

STIRLING'S

PERFORMANCE STEELS

STAINLESS STEEL - DUPLEX - COPPER NICKEL - NICKEL ALLOYS

PRODUCT HANDBOOK

Last Update JAN 2023

DISCLAIMER

Whilst care was taken in the preparation of the data contained in this handbook, Stirlings Performance Steels accepts no liability for the accuracy of information supplied and should be used as a guide only.

TERMS & CONDITIONS OF SALE:

A full copy of Stirlings Performance Steels' Terms & Conditions of Sale document is available on:
www.stirlingsps.com

PRODUCT WARRANTY:

Stirlings Performance Steels warrants the quality of our products. Warranty liability extends to the value of the product supplied or the replacement of only, at Stirlings' option. Stirlings Performance Steels does not accept any claim for consequential loss.

Date: OCT 2022

Company Introduction

Stirlings Performance Steels has established itself as a highly recognised leading stockholder of Stainless Steel and Copper Nickel products. As an ISO 9001-2015 accredited company, Stirlings strives for continual improvement.

We have built our foundations on the commitment to provide integrity, innovation and flexibility to all our local and international customers. As a private company operating for four decades, we have a strong belief in value for the service we provide our customers.

With a focus on both domestic and international growth, you can be confident we will successfully provide global supply options for your requirements.

Through continuous improvement and investment, Stirlings has implemented a range of value-added services from our in-house processing to metro delivery solutions. We are committed to providing quality products and

innovative supply solutions to cater to each of our customer's needs.

Our comprehensive product lines of stainless steel and copper nickel are as diverse as the customers we serve. With an expansive network of suppliers globally, you can be assured we can locate even the hardest "hard to find" products.

Our Main Industries supplied include:

- Building & Architecture
- Engineering & Fabrication
- Food & Beverage
- Marine & Transport
- Resource & Construction

Moving toward the future, Stirlings will continue to strive for excellence in service, embrace & deliver technological improvements and work continuously to meet our customer requirements at all times.



Table of Contents

Company Introduction	3
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Service Brief

Shop	6
Material Processing	7
Heat Exchanger Supply	8
Project & Indent Supply	9
Despatch and Receiptal	10

Bar Products

Angle Bar	12
Channel Bar	13
Square Bar	13
Hollow Bar	14
Beam Bar & Section	15
Hex Bar	15
Flat Bar	16
Round Bar	17
Round Bar for Boat Shaft	18
Bar Product Technical Data	19

Flat Rolled Products

Coloured Stainless Steel Sheet	20
Pattern Sheet/Plate	21
Coil	21
Sheet	22
Perforated Sheet	23
Plate	24

Mesh

Woven Mesh	26
Welded Mesh	27
Modern Metal Mesh	28

Pipe & Fittings

Pipe - Seamless & Welded	29
Pipe Technical Data - Seamless & Welded	34
Buttweld Pipe Fittings	38
Buttweld Pipe Fittings Technical Data	49
Buttweld Reducing Pipe Fittings Technical Data	51
BSP Screwed Fittings & High Pressure Fittings	55
NPT Screwed Pressure Fittings	58
Outlet Fittings	60
Socket Weld Fittings	61
BSP, NPT, Outlet & Socket Weld Technical Data	62
Camlock Fittings	66

Flanges

ANSI Flanges	69
ANSI Flange Dimensions	75
AS 2129 Flange	78
AS 2129 Flange Dimensions	81
BS EN 1092-1 Flanges	82
AS 4087 Waterwork Flanges	86
Flange Blinds	89

Tube & Fittings

Seamless Round Tube	90
Welded Round Tube	91
Square Tube	93
Rectangular Sections SHS & RHS	94
Oval Tube	94
Round Slotted Tube	95
Square & Rectangular Slotted Tube	95
Flat Rectangular Tube Section	95
Buttweld Tube Fittings	96
Hygienic Fittings	98
Twin Ferrule Compression Fittings	99

Valves

Sample Valve	101
Relief Valves - Pressure/Vacuum	101
Hyg. Butterfly Valve	101
Industrial Ball Valves	102
Check Valve & Y-Strainer	102

Stainless Steel Manway Solutions

Manway	103
--------------	-----

Pressfit

inoxPRES (Stainless Steel)	108
marinePRES (Copper Nickel)	109

Balustrade Fittings

Balustrade Fittings	111
---------------------------	-----

Marine Hardware & Fasteners

Marine Hardware	114
Fasteners	114

Copper Nickel

Indent/Project Supply Capabilities	115
CuNi Pipe	116
CuNi Tees	117
CuNi Elbows	118
CuNi Reducers	119
CuNi Inner Flanges	121
Galvanised Backing Flanges	121
CuNi Sockets	122
CuNi Nipples	122
CuNi Hex Plug	123
CuNi End Cap	123

Technical Data

Recommended Filler Metals for Dissimilar Metal Joint Welding	124
Corrosion Chart	126
Commonly Used Stainless Steels	128
Pressure Conversion Charts	130

Shop

At Stirlings Performance Steels, we pride ourselves on our dedication to serving customers. Our committed team of sales staff is available Monday to Friday, to take your calls and assist you with any enquiry.

Stirlings now has a walk-in shop area located on site*. Stocking a large range of fittings, fasteners, balustrading, bar, pipe and tube, customers have full access to review the quality of stock with the help of our friendly staff.

If we don't stock it, we will find it for you! Our Shop Team are there to help you plan and deliver your next big DIY project. For professional advice and assistance visit the shop or call Stirlings for more.

* **No Minimum Orders** - All customers welcome, with no order too small.

* **Public Welcome** - Our shop sales are open to the public. And if you are more of a regular, you can open up an account for trade pricing and credit.

* **Technical Advice** - Our friendly sales team, are able to offer advice on product application and maintenance.

* Western Australia, Tasmania, Queensland & Victoria sites



Material Processing

Stirlings Performance Steels offers a range of material processing services. With inventory and machinery all under one roof, Stirlings provides high-quality finished products with fast turnaround. Stirlings can further source processing services including drilling, machining, guillotining & more. See following information for our current range of services.

LASER CUTTING

The Penta Bolt 12025 VII 20KW laser cutting machine is designed to precision cut sheet and plate. It also facilitates marking and engraving. Capabilities:

- 20KW Laser
- 0.55mm to 60mm thickness
- Cutting plate sizes up to 1200mm x 2500mm
- Fast Turnaround (inventory and processing are under one roof)
- Competitive Pricing
- Years of Experience
- Dedicated Stainless Cutting

BAND SAW CUTTING + COLD SAW

Stirlings Performance Steels has introduced a range of quality Bandsaws. From being able to cut 4.76mm Tube to 900NB Large Bore Pipe. Stirlings can cut Stainless Steel, Duplex, Nickel Alloy, Copper Nickel & more. Enquire now for your next cut job.

PLASMA CUTTING

Stirlings Performance Steels' high definition plasma cutter. Custom cuts profile shapes to your exact specification with finished edges superior to standard plasma cutters. Plasma cutting for plate 3mm to 80mm:

- Design Development + Nesting
- Estimating
- DXF file communication
- High-Quality edge finish
- Prompt and reliable service
- Plate sizes to 3.2mtr x 14mtr

POLISHING

We are able to polish round tube & pipe up to 114mm diameter, the mechanical polishing machine is capable of polishing a variety of finishes. With a choice between #180 and #320 upon inspection, the polishing service brings a convenience to customers requiring polished linear products.



Heat Exchanger Supply

Stirlings Performance Steels are specialist suppliers of Heat Exchanger Tubes in Australia, New Zealand & South East Asia. Our dedicated Project & Indent team provide years of industry knowledge and service specialising in a range of Heat Exchanger projects. Using globally recognized approved manufacturers, Stirlings can offer a door-door package from custom manufacturing to local delivery.

Stirlings Performance Steels can supply:

- Material Grade: Carbon Steel (A179/A210/A192, PG 235), Stainless Steel (304/316/310S/317/321/347) Duplex 2205 (UNS31803 /UNS32205) & Super duplex 2507 UNS32750 /UNS32760), Nickel Alloy (200/400/601/625 GR1 + GR2 /718/825), + Titanium, Copper Alloy's(UNS71500, C70600,

C68700, C44300/C44400/C44500) Chrome Moly & Other special alloys on request

- Straight Tubes
- U - Tubes
- Finning Applied G type, L + K + H, Extruded, Low fin/Integral
- Testing – Heat treatment (standard & custom requirements)
- Complete with material test certificates U tube & fin reports along with Heat treatment & dimensional reports (where applicable)
- Supplied according to the latest Specification Supplementary requirements & Addendum's.

Authorized Agent of Salem Tube International UK (10 Years): (Australia / New Zealand)
www.salemtube.net



Project & Indent Supply

Stirlings Performance Steels is a well-established Australian & international supplier of stainless & performance steel products.

Supported by an established network of international manufacturers, suppliers, stockists and logistics companies, we are confident of our abilities to assist you in sourcing virtually any specialised material, products & services.

With more than 45 years of experience, we pride ourselves on our reliability, understanding and service in Project & Indent supply. We understand the need to be flexible, and our experience allows us to foresee and prepare for any further requirements for projects.

Our expert team of professionals is dedicated to servicing this business and is committed to the success of the industries and the companies that serve them.

Stirlings is a customer-focused company committed to providing our customers with Top Quality Products, Excellent Value and Outstanding Service. Our Projects & Indent team offers door to door packages providing fast response, flexible logistics and strong industry knowledge & experience.

BAR

- Angle, Channel 304, 316
- Flat 304, 316, 2205
- Round 304, 316, 630, 2205, 2507, Aquamet 22, Nickel Alloys
- Square 304, 316

PLATE:

- 2205/2507/2101 Duplex
- 304, 304L, 304H, 347
- 316, 316L, 316Ti
- 253MA
- 321, 321H
- 310/S
- N08904 (904L)
- 625
- 825
- Monel 400
- Copper Nickel 90/10 + 70/30
- Titanium
- Carbon Steel Plate
- Plasma & Laser Cutting Service

FLANGES:

- AS2129 (Table Flanges)
- Table: D, E, F, H
- DIN – PN Metric, AS 4087
- ANSI CLASS 150 - 2500

BUTT-WELD FITTINGS:

- Welded & Seamless

PIPE:

- Welded & Seamless
- Large Bore Specialists
- 304, 316, 310, 321, S30815, 2205, 2507, Nickel Alloys, Carbon Steels

PRESSURE FITTINGS:

- 3000LB +

STRUCTURAL:

- Beams & Special Sections
- Pressed, Laser Welded
- Norsok Approved Product

Despatch and Receipt

Receipt

For product & goods coming into Stirlings Performance Steels, our Receipts Department was established to de-stuff, re-stock and review all products coming in from our vast catalogue of supply. The Receipts team handles each incoming package with care and specially made materials handling equipment. From there, the products are checked for quality purposes and relocated to the stock holding facility of the warehouse.

Despatch

Stirlings' Despatch Department has been established to ensure an efficient and safe means of product handling and transportation. The Despatch Department ensures that every order is checked by quality personnel and despatched through the appropriate form of transport.

Every order is treated with care and is packaged to ensure that all goods are transported safely and securely to the customer. Stirlings' despatch department can also arrange shipment via couriers and our own trucks for one-day delivery.

Delivery

We're proud to offer our reliable, friendly and efficient delivery service to our customers at one of the cheapest rates in the industry. We strive to achieve 100% customer satisfaction for our delivery service.

Our global network of couriers, logistic companies and suppliers also provide distribution and logistics services to wherever you are to ensure you get your order at the right location on time. If you need it, we'll find a way to get it to you.



STAINLESS STEEL

PRODUCT CATALOGUE

Pipe, Fittings & Flange

Seamless & Welded Pipe
Buttweld Pipe Fittings
BSP & NPT Screwed Fittings
Outlet Fittings
Socket Weld Fittings
ANSI Flanges
Table Flanges
PN Metric Flanges
AS 4087 Waterwork
Flanges
Flange Blinds

Tube & Fittings

Seamless Round Tube
Welded Round Tube
Square Tube
Rectangular Sections
Oval Tube
Slotted Tube
Buttweld Tube Fittings
Hygienic Fittings

Bar Products

Angle Bar
Channel Bar
Hollow Bar
Beam Bar & Section
Square Bar
Flat Bar
Round Bar
Round Bar for Boat Shaft
Hex Bar

Flat Rolled Products

Pattern Sheet/Plate
Coil
Sheet
Plate
Wire Mesh

Valves

Ball
Butterfly
Check

Manways



Angle Bar

Manufactured to ASTM A276/484.
 Hot Rolled Annealed and Pickled finish.
 Thicknesses from 3mm to 10mm.
 Lengths standard 6.0 metres. * Some sizes 1 & 2 metre lengths
 Unequal angles and cold formed angles upon request.



Size (mm)	304	316	Weight (kg/m)
	BA304	BA316	
3 x 20 x 20	●	●	0.90
25 x 25	●	●	1.15
30 x 30	●	●	1.40
40 x 40	●	●	1.85
50 x 50	●	●	2.45
5 x 25 x 25	●	●	1.80
30 x 30	○	●	2.20
40 x 40	●	●	3.00
50 x 50	●	●	3.80
6 x 25 x 25	○	●	2.20
30 x 30	○	●	2.90
40 x 40	●	●	3.55
50 x 50	●	●	4.50
65 x 65	●	●	5.95
75 x 75	●	●	7.00
100 x 100	●	●	9.90
8 x 50 x 50	○	●	6.00
65 x 65	○	●	7.87
75 x 75	○	●	9.30
10 x 50 x 50	○	●	7.50
75 x 75	●	●	11.20
100 x 100	●	●	16.20
150 x 150	○	●	23.67
12 x 100 x 100	○	●	17.67

Size (mm)	304	316	Weight (kg/m)
	BAU304	BAU316	
6 x 75 x 50	○	●	0.95
100 x 50	○	●	1.15
100 x 75	○	●	1.35
10 x 150 x 100	○	●	3.20

● Stocked Item ○ Market Available

Channel Bar

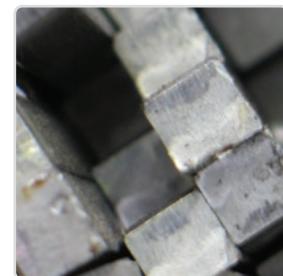
Manufactured to ASTM A276/484 or ASTM A240.
 Hot Rolled Annealed Pickled finish and Cold Formed.
 Lengths standard 6.0 metres.
 Non standard size/grade channels can be formed from plate. Please enquire.



Thickness (mm)	Web (mm)	Leg (mm)	304	316	Weight (kg/m)
			BC304	BC316	
3	40	20	○	○	1.61
3	50	25	○	○	2.09
5	80	40	●	●	5.53
6	100	50	●	●	8.34
6	130	65	○	○	11.19
6	150	75	●	●	13.08
10	200	100	○	○	28.44

Square Bar

Manufactured to ASTM A276/484.
 Cold drawn 6.0mm - 20mm.
 Hot Rolled, Annealed and Pickled 25mm and above.
 Lengths are available in 1m and 4m.



Size (mm)	304	316	Weight (kg/m)	304	316	Weight (kg/m)
	BS304	BS316			BS316	
6.00	○	○	0.25	○	○	3.15
6.35	○	●	0.31	○	○	4.92
9.52	○	●	0.71	○	●	5.08
10.00	○	○	0.78	○	○	7.94
12.00	○	○	1.13	○	○	8.00
12.70	○	●	1.27	○	●	11.43
15.88	○	●	1.98	●	●	12.60
16.00	○	●	2.01	○	●	19.70
19.05	○	●	2.85	○	○	20.33

● Stocked Item ○ Market Available

Hollow Bar

Manufactured to ASTM A511 / EN10294-1.

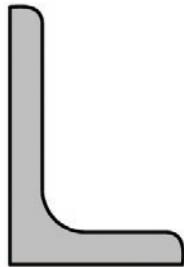
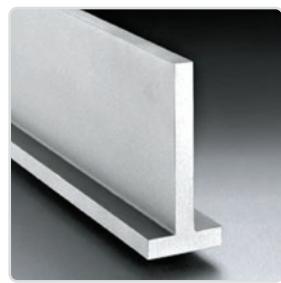


Size (mm)	316	Weight (kg/m)
OD x ID	BH316	
32 x 16	•	5.1
40 x 20	•	7.8
45 x 28	•	8.17
50 x 25	•	12.1
56 x 40	•	10.2
63 x 32	•	19.0
63 x 40	•	15.4
71 x 36	•	24.1
75 x 40	•	24.9
80 x 45	•	33.5
80 x 50	•	25.3
90 x 50	•	36.1
90 x 71	•	20.6
100 x 50	•	46.4
100 x 71	•	32.7
106 x 56	•	52.1
106 x 80	•	32.3
112 x 63	•	55.3
112 x 80	•	40.6
118 x 63	•	64.2
125 x 71	•	68.5
125 x 90	•	49.8
132 x 90	•	61.1
140 x 100	•	63.3
150 x 106	•	74.2
150 x 125	•	47.4
160 x 112	•	85.8
170 x 100	•	116.8
180 x 125	•	110.0
190 x 132	•	123.0
200 x 140	•	134.0
212 x 140	•	157.2

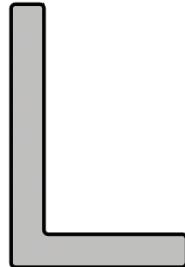
• Stocked Item ◊ Market Available

Beam Bar & Section

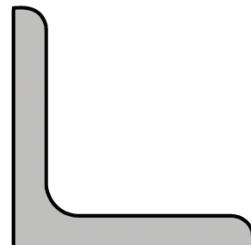
Stirlings Performance Steels can supply on request stainless steel section: in angle (equal & unequal), beam, channel, t section and profiles.
 Shell approved capability.
 Hot rolled, pressed, laser welded, cold rolled and form fit.



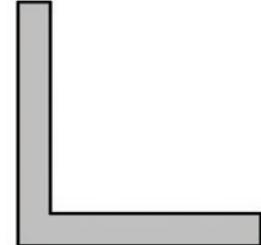
Unequal Angle Section
Internal Radius Round



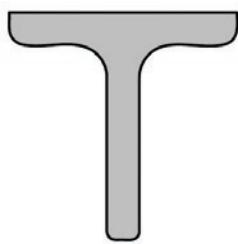
Unequal Angle Section
All Radius Sharp



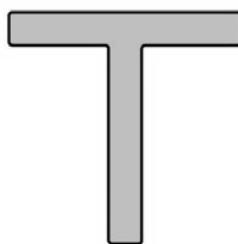
Angle Section
Internal Radius Round



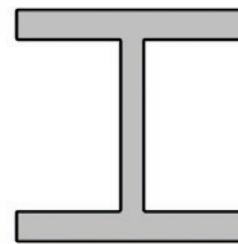
Angle Section
All Radius Sharp



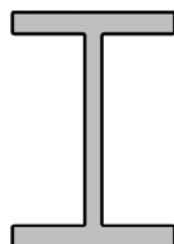
T Section
Internal Radius Round



T Section
All Radius Sharp



Beam Section 1



Beam Section 2

Hex Bar

Manufactured to ASTM A276/484.
 Cold drawn 4.75 - 18.03mm (across the flat).
 Hot Rolled, Annealed and Pickled 20.83mm and above (across the flat).
 Lengths are 4 - 6 metre randoms

Market Available only. Price on application.



Size (mm)	316	Approx Weight (kg/m)	Size (mm)	316	Approx Weight (kg/m)
	BX316		15.27	•	1.59
4.75	•	0.15	18.03	•	2.21
6.35	•	0.27	19.05	•	2.53
7.93	•	0.43	20.83	•	2.96
9.52	•	0.62	25.65	•	4.49
11.11	•	0.84	28.58	•	5.55
12.70	•	1.10	31.75	•	6.85
13.34	•	1.21	38.10	•	9.86

• Stocked Item ◊ Market Available

Flat Bar

Manufactured to ASTM A276/484.

Edge Condition - SRE Slit Rolled Edge / HRAP

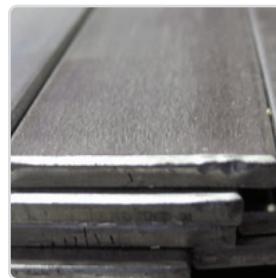
Finish - No1, 320#, Mirror Finish

Lengths: 4 metres: 3mm to 5mm thick.

6 metres: 6mm to 12mm thick.

5.8 metres: Mirror Finish

* Some sizes available in 1 & 2 metre lengths



Size (mm)	304/L No1	316/L No1	316/L No1	316/L #320	316/L Mirror	Weight (kg/m)	Size (mm)	304/L No1	316/L No1	316/L No1	316/L #320	316/L Mirror	Weight (kg/m)
	SRE	HRAP	Grit					SRE	HRAP	Grit			
BF304	BF316	BF316	BFP3316	BFP8316			8 x 40	○	●	○	○	○	2.50
3 x 12	○	●	○	○	○	0.28	8 x 50	○	●	○	●	○	3.15
3 x 20	○	●	○	●	○	0.47	8 x 65	○	○	○	○	○	4.10
3 x 25	●	●	○	○	○	0.59	8 x 75	○	●	○	○	○	4.73
3 x 30	●	●	○	●	○	0.70	8 x 100	○	●	○	○	○	6.31
3 x 40	●	●	○	○	○	0.94	8 x 150	○	●	○	○	○	9.46
3 x 50	●	●	○	●	○	1.18	10 x 20	○	○	●	○	○	1.57
3 x 100	●	○	○	○	○	2.36	10 x 25	●	○	●	○	○	1.97
5 x 20	●	●	○	○	○	0.78	10 x 30	○	●	○	○	○	2.36
5 x 25	●	●	○	●	○	0.98	10 x 40	●	●	○	●	○	3.15
5 x 30	●	●	○	○	○	1.18	10 x 50	●	●	○	●	●	3.94
5 x 40	●	●	○	○	○	1.57	10 x 65	○	●	○	○	○	5.12
5 x 50	●	●	○	●	○	1.97	10 x 75	●	●	○	●	○	5.91
5 x 65	●	○	○	○	○	2.56	10 x 100	●	●	○	●	○	7.88
5 x 75	●	●	○	○	○	2.95	10 x 150	●	●	○	○	○	11.83
5 x 100	○	●	○	○	○	4.15	10 x 200	●	●	○	○	○	15.77
6 x 12	○	○	○	○	○	0.56	12 x 25	○	○	●	○	○	2.36
6 x 20	○	○	○	●	○	0.94	12 x 40	○	○	○	○	○	3.78
6 x 25	●	●	○	○	○	1.18	12 x 50	●	●	●	○	○	4.73
6 x 30	○	●	○	○	○	1.41	12 x 65	○	○	○	○	○	6.15
6 x 40	●	●	○	○	○	1.89	12 x 75	●	●	●	○	○	7.09
6 x 50	●	●	○	●	○	2.36	12 x 100	○	●	●	○	○	9.46
6 x 65	●	●	○	○	○	3.07	12 x 150	○	●	●	○	○	14.19
6 x 75	●	●	○	●	○	3.54	12 x 200	○	●	○	○	○	19.15
6 x 100	●	●	○	●	○	4.73	16 x 75	○	○	●	○	○	8.83
6 x 150	●	●	○	○	○	7.10	16 x 100	●	○	●	○	○	12.62
6 x 200	●	●	○	○	○	9.46	16 x 150	○	○	●	○	○	19.15
							16 x 200	○	●	○	○	○	25.54
							20 x 50	○	○	●	○	○	7.88
							20 x 100	○	○	●	○	○	15.70

● Stocked Item ○ Market Available

Round Bar

Manufactured to ASTM A276/484.

Round Bar stocked in various finishes, including Cold Drawn Polished, Centerless Ground & Peeled. For more information, please contact our sales staff.

Random Lengths.

Other grades available on request.



Size (mm)	304	316	630	253MA *	2205	2507	Weight (kg/m)	Size (mm)	304	316	630	253MA *	2205	2507	Weight (kg/m)
	BR304	BR316	BR630	BR253	BR2205	BR2507			BR304	BR316	BR630	BR253	BR2205	BR2507	
3.18	●	●	○	○	○	○	0.06	65.00	○	●	○	○	○	●	26.32
3.97	○	○	○	○	○	○	0.09	69.85	○	●	●	○	●	○	30.20
4.76	●	●	○	○	○	○	0.14	70.00	●	●	○	○	○	○	33.01
5.00	○	○	○	○	○	○	0.15	75.00	○	●	○	○	○	●	35.04
6.00	●	●	○	●	○	○	0.22	76.20	●	●	●	○	●	○	35.94
6.35	●	●	○	○	○	○	0.25	80.00	○	●	○	○	●	●	39.70
7.94	●	●	○	○	○	○	0.39	82.55	○	○	●	○	○	○	42.18
8.00	●	○	○	●	○	○	0.39	88.90	○	●	●	○	●	○	48.92
9.52	●	●	○	○	○	○	0.56	90.00	○	○	○	○	○	○	50.14
10.00	●	●	○	●	●	○	0.61	95.25	○	●	○	○	○	○	56.52
11.11	○	○	○	○	○	○	0.76	100.00	○	○	○	○	○	○	61.90
12.00	●	●	○	●	○	○	0.89	101.60	●	●	●	○	●	●	63.89
12.70	●	●	○	○	●	○	0.99	114.30	○	●	●	○	●	○	80.86
14.29	●	○	○	○	○	○	1.26	120.00	●	●	○	○	○	○	88.73
15.88	●	●	○	○	○	●	1.56	120.65	○	○	●	○	○	○	90.16
16.00	●	●	○	●	●	○	1.58	127.00	○	●	○	○	○	○	99.83
19.05	●	●	○	○	○	○	2.24	130.00	●	○	○	○	●	●	112.41
20.00	●	●	○	●	●	●	2.47	139.70	○	○	○	○	○	○	120.80
22.00	○	●	○	○	○	○	2.99	140.00	○	●	○	○	○	○	121.50
22.22	○	●	○	○	○	○	3.05	150.00	●	●	○	○	●	●	141.50
24.00	○	●	○	○	○	○	3.56	152.40	○	○	●	○	○	○	143.76
25.00	○	●	○	●	●	●	3.86	160.00	○	○	○	○	○	○	157.83
25.40	●	●	○	○	○	●	3.99	170.00	●	●	○	○	●	○	178.08
28.58	○	○	○	○	○	○	5.05	177.80	○	○	○	○	○	○	195.70
30.00	○	●	○	○	●	●	5.57	180.00	○	●	○	○	○	●	203.28
31.75	●	●	●	○	●	○	6.23	195.00	○	○	○	○	○	○	234.44
34.93	○	●	○	○	○	○	7.55	200.00	●	○	○	○	●	●	251.50
35.00	○	○	○	○	○	○	7.58	203.20	○	●	○	○	○	○	255.60
38.10	○	●	○	○	●	○	8.98	210.00	○	○	○	○	○	○	271.89
40.00	●	●	○	●	●	●	9.90	220.00	○	○	○	○	○	●	301.53
44.45	○	●	●	○	●	●	12.23	228.60	○	○	○	○	○	○	323.50
45.00	○	○	○	○	○	●	12.62	230.00	○	●	○	○	●	○	325.97
47.62	○	○	○	○	○	○	14.03	240.00	○	●	○	○	○	●	355.13
48.00	○	○	○	○	○	○	14.26	250.00	○	●	○	○	●	○	385.13
50.00	○	●	○	●	○	●	15.47	254.00	○	○	○	○	○	○	399.90
50.80	●	●	●	○	●	○	15.97	270.00	○	○	○	○	●	○	452.00
55.00	○	○	○	○	○	●	18.85	280.00	○	●	○	○	○	●	483.10
57.15	○	●	●	○	●	○	20.21	300.00	○	○	○	○	●	○	558.00
60.00	●	●	○	○	○	○	23.02	304.00	○	●	○	○	○	○	569.47
62.00	○	○	○	○	○	○	23.79	310.00	●	○	○	○	○	○	590.94
63.50	●	●	●	○	●	○	24.95	325.00	○	○	○	○	●	○	655.00
								350.00	○	○	○	○	●	○	760.00

253MA® is a trademark owned by Outokumpu Stainless AB.

The standard grade designation covering this grade is UNS S30815. Other mills produce grades compliant with UNS S30815.

● Stocked Item ○ Market Available

Round Bar for Boat Shaft

Stirlings Performance Steels is a boat shaft specialist, with the ability to offer long lengths. We have a proven ability to source and supply boat shafts in specific grades.

Grades available include: 316L, 2205, 2507, 630, Aqua 17, 19, 22, and 22 High Strength.



With the capability to provide long length shafts, large diameter, various finishes and conditions, Stirlings are able to provide a personalised package for your requirements.



Grade Available:

Grade	Typical Ultimate Tensile Strength UTS	Yield Strength 0.2% Offset	Elongation	Pitting Resistance PREN
630	860 - 1100 MPa	725 - 900 MPa	16 - 21 %	18
316	515 - 620 MPa	205 - 360 MPa	30 - 60 %	24
2205	620 - 780 MPa	448 - 520 MPa	25 - 40 %	35
2507	730 - 960 MPa	530 - 670 MPa	25 - 40 %	43
Aqua 22 HS	795 - 1050 MPa	515 - 860 MPa	25 - 35 %	38

- Stocked Item ○ Market Available

Bar Product Technical Data

Angle Bar

Hot Finished to ASTM A276 / A484

Length of Leg	Length Tolerance
up to 150mm	± 3.0mm
over 150mm	± 5.0/-3.0mm

Flat Bar

Hot-finished (HRAP) to ASTM A276/484

Width (mm)	Thickness Tolerance (mm)			Width Tolerance (mm)
	3.2 to 13	over 13 to 25	over 25 to 50	
up to 25	± 0.20	± 0.25	-	± 0.40
over 25 to 50	± 0.30	± 0.40	± 0.80	± 0.80
over 50 to 100	± 0.40	± 0.50	± 0.80	+ 1.60 - 0.80
over 100 to 150	± 0.40	± 0.50	± 0.80	+ 2.40 - 1.60

Round Bar

Nominal Diameter	Typical Tolerance of Diameter (x)									
	6	7	8	9	10	11	12	13	14	
Up to 3	0.006	0.010	0.014	0.025	0.040	0.060	0.100	0.140	0.250	
Over 3 to 6	0.008	0.012	0.018	0.030	0.048	0.075	0.120	0.180	0.300	
Over 6 to 10	0.009	0.015	0.022	0.036	0.058	0.090	0.150	0.220	0.360	
Over 10 to 18	0.011	0.018	0.027	0.043	0.070	0.110	0.180	0.270	0.430	
Over 18 to 30	0.013	0.021	0.033	0.052	0.084	0.130	0.210	0.330	0.520	
Over 30 to 50	0.016	0.025	0.039	0.062	0.100	0.160	0.250	0.390	0.620	
Over 50 to 80	0.019	0.030	0.046	0.074	0.120	0.190	0.300	0.460	0.740	
Over 80 to 120	0.022	0.035	0.054	0.087	0.140	0.220	0.350	0.540	0.870	
Over 120 to 180	0.025	0.040	0.063	0.100	0.160	0.250	0.400	0.630	1.000	
Over 180 to 250	0.029	0.046	0.072	0.115	0.185	0.290	0.460	0.720	1.150	
Over 250 to 315	0.032	0.052	0.081	0.130	0.210	0.320	0.520	0.810	1.300	
Over 315 to 400	0.036	0.057	0.089	0.140	0.230	0.360	0.570	0.890	1.400	
Over 400 to 500	0.040	0.063	0.097	0.155	0.250	0.400	0.630	0.970	1.550	

h tolerance = (+0.0mm - x figure) ◆ j tolerance = (+ and -(x) figure) ◆ k tolerance = (+ x figure - 0.0mm)

e.g. Diameter tolerance is +0.0mm - 0.062mm for 38.1mm diameter round bar to h9 specification

Square & Hexagonal Bar

Cold finished to ASTM A276 / A582 / A484

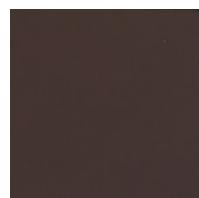
Specified Size (mm)	Size Tolerance (mm)
3.00 to less than 8.00	+ Nil, - 0.05
8.00 to less than 13.00	+ Nil, - 0.08
over 13.00 to 25.00	+ Nil, - 0.10
over 25.00 to 50.00	+ Nil, - 0.15
over 50.00 to 75.00	+ Nil, - 0.20
over 75.00	+ Nil, - 0.25

Coloured Stainless Steel Sheet

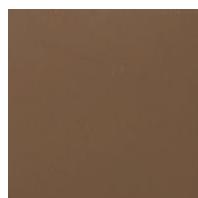
Description	Thickness (mm)	Width (mm)	Length (mm)	Grade	PE	Fibre Laser Film
Gold No4 Hairline #320Grit	1.2	1219	2500	304	PE	•
Gold No8 Mirror	1.2	1219	2500	304	Double PE	•
Rose Red Hairline #320Grit	1.2	1219	2500	304	PE	•
Rose Red No8 Mirror	1.2	1219	2500	304	Double PE	•
Rose Gold Hairline #320Grit	1.2	1219	2500	304	PE	•
Rose Gold No8 Mirror	1.2	1219	2500	304	Double PE	•
Jet Black Hairline #320Grit	1.2	1219	2500	304	PE	•
Jet Black No8 Mirror	1.2	1219	2500	304	Double PE	•
Bronze Hairline #320Grit	1.2	1219	2500	304	PE	•
Bronze No8 Mirror	1.2	1219	2500	304	Double PE	•
5WL Hairline #320Grit	1.2	1219	2500	304	PE	•
5WL Hairline #320Grit	1.2	1219	3000	304	PE	•
BA Linen	0.8	1219	2500	304	PE	•



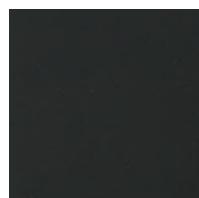
Gold



Rose Red



Rose Gold



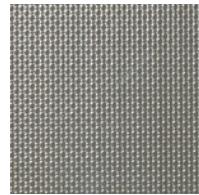
Jet Black



Bronze



5WL



BA Linen



No.8 Vs No.4

Stirlings Performance Steels offers a range of 'High Quality' sheet products, developed for architectural, building, marine, food and hospitality industries.

Stirlings' sheet range provides finish options with all the benefits of stainless steel.

Pattern sheets offer benefits over a normal sheet. Besides its high aesthetic appeal, it's increased in strength through the manufacturing process also means you can use thinner gauges (reducing weight) without sacrificing strength. It's very resilient to damage, disguising scratches and dents as well as reducing maintenance costs. These features make it great for use in:

- Bar Tops
- Bench Tops
- Canopies
- Conveyors

- Food chutes
- Interior and exterior cladding
- Lift doors
- Splashbacks
- Shop counters

Ultra Polish stainless steel sheet has a highly reflective mirror finish. It makes a great substitute for glass mirror due to its lightweight, and resistance to shattering.

This makes it ideal for applications such as :

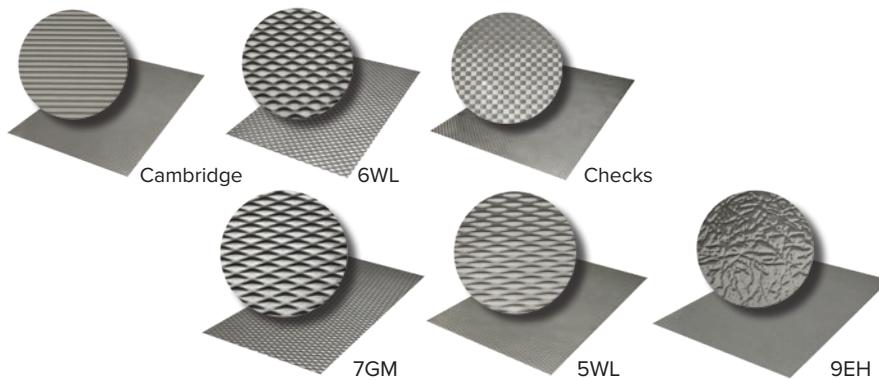
- Displays
- Feature Panels
- Interior and Exterior Cladding
- Lift Doors
- Mirrors

Call and have one of Stirlings' friendly sales teams show you the full range of our stainless steel sheets.

Pattern Sheet/Plate

Manufactured from ASTM A240/480 Sheet.

We can source a wide range of patterned sheets and other finishes for your project (Etched, Acid Etched, Embossed, Mirror, Stained, Coloured, Glass bead etc)



Grade 316 5WL Satin Sheet in stock

1.2mm 1220 x 2440mm

1.2mm 1220 x 3000mm

Coil

Manufactured to ASTM A240/480.

Finished to No. 4 or 2B.

Coil weights approx 1000kg for grade 304 No. 4.

Available through our worldwide range of suppliers and stockists.



Thickness		Width (mm)	Weight (kg/m ²)	304/L	304/L	316/L	316/L	430
Gauge	(mm)			2B	No.4 PVC	2B	No.4 PVC	C1SP430
24	0.55	900/914	4.44	○	○	○	○	○
		1200/1219 +		●	○	○	○	○
22	0.70	900/914	5.65	○	○	○	○	○
		1200/1219 +		●	●*	●	●	○
20	0.90	900/914	7.26	○	●	●	○	○
		1200/1219		○	●	○	●	○
18	1.2	750	9.68	○	●	○	○	○
		900/914		○	●	○	○	○
		1200/1219		○	●	○	●	●*
16	1.5/1.6	900/914	12.91	○	●	○	○	○
		1200/1219		○	●	○	●	○
		1500/1524		○	○	○	○	○
14	2.0	1200/1219	16.14	●	○	○	○	○
		1500/1524		○	○	○	○	○
12	2.5	1200/1219	20.18	○	○	○	○	○
		1500/1524		○	○	○	○	○
10	3.0	1200/1219	24.21	○	○	○	○	○
		1500/1524		○	○	○	○	○

* Ex Stock Tasmania + Paper Interleave

● Stocked Item ○ Market Available

Sheet

Manufactured to ASTM A240/480.

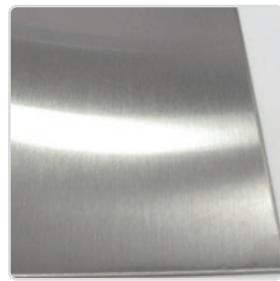
2B - Cold rolled, smooth, dull grey sheen.

No4 - Linished belt polish to Stirlings' specification.

Mirror - Mirror polished to Stirlings' specification.

Finish Protection

- 2B & No4 1xPE (polyethylene) coating suitable for laser fiber & laser CO2 cutting
- Mirror 2xPE (polyethylene)

**304**

Thickness (mm)	Width (mm)	Length (mm)	304 2B	304 2B Nude	304 No4	304 No4 Nude	304 Mirror	Approx Weight (kg/sheet)
			C5MS304	C5MS304...N	C5SP304	C5SP304...N	C5UP304	
0.45	1219	2438	● *		○			10.63
0.55	1219	2438	● +		● +			13.10
0.70	1219	2438	●		●			16.70
0.80	1219	2438	○		○		●	19.30
	1250	2500	○	● *	○			20.26
0.90	900	1800	○		●			11.80
	900	2438	○		●			15.80
	1219	2438	●		●			21.40
	1219	3000	○		●			26.70
	1219/1200	3600	○		●			32.00
	1500	3000	○		●			32.40
1.0	1219	2438	○		○		●	24.00
1.2	750	3000	○		●			21.90
	900	1800	○		●			15.80
	900	2438	○		●			21.00
	900	3000	○		●			26.30
	900/914	3600	○		●			31.80
	1219	2438	● +	●	●		●	28.50
	1219	3000	●		●		●	35.60
	1219	3600	○		●			53.22
	1219	4000	○		●			48.00
	1219	5000	○		●			60.00
	1500	2438	○		●			35.00
	1500	3000	●		●			43.80
	1500	3600	○		●			52.50
	1500	4000	○		●			59.04
	1500	5000	○		●			72.92
1.5	1219	2438	● +	●	●		●	35.60
	1219	3000	●		●			44.50
	1500	2438	●		●			44.98
	1500	3000	● +		●			55.20
	1500	4000	○		●			73.30
1.6	1500	3600	○		●			70.65
2.0	1219	2438	●		●		●	47.20
	1219	3000	●		●			59.30
	1500	2438	●		●			59.97
	1500	3000	●		●			72.90
2.5	1219	2438	●		○			59.30
3.0	1219	2438	●		●		●	69.80
	1219	3000	●		○			88.90
	1500	2438	●		●			89.96
	1500	3000	●	●	●			109.40

* Ex stock QLD and TAS

+ Paper Interleaved Available

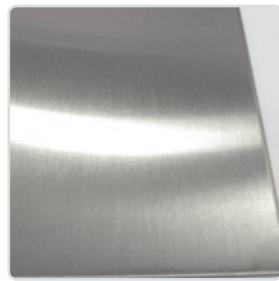
● Stocked Item ○ Market Available

Sheet

Manufactured to ASTM A240/480. All Sheet are fiber laser PVC
 2B - Cold rolled, smooth, dull grey sheen.
 No4 - Linished belt polish to Stirlings' specification.
 Mirror - Mirror polished to Stirlings' specification.

Finish Protection

- 2B & No4 1xPE (polyethylene) coating suitable for fiber & CO2 laser cutting
- Mirror 2xPE (polyethylene)



316

Thickness (mm)	Width (mm)	Length (mm)	316 2B	316 2B Nude	316 No4	316 No4 Nude	316 Mirror	Approx Weight (kg/sheet)
			C7316	C7316...N	C8316	C8316...N	C7UP316	
0.55	1220	2440	●		○			13.80
0.7	1220	2440	●		○			16.30
0.9	1219	2438	○	●	○			21.77
	1220	2440	●		●	●		20.94
1.2	1219	2438	○	●	○			29.30
	1220	2400	○		○		●	27.90
	1220	2440	●		●			28.50
	1220	3000	○		●			36.00
	1500	2438	○		●			35.98
	1500	3000	●		●			43.80
1.5	1220	2438	○		○		●	45.02
1.6	1219	2438	○	●	○			38.70
	1220	2440	●		●			37.20
	1500	2438	●		●			47.98
	1500	3000	●		●			58.10
	1500	3600	○		●			70.65
2.0	1219	2438	○	●	○			48.38
	1220	2400	○		○		●	46.50
	1220	2440	●		●			47.20
	1220	3000	●		○			57.70
	1500	2438	●	●	○			59.97
	1500	3000	●	●	●			73.59
2.5	1220	2400/2440	●		○			58.20
	1500	3000	●		○			87.20
3.0	1200/1220	1200	●		○			34.90
	1220	2400	○		○		●	69.80
	1220	2438	○		●			69.80
	1220	2440	●		○			69.80
	1220	3000	●		○			87.20
	1500	2438	●		○			89.96
	1500/1524	3000	●		●			110.00

Please refer to "Plate" for thickness 4.0 mm to 50.0 mm

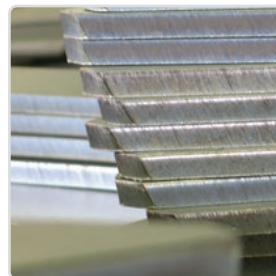
Perforated Sheet

Thickness (mm)	Width (mm)	Length (mm)	316 2B
C7P316			
0.9	1219	2438	●
			2.06 Holes x 3.1 Centres x 41% Open Area

● Stocked Item ○ Market Available

Plate

Manufactured to ASTM A240/480.
 Finished No.1, Hot Rolled Annealed and Pickled (HRAP).
 Finished 2B as shown.
 Plasma and Laser processing available.
 Alternative sizes and grades available upon request.
 Duplex plate manufactured to Norsok MDS D45 Rev3
 Super Duplex plate manufactured to Norsok MDS D55 Rev3



Thickness	Width (mm)	Length (mm)	Weight (kg/m ²)	kg Per Plate	304/ 304L No.1	304/ 304L 2B	304 Chequer Tread	310S	316/ 316L No.1	316/ 316L 2B	316 Chequer Tread
					CM304	CM304	CC304	CN310	CP316	CP316	CC316
3.0	1500	3000	24.60	110.70	○	●		○	○	●	
	1500	6000	24.60	221.40	●	○		●	○	○	
	2000	6000	24.60	295.20	○	●		●	○	●	
4.0	1219	2438	32.80	94.40	○	●		○	○	●	
	1500	3000	32.80	147.60	○	●		○	○	●	
	1500	6000	32.80	295.20	○	○		○	●	○	
	2000	6000	32.80	393.60	○	●		○	○	●	
5.0	1219	2438	41.00	118.00	○	●		○	○	●	
	1500	3000	41.00	184.50	○	●		○	●	●	
	1500	6000	41.00	369.00	●	○		○	●	●	
	2000	6000	41.00	492.00	●	○		○	●	○	
6.0	1219	2438	49.20	141.25	○	●		○	○	●	
	1500	3000	49.20	221.40	○	●		○	○	●	
	1524	3048	49.20	230.00	○	○	●	○	○	○	●
	1500	6000	49.20	442.80	●	○		○	●	○	
	2000	6000	49.20	590.40	●	○		●	●	○	
8.0	1219	2438	65.60	187.50	●	○		○	●	○	
	1500	3000	65.60	295.20	●	○		○	●	○	
	1500	6000	65.60	590.40	●	○		○	●	○	
	2000	6000	65.60	787.20	●	○		●	●	○	
10.0	1219	2438	82.00	255.00	●	○		○	●	○	
	1500	3000	82.00	369.00	●	○		○	●	○	
	1500	6000	82.00	738.00	●	○		○	●	○	
	2000	6000	82.00	984.00	●	○		●	●	○	
12.0	1500	6000	98.40	885.60	○	○		○	○	○	
	2000	6000	98.40	1180.80	●	○		●	●	○	
16.0	1500	6000	131.20	1180.80	○	○		○	○	○	
	2000	6000	131.20	1574.40	●	○		●	●	○	
20.0	1500	6000	164.00	1476.00	○	○		○	○	○	
	2000	6000	164.00	1968.00	●	○		○	●	○	
25.0	1500	6000	205.00	1845.00	○	○		○	○	○	
	2000	6000	205.00	2460.00	●	○		○	○	○	
32.0	2000	6000	264.40	3148.80	●	○		○	●	○	
40.0	2000	4000	328.00	2624.00	○	○		○	○	○	
	2000	6000	328.00	3936.00	●	○		○	●	○	
50.0	2000	4000	408.50	3268.00	○	○		○	○	○	
	2000	6000	408.50	4902.00	●	○		○	●	○	
65.0	2350	4000	531.90	5000.00	○	○		○	●	○	
80.0	2300	6000	656.00	9052.00	○	○		○	●	○	

● Stocked Item ○ Market Available

Plate

Manufactured to ASTM A240/480.
 Finished No.1, Hot Rolled Annealed and Pickled (HRAP).
 Finished 2B as shown.
 Plasma and Laser processing available.
 Alternative sizes and grades available upon request.
 Duplex plate manufactured to Norsok MDS D45 Rev3
 Super Duplex plate manufactured to Norsok MDS D55 Rev3

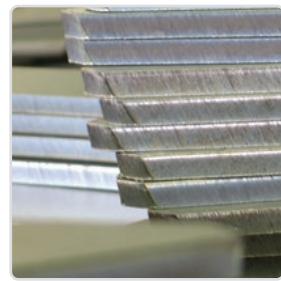


Plate (Continued)

Thickness	Width (mm)	Length (mm)	Weight (kg/m ²)	kg Per Plate	321	253 MA	Duplex 2205	Super Duplex 2507	904L	Copper Nickel
					CO321	CQ253MA	CL2205	CK2507	CT904L	CUNI9010
3.0	1500	3000	24.60	110.70	○	○	○	○	○	○
	1500	6000	24.60	221.40	○	○	○	●	○	○
	2000	6000	24.60	295.20	●	●	●	○	●	○
4.0	1500	3000	32.80	147.60	○	○	○	○	○	○
	1500	6000	32.80	295.20	○	○	●	○	○	○
	2000	6000	32.80	393.60	○	○	●	○	○	○
5.0	1500	3000	41.00	184.50	○	○	○	○	○	○
	1500	6000	41.00	369.00	○	○	○	○	○	○
	2000	6000	41.00	492.00	●	●	●	○	●	○
6.0	1200	2400	49.20	141.70	○	○	○	○	○	●
	1500	3000	49.20	221.40	○	○	○	○	○	○
	1500	6000	49.20	442.80	○	○	○	○	○	○
	2000	6000	49.20	590.40	●	●	●	●	●	○
8.0	1500	3000	65.60	295.20	○	○	○	○	○	○
	1500	6000	65.60	590.40	○	○	○	○	○	○
	2000	6000	65.60	787.20	●	●	●	●	●	○
10.0	1200	2400	82.00	236.16	○	○	○	○	○	●
	1500	3000	82.00	369.00	○	○	○	○	○	○
	1500	6000	82.00	738.00	○	○	○	○	○	○
	2000	6000	82.00	984.00	●	●	●	●	●	○
12.0	1200	2400	98.40	283.39	○	○	○	○	○	●
	1500	6000	98.40	885.60	○	○	○	○	○	○
	2000	6000	98.40	1180.80	●	●	●	●	●	○
13.0	1500	6000	106.60	959.40	○	○	○	○	○	○
	2000	6000	106.60	1279.20	○	○	○	○	○	○
16.0	1200	2400	131.20	377.86	○	○	○	○	○	●
	1500	6000	131.20	1180.80	○	○	○	○	○	○
	2000	6000	131.20	1574.40	●	●	●	●	●	○
20.0	1200	2400	164.00	472.32	○	○	○	○	○	●
	1500	6000	164.00	1476.00	○	○	○	○	○	○
25.0	1500	6000	164.00	1968.00	●	●	●	●	●	○
	2000	6000	205.00	1845.00	○	○	○	○	○	○
32.0	2000	4000	264.40	2115.20	○	○	○	○	○	○
	2000	6000	264.40	3148.80	●	●	●	●	○	○
40.0	2000	4000	328.00	2624.00	○	○	○	○	○	○
	2000	6000	328.00	3936.00	●	○	●	●	○	○
50.0	2000	3000	408.50	2451.00	○	○	○	●	○	○
	2000	4000	408.50	3268.00	○	○	●	○	○	○

● Stocked Item ○ Market Available

Woven Mesh

Available through our wide range of suppliers and stockists.
 All sizes listed are in mm.
 Custom sizes available upon request.

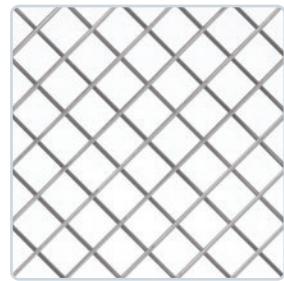


Approx Aperture	Wire Diameter	Open Area %	Availability	Approx Aperture	Wire Diameter	Open Area %	Availability
22.4	3.15	77	○	1.0	0.56	42	○
16	2.5	75	○	0.9	0.71	31	○
12.7	3.0	65	○	0.9	0.37	50	○
11.1	1.6	77	○	0.81	0.45	41	○
10.6	2.0	70	○	0.745	0.31	49	○
10	2.5	63	○	0.71	0.56	31	○
7	1.6	66	○	0.6	0.45	32	○
6.3	2.0	57	○	0.57	0.27	46	○
5.3	1.0	71	○	0.53	0.31	39	○
4.7	1.6	55	○	0.415	0.22	40	○
3.9	1.2	58	○	0.31	0.2	38	○
3.5	1.6	46	○	0.26	0.16	35	○
3.3	0.91	61	○	0.21	0.15	34	○
3	1.2	51	○	0.19	0.125	34	○
2.7	1.6	38	○	0.15	0.1	36	○
2.5	0.7	60	○	0.13	0.08	37	○
2.3	0.91	51	○	0.11	0.071	37	○
2.1	0.45	67	○	0.1	0.063	37	○
2	1.20	39	○	0.09	0.05	42	○
1.9	0.61	58	○	0.075	0.052	36	○
1.6	0.91	41	○	0.063	0.04	38	○
1.6	0.50	58	○	0.053	0.04	32	○
1.4	0.71	44	○	0.045	0.036	31	○
1.3	0.5	52	○	0.040	0.032	31	○
1.2	0.9	32	○	0.034	0.03	27	○
1.2	0.37	58	○	0.025	0.025	25	○
1.1	0.45	51	○				

● Stocked Item ○ Market Available

Welded Mesh

Available through our wide range of suppliers and stockists.
All sizes listed are in mm. Custom sizes available upon request.



Aperture	Wire Diameter	Pitch	Grade	Width (coil)	Availability
5.55	0.8	3.35	304	1220	○
9	1	10	304	1530	○
9.2	0.8	10	304	1220	○
11.1	1.6	12.7	304 & 316	1220	○
11.1	1.6	12.7	304	915	○
11.5	1.2	12.7	304	1220	○
16	2	18	304	1220	○
23.4	2	25.4	304 & 316	1220	○
23.8	1.6	25.4	304	1220	○
24.4	1	25.4	316	1220	○
48	2	50	316	1220	○

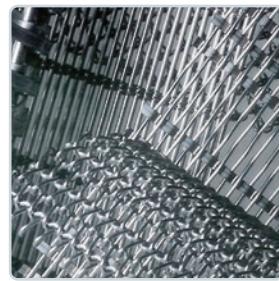
Aperture	Wire Diameter	Pitch	Grade	Size (Panels)	Availability
21.85	3.15	25	304	2000x1000	○
21.85	3.15	25	316	2500x1200	○
46	4	50	304	2000x1000	○
46	4	50	316	2500x1200	○
47	3	50	304	2500x1200	○
94	6	100	304	2500x1200	○
97	3.15	100	304	2500x1200	○
<hr/>					
YM					
Wire Mesh	3	50	304	2500x1200	●
Wire Mesh	3	25	304	2500x1200	●
Wire Mesh	3	50	316	2500x1200	●
Wire Mesh	3	25	316	2500x1200	●
Wire Mesh	3	25	316	600x500	●
Wire Mesh	3	50	316	600x500	●

● Stocked Item ○ Market Available

Modern Metal Mesh

Stirlings can source a wide range Architectural Stainless Mesh panels, belts and sheets. Modern Architectural Mesh can be used in a range of applications including architectural facades, filtering and conveyor systems.

Market Available, please enquire for more information.



Rigid



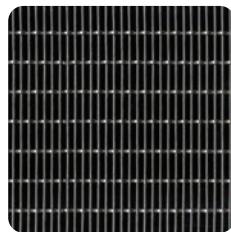
Plain Weave
Max Size: 1.5x3m
Weight: 4.5Kg /SQM
Opening: 43%



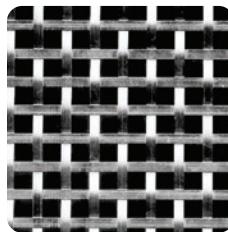
Galaxi
Max Size: 1.5x3m
Weight: 5.3Kg /SQM
Opening: 77%



Bambuu
Max Size: 1.5x3m
Weight: 5.6Kg /SQM
Opening: 45%



Tatuu
Max Size: 1.5x3m
Weight: 5.8Kg /SQM
Opening: 32%

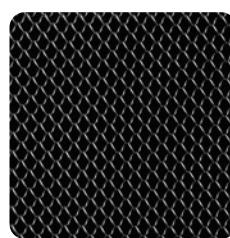


Kross
Max Size: 1.5x3m
Weight: 4.2Kg /SQM
Opening: 25%

Flexible



Arina
Max Size: 2x30m
Weight: 7.1Kg /SQM
Opening: 41%



Taqila
Max Size: 2x30m / 3x5m
Weight: 2.5Kg /SQM
Opening: 56%



Doffy
Max Size: 2x30m / 3x5m
Weight: 6.6Kg /SQM
Opening: 46%

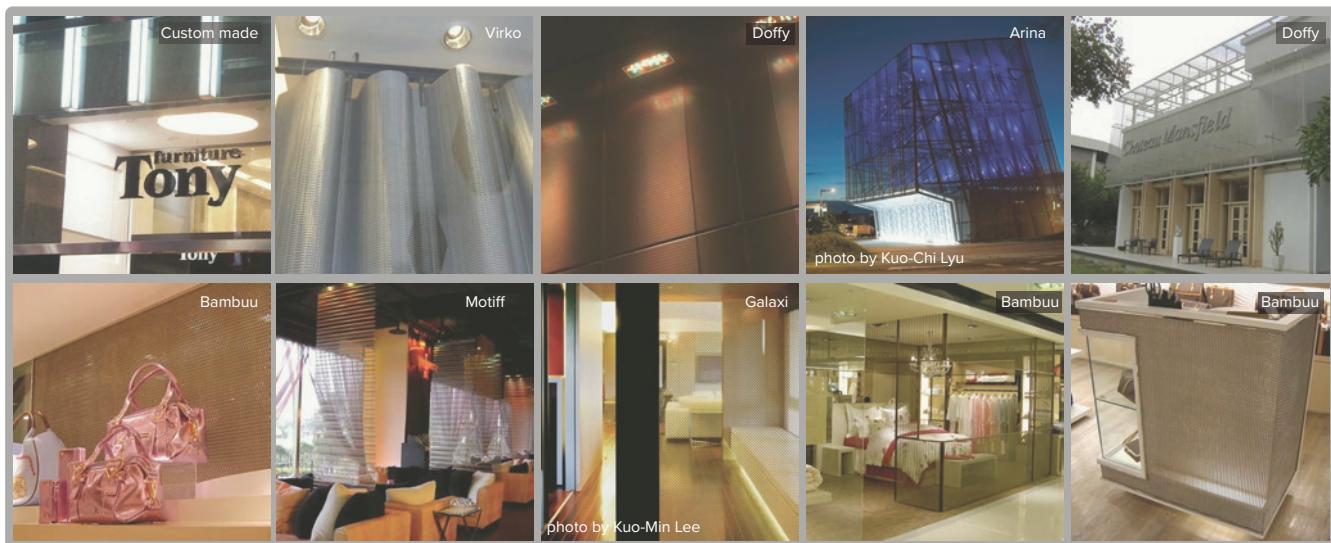


Motiff
Max Size: 2x30m
Weight: 13.2Kg /SQM
Opening: 54%



Virko
Max Size: 3x30m
Weight: 16.5Kg /SQM
Opening: 4%

Product Application Photos



Pipe - Seamless & Welded

Manufactured to ASTM A312

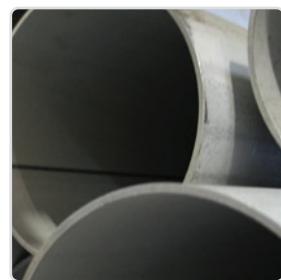
Welded pipe: Annealed, pickled and descaled.

Lengths 6.0 metres.

S31803 Duplex pipe manufactured to ASTM A790

S32750 Super Duplex manufactured to ASTM A790

Pipe Polishing & Bandsaw Cutting service available



	Nominal Bore inch (NPS)	mm (DN)	O.D. (mm)	W.T. (mm)	I.D. (mm)	Welded			Weight (kg/m)
						304/L	316/L	2205	
5S	½	15	21.34	1.65	18.04	○	○	○	0.80
	¾	20	26.67	1.65	23.37	○	○	○	1.03
	1	25	33.40	1.65	30.10	○	○	○	1.30
	1¼	32	42.16	1.65	38.86	○	○	○	1.65
	1½	40	48.26	1.65	44.96	○	○	○	1.91
	2	50	60.33	1.65	57.03	○	○	○	2.40
	2½	65	73.03	2.11	68.81	○	○	○	3.69
	3	80	88.90	2.11	84.68	○	○	○	4.52
	4	100	114.30	2.11	110.08	●	●	○	5.84
	5	125	141.30	2.77	135.76	●	○	○	9.47
	6	150	168.28	2.77	162.74	○	●	○	11.31
	8	200	219.08	2.77	213.54	○	●	○	14.79
	10	250	273.05	3.40	266.25	○	●	○	22.63
	12	300	323.85	3.96	315.93	○	●	○	31.25
	14	350	355.60	3.96	347.68	○	●	○	34.36
	16	400	406.40	4.19	398.02	○	●	○	41.56
	18	450	457.20	4.19	448.82	○	●	○	46.81
	20	500	508.00	4.78	498.44	○	●	○	59.25
	22	550	558.80	4.78	549.24	○	○	○	65.24
	24	600	609.60	5.54	598.52	○	●	○	82.47
	30	750	762.00	6.35	749.30	○	○	○	118.33

● Stocked Item ○ Market Available

Pipe - Seamless & Welded

Manufactured to ASTM A312

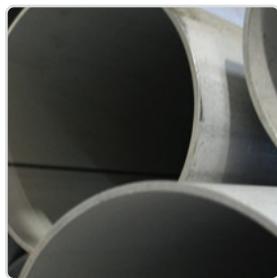
Welded pipe: Annealed, pickled and descaled.

Lengths 6.0 metres.

S31803 Duplex pipe manufactured to ASTM A790

S32750 Super Duplex manufactured to ASTM A790

Pipe Polishing & Bandsaw Cutting service available



Nominal Bore	inch (NPS)	mm (DN)	O.D. (mm)	Size W.T. (mm)	I.D. (mm)	Welded			Seamless			Weight (kg/m)
						304/L	316/L	2205	304/L	316/L	2205	
10S	1/4	8	13.72	1.65	10.42	○	○	○	○	○	○	0.48
	5/8	10	17.15	1.65	13.85	○	○	○	○	○	○	0.64
	1/2	15	21.34	2.11	17.12	●	●	○	●	●	●	1.01
	3/4	20	26.70	2.11	22.48	●	●	○	●	●	●	1.30
	1	25	33.40	2.77	27.86	●	●	○	●	●	●	2.12
	1 1/4	32	42.16	2.77	36.62	●	●	○	●	●	●	2.73
	1 1/2	40	48.26	2.77	42.72	●	●	○	●	●	●	3.15
	2	50	60.33	2.77	54.79	●	●	○	●	●	●	3.98
	2 1/2	65	73.03	3.05	66.93	●	●	○	●	●	●	5.34
	3	80	88.90	3.05	82.80	●	●	○	●	●	●	6.54
	3 1/2	90	101.60	3.05	95.50	○	●*	○	○	○	○	7.52
	4	100	114.30	3.05	108.20	●	●*	○	●	●	●	8.48
	5	125	141.30	3.40	134.50	●	●*	○	○	●	●	11.74
	6	150	168.30	3.40	161.50	●	●*	○	●	●	●	14.04
	8	200	219.08	3.76	211.56	●	●	○	●	●	●	20.25
	10	250	273.05	4.19	264.67	●	●	●	○	●	○	28.20
	12	300	323.85	4.57	314.71	●	●	○	○	○	○	36.53
	14	350	355.60	4.78	346.44	●	●	○	○	○	○	41.92
	16	400	406.40	4.78	396.84	●	●	○	○	○	○	47.99
	18	450	457.20	4.78	447.64	○	●	○	○	○	○	54.06
	20	500	508.00	5.53	496.94	●	●	○	○	○	○	69.62
	22	550	558.80	5.53	547.74	○	○	○	○	○	○	76.66
	24	600	609.60	6.35	596.90	○	●	○	○	○	○	95.86
	30	750	762.00	7.92	746.16	○	●	○	○	○	○	148.15

* Available in Polished 320#

● Stocked Item ○ Market Available

Pipe - Seamless & Welded

Manufactured to ASTM A312

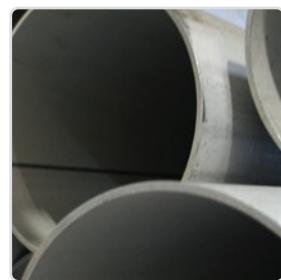
Welded pipe: Annealed, pickled and descaled.

Lengths 6.0 metres.

S31803 Duplex pipe manufactured to ASTM A790

S32750 Super Duplex manufactured to ASTM A790

Pipe Polishing & Bandsaw Cutting service available



Nominal Bore	Size	Welded					Seamless							Wgt						
		inch (NPS)	mm (DN)	O.D. (mm)	W.T. (mm)	I.D. (mm)	304/L	316/L	2205	2507	S30815*	304/L	316/L	2205	321	310	904L	S30815*	2507	(kg/m)
40S	1/4	8	13.72	2.24	9.24		○	●	○	○	○	○	●	○	○	○	○	○	○	0.64
	5/8	10	17.15	2.31	12.53		○	●	○	○	○	○	●	○	○	○	○	○	○	0.86
	1/2	15	21.34	2.77	15.80		●	●	○	○	○	○	●	●	●	○	○	●	●	1.29
	3/4	20	26.70	2.87	20.96		●	●	○	○	○	○	●	●	●	○	○	●	●	1.71
	1	25	33.40	3.38	26.64		●	●	○	○	○	○	●	●	●	●	●	●	●	2.54
	1 1/4	32	42.16	3.56	35.04		●	●	○	○	○	○	●	●	●	○	○	○	○	3.43
	1 1/2	40	48.26	3.68	40.90		●	●	○	○	○	○	●	●	●	○	○	●	●	4.11
	2	50	60.33	3.91	52.51		●	●	○	○	○	○	●	●	●	●	●	●	●	5.52
	2 1/2	65	73.03	5.16	62.71		●	●	○	○	○	○	●	●	●	○	○	○	●	8.76
	3	80	88.90	5.49	77.92		●	●	○	○	○	○	●	●	●	●	●	●	●	11.45
	3 1/2	90	101.60	5.74	90.12		○	●	○	○	○	○	○	○	○	○	○	○	○	13.77
	4	100	114.30	6.02	102.26		●	●	○	○	○	○	●	●	●	●	●	●	●	16.31
	5	125	141.30	6.55	128.20		●	●	○	○	○	○	○	●	●	○	○	○	○	22.10
	6	150	168.30	7.11	154.08		●	●	○	○	●	●	●	●	●	○	○	○	●	28.68
	8	200	219.08	8.18	202.72		●	●	○	○	●	●	●	●	○	○	○	○	●	43.16
	10	250	273.05	9.27	254.51		●	●	●	○	○	○	○	●	○	○	○	○	○	61.20
	12	300	323.85	9.53	304.79		○	●	○	○	○	○	○	●	○	○	○	○	○	74.92
Standard Wall																				
	14	350	355.60	9.53	336.54		○	●	○	○	○	○	○	○	○	○	○	○	○	81.33
	16	400	406.40	9.53	387.34		○	●	○	●	○	○	○	○	○	○	○	○	○	93.27
	18	450	457.20	9.53	438.14		○	●	○	●	○	○	○	○	○	○	○	○	○	105.16
	20	500	508.00	9.53	488.94		○	●	○	○	○	○	○	○	○	○	○	○	○	117.15
	22	550	558.80	9.53	539.74		○	○	○	○	○	○	○	○	○	○	○	○	○	129.13
	24	600	609.60	9.53	590.54		○	●	○	○	○	○	○	○	○	○	○	○	○	141.13
	26	650	660.40	9.53	641.34		○	○	○	○	○	○	○	○	○	○	○	○	○	152.87
	28	700	711.20	9.53	692.14		○	○	○	○	○	○	○	○	○	○	○	○	○	164.85
	30	750	762.00	9.53	742.94		○	○	○	○	○	○	○	○	○	○	○	○	○	176.84
	32	800	812.80	9.53	793.74		○	○	○	○	○	○	○	○	○	○	○	○	○	188.82
	34	850	863.60	9.53	844.54		○	○	○	○	○	○	○	○	○	○	○	○	○	200.31
	36	900	914.40	9.53	895.34		○	○	○	○	○	○	○	○	○	○	○	○	○	212.56
	38	950	965.20	9.53	946.14		○	○	○	○	○	○	-	-	-	-	-	-	-	224.59
	40	1000	1016	9.53	996.94		○	○	○	○	○	○	-	-	-	-	-	-	-	236.53

* Known in market as 253MA Outokumpu

● Stocked Item ○ Market Available

Pipe - Seamless & Welded

Manufactured to ASTM A312
 Welded pipe: Annealed, pickled and descaled.
 Lengths 6.0 metres.
 S31803 Duplex pipe manufactured to ASTM A790
 S32750 Super Duplex manufactured to ASTM A790
 Pipe Polishing & Bandsaw Cutting service available



Schedule - Nominal bore	inch (NPS)	mm (DN)	O.D. (mm)	W.T. (mm)	I.D. (mm)	Size				Weight (kg/m)
						304/L	316/L	2205	S30815*	
						PS304L	PS316L	PS22050	PS253MA	
80S	1/4	8	13.72	3.02	7.68	○	●	○	○	0.81
	5/8	10	17.15	3.20	10.75	○	●	○	●	1.12
	1/2	15	21.34	3.73	13.88	●	●	●	●	1.64
	3/4	20	26.70	3.91	18.88	●	●	●	○	2.23
	1	25	33.40	4.55	24.30	●	●	●	○	3.28
	1 1/4	32	42.16	4.85	32.46	○	●	●	○	4.53
	1 1/2	40	48.26	5.08	38.10	●	●	●	○	5.49
	2	50	60.33	5.54	49.25	●	●	●	●	7.59
	2 1/2	65	73.03	7.01	59.01	○	●	●	●	11.58
	3	80	88.90	7.62	73.66	●	●	●	○	15.50
	3 1/2	90	101.60	8.08	85.44	○	○	○	○	18.90
	4	100	114.30	8.56	97.18	●	●	●	○	22.65
	5	125	141.30	9.53	122.26	○	●	●	○	31.41
	6	150	168.30	10.97	146.36	●	●	●	○	43.19
	8	200	219.08	12.70	193.68	●	●	●	○	65.59
	10	250	273.05	12.70	247.65	○	●	○	○	81.55
	12	300	323.85	12.70	298.45	○	●	○	○	97.46
XS										
	14	350	355.60	12.70	330.20	○	○	○	○	107.39
	16	400	406.40	12.70	381.00	○	○	○	○	123.30
	18	450	457.20	12.70	431.80	○	○	○	○	139.15
	20	500	508.00	12.70	482.60	○	○	○	○	155.12
	22	550	558.80	12.70	533.40	○	○	○	○	171.09
	24	600	609.60	12.70	584.20	○	○	○	○	187.06

* Known in market as 253MA Outokumpu

● Stocked Item ○ Market Available

Pipe - Seamless & Welded

Manufactured to ASTM A312

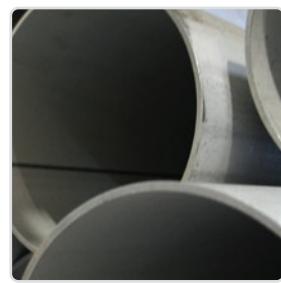
Welded pipe: Annealed, pickled and descaled.

Lengths 6.0 metres.

S31803 Duplex pipe manufactured to ASTM A790

S32750 Super Duplex manufactured to ASTM A790

Pipe Polishing & Bandsaw Cutting service available



Schedule - Nominal bore	inch (NPS)	mm (DN)	O.D. (mm)	Size W.T. (mm)	I.D. (mm)	Seamless			Weight (kg/m)
						316/L	2205	321	
PS316L160									
160	½	15	21.34	4.78	11.78	●	○	○	1.98
	¾	20	26.70	5.56	15.58	●	○	○	2.94
	1	25	33.40	6.35	20.70	●	○	○	4.30
	1¼	32	42.16	6.35	29.46	○	○	○	5.69
	1½	40	48.26	7.14	33.98	●	○	○	7.34
	2	50	60.33	8.74	42.85	●	○	○	11.28
	2½	65	73.03	9.53	53.97	○	○	○	15.14
	3	80	88.90	11.13	66.64	●	○	○	21.65
	4	100	114.30	13.49	87.32	●	○	○	34.02
	5	125	141.30	15.88	109.54	○	○	○	49.83
	6	150	168.30	18.26	131.78	●	○	○	68.56
	8	200	219.08	23.01	173.06	○	○	○	112.90
	10	250	273.05	28.58	215.89	○	○	○	174.82
	12	300	323.85	33.32	257.21	○	○	○	242.28

Schedule - Nominal bore	inch (NPS)	mm (DN)	O.D. (mm)	Size W.T. (mm)	I.D. (mm)	Seamless			Weight (kg/m)
						316/L	2205	321	
XXS									
XXS	½	15	21.34	7.47	6.40	○	○	○	1.98
	¾	20	26.70	7.82	11.03	○	○	○	2.94
	1	25	33.40	9.09	15.22	○	○	○	4.30
	1¼	32	42.16	9.70	22.76	○	○	○	5.69
	1½	40	48.26	10.16	27.94	○	○	○	7.34
	2	50	60.33	11.07	38.19	○	○	○	11.28
	2½	65	73.03	14.02	44.99	○	○	○	15.14
	3	80	88.90	15.24	58.42	○	○	○	21.65
	4	100	114.30	17.12	80.06	○	○	○	34.02
	5	125	141.30	19.05	103.20	○	○	○	49.83
	6	150	168.30	21.95	124.38	○	○	○	68.56
	8	200	219.08	22.23	174.62	○	○	○	112.90
	10	250	273.05	25.40	222.25	○	○	○	174.82
	12	300	323.85	25.40	273.05	○	○	○	242.28

● Stocked Item ○ Market Available

Pipe Technical Data - Seamless & Welded

The following tables show the highest permissible internal pressure at 8 temperatures for steel grade 304L calculated according to the rules in ASME B31.3, Chemical Plant and Petroleum Refinery Piping.

The following formula has been used in the pressure calculations.

P	= Internal Pressure (psi)
t _{min}	= Minimum allowance wall thickness (inches)
S	= Allowable stress (psi) - Refer ASME 31.3 Table A-1
OD	= Nominal outside diameter (inches)
E _j	= Joint quality factor. (Refer ASME 31.3 Table A-1A, A-1B)
Y	= Wall thickness coefficient. 0.4 when t _{min} < OD/6

$$P = \frac{2 S \times E_j \times t_{min}}{OD - (2 Y t_{min})}$$

Longitudinal Weld Joint Quality Factor (E_j)

ASTM specification	A312	A358	A790	A928
0 % radiographed				
Single butt weld	0.8	-	0.8	-
Double butt weld. Class 2				
Double butt weld. Class 2	0.85	0.85	0.85	0.85
Spot radiographed				
Double butt weld. Class 5	-	0.9	-	0.9
100 % radiographed				
Single or double butt weld.	1.0	1.0	1.0	1.0
Class 1,3,4				

Applicable ASTM-specifications

Steel type	Pipe No Filler	Pipe with Filler	Tube
Austenitic	A312	A358	A269
Duplex	A790	A928	A789

Highest permissible pressure for other grades can be calculated by multiplying the maximum allowable pressure for 304L by the coefficient for the relevant grade and temperature.

Coefficients for obtaining highest permissible pressures for other steel grades.

	<=200	300	400	500	600	700	800	900
°F	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
°C	<=93	149	204	260	316	371	427	482
304L	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
304	1.20	1.20	1.18	1.18	1.17	1.19	1.17	1.23
321	1.20	1.20	1.18	1.17	1.17	1.17	1.19	1.28
316L	1.00	1.00	0.98	0.97	0.96	0.96	0.95	0.99
316	1.20	1.20	1.22	1.21	1.21	1.21	1.22	1.30
2205	1.80	1.73	1.77	1.84	1.92	-	-	-
2507	2.10	1.98	2.02	2.12	2.23	-	-	-
253MA	1.41	1.28	1.26	1.25	1.28	1.30	-	-

Basic Allowable Stress BAS

	<=200	300	400	500	600	700	800	900
°F	16.7	16.7	15.8	14.8	14.0	13.5	13.0	11.9
°C	<=93	149	204	260	316	371	427	482
304L	16.7	16.7	15.8	14.8	14.0	13.5	13.0	11.9
304	20.0	20.0	18.7	17.5	16.4	16.0	15.2	14.6
321	20.0	20.0	18.6	17.3	16.4	15.8	15.5	15.2
316L	16.7	16.7	15.5	14.4	13.5	12.9	12.4	11.8
316	20.0	20.0	19.3	17.9	17.0	16.3	15.9	15.5
2205	30.0	28.9	27.9	27.2	26.9	-	-	-
2507	35.0	33.1	31.9	31.4	31.2	-	-	-
253MA	23.5	21.4	19.9	18.5	17.9	17.5	-	-

Pressure Temperature Chart

					304L ASTM A312				304L ASTM A358				
Wall Thickness Tolerance					-12.5%				-0.3mm				
Radiologic Test					0%				100%				
Joint Quality Factor (Ej)					0.8				1.0				
OD mm	NPS	Wall mm	SCH	ASTM	100°F 40°C	200°F 93°C	300°F 149°C	400°F 204°C	500°F 260°C	600°F 316°C	700°F 371°C	800°F 427°C	900°F 482°C
13.7	1/4	1.65	5S	A 312	212	212	212	201	188	178	171	165	151
17.2	3/8	1.65	5S	A 312	166	166	166	157	147	139	134	129	118
21.3	1/2	1.65	5S	A 312	132	132	132	125	117	111	107	103	94
21.3		2.11	10S	A 312	172	172	172	162	152	144	139	134	122
21.3		2.77	40S	A 312	231	231	231	218	204	193	186	180	164
26.7	3/4	1.65	5S	A 312	104	104	104	99	92	87	84	81	74
26.7		2.11	10S	A 312	135	135	135	128	120	113	109	105	96
26.7		2.87	40S	A 312	187	187	187	177	166	157	151	146	134
33.4	1	1.65	5S	A 312	82	82	82	78	73	69	67	64	59
33.4		2.77	10S	A 312	142	142	142	134	126	119	115	110	101
33.4		3.38	40S	A 312	176	176	176	166	156	147	142	137	125
42.2	1 1/4	1.65	5S	A 312	65	65	65	61	57	54	52	50	46
42.2		2.77	10S	A 312	111	111	111	105	98	93	90	86	79
42.2		3.56	40S	A 312	145	145	145	137	128	121	117	113	103
48.3	1 1/2	1.65	5S	A 312	56	56	56	53	50	47	46	44	40
48.3		2.77	10S	A 312	96	96	96	91	85	81	78	75	69
48.3		3.68	40S	A 312	130	130	130	123	115	109	105	101	92
60.3	2	1.65	5S	A 312	45	45	45	43	40	38	36	35	32
60.3		2.77	10S	A 312	77	77	77	72	68	64	62	60	55
60.3		3.91	40S	A 312	109	109	109	104	97	92	89	85	78
73.0	2 1/2	2.11	5S	A 312	48	48	48	45	42	40	38	37	34
73.0		3.05	10S	A 312	69	69	69	66	61	58	56	54	49
73.0		5.16	40S	A 312	120	120	120	113	106	100	97	93	85
88.9	3	2.11	5S	A 312	39	39	39	37	34	33	31	30	28
88.9		3.05	10S	A 312	57	57	57	54	50	48	46	44	40
88.9		5.49	40S	A 312	104	104	104	98	92	87	84	81	74
101.6	3 1/2	2.11	5S	A 312	34	34	34	32	30	28	27	26	24
101.6		3.05	10S	A 312	49	49	49	47	44	41	40	38	35
101.6		5.74	40S	A 312	95	95	95	90	84	79	77	74	68
114.3	4	2.11	5S	A 312	30	30	30	29	27	25	24	23	21
114.3		3.05	10S	A 312	44	44	44	41	39	37	35	34	31
114.3		6.02	40S	A 312	88	88	88	83	78	74	71	69	63
114.3		8.56	80S	A 358	177	177	177	167	157	148	143	138	126
141.3	5	2.77	5S	A 312	32	32	32	30	28	27	26	25	23
141.3		3.40	10S	A 312	39	39	39	37	35	33	32	31	28
141.3		6.55	40S	A 312	77	77	77	73	68	65	62	60	55
141.3		9.53	80S	A 358	159	159	159	150	141	133	128	124	113
168.3	6	2.77	5S	A 312	27	27	27	25	24	23	22	21	19
168.3		3.40	10S	A 312	33	33	33	31	29	28	27	26	24
168.3		7.11	40S	A 312	70	70	70	66	62	59	57	55	50
168.3		10.97	80S	A 358	154	154	154	146	136	129	124	120	110
219.1	8	2.77	5S	A 312	21	21	21	19	18	17	17	16	15
219.1		3.76	10S	A 312	28	28	28	26	25	23	23	22	20
219.1		6.35	20	A 312	48	48	48	45	42	40	39	37	34
219.1		8.18	40S	A 312	62	62	62	58	55	52	50	48	44
219.1	8	10.31	60	A 358	109	109	109	103	97	92	88	85	78
219.1		12.70	80	A 358	137	137	137	129	121	114	110	106	97
219.1		15.09	100	A 358	164	164	164	155	146	138	133	128	117
219.1		18.26	120	A 358	202	202	202	191	179	169	163	157	144

OD mm	NPS	Wall mm	SCH	ASTM	Max. allowable pressure in bar (1 bar = 14.50 psi)									
					100°F 40°C	200°F 93°C	300°F 149°C	400°F 204°C	500°F 260°C	600°F 316°C	700°F 371°C	800°F 427°C	900°F 482°C	
273.0	10	3.40	5S	A 312	20	20	20	19	18	17	16	16	14	
273.0		4.19	10S	A 312	25	25	25	24	22	21	20	19	18	
273.0		6.35	20	A 312	38	38	38	36	34	32	31	30	27	
273.0		9.27	40S	A 312	56	56	56	53	50	47	45	44	40	
273.0	10	12.70	60	A 358	109	109	109	103	96	91	88	84	77	
273.0		15.09	80	A 358	130	130	130	123	116	109	105	102	93	
273.0		18.26	100	A 358	160	160	160	151	142	134	129	124	114	
273.0		21.44	120	A 358	190	190	190	180	168	159	154	148	135	
323.9	12	3.96	5S	A 312	20	20	20	19	18	17	16	15	14	
323.9		4.57	10S	A 312	23	23	23	22	20	19	19	18	16	
323.9		6.35	20	A 312	32	32	32	30	28	27	26	25	23	
323.9		9.53	40S	A 312	48	48	48	46	43	41	39	38	35	
323.9	12	10.31	40	A 358	73	73	73	69	65	61	59	57	52	
323.9		12.70	XS	A 358	91	91	91	86	81	76	74	71	65	
323.9		14.27	60	A 358	103	103	103	97	91	86	83	80	73	
323.9		17.48	80	A 358	128	128	128	121	113	107	103	99	91	
323.9		21.44	100	A 358	159	159	159	150	141	133	128	123	113	
323.9		25.40	120	A 358	190	190	190	180	169	159	154	148	136	
355.6	14	3.96	5S	A 312	18	18	18	17	16	15	15	14	13	
355.6		4.78	10S	A 312	22	22	22	21	19	18	18	17	16	
355.6		6.35	10	A 312	29	29	29	28	26	24	24	23	21	
355.6	14	7.92	20	A 358	50	50	50	48	44	42	41	39	36	
355.6		9.53	30	A 358	61	61	61	58	54	51	49	48	43	
355.6		11.13	40	A 358	72	72	72	68	64	60	58	56	51	
355.6		12.70	XS	A 358	83	83	83	78	73	69	67	64	59	
355.6		15.09	60	A 358	99	99	99	94	88	83	80	77	71	
355.6		19.05	80	A 358	127	127	127	120	112	106	102	99	90	
355.6		23.83	100	A 358	161	161	161	152	143	135	130	125	115	
355.6		27.79	120	A 358	190	190	190	180	168	159	153	148	135	
406.4	16	4.19	5S	A 312	17	17	17	16	15	14	14	13	12	
406.4		4.78	10S	A 312	19	19	19	18	17	16	15	15	14	
406.4		6.35	10	A 312	25	25	25	24	23	21	21	20	18	
406.4	16	7.92	20	A 358	44	44	44	41	39	37	35	34	31	
406.4		9.53	30	A 358	53	53	53	50	47	45	43	41	38	
406.4		12.70	40	A 358	72	72	72	68	64	60	58	56	51	
406.4		16.66	60	A 358	96	96	96	91	85	80	77	75	68	
406.4		21.44	80	A 358	125	125	125	118	111	105	101	97	89	
406.4		26.19	100	A 358	155	155	155	146	137	130	125	120	110	
406.4		30.96	120	A 358	185	185	185	175	164	155	149	144	132	
457.0	18	4.19	5S	A 312	15	15	15	14	13	12	12	12	11	
457.0		4.78	10S	A 312	17	17	17	16	15	14	14	13	12	
457.0		6.35	10	A 312	23	23	23	21	20	19	18	18	16	
457.0	18	7.92	20	A 358	39	39	39	37	34	33	31	30	28	
457.0		9.53	30	A 358	47	47	47	45	42	40	38	37	34	
457.0		12.70	XS	A 358	64	64	64	60	57	54	52	50	46	
457.0		14.27	40	A 358	72	72	72	68	64	60	58	56	51	
457.0		17.48	-	A 358	89	89	89	84	79	75	72	69	64	
457.0		19.05	60	A 358	98	98	98	92	87	82	79	76	70	
457.0		23.83	80	A 358	124	124	124	117	110	104	100	96	88	
508.0	20	4.78	5S	A 312	15	15	15	14	14	13	12	12	11	
508.0		5.54	10S	A 358	22	22	22	21	20	19	18	17	16	
508.0		6.35	10	A 312	20	20	20	19	18	17	16	16	14	

OD mm	NPS	Wall mm	SCH	ASTM	Max. allowable pressure in bar (1 bar = 14.50 psi)									
					100°F 40°C	200°F 93°C	300°F 149°C	400°F 204°C	500°F 260°C	600°F 316°C	700°F 371°C	800°F 427°C	900°F 482°C	
508.0	20	9.53	20	A 358	42	42	42	40	38	36	34	33	30	
508.0		12.70	30	A 358	57	57	57	54	51	48	46	45	41	
508.0		15.09	40	A 358	69	69	69	65	61	58	55	53	49	
508.0		20.62	60	A 358	95	95	95	90	84	80	77	74	68	
508.0		26.19	80	A 358	122	122	122	116	108	103	99	95	87	
508.0		32.54	100	A 358	154	154	154	146	136	129	124	120	110	
610.0	24	5.54	5S	A 312	15	15	15	14	13	12	12	11	10	
610.0		6.35	10S	A 358	21	21	21	20	19	18	17	16	15	
610.0		9.53	20	A 358	35	35	35	33	31	30	29	27	25	
610.0		12.70	XS	A 358	48	48	48	45	42	40	38	37	34	
610.0		14.27	30	A 358	54	54	54	51	48	45	43	42	38	
610.0		17.48	40	A 358	66	66	66	63	59	56	54	52	47	
610.0		24.59	60	A 358	95	95	95	90	84	79	77	74	67	
610.0		30.94	80	A 358	121	121	121	114	107	101	97	94	86	
660	26	7.92	10	A 358	27	27	27	25	24	22	22	21	19	
660		9.53	STD	A 358	33	33	33	31	29	27	26	25	23	
660		12.70	20	A 358	44	44	44	42	39	37	36	34	31	
711	28	5.54	-	A 358	17	17	17	16	15	14	14	13	12	
711		6.35	-	A 358	20	20	20	19	17	17	16	15	14	
711		7.92	10	A 358	25	25	25	24	22	21	20	19	18	
711		9.53	STD	A 358	30	30	30	29	27	25	24	24	22	
711		12.70	20	A 358	41	41	41	39	36	34	33	32	29	
711		15.88	30	A 358	51	51	51	49	46	43	42	40	37	
762	30	6.35	5S	A 358	18	18	18	17	16	15	15	14	13	
762		7.92	10S	A 358	23	23	23	22	21	19	19	18	17	
762		9.53	STD	A 358	28	28	28	27	25	24	23	22	20	
762		12.70	20	A 358	38	38	38	36	34	32	31	30	27	
762		15.88	30	A 358	48	48	48	45	42	40	39	37	34	
813	32	7.92	10	A 358	22	22	22	21	19	18	18	17	15	
813		9.53	STD	A 358	26	26	26	25	23	22	21	21	19	
813		12.70	20	A 358	36	36	36	34	32	30	29	28	25	
864	34	5.54	-	A 358	14	14	14	13	12	12	11	11	10	
864		7.92	10	A 358	20	20	20	19	18	17	17	16	15	
864		9.53	STD	A 358	25	25	25	23	22	21	20	19	18	
864		12.70	20	A 358	33	33	33	32	30	28	27	26	24	
914	36	6.35	-	A 358	15	15	15	14	14	13	12	12	11	
914		7.92	10	A 358	19	19	19	18	17	16	16	15	14	
914		9.53	STD	A 358	23	23	23	22	21	20	19	18	17	
914		12.70	20	A 358	32	32	32	30	28	26	26	25	23	
965	38	7.92	-	A 358	18	18	18	17	16	15	15	14	13	
965		9.53	STD	A 358	22	22	22	21	20	19	18	17	16	
965		12.70	XS	A 358	30	30	30	28	26	25	24	23	21	
1016	40	6.35	-	A 358	14	14	14	13	12	12	11	11	10	
1016		7.92	-	A 358	17	17	17	16	15	15	14	14	12	
1016		9.53	STD	A 358	21	21	21	20	19	18	17	16	15	
1016		12.70	XS	A 358	28	28	28	27	25	24	23	22	20	
1067	42	7.92	-	A 358	17	17	17	16	15	14	13	13	12	
1067		9.53	STD	A 358	20	20	20	19	18	17	16	16	14	
1067		12.70	XS	A 358	27	27	27	26	24	23	22	21	19	

Buttweld Pipe Fittings - Schedule 10S

Manufactured to ASTM A403 WP-W & WP-S ASME B16.9
 Finished pickled
 Duplex Buttweld Fittings manufactured to A815
 Seamless S31803/S32205



Nominal Bore NPS (inch)	DN (mm)	90° Elbows Long Radius			90° Elbows Short Radius			90° Elbows Long Radius			45° Elbows			45° Elbows		
		FP9			FP9S			FPS9			FP4			FPS4		
		304L Welded	316L Welded	2205	316L Welded	304L Smls	S31803	304L Welded	316L Smls	2205	304L Welded	316L Smls	2205	304L Welded	316L Smls	S31803
10S	1/2 15	●	●	○	○	○	●	○	●	●	●	●	●	●	●	●
	3/4 20	●	●	○	○	○	●	○	●	●	●	●	●	●	●	●
	1 25	●	●	○	○	○	●	●	●	●	●	●	●	●	●	●
	1 1/4 32	●	●	○	○	●	●	●	●	●	●	●	●	●	●	○
	1 1/2 40	●	●	○	○	●	●	●	●	●	●	●	●	●	●	●
	2 50	●	●	○	●	●	●	●	●	●	●	●	●	●	●	●
	2 1/2 65	●	●	○	●	●	●	●	●	●	●	●	●	●	●	○
	3 80	●	●	○	●	●	●	●	●	●	●	●	●	●	●	●
	3 1/2 90	○	●	○	○	○	○	○	○	○	○	○	○	○	○	○
	4 100	●	●	○	●	●	●	●	●	●	●	●	●	●	●	●
	5 125	○	●	○	○	○	●	○	●	●	●	●	●	●	●	●
	6 150	●	●	○	●	●	●	●	●	●	●	●	●	●	●	●
	8 200	●	●	○	●	●	●	●	●	●	●	●	●	●	●	●
	10 250	●	●	●	●	●	●	○	●	●	○	●	●	●	●	○
	12 300	●	●	○	●	●	●	○	○	○	○	●	●	●	●	○
	14 350	○	●	○	●	●	●	○	○	○	○	●	●	●	●	○
	16 400	●	●	○	●	●	●	○	○	○	○	●	●	●	●	○
	18 450	○	●	○	●	●	●	○	○	○	○	●	●	●	●	○
	20 500	○	●	○	●	●	●	○	○	○	○	●	●	●	●	○
	24 600	○	●	○	●	●	●	○	○	○	○	●	●	●	●	○
	30 750	○	●	○	○	●	●	○	○	○	○	●	●	●	●	○

● Stocked Item ○ Market Available

Buttweld Pipe Fittings - Schedule 10S

Manufactured to ASTM A403 WP-W & WP-S ASME B16.9
 Finished pickled
 Duplex Buttweld Fittings manufactured to A815
 Seamless S31803/S32205



Nominal Bore	Equal Tee			Equal Tee			Stub End	Stub End	Cap	Cap
	FPT			FPST						
	304L	316L	2205	304L	316L	2205 S31803	316L	316L	316L Welded	316L Smis
NPS (inch)	DN (mm)	Welded								
10S	1/2 15	●	●	○	○	●	●	○	○	○
	3/4 20	●	●	○	○	●	●	○	○	○
	1 25	●	●	○	●	●	●	○	●	●
	1 1/4 32	●	●	○	●	●	●	○	○	●
	1 1/2 40	●	●	○	●	●	●	○	●	●
	2 50	●	●	○	●	●	●	○	●	●
	2 1/2 65	●	●	○	●	●	●	○	●	●
	3 80	●	●	○	●	●	●	○	●	●
	3 1/2 90	○	●	○	○	○	○	○	○	○
	4 100	●	●	○	●	●	●	○	●	●
	5 125	●	●	○	○	●	●	○	●	●
	6 150	●	●	○	●	●	●	○	●	●
	8 200	●	●	○	●	●	●	○	●	●
	10 250	●	●	●	○	○	○	○	●	●
	12 300	●	●	○	○	○	○	○	○	●
	14 350	○	●	○	○	○	○	○	○	●
	16 400	●	●	○	○	○	○	○	○	●
	18 450	○	●	○	○	○	○	○	○	●
	20 500	○	●	○	○	○	○	○	○	●
	24 600	○	●	○	○	○	○	○	○	●

● Stocked Item ○ Market Available

Buttweld Pipe Fittings - Schedule 40S & STD

Manufactured to ASTM A403 WP-W & WP-S ASME B16.9
 Finished pickled
 Duplex Buttweld Fittings manufactured to A815
 Seamless S31803/S32205



Nominal Bore	90° Elbows Long Radius	90° Elbows Short Radius	90° Elbows Long			45° Elbows		45° Elbows	
			FP9	FP9S	FPS9	FP4	FPS4	2205	2507
			304L	316L	2205 2507	316L	304L	316L	S31803S32750
NPS (inch)	DN (mm)								
40S	1/2	15	●	●	○ ○	○	○ ● ○ ○	●	● ○ ○ ○
	3/4	20	●	●	○ ○	○	○ ● ○ ○	●	● ○ ○ ○
	1	25	●	●	○ ○	○	● ● ○ ○	●	● ○ ○ ○
	1 1/4	32	○	●	○ ○	○	● ● ○ ○	●	● ○ ○ ○
	1 1/2	40	●	●	○ ○	○	● ● ○ ○	●	● ○ ○ ○
	2	50	●	●	○ ○	●	● ● ○ ○	●	● ○ ○ ○
	2 1/2	65	○	●	○ ○	●	● ● ○ ○	●	● ○ ○ ○
	3	80	●	●	○ ○	●	● ● ○ ○	●	● ○ ○ ○
	3 1/2	90	○	●	○ ○	○	○ ○ ○ ○	○	○ ○ ○ ○
	4	100	●	●	○ ○	●	● ● ○ ○	●	● ○ ○ ○
	5	125	●	●	○ ○	○	○ ● ○ ○	●	○ ○ ○ ○
	6	150	●	●	○ ○	●	● ● ○ ○	●	● ○ ○ ○
	8	200	●	●	○ ○	●	● ● ○ ○	●	● ○ ○ ○
	10	250	●	●	● ○	●	○ ● ○ ○	●	○ ○ ○ ○
	12	300	●	●	○ ○	●	○ ○ ○ ○	●	○ ○ ○ ○
Std	14	350	○	●	○ ○	●	● ○ ○ ○	○	● ○ ○ ○
	16	400	○	●	○ ●	●	○ ○ ○ ○	○	● ○ ○ ○
	18	450	○	●	○ ●	●	○ ○ ○ ○	○	● ○ ○ ○
	20	500	○	●	○ ○	●	○ ○ ○ ○	○	● ○ ○ ○
	22	550	○	○	○ ○	○	○ ○ ○ ○	○	○ ○ ○ ○
	24	600	○	●	○ ○	●	○ ○ ○ ○	○	● ○ ○ ○
	26	650	○	○	○ ○	○	○ ○ ○ ○	○	○ ○ ○ ○
	28	700	○	○	○ ○	○	○ ○ ○ ○	○	○ ○ ○ ○
	30	750	○	○	○ ○	○	○ ○ ○ ○	○	○ ○ ○ ○
	32	800	○	○	○ ○	○	○ ○ ○ ○	○	○ ○ ○ ○
	34	850	○	○	○ ○	○	○ ○ ○ ○	○	○ ○ ○ ○
	36	900	○	○	○ ○	○	○ ○ ○ ○	○	○ ○ ○ ○
	38	950	○	○	○ ○	-	- - ○	○	- - - -
	40	1000	○	○	○ ○	-	- - ○	○	- - - -

● Stocked Item ○ Market Available

Buttweld Pipe Fittings - Schedule 40S & STD

Manufactured to ASTM A403 WP-W & WP-S ASME B16.9
 Finished pickled
 Duplex Buttweld Fittings manufactured to A815
 Seamless S31803/S32205



Nominal Bore	Equal Tee			Equal Tee			Stub End	Stub End	Cap	Cap				
	FPT			FPST										
	304L	316L	2205	304L	316L	2205 S31803 S32750								
NPS (inch)	DN (mm)	Welded			Smls			316L Welded	316L Smls	316L Welded	316L Smls			
40S	1/2 15	●	●	○	○	●	●	●	○	○	○			
	3/4 20	●	●	○	○	●	●	●	○	○	●			
	1 25	●	●	○	●	●	●	●	●	○	●			
	1 1/4 32	●	●	○	●	●	●	●	○	○	●			
	1 1/2 40	●	●	○	●	●	●	●	●	○	●			
	2 50	●	●	○	●	●	●	●	●	○	●			
	2 1/2 65	●	●	○	●	●	●	●	●	○	●			
	3 80	●	●	○	●	●	●	●	○	●	●			
	3 1/2 90	○	●	○	○	○	○	○	○	○	○			
	4 100	●	●	○	●	●	●	●	●	○	●			
	5 125	●	●	○	○	●	●	○	●	○	●			
	6 150	●	●	○	●	●	●	●	●	○	●			
	8 200	●	●	○	●	●	●	●	●	○	●			
	10 250	●	●	●	○	○	○	○	●	○	●			
	12 300	●	●	○	○	○	○	○	○	○	●			
Std	14 350	○	●	○	○	○	○	○	○	○	●			
	16 400	○	●	○	○	○	○	○	○	○	●			
	18 450	○	●	○	○	○	○	○	○	○	●			
	20 500	○	●	○	○	○	○	○	○	○	●			
	22 550	○	○	○	○	○	○	○	○	○	○			
	24 600	○	●	○	○	○	○	○	○	○	●			
	26 650	○	○	○	○	○	○	○	○	○	○			
	28 700	○	○	○	○	○	○	○	○	○	○			
	30 750	○	○	○	○	○	○	○	○	○	○			
	32 800	○	○	○	○	○	○	○	○	○	○			
	34 850	○	○	○	○	○	○	○	○	○	○			
	36 900	○	○	○	○	○	○	○	○	○	○			
	38 950	○	○	○	-	-	-	-	-	○	○			
	40 1000	○	○	○	-	-	-	-	-	○	○			

● Stocked Item ○ Market Available

Buttweld Pipe Fittings - Schedule 80S & XS

Manufactured to ASTM A403 WP-W & WP-S ASME B16.9
 Finished pickled
 Duplex Buttweld Fittings manufactured to A815
 Seamless S31803/S32205



Nominal Bore		90° Elbows Long Radius		90° Elbows Short Radius		90° Elbows Long Radius		45° Elbows		45° Elbows	
NPS (inch)	DN (mm)	FP9 304L Welded	FP9S 316L Welded	FPS9 316L Smls	FP4 304L Welded	FPS4 316L Smls	FP4 304L Welded	FPS4 316L Smls	FP4 304L Welded	FPS4 316L Smls	
80S	1/2 15	○ ○	○ ○	○ ● ●	○ ○	○ ○	○ ○	○ ○	○ ○	●	
	3/4 20	○ ○	○ ○	○ ● ●	○ ○	○ ○	○ ○	○ ○	○ ○	●	
	1 25	○ ○	○ ○	○ ● ●	○ ○	○ ○	○ ○	○ ○	○ ○	●	
	1 1/4 32	○ ○	○ ○	○ ● ●	○ ○	○ ○	○ ○	○ ○	○ ○	●	
	1 1/2 40	○ ○	○ ○	○ ● ●	○ ○	○ ○	○ ○	○ ○	○ ○	●	
	2 50	○ ○	○ ○	○ ● ●	○ ○	○ ○	○ ○	○ ○	○ ○	●	
	2 1/2 65	○ ○	○ ○	○ ● ●	○ ○	○ ○	○ ○	○ ○	○ ○	●	
	3 80	○ ○	○ ○	○ ● ●	○ ○	○ ○	○ ○	○ ○	○ ○	●	
	4 100	○ ○	○ ○	○ ● ●	○ ○	○ ○	○ ○	○ ○	○ ○	●	
	5 125	○ ○	○ ○	○ ● ○	○ ○	○ ○	○ ○	○ ○	○ ○	○ ○	
	6 150	○ ○	○ ○	○ ● ●	○ ○	○ ○	○ ○	○ ○	○ ○	●	
	8 200	○ ○	○ ○	○ ● ○	○ ○	○ ○	○ ○	○ ○	○ ○	●	
	10 250	○ ○	○ ○	○ ● ●	○ ○	○ ○	○ ○	○ ○	○ ○	●	
	12 300	○ ○	○ ○	○ ○ ○	○ ○	○ ○	○ ○	○ ○	○ ○	○ ○	
XS	14 350	○ ○	○ ○	○ ○ ○	○ ○	○ ○ ○	○ ○	○ ○ ○	○ ○ ○	○ ○ ○	
	16 400	○ ○	○ ○	○ ○ ○	○ ○	○ ○ ○	○ ○	○ ○ ○	○ ○ ○	○ ○ ○	
	18 450	○ ○	○ ○	○ ○ ○	○ ○	○ ○ ○	○ ○	○ ○ ○	○ ○ ○	○ ○ ○	
	20 500	○ ○	○ ○	○ ○ ○	○ ○	○ ○ ○	○ ○	○ ○ ○	○ ○ ○	○ ○ ○	
	22 550	○ ○	○ ○	○ ○ ○	○ ○	○ ○ ○	○ ○	○ ○ ○	○ ○ ○	○ ○ ○	
	24 600	○ ○	○ ○	○ ○ ○	○ ○	○ ○ ○	○ ○	○ ○ ○	○ ○ ○	○ ○ ○	
	26 650	○ ○	○ ○	○ ○ ○	○ ○	○ ○ ○	○ ○	○ ○ ○	○ ○ ○	○ ○ ○	
	28 700	○ ○	○ ○	○ ○ ○	○ ○	○ ○ ○	○ ○	○ ○ ○	○ ○ ○	○ ○ ○	
	30 750	○ ○	○ ○	○ ○ ○	○ ○	○ ○ ○	○ ○	○ ○ ○	○ ○ ○	○ ○ ○	
	32 800	○ ○	○ ○	○ ○ ○	○ ○	○ ○ ○	○ ○	○ ○ ○	○ ○ ○	○ ○ ○	
	34 850	○ ○	○ ○	○ ○ ○	○ ○	○ ○ ○	○ ○	○ ○ ○	○ ○ ○	○ ○ ○	
	36 900	○ ○	○ ○	○ ○ ○	○ ○	○ ○ ○	○ ○	○ ○ ○	○ ○ ○	○ ○ ○	
	38 950	○ ○	○ ○	○ ○ -	○ ○ -	○ ○ -	○ ○ -	○ ○ -	○ ○ -	○ ○ -	
	40 1000	○ ○	○ ○	○ ○ -	○ ○ -	○ ○ -	○ ○ -	○ ○ -	○ ○ -	○ ○ -	

● Stocked Item ○ Market Available

Buttweld Pipe Fittings - Schedule 80S & XS

Manufactured to ASTM A403 WP-W & WP-S ASME B16.9
 Finished pickled
 Duplex Buttweld Fittings manufactured to A815
 Seamless S31803/S32205



Nominal Bore	Equal Tee					Stub End		Cap	
	NPS (inch)	DN (mm)	FPT		FPST Smls	2205	FPS	316L Welded	316L Smls
			304L Welded	316L Welded			316L Welded		
80S	1/2	15	○	○	○	●	●	○	○
	3/4	20	○	○	○	●	●	○	○
	1	25	○	○	○	●	●	○	○
	1 1/4	32	○	○	○	●	●	○	○
	1 1/2	40	○	○	○	●	●	○	○
	2	50	○	○	○	●	●	○	○
	2 1/2	65	○	○	○	●	●	○	○
	3	80	○	○	○	●	●	○	○
	4	100	○	○	○	●	●	○	○
	5	125	○	○	○	●	○	○	○
	6	150	○	○	○	●	●	○	○
	8	200	○	○	○	●	●	○	○
	10	250	○	○	○	●	○	○	○
	12	300	○	○	○	○	○	○	○
XS	14	350	○	○	○	○	○	○	○
	16	400	○	○	○	○	○	○	○
	18	450	○	○	○	○	○	○	○
	20	500	○	○	○	○	○	○	○
	22	550	○	○	○	○	○	○	○
	24	600	○	○	○	○	○	○	○
	26	650	○	○	○	○	○	○	○
	28	700	○	○	○	○	○	○	○
	30	750	○	○	○	○	○	○	○
	32	800	○	○	○	○	○	○	○
	34	850	○	○	○	○	○	○	○
	36	900	○	○	○	○	○	○	○
	38	950	○	○	-	-	-	○	-
	40	1000	○	○	-	-	-	○	-

● Stocked Item ○ Market Available

Buttweld Concentric Reducer

Manufactured to ASTM A403 WP-W & WP-S ASME B16.9
 Finished pickled
 Duplex Buttweld Fittings manufactured to A815
 Seamless S31803/S32205



Nominal Size	DN (mm)	Welded					
		304L 10S	304L 40S	316L 10S	316L 40S	2205 10S	2205 40S
3/4 x 1/2	20 x 15	●	●	●	●	○	○
1 x 1/2	25 x 15	●	●	●	●	○	○
1 x 3/4	25 x 20	●	●	●	●	○	○
1 1/4 x 3/4	32 x 20	○	○	●	○	○	○
1 1/4 x 1	32 x 25	●	●	●	●	○	○
1 1/2 x 3/4	40 x 20	○	○	●	●	○	○
1 1/2 x 1	40 x 25	●	●	●	●	○	○
1 1/2 x 1 1/4	40 x 32	●	●	●	●	○	○
2 x 3/4	50 x 20	○	○	○	○	○	○
2 x 1	50 x 25	●	●	●	●	○	○
2 x 1 1/4	50 x 32	●	○	●	●	○	○
2 x 1 1/2	50 x 40	●	●	●	●	○	○
2 1/2 x 1 1/4	65 x 32	○	○	●	●	○	○
2 1/2 x 1 1/2	65 x 40	●	●	●	●	○	○
2 1/2 x 2	65 x 50	●	●	●	●	○	○
3 x 1	80 x 25	○	○	●	●	○	○
3 x 1 1/4	80 x 32	○	○	●	○	○	○
3 x 1 1/2	80 x 40	●	○	●	●	○	○
3 x 2	80 x 50	●	●	●	●	○	○
3 x 2 1/2	80 x 65	●	●	●	●	○	○
4 x 1 1/2	100 x 40	○	○	●	●	○	○
4 x 2	100 x 50	●	●	●	●	○	○
4 x 2 1/2	100 x 65	●	○	●	●	○	○
4 x 3	100 x 80	●	●	●	●	●	○
5 x 2 1/2	125 x 65	○	○	●	○	○	○
5 x 3	125 x 80	○	○	●	●	○	○
5 x 4	125 x 100	●	○	●	●	○	○
6 x 2 1/2	150 x 65	○	○	●	○	○	○
6 x 3	150 x 80	●	●	●	●	○	○
6 x 4	150 x 100	●	●	●	●	○	○
6 x 5	150 x 125	●	●	●	●	○	○
8 x 4	200 x 100	●	○	●	●	○	○
8 x 5	200 x 125	○	○	●	●	○	○
8 x 6	200 x 150	●	●	●	●	○	○
10 x 4	250 x 100	●	○	●	●	○	○
10 x 5	250 x 125	○	○	●	○	○	○
10 x 6	250 x 150	●	●	●	●	●	●
10 x 8	250 x 200	●	●	●	●	●	●
12 x 6	300 x 150	○	○	●	●	○	○
12 x 8	300 x 200	●	●	●	●	○	○
12 x 10	300 x 250	○	○	●	●	○	○

● Stocked Item ○ Market Available

Buttweld Concentric Reducer

Manufactured to ASTM A403 WP-W & WP-S ASME B16.9
 Finished pickled
 Duplex Buttweld Fittings manufactured to A815
 Seamless S31803/S32205



Nominal Size		Welded					
NPS (inch)	DN (mm)	304L 10S	304L 40S STD	316L 10S	316L 40S STD	2205 10S	2205 40S
14 x 8	350 x 200	○	○	●	●	○	○
14 x 10	350 x 250	○	○	●	●	○	○
14 x 12	350 x 300	○	○	●	●	○	○
16 x 8	400 x 200	●	○	●	●	○	○
16 x 10	400 x 250	●	○	●	●	○	○
16 x 12	400 x 300	○	○	●	●	○	○
16 x 14	400 x 350	○	○	●	●	○	○
18 x 12	450 x 300	○	○	●	●	○	○
18 x 14	450 x 350	○	○	●	●	○	○
18 x 16	450 x 400	○	○	●	●	○	○
20 x 12	500 x 300	○	○	●	●	○	○
20 x 14	500 x 350	○	○	●	●	○	○
20 x 16	500 x 400	○	○	●	●	○	○
20 x 18	500 x 450	○	○	●	●	○	○
24 x 12	600 x 300	○	○	●	●	○	○
24 x 14	600 x 350	○	○	●	○	○	○
24 x 16	600 x 400	○	○	●	●	○	○
24 x 18	600 x 450	○	○	●	●	○	○
24 x 20	600 x 500	○	○	●	○	○	○
30 x 24	750 x 600	○	○	●	○	○	○

● Stocked Item ○ Market Available

Buttweld Concentric Reducer

Manufactured to ASTM A403 WP-W & WP-S ASME B16.9
 Finished pickled
 Duplex Buttweld Fittings manufactured to A815
 Seamless S31803/S32205



Nominal Size	NPS (inch)	Seamless								
		304L 10S	304L 40S	316L 10S	316L 40S	316L 80S	2205 S31803 10S	2205 S31803 40S	2205 S31803 80S	2507 S32750 40S
3/4 x 1/2	20 x 15	○	○	●	●	●	○	○	●	●
1 x 1/2	25 x 15	●	●	●	●	●	○	○	●	●
1 x 3/4	25 x 20	●	●	●	●	●	●	●	●	●
1 1/4 x 3/4	32 x 20	●	●	●	○	○	●	○	○	○
1 1/4 x 1	32 x 25	●	●	●	●	●	●	○	●	○
1 1/2 x 3/4	40 x 20	○	○	●	○	●	○	○	○	○
1 1/2 x 1	40 x 25	●	●	●	●	●	●	○	●	●
1 1/2 x 1 1/4	40 x 32	●	●	●	●	●	○	○	●	●
2 x 3/4	50 x 20	○	○	○	●	○	○	○	○	○
2 x 1	50 x 25	●	●	●	●	●	●	●	○	●
2 x 1 1/4	50 x 32	●	●	●	●	●	○	○	○	●
2 x 1 1/2	50 x 40	●	●	●	●	●	●	●	●	●
2 1/2 x 1 1/4	65 x 32	○	○	○	○	○	○	○	○	○
2 1/2 x 1 1/2	65 x 40	○	○	●	●	○	○	○	○	○
2 1/2 x 2	65 x 50	●	●	●	●	●	○	○	●	○
3 x 1	80 x 25	○	○	○	○	○	○	○	○	○
3 x 1 1/4	80 x 32	○	○	○	○	○	○	○	○	○
3 x 1 1/2	80 x 40	○	○	○	●	●	○	○	○	●
3 x 2	80 x 50	●	●	●	●	●	●	●	●	●
3 x 2 1/2	80 x 65	●	●	●	●	●	○	○	○	●
4 x 1 1/2	100 x 40	○	○	○	○	○	○	○	○	○
4 x 2	100 x 50	●	●	●	●	●	●	●	○	●
4 x 2 1/2	100 x 65	●	●	●	○	●	○	○	○	●
4 x 3	100 x 80	●	●	●	●	●	●	●	●	●
5 x 2 1/2	125 x 65	○	○	○	○	○	○	○	○	○
5 x 3	125 x 80	○	○	●	○	○	○	○	○	○
5 x 4	125 x 100	○	○	●	○	○	○	○	○	○
6 x 2 1/2	150 x 65	○	○	○	○	○	○	○	○	○
6 x 3	150 x 80	●	●	●	●	●	●	●	●	●
6 x 4	150 x 100	●	●	●	●	●	●	●	○	●
6 x 5	150 x 125	○	○	●	●	●	○	○	○	●
8 x 4	200 x 100	●	●	●	●	○	●	●	○	●
8 x 5	200 x 125	○	○	●	○	○	○	○	○	○
8 x 6	200 x 150	●	●	●	●	●	●	●	●	●
10 x 4	250 x 100	○	○	○	○	○	○	○	○	○
10 x 5	250 x 125	○	○	○	○	○	○	○	○	○
10 x 6	250 x 150	○	○	○	○	○	○	○	○	○
10 x 8	250 x 200	○	○	○	○	●	○	○	○	○
12 x 6	300 x 150	○	○	○	○	○	○	○	○	○
12 x 8	300 x 200	○	○	○	○	○	○	○	○	○
12 x 10	300 x 250	○	○	○	○	○	○	○	○	○

● Stocked Item ○ Market Available

Buttweld Eccentric Reducer & Reducing Tee

Manufactured to ASTM A403 WP-W & WP-S ASME B16.9
 Finished pickled
 Duplex Buttweld Fittings manufactured to A815
 Seamless S31803/S32205



Nominal Size		Welded Eccentric Reducer				Welded Reducing Tee			Seamless Eccentric Reducer				Seamless Reducing Tee			
		FPRE		FPTR		FPSRE		FPSTR		304L 10S		304L 40S		316L 10S		316L 40S
NPS (inch)	DN (mm)	304L 10S	304L 40S	316L 10S	316L 40S	304L 10S	316L 10S	316L 40S	304L 10S	304L 40S	316L 10S	316L 40S	304L 10S	304L 40S	316L 10S	316L 40S
3/4 x 1/2	20 x 15	●	●	●	●	○	●	○	○	○	●	●	○	○	●	●
1 x 1/2	25 x 15	●	●	●	●	○	●	○	●	●	●	●	●	●	●	○
1 x 3/4	25 x 20	●	●	●	●	○	●	○	●	●	●	●	●	●	●	●
1 1/4 x 3/4	32 x 20	○	○	○	○	○	○	○	○	○	●	●	●	●	●	○
1 1/4 x 1	32 x 25	●	●	●	●	○	●	○	○	●	●	●	●	●	●	○
1 1/2 x 3/4	40 x 20	○	○	○	●	○	○	○	○	○	○	○	○	○	○	○
1 1/2 x 1	40 x 25	●	●	●	●	○	●	●	●	●	●	●	●	●	●	●
1 1/2 x 1 1/4	40 x 32	●	●	●	●	○	●	○	●	●	●	●	●	●	●	○
2 x 3/4	50 x 20	○	○	○	●	○	○	○	○	○	○	○	○	○	○	○
2 x 1	50 x 25	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
2 x 1 1/4	50 x 32	●	●	●	●	○	●	●	○	●	●	●	●	●	●	○
2 x 1 1/2	50 x 40	●	●	●	●	○	●	●	●	●	●	●	●	●	●	●
2 1/2 x 1 1/2	65 x 40	●	●	●	●	○	●	●	○	●	●	●	●	●	●	●
2 1/2 x 2	65 x 50	●	●	●	●	○	●	●	○	●	●	●	●	●	●	●
3 x 1 1/2	80 x 40	●	●	●	●	○	●	●	●	●	●	●	●	●	●	●
3 x 2	80 x 50	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
3 x 2 1/2	80 x 65	●	●	●	●	○	●	●	○	●	●	●	●	●	●	●
4 x 1 1/2	100 x 40	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○
4 x 2	100 x 50	●	●	●	●	○	●	●	●	●	●	●	●	●	●	●
4 x 2 1/2	100 x 65	●	●	●	●	○	●	●	○	●	●	●	●	●	●	●
4 x 3	100 x 80	●	●	●	●	○	●	●	●	●	●	●	●	●	●	●
5 x 3	125 x 80	○	○	○	●	○	○	○	○	○	○	○	○	○	○	○
5 x 4	125 x 100	●	●	●	●	○	●	●	○	●	●	●	●	●	●	●
6 x 2	150 x 50	○	○	○	○	○	○	●	○	●	●	●	●	●	●	●
6 x 3	150 x 80	●	●	●	●	○	●	●	●	●	●	●	●	●	●	●
6 x 4	150 x 100	●	●	●	●	○	●	●	●	●	●	●	●	●	●	●
6 x 5	150 x 125	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
8 x 3	200 x 80	○	○	○	○	○	○	●	●	○	○	○	○	○	○	○
8 x 4	200 x 100	●	●	●	●	○	●	●	●	●	●	●	●	●	●	●
8 x 5	200 x 125	○	○	●	●	○	○	○	○	○	○	○	○	○	○	○
8 x 6	200 x 150	●	●	●	●	○	●	●	●	●	●	●	●	●	●	●
10 x 4	250 x 100	○	○	○	○	○	○	●	●	○	○	○	○	○	○	○
10 x 5	250 x 125	○	○	●	●	○	○	○	○	○	○	○	○	○	○	○
10 x 6	250 x 150	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
10 x 8	250 x 200	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
12 x 6	300 x 150	○	○	●	●	●	●	●	●	●	●	●	●	●	●	●
12 x 8	300 x 200	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
12 x 10	300 x 250	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

● Stocked Item ○ Market Available

Buttweld Eccentric Reducer & Reducing Tee

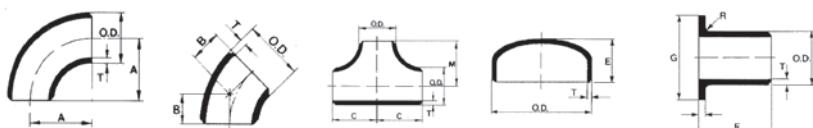
Manufactured to ASTM A403 WP-W & WP-S ASME B16.9
 Finished pickled
 Duplex Buttweld Fittings manufactured to A815
 Seamless S31803/S32205



Nominal Size	NPS (inch) DN (mm)	Welded Eccentric Reducer			Welded Reducing Tee			Seamless Eccentric Reducer			Seamless Reducing Tee					
		FPRE			F PTR			FPSRE			FPSTR					
		304L 10S	304L 40S	316L 10S	316L 40S	316L 10S	316L 40S	304L 10S	304L 40S	316L 10S	316L 40S	316L 80S	304L 10S	304L 40S	316L 10S	316L 40S
		STD	STD	STD	STD	STD	STD	STD	STD	STD	STD	STD	STD	STD	STD	STD
14 x 8	350 x 200	○	○	●	●	○	○	○	○	○	○	○	○	○	○	○
14 x 10	350 x 250	○	○	●	●	○	○	○	○	○	○	○	○	○	○	○
14 x 12	350 x 300	○	○	●	●	○	○	○	○	○	○	○	○	○	○	○
16 x 8	400 x 200	○	○	○	○	●	○	○	○	○	○	○	○	○	○	○
16 x 10	400 x 250	○	○	●	●	●	○	○	○	○	○	○	○	○	○	○
16 x 12	400 x 300	○	○	●	●	●	○	○	○	○	○	○	○	○	○	○
16 x 14	400 x 350	○	○	●	●	●	●	○	○	○	○	○	○	○	○	○
18 x 10	450 x 250	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○
18 x 12	450 x 300	○	○	●	●	●	●	○	○	○	○	○	○	○	○	○
18 x 14	450 x 350	○	○	●	●	●	●	○	○	○	○	○	○	○	○	○
18 x 16	450 x 400	○	○	●	●	●	●	●	○	○	○	○	○	○	○	○
20 x 12	500 x 300	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○
20 x 14	500 x 350	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○
20 x 16	500 x 400	○	○	●	○	●	○	●	○	○	○	○	○	○	○	○
20 x 18	500 x 450	○	○	●	○	●	○	●	○	○	○	○	○	○	○	○
24 x 12	600 x 300	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
24 x 16	600 x 400	○	○	●	○	●	●	○	●	○	○	○	○	○	○	○
24 x 18	600 x 450	○	○	●	○	●	●	●	○	○	○	○	○	○	○	○
24 x 20	600 x 500	○	○	●	○	●	●	●	○	○	○	○	○	○	○	○

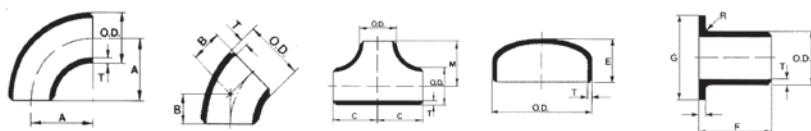
● Stocked Item ○ Market Available

Buttweld Pipe Fittings Technical Data



NPS	DN	Sch	O.D.	Wt	90° Elbow		90° Elbow		45° Elbow		Equal Tee		Cap		Stub End Type B		
					Long Radius	A	Short Radius	A	Wgt	B	Wgt	C/M	Wgt	E	Wgt	F	G
$\frac{1}{2}$	15	10S	21.3	2.11	38.1	0.06	-	-	15.9	0.03	25.4	0.06	25.4	0.03	50.8	34.9	0.07
		40S	21.3	2.77	38.1	0.08	-	-	15.9	0.04	25.4	0.08	25.4	0.04	50.8	34.9	0.09
		80S	21.3	3.73	38.1	0.10	-	-	15.9	0.05	25.4	0.10	25.4	0.05	50.8	34.9	0.11
$\frac{3}{4}$	20	10S	26.7	2.11	38.1	0.08	-	-	19.0	0.04	28.6	0.08	25.4	0.04	50.8	42.9	0.09
		40S	26.7	2.87	38.1	0.10	-	-	19.0	0.05	28.6	0.11	25.4	0.05	50.8	42.9	0.12
		80S	26.7	3.91	38.1	0.13	-	-	19.0	0.07	28.6	0.14	25.4	0.07	50.8	42.9	0.16
1	25	10S	33.4	2.77	38.1	0.13	25	0.10	22.2	0.06	38.1	0.20	38.1	0.09	50.8	50.8	0.13
		40S	33.4	3.38	38.1	0.15	25	0.12	22.2	0.07	38.1	0.24	38.1	0.11	50.8	50.8	0.15
		80S	33.4	4.55	38.1	0.20	25	0.15	22.2	0.09	38.1	0.31	38.1	0.14	50.8	50.8	0.20
$1\frac{1}{4}$	32	10S	42.2	2.77	47.6	0.20	32	0.16	25.4	0.10	47.6	0.33	38.1	0.11	50.8	63.5	0.16
		40S	42.2	3.56	47.6	0.25	32	0.20	25.4	0.12	47.6	0.41	38.1	0.14	50.8	63.5	0.20
		80S	42.2	4.85	47.6	0.33	32	0.26	25.4	0.16	47.6	0.54	38.1	0.18	50.8	63.5	0.26
$1\frac{1}{2}$	40	10S	48.3	2.77	57.2	0.28	38	0.22	28.6	0.14	57.2	0.46	38.1	0.13	50.8	73.0	0.22
		40S	48.3	3.68	57.2	0.36	38	0.29	28.6	0.18	57.2	0.60	38.1	0.17	50.8	73.0	0.28
		80S	48.3	5.08	57.2	0.48	38	0.38	28.6	0.24	57.2	0.80	38.1	0.23	50.8	73.0	0.38
2	50	10S	60.3	2.77	76.2	0.47	51	0.36	34.9	0.23	63.5	0.63	38.1	0.17	63.5	92.1	0.29
		40S	60.3	3.91	76.2	0.65	51	0.51	34.9	0.32	63.5	0.87	38.1	0.23	63.5	92.1	0.41
		80S	60.3	5.54	76.2	0.90	51	0.70	34.9	0.44	63.5	1.20	38.1	0.32	63.5	92.1	0.57
$2\frac{1}{2}$	65	10S	73.0	3.05	95.3	0.79	64	0.62	44.5	0.39	76.2	1.01	38.1	0.24	63.5	104.8	0.40
		40S	73.0	5.16	95.3	1.29	64	1.02	44.5	0.64	76.2	1.66	38.1	0.39	63.5	104.8	0.66
		80S	73.0	7.01	95.3	1.70	64	1.34	44.5	0.84	76.2	2.19	38.1	0.51	63.5	104.8	0.87
3	80	10S	88.9	3.05	114.3	1.15	76	0.85	50.8	0.58	85.7	1.08	50.8	0.38	63.5	127.0	0.51
		40S	88.9	5.49	114.3	2.02	76	1.50	50.8	1.01	85.7	1.90	50.8	0.66	63.5	127.0	0.89
		80S	88.9	7.62	114.3	2.73	76	2.02	50.8	1.36	85.7	2.57	50.8	0.89	63.5	127.0	1.2
4	100	10S	114.3	3.05	152.4	2.00	102	1.62	63.5	1.00	104.8	2.15	63.5	0.61	76.2	157.2	0.79
		40S	114.3	6.02	152.4	3.84	102	3.12	63.5	1.92	104.8	4.13	63.5	1.17	76.2	157.2	1.51
		80S	114.3	8.56	152.4	5.34	102	4.33	63.5	2.67	104.8	5.74	63.5	1.63	76.2	157.2	2.1
5	125	10S	141.3	3.40	190.5	3.45	127	2.79	79.2	1.72	123.8	3.47	76.2	1.01	76.2	185.7	1.41
		40S	141.3	6.55	190.5	6.51	127	5.28	79.2	3.25	123.8	6.55	76.2	1.91	76.2	185.7	2.66
		80S	141.3	9.52	190.5	9.24	127	7.49	79.2	4.62	123.8	9.30	76.2	2.71	76.2	185.7	3.78
6	150	10S	168.3	3.40	228.6	4.95	152	3.91	95.3	2.47	142.9	4.77	88.9	1.42	88.9	215.9	1.5
		40S	168.3	7.11	228.6	10.1	152	7.94	95.3	5.05	142.9	9.73	88.9	2.90	88.9	215.9	3.02
		80S	168.3	10.97	228.6	15.3	152	12.0	95.3	7.63	142.9	14.7	88.9	4.38	88.9	215.9	4.56
8	200	10S	219.1	3.76	304.8	9.54	203	8.03	127.0	4.77	177.8	8.46	101.6	2.44	101.6	269.9	2.45
		40S	219.1	8.18	304.8	20.3	203	17.1	127.0	10.2	177.8	18.0	101.6	5.19	101.6	269.9	5.22
		80S	219.1	12.70	304.8	30.9	203	26.0	127.0	15.4	177.8	27.4	101.6	7.89	101.6	269.9	7.93
10	250	10S	273.1	4.19	381.0	16.6	254	13.2	159.0	8.3	215.9	14.2	127.0	4.20	127.0	323.9	4.18
		40S	273.1	9.27	381.0	36.0	254	28.6	159.0	18	215.9	30.8	127.0	9.15	127.0	323.9	9.08
		80S	273.1	12.70	381.0	57.2	254	45.5	159.0	28.6	215.9	49.0	127.00	14.5	127.0	323.9	14.43
12	300	10S	323.9	4.57	457.2	26.0	305	17.8	190.5	13.0	254.0	21.7	152.4	6.50	152.4	381.0	6.54
		40S	323.9	9.53	457.2	53.0	305	36.3	190.5	34.0	254.0	53.7	152.4	13.3	152.4	381.0	13.35
		80S	323.9	12.70	457.2	94.9	305	65.0	190.5	44.9	254.0	70.9	152.4	23.8	152.4	381.0	23.90

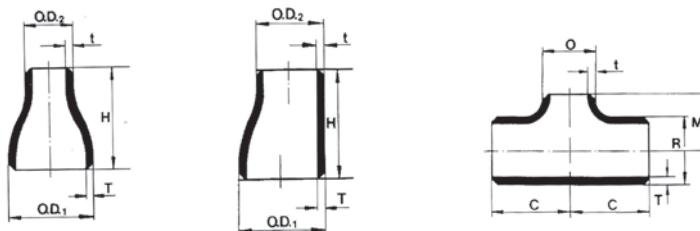
Buttweld Pipe Fittings Technical Data



NPS	DN	Sch	O.D.	90° Elbow		90° Elbow		45° Elbow	Equal Tee		Stub End Type B				
				Long	Radius	A	Wgt		B	Wgt	C/M	Wgt	E	Wgt	
14	350	10S	355.6	4.78	533	36.3	356	23.4	222	17.3	279	27.4	165	8.1	152.4 413 7.41
		STD	355.6	9.53	533	68.0	356	45.8	222	34.0	279	53.7	165	15.9	152.4 413 14.53
		XS	355.6	12.70	533	94.0	356	60.5	222	44.9	279	70.9	165	21.0	152.4 413 19.18
16	400	10S	406.4	4.78	610	45.5	406	30.3	254	22.7	305	33.8	178	10.2	152.4 470 8.33
		STD	406.4	9.53	610	89.2	406	59.4	254	44.6	305	66.3	178	20.0	152.4 470 16.34
		XS	406.4	12.70	610	117.7	406	78.4	254	58.9	305	87.5	178	26.4	152.4 470 21.57
18	450	10S	457.0	4.78	686	57.6	457	40.5	286	28.8	343	42.9	203	13.1	152.4 533 9.84
		STD	457.0	9.53	686	113.0	457	79.4	286	56.5	343	84.1	203	25.6	152.4 533 19.30
		XS	457.0	12.70	686	149.2	457	104.8	286	74.6	343	111.0	203	33.8	152.4 533 25.48
20	500	10S	508.0	5.54	762	82.6	508	57.3	318	41.3	381	61.4	229	18.8	152.4 584 12.59
		STD	508.0	9.53	762	140.0	508	97.5	318	70.0	381	104	229	31.9	152.4 584 21.34
		XS	508.0	12.70	762	184.8	508	128.7	318	92.4	381	137.3	229	42.1	152.4 584 28.17
22	550	10S	559.0	5.54	838	98.6	559	-	343	49.3	419	73.1	254	22.5	152.4 - -
		STD	559.0	9.53	838	170.0	559	-	343	85.0	419	126	254	38.8	152.4 - -
		XS	559.0	12.70	838	224.4	559	-	343	112.2	419	166.3	254	51.2	152.4 - -
24	600	10S	610.0	6.35	914	135.3	610	91.8	381	67.7	432	93.8	267	30.2	152.4 692 17.19
		STD	610.0	9.53	914	202.0	610	137.0	381	101.0	432	140	267	45.1	152.4 692 25.65
		XS	610.0	12.70	914	268.7	610	182.2	381	134.3	432	186.2	267	60.0	152.4 692 34.11

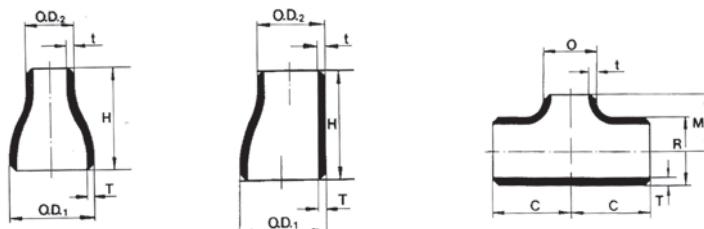
Note: Weights and dimensions listed above are a guide only. All dimensions given in mm. All weights given in kg. Please contact our Sales department for any additional data.

Buttweld Reducing Pipe Fittings Technical Data



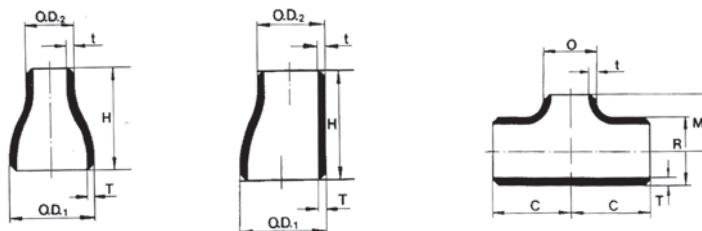
Imperial	Metric	SCH	Conc. & Ecc. Reducers				Reducing Tee		
			O.D. 1	O.D. 2	H	Wgt	C	M	Wgt
$\frac{3}{4} \times \frac{1}{2}$	20 x 15	10S	26.7	21.3	39.3	0.05	29	29	0.09
		40S	26.7	21.3	39.3	0.06	29	29	0.12
		80S	26.7	21.3	39.3	0.08	29	29	0.16
$1 \times \frac{1}{2}$	25 x 15	10S	33.4	21.3	50.8	0.09	38	38	0.18
		40S	33.4	21.3	50.8	0.11	38	38	0.22
		80S	33.4	21.3	50.8	0.14	38	38	0.29
$1 \times \frac{3}{4}$	25 x 20	10S	33.4	26.7	50.8	0.12	38	38	0.19
		40S	33.4	26.7	50.8	0.14	38	38	0.23
		80S	33.4	26.7	50.8	0.18	38	38	0.30
$1\frac{1}{4} \times \frac{3}{4}$	32 x 20	10S	42.2	26.7	50.8	0.11	49	48	0.30
		40S	42.2	26.7	50.8	0.14	49	48	0.37
		80S	42.2	26.7	50.8	0.18	49	48	0.48
$1\frac{1}{4} \times 1$	32 x 25	10S	42.2	33.4	50.8	0.13	49	49	0.31
		40S	42.2	33.4	50.8	0.16	49	49	0.39
		80S	42.2	33.4	50.8	0.21	49	49	0.51
$1\frac{1}{2} \times \frac{3}{4}$	40 x 20	10S	48.3	26.7	63.5	0.15	57	57	0.40
		40S	48.3	26.7	63.5	0.20	57	57	0.52
		80S	48.3	26.7	63.5	0.27	57	57	0.70
$1\frac{1}{2} \times 1$	40 x 25	10S	48.3	33.4	63.5	0.17	57	57	0.42
		40S	48.3	33.4	63.5	0.22	57	57	0.55
		80S	48.3	33.4	63.5	0.29	57	57	0.74
$1\frac{1}{2} \times 1\frac{1}{4}$	40 x 32	10S	48.3	42.2	63.5	0.18	57	57	0.44
		40S	48.3	42.2	63.5	0.24	57	57	0.57
		80S	48.3	42.2	63.5	0.32	57	57	0.76
$2 \times \frac{3}{4}$	50 x 20	10S	60.3	26.7	76.2	0.22	64	44	-
		40S	60.3	26.7	76.2	0.30	64	44	-
		80S	60.3	26.7	76.2	0.41	64	44	-
2×1	50 x 25	10S	60.3	33.4	76.2	0.23	64	51	0.53
		40S	60.3	33.4	76.2	0.32	64	51	0.74
		80S	60.3	33.4	76.2	0.44	64	51	1.02
$2 \times 1\frac{1}{4}$	50 x 32	10S	60.3	42.2	76.2	0.25	64	57	0.58
		40S	60.3	42.2	76.2	0.35	64	57	0.80
		80S	60.3	42.2	76.2	0.48	64	57	1.10
$2 \times 1\frac{1}{2}$	50 x 40	10S	60.3	48.3	76.2	0.27	64	60	0.60
		40S	60.3	48.3	76.2	0.37	64	60	0.83
		80S	60.3	48.3	76.2	0.51	64	60	1.15
$2\frac{1}{2} \times 1\frac{1}{4}$	65 x 32	10S	73.0	42.2	88.9	0.38	76	64	0.84
		40S	73.0	42.2	88.9	0.63	76	64	1.38
		80S	73.0	42.2	88.9	0.83	76	64	1.82
$2\frac{1}{2} \times 1\frac{1}{2}$	65 x 40	10S	73.0	48.3	88.9	0.40	76	67	0.91
		40S	73.0	48.3	88.9	0.66	76	67	1.49
		80S	73.0	48.3	88.9	0.87	76	67	1.97
$2\frac{1}{2} \times 2$	65 x 50	10S	73.0	60.3	88.9	0.44	76	70	0.93
		40S	73.0	60.3	88.9	0.72	76	70	1.53
		80S	73.0	60.3	88.9	0.95	76	70	2.02

Buttweld Reducing Pipe Fittings Technical Data



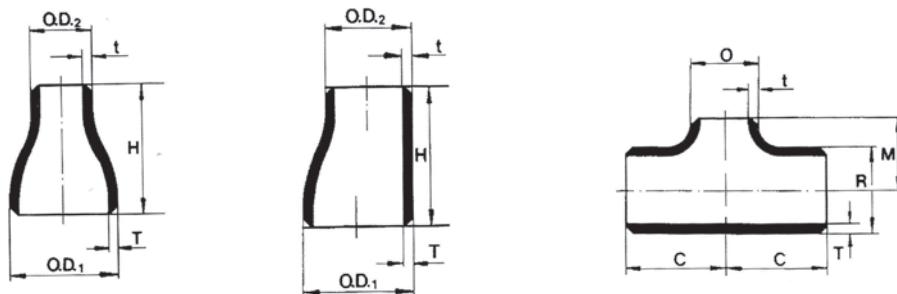
Imperial	Metric	SCH	O.D. 1	Conc. & Ecc. Reducers O.D. 2	H	Wgt	C	Reducing Tee M	Wgt
3 x 1	80 x 25	10S	88.9	33.4	88.9	-	86	-	-
		40S	88.9	33.4	88.9	-	86	-	-
		80S	88.9	33.4	88.9	-	86	-	-
3 x 1¼	80 x 32	10S	88.9	42.2	88.9	0.43	86	70	-
		40S	88.9	42.2	88.9	0.76	86	70	-
		80S	88.9	42.2	88.9	1.03	86	70	-
3 x 1½	80 x 40	10S	88.9	48.3	88.9	0.44	86	73	1.17
		40S	88.9	48.3	88.9	0.78	86	73	2.05
		80S	88.9	48.3	88.9	1.05	86	73	2.77
3 x 2	80 x 50	10S	88.9	60.3	88.9	0.48	86	76	1.23
		40S	88.9	60.3	88.9	0.85	86	76	2.16
		80S	88.9	60.3	88.9	1.15	86	76	2.92
3 x 2½	80 x 65	10S	88.9	73.0	88.9	0.53	86	83	1.31
		40S	88.9	73.0	88.9	0.93	86	83	2.29
		80S	88.9	73.0	88.9	1.26	86	83	3.09
4 x 1½	100 x 40	10S	114.3	48.3	101.6	0.61	105	86	1.77
		40S	114.3	48.3	101.6	1.18	105	86	3.41
		80S	114.3	48.3	101.6	1.64	105	86	4.74
4 x 2	100 x 50	10S	114.3	60.3	101.6	0.66	105	89	1.83
		40S	114.3	60.3	101.6	1.27	105	89	3.52
		80S	114.3	60.3	101.6	1.77	105	89	4.89
4 x 2½	100 x 65	10S	114.3	73.0	101.6	0.71	105	95	1.92
		40S	114.3	73.0	101.6	1.37	105	95	3.70
		80S	114.3	73.0	101.6	1.90	105	95	5.14
4 x 3	100 x 80	10S	114.3	88.9	101.6	0.75	105	98	2.50
		40S	114.3	88.9	101.6	1.45	105	98	4.80
		80S	114.3	88.9	101.6	2.02	105	98	6.67
5 x 2½	125 x 65	10S	141.3	73.0	127.0	1.14	124	108	3.02
		40S	141.3	73.0	127.0	2.16	124	108	5.71
		80S	141.3	73.0	127.0	3.07	124	108	8.10
5 x 3	125 x 80	10S	141.3	88.9	127.0	1.20	124	111	3.10
		40S	141.3	88.9	127.0	2.27	124	111	5.85
		80S	141.3	88.9	127.0	3.22	124	111	8.31
5 x 4	125 x 100	10S	141.3	114.3	127.0	1.33	124	117	3.25
		40S	141.3	114.3	127.0	2.50	124	117	6.14
		80S	141.3	114.3	127.0	3.55	124	117	8.72
6 x 2½	150 x 65	10S	168.3	73.0	139.7	-	143	121	-
		40S	168.3	73.0	139.7	-	143	121	-
		80S	168.3	73.0	139.7	-	143	121	-
6 x 3	150 x 80	10S	168.3	88.9	139.7	1.49	143	124	4.17
		40S	168.3	88.9	139.7	3.04	143	124	8.52
		80S	168.3	88.9	139.7	5.94	143	124	12.9
6 x 4	150 x 100	10S	168.3	114.3	139.7	1.62	143	130	4.32
		40S	168.3	114.3	139.7	3.30	143	130	8.81
		80S	168.3	114.3	139.7	4.98	143	130	13.3
8 x 4	200 x 100	10S	219.1	114.3	152.4	2.40	178	156	7.47
		40S	219.1	114.3	152.4	5.10	178	156	15.9
		80S	219.1	114.3	152.4	7.75	178	156	24.2

Buttweld Reducing Pipe Fittings Technical Data



Imperial	Metric	SCH	O.D. 1	Conc. & Ecc. Reducers O.D. 2	H	Wgt	Reducing Tee M	Wgt
8 x 5	200 x 125	10S	219.1	141.3	152.4	2.54	178	162
		40S	219.1	141.3	152.4	5.40	178	162
		80S	219.1	141.3	152.4	8.21	178	162
8 x 6	200 x 150	10S	219.1	168.3	152.4	2.68	178	168
		40S	219.1	168.3	152.4	5.71	178	168
		80S	219.1	168.3	152.4	8.68	178	168
10 x 4	250 x 100	10S	273.1	114.3	177.8	4.73	216	184
		40S	273.1	114.3	177.8	10.52	216	184
		80S	273.1	114.3	177.8	12.56	216	184
10 x 5	250 x 125	10S	273.1	141.3	177.8	3.87	216	191
		40S	273.1	141.3	177.8	8.42	216	191
		80S	273.1	141.3	177.8	11.37	216	191
10 x 6	250 x 150	10S	273.1	168.3	177.8	4.00	216	194
		40S	273.1	168.3	177.8	8.78	216	194
		80S	273.1	168.3	177.8	14.0	216	194
10 x 8	250 x 200	10S	273.1	219.1	177.8	4.40	216	203
		40S	273.1	219.1	177.8	9.58	216	203
		80S	273.1	219.1	177.8	15.2	216	203
12 x 6	300 x 150	10S	323.9	168.3	203.2	5.78	254	216
		40S	323.9	168.3	203.2	11.8	254	216
		80S	323.9	168.3	203.2	15.6	254	216
12 x 8	300 x 200	10S	323.9	219.1	203.2	6.2	254	229
		40S	323.9	219.1	203.2	12.7	254	229
		80S	323.9	219.1	203.2	22.7	254	229
12 x 10	300 x 250	10S	323.9	273.1	203.2	6.70	254	241
		40S	323.9	273.1	203.2	13.6	254	241
		80S	323.9	273.1	203.2	24.3	254	241
STD / XS								
14 x 8	350 x 200	10S	356	219.1	330	11.1	279	248
		STD	356	219.1	330	21.8	279	248
		XS	356	219.1	330	28.8	279	248
14 x 10	350 x 250	10S	356	273	330	12.0	279	257
		STD	356	273	330	23.6	279	257
		XS	356	273	330	31.2	279	257
14 x 12	350 x 300	10S	356	324	330	13.0	279	270
		STD	356	324	330	25.4	279	270
		XS	356	324	330	33.5	279	270
16 x 8	400 x 200	10S	406	219.1	356	-	305	273
		STD	406	219.1	356	-	305	273
		XS	406	219.1	356	-	305	273
16 x 10	400 x 250	10S	406	273	356	14.2	305	283
		STD	406	273	356	27.8	305	283
		XS	406	273	356	36.7	305	283

Buttweld Reducing Pipe Fittings Technical Data



Imperial	Metric	SCH	O.D. 1	Conc. & Ecc. Reducers O.D. 2	H	Wgt	Reducing Tee C	M	Wgt
16 x 12	400 x 300	10S	406	324	356	15.1	305	295	32.4
		STD	406	324	356	29.6	305	295	63.6
		XS	406	324	356	39.1	305	295	84.0
16 x 14	400 x 350	10S	406	356	356	15.8	305	305	33.2
		STD	406	356	356	31.0	305	305	65.1
		XS	406	356	356	40.9	305	305	85.9
18 x 10	450 x 250	10S	457	273	381	-	343	308	-
		STD	457	273	381	-	343	308	-
		XS	457	273	381	-	343	308	-
18 x 12	450 x 300	10S	457	324	381	17.5	343	321	40.2
		STD	457	324	381	34.3	343	321	78.9
		XS	457	324	381	45.3	343	321	104.1
18 x 14	450 x 350	10S	457	356	381	18.2	343	330	41.0
		STD	457	356	381	35.7	343	330	80.3
		XS	457	356	381	47.1	343	330	106.0
18 x 16	450 x 400	10S	457	406	381	19.3	343	330	41.6
		STD	457	406	381	37.8	343	330	81.5
		XS	457	406	381	49.9	343	330	107.6
20 x 12	500 x 300	10S	508	324	508	-	381	346	34.9
		STD	508	324	508	-	381	346	110.2
		XS	508	324	508	-	381	346	132.5
20 x 14	500 x 350	10S	508	356	508	30.0	381	356	57.5
		STD	508	356	508	50.8	381	356	97.4
		XS	508	356	508	67.1	381	356	128.6
20 x 16	500 x 400	10S	508	406	508	31.6	381	356	58.2
		STD	508	406	508	53.5	381	356	98.6
		XS	508	406	508	70.6	381	356	130.2
20 x 18	500 x 450	10S	508	457	508	33.3	381	368	59.6
		STD	508	457	508	56.4	381	368	101.0
		XS	508	457	508	74.4	381	368	133.3
24 x 12	600 x 300	10S	610	324	508	-	432	397	86.6
		STD	610	324	508	-	432	397	136.1
		XS	610	324	508	-	432	397	163.8
24 x 16	600 x 400	10S	610	406	508	-	432	406	88.9
		STD	610	406	508	-	432	406	139.7
		XS	610	406	508	-	432	406	167.8
24 x 18	600 x 450	10S	610	457	508	42.2	432	419	89.8
		STD	610	457	508	63.0	432	419	134.0
		XS	610	457	508	83.8	432	419	178.2
24 x 20	600 x 500	10S	610	508	508	44.0	432	432	91.8
		STD	610	508	508	65.7	432	432	137.0
		XS	610	508	508	87.4	432	432	182.2

BSP Screwed Fittings & High Pressure Fittings

Cast Fittings Manufactured to ASTM A351

Pipe Fittings Manufactured from ASTM A312 Pipe: Socket, TBE & TOE Nipples

Threads conform with BS 2.1

Pressure Fittings Manufactured to ASTM A182 B16.11

Rated to class 3000



TBE - Threaded both ends.

TOE - Threaded one end.



Size - Nominal		Socket Round		Nipple		Nipple	Nipple		BSP/NPT Hex Cross-Over Nipple
NPS (inch)	DN (mm)	316	2205	316	316/316L	TBE	316	2205	3000LB
		FBSR316	FBSR2205	FBNX316	FB3NX316	FBNB316	FBNO316	FBNO2205	FB3CON316
1/8	6	●	○	●	○	○	○	○	○
1/4	8	●	●	●	○	●	●	●	○
3/8	10	●	●	●	○	●	●	●	○
1/2	15	●	●	●	●	●	●	●	○
3/4	20	●	●	●	●	●	●	●	●
1	25	●	●	●	●	●	●	●	●
1 1/4	32	●	○	●	○	●	●	○	●
1 1/2	40	●	●	●	●	●	●	●	●
2	50	●	●	●	●	●	●	●	●
2 1/2	65	●	○	●	○	●	●	○	○
3	80	●	○	●	○	●	●	○	○
4	100	●	○	●	○	●	●	○	○
5	125	●	○	○	○	●	●	○	○
6	150	●	○	○	○	●	●	○	○



Size - Nominal		Union 3 pce		Elbow 45°		Elbow 90° Female		Coupling Full	
NPS (inch)	DN (mm)	150LB	3000LB	Male/Female	Female	Female	150LB	3000LB	3000LB
		316	316/316L	316	316	316/316L	316	316/316L	316/316L
		FBU316	FB3U316	FBE4MF316	FBEF4316	FB3E4316	FBEF316	FB3E9316	FB3CF316
1/8	6	○	○	○	●	○	●	○	○
1/4	8	●	○	●	●	○	●	○	●
3/8	10	●	○	●	●	○	●	○	●
1/2	15	●	●	●	●	●	●	●	●
3/4	20	●	●	●	●	●	●	●	●
1	25	●	●	●	●	●	●	●	●
1 1/4	32	●	●	●	○	●	●	●	●
1 1/2	40	●	●	●	●	●	●	●	●
2	50	●	●	●	●	●	●	●	●
2 1/2	65	●	○	●	○	○	○	○	○
3	80	●	○	●	○	○	●	○	○
4	100	○	○	○	○	○	●	○	○

● Stocked Item ○ Market Available

BSP Screwed Fittings & High Pressure Fittings

Cast Fittings Manufactured to ASTM A351
 Pipe Fittings Manufactured from ASTM A312 Pipe: Socket, TBE & TOE Nipples
 Threads conform with BS 2.1
 Pressure Fittings Manufactured to ASTM A182 B16.11
 Rated to class 3000



Size - Nominal NPS (inch)	Cross DN (mm)	Cross	Elbow	Tee Fem		Hex Cap		Hex Plug		Round Cap
		316	316	316	3000LB	316	3000LB	316	3/6000LB	316
	FBCR316	FBEMF316	FBTF316	FB3TE316	FBCX316	FB3HC316	FBP316	FB3P316	FB3RC	
1/8	6	○	○	●	○	●	○	●	○	○
1/4	8	○	●	●	○	●	○	●	○	○
3/8	10	○	●	●	○	●	○	●	○	○
1/2	15	●	●	●	●	●	○	●	●	●
5/8	20	●	●	●	●	●	●	●	●	●
1	25	●	●	●	●	●	●	●	●	●
1 1/4	32	○	●	●	○	●	○	●	●	●
1 1/2	40	●	●	●	●	●	●	●	●	●
2	50	●	●	●	●	●	○	●	●	●
2 1/2	65	○	●	●	○	●	○	●	○	○
3	80	○	○	●	○	●	○	●	○	○
4	100	○	○	●	○	●	○	●	○	○

Size - Nominal NPS (inch)	DN (mm)	Tube Adapter	Locknut	Half Sockets / Coupling		Hose	BSP Skin
		316/316L	Fem	150LB	3000LB	Tail	Fitting
		FBNOT316	FBLX316	FBSH316	FB3CH316	FBHT316	FBSK316
1/8	6	○	●	○	○	○	○
1/4	8	○	●	●	○	●	○
3/8	10	○	●	●	○	●	○
1/2	15	●	●	●	●	●	●
5/8	20	●	●	●	●	●	●
1	25	●	●	●	●	●	●
1 1/4	32	○	●	○	○	●	●
1 1/2	40	●	●	○	●	●	●
2	50	●	●	○	●	●	●
2 1/2	65	●	○	○	○	●	●
3	80	●	○	○	○	●	●
4	100	●	○	○	○	●	○

● Stocked Item ○ Market Available

BSP Screwed Fittings & High Pressure Fittings

Cast Fittings Manufactured to ASTM A351

Pipe Fittings Manufactured from ASTM A312 Pipe: Socket, TBE & TOE Nipples

Threads conform with BS 2.1

Pressure Fittings Manufactured to ASTM A182 B16.11

Rated to class 3000



Size - Nominal		Reducing Tee	Hex Reducing Bush	Hex Reducing Nipple	Round Reducing Socket	Adaptor Hex Female / Male	Hose Tail Reducer	
NPS (inch)	DN (mm)	3000LB 316/316L	150LB 316	3/6000LB 316/316L	150LB 316	3000LB 316/316L	150LB 316	150LB 316
1/4 x 1/8	8 x 6	○	●	○	●	○	●	●
1/4 x 1/4	8 x 8	○	○	○	○	○	○	○
3/8 x 1/8	10 x 6	○	●	○	●	○	●	○
3/8 x 1/4	10 x 8	○	●	○	●	○	●	●
1/2 x 1/8	15 x 6	○	●	○	●	○	○	○
1/2 x 1/4	15 x 8	○	●	○	●	○	●	●
1/2 x 3/8	15 x 10	○	●	●	●	○	●	●
1/2 x 1/2	15 x 15	○	○	○	○	○	○	○
1/2 x 5/8	15 x 17	○	○	○	○	○	○	●
1/2 x 3/4	15 x 20	○	○	○	○	○	○	●
3/4 x 1/4	20 x 8	○	●	○	●	○	●	○
3/4 x 3/8	20 x 10	○	●	○	●	○	●	○
3/4 x 1/2	20 x 15	●	●	○	●	●	●	○
3/4 x 1	20 x 25	○	○	○	○	○	○	●
1 x 3/8	25 x 10	○	○	○	○	○	○	○
1 x 1/2	25 x 15	○	●	●	●	○	●	●
1 x 3/4	25 x 20	●	●	●	●	●	●	●
1 1/4 x 1/2	32 x 15	○	○	○	○	○	○	○
1 1/4 x 3/4	32 x 20	○	●	○	●	○	○	○
1 1/4 x 1	32 x 25	●	●	●	●	●	○	●
1 1/2 x 3/4	40 x 20	○	●	○	●	○	○	○
1 1/2 x 1	40 x 25	●	●	●	●	●	○	●
1 1/2 x 1 1/4	40 x 32	●	●	●	●	●	○	●
2 x 1/2	50 x 15	○	○	●	○	○	○	○
2 x 3/4	50 x 20	○	●	○	○	○	○	○
2 x 1	50 x 25	●	●	●	●	●	○	○
2 x 1 1/4	50 x 32	○	●	○	●	○	○	○
2 x 1 1/2	50 x 40	●	●	●	●	●	○	●
2 1/2 x 1 1/2	65 x 40	○	○	○	○	○	○	○
2 1/2 x 2	65 x 50	○	●	○	●	●	○	○
3 x 1 1/2	80 x 40	○	○	○	○	○	○	○
3 x 2	80 x 50	○	●	○	○	○	○	○
3 x 2 1/2	80 x 65	○	●	○	●	○	○	○
4 x 2	100 x 50	○	●	○	○	●	○	○
4 x 2 1/2	100 x 65	○	○	○	○	●	○	○
4 x 3	100 x 80	○	●	○	○	●	○	○
5 x 4	125 x 100	○	●	○	○	○	○	○
6 x 4	150 x 100	○	●	○	○	○	○	○
6 x 5	150 x 125	○	●	○	○	○	○	○

* Bush and Plug are dual cert

● Stocked Item ○ Market Available

NPT Screwed Pressure Fittings

Manufactured to ASTM A182 ANSI B16.11
NPT Thread, 3000lb & 6000lb rating.
304 and 316/316L grade.



Size - Nominal		Round Coupling 3000lb		Union 3 Pce 3000lb		90° Elbow Female 3000lb			45° Elbow Female 3000lb	
NPS (inch)	DN (mm)	304	316	304	316	304	316	2205	304	316
		FNCF304	FNCF316	FNUC304	FNUC316	FNE9304	FNE9316	FNE92205	FNE4304	FNE4316
1/4	8	○	●	○	○	○	○	○	○	○
5/8	10	●	●	○	○	○	○	○	○	○
1/2	15	●	●	●	●	●	●	●	●	●
3/4	20	●	●	●	●	●	●	●	●	●
1	25	○	●	●	●	●	●	●	●	●
1 1/4	32	○	●	●	●	●	●	●	●	●
1 1/2	40	○	●	●	●	●	●	●	●	●
2	50	○	●	●	●	●	●	●	●	●



Size - Nominal		Tee Female 3000lb			Hex Cap 3000lb		Hex Nipple 3000lb		Hex Nipple 6000lb		Hex Plug 3/6000lb	
NPS (inch)	DN (mm)	304	316	2205	304	316	304	316	304	316	304	316
		FNTE304	FNTE316	FNTE2205	-	FNC3316	-	FNNX316	FNNX3046	FNNX3166	-	FNPX316
1/4	8	○	○	○	○	○	○	●	●	○	○	●
5/8	10	●	○	○	○	○	○	●	●	○	○	●
1/2	15	●	●	●	○	●	○	●	●	●	○	●
3/4	20	●	●	●	○	●	○	●	○	○	○	●
1	25	●	●	●	○	●	○	●	○	○	○	●
1 1/4	32	●	●	○	○	○	○	●	○	○	○	●
1 1/2	40	●	●	●	○	●	○	●	○	○	○	●
2	50	●	●	●	○	●	○	●	○	○	○	●



Size - Nominal		Round Cap 3000lb		Hose Tail 150lb
NPS (inch)	DN (mm)	304	316	316
		FNCR304	FNCR3316	FNHT316
1/4	8	○	○	○
5/8	10	○	○	○
1/2	15	●	●	○
3/4	20	●	●	○
1	25	●	●	○
1 1/4	32	○	●	○
1 1/2	40	○	●	○
2	50	○	●	●

● Stocked Item ○ Market Available

NPT Screwed Pressure Fittings

Manufactured to ASTM A182 ANSI B16.11
NPT Thread, 3000lb & 6000lb rating.
304 and 316/316L grade.



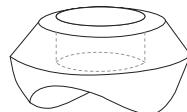
Size - Nominal		Reducing Tee 3000lb			Hex Red Bush 3/6000lb			Hex Red Nipple		Reduced Coupling 3000lb	
NPS	DN	304	316	2205	304	316	2205	304	316	304	316
(inch)	(mm)	FNTR304	FNTR316	FNTR2205	FNRB304	FNRB316	FNRB2205	FNRN304	FNRN316	FNRC	
3/8 x 1/8	10 x 6	○	○	○	○	○	○	○	○	○	○
3/8 x 1/4	10 x 8	○	○	○	○	●	○	○	○	○	○
1/2 x 1/4	15 x 8	○	○	○	○	○	○	●	○	○	○
1/2 x 3/8	15 x 10	○	○	○	○	●	○	●	○	○	●
3/4 x 1/4	20 x 8	○	○	○	○	○	○	○	○	○	○
3/4 x 3/8	20 x 10	○	○	○	○	●	○	●	○	○	○
3/4 x 1/2	20 x 15	●	●	●	●	●	○	●	○	●	○
1 x 1/4	25 x 10	○	○	○	○	○	○	○	○	○	○
1 x 1/2	25 x 15	●	●	●	●	●	●	○	●	○	●
1 x 3/4	25 x 20	●	●	●	●	●	●	○	○	○	○
1 1/4 x 3/4	32 x 20	●	●	●	○	●	○	○	●	○	○
1 1/4 x 1	32 x 25	●	●	●	●	●	●	○	○	○	○
1 1/2 x 1/2	40 x 15	○	○	○	○	○	○	○	●	○	○
1 1/2 x 3/4	40 x 20	○	○	○	●	●	●	○	●	○	○
1 1/2 x 1	40 x 25	●	●	●	●	●	●	○	●	○	○
1 1/2 x 1 1/4	40 x 32	●	●	●	●	●	●	○	●	○	○
2 x 1/2	50 x 15	○	○	○	○	○	○	○	●	○	○
2 x 3/4	50 x 20	○	○	○	○	○	○	○	●	○	○
2 x 1	50 x 25	○	○	○	●	●	●	○	●	○	○
2 x 1 1/4	50 x 32	●	●	●	○	●	○	○	●	○	○
2 x 1 1/2	50 x 40	●	●	●	●	●	●	○	●	○	○

* Bush and Plug are dual cert

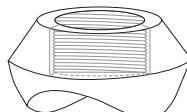
● Stocked Item ○ Market Available

Outlet Fittings

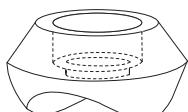
Manufactured to ASTM A182 ANSI B.16.11
 Grade 316/316L
 Weldolets to ASME B16.25 / MSS SP-97-2012
 Weldolets are rated the same as pipe used
 NPT + BSP threaded & socketweld connections to class 3000lb



Weldolet



Threadolet



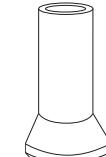
Sockolet



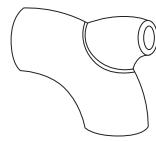
Swept Outlet



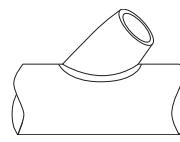
NPT Nipolet



Nipolet



Elbowlet



Latrolet

Size - Nominal NPS (inch) DN (mm)	Weldolet	Weldolet	Weldolet	NPT Threadolet	NPT Threadolet	NPT Threadolet	BSP Threadolet
	80S 304	80S 316	80S 2205	304	316	2205	316
	FSW304	FSW316	FSW2205	FNTH304	FNTH316	FNTH2205	FBTH316
1/8 6	○	○	○	○	○	○	○
1/4 8	○	○	○	○	○	○	○
3/8 10	○	○	○	○	○	○	○
1/2 15	●	●	●	●	●	●	●
5/8 20	●	●	●	●	●	●	●
1 25	●	●	●	●	●	●	●
1 1/4 32	○	●	●	●	●	●	●
1 1/2 40	●	●	●	●	●	●	●
2 50	●	●	●	●	●	●	●

Size - Nominal NPS (inch) DN (mm)	Sockolet	Sockolet	Sockolet	Swept Outlet	Nipolet	NPT Nipolet	Elbowlet	Latrolet
	304	316	2205	-	-	-	-	-
	FSS304	FSS316	FSS2205	-	-	-	-	-
1/8 6	○	○	○	○	○	○	○	○
1/4 8	○	○	○	○	○	○	○	○
3/8 10	○	○	○	○	○	○	○	○
1/2 15	●	●	●	○	○	○	○	○
5/8 20	●	●	●	○	○	○	○	○
1 25	●	●	●	○	○	○	○	○
1 1/4 32	○	●	●	○	○	○	○	○
1 1/2 40	●	●	●	○	○	○	○	○
2 50	●	●	●	○	○	○	○	○

● Stocked Item ○ Market Available

Socket Weld Fittings

Manufactured to ASTM A182 ANSI B.16.11
Socketweld connection, 3000lb rating.



NPS (inch)	DN (mm)	Full Coupling	Union	Union	90° Elbow	90° Elbow	90° Elbow	45° Elbow	45° Elbow
		316	304	316	304	316	2205	304	316
		FSCF316	FSU304	FSU316	FSE9304	FSE9316	FSE92205	FSE4304	FSE4316
½	15	●	●	●	●	●	●	●	●
¾	20	●	●	●	●	●	●	●	●
1	25	●	●	●	●	●	●	●	●
1¼	32	●	●	●	●	●	○	●	●
1½	40	●	●	●	●	●	●	●	●
2	50	●	●	●	●	●	●	●	●

NPS (inch)	DN (mm)	Tee	Tee	Tee	Cap
		304	316	2205	316
		FSTE304	FSTE316	FSTE2205	-
½	15	●	●	●	○
¾	20	●	●	●	○
1	25	●	●	●	○
1¼	32	●	●	○	○
1½	40	●	●	●	○
2	50	●	●	●	○

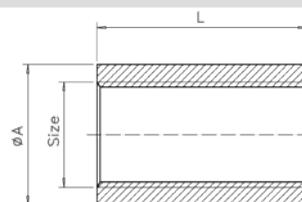
NPS (inch)	DN (mm)	Reducing Socket	Reducing Insert	Reducing Tee	Reducing Tee	Reducing Tee
		316	316	304	316	2205
		FSRS316	FSRI316	FSTR304	FSTR316	FSTR2205
¾ x ½	20x15	○	●	●	●	●
1 x ½	25x15	○	●	●	●	●
1 x ¾	25x20	○	●	●	●	●
1¼ x ¾	32x20	○	○	●	●	●
1¼ x 1	32x25	○	●	●	●	●
1½ x ½	40x15	○	●	○	○	○
1½ x ¾	40x20	○	●	○	○	○
1½ x 1	40x25	○	●	●	●	●
1½ x 1¼	40x32	○	●	●	●	●
2 x ½	50x15	○	●	○	○	○
2 x 1	50x25	○	●	○	○	○
2 x 1¼	50x32	○	●	●	●	●
2 x 1½	50x40	○	●	●	●	●

● Stocked Item ○ Market Available

BSP, NPT, Outlet & Socket Weld Technical Data

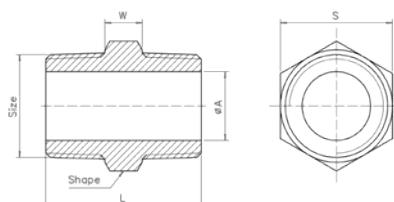
Socket (150LB)

Size	1/8	1/4	3/8	1/2	3/4	1	1-1/4	1-1/2	2	2-1/2	3	4
mm												
A	14	18.5	21.3	26.4	31.8	39.5	48.3	54.5	66.3	82	95	122
L	17	25	26	34	36	43	48	48	56	65	71	72



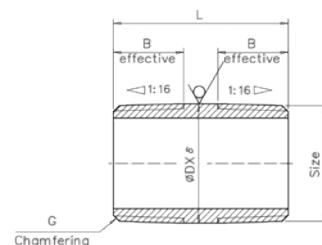
Nipple (150LB)

Size	1/8	1/4	3/8	1/2	3/4	1	1-1/4	1-1/2	2	2-1/2	3	4
mm												
L	20	25	27	34	36.5	42	47.5	47.5	57	61	67.5	80
S	11	14.5	18.5	22.5	28	34	44	50	62	78	90.5	116.5
A	5.5	8	11.5	15	20.5	26	34.5	40	51	65.5	77.5	101.5
W	4	4	5	5	5.5	6	6.5	6.5	7	7	7.5	8



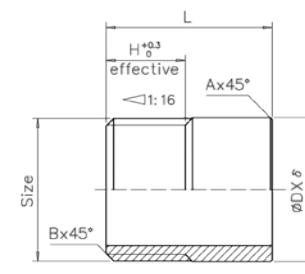
Nipple TBE (150LB)

Size	1/8	1/4	3/8	1/2	3/4	1	1-1/4	1-1/2	2	2-1/2	3	4	5	6
mm														
L	40	40	40	55	60	65	75	74	90	100	110	125	150	180
B	10	10	10	13	15	17	19	19	23	27	30	36	41	41
G	1.2	1.2	1.2	1.2	1.2	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
DX	10.2x 1.5	13.7x 2.24	17.1x 2.31	21.3x 2.3	26.6x 2.3	33.4x 2.8	42.1x 2.8	48.3x 2.8	60.3x 3.3	76.1x 3.3	88.9x 3.8	114.3x 3.8	139.8x 5	165x 6



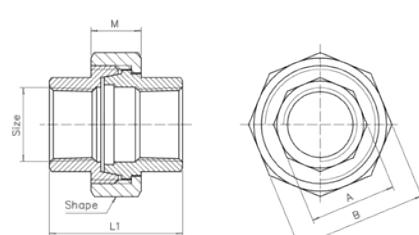
Nipple TOE (150LB)

Size	1/8	1/4	3/8	1/2	3/4	1	1-1/4	1-1/2	2	2-1/2	3	4	5	6
mm														
L	25	25	30	35	40	40	50	50	50	60	70	80	100	120
H	9	11	12	14	16	18	19.5	21	23.5	27	30	36	41	41
A	1	1	1	1	1.2	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
B	1	1	1	1.5	1.5	2	2	2	2	2	2	2	2	2
DX	10.2x 1.5	13.7x 2.24	17.1x 2.31	21.3x 2.3	26.6x 2.3	33.4x 2.8	42.1x 2.8	48.3x 2.8	60.3x 3.3	76.1x 3.3	88.9x 3.8	114.3x 3.8	139.8x 5	165x 6



Union 3 Pce (150LB)

Size	1/8	1/4	3/8	1/2	3/4	1	1-1/4	1-1/2	2	2-1/2	3	4
mm												
A	13	16.5	20	24.5	30	37	46.5	53	65	82	95.5	121.5
B	26	29	34	37	44	52.5	63	70	84	101.5	118	148.5
L1	30	33.5	36.5	39.5	42.5	50	54	58	65	75	83	110
M	13	13.5	15	16	17	20	22	24	27	29.5	31	34



BSP, NPT, Outlet & Socket Weld Technical Data

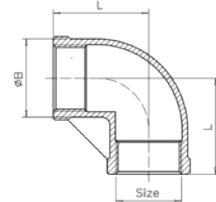
45 Degree Elbow (150LB)

Size	1/8	1/4	3/8	1/2	3/4	1	1-1/4	1-1/2	2	2-1/2	3	4
mm												
B	13	16.5	19.7	24.5	30	37.5	46.5	53	65.5	82	95.5	121.5
L	16	17	19	21	25	29	33	37	42	49	54	64



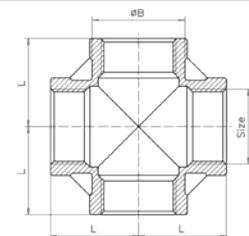
90 Degree Elbow (150LB)

Size	1/8	1/4	3/8	1/2	3/4	1	1-1/4	1-1/2	2	2-1/2	3	4
mm												
B	13	16.5	19.7	24.5	30	37.5	46.5	53	65.5	82	95.5	121.5
L	17	19	23	27	32	38	45	48	57	69	78	96



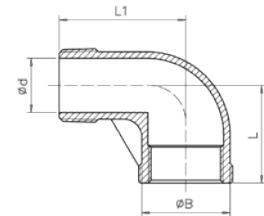
Cross (150LB)

Size	1/8	1/4	3/8	1/2	3/4	1	1-1/4	1-1/2	2	2-1/2	3	4
mm												
B	13	16.5	19.7	24.5	30	37.5	46.5	53	65.5	82	95.5	121.5
L	17	19	23	27	32	38	45	48	57	69	78	97



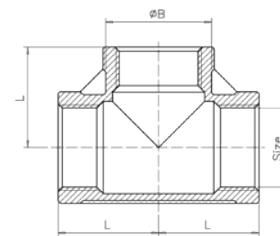
Elbow Female Male (150LB)

Size	1/8	1/4	3/8	1/2	3/4	1	1-1/4	1-1/2	2	2-1/2	3	4
mm												
B	13	16.5	19.7	24.5	30	37.5	46.5	53	63.5	82	95.5	121.5
D	5.5	8	11.5	15	20.5	26	34.5	40	51	65.5	77.5	101.5
L	17	19	23	27	32	38	45	48	57	69	78	97
L1	26	27	29	35	40	46	54	57	70	83	94	115



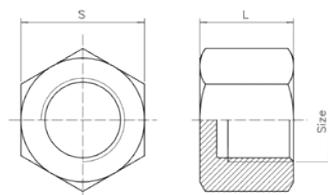
Tee (150LB)

Size	1/8	1/4	3/8	1/2	3/4	1	1-1/4	1-1/2	2	2-1/2	3	4
mm												
B	13	16.5	20	24.5	30	37.5	46.5	53	65.5	82	95.5	121.5
L	17	19	23	27	32	38	45	48	57	69	78	96



Hex Cap (150LB)

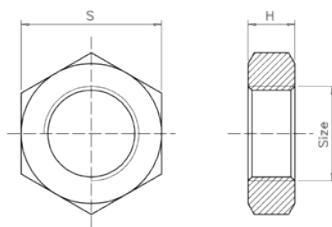
Size	1/8	1/4	3/8	1/2	3/4	1	1-1/4	1-1/2	2	2-1/2	3	4
mm												
S	13	16.5	20	24.5	30	37.5	46.5	53	65.5	82	95.5	121.5
L	12.5	16	16.5	21	22.5	26	29	29	33.5	38.5	42	48.5



BSP, NPT, Outlet & Socket Weld Technical Data

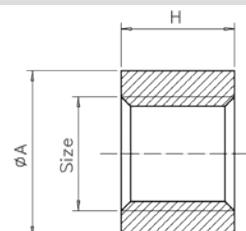
Lock Nut (150LB)

Size mm	1/8	1/4	3/8	1/2	3/4	1	1-1/4	1-1/2	2	2-1/2	3	4
H	5	6	6	7	7	9	11	11	13	15	17	19
S	16	18	24	30	34	42.5	52	58	72	85	100	125



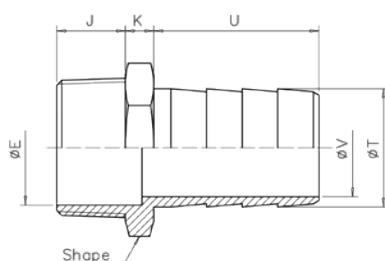
Half Socket (150LB)

Size mm	1/8	1/4	3/8	1/2	3/4	1	1-1/4	1-1/2	2	2-1/2	3	4
A	14	18.5	21.3	26.4	31.8	39.5	48.3	54.5	66.3	82	95	122
H	8	11	12	15	17	20	22	22	26	30	34	40

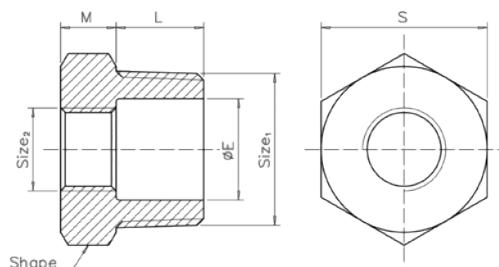


Hose Tail (150LB)

Size mm	1/8	1/4	3/8	1/2	3/4	1	1-1/4	1-1/2	2	2-1/2	3	4
E	5.5	8	11.5	15	20.5	26	34.5	40	51	66.5	77.5	102
J	8	10.5	11	14.5	15.5	18	20.5	20.5	25	27	30	34.5
K	4	4	5	5	5.5	6	6.5	6.5	7	7	7.5	9.5
U	23	28	33	38	45	52	52	56	60	65	70	73
V	4	5	7	10.5	16	22	27.5	34.5	46	59	71	95
T	8	9	11	15	21	27	33	39.5	52	67	80	105
S	11	15	18	22	28	35	44	50	61.5	78	90	117



Bush (150LB)



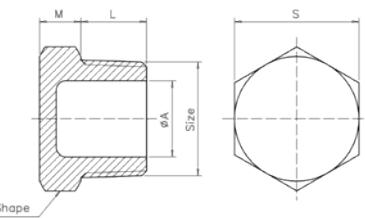
Size mm	1/4	3/8	1/2	3/4	1	1-1/4	1-1/2	1-1/4	1-1/2	1-1/2	1-1/2
S	14.5	18.5	22.5		28		35		44		49.5
E	8	11.5	15		20.5		26		34.5		40
L	10.5	11	14.5		15.5		18		20.5		20.5
M	4	5	5		5.5		6		6.5		6.5

Size mm	2				2-1/2				3				4				5		6			
mm	1/2	3/4	1	1-1/4	1-1/2	1/2	3/4	1	1-1/4	1-1/2	2	3/4	1	1-1/4	1-1/2	2	2-1/2	3	4	4	4	5
S	61.5				77.5				90.5				116.5				140		165			
E	51				65.5				77.5				101.5				120		145			
L	25				27				30				36				42.4		42.4			
M	7				7				7.5				8				12.6		12.6			

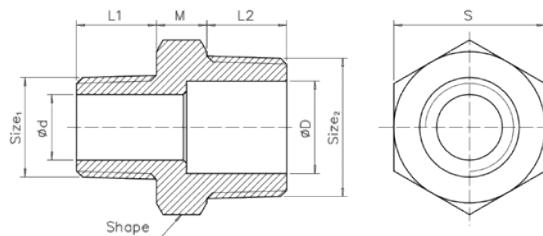
BSP, NPT, Outlet & Socket Weld Technical Data

Hex Plug (150LB)

Size	1/8	1/4	3/8	1/2	3/4	1	1-1/4	1-1/2	2	2-1/2	3	4
mm												
A	5.5	8	11.5	15	20.5	26	34.5	40	51	65.5	77.5	101.5
S	12.5	15	18.5	22.5	28	35	44	50.5	62.5	78.5	92	118
M	4	4	5	5	5.5	6	6.5	6.5	7	7	7.5	8
L	8	10.5	11	14.5	15.5	18	20.5	20.5	25	27	30	36



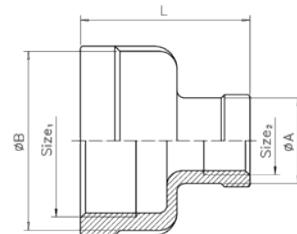
Hex Reducing Nipple (150LB)



Size	1/4	3/8	1/2	3/4	1	1-1/4	1-1/2														
mm	1/8	1/8	1/4	1/8	1/4	3/8	1/2	1/4	3/8	1/2	3/4	1/2	3/4	1	1-1/4						
L1	8	8	10.5	8	10.5	11	10.5	11	14.5	10.5	11	14.5	15.5	14.5	15.5	18	14.5	15.5	18	20.5	
L2	10.5	11	11	14.5	14.5	14.5	14.5	15.5	15.5	14.5	18	18	18	18	18	20.5	20.5	18	18	20.5	20.5
M	4	5	5	5	5	5	5	5.5	5.5	5	6	6	6	6	6.5	6.5	6	6	6.5	6.5	
d	5.5	5.5	8	5.5	8	8	8	11.5	15	8	11.5	15	15	20.5	20.5	26	15	20.5	26	34.5	
D	8	11.5		15				26		26				34.5			40				

Size	2	2-1/2	3	4						
mm	3/4	1	1-1/4	1-1/2	2	2	2-1/2	2-1/2	3	
L1	15.5	18	20.5	20.5	20.5	25	25	27	27	30
L2	18	25	25	25	27	27	30	30	36	36
M	6	7	7	7	7	7.5	7.5	8	8	
d	20.5	26	34.5	40	40	51	51	65.5	65.5	77.5
D		51		65.5		77.5		101.5		

Round Reducing Socket (150LB)



Size	1/4	3/8	1/2	3/4	1	1-1/4	1-1/2														
mm	1/8	1/8	1/4	1/8	1/4	3/8	1/2	1/4	3/8	1/2	3/4	1	1/2	3/4	1	1-1/4					
A	13	13	16.5	13	16.5	20	13	16.5	20	24.5	16.5	20	24.5	30	24.5	30	37.5	24.5	30	37.5	46.5
B	16.5	20		24.5			30			46.5			46.5				53				
L	25	26		34			36			48			48				52				

Size	2	2-1/2	3	4						
mm	3/4	1	1-1/4	1-1/2	2	2	2-1/2	2-1/2	3	
A	30	37.5	46.5	53	53	65.5	65.5	82	82	95.5
B		65.5		81.5		95.5		121.5		
L	58		65		72		94			

Camlock Fittings

Manufactured from investment castings to ASTM A351-CCF8M (316)
 BSP Thread, 150lb rating
 BSP Male Tapered
 BSP Female Parallel
 EPDM or Nitrile seals



Size Nominal NPS (inch)	DN (mm)	Camlock Type A	Camlock Type B	Camlock Type C	Camlock Type D
		FCAA	FCAB	FCAC	FCAD
½	15	○	○	○	○
¾	20	○	○	○	○
1	25	●	●	●	●
1 ¼	32	○	○	○	○
1 ½	40	●	●	●	●
2	50	●	●	●	●
2 ½	65	●	●	●	●
3	80	●	●	●	●
4	100	●	●	●	●



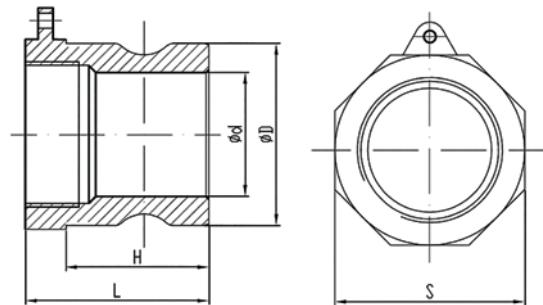
Size Nominal NPS (inch)	DN (mm)	Camlock Type E	Camlock Type F	Camlock Type DC	Camlock Type DP
		FCAE	FCAF	FCADC	FCADP
½	15	○	○	○	○
¾	20	○	○	○	○
1	25	●	●	●	●
1 ¼	32	○	○	○	○
1 ½	40	●	●	●	●
2	50	●	●	●	●
2 ½	65	●	●	●	●
3	80	●	●	●	●
4	100	●	●	●	●

● Stocked Item ○ Market Available

Camlock Technical Data

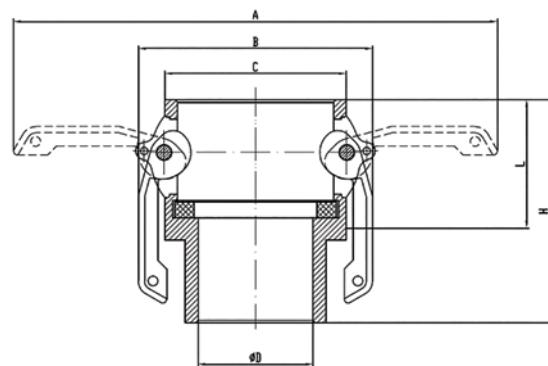
Type A

Size Nominal	L	H	D	d	S	Weight	
inch	mm	mm	mm	mm	mm	g	
½	15	37	30	32	18.5	33	103
¾	20	37	30	32	23	33	82
1	25	44	32	36.5	26	38	133
1 ¼	32	48	37	45.5	31	46.5	158
1 ½	40	52.5	40	53.3	40	55	250
2	50	59	46	63	48	65	328
2 ½	65	72.5	56	75.5	60	82	553
3	80	67	50	91.5	76	97	656
4	100	67	50	119.5	103	122	924



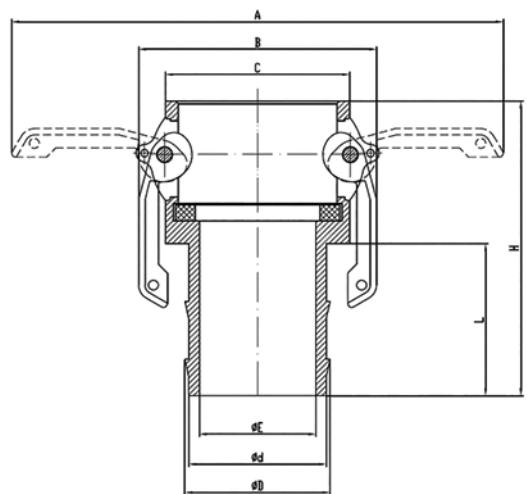
Type B

Size Nominal	D	A	B	C	L	H	Weight	
inch	mm	mm	mm	mm	mm	mm	g	
½	15	15	112	53	41	31	46	159
¾	20	20	112	53	41	31	47	161
1	25	25	120	60	47	37.5	55	249
1 ¼	32	32	175	79	56	45	66	397
1 ½	40	40	182	85	64	45	67.5	428
2	50	50	191	94	74	51	78.5	539
2 ½	65	65	205	109	88	53	82.5	701
3	80	76.5	230	130	104	55	90	1014
4	100	102	258	160	134	55	91	1384



Type C

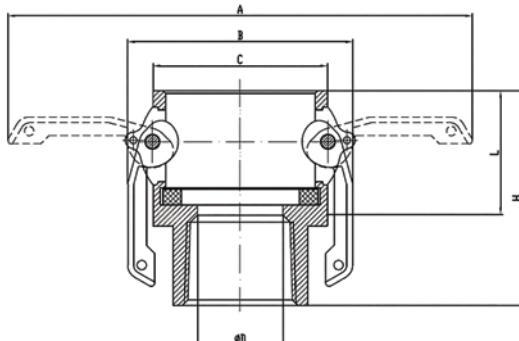
Size Nominal	d	D	A	B	C	L	H	E	Weight	
inch	mm	mm	mm	mm	mm	mm	mm	mm	g	
½	15	18.5	19.7	112	53	41	55	85	15	189
¾	20	18.5	19.7	112	53	41	55	85	15	189
1	25	24	26	120	60	46	61	97.5	20	280
1 ¼	32	32	34	175	79	56	60	105	28	459
1 ½	40	38	39	182	85	64	71	116	33.5	482
2	50	50	52.5	191	95	74	73	125	46.5	696
2 ½	65	63	65	205	109	87	82	134	57	887
3	80	75	77	230	130	104	91	146.5	70	1256
4	100	100	103	258	160	134	106	162	95.5	1719



Camlock Technical Data

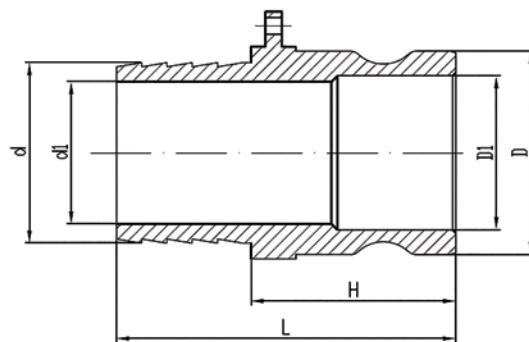
Type D

Size Nominal	D	A	B	C	L	H	Weight	
inch	mm	mm	mm	mm	mm	mm	g	
1/2	15	16.5	112	53	41	30	44	167
3/4	20	19.5	112	53.5	41	30	46.5	171
1	25	28	120	60	46	35.5	52.5	248
1 1/4	32	35	175	79	56	43	63	411
1 1/2	40	40	182	85	64	45	65	422
2	50	50	191	95	74	51	74	551
2 1/2	65	63.5	205	109	87	52.5	81	771
3	80	75	230	130	104	55	86	1072
4	100	102.5	258	160	134	55	86	1381



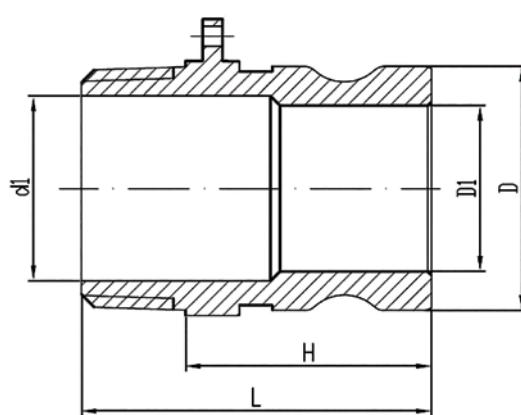
Type E

Size Nominal	L	H	D	D1	d	d1	Weight	
inch	mm	mm	mm	mm	mm	mm	g	
1/2	15	97	40	32	21.5	20	15	170
3/4	20	97	40	32	21.5	20	15	170
1	25	101	40	36.5	25	27	22	216
1 1/4	32	108	47	45.5	30.5	34	28	339
1 1/2	40	117	51	53.3	38	40	33	472
2	50	127	53	63	47	53	46	669
2 1/2	65	137	55	75.5	60	64	57	902
3	80	150	60	91.5	76	77	70	1220
4	100	162	60	119.5	103	104	96	1820



Type F

Size Nominal	L	H	D	D1	d1	Weight	
inch	mm	mm	mm	mm	mm	g	
1/2	15	48	31.5	32	22.5	15	95
3/4	20	48	31.5	32	22.2	20	101
1	25	62	42	36.5	26	26	195
1 1/4	32	72.5	50	45.5	31	34	296
1 1/2	40	73	51	53.3	40	40.5	368
2	50	80.3	55	63	48	51	520
2 1/2	65	87	60	75.5	60	66	654
3	80	95	65	91.5	76	79	993
4	100	103	69	119.5	102	102	1722



ANSI Flanges

Manufactured to ASTM A182 ANSI B.16.5

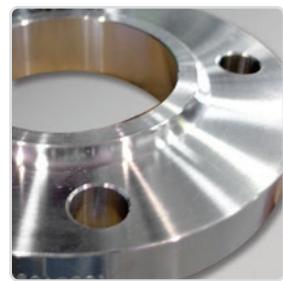
Available from stocks in Class 150#, 300# and 600#. Higher rating on Indent basis.

Slip On Raised Face

Weld Neck Raised Face

Blind Raised Face

Bossed Blind Raised Face (Suitable for machining to Slip On, SocketWeld, Threaded & Standard Blinds)



Size N.B	304L	316L	316L	Slip On Raised Face				
				316L	2205 F51	2205 F51	2205 F51	2507 F53
	150lb	150lb	300lb	600lb	150lb	300lb	600lb	150lb
	FL1S304	FL1S316	FL3S316	FL6S316	FL1S2205	FL3S2205	FL6S2205	FL1S2507
15	●	●	●	○	●	○	○	○
20	●	●	●	○	●	○	○	○
25	●	●	●	●	●	●	●	●
32	●	●	○	○	●	○	○	○
40	●	●	●	●	●	●	●	●
50	●	●	●	●	●	●	●	●
65	●	●	●	○	○	○	○	○
80	●	●	●	●	●	●	●	●
100	●	●	●	●	●	●	●	●
125	●	●	○	○	●	○	○	○
150	●	●	●	○	●	●	●	●
200	●	●	●	○	●	●	●	●
250	●	●	●	○	○	○	○	●
300	●	●	○	○	○	○	○	●
350	●	●	○	○	○	○	○	●
400	●	●	○	○	○	○	○	●
450	●	●	○	○	○	○	○	●
500	●	●	○	○	○	○	○	○
550	○	○	○	○	○	○	○	○
600	●	●	○	○	○	○	○	○
650	○	○	○	○	○	○	○	○
700	○	○	○	○	○	○	○	○
750	○	○	○	○	○	○	○	○
800	○	○	○	○	○	○	○	○
850	○	○	○	○	○	○	○	○
900	○	○	○	○	○	○	○	○

● Stocked Item ○ Market Available

ANSI Flanges

Manufactured to ASTM A182 ANSI B.16.5

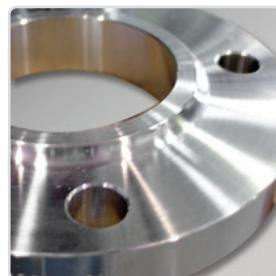
Available from stocks in Class 150#, 300# and 600#. Higher rating on Indent basis.

Slip On Raised Face

Weld Neck Raised Face

Blind Raised Face

Bossed Blind Raised Face (Suitable for machining to Slip On, SocketWeld, Threaded & Standard Blinds)



Weld Neck Raised Face

Size N.B	304L	304L	304L	304L	316L						
	10S 150lb	40S 150lb	40S 300lb	80S 300lb	10S 150lb	40S 150lb	80S 150lb	40S 300lb	80S 300lb	80S 600lb	160S 600lb
FL1W304L1 FL1W304L4 FL3W304L4 FL3W304L8 FL1W316L1 FL1W316L4 FL1W316L8 FL3W316L4 FL3W316L8 FL6W316L8 FL6W316L8											
15	●	●	●	●	●	●	●	●	●	●	○
20	●	●	●	●	●	●	●	●	●	●	○
25	●	●	●	●	●	●	●	●	●	●	●
32	●	●	○	○	○	●	●	○	○	○	○
40	●	●	●	●	●	●	●	●	●	●	○
50	●	●	●	●	●	●	●	●	●	●	●
65	●	●	○	○	●	●	●	●	●	●	○
80	●	●	●	●	●	●	●	●	●	●	●
100	●	●	●	●	●	●	●	●	●	●	●
125	●	●	○	○	●	●	●	○	○	○	○
150	●	●	●	●	●	●	●	●	●	●	●
200	●	●	●	●	●	●	●	●	●	●	●
250	●	●	○	○	●	●	○	○	○	○	○
300	●	●	○	○	●	●	○	○	○	○	○
350	○	○	○	○	●	●	○	○	○	○	○
400	○	○	○	○	●	●	○	○	○	○	○
450	○	○	○	○	○	●	○	○	○	○	○
500	○	○	○	○	○	●	○	○	○	○	○
550	○	○	○	○	○	○	○	○	○	○	○
600	○	○	○	○	●	●	○	○	○	○	○
650	○	○	○	○	○	○	○	○	○	○	○
700	○	○	○	○	○	○	○	○	○	○	○
750	○	○	○	○	○	○	○	○	○	○	○
800	○	○	○	○	○	○	○	○	○	○	○
850	○	○	○	○	○	○	○	○	○	○	○
900	○	○	○	○	○	○	○	○	○	○	○

● Stocked Item ○ Market Available

ANSI Flanges

Manufactured to ASTM A182 ANSI B16.5

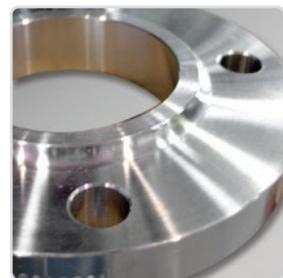
Available from stocks in Class 150#, 300# and 600#. Higher rating on Indent basis.

Slip On Raised Face

Weld Neck Raised Face

Blind Raised Face

Bossed Blind Raised Face (Suitable for machining to Slip On, SocketWeld, Threaded & Standard Blinds)



Weld Neck Raised Face

Size N.B	2205 F51	2205 F51	2205 F51	2205 F51	2205 F51	2205 F51	2507 F53/F55
10S 150lb	40S 150lb	80S 150lb	40S 300lb	80S 300lb	80S 600lb	80S 600lb	40S 150lb
FL1W22051	FL1W22054	FL1W22058	FL3W22054	FL3W22058	FL6W22058	FL6W22058	FL1W25074
15	○	●	●	○	○	○	●
20	○	●	●	○	○	○	●
25	●	●	●	●	●	●	●
32	○	○	●	○	○	○	●
40	●	●	●	●	●	●	●
50	●	●	●	●	●	●	●
65	○	○	●	○	○	○	●
80	●	●	●	●	●	●	●
100	●	●	●	●	●	●	●
125	○	○	●	○	○	○	○
150	●	●	●	●	●	●	●
200	●	●	●	●	●	●	●
250	○	○	○	○	○	○	○
300	○	○	○	○	○	○	○
350	○	○	○	○	○	○	○
400	○	○	○	○	○	○	○
450	○	○	○	○	○	○	○
500	○	○	○	○	○	○	○
550	○	○	○	○	○	○	○
600	○	○	○	○	○	○	○
650	○	○	○	○	○	○	○
700	○	○	○	○	○	○	○
750	○	○	○	○	○	○	○
800	○	○	○	○	○	○	○
850	○	○	○	○	○	○	○
900	○	○	○	○	○	○	○

● Stocked Item ○ Market Available

ANSI Flanges

Manufactured to ASTM A182 ANSI B.16.5

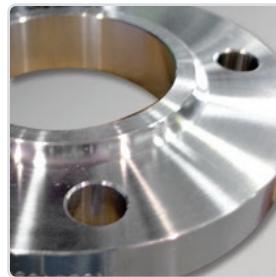
Available from stocks in Class 150#, 300# and 600#. Higher rating on Indent basis.

Slip On Raised Face

Weld Neck Raised Face

Blind Raised Face

Bossed Blind Raised Face (Suitable for machining to Slip On, SocketWeld, Threaded & Standard Blinds)



Size N.B	Blind Raised Face								
	304L	304L	316L	316L	316L	2205 F51	2205 F51	2205 F51	2507 F53/F55
	150lb	300lb	150lb	300lb	600lb	150lb	300lb	600lb	150lb
	FL1B304	FL3B304	FL1B316	FL3B316	FL6B316	FL1B2205	FL3B2205	FL6B2205	FL1B2507
15	●	●	●	●	●	●	○	○	●
20	●	●	●	●	●	●	○	○	●
25	●	●	●	●	●	●	●	●	●
32	●	○	●	○	○	●	○	○	○
40	●	●	●	●	●	●	●	●	●
50	●	●	●	●	●	●	●	●	●
65	●	○	●	●	○	●	○	○	○
80	●	●	●	●	●	●	●	●	●
100	●	●	●	●	●	●	●	●	●
125	●	○	●	●	○	●	○	○	○
150	●	●	●	●	●	●	●	●	●
200	●	●	●	●	●	●	●	●	●
250	●	○	●	●	○	○	○	○	○
300	●	○	●	○	○	○	○	○	○
350	○	○	●	○	○	○	○	○	○
400	○	○	●	○	○	○	○	○	○
450	○	○	●	○	○	○	○	○	○
500	○	○	●	○	○	○	○	○	○
550	○	○	○	○	○	○	○	○	○
600	○	○	●	○	○	○	○	○	○
650	○	○	○	○	○	○	○	○	○
700	○	○	○	○	○	○	○	○	○
750	○	○	○	○	○	○	○	○	○
800	○	○	○	○	○	○	○	○	○
850	○	○	○	○	○	○	○	○	○
900	○	○	○	○	○	○	○	○	○

● Stocked Item ○ Market Available

ANSI Flanges

Manufactured to ASTM A182 ANSI B16.5

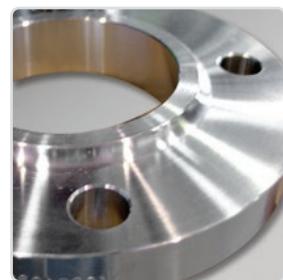
Available from stocks in Class 150#, 300# and 600#. Higher rating on Indent basis.

Slip On Raised Face

Weld Neck Raised Face

Blind Raised Face

Bossed Blind Raised Face (Suitable for machining to Slip On, SocketWeld, Threaded & Standard Blinds)



Suitable for machining to Slip On, SocketWeld, Threaded & Standard Blinds

Size N.B	Bossed Blind Raised Face				Socket Weld	
	304L	316L	316L	2205 F51	316L	316L
	150lb	150lb	300lb	150lb	40S 150lb	80S 150lb
	FL1BB316				FL1SW316	FL1SW316
15	○	●	○	○	●	●
20	○	●	○	○	●	●
25	○	●	○	○	●	●
32	○	●	○	○	○	○
40	○	●	○	○	●	●
50	○	●	○	○	●	●
65	○	○	○	○	○	○
80	○	●	○	○	○	○
100	○	○	○	○	○	○
125	○	○	○	○	○	○
150	○	○	○	○	○	○
200	○	○	○	○	○	○
250	○	○	○	○	○	○
300	○	○	○	○	○	○
350	○	○	○	○	○	○
400	○	○	○	○	○	○
450	○	○	○	○	○	○
500	○	○	○	○	○	○
550	○	○	○	○	○	○
600	○	○	○	○	○	○
650	○	○	○	○	○	○
700	○	○	○	○	○	○
750	○	○	○	○	○	○
800	○	○	○	○	○	○
850	○	○	○	○	○	○
900	○	○	○	○	○	○

● Stocked Item ○ Market Available

ANSI Flanges

Manufactured to ASTM A182 ANSI B.16.5

Available from stocks in Class 150#, 300# and 600#. Higher rating on Indent basis.

Slip On Raised Face

Weld Neck Raised Face

Blind Raised Face

Bossed Blind Raised Face (Suitable for machining to Slip On, SocketWeld, Threaded & Standard Blinds)

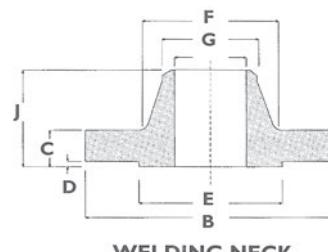
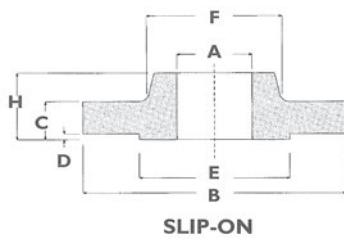
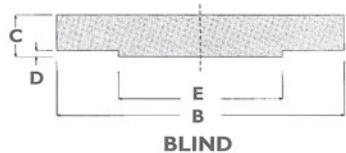


Thread Flange

Size N.B	316L BSP-P	316L NPT
	150lb	150lb
	FL1BSP316	FL1NPT316
15	●	●
20	●	●
25	●	●
32	○	○
40	●	●
50	●	●
65	●	●
80	●	●
100	○	○
125	○	○
150	○	○
200	○	○
250	○	○
300	○	○
350	○	○
400	○	○
450	○	○
500	○	○
550	○	○
600	○	○
650	○	○
700	○	○
750	○	○
800	○	○
850	○	○
900	○	○

● Stocked Item ○ Market Available

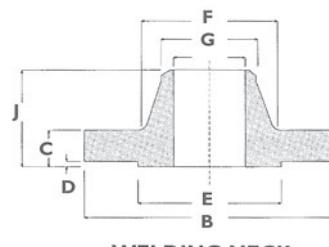
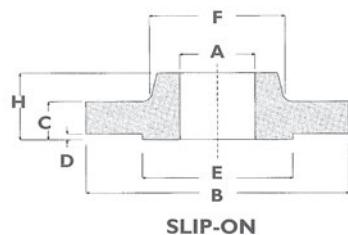
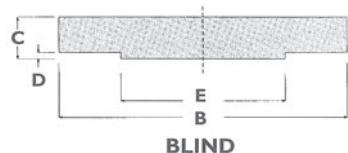
ANSI Flange Dimensions



Size	Slipon Bore	O.D. of Flange	Thick- ness of Flange	Raised Face Thick- ness	Raised Face Dia	Hub Dia	Hub Diam. of Chamfer W. Neck	Length/Hub Slip-On Weld Neck	Bolt Circle Dia	Bolt Hole Dia	No of Bolt Holes	SO Wght	WN Wght	BL Wght	
150lb															
	A	B	C	D	E	F	G	H	J	K	L	M	kg	kg	kg
15	22.3	89.0	11.1	1.6	35	30.2	21.4	15.9	47.7	60.3	15.8	4	0.5	0.9	0.9
20	27.6	98.5	12.8	1.6	42.9	38.2	26.7	15.9	52.4	69.8	15.8	4	0.7	0.9	0.9
25	34.5	108.0	14.3	1.6	50.9	49.2	33.6	17.5	55.6	79.3	15.8	4	0.9	1.4	0.9
32	43.1	117.5	15.9	1.6	63.6	58.8	42.2	20.7	57.2	88.9	15.8	4	1.1	1.4	1.4
40	49.5	127.1	17.5	1.6	73.1	65.1	48.3	22.3	61.9	98.4	15.8	4	1.4	1.8	1.8
50	61.9	152.5	19.1	1.6	92.0	77.8	60.5	25.5	63.6	120.6	19.0	4	2.3	2.7	2.3
65	74.6	177.9	22.3	1.6	104.8	90.5	73.2	28.6	69.9	139.7	19.0	4	3.2	4.6	3.2
80	90.6	190.6	23.8	1.6	127.1	108.0	89.0	30.2	69.9	152.4	19.0	4	3.6	5.2	4.1
100	116.0	228.7	23.8	1.6	157.2	135.0	114.4	33.4	76.3	190.5	19.0	8	5.9	7.8	7.7
125	143.7	254.1	23.8	1.6	185.8	163.5	141.3	36.5	89.0	215.9	22.2	8	6.8	9.6	9.1
150	170.6	279.5	25.5	1.6	216.0	192.1	168.5	39.7	89.0	241.3	22.2	8	8.0	12.5	12.0
200	221.4	343.0	28.6	1.6	269.9	246.1	219.3	44.5	101.7	298.4	22.2	8	12.8	19.9	21.4
250	276.3	406.5	30.2	1.6	323.9	304.9	273.1	49.2	101.7	361.9	25.4	12	18.0	24.6	30.5
300	327.1	482.7	31.8	1.6	381.1	365.2	323.9	55.6	114.4	431.8	25.4	12	27.7	40.0	50
350	359.1	533.5	35.0	1.6	412.8	400.1	355.7	57.2	127.1	476.2	28.5	12	37.7	52	63
400	410.4	597.0	36.5	1.6	470.0	457.3	406.5	63.6	127.1	539.7	28.5	16	48.2	65	85
450	461.7	635.1	39.7	1.6	533.5	504.9	457.3	68.3	139.8	577.8	31.7	16	59	76	99
500	513.0	698.6	42.9	1.6	584.3	558.9	508.1	73.1	144.5	635.0	31.7	20	67	90	129
600	615.9	812.9	47.7	1.6	692.2	663.6	609.7	82.6	152.5	749.3	34.9	20	96	123	190

Size	Slipon Bore	O.D. of Flange	Thick- ness of Flange	Raised Face Thick- ness	Raised Face Dia	Hub Dia	Hub Diam. of Chamfer W. Neck	Length/Hub Slip-On Weld Neck	Bolt Circle Dia	Bolt Hole Dia	No of Bolt Holes	SO Wght	WN Wght	BL Wght	
300lb															
	A	B	C	D	E	F	G	H	J	K	L	M	kg	kg	kg
15	22.3	95.3	14.3	1.6	35.0	38.2	21.4	22.3	52.4	66.6	15.8	4	0.7	0.9	0.9
20	27.6	117.5	15.9	1.6	42.9	47.7	26.7	25.5	57.2	82.5	19.0	4	1.1	1.4	1.4
25	34.5	123.9	17.5	1.6	50.9	54.0	33.6	27.0	61.9	88.9	19.0	4	1.4	1.8	1.8
32	43.1	133.4	19.1	1.6	63.6	63.6	42.2	27.0	65.1	98.4	19.0	4	2.1	2.3	2.7
40	49.5	155.6	20.7	1.6	73.1	69.9	48.3	30.2	68.3	114.3	22.2	4	3.0	3.2	3.2
50	61.9	165.2	22.3	1.6	92.1	84.2	60.5	33.4	69.9	127.0	19.0	8	3.2	3.6	3.6
65	74.6	190.6	25.5	1.6	104.8	100.0	73.2	38.2	76.3	149.2	22.2	8	4.6	5.5	5.5
80	90.6	209.6	28.6	1.6	127.1	117.5	89.0	42.9	79.4	168.2	22.2	8	5.9	6.9	7.3
100	116.0	254.1	31.8	1.6	157.2	146.1	114.4	47.7	85.8	200.0	22.2	8	10.5	12.1	12.7
125	143.7	279.5	35.0	1.6	185.8	177.9	141.3	50.9	98.5	234.9	22.2	8	13.2	16.4	16.8
150	170.6	317.6	36.5	1.6	216.0	206.4	168.5	52.4	98.5	269.8	22.2	12	16.3	21.1	21.8
200	221.4	381.1	41.3	1.6	269.9	260.4	219.3	61.9	111.2	330.2	25.4	12	25.0	31.4	35.9
250	276.3	444.6	47.7	1.6	323.9	320.7	273.1	66.7	117.5	387.3	28.5	16	35.0	44.0	55.0
300	327.1	520.8	50.9	1.6	381.1	374.7	323.9	73.1	130.2	450.8	31.7	16	51.0	65.0	83.0
350	359.1	584.3	54.0	1.6	412.8	425.5	355.7	76.3	142.9	514.3	31.7	20	72	94	110
400	410.4	647.8	57.2	1.6	470.0	482.7	406.5	82.6	146.1	571.5	34.9	20	95	113	143
450	461.7	711.3	60.4	1.6	533.5	533.5	457.3	89.0	158.8	628.6	34.9	24	115	139	188
500	513.0	774.8	63.6	1.6	584.3	587.4	508.1	95.3	162.0	685.8	34.9	24	140	168	234
600	615.9	914.5	69.9	1.6	692.2	701.7	609.7	106.4	168.3	812.8	41.2	24	223	236	364

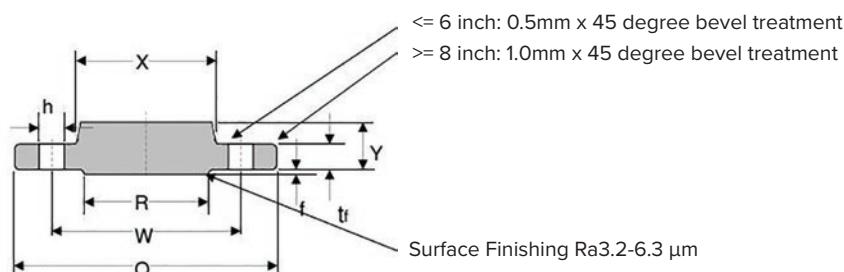
ANSI Flange Dimensions



Size	Slipon Bore	O.D. of Flange	Thickness of Flange	Raised Face Thickness	Raised Face Diameter	Hub diameter	Hub Diam. of Chamfer W. Neck	Length/Hub Slip-On Weld Neck	Bolt Circle Diameter	Bolt Hole Number		
	A	B	C	D	E	F	G	H	J	K	L	M
600lb	15	22.3	95.3	14.3	6.4	35.0	38.2	21.4	22.3	52.4	66.6	15.8
	20	27.6	117.5	15.9	6.4	42.9	47.7	26.7	25.5	57.2	82.5	19.0
	25	34.5	123.9	17.5	6.4	50.9	34.5	33.6	27.0	61.9	88.9	19.0
	32	43.1	133.4	20.7	6.4	63.6	63.6	42.2	28.6	66.7	98.4	19.0
	40	49.5	155.6	22.3	6.4	73.1	69.9	48.3	31.8	69.9	114.3	22.2
	50	61.9	165.2	25.5	6.4	92.1	84.2	60.5	36.5	73.1	127.0	19.0
	65	74.6	190.6	28.6	6.4	104.8	100.0	73.2	41.3	79.4	149.3	22.2
	80	90.6	209.6	31.8	6.4	127.1	117.5	89.0	46.1	82.6	168.2	22.2
	90	103.3	228.7	35.0	6.4	139.8	133.4	101.7	49.2	85.8	184.1	25.4
	100	116.0	273.1	38.2	6.4	157.2	152.5	114.4	54.0	101.7	215.9	25.4
	125	143.7	330.3	44.5	6.4	185.8	188.9	141.3	60.4	114.4	266.7	28.5
	150	170.6	355.7	47.7	6.4	216.0	222.3	168.5	66.7	117.5	292.1	28.5
	200	221.4	419.2	55.6	6.4	269.9	273.10	219.3	76.3	133.4	349.2	31.7
	250	276.3	508.1	63.6	6.4	323.9	343.0	273.1	85.8	152.5	431.8	34.9
	300	327.1	558.9	66.7	6.4	381.1	400.1	323.9	92.1	155.6	488.9	34.9
	350	359.1	603.3	69.9	6.4	412.8	431.9	355.7	93.7	165.2	527.0	38.1
	400	410.4	685.9	76.3	6.4	470.0	495.4	406.5	106.4	177.9	603.2	41.2
	450	461.7	743.0	82.6	6.4	533.5	546.2	457.3	117.5	184.2	654.0	44.4
	500	513.0	812.9	89.0	6.4	584.3	609.70	508.1	127.1	190.6	723.9	44.4
	600	615.9	939.9	101.7	6.4	692.2	717.6	609.7	139.8	203.3	838.2	50.8
												24

Size	Slipon Bore	O.D. of Flange	Thickness of Flange	Raised Face Thickness	Raised Face Diameter	Hub diameter	Hub Diam. of Chamfer W. Neck	Length/Hub Slip-On Weld Neck	Bolt Circle Diameter	Bolt Hole Number		
	A	B	C	D	E	F	G	H	J	K	L	M
900lb	15	22.3	120.7	22.3	6.4	35.0	38.2	21.4	31.8	60.4	82.5	22.2
	20	27.6	130.2	25.5	6.4	42.9	44.5	26.7	35.0	69.9	88.9	22.2
	25	34.5	149.3	28.6	6.4	50.9	52.4	33.6	41.3	73.1	101.6	25.4
	32	43.1	158.8	28.6	6.4	63.6	63.6	42.2	41.3	73.1	111.1	25.4
	40	49.5	177.9	31.8	6.4	73.1	69.9	48.3	44.5	82.6	123.8	28.5
	50	61.9	216.0	38.2	6.4	92.1	104.8	60.5	57.2	101.7	165.1	25.4
	65	74.6	244.5	41.3	6.4	104.8	123.9	73.2	63.6	104.8	190.5	28.5
	80	90.6	241.4	38.2	6.4	127.1	127.1	89.0	54.0	101.7	190.5	25.4
	100	116.0	292.2	44.5	6.4	157.2	158.8	114.4	69.9	114.4	234.9	31.7
	125	143.7	349.3	50.9	6.4	185.8	190.6	141.3	79.4	127.1	279.4	34.9
	150	170.6	381.1	55.6	6.4	216.0	235.0	168.5	85.8	139.8	317.5	31.7
	200	221.4	470.0	63.6	6.4	269.9	298.5	219.3	101.7	162.0	393.7	38.1
	250	276.3	546.2	69.9	6.4	323.9	368.4	273.1	108.0	184.2	469.9	38.1
	300	327.1	609.7	79.4	6.4	381.1	419.2	323.9	117.5	200.1	533.4	38.1
	350	359.1	641.4	85.8	6.4	412.8	450.9	355.7	130.2	212.8	558.8	41.2
	400	410.4	704.9	89.0	6.4	470.0	508.1	406.5	133.4	216.0	615.9	44.4
	450	461.7	787.5	101.7	6.4	533.5	565.2	457.3	152.5	228.7	685.8	50.8
	500	513.0	857.3	108.0	6.4	584.3	622.4	508.1	158.8	247.7	749.3	53.9
	600	615.9	1041.5	139.8	6.4	692.2	749.4	609.7	203.3	292.2	901.7	66.6
												20

ANSI Flange Dimensions



150LB Bossed Blind Flange

DN	inch	O	tf	X	Y	W	h	Hole	R	f
15	1/2	90	9.6	30	14	60.3	15.88	4	34.9	2
20	3/4	100	11.2	38	14	69.9	15.88	4	42.9	2
25	1	110	12.7	49	16	79.4	15.88	4	50.8	2
32	1.1/4	115	14.3	59	19	88.9	15.88	4	63.5	2
40	1.1/2	125	15.9	65	21	98.4	15.88	4	73	2
50	2	150	17.5	78	24	120.7	19.05	4	92.1	2
80	3	190.6	22.2	108	28.6	152.4	19.05	4	127.1	2

300LB Bossed Blind Flange

DN	inch	O	tf	X	Y	W	h	Hole	R	f
15	1/2	95	12.7	38	21	66.7	15.88	4	34.9	2
20	3/4	115	14.3	48	24	82.6	19.05	4	42.9	2
25	1	125	15.9	54	25	88.9	19.05	4	50.8	2
32	1.1/4	135	17.5	64	25	98.4	19.05	4	63.5	2
40	1.1/2	155	19.1	70	29	114.3	22.23	4	73	2
50	2	165	20.7	84	32	127	19.05	8	92.1	2

AS 2129 Flange

Manufactured to AS 2129 from ASTM A182 Forgings or ASTM A240 Plate
 Gramaphone finish one side.

Available bored for pipe or tube, or Blinds and screwed BSP

BFP: Bore for Pipe

BFT: Bore for Tube



Table 'D'

Grade	Pipe NB / Tube mm	Slip On			Blind	
		BFP	BFT	Wgt (kg)		Wgt (kg)
	FFDPF304	-		FFDBF304		
304L	15 / 12.70	●	○	0.3	●	0.3
	20 / 19.05	●	○	0.3	●	0.4
	25 / 25.40	●	○	0.4	●	0.5
	32 / 31.75	○	○	0.5	○	0.6
	40 / 38.10	●	○	0.6	●	0.7
	50 / 50.80	●	○	1.0	●	1.2
	65 / 63.5	○	○	1.1	○	1.4
	80 / 76.2	●	○	1.5	●	2.2
	100 / 101.6	●	○	2.0	●	3.0
	125 / 127.0	○	○	3.1	○	4.3
	150 / 152.4	●	○	3.6	●	6.6
	200 / 203.2	●	○	5.4	●	9.4
	250	●	○	8.8	●	16.9
	300	●	○	13.3	●	26.7
	FFDPF316	FFDTF316		FFDBF316		
316L	15 / 12.70	●	●	0.3	●	0.3
	20 / 19.05	●	●	0.3	●	0.4
	25 / 25.40	●	●	0.4	●	0.5
	32 / 31.75	●	●	0.5	●	0.6
	40 / 38.10	●	●	0.6	●	0.7
	50 / 50.80	●	●	1.0	●	1.2
	65 / 63.5	●	●	1.1	●	1.4
	80 / 76.2	●	●	1.5	●	2.2
	100 / 101.6	●	●	2.0	●	3.0
	125 / 127.0	●	○	3.1	●	4.3
	150 / 152.4	●	●	3.6	●	6.6
	200 / 203.2	●	●	5.4	●	9.4
	250 / 254.0	●	●	8.8	●	16.9
	300	●	○	13.3	●	26.7
	350	●	○	19.6	●	36.6
	400	●	○	22.3	●	44.9
	450	●	○	29.9	●	63.0
	500	●	○	39.9	●	86.0
	600	●	○	58.0	●	125.0
	700					

Table 'E'

BFP	BFT	Wgt (kg)	Slip On		Blind		Screwed	
				FFEPF304FFETF304	FFEBF304		Wgt (kg)	Wgt (kg)
●	○	0.3	●	0.4	○	0.4	●	0.4
●	○	0.4	●	0.4	○	0.5	○	0.5
●	○	0.6	●	0.7	○	0.7	○	0.7
○	○	0.7	○	0.8	○	0.9	○	0.9
●	○	1.0	●	1.2	○	1.2	○	1.2
●	●	1.1	●	1.5	○	1.4	○	1.4
○	●	1.2	○	1.8	○	1.6	○	1.6
●	●	1.9	●	2.8	○	2.4	○	2.4
●	●	2.6	●	3.6	○	3.4	○	3.4
○	●	4.3	○	5.5	○	5.6	○	5.6
●	○	5.2	●	8.1	○	6.8	○	6.8
●	○	8.3	●	14.5	○	10.8	○	10.8
●	○	11.6	●	21.2	○	15	○	15
●	○	16.6	●	33.4	○	21.6	○	21.6
FFEPF316FFETF316			FFEBF316		FFESF316			
●	○	0.3	○	0.4	●	0.4	●	0.4
●	○	0.4	○	0.4	●	0.5	●	0.5
●	●	0.6	●	0.7	●	0.7	●	0.7
●	○	0.7	●	0.8	●	0.9	●	0.9
●	●	1.0	●	1.2	●	1.2	●	1.2
●	●	1.1	●	1.5	●	1.4	●	1.4
●	●	1.2	●	1.8	●	1.6	●	1.6
●	●	1.9	●	2.8	●	2.4	●	2.4
●	●	2.6	●	3.6	●	3.4	●	3.4
●	●	4.3	●	5.5	○	5.6	●	5.6
●	●	5.2	●	8.1	●	6.8	●	6.8
●	●	8.3	●	14.5	○	10.8	○	10.8
●	●	11.6	●	21.2	○	15.0	○	15.0
●	○	16.6	●	33.4	○	21.6	○	21.6
●	○	25.3	●	47.6				
●	○	31.3	●	66.0				
●	○	40.8	●	87.0				
●	○	53.0	●	114.0				
●	○	85.0	●	195.0				
●		133.0						

● Stocked Item ○ Market Available

AS 2129 Flange

Manufactured to AS 2129 from ASTM A182 forgings or ASTM A240 Plate
Gramaphone finish one side.

Available bored for pipe or tube, or Blinds and screwed BSP

BFP: Bore for Pipe

BFT: Bore for Tube



Table 'D'

Grade	Pipe NB / Tube mm	Slip On			Blind			Slip On			Blind			Table 'E'	
		BFP	BFT	Wgt (kg)		Wgt (kg)	BFP	BFT	Wgt (kg)		Wgt (kg)	Screwed	Wgt (kg)		
FFDPF2205															
2205	15 / 12.70	○	○	0.3	○	0.3	●	○	0.3	○	0.4	○	0.4	○	0.4
	20 / 19.05	○	○	0.3	○	0.4	●	○	0.4	○	0.4	○	0.4	○	0.5
	25 / 25.40	○	○	0.4	○	0.5	●	○	0.6	○	0.7	○	0.7	○	0.7
	32 / 31.75	○	○	0.5	○	0.6	●	○	0.7	○	0.8	○	0.8	○	0.9
	40 / 38.10	○	○	0.6	○	0.7	●	○	1.0	○	1.2	○	1.2	○	1.2
	50 / 50.80	○	○	1.0	○	1.2	●	●	1.1	○	1.5	○	1.5	○	1.4
	65 / 63.5	○	○	1.1	○	1.4	●	●	1.2	○	1.8	○	1.8	○	1.6
	80 / 76.2	●	○	1.5	○	2.2	●	●	1.9	○	2.8	○	2.8	○	2.4
	100 / 101.6	●	○	2.0	○	3.0	●	●	2.6	○	3.6	○	3.6	○	3.4
	125 / 127.0	●	○	3.1	○	4.3	●	○	4.3	○	5.5	○	5.5	○	5.6
	150 / 152.4	●	○	3.6	○	6.6	●	●	5.2	○	8.1	○	8.1	○	6.8
	200 / 203.2	●	○	5.4	○	9.4	●	○	8.3	○	14.5	○	14.5	○	10.8
	250 / 254.0	○	○	8.8	○	16.9	●	○	11.6	○	21.2	○	21.2	○	15
	300	○	○	13.3	○	26.7	●	○	16.6	○	33.4	○	33.4	○	21.6

● Stocked Item ○ Market Available

AS 2129 Flange

Manufactured to AS 2129 from ASTM A182 Forgings or ASTM A240 Plate
 Gramaphone finish one side.
 Available bored for pipe or tube, or Blinds and screwed BSP
 BFP: Bore for Pipe
 BFT: Bore for Tube



Table 'H'

Grade	Pipe NB / Tube mm	Slip On			Blind	
		BFP	BFT	Wgt (kg)		Wgt (kg)
		FFHPF304			FFHBF304	
304L	15 / 12.70	○	○	0.9	○	1.0
	20 / 19.05	○	○	0.9	○	1.0
	25 / 25.40	○	○	1.1	○	1.2
	32 / 31.75	○	○	1.6	○	1.8
	40 / 38.10	○	○	1.7	○	2.0
	50 / 50.80	○	○	2.7	○	3.1
	65 / 63.5	○	○	3.1	○	3.8
	80 / 76.2	○	○	4.4	○	5.5
	100 / 101.6	○	○	5.9	○	7.9
	125 / 127.0	○	○	9.9	○	13.6
	150 / 152.4	○	○	10.7	○	15.9
	200 / 203.2	○	○	16.7	○	26.4
	250	○	○	22.5	○	38.9
	300	○	○	32.0	○	59.1
		FFHPF/ FFHPNS*		FFHTF316	FFHBF316	
316L	15 / 12.70	○	○	0.9	○	1.0
	20 / 19.05	●	○	0.9	○	1.0
	25 / 25.40	●	○	1.1	●	1.2
	32 / 31.75	○	○	1.6	○	1.8
	40 / 38.10	●	○	1.7	○	2.0
	50 / 50.80	●	○	2.7	●	3.1
	65 / 63.5	●*	○	3.1	●	3.8
	80 / 76.2	●	○	4.4	●	5.5
	100 / 101.6	●*	○	5.9	●	7.9
	125 / 127.0	○	○	9.9	○	13.6
	150 / 152.4	●	○	10.7	●	15.9
	200 / 203.2	●*	○	16.7	●	26.4
	250	●	○	22.5	○	38.9
	300	●*	○	32.0	●	59.1
	350	○	○	48.8	○	86.9
	400	○	○	64.1	○	120.1
	450	○	○	84.8	○	163.6
	500	○	○	107.8	○	216.4
	600	○	○	152.5	○	330.2

* Dual Cert: AS 4087 PN35

AS 2129 Flange Dimensions

TABLE D

Nominal Pipe Size mm	Slip on Bore	Outside diameter of Flange	Thickness	Bolt Circle Dia.	No. of Holes	Dia. of Holes
15	22.3	95.0	5	67.0	4	14.0
20	27.6	100.0	5	73.0	4	14.0
25	34.5	115.0	5	83.0	4	14.0
32	43.1	120.0	6	87.0	4	14.0
40	49.5	135.0	6	98.0	4	14.0
50	61.9	150.0	8	114.0	4	18.0
65	74.6	165.0	8	127.0	4	18.0
80	90.6	185.0	10	146.0	4	18.0
90	103.3	205.0	10	165.0	4	18.0
100	116.0	215.0	10	178.0	4	18.0
125	143.7	255.0	13	210.0	8	18.0
150	170.6	280.0	13	235.0	8	18.0
200	221.4	335.0	13	292.0	8	18.0
250	276.3	405.0	16	356.0	8	22.0
300	327.1	455.0	19	406.0	12	22.0
350	359.1	525.0	22	470.0	12	26.0
375	410.4	550.0	22	495.0	12	26.0
400	410.4	580.0	25	521.0	12	26.0
450	461.7	640.0	25	584.0	12	26.0
500	513.0	705.0	29	641.0	16	26.0
550	564.3	760.0	29	699.0	16	30.0
600	615.9	825.0	32	756.0	16	30.0
700	717.5	910.0	35	845.0	20	30.0
750	768.3	995.0	41	927.0	20	33.0
800	819.1	1060.0	41	984.0	20	36.0
850	869.9	1090.0	44	1016.0	20	36.0
900	920.7	1175.0	48	1092.0	24	36.0

TABLE E

Nominal Pipe Size mm	Slip on Bore	Outside diameter of Flange	Thickness	Bolt Circle Dia.	No. of Holes	Dia. of Holes
15	22.3	95.0	6	67.0	4	14.0
20	27.6	100.0	6	73.0	4	14.0
25	34.5	115.0	7	83.0	4	14.0
32	43.1	120.0	8	87.0	4	14.0
40	49.5	135.0	9	98.0	4	14.0
50	61.9	150.0	10	114.0	4	18.0
65	74.6	165.0	10	127.0	4	18.0
80	90.6	185.0	11	146.0	4	18.0
90	103.3	205.0	12	165.0	8	18.0
100	116.0	215.0	13	178.0	8	18.0
125	143.7	255.0	14	210.0	8	18.0
150	170.6	280.0	17	235.0	8	22.0
200	221.4	335.0	19	292.0	8	22.0
250	276.3	405.0	22	356.0	12	22.0
300	327.1	455.0	25	406.0	12	26.0
350	359.1	525.0	29	470.0	12	26.0
375	410.4	550.0	32	495.0	12	26.0
400	410.4	580.0	32	521.0	12	26.0
450	461.7	640.0	35	584.0	16	26.0
500	513.0	705.0	38	641.0	16	26.0
550	564.3	760.0	44	699.0	16	30.0
600	615.9	825.0	48	756.0	16	33.0
700	717.5	910.0	51	845.0	20	33.0
750	768.3	995.0	54	927.0	20	36.0
800	819.1	1060.0	54	984.0	20	36.0
850	869.9	1090.0	57	1016.0	20	36.0
900	920.7	1175.0	64	1092.0	24	36.0

TABLE H

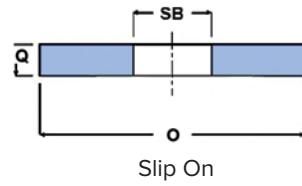
Nominal Pipe Size mm	Slip on Bore	Outside diameter of Flange	Thickness	Bolt Circle Dia.	No. of Holes	Dia. of Holes
15	22.3	115.0	13	83.0	4	18.0
20	27.6	115.0	13	83.0	4	18.0
25	34.5	120.0	14	87.0	4	18.0
32	43.1	135.0	17	98.0	4	18.0
40	49.5	140.0	17	105.0	4	18.0
50	61.9	165.0	19	127.0	4	18.0
65	74.6	185.0	19	146.0	8	18.0
80	90.6	205.0	22	165.0	8	18.0
90	103.3	215.0	22	178.0	8	18.0
100	116.0	230.0	25	191.0	8	18.0
125	143.7	200.0	29	235.0	8	22.0
150	170.6	305.0	29	260.0	12	22.0
200	221.4	370.0	32	324.0	12	22.0
250	276.3	430.0	35	381.0	12	26.0
300	327.1	490.0	41	438.0	16	26.0
350	359.1	550.0	48	495.0	16	30.0
400	410.4	610.0	54	552.0	20	30.0
450	461.7	675.0	60	610.0	20	33.0

BS EN 1092-1 Flanges

Grade 316/316L, Forging to A182 - alternate grade made to order
 Dimension to EN 1092-1
 Slip On in stock - other flange type made to order
 all dimensions in mm



Blind



Slip On

Rating PN 10

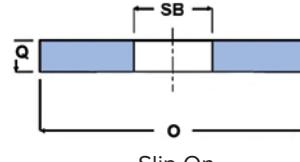
Nominal Pipe Size	Slip On Bore	Outside Diameter of Flange	Bolt Circle Diameter	No. of Holes	Diameter of Holes	Slip On	Blind
(mm)	SB	Ø	Q	P	N	HD	FF16FFSO FF16FFBL/FF40FFBL
15	22.3	95	14	65	4	14	○ ○
20	27.6	105	16	75	4	14	○ ○
25	34.5	115	16	85	4	14	○ ●***
32	43.1	140	18	100	4	18	○ ○
40	49.5	150	18	110	4	18	○ ●***
50	61.9	165	20	125	4	18	○ ●*
65	74.6	185	20	145	8	18	●* ●*
80	90.6	200	20	160	8	18	●* ●*
100	116	220	22	180	8	18	●* ●*
125	143.7	250	22	210	8	18	●* ○
150	170.6	285	24	240	8	22	●* ●*
200	221.1	340	24	295	8	22	○ ○
250	276.3	395	26	350	12	22	○ ○
300	327.1	445	26	400	12	22	○ ○
350	358.6	505	30	460	16	22	○ ○
400	409.4	565	32	515	16	26	○ ○
450	460.0	615	36	565	20	26	○ ○
500	511	670	38	620	20	26	○ ○
600	613	780	42	725	20	30	○ ○
700	715	895	50	840	24	30	○ ○
800	816	1015	56	950	24	33	○ ○
900	918	1115	62	1050	28	33	○ ○

BS EN 1092-1 Flanges

Grade 316/316L, Forging to A182 - alternate grade made to order
 Dimension to EN 1092-1
 Slip On in stock - other flange type made to order
 all dimensions in mm



Blind



Slip On

Rating PN 16

Nominal Pipe Size	Slip On Bore	Outside Diameter of Flange	Bolt Circle Diameter	No. of Holes	Diameter of Holes	Slip On	Blind
(mm)	SB	0	Q	P	N	HD	FFPN SOE FF16FFBL/FF40FFBL
15	22.3	95	14	65	4	14	○ ○
20	27.6	105	16	75	4	14	○ ○
25	34.5	115	16	85	4	14	● ●***
32	43.1	140	18	100	4	18	● ○
40	49.5	150	18	110	4	18	● ●***
50	61.9	165	20	125	4	18	● ●*
65	74.6	185	20	145	4 / 8	18	● ●*
80	90.6	200	20	160	8	18	● ●*
100	116	220	22	180	8	18	● ●*
125	143.7	250	22	210	8	18	● ○
150	170.6	285	24	240	8	22	● ●*
200	221.1	340	26	295	12	22	● ○
250	276.3	405	29	355	12	26	● ○
300	327.1	460	32	410	12	26	● ○
350	358.6	520	35	470	16	26	● ○
400	409.4	580	38	525	16	30	○ ○
450	460	640	42	585	20	30	○ ○
500	511	715	46	650	20	33	○ ○
600	613	840	55	770	20	36	○ ○
700	715	910	63	840	24	36	○ ○
800	816	1025	74	950	24	39	○ ○
900	918	1125	82	1050	28	39	○ ○

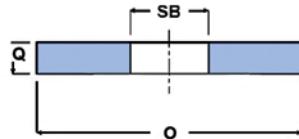
● Stocked Item ○ Market Available

BS EN 1092-1 Flanges

Grade 316/316L, Forging to A182 - alternate grade made to order
 Dimension to EN 1092-1
 Slip On in stock - other flange type made to order
 all dimensions in mm



Blind



Slip On

Rating PN 25

Nominal Pipe Size	Slip On Bore	Outside Diameter of Flange	Bolt Circle Diameter	No. of Holes	Diameter of Holes	Slip On	Blind
(mm)	SB	0	Q	P	N	HD	FF40FFSO/FF25FFSO
15	22.3	95	14	65	4	14	○
20	27.6	105	16	75	4	14	○
25	34.5	115	16	85	4	14	●*
32	43.1	140	18	100	4	18	●*
40	49.5	150	18	110	4	18	●*
50	61.9	165	20	125	4	18	●*
65	74.6	185	22	145	8	18	○
80	90.6	200	24	160	8	18	●*
100	116	235	26	190	8	22	●*
125	143.7	270	28	220	8	26	●
150	170.6	300	30	250	8	26	●
200	221.1	360	32	310	12	26	●
250	276.3	425	35	370	12	30	●
300	327.1	485	38	430	16	30	●
350	358.6	555	42	490	16	33	○
400	409.4	620	48	550	16	36	○
450	460	670	54	600	20	36	○
500	511	730	58	660	20	36	○
600	613	845	68	770	20	39	○

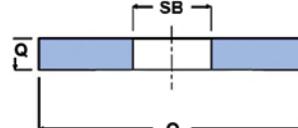
● Stocked Item ○ Market Available

BS EN 1092-1 Flanges

Grade 316/316L, Forging to A182 - alternate grade made to order
 Dimension to EN 1092-1
 Slip On in stock - other flange type made to order
 all dimensions in mm



Blind



Slip On

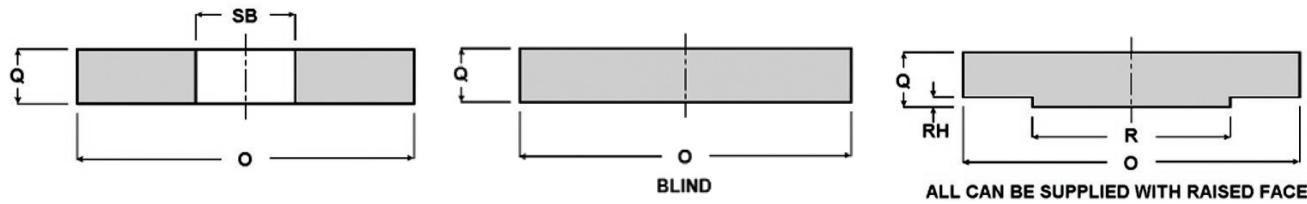
Rating PN 40

Nominal Pipe Size	Slip On Bore	Outside Diameter of Flange	Bolt Circle Diameter	No. of Holes	Diameter of Holes	Slip On	Blind
(mm)	SB	0	Q	P	N	HD	FF40FFSO/FF25FFSO
15	22.3	95	14	65	4	14	○
20	27.6	105	16	75	4	14	○
25	34.5	115	16	85	4	14	●*
32	43.1	140	18	100	4	18	○
40	49.5	150	18	110	4	18	●*
50	61.9	165	20	125	4	18	●*
65	74.6	185	22	145	8	18	○
80	90.6	200	24	160	8	18	●*
100	116	235	26	190	8	22	●*
125	143.7	270	28	220	8	26	○
150	170.6	300	30	250	8	26	○
200	221.1	375	36	320	12	30	○
250	276.3	450	42	385	12	33	○
300	327.1	515	52	450	16	33	○
350	358.6	580	58	510	16	36	○
400	409.4	660	65	585	16	39	○
450	460	685		610	20	39	○
500	511	755		670	20	42	○
600	613	890		795	20	48	○

● Stocked Item ○ Market Available

AS 4087 Waterwork Flanges

Australian/New Zealand Standard AS/NZS 4087
 All dimensions in mm



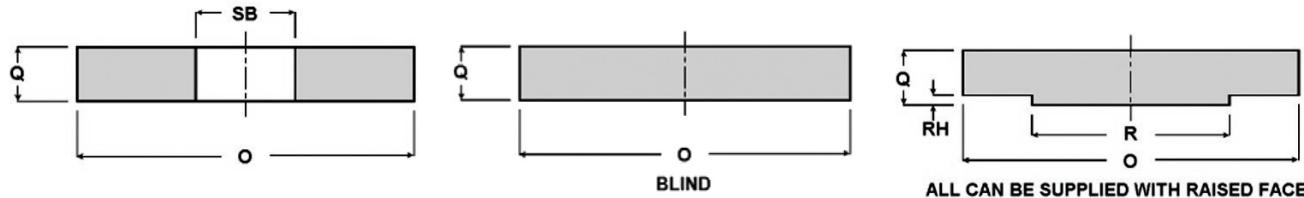
Rating PN 16

Nominal Pipe Size	Slip On Bore		Outside Diameter of Flange	Thickness	Bolt Circle Diameter	Number of Holes	Diameter of Holes	
(mm)	SB	Slip On	Blind	O	Q	P	N	HD
		FFPNSO316	FFPNBL316					
50	61.9	○	●	150.0	11.0	114.0	4	18.0
65	74.6	○	○	165.0	11.0	127.0	4	18.0
76	77.7	○	○	165.0	11.0	127.0	4	18.0
80	90.6	○	●	185.0	11.0	146.0	4	18.0
100	116.0	●	●	215.0	13.0	178.0	4	18.0
150	170.6	○	●	280.0	13.0	235.0	8	18.0
165	167.6	○	○	280.0	13.0	235.0	8	18.0
200	221.1	●	●	335.0	19.0	292.0	8	18.0
250	276.3	●	●	405.0	19.0	356.0	8	22.0
300	327.1	●	●	455.0	23.0	406.0	12	22.0
350	358.6	○	●	525.0	30.0	470.0	12	26.0
400	409.4	○	●	580.0	30.0	521.0	12	26.0
450	460.0	●	●	640.0	30.0	584.0	12	26.0
500	511.0	○	●	705.0	38.0	641.0	16	26.0
600	613.0	●	●	825.0	48.0	756.0	16	30.0
700	715.0	○	○	910.0	56.0	845.0	20	30.0
750	765.0	●	○	995.0	56.0	927.0	20	33.0
800	816.0	○	○	1060.0	56.0	984.0	20	36.0
900	918.0	○	○	1175.0	66.0	1092.0	24	36.0
1000	1020.0	○	○	1255.0	66.0	1175.0	24	36.0
1200	1224.0	○	○	1490.0	76.0	1410.0	32	36.0

● Stocked Item ○ Market Available

AS 4087 Waterwork Flanges

Australian/New Zealand Standard AS/NZS 4087
All dimensions in mm



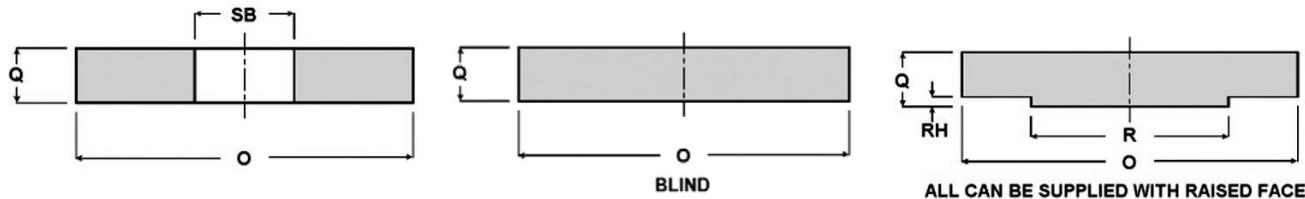
Rating PN 21

Nominal Pipe Size	Slip On Bore			Outside Diameter of Flange	Thickness	Bolt Circle Diameter	Number of Holes	Diameter of Holes
(mm)	SB	Slip On	Blind	O	Q	P	N	HD
FF21FFSO								
50	61.9	●	○	165.0	15.0	127.0	4	18.0
65	74.6	○	○	185.0	15.0	146.0	8	18.0
80	90.6	●	○	205.0	15.0	165.0	8	18.0
100	116.0	●	○	230.0	19.0	191.0	8	18.0
150	170.6	●	○	305.0	24.0	260.0	12	22.0
200	221.1	●	○	370.0	24.0	324.0	12	22.0
250	276.3	●	○	430.0	30.0	381.0	12	26.0
300	327.1	●	○	490.0	30.0	438.0	16	26.0
350	358.6	○	○	550.0	38.0	495.0	16	30.0
400	409.4	○	○	610.0	38.0	552.0	20	30.0
450	460.0	○	○	675.0	38.0	610.0	20	30.0
500	511.0	○	○	735.0	48.0	673.0	24	30.0
600	613.0	○	○	850.0	58.0	781.0	24	30.0

● Stocked Item ○ Market Available

AS 4087 Waterwork Flanges

Australian/New Zealand Standard AS/NZS 4087
All dimensions in mm

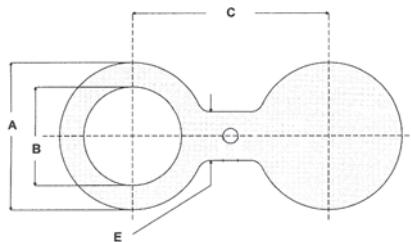


Rating PN 35

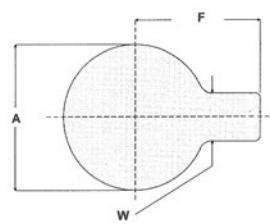
Nominal Pipe Size	Slip On Bore	Outside Diameter of Flange	Thickness	Bolt Circle Diameter	Number of Holes	Diameter of Holes		
(mm)	SB	Slip On	Blind	Q	P	N	HD	
FFHPN								
50	61.9	○	○	165.0	19.0	127.0	4	18.0
65	74.6	●*	○	185.0	19.0	146.0	8	18.0
80	90.6	○	○	205.0	24.0	165.0	8	18.0
100	116.0	●*	○	230.0	24.0	191.0	8	18.0
150	170.6	○	○	305.0	31.0	260.0	12	18.0
200	221.1	●*	○	370.0	31.0	324.0	12	18.0
250	276.3	○	○	430.0	38.0	381.0	12	22.0
300	327.1	●*	○	490.0	38.0	438.0	16	22.0
350	358.6	○	○	550.0	48.0	495.0	16	26.0
400	409.4	○	○	610.0	48.0	552.0	20	26.0
450	460.0	○	○	675.0	58.0	610.0	20	26.0
500	511.0	○	○	735.0	58.0	673.0	24	26.0
600	613.0	○	○	850.0	68.0	781.0	24	30.0

* Dual Cert: AS 2129 Table H

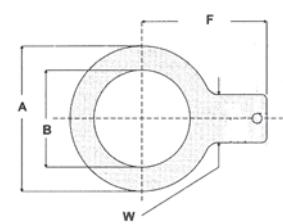
Flange Blinds



SPECTACLE BLIND



PADDLE BLIND



RING SPACER

T = Thickness

NB Size	ASME 150							ASME 300						
	A	B	C	E	W	F	T	A	B	C	E	W	F	T
25	64	27	79	38	32	145	3	70	27	89	38	32	150	6
40	83	48	99	38	32	155	6	92	48	114	51	32	170	6
50	102	60	121	51	32	165	6	108	60	127	51	32	175	10
65	121	73	140	51	32	175	6	127	73	149	64	32	190	10
80	133	89	152	64	32	175	6	146	89	168	64	32	195	10
100	171	114	190	64	32	205	10	178	114	200	64	32	215	13
150	219	168	241	76	32	230	13	248	168	270	76	32	250	16
200	276	219	298	76	40	260	13	305	219	330	89	40	280	22
250	337	273	362	102	40	295	16	359	273	387	102	40	315	25
300	406	324	432	102	50	330	19	419	324	451	102	50	350	28
350	448	356	476	108	50	360	19	483	356	514	121	40	385	32
400	511	406	540	108	50	390	22	537	406	572	124	50	415	38
450	546	457	578	114	50	410	25	594	457	629	114	40	445	41
500	603	508	635	121	60	440	28	651	508	686	121	45	480	44
600	714	610	749	140	60	500	32	772	610	813	140	60	550	51

NB Size	ASME 600							ASME 900						
	A	B	C	E	W	F	T	A	B	C	E	W	F	T
25	70	27	89	57	32	150	6	76	27	102	57	32	164	6
40	92	43	114	67	32	170	10	95	43	124	67	32	179	10
50	108	55	127	57	32	175	10	140	55	165	57	32	198	13
65	127	67	149	67	32	190	13	162	67	190	67	32	205	13
80	146	83	168	67	32	195	13	165	83	190	67	32	210	16
100	191	108	216	76	32	225	16	203	108	235	76	32	235	19
150	264	162	292	86	32	267	22	286	162	318	86	32	280	25
200	318	212	349	95	40	300	28	356	212	394	95	40	325	35
250	397	265	432	105	38	345	35	432	265	470	105	40	363	41
300	454	315	489	105	40	370	41	495	315	533	105	40	395	48
350	489	346	527	114	50	393	44	518	346	559	114	40	410	54
400	562	397	603	124	50	432	51	572	397	616	124	50	443	60
450	610	448	654	133	50	463	54	635	448	686	133	50	485	67
500	679	497	724	133	45	500	64	695	497	749	133	60	520	73
600	787	597	838	152	50	560	73	835	597	902	152	60	615	89

Seamless Round Tube

Manufactured to ASTM A269/213 - Cold Drawn Seamless Annealed & Pickled
 Imperial & Metric sizes, Length: 6 mtrs. Plain End & End Caps.
 Mechanical polish available with production quantity & lead time

Barlow's Formula: $P = \frac{2 \times (S) \times t}{D}$ P = Pressure, S = Allowable Stress (517 Mpa, Grade 316)
 t = Wall Thickness, D = Outside Diameter

Note, the typical safe working pressure figures in the table were calculated on a safety factor of '4'.



Size (mm) W.T. O.D.	304/304L	316/316L	Weight kg/metre	Burst Pressure PSI	Typical Safe Working Pressure
TRS316					
0.9	3.18	○	○	0.05	42,433
	4.76	○	●	0.08	28,348
	6.35	○	●	0.12	21,249
	7.94	○	○	0.15	16,994
	9.52	○	●	0.19	14,174
	12.70	○	●	0.26	10,624
1.0	6.00	○	●	0.12	24,988
	10.00	○	●	0.22	14,939
1.2	6.35	○	●	0.15	28,333
	7.94	○	●	0.20	22,659
	9.52	○	●	0.25	18,898
	12.70	○	●	0.35	14,166
	15.88	○	●	0.45	11,329
	19.05	○	●	0.55	9,444
	25.40	○	●	0.75	7,083
1.5	8.00	○	●	0.25	28,111
	10.00	○	●	0.32	22,489
	12.00	○	●	0.40	18,741
	25.00	○	○	0.88	8,995
1.6	6.35	○	●	0.19	37,777
	9.52	○	●	0.32	25,198
	12.70	○	●	0.45	18,888
	15.88	○	●	0.58	15,106
	19.05	○	●	0.71	12,592
	25.40	○	●	0.98	9,444
	31.75	○	●	1.24	7,555
	38.10	○	●	1.51	6,296
	50.80	○	●	2.03	4,722
2.0	16.00	○	●	0.69	18,741
	18.00	○	●	0.79	16,658
	19.05	○	●	0.89	15,740
	20.00	○	●	0.89	14,993
	22.00	○	●	1.0	13,630
	25.40	○	●	1.23	11,805
	28.00	○	●	1.29	10,709
	31.75	○	●	1.57	9,444
	35.00	○	●	1.65	8,567
	38.10	○	○	1.90	7,870
2.5	25.00	○	●	1.4	14,993
3.0	25.40	○	●	1.71	17,708
	30.00	○	●	2.01	14,993
	31.75	○	●	2.19	14,166
	38.00	○	●	2.6	11,836
	42.00	○	●	2.93	10,709
	38.10	○	●	2.68	11,805
3.25	50.80	○	●	3.65	9,591
4.0	38.00	○	●	3.41	15,782
					3,945

Welded Round Tube

ASTM A554: Mill, #320 Grit, #600 Grit, #1000 Grit (Mirror, HiPol)

ASTM A269: Mill Annealed, #600 Grit Annealed

ASTM A789: 2205 Mill Annealed,

ASTM A249: available from production, AS 1528: #320 Grit, internally smooth

Length: 6 mtrs or 6.1 mtrs (2205)

Note: Other finishes available on request. Alternative specification A249 (welded heat exchanger tube)



W.T.	O.D.	Size (mm)		304	304	304	304	304	Apprx. Wgt. (kg/m)
		304 Mill	#320 Grit	#320 Grit Ann	AS1528	#600 Grit	Mirror Finish	HP	
	-		TR304+HT	TR304+HTA	TR304+HB	TR304+HS	TR304+HP		
1.2	9.52	○	○	○	○	○	○	○	0.25
	12.70	○	○	○	○	●	○	○	0.34
	15.88	○	○	○	○	●	○	○	0.44
	19.05	○	○	○	○	●	○	○	0.53
	22.22	○	○	○	○	●	○	○	0.63
	25.40	○	○	●	○	●	○	○	0.73
	31.75	○	○	○	○	●	○	○	0.92
	38.10	○	○	○	○	○	○	○	1.11
	50.80	○	○	○	○	○	○	○	1.49
1.5	15.90	○	●	○	○	○	○	○	0.57
	19.05	○	●	○	○	○	○	○	0.70
1.6	9.52	○	○	○	○	○	○	○	0.31
	12.70	○	○	○	○	●	○	○	0.44
	15.88	○	○	○	○	●	○	○	0.57
	19.05	○	○	○	○	●	●	○	0.70
	22.22	○	○	○	○	●	●	●	0.83
	25.40	○	●	○	●	●	●	●	0.95
	28.58	○	○	○	○	●	●	○	1.08
	31.75	○	●	○	●	●	●	●	1.21
	35.00	○	○	○	○	○	○	○	1.34
	38.10	○	●	●	●	●	●	●	1.46
	41.28	○	○	○	○	●	○	○	1.59
	44.45	○	○	○	○	●	○	○	1.71
	48.26	○	●	○	○	○	○	○	1.90
	50.80	○	●	●	●	●	●	●	1.98
	54.00	○	○	○	○	●	○	○	2.03
	57.00	○	○	○	○	●	○	○	2.22
	60.00	○	○	○	○	○	○	○	2.35
	63.50	○	●	○	●	●	●	●	2.49
	70.00	○	○	○	○	●	○	○	2.68
	76.20	○	●	○	●	●	●	●	3.00
	88.90	○	●	○	○	●	○	○	3.50
	101.6	○	●	○	●	●	●	○	4.02
	114.3	○	○	○	○	○	○	○	4.45
	127.0	○	●	○	●	○	○	○	5.03
	152.4	○	●	○	●	○	○	○	6.05
2.0	254.0	●	○	○	○	○	○	○	13.00
	304.0	●	○	○	○	○	○	○	15.00



Mill



#320 Grit



AS1528 #320 Grit internally smooth



#600 Grit



#1000 Grit
Mirror Finish
HiPol

• Stocked Item ○ Market Available

Welded Round Tube

ASTM A554: Mill, #320 Grit, #600 Grit, #1000 Grit (Mirror, HiPol)

ASTM A269: Mill Annealed, #600 Grit Annealed

ASTM A789: 2205 Mill Annealed,

ASTM A249: available from production, AS 1528: #320 Grit, internally smooth

Length: 6 mtrs or 6.1 mtrs (2205)

Note: Other finishes available on request. Alternative specification A249 (welded heat exchanger tube)



Size (mm) W.T. O.D.	316 Mill	316 Mill Ann	316 #320 Grit	316 #320 Grit AS1528	316 #600 Grit	316 Mirror Finish*	2205 Mill Ann	Apprx. Weight (kg/m)
	TR316+HM	TR316+HMA	TR316+HT	TR316+HB	TR316+HS	TR316+HP	TR2205+A	
1.2 9.52	○	○	○	○	○	○	○	0.25
12.70	○	○	○	○	○	○	○	0.34
15.88	○	○	○	○	○	○	○	0.44
19.05	○	○	○	○	●	○	○	0.53
22.22	○	○	○	○	○	○	○	0.63
25.40	○	○	○	○	○	○	○	0.73
38.10	○	○	○	○	○	○	○	1.11
1.5 12.70	○	○	●	○	○	○	○	0.45
15.90	○	○	●	○	○	●	○	0.57
19.05	○	○	●	○	○	○	○	0.70
1.6 9.52	○	○	○	○	○	○	○	0.31
12.70	○	○	○	○	●	○	○	0.44
15.88	○	○	○	○	●	○	○	0.57
19.05	○	○	○	○	●	●	●	0.70
22.22	○	○	○	○	●	●	○	0.83
25.40	○	●	●	●	●	●	●	0.95
31.75	○	○	●	●	●	●	○	1.21
38.10	○	●	●	●	●	●	●	1.46
44.45	○	○	○	○	●	○	○	1.71
50.80	○	●	●	●	●	●	●	1.98
57.00	○	○	○	○	○	○	○	2.22
63.50	○	●	●	●	●	●	○	2.49
76.20	●	○	●	●	●	●	○	3.00
88.90	○	○	○	○	●	○	○	3.50
101.6	●	○	●	●	●	○	○	4.02
127.0	○	○	●	●	○	○	○	5.03
152.4	○	○	●	●	○	○	○	6.05
2.0 50.8	●	○	○	○	○	○	○	2.82
63.5	○	●	○	○	○	○	●	3.08
76.20	○	●	○	○	○	○	●	3.70
101.6	○	●	○	○	○	○	●	5.00
203.0	○	○	●	○	○	○	○	10.00
254.0	●	○	○	○	○	○	○	13.00
304.0	●	○	○	○	○	○	○	15.00
3.0 38.1	○	○	●	○	○	●	○	2.74
42.4	○	○	●	○	○	○	○	3.03
48.3	○	○	●	○	○	○	○	3.48
50.8	○	○	●	○	●	●	○	3.65

* Includes HiPol and polishes #800 grit and higher.

● Stocked Item ○ Market Available

Square Tube

Manufactured to ASTM A554

Available in welded only, polished or mill.

Grades 304 and 316.

180 Grit Polish, # 320 Grit Polish

400 Grit Polish, # 600 Grit Polish & HiPol

1000 Grit, Mirror

Mill



W.T. (mm)	Size (mm)	304 #180 Grit	304 Mirror	316 Mill	316 #180 Grit	316 #320 Grit	316 Mirror	Weight (kg/m)
		TS304	TS304+MP	TS316	TS316+P	TS316+P	TS316+MP	
1.2	12.7 x 12.7	●	○	○	●	○	○	0.441
	15.88 x 15.88	○	○	○	○	○	○	0.631
	19.05 x 19.05	●	○	○	○	○	○	0.673
	22.22 x 22.22	●	○	○	○	○	○	0.883
	25.4 x 25.4	●	○	○	○	○	○	0.824
	31.8 x 31.8	●	○	○	○	○	○	1.085
	38.1 x 38.1	●	○	○	○	○	○	1.440
	50.8 x 50.8	●	○	○	○	○	○	1.900
1.5	12.0 x 12.0	○	○	○	○	○	●	0.55
	12.7 x 12.7	○	○	○	●	○	○	0.55
	15.0 x 15.0	○	○	○	○	○	●	0.90
	19.0 x 19.0	○	○	○	○	○	●	1.17
	25.4 x 25.4	○	○	○	○	○	●	1.552
	31.8 x 31.8	○	○	○	○	○	●	1.849
	38.1 x 38.1	○	○	○	○	○	●	1.875
	50.8 x 50.8	○	○	○	○	○	●	2.489
1.6	12.7 x 12.7	●	○	○	○	○	○	0.670
	19.05 x 19.05	●	○	○	○	○	○	1.174
	22.22 x 22.22	○	○	○	○	○	○	1.396
	25.4 x 25.4	●	○	○	●	○	○	1.552
	31.8 x 31.8	●	○	○	●	○	○	1.849
	38.1 x 38.1	●	●	○	●	○	○	1.875
	50.8 x 50.8	●	○	○	●	○	○	2.489
	60.0 x 60.0	●	○	○	○	○	○	3.058
	80.0 x 80.0	●	○	○	○	○	○	4.078
2.0	25.4 x 25.4	●	○	○	○	○	○	1.470
	31.8 x 31.8	●	○	○	○	○	○	1.890
	38.1 x 38.1	●	○	○	○	○	○	2.350
	50.8 x 50.8	●	○	●	○	○	○	3.400
3.0	25.4 x 25.4	●	○	○	○	○	○	2.100
	38.1 x 38.1	●	○	○	●	○	○	3.300
	50.8 x 50.8	●	○	●	○	●	●	4.480
	60.0 x 60.0	●	○	○	○	○	○	5.491
	80.0 x 80.0	●	○	●	○	●	●	7.300
	100.0 x 100.0	●	○	●	○	●	○	9.600
	150.0 x 150.0	●	○	○	●	○	○	13.760
4.0	50.0 x 50.0	●	○	○	○	○	○	6.000
5.0	80.0 x 80.0	○	○	○	●	○	○	11.700
	100.0 x 100.0	●	○	○	●	○	○	14.820
	150.0 x 150.0	●	○	○	●	○	○	22.620
6.0	200.0 x 200.0	●	○	○	○	○	○	36.320

● Stocked Item ○ Market Available

Rectangular Sections SHS & RHS

Manufactured to ASTM A554
 Available in welded only, Polished or Mill.
 Grades 304 and 316.
 # 180 Grit polish, # 320 Grit Polish
 # 400 Grit Polish, Mirror Finish, Mill

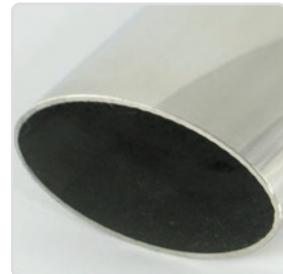


Size	304 # 180 Grit	304 # 320 Grit	316 # 180 Grit	316 # 320 Grit	316 # 400 Grit	316 Mirror	316 Mill	Weight (kg/m)
	TSB304	TSB304	TSB316	TSB316	TSB316	TSB316	TSB316	
Rectangular								
40 x 20 x 1.6	○	●	○	○	○	○	○	1.42
50 x 25 x 1.5 *	○	○	○	○	○	●	○	1.90
50 x 25 x 1.6 *	●	○	●	○	○	○	○	1.90
50 x 25 x 3.0 *	○	○	○	○	●	○	○	3.30
60 x 40 x 1.5	○	○	○	○	○	●	○	1.90
60 x 40 x 2.0	○	○	○	○	○	●	○	4.50
65 x 38 x 3.0	○	○	○	○	○	○	○	5.42
75 x 25 x 1.6	○	○	○	●	○	○	○	2.42
80 x 40 x 1.5	○	○	○	○	○	●	○	3.00
80 x 40 x 1.6	●	○	○	○	○	○	○	3.05
80 x 40 x 3.0	●	○	○	●	○	○	●	5.58
100 x 50 x 3.0	○	●	○	●	○	○	●	7.36
100 x 50 x 5.0	●	○	○	○	○	○	○	10.80
150 x 75 x 5.0	●	○	○	○	○	○	○	16.77
150 x 100 x 5.0	●	○	●	○	○	○	○	18.72
200 x 100 x 3.0	○	○	○	○	○	○	○	13.76
200 x 100 x 5.0	●	○	●	○	○	○	○	22.62

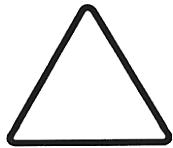
* could be in imperial size

Oval Tube

Manufactured to ASTM A554
 Material: 316
 Mirror Polish / #1000 Grit
 1.5mm wall thickness



Elliptical (Oval)	Triangle	Teardrop	"D" Section	
TR316OV	-	-	TR316D	
38 x 23mm x 1.5	●	24mm	○	40 x 19mm ○ 55 x 28mm ○
46 x 28mm x 1.5	○	37mm	○	47 x 25mm ○ 55 x 27mm ○
75 x 42mm x 1.5	●	51mm	○	48 x 24mm ○ 62 x 34mm ○
		78mm	○	48 x 23mm ○ 63 x 33mm ○
62 x 38mm x 1.5 (#1000Grit)	●	105mm	○	50 x 25mm ○ 62 x 31mm ● 55 x 29mm ○



● Stocked Item ○ Market Available

Round Slotted Tube

Manufactured to ASTM A554

Round (Single & Double Slots).
Material: 316. Mirror Finish
Length: 3-6 mtrs.



Single Slot



Double Slot



90 Deg Double Slot

Item No.	Size (mm)	Grade	Slot Size	Wall Thickness	Length	Shape
TR316SS15015025	25.4	316 Mirror polish	14mmx14mm	1.5mm	6m	Single Slot
TR316SS15015038	38.1	316 Mirror polish	15mmx15mm	1.5mm	6m	Single Slot
TR316SS15015050	50.8	316 Mirror polish	15mmx15mm	1.5mm	6m	Single Slot
TR316DS15015050	50.8	316 Mirror polish	15mmx15mm	1.5mm	6m	Double Slot
TR3169D15015050	50.8	316 Mirror polish	15mmx15mm	1.5mm	3m	90 Deg Double Slot

Square & Rectangular Slotted Tube

Manufactured to ASTM A554

Square (Single & Double Slots).
Material: 316.
Length: 3 mtrs.
Mirror polish



Single Slot



Double Slot
(Opposite)



Double Slot
(90deg)



Single Slot
(Flat)



Single Slot
Rectangular Tube

Item No.	Size	Grade	Slot Size	Wall Thickness	Length	Shape
TS316SS16015050	50mm x 50mm	316 Mirror Polish	15mm x 15mm	1.5mm	3m	Single Slot
TS316DS16015050	50mm x 50mm	316 Mirror Polish	15mm x 15mm	1.5mm	3m	Double Slot (Opposite)
TS316DS16015050	50mm x 50mm	316 Mirror Polish	15mm x 15mm	1.5mm	3m	Double Slot 90Deg
TS316SS16020050	50mm x 20mm	316 Mirror Polish	15mm x 15mm	1.5mm	3m	Single Slot Flat
TS316SS12025021	25mm x 21mm	316 Mirror Polish	14mm x 14mm	1.2mm	6m	Single Slot Rectangular Tube
TS316SS15050025	50mm x 25mm	316 Mirror Polish	15mm x 15mm	1.5mm	3m	Single Slot Rectangular Tube

Flat Rectangular Tube Section

Manufactured to ASTM A554

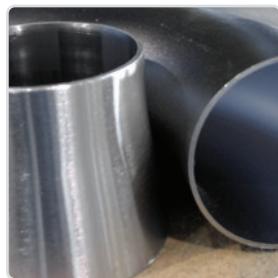
Item No.	Size	Grade	Grit	
TSB31615050010P	50 x 10 x 1.5 mm	316	316 Mirror polish	●
TSB31615070010P	70 x 10 x 1.5 mm	316	# 600	●
TSB31615050010	50 x 10 x 1.5 mm	316	# 320	●
TSB30416040010P	40 x 10 x 1.6 mm	304	# 320	●



● Stocked Item ○ Market Available

Buttweld Tube Fittings

Manufactured from AS 1528 stainless steel tube.
 Tube bends have a standard centre line radius 1.5 times the diameter.
 Other sizes/grades available upon request.
 Available Polished or Mill in most sizes.
 HiBev #320 Grit (AS 1528) specification also available.
 Weights are in kg.



W.T. (mm)	O.D. (mm)	90° Bend					45° Bend				Wgt (kg)	
		304 AS1528	304 AS1528	316	316 AS1528	2205	Wgt (kg)	304L	304 AS1528	316 AS1528	2205	
		FT9304	FT9P304	FT9316	FT9P316	FT92205		FT4304	FT4P304	FT4P316	FT42205	
1.6	12.70	○	○	●	○	○	0.01	○	○	○	○	0.01
	19.05	○	●	●	●	○	0.02	○	○	●	○	0.02
	25.40	○	●	●	●	●	0.04	○	●	●	○	0.03
	31.75	○	●	●	●	○	0.06	○	○	●	○	0.05
	38.10	○	●	●	●	●	0.08	○	●	●	●	0.07
	44.45 *	○	●	○	○	○	0.11	○	○	○	○	0.10
	50.80	●	●	●	●	●	0.15	●	●	●	●	0.12
	63.50	●	●	●	●	○	0.23	●	●	●	○	0.18
	76.20	●	●	●	●	○	0.34	●	●	●	○	0.27
	88.90	●	○	●	○	○	0.54	●	○	○	○	0.43
	101.6	●	●	●	●	○	0.60	●	●	●	○	0.48
	127.0	○	●	○	●	○	0.95	○	●	●	○	0.75
	152.4	○	●	○	○	○	1.36	○	○	○	○	1.09
	203.0	○	○	○	○	○	2.42	○	○	○	○	1.94
	254.0	○	○	○	○	○	3.50	○	○	○	○	2.90
2.0	25.4	○	○	○	○	○	0.04	○	○	○	○	0.04
	31.75	○	○	○	○	○	0.07	○	○	○	○	0.06
	38.1	○	○	○	○	○	0.10	○	○	○	○	0.08
	50.80	○	○	●	○	○	0.18	○	○	○	○	0.15
	63.50	○	○	●	○	●	0.29	○	○	○	○	0.23
	76.20	○	○	●	○	●	0.42	○	○	○	○	0.33
	101.60	○	○	●	○	●	0.75	○	○	○	○	0.60
	127.00	○	○	●	○	○	1.17	○	○	○	○	0.94
	152.4	○	●	●	●	○	1.70	○	○	●	○	1.36
	203.2	○	○	●	○	○	3.02	○	○	○	○	2.42
	254.0	○	○	●	○	○	4.50	●	○	○	○	3.49

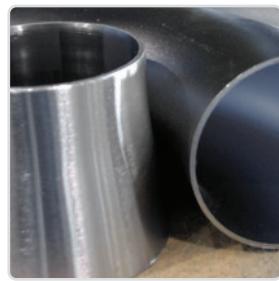


W.T. (mm)	O.D. (mm)	180° Bend			Wgt (kg)
		316	316 AS1528	FT18P316	
1.6	12.70	○	○	0.01	
	19.05	○	○	0.03	
	25.40	○	○	0.05	
	31.75	○	●	0.08	
	38.10	○	●	0.11	
	50.80	○	●	0.20	
	63.50	○	●	0.31	
	76.20	○	●	0.45	
	101.6	○	○	0.80	
	127.0	○	○	1.26	
	152.4	○	○	1.81	

● Stocked Item ○ Market Available

Buttweld Tube Fittings

Manufactured from AS 1528 stainless steel tube.
 Tube bends have a standard centre line radius 1.5 times the diameter.
 Other sizes/grades available upon request.
 Available Polished or Mill in most sizes.
 HiBev #320 Grit (AS 1528) specification also available.
 Weights are in kg.



W.T.	O.D.	Equal Tee				Wgt (kg)
		304 AS1528	316	316 AS1528	2205	
		FTT304+P	FTT316	FTT316+P	FTT2205	
1.6	12.70	○	○	●	○	0.05
	19.05	●	○	●	○	0.08
	25.40	●	○	●	●	0.13
	31.75	○	○	●	○	0.20
	38.10	●	○	●	●	0.30
	50.80	●	○	●	●	0.50
	63.50	●	○	●	●	0.80
	76.20	●	○	●	●	1.10
	101.6	●	○	●	○	1.60
	127.0	○	●	○	○	1.80
	152.4	○	●	○	○	2.80
	203.0	○	○	○	○	3.50
	254.0	○	○	○	○	4.30
2.0	25.4	○	○	○	○	0.15
	31.75	○	○	○	○	0.25
	38.1	○	○	○	○	0.38
	50.80	○	○	○	○	0.65
	63.50	○	●	○	●	1.10
	76.20	○	●	○	○	1.50
	101.60	○	○	○	●	2.30
	127.00	○	○	○	○	3.80
	152.4	○	○	○	○	5.40
	203.2	○	○	○	○	8.40



W.T.	O.D.	Y-Piece	Tube Cross	Tube Cap
		316	316	316
1.6	12.70	○	○	○
	19.05	○	○	○
	25.40	○	○	○
	31.75	○	○	○
	38.10	○	○	○
	50.80	○	●	○
	63.50	○	○	○
	76.20	○	●	○
	101.6	○	○	○
	127.0	○	○	○
	152.4	○	○	○
	203.0	○	○	○
	254.0	○	○	○

● Stocked Item ○ Market Available

Hygienic Fittings

Stirlings' hygienic fittings are manufactured from castings, forgings, bar and tube.



CIP/BSM Union		Tri-Clover	Bossed Clamp		Plain Clamp		Hose tails			
Code	Type/Size		25mm	38mm	50mm	63mm	76mm	100mm	125mm	150mm
BSM Fittings										
HFBSMN	Hexagon nut		●	●	●	●	●	●	○	●
HFBSML	Plain liner		●	●	●	●	●	●	○	●
HFBSSMM	Male part		●	●	●	●	●	●	○	●
HFBSSMOEPDM	Seal - EPDM		●	●	●	●	●	●	○	●
HFBSMOVIT	- Viton		●	●	●	●	●	●	○	○
	- Nitrile		○	○	○	○	○	○	○	○
	- Teflon		○	○	○	○	○	○	○	○
HFBSMC316	Blank cap		●	●	●	●	●	●	○	●
	Blank nut		○	○	○	○	○	○	○	○
	Slotted nut		○	○	○	○	○	○	○	○
	Blank nut c/w chain		○	○	○	○	○	○	○	○
HFBSMSALU	Aluminium spanner		○	●	●	●	●	●	○	○
	S/steel spanner		○	○	○	○	○	○	○	○
	S/steel slotted spanner		○	○	○	○	○	○	○	○
Hygienic Flat Face Fittings										
HFBSMN	Hexagon Nut		●	●	●	●	●	●	○	●
HFCIPL	Liner		●	●	●	●	●	●	○	●
HFCIPM	Male part		●	●	●	●	●	●	○	●
HFCIPSEPDM	Seal - EPDM		●	●	●	●	●	●	○	●
	- Teflon		○	○	○	○	○	○	○	○
Triclover fittings										
HFTRIC	Clamp body		●	●	●	●	●	●	○	●
HFTRIF	Ferrule - Standard		●	●	●	●	●	●	○	●
	- Long		○	○	○	○	○	○	○	○
Blank Cap										
HFTRISEPDM	Seal - EPDM		●	●	●	●	●	●	○	●
	- Buna		○	○	○	○	○	○	○	○
	- Teflon		○	○	○	○	○	○	○	○
HFTRISVIT	- Viton		●	●	●	●	●	●	○	○
	- Flanged Buna		○	○	○	○	○	○	○	○
Tube Clamps										
HFCLAMPPIP	Plain		●	●	●	●	●	●	○	●
HFCLAMPIB	Bossed		●	●	●	●	●	●	○	○
Hose Tails										
FTHT316	Plain		●	●	●	●	●	●	○	○
	BSM Male		○	○	○	○	○	○	○	○
	BSM Female		○	○	○	○	○	○	○	○

● Stocked Item ○ Market Available

Twin Ferrule Compression Fittings

Compression Fittings provide a highly reliable, leak proof and torque free seal for annealed seamless tube connections.



Size (inch)	Size (mm)	Female Connector BSP Thread	Male Connector BSP Thread	90 Deg Bend
		FCFC	FCMC	FCUE
1/4	6.35	●	●	●
3/8	9.52	●	●	●
1/2	12.70	●	●	●
3/4	19.05	●	●	●



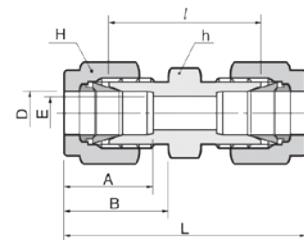
Size (inch)	Size (mm)	Bulkhead Union	Union	Tee
		FCUB	FCU	FCUT
1/4	6.35	●	●	●
3/8	9.52	●	●	●
1/2	12.70	●	●	●
3/4	19.05	●	●	●

- Stocked Item ○ Market Available

Compression Fittings Technical Data

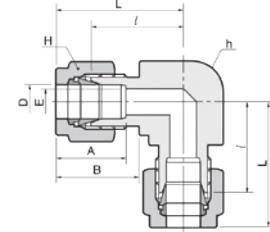
Union

Size	Tube OD	E	h	H	A	B	I	L
inch	mm	min	mm	mm	mm	mm	mm	mm
1/4	6.35	4.82	12.70	14.28	15.24	17.78	26.16	40.89
3/8	9.52	7.11	15.87	17.46	16.76	19.30	30.22	44.95
1/2	12.70	10.41	20.64	22.22	22.86	21.84	30.98	51.30
3/4	19.05	15.74	26.98	28.58	24.38	21.84	33.27	53.59



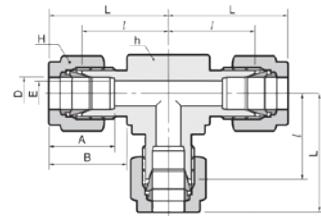
Bend

Size	Tube OD	E	h	H	A	B	I	L
inch	mm	min	mm	mm	mm	mm	mm	mm
1/4	6.35	4.82	12.70	14.28	15.24	17.78	19.55	26.92
3/8	9.52	7.11	15.87	17.46	16.76	19.30	23.11	30.48
1/2	12.70	10.41	20.64	22.22	22.86	21.84	25.90	36.06
3/4	19.05	15.74	26.98	28.58	24.38	21.84	29.71	39.87



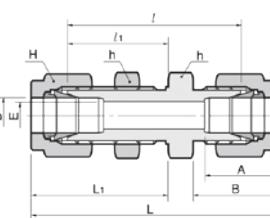
Tee

Size	Tube OD	E	h	H	A	B	I	L
inch	mm	min	mm	mm	mm	mm	mm	mm
1/4	6.35	4.82	12.70	14.28	15.24	17.78	19.55	26.92
3/8	9.52	7.11	15.87	17.46	16.76	19.30	23.11	30.48
1/2	12.70	10.41	20.64	22.22	22.86	21.84	25.90	36.06
3/4	19.05	15.74	26.98	28.58	24.38	21.84	29.71	39.87



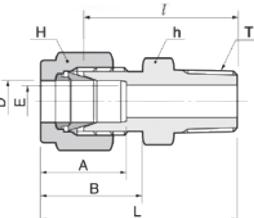
Bulkhead Union

Size	Tube	E	h	H	A	B	I	I1	L	L1	Panel	Panel
inch	OD	min	mm	Hole	Max							
			mm								Drill	Thick
											Size	ness
1/4	6.35	4.82	15.87	14.28	15.24	17.78	42.92	26.16	57.65	33.52	11.50	10.16
3/8	9.52	7.11	19.05	17.46	16.76	19.30	47.49	29.46	62.23	36.83	14.68	11.17
1/2	12.70	10.41	23.81	22.22	22.86	21.84	50.80	31.75	71.12	41.91	19.44	12.70
3/4	19.05	15.74	30.16	28.58	24.38	21.84	58.67	37.33	78.99	47.49	25.79	16.76



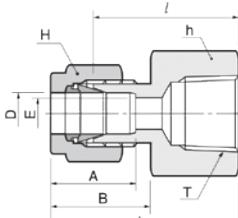
Male Connector

Size	Tube OD	E	h	H	A	B	I	L
inch	mm	min	mm	mm	mm	mm	mm	mm
1/4	6.35	4.8	14	14	15.3	17.7	30.2	37.6
3/8	9.52	7.9	18	19	17.2	19.5	33.3	40.9
1/2	12.70	11.9	24	25	24.4	22.0	38.9	49.0
3/4	19.05	15.9	30	32	26.0	22.0	42.2	52.3



Female Connector

Size	Tube OD	E	h	H	A	B	I	L
inch	mm	min	mm	mm	mm	mm	mm	mm
1/4	6.35	4.8	14	14	15.3	17.7	28.4	35.8
3/8	9.52	7.9	22	19	17.2	19.5	31.0	38.6
1/2	12.70	11.9	27	25	24.4	22.0	36.6	46.7
3/4	19.05	15.9	35	32	26.0	22.0	39.6	49.7



Sample Valve

Body & Handle: Grade 316 S/S
 Seal: PTFE
 Thread: 1/2" BSP



Sample Valve	B/Weld	BSP
15mm	○	●

Relief Valves - Pressure/Vacuum

Stainless Steel
 316L Stainless Steel
 Double Acting Oil Fill 150hl/hr



PVC
 Double Acting 500hl/hr



V25 Double Acting

V25



112.6

Protects from both pressure and vacuum.

Automatic Action From: Overpressure 0.002 bar / Underpressure 0.005 bar

Materials: Plastic resistant to alimentary corrosion / Cont. working temperature 70 degree

Other components: Stainless Steel

Example to Fill: Decouple-protection Ratio 568,700 ltr Air/ 56,000 ltr liquid

Example to Empty: Decouple-protection Ratio 113,400 ltr Air / 56,000 ltr Liquid

Size	Stainless Steel	PVC
31.75 - 50.8mm	●	●

Hyg. Butterfly Valve

Body & Disc: Grade 316 S/S
 Seat: Silicone
 Stem: Grade 316 S/S
 Pressure Rating: Full Vacuum to 700 KPa
 Temp. Rating: Minus 5°C to 95°C



Ends: B/Weld-B/Weld

Lockable Handle

Type	25.4	38.1	50.8	63.5	76.2	101.6	152.4
Butterfly Valve	●	●	●	○	●	●	○

Industrial Ball Valves

Ball Valves

Body, Ball & Stem	-	Grade 316
Seat and stem seal	-	PTFE
Gland, Handle, Nut & Washer	-	Grade 304
BSP female ends to suit N.B. pipe.		



1 Pce Reduced Bore

2 Pce

3 Pce

NPS (inch)	Nominal Size DN (mm)	1-Pce Reduced Bore		2-Pce Full Bore		3-Pce Full Bore	
		1000 PSI WOG	Wgt (kg)	1000 PSI WOG	Wgt (kg)	1000 PSI WOG	Wgt (kg)
VBARB		VBAFB102		VBAFB103			
1/4	8	●	0.08	●	0.35	●	0.48
5/8	10	●	0.11	●	0.34	●	0.46
1/2	15	●	0.17	●	0.36	●	0.58
3/4	20	●	0.25	●	0.65	●	0.92
1	25	●	0.45	●	0.93	●	1.19
1 1/4	32	○	0.74	●	1.65	●	2.07
1 1/2	40	○	0.83	●	2.26	●	2.75
2	50	○	1.25	●	3.62	●	4.07
2 1/2	65	○	-	○	-	●	8.12
3	80	○	-	○	-	●	12.71
4	100	○	-	○	-	●	21.12

Check Valve & Y-Strainer

Spring Check Valves

Body, cap, disc & plug: Grade 316, Seal: Viton
Industrial Swing Check Valves

Body, cap, disc & plug: Grade 316, Seal: PTFE
Y-Strainers 45°

Body & cap: Grade 316, Screen: Grade 304,
Seal: PTFE (Drain Plug & 800 PSI)



NPS (inch)	Size DN (mm)	Spring Check Valve		Swing Check Valve		Y-Strainer 45°
		200 PSI W.P.	200 PSI W.P.	200 PSI W.P.	200 PSI W.P.	
1/4	8	●	○	○	●	●
5/8	10	●	○	○	●	●
1/2	15	●	●	●	●	●
3/4	20	●	●	●	●	●
1	25	●	●	●	●	●
1 1/4	32	●	●	●	●	●
1 1/2	40	●	●	●	●	●
2	50	●	●	●	●	●
2 1/2	65	○	●	●	○	○
3	80	○	●	●	○	○

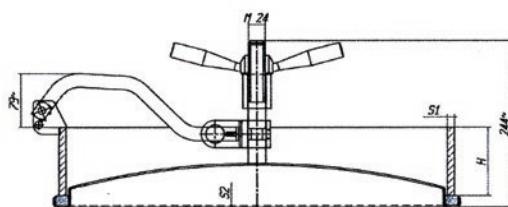
● Stocked Item ○ Market Available

Manway

Stirlings Performance Steels carries Australia's largest range of Manway doors. All doors are European manufactured using high-quality materials and offered at highly competitive prices. Stirlings' Manway doors are suited for a wide range of applications including hygienic environments, concrete & plastic tanks, sweep arm fermenters and more. For additional information on available products, talk to our friendly customer service team for technical assistance.



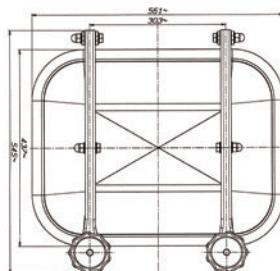
Stirlings Extra Large Oval



Code	125XLA-4
AISI	304
Access Dia.	550 x 450 mm
Neck Height (H)	100 mm
Neck Thick. (S1)	10.0 mm
Lid Thick. (S2)	2.5 mm
Max P	2.0
Weight	22.5 kg
Arm	Single
Door:	In/outward opening, double centralisation

EPDM Seal

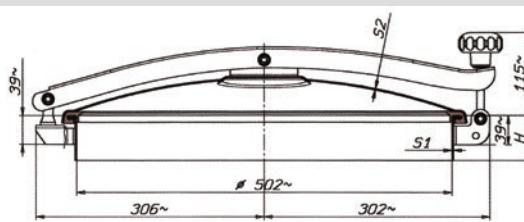
Stirlings Manway Rectangular 115 Short Arm



Code	115-6E
AISI	316L
Code	115-4E
AISI	304
Access Dia.	530 x 406 mm
Neck Height (H)	60 mm
Neck Thick. (S1)	10.0 mm
Lid Thick. (S2)	2.0 mm
Max P	1.1
Weight	20.1 kg
Door:	Outward opening

EPDM Seal

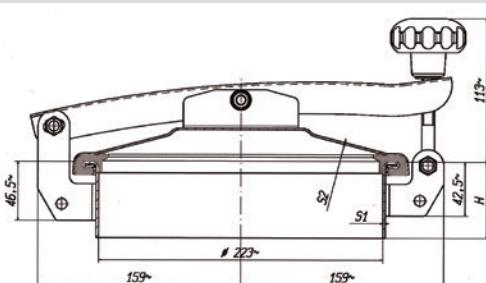
Stirlings Manway Round 501P



Code	50/1P/A-6
AISI	316L
Access Dia.	502 mm
Neck Height (H)	90 mm
Neck Thick. (S1)	2.0 mm
Lid Thick. (S2)	2.0 mm
Max P	0.07
Weight	8.8 kg
Arm	Single
Door:	Outward opening, pivot hinged

EPDM Seal

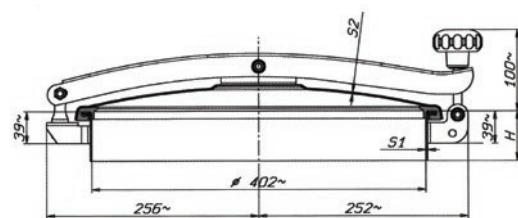
Stirlings Manway Round 221S



Code	22/1S/A-6
AISI	316L
Access Dia.	223 mm
Neck Height (H)	90 mm
Neck Thick. (S1)	2.0 mm
Lid Thick. (S2)	1.5 mm
Max P	0.1
Weight	3.5 kg
Arm	Single
Door:	Outward opening, not pivot hinged

EPDM Seal

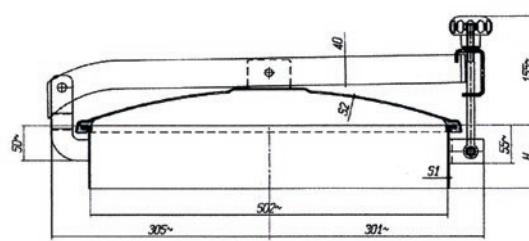
Stirlings Manway Round 401P



EPDM Seal

Code	40/1P-6E
AISI	316L
Access Dia.	402 mm
Neck Height (H)	60 mm
Neck Thick. (S1)	2.0 mm
Lid Thick. (S2)	1.5 mm
Max P (Bar)	0.1
Weight	6.0 kg
Arm	Single
Door:	Outward opening, pivot hinged

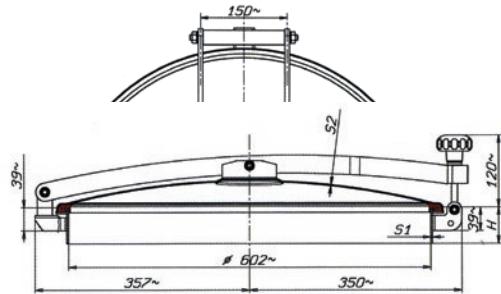
Stirlings Manway Round 501D



EPDM Seal

Code	50/1D/A-4
AISI	304
Access Dia.	502 mm
Neck Height (H)	90 mm
Neck Thick. (S1)	2.0 mm
Lid Thick. (S2)	1.5 mm
Max P (Bar)	0.05
Weight	9.8 kg
Arm	Double
Door:	Outward opening, fixed hinged

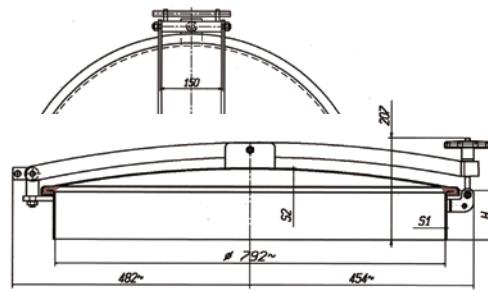
Stirlings Manway Round 601B



EPDM Seal

Code	60/1B/A-6E
AISI	316L
Access Dia.	602 mm
Neck Height (H)	90 mm
Neck Thick. (S1)	3.0 mm
Lid Thick. (S2)	2.0 mm
Max P (Bar)	0.05
Weight	14.2 kg
Arm	Double
Door:	Outward opening, pivot hinged

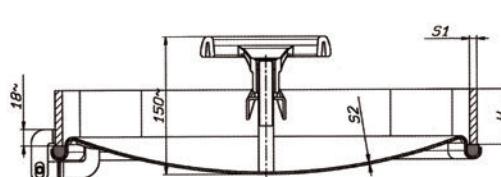
Stirlings Manway Round 801B



EPDM Seal

Code	80/1B-6
AISI	316L
Access Dia.	792 mm
Neck Height (H)	100 mm
Neck Thick. (S1)	3.0 mm
Lid Thick. (S2)	2.0 mm
Max P (Bar)	0.05
Weight	32.5 kg
Arm	Double
Door:	Outward opening, pivot hinged

Stirlings Manway Oval 127

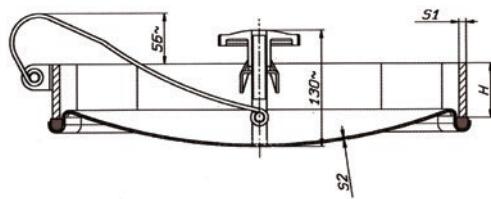


EPDM Seal

Code	127/1-6
AISI	316L
Access Dia.	444 x 312 mm
Neck Height (H)	60 mm
Neck Thick. (S1)	6.0 mm
Lid Thick. (S2)	2.0 mm
Max P (Bar)	0.3
Weight	6.9 kg
Door:	Inward opening, two pin hinge

Stirlings Manway Oval 128

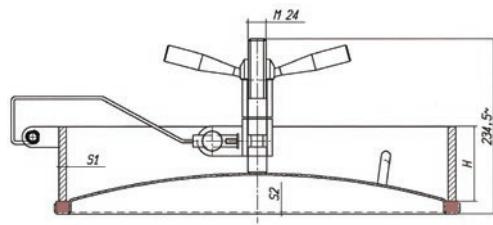
EPDM Seal



Code	128/1-6
AISI	316L
Access Dia.	444 x 312 mm
Neck Height (H)	60 mm
Neck Thick. (S1)	6.0 mm
Lid Thick. (S2)	2.0 mm
Max P (Bar)	3.0
Weight	7.5 kg
Arm	Single
Door:	Inward opening

Stirlings Manway Oval 125A

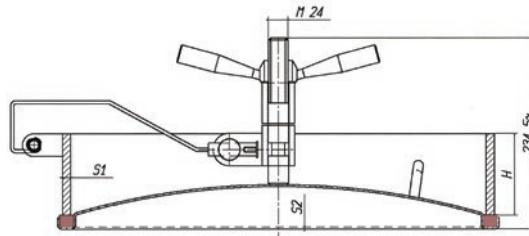
EPDM Seal



Code	125A-6
AISI	316L
Access Dia.	510 x 410 mm
Neck Height (H)	100 mm
Neck Thick. (S1)	10.0 mm
Lid Thick. (S2)	2.5 mm
Max P (Bar)	2.0
Weight	18.9 kg
Arm	Single
Door:	In/outward opening, double centralisation

Stirlings Manway Oval 125B

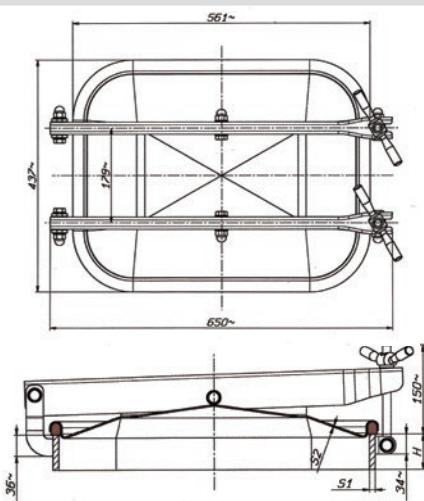
EPDM Seal



Code	125B-6
AISI	316L
Access Dia.	510 x 410 mm
Neck Height (H)	140 mm
Neck Thick. (S1)	10.0 mm
Lid Thick. (S2)	2.5 mm
Max P (Bar)	2.0
Weight	24.0 kg
Arm	Single
Door:	In/outward opening, double centralisation

Stirlings Manway Rectangular 116 Long Arm

EPDM Seal

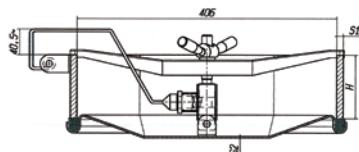
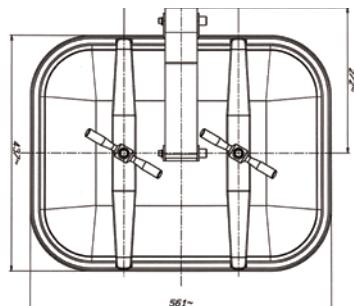


Code	116-6E
AISI	316L
Code	116-4E
AISI	304
Access Dia.	530 x 406 mm
Neck Height (H)	60 mm
Neck Thick. (S1)	10.0 mm
Lid Thick. (S2)	2.0 mm
Max P (Bar)	0.8
Weight	23 kg

Door: Outward opening

Stirlings Manway Rectangular 129

EPDM Seal



Code	129/1A-6
AISI	316L
Access Dia.	530 x 406 mm
Neck Height (H)	100 mm
Neck Thick. (S1)	10.0 mm
Lid Thick. (S2)	2.5 mm
Max P (Bar)	1.8
Weight	23.0 kg

Door: In/Outward opening

Stirlings Manway Pneumatic Sweep Arm Fermenter Door



Code	Pneumatic
AISI	304
Access Dia.	600 x 600 mm
Neck Height	130 mm
Neck Thick.	8.0 mm
Lid Thick.	NA
Max P (Bar)	2.5
Weight	80.0 kg

Door: Vertical Pneumatic opening

Stirlings Pressure Manway



Developed Specifically for the Pressure Vessel Market
Stirlings Performance Steels is now offering pressure rated T.U.V certified manways. Manufactured to AS 1210-1997

Pressure Manway in 316, 450mm, 8-bolt, hinged lid and handle with EPDM seal.

High-Quality Construction

The range is constructed with a keen eye for detail and quality. Each door is made to last and give the user practicality, aesthetic appeal, efficiency and value for money.

Pressure Rated Door

This range of European manufactured doors have been fully T.U.V. certified to ensure they meet the required standards.

Stirlings Pressfit Solutions



For a guaranteed result, just press

**Time Savings, Safe and Simple
The Stirlings - Raccorderie Metalliche
Pressfitting solutions will improve your business**

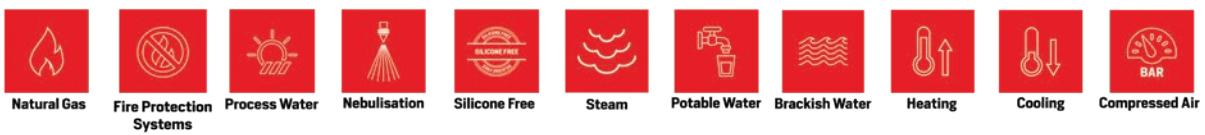


inoxPRES®

MARINE PRES®

steelPRES®

AES PRES®



Natural Gas

Fire Protection Systems

Process Water

Nebulisation

Silicone Free

Steam

Potable Water

Brackish Water

Heating

Cooling

Compressed Air



inoxPRES Pressfitting System in AISI 316L ø15–168.3mm

Pipe AISI 316L	Pipe AISI316L	Pipe AISI444	Pipe AISI 304	Pipe AISI304	Clamp	Clamp with rubber	15° Elbow FF
15° Elbow MF	30° Elbow FF	30° Elbow MF	45° Elbow FF	45° Elbow MF	60° Elbow FF	60° Elbow MF	90° Elbow FF
90° Elbow MF	Elbow adapter	Elbow adapter	90° Elbow BSP	Equal Tee	Branch tee female	Branch tee female	Reducing tee
Coupling	Slip coupling	Valve connector	Stop end	Wallplate elbow 90°FF	Extension wall plate elbow 90°FF	Wall plate elbow MF	Wall plate elbow MF
Extension wall plate elbow MF	Corner tee with wall flange	Male adapter M	Female adapter F	Male reduction socket M	Female reduction socket F	Conical union	Flat faced union
Straight male M	Straight female F	Straight male M	Straight female F	Reducer	Halfcoupling	Pipe bridge	Pipe compressed air
90° Elbow MM	60° Elbow MM	30° Elbow MM	15° Elbow MM	Adapter flange PN16	Adapter flange PN6	Collars for loose flanges PN6	Collars for loose flanges PN16
Gasket for flange	Gasket for flange	Adapter loose flanges PN10	Deck / Bulkhead penetration	Stopvalve	Bracket	Bracket	Ball valve 2pcs
Ball valve 2pcs	Non-return valve	Expansion compensator PN 10	Flexible pipe PN 10	Flexible pipe PN 10	Adapter flange	Nebulizer connection	Multi tool connection



marinePRES Pressfitting System in cupronickel CuNi10Fe1.6Mn ø 15-108mm

Pipe	Clamp with rubber	15° Elbow FF	15° Elbow MF	30° Elbow FF	30° Elbow MF	45° Elbow FF	45° Elbow MF
60° Elbow FF	60° Elbow MF	90° Elbow FF	90° Elbow MF	Equal tee	Branch tee female Ft	Reducing tee	Coupling
Slip coupling	Male adapter M	Female adapter F	Flat faced union	Straight male union connector M	Straight female union connector F	Reducer MF	Adapter flange PN6
Adapter flange PN16	Gasket for flange	Gasket for flange	Collar for loose flanges PN6	Collar for loose flanges PN16	Deck/bulkhead penetration	Ball valve with fullport 3pcs	Non-return valve

Stirlings Performance Steels Pressfit Solution Benefits

- Stocked in a range of sizes in 316L Stainless Steel & Copper Nickel 90/10. Can also be supplied in, Steel, Copper.
- Stainless and Copper Nickel are Corrosion Resistant Metals designed for harsh environments.
- Range of O-rings for applications in fluids & gas.
- Temperature range – 20°C to 220°C
- Pressure Rated to 16 Bar (Higher pressures to be confirmed on request)
- Use of thin walled pipe and fittings makes system lighter than conventional welded & threaded systems
- Quick & easy installation in any condition
- Minimum load loss, resulting in faster fluid flows
- Excellent corrosive resistant finish avoiding need for additional painting or external protection costs.
- Stainless Steel grade 316L performs well in chlorinated environments.
- High Strength through out temperature range.

Pressfit Installation Benefits

- Speed of installation
- Reduced labour costs, can reduce labour time by up to 60%
- Tooling is easy to use and operate
- Can utilize non skilled manpower
- OH&S friendly
- No Welding/No Hot Work
- No fire hazard during installation
- No requirement for hot work permits
- No Consumables
- Extensive range of fittings to meet on site requirements
- Press Fit System is cost effective against threaded piping & welded systems
- Built in – situ, so making alterations more efficient
- Job can be started and completed on site
- Last minute changes are easy to implement

HOW TO USE PRESSFIT

A Quick & Easy Step by Step Guide on how to use the Stirlings Pressfit System.



Step 1:

Cut the pipe using Stirlings Pipe Cutting tool.



Step 2:

Debur the pipe, ensure you debur both the outside & inside edges.



Step 3:

Measure pipe depth & mark.



Step 4:

Check the O-Ring is in the fitting and carefully insert the pipe fully to depth of the fitting.



Step 5:

Select correct sized jaws and fit to Pressing Tool.



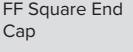
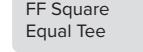
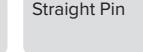
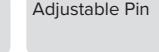
Step 6:

Press fitting to pipe, using Press Tool & that's it!

Round Tube

Base Plate & Cover Set	Heavy Duty Base Plate & Cover Set	Round Tube Cover	Round Tube Cover Plate	Base/Flange	Wall and Floor Flange	Wall and Floor Flange	Long Base/Flange
							
Short Base/Flange	Square Base/Flange	Oblong Base/Flange	Wall Stop Base/Flange	Flush Joiner 90° Bend Radiused	Flush Joiner 90° Bend	Flush Joiner Inline Joiner	Flush Joiner 135° Inline Joiner
							
Flush Joiner 4-Way Tee	Flush Joiner 90° Tee	Flush Joiner Equal Tee	Push Fit Flat End Cap	Dome Push Fit End Cap	Flush Joiner Adjustable Bend	Flush Fit Joiner 90° Mitre Bend	Push End Cap
							
Push End Cap	Domed End Cap	Curved Tube Cap	Perpendicular Joiner FF	Tube Joint	Tube Bend 90D	Tube Bend 180D	Tube Bend 180D C/W Leg
							
Post Reducer Tapered	Post Reducer Dome	Post Reducer Flat	Railing Converter	Railing Converter	Handrail End 90°	Adj Rail Support Internal Fit	Tube Clamp
							
Disc	Saddle Plate	End Cap With M8 Thread Hole	Straight Pin	Adjustable Pin			
							

Square Tube

Bolt Down Adjustable Foot	FF Square Tube Post Reducer	FF Square Tube Post Reducer	Oblong Base/Flange	Square Tube Base/Flange	Square Tube Cap	Square Tube Cover	Square Railing Converter
							
FF Square End Cap	FF Square Elbow	FF Square Inline Joiner	FF Square Equal Tee	FF Square 90° Tee	Slotted Square Tube Fittings	Straight Pin	Adjustable Pin
							
Saddle Plate							
							

25 x 21mm Tube



50 x 25mm Tube



Flat Tube



25mm Slotted Tube



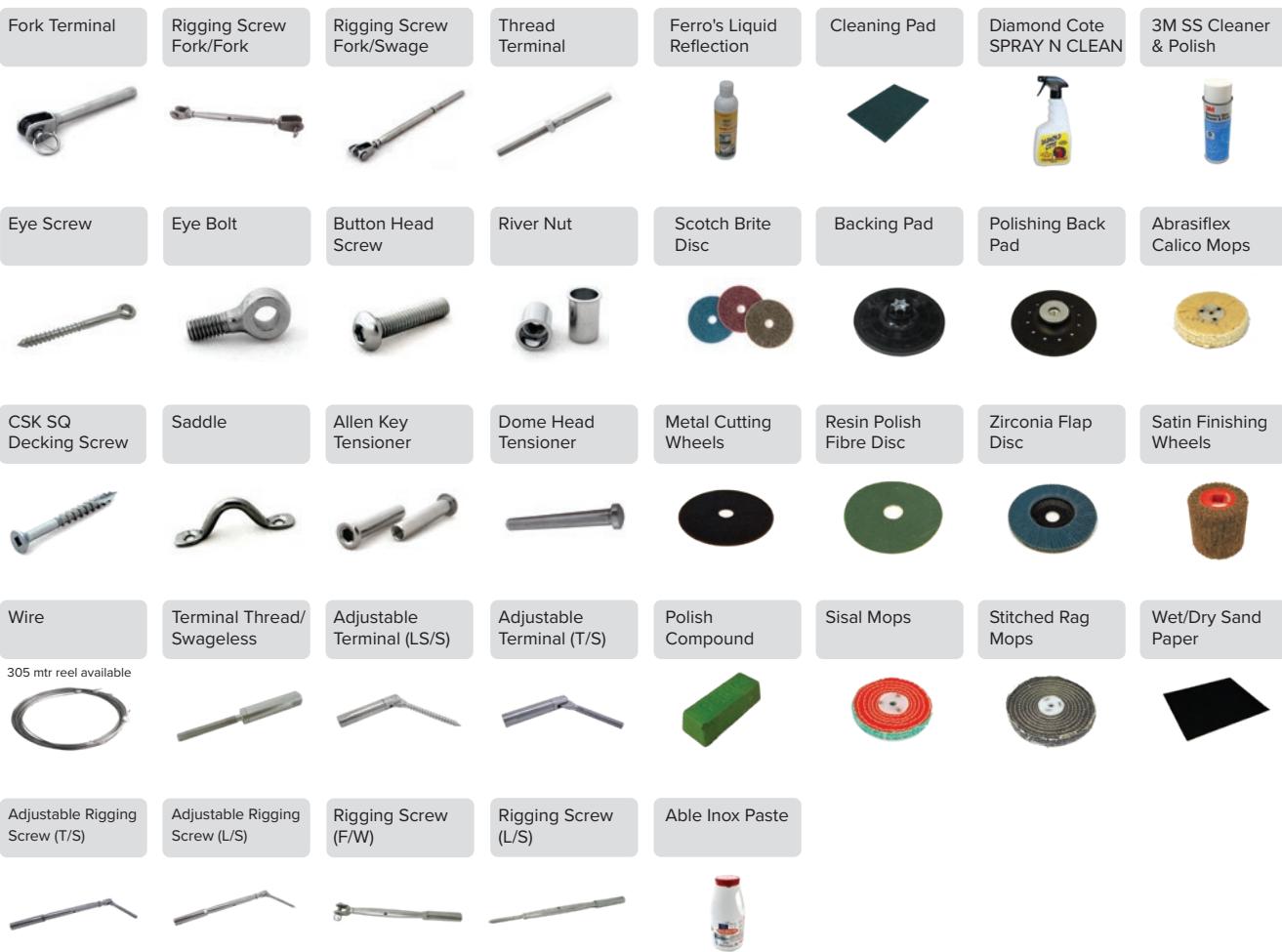
51 & 38mm Slotted Tube



Glass Clamps, Spigots & Wall Brackets



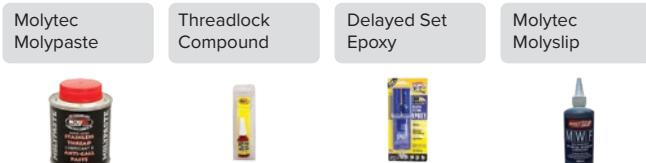
Balustrade Wire



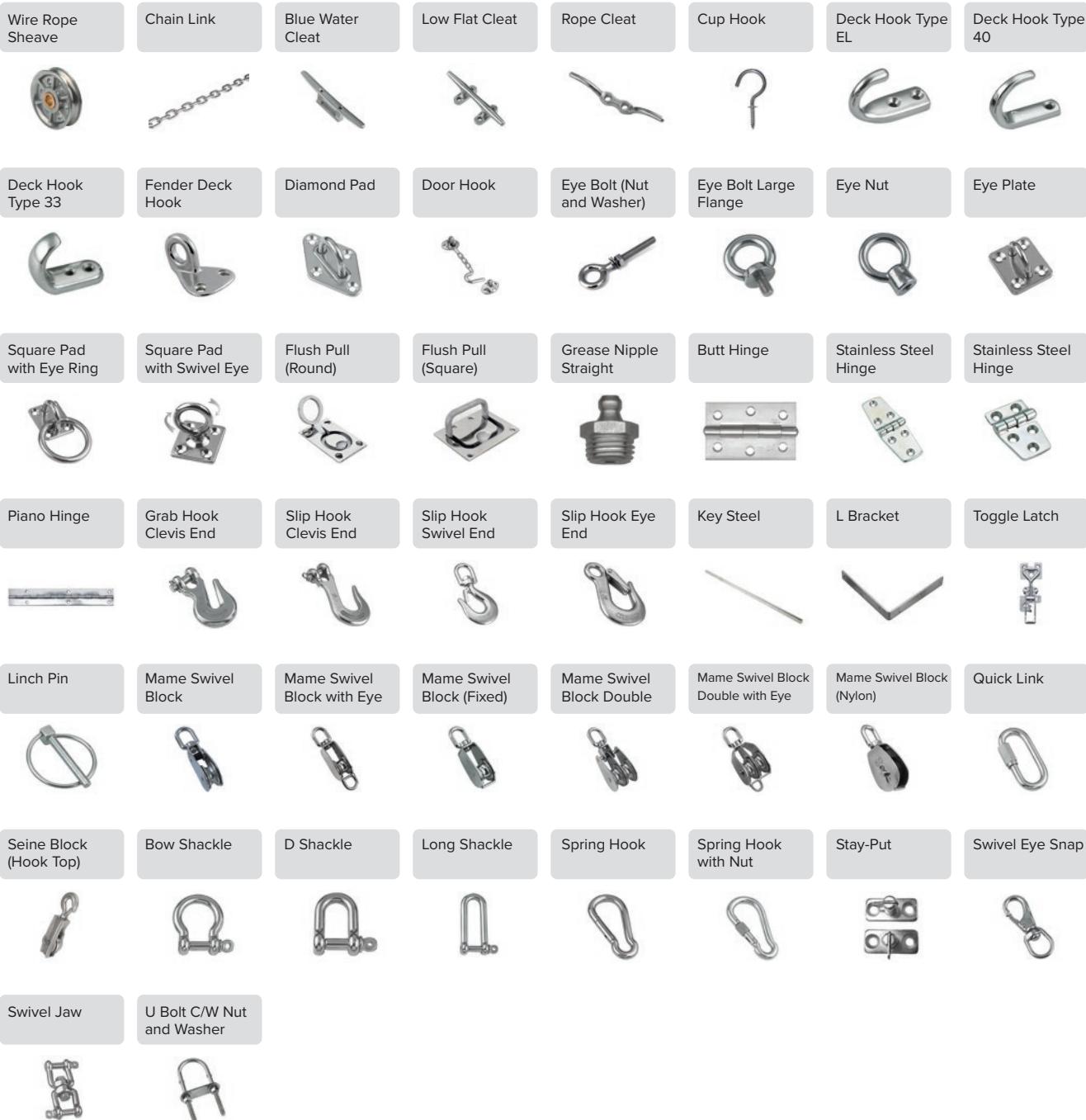
Key



Adhesives & Metalworking Fluids



Marine Hardware



Fasteners



COPPER NICKEL

PRODUCT CATALOGUE

Indent/Project Supply Capabilities

Availability Specs

- Seamless and Welded
- EEMUA 144 - 16 & 20 Bar
- U.S Standard - Schedule 5S, 10S, 40S, 80S
- US Navy Class - Class 200, 700, 50
- Japanese Maritime - 5K, 10K
- Grade 90/10 and 70/30

Fittings:

- Long and Short Radius Elbows 45D & 90D
- Concentric and Eccentric Reducers
- Equal Tee and Reducing Tee
- Saddles with Equal or Reduced Branch
- End Caps

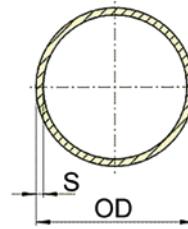
- Flanges - DIN EEMUA 145, Composite Slip On, Composit Blind Flanges, Solid Welding Neck/ Slip on/Blind/Socket Flanges. ANSI B 16.5 150lb +300lb
- Bulkhead Pieces & Fittings
- Spectable Blind Flange
- Socket Weld Fittings or Capillary Ends - 45D, 90D, Tee, Red Tee, Coupling, Reducing insert, Reducing Coupling, Union Connestions (M & F), sockolet, threadolet, weldolet, swage nipples etc
- Threaded Bosses, Couplets and Threadolets
- Sprinkler Bushes & Plugs, Adaptors
- Concentric Swage Nipple

CuNi Pipe

DIN 86019 (DIN 85004-2, WL 2.1972.22)
 BS 2871 CN102
 10 & 14 Bar
 90/10 CuNi

**10/14 Bar**

Outside Diameter of Pipe		Wall Thickness	Theoretical Weight	Pressure Rating	Availability
Nominal (inch)	(DN)	Actual (mm)	Actual (mm)	(kg/m)	PSCN
0.125		10	1.0	0.26	10 ○
0.25		12	1.0	0.31	10 ○
0.38	10	16	1.0	0.42	14 ●
0.5	15	20	1.0	0.53	14 ●
0.75	20	25	1.5	0.99	14 ●
1	25	30	1.5	1.20	10 ●
1.25	32	38	1.5	1.54	10 ●
1.5	40	44.5	1.5	1.81	10 ●
2	50	57	1.5	2.34	10 ●
2.5	65	76.1	2.0	4.16	14 ●
3	80	88.9	2.0	4.88	10 ●
4	100	108	2.5	7.41	14 ●
5	125	133	2.5	9.16	10 ●
6	150	159	2.5	10.99	10 ●
7	175	193.7	2.5	13.43	10 ○
8	200	219.1	3.0	18.21	10 ●
10	250	267	3.0	22.24	10 ○
12	300	323.9	4.0	35.94	10 ○
14	350	368	4.0	40.9	10 ○
16	400	419.1	4.0	46.62	10 ○
18	450	457.2	4.0	50.91	10 ○
20	500	508	4.5	63.63	10 ○
24	600	610	5.0	84.96	10 ○
28	700	711	6.0	118.80	10 ○
32	800	813	6.0	135.99	10 ○
36	900	914	8.0	203.57	10 ○



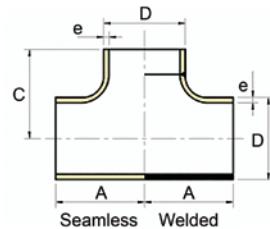
● Stocked Item ○ Market Available

CuNi Tees

10 bar & 14 bar
 DIN 86088 / EEMUA 146
 European Standard
 90/10 CuNi



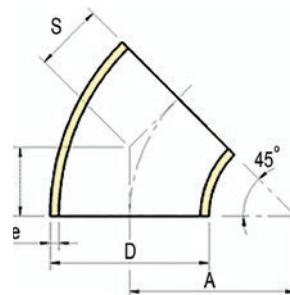
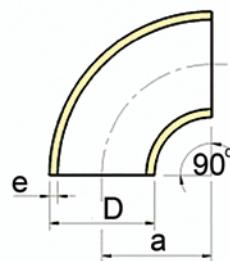
Outside Diameter of Pipe	Wall Thickness	D	E	A	C	Theoretical Weight	Availability
Nominal (inch)	Actual (mm)	(mm)	(mm)	(mm)	(mm)	(kg/piece)	FPCNST
0.5	20	1	25	25	0.05	○	
0.75	25	1.5	29	29	0.07	●	
1	30	1.5	38	38	0.10	●	
1.25	38	1.5	48	48	0.13	●	
1.5	44.5	1.5	57	57	0.19	●	
2	57	1.5	64	64	0.29	●	
2.5	76.1	2	76	76	0.65	●	
3	88.9	2	86	86	0.82	●	
4	108	2.5	105	105	1.60	●	
5	133	2.5	121	121	3.10	●	
6	159	2.5	143	143	4.40	●	
7	193.7	2.5	157	157	4.70	○	
8	219.1	3	178	178	12.8	●	
10	267	3	216	216	16.6	○	
12	323.9	4	254	254	31.5	●	
14	368	4	279	279	39.4	○	
16	419.1	4	305	305	55.1	○	
18	457.2	4	343	343	67.65	○	
20	508	4.5	381	381	92.8	○	
24	610	5	432	432	126.6	○	



● Stocked Item ○ Market Available

CuNi Elbows

DIN 86090
10 bar & 14 bar
90/10 CuNi



Outside Diameter of Pipe	Wall Thickness	Radius	Theoretical Weight	90 Degree	Radius	Theoretical Weight	45 Degree		
								FPS9CN	FPS4CN
Nominal (inch)	Actual (mm)	(mm)	(mm)	(kg/piece)		(mm)	(mm)	(kg/piece)	
0.5	20	1	25	0.02	○	25	10.4	0.02	○
0.75	25	1.5	27.5	0.04	●	27.5	11.4	0.03	○
1	30	1.5	33.5	0.06	●	30	12	0.03	○
1.25	38	1.5	45	0.10	●	32.5	14	0.04	●
1.5	44.5	1.5	51	0.14	●	40	17	0.06	○
2	57	1.5	72	0.26	●	52.5	22	0.10	●
2.5	76.1	2	95	0.61	●	70	29	0.22	●
3	88.9	2	114.5	0.87	●	82.5	34	0.32	●
4	108	2.5	142.5	1.64	●	100	41	0.58	●
5	133	2.5	181	2.58	●	125	52	0.90	●
6	159	2.5	216	3.70	●	150	62	1.30	○
7	193.7	2.5	270	5.65	○	180	75	1.90	○
8	219.1	3	305	8.66	●	210	87	3.00	○
10	267	3	378	13.10	○	255	106	4.40	○
12	323.9	4	457	25.61	○	305	126	8.60	○
14	368	4	533.5	34.00	○	352.5	146	11.30	○
16	419.1	4	609.5	39.40	○	400	166	16.40	○
18	457.2	4	686	48.40	○	455	188	20.40	○
20	508	4.5	762	75.62	○	505	209	28.10	○
24	610	5	915	121.24	○	610	253	40.90	○

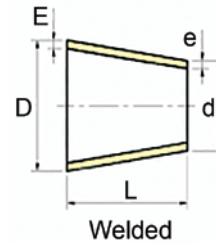
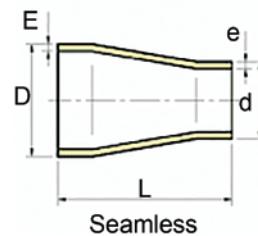
● Stocked Item ○ Market Available

CuNi Reducers

DIN 86089
10 bar & 14 bar
90/10 CuNi



Outside Diameter	Wall Thickness	Length	Theoretical Weight	Availability	
ØD x Ød	E	e	L	FPCNSR	
Nominal (inch)	Actual (mm)	(mm)	(mm)	(kg/piece)	
0.5 x 0.38	20 x 16	1	1	0.01	○
0.75 x 0.38	25 x 16	1.5	1	0.02	○
0.75 x 0.5	25 x 20	1.5	1	0.03	○
1 x 0.38	30 x 16	1.5	1	0.03	○
1 x 0.5	30 x 20	1.5	1	0.04	○
1 x 0.75	30 x 25	1.5	1.5	0.05	○
1.25 x 0.38	38 x 16	1.5	1	0.05	○
1.25 x 0.5	38 x 20	1.5	1	0.06	○
1.25 x 0.75	38 x 25	1.5	1.5	0.07	●
1.25 x 1	38 x 30	1.5	1.5	0.08	●
1.5 x 0.5	44.5 x 20	1.5	1	0.09	○
1.5 x 0.75	44.5 x 25	1.5	1.5	0.11	●
1.5 x 1	44.5 x 30	1.5	1.5	0.12	○
1.5 x 1.25	44.5 x 38	1.5	1.5	0.13	○
2 x 0.5	57 x 20	1.5	1.5	0.14	○
2 x 0.75	57 x 25	1.5	1.5	0.14	●
2 x 1	57 x 30	1.5	1.5	0.15	○
2 x 1.25	57 x 38	1.5	1.5	0.16	●
2 x 1.5	57 x 44.5	1.5	1.5	0.24	●
2.5 x 1	76.1 x 30	2	1.5	0.25	○
2.5 x 1.25	76.1 x 38	2	1.5	0.25	○
2.5 x 1.5	76.1 x 44.5	2	1.5	0.26	●
2.5 x 2.0	76.1 x 57	2	1.5	0.29	●
3 x 1.25	88.9 x 38	2	1.5	0.29	○
3 x 1.5	88.9 x 44.5	2	1.5	0.30	○
3 x 2.0	88.9 x 57	2	1.5	0.32	○
3 x 2.5	88.9 x 76	2	2	0.40	●
4 x 1.5	108 x 44.5	2.5	1.5	0.46	○
4 x 2	108 x 57	2.5	1.5	0.48	○
4 x 2.5	108 x 76.1	2.5	2	0.57	●
4 x 3	108 x 88.9	2.5	2	0.61	●
5 x 2	133 x 57	2.5	1.5	0.8	○
5 x 2.5	133 x 76.1	2.5	2	0.93	○
5 x 3	133 x 88.9	2.5	2	0.98	○
5 x 4	133 x 108	2.5	2.5	1.16	●
5 x 2	133 x 57	3	1.5	0.86	○
5 x 2.5	133 x 76.1	3	2	1.06	○
5 x 4	133 x 108	3	2.5	1.34	○
6 x 2.5	159 x 76.1	2.5	2	1.13	○
6 x 3	159 x 88.9	2.5	2	1.19	○
6 x 4	159 x 108	2.5	2.5	1.38	●
6 x 5	159 x 133	2.5	2.5	1.51	●



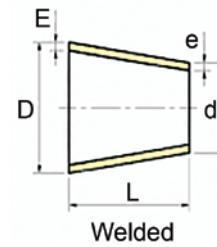
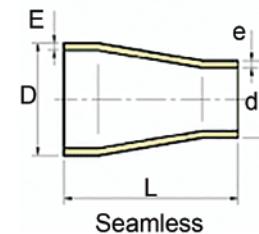
● Stocked Item ○ Market Available

CuNi Reducers

DIN 86089
10 bar & 14 bar
90/10 CuNi



Outside Diameter		Theoretical Weight		Availability	
ØD x Ød	ØD x Ød	E	e	L	
Nominal (inch)	Actual (mm)	(mm)	(mm)	(mm)	(kg/piece) FPCNSR
7 x 3	193.7 x 88.9	2.5	2	155	1.39 ○
7 x 4	193.7 x 108	2.5	2.5	155	1.58 ○
7 x 5	193.7 x 133	2.5	2.5	155	1.71 ○
7 x 6	193.7 x 159	2.5	2.5	155	1.86 ○
7 x 4	193.7 x 108	3.5	2.5	155	2.21 ○
8 x 4	219.1 x 108	3	2.5	155	2.47 ○
8 x 5	219.1 x 133	3	2.5	155	2.6 ●
8 x 6	219.1 x 159	3	2.5	155	2.74 ●
8 x 7	219.1 x 193.7	3	2.5	155	2.93 ○
8 x 4	219.1 x 108	3.5	2.5	155	2.88 ○
10 x 5	267 x 133	3	2.5	210	3.3 ○
10 x 6	267 x 159	3	2.5	210	3.49 ○
10 x 7	267 x 193.7	3	2.5	210	3.75 ○
10 x 8	267 x 219.1	3	3	210	4.25 ○
12 x 5	323.9 x 133	4	2.5	210	5.3 ○
12 x 6	323.9 x 159	4	2.5	210	5.6 ○
12 x 7	323.9 x 193.7	4	2.5	210	6.02 ○
12 x 8	323.9 x 219.1	4	3	210	6.3 ●
12 x 10	323.9 x 267	4	3	210	6.88 ○
14 x 6	368 x 159	4	2.5	300	8.75 ○
14 x 7	368 x 193.7	4	2.5	300	9.34 ○
14 x 8	368 x 219.1	4	3	300	9.76 ○
14 x 10	368 x 267	4	3	300	10.57 ○
14 x 12	368 x 323.9	4	4	300	11.53 ○
16 x 7	419.1 x 193.7	4	2.5	325	11.04 ○
16 x 8	419.1 x 219.1	4	3	325	11.5 ○
16 x 10	419.1 x 267	4	3	300	12.38 ○
16 x 12	419.1 x 323.9	4	4	300	13.42 ○
16 x 14	419.1 x 368.1	4	4	300	14.22 ○
18 x 8	457.2 x 219.1	4	3	350	13.14 ○
18 x 10	457.2 x 267	4	3	350	14.08 ○
18 x 12	457.2 x 323.9	4	4	350	15.2 ○
18 x 14	457.2 x 368	4	4	350	16.06 ○
18 x 16	457.2 x 419.1	4	4	350	17.07 ○



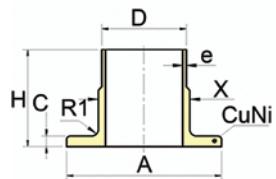
● Stocked Item ○ Market Available

CuNi Inner Flanges

Composite inner flange
DIN 86037 / EHN9402/150
10 bar /14 bar
90/10 CuNi (70/30 available on request)
Galvanised backing flanges to suit available in stock.



Outside Dia of Pipe	Wall Thick ness	Theoretical Weight							Availability	
		ØD	e	ØA	H	C	ØX	R1		
Nominal	Actual								Spec	FLCNWN
(inch)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(kg/piece)	
0.5	20	1.5	45	28	5	22	3	0.08	DIN 86037	○
0.75	25	1.5	58	40	5	27	3	0.14	DIN 86037	●
1	30	1.5	68	40	5	32	4	0.24	DIN 86037	●
1.25	38	1.5	78	40	5	40	4	0.26	DIN 86037	●
1.5	44.5	1.5	88	45	6	46.5	4	0.42	DIN 86037	●
2	57	1.5	102	45	6	59	5	0.53	DIN 86037	●
2.5	76.1	2	122	45	6	78	5	0.64	DIN 86037	●
3	88.9	2	138	50	7	91	5	0.86	DIN 86037	●
4	108	2.5	158	50	7	110	5	1.10	DIN 86037	●
5	133	2.5	188	50	7	135.5	5	1.50	DIN 86037	●
6	159	2.5	212	50	9	161.5	5	2.00	DIN 86037	●
7	193.7	2.5	242	50	9	197	5	2.30	DIN 86037	○
8	219.1	3	268	50	9	222	5	2.70	DIN 86037	●
10	267	3	320	50	9	270	5	3.40	DIN 86037	○
12	323.9	4	370	50	11	327	7	4.60	DIN 86037	○
14	368	4	430	50	11	371	7	6.20	DIN 86037	○
16	419.1	4	482	50	12	422	7	7.50	DIN 86037	○
18	457.2	4	530	50	12	460	7	9.00	DIN 86037	○
20	508	4.5	585	50	12	511	7	10.65	DIN 86037	○
24	610	5	685	60	14	613	9	14.90	DIN 86037	○



Galvanised Backing Flanges

Mild Steel Galvanised, Manufactured to Table D/E AS250
Suitable for composite weld neck flanges. Din 86037



Size Pipe NB/ Tube (mm)	Overall Dia (mm)	Internal Dia (mm)	PCD	Thick ness Standard	Thick ness 86037	Hole Dia	No. of Holes	Weight (kg)	FFADGAL
20 / 25	102	33	73	6	16	14	4	0.67	●
25 / 30	114	40	83	7	16	14	4	0.85	●
32 / 38	121	48	87	8	16	14	4	0.90	●
40 / 44.5	133	54.5	98	9	16	14	4	1.13	●
50 / 57	152	69	114	10	16	19	4	1.44	●
65 / 76	165	88	127	10	16	19	4	1.51	●
80 / 89	184	101	146	11	18	19	4	1.97	●
100 / 108	216	120	178	13	18	19	8	2.54	●
125 / 133	254	145.5	210	13	18	19	8	2.58	●
150 / 159	279	171.5	235	17	18	23	8	4.39	●
200 / 219	337	232	292	19	20	23	8	7.39	●
250 / 267	406	280	356	22	22	23	12	11.57	○
300 / 324	457	341	406	25	24	27	12	14.37	○

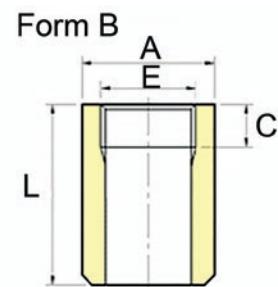
● Stocked Item ○ Market Available

CuNi Sockets

Sockets form B
90/10 CuNi
BSP Thread (Parallel)



Thread (BSP)	Form B			Theoretical Weight	Availability
	ØD (inch)	ØA (mm)	C (mm)	L (mm)	(kg/piece)
	FBCNS				
0.25	20	12	20	0.03	●
0.38	25	12	20	0.05	●
0.50	30	14	23	0.08	●
0.75	38	16	25	0.14	●
1	45	18	28	0.19	●
1.25	55	20	30	0.29	○
1.5	60	22	32	0.37	●
2	75	23	40	0.68	●

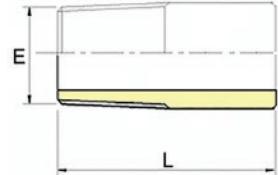


CuNi Nipples

BSP Thread (Tapered)
90/10 CuNi



Nominal (inch)	Actual (mm)	Outside Diameter of Pipe	Thread	Theoretical Weight	Availability
		ØE	L		
		FBCNTN			
0.25	12	0.25"	35	0.04	●
0.38	16	0.38"	35	0.04	○
0.5	20	0.5"	35	0.04	○
0.75	25	0.75"	40	0.07	●
1	30	1"	40	0.11	●
1.25	38	1.25"	50	0.14	●
1.5	44.5	1.5"	50	0.21	●
2.0	57	2"	55	0.35	●
2.5	76.1	2.5"	75	0.68	●



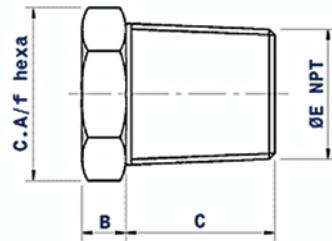
● Stocked Item ○ Market Available

CuNi Hex Plug

90/10 CuNi DIN 910



Nominal Inch	Actual (mm)	E Thread (NPT)	B (mm)	C (mm)	C.A/f (mm)	Weight (kg)	FBCNP
0.25	0.25						●
0.375	0.375						●
0.5	16	0.5"	8	18	19	0.17	●
0.75	25	0.75"	10	18	24	0.30	●
1	30	1"	10	21	30	0.55	●
1.25	38	1.25"	14	22	41	0.95	●
1.5	44.5	1.5"	16	22	41	1.10	●
2.0	57	2.0"	17	22	50	1.85	●

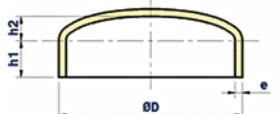


CuNi End Cap

90/10 DIN28011, Butt weld



Nominal Inch	Actual (mm)	Wall Thickness E (mm)	H1 (mm)	H2 (mm)	Weight (kg)	FPCNEC
1	30	1.5	14	5	0.07	●
1.25	38	1.5	14	6.5	0.1	●
1.5	44.5	1.5	14	8	0.12	●
2	57	1.5	18	10	0.18	●
2.5	76.1	2	18	14	0.31	●
3	88.9	2	20	16	0.39	●
4	108	2.5	20	20	0.75	●
5	133	2.5	20	24	0.95	●
6	159	2.5	20	29	1.35	●
7	193.7	2.5	20	36	1.95	○
8	219.1	3	20	41	2.6	●
10	267	3	20	50	3.85	○
12	323.9	4	20	61	6.6	○
14	368	4	20	69	8.8	○
16	419.1	4	20	79	12.2	○
18	457.2	4	20	87	12.55	○
20	508	4.5	20	96	18.8	○
24	610	5	20	115	26.7	○



● Stocked Item ○ Market Available

Recommended Filler Metals for Dissimilar Metal Joint Welding

Parent Metal ASTM (AISI)	201 202	303(1) 304 304L	309 309S	310 310S	317 316	317L 316L 316Ti	321 347	S30815 (253MA)
201	308	308	308	308	308	308	347	308
202	308L	308L	308L	308L	308L	308L	318	347
		312	347	347	347	318	308	
304(1)		308	308	308	308	308	347	22.12.HT
304L		308L	308L	308L	308L	308L	308	308
303		347	347	347	347	347	308L	347
							318	
309		309	309	309	309	309	374	22.12.HT
309S		309L	309L	309L	309L	309L	308	309
			310		316L	308L	347	
310			310	317L	317L	347	22.12.HT	
310S			310L	316L	316L	308	310	
				318	318	308L	309	
				309	309	310		
317				317	317L	347	22.12.HT	
316				316	316L	318	309	
				318	316	316		
					318			
317L					317L	347	22.12.HT	
316L					316L	318	309	
316Ti					318	308		
						316L		
321						347	22.12.HT	
347						318	309	
						308	347	
S30815 (253MA)								22.12.HT
409								
410								
430								
446								
S31500								
S31803								
S32304								
NiCrFe(2)								
Alloys								

Notes:

(1) This group includes free-cutting steels. When such a steel is a member of the joint certain precautions have to be taken. Buttering the free-cutting steel with 312 before welding the joint with a filler metal that suits the other part of the joint or welding the whole joint with 312 is normally a safe procedure.

(2) Higher strength can be obtained by using NiCrFe-6 with subsequent heat treatment.

General Notes:

- If the dilution is high, eg. in submerged arc welding, special high ferrite grades are often preferred.
- If the working conditions require heat treatment, the filler metal choice may have to be reconsidered.

Owing to the infinite combinations of materials and working conditions, no general rules can be applied.

- Filler metals are stated in order of preference. Normally, MMA, TIG, sub-arc welding is assumed. For MIG welding grades with higher silicon contents, eg. 308LSi, 308Si are preferred.
- Where 309 is specified 309MoL may be used. Where 309 is specified filler metals 310, 312, NiCr-3 may generally be used, however, care must be exercised with this selection: eg. i) to avoid high ferrite levels (312 consumable) which may lead to sigma phase embrittlement, ii) to avoid high nickel contents (NiCr-3) which can be attacked in sulphur bearing high temperature environments.

409	446	Duplex	NiCrFe(2)	Carbon(1)	Low(1)	501	Parent Metal ASTM
410		S31500	Steels	Steels	Alloy Steels	502	(AISI)
430		S31803				505	
		S32304					
309	309	22.8.3L	NiCr-3	309	309	309	201
310	310	309	NiCrFe-6				202
309	309	22.8.3L	NiCr-3	309	309	309	304(1)
310	310	309L	NiCrFe-6				304L
		309					303
309	309	22.8.3L	NiCr-3	309	309	309	309
310	310	309	NiCrFe-6				309S
		309L					
309	310	22.8.3L	NiCr-3	310	310	310	310
310	309	309	NiCrFe-6	309	309	309	310S
		309L					
309	309	22.8.3L	NiCr-3	309	309	309	317
310	310	309Mo	NiCrFe-6				316
		309					
309	309	22.8.3L	NiCr-3	309	309	309	317L
310	310	309Mo	NiCrFe-6				316L
		317L					316Ti
316L							
309	309	22.8.3L	NiCr-3	309	309	309	321
310	310	309	NiCrFe-6				347
22.12.HT	22.12.HT	22.8.3L	NiCr-3	22.12.HT	22.12.HT	22.12.HT	S30815
309	309	309	NiCrFe-6	309		309	(253MA)
310	310	310		310		310	
410	446	22.8.3L	NiCr-3	309	309	309	409
309	310	309	NiCrFe-6				410
309		309L					430
446	309	309	NiCr-3	309	309	309	446
310	309L	NiCrFe-6					
309							
		22.8.3L	NiCr-3				S31500
		309Mo	NiCrFe-6				S31803
							S32304
							NiCrFe(2)
							Alloys

- Where designated consumables are not available, more highly alloyed grades may be used. However, due care must be taken with their selection.
- For high temperature transition joints carbon diffusion has to be considered. In such cases, 310 or NiCr-3 is recommended.
- When joining dissimilar but highly corrosion resistant steels, ferrite-free deposits are often demanded. Although each case has to be considered separately, the use of NiCr-3, 20.25.5LCu, or 27.31.4LCu can often be recommended.
- In addition to the grades specified here filler metals with specific properties are available, eg. low ferrite

content, high carbon, extra low interstitials, high purity, etc.

- This table is not exhaustive. Other alloys may also be suitable.

Corrosion Chart

	Stainless Steel			Molybdenum Stainless Steel			Duplex Stainless Steel			3CR12 / 5CR12		
	18/8 (304, 304L, 321)	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°
Temperature °C	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°
Aldehydes	R1	R1	R1	R1	R1	R1	R1	R1	R1	R1	R1	R1
Acetic Acid (10%)	R	R	R	R	R	R	R	R	R	R	R	ND
Acetic Acid (glac. & anh.)	R	R	NR	R	R	R	R	R	NR	ND	ND	ND
Acetic anhydride	R2	NR	NR	R	R	NR	R	R	R	R2	NR	ND
Ketones	R	R	R	R	R	R	R	R	R	R	ND	ND
Acetylene	R	R	R	R	R	R	R	R	R	R	ND	ND
Acid Fumes	R3	R3	R3	R3	R3	R3	R4	NR	NR	NR	NR	NR
Alcohols	R	R	R	R	R	R	R	R	R	R	R	R
Aliphatic Esters	R	R	R	R	R	R	R	R	R	R	ND	ND
Alkyl Chlorides	R5	R5	R5	R5	R5	R5	R	R	R	R5	ND	ND
Alum	R	R6	NR	R	R	NR	R	R	NR	ND	ND	ND
Ammonia	R	R	R	R	R	R	R	R	R	R	R	R
Amyl Acetate	R	R	R	R	R	R	R	R	R	R	R	R
Aniline	R	R	R	R	R	R	R	R	R	R	R	R
Antimony Trichloride	R5	NR	NR	R5	R5	NR	R	R	NR	NR	NR	NR
Aromatic Solvents	R	R	R	R	R	R	R	R	R	R	R	R
Atmospheric												
Industrial	R7	ND	ND	R	ND	ND	R	ND	ND	R7	ND	ND
Marine	R7	ND	ND	R	ND	ND	R	ND	ND	R7	ND	ND
Rural	R	ND	ND	R	ND	ND	R	ND	ND	R7	ND	ND
Ascorbic Acid	R1	R1	R1	R	R	R	R	R	R	R1	ND	ND
Benzoic Acid	R	R	R	R	R	R	R	R	R	R	R	R
Boric Acid	R	R	R	R	R	R	R	R	R	R	R	R
Brines, saturated	R8	NR	NR	R8	NR	NR	R	R	R	NR	NR	NR
Bromide (K) soln.	R9	NR	NR	R9	R9	R9	R	ND	ND	NR	NR	NR
Bromine (+ aqu.)	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Butyl Acetate	R	R	R	R	R	R	R	R	R	R	R	R
Calcium Chloride	NR	NR	NR	R8	NR	NR	R10	R10	R10	NR	NR	NR
Carbon Disulphide	R	R	ND	R	R	ND	R	R	R	R	R	R
Carbonic Acid	R	R	R	R	R	R	R	R	R	R	R	R9
Carbon Tetrachloride	R	R	R	R	R	R	R	R	R	R	R	R
Caustic Soda & Potash	R	R	R6	R	R	R6	R6	R6	ND	ND	R6	R6
Cellulose Paint	R	R	R	R	R	R	R	R	R	R	R	R
Chlorates of Na, K, Ba	R1	R1	R1	R1	R1	R1	R	R	R	ND	ND	ND
Chlorine, dry	R	R	R	R	R	R	R	R	ND	ND	ND	ND
Chlorine, wet	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Chlorides of Na, K, Mg, Ca, Ni, NH4, Al, Sn, Zn	R10	NR	NR	R9	R11	R11	R	R	ND	R5	NR	NR
Chlorosulphuric Acid	NR	NR	NR	NR10	NR	NR	ND	ND	ND	ND	ND	ND
Chromic Acid (80%)	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Citric Acid	R6	R6	R6	R	R	R6	R	R	R	NR	NR	NR
Cresylic Acids (50%)	R	R	R	R	R	R	R	R	R	R	R	R
Detergents, synthetic	R	R	R	R	R	R	R	R	R	R	R	R
Emulsifiers (all conc.)	R	R	R	R	R	R	R	R	R	ND	ND	ND
Esters & Ethers	R	R	R	R	R	R	R	R	R	R	R	R
Fatty Acids (> C6)	R	R	R	R	R	R	R	R	R	R	R	R
Ferric Chloride	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Fluorinated Refrigerants, Aerosols e.g. Freon	R5	R	R	R5	R	R	R	R	R	R6	R	NR
Fluorine, dry	R	ND	ND	R	ND	ND	R	R	ND	ND	ND	ND
Fluorine, wet	NR	NR	NR	R	ND	ND	ND	ND	ND	NR	NR	NR
Formic Acid	R	NR	NR	R	R	ND	R	R	ND	NR	NR	NR
Fruit Juices	R12	R	R	R	R	R	R	R	R	R13	NR	NR
Gelatine	R1	R	R	R1	R	R	R	R	R	R1	R1	ND
Glycols	R	R	R	R	R	R	R	R	R	R	R	R
Hydrobromic Acid (50%)	NR	NR	ND	NR	NR	ND	NR	NR	ND	NR	NR	NR
Hydrochloric Acid (10%)	NR	NR	NR	NR	NR	NR	NR	NR	ND	NR	NR	NR
Hydrochloric Acid (conc.)	NR	NR	NR	NR	NR	NR	NR	NR	ND	NR	NR	NR
Hydrocyanic Acid	R	R	ND	R	R	ND	R	R	ND	R	ND	ND
Hydrofluoric Acid	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Hydrogen Peroxide (30%)	R	R	R	R	R	R	R	R	R	R	R	ND

Corrosion Chart

	Stainless Steel			Molybdenum			Duplex			3CR12 / 5CR12		
	18/8 (304, 304L, 321)			Stainless Steel (316, 316L)			Stainless Steel (2205)					
Temperature °C	20°	60°	100°	20°	60°	100°	20°	60°	100°	20°	60°	100°
Hydrogen Sulphide	R5	R5	R5	R5	R5	R5	R5	R5	R5	R5	R5	R5
Hypochlorite (Na 12-14%)	R14	NR	NR	R14	ND	ND	R14	ND	ND	R14	ND	ND
Lactic Acid (100%)	R	NR	NR	R	R	NR	R	R	ND	NR	NR	NR
Lead Acetate	R	R	R	R	R	R	R	R	R	R	R	R6
Lead Perchlorate	R1	R1	R1	R	R1	ND	ND	ND	ND	NR	NR	NR
Lime (CaO)	R	R	R	R	R	R	R	R	R	R	R	R
Manganate, Potassium (K)	R	R	R	R	R	R	R	ND	ND	R6	ND	ND
Meat Juices	R	R	ND	R	R	ND	R	R	R	R7	NR	NR
Mercuric Chloride	NR	NR	NR	NR	NR	NR	R	R	R	NR	NR	NR
Milk and its products	R	R	R	R	R	R	R	R	R	R	NR	NR
Molasses	R	R	R	R	R	R	R	R	R	R	R	R
Monoethanolamine	R	R	R	R	R	R	R	R	R	R	R	R
Naphthalene	R	R	R	R	R	R	R	R	R	R	R	R
Nitrates of Na, K, NH3, Ag	R	R	R	R	R	R	R	R	R	R	R	R
Nitric Acid (< 25%)	R	R	R	R	R	R	R	R	R	R	R15	NR
Nitric Acid (50%)	R	R	R	R	R	R	R	R	R	R	R15	NR
Nitric Acid (90%)	R	NR	NR	R	NR	NR	R	NR	ND	R	NR	NR
Nitric Acid (Fuming)	R	R2	NR	R	R2	NR	R	NR	NR	R	NR	NR
Oil, Diesel, Petroleum, Spirits	R	R	R	R	R	R	R	R	ND	R	R	R
Oils, essential	R	R	R	R	R	R	R	R	R	R	R	R
Oil, Lube with aromatic addts.	R	R	R	R	R	R	R	R	R	R	R	R
Oils, vegetable and animal	R	R	R	R	R	R	R	R	R	R	R	R
Oxalic Acid	R6	NR	NR	R6	R16	NR	R	R	R	NR	NR	NR
Perchloric Acid	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Phenoll	R	R	R	R	R	R	R	R	R	R	R	R
Phosphoric Acid (20%)	R	R	R	R	R	R	R	R	R	NR	NR	NR
Phosphoric Acid (50%)	R	R	NR	R	R	R	R	R	R	NR	NR	NR
Phosphoric Acid (95%)	R	R	NR	R	R	NR	R17	R17	R17	NR	NR	NR
Phosphorous Pentoxide	R	R	R5	R	R	R5	R	R	R	ND	ND	ND
Pyridine	R	R	R	R	R	R	R	R	R	R	R	R
Sea Water	R9	NR	NR	R9	NR	NR	R	NR	NR	NR	NR	NR
Silicic Acid	R	R	R	R	R	R	R	R	R	R	R	R
Sodium Peroxide	R16	NR	NR	R6	R16	R16	R	R	R	NR	NR	NR
Sodium Silicate	R	R	R	R	R	R	R	R	R	R	R	R
Sodium Sulphide	R	R	NR	R	R	NR	R	R	NR	R6	R6	NR
Starch	R	R	R	R	R	R	R	R	R	R	R	R
Sugar, Syrups, Jams	R12	R	R	R	R	R	R	R	R	R12	R12	R12
Sulphamic Acid	R18	NR	NR	R	R19	NR	R	R	NR	NR	NR	NR
Sulphates (Na, K, Mg, Ca, Al, Fe)	R	R	R	R	R	R	R	R	R	R	R	R
Sulphates	R	R	R	R	R	R	R	R	R	NR	NR	NR
Sulphur Dioxide, dry	R	R	R	R	R	R	R	R	R	R	R	R
Sulphur Dioxide, wet	R	NR	NR	R	R	NR	R	R	NR	NR	NR	NR
Sulphur Dioxide, aqu. soln. (96%)	R	NR	NR	R	R	R	R	R	R	NR	NR	NR
Sulphur Trioxide	NR	NR	NR	R5	R5	R5	R5	R5	R5	NR	NR	NR
Sulphuric Acid (<50%)	NR	NR	NR	R16	NR	NR	R	R	NR	NR	NR	NR
Sulphuric Acid (70%)	NR	NR	NR	NR	NR	NR	R	NR	NR	NR	NR	NR
Sulphuric Acid (95%)	R	NR	NR	R	NR	NR	R	NR	NR	R15	NR	NR
Sulphuric Acid, fuming	R	R2	NR	R	R	NR	R	R	NR	R2	R2	NR
Tannic Acid (10%)	R	R	R	R	R	R	R	R	R	R	R	NR
Tartaric Acid	R	R	R	R	R	R	R	R	R	NR	NR	NR
Trichlorethylene	R5	R5	R5	R5	R5	R5	R5	R5	R5	R5	R5	R5
Urea (30%)	R	R	R	R	R	R	R	R	R	R	R	R
Water, pure	R	R	R	R	R	R	R	R	R	R	R	R
Yeast	R	R	R	R	R	R	R	R	R	R	R	R

R indicates the material is resistant to the named chemical up to the temperature shown, subject to limitations indicated by the footnotes.

NR indicates that the material is not recommended.

ND indicates that no data is available.

1 - not if chlorides present

11 - may cause stress corrosion cracking

2 - limited data

12 - when free of SO₂

3 - depending upon the acid

13 - may cause contamination of product

4 - acid fumes dry, attack may occur if moisture builds up

14 - dilute hypochlorites can be used to sterilise some stainless steel with extreme care.

5 - anhydrous

15 - general corrosion may become excessive

6 - depending upon concentration

16 - 10%

7 - may discolour with time

17 - in the absence of impurities

8 - in strong solutions only when inhibited

18 - dilute

9 - pitting possible in stagnant conditions

19 - some attack at high temperatures

10 - possibility of pitting

Commonly Used Stainless Steels

Grade	Type	UNS No. Related Specification	C	Mn	Ni	Cr	Mo	P	S	Si	Other
303	Austenitic	S30300	.15 Max	2.0 Max	8-10	17-19	0.6 Max	.20 Max	.15 Min	1.0 Max	
304	Austenitic	S30400	.08 Max	2.0 Max	8-10.5	18-20		.045 Max	.03 Max	1.0 Max	
304L	Austenitic	S30403	.03 Max	2.0 Max	8-12	18-20		.045 Max	.03 Max	1.0 Max	
316	Austenitic	S31600	.08 Max	2.0 Max	10-14	16-18	2-3	.045 Max	.03 Max	1.0 Max	
316L	Austenitic	S31603	.03 Max	2.0 Max	10-14	16-18	2-3	.045 Max	.03 Max	1.0 Max	
316Ti	Austenitic	S31635	.08 Max	2.0 Max	10-14	16-18	2-3	.045 Max	.03 Max	1.0 Max	Ti 0.5
317L	Austenitic	S31703	.03 Max	2.0 Max	13.0	18-20	3-4	.045 Max	.03 Max	1.0 Max	
310	Austenitic	S31000	.25 Max	2.0 Max	19-22	24-26		.045 Max	.03 Max	1.5 Max	
321	Austenitic	S32100	.08 Max	2.0 Max	9-12	17-19		.045 Max	.03 Max	1.0 Max	Ti 0.5 Min
253MA	Austenitic	S30815	0.05-0.1	0.8 Max	10-12	20-22		0.04 Max	.03 Max	1.4-2	N .18 Ce .15
904L	Austenitic	N08904	.02 Max	2.0 Max	23-28	19-23	4-5	.045 Max	.03 Max	1.0 Max	Cu 1.5
420C	Martensitic	S42000	.15 Min	1.0 Max		12-14		.04 Max	.03 Max	1.0 Max	
431	Martensitic	S43100	.2 Max	1.0 Max	1.25-2.5	15-17		.04 Max	.03 Max	1.0 Max	
17-4 PH (630)	Martensitic	S17400	.07 Max	1.0 Max	3-5	15-17.5		.04 Max	.03 Max	1.0 Max	Cu 4 Nb + Ta .3
440C	Martensitic	S44004	0.95-1.2	1.0 Max	1.0 Max	16-18	0.75 Max	.04 Max	.03 Max	1.0 Max	
444	Ferritic	S44400	.02 Max	1.0 Max	1.0 Max	17.5- 19.5	1.7-2.5	.04 Max	.03 Max	1.0 Max	Ti 0.4
3CR12	Ferritic	S41003	.03 Max	1.5 Max	1.5 Max	10.5- 12.5		.04 Max	.03 Max	1.0 Max	Ti 4(C+N)
2205	Duplex	S31803	.03 Max	2.0 Max	4.5-6.5	21-23	2.5-3.5	.03 Max	.02 Max	1.0 Max	N 0.15
2507	Duplex	S32750	.03 Max	1.2 Max	6.0-8.0	24-26	3-5	0.035Max	0.02 Max	0.80 Max	N 0.24- 0.32
2304	Duplex	S32304	.03 Max	2.5 Max	3-5.5	21.5- 24.5	.05-6	.04 Max	.03 Max	1.0 Max	N 0.1

Commonly Used Stainless Steels

Typical Yield Strength MPa	Mechanical UTS MPa	Properties Hardness		Elongation %	Condition	Common Applications
Min	Min	BHN Max	Rb Max			
240	585	160	84	50	Annealed	Free machining steel used where extensive machining is required. Corrosion resistance and weldability inferior to 302.
205	520	202	92	40	Annealed	General purpose steel with good corrosion resistance for most applications. Used for architecture, food processing, domestic sinks and tubs and deep drawing applications.
170	485	183	88	40	Annealed	Chemical plant and food processing equipment, where freedom from sensitisation is required in plate.
205	520	219	95	40	Annealed	Most commonly used s/s main applications ie. marine, chemical, food, mining.
170	485	217	95	40	Annealed	A low carbon modification of 316 where heavy section weldments are required without the risk of intergranular corrosion.
205	520	217	95	40	Annealed	A titanium stabilised version of 316. Excellent high temperature strength.
205	515	217	95	40	Annealed	For chemical plant. Has greater corrosion resistance than 316L notably with brines and halogen salts.
205	520	170	85	40	Annealed	Furnace parts and equipment. Resistant to temperatures 900°C to 1100°C.
205	520	217	95	40	Annealed	Heavy weldments in chemical and other industries. Suitable for heat resisting applications to 800°C. Not suitable for bright polishing.
310	600	-	-	40	Annealed	Furnace parts and equipment. Resistant to temperatures up to 1150°C.
-	-	-	-	40	Annealed	High resistance to: general corrosion in e.g. sulphuric and acetic acids; crevice corrosion; stress corrosion cracking; pitting in chloride bearing solutions. Good weldability.
-	S20	192	92		Hardenable	Developed for high hardness after heat treatment. Used for cutting tools, surgical knives, etc.
	965 Max	262	10	-	Hardenable	Used for pump shafts etc. Similar corrosion resistance to T302.
1000	1070	331	-	12	Solution Hardened	Main applications: pump shafts, marine boat shafts, valve stems. Similar corrosion resistance to type 304.
-	-	223	97	-	Hardenable	Capable of being hardened to 60 Rc. Highest hardness and abrasion resistance of all the stainless steels. Corrosion resistance similar to 410.
310	415	200	95	20	Annealed	Heat exchanger and hot water tanks, and in chloride containing waters. Not prone to chloride stress corrosion - superior resistance to pitting, crevice and intergranular corrosion. Possesses excellent deep drawing properties.
340	460	-	160	40	Annealed	Excellent wet abrasion resistance. Used in hoppers, bins, tanks etc.
450	620	290	32RC	25	Annealed	Superior corrosion resistance to 316L and 317L, combined with high strength. Excellent stress corrosion and abrasion resistance. Typically used in heat exchangers, gas scrubbers, fans, chemical tanks, flowlines, marine and refinery applications.
530	730	74	32	20	Annealed	Very high strength, High resistance to pitting, crevice and general corrosion, Very high resistance to chloride stress corrosion cracking, Lower coefficient of thermal expansion than austenitic stainless steels, Higher thermal conductivity than austenitic stainless steels
400	600	290	31RB	25	Annealed	Similar corrosion resistance to 316L. Higher yield strength, corrosion and stress-corrosion crackling resistance is required in marine, mining, chemical, food and power industries. Particularly useful in nitric acid.

Pressure Conversion Charts

	PSI	MPa	kgf/cm ²	BARS	Atmospheres	PSI	MPa	kgf/cm ²	BARS	Atmospheres	PSI	MPa	kgf/cm ²	BARS	Atmospheres				
25	.17	1.76	1.72	1.7	2500	17.24	175.77	172.50	170.00	5200	35.85	365.60	358.80	353.60	7900	54.47	555.42	545.10	537.20
50	.34	3.52	3.45	3.4	2600	17.93	182.80	179.40	176.80	5300	36.54	372.63	365.70	360.40	8000	55.16	562.46	552.00	544.00
75	.52	5.27	5.18	5.10	2700	18.62	189.83	186.30	183.60	5400	37.23	379.66	372.60	367.20	8100	55.85	569.49	558.90	550.80
100	.69	7.03	6.90	6.80	2800	19.30	196.86	193.20	190.40	5500	37.92	386.69	379.50	374.00	8200	56.54	576.52	565.80	557.60
200	1.38	14.06	13.8	13.60	2900	19.99	203.89	200.10	197.20	5600	38.61	393.72	386.40	380.80	8300	57.23	583.55	572.70	564.40
300	2.07	21.09	20.7	20.40	3000	20.68	210.92	207.00	204.00	5700	39.30	400.75	393.30	387.60	8400	57.92	590.58	579.60	571.20
400	2.76	28.12	27.6	27.20	3100	21.37	217.95	213.90	210.80	5800	39.99	407.78	400.20	394.40	8500	58.61	597.61	586.50	578.00
500	3.45	35.15	34.5	34.00	3200	22.06	224.98	220.80	217.60	5900	40.68	414.81	407.10	401.20	8600	59.30	604.64	593.40	584.80
600	4.14	42.18	41.40	40.80	3300	22.75	232.01	227.70	224.40	6000	41.37	421.84	414.00	408.00	8700	59.98	611.67	600.30	591.60
700	4.83	49.21	48.30	47.60	3400	23.44	239.04	234.60	231.20	6100	42.06	428.87	420.90	414.80	8800	60.67	618.70	607.20	598.40
800	5.52	56.24	55.20	54.40	3500	24.13	246.07	241.50	238.00	6200	42.75	435.90	427.80	421.60	8900	61.36	625.73	614.10	605.20
900	6.20	63.28	62.10	61.20	3600	24.82	253.10	248.40	244.80	6300	43.44	442.93	434.70	428.40	9000	62.05	632.76	621.00	612.00
1000	6.90	70.31	69.00	68.00	3700	25.51	260.14	255.30	251.60	6400	44.13	449.96	441.60	435.20	9100	62.74	639.79	627.90	618.80
1100	7.58	77.34	75.90	74.80	3800	26.20	267.17	262.20	258.40	6500	44.82	457.00	448.50	442.00	9200	63.43	646.82	634.80	625.60
1200	8.27	84.37	82.80	81.60	3900	26.89	274.20	269.10	265.20	6600	45.51	464.03	455.40	448.80	9300	64.12	653.86	641.70	632.40
1300	8.96	91.40	89.70	88.40	4000	27.58	281.23	276.00	272.00	6700	46.20	471.06	462.30	455.60	9400	64.81	660.89	648.60	639.20
1400	9.65	98.43	96.60	95.20	4100	28.27	288.26	282.90	278.80	6800	46.88	478.09	469.20	462.40	9500	65.50	667.92	655.50	646.00
1500	10.34	105.46	103.50	102.00	4200	28.96	295.29	289.80	285.60	6900	47.57	485.12	476.10	469.20	9600	66.19	674.95	662.40	652.80
1600	11.03	112.49	110.40	108.80	4300	29.65	302.32	296.70	292.40	7000	48.26	492.15	483.00	476.00	9700	66.88	681.98	669.30	659.60
1700	11.72	119.52	117.30	115.60	4400	30.34	309.35	303.60	299.20	7100	48.95	499.18	489.90	482.80	9800	67.57	689.01	676.20	666.40
1800	12.41	126.55	124.20	122.40	4500	31.03	316.38	310.50	306.00	7200	49.64	506.21	496.80	489.60	9900	68.26	696.04	683.10	673.20
1900	13.10	133.58	131.10	129.20	4600	31.72	323.41	317.40	312.80	7300	50.33	513.24	503.70	496.40	10000	68.95	703.07	690.00	680.00
2000	13.79	140.61	138.00	136.00	4700	32.41	330.44	324.30	319.60	7400	51.02	520.27	510.60	503.20	11000	75.84	773.38	759.00	748.00
2100	14.48	147.64	144.90	142.80	4800	33.10	337.47	331.20	326.40	7500	51.71	527.30	517.50	510.00	12000	82.74	843.68	828.00	816.00
2200	15.17	154.68	151.80	149.60	4900	33.78	344.50	338.10	333.20	7600	52.40	534.33	524.40	516.80	13000	89.63	913.99	897.00	884.00
2300	15.86	161.71	158.70	156.40	5000	34.47	351.54	345.00	340.00	7700	53.09	541.36	531.30	523.60	14000	96.53	984.30	966.00	952.00
2400	16.55	168.74	165.60	163.20	5100	35.16	358.57	351.90	346.80	7800	53.78	548.39	538.20	530.40	15000	103.42	1054.6	1035.0	1020.0

PSI X .0068948 = megapascals (MPa) = meganewton/metre²
 PSI X .070307 = kilogram-force per square centimetre
 PSI X .0690 = Bars
 PSI X .0680 = Atmospheres

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The screenshot shows the Stirlings Performance Steels website. At the top, there's a navigation bar with links for Pipe & Fittings, Tube & Fittings, Flanges, Bar, Sheet, Plate & Mesh, Valves & Hygienic Fittings, Manways, Copper Nickel, PressFit, Balustrade Fittings, Marine & Hardware, Fasteners, Rust Removal and Polishes, Adhesives & Metalworking Fluids, Abrasives, Welding Rods, and Car Products. A search bar is also present. The main content area displays a grid of products:

- Concentric Reducer 316L, 500 x 400NB (20 x 16 Inch), Butt weld, Schedule 10S**: \$721⁶⁰. Ex Tax: \$656.00.
- Eccentric Reducer 304L, 250 x 150NB (10 x 6 Inch), Butt weld, Schedule 40S**: \$303⁶⁰. Ex Tax: \$276.00.
- Concentric Reducer 304L, 250 x 200NB (10 x 8 Inch), Butt weld, Schedule 40S**: \$190³⁰. Ex Tax: \$173.00.
- Flange Table E Screwed BSP 80Nb, Grade 316**: \$37⁴⁰. Ex Tax: \$34.00.
- Sheet 0.9 x 900 x 2438 mm, No4, Grade 304**: \$88⁰⁰. Ex Tax: \$80.00.
- Seamless Eccentric Reducer 316L, 125 x 100NB (5 x 4 Inch), Butt weld, Schedule 80S**: \$97⁹⁰. Ex Tax: \$89.00.
- Pipe Equal Tee 316L, 250Nb (10 Inch), Schedule 10S**: \$335⁵⁰. Ex Tax: \$305.00.
- Unpolished Tube Bend 90D 254.00mm, 2.0mm (Wall Thickness), 316**: \$311³⁰. Ex Tax: \$283.00.
- Round Bar 20mm Grade 2205, CG-H9 (6-metres)**: \$328⁹⁰. Ex Tax: \$299.00.
- Flange 150LB Socket Weld, 405 20Nb, Grade 316L**: \$9⁹⁰. Ex Tax: \$9.00.
- Flange Table D Blind 600Nb, Grade-316, AS2129**: \$2,018⁹⁰. Ex Tax: \$1,835.00.
- NPT Coupling/Full 15Nb, Grade 316, 3000LB**: \$18⁷⁰. Ex Tax: \$17.00.

Each product listing includes an "Add to Cart" button and a "Q. Quickview" link.

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