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SINCE 1993

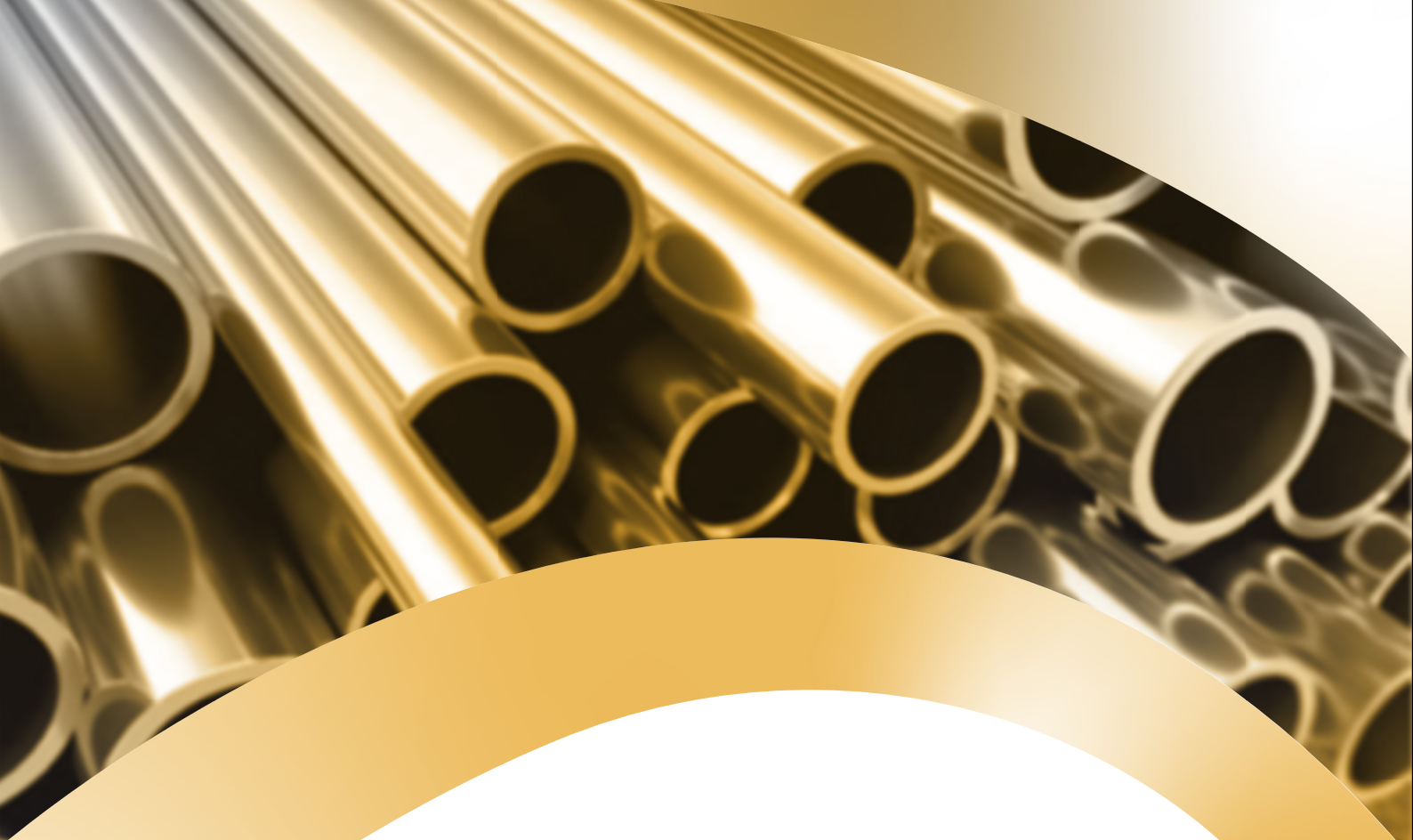


Your Water Pipes Solutions

TSA Industries Sdn. Bhd.

(A Wholly-owned subsidiary of TSA Group Berhad) (199301025961) (280699-W)

Your one-stop industrial hardware solutions partner.



Total Solutions Provider for Stainless Steel Press Fit System



Hygienic



Durable



**Easy
Installation**



**Value
For Money**



TSA Industries Sdn. Bhd.

(A Wholly-owned subsidiary of TSA Group Berhad)

TSA Industries was incorporated on 4 November 1993 in Malaysia under the Companies Act 1965 as a private limited company and is deemed registered under the Act.

Our Group principal activities are in trading stainless steel and other metal products, hardware and other products, manufacturing stainless steel pipes and processing stainless steel products. Our Group's headquarters and manufacturing facilities are based in Selangor, Malaysia and our main markets and operations are in Malaysia and Singapore.

Our Group also exports our products to international markets such as Australia, Bangladesh, Brazil, Brunei, France, India, Indonesia, Kazakhstan, Maldives, New Zealand, Sri Lanka, Thailand and the United Kingdom.

Why Choose TSA?

At TSA, we believe in working closely with our clients to provide them with products and services of unsurpassed quality. It is this high level of commitment that we achieve for quality assurance in Production, Installation and Servicing, and has also helped us stand in good stead in keeping our customers' trust and loyalty, both domestic and international.

When it comes to potable water supplies, particularly in large institutional, commercial and residential buildings, there are many good reasons to consider stainless steel plumbing.

The many advantages of stainless steel plumbing include:

- Low maintenance costs and other life-cycle costing advantages
- Does not require water treatment chemicals, except for bacterial control
- Pipe work is unaffected by high water flow rates
- Able to sustain the full range of potable waters, including soft waters, a feature that is viable in large buildings
- Very good corrosion resistance, hence there is no danger of contamination of drinking water supplies
- Strong yet ductile & non-toxic
- Manufactured from high proportion of recycled material & is 100% recyclable
- Suitable for hot water usage & looks good after installation

The Basic Principle of Press Fitting

The stainless steel press-fix fitting has a special profile which consists of ends with U-shaped grooves and O-shaped seal rings. During the process of connecting the pipes, the stainless steel water pipe that needs to be connected inserted into the press-fix fittings and then sealed up by the bite-seizing method with a professional pressing tool.

Hence, the press-fitting and pipe end that is to be fitted are compressed together to form a hexagonal shape that gives the structure sufficient strength for fitting. As the sealing element has been compressed, this structure also has excellent seal properties.



Installation Procedure

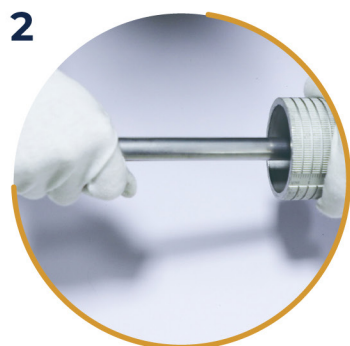
Stainless Steel Tube Preparation

Press Fit Installation 15mm to 54mm



1 Select the correct size of tube and cut the tube square using a cutting tool such as a rotary tube cutter. Care must be taken to ensure that tube is cut square, properly deburred and free from scores.

Deburr both internal and external tube ends then wipe clean of all swarf and debris to avoid damage to the 'O' ring upon tube insertion. If a deburrer is not available, use a fine file to prepare the tube end.



2



3 The tube must be fully inserted to the fitting until it meets the tube stop. Use a depth gauge or ruler to mark the insertion socket depth of the fitting onto the tube. **Refer to Table for the insertion socket depth.**

Size	Socket Depth
15mm	20mm
22mm	21mm
28mm	23mm
35mm	26mm
42mm	30mm
54mm	35mm



1

Keep all fitting in their bag prior to installation to ensure the lubrication does not dry out. Ensure the 'O' ring is sealed correctly within the fitting socket.



2

Assemble the joint, ensuring the tube is inserted into fitting until it meets the stop, using the insertion depth mark as a visual aid. Only when the tube reached the tube top should the pressing operation be undertaken.



3

Select the correct jaw for the joint being made, checking that they are free from damage. Attach the correctly sized jaw, following the instructions for your particular press-tool, and reconnect the power supply when ready. Place them over the bead at the mouth of the fitting.



4

A 90° angle between the tube and jaws must be maintained when pressing all joints. This will ensure the integrity of the joint as well as protecting you from "kickback". The pressing operation should only be carried out when the tube is adequately supported by brackets, not when the tube is suspended in the fitting socket alone.



5

Keep your hands safely away from the joint and press the trigger or button to start the jointing cycle. When the jaws fully enclose the mouth of the fitting, the joint is complete. The jaw should then be released from around the fitting. If all is in order, check the joint as complete.

Tools & Equipment

The Press Tool is a handy clicking machine that is easy and convenient to use. This rechargeable tool is best used for various stainless steel pipework and installations.



Set up the press tool and work area according to these procedures to reduce the risk of injury from electric shock, fire, crushing injuries and other causes, and prevent tool and system damage.



Press Jaw
RP 318

Battery Press Tool
Battery Charger
Battery Cell



Press Jaws
DN12 | DN15 | DN20 | DN25



Collar Jaws
DN60 | DN65 | DN80 | DN100



Ring Jaws
DN32 | DN40 | DN50



Press Tools



Press Jaw

Item Code	Size / Thickness	Material
RP 318	15mm-54mm / 0.8-2.0mm	304 / 316L



Battery Press Tool

Item Code	Size / Thickness
BV 18	Batthey Cell, 18v 2.5 / 5.0 Lithium Battery Pack



Ring Jaws

Item Code	Dimension
RP 318	15mm-54mm
RP 680	60mm-108mm



Press Jaws

Item Code	Dimension
56018	M-15
56013	M-22
56008	M-28
56003	M-35



Collar Jaws

Item Code	Dimension
70143	42.0
70148	54.0
71738	66.7
71743	76.1
70158	88.9
71793	108.0

Application in General Usage

TSA is an integral provider for many prestigious building, commercial, residential and community projects that demand stainless steel tubes and pipes of the highest quality.

Indeed the quality of TSA stainless steel is proven and used across a wide spectrum of industry & community-based developments in many developed countries.



Tensile Test

Drawing blocking power is measured using the Amsler universal testing machine. 0.2MPa (2.0kgf/cm2) of air pressure is applied into the enclosed pipe by a pump.



Bending Water Pressure Test

2.5 MPa of air pressure is injected and the maximum bending degree is measured using the Amsler universal bending machine.



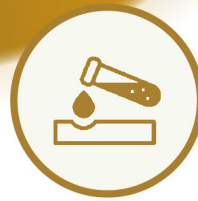
Cyclic Internal Pressure Test

Cyclic Pressure is applied 10,000 times. No leaks or problems were noted.



Vibration Test

A vibration flexion is repeated one million times using a vibration testing machine. No leaks or problems were noted.



Corrosion Test

A testing solution consisting of 200+20mg/litre of CI and distilled water is prepared according to JIS K8150 (sodium chloride reagent).





Stainless Steel Water Pipes

Strong and Reliable TSS Pipes for Your Industrial Needs.

Our TSS Pipes are made with high-quality materials and superior manufacturing techniques to ensure their strength and reliability. They are designed to withstand extreme conditions and are ideal for a wide range of industrial applications.

Stainless steel is a recognized high healthy material. It is widely used in beverage, dairy, brewing, food, and pharmaceutical industries. In the medical field, it is also used as a healthy material that can be implanted into the human body.

TSA adopts press connection technology, which is a reliable, fast and economical pipe connection technology. It has been widely used in various metal pipes in developed countries such as Europe, USA and China etc.

Our Stainless steel water pipes and Stainless steel press fittings are certified and approved by recognized authorities, ensuring adherence to the highest industry standards for quality, safety and performance.



TSS Stainless Steel Water Pipes

Size Range

Standard: BSEN-10312 : 2002 / MS 1998 : 2007

Material: 304 / 316L

Item Code	Size (OD) Outside Diameter	Thickness (mm)	Weight per 6 Meter (KG)		Length (M)
			Grade 304	Grade 316	
P-S4-WR-015.0-0.6-6.0M	15 mm	0.60	1.32	1.36	6.0
P-S4-WR-022.0-0.7-6.0M	22 mm	0.70	2.27	2.33	6.0
P-S4-WR-028.0-0.8-6.0M	28 mm	0.80	3.30	3.39	6.0
P-S4-WR-035.0-1.0-6.0M	35 mm	1.00	5.16	5.30	6.0
P-S4-WR-042.0-1.1-6.0M	42 mm	1.10	6.78	6.97	6.0
P-S4-WR-054.0-1.2-6.0M	54 mm	1.20	9.56	9.83	6.0
P-S4-WR-066.7-1.2-6.0M	66.7 mm	1.20	14.77	15.18	6.0
P-S4-WR-076.1-1.5-6.0M	76.1 mm	1.50	16.92	17.40	6.0
P-S4-WR-108.0-1.5-6.0M	108 mm	1.50	24.00	24.68	6.0
P-S4-WR-159.0-2.0-6.0M	159 mm	2.00	47.56	48.76	6.0

PIPE FITTINGS M Profile



Equal Coupling

Item Code	Diameter (mm)
TSS4-M-EC-015	15.0
TSS4-M-EC-022	22.0
TSS4-M-EC-028	28.0
TSS4-M-EC-035	35.0
TSS4-M-EC-042	42.0

Item Code	Diameter (mm)
TSS4-M-EC-054	54.0
TSS4-M-EC-066	66.7
TSS4-M-EC-076	76.1
TSS4-M-EC-088	88.9
TSS4-M-EC-108	108.0



Slip Coupling

Item Code	Diameter (mm)
TSS4-M-SC-015	15.0
TSS4-M-SC-022	22.0
TSS4-M-SC-028	28.0
TSS4-M-SC-035	35.0
TSS4-M-SC-042	42.0

Item Code	Diameter (mm)
TSS4-M-SC-054	54.0
TSS4-M-SC-066	66.7
TSS4-M-SC-076	76.1
TSS4-M-SC-088	88.9
TSS4-M-SC-108	108.0



90° Elbow

Item Code	Diameter (mm)
TSS4-M-90E-015	15.0
TSS4-M-90E-022	22.0
TSS4-M-90E-028	28.0
TSS4-M-90E-035	35.0
TSS4-M-90E-042	42.0

Item Code	Diameter (mm)
TSS4-M-90E-054	54.0
TSS4-M-90E-066	66.7
TSS4-M-90E-076	76.1
TSS4-M-90E-088	88.9
TSS4-M-90E-108	108.0



45° Elbow

Item Code	Diameter (mm)
TSS4-M-45E-015	15.0
TSS4-M-45E-022	22.0
TSS4-M-45E-028	28.0
TSS4-M-45E-035	35.0
TSS4-M-45E-042	42.0

Item Code	Diameter (mm)
TSS4-M-45E-054	54.0
TSS4-M-45E-066	66.7
TSS4-M-45E-076	76.1
TSS4-M-45E-088	88.9
TSS4-M-45E-108	108.0



90° Street Elbow

Item Code	Diameter (mm)
TSS4-M-90SE-015	15.0
TSS4-M-90SE-022	22.0
TSS4-M-90SE-028	28.0
TSS4-M-90SE-035	35.0
TSS4-M-90SE-042	42.0

Item Code	Diameter (mm)
TSS4-M-90SE-054	54.0
TSS4-M-90SE-066	66.7
TSS4-M-90SE-076	76.1
TSS4-M-90SE-088	88.9
TSS4-M-90SE-108	108.0



45° Street Elbow

Item Code	Diameter (mm)
TSS4-M-45SE-015	15.0
TSS4-M-45SE-022	22.0
TSS4-M-45SE-028	28.0
TSS4-M-45SE-035	35.0
TSS4-M-45SE-042	42.0

Item Code	Diameter (mm)
TSS4-M-45SE-054	54.0
TSS4-M-45SE-066	66.7
TSS4-M-45SE-076	76.1
TSS4-M-45SE-088	88.9
TSS4-M-45SE-108	108.0





Reducing Elbow

Item Code	Diameter (mm)
TSS4-M-RE-2215	22 x 15
TSS4-M-RE-2815	28 x 15
TSS4-M-RE-2822	28 x 22
TSS4-M-RE-3515	35 x 15
TSS4-M-RE-3522	35 x 22
TSS4-M-RE-3528	35 x 28
TSS4-M-RE-4215	42 x 15
TSS4-M-RE-4222	42 x 22

Item Code	Diameter (mm)
TSS4-M-RE-4228	42 x 28
TSS4-M-RE-4235	42 x 35
TSS4-M-RE-5415	54 x 15
TSS4-M-RE-5422	54 x 22
TSS4-M-RE-5428	54 x 28
TSS4-M-RE-5435	54 x 35
TSS4-M-RE-5442	54 x 42



Male Threaded Elbow

Item Code	Diameter (mm)
TSS4-M-MTE-1512B	15 x R 1/2"
TSS4-M-MTE-2212B	22 x R 1/2"
TSS4-M-MTE-2219B	22 x R 3/4"
TSS4-M-MTE-2812B	28 x R 1/2"
TSS4-M-MTE-2819B	28 x R 3/4"
TSS4-M-MTE-2825B	28 x R 1"
TSS4-M-MTE-3512B	35 x R 1/2"
TSS4-M-MTE-3519B	35 x R 3/4"
TSS4-M-MTE-3525B	35 x R 1"
TSS4-M-MTE-3531B	35 x R1 1/4"
TSS4-M-MTE-4212B	42 x R 1/2"

Item Code	Diameter (mm)
TSS4-M-MTE-4219B	42 x R 3/4"
TSS4-M-MTE-4225B	42 x R 1"
TSS4-M-MTE-4231B	42 x R1 1/4"
TSS4-M-MTE-4238B	42 x R1 1/2"
TSS4-M-MTE-5412B	54 x R 1/2"
TSS4-M-MTE-5419B	54 x R 3/4"
TSS4-M-MTE-5425B	54 x R 1"
TSS4-M-MTE-5431B	54 x R1 1/4"
TSS4-M-MTE-5438B	54 x R1 1/2"
TSS4-M-MTE-5450B	54 x R 2"



Female Threaded Elbow

Item Code	Diameter (mm)
TSS4-M-FTE-1512B	15 x RP 1/2"
TSS4-M-FTE-2212B	22 x RP 1/2"
TSS4-M-FTE-2219B	22 x RP 3/4"
TSS4-M-FTE-2812B	28 x RP 1/2"
TSS4-M-FTE-2819B	28 x RP 3/4"
TSS4-M-FTE-2825B	28 x RP 1"
TSS4-M-FTE-3512B	35 x RP 1/2"
TSS4-M-FTE-3525B	35 x RP 1"
TSS4-M-FTE-3519B	35 x RP 3/4"
TSS4-M-FTE-3531B	35 x RP1 1/4"
TSS4-M-FTE-4212B	42 x RP 1/2"

Item Code	Diameter (mm)
TSS4-M-FTE-4219B	42 x RP 3/4"
TSS4-M-FTE-4225B	42 x RP 1"
TSS4-M-FTE-4231B	42 x RP1 1/4"
TSS4-M-FTE-4238B	42 x RP1 1/2"
TSS4-M-FTE-5412B	54 x RP 1/2"
TSS4-M-FTE-5419B	54 x RP 3/4"
TSS4-M-FTE-5425B	54 x RP 1"
TSS4-M-FTE-5431B	54 x RP1 1/4"
TSS4-M-FTE-5438B	54 x RP1 1/2"
TSS4-M-FTE-5450B	54 x RP 2"
TSS4-M-FTE-108101B	108 x RP 4"



Short Female Elbow

Item Code	Diameter (mm)
TSS4-M-SFE-1512B	15 x RP 1/2"
TSS4-M-SFE-2212B	22 x RP 1/2"
TSS4-M-SFE-2219B	22 x RP 3/4"
TSS4-M-SFE-2825B	28 x RP 1"



Short Male Elbow

Item Code	Diameter (mm)
TSS4-M-SME-1512B	15 x R 1/2"
TSS4-M-SME-1812B	18 x R 1/2"
TSS4-M-SME-2219B	22 x R 3/4"



Reducing Coupling

Item Code	Diameter (mm)
TSS4-M-RC-2215	22 x 15
TSS4-M-RC-2815	28 x 15
TSS4-M-RC-2822	28 x 22
TSS4-M-RC-3515	35 x 15
TSS4-M-RC-3522	35 x 22
TSS4-M-RC-3528	35 x 28
TSS4-M-RC-4215	42 x 15
TSS4-M-RC-4222	42 x 22
TSS4-M-RC-4228	42 x 28
TSS4-M-RC-4235	42 x 35
TSS4-M-RC-5415	54 x 15
TSS4-M-RC-5422	54 x 22
TSS4-M-RC-5428	54 x 28
TSS4-M-RC-5435	54 x 35
TSS4-M-RC-5442	54 x 42
TSS4-M-RC-6615	66.7 x 15
TSS4-M-RC-6622	66.7 x 22
TSS4-M-RC-6628	66.7 x 28

Item Code	Diameter (mm)
TSS4-M-RC-6635	66.7 x 35
TSS4-M-RC-6642	66.7 x 42
TSS4-M-RC-6654	66.7 x 54
TSS4-M-RC-7628	76.1 x 28
TSS4-M-RC-7635	76.1 x 35
TSS4-M-RC-7642	76.1 x 42
TSS4-M-RC-7654	76.1 x 54
TSS4-M-RC-7666	76.1 x 66.7
TSS4-M-RC-8835	88.9 x 35
TSS4-M-RC-8842	88.9 x 42
TSS4-M-RC-8854	88.9 x 54
TSS4-M-RC-8876	88.9 x 76.1
TSS4-M-RC-10842	108 x 42
TSS4-M-RC-10854	108 x 54
TSS4-M-RC-10866	108 x 66.7
TSS4-M-RC-10876	108 x 76.1
TSS4-M-RC-10888	108 x 88.9



Wallplate Female Elbow

Item Code	Diameter (mm)
TSS4-M-WFE-1512B	15 x RP 1/2"
TSS4-M-WFE-2212B	22 x RP 1/2"
TSS4-M-WFE-2219B	22 x RP 3/4"



Female Threaded Coupling

Item Code	Diameter (mm)
TSS4-M-FTC-1512B	15 x RP 1/2"
TSS4-M-FTC-1519B	15 x RP 3/4"
TSS4-M-FTC-2212B	22 x RP 1/2"
TSS4-M-FTC-2219B	22 x RP 3/4"
TSS4-M-FTC-2225B	22 x RP 1"
TSS4-M-FTC-2812B	28 x RP 1/2"
TSS4-M-FTC-2819B	28 x RP 3/4"
TSS4-M-FTC-2825B	28 x RP 1"
TSS4-M-FTC-2831B	28 x RP1 1/4"
TSS4-M-FTC-3512B	35 x RP 1/2"
TSS4-M-FTC-3519B	35 x RP 3/4"
TSS4-M-FTC-3525B	35 x RP 1"
TSS4-M-FTC-3531B	35 x RP1 1/4"
TSS4-M-FTC-3538B	35 x RP1 1/2"

Item Code	Diameter (mm)
TSS4-M-FTC-4212B	42 x RP 1/2"
TSS4-M-FTC-4219B	42 x RP 3/4"
TSS4-M-FTC-4225B	42 x RP 1"
TSS4-M-FTC-4231B	42 x RP1 1/4"
TSS4-M-FTC-4238B	42 x RP1 1/2"
TSS4-M-FTC-4250B	42 x RP 2"
TSS4-M-FTC-5412B	54 x RP 1/2"
TSS4-M-FTC-5419B	54 x RP 3/4"
TSS4-M-FTC-5425B	54 x RP 1"
TSS4-M-FTC-5431B	54 x RP1 1/4"
TSS4-M-FTC-5438B	54 x RP1 1/2"
TSS4-M-FTC-5450B	54 x RP 2"
TSS4-M-FTC-7663B	76.1 x RP2 1/2"
TSS4-M-FTC-108101B	108 x RP 4"



Male Threaded Coupling

Item Code	Diameter (mm)
TSS4-M-MTC-1512B	15 x R 1/2"
TSS4-M-MTC-1519B	15 x R 3/4"
TSS4-M-MTC-2212B	22 x R 1/2"
TSS4-M-MTC-2219B	22 x R 3/4"
TSS4-M-MTC-2225B	22 x R 1"
TSS4-M-MTC-2812B	28 x R 1/2"
TSS4-M-MTC-2819B	28 x R 3/4"
TSS4-M-MTC-2825B	28 x R 1"
TSS4-M-MTC-3525B	35 x R 1"
TSS4-M-MTC-3512B	35 x R 1/2"
TSS4-M-MTC-3519B	35 x R 3/4"
TSS4-M-MTC-3531B	35 x R1 1/4"
TSS4-M-MTC-3538B	35 x R1 1/2"
TSS4-M-MTC-4231B	42 x R1 1/4"
TSS4-M-MTC-4238B	42 x R1 1/2"

Item Code	Diameter (mm)
TSS4-M-MTC-4212B	42 x R 1/2"
TSS4-M-MTC-4219B	42 x R 3/4"
TSS4-M-MTC-4225B	42 x R 1"
TSS4-M-MTC-5438B	54 x R1 1/2"
TSS4-M-MTC-5450B	54 x R 2"
TSS4-M-MTC-5412B	54 x R 1/2"
TSS4-M-MTC-5419B	54 x R 3/4"
TSS4-M-MTC-5425B	54 x R 1"
TSS4-M-MTC-5431B	54 x R1 1/4"
TSS4-M-MTC-6663B	66.7 x R2 1/2"
TSS4-M-MTC-7663B	76.1 x R2 1/2"
TSS4-M-MTC-7676B	76.1 x R 3"
TSS4-M-MTC-8876B	88.9 x R 3"
TSS4-M-MTC-108101B	108 x R 4"



Reducing Tee

Item Code	Diameter (mm)
TSS4-M-RT-2215	22 x 15
TSS4-M-RT-2815	28 x 15
TSS4-M-RT-2822	28 x 22
TSS4-M-RT-3515	35 x 15
TSS4-M-RT-3522	35 x 22
TSS4-M-RT-3528	35 x 28
TSS4-M-RT-4215	42 x 15
TSS4-M-RT-4222	42 x 22
TSS4-M-RT-4228	42 x 28
TSS4-M-RT-4235	42 x 35
TSS4-M-RT-5415	54 x 15
TSS4-M-RT-5422	54 x 22
TSS4-M-RT-5428	54 x 28
TSS4-M-RT-5435	54 x 35
TSS4-M-RT-5442	54 x 42
TSS4-M-RT-6615	66.7 x 15
TSS4-M-RT-6622	66.7 x 22
TSS4-M-RT-6628	66.7 x 28
TSS4-M-RT-6635	66.7 x 35
TSS4-M-RT-6642	66.7 x 42
TSS4-M-RT-6654	66.7 x 54

Item Code	Diameter (mm)
TSS4-M-RT-7622	76.1 x 22
TSS4-M-RT-7628	76.1 x 28
TSS4-M-RT-7635	76.1 x 35
TSS4-M-RT-7642	76.1 x 42
TSS4-M-RT-7648	76.1 x 48.6
TSS4-M-RT-7654	76.1 x 54
TSS4-M-RT-7660	76.1 x 60.5
TSS4-M-RT-8822	88.9 x 22
TSS4-M-RT-8828	88.9 x 28
TSS4-M-RT-8835	88.9 x 35
TSS4-M-RT-8842	88.9 x 42
TSS4-M-RT-8854	88.9 x 54
TSS4-M-RT-8876	88.9 x 76.1
TSS4-M-RT-10822	108 x 22
TSS4-M-RT-10828	108 x 28
TSS4-M-RT-10835	108 x 35
TSS4-M-RT-10842	108 x 42
TSS4-M-RT-10854	108 x 54
TSS4-M-RT-10866	108 x 66.7
TSS4-M-RT-10876	108 x 76.1
TSS4-M-RT-10888	108 x 88.9



Female Threaded Tee

Item Code	Diameter (mm)
TSS4-M-FTT-1512B	15 x RP 1/2"
TSS4-M-FTT-2212B	22 x RP 1/2"
TSS4-M-FTT-2219B	22 x RP 3/4"
TSS4-M-FTT-2812B	28 x RP 1/2"
TSS4-M-FTT-2819B	28 x RP 3/4"
TSS4-M-FTT-2825B	28 x RP 1"
TSS4-M-FTT-3512B	35 x RP 1/2"
TSS4-M-FTT-3519B	35 x RP 3/4"
TSS4-M-FTT-3531B	35 x RP1 1/4"
TSS4-M-FTT-4212B	42 x RP 1/2"
TSS4-M-FTT-4219B	42 x RP 3/4"
TSS4-M-FTT-4225B	42 x RP 1"
TSS4-M-FTT-4231B	42 x RP1 1/4"
TSS4-M-FTT-4238B	42 x RP1 1/2"
TSS4-M-FTT-5412B	54 x RP 1/2"

Item Code	Diameter (mm)
TSS4-M-FTT-5425B	54 x RP 1"
TSS4-M-FTT-5419B	54 x RP 3/4"
TSS4-M-FTT-5431B	54 x RP1 1/4"
TSS4-M-FTT-5438B	54 x RP1 1/2"
TSS4-M-FTT-5450B	54 x RP 2"
TSS4-M-FTT-6612B	66.7 x RP 1/2"
TSS4-M-FTT-6619B	66.7 x RP 3/4"
TSS4-M-FTT-6650B	66.7 x RP 2"
TSS4-M-FTT-7619B	76.1 x RP 3/4"
TSS4-M-FTT-7650B	76.1 x RP 2"
TSS4-M-FTT-8819B	88.9 x RP 3/4"
TSS4-M-FTT-8850B	88.9 x RP 2"
TSS4-M-FTT-10819B	108 x RP 3/4"
TSS4-M-FTT-10850B	108 x RP 2"



Male Threaded Tee

Item Code	Diameter (mm)
TSS4-M-MTT-1512B	15 x R 1/2"
TSS4-M-MTT-2212B	22 x R 1/2"
TSS4-M-MTT-2219B	22 x R 3/4"
TSS4-M-MTT-2812B	28 x R 1/2"
TSS4-M-MTT-2819B	28 x R 3/4"
TSS4-M-MTT-2825B	28 x R 1"
TSS4-M-MTT-3519B	35 x R 3/4"
TSS4-M-MTT-3525B	35 x R 1"
TSS4-M-MTT-3531B	35 x R1 1/4"
TSS4-M-MTT-4219B	42 x R 3/4"
TSS4-M-MTT-4225B	42 x R 1"

Item Code	Diameter (mm)
TSS4-M-MTT-4231B	42 x R1 1/4"
TSS4-M-MTT-4238B	42 xR1 1/2"
TSS4-M-MTT-5412B	54 x R 1/2"
TSS4-M-MTT-5419B	54 x R 3/4"
TSS4-M-MTT-5425B	54 x R 1"
TSS4-M-MTT-5431B	54 x R1 1/4"
TSS4-M-MTT-5438B	54 x R1 1/2"
TSS4-M-MTT-5450B	54 x R 2"
TSS4-M-MTT-7631B	76.1 x R1 1/4"
TSS4-M-MTT-10819B	108 x R 3/4"
TSS4-M-MTT-10831B	108 x R1 1/4"



Equal Tee

Item Code	Diameter (mm)
TSS4-M-ET-015	15.0
TSS4-M-ET-022	22.0
TSS4-M-ET-028	28.0
TSS4-M-ET-035	35.0
TSS4-M-ET-042	42.0
TSS4-M-ET-054	54.0
TSS4-M-ET-066	66.7
TSS4-M-ET-076	76.1
TSS4-M-ET-088	88.9
TSS4-M-ET-108	108.0



Swivel Nut Coupling

Item Code	Diameter (mm)
TSS4-M-SNC-1512B	15 x G 1/2"
TSS4-M-SNC-1519B	15 x G 3/4"
TSS4-M-SNC-2212B	22 x G 1/2"
TSS4-M-SNC-2225B	22 x G 1"
TSS4-M-SNC-2219B	22 x G 3/4"
TSS4-M-SNC-2825B	28 x G 1"

Item Code	Diameter (mm)
TSS4-M-SNC-2831B	28 x G1 1/4"
TSS4-M-SNC-3531B	35 x G1 1/4"
TSS4-M-SNC-3538B	35 x G1 1/2"
TSS4-M-SNC-4238B	42 x G1 1/2"
TSS4-M-SNC-4250B	42 x G 2"
TSS4-M-SNC-5450B	54 x G 2"



Nipple

Item Code	Diameter (mm)
TSS4-M-NP-12B	R 1/2" x R 1/2"
TSS4-M-NP-19B	R 3/4" x R 3/4"
TSS4-M-NP-25B	R 1" x R 1"
TSS4-M-NP-31B	R1 1/4" x R1 1/4"

Item Code	Diameter (mm)
TSS4-M-NP-38B	R1 1/2" x R1 1/2"
TSS4-M-NP-50B	R 2" x R 2"
TSS4-M-NP-63B	R2 1/2" x R2 1/2"



End Cap

Item Code	Diameter (mm)
TSS4-M-SEC-015	15.0
TSS4-M-SEC-022	22.0
TSS4-M-SEC-028	28.0
TSS4-M-SEC-035	35.0
TSS4-M-SEC-042	42.0

Item Code	Diameter (mm)
TSS4-M-SEC-054	54.0
TSS4-M-SEC-066	66.7
TSS4-M-SEC-076	76.2
TSS4-M-SEC-088	88.9
TSS4-M-SEC-108	108.0



Fitting Reducer

Item Code	Diameter (mm)
TSS4-M-FR-2215	22 x 15
TSS4-M-FR-2815	28 x 15
TSS4-M-FR-2822	28 x 22
TSS4-M-FR-3515	35 x 15
TSS4-M-FR-3522	35 x 22
TSS4-M-FR-3528	35 x 28
TSS4-M-FR-4215	42 x 15
TSS4-M-FR-4222	42 x 22
TSS4-M-FR-4228	42 x 28
TSS4-M-FR-4235	42x 35
TSS4-M-FR-5415	54 x 15
TSS4-M-FR-5422	54 x 22
TSS4-M-FR-5428	54 x 28
TSS4-M-FR-5435	54 x 35
TSS4-M-FR-5442	54 x 42
TSS4-M-FR-6628	66.7 x 28
TSS4-M-FR-6635	66.7 x 35
TSS4-M-FR-6642	66.7 x 42

Item Code	Diameter (mm)
TSS4-M-FR-6654	66.7 x 54
TSS4-M-FR-7628	76.1 x 28
TSS4-M-FR-7635	76.1 x 35
TSS4-M-FR-7642	76.1 x 42
TSS4-M-FR-7648	76.1 x 48.6
TSS4-M-FR-7654	76.1 x 54
TSS4-M-FR-7660	76.1 x 60.5
TSS4-M-FR-8835	88.9 x 35
TSS4-M-FR-8842	88.9 x 42
TSS4-M-FR-8854	88.9 x 54
TSS4-M-FR-8860	88.9 x 60.5
TSS4-M-FR-8876	88.9 x 76.1
TSS4-M-FR-10842	108 x 42
TSS4-M-FR-10854	108 x 54
TSS4-M-FR-10860	108 x 60.5
TSS4-M-FR-10866	108 x 66.7
TSS4-M-FR-10876	108 x 76.1
TSS4-M-FR-10888	108 x 88.9



Flanges

Item Code	Diameter (mm)
TSS4-M-FL-015	15.0
TSS4-M-FL-022	22.0
TSS4-M-FL-028	28.0
TSS4-M-FL-035	35.0
TSS4-M-FL-042	42.0
TSS4-M-FL-054	54.0
TSS4-M-FL-076	76.0
TSS4-M-FL-089	89.0
TSS4-M-FL-108	108.0

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