	Description
TBC12Y	12 volt battery charger comes standard in TB03 case
TBC18Y	18 volt battery charger comes standard in TB03 case



9.3 Pipe Tools



Item No.	Description
TT015168	Pipe deburrer for steel pipe 15 –168mm. 3 spare blades in handle



Internal Ream

External Ream

Item No.	Description
TR054	Multi Reamer 15–54mm Inside & Outside Deburring tool. Hand operated or with adaptor mounts into power drill for fast and easy deburring.
TS-TR	Power tool reamer adaptor



TS-TR

TS-TR fitted with TR054



Item No.	Description
TE121	Bench mount orbital Tube and Pipe Cutters give a burr-free square cut. Having a multiple jaw concentric clamping system, optimal cutting speed, a cold cutting blade to match different wall thickness, Basic jaws Ø 24 to 121 mm <ul style="list-style-type: none"> • Additional jaws Ø 5 to 108 mm • Cutting precision: Square cuts < 0.25 mm • Scalability: May be transformed into a bevelling and orbital welding machine • Dual-output cutting motor with 2 blade positions for uptake • Weight: 37 kg (easy handling)



Item No.	Description
TE108	Bench mount 240 v Right angle power cutter with foot switch. Ball bearing roller support. Chip free, no outer burr, dry cuts 22 – 108mm



Item No.	Description
TE1618	Hand held, fast, orbital action, reciprocating saw with pipe clamp for 90° guide support up to 4". Free cuts up to 6". Variable speed for easy start, stepless control up to optimised 2400rpm. Needle bearings. 230V, 1050W. Other options available.

9.3 Pipe Tools

Item No.	Description
TF015028	Mini rotary cutter 15–28mm



Item No.	Description
RBNSS534	SS rotary tube cutter 5 -34mm. Bearings in cutter and rollers. Integrated Deburrer blade.



Item No.	Description
TP015035	SS rotary tube cutter 15 - 28mm. Bearings in cutter and rollers. Integrated Deburrer blade.



Item No.	Description
TP015076	SS rotary tube cutter 15 - 76mm. Bearings in cutter and rollers. Integrated Deburrer blade.



Item No.	Description
RBN67S	SS rotary tube cutter 15 - 67mm. Bearings in cutter and rollers. Integrated Deburrer blade.



Part No.	Description
TQ015035	Replacement blades for TP015035 Cu/Al/SS
TQ015076	Replacement blades for TP015076 Cu/Al/SS
RBCWSS	Replacement blades for RBN67S SS
RBCWCU	Replacement blades for RBN67S Cu



Item No.	Description
TI054	Insertion depth gauge 15 - 54



10.1 SS BSP fittings

10.1 SS BSP fittings

Most items and sometimes more size combinations are available in Brass or Galvanised Iron

Hex Reducing Bush



Size	316 Stainless Steel
1/4" x 1/8"	SSRB0806
3/8" x 1/4"	SSRB1008
1/2" x 1/4"	SSRB1508
1/2" x 3/8"	SSRB1510
3/4" x 1/4"	SSRB2008
3/4" x 3/8"	SSRB2010
3/4" x 1/2"	SSRB2015
1" x 1/4"	SSRB2508
1" x 3/8"	SSRB2510
1" x 1/2"	SSRB2515
1" x 3/4"	SSRB2520
1 1/4" x 1/2"	SSRB3215
1 1/4" x 3/4"	SSRB3220
1 1/4" x 1"	SSRB3225
1 1/2" x 1/2"	SSRB4015
1 1/2" x 3/4"	SSRB4020
1 1/2" x 1"	SSRB4025
1 1/2" x 1 1/4"	SSRB4032
2" x 3/4"	SSRB5020
2" x 1"	SSRB5025
2" x 1 1/4"	SSRB5032
2" x 1 1/2"	SSRB5040
2 1/2" x 2"	SSRB6550
3" x 1 1/2"	SSRB8040
3" x 2"	SSRB8050
3" x 2 1/2"	SSRB8065
4" x 2"	SSRB10050
4" x 2 1/2"	SSRB10065
4" x 3"	SSRB10080

Elbow F & F



Size	316 Stainless Steel
1/4"	SSE08
3/8"	SSE10
1/2"	SSE15
3/4"	SSE20
1"	SSE25
1 1/4"	SSE32
1 1/2"	SSE40
2"	SSE50
2 1/2"	SSE65
3"	SSE80
4"	SSE100

Hex Nipple



Size	316 Stainless Steel
1/8"	SSHN06
1/4"	SSHN08
3/8"	SSHN10
1/2"	SSHN15
3/4"	SSHN20
1"	SSHN25
1 1/4"	SSHN32
1 1/2"	SSHN40
2"	SSHN50
3"	SSHN80
4"	SSHN100

Reducing Hex Nipple



Size	316 Stainless Steel
1/4" x 1/8"	SSRHN0806
3/8" x 1/4"	SSRHN1008
1/2" x 1/4"	SSRHN1508
1/2" x 3/8"	SSRHN1510
3/4" x 3/8"	SSRHN2010
3/4" x 1/2"	SSRHN2015
1" x 3/8"	SSRHN2510
1" x 1/2"	SSRHN2515
1" x 3/4"	SSRHN2520
1 1/4" x 1/2"	SSRHN3215
1 1/4" x 3/4"	SSRHN3220
1 1/4" x 1"	SSRHN3225
1 1/2" x 3/4"	SSRHN4020
1 1/2" x 1"	SSRHN4025
1 1/2" x 1 1/4"	SSRHN4032
2" x 1"	SSRHN5025
2" x 1 1/4"	SSRHN5032
2" x 1 1/2"	SSRHN5040
2 1/2" x 1 1/2"	SSRHN6540
2 1/2" x 2"	SSRHN6550
3" x 1 1/2"	SSRHN8040
3" x 2"	SSRHN8050
3" x 2 1/2"	SSRHN8065
4" x 2"	SSRHN10050
4" x 2 1/2"	SSRHN10065
4" x 3"	SSRHN10080



Elbow M & F



Size	316 Stainless Steel
1/4"	SSMFE08
3/8"	SSMFE10
1/2"	SSMFE15
3/4"	SSMFE20
1"	SSMFE25
1 1/4"	SSMFE32
1 1/2"	SSMFE40
2"	SSMFE50
2 1/2"	SSMFE65
3"	SSMFE80
4"	SSMFE100

Tee (equal) F x F x F



Size	316 Stainless Steel
1/8"	SST06
1/4"	SST08
3/8"	SST10
1/2"	SST15
3/4"	SST20
1"	SST25
1 1/4"	SST32
1 1/2"	SST40
2"	SST50
2 1/2"	SST65
3"	SST80
4"	SST100

Round Socket



Size	316 Stainless Steel
1/8"	SSS06
1/4"	SSS08
3/8"	SSS10
1/2"	SSS15
3/4"	SSS20
1"	SSS25
1 1/4"	SSS32
1 1/2"	SSS40
2"	SSS50
2 1/2"	SSS65
3"	SSS80
4"	SSS100

Barrel Union M&F



Size	316 Stainless Steel
1/4"	SSMFU08
3/8"	SSMFU10
1/2"	SSMFU15
3/4"	SSMFU20
1"	SSMFU25
1 1/4"	SSMFU32
1 1/2"	SSMFU40
2"	SSMFU50

Cross



Size	316 Stainless Steel
1/4"	SSX08
3/8"	SSX10
1/2"	SSX15
3/4"	SSX20
1"	SSX25
1 1/4"	SSX32

Reducing Socket



Size	316 Stainless Steel
1/4" x 1/8"	SSRS0806
3/8" x 1/4"	SSRS1008
1/2" x 1/4"	SSRS1508
1/2" x 3/8"	SSRS1510
3/4" x 3/8"	SSRS2010
3/4" x 1/2"	SSRS2015
1" x 3/8"	SSRS2510
1" x 1/2"	SSRS2515
1" x 3/4"	SSRS2520
1 1/4" x 1/2"	SSRS3215
1 1/4" x 3/4"	SSRS3220
1 1/4" x 1"	SSRS3225
1 1/2" x 1"	SSRS4025
1 1/2" x 1 1/4"	SSRS4032
2" x 1"	SSRS5025
2" x 1 1/4"	SSRS5032
2" x 1 1/2"	SSRS5040
2 1/2" x 1 1/2"	SSRS6540
2 1/2" x 2"	SSRS6550
3" x 1 1/2"	SSRS8040
3" x 2"	SSRS8050
3" x 2 1/2"	SSRS8065
4" x 2"	SSRS10050
4" x 2 1/2"	SSRS10065
4" x 3"	SSRS10080

Plug



Size	316 Stainless Steel
1/8"	SSP06
1/4"	SSP08
3/8"	SSP10
1/2"	SSP15
3/4"	SSP20
1"	SSP25
1 1/4"	SSP32
1 1/2"	SSP40
2"	SSP50
2 1/2"	SSP65
3"	SSP80
4"	SSP100

Cap



Size	316 Stainless Steel
1/8"	SSC06
1/4"	SSC08
3/8"	SSC10
1/2"	SSC15
3/4"	SSC20
1"	SSC25
1 1/4"	SSC32
1 1/2"	SSC40
2"	SSC50
3"	SSC80
4"	SSC100

All thread/
Pipe extension



Size	316 Stainless Steel
1/2" x 6"	SSPE15150
3/4" x 6"	SSPE20150
2" x 6"	SSPE50150

Hose Barb Male -
hose x thread



Size	316 Stainless Steel
1/4" x 1/4"	SSHB0808
3/8" x 3/8"	SSHB1010
1/2" x 1/2"	SSHB1215
3/4" x 1/2"	SSHB2015
3/4" x 3/4"	SSHB2020
1" x 1"	SSHB2525
2" x 2"	SSHB5050

Lock Nut



Size	316 Stainless Steel
1/8"	SSLN06
1/4"	SSLN08
3/8"	SSLN10
1/2"	SSLN15
3/4"	SSLN20
1"	SSLN25

10.2 SS Valves

SS ball valve 2 piece



Size	Size mm	Inch Size	Pressure kPa
SS2BV08	6	1/4"	8000
SS2BV10	10	3/8"	8000
SS2BV15	15	1/2"	8000
SS2BV20	20	3/4"	8000
SS2BV25	25	1"	8000
SS2BV32	32	1 1/4"	7000
SS2BV40	40	1 1/2"	7000
SS2BV50	50	2"	6000

Stainless steel 3-piece ball valve



Size	Size mm	Inch Size	Pressure kPa
SS3BV06	6	1/4"	8500
SS3BV10	10	3/8"	8500
SS3BV15	15	1/2"	8500
SS3BV20	20	3/4"	8500
SS3BV25	25	1"	8500
SS3BV32	32	1 1/4"	7000
SS3BV40	40	1 1/2"	7000
SS3BV50	50	2"	6000
SS3BV65	65	2 1/2"	6000
SS3BV80	80	3"	6000
SS3BV100	100	4"	6000

SS Self venting ball valve 2 piece



Size	Size mm	Inch Size
SS2BV08V	6	1/4"
SS2BV10V	10	3/8"
SS2BV15V	15	1/2"
SS2BV20V	20	3/4"
SS2BV25V	25	1"
SS2BV32V	32	1 1/4"
SS2BV40V	40	1 1/2"
SS2BV50V	50	2"

SS Y Line Strainer



Size	Size mm	Inch Size
SSLS15	15	1/2"
SSLS20	20	3/4"
SSLS25	25	1"
SSLS32	32	1 1/4"
SSLS40	40	1 1/2"
SSLS50	50	2"
SSLS65	65	2 1/2"

SS Spring check valve



Size	Size mm	Inch Size	Pressure rating psi
SSNRV15	15	1/2"	200
SSNRV20	20	3/4"	200
SSNRV25	25	1"	200
SSNRV32	32	1 1/4"	200
SSNRV40	40	1 1/2"	200
SSNRV50	50	2"	200

Lugged Butterfly Valve with stainless steel disc, EPDM wetted parts



Size	Size mm	Inch Size	PCD
BVFL50	50	2"	114
BVFL65	65	2 1/2"	127
BVFL80	80	3"	146
BVFL100	100	4"	178
BVFL125	125	5"	210
BVFL150	150	6"	235

Stainless steel 3-piece spring check valve



Size	Size mm	Inch Size	Pressure rating psi
SS3NRV15	15	1/2"	1000
SS3NRV20	20	3/4"	1000
SS3NRV25	25	1"	1000
SS3NRV32	32	1 1/4"	1000
SS3NRV40	40	1 1/2"	1000
SS3NRV50	50	2"	1000
SS3NRV65	65	2 1/2"	1000
SS3NRV80	80	3"	1000
SS3NRV100	100	4"	1000

Wafer Butterfly Valve with stainless steel disc, EPDM wetted parts



Size	Size mm	Inch Size	PCD
BVFW50	50	2"	125
BVFW65	65	2 1/2"	145
BVFW80	80	3"	160
BVFW100	100	4"	180
BVFW125	125	5"	210
BVFW150	150	6"	240

11 PIPE LAYING AND EXPANSION



TB02, TB03 & TB08 Intelligent, Self Monitoring Press Tools

Red LED	White LED torch	Audible Alarm	When	Why
20 Sec				Battery low, recharge before any more presses
2 x			After inserting battery	Self check, OK to use
20 Sec/2 Hz			After working cycle	Return tool to authorised service centre
20 Sec/5 Hz			While exceeding the temp. limit	Unit too hot, allow to cool before further use
20 Sec			After working cycle	Battery is low and tool requires service
1 x			After working cycle	Error: Joint is not correctly pressed <ul style="list-style-type: none"> required pressure has not been achieved the operator has interrupted the pressing cycle manually while motor was not running
3 x			After working cycle	Serious Error: <ul style="list-style-type: none"> the pressure has not been reached while the motor was running

11.1 PIPE EXPANSION

Tube length (m)	Temp difference ° Celsius	Change in length (mm)									
		10	20	30	40	50	60	70	80	90	100
1	0.16	0.33	0.50	0.66	0.82	1.00	1.16	1.30	1.45	1.60	
6	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00	
10	1.65	3.30	5.00	6.60	8.30	10.00	11.60	13.20	14.90	16.60	
20	3.30	6.60	10.00	13.00	16.00	20.00	23.00	26.00	29.00	32.00	
30	5.00	10.00	15.00	20.00	25.00	30.00	35.00	40.00	45.00	50.00	
40	6.60	13.00	20.00	26.00	33.00	44.00	46.00	52.00	59.00	66.00	
50	8.25	16.50	25.00	33.00	46.50	50.00	58.00	66.00	74.50	83.00	
60	10.00	20.00	30.00	40.00	50.00	60.00	70.00	80.00	90.00	100.00	
70	11.60	23.00	35.00	46.00	67.00	70.00	82.00	90.00	102.00	114.00	
80	12.00	26.00	40.00	53.00	65.00	80.00	93.00	104.00	117.00	130.00	
90	14.80	30.00	45.00	60.00	74.00	90.00	105.00	117.00	133.00	148.00	
100	16.50	33.00	50.00	66.00	93.00	100.00	116.00	132.00	149.00	166.00	

	Chemical composition % of stainless steels							
	Chromium	Nickel	Molybdenum	Manganese max%	Silicon max %	Phosphorus max %	Sulphur max %	Carbon max %
AISI 316L	16.5 - 18.5	10 - 13	2 - 2.5	2	1	0.045	0.015	0.03
AISI 304	17 - 19.5	8 - 10.5		2	1	0.045	0.015	0.07

11.1 Thermal expansion

Pipes expand as a function of the materials they are made of and the temperature variation to which they are subjected. Therefore, when installing pipework systems three rules must be followed to ensure good results:

- leave sufficient room for expansion
- use expansion compensators
- position both fixed and sliding collars correctly

The following formula is used to calculate longitudinal expansion: $\Delta L = \alpha \cdot L \cdot \Delta T \div 1.000$ where:

- ΔL is the expansion in mm.
- α is the coefficient of expansion of the material expressed in mm/m • °C
- L is the length of the pipe in m.
- ΔT is the permitted temperature difference

For a practical calculation of the thermal expansion, according to the pipe length and the temperature variation, see the graph in Figure 4, which applies to stainless steel and is also applicable to carbon steel, but allowing for the fact that the thermal expansion of carbon steel is reduced by 1/3 (-33%). Example: The thermal expansion of a 20-metre stainless steel pipe, subjected to a temperature variation of 70°C is the following:

$$\Delta L = 16.5 \times 20 \times 70 / 1000 = 23.1 \text{ mm}$$

The same result can also be obtained from the graph in fig. 4

If the pipe is carbon steel, the expansion is:

$$\Delta L = 11 \times 20 \times 70 / 1000 = 15.4 \text{ mm}$$

The same result can also be obtained from the graph in fig 4, but reduce the expansion for stainless steel by 1/3 (-7.7mm).

11.1 Expansion room

When installing pipework, distinctions should be made between:

- visible pipes
- chased pipes
- pipes under “floating” floors

Expansion in visible pipes is absorbed by the elasticity of the run itself provided that the pipes are correctly fixed. Chased pipes must not be in direct contact with the plaster, but wrapped in a pad of elastic material, such as glass wool or plastic foam fig. 5 Thus fitted, soundproofing requirements are also satisfied. Under a “floating” floor, pipes are laid below the isolation layer and can expand freely fig. 6 Vertical channels must be coated in elastic insulating materials. The same type of coating must be applied to pipes passing through walls and ceilings.

11.1 Expansion compensators

Minimum pipe expansion can sometimes be compensated for by the degree of elasticity of the pipe system itself. If this is not possible, expansion compensators must be used.

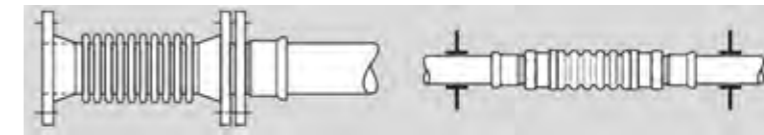
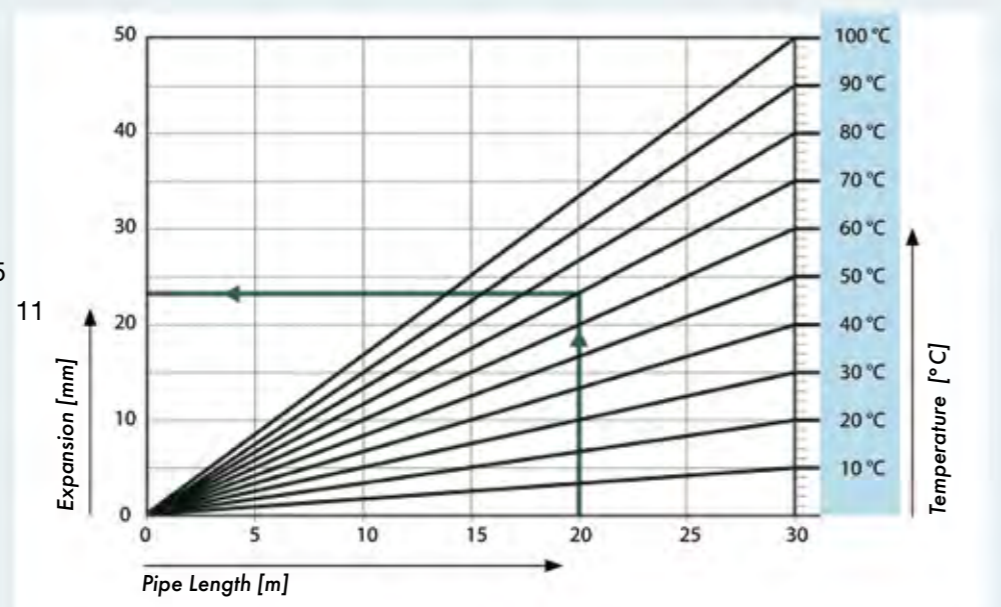
Compensators can be either U or Z-shaped, and can be preformed or made up when the Europress Pressfitting components are being assembled.

fig. 7 shows the configuration of U-shaped compensators, while the diagram in fig.8 allow the compensation length to be calculated, for the estimated expansion, in steel pipes. Similarly, fig. 10 shows the configuration of a Z-shaped compensators, while the diagrams in figs. 12 and 13 allow the compensation length to be calculated, for the estimated expansion, in steel pipes. The latter diagrams can also be used to calculate compensation in T-shaped branches (fig 11).

PIPE MATERIAL

Coefficient of thermal expansion
STAINLESS STEEL 16.5
CARBON STEEL 11

Fig. 4
Thermal expansion in stainless steel as a function of the length and the temperature variation.
Carbon steel is 30% less



Flanged and threaded expansion compensators

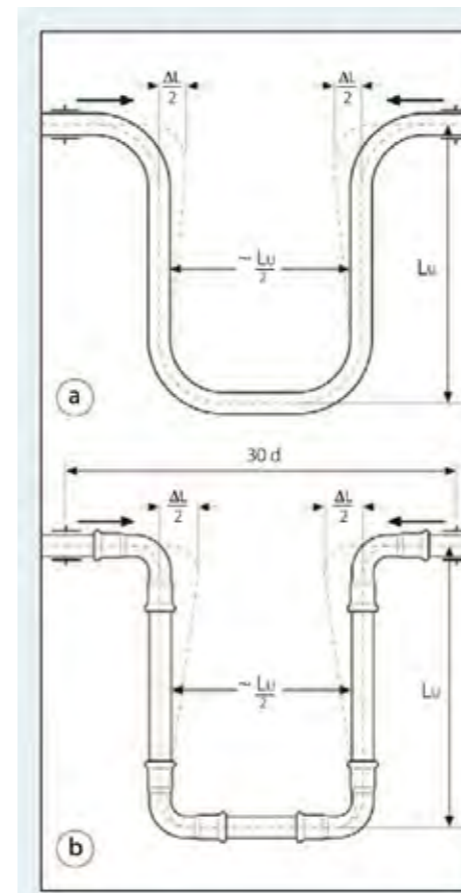


Fig. 7
Expansion compensators U-shaped
a) through preformed pipe
b) with pressfittings

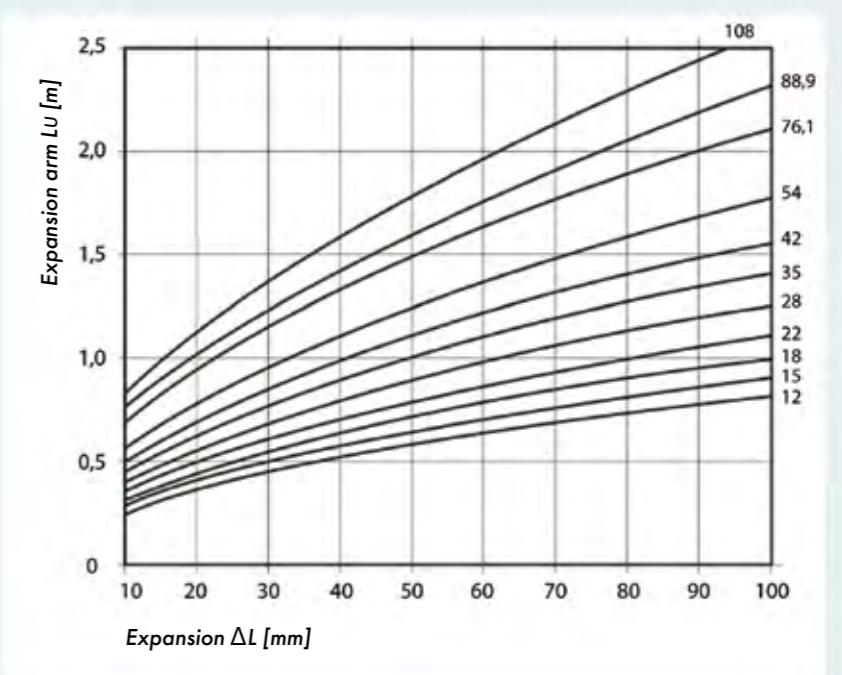


Fig. 8
Length Lu of compensator U-shaped in stainless steel and carbon steel

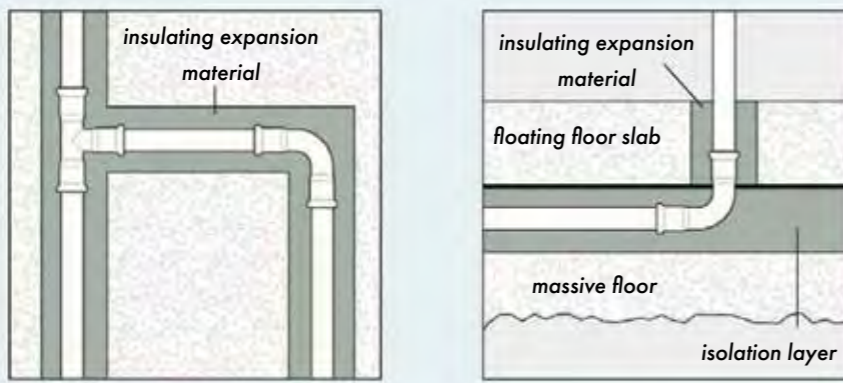


Fig. 5
Chased Pipe

Fig. 6
Pipe under floating floor

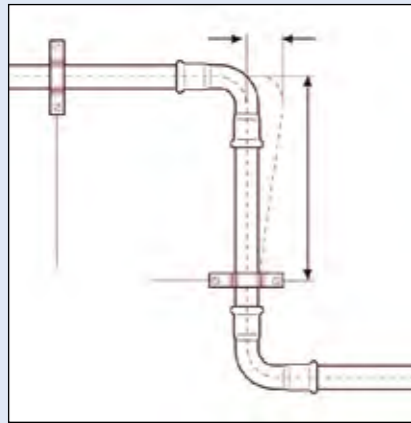


Fig. 10
Expansion compensators Z-shaped

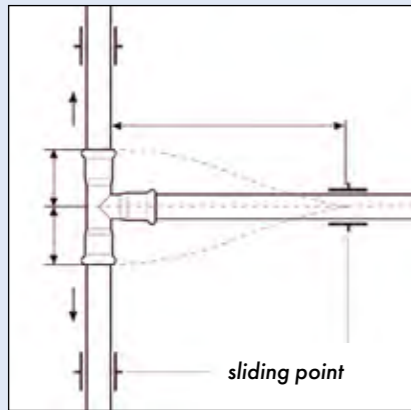


Fig. 11
T-shaped branch

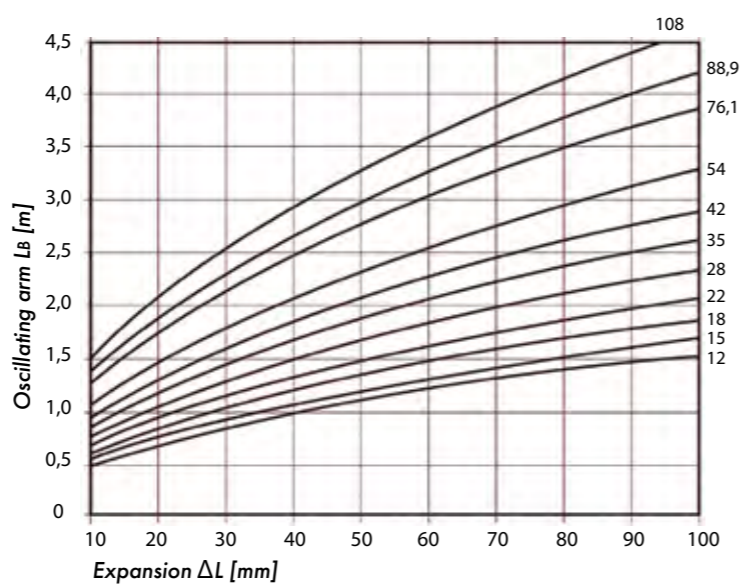


Fig. 12
Length Lb of compensator Z-shaped in stainless steel and carbon steel

11.2 Pipe fixing

The pipe support collars serve two purposes:

- locking the pipe
- orienting expansion caused by temperature fluctuations **COLLARS OR FIXING POINTS**

There are two types of collars or fixing points:

- fixed, which lock pipes rigidly
- sliding, which allow axial movement

Positioning fixing points

A pipe with no changes of direction or expansion compensators must have only one fixed anchoring point (fig. 14). In the case of long pipes, we recommend placing this collar towards the centre of the section so as to allow expansion in both directions. This solution is also particularly suitable for vertical pipes that pass through many floors precisely because it allows for expansion in two directions, also decreasing stress on the branches.

Fixed collars must not be placed on fittings (fig. 15) and even sliding collars must be positioned so as not to foul fittings and become potentially dangerous fixed points (fig.16).

Spacing (m) of clips or brackets for pipes carrying fluids. Can be increased for gases

Pipe mm O.D.	15	22	28	35	42	54	76.1	88.9	108	168.3
DN	12	20	25	32	40	50	65	80	100	150
Recommended	1.5	1.5	2	2.5	2.5	3	3	3	3	3
Maximum	1.5	2	2.4	3	3	3	3	3	3	3

Minimum distances

Installing pipework correctly involves observing certain minimum distances, which depend on several different factors:

- **Distance between fixing points**
Fixing points must be placed at an adequate distance from each other. If the brackets are too close together they can prevent the absorption of expansion. If they are too far apart they can increase vibration and amplify noise. **Tab. 2** shows the distances recommended by Europress.
- **Manoeuvring space for the pressing tool**
Adequate space for manoeuvring and avoidance of obstacles must be allowed for, and this will vary according to the size of the pressing tool. **Tab. 3** shows the minimum space to be allowed.
- **Distance between fittings**
Two pressfittings too close together can compromise the perfect seal of the joints. **Tab. 4** shows the minimum distances to observe.

Fig. 14
Pipe fixing: straight pipe, only one fixed point: suitable

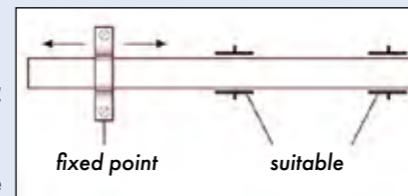


Fig. 16
Pipe fixing: sliding point too near to fitting: wrong

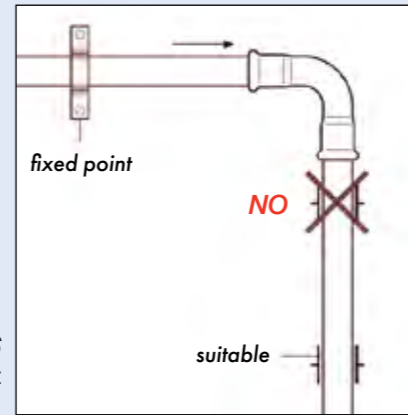


Fig. 15
Pipe fixing: fixed point on fitting: wrong

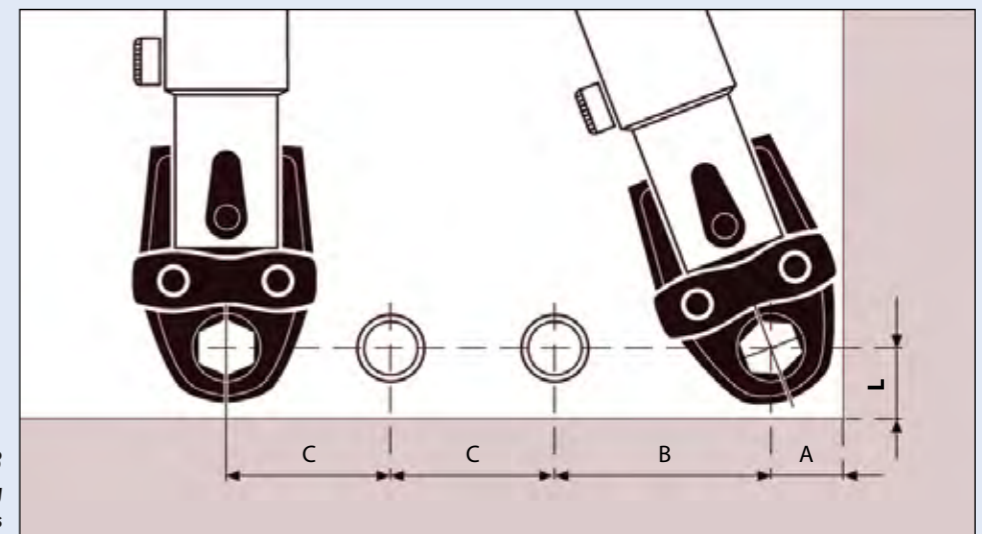
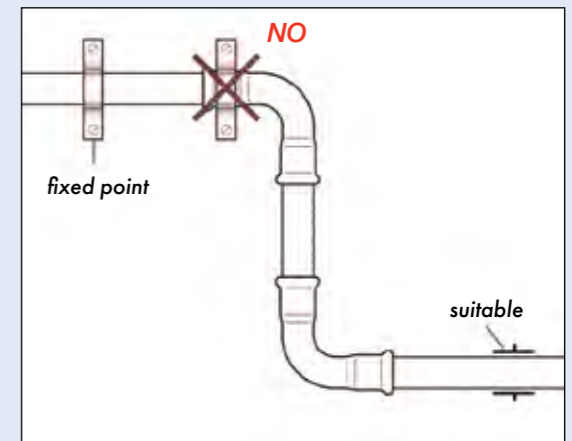
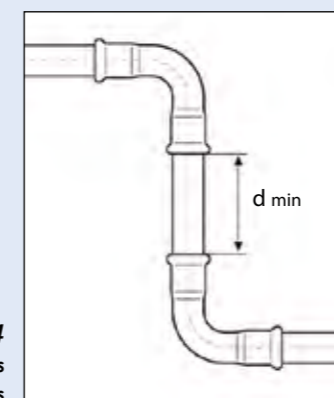


Table 3
Minimum pressing spaces

Ø / pipe	15	22	28	35	42	54	76,1	88,9	108	139	168
A (mm)	25	35	35	45	76	86	190	210	210	230	260
B (mm)	75	81	81	85	120	125	200	250	250	290	330
C (mm)	56	76	76	76	120	125	200	250	250	290	330
L (mm)	24	32	32	32	78	88	170	170	170	230	260

Table 4
Minimum distances between fittings

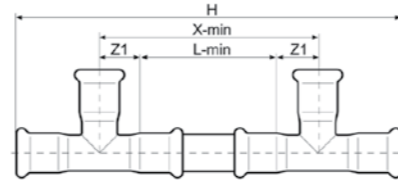
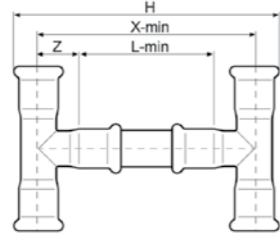
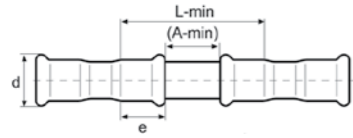


pipe size	d min (mm)
15	10
22-28	10
35	10
42	20
54	20
76,1	20
88,9	20
108	20
139	32
168	37

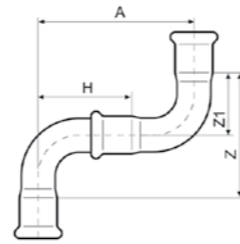
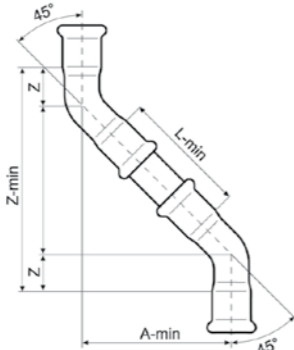
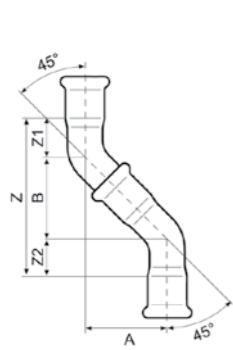
11.2 Minimum Proximity Tables

11.2 Minimum Proximity Tables

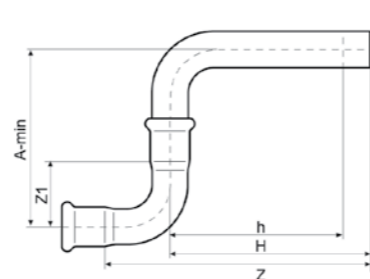
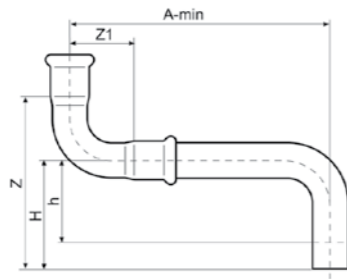
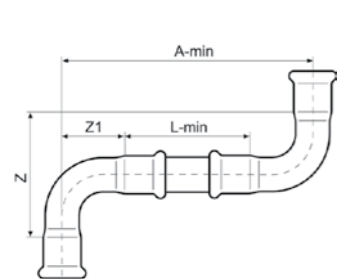
11.2 MINIMUM PROXIMITY TABLES



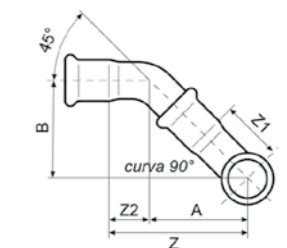
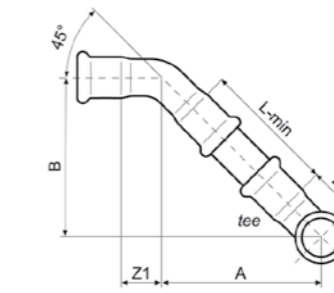
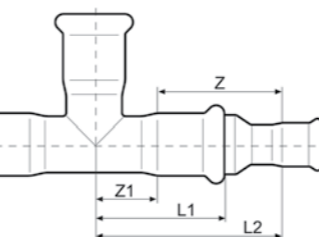
MINIMUM DISTANCE BETWEEN TWO PRESSES					DOUBLE TEE					SIDE MOUNTED TEES				
DN	d	L-min	A-min	e	DN	H	L-min	X-min	Z	DN	H	L-min	X-min	Z1
15	23	52	10	21	15	103	52	83	16	15	158	52	93	21
22	32	56	10	23	22	123	56	96	20	22	178	56	104	24
28	37	58	10	24	28	135	58	102	22	28	194	58	106	24
35	44	64	10	27	35	161	64	121	29	35	213	64	116,5	26
42	54	84	20	32	42	187	84	140	28	42	256	84	148	32
54	65	94	20	37	54	225	94	166	36	54	304	94	168	37
76	96	130	20	55	76	333	130	252	61	76	484	130	240	55
89	110	146	20	63	88	365	146	272	63	88	544	146	272	63
108	133	176	20	78	108	437	176	324	74	108	644	176	332	78



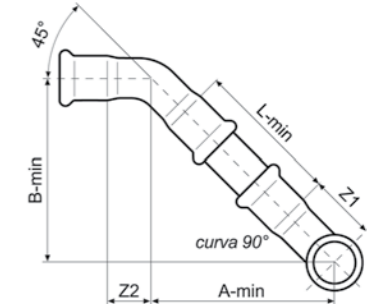
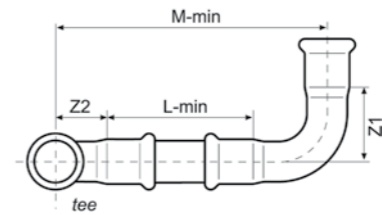
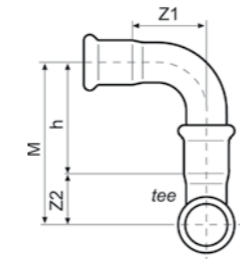
ELBOW 45°FF WITH ELBOW 45°MF						2 ELBOWS 45°FF WITH PIPE				ELBOW 90°FF WITH ELBOW 90°MF					
DN	A	Z	Z1	Z2	B	DN	L-min	A-min	Z-min	Z	DN	A	H	Z	Z1
Radius 1.5						Radius 1.5				Radius 1.5					
15	45	77	16	16	45	15	52	59	91	16	15	83	56	54	27
22	52	94	21	21	52	22	56	69	111	21	22	105	68	74	37
28	62	116	27	27	62	28	58	79	133	27	28	127	80	94	47
35	69	133	32	32	69	35	64	91	155	32	35	154	93	122	61
42	88	178	45	45	88	42	84	123	213	45	42	208	125	166	83
54	105	207	51	51	105	54	94	139	241	51	54	255	149	212	106
Radius 1.2						Radius 1.2				Radius 1.2					
76	115	201	43	43	115	76	130	153	239	43	76	261	166	190	95
89	127	227	50	50	127	88	146	174	274	50	88	301	190	222	111
108	156	276	62	62	152	108	176	209	329	60	108	367	230	274	137



2 ELBOWS 90°FF WITH PIPE					ELBOW 90°FF AND ELBOW WITH PLAIN ENDS 90° (long side)				ELBOW 90°FF AND ELBOW WITH PLAIN ENDS 90° (short side)							
DN	L-min	A-min	Z	Z1	DN	A-min	Z1	Z	H	h	DN	A-min	Z1	Z	H	h
Radius 1.5					Radius 1.5				Radius 1.5							
15	52	114	54	27	15	147	27	97	70	48	15	97	27	147	120	48
22	56	122	74	37	22	157	37	107	70	61	22	107	37	157	120	61
28	58	126	94	47	28	172	47	144	97	90	28	144	47	172	125	78
35	64	138	122	61	35	262	61	182	121	59	35	182	61	262	201	139
42	84	188	166	83	42	337	83	243	160	70	42	243	83	337	254	164
54	94	208	212	106	54	408	106	308	202	157	54	308	106	408	302	257
Radius 1.2					Radius 1.2				Radius 1.2							
76	130	280	190	95	76	345	95	345	250	190	76	345	95	345	250	190
88	146	312	222	111	88	402	111	402	291	201	88	402	111	402	291	201
108	176	372	274	137	108	501	137	501	364	319	108	501	137	501	364	319



ELBOW 45°MF WITH LATERAL TEE						ELBOW 45°MF WITH LATERAL TEE AND PIPE						ELBOW 45°MF AND LATERAL ELBOW 90°FF					
DN	Z	A	D	Z1	Z2	DN	A	B	L-min	Z1	Z2	DN	Z	A	B	Z1	Z2
Radius 1.5						Radius 1.5						Radius 1.5					
15	60	44	44	16	16	15	59	59	52	16	16	15	60	44	44	27	16
22	72	51	51	21	20	22	69	69	56	21	20	22	72	51	51	37	21
28	85	58	58	27	22	28	76	76	58	27	22	28	85	58	58	47	27
35	98	66	66	32	29	35	88	88	64	32	29	35	98	66	66	61	32
42	121	76	76	45	28	42	111	111	84	45	28	42	121	76	76	83	45
54	145	94	94	51	36	54	128	128	94	51	36	54	145	94	94	106	51
Radius 1.2						Radius 1.2						Radius 1.2					
76	174	131	131	43	61	76	165	165	130	43	61	76	174	131	131	95	43
88	186	136	136	50	63	88	183	183	146	50	63	88	186	136	136	111	50
108	225	165	165	60	74	108	219	219	176	60	74	108	225	165	165	137	60



ELBOW 90°MF WITH LATERAL TEE					ELBOW 90°MF WITH LATERAL TEE AND PIPE					LATERAL ELBOW 90°FF AND PIPE					
DN	M	h	Z1	Z2	DN	M-min	L-min	Z1	Z2	DN	A-min	B-min	L-min	Z1	Z2
Radius 1.5					Radius 1.5					Radius 1.5					
15	71	55	27	16	15	94	52	27	16	15	67	67	52	27	16
22	88	68	37	20	22	113	56	37	20	22	81	81	56	37	21
28	102	80	47	22	28	127	58	47	22	28	93	93	58	47	27
35	121	93	61	29	35	153	64	61	29	35	111	111	64	61	32
42	153	125	83	28	42	195	94	83	28	42	150	150	84	83	45
54	185	149	106	36	54	236	104	106	36	54	178	178	94	106	51
Radius 1.2					Radius 1.2					Radius 1.2					
76	232	171	95	61	76	291	140	95	61	76	190	190	130	95	43
88	253	190	111	63	88	320	156	111	63	88	217	217	146	111	50
108	304	230	137	74	108	387	186	137	74	108	264	264	176	137	60

TEE AND REDUCER									
DN	L2	L1	Z	Z1	DN	L2	L1	Z	Z1
22-15	61	42	42	19	54-28	109	71	75	34
28-15	83	46	61	22	54-35	135	71	101	34
28-22	67	46	45	22	54-42	112	71	78	34
35-15	88	51	64	24	76.1-42	182	116	121	61
35-22	78	51	54	24	76.1-54	170	116	109	61
35-28	73	51	49	24	88.9-54	190	131	122	68
42-22	82	59	55	27	88.9-76.1	173	131	105	68
42-28	104	59	77	27	108-54	245	156	167	78
42-35	74	59	47	27	108-76.1	222	156	144	78
54-22	122	71	88	34	108-88.9	211	156	133	78

11. CHEMICAL COMPATIBILITY OF EUROPRESS PIPES AND O-RINGS

Refer to the Europress Technical Department to obtain confirmation of suitability of individual liquids for food process applications. As every aspect of an application may not be known by the supplier, applications remain the responsibility of the user.

FLUID	PIPE AND SEALS				
	AISI 316L	C-STEEL	EPDM	HNBR	FKM-FPM
Acetic acid 20%	A	D	A	D	D
Acetone 100 %	A	A	A	D	A
Acetylene	A	A	A	A	A
Ammonia dry	A	A	A	A	D
Ammonium chloride 1%	A	D	A	A	A
Ammonium nitrate 10÷50%	A	D	A	A	A
Ammonium phosphate 10%	C	X	A	A	D
Ammonium sulfate 10%	C	C	A	A	D
Aniline	A	A	B	A	C
Aqua regia, aqua fortis	A	D	C	D	B
Battery acid	A	D	B	X	A
Benzene	A	A	D	D	A
Boric acid 5%	A	D	A	A	A
Butane	A	A	D	A	A
Butanol	A	A	A	D	A
Calcium Hydroxide ≤ 10°C	C	B	A	A	A
Calcium Hypochlorite	D	D	B	B	A
Carbon dioxide	A	C	B	A	A
Caustic soda ≤ 50%	A	D	B	B	C
Chlorine (dry)	B	B	A	B	A
Citric acid 5%	A	D	A	A	A
Compressed air *	A	B	D	A	A
Copper chloride	D	D	A	A	A
Copper nitrate	A	D	A	A	A
Copper sulfate 10%	A	D	A	A	A
Photo developer/fixing bath	A	X	B	A	A
Engine oil	A	B	D	A	A
Ethane	A	A	D	A	A
Ethylene glycol	A	A	A	A	A
Ethylene Oxide	A	X	C	D	D
Ferric chloride, watery	D	D	A	A	A
Ferric sulfate	C	D	A	A	A
Formaldehyde	A	D	A	B	D
Formic acid	C	D	A	D	D
Gas oil	A	X	D	A	A
Gasoline	A	A	D	A	A
Gear oil	A	B	D	A	A
Hexane	A	A	B	D	A
Hydrochloric acid 100%	D	D	D	A	A
Hydrogen fluoride	D	D	D	D	D
Hydrogen peroxide 10%	A	D	A	D	A
Kerosene	A	B	D	A	A

A: Excellent - Material not affected
 B: Good - Material slightly affected but suitable
 C: Fair - Some degree of reaction but suitable

FLUID	PIPE AND SEALS				
	AISI 316L	C-STEEL	EPDM	HNBR	FKM-FPM
Linseed oil	A	A	D	D	A
Lubricating oils	A	A	D	A	A
Machine oil	A	B	D	A	A
Magnesium chloride ≤20%	A	B	A	A	A
Magnesium hydroxide 100°C	C	B	A	B	A
Magnesium sulfate <40%	A	B	A	A	A
Methane	A	A	D	A	A
Methanol	A	B	A	B	D
Mineral oil	A	A	D	A	A
Naphtha	A	A	D	B	A
Naphthalene	A	A	D	X	A
Nickel chloride 10÷30%	C	D	A	A	A
Nickel sulfate	A	D	A	A	A
Nitric acid ≤20%	A	D	D	B	A
Paraffin	A	B	D	A	A
Phosphoric acid	A	D	A	D	A
Potassium chloride	A	D	A	A	A
Potassium hydroxide ≤ 50°C	C	D	A	B	D
Potassium sulfate 10%	A	B	A	A	A
Propane (liquefied)	A	A	D	A	A
Prussic acid	C	D	A	X	A
Sea water	A	D	A	A	A
Sodium bicarbonate	A	C	A	A	A
Sodium chloride 5%	A	C	A	A	A
Sodium nitrate ≤ 40%	A	C	A	B	A
Sodium phosphate	C	D	A	A	A
Sodium sulfate 10%	A	B	A	A	A
Sulfuric acid 10% 60°C	D	D	B	X	A
Sulfuric acid, smoking	D	D	D	X	A
Sulfuric acid 100%, moist	C	D	C	X	A
Sulphur dioxide (dry)	C	B	A	D	B
Tannin	A	D	A	X	A
Tanning agents for leather	A	X	B	A	A
Tartaric Acid 10% 100°C	A	D	B	X	A
Toluol 20°C	A	C	A	D	D
Trichloroethylene	C	B	D	D	A
Turpentine	C	B	D	A	B
Water ≤ 100°C	A	C	A	A	B
Water, deionised	A	X	B	B	A
Water, distilled	A	X	A	A	A
Zinc chloride	A	X	A	A	A
Zinc sulfate 10%	A	X	A	A	A

D: Severe effect - Not recommended
 X: Not useful data

11.3 CORROSION RESISTANCE

Stainless steel installations for drinking water

Resistance to internal corrosion

Stainless steel does not change the characteristics of drinking water, nor does the water affect it in any way. For this reason, drinking water, even when treated, is absolutely compatible with the AISI 316L stainless steel used by Europress. Perfect hygiene is thus guaranteed.

Resistance to bimetallic corrosion

Stainless steel is resistant to corrosion, even in systems where it is in contact with non-ferrous metals (bronze, copper and brass). If however, it is in direct contact with carbon steel, bimetallic corrosion can occur. This risk can be reduced by inserting a nonferrous joint between the two metals or it can be completely eliminated by using non-ferrous spacers at least 50mm in length

Resistance to external corrosion

External corrosion can only occur on a stainless steel system in very particular situations, such as prolonged contact with high concentrations of chlorides. In these cases, we recommend covering the pipes with a closed-cell coating, taking care to apply waterproof glue to the cutting and junction points. Alternatively, protective anti-corrosion tape can be used. Felt sheathing must not be used as it holds moisture that can lead to corrosion.

8.6 Carbon steel installations for heating/cooling

Resistance to internal corrosion

Oxygen is not normally able to penetrate closed-circuit water heating systems from the outside so carbon steel pipes are not subject to internal corrosion. Carbon steel components can also be used in mixed installations with other non-ferrous metals, such as copper, aluminium, etc.

However, such systems must always be kept filled, even when not operating, or should be emptied and kept dry, to avoid both air and water being in contact with the metal, a situation that can lead to corrosion.

Resistance to external corrosion

External corrosion can frequently occur on carbon steel systems in chased installations, or in humid conditions. To prevent this, we recommend covering the pipes with closed-cell coating or protective anti-corrosion tape, ensuring that the pipes are entirely covered. Felt sheathing must not be used as it holds moisture that can lead to corrosion.

11.4 COMMISSIONING & TESTING

System commissioning

After installation and before enclosing in any walls, insulation or painting, the system must undergo testing to ensure its carrying capacity and seal integrity. The test method and result must be documented in a report (contact Technical Department for approved Work method and report form).

The choice of the test method depends on the type of installation, the medium that the system is designed for, the fluid selected for testing with, and the progress over time of the building works as well as the requirements related to hygiene and corrosion.

Seal testing

If using a dry test with compressed air it must be done with oil-free compressed air so there is no residual oil left in the pipework. This is done in 2 phases - a seal test followed by the load test.

Drinking water or heating installations are tested using water at a pressure at least 1.5 times the operating pressure. If no leaks are detected during testing, it is best practice to flush the pipes thoroughly before charging the system with water.

Gas systems are to be tested in accordance with the relevant Australian Standard for the type of gas. Test procedures involving pressures greater than 20 bar should be confirmed with Europress technical department.

8.8 Noise insulation

Pipes are a possible means of transmitting noise from other sources (pumps, valves, etc.) and, for this reason, they must be insulated with elastic materials to avoid direct contact with collars, walls, etc.

8.9 Thermal insulation

Hot water pipes must be insulated in compliance with the codes of practice relating to energy conservation and heating systems. This also acts as a safety precaution against accidental contact.

Cold water pipes must also be adequately insulated to prevent condensation and dripping. For stainless steel installations the insulating material has to be without chlorine or its compounds.

Protection against freezing

Where there is a danger of water freezing in pipes, they must be protected with insulating material of sufficient thickness, or antifreeze should be used to avoid leaks caused by loosened joints or swelling.

11.5 GUARANTEE

All Press joints must be made in accordance with AS/NZS 3500.1. The use of original Europress fittings, with the correct pipes and approved pressing tools, coupled with strict adherence to the technical instructions given for both the design and installation of the system, will guarantee the longevity of the system for 25 years. Furthermore, the manufacturer's guarantee that when installation is done in accordance with guidelines, pressfit tightness guarantee is in excess of 30 years.

12.0 FLOW TABLES

12.0 FLOW TABLES

Tab. 2

Stainless steel pipes for gas (roughness $k=0,0015$ mm).
Pressure drops R as a function of peak flow rate Vp and speed v at 10°C temperature.

Nominal size $d_e \times s / OD \times t$ [mm]	Pipe outside diameter x wall thickness											
	15 x 1.0		22 x 1.2		28 x 1.2		35 x 1.5		42 x 1.5		54 x 1.5	
	d_i / ID [mm]		19.5		25.6		32		39		51	
Peak flow rate Vp $\frac{m^3}{h}$	R $\frac{mbar}{m}$	v $\frac{m}{s}$	R $\frac{mbar}{m}$	v $\frac{m}{s}$	R $\frac{mbar}{m}$	v $\frac{m}{s}$	R $\frac{mbar}{m}$	v $\frac{m}{s}$	R $\frac{mbar}{m}$	v $\frac{m}{s}$	R $\frac{mbar}{m}$	v $\frac{m}{s}$
1	0,0629	2,1										
1,5	0,0943	3,1	0,0168	1,3								
2	0,1257	4,2	0,0224	1,8	0,0092	1,1						
2,5	0,3032	5,2	0,0281	2,2	0,0115	1,4						
3	0,4137	6,3	0,0337	2,7	0,0138	1,7	0,0051	1				
3,5	0,5386	7,3	0,0705	3,1	0,0161	2	0,0060	1,2				
4	0,6777	8,3	0,0883	3,5	0,0184	2,3	0,0069	1,4				
4,5			0,1079	4	0,0377	2,5	0,0077	1,6	0,0035	1		
5			0,1292	4,4	0,0451	2,8	0,0086	1,7	0,0039	1,2		
5,5			0,1520	4,9	0,0530	3,1	0,0166	1,9	0,0043	1,3		
6			0,1764	5,3	0,0615	3,4	0,0192	2,1	0,0047	1,4		
6,5			0,2024	5,7	0,0705	3,7	0,0220	2,2	0,0050	1,5		
7			0,2300	6,2	0,0800	4	0,0250	2,4	0,0099	1,6	0,0020	1
7,5			0,2593	6,6	0,0900	4,2	0,0281	2,6	0,0111	1,7	0,0022	1,1
8					0,1006	4,5	0,0313	2,8	0,0124	1,9	0,0023	1,1
8,5					0,1116	4,8	0,0347	2,9	0,0137	2	0,0043	1,2
9					0,1231	5,1	0,0383	3,1	0,0151	2,1	0,0047	1,3
9,5					0,1351	5,4	0,0420	3,3	0,0165	2,2	0,0051	1,3
10					0,1476	5,7	0,0459	3,5	0,0181	2,3	0,0056	1,4
10,5					0,1607	5,9	0,0499	3,6	0,0196	2,4	0,0061	1,5
11					0,1740	6,2	0,0540	3,8	0,0212	2,6	0,0066	1,6
11,5					0,1881	6,5	0,0583	4	0,0229	2,7	0,0071	1,6
12					0,2024	6,8	0,0628	4,1	0,0246	2,8	0,0076	1,7
12,5					0,2172	7,1	0,0673	4,3	0,0264	2,9	0,0082	1,8
13					0,2328	7,4	0,0720	4,5	0,0282	3	0,0088	1,8
13,5					0,2485	7,6	0,0769	4,7	0,0301	3,1	0,0093	1,9
14					0,2647	7,9	0,0818	4,8	0,0321	3,3	0,0099	2
14,5							0,0869	5	0,0341	3,4	0,0105	2,1
15							0,0923	5,2	0,0361	3,5	0,0112	2,1
15,5							0,0977	5,4	0,0382	3,6	0,0118	2,2
16							0,1032	5,5	0,0404	3,7	0,0125	2,3
16,5							0,1088	5,7	0,0426	3,8	0,0131	2,3
17							0,1146	5,9	0,0448	4	0,0138	2,4
17,5							0,1204	6	0,0471	4,1	0,0145	2,5
18							0,1265	6,2	0,0495	4,2	0,0153	2,5
18,5							0,1327	6,4	0,0519	4,3	0,0160	2,6
19							0,1390	6,6	0,0543	4,4	0,0167	2,7
19,5							0,1455	6,7	0,0568	4,5	0,0175	2,8
20							0,1519	6,9	0,0593	4,7	0,0183	2,8
21							0,1655	7,3	0,0646	4,9	0,0199	3
22								0,0700	5,1	0,0215	3,1	
23								0,0757	5,3	0,0233	3,3	
24								0,0814	5,6	0,0250	3,4	
25								0,0874	5,8	0,0269	3,5	
26								0,0936	6	0,0288	3,7	
27								0,0999	6,3	0,0307	3,8	
28								0,1065	6,5	0,0327	4	
29								0,1132	6,7	0,0347	4,1	
30								0,1201	7	0,0368	4,2	
31								0,1273	7,2	0,0390	4,4	

Tab. 3

Carbon steel pipes for heating (roughness $k=0,0015$ mm).
Pressure drops R as a function of mass flow m and speed v at 80°C water temperature.

Nominal size $d_e \times s / OD \times t$ [mm]	Pipe outside diameter x wall thickness											
	15 x 1,2		22 x 1,5		28 x 1,5		35 x 1,5		42 x 1,5		54 x 1,5	
	d_i / ID [mm]		19		25		32		39		51	
Pressure drops R [Pa/m]	m [kg/h]	v [m/s]	m [kg/h]	v [m/s]	m [kg/h]	v [m/s]	m [kg/h]	v [m/s]	m [kg/h]	v [m/s]	m [kg/h]	v [m/s]
29	61	0,14	187	0,19	393	0,23	766	0,27	1050	0,36	1450	0,44
32	64	0,15	197	0,2	414	0,24	807	0,29	1100	0,39	1500	0,47
35	67	0,16	207	0,21	435	0,25	847	0,30	1150	0,42	1550	0,50
39	72	0,16	219	0,22	461	0,27	898	0,32	1200	0,45	1600	0,53
44	77	0,17	234	0,24	492	0,29	958	0,34	1250	0,48	1650	0,56
49	81	0,19	249	0,25	522	0,3	1016	0,36	1300	0,51	1700	0,59
54	86	0,2	262	0,26	551	0,32	1070	0,38	1350	0,54	1750	0,62
59	90	0,2	275	0,28	578	0,34	1123	0,40	1400	0,57	1800	0,65
64	94	0,22	288	0,29	604	0,35	1173	0,42	1450	0,60	1850	0,68
69	98	0,23	300	0,3	629	0,37	1222	0,43	1500	0,63	1900	0,71
74	102	0,23	312	0,31	654	0,38	1269	0,46	1550	0,66	1950	0,74
78	106	0,24	323	0,33	678	0,4	1315	0,47	1600	0,69	2000	0,77
88	113	0,26	345	0,35	723	0,42	1402	0,50	1700	0,74	2100	0,82
98	120	0,28	366	0,37	766	0,45	1485	0,53	1800	0,79	2200	0,87
108	127	0,29	386	0,39	807	0,47	1565	0,56	1900	0,84	2300	0,92
118	133	0,31	405	0,41	846	0,49	1640	0,58	2000	0,89	2400	0,97
128	140	0,32	423	0,43	884	0,52	1713	0,61	2100	0,94	2500	1,02
137	145	0,33	440	0,44	921	0,54	1783	0,63	2200	0,99	2600	1,07
147	151	0,35	457	0,46	956	0,56	1851	0,66	2300	1,04	2700	1,12
157	156	0,36	474	0,48	990	0,58	1916	0,68	2400	1,09	2800	1,17
167	162	0,37	490	0,49	1023	0,6	1980	0,70	2500	1,14	2900	1,22
177	167	0,38	505	0,51	1056	0,62	2042	0,73	2600	1,19	3000	1,27
186	172	0,39	521	0,53	1087	0,63	2102	0,75	2700	1,24	3100	1,32
196	177	0,41	535	0,54	1118	0,66	2161	0,77	2800	1,29	3200	1,37
216	186	0,43	564	0,57	1177	0,69	2275	0,81	3000	1,37	3400	1,45
235	196	0,45	591	0,6	1234	0,72	2384	0,85	3200	1,45	3600	1,53
255	204	0,47	618	0,62	1288	0,75	2488	0,89	3400	1,53	3800	1,61
275	213	0,49	643	0,65	1341	0,78	2589	0,92	3600	1,61	4000	1,69
294	221	0,51	668	0,67	1391	0,81	2687	0,96	3800	1,69	4200	1,77
324	233	0,53	703	0,71	1464	0,85	2827	1,00	4000	1,77	4400	1,85
353	244	0,56	737	0,74	1534	0,89	2961	1,05	4200	1,85	4600	1,93
392	259	0,59	780	0,79	1624	0,95	3132	1,11	4400	1,93	4800	2,01
441	276	0,63	831	0,84	1729	1	3334	1,19	4600	2,01	5000	2,09
490	292	0,67	880	0,89	1829	1,07	3526	1,26	4800	2,09	5200	2,17
540	308	0,71	926	0,93	1924	1,12	3709	1,32	5000	2,17	5400	2,25
589	323	0,74	970	0,98	2016	1,17	3883	1,38	5200	2,25	5600	2,33
638	337	0,77	1012	1,02	2103	1,23	4051	1,44	5400	2,33	5800	2,41
687	351	0,8	1053	1,06	2188	1,27	4213	1,50	5600	2,41	6000	2,49
736	364	0,82	1093	1,1	2269	1,32	4369	1,55	5800	2,49	6200	2,57
785	377	0,87	1131	1,14	2348	1,37	4520	1,61	6000	2,57	6400	2,65
883	402	0,92	1204	1,21	2499	1,46	4808	1,71	6200	2,65	6600	2,73
981	425	0,98	1274	1,28	2642	1,54	5082	1,81	6400	2,73	6800	2,81
1079	448	1,03	1340	1,35	2778	1,61	5342	1,90	6600	2,81	7000	2,89
1177	469	1,08	1403	1,41	2908	1,69	5591	1,99	6800	2,89	7200	2,97
1275	489	1,12	1464	1,48	3033	1,77	5829	2,07	7000	2,97	7400	3,05
1373	509	1,17	1522	1,53	3153	1,84	6059	2,15	7200	3,05	7600	3,13
1471	528	1,21	1578	1,59	3269	1,9	6281	2,23	7400	3,13	7800	3,21
1570	547	1,25	1633	1,65	3381	1,97	6496	2,31	7600	3,21	8000	3,29
1669	564	1,29	1686	1,7	3490	2,03	6704	2,38	7800	3,29	8200	3,37
1766	582	1,33	1737	1,75	3596	2,09	6907	2,46	8000	3,37	8400	3,45
1864	599	1,38	1787	1,8	3699	2,15	7103	2,52	8200	3,45	8600	3,53
1962	615	1,41	1836	1,85	3799	2,21	7295					

12.0 FLOW TABLES

Tab. 5 Coefficients ξ of low resistance.

Name	Pressfitting	Pressure drops ζ	Drinkable water	Heating	Gas
Elbow or bend		0,7	X	X	X
Angle adapter		1,5		X	
Preformed pipe bridge		0,5	X	X	X
45°elbow		0,5	X	X	X
Reducer		0,2	X	X	X
Coupling, male adapter		0,1	X	X	X
Combination pipe		0,1	X	X	X
Tee Main flow from line into branch		1,3	X	X	X
Tee Main flow from branch into line		0,9	X	X	X
Tee Mainly through, some line into branch		0,3	X	X	X
Tee Mainly through, some branch into line		0,2	X	X	X
Tee, Counterflow from line into branch		1,5	X	X	X
Tee Counterflow from branch into line		3,0	X	X	X

12.0 FLOW TABLES

Tab. 6 Stainless steel pipes for drinkable water. Pressure drops Z as a function of speed v and addition of resistance values $\Sigma \xi$ at 10 °C temperature.

$\Sigma \xi$ v(m/s)	Pressure drop Z (mbar) due to minor losses																										
	0,2	0,4	0,6	0,8	1,0	1,2	1,4	1,6	1,8	2,0	2,5	3,0	3,5	4,0	4,5	5,0	5,5	6,0	6,5	7,0	7,5	8,0	8,5	9,0	9,5	10,0	
0,1	0,01	0,02	0,03	0,04	0,05	0,06	0,07	0,08	0,09	0,10	0,12	0,15	0,17	0,20	0,22	0,25	0,27	0,30	0,32	0,35	0,37	0,40	0,42	0,45	0,47	0,50	
0,2	0,04	0,08	0,12	0,16	0,20	0,24	0,28	0,32	0,36	0,40	0,45	0,50	0,55	0,60	0,65	0,70	0,75	0,80	0,85	0,90	1,00	1,10	1,20	1,30	1,40	1,50	
0,3	0,09	0,18	0,27	0,36	0,45	0,54	0,63	0,72	0,81	0,90	1,02	1,15	1,28	1,41	1,54	1,67	1,80	1,93	2,06	2,19	2,32	2,45	2,58	2,71	2,84	2,97	
0,4	0,16	0,32	0,48	0,64	0,80	0,96	1,12	1,28	1,44	1,60	1,80	2,00	2,20	2,40	2,60	2,80	3,00	3,20	3,40	3,60	3,80	4,00	4,20	4,40	4,60	4,80	
0,5	0,25	0,50	0,75	1,00	1,25	1,50	1,75	2,00	2,25	2,50	2,80	3,10	3,40	3,70	4,00	4,30	4,60	4,90	5,20	5,50	5,80	6,10	6,40	6,70	7,00	7,30	
0,6	0,36	0,72	1,08	1,44	1,80	2,16	2,52	2,88	3,24	3,60	4,00	4,50	5,00	5,50	6,00	6,50	7,00	7,50	8,00	8,50	9,00	9,50	10,00	10,50	11,00	11,50	
0,7	0,49	0,98	1,47	1,96	2,45	2,94	3,43	3,92	4,41	4,90	5,40	6,00	6,60	7,20	7,80	8,40	9,00	9,60	10,20	10,80	11,40	12,00	12,60	13,20	13,80	14,40	
0,8	0,64	1,28	1,92	2,56	3,20	3,84	4,48	5,12	5,76	6,40	7,00	7,60	8,20	8,80	9,40	10,00	10,60	11,20	11,80	12,40	13,00	13,60	14,20	14,80	15,40	16,00	
0,9	0,81	1,62	2,43	3,24	4,05	4,86	5,67	6,48	7,29	8,10	9,00	10,00	11,00	12,00	13,00	14,00	15,00	16,00	17,00	18,00	19,00	20,00	21,00	22,00	23,00	24,00	
1,0	1,00	2,00	3,00	4,00	5,00	6,00	7,00	8,00	9,00	10,00	11,00	12,00	13,00	14,00	15,00	16,00	17,00	18,00	19,00	20,00	21,00	22,00	23,00	24,00	25,00	26,00	
1,1	1,21	2,42	3,63	4,84	6,05	7,26	8,47	9,68	10,89	12,10	13,31	14,52	15,73	16,94	18,15	19,36	20,57	21,78	22,99	24,20	25,41	26,62	27,83	29,04	30,25	31,46	
1,2	1,44	2,88	4,32	5,76	7,20	8,64	10,08	11,52	12,96	14,40	15,84	17,28	18,72	20,16	21,60	23,04	24,48	25,92	27,36	28,80	30,24	31,68	33,12	34,56	36,00	37,44	
1,3	1,69	3,38	5,07	6,76	8,45	10,14	11,83	13,52	15,21	16,90	18,59	20,28	21,97	23,66	25,35	27,04	28,73	30,42	32,11	33,80	35,49	37,18	38,87	40,56	42,25	43,94	
1,4	1,96	3,92	5,88	7,84	9,80	11,76	13,72	15,68	17,64	19,60	21,56	23,52	25,48	27,44	29,40	31,36	33,32	35,28	37,24	39,20	41,16	43,12	45,08	47,04	49,00	50,96	
1,5	2,25	4,50	6,75	9,00	11,25	13,50	15,75	18,00	20,25	22,50	24,75	27,00	29,25	31,50	33,75	36,00	38,25	40,50	42,75	45,00	47,25	49,50	51,75	54,00	56,25	58,50	
1,6	2,56	5,12	7,68	10,24	12,80	15,36	17,92	20,48	23,04	25,60	28,16	30,72	33,28	35,84	38,40	40,96	43,52	46,08	48,64	51,20	53,76	56,32	58,88	61,44	64,00	66,56	
1,7	2,89	5,78	8,67	11,56	14,45	17,33	20,22	23,11	26,00	28,89	31,78	34,67	37,56	40,45	43,34	46,23	49,12	52,01	54,90	57,79	60,68	63,57	66,46	69,35	72,24	75,13	
1,8	3,24	6,48	9,72	12,96	16,20	19,44	22,67	25,91	29,15	32,39	35,63	38,87	42,11	45,35	48,59	51,83	55,07	58,31	61,55	64,79	68,03	71,27	74,51	77,75	80,99	84,23	
1,9	3,61	7,22	10,83	14,44	18,04	21,65	25,26	28,87	32,48	36,09	39,70	43,31	46,92	50,53	54,14	57,75	61,36	64,97	68,58	72,19	75,80	79,41	83,02	86,63	90,24	93,85	
2,0	4,00	8,00	12,00	16,00	19,99	23,99	27,99	31,99	35,99	39,99	43,99	47,99	51,99	55,99	59,99	63,99	67,99	71,99	75,99	79,99	83,99	87,99	91,99	95,99	99,99	103,99	
2,1	4,41	8,82	13,23	17,63	22,04	26,45	30,86	35,27	39,68	44,09	48,50	52,91	57,32	61,73	66,14	70,55	74,96	79,37	83,78	88,19	92,60	97,01	101,42	105,83	110,24	114,65	
2,2	4,84	9,68	14,52	19,35	24,19	29,03	33,87	38,71	43,55	48,39	53,23	58,07	62,91	67,75	72,59	77,43	82,27	87,11	91,95	96,79	101,63	106,47	111,31	116,15	120,99	125,83	
2,3	5,29	10,58	15,87	21,15	26,44	31,73	37,02	42,31	47,60	52,89	58,18	63,47	68,76	74,05	79,34	84,63	89,92	95,21	100,50	105,79	111,08	116,37	121,66	126,95	132,24	137,53	
2,4	5,76	11,52	17,27	23,03	28,79	34,55	40,31	46,07	51,82	57,58	63,34	69,10	74,86	80,62	86,38	92,14	97,90	103,66	109,42	115,18	120,94	126,70	132,46	138,22	143,98	149,74	
2,5	6,25	12,50	18,74	24,99	31,24	37,49	43,74	49,99	56,23	62,48	68,73	74,98	81,23	87,48	93,73	99,98	106,23	112,48	118,73	124,98	131,23	137,48	143,73	149,98	156,23	162,48	
2,6	6,76	13,52	20,27	27,03	33,79	40,55	47,31	54,06	60,82	67,58	74,34	81,10	87,86	94,62	101,38	108,14	114,90	121,66	128,42	135,18	141,94	148,70	155,46	162,22	168,98	175,74	
2,7	7,29	14,58	21,86	29,15	36,44	43,73	51,01	58,30	65,59	72,88	80,17	87,46	94,75	102,04	109,33	116,62	123,91	131,20	138,49	145,78	153,07	160,36	167,65	174,94	182,23	189,52	
2,8	7,84	15,68	23,51	31,35	39,19	47,03	54,86	62,70	70,54	78,38	86,22	94,06	101,90	109,74	117,58	125,42	133,26	141,10	148,94	156,78	164,62	172,46	180,30	188,14	195,98	203,82	
2,9	8,41	16,81	25,22	33,63	42,04	50,44	58,85	67,26	75,67	84,08	92,49	100,90	109,31	117,72	126,13	134,54	142,95	151,36	159,77	168,18	176,59	185,00	193,41	201,82	210,23	218,64	
3,0	9,00	17,99	26,99	35,99	44,99	53,99	62,99	71,99	80,99	89,99	98,99	107,99	116,99	125,99	134,99	143,99	152,99	161,99	170,99	179,99	188,99	197,99	206,99	215,99	224,99	233,99	242,99
3,1	9,61	19,21	28,82	38,43	48,04	57,64	67,25	76,86	86,47	96,08	105,69	115,29	124,90	134,51	144,12	153,73	163,34	172,95	182,56	192,17	201,78	211,39	220,99	230,60	240,21	249,82	
3,2	10,24	20,47	30,71	40,95	51,18	61,42	71,66	81,90	92,14	102,38	112,62	122,86	133,10	143,34	153,58	163,82	174,06	184,30	194,54	204,78	215,02	225,26	235,50	245,74	255,98	266,22	
3,3	10,89	21,77	32,65	43,53	54,41	65,29	76,17	87,05	97,93	108,81	119,69	130,57	141,45	152,33	163,21	174,09	184,97	195,85	206,73	217,61	228,49	239,37	250,25	261,13	272,01	282,89	
3,4	11,56	23,11	34,67	46,23	57,78	69,34	80,90	92,46	104,02	115,58	127,14	138,70	150,26	161,82	173,38	184,94	196,50	208,06	219,62	231,18	242,74	254,30	265,86	277,42	288,98	300,54	
3,5	12,25	24,50	37,06	49,62	62,18	74,74	87,30	99,86	112,42	124,98	137,54	150,10	162,66	175,22	187,78	200,34	212,90	225,46	238,02	250,58	263,14	275,70	288,26	300,82	313,38	325,94	
3,6	12,96	25,91	39,07	52,23	65,45	78,67	91,89	105,11	118,33	131,55	144,77	158,00	171,22	184,44	197,66	210,88	224,10	237,32	250,54	263,76	276,98	290,20	303,42	316,64	329,86	343,08	
3,7	13,69	27,37	41,54	55,71	69,88	84,05	98,22	112,39	126,56	140,73	154,90	169,07	183,24	197,41	211,58	225,75	239,92	254,09	268,26	282,43	296,60	310,77	324,94	339,11	353,28	367,45	
3,8	14,44	28,87	43,31	57,74	72,18	86,61	101,05	115,49	129,92	144,36	158,79	173,22	187,65	202,08	216,51	230,94	245,37	259,80	274,23	288,66	303,09	317,52	331,95	346,38	360,81	375,24	
3,9	15,21	30,41	45,81	61,21	76,61	91,99	107,38	122,77	138,16	153,55	168,94	184,33	199,72	215,11	230,50	245,89	261,28	276,67	292,06	307,45	322,84	338,23	353,62	369,01	384,40	399,79	
4,0	16,00	31,99	47,99	63,99	79,99	95,99	111,99	127,99	143,99	159,99	175,99	191,99	207,99	223,99	239,9												

12.0 FLOW TABLES

Tab. 7

Stainless steel pipes for gas.
Pressure drops Z as a function of speed v and addition of resistance values $\Sigma \xi$ at 10 °C temperature.

$\Sigma \xi$ v(m/s)	Pressure drop Z (mbar) due to minor losses																										
	0.3	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5	10.0	10.5	11.0	11.5	12.0	13.0	
1.0	0.0009	0.002	0.003	0.005	0.006	0.008	0.009	0.011	0.012	0.014	0.015	0.017	0.018	0.020	0.021	0.023	0.024	0.026	0.028	0.029	0.031	0.032	0.034	0.035	0.037	0.040	0.040
1.1	0.0011	0.002	0.004	0.006	0.007	0.009	0.011	0.013	0.015	0.017	0.019	0.020	0.022	0.024	0.026	0.028	0.030	0.033	0.035	0.037	0.040	0.042	0.044	0.046	0.048	0.051	0.057
1.2	0.0013	0.002	0.004	0.007	0.009	0.011	0.013	0.016	0.018	0.021	0.023	0.026	0.028	0.031	0.034	0.036	0.039	0.042	0.045	0.047	0.049	0.052	0.054	0.057	0.059	0.062	0.067
1.3	0.0016	0.003	0.005	0.008	0.010	0.013	0.016	0.021	0.024	0.027	0.030	0.033	0.036	0.041	0.044	0.047	0.051	0.055	0.059	0.063	0.067	0.071	0.074	0.077	0.080	0.083	0.090
1.4	0.0018	0.003	0.006	0.009	0.012	0.015	0.018	0.021	0.024	0.028	0.031	0.034	0.038	0.041	0.045	0.048	0.052	0.056	0.060	0.064	0.068	0.072	0.076	0.079	0.083	0.088	0.095
1.5	0.0021	0.003	0.007	0.010	0.014	0.017	0.021	0.024	0.028	0.031	0.035	0.039	0.043	0.047	0.051	0.055	0.059	0.063	0.067	0.071	0.074	0.078	0.082	0.086	0.090	0.094	0.102
1.7	0.0027	0.004	0.009	0.013	0.018	0.022	0.027	0.031	0.035	0.040	0.044	0.049	0.053	0.057	0.062	0.066	0.071	0.075	0.080	0.084	0.088	0.093	0.097	0.101	0.105	0.111	0.119
1.8	0.0030	0.005	0.010	0.015	0.020	0.025	0.030	0.035	0.040	0.045	0.050	0.055	0.060	0.065	0.069	0.074	0.079	0.084	0.089	0.094	0.099	0.104	0.109	0.114	0.119	0.129	0.144
1.9	0.0033	0.006	0.011	0.017	0.022	0.028	0.033	0.039	0.044	0.050	0.055	0.061	0.066	0.072	0.077	0.083	0.088	0.094	0.099	0.105	0.110	0.116	0.122	0.127	0.133	0.144	0.159
2.0	0.0037	0.006	0.012	0.018	0.024	0.031	0.037	0.043	0.049	0.055	0.061	0.067	0.073	0.080	0.086	0.092	0.098	0.104	0.110	0.116	0.122	0.128	0.135	0.141	0.147	0.159	0.175
2.1	0.0040	0.007	0.013	0.020	0.026	0.035	0.044	0.053	0.062	0.071	0.079	0.088	0.097	0.106	0.115	0.123	0.131	0.140	0.149	0.158	0.167	0.176	0.185	0.194	0.203	0.212	0.229
2.2	0.0049	0.008	0.016	0.024	0.032	0.040	0.049	0.057	0.065	0.073	0.081	0.089	0.097	0.105	0.113	0.121	0.129	0.138	0.146	0.154	0.162	0.170	0.178	0.186	0.194	0.210	0.210
2.3	0.0053	0.009	0.018	0.026	0.035	0.044	0.053	0.062	0.071	0.079	0.088	0.097	0.106	0.115	0.123	0.132	0.141	0.150	0.159	0.167	0.176	0.185	0.194	0.203	0.212	0.229	0.249
2.4	0.0057	0.010	0.019	0.029	0.038	0.048	0.057	0.067	0.077	0.086	0.096	0.105	0.115	0.124	0.134	0.143	0.153	0.163	0.172	0.182	0.191	0.201	0.210	0.220	0.230	0.249	0.269
2.5	0.0062	0.011	0.022	0.031	0.040	0.050	0.060	0.070	0.080	0.090	0.100	0.110	0.120	0.130	0.140	0.150	0.160	0.170	0.180	0.190	0.200	0.210	0.220	0.230	0.240	0.250	0.269
2.6	0.0067	0.012	0.024	0.033	0.043	0.053	0.063	0.073	0.083	0.093	0.103	0.113	0.123	0.133	0.143	0.153	0.163	0.173	0.183	0.193	0.203	0.213	0.223	0.233	0.243	0.253	0.269
2.7	0.0072	0.013	0.026	0.035	0.045	0.055	0.065	0.075	0.085	0.095	0.105	0.115	0.125	0.135	0.145	0.155	0.165	0.175	0.185	0.195	0.205	0.215	0.225	0.235	0.245	0.255	0.269
2.8	0.0077	0.014	0.028	0.037	0.047	0.057	0.067	0.077	0.087	0.097	0.107	0.117	0.127	0.137	0.147	0.157	0.167	0.177	0.187	0.197	0.207	0.217	0.227	0.237	0.247	0.257	0.269
2.9	0.0083	0.015	0.030	0.039	0.049	0.059	0.069	0.079	0.089	0.099	0.109	0.119	0.129	0.139	0.149	0.159	0.169	0.179	0.189	0.199	0.209	0.219	0.229	0.239	0.249	0.259	0.269
3.0	0.0088	0.016	0.032	0.041	0.051	0.061	0.071	0.081	0.091	0.101	0.111	0.121	0.131	0.141	0.151	0.161	0.171	0.181	0.191	0.201	0.211	0.221	0.231	0.241	0.251	0.269	0.289
3.1	0.0094	0.017	0.034	0.043	0.053	0.063	0.073	0.083	0.093	0.103	0.113	0.123	0.133	0.143	0.153	0.163	0.173	0.183	0.193	0.203	0.213	0.223	0.233	0.243	0.253	0.269	0.289
3.2	0.0100	0.018	0.036	0.045	0.055	0.065	0.075	0.085	0.095	0.105	0.115	0.125	0.135	0.145	0.155	0.165	0.175	0.185	0.195	0.205	0.215	0.225	0.235	0.245	0.255	0.269	0.289
3.3	0.0106	0.019	0.038	0.047	0.057	0.067	0.077	0.087	0.097	0.107	0.117	0.127	0.137	0.147	0.157	0.167	0.177	0.187	0.197	0.207	0.217	0.227	0.237	0.247	0.257	0.269	0.289
3.4	0.0112	0.020	0.040	0.049	0.059	0.069	0.079	0.089	0.099	0.109	0.119	0.129	0.139	0.149	0.159	0.169	0.179	0.189	0.199	0.209	0.219	0.229	0.239	0.249	0.259	0.269	0.289
3.5	0.0117	0.021	0.042	0.051	0.061	0.071	0.081	0.091	0.101	0.111	0.121	0.131	0.141	0.151	0.161	0.171	0.181	0.191	0.201	0.211	0.221	0.231	0.241	0.251	0.269	0.289	0.309
3.6	0.0123	0.022	0.044	0.053	0.063	0.073	0.083	0.093	0.103	0.113	0.123	0.133	0.143	0.153	0.163	0.173	0.183	0.193	0.203	0.213	0.223	0.233	0.243	0.253	0.269	0.289	0.309
3.7	0.0129	0.024	0.048	0.057	0.067	0.077	0.087	0.097	0.107	0.117	0.127	0.137	0.147	0.157	0.167	0.177	0.187	0.197	0.207	0.217	0.227	0.237	0.247	0.257	0.269	0.289	0.309
3.8	0.0135	0.025	0.050	0.059	0.069	0.079	0.089	0.099	0.109	0.119	0.129	0.139	0.149	0.159	0.169	0.179	0.189	0.199	0.209	0.219	0.229	0.239	0.249	0.259	0.269	0.289	0.309
3.9	0.0141	0.026	0.052	0.061	0.071	0.081	0.091	0.101	0.111	0.121	0.131	0.141	0.151	0.161	0.171	0.181	0.191	0.201	0.211	0.221	0.231	0.241	0.251	0.269	0.289	0.309	0.329
4.0	0.0147	0.028	0.056	0.065	0.075	0.085	0.095	0.105	0.115	0.125	0.135	0.145	0.155	0.165	0.175	0.185	0.195	0.205	0.215	0.225	0.235	0.245	0.255	0.269	0.289	0.309	0.329
4.1	0.0154	0.029	0.058	0.067	0.077	0.087	0.097	0.107	0.117	0.127	0.137	0.147	0.157	0.167	0.177	0.187	0.197	0.207	0.217	0.227	0.237	0.247	0.257	0.269	0.289	0.309	0.329
4.2	0.0162	0.030	0.060	0.069	0.079	0.089	0.099	0.109	0.119	0.129	0.139	0.149	0.159	0.169	0.179	0.189	0.199	0.209	0.219	0.229	0.239	0.249	0.259	0.269	0.289	0.309	0.329
4.3	0.0170	0.032	0.064	0.073	0.083	0.093	0.103	0.113	0.123	0.133	0.143	0.153	0.163	0.173	0.183	0.193	0.203	0.213	0.223	0.233	0.243	0.253	0.269	0.289	0.309	0.329	0.349
4.4	0.0178	0.034	0.068	0.077	0.087	0.097	0.107	0.117	0.127	0.137	0.147	0.157	0.167	0.177	0.187	0.197	0.207	0.217	0.227	0.237	0.247	0.257	0.269	0.289	0.309	0.329	0.349
4.5	0.0186	0.036	0.072	0.081	0.091	0.101	0.111	0.121	0.131	0.141	0.151	0.161	0.171	0.181	0.191	0.201	0.211	0.221	0.231	0.241	0.251	0.269	0.289	0.309	0.329	0.349	0.369
4.6	0.0194	0.038	0.076	0.085	0.095	0.105	0.115	0.125	0.135	0.145	0.155	0.165	0.175	0.185	0.195	0.205	0.215	0.225	0.235	0.245	0.255	0.269	0.289	0.309	0.329	0.349	0.369
4.7	0.0203	0.040	0.080	0.089	0.099	0.109	0.119	0.129	0.139	0.149	0.159	0.169	0.179	0.189	0.199	0.209	0.219	0.229	0.239	0.249	0.259	0.269	0.289	0.309	0.329	0.349	0.369
4.8	0.0212	0.042	0.084	0.093	0.103	0.113	0.123	0.133	0.143	0.153	0.163	0.173	0.183	0.193	0.203	0.213	0.223	0.233	0.243	0.253	0.269	0.289	0.309	0.329	0.349	0.369	0.389
4.9	0.0220	0.044	0.088	0.097	0.107	0.117	0.127	0.137	0.147	0.157	0.167	0.177	0.187	0.197	0.207	0.217	0.227	0.237	0.247	0.257	0.269	0.289	0.309	0.329	0.349	0.369	0.389
5.0	0.0230	0.046	0.092	0.101	0.111	0.121	0.131	0.141	0.151	0.161	0.171	0.181	0.191	0.201	0.211	0.221	0.231	0.241	0.251	0.269	0.289	0.309	0.329	0.349	0.369	0.389	0.409

Tab. 8

Carbon steel pipes for heating.
Pressure drops Z as a function of speed v and addition of resistance values $\Sigma \xi$ at 80 °C water temperature.

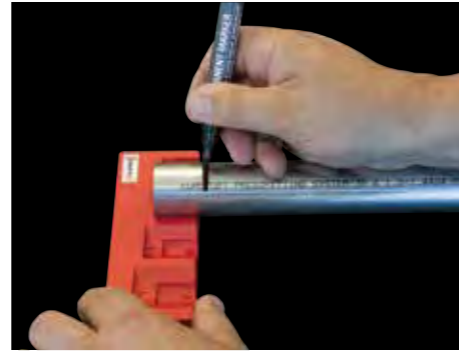
$\Sigma \xi$ v(m/s)	Pressure drop Z (mbar) due to minor losses																								
	0.2	0.4	0.6	0.8	1.0	1.2	1.4	1.6	1.8	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5
0.10	0.01																								



1. CUTTING: Cut the pipe using burr free approved cutters. Do not use oxy-acetylene or abrasive cut off wheels. Pipes must be cut at right angles to their axis, using a pipe cutter or fine-tooth saw, taking into account the depth of insertion into the fitting.



2. DEBURRING: All pipe cuts must be carefully deburred, both inside and outside, using a manual or electric deburring tool. Any cutting residue (swarf) must be removed to preclude damage to the O-ring when the pipe is inserted into the fitting, avoiding possible leaks.



3. WITNESS MARK INSERTION DEPTH: To ensure a correctly inserted joint the pipe must be marked with a fine-point felt -tip pen where it meets the fitting using the Europress depth gauge so that full insertion can be verified.



1. CUTTING: As per previous page
2. DEBURRING: All pipe cuts must be carefully deburred, both inside and outside, using a manual or electric deburring tool. Any cutting residue (swarf) must be removed to preclude damage to the O-ring when the pipe is inserted into the fitting, avoiding possible leaks.



3. WITNESS MARK INSERTION DEPTH: To ensure a correctly inserted joint, the pipe must be marked with a fine-point felt-tip pen.
42 & 54 Use the Europress depth gauge.
Large sizes use rule (pictured)
76.1 mark at 55mm
88.9 mark at 63mm
108 mark at 78mm
139.7 mark at 97mm
168.3 mark at 117mm



4. ASSEMBLE FITTING ON TUBE: Before assembling the fittings, the positioning of the o-rings must be checked and, if necessary, lubricate O-ring with water or talc to ease the insertion of the pipe. Never use oils, greases, glues or other similar substances. The pipe is inserted in the fitting with a slight rotating motion until it hits the stop.
Check pipe is fully inserted to witness mark



4. ASSEMBLE FITTING ON TUBE: Before assembling the fittings, the positioning of the O-rings must be checked and, if necessary, lubricate O-ring with water or talc to ease the insertion of the pipe. Never use oils, greases, glues or other similar substances. The pipe is inserted in the fitting with a slight rotating motion until it hits the stop.
Check pipe is fully inserted to witness mark



5. PRESS TOOL & JAW: The pressing tools must be equipped with M-shaped profile jaw attachments or pressing jaw corresponding to the diameter of the fitting to be pressed. Retract the lock pin, position the jaws into the tool head and ensure the lock pin is fully engaged.



6. POSITION PRESS JAW: Open the jaws by squeezing the two ends together, then position jaws over the fitting so that the internal channel of the jaws form a perfect fit round the toroidal seat of the fitting. Release the jaws and check for alignment.



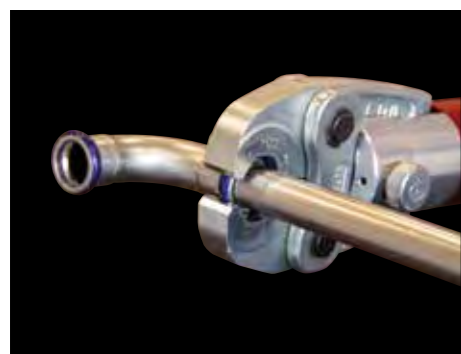
5. ATTACH PRESS COLLAR: The pressing collar must be M-shaped profile corresponding to the diameter of the fitting to be pressed. Retract the lock pin, open the jaws and position the jaws around the fitting.



6. LOCK COLLAR Ensure that the internal channel of the jaws form a perfect fit round the O-ring seat of the fitting. Ensure the lock pin is fully engaged.

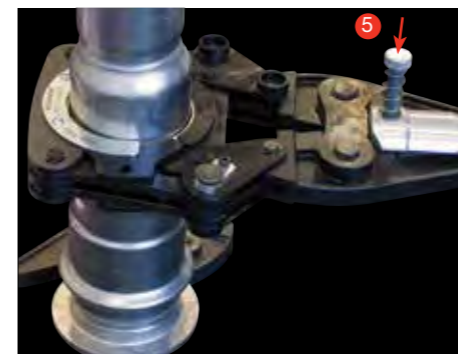


7. ATTACH ADAPTOR Squeeze the back of the adaptor arms together and hook onto the pressing collar

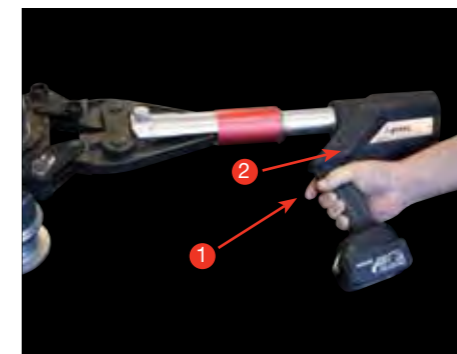


7. PRESS JOINT: Initiate the press cycle by squeezing the trigger ① - hold until press cycle is completed. Do not allow interruption to the press cycle. If the LED light ② comes on or warning beep sounds, the joint is NOT approved. If the hydraulic ram stops mid-cycle the automatic reset function can be manually overridden by depressing the reset button ③

Check L.E.D. light after each press. If it comes on, battery must be recharged or changed before attempting the next press. see trouble-shooting guide.



8. CONNECT PRESS TOOL Retract the lock pin, engage the adaptor and make sure lock pin is fully engaged.



Check witness mark for insertion and alignment before initialising press cycle.

9. PRESS JOINT. Initiate the press cycle by squeezing the trigger ① hold until press cycle is completed. Do not allow interruption to the press cycle. If the LED light comes on or warning beep sounds, the joint is NOT approved. If the hydraulic ram stops mid-cycle the automatic reset function can be manually overridden by depressing the reset button- ② Any tool malfunction check with our Technical dept. **Do not continue using tool without approval**

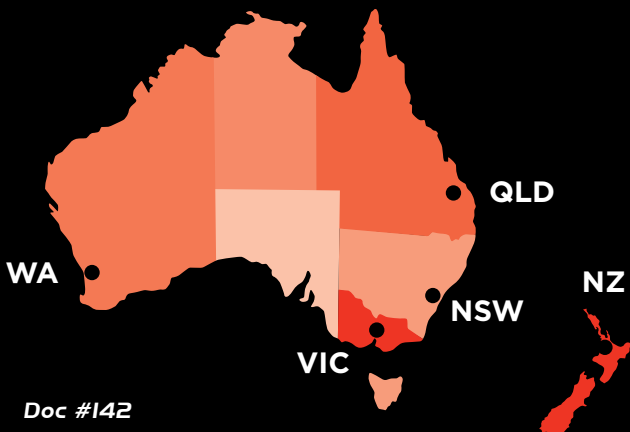
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