



ROLL GROOVED STAINLESS STEEL

PRODUCT CATALOGUE
COUPLINGS AND FITTINGS



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QMS Certification Services

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Certificate of Conformity

This certificate confirms that the company below complies with the following standard(s):

Company Name / Approved User	Refire Group Pty Ltd	WaterMark WM number:	GM-WM-040114-I02-R00	Approved User web site	www.refire.com.au
Company Other Name		Approved User Tel:	02 9879 0933		
Approved User ABN (if any)	72 633 993 218	Client ID	101206		
JAS-ANZ Scheme	WaterMark Certification Scheme 2016				
Certification Standard (s)	AS 3688:2016 : Water supply and gas systems-Metallic fittings and end-connectors				

CERTIFICATE DATES:

Initial Certification / Re Certification	5/12/2011	Certification Expiry	5/12/2026
Last Certification Decision (current certification)	21/12/2021		

APPROVED COMPANY / SITE ADDRESS(ES):

Unit E, 131 Parramatta Road Five Dock NSW 2046 Australia

Subject to the following conditions and limitations:

- The Approved Certifier grants the right to use or arrange the use of the WaterMark as shown in the top left corner only in respect of the Products described and detailed on the Product Schedule following which are produced by the Approved User and which comply with the appropriate Specification referenced below and as amended from time to time. The Licence is granted subject to the rules governing the use of the WaterMark and the terms and conditions for certification. The WaterMark Licensee covenants to comply with all the Rules, technical reference documents and terms and conditions of the WaterMark Certification Scheme.
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- The WaterMark is a registered certification trademark of the Scheme Owner (ABN 74 599 608 295). The rules of the WaterMark Certification Scheme are available from the ABCB website www.abcb.gov.au
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Introducing ReFire Group Pty Ltd

ReFire Group Pty Ltd is an Australian owned and operated business and has supplied pipes, valves and fittings to the fire protection, industrial, plumbing, mining and mechanical services markets for more than fifty years.

We specialise in “complete package piping systems” with expertise in grooved systems, for both steel and stainless steel materials.

At ReFire Group, our business focuses around quality service and management and technical support, ensuring commitment to our valued customers within our specific markets.

We provide ongoing product support and product solutions to our customers with our products and services.

We have manufacturing, supply and distribution agreements with international suppliers. These agreements are long standing, enabling ReFire Group to offer quality products at very competitive prices.

Our range of tools and machinery for roll grooving, pipe cutting and pipe threading equipment has proven to be the most robust and reliable, handling pipe diameters up to 600mm. Our two pipe fabrication workshops ensures customers receive quality products manufactured to your specifications.

Visit our website for more information on our product range.

CONTACT US OR VISIT OUR BRANCH TODAY!



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Stainless Steel Water Piping Solutions

Stainless steel grade 316/ 316L is recognised as a robust product for applications associated with varying water chemistries. Stainless steel provides costs benefits for the extended life of the water supply service.

We offer customers a tailored packaged for stainless steel grade 316; including pipes, valves and fittings with roll grooved ends, to provide contractors with the lowest installed costs of a stainless steel piping system.

DRINKING WATER

Stainless steel grade 316/316L for drinking water supplies, particularly in large commercial, industrial and residential buildings has increased over the last 10 years.

With working pressure capability up to 2100kPa, the stainless steel system allows the water supply to be distributed throughout the building at high pressure, reducing the need for holding tanks and additional pumping.

Using the mechanical jointing methods, roll grooved stainless steel fittings can be easily installed, eliminating the risk of hot welding and reducing OH&S incidents.

Stainless steel is approved in Australia for drinking water applications meeting the strict requirements in accordance with AS5200.053, AS3688 and AS3500 Parts 1 and 4 for Water Supplies and meeting the requirements of the WaterMark Product Certification Scheme.

Our stainless steel pipe fittings display the WaterMark Logo and licence number.



FIRE SYSTEMS

Stainless steel, employing a cost effective roll grooved installation system, is the material of choice for firefighting systems where the location of the pipe work is used in environments such as sea water or industrial locations. Australian Standards AS2118, Fire Sprinklers and AS2419 Fire Hydrants, permits the use of stainless steel with an approved roll grooved end-connection system.

The ability of stainless steel and the roll grooved end-connection system can withstand shock and vibration, corrosion and high temperatures usually associated with these types of systems. Using roll grooved stainless steel pipes, valves and fittings contractors can achieve working pressures much higher than tradition metallic and plastic systems.



INDUSTRIAL SERVICES

Stainless steels are widely used in manufacturing industries for processed water, distribution and storage. When using stainless steel, corrosion should not be encountered, if correctly specified and installed.

Surface finishes and condition is very important to the successful application of Stainless steel pipes, valves and fittings. Grade 316 stainless steel is recognised for having the ability to reduce the risk of corrosion. However, care should be taken in some industrial situations.

Using the roll grooved end connection jointing system further reduces the risk of damaging the pipe material surface and eliminates corrosion associated with onsite welding.



MINING

Stainless steel pipes, valves and fittings joined using a roll grooved system is used extensively throughout the mining sector. Services such as air, potable water for drinking safety and showers, fire protection and process water can be installed using stainless steel grade 316/316L.

A roll grooved joining method, eliminates the need for hot welding, reducing the risk of explosions and fire. In confined locations traditional methods of pipe joining is near impossible.

When using the roll grooved system there is no need for large and heavy tools and most of the pipe work can be pre-fabricated off site. The roll grooved piping systems can be easily disassembled and relocated without any material wastage.



MARINE APPLICATIONS

Stainless steel grade 316/316L is mostly used today as it is recognised as the premium material when used in marine environments. It achieves excellent corrosion resistance, strength and fitness for conveying water supplies.

For marine applications, where the supply of drinking and fire water is required to be piped along wharves and jetties grade 316/316L stainless steel roll grooved fittings have demonstrated durability and lifetime cost benefit.

By removing the need for onsite welding, the roll grooved joining system reduces the elements usually associated with corrosion in marine applications.



AIR CONDITIONING—HVAC

Stainless steel grade 316/316L pipes are perfectly suited for chilled and condenser water pipe lines in HVAC systems.

Whilst the majority of chilled water pipelines use black carbon steel there are many situations where the water quality is poor and stainless steel is preferred.

Condenser water lines are traditionally installed using spiral welded pipe. Many contractors are now realizing the installed cost benefits using Schedule 10, grade 316 stainless steel pipes with the roll grooved jointing method. All pipes, valves and fittings can be supplied with roll grooved ends, reducing on site labour costs of traditional welded systems.



Introduction to Stainless Steel

WHAT IS STAINLESS STEEL?

Stainless steel is a generic term for a group of corrosion resistant steels containing a minimum of 10.5% of chromium. Varying additions of nickel, molybdenum, titanium, niobium, and other elements may also be present.

CORROSION RESISTANCE OF STAINLESS STEEL

All stainless steels have a high resistance to corrosion. This remarkable resistance to corrosion attack is due to the naturally occurring chromium-rich oxide film present on the surface of the steel.

This invisible, inert and passive film is tightly adherent to the metal and extremely protective in a wide range of corrosion environments. This film is self repairing in the presence of oxygen.

TYPES OF STAINLESS STEEL

There are five basic categories of stainless steel: austenitic, ferritic, duplex, martensitic and precipitation hardening. The austenitic grades are non-magnetic having chromium levels, typically at 18% level. Austenitic grades are the most widely used stainless steels.

Stainless Austenitic grade 316/316L for pipe and fitting products are the preferred material for carrying process and drinking water, industrial water, sanitary fluids, slurries and gasses. Generally, pipe is supplied either welded or seamless, and for water applications welded pipe is supplied with a wall thickness from Schedule 10S through to Schedule 40S.

The American Society of Mechanical Engineers (ASME) specifies pipe dimensions. Dimensions are defined by Nominal Pipe Size (NPS), the outside diameter (OD), which is fixed and the pipe Schedule which determines the wall thickness (WT). These schedules and dimensions are given in ASME B36.19M.

Stainless pipes and fittings distributed by ReFire Group Pty Ltd are supplied in annealed condition. The pipe system can be readily joined by roll grooving.

Roll grooving has proven to be the most economical way to install piping systems.

STAINLESS STEEL PIPE DIMENSIONS GRADE 316

WELDED PIPE AMERICAN NATIONAL STANDARD

STAINLESS STEEL PIPE (ASME B36.19M)

Nominal Pipe Size	Outside Diameter	Wall Thickness: mm		Weights: kgs Per Metre			
		5S		10S		40S	
DN	mm	mm	kg	mm	kg	mm	kg
25	33.4	1.65	1.32	2.77	2.14	3.38	2.56
32	42.2	1.65	1.69	2.77	2.75	3.56	3.46
40	48.3	1.65	1.94	2.77	3.18	3.68	4.13
50	60.3	1.65	2.44	2.77	4.01	3.91	5.55
65	73.0	2.11	3.77	3.05	5.37	5.16	8.81
80	88.9	2.11	4.61	3.05	6.59	5.49	11.52
100	114.3	2.11	5.96	3.05	8.54	6.02	16.39
125	141.3	2.77	9.65	3.40	11.79	6.55	22.19
150	168.3	2.77	11.53	3.40	14.10	7.11	28.82
200	219.1	2.77	15.07	3.76	20.36	8.18	43.38
250	273.1	3.40	23.06	4.19	28.33	9.27	61.49
300	323.9	3.96	31.86	4.57	36.99	9.53	75.88

Stainless Steel Pipe—Dimensions and Weights

STAINLESS STEEL SCHEDULE 10S GRADE 316

WELDED PIPE

Product Code	Nominal Pipe Size	Outside Diameter	Wall Thickness	Approximate Weight
	DN	mm	mm	kg/m
PSS 10-60.3-PE	50	60.3	2.77	4.01
PSS 10-73.0-PE	65	73.0	3.05	5.37
PSS 10-88.9-PE	80	88.9	3.05	6.59
PSS 10-114.3-PE	100	114.3	3.05	8.54
PSS 10-141.3-PE	125	141.3	3.40	11.79
PSS 10-168.3-PE	150	168.3	3.40	14.10
PSS 10-219.1-PE	200	219.1	3.76	20.36
PSS 10-273.1-PE	250	273.1	4.19	28.33
PSS 10-323.9-PE	300	323.9	4.57	36.99



STAINLESS STEEL EQUAL & REDUCING TEES



**STAINLESS STEEL
GROOVED ELBOWS 45 & 90 DEGREES**



STAINLESS STEEL CONCENTRIC REDUCERS



STAINLESS STEEL STUB ADAPTORS FLANGE



**STAINLESS STEEL ROLL GROOVE COUPLINGS
RIGID, FLEXIBLE & HEAVY DUTY**

WaterMarked Range DN50 to DN300

Non-WaterMarked SS316 roll grooved DN25-40 couplings & fittings as well as other SS316 roll grooved fittings & stainless steel roll grooved assemblies are also available.

Please contact our Sales Team.

Fittings and Jointing Assemblies

ROLL GROOVE PIPE SYSTEMS

ReFire Group, with its international partners has developed a specific range of roll grooved couplings and fittings for stainless steel Schedule 10S and 40S welded pipe.

The roll grooved joint assembly system is recognised as the most versatile, economical and reliable joining system for joining stainless steel and many other piping materials.

The stainless steel roll groove couplings are designed to provide both a rigid and flexible system of piping to meet the requirements of pressure and vacuum applications.

In drinking water applications the couplings and fittings meet the requirement of AS3688 - Metallic End Connectors and the WaterMark Certification Scheme AS5200.

With stainless steel Schedule 10S pipes using a roll grooved mechanical assembly can continuously operate at 2100kPa pressure at 20oC and 1400kPa at 80o Celsius for drinking water applications.

The grooved piping system provides for both rigid and flexible design including expansion and contraction.

Flexible couplings allow for the movement of the piping system in seismic locations and can eliminate the use of pump connectors and vibration eliminators.



Stainless Steel Grooved Coupling Material and Characteristics

ReFire supplies a select range of investment cast 316, CF-8M WaterMark roll grooved couplings and wrought fittings in size range DN25—300. The ReFire rigid and flexible couplings and fittings are designed to provide a durable joint for grooved end stainless steel piping schedule 10S to Schedule 40S.

The stainless steel couplings are made from CF-8M material which is in accordance with ASTM A351 standard and we carry both rigid and flexible styles.

Stainless steel rigid coupling suitable to be installed where the pipeline is required to resist flexural or torsional loads provide rigidity in the pressure piping systems.

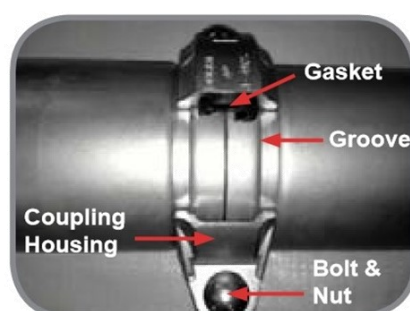
Stainless steel flexible coupling suitable to be installed where expansion and contraction are caused by temperature changes, seismic conditions or other vibrations which may occur.

Bolts and nuts, type 316 stainless steel oval neck track bolts to ASTM A193 B8 and heavy duty nuts to ASTM A194 B8 with special coating for anti-galling.

Type 316 are produced of standard material to ASTM A351 CF8M Duplex 2205 produced of standard to ASTM A890 4A, and all by precision wax mould casting.

The coupling gasket is positioned into the centre between grooves, fit the coupling clamps and insert the bolts and nuts.

When the housing/ coupling clamps are tightened and grips the gasket, it makes a perfect, strong, leak proof joint that performs equally as well under suction or pressure.



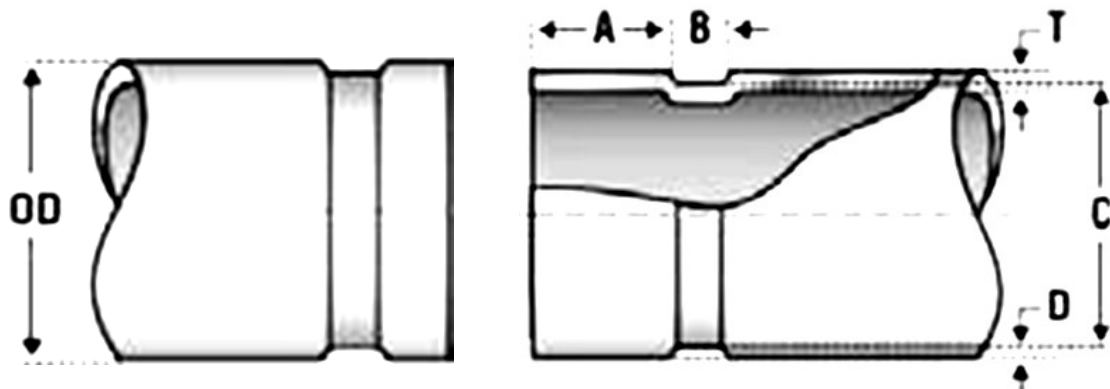
Fittings and Jointing Assembly—Groove Dimensions

ROLL GROOVE DIMENSIONS STAINLESS STEEL

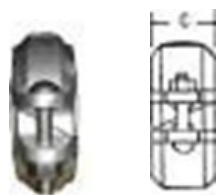
Nominal Pipe Size	Outside Diameter			Gasket Seat A	Groove Width B	Groove Diameter C		Groove Depth D	Min. Allow. WT	Max. Allow. Flare Dia. F
DN	Basic	Tolerance		+/-0.76	+/-0.76	Basic	Tol +0.00			
		+	-							
25	33.4	0.33	0.33	15.88	7.14	30.23	-0.38	1.60	1.65	34.5
32	42.2	0.41	0.41	15.88	7.14	38.99	-0.38	1.60	1.65	45.0
40	48.3	0.48	0.48	15.88	7.14	45.09	-0.38	1.60	1.65	51.1
50	60.3	0.61	0.61	15.88	8.74	57.15	-0.38	1.60	1.65	63.0
65	73.0	0.74	0.74	15.88	8.74	69.09	-0.46	1.98	2.11	75.7
80	88.9	0.89	0.79	15.88	8.74	84.94	-0.46	1.98	2.11	91.4
100	114.3	1.14	0.79	15.88	8.74	110.08	-0.51	2.11	2.11	116.8
150	168.3	1.60	0.79	15.88	8.74	163.96	-0.56	2.16	2.77	170.9
200	219.1	1.60	0.79	19.05	11.91	214.40	-0.64	2.34	2.77	223.5
250	273.1	1.60	0.79	19.05	11.91	268.28	-0.69	2.39	3.40	277.4
300	323.9	1.60	0.79	19.05	11.91	318.29	-0.76	2.77	3.96	328.2

Note: Applicable Standards - ASME B36.19M, AS5200.053 & AS3688

Caution: ReFire Group recommends using pipe rolls designed specifically for roll grooving stainless steel pipe. The use of rolls, that are contaminated with other metal are not recommended for stainless steel roll grooving.



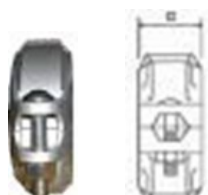
STAINLESS STEEL RIGID COUPLING DIMENSIONS - (S/Steel Grade 316 Investment Cast CF- 8M; Model# GT-422SR & GT402R)



Product Code	Size DN	Pipe OD mm	Pipe End Separation mm	A mm	B mm	C mm	Bolt Size mm	Approx. Wt kg
FWSS-W-422-60	50	60.3	0-2.2	81	128	45	M10x50	0.8
FWSS-W-422-73	65	73.0	0-2.2	95	141	46	M10x50	1.1
FWSS-W-422-89	80	88.9	0-2.6	111	161	47	M10x50	1.2
FWSS-W-422-114	100	114.3	0-2.6	140	189	48	M12x70	1.8
FWSS-W-422-168	150	168.3	0-2.6	197	256	49	M12x70	2.6
FWSS-W-422-219	200	219.1	0-4.9	254	322	59	M16x90	4.6
FWSS-W-422-273	250	273.0	0-4.9	310	378	59	M20x100	6.4
FWSS-W-422-323	300	323.9	0-4.9	363	430	59	M20x100	7.5

ReFire stainless steel rigid couplings DN50 to DN300 meet the Australian Standard, AS 3688 requirements.

STEEL FLEXIBLE COUPLING DIMENSIONS - (S/Steel Grade 316 Investment Cast CF- 8M; Model# GT-402SM & GT-402S)



Product Code	Size DN	Pipe OD mm	Pipe End Separation mm	A mm	B mm	C mm	Bolt Size mm	Approx. Wt kg
FWSS-W-75-60	50	60.3	0-2.2	81	128	45	M10x50	0.8
FWSS-W-75-73	65	73.0	0-2.2	95	141	46	M10x50	1.1
FWSS-W-75-89	80	88.9	0-2.6	111	161	47	M10x50	1.2
FWSS-W-75-114	100	114.3	0-2.6	140	189	48	M12x70	1.8
FWSS-W-75-168	150	168.3	0-2.6	197	256	49	M12x70	2.6
FWSS-W-75-219	200	219.1	0-4.9	254	322	59	M16x90	4.6
FWSS-W-75-273	250	273.0	0-4.9	310	378	59	M20x100	6.4
FWSS-W-75-323	300	323.9	0-4.9	363	430	59	M20x100	7.5

ReFire stainless steel couplings DN50 to DN300 meet the Australian Standard, AS 3688 requirements.

STAINLESS STEEL COUPLINGS PERFORMANCE DATA

Nominal Pipe Size	Pipe OD	Sch 10S (Roll Groove)		
DN	mm	Max. Working Pressure—80 deg (kPa)	Max. Working Pressure—20 deg (kPa)	Max End Load (kN)
50	60.3	1400	2100	11.99
65	73.0	1400	2100	14.65
80	88.9	1400	2100	21.73
100	114.3	1400	2100	35.91
150	168.3	1400	2100	62.29
200	219.1	1400	2100	79.18
250	273.0	1400	2100	122.92
300	323.9	1400	2100	173.03

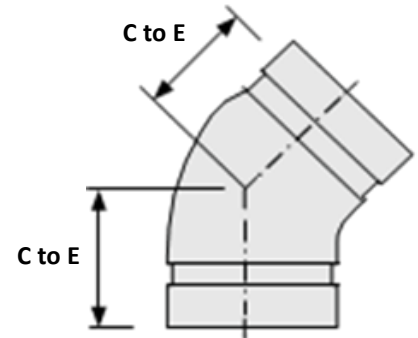
Note: For performance pressure data that is required for drinking water applications shall be in accordance with AS 3688—Metallic End Connectors and AS/NZS 3500.1—Water Supply Installations.

Stainless Steel Grade 316 Grooved Wrought Fittings

STAINLESS STEEL ELBOW - 45 DEGREES (Schedule 10S; Model# GT-604X)



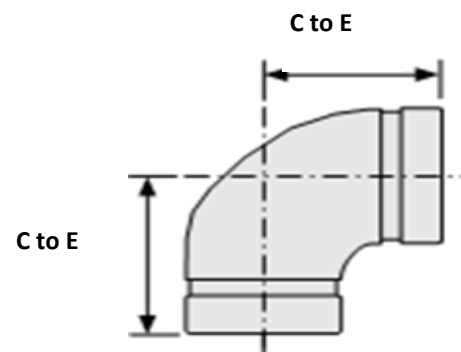
Product Code	Size DN	Pipe OD mm	C to E mm	Approx. Wt kg
FWSS-W-11-60	50	60.3	45.0	0.7
FWSS-W-11-73	65	73.0	55.0	0.9
FWSS-W-11-89	80	88.9	60.0	1.5
FWSS-W-11-114	100	114.3	63.5	2.4
FWSS-W-11-168	150	168.3	95.3	5.1
FWSS-W-11-219	200	219.1	127.0	9.0
FWSS-W-11-273	250	273.0	155.8	9.5
FWSS-W-11-323	300	323.9	190.5	10.4



STAINLESS STEEL ELBOW - 90 DEGREES (Schedule 10S; Model# GT-602)

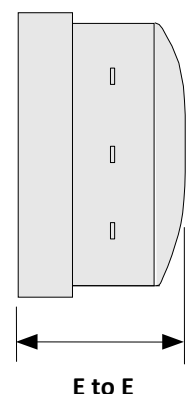


Product Code	Size DN	Pipe OD mm	C to E mm	Approx. Wt kg
FWSS-W-10-60	50	60.3	89.0	1.0
FWSS-W-10-73	65	73.0	110.0	1.5
FWSS-W-10-89	80	88.9	114.3	2.1
FWSS-W-10-114	100	114.3	152.4	3.6
FWSS-W-10-168	150	168.3	228.6	7.7
FWSS-W-10-219	200	219.1	304.8	13.4
FWSS-W-10-273	250	273.0	331.0	18.9
FWSS-W-10-323	300	323.9	457.2	21.1



ROLL GROOVED STAINLESS STEEL GRADE 316 END CAP (Schedule 10S; Model# GT-618X)

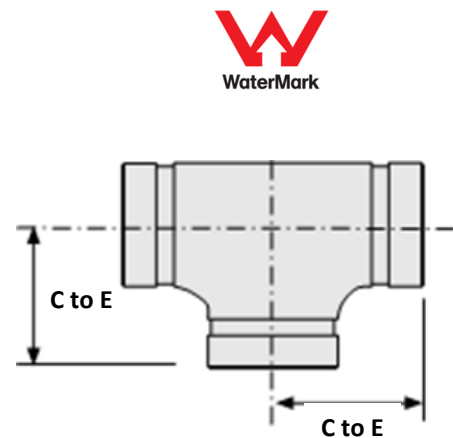
Product Code	Size DN	Pipe OD mm	E to E mm	Approx. Wt kg
FWSS-W-60-60	50	60.3	51.0	0.4
FWSS-W-60-73	65	73.0	51.0	0.5
FWSS-W-60-89	80	88.9	51.0	0.7
FWSS-W-60-114	100	114.3	63.5	1.3
FWSS-W-60-168	150	168.3	90.0	1.7
FWSS-W-60-219	200	219.1	102.0	4.0
FWSS-W-60-273	250	273.0	127.0	5.5
FWSS-W-60-323	300	323.9	152.4	7.8



NOTE: Some measurements will change—please confirm prior to ordering.

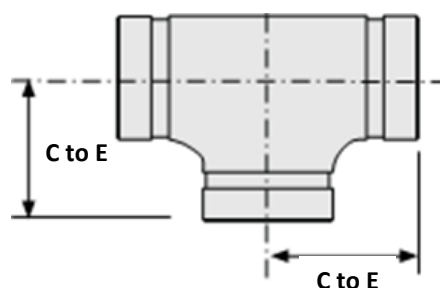
ROLL GROOVED STAINLESS STEEL GRADE 316 EQUAL TEE (Schedule 10S; Model# GT-611X)

Product Code	Size DN	Pipe OD mm	C to E mm	Approx. Wt kg
FWSS-W-20-60	50	60.3	76.2	1.1
FWSS-W-20-73	65	73.0	86.0	1.8
FWSS-W-20-89	80	88.9	95.0	2.6
FWSS-W-20-114	100	114.3	105.0	4.7
FWSS-W-20-168	150	168.3	143.0	11.7
FWSS-W-20-219	200	219.1	178.0	16.3
FWSS-W-20-273	250	273.0	216.0	18.6
FWSS-W-20-323	300	323.9	254.0	22.0



ROLL GROOVED STAINLESS STEEL GRADE 316 REDUCING TEE (Schedule 10S; Model# GT-612X)

Product Code	Size DN	Pipe OD mm	C to E mm	Approx. Wt kg
FWSS-W-25-73-60	65 X 50	73 X 60.3	86	1.7
FWSS-W-25-89-60	80 X 50	88.9 X 60.3	95	2.0
FWSS-W-25-89-73	80 X 65	88.9 X 73.0	95	2.2
FWSS-W-25-114-60	100 X 50	114.3 X 60.3	105	2.6
FWSS-W-25-114-73	100 X 65	114.3 X 73.0	105	2.7
FWSS-W-25-114-89	100 X 80	114.3 X 88.9	105	2.7
FWSS-W-25-168-89	150 X 80	168.3 X 88.9	143	6.4
FWSS-W-25-168-114	150 X 100	168.3 X 114.3	143	6.6
FWSS-W-25-219-114	200 X 100	219.1 X 114.3	178	13.5
FWSS-W-25-219-168	200 X 150	219.1 X 168.3	178	14.1
FWSS-W-25-273-168	250 X 150	273.0 X 168.3	216	
FWSS-W-25-273-219	250 X 200	273.0 X 219.1	216	
FWSS-W-25-323-219	300 X 200	323.9 X 219.1	254	
FWSS-W-25-323-273	300 X 250	323.9 X 273.0	254	

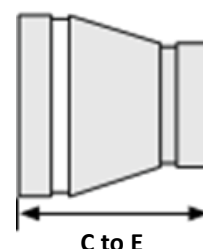


NOTE: Some measurements will change—please confirm prior to ordering.

ROLL GROOVED STAINLESS STEEL GRADE 316 CONCENTRIC REDUCER

(Schedule 10S; Model# GT-623X)

Product Code	Size DN	Pipe OD mm	C to E mm	Approx. Wt kg
FWSS-W-50-73-60	65 X 50	73 X 60.3	127	0.5
FWSS-W-50-89-60	80 X 50	88.9 X 60.3	127	1.0
FWSS-W-50-89-73	80 X 65	88.9 X 73.0	127	1.1
FWSS-W-50-114-60	100 X 50	114.3 X 60.3	127	1.3
FWSS-W-50-114-73	100 X 65	114.3 X 73.0	127	1.4
FWSS-W-50-114-89	100 X 80	114.3 X 88.9	127	1.4
FWSS-W-50-168-89	150 X 80	168.3 X 88.9	149	3.2
FWSS-W-50-168-114	150 X 100	168.3 X 114.3	149	3.2
FWSS-W-50-219-114	200 X 100	219.1 X 114.3	172	5.3
FWSS-W-50-219-168	200 X 150	219.1 X 168.3	172	5.3
FWSS-W-50-273-168	250 X 150	273.0 X 168.3	214	
FWSS-W-50-273-219	250 X 200	273.0 X 219.1	216	
FWSS-W-50-323-219	300 X 200	323.9 X 219.1	248	
FWSS-W-50-323-273	300 X 250	323.9 X 273.0	254	

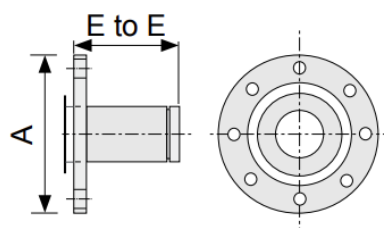


ROLL GROOVED STAINLESS STEEL STUB ADAPTOR FLANGE

(Suit Schedule 10S; Model #GT-428X)

AS 2129 - Flanges in Table D and E 304/316 ANSI Class 150, 304/316

Product Code	Size DN	Pipe OD mm	Flange Dimension		Working Pressure kPa	Bolt Size Diameter (mm)	No. of Bolt Holes (Elongation)
			A (mm)	E to E (mm)			
FWSS-W-FS-60	50	60.3	160	80	2100	16	4
FWSS-W-FS-73	65	73.0	181	80	2100	16	4
FWSS-W-FS-88	80	88.9	194	80	2100	16	8
FWSS-FW-S-114	100	114.3	219	100	2100	16	8
FWSS-W-FS-168	150	168.3	282	100	2100	20	8
FWSS-W-FS-219	200	219.1	338	100	2100	20	8
FWSS-W-FS-273	250	273.0	-	150	2100	20	8
FWSS-W-FS-323	300	323.0	-	150	2100	20	8



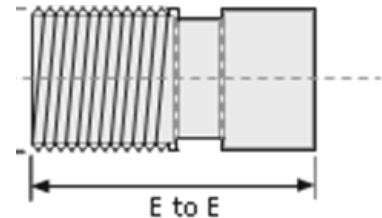
Note: Supplied as roll grooved stub and separate universal flange suitable to various drilling specifications.

NOTE: Some measurements will change—please confirm prior to ordering.

STAINLESS STEEL ROLL GROOVED TO THREADED ADAPTOR (CAST)

Roll Grooved to BSP Threaded Adaptor Model #GT-6302SM

Product Code	Size DN	Pipe OD mm	E to E mm	Approx. Wt kg
FWSS-SA-34-34	25	33.4	50	0.01
FWSS-SA-43-43	32	42.2	50	0.02
FWSS-SA-48-48	40	48.3	50	0.02
FWSS-SA-60-60	50	60.3	50	0.03
FWSS-SA-73-73	65	73.0	50	0.06
FWSS-SA-89-89	80	88.9	50	0.06
FWSS-SA-114-114	100	114.3	50	0.10



Note: The above adaptors are not Watermarked certified.

GT-6302SM

NOTE: Some measurements will change—please confirm prior to ordering.

Gasket Selection

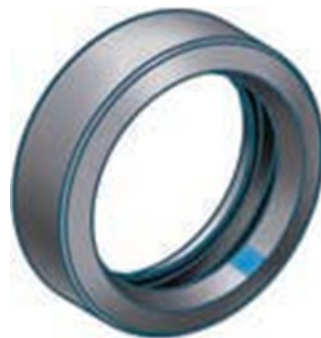
COMPOUND	GRADE	COLOUR CODE	RECOMMENDED SERVICES	TEMPERATURE RANGE
EPDM	E	White Stripe (WaterMark)	<ul style="list-style-type: none"> Hot and cold drinking water variety of dilute acids Oil free air steam chemical and edible services Not recommended for hydrocarbons or petroleum services 	-300C to +1100C
Nitrile	T	Orange Stripe	<ul style="list-style-type: none"> Petroleum products Hydrocarbons Air with oil vapours Vegetable and mineral oils Not Recommended for hot water services 	-290C to +820C
Fluoroelastomer—Neoprene	O	Blue Stripe	<ul style="list-style-type: none"> Oxidising acids petroleum oils Halogenated hydrocarbons Lubricants Hydraulic fluids organic liquids Air with hydrocarbons 	-70C to 1490C
Silicone	L		<ul style="list-style-type: none"> Dry heat Air without hydrocarbons Certain chemical and edible services 	-300C to +800C



EPDM



NITRILE



FLUOROELASTOMER—
NEOPRENE



SILICONE

Forming a Roll Grooved Joint

PIPE END PREPARATION AND PIPE END CUTS

ReFire roll grooved piping systems required the forming of a groove to pipe ends to enable a roll groove joint assembly.

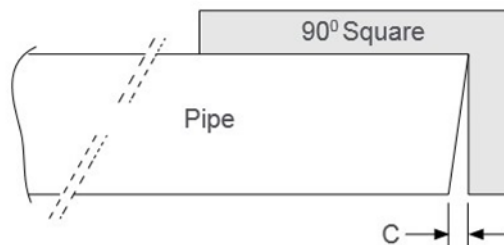
All pipe ends shall be square cut using an approved pipe cutter band-saw or round saw for cutting pipe. The maximum allowable tolerance for square ends is illustrated in the picture and table.

Note: Abrasive cut off saws and angle grinders are not suitable cutters.

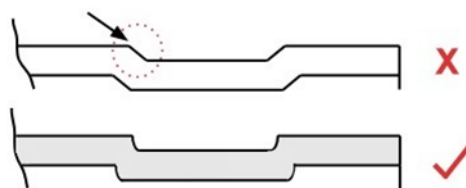
GROOVE PROFILE

In general, stainless steel pipe is more difficult to groove than carbon/galvanised mild steel pipe, as the material is more malleable. Care is required to achieve a defined groove profile.

Caution: If the same roll-set that has been used for carbon/ galvanised mild steel pipe is then used on stainless steel pipe, rust or scale may be transferred to the stainless steel pipe during the roll grooving process. ReFire recommends the use of a separate roll-set, specifically for use with stainless steel pipe.



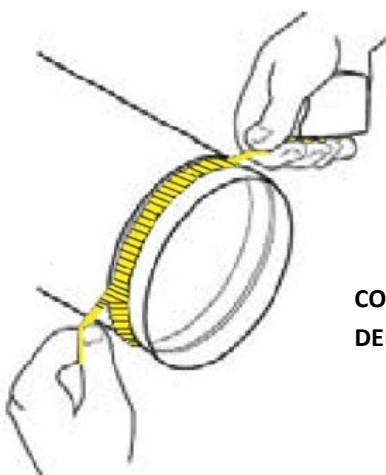
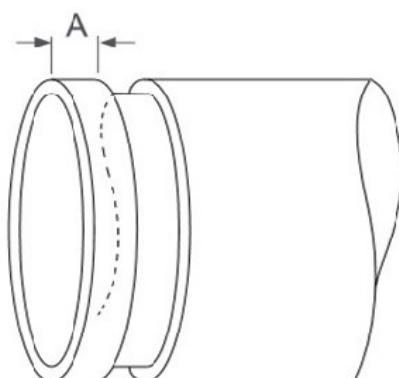
Pipe Size Range mm	C mm (maximum)
DN25	0.8
DN100-DN150	1.2
DN200-DN300	1.6



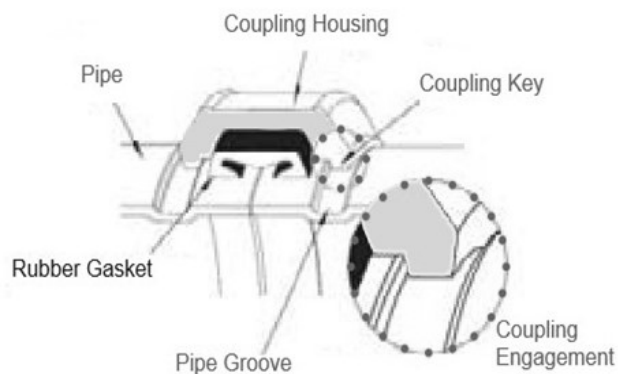
CORRECT MEASURING AND ASSEMBLY OF A ROLL GROOVE CONNECTOR

The groove diameters are specific within the groove specifications supplied. The groove must be of uniform depth around the entire pipe circumference. Use a groove measuring tape to check the groove diameter in accordance with the Roll Groove Specification table provided.

The ReFire circumference tape shows “GO - NO GO” allowances.



**CORRECT GROOVE
DEPTH IS CRITICAL.**



Stainless Steel Rigid and Flexible Coupling

INSTALLATION

When assembling a roll groove stainless steel rigid or flexible coupling, it is important to follow the recommended procedures to ensure assembly is correctly made. ReFire recommends the following process for a roll grooved joint assembly to ensure correct installation.

1. Select the correct gasket for the application, EPDM rubber compound is essential for drinking water application. Apply a thin coating of approved lubricant to the internal housing of the coupling and external surface including the lip of the gasket. Ensure that no foreign particles are present on the gasket, coupling housing and/or pipe surfaces.

ReFire lubricant is type tested to AS 4020. The BK lubricant has been type tested for compliance to products in contact with drinking water. The lubricant is approved under the Australian WaterMark Certification Scheme – Licence No 103.

Note: A detailed material safety datasheet is available on request.



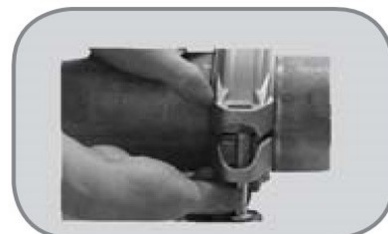
2. Position the gasket over one pipe end, making sure that gasket lip does not overhang the pipe end.
3. Aligning the two pipe ends together, move the gasket into position, centring it between the grooves on each pipe. The gasket must not extend into the groove of either pipe.



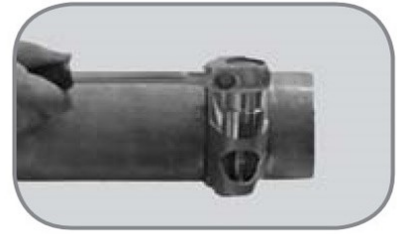
3. Aligning the two pipe ends together, move the gasket into position, centring it between the grooves on each pipe. The gasket must not extend into the groove of either pipe.



4. Housing—Remove one nut and bolt from the selected coupling and loosen the other nut to allow the assembly to wrap around the position correctly over the installed gasket. Re-insert the bolt and finger tighten the nuts.



5. Tighten nuts—Secure and tighten nuts using a ratchet wrench, alternatively and equally until the metal contact occurs at the flat pad. Uneven tightening may cause the gasket to pinch, preventing the even tightening of the coupling assembly.



6. Visually inspect the pipe and coupling to ensure full engagement of the assembly is achieved. Check there is an equal length of bolt and thread extending past both nuts.



Fabrication Services

ReFire's fully operational pipe fabrication workshops in Newcastle, Brisbane and Perth are able to fabricate pipe work to your specification. ReFire provides solutions and quality service to commercial plumbing, fire protection, HVAC, mining and general engineering markets throughout Australia.

- Stainless steel pipe fabrication; Servicing the oil and gas, mining and HVAC industries
- Fire sprinkler and hydrant pipework to your specification
- Pump skids, pipe spools, flange adaptors and tank components
- Weld using mig, Stick, tig and arc techniques, coded welders and weld procedures

Both fully equipped with:

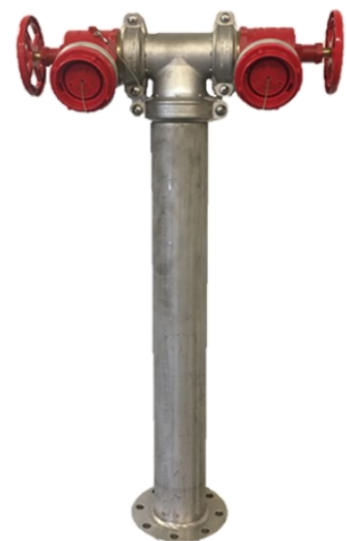
- Forklifts
- Band saws
- Cold saw
- Pillar drills
- Roll groove and threading machines
- Plasma and oxy cutting
- MIG, TIG and ARC welders
- Overhead gantry cranes



PROCESSING AND ASSEMBLY





Full Welding, cutting, roll grooving and threading workshops. We build assemblies and piping arrangements to your specifications.

We also cut and thread pipe up to DN 100 and cut and groove pipe up to DN 600.



Pipe Grooving, Pipe Cutting and Testing

ROLL GROOVING MACHINES

CODE	DESCRIPTION	
H-TWG-11A-B	TWG-11A-B 50-300 Roll Groover 240v; 1ph 50Hz	
H-TWG-1VA	TWG1VA 200-600 Roll Groover 415V 3phase 50Hz	
H-TWG-11A-LG	TWG-11A 25-200 Hand Roll Groover (**Also fits on a 300 power drive)	
H-TWG-V1A	TWG-V1A 25-300 Roll Groover 240v +Mob Stand	
H-TWG-1VZ	TWG1VZ 200-600 Full Auto RGrver415v 50Hz	

SUPPLY

We stock a full range of quality pipe groovers, threaders, cutters and associated tools and accessories.






SPARE PARTS

We stock an extensive range of spare parts for all major brands of all machinery.

SERVICE

We cut and groove pipe up to DN600 and we can thread pipe up to DN150. Full pipe fabrication services available.

PIPE CUTTING MACHINES

CODE	DESCRIPTION	
H-TWQ-V1A	TWQ-V1A 15-50 Pipe Cutter 240v 1ph 50Hz	
H-TWQ-VA	TWQ-VA 50-200 Pipe Cutter 240v;50Hz	
H-TWQ-111	TWQ111A 50-300 Pipe Cutter 240v 1ph 50Hz	
H-TWQ-1VA	TWQ-1VA 150-500 Pipe Cutter 240v; 50Hz	
H-PEC	Exact Cut Circular Saw—Ideal for Stainless Steel (Various sizes available—Contact us)	

SUPPLY

We stock a full range of quality pipe groovers, threaders, cutters and associated tools and accessories.

SPARE PARTS

We stock an extensive range of spare parts for all major brands of all machinery.

SERVICE

We cut and groove pipe up to DN600 and we can thread pipe up to DN150. Full pipe fabrication services available.

Stainless Steel Grip Pipe Couplings For Plain End Pipes

FEATURES

These stainless steel grip couplings join plain end pipe which means there is no need to process the pipe ends (welding, flanges, roll grooved etc). Thus enabling a quick, easy connection of new pipe or replacements and ideal for connecting new section of pipe onto existing pipelines.

- “Roust-a-bout” style for plain end pipes
- For high and low pressure application
- For plain end pipe
- Suitable for new construction and refurbishment
- Installations for pipe repair, temporary and/ or partial replacements
- Excellent where space is a problem

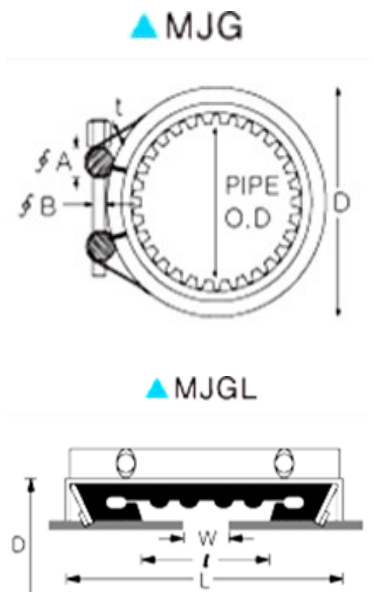


TECHNICAL

- Code: FFS-W4-(size OD)
- Size Range: DN25 – 40 (MJG)
DN50 – 300 (MJGL)
- Tighten bolts up to torque rate on the label
- Pipes should be anchored and supported as per relevant industry standard

DIMENSIONS

Size DN	OD (mm)	Pipe Min -Max OD (mm)	D (mm)	MJG Standard L (mm)	MJGL Long L (mm)	WP (kPa) Test Pressure				
						A	B			
25	34.0	33.0-34.7	47	60	100	3200	3200			
32	42.7	41.9-43.0	56	60	100					
40	48.6	47.8-49.0	62	60	100					
50	60.5	59.0-61.0	76	80	150					
65	73	72.0-74.1	90	80	150	2800		3200		
65	76	75.0-77.2	90	80	150					
80	88.9	87.8-91.0	110	110	200					
90	101.6	100.4-102.6	135	110	200					
100	114.3	113.2-115.4	135	110	200					
125	139/141	139.7-142.5	161	111	201					
150	165	163.3-166.7	190	111	201	2400			3200	
150	168	166.6-170.0	190	111	201					
200	219	217.0-221.0	243	150	250	1600				3200
250	273	270.4-275.6	294	150	250					
300	323	322.0-327.0	346	150	250	1400	1600			



Product Reference Guide

Valves

- Grooved, Flanged & BSP
- Approved &/or WaterMarked
- Gate (incl. Post Indicator)
- Check & Alarm
- Butterfly (incl. Watermarked) Gear/ Lever
- Ball (Threaded & Grooved) incl SS Watermark
- Sluice
- Knife Gate
- Monitored & fitting of anti tamper/monitors
- Y strainers
- C.I., D.I., Bronze, Brass, Stainless
- Solenoid
- Backflow Devices DCV – RPZ – DDCV's

Actuation of Valves (incl. Switchboxes & Positioners)

Roll Groove Fittings

- Full Range of Couplings & Fittings
- Hydrant Fittings
- Special Fittings
- High Pressure RG Couplings & Fittings (Heavy Duty)
- Galvanised, Painted or Stainless Steel
- Copper/Roll Groove Adaptors
- Fire Certified/Approved &/or Watermarked
- Pre Fabricated Assemblies
- Hydrants, Booster, Suction, Tank & Pump
- Pump Start Units
- Single & Twin Risers
- Pump Manifolds & Cooling Loops
- Pump Connectors – Flanged & Grooved
- Solenoid ByPass Assemblies
- Test Valve Assys
- Residential & Sprinkler Cabinet Assemblies
- Control Valve Assemblies to your Specification
- Jacking Pump Assemblies
- Annubar By-Passes
- PRV Stations
- Booster Connections

Cabinets

- Booster/tank – flat pack or custom
- Hose Reel & Extinguisher
- Sprinkler Spares & Manifest
- Hydrant Covers
- Heat Shields & Dust Trunk Boxes
- Drip Trays

Custom Built Sheet Metal Services – to your specifications

Fire Brigade Fittings

- to suit all Australian Fire Authorities
- Hydrant Valves & Tank Boosters
- Storz Adaptors
- Hydrant Valve Spare Parts
- Alarm Valve Gasket kits

Fire Sprinkler Accessories

- Jacking Pumps,
- Pressure Gauges & Flow Pressure Switches
- Sprinklers, Escutcheon Plates, Guards
- Hose Reels, Hose Reel Stands, Hose Reel Acc & Spares
- Hemp, Soap, Teflon Tape, Oil, Lube
- Locking Strap – 003 Padlocks
- Pop Up Indicators
- Petro Coating Products
- Pipe Hangers & Brackets
- Heat Shields & Dust Trunk Boxes
- Flexible Connector / Sprinkler Droppers
- Bolts, Nuts, Washers, Chanel & Threaded Rod
- Traffolyte Signs, Plastic Signs & Stickers
- Heat Shields & Dust Trunk Boxes
- Batteries

Passive Fire

- Fire Extinguishers, Signs, Accessories & Spares
- Mastic, Pillows, Sausages

Pipe

- Approved Medium, Light Wall HDG P/E & RG
- H.DG / Painted / Stainless
- ERW & Seamless Pipe

Threaded Fittings

- Galvanised Malleable BSP Fittings
- Galvanised Steel BSP Fittings
- 3000lb Fittings

Welding Fittings

- Heavy Duty Paps & Profile Sockets
- Branches Plain & Grooved
- Blank Ends & Half Sockets
- Plate Flanges
- Offset Adaptors & Extension Pieces

Fabrication

- Fire Mains & Rangework
- Manifolds & Spool Pieces
- Mild Steel, Carbon Steel & Stainless Steel

Machinery

- New and 2nd Hand
- Hire Machines
- Roll Groovers
- Pipe Cutters
- Screwing Machines
- Pipe Support Stands
- Accessories & Spare Parts

Stainless Steel Repair & Grip Clamps

Miscellaneous

- Bolts, Nuts, Washers, HKD's Etc.
- Cut Off Discs
- Drill Bits
- Holesaws & Arbors
- Wrenches
- Signage to your specification up to A2
- PPE – gloves, glasses, hats, earplugs etc
- Paint, thinners, hand cleaner etc



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Sydney

UNIT E, 131 PARRAMATTA RD
FIVE DOCK NSW 2046

P: +612 9879 0933
E: sydney@refiregroup.com.au

Newcastle Sales & Fabrication

82A CHINCHEN ST
ISLINGTON NSW 2296

P: +612 4961 1519
E: newcastle@refiregroup.com.au
fabricationnew@refiregroup.com.au

Perth North

7 MCDONALD CRESCENT
BASSENDEAN WA 6054

P: +618 9279 9900
E: perth@refiregroup.com.au

Perth South

37 MAGNET ROAD
CANNING VALE WA 6155

P: +618 9279 9900
E: perth@refiregroup.com.au

Perth Fabrication

18 MAY HOLMAN DRIVE
BASSENDEAN WA 6054

P: +618 9279 9900
E: fabricationwa@refiregroup.com.au

Brisbane Sales & Fabrication

37 MARY STREET
KINGSTON QLD 4114

P: +617 3208 9995
E: brisbane@refiregroup.com.au
fabricationqld@refiregroup.com.au



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