Gem Engineering Industries (India) Pvt. Ltd.

HYDRAULIC FITTINGS PRODUCT CATALOGUE

Version 2.0

February 2017

HEADS - UP

Gem Engineering

Continuously Quality Improvement, Up-gradation and Enhancement of our Integrated Manufacturing Facility in Hyderabad, India.

- As on February 2017, 42 CNC Turning Center's (Infrastructure Ready in place for Total 100 CNC) along with Automated Band-saw Cutting Machine (Cutting capacity of Max Dia.: 80mm) along with miscellaneous machinery. (Added in June 2016 Spindle Machine of capacity 6 Spindles where in productivity improvement with cycle time reduction of 1/6th against the CNC - Its meant for large quantity production)

- **12,000 Stock Keeping Units per day Production of Hydraulic Fittings and are having 3 shifts running on 24 hours basis.**

- Honoring OEM clientele's **Quality Fittings and its planned Delivery Schedule Scoring 95% and above**. 4 to 5 New OEM Clientele Added Annually. (Successful New Development and their Supplies is 20 to 25%)

- Advantage of In-House Testing Facility (Raw Material, in-Process,Semi-Finished and Finished Product) to Assembly and Dispatch level.

- Full scope testing Mechanical, Chemical, Various Types of Instruments including CMM Projector, Profile Projector, Hardness Tester, Ultrasonic Flow Detector, Various Kinds of Gauges (Thread Rings, Thread Plug, Micrometer, Vernier Calipers, Pressure Gauge, Plain Taper Gauges, Bore Gauges, Micron Gauge (Coating Thickness Tester), Surface Finish Comparator, Digimatic Micrometer Master, Slip Gauge Set, Radius Gauge Templates, Wear Check (Ring & Plug)

- Advantage of in-house forging (Press Forging) and Plating (Alkaline Zinc with Yellow Passivation ; Environment Friendly and free of harmful chemical like Chromium)as per Standard). - **(Fully Automated Plating Plant will be operational between by End of Year2017)**

- We have annual average growth rate of 33% and above Year on Year since over establishment in year 2008.

- Totally Across All Industries 20+ OEM Clients: Steel Plants Turbines Manufacturers, Power Generations Co., Defense, Road Construction & Construction Equipment Mfg., Machinery for Various Applications Mfg (Type, Plastic Injection, CNC to name a few), Construction Equipment Mfg.,Large Diesel Engines Mfg. for use in Ships and Power Stations, Turbo Machines, SPM & Furnace Based Industries

- We have in-house Design Team of 5 Members, Quality Assurance and Control Team of 17 Members, and total 170+ employees as on February 2017.

- Forged Fittings (Press Forging) - Tee's, Elbow's, Banjo's, Bulkheads & others

- Prime Material Bar Stock (Hex and Rounds) - Straight Fittings (Coupling, Male / Female / Combination Studs).

- Raw Material from Steel Mills – Visakhapatnam Steel Plant (RashtriyaIspat Nigam), Geruda (Grades: AISI 1018, EN1A, EN8, SS-304, SS-316 and any special grade if required).

- Ready Stocks of Standard Fittings in AISI 1018, EN1A & EN8. Assembly items Nuts are (Cold Formed) and Ferrule (Heat Treated) all manufactured in-house.

- Standardized Packing - Carton Boxes dimensions 360mm X 260 mm x 200 mm (carry weight up-to 25 to 30 Kgs).

- Pan-India 3 to 4 Transport Partners with timely Door Delivery to our Clients.

- Exports footprint Middle East and Africa.

- Confirmed Exports from Financial Year 2017-18 to our OEM Clients - Parent Companies in Europe / USA.

Provided Heads Up shall help you evaluate us for :
Reliable, Effective in Quality, Commercials and Time Bound Delivery, Consistent OEM Supplier,
Open for :
Research and New Development of fittings; Willing to investment resources (CAPEX and Other Resources) for Value Addition.
Posses and Practice :
Integrated Management System (ISO 9001including Design, ISO 14001 and OHSAS 18001) with 5S and Lean. Continual In-House and 3rd Party Conducted Skills Development and Training Programmers. Client Audits are conducted average every month Client and Internal Audit feed backs and improvements put into practice. We assure you consistent quality and its improvement and seek to be your choice and quality based manufacturer.

INDUSTRIAL FACILITY

Power Installed Capacity

250 KVA + Generator Capacity 250 KVA

Factory Area - Size of Establishment

2000 Sq. Yards

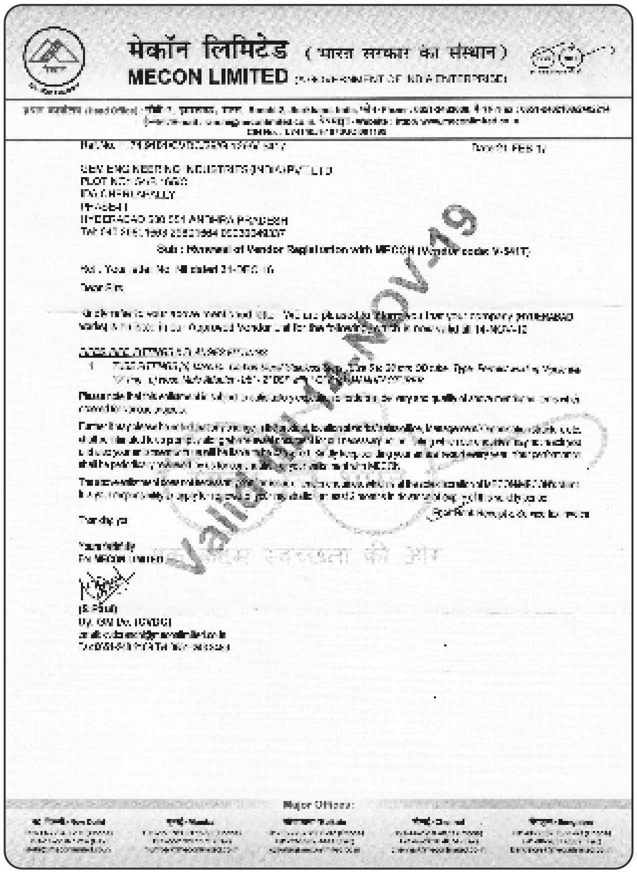
Administration Office

4-2-254, Old Bhoiguda, Secunderabad - 500003, Telangana, India.

Factory Location

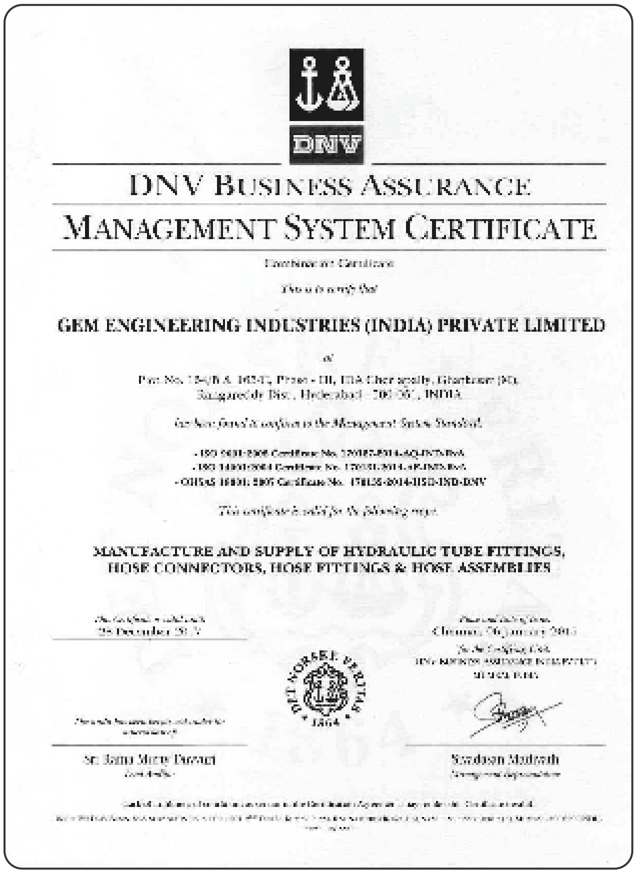
Plot # 154/B & 165/C, IDA, Cherlaplly, Phase III, Hyderabad - 500051, Telangana, India.

MECON CERTIFICATE


मेकॉन लिमिटेड (भारत सरकार का संस्थान)

MECON LIMITED

DNV CERTIFICATE


DNV BUSINESS ASSURANCE

MANAGEMENT SYSTEM CERTIFICATE

GEM ENGINEERING INDUSTRIES (INDIA) PRIVATE LIMITED

MANUFACTURE AND SUPPLY OF HYDRAULIC TUBE FITTINGS, HOSE CONNECTORS, HOSE FITTINGS & HOSE ASSEMBLIES

SECTION 1 - 24º FITTINGS

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SECTION 1 - 24º FITTINGS

SECTION 2 - 60º FITTINGS

SECTION 2 - 60º FITTINGS

SECTION 3 - 37º FITTINGS

SECTION 3 - 37° FITTINGS

SECTION 4 - HYDRAULIC BALL VALVES

QUALITY, ENVIRONMENTAL, HEALTH AND SAFETY POLICY

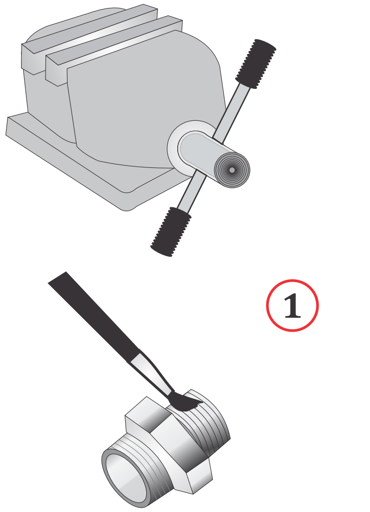
Gem Engineering Industries (India) Pvt. Ltd.

- Our policy is to enhance customer satisfaction by supplying quality Hydraulic fittings & flexible hoses fittings for their intended purpose.
- We will ensure this by implementing continual improvement in the effectiveness of Quality, Environmental, Health and Safety Management System through process approach. We will comply with all statutory and legal requirements and follow codes of practice.
- We are also committed to manufacture Quality Hydraulic fittings & flexible hoses with a strong focus on prevention of environmental pollution and by considering every aspect of occupational health and safety of all employees, at all times.

SCOPE OF SEAMLESS PIPE FITTINGS

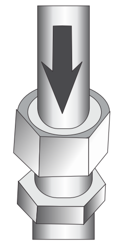
- Seamless pipe fittings are used widely in Hydraulic cylinder manufacturing units
- Earth moving equipment manufacturing units
- Power Pack manufacturing units
- Machine manufacturing units and many replacement and servicing units etc.

ASSEMBLY PROCEDURE



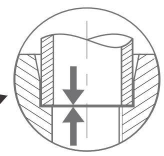
1

- Lubricate threads to avoid wear and assembly forces

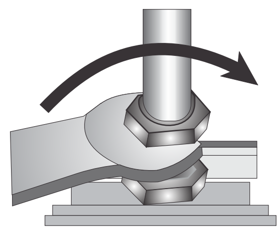


2

- Ensure tube end touches at the bottom of the body as shown in the figure



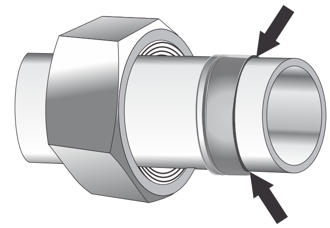
- Tight the nut until it just locks the pipe.



3

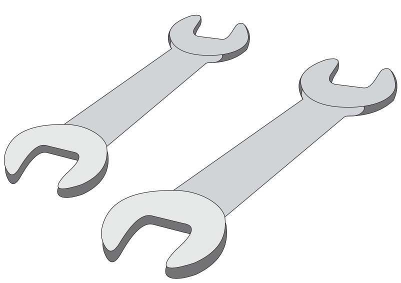
- Tight the nuts by 1 1/2 turns keep a mark on the nut to ensure 1 1/2 rotation

4

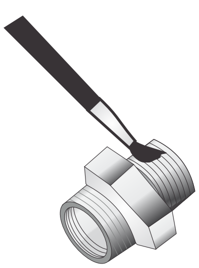


- Unscrew the nut
- Check for the proper biting on pipe by cutting edge
- Check for the material that covers the front portion of the cutting edge
- It does not matter if the ring rotates on the tube in loose condition

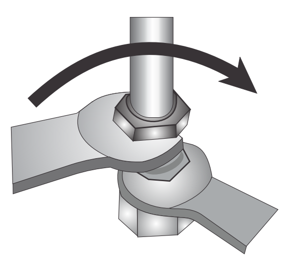
RE ASSEMBLY



1

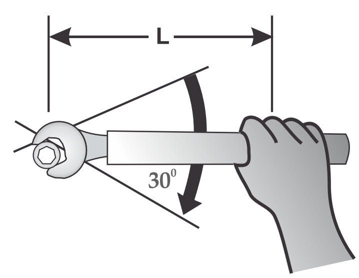


- Lubricate threads to avoid wear and assembly forces



2

- When ever the fitting is Re assembled it must be with the same torque as initial assembly



3

- Re assemble the fitting firmly by min 30^0 with the same initial torque

4

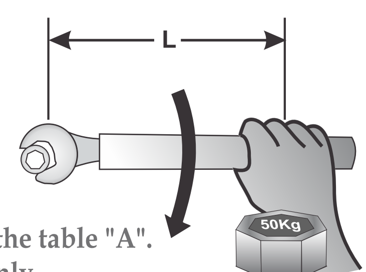
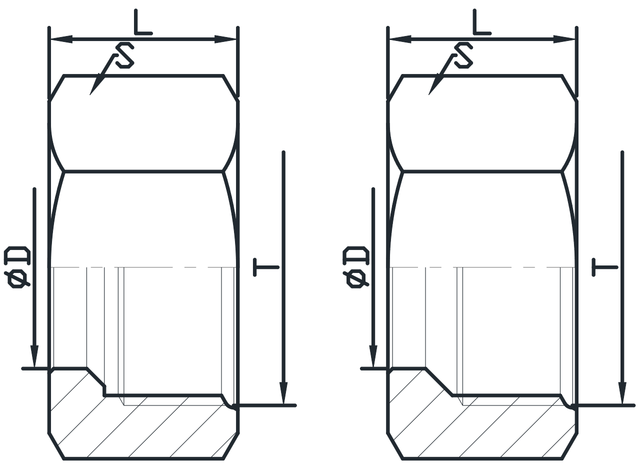


TABLE "A"

Size		Spanner length L (mm)
22 L		400
28 L	20 S	500
35 L	25 S	800
42 L	30 S	1000
	38 S	1200

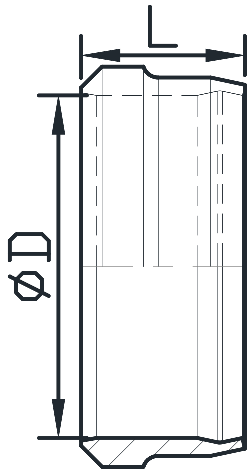
- Note : 1) Use spanner extensions as shown in the table "A".
  2) Fitting body may be used one time only.

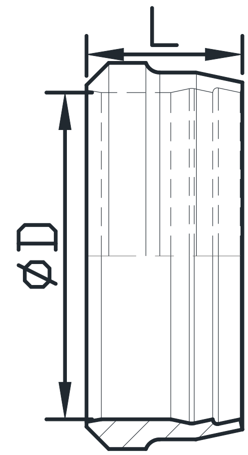
N - Nut (Coupling Nut)



SERIES	ØD	T	S	L	PART CODE	WP (bar)
L	06	M12x1.5	14	14.5	N 06L	250
	08	M14x1.5	17	14.5	N 08L	250
	10	M16x1.5	19	15.5	N 10L	250
	12	M18x1.5	22	15.5	N 12L	250
	15	M22x1.5	27	17.0	N 15L	250
	18	M26x1.5	32	18.0	N 18L	160
	22	M30x2.0	36	20.0	N 22L	160
	28	M36x2.0	41	21.0	N 28L	100
	35	M45x2.0	50	24.0	N 35L	100
	42	M52x2.0	60	24.0	N 42L	100
S	06	M14x1.5	17	16.5	N 06S	630
	08	M16x1.5	19	16.5	N 08S	630
	10	M18x1.5	22	17.5	N 10S	630
	12	M20x1.5	24	17.5	N 12S	630
	14	M22x1.5	27	20.5	N 14S	630
	16	M24x1.5	30	20.5	N 16S	400
	20	M30x2.0	36	24.0	N 20S	400
	25	M36x2.0	46	27.0	N 25S	400
	30	M42x2.0	50	29.0	N 30S	250
	38	M52x2.0	60	32.5	N 38S	250

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, WP (Working Pressure).: 1 Mpa = 10 bar.





SERIES	ØD	L	PART CODE	WP (bar)
L	06	8.5	SBF 06L	250
	08	8.5	SBF 08L	250
	10	9.0	SBF 10L	250
	12	9.5	SBF 12L	250
	15	10.0	SBF 15L	250
	18	10.0	SBF 18L	160
	22	10.5	SBF 22L	160
	28	10.5	SBF 28L	100
	35	13.0	SBF 35L	100
	42	13.5	SBF 42L	100
S	06	8.5	SBF 06S	630
	08	8.5	SBF 08S	630
	10	9.0	SBF 10S	630
	12	9.5	SBF 12S	630
	14	10.0	SBF 14S	630
	16	10.5	SBF 16S	400
	20	12.5	SBF 20S	400
	25	12.5	SBF 25S	400
	30	13.0	SBF 30S	250
	38	13.5	SBF 38S	250

SERIES	ØD	L	PART CODE	WP (bar)
L	06	9.5	DBF 06L	250
	08	9.0	DBF 08L	250
	10	10.0	DBF 10L	250
	12	10.0	DBF 12L	250
	15	10.0	DBF 15L	250
	18	10.0	DBF 18L	160
	22	10.5	DBF 22L	160
	28	10.5	DBF 28L	100
	35	13.0	DBF 35L	100
	42	13.5	DBF 42L	100
S	06	9.5	DBF 06S	630
	08	9.0	DBF 08S	630
	10	10.0	DBF 10S	630
	12	10.0	DBF 12S	630
	14	10.0	DBF 14S	630
	16	10.5	DBF 16S	400
	20	12.5	DBF 20S	400
	25	12.5	DBF 25S	400
	30	13.0	DBF 30S	250
	38	13.5	DBF 38S	250

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
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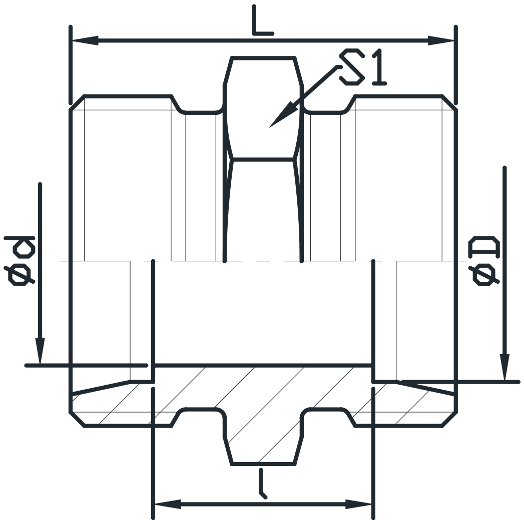
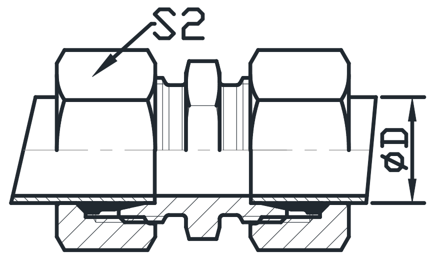
4, WP (Working Pressure).: 1 Mpa = 10 bar.

S - Straight Coupling

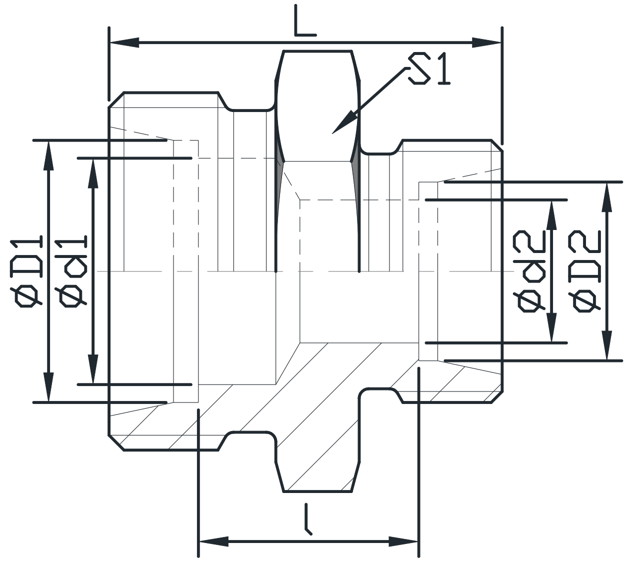


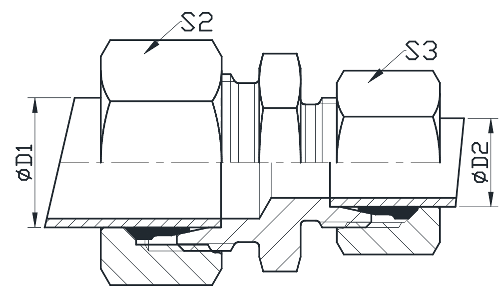


SERIES	ØD	Ød	S1	S2	L	l	PART CODE	WP (bar)
L	06	04	14	14	24	10	S 06L	250
	08	06	17	17	25	11	S 08L	250
	10	08	17	19	27	13	S 10L	250
	12	10	19	22	28	14	S 12L	250
	15	12	24	27	30	16	S 15L	250
	18	15	27	32	31	16	S 18L	160
	22	19	32	36	35	20	S 22L	160
	28	24	41	41	36	21	S 28L	100
	35	30	46	50	41	20	S 35L	100
	42	36	55	60	43	21	S 42L	100
S	06	04	17	17	30	16	S 06S	630
	08	05	17	19	32	18	S 08S	630
	10	07	19	22	32	17	S 10S	630
	12	08	22	24	34	19	S 12S	630
	14	10	24	27	38	22	S 14S	630
	16	12	27	30	38	21	S 16S	400
	20	16	32	36	44	23	S 20S	400
	25	20	41	46	50	26	S 25S	400
	30	25	46	50	54	27	S 30S	250
	38	32	55	60	61	29	S 38S	250

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, put suffix ‘X’ before part code if nut ferrule not required. (Ex: XS 16S)
5, WP (Working Pressure).: 1 Mpa = 10 bar.

SR - Straight Reducer Coupling

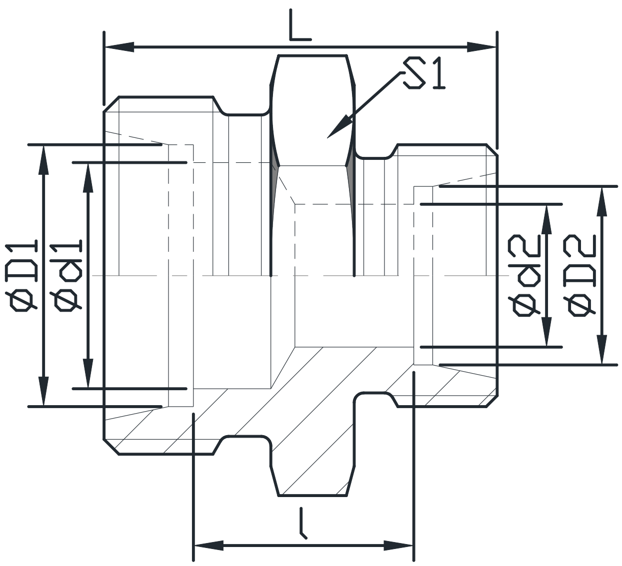


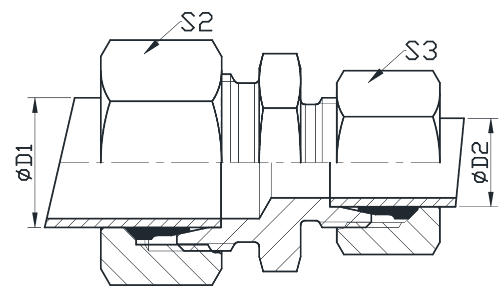


SERIES	ØD1	ØD2	Ød1	Ød2	S1	S2	S3	L	I	PART CODE	WP (bar)
L	08	06	6	4	17	17	14	25.0	11.0	SR 08/06L	250
	10	06	8	4	17	19	14	26.0	12.0	SR 10/06L	250
	10	08	8	6	17	19	17	26.0	12.0	SR 10/08L	250
	12	06	10	4	19	22	14	27.0	13.0	SR 12/06L	250
	12	08	10	6	19	22	17	27.0	13.0	SR 12/08L	250
	12	10	10	8	19	22	19	28.0	14.0	SR 12/10L	250
	15	08	12	6	24	27	17	29.0	15.0	SR 15/08L	250
	15	10	12	08	24	27	19	29.0	15.0	SR 15/10L	250
	15	12	12	10	24	27	22	29.0	15.0	SR 15/12L	250
	18	10	15	8	27	32	19	30.0	15.5	SR 18/10L	160
	18	12	15	10	27	32	22	30.0	15.5	SR 18/12L	160
	18	15	15	12	27	32	27	31.0	16.5	SR 18/15L	160
	22	12	19	10	32	36	22	32.0	17.5	SR 22/12L	160
	22	15	19	12	32	36	27	33.0	18.5	SR 22/15L	160
	22	18	19	15	32	36	32	33.0	18.0	SR 22/18L	160
	28	18	24	15	41	41	32	34.0	19.0	SR 28/18L	100
	28	22	24	19	41	41	36	36.0	21.0	SR 28/22L	100
	35	22	30	19	46	50	36	39.0	21.0	SR 35/22L	100
	35	28	30	24	46	50	41	39.0	21.0	SR 35/28L	100
	42	35	36	30	55	60	50	43.0	21.5	SR 42/35L	100

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, put suffix ‘X’ before part code if nut ferrule not required. (Ex: XSR 18/15L)
5, WP (Working Pressure).: 1 Mpa = 10 bar.
6, Ød1 Step Bore is optional.

SR - Straight Reducer Coupling

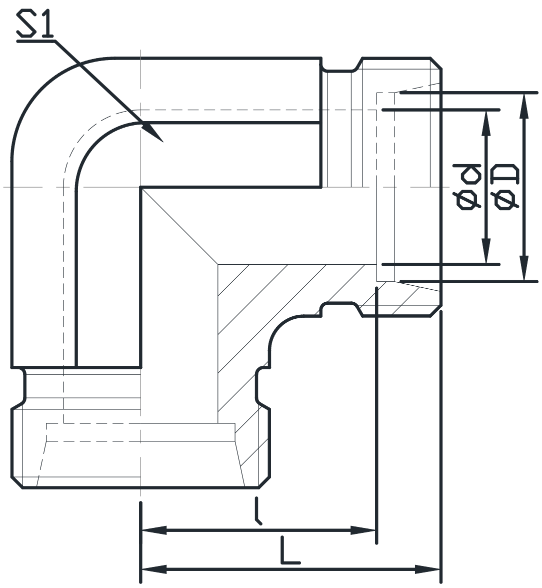


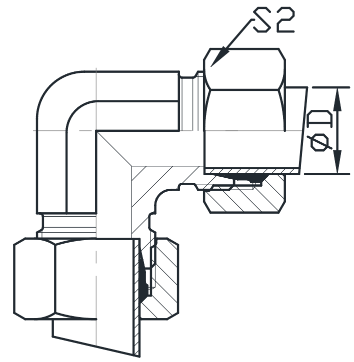


SERIES	ØD1	ØD2	Ød1	Ød2	S1	S2	S3	L	l	PART CODE	WP (bar)
	08	06	5	4	17	19	17	32.0	18.0	SR 08/06S	630
	10	06	7	4	19	22	17	32.0	17.5	SR 10/06S	630
	10	08	7	5	19	22	19	32.0	17.5	SR 10/08S	630
	12	06	8	4	22	24	17	34.0	19.5	SR 12/06S	630
	12	08	8	5	22	24	19	34.0	19.5	SR 12/08S	630
	12	10	8	7	22	24	22	34.0	19.0	SR 12/10S	630
	14	08	10	5	24	27	19	36.0	20.5	SR 14/08S	630
	14	10	10	7	24	27	22	36.0	20.5	SR 14/10S	630
	14	12	10	8	24	27	24	36.0	20.5	SR 14/12S	630
S	16	10	12	7	27	30	22	36.0	20.0	SR 16/10S	400
	16	12	12	8	27	30	24	36.0	20.0	SR 16/12S	400
	16	14	12	10	27	30	27	36.0	21.5	SR 16/14S	400
	20	10	16	7	32	36	22	40.0	22.0	SR 20/10S	400
	20	12	16	8	32	36	24	40.0	22.0	SR 20/12S	400
	20	16	16	12	32	36	30	42.0	23.0	SR 20/16S	400
	25	16	20	12	41	46	30	46.0	25.5	SR 25/16S	400
	25	20	20	16	41	46	36	48.0	25.5	SR 25/20S	400
	30	20	25	16	46	50	36	50.0	26.0	SR 30/20S	250
	30	25	25	20	46	50	46	52.0	26.5	SR 30/25S	250
	38	30	32	25	55	60	50	59.0	29.5	SR 38/30S	250

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, put suffix ‘X’ before part code if nut ferrule not required. (Ex: XSR 16/12S)
5, WP (Working Pressure).: 1 Mpa = 10 bar.
6, Ød1 Step Bore is optional.

L - Equal elbow

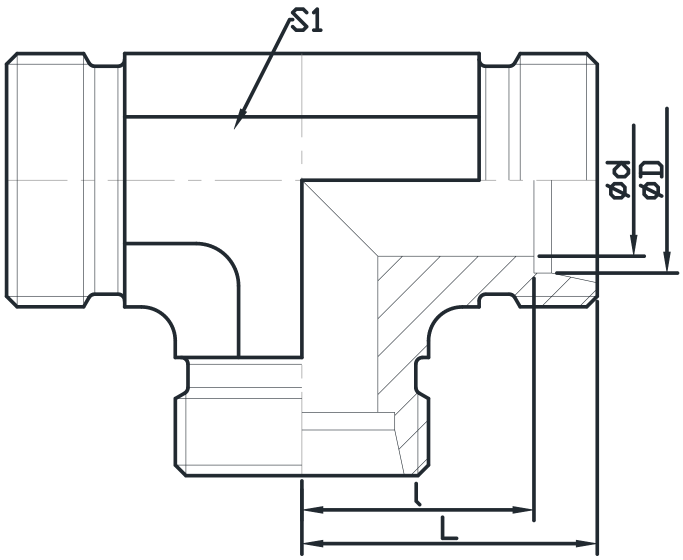


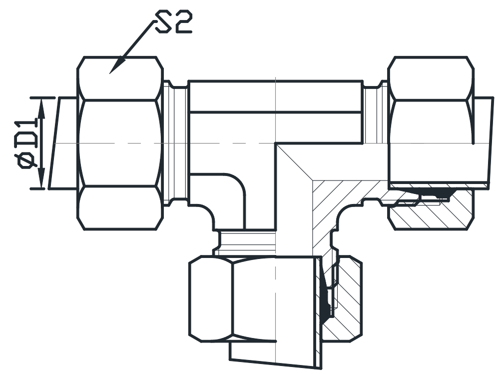


SERIES	ØD	Ød	S1	S2	L	l	PART CODE	WP (bar)
L	06	04	12	14	19.0	12.0	L 06L	250
	08	06	12	17	21.0	14.0	L 08L	250
	10	08	14	19	22.0	15.0	L 10L	250
	12	10	17	22	24.0	17.0	L 12L	250
	15	12	19	27	28.0	21.0	L 15L	250
	18	15	22	32	31.0	23.5	L 18L	160
	22	19	26	36	35.0	27.5	L 22L	160
	28	24	32	41	38.0	30.5	L 28L	100
	35	30	36	50	45.0	34.5	L 35L	100
	42	36	46	60	51.0	40.0	L 42L	100
S	06	04	12	17	23.0	16.0	L 06S	630
	08	05	14	19	24.0	17.0	L 08S	630
	10	07	17	22	25.0	17.5	L 10S	630
	12	08	16	24	29.0	21.5	L 12S	630
	14	10	19	27	30.0	22.0	L 14S	630
	16	12	22	30	33.0	24.5	L 16S	400
	20	16	26	36	37.0	26.5	L 20S	400
	25	20	32	46	42.0	30.0	L 25S	400
	30	25	36	50	49.0	35.5	L 30S	250
	38	32	46	60	57.0	41.0	L 38S	250

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, put suffix ‘X’ before part code if nut ferrule not required. (Ex: XL 16S)
5, S1 given for forging, will change if made from flat bar.
6, WP (Working Pressure).: 1 Mpa = 10 bar.

T - Equal Tee





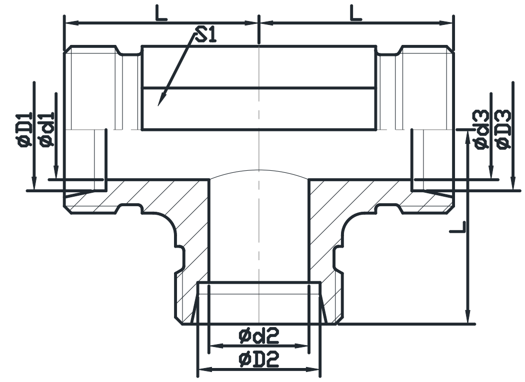
SERIES	ØD	Ød	S1	S2	L	l	PART CODE	WP (bar)
L	06	04	10	14	19.0	12.0	T 06L	250
	08	06	12	17	21.0	14.0	T 08L	250
	10	08	14	19	22.0	15.0	T 10L	250
	12	10	17	22	24.0	17.0	T 12L	250
	15	12	19	27	28.0	21.0	T 15L	250
	18	15	22	32	31.0	23.5	T 18L	160
	22	19	26	36	35.0	27.5	T 22L	160
	28	24	32	41	38.0	30.5	T 28L	100
	35	30	39	50	45.0	34.5	T 35L	100
	42	36	46	60	51.0	40.0	T 42L	100
S	06	04	12	17	23.0	16.0	T 06S	630
	08	05	14	19	24.0	17.0	T 08S	630
	10	07	17	22	25.0	17.5	T 10S	630
	12	08	16	24	29.0	21.5	T 12S	630
	14	10	19	27	30.0	22.0	T 14S	630
	16	12	22	30	33.0	24.5	T 16S	400
	20	16	26	36	37.0	26.5	T 20S	400
	25	20	32	46	42.0	30.0	T 25S	400
	30	25	39	50	49.0	35.5	T 30S	250
	38	32	46	60	57.0	41.0	T 38S	250

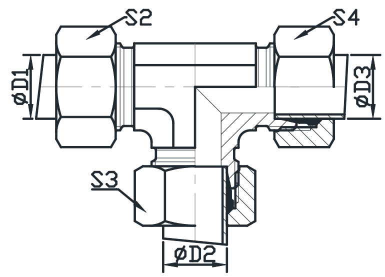
1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, put suffix ‘X’ before part code if nut ferrule not required. (Ex: XT 16S)
5, S1 given for forging, will change if made from flat bar.
6, WP (Working Pressure).: 1 Mpa = 10 bar.

RT - Reducer Tee

24⁰ Fittings

Gem Engineering Industries (India) Pvt. Ltd.





SERIES	ØD1	ØD2	ØD3	Ød1	Ød2	Ød3	L	S1	S2	S3	S4	PART CODE	WP (bar)
L	06	08	06	04	06	04	21	12	14	17	14	RT 06/08/06L	250
	08	06	08	06	04	06	21	12	17	14	17	RT 08/06/08L	250
	06	10	06	04	08	04	22	14	14	19	14	RT 06/10/06L	250
	08	10	08	06	08	06	22	14	17	19	17	RT 08/10/08L	250
	10	06	10	08	04	08	22	14	19	14	19	RT 10/06/10L	250
	10	08	10	08	06	08	22	14	19	17	19	RT 10/08/10L	250
	10	10	06	08	08	04	22	14	19	19	14	RT 10/10/06L	250
	08	12	08	06	10	06	24	17	17	22	17	RT 08/12/08L	250
	12	06	12	10	04	10	24	17	22	14	22	RT 12/06/12L	250
	12	08	08	10	06	06	24	17	22	17	17	RT 12/08/08L	250
	12	08	12	10	06	10	24	17	22	17	22	RT 12/08/12L	250
	12	10	10	10	08	08	24	17	22	19	19	RT 12/10/10L	250
	12	10	12	10	08	10	24	17	22	19	22	RT 12/10/12L	250
	12	12	10	10	10	08	24	17	22	22	19	RT 12/12/10L	250
	10	15	10	08	12	08	28	19	19	27	19	RT 10/15/10L	250
	12	15	12	10	12	10	28	19	22	27	22	RT 12/15/12L	250
	15	06	15	12	04	12	28	19	27	14	27	RT 15/06/15L	250
	15	10	15	12	08	12	28	19	27	19	27	RT 15/10/15L	250
	15	12	12	12	10	10	28	19	27	22	22	RT 15/12/12L	250
	15	12	15	12	10	12	28	19	27	22	27	RT 15/12/15L	250
	15	15	12	12	12	10	28	19	27	27	22	RT 15/15/12L	250
	12	18	12	10	15	10	31	22	22	32	22	RT 12/18/12L	160
	18	10	10	15	08	08	31	22	32	19	19	RT 18/10/10L	160
	18	10	18	15	08	15	31	22	32	19	32	RT 18/10/18L	160
	18	12	18	15	10	15	31	22	32	22	32	RT 18/12/18L	160
	18	15	18	15	12	15	31	22	32	27	32	RT 18/15/18L	160
	18	18	10	15	15	08	31	22	32	32	19	RT 18/18/10L	160
	22	10	22	19	08	19	35	26	36	19	36	RT 22/10/22L	160
	22	12	22	19	10	19	35	26	36	22	36	RT 22/12/22L	160
	22	15	15	19	12	12	35	26	36	27	27	RT 22/15/15L	160

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, put suffix ‘X’ before part code if nut ferrule not required. (Ex: XRT 18/10/10L)
4, S1 given for forging, will change if made from flat bar.
5, WP (Working Pressure).: 1 Mpa = 10 bar.
6, Ød1 Step Bore is optional.

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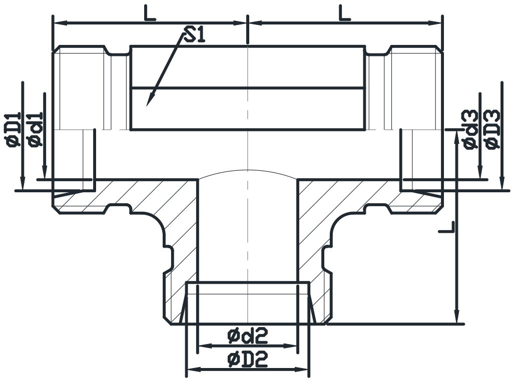
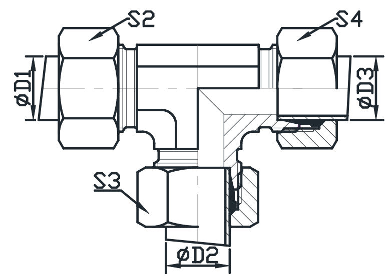
RT - Reducer Tee

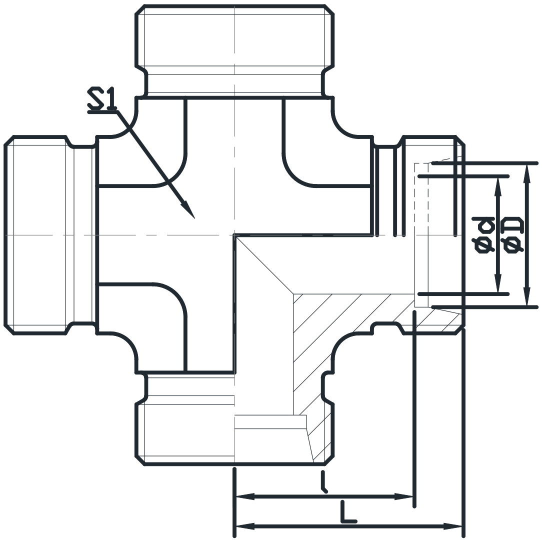


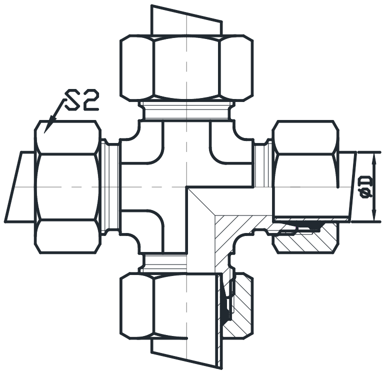


SERIES	ØD1	ØD2	ØD3	Ød1	Ød2	Ød3	L	S1	S2	S3	S4	PART CODE	WP (bar)
L	22	15	22	19	12	19	35	26	36	27	36	RT 22/15/22L	160
	22	18	18	19	15	15	35	26	36	32	32	RT 22/18/18L	160
	22	18	22	19	15	19	35	26	36	32	36	RT 22/18/22L	160
	22	22	18	19	19	15	35	26	36	36	32	RT 22/22/18L	160
	28	10	28	24	08	24	38	32	41	19	41	RT 28/10/28L	100
	28	12	28	24	10	24	38	32	41	22	41	RT 28/12/28L	100
	28	15	28	24	12	24	38	32	41	27	41	RT 28/15/28L	100
	28	18	28	24	15	24	38	32	41	32	41	RT 28/18/28L	100
	28	22	22	24	19	19	38	32	41	36	36	RT 28/22/22L	100
	28	22	28	24	19	24	38	32	41	36	41	RT 28/22/28L	100
S	10	06	10	07	04	07	25	17	22	17	22	RT 10/06/10S	630
	12	08	08	08	05	05	29	16	24	19	19	RT 12/08/08S	630
	12	08	12	08	05	08	29	16	24	19	24	RT 12/08/12S	630
	12	10	12	08	07	08	29	16	24	22	24	RT 12/10/12S	630
	12	16	12	08	12	08	33	22	24	30	24	RT 12/16/12S	400
	16	06	16	12	04	12	33	22	30	17	30	RT 16/06/16S	400
	16	08	16	12	05	12	33	22	30	19	30	RT 16/08/16S	400
	16	10	16	12	07	12	33	22	30	22	30	RT 16/10/16S	400
	16	12	16	12	08	12	33	22	30	24	30	RT 16/12/16S	400
	16	20	16	12	16	12	37	22	30	36	30	RT 16/20/16S	400
	20	10	20	16	07	16	37	26	36	22	36	RT 20/10/20S	400
	20	12	20	16	08	16	37	26	36	24	36	RT 20/12/20S	400
	20	16	20	16	12	16	37	26	36	30	36	RT 20/16/20S	400
	20	25	20	16	20	16	42	32	36	46	36	RT 20/25/20S	400
	25	16	25	20	12	20	42	32	46	30	46	RT 25/16/25S	400
	25	20	25	20	16	20	42	32	46	36	46	RT 25/20/25S	400
	25	30	25	20	25	20	49	32	46	50	46	RT 25/20/25S	250

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, put suffix 'X' before part code if nut ferrule not required. (Ex: XRT 16/20/16S)
5, S1 given for forging, will change if made from flat bar.
6, WP (Working Pressure).: 1 Mpa = 10 bar.
7, Ød1 Step Bore is optional.

C - Cross Connector

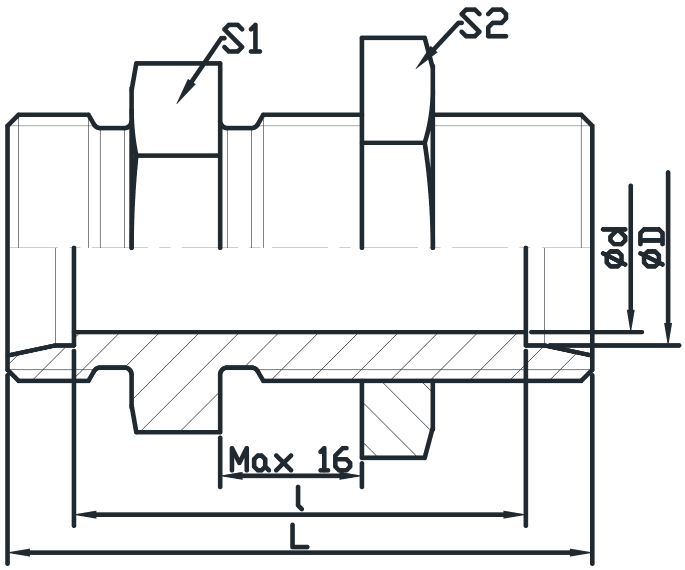


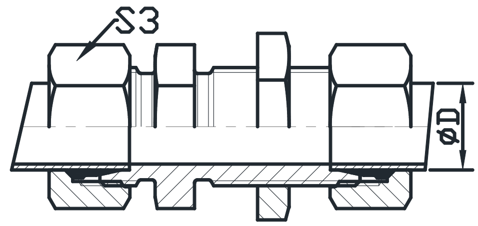


SERIES	ØD	Ød	S1	S2	L	l	PART CODE	WP (bar)
L	06	04	12	14	19.0	12.0	C 06L	250
	08	06	12	17	21.0	14.0	C 08L	250
	10	08	14	19	22.0	15.0	C 10L	250
	12	10	17	22	24.0	17.0	C 12L	250
	15	12	19	27	28.0	21.0	C 15L	250
	18	15	22	32	31.0	23.5	C 18L	160
	22	19	26	36	35.0	27.5	C 22L	160
	28	24	32	41	38.0	30.5	C 28L	100
	35	30	36	50	45.0	34.5	C 35L	100
	42	36	46	60	51.0	40.0	C 42L	100
S	06	04	12	17	23.0	16.0	C 06S	630
	08	05	14	19	24.0	17.0	C 08S	630
	10	07	17	22	25.0	17.5	C 10S	630
	12	08	16	24	29.0	21.5	C 12S	630
	14	10	19	27	30.0	22.0	C 14S	630
	16	12	22	30	33.0	24.5	C 16S	400
	20	16	26	36	37.0	26.5	C 20S	400
	25	20	32	46	42.0	30.0	C 25S	400
	30	25	36	50	49.0	35.5	C 30S	250
	38	32	46	60	57.0	41.0	C 38S	250

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, put suffix ‘X’ before part code if nut ferrule not required. (Ex: XC 16S)
5, S1 given for forging, will change if made from flat bar.
6, WP (Working Pressure).: 1 Mpa = 10 bar.

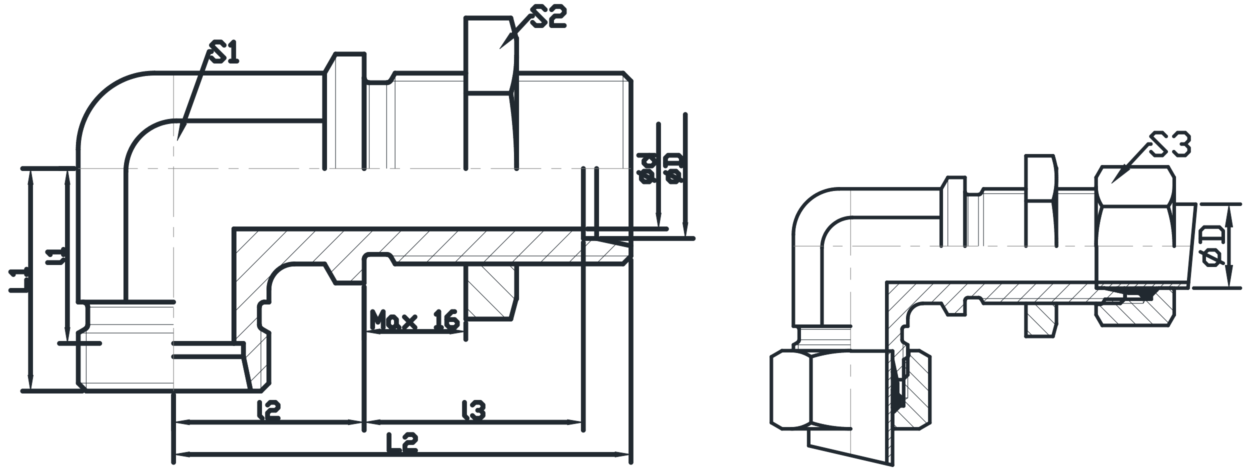
SB - Straight Bulkhead





SERIES	ØD	Ød	S1	S2	S3	L	l	PART CODE	WP (bar)
L	06	04	17	17	14	48	34	SB 06L	250
	08	06	19	19	17	49	35	SB 08L	250
	10	08	22	22	19	52	38	SB 10L	250
	12	10	24	24	22	53	39	SB 12L	250
	15	12	27	30	27	57	43	SB 15L	250
	18	15	32	36	32	61	46	SB 18L	160
	22	19	36	41	36	66	51	SB 22L	160
	28	24	41	46	41	69	54	SB 28L	100
	35	30	50	55	50	76	55	SB 35L	100
	42	36	60	65	60	77	55	SB 42L	100
S	06	04	19	19	17	55	19	SB 06S	630
	08	05	22	22	19	56	22	SB 08S	630
	10	07	24	24	22	59	24	SB 10S	630
	12	08	27	27	24	60	27	SB 12S	630
	14	10	30	30	27	65	30	SB 14S	630
	16	12	32	32	30	65	32	SB 16S	400
	20	16	41	41	36	72	41	SB 20S	400
	25	20	46	46	46	79	46	SB 25S	400
	30	25	50	50	50	86	50	SB 30S	250
	38	32	65	65	60	91	65	SB 38S	250

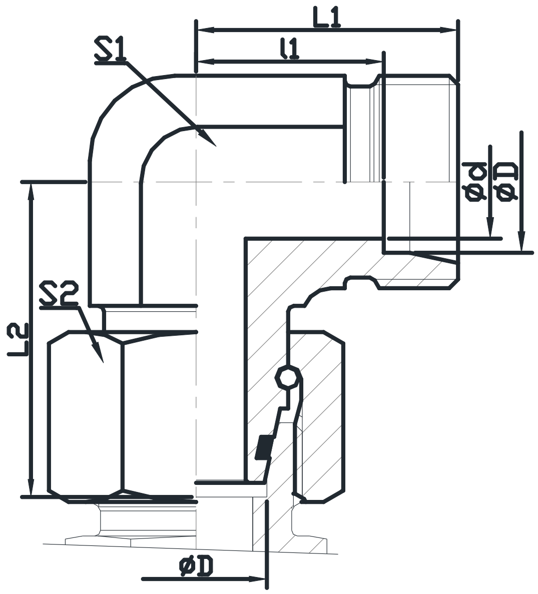
1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, put suffix 'X' before part code if nut ferrule not required. (Ex: XSB 16S)
5, WP (Working Pressure).: 1 Mpa = 10 bar.

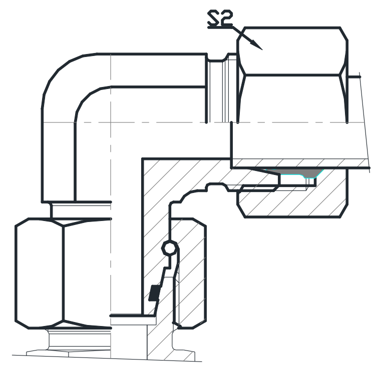


SERIES	ØD	Ød	S1	S2	S3	L1	l1	L2	l2	l3	PART CODE	WP (bar)
L	06	04	12	17	14	19	12.0	48	14	27.0	LB 06L	250
	08	06	12	19	17	21	14.0	51	17	27.0	LB 08L	250
	10	08	14	22	19	22	15.0	53	18	27.0	LB 10L	250
	12	10	17	24	22	24	17.0	56	20	29.0	LB 12L	250
	15	12	19	30	27	28	21.0	61	23	31.0	LB 15L	250
	18	15	22	36	32	31	23.5	64	24	32.5	LB 18L	160
	22	19	27	41	36	35	27.5	72	30	34.5	LB 22L	160
	28	24	32	46	41	38	30.5	77	34	35.5	LB 28L	100
	35	30	41	55	50	45	34.5	86	39	36.5	LB 35L	100
	42	36	50	65	60	51	40.0	90	43	36.0	LB 42L	100
S	06	04	12	19	17	23	16.0	53	17	29.0	LB 06S	630
	08	05	14	22	19	24	17.0	54	18	29.0	LB 08S	630
	10	07	17	24	22	25	17.5	57	20	29.5	LB 10S	630
	12	08	17	27	24	29	21.5	59	21	30.5	LB 12S	630
	14	10	19	30	27	30	22.0	63	23	32.5	LB 14S	630
	16	12	22	32	30	33	24.5	64	24	31.5	LB 16S	400
	20	16	27	41	36	37	26.5	74	30	33.5	LB 20S	400
	25	20	32	46	46	42	30.0	81	34	35.0	LB 25S	400
	30	25	41	50	50	49	35.5	90	39	37.5	LB 30S	250
	38	32	50	65	60	57	41.0	96	43	37.0	LB 38S	250

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, put suffix 'X' before part code if nut ferrule not required. (Ex: XLB 16S)
5, S1 given for forging, will change if made from flat bar.
6, WP (Working Pressure).: 1 Mpa = 10 bar.

TWSL - Thrust Wired Swivel Elbow

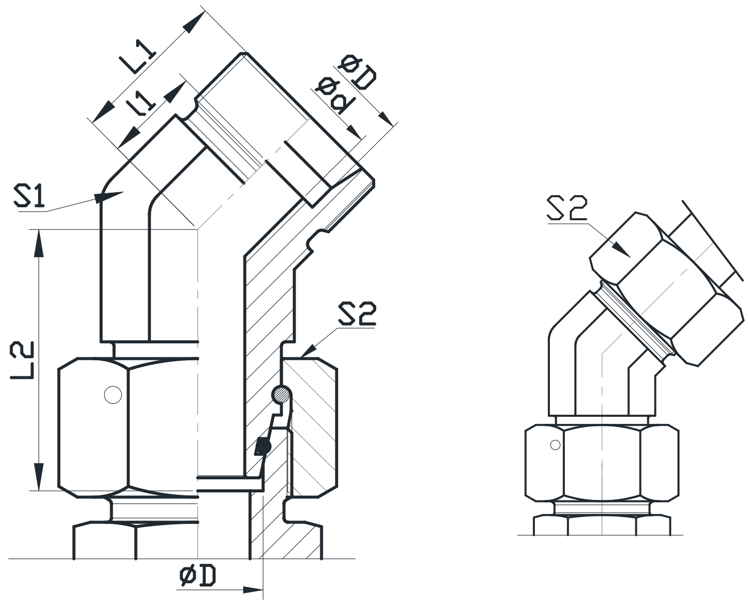




SERIES	ØD	Ød	S1	S2	L1	l1	L2	PART CODE	WP (bar)
L	06	04	12	14	19.0	12.0	26.0	TWSL 06L	250
	08	06	12	17	21.0	14.0	27.5	TWSL 08L	250
	10	08	14	19	22.0	15.0	29.0	TWSL 10L	250
	12	10	17	22	24.0	17.0	29.5	TWSL 12L	250
	15	12	19	27	28.0	21.0	32.5	TWSL 15L	250
	18	15	24	32	31.0	23.5	35.5	TWSL 18L	160
	22	19	27	36	35.0	27.5	38.5	TWSL 22L	160
	28	24	32	41	38.0	30.5	41.5	TWSL 28L	100
	35	30	41	50	45.0	34.5	51.0	TWSL 35L	100
	42	36	50	60	51.0	40.0	56.0	TWSL 42L	100
S	06	04	12	17	23.0	16.0	27.0	TWSL 06S	630
	08	05	14	19	24.0	17.0	27.5	TWSL 08S	630
	10	06	17	22	25.0	17.5	30.0	TWSL 10S	630
	12	08	19	24	29.0	21.5	31.0	TWSL 12S	630
	14	09	19	27	30.0	22.0	35.0	TWSL 14S	630
	16	12	24	30	33.0	24.5	36.5	TWSL 16S	400
	20	16	27	36	37.0	26.5	44.5	TWSL 20S	400
	25	20	32	46	42.0	30.0	50.0	TWSL 25S	400
	30	25	41	50	49.0	35.5	55.0	TWSL 30S	250
	38	32	50	60	57.0	41.0	63.0	TWSL 38S	250

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, put suffix ‘X’ before part code if nut ferrule not required. (Ex: XTWSL 16S)
5, S1 given for forging, will change if made from flat bar.
6, WP (Working Pressure).: 1 Mpa = 10 bar.

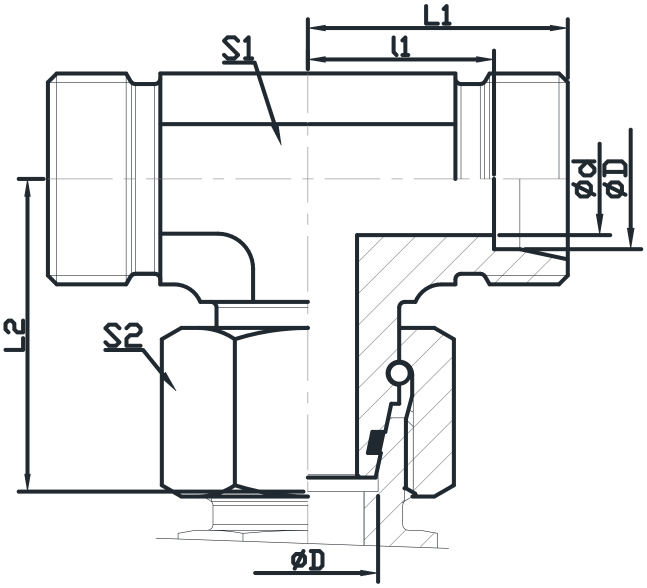
TWSLV - Thrust Wired Swivel Elbow 45^0

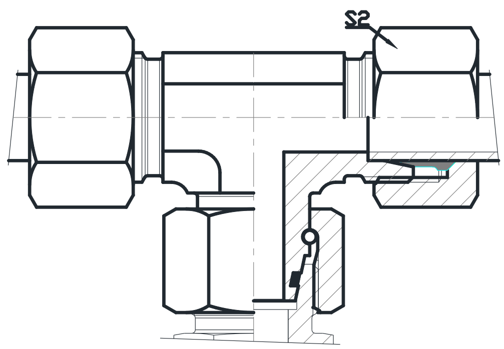


SERIES	ØD	Ød	S1	S2	L1	l1	L2	PART CODE	WP (bar)
	06	04	19	14	21.0	14.0	26.0	TWSLV 06L	250
	08	06	19	17	22.0	15.0	27.5	TWSLV 08L	250
	10	08	19	19	23.0	16.0	29.0	TWSLV 10L	250
	12	10	19	22	24.0	17.0	29.5	TWSLV 12L	250
L	15	12	19	27	24.0	17.0	32.5	TWSLV 15L	250
	18	15	24	32	26.5	19.0	35.5	TWSLV 18L	160
	22	19	27	36	30.0	22.5	38.5	TWSLV 22L	160
	28	24	36	41	32.0	24.5	41.5	TWSLV 28L	100
	35	30	41	50	37.5	27.0	51.0	TWSLV 35L	100
	42	36	50	60	37.0	27.0	56.0	TWSLV 42L	100
	06	04	19	17	23.0	16.0	27.0	TWSLV 06S	630
	08	05	19	19	23.0	16.0	27.5	TWSLV 08S	630
	10	07	19	22	24.0	16.5	30.0	TWSLV 10S	630
	12	08	19	24	24.5	17.0	31.0	TWSLV 12S	630
S	14	10	19	27	25.0	17.0	35.0	TWSLV 14S	630
	16	12	24	30	27.5	19.0	36.5	TWSLV 16S	400
	20	16	27	36	32.0	21.5	44.5	TWSLV 20S	400
	25	20	36	46	35.0	23.0	50.0	TWSLV 25S	400
	30	25	41	50	37.5	24.0	55.0	TWSLV 30S	250
	38	32	50	60	44.0	28.0	63.0	TWSLV 38S	250

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, put suffix 'X' before part code if nut ferrule not required. (Ex: XTWSLV 16S)
5, S1 given for forging, will change if made from flat bar.
6, WP (Working Pressure).: 1 Mpa = 10 bar.

TWBT - Thrust Wired Swivel Branch Tee

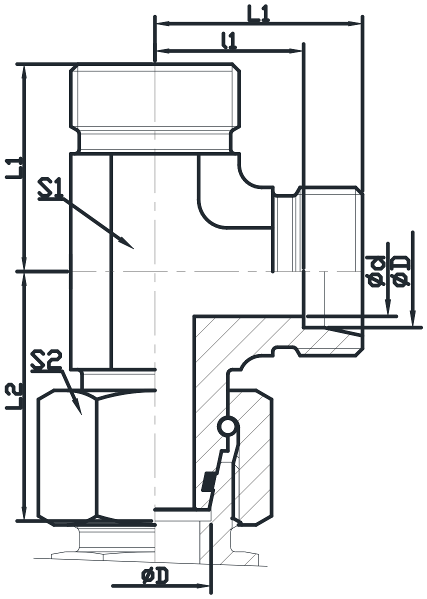


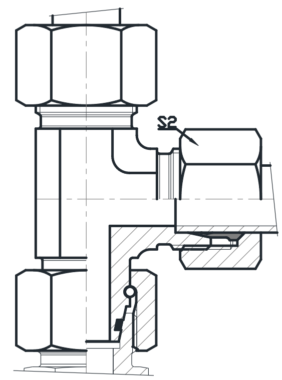


SERIES	ØD	Ød	S1	S2	L1	l1	L2	PART CODE	WP (bar)
L	06	04	12	14	19.0	12.0	26.0	TWBT 06L	250
	08	06	12	17	21.0	14.0	27.5	TWBT 08L	250
	10	08	14	19	22.0	15.0	29.0	TWBT 10L	250
	12	10	17	22	24.0	17.0	29.5	TWBT 12L	250
	15	12	19	27	28.0	21.0	32.5	TWBT 15L	250
	18	15	24	32	31.0	23.5	35.5	TWBT 18L	160
	22	19	27	36	35.0	27.5	38.5	TWBT 22L	160
	28	24	34	41	38.0	30.5	41.5	TWBT 28L	100
	35	30	41	50	45.0	34.5	51.0	TWBT 35L	100
	42	36	50	60	51.0	40.0	56.0	TWBT 42L	100
S	06	04	12	17	23.0	16.0	27.0	TWBT 06S	630
	08	05	14	19	24.0	17.0	27.5	TWBT 08S	630
	10	06	17	22	25.0	17.5	30.0	TWBT 10S	630
	12	08	19	24	29.0	21.5	31.0	TWBT 12S	630
	14	09	19	27	30.0	22.0	35.0	TWBT 14S	630
	16	12	24	30	33.0	24.5	36.5	TWBT 16S	400
	20	16	27	36	37.0	26.5	44.5	TWBT 20S	400
	25	20	34	46	42.0	30.0	50.0	TWBT 25S	400
	30	25	41	50	49.0	35.5	55.0	TWBT 30S	250
	38	32	50	60	57.0	41.0	63.0	TWBT 38S	250

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, put suffix 'X' before part code if nut ferrule not required. (Ex: XTWBT 16S)
5, S1 given for forging, will change if made from flat bar.
6, WP (Working Pressure).: 1 Mpa = 10 bar.

TWRT - Thrust Wired Swivel Run Tee

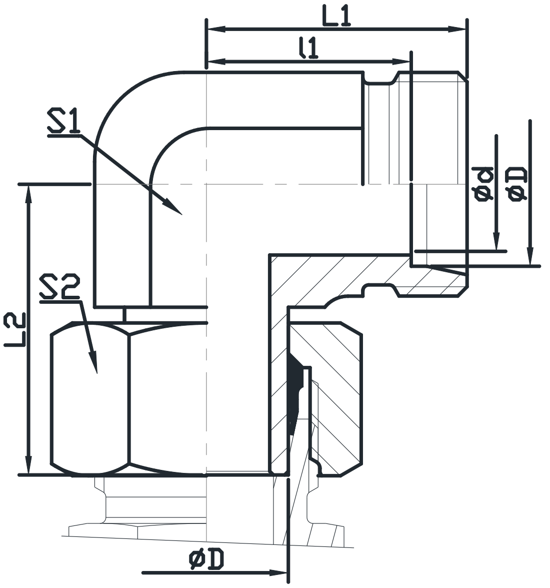


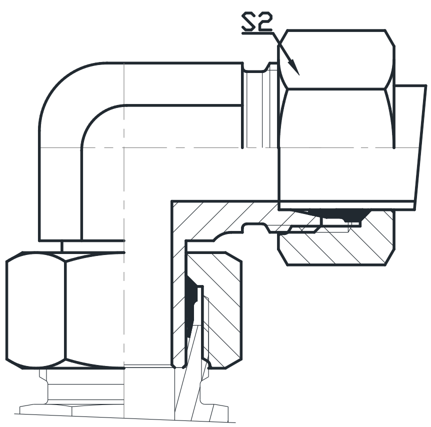


SERIES	ØD	Ød	S1	S2	L1	l1	L2	PART CODE	WP (bar)
L	06	04	12	14	19.0	12.0	26.0	TWRT 06L	250
	08	06	12	17	21.0	14.0	27.5	TWRT 08L	250
	10	08	14	19	22.0	15.0	29.0	TWRT 10L	250
	12	10	17	22	24.0	17.0	29.5	TWRT 12L	250
	15	12	19	27	28.0	21.0	32.5	TWRT 15L	250
	18	15	24	32	31.0	23.5	35.5	TWRT 18L	160
	22	19	27	36	35.0	27.5	38.5	TWRT 22L	160
	28	24	34	41	38.0	30.5	41.5	TWRT 28L	100
	35	30	41	50	45.0	34.5	51.0	TWRT 35L	100
	42	36	50	60	51.0	40.0	56.0	TWRT 42L	100
S	06	04	12	17	23.0	16.0	27.0	TWRT 06S	630
	08	05	14	19	24.0	17.0	27.5	TWRT 08S	630
	10	06	17	22	25.0	17.5	30.0	TWRT 10S	630
	12	08	19	24	29.0	21.5	31.0	TWRT 12S	630
	14	09	19	27	30.0	22.0	35.0	TWRT 14S	630
	16	12	24	30	33.0	24.5	36.5	TWRT 16S	400
	20	16	27	36	37.0	26.5	44.5	TWRT 20S	400
	25	20	34	46	42.0	30.0	50.0	TWRT 25S	400
	30	25	41	50	49.0	35.5	55.0	TWRT 30S	250
	38	32	50	60	57.0	41.0	63.0	TWRT 38S	250

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, put suffix 'X' before part code if nut ferrule not required. (Ex: XTWRT 16S)
5, S1 given for forging, will change if made from flat bar.
6, WP (Working Pressure).: 1 Mpa = 10 bar.

SL - Swivel Elbow

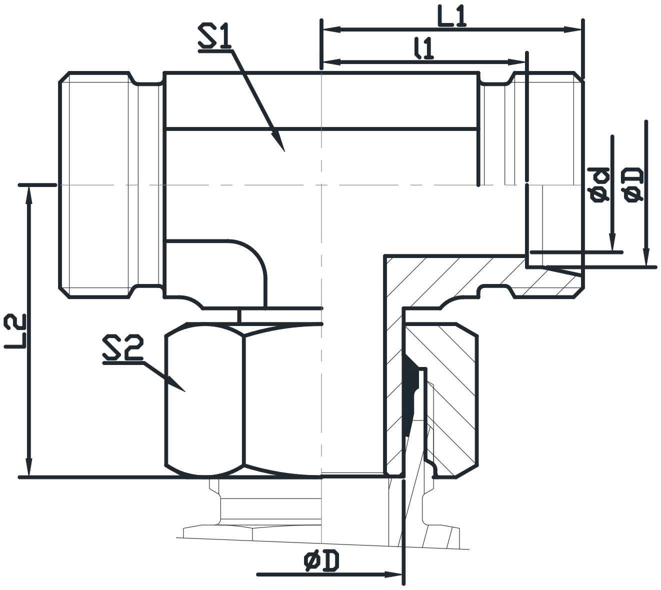


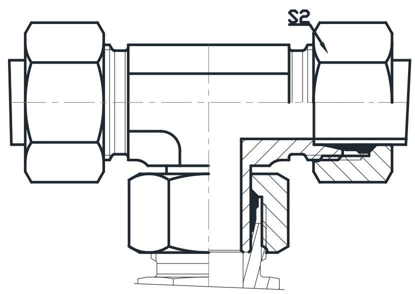


SERIES	ØD	Ød	S1	S2	L1	l1	L2	PART CODE	WP (bar)
L	06	04	12	14	19.0	12.0	26.0	SL 06L	250
	08	06	12	17	21.0	14.0	27.5	SL 08L	250
	10	08	14	19	22.0	15.0	29.0	SL 10L	250
	12	10	17	22	24.0	17.0	29.5	SL 12L	250
	15	12	19	27	28.0	21.0	32.5	SL 15L	250
	18	15	24	32	31.0	23.5	35.5	SL 18L	160
	22	19	27	36	35.0	27.5	38.5	SL 22L	160
	28	24	32	41	38.0	30.5	42.0	SL 28L	100
	35	30	41	50	45.0	34.5	51.0	SL 35L	100
	42	36	50	60	51.0	40.0	60.0	SL 42L	100
S	06	04	12	17	23.0	16.0	27.0	SL 06S	630
	08	05	14	19	24.0	17.0	27.5	SL 08S	630
	10	07	17	22	25.0	17.5	31.0	SL 10S	630
	12	08	19	24	29.0	21.5	31.0	SL 12S	630
	14	10	19	27	30.0	22.0	35.0	SL 14S	630
	16	12	24	30	33.0	24.5	37.5	SL 16S	400
	20	16	27	36	37.0	26.5	44.5	SL 20S	400
	25	20	32	46	42.0	30.0	50.0	SL 25S	400
	30	25	41	50	49.0	35.5	55.0	SL 30S	250
	38	32	50	60	57.0	41.0	66.5	SL 38S	250

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, put suffix ‘X’ before part code if nut ferrule not required. (Ex: XSL 16S)
5, S1 given for forging, will change if made from flat bar.
6, WP (Working Pressure).: 1 Mpa = 10 bar.

SBT - Swivel Branch Tee

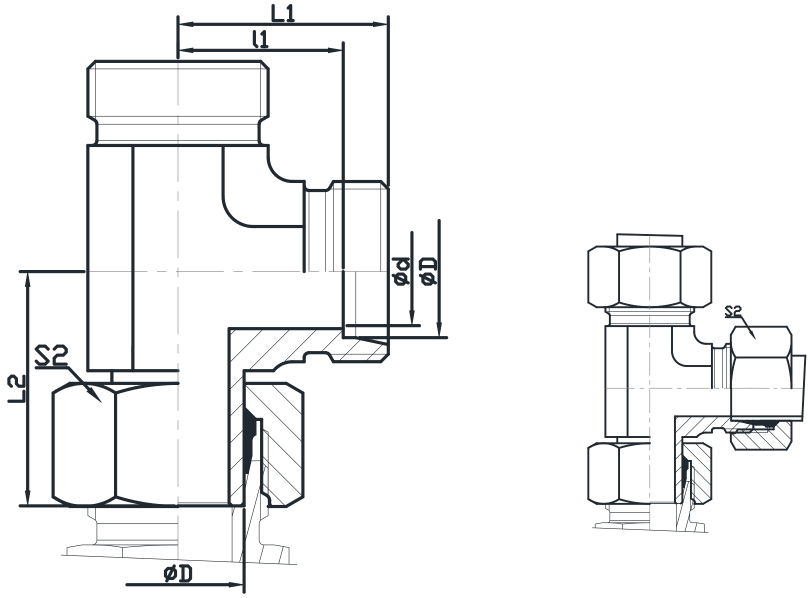




SERIES	ØD	Ød	S1	S2	L1	l1	L2	PART CODE	WP (bar)
L	06	04	12	14	19.0	12.0	26.0	SBT 06L	250
	08	06	12	17	21.0	14.0	27.5	SBT 08L	250
	10	08	14	19	22.0	15.0	29.0	SBT 10L	250
	12	10	17	22	24.0	17.0	30.5	SBT 12L	250
	15	12	19	27	28.0	21.0	32.5	SBT 15L	250
	18	15	24	32	31.0	23.5	35.5	SBT 18L	160
	22	19	27	36	35.0	27.5	38.5	SBT 22L	160
	28	24	34	41	38.0	30.5	43.5	SBT 28L	100
	35	30	41	50	45.0	34.5	54.5	SBT 35L	100
	42	36	50	60	51.0	40.0	60.0	SBT 42L	100
S	06	04	12	17	23.0	16.0	27.0	SBT 06S	630
	08	05	14	19	24.0	17.0	29.0	SBT 08S	630
	10	07	17	22	25.0	17.5	31.0	SBT 10S	630
	12	08	19	24	29.0	21.5	33.0	SBT 12S	630
	14	10	19	27	30.0	22.0	35.0	SBT 14S	630
	16	12	24	30	33.0	24.5	37.5	SBT 16S	400
	20	16	27	36	37.0	26.5	44.5	SBT 20S	400
	25	20	34	46	42.0	30.0	50.5	SBT 25S	400
	30	25	41	50	49.0	35.5	56.5	SBT 30S	250
	38	32	50	60	57.0	41.0	66.5	SBT 38S	250

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, put suffix ‘X’ before part code if nut ferrule not required. (Ex: XSBT 16S)
5, S1 given for forging, will change if made from flat bar.
6, WP (Working Pressure).: 1 Mpa = 10 bar.

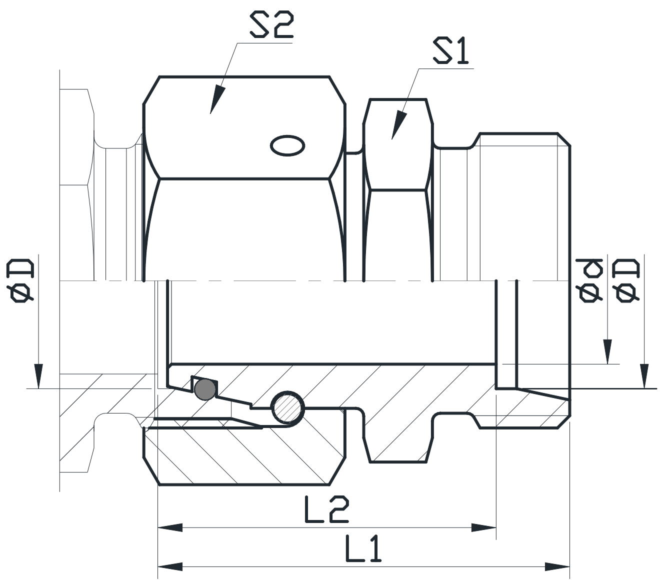
SRT - Swivel Run Tee

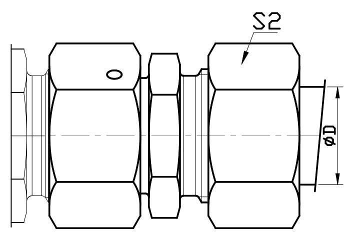


SERIES	ØD	Ød	S1	S2	L1	l1	L2	PART CODE	WP (bar)
L	06	04	12	14	19.0	12.0	26.0	SRT 06L	250
	08	06	12	17	21.0	14.0	27.5	SRT 08L	250
	10	08	14	19	22.0	15.0	29.0	SRT 10L	250
	12	10	17	22	24.0	17.0	30.5	SRT 12L	250
	15	12	19	27	28.0	21.0	32.5	SRT 15L	250
	18	15	24	32	31.0	23.5	35.5	SRT 18L	160
	22	19	27	36	35.0	27.5	39.0	SRT 22L	160
	28	24	34	41	38.0	30.5	43.5	SRT 28L	100
	35	30	41	50	45.0	34.5	54.5	SRT 35L	100
	42	36	50	60	51.0	40.0	60.0	SRT 42L	100
S	06	04	12	17	23.0	16.0	27.0	SRT 06S	630
	08	05	14	19	24.0	17.0	29.0	SRT 08S	630
	10	07	17	22	25.0	17.5	32.0	SRT 10S	630
	12	08	19	24	29.0	21.5	33.0	SRT 12S	630
	14	10	19	27	30.0	22.0	35.0	SRT 14S	630
	16	12	24	30	33.0	24.5	37.5	SRT 16S	400
	20	16	27	36	37.0	26.5	44.5	SRT 20S	400
	25	20	34	46	42.0	30.0	50.5	SRT 25S	400
	30	25	41	50	49.0	35.5	56.5	SRT 30S	250
	38	32	50	60	57.0	41.0	66.5	SRT 38S	250

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, put suffix ‘X’ before part code if nut ferrule not required. (Ex: XSRT 16S)
5, S1 given for forging, will change if made from flat bar.
6, WP (Working Pressure).: 1 Mpa = 10 bar.

DPA - Distance Piece Adapter.

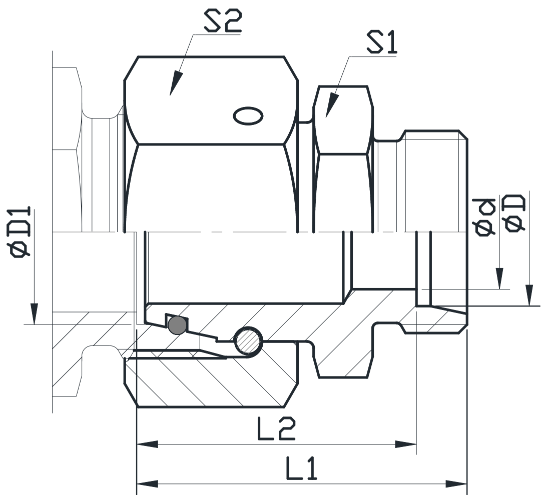


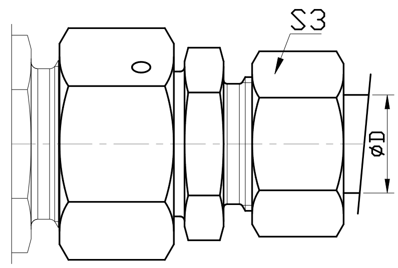


SERIES	ØD	Ød	S1	S2	L1	L2	PART CODE	WP (bar)
L	06	2.5	14	14	43.0	36	DPA 06L	250
	08	4.0	17	17	43.0	36	DPA 08L	250
	10	6.0	17	19	43.0	36	DPA 10L	250
	12	8.0	19	22	43.0	36	DPA 12L	250
	15	10.0	24	27	43.0	36	DPA 15L	250
	18	13.0	27	32	43.5	36	DPA 18L	160
	22	17.0	32	36	47.5	40	DPA 22L	160
	28	22.0	41	41	47.5	40	DPA 28L	100
	35	28.0	46	50	60.5	50	DPA 35L	100
	42	34.0	55	60	71.0	60	DPA 42L	100
S	06	2.5	14	17	43.0	36	DPA 06S	630
	08	4.0	17	19	43.0	36	DPA 08S	630
	10	6.0	19	22	43.5	36	DPA 10S	630
	12	8.0	22	24	43.5	36	DPA 12S	630
	14	9.0	24	27	48.0	40	DPA 14S	630
	16	11.0	27	30	48.5	40	DPA 16S	400
	20	14.0	32	36	56.5	46	DPA 20S	400
	25	18.0	41	46	62.0	50	DPA 25S	400
	30	23.0	46	50	69.5	56	DPA 30S	250
	38	30.0	55	60	76.0	60	DPA 38S	250

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, put suffix 'X' before part code if nut ferrule not required. (Ex: XDPA 16S)
5, WP (Working Pressure).: 1 Mpa = 10 bar.

TER - Tube End Reducer

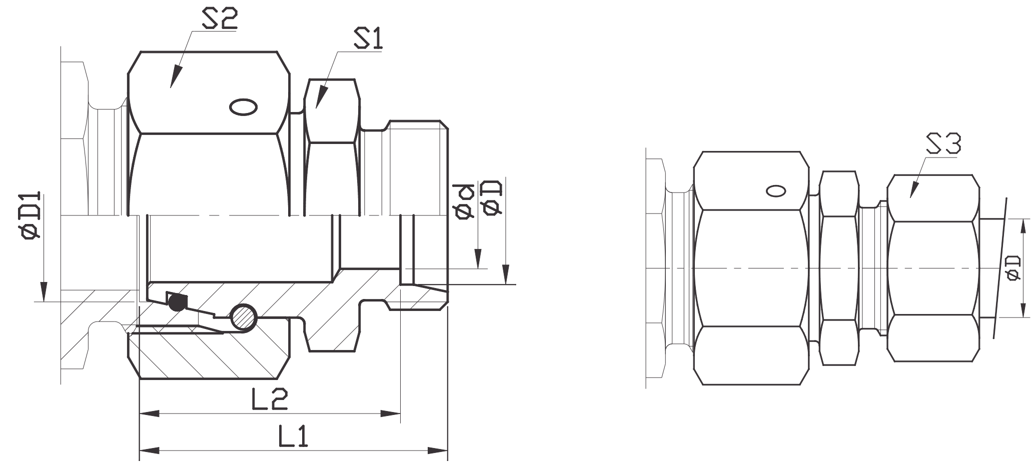




SERIES	ØD1	ØD	Ød	L1	L2	S1	S2	S3	PART CODE	WP (bar)
L	08	06	4.0	30.5	23.5	14	17	14	TER 08/06L	250
L	10	06	4.0	32.0	25.0	14	19	14	TER 10/06L	250
L	10	08	6.0	32.0	25.0	14	19	17	TER 10/08L	250
L	12	06	4.0	32.0	25.0	17	22	14	TER 12/06L	250
L	12	08	6.0	32.0	25.0	17	22	17	TER 12/08L	250
L	12	10	8.0	33.0	26.0	17	22	19	TER 12/10L	250
L	15	06	4.0	35.5	28.5	19	27	14	TER 15/06L	250
L	15	08	6.0	35.5	28.5	19	27	17	TER 15/08L	250
L	15	10	8.0	36.5	29.5	19	27	19	TER 15/10L	250
L	15	12	10.0	36.5	29.5	19	27	22	TER 15/12L	250
L	18	06	4.0	35.0	28.0	24	32	14	TER 18/06L	160
L	18	08	6.0	35.0	28.0	24	32	17	TER 18/08L	160
L	18	10	8.0	36.0	29.0	24	32	19	TER 18/10L	160
L	18	12	10.0	36.0	29.0	24	32	22	TER 18/12L	160
L	18	15	12.0	37.0	30.0	24	32	27	TER 18/15L	160
L/S	18	16	12.0	40.0	31.5	27	32	30	TER 18L/16S	160
L	22	06	4.0	39.0	32.0	27	36	14	TER 22/06L	160
L	22	08	6.0	39.0	32.0	27	36	17	TER 22/08L	160
L	22	10	8.0	40.0	33.0	27	36	19	TER 22/10L	160
L	22	12	10.0	40.0	33.0	27	36	22	TER 22/12L	160
L	22	15	12.0	41.0	34.0	27	36	27	TER 22/15L	160
L/S	22	16	12.0	43.0	34.5	27	36	30	TER 22L/16S	160
L	22	18	15.0	41.0	33.5	27	36	32	TER 22/18L	160
L/S	22	20	16.0	45.0	34.5	32	36	36	TER 22L/20S	160
L	28	06	4.0	41.0	34.0	32	41	14	TER 28/06L	100

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, put suffix ‘X’ before part code if nut ferrule not required. (Ex: XTER 22/15L)
5, WP (Working Pressure).: 1 Mpa = 10 bar.

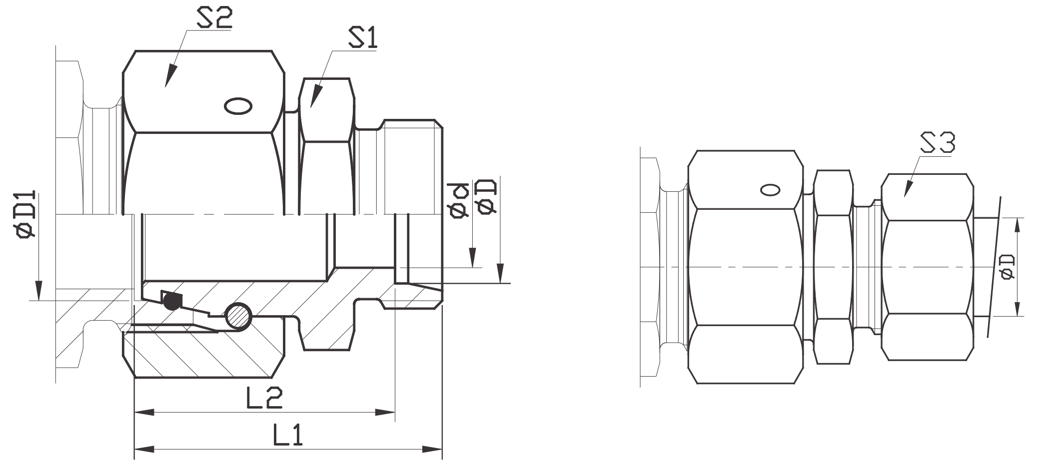
TER - Tube End Reducer



SERIES	ØD1	ØD	Ød	L1	L2	S1	S2	S3	PART CODE	WP (bar)
L	28	08	6.0	41.0	34.0	32	41	17	TER 28/08L	100
L	28	10	8.0	42.0	35.0	32	41	19	TER 28/10L	100
L	28	12	10.0	42.0	35.0	32	41	22	TER 28/12L	100
L	28	15	12.0	43.0	36.0	32	41	27	TER 28/15L	100
L/S	28	16	12.0	45.0	36.5	32	41	30	TER 28L/16S	100
L	28	18	15.0	43.0	35.5	32	41	32	TER 28/18L	100
L	28	22	19.0	45.0	37.5	32	41	36	TER 28/22L	100
L/S	28	25	20.0	50.0	38.0	41	41	46	TER 28L/25S	100
L	35	06	4.0	44.0	37.0	41	50	14	TER 35/06L	100
L	35	08	6.0	44.0	37.0	41	50	17	TER 35/08L	100
L	35	10	8.0	45.0	38.0	41	50	19	TER 35/10L	100
L	35	12	10.0	45.0	38.0	41	50	22	TER 35/12L	100
L	35	15	12.0	46.0	39.0	41	50	27	TER 35/15L	100
L	35	18	15.0	46.0	38.5	41	50	32	TER 35/18L	100
L	35	22	19.0	48.0	40.5	41	50	36	TER 35/22L	100
L/S	35	25	20.0	52.0	40.0	41	50	46	TER 35L/25S	100
L	35	28	24.0	48.0	40.5	41	50	41	TER 35/28L	100
L/S	35	30	25.0	55.0	41.5	46	50	50	TER 35L/30S	100
L	42	10	8.0	48.5	41.5	50	60	19	TER 42/10L	100
L	42	12	10.0	48.5	41.5	50	60	22	TER 42/12L	100
L	42	15	12.0	49.5	42.5	50	60	27	TER 42/15L	100
L	42	18	15.0	49.5	42.0	50	60	32	TER 42/18L	100
L	42	22	19.0	51.5	44.0	50	60	36	TER 42/22L	100
L	42	28	24.0	51.5	44.0	50	60	41	TER 42/28L	100
L/S	42	30	25.0	57.5	44.0	50	60	50	TER 42L/30S	100
L	42	35	30.0	53.5	43.0	50	60	50	TER 42/35L	100
L/S	42	38	32.0	61.5	45.5	55	60	60	TER 42L/38S	100

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, put suffix ‘X’ before part code if nut ferrule not required. (Ex: XTER 22/15L)
5, WP (Working Pressure).: 1 Mpa = 10 bar.

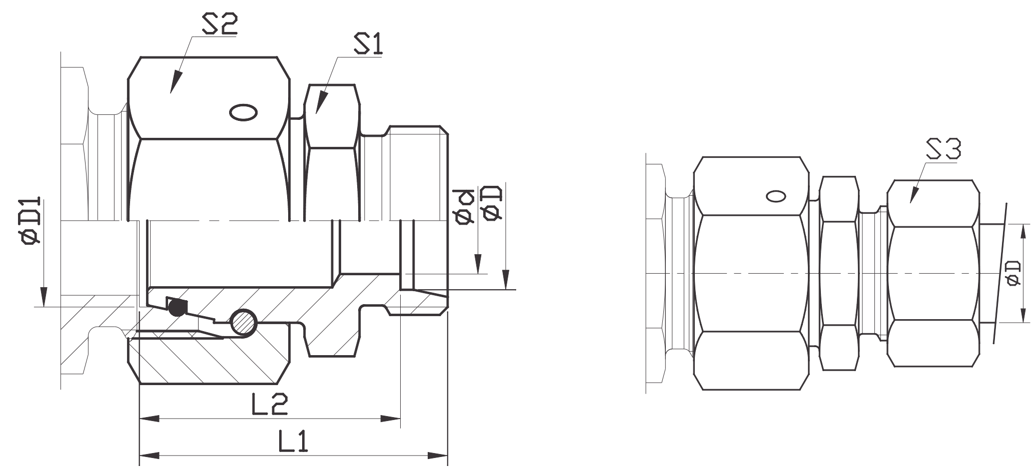
TER - Tube End Reducer



SERIES	ØD1	ØD	Ød	L1	L2	S1	S2	S3	PART CODE	WP (bar)
S	08	06	4	34.0	27.0	14	19	17	TER 08/06S	630
S	10	06	4	34.5	27.5	17	22	17	TER 10/06S	630
S	10	08	5	34.5	27.5	17	22	19	TER 10/08S	630
S	12	06	4	36.0	29.0	17	24	17	TER 12/06S	630
S	12	08	5	36.0	29.0	17	24	19	TER 12/08S	630
S	12	10	7	37.0	29.5	19	24	22	TER 12/10S	630
S	14	06	4	38.5	31.5	19	27	17	TER 14/06S	630
S	14	08	5	38.5	31.5	19	27	19	TER 14/08S	630
S	14	10	7	38.5	31.0	19	27	22	TER 14/10S	630
S	14	12	8	38.5	31.0	22	27	24	TER 14/12S	630
S	16	06	4	39.0	32.0	22	30	17	TER 16/06S	400
S	16	08	5	39.0	32.0	22	30	19	TER 16/08S	400
S	16	10	7	39.0	31.5	22	30	22	TER 16/10S	400
S	16	12	8	39.0	31.5	22	30	24	TER 16/12S	400
S	16	14	10	41.0	33.0	24	30	27	TER 16/14S	400
S/L	16	15	11	39.0	32.0	24	30	27	TER 16S/15L	250
S	20	06	4	43.0	36.0	27	36	17	TER 20/06S	400
S	20	08	5	43.0	36.0	27	36	19	TER 20/08S	400
S	20	10	7	43.0	35.5	27	36	22	TER 20/10S	400
S	20	12	8	43.0	35.5	27	36	24	TER 20/12S	400
S	20	14	10	45.0	37.0	27	36	27	TER 20/14S	400
S/L	20	15	12	43.0	36.0	27	36	27	TER 20S/15L	250
S	20	16	12	45.0	36.5	27	36	30	TER 20/16S	400
S/L	20	18	14	43.0	35.5	27	36	32	TER 20S/18L	160
S	25	06	4	45.5	38.5	32	46	17	TER 25/06S	400
S	25	08	5	45.5	38.5	32	46	19	TER 25/08S	400
S	25	10	7	45.5	38.0	32	46	22	TER 25/10S	400

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, put suffix 'X' before part code if nut ferrule not required. (Ex: XTER 22/15L)
5, WP (Working Pressure).: 1 Mpa = 10 bar.

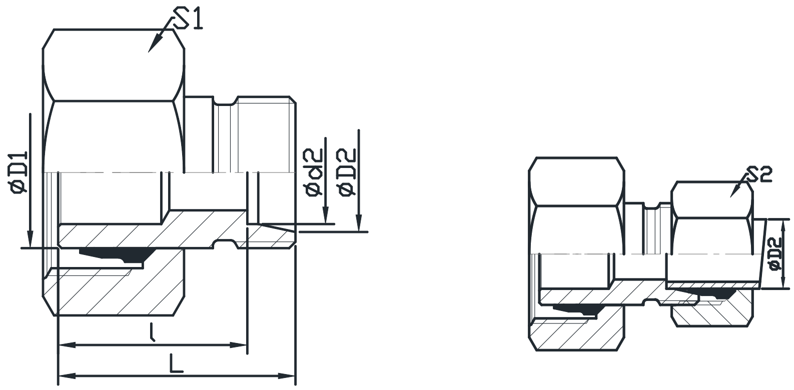
TER - Tube End Reducer



SERIES	ØD1	ØD	Ød	L1	L2	S1	S2	S3	PART CODE	WP (bar)
S	25	12	8	45.5	38.0	32	46	24	TER 25/12S	400
S	25	14	10	47.5	39.5	32	46	27	TER 25/14S	400
S	25	16	12	47.5	39.0	32	46	30	TER 25/16S	400
S/L	25	18	15	45.5	38.0	32	46	32	TER 25S/18L	160
S	25	20	16	49.5	39.0	32	46	36	TER 25/20S	400
S/L	25	22	18	47.5	40.0	32	46	36	TER 25S/22L	160
S	30	06	4	51.0	44.0	41	50	17	TER 30/06S	250
S	30	08	5	51.0	44.0	41	50	19	TER 30/08S	250
S	30	10	7	51.0	43.5	41	50	22	TER 30/10S	250
S	30	12	8	51.0	43.5	41	50	24	TER 30/12S	250
S	30	14	10	53.0	45.0	41	50	27	TER 30/14S	250
S	30	16	12	53.0	44.5	41	50	30	TER 30/16S	250
S	30	20	16	55.0	44.5	41	50	36	TER 30/20S	250
S/L	30	22	19	53.0	45.5	41	50	36	TER 30S/22L	160
S	30	25	20	57.0	45.0	41	50	46	TER 30/25S	250
S/L	30	28	23	53.0	45.5	41	50	41	TER 30S/28L	100
S	38	06	4	54.5	47.5	50	60	17	TER 38/06S	250
S	38	08	5	54.5	47.5	50	60	19	TER 38/08S	250
S	38	10	7	54.5	47.0	50	60	22	TER 38/10S	250
S	38	12	8	54.5	47.0	50	60	24	TER 38/12S	250
S	38	14	10	56.5	48.5	50	60	27	TER 38/14S	250
S	38	16	12	56.5	48.0	50	60	30	TER 38/16S	250
S	38	20	16	58.5	48.0	50	60	36	TER 38/20S	250
S	38	25	20	60.5	48.5	50	60	46	TER 38/25S	250
S/L	38	28	24	56.5	49.0	50	60	41	TER 38S/28L	100
S	38	30	25	62.5	49.0	50	60	50	TER 38/30S	250
S/L	38	35	30	58.5	48.0	50	60	50	TER 38S/35L	100

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, put suffix 'X' before part code if nut ferrule not required. (Ex: XTER 22/15L)
5, WP (Working Pressure).: 1 Mpa = 10 bar.

TEC - Tube End Coupling



SERIES	ØD1	ØD2	Ød2	L	l	S1	S2	PART CODE	WP (bar)
L	08	06	04	30.5	23.5	17	14	TEC 08/06L	250
	10	06	04	30.5	23.5	19	14	TEC 10/06L	250
	10	08	06	30.5	23.5	19	17	TEC 10/08L	250
	12	06	04	30.5	23.5	22	14	TEC 12/06L	250
	12	08	06	30.5	23.5	22	17	TEC 12/08L	250
	12	10	08	31.5	24.5	22	19	TEC 12/10L	250
	15	06	04	30.5	23.5	27	14	TEC 15/06L	250
	15	08	06	30.5	23.5	27	17	TEC 15/08L	250
	15	10	08	31.5	24.5	27	19	TEC 15/10L	250
	15	12	10	31.5	24.5	27	22	TEC 15/12L	250
	18	06	04	31.5	24.5	32	14	TEC 18/06L	160
	18	08	06	31.5	24.5	32	17	TEC 18/08L	160
	18	10	08	32.5	25.5	32	19	TEC 18/10L	160
	18	12	10	32.5	25.5	32	22	TEC 18/12L	160
	18	15	12	33.5	26.5	32	27	TEC 18/15L	160
	22	06	04	32.5	25.5	36	14	TEC 22/06L	160
	22	08	06	32.5	25.5	36	17	TEC 22/08L	160
	22	10	08	33.5	26.5	36	19	TEC 22/10L	160
	22	12	10	33.5	26.5	36	22	TEC 22/12L	160
	22	15	12	34.5	27.5	36	27	TEC 22/15L	160
	22	18	15	34.5	27.0	36	32	TEC 22/18L	160
	28	06	04	33.5	26.5	41	14	TEC 28/06L	100
	28	08	06	33.5	26.5	41	17	TEC 28/08L	100
	28	10	08	34.5	27.5	41	19	TEC 28/10L	100
	28	12	10	34.5	27.5	41	22	TEC 28/12L	100
	28	15	12	35.5	28.5	41	27	TEC 28/15L	100
	28	18	15	35.5	28.0	41	32	TEC 28/18L	100
	28	22	19	37.5	30.0	41	36	TEC 28/22L	100
	35	06	04	38.5	31.5	50	14	TEC 35/06L	100
	35	08	06	38.5	31.5	50	17	TEC 35/08L	100

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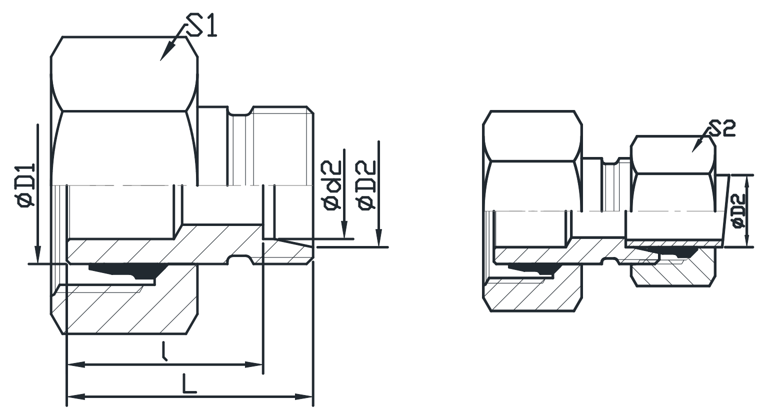
4, put suffix ‘X’ before part code if nut ferrule not required. (Ex: XTEC 22/15L)
5, WP (Working Pressure).: 1 Mpa = 10 bar.

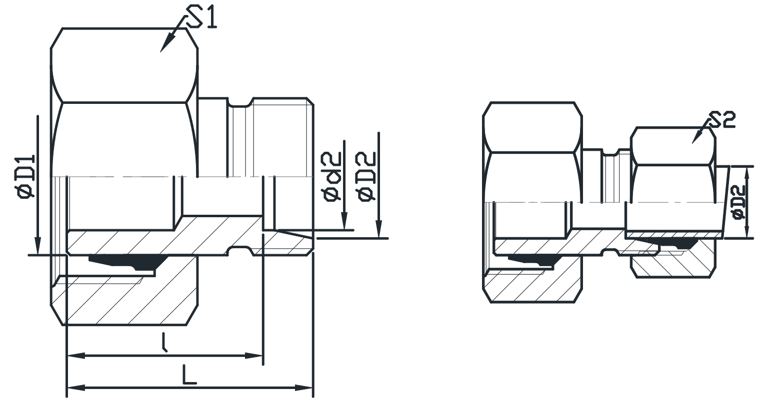
TEC - Tube End Coupling



SERIES	ØD1	ØD2	Ød2	L	l	S1	S2	PART CODE	WP (bar)
L	35	10	08	39.5	32.5	50	19	TEC 35/10L	100
	35	12	10	39.5	32.5	50	22	TEC 35/12L	100
	35	15	12	40.5	33.5	50	27	TEC 35/15L	100
	35	18	15	40.5	33.0	50	32	TEC 35/18L	100
	35	22	19	42.5	35.0	50	36	TEC 35/22L	100
	35	28	24	42.5	35.0	50	41	TEC 35/28L	100
	42	10	08	40.5	33.5	60	19	TEC 42/10L	100
	42	12	10	40.5	33.5	60	22	TEC 42/12L	100
	42	15	12	41.5	34.5	60	27	TEC 42/15L	100
	42	18	15	41.5	34.0	60	32	TEC 42/18L	100
	42	22	19	43.5	36.0	60	36	TEC 42/22L	100
	42	28	24	43.5	36.0	60	41	TEC 42/28L	100
	42	35	30	45.5	35.0	60	50	TEC 42/35L	100
S	08	06	04	32.0	25.0	19	17	TEC 08/06S	630
	10	06	04	33.0	26.0	22	17	TEC 10/06S	630
	10	08	05	33.0	26.0	22	19	TEC 10/08S	630
	12	06	04	34.0	27.0	24	17	TEC 12/06S	630
	12	08	05	34.0	27.0	24	19	TEC 12/08S	630
	12	10	07	34.0	26.5	24	22	TEC 12/10S	630
	14	06	04	36.0	29.0	27	17	TEC 14/06S	630
	14	08	05	36.0	29.0	27	19	TEC 14/08S	630
	14	10	07	36.0	28.5	27	22	TEC 14/10S	630
	14	12	08	36.0	28.5	27	24	TEC 14/12S	630
	16	06	04	36.0	29.0	30	17	TEC 16/06S	400
	16	08	05	36.0	29.0	30	19	TEC 16/08S	400
	16	10	07	36.0	28.5	30	22	TEC 16/10S	400
	16	12	08	36.0	28.5	30	24	TEC 16/12S	400
	16	14	10	38.0	30.0	30	27	TEC 16/14S	400

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, put suffix 'X' before part code if nut ferrule not required. (Ex: XTEC 22/15L)
5, WP (Working Pressure).: 1 Mpa = 10 bar.

TEC - Tube End Coupling



SERIES	ØD1	ØD2	Ød2	L	l	S1	S2	PART CODE	WP (bar)
S	20	06	04	41.0	34.0	36	17	TEC 20/06S	400
	20	08	05	41.0	34.0	36	19	TEC 20/08S	400
	20	10	07	41.0	33.5	36	22	TEC 20/10S	400
	20	12	08	41.0	33.5	36	24	TEC 20/12S	400
	20	14	10	41.0	33.0	36	27	TEC 20/14S	400
	20	16	12	43.0	34.5	36	30	TEC 20/16S	400
	25	06	04	44.0	37.0	46	17	TEC 25/06S	400
	25	08	05	44.0	37.0	46	19	TEC 25/08S	400
	25	10	07	44.0	36.5	46	22	TEC 25/10S	400
	25	12	08	44.0	36.5	46	24	TEC 25/12S	400
	25	14	10	45.0	37.0	46	27	TEC 25/14S	400
	25	16	12	45.0	36.5	46	30	TEC 25/16S	400
	25	20	16	48.0	37.5	46	36	TEC 25/20S	400
	30	06	04	46.0	39.0	50	17	TEC 30/06S	400
	30	08	05	46.0	39.0	50	19	TEC 30/08S	400
	30	10	07	46.0	38.5	50	22	TEC 30/10S	400
	30	12	08	46.0	38.5	50	24	TEC 30/12S	400
	30	14	10	48.0	40.0	50	27	TEC 30/14S	400
	30	16	12	48.0	39.5	50	30	TEC 30/16S	400
	30	20	16	50.0	39.5	50	36	TEC 30/20S	400
	30	25	20	52.0	40.0	50	46	TEC 30/25S	400
	38	06	04	50.0	43.0	60	17	TEC 38/06S	250
	38	08	05	50.0	43.0	60	19	TEC 38/08S	250
	38	10	07	50.0	42.5	60	22	TEC 38/10S	250
	38	12	08	50.0	42.5	60	24	TEC 38/12S	250
	38	14	10	52.0	44.0	60	27	TEC 38/14S	250
	38	16	12	52.0	43.5	60	30	TEC 38/16S	250
	38	20	16	54.0	43.5	60	36	TEC 38/20S	250
	38	25	20	56.0	44.0	60	46	TEC 38/25S	250
	38	30	25	58.0	44.5	60	50	TEC 38/30S	250

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
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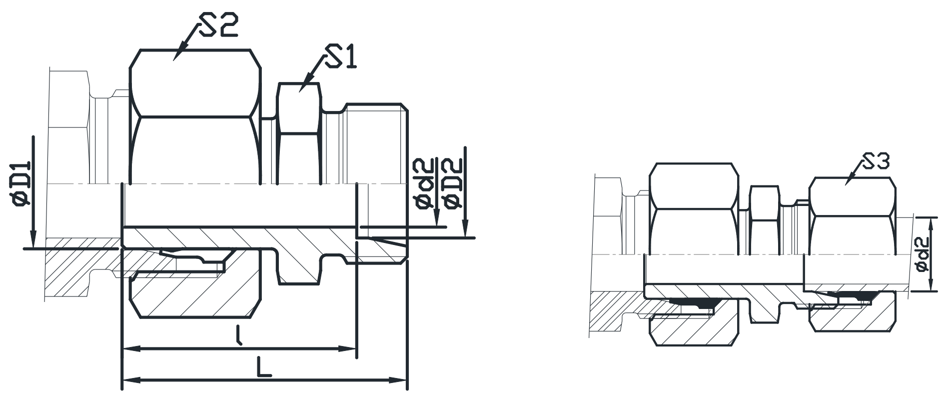
3, S: High Pressure Working Series.
4, put suffix ‘X’ before part code if nut ferrule not required. (Ex: XTEC 22/15L)
5, WP (Working Pressure).: 1 Mpa = 10 bar.

TECH - Tube End Coupling



SERIES	ØD1	ØD2	Ød2	L	I	S1	S2	S3	PART CODE	WP (bar)
L	08	06	04	33.5	26.5	14	17	14	TECH 08/06L	250
	10	06	04	34.5	27.5	14	19	14	TECH 10/06L	250
	10	08	06	35.5	28.5	17	19	17	TECH 10/08L	250
	12	06	04	36.5	29.5	14	22	14	TECH 12/06L	250
	12	08	06	36.5	29.5	17	22	17	TECH 12/08L	250
	12	10	08	37.5	30.5	17	22	19	TECH 12/10L	250
	15	06	04	37.0	30.0	17	27	14	TECH 15/06L	250
	15	08	06	37.0	30.0	17	27	17	TECH 18/08L	250
	15	10	08	38.0	31.0	17	27	19	TECH 10/10L	250
	15	12	10	39.0	32.0	19	27	22	TECH 15/12L	250
	18	06	04	37.5	30.5	19	32	14	TECH 18/06L	160
	18	08	06	37.5	30.5	19	32	17	TECH 18/08L	160
	18	10	08	38.5	31.5	19	32	19	TECH 18/10L	160
	18	12	10	38.5	31.5	19	32	22	TECH 18/12L	160
	18	15	12	39.5	32.5	24	32	27	TECH 18/15L	160
	22	06	04	38.5	31.5	24	36	14	TECH 22/06L	160
	22	08	06	38.5	31.5	24	36	17	TECH 22/08L	160
	22	10	08	39.5	32.5	24	36	19	TECH 22/10L	160
	22	12	10	39.5	32.5	24	36	22	TECH 22/12L	160
	22	15	12	40.5	33.5	24	36	27	TECH 22/15L	160
	22	18	15	41.5	34.0	27	36	32	TECH 22/18L	160
	28	06	04	41.0	34.0	30	41	14	TECH 28/16L	100
	28	08	06	41.0	34.0	30	41	17	TECH 28/08L	100
	28	10	08	42.0	35.0	30	41	19	TECH 28/10L	100
	28	12	10	42.0	35.0	30	41	22	TECH 28/12L	100
	28	15	12	43.0	36.0	30	41	27	TECH 28/15L	100
	28	18	15	43.0	35.5	30	41	32	TECH 28/18L	100
	28	22	19	45.0	37.5	32	41	36	TECH 28/22L	100
	35	06	04	48.5	41.5	36	40	14	TECH 35/06L	100
	35	08	06	48.5	41.5	36	50	17	TECH 38/08L	100

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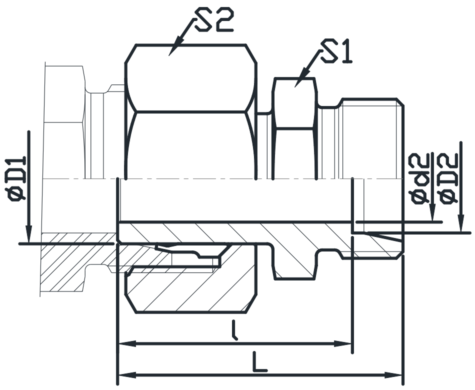
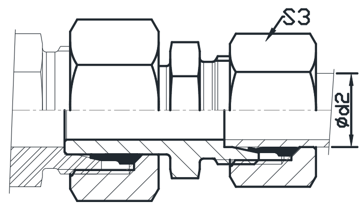
5, WP (Working Pressure).: 1 Mpa = 10 bar.

TECH - Tube End Coupling





SERIES	ØD1	ØD2	Ød2	L	l	S1	S2	S3	PART CODE	WP (bar)
L	35	10	08	49.5	42.5	36	50	19	TECH 35/10L	100
	35	12	10	49.5	42.5	36	50	22	TECH 35/12L	100
	35	15	12	50.5	43.5	36	50	27	TECH 35/15L	100
	35	18	15	50.5	43.0	36	50	32	TECH 35/18L	100
	35	22	19	52.5	45.0	36	50	36	TECH 35/22L	100
	35	28	24	52.5	45.0	41	50	41	TECH 35/28L	100
	42	10	08	52.5	45.5	46	60	19	TECH 42/10L	100
	42	12	10	52.5	45.5	46	60	22	TECH 42/12L	100
	42	15	12	53.5	46.5	46	60	27	TECH 42/15L	100
	42	18	15	53.5	46.0	46	60	32	TECH 42/18L	100
	42	22	19	55.5	48.0	46	60	36	TECH 42/22L	100
	42	28	24	55.5	48.0	46	60	41	TECH 42/28L	100
	42	35	30	57.5	47.0	46	60	50	TECH 42/35L	100
S	08	06	04	36.5	29.5	17	19	17	TECH 08/06S	630
	10	06	04	38.5	31.5	17	22	17	TECH 10/06S	630
	10	08	05	38.5	31.5	17	22	19	TECH 10/08S	630
	12	06	04	38.5	31.5	17	24	17	TECH 12/06S	630
	12	08	05	38.5	31.5	17	24	19	TECH 12/08S	630
	12	10	07	39.5	32.0	19	24	22	TECH 12/10S	630
	14	06	04	40.5	33.5	17	27	17	TECH 14/06S	630
	14	08	05	40.5	33.5	17	27	19	TECH 14/08S	630
	14	10	07	41.5	34.0	19	27	22	TECH 14/10S	630
	14	12	08	41.5	34.0	22	27	24	TECH 14/12S	630
	16	06	04	41.0	34.0	17	30	17	TECH 16/06S	400
	16	08	05	41.0	34.0	17	30	19	TECH 16/08S	400
	16	10	07	42.0	34.5	19	30	22	TECH 16/10S	400
	16	12	08	42.0	34.5	22	30	24	TECH 16/12S	400
	16	14	10	44.0	36.0	24	30	27	TECH 16/14S	400

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
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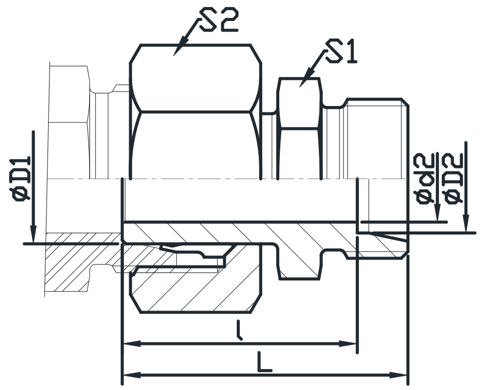
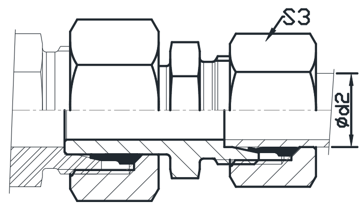
4, put suffix ‘X’ before part code if nut ferrule not required. (Ex: XTECH 22/15L)
5, WP (Working Pressure).: 1 Mpa = 10 bar.

TECH - Tube End Coupling

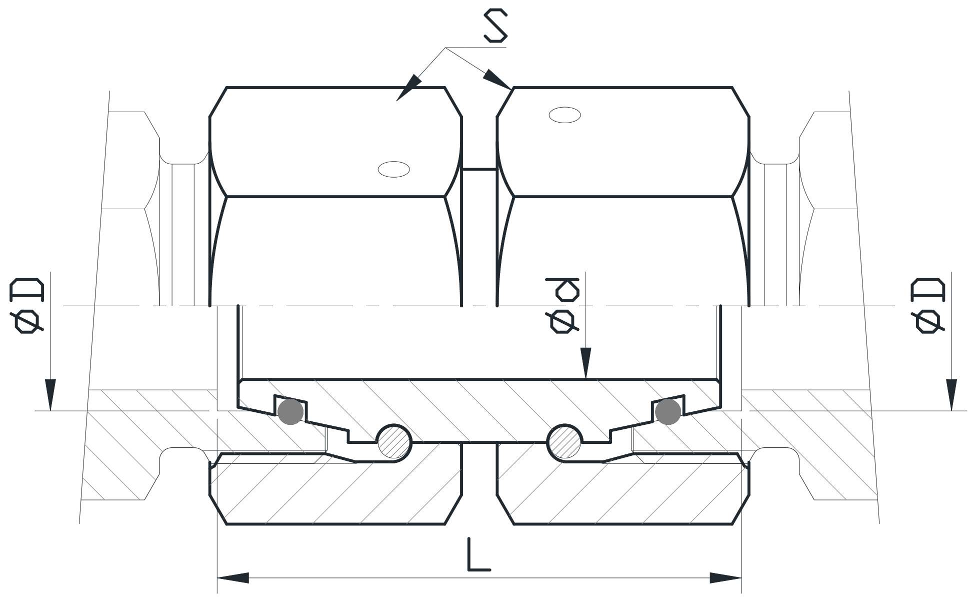




SERIES	ØD1	ØD2	Ød2	L	l	S1	S2	S3	PART CODE	WP (bar)
S	20	06	04	46.0	39.0	22	36	17	TECH 20/06S	400
	20	08	05	46.0	39.0	22	36	19	TECH 20/08S	400
	20	10	07	46.0	38.5	22	36	22	TECH 20/10S	400
	20	12	08	46.0	38.5	22	36	24	TECH 20/12S	400
	20	14	10	48.0	40.0	24	36	27	TECH 20/14S	400
	20	16	12	49.0	40.5	27	36	30	TECH 20/16S	400
	25	06	04	50.5	43.5	27	46	17	TECH 25/06S	400
	25	08	05	50.5	43.0	27	46	19	TECH 25/08S	400
	25	10	07	50.5	43.0	27	46	22	TECH 25/10S	400
	25	12	08	50.5	43.0	27	46	24	TECH 25/12S	400
	25	14	10	52.5	44.0	27	46	27	TECH 25/14S	400
	25	16	12	52.5	44.0	27	46	30	TECH 25/16S	400
	25	20	16	54.5	44.0	32	46	36	TECH 25/20S	400
	30	06	04	53.0	46.0	32	50	17	TECH 30/06S	400
	30	08	05	53.0	46.0	32	50	19	TECH 30/08S	400
	30	10	07	53.0	45.5	32	50	22	TECH 30/10S	400
	30	12	08	53.0	45.5	32	50	24	TECH 30/12S	400
	30	14	10	55.0	47.0	32	50	27	TECH 30/14S	400
	30	16	12	55.0	46.5	32	50	30	TECH 30/16S	400
	30	20	16	57.0	46.5	32	50	36	TECH 30/20S	400
	30	25	20	60.0	48.0	41	50	46	TECH 30/25S	400
	38	06	04	60.0	53.0	41	60	17	TECH 38/06S	250
	38	08	05	60.0	53.0	41	60	19	TECH 38/08S	250
	38	10	07	60.0	52.5	41	60	22	TECH 38/10S	250
	38	12	08	60.0	52.5	41	60	24	TECH 38/12S	250
	38	14	10	62.0	54.0	41	60	27	TECH 38/14S	250
	38	16	12	62.0	53.5	41	60	30	TECH 38/16S	250
	38	20	16	64.0	53.5	41	60	36	TECH 38/20S	250
	38	25	20	66.0	54.0	41	60	46	TECH 38/25S	250
	38	30	25	69.0	55.5	46	60	50	TECH 38/30S	250

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, put suffix ‘X’ before part code if nut ferrule not required. (Ex: XTECH 30/25S)
5, WP (Working Pressure).: 1 Mpa = 10 bar.

TWSU - Thrust Wired Swivel Union

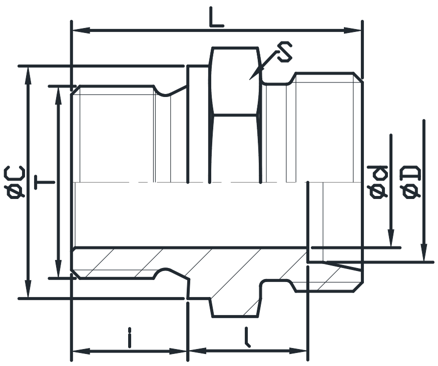


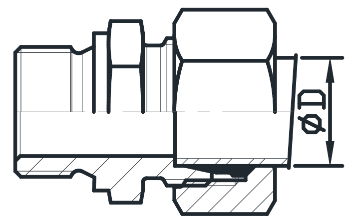
SERIES	ØD	Ød	L	S	PART CODE	WP (bar)
	06	2.5	33	14	TWSU 06L	250
	08	4.0	33	17	TWSU 08L	250
	10	6.0	34	19	TWSU 10L	250
	12	8.0	34	22	TWSU 12L	250
L	15	10.0	39	27	TWSU 15L	250
	18	13.0	38	32	TWSU 18L	160
	22	17.0	44	36	TWSU 22L	160
	28	22.0	48	41	TWSU 28L	100
	35	28.0	52	50	TWSU 35L	100
	42	34.0	57	60	TWSU 42L	100
	06	2.5	33	17	TWSU 06S	630
	08	4.0	34	19	TWSU 08S	630
	10	6.0	35	22	TWSU 10S	630
	12	8.0	38	24	TWSU 12S	630
S	14	9.0	41	27	TWSU 14S	630
	16	11.0	42	30	TWSU 16S	400
	20	14.0	48	36	TWSU 20S	400
	25	18.0	53	46	TWSU 25S	400
	30	23.0	62	50	TWSU 30S	250
	38	30.0	67	60	TWSU 38S	250

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, WP (Working Pressure).: 1 Mpa = 10 bar.

SS - R - Straight Stud Connector

Male BSPP Port End Connection (Type 'A' or 'B' Sealing)



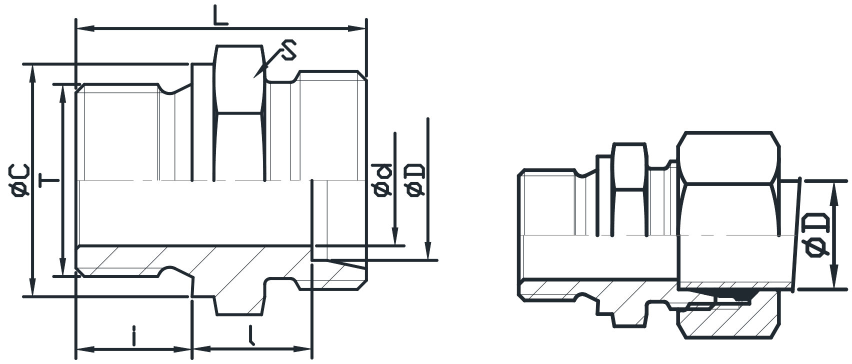


SERIES	ØD	Ød	T	ØC	i	L	l	S	PART CODE	WP (bar)
	06	4	G1/8"	14	8	23.5	8.5	14	SS 06LR	250
	06	4	G1/4"	18	12	29.0	10.0	19	SS 06LR 1/4"	250
	06	4	G3/8"	22	12	30.5	11.5	22	SS 06LR 3/8"	250
	06	4	G1/2"	26	14	33.0	12.0	27	SS 06LR 1/2"	250
	08	6	G1/4"	18	12	29.0	10.0	19	SS 08LR	250
	08	4	G1/8"	14	8	24.5	8.5	17	SS 08LR 1/8"	250
	08	6	G3/8"	22	12	30.5	11.5	22	SS 08LR 3/8"	250
	08	6	G1/2"	26	14	33.0	12.0	27	SS 08LR 1/2"	250
	10	6	G1/4"	18	12	30.0	11.0	19	SS 10LR	250
	10	4	G1/8"	14	8	25.5	10.5	17	SS 10LR 1/8"	250
	10	8	G3/8"	22	12	31.5	12.5	22	SS 10LR 3/8"	250
	10	8	G1/2"	26	14	34.0	13.0	27	SS 10LR 1/2"	250
	12	9	G3/8"	22	12	31.5	12.5	22	SS 12LR	250
	12	4	G1/8"	14	8	26.5	11.5	19	SS 12LR 1/8"	250
L	12	6	G1/4"	18	12	31.0	12.0	19	SS 12LR 1/4"	250
	12	10	G1/2"	26	14	34.0	13.0	27	SS 12LR 1/2"	250
	12	10	G3/4"	32	16	37.0	14.0	32	SS 12LR 3/4"	250
	15	11	G1/2"	26	14	35.0	14.0	27	SS 15LR	250
	15	9	G3/8"	22	12	32.5	13.5	24	SS 15LR 3/8"	250
	15	12	G3/4"	32	16	38.0	15.0	32	SS 15LR 3/4"	250
	18	14	G1/2"	26	14	36.0	14.5	27	SS 18LR	160
	18	9	G3/8"	22	12	33.5	14.0	27	SS 18LR 3/8"	160
	18	15	G3/4"	32	16	38.0	14.5	32	SS 18LR 3/4"	160
	22	18	G3/4"	32	16	40.0	16.5	32	SS 22LR	160
	22	14	G1/2"	26	14	38.0	16.5	32	SS 22LR 1/2"	160
	22	19	G1"	39	18	43.0	17.5	41	SS 22LR 1"	100
	28	23	G1"	39	18	43.0	17.5	41	SS 28LR	100
	28	14	G1/2"	26	14	39.0	17.5	41	SS 28LR 1/2"	100
	28	18	G3/4"	32	16	41.0	17.5	41	SS 28LR 3/4"	100
	28	24	G1¼"	50	20	46.0	18.3	50	SS 28LR 1¼"	100

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, put suffix 'X' before part code if nut ferrule not required. (Ex: XSS 28LR 1/2")
4, WP (Working Pressure).: 1 Mpa = 10 bar.

SS - R - Straight Stud Connector

Male BSPP Port End Connection (Type 'A' or 'B' Sealing)

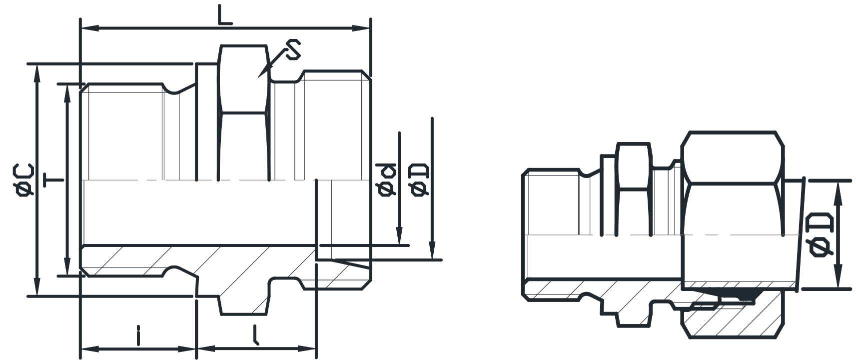


SERIES	ØD	Ød	T	ØC	i	L	l	S	PART CODE	WP (bar)
L	35	30	G1¼"	49	20	48.0	17.5	50	SS 35LR	100
	35	14	G1/2"	26	14	42.0	17.5	46	SS 35LR 1/2"	100
	35	18	G3/4"	32	16	44.0	17.5	46	SS 35LR 3/4"	100
	35	23	G1"	39	18	46.0	17.5	46	SS 035LR 1"	100
	35	30	G1½"	55	22	52.0	19.5	55	SS 35LR 1 1/2"	100
	42	36	G1½"	55	22	52.0	19.0	55	SS 42LR	100
	42	23	G1"	39	18	48.0	19.0	55	SS 42LR 1"	100
	42	30	G1¼"	49	20	50.0	19.0	55	SS 42LR 1 1/4"	100

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, put suffix 'X' before part code if nut ferrule not required. (Ex: XSS 35LR 1/2")
4, WP (Working Pressure).: 1 Mpa = 10 bar.

SS - R - Straight Stud Connector

Male BSPP Port End Connection (Type 'A' or 'B' Sealing)



SERIES	ØD	Ød	T	ØC	i	L	l	S	PART CODE	WP (bar)
S	06	4	G1/4”	18	12	32.0	13.0	19	SS 06SR	630
	06	3	G1/8”	14	8	27.5	12.5	14	SS 06SR 1/8"	630
	06	4	G3/8”	22	12	34.5	15.5	22	SS 06SR 3/8"	630
	06	4	G1/2”	26	14	39.0	18.0	27	SS 06SR 1/2"	630
	08	5	G1/4”	18	12	34.0	15.0	19	SS 08SR	630
	08	5	G3/8”	22	12	34.5	15.5	22	SS 08SR 3/8"	630
	08	5	G1/2”	26	14	39.0	18.0	27	SS 08SR 1/2"	630
	10	7	G3/8”	22	12	34.5	15.0	22	SS 10SR	630
	10	5	G1/4”	18	12	34.0	14.5	19	SS 10SR 1/4"	630
	10	7	G1/2”	26	14	39.0	17.5	27	SS 10SR 1/2"	630
	12	8	G3/8”	22	12	36.5	17.0	22	SS 12SR	630
	12	5	G1/4”	18	12	36.0	16.5	22	SS 12SR 1/4"	630
	12	8	G1/2”	26	14	39.0	17.5	27	SS 12SR 1/2"	630
	14	10	G1/2”	26	14	41.0	19.0	27	SS 14SR	630
	14	8	G3/8”	22	12	38.5	18.5	24	SS 14SR 3/8"	630
	16	12	G1/2”	26	14	41.0	18.5	27	SS 16SR	400
	16	8	G3/8”	22	12	38.5	18.0	27	SS 16SR 3/8"	400
	16	12	G3/4”	32	16	45.0	20.5	32	SS 16SR 3/4"	400
	20	16	G3/4”	32	16	47.0	20.5	32	SS 20SR	400
	20	12	G1/2”	26	14	45.0	20.5	32	SS 20SR 1/2"	400
	20	16	G1”	39	18	51.0	22.5	41	SS 20SR 1"	400
	20	16	G1¼”	49	20	53.0	22.5	50	SS 20SR 1¼"	250
	25	20	G1”	39	18	53.0	23.0	41	SS 25SR	400
	25	16	G3/4”	32	16	51.0	23.0	41	SS 25SR 3/4"	400
	25	20	G1¼”	49	20	55.0	23.0	50	SS 25SR 1¼"	250
	30	25	G1¼”	49	20	57.0	23.5	50	SS 30SR	250
	30	20	G1”	39	18	55.0	23.5	46	SS 30SR 1"	250
	38	32	G1½”	55	22	64.0	26.0	55	SS 38SR	250
	38	25	G1¼”	49	20	62.0	26.0	55	SS 38SR 1¼"	250

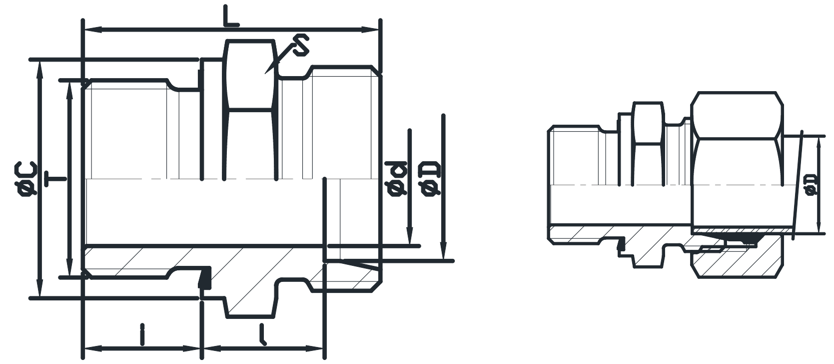
1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, S: High Pressure Working Series.
3, put suffix 'X' before part code if nut ferrule not required. (Ex: XSS 20SR 1/2")
4, WP (Working Pressure).: 1 Mpa = 10 bar.

SS - R - ED - Straight Stud Connector

Male BSPP Port End Connection (With ED Seal)

24^{0} Fittings

Gem Engineering Industries (India) Pvt. Ltd.

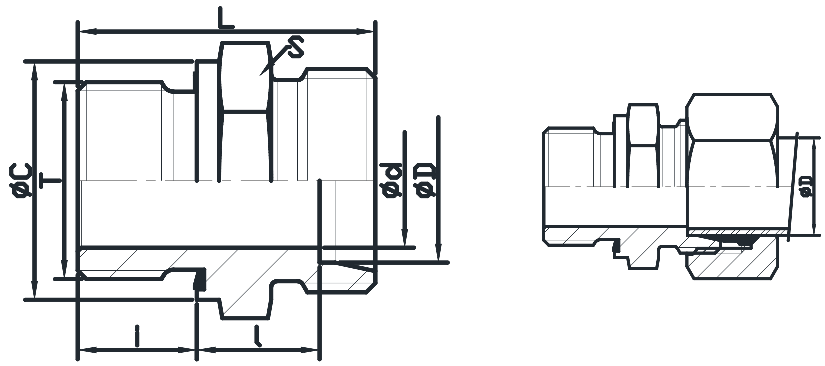


SERIES	ØD	Ød	T	ØC	i	L	l	S	PART CODE	WP (bar)
	06	4	G1/8”	14	8	23.5	8.5	14	SS 06LR -ED	250
	06	4	G1/4”	19	12	29.0	10.0	19	SS 06LR 1/4" -ED	250
	06	4	G3/8”	22	12	30.5	11.5	22	SS 06LR 3/8" -ED	250
	06	4	G1/2”	27	14	33.0	12.0	27	SS 06LR 1/2" -ED	250
	08	6	G1/4”	19	12	29.0	10.0	19	SS 08LR-ED	250
	08	4	G1/8”	14	8	24.5	9.5	17	SS 08LR 1/8" -ED	250
	08	6	G3/8”	22	12	30.5	11.5	22	SS 08LR 3/8" -ED	250
	08	6	G1/2”	27	14	33.0	12.0	27	SS 08LR 1/2" -ED	250
	10	6	G1/4”	19	12	30.0	11.0	19	SS 10LR -ED	250
	10	4	G1/8”	14	8	25.5	10.5	17	SS 10LR 1/8" -ED	250
	10	8	G3/8”	22	12	31.5	12.5	22	SS 10LR 3/8" -ED	250
	10	8	G1/2”	27	14	34.0	13.0	27	SS 10LR 1/2" -ED	250
	12	9	G3/8”	22	12	31.5	12.5	22	SS 12LR -ED	250
	12	4	G1/8”	14	8	26.5	11.5	19	SS 12LR 1/8" -ED	250
L	12	6	G1/4”	19	12	31.0	12.0	19	SS 12LR 1/4" -ED	250
	12	10	G1/2”	27	14	34.0	13.0	27	SS 12LR 1/2" -ED	250
	12	10	G3/4”	32	16	37.0	14.0	32	SS 12LR 3/4" -ED	250
	15	11	G1/2”	27	14	35.0	14.0	27	SS 15LR -ED	250
	15	9	G3/8”	22	12	32.5	13.5	24	SS 15LR 3/8" -ED	250
	15	12	G3/4”	32	16	38.0	15.0	32	SS 15LR 3/4" -ED	250
	18	14	G1/2”	27	14	36.0	14.5	27	SS 18LR -ED	160
	18	9	G3/8”	22	12	33.5	14.0	27	SS 18LR 3/8" -ED	160
	18	15	G3/4”	32	16	38.0	14.5	32	SS 18LR 3/4" -ED	160
	22	18	G3/4”	32	16	40.0	16.5	32	SS 22LR -ED	160
	22	14	G1/2”	27	14	38.0	16.5	32	SS 22LR 1/2" -ED	160
	22	19	G1”	40	18	43.0	17.5	41	SS 22LR 1" -ED	100
	28	23	G1”	40	18	43.0	17.5	41	SS 28LR -ED	100
	28	18	G3/4”	32	16	41.0	17.5	41	SS 28LR 3/4" -ED	100
	28	24	G1 1/4”	50	20	46.0	18.5	41	SS 28LR 1 1/4 " -ED	100
	35	30	G1 1/4”	50	20	48.0	17.5	50	SS 35LR -ED	100

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, put suffix ‘X’ before part code if nut ferrule not required. (Ex: XSS 22LR 1/2" -ED)
4, WP (Working Pressure).: 1 Mpa = 10 bar.

SS - R - ED - Straight Stud Connector

Male BSPP Port End Connection (With ED Seal)

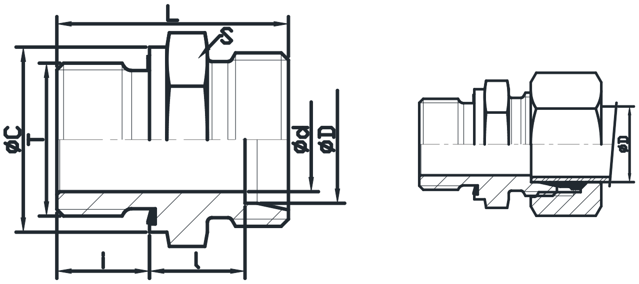


SERIES	ØD	Ød	T	ØC	i	L	l	S	PART CODE	WP (bar)
L	35	23	G1"	40	18	46.0	17.5	46	SS 35LR 1" -ED	100
	35	30	G1½"	55	22	52.0	19.5	55	SS 35LR 1½" -ED	100
	42	36	G1½"	55	22	52.0	19.0	55	SS 42LR -ED	100
	42	23	G1"	40	18	48.0	19.0	55	SS 42LR 1" -ED	100
	42	30	G1¼"	50	20	50.0	19.0	55	SS 42LR 1¼" -ED	100

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, put suffix 'X' before part code if nut ferrule not required. (Ex: XSS 22LR 1/2" -ED)
4, WP (Working Pressure).: 1 Mpa = 10 bar.

SS - R - ED - Straight Stud Connector

Male BSPP Port End Connection (With ED Seal)

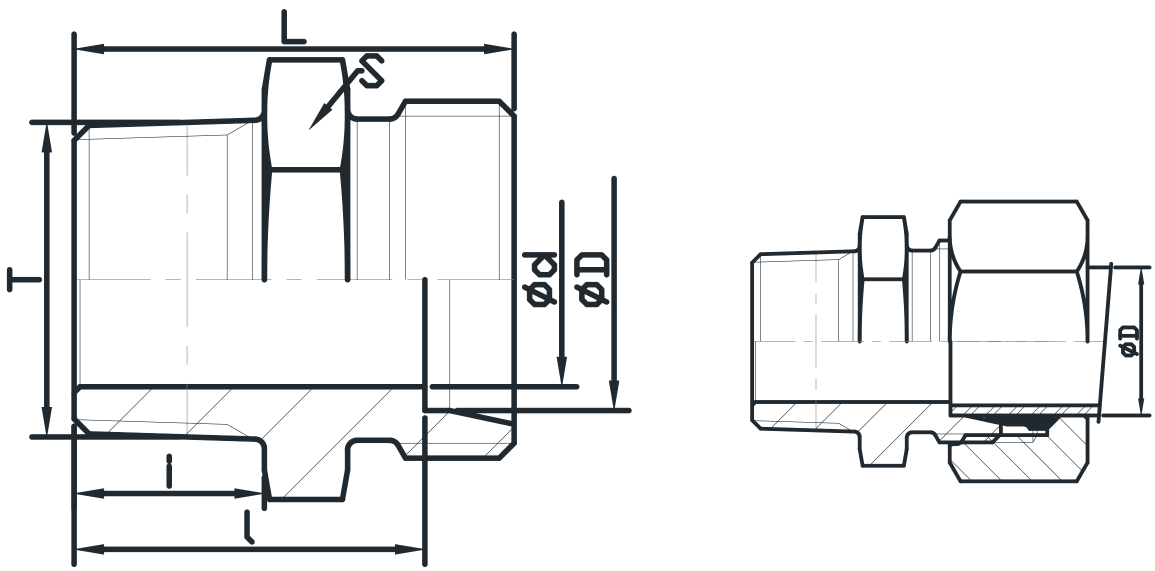


SERIES	ØD	Ød	T	ØC	i	L	l	S	PART CODE	WP (bar)
	06	4	G1/4”	19	12	32.0	13.0	19	SS 06SR -ED	630
	06	4	G1/8”	14	8	27.5	12.5	14	SS 06SR 1/8" -ED	630
	06	4	G3/8”	22	12	34.5	15.5	22	SS 06SR 3/8" -ED	630
	06	4	G1/2”	27	14	39.0	18.0	27	SS 06SR 1/2" -ED	630
	08	5	G1/4”	19	12	34.0	15.0	19	SS 08SR -ED	630
	08	5	G3/8”	22	12	34.5	15.5	22	SS 08SR 3/8" -ED	630
	08	5	G1/2”	27	14	39.0	18.0	27	SS 08SR 1/2" -ED	630
	10	7	G3/8”	22	12	34.5	15.0	22	SS 10SR -ED	630
	10	5	G1/4”	19	12	34.0	14.5	19	SS 10SR 1/4" -ED	630
	10	7	G1/2”	27	14	39.0	17.5	27	SS 10SR 1/2" -ED	630
	12	8	G3/8”	22	12	36.5	17.0	22	SS 12SR -ED	630
	12	5	G1/4”	19	12	36.0	16.5	22	SS 12SR 1/4" -ED	630
	12	8	G1/2”	27	14	39.0	17.5	27	SS 12SR 1/2" -ED	630
	14	10	G1/2”	27	14	41.0	19.0	27	SS 14SR -ED	630
S	14	8	G3/8”	22	12	38.5	18.5	24	SS 14SR 3/8" -ED	630
	14	10	G3/4”	32	16	45.0	21.0	32	SS 14SR 3/4" -ED	400
	16	12	G1/2”	27	14	41.0	18.5	27	SS 16SR -ED	400
	16	8	G3/8”	22	12	38.5	18.0	27	SS 16SR 3/8" -ED	400
	16	12	G3/4”	32	16	45.0	20.5	32	SS 16SR 3/4" -ED	400
	20	16	G3/4”	32	16	47.0	20.5	32	SS 20SR -ED	400
	20	12	G1/2”	27	14	45.0	20.5	32	SS 20SR 1/2" -ED	400
	20	16	G1”	40	18	51.0	22.5	41	SS 20SR 1" -ED	400
	20	16	G1 1/4”	50	20	53.0	22.5	50	SS 20SR 1 1/4" -ED	250
	25	20	G1”	40	18	53.0	23.0	41	SS 25SR -ED	400
	25	12	G1/2”	27	14	49.0	23.0	41	SS 25SR 1/2" -ED	400
	25	16	G3/4”	32	16	51.0	23.0	41	SS 25SR 3/4" -ED	400
	25	20	G1 1/4”	50	20	55.0	23.0	50	SS 25SR 1 1/4" -ED	250
	25	20	G1 1/2”	55	22	60.0	26.0	55	SS 25SR 1 1/2" -ED	250
	30	25	G1 1/4”	50	20	57.0	23.5	50	SS 30SR -ED	250
	30	20	G1”	40	18	55.0	23.5	46	SS 30SR 1" -ED	250
	30	25	G1 1/2”	55	22	62.0	26.5	55	SS 30SR 1 1/2" -ED	250
	38	32	G1 1/2”	55	22	64.0	26.0	55	SS 38SR -ED	250
	38	25	G1 1/4”	50	20	62.0	26.0	55	SS 38SR 1 1/4" -ED	250

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, S: High Pressure Working Series.
3, put suffix ‘X’ before part code if nut ferrule not required. (Ex: XSS 20SR 1/2" -ED)
4, WP (Working Pressure).: 1 Mpa = 10 bar.

SS - RT - Straight Stud Connector

Male BSPT Taper Port End Connection



SERIES	ØD	Ød	T	i	L	l	S	PART CODE	WP (bar)
	06	4	G1/8”	8	22	15.0	14	SS 06LRT 1/8"	250
	06	4	G1/4”	12	27	20.0	17	SS 06LRT 1/4"	250
	08	4	G1/8”	8	23	16.0	17	SS 08LRT 1/8"	250
	08	6	G1/4”	12	27	20.0	17	SS 08LRT 1/4"	250
	10	7	G1/4”	12	28	21.0	17	SS 10LRT 1/4"	250
	12	7	G1/4”	12	29	22.0	19	SS 12LRT 1/4"	250
	12	9	G3/8”	12	29	22.0	19	SS 12LRT 3/8"	250
L	12	10	G1/2”	14	31	24.0	24	SS 12LRT 1/2"	250
	15	9	G3/8”	12	30	23.0	24	SS 15LRT 3/8"	250
	15	11	G1/2”	14	32	25.0	24	SS 15LRT 1/2"	250
	18	14	G1/2”	14	33	25.5	27	SS 18LRT 1/2"	160
	22	17	G3/4”	16	37	29.5	32	SS 22LRT 3/4"	160
	28	23	G1”	18	40	32.5	41	SS 28LRT 1"	100
	35	30	G1¼”	20	45	34.5	46	SS 35LRT 1 1/4"	100
	42	36	G1½”	22	49	38.0	55	SS 42LRT 1 1/2"	100

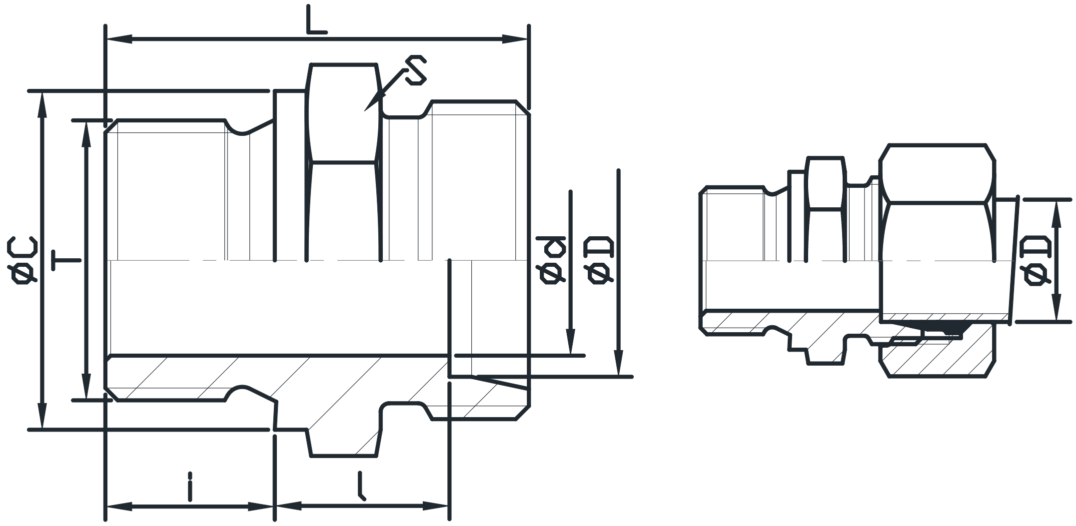
1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, put suffix ‘X’ before part code if nut ferrule not required. (Ex: XSS 18LRT 1/2")
4, WP (Working Pressure).: 1 Mpa = 10 bar.

SS - M - Straight Stud Connector

Male Metric Port End Connection (Type 'A' or 'B' Sealing)

24^0 Fittings

Gem Engineering Industries (India) Pvt. Ltd.



SERIES	ØD	Ød	T	ØC	i	L	l	S	PART CODE	WP (bar)
L	06	4	M10x1.0	14	8	23.5	8.5	14	SS 06LM	250
	08	6	M12x1.5	17	12	29.0	10.0	17	SS 08LM	250
	10	7	M14x1.5	19	12	30.0	11.0	19	SS 10LM	250
	10	4	M10x1.0	14	8	25.5	10.5	17	SS 10LM10x1.0	250
	10	6	M12x1.5	17	12	30.0	11.0	17	SS 10LM12x1.5	250
	10	8	M16x1.5	21	12	31.5	12.0	22	SS 10LM16x1.5	250
	10	8	M18x1.5	23	12	31.5	12.5	24	SS 10LM18x1.5	250
	10	8	M22x1.5	27	14	35.0	14.0	27	SS 10LM22x1.5	250
	12	7	M14x1.5	19	12	30.0	11.0	19	SS 12LM14x1.5	250
	12	9	M16x1.5	21	12	31.5	12.5	22	SS 12LM	250
	12	10	M18x1.5	23	12	31.5	12.5	24	SS 12LM18x1.5	250
	12	10	M22x1.5	27	14	35.0	14.0	27	SS 12LM22x1.5	250
	15	9	M16x1.5	21	12	32.0	13.0	24	SS 15LM16x1.5	250
	15	11	M18x1.5	23	12	32.5	13.5	24	SS 15LM	250
	15	12	M22x1.5	27	14	36.0	15.0	27	SS 15LM22x1.5	250
	18	11	M18x1.5	23	12	33.5	14.0	27	SS 18LM18x1.5	160
	18	14	M22x1.5	27	14	36.0	14.5	27	SS 18LM	160
	22	14	M22x1.5	27	14	38.0	16.5	32	SS 22LM22x1.5	160
	22	18	M26x1.5	31	16	40.0	16.5	32	SS 22LM	160
	28	23	M33x2.0	39	18	43.0	17.5	41	SS 28LM	100
	35	30	M42x2.0	49	20	48.0	17.5	50	SS 35LM	100
	42	36	M48x2.0	55	22	52.0	19.0	55	SS 42LM	100

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, put suffix 'X' before part code if nut ferrule not required. (Ex: XSS 22LM22x1.5)
4, WP (Working Pressure).: 1 Mpa = 10 bar.

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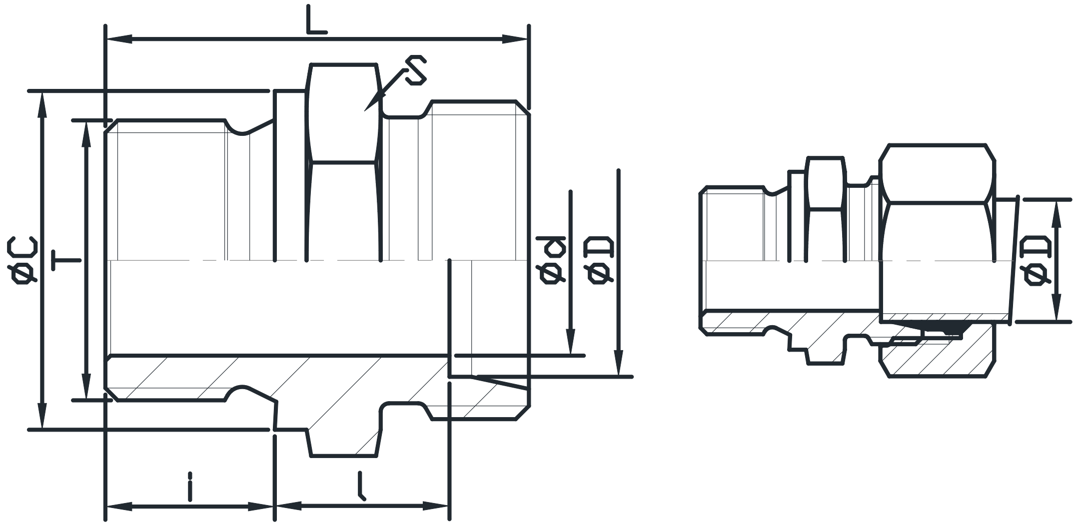
SS - M - Straight Stud Connector

Male Metric Port End Connection (Type 'A' or 'B' Sealing)

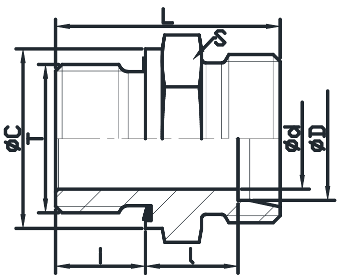


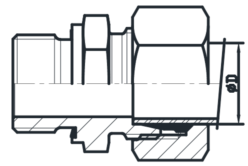
SERIES	ØD	Ød	T	ØC	i	L	l	S	PART CODE	WP (bar)
S	06	4	M12x1.5	17	12	32.0	13.0	17	SS 06SM	630
	06	4	M14x1.5	19	12	34.0	15.0	19	SS 06SM14x1.5	630
	08	5	M14x1.5	19	12	34.0	15.0	19	SS 08SM	630
	10	7	M16x1.5	21	12	34.5	15.0	22	SS 10SM	630
	12	8	M18x1.5	23	12	36.5	17.0	24	SS 12SM	630
	12	5	M14x1.5	19	12	36.0	16.5	22	SS 12SM14x1.5	630
	12	8	M22x1.5	27	14	39.0	17.5	27	SS 12SM22x1.5	630
	14	10	M20x1.5	25	14	41.0	19.0	27	SS 14SM	630
	16	8	M18x1.5	23	12	38.5	18.0	27	SS 16SM18x1.5	400
	16	12	M22x1.5	27	14	41.0	18.5	27	SS 16SM	400
	20	16	M27x2.0	32	16	47.0	20.5	32	SS 20SM	400
	25	20	M33x2.0	39	18	53.0	23.0	41	SS 25SM	400
	30	25	M42x2.0	49	20	57.0	23.5	50	SS 30SM	250
	38	32	M48x2.0	55	22	64.0	26.0	55	SS 38SM	250

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, S: High Pressure Working Series.
3, put suffix 'X' before part code if nut ferrule not required. (Ex: XSS 16SM18x1.5)
4, WP (Working Pressure).: 1 Mpa = 10 bar.

SS - M - ED - Straight Stud Connector

Male Metric Port End Connection (With ED Seal)



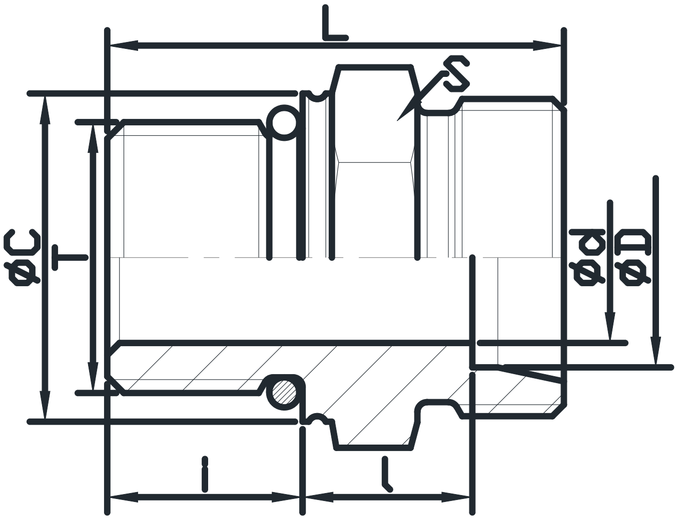


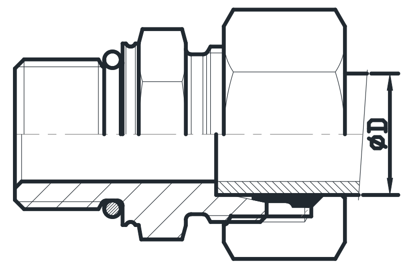
SERIES	ØD	Ød	T	ØC	i	L	l	S	PART CODE	WP (bar)
L	06	4	M10x1.0	14	8	23.5	8.5	14	SS 06LM -ED	250
	08	6	M12x1.5	17	12	29.0	10.0	17	SS 08LM -ED	250
	10	7	M14x1.5	19	12	30.0	11.0	19	SS 10LM -ED	250
	10	6	M12x1.5	17	12	30.0	11.0	17	SS 10LM12x1.5 -ED	250
	10	8	M16x1.5	22	12	31.5	12.5	22	SS 10LM16x1.5 -ED	250
	10	8	M18x1.5	24	12	31.5	12.5	24	SS 10LM18x1.5 -ED	250
	10	8	M22x1.5	27	14	35.0	14.0	27	SS 10LM22x1.5 -ED	250
	12	9	M16x1.5	22	12	31.5	12.5	22	SS 12LM -ED	250
	12	7	M14x1.5	19	12	30.0	11.0	19	SS 12LM14x1.5 -ED	250
	12	10	M18x1.5	24	12	31.5	12.5	24	SS 12LM18x1.5 -ED	250
	12	10	M22x1.5	27	14	35.0	14.0	27	SS 12LM22x1.5 -ED	250
	15	11	M18x1.5	24	12	32.5	13.5	24	SS 15LM -ED	250
	15	9	M16x1.5	22	12	32.0	13.0	24	SS 15LM16x1.5 -ED	250
	15	12	M22x1.5	27	14	36.0	15.0	27	SS 15LM22x1.5 -ED	250
	18	14	M22x1.5	27	14	36.0	14.5	27	SS 18LM -ED	160
	18	11	M18x1.5	24	12	33.5	14.0	27	SS 18LM18x1.5 -ED	160
	22	18	M26x1.5	32	16	40.0	16.5	32	SS 22LM -ED	160
	22	14	M22x1.5	32	14	38.0	16.5	32	SS 22LM22x1.5 -ED	160
	28	23	M33x2.0	40	18	43.0	17.5	41	SS 28LM -ED	100
	35	30	M42x2.0	50	20	48.0	17.5	50	SS 35LM -ED	100
	42	36	M48x2.0	55	22	52.0	19.0	55	SS 42LM -ED	100
S	06	4	M12x1.5	17	12	32.0	13.0	17	SS 06SM -ED	630
	08	5	M14x1.5	19	12	34.0	15.0	19	SS 08SM -ED	630
	10	7	M16x1.5	22	12	34.5	15.0	22	SS 10SM -ED	630
	12	8	M18x1.5	24	12	36.5	17.0	24	SS 12SM -ED	630
	12	5	M14x1.5	19	12	36.0	16.5	22	SS 12SM14x1.5 -ED	630
	12	8	M22x1.5	27	14	39.0	17.5	27	SS 12SM22x1.5 -ED	630
	14	10	M20x1.5	26	14	41.0	19.0	27	SS 14SM -ED	630
	16	12	M22x1.5	27	14	41.0	18.5	27	SS 16SM -ED	400
	16	8	M18x1.5	24	12	38.5	18.0	27	SS 16SM18x1.5 -ED	400
	20	16	M27x2.0	32	16	47.0	20.5	32	SS 20SM -ED	400
	25	20	M33x2.0	40	18	53.0	23.0	41	SS 25SM -ED	400
	30	25	M42x2.0	50	20	57.0	23.5	50	SS 30SM -ED	250
	38	32	M48x2.0	55	22	64.0	26.0	55	SS 38SM -ED	250

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, put suffix ‘X’ before part code if nut ferrule not required. (Ex: XSS 16SM18x1.5 -ED)
5, WP (Working Pressure).: 1 Mpa = 10 bar.

SS - M - O - Straight Stud Connector

Male Metric Port End Connection (With ‘O’ Ring Seal)



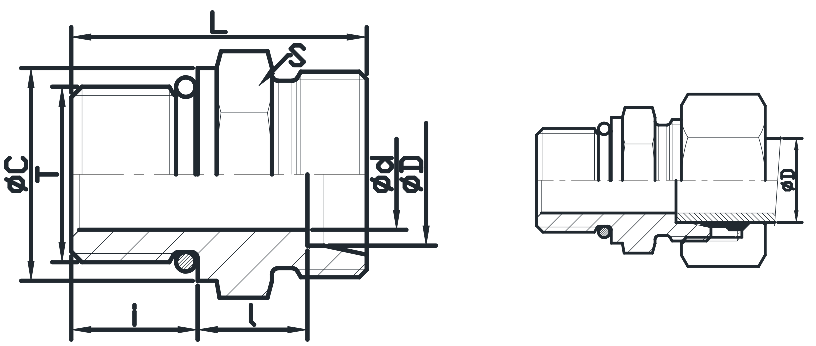


SERIES	ØD	Ød	T	ØC	i	L	l	S	PART CODE	WP (bar)
L	06	4.5	M10x1.0	14	8.5	24.0	8.5	14	SS 06LM -O	250
	08	6.0	M12x1.5	17	11.0	28.0	10.0	17	SS 08LM -O	250
	10	7.5	M14x1.5	19	11.0	29.0	11.0	19	SS 10LM -O	250
	12	9.0	M16x1.5	22	11.5	31.0	12.5	22	SS 12LM -O	250
	15	11.0	M18x1.5	24	12.5	33.0	13.5	24	SS 15LM -O	250
	18	14.0	M22x1.5	27	13.0	35.0	14.5	27	SS 18LM -O	160
	22	18.0	M27x2.0	32	16.0	40.0	16.5	32	SS 22LM27x2.0 -O	160
	28	23.0	M33x2.0	41	16.0	41.0	17.5	41	SS 28LM -O	100
	35	30.0	M42x2.0	50	16.0	44.0	17.5	50	SS 35LM -O	100
	42	36.0	M48x2.0	55	17.5	47.5	19.0	55	SS 42LM -O	100
S	06	4.0	M12x1.5	17	11.0	31.0	13.0	17	SS 06SM -O	630
	08	6.0	M14x1.5	19	11.0	33.0	15.0	19	SS 08SM -O	630
	10	7.0	M16x1.5	22	12.5	35.0	15.0	22	SS 10SM -O	630
	12	9.0	M18x1.5	24	14.0	38.5	17.0	24	SS 12SM -O	630
	16	12.0	M22x1.5	27	15.0	42.0	18.5	27	SS 16SM -O	400
	20	15.0	M27x2.0	32	18.5	49.5	20.5	32	SS 20SM -O	400
	25	20.0	M33x2.0	41	18.5	53.5	23.0	41	SS 25SM -O	400
	30	26.0	M42x2.0	50	19.0	56.0	23.5	50	SS 30SM -O	250
	38	32.0	M48x2.0	55	21.5	63.5	26.0	55	SS 38SM -O	250

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, put suffix ‘X’ before part code if nut ferrule not required. (Ex: XSS 16SM -O)
5, WP (Working Pressure).: 1 Mpa = 10 bar.

SS - UNF / UN - O - Straight Stud Connector

Male UNF/UN Port End Connection (With 'O' Ring Seal)

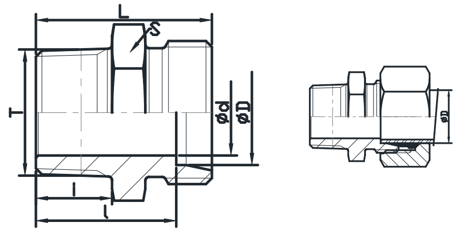


SERIES	ØD	Ød	T	ØC	i	L	l	S	PART CODE	WP (bar)
L	08	5	7/16-20UNF-2A	-	9.0	26	10.0	17	SS 08L7/16UNF-O	250
	10	5	7/16-20UNF-2A	-	9.0	27	11.0	17	SS 10L7/16UNF-O	250
	12	7	9/16-18UNF-2A	-	10.0	28	11.0	19	SS 12L9/16UNF-O	250
	12	10	3/4-16UNF-2A	-	11.0	31	13.0	24	SS 12L3/4UNF-O	250
	12	10	7/8-14UNF-2A	-	12.7	34	14.3	27	SS 12L7/8UNF-O	250
	15	11	3/4-16UNF-2A	-	11.0	32	14.0	24	SS 15L3/4UNF-O	250
	15	12	7/8-14UNF-2A	-	12.7	35	15.3	27	SS 15L7/8UNF-O	250
	18	11	3/4-16UNF-2A	23.9	11.0	33	14.5	27	SS 18L3/4UNF-O	160
	18	14	7/8-14UNF-2A	-	12.7	35	14.8	27	SS 18L7/8UNF-O	160
	22	14	7/8-14UNF-2A	26.9	12.7	37	16.8	32	SS 22L7/8UNF-O	160
	22	18	1 1/16-12UN-2A	-	15.0	39	16.5	32	SS 22L1 1/16UNF-O	160
	22	19	1 5/16-12UN-2A	-	15.0	40	17.5	41	SS 22L1 5/16UNF-O	160
	28	18	1 1/16-12UN-2A	33.3	15.0	40	17.5	41	SS 28L1 1/16UN-O	100
	28	23	1 5/16-12UN-2A	-	15.0	40	17.5	41	SS 28L1 5/16UN-O	100
	35	23	1 5/16-12UN-2A	39.6	15.0	43	17.5	46	SS 35L1 5/16UN-O	100
	35	29	1 5/8-12UN-2A	-	15.0	43	17.5	50	SS 35L1 5/8UN-O	100
	42	29	1 5/8-12UN-2A	47.7	15.0	45	19.0	55	SS 42L1 5/8UN-O	100
S	08	4	7/16-20UNF-2A	-	11.0	31	13.0	17	SS 08S7/16UNF-O	630
	10	6	9/16-18UNF-2A	-	12.0	32	12.5	19	SS 10S9/16UNF-O	630
	12	6	9/16-18UNF-2A	19.0	12.0	32	12.5	22	SS 12S9/16UNF-O	630
	12	8	3/4-16UNF-2A	-	14.0	36	14.5	24	SS 12S3/4UNF-O	630
	16	10	3/4-16UNF-2A	-	14.0	35	12.5	24	SS 16S3/4UNF-O	400
	16	12	7/8-14UNF-2A	-	16.0	40	15.5	27	SS 16S7/8UNF-O	400
	20	10	3/4-16UNF-2A	23.9	14.0	42	17.5	32	SS 20S3/4UNF-O	400
	20	12	7/8-14UNF-2A	26.9	16.0	44	17.5	32	SS 20S7/8UNF-O	400
	20	16	1 1/16-12UN-2A	-	18.5	46	17.0	32	SS 20S1 1/16UN-O	400
	25	16	1 1/16-12UN-2A	33.3	18.5	50	19.5	36	SS 25S1 1/16UN-O	400
	25	20	1 5/16-12UN-2A	-	18.5	50	19.5	41	SS 25S1 5/16UN-O	400
	30	20	1 5/16-12UN-2A	39.6	18.5	52	20.0	46	SS 30S1 5/16UN-O	400
	30	24	1 5/8-12UN-2A	-	18.5	52	20.0	50	SS 30S1 5/16UN-O	400
	38	24	1 5/8-12UN-2A	47.7	18.5	57	22.5	60	SS 38S1 5/8UN-O	250

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, put suffix 'X' before part code if nut ferrule not required. (Ex: XSS 16S3/4UNF -O)
5, WP (Working Pressure).: 1 Mpa = 10 bar.

SS - N - Straight Stud Connector

Male NPT Port End Connection.

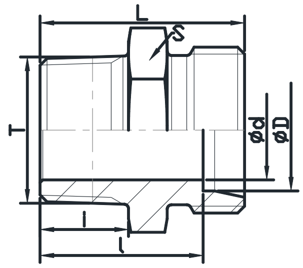


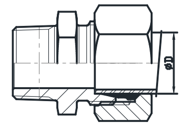
SERIES	ØD	Ød	T	i	L	l	S	PART CODE	WP (bar)
	06	4	1/8-27NPT	10.0	24.0	17.0	14	SS 06LN1/8"	250
	06	4	1/4-18NPT	14.5	30.0	23.0	17	SS 06LN1/4"	250
	06	4	3/8-18NPT	14.5	30.0	23.0	19	SS 06LN3/8"	250
	06	4	1/2-14NPT	19.5	36.0	29.0	22	SS 06LN1/2"	250
	08	4	1/8-27NPT	10.0	25.0	18.0	17	SS 08LN1/8"	250
	08	6	1/4-18NPT	14.5	30.0	23.0	17	SS 08LN1/4"	250
	08	6	3/8-18NPT	14.5	30.0	23.0	19	SS 08LN3/8"	250
	08	6	1/2-14NPT	19.5	36.0	29.0	22	SS 08LN1/2"	250
	10	4	1/8-27NPT	10.0	25.0	18.0	17	SS 10LN1/8"	250
	10	7	1/4-18NPT	14.5	31.0	24.0	17	SS 10LN1/4"	250
	10	7	3/8-18NPT	14.5	32.0	25.0	19	SS 10LN3/8"	250
	10	8	1/2-14NPT	19.5	37.0	30.0	22	SS 10LN1/2"	250
	10	8	3/4-14NPT	19.5	38.0	31.0	30	SS 10LN3/4"	250
	12	4	1/8-27NPT	10.0	26.0	19.0	19	SS 12LN1/8"	250
	12	7	1/4-18NPT	14.5	32.0	25.0	19	SS 12LN1/4"	250
	12	8	3/8-18NPT	14.5	32.0	25.0	19	SS 12LN3/8"	250
	12	10	1/2-14NPT	19.5	37.0	30.0	22	SS 12LN1/2"	250
L	15	8	3/8-18NPT	14.5	33.0	26.0	24	SS 15LN3/8"	250
	15	12	1/2-14NPT	19.5	38.0	31.0	24	SS 15LN1/2"	250
	15	12	3/4-14NPT	19.5	39.0	32.0	30	SS 15LN3/4"	250
	15	12	1-11.5NPT	24.5	45.0	38.0	36	SS 15LN1"	250
	18	8	3/8-18NPT	14.5	34.0	26.5	27	SS 18LN3/8"	160
	18	12	1/2-14NPT	19.5	39.0	31.5	27	SS 18LN1/2"	160
	18	15	3/4-14NPT	19.5	39.0	31.5	30	SS 18LN3/4"	160
	18	15	1-11.5NPT	24.5	45.0	37.5	36	SS 15LN3/4"	160
	22	8	3/8-18NPT	14.5	36.5	29.0	32	SS 22LN1/2"	160
	22	12	1/2-14NPT	19.5	41.0	33.5	32	SS 22LN1/2"	160
	22	16	3/4-14NPT	19.5	41.0	33.5	32	SS 22LN3/4"	160
	22	19	1-11.5NPT	24.5	47.0	39.5	36	SS 22LN1"	160
	28	16	3/4-14NPT	19.5	42.0	34.5	41	SS 28LN3/4"	100
	28	21	1-11.5NPT	24.5	47.0	39.5	41	SS 28LN1"	100
	28	24	1¼-11.5NPT	25.0	49.0	41.5	46	SS 28LN1¼ "	100
	35	22	1-11.5NPT	24.5	50.0	39.5	46	SS 35LN1"	100
	35	28	1¼-11.5NPT	25.0	51.0	40.5	46	SS 35LN1¼ "	100
	42	28	1¼-11.5NPT	25.0	53.0	42.0	55	SS 42LN1¼ "	100
	42	36	1½-11.5NPT	26.0	53.0	42.0	55	SS 42LN1½ "	100

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, put suffix 'X' before part code if nut ferrule not required. (Ex: XSS 22LN1/2")
4, WP (Working Pressure).: 1 Mpa = 10 bar.

SS - N - Straight Stud Connector

Male NPT Port End Connection.





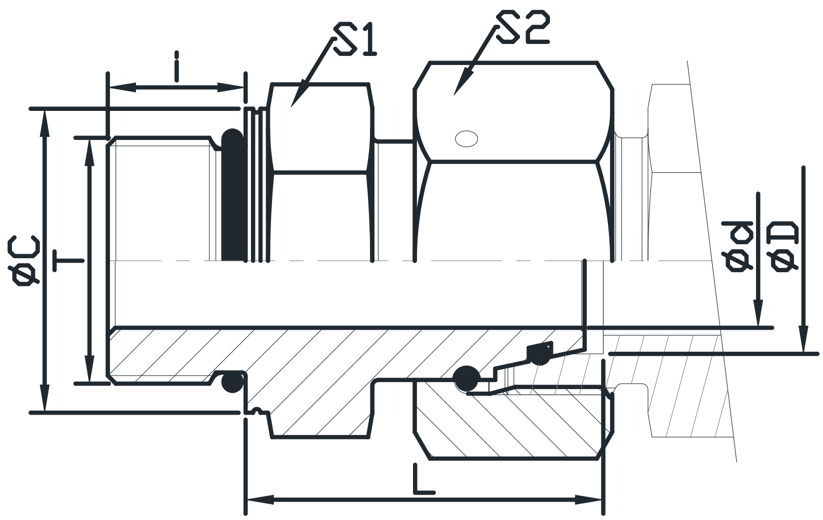
SERIES	ØD	Ød	T	i	L	l	S	PART CODE	WP (bar)
S	06	4	1/8-27NPT	10.0	28.0	21.0	14	SS 06SN1/8"	630
	06	4	1/4-18NPT	14.5	35.0	28.0	17	SS 06SN1/4"	630
	06	4	3/8-18NPT	14.5	33.0	26.0	19	SS 06SN3/8"	630
	06	4	1/2-14NPT	19.5	42.0	35.0	22	SS 06SN1/2"	630
	08	5	1/4-18NPT	14.5	35.0	28.0	17	SS 08SN1/4"	630
	08	5	3/8-18NPT	14.5	35.0	28.0	17	SS 08SN3/8"	630
	08	5	1/2-14NPT	19.5	42.0	35.0	19	SS 08SN1/2"	630
	10	5	1/4-18NPT	14.5	35.0	27.5	22	SS 10SN1/4"	630
	10	7	3/8-18NPT	14.5	35.0	27.5	17	SS 10SN3/8"	630
	10	7	1/2-14NPT	19.5	42.0	34.5	17	SS 10SN1/2"	630
	10	7	3/4-14NPT	19.5	44.0	36.5	19	SS 10SN3/4"	630
	12	5	1/4-18NPT	14.5	37.0	29.5	22	SS 12SN1/4"	630
	12	8	3/8-18NPT	14.5	37.0	29.5	30	SS 12SN3/8"	630
	12	8	1/2-14NPT	19.5	42.0	34.5	19	SS 12SN1/2"	630
	12	8	3/4-14NPT	19.5	44.0	36.5	19	SS 12SN3/4"	630
	14	8	3/8-18NPT	14.5	39.0	31.0	19	SS 14SN3/8"	630
	14	10	1/2-14NPT	19.5	44.0	36.0	22	SS 14SN1/2"	630
	14	10	3/4-14NPT	19.5	46.0	38.0	24	SS 14SN3/4"	630
	14	10	1-11.5NPT	24.5	51.0	43.0	24	SS 14SN1"	630
	16	8	3/8-18NPT	14.5	39.0	30.5	30	SS 16SN3/8"	400
	16	12	1/2-14NPT	19.5	48.0	39.5	36	SS 16SN1/2"	400
	16	12	3/4-14NPT	19.5	46.0	37.5	27	SS 16SN3/4"	400
	16	12	1-11.5NPT	24.5	51.0	42.5	27	SS 16SN1"	400
	20	12	1/2-14NPT	19.5	48.0	37.5	30	SS 20SN1/2"	400
	20	16	3/4-14NPT	19.5	48.0	37.5	36	SS 20SN3/4"	400
	20	16	1-11.5NPT	24.5	55.0	44.5	32	SS 20SN1"	400
	25	16	3/4-14NPT	19.5	52.0	40.0	32	SS 25SN3/4"	400
	25	20	1-11.5NPT	24.5	57.0	45.0	32	SS 25SN1"	400
	25	20	1 1/4-11.5NPT	25.0	58.0	46.0	36	SS 25SN1 1/4 "	400
	25	20	1 1/2-11.5NPT	26.0	61.0	49.0	41	SS 25SN1 1/2 "	400
	30	16	3/4-14NPT	19.5	54.0	40.5	41	SS 30SN3/4"	250
	30	20	1-11.5NPT	24.5	59.0	45.5	46	SS 30SN1"	250
	30	25	1 1/4-11.5NPT	25.0	60.0	46.5	46	SS 30SN1 1/4 "	250
	30	25	1 1/2-11.5NPT	26.0	60.0	46.5	46	SS 30SN1 1/2 "	250
	38	25	1 1/4-11.5NPT	25.0	65.0	49.0	55	SS 48SN1 1/4 "	250
	38	32	1 1/2-11.5NPT	26.0	65.0	49.0	55	SS 48SN1 1/2 "	250

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, S: High Pressure Working Series.
3, put suffix 'X' before part code if nut ferrule not required. (Ex: XSS 16LN3/8")
4, WP (Working Pressure).: 1 Mpa = 10 bar.

TWSSC - M - O - Thrust Wired Swivel Stud Connector

Male METRIC Port End Connection (With 'O' Ring Seal)

24⁰ Fittings

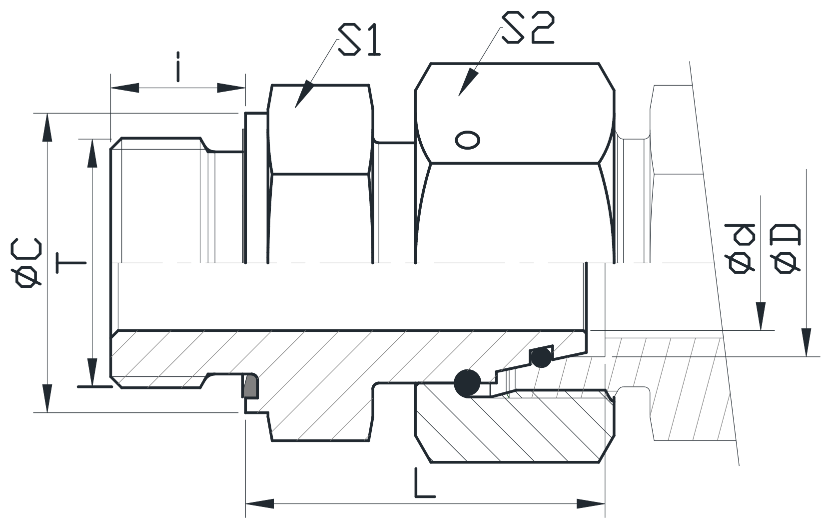


SERIES	ØD	Ød	T	ØC	i	L	S1	S2	PART CODE	WP (bar)
L	06	2.5	M10x1.0	13.8	8.5	24.5	14	14	TWSSC 06LM -O	250
	08	4.0	M12x1.5	16.8	11.0	26.5	17	17	TWSSC 08LM -O	250
	10	6.0	M14x1.5	18.8	11.0	27.5	19	19	TWSSC 10LM -O	250
	12	8.0	M16x1.5	21.8	11.5	30.5	22	22	TWSSC 12LM -O	250
	15	10.0	M18x1.5	23.8	12.5	31.5	24	27	TWSSC 15LM -O	250
	18	13.0	M22x1.5	26.8	13.0	31.5	27	32	TWSSC 18LM -O	160
	22	17.0	M27x2.0	31.8	16.0	32.5	32	36	TWSSC 22LM27x2.0 -O	160
	28	22.0	M33x2.0	40.8	16.0	35.0	41	41	TWSSC 28LM -O	100
	35	28.0	M42x2.0	49.8	16.0	42.5	50	50	TWSSC 35LM -O	100
	42	34.0	M48x2.0	54.8	17.5	46.5	55	60	TWSSC 42LM -O	100
S	06	2.5	M12x1.5	16.8	11.0	27.0	17	17	TWSSC 06SM -O	630
	08	4.0	M14x1.5	18.8	11.0	29.5	19	19	TWSSC 08SM -O	630
	10	6.0	M16x1.5	21.8	12.5	32.0	22	22	TWSSC 10SM -O	630
	12	8.0	M18x1.5	23.8	14.0	34.0	24	24	TWSSC 12SM -O	630
	14	9.0	M20x1.5	25.8	14.0	36.5	27	27	TWSSC 14SM -O	630
	16	11.0	M22x1.5	26.8	15.0	37.0	27	30	TWSSC 16SM -O	400
	20	14.0	M27x2.0	31.8	18.5	43.0	32	36	TWSSC 20SM -O	400
	25	18.0	M33x2.0	40.8	18.5	48.0	41	46	TWSSC 25SM -O	400
	30	23.0	M42x2.0	49.8	19.0	51.0	50	50	TWSSC 30SM -O	250
	38	30.0	M48x2.0	54.8	21.5	60.0	55	60	TWSSC 38SM -O	250

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, WP (Working Pressure).: 1 Mpa = 10 bar.

TWSSC - M - ED - Thrust Wired Swivel Stud Connector

Male METRIC Port End Connection (With 'ED' Seal).

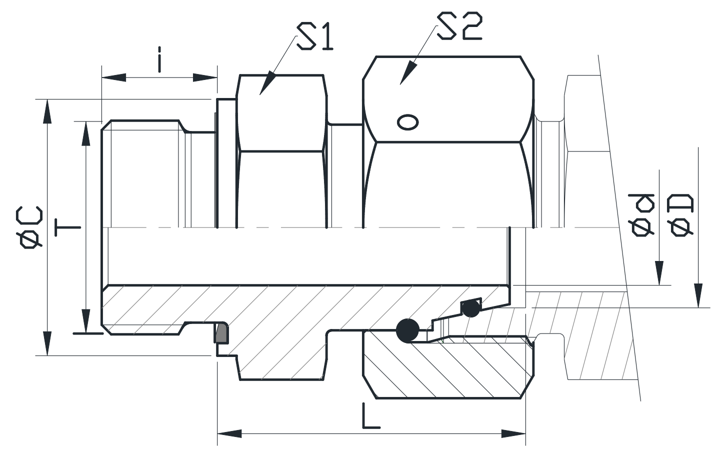


SERIES	ØD	Ød	T	ØC	i	L	S1	S2	PART CODE	WP (bar)
L	06	2.5	M10x1.0	14	8	24.5	14	14	TWSSC 06LM -ED	250
	08	4.0	M12x1.5	17	12	26.5	17	17	TWSSC 08LM -ED	250
	10	6.0	M14x1.5	19	12	27.5	19	19	TWSSC 10LM -ED	250
	12	8.0	M16x1.5	22	12	30.5	22	22	TWSSC 12LM -ED	250
	12	8.0	M22x1.5	27	14	27.0	27	22	TWSSC 12LM22x1.5 -ED	250
	15	10.0	M18x1.5	24	12	31.5	24	27	TWSSC 15LM -ED	250
	15	10.0	M22x1.5	27	14	32.0	27	27	TWSSC 15LM22x1.5 -ED	250
	18	13.0	M22x1.5	27	14	31.5	27	32	TWSSC 18LM -ED	160
	22	17.0	M26x1.5	32	16	32.5	32	36	TWSSC 22LM -ED	160
	28	22.0	M33x2.0	40	18	35.0	41	41	TWSSC 28LM -ED	100
	35	28.0	M42x2.0	50	20	42.5	50	50	TWSSC 35LM -ED	100
	42	34.0	M48x2.0	55	22	46.5	55	60	TWSSC 42LM -ED	100
S	06	2.5	M12x1.5	17	12	27.0	17	17	TWSSC 06SM -ED	630
	08	4.0	M14x1.5	19	12	29.5	19	19	TWSSC 08SM -ED	630
	10	6.0	M16x1.5	22	12	32.0	22	22	TWSSC 10SM -ED	630
	12	8.0	M18x1.5	24	12	34.0	24	24	TWSSC 12SM -ED	630
	14	9.0	M20x1.5	26	14	36.5	27	27	TWSSC 14SM -ED	630
	16	11.0	M22x1.5	27	14	37.0	27	30	TWSSC 16SM -ED	400
	20	14.0	M27x2.0	32	16	43.0	32	36	TWSSC 20SM -ED	400
	25	18.0	M33x2.0	40	18	48.0	41	46	TWSSC 25SM -ED	400
	30	23.0	M42x2.0	50	20	51.0	50	50	TWSSC 30SM -ED	250
	38	30.0	M48x2.0	55	22	60.0	55	60	TWSSC 38SM -ED	250

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, WP (Working Pressure).: 1 Mpa = 10 bar.

TWSSC - R - ED - Thrust Wired Swivel Stud Connector

Male BSPP Port End Connection (With 'ED' Seal)



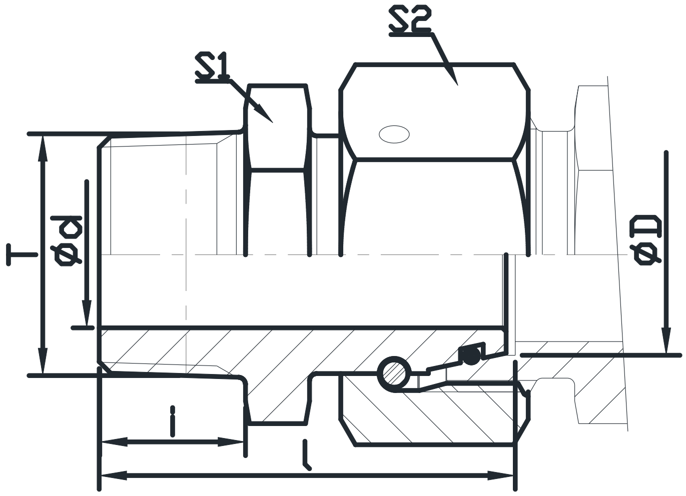
SERIES	ØD	Ød	T	ØC	i	L	S1	S2	PART CODE	WP (bar)
L	06	2.5	G1/8"	14	8	24.5	14	14	TWSSC 06LR -ED	250
	08	4.0	G1/4"	19	12	29.5	19	17	TWSSC 08LR -ED	250
	10	6.0	G1/4"	19	12	27.5	19	19	TWSSC 10LR -ED	250
	10	6.0	G3/8"	22	12	29.0	22	19	TWSSC 10LR3/8" -ED	250
	12	8.0	G3/8"	22	12	34.0	22	22	TWSSC 12LR -ED	250
	12	6.0	G1/4"	19	12	27.5	19	22	TWSSC 12LR1/4" -ED	250
	12	8.0	G1/2"	27	14	29.5	27	22	TWSSC 12LR1/2" -ED	250
	15	10.0	G1/2"	27	14	32.0	27	27	TWSSC 15LR -ED	250
	18	13.0	G1/2"	27	14	31.5	27	32	TWSSC 18LR -ED	160
	18	13.0	G3/4"	32	16	29.5	32	32	TWSSC 18LR3/4" -ED	160
	22	17.0	G3/4"	32	16	32.5	32	36	TWSSC 22LR -ED	160
	28	22.0	G1"	40	18	35.0	41	41	TWSSC 28LR -ED	100
	35	28.0	G1¼"	50	20	42.5	50	50	TWSSC 35LR -ED	100
	42	34.0	G1½"	55	22	46.5	55	60	TWSSC 42LR -ED	100
S	06	2.5	G1/4"	19	12	27.0	19	17	TWSSC 06SR -ED	630
	08	4.0	G1/4"	19	12	29.5	19	19	TWSSC 08SR -ED	630
	10	6.0	G3/8"	22	12	32.0	22	22	TWSSC 10SR -ED	630
	12	8.0	G3/8"	22	12	34.0	22	24	TWSSC 12SR -ED	630
	12	5.0	G1/4"	19	12	31.5	19	24	TWSSC 12SR1/4" -ED	630
	12	8.0	G1/2"	27	14	35.0	27	24	TWSSC 12SR1/2" -ED	630
	14	9.0	G1/2"	27	14	36.5	27	27	TWSSC 14SR -ED	630
	16	11.0	G1/2"	27	14	37.0	27	30	TWSSC 16SR -ED	400
	20	14.0	G3/4"	32	16	43.0	32	36	TWSSC 20SR -ED	400
	25	18.0	G1"	40	18	48.0	41	46	TWSSC 25SR -ED	400
	30	23.0	G1¼"	50	20	51.0	50	50	TWSSC 30SR -ED	250
	38	30.0	G1½"	55	22	60.0	55	60	TWSSC 38SR -ED	250

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, WP (Working Pressure).: 1 Mpa = 10 bar.

TWSSC - N - Thrust Wired Swivel Stud Connector

Male NPT Port End Connection

24^{0} Fittings

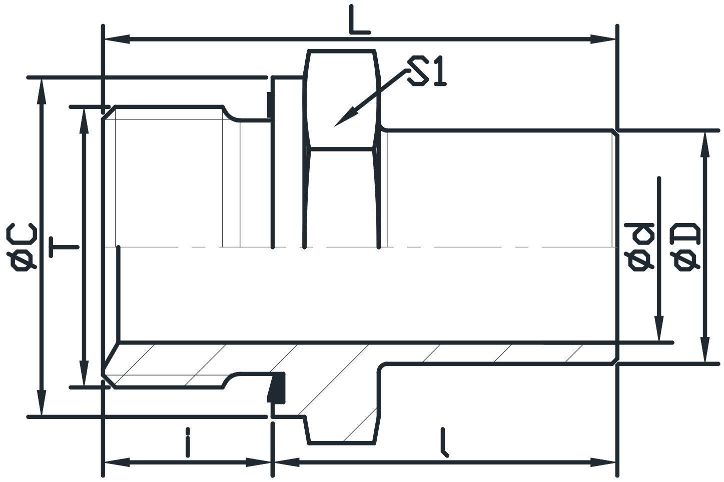


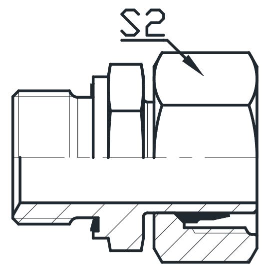
SERIES	ØD	Ød	T	i	l	S1	S2	PART CODE	WP (bar)
L	06	2.5	1/8-27NPT	10.0	31.5	12	14	TWSSC 06LN1/8"	250
	08	4.0	1/4-18NPT	14.5	37.5	14	17	TWSSC 08LN1/4"	250
	10	6.0	1/4-18NPT	14.5	38.0	14	19	TWSSC 10LN1/4"	250
	12	8.0	3/8-18NPT	14.5	40.0	19	22	TWSSC 12LN3/8"	250
	15	10.0	1/2-14NPT	19.5	49.5	22	27	TWSSC 15LN1/2"	250
	18	12.0	1/2-14NPT	19.5	49.0	24	32	TWSSC 18LN1/2"	160
	22	16.0	3/4-14NPT	19.5	52.0	27	36	TWSSC 22LN3/4"	160
	28	22.0	1-11.5NPT	24.5	61.0	36	41	TWSSC 28LN1"	100
	35	28.0	1¼ -11.5NPT	25.0	65.5	46	50	TWSSC 35LN1 1/4"	100
	42	34.0	1½ -11.5NPT	26.0	68.5	50	60	TWSSC 42LN1 1/2"	100
S	06	2.5	1/4-18NPT	14.5	37.5	14	17	TWSSC 06SN1/4"	630
	08	4.0	1/4-18NPT	14.5	38.0	14	19	TWSSC 08SN1/4"	630
	10	6.0	3/8-18NPT	14.5	40.5	19	22	TWSSC 10SN3/8"	630
	12	8.0	3/8-18NPT	14.5	42.0	19	24	TWSSC 12SN3/8"	630
	14	9.0	1/2-14NPT	19.5	50.5	22	27	TWSSC 14SN1/2"	630
	16	11.0	1/2-14NPT	19.5	51.0	22	30	TWSSC 16SN1/2"	400
	20	14.0	3/4-14NPT	19.5	54.0	27	36	TWSSC 20SN3/4"	400
	25	18.0	1-11.5NPT	24.5	63.5	36	46	TWSSC 25SN1"	400
	30	23.0	1¼ -11.5NPT	25.0	70.5	46	50	TWSSC 30SN1 1/4"	250
	38	30.0	1½ -11.5NPT	26.0	73.5	50	60	TWSSC 38SN1 1/2"	250

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, WP (Working Pressure).: 1 Mpa = 10 bar.

SSP - M - ED - Straight Stud Standpipe Connector

Male METRIC Port End Connection (With 'ED' Seal).





SERIES	ØD	Ød	T	ØC	i	L	l	S1	S2	PART CODE	WP (bar)
L	06	3.5	M10x1.0	14	8	32.5	24.5	14	14	SSP 06LM -ED	250
	08	5.5	M12x1.5	17	12	38.5	26.5	17	17	SSP 08LM -ED	250
	10	7.0	M14x1.5	19	12	39.5	27.5	19	19	SSP 10LM -ED	250
	12	9.0	M16x1.5	22	12	42.0	30.5	22	22	SSP 12LM -ED	250
	15	11.0	M18x1.5	24	12	42.5	30.5	24	27	SSP 15LM -ED	250
	18	14.0	M22x1.5	27	14	45.5	31.5	27	32	SSP 18LM -ED	160
	22	18.0	M26x1.5	32	16	48.5	32.5	32	36	SSP 22LM -ED	160
	28	23.0	M33x2.0	40	18	53.0	35.0	41	41	SSP 28LM -ED	100
	35	29.5	M42x2.0	50	20	32.5	42.5	50	50	SSP 35LM -ED	100
	42	35.5	M48x2.0	55	22	68.5	46.5	55	60	SSP 42LM -ED	100
S	06	3.5	M12x1.5	17	12	39.0	27.0	17	17	SSP 06SM -ED	630
	08	4.5	M14x1.5	19	12	41.5	29.5	19	19	SSP 08SM -ED	630
	10	6.5	M16x1.5	22	12	44.0	32.0	22	22	SSP 10SM -ED	630
	12	7.5	M18x1.5	24	12	46.0	34.0	24	24	SSP 12SM -ED	630
	14	9.5	M20x1.5	26	14	50.5	36.5	27	27	SSP 14SM -ED	630
	16	11.5	M22x1.5	27	14	51.0	37.0	27	30	SSP 16SM -ED	400
	20	15.5	M27x2.0	32	16	59.0	43.0	32	36	SSP 20SM -ED	400
	25	18.0	M33x2.0	40	18	66.0	48.0	41	46	SSP 25SM -ED	400
	30	23.5	M42x2.0	50	20	71.0	51.0	50	50	SSP 30SM -ED	250
	38	29.0	M48x2.0	55	22	82.0	60.0	55	60	SSP 38SM -ED	250

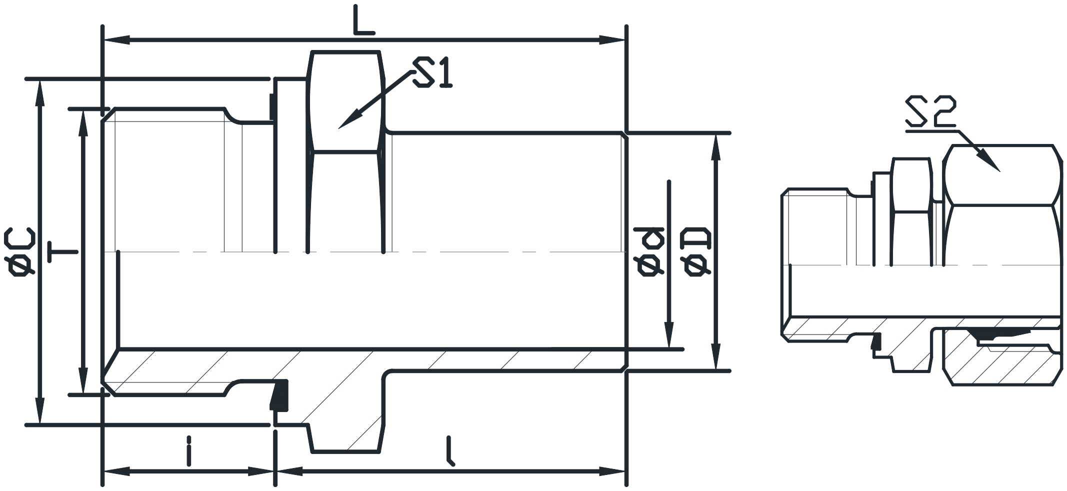
1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, put suffix 'X' before part code if nut ferrule not required. (Ex: XSSP 16SM -ED)
5, WP (Working Pressure).: 1 Mpa = 10 bar.

SSP- R - ED - Straight Stud Standpipe Connector

Male BSPP Port End Connection (With ‘ED’ Seal)

24^0 Fittings

Gem Engineering Industries (India) Pvt. Ltd.



SERIES	ØD	Ød	T	ØC	i	L	l	S1	S2	PART CODE	WP (bar)
L	06	3.5	G1/8"	14	8	32.5	24.5	14	14	SSP 06LR -ED	250
	08	4.5	G1/4"	19	12	41.5	29.5	19	17	SSP 08LR-ED	250
	10	7.0	G1/4"	19	12	39.5	27.5	19	19	SSP 10LR -ED	250
	12	7.5	G3/8"	22	12	46.0	34.0	22	22	SSP 12LR -ED	250
	12	7.0	G1/4"	19	12	40.5	28.5	19	22	SSP 12LR1/4" -ED	250
	12	7.5	G1/2"	27	14	48.5	34.5	27	22	SSP 12LR1/2" -ED	250
	15	11.0	G1/2"	27	14	45.0	31.0	27	27	SSP 15LR -ED	250
	18	14.0	G1/2"	27	14	45.5	31.5	27	32	SSP 18LR -ED	160
	22	18.0	G3/4"	32	16	48.5	32.5	32	36	SSP 22LR -ED	160
	28	23.0	G1"	40	18	53.0	35.0	41	41	SSP 28LR -ED	100
	35	29.5	G1¼"	50	20	32.5	42.5	50	50	SSP 35LR -ED	100
	42	35.5	G1½"	55	22	68.5	46.5	55	60	SSP 42LR -ED	100
S	06	3.5	G1/4"	19	12	39.0	27.0	19	17	SSP 06SR -ED	630
	08	4.5	G1/4"	19	12	41.5	29.5	19	19	SSP 08SR -ED	630
	10	6.5	G3/8"	22	12	44.0	32.0	22	22	SSP 10SR -ED	630
	12	7.5	G3/8"	22	12	46.0	34.0	22	24	SSP 12SR -ED	630
	12	7.5	G1/2"	27	14	48.5	34.5	27	24	SSP 12SR1/2" -ED	630
	14	9.5	G1/2"	27	14	50.5	36.5	27	27	SSP 14SR -ED	630
	16	11.5	G1/2"	27	14	51.0	37.0	27	30	SSP 16SR -ED	400
	16	11.5	G3/4"	32	16	55.0	39.0	32	30	SSP 16SR3/4" -ED	400
	20	15.5	G3/4"	32	16	59.0	43.0	32	36	SSP 20SR -ED	400
	25	18.0	G1"	40	18	66.0	48.0	41	46	SSP 25SR -ED	400
	30	23.5	G1¼"	50	20	71.0	51.0	50	50	SSP 30SR -ED	250
	38	29.0	G1½"	55	22	82.0	60.0	55	60	SSP 38SR -ED	250

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, put suffix ‘X’ before part code if nut ferrule not required. (Ex: XSSP 16SR -ED)
5, WP (Working Pressure).: 1 Mpa = 10 bar.

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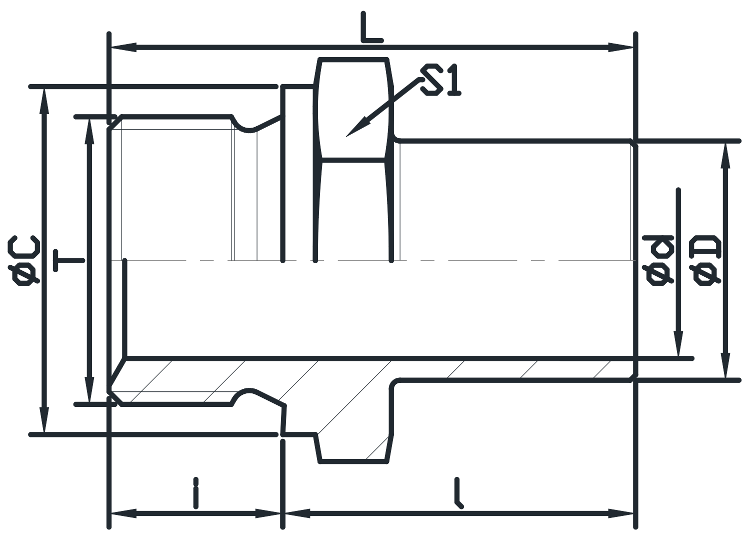
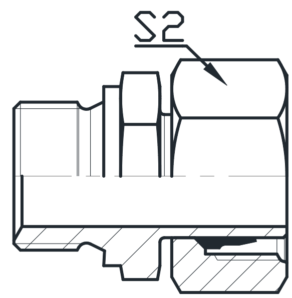
SSP - M - Straight Stud Standpipe Connector

Male METRIC Port End Connection (Type 'A' or 'B' Sealing)





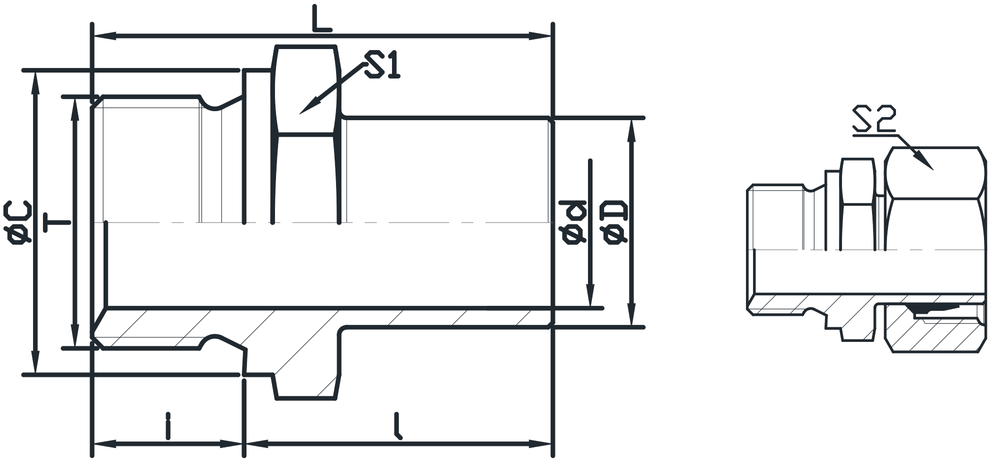
SERIES	ØD	Ød	T	ØC	i	L	l	S1	S2	PART CODE	WP (bar)
L	06	3.5	M10x1.0	14	8	32.5	24.5	14	14	SSP 06LM	250
	08	5.5	M12x1.5	17	12	38.5	26.5	17	17	SSP 08LM	250
	10	7.0	M14x1.5	19	12	39.5	27.5	19	19	SSP 10LM	250
	12	9.0	M16x1.5	21	12	42.0	30.5	22	22	SSP 12LM	250
	15	11.0	M18x1.5	23	12	42.5	30.5	24	27	SSP 15LM	250
	18	14.0	M22x1.5	27	14	45.5	31.5	27	32	SSP 18LM	160
	22	18.0	M26x1.5	31	16	48.5	32.5	32	36	SSP 22LM	160
	28	23.0	M33x2.0	39	18	53.0	35.0	41	41	SSP 28LM	100
	35	29.5	M42x2.0	49	20	32.5	42.5	50	50	SSP 35LM	100
	42	35.5	M48x2.0	55	22	68.5	46.5	55	60	SSP 42LM	100
S	06	3.5	M12x1.5	17	12	39.0	27.0	17	17	SSP 06SM	630
	08	4.5	M14x1.5	19	12	41.5	29.5	19	19	SSP 08SM	630
	10	6.5	M16x1.5	21	12	44.0	32.0	22	22	SSP 10SM	630
	12	7.5	M18x1.5	23	12	46.0	34.0	24	24	SSP 12SM	630
	14	9.5	M20x1.5	25	14	50.5	36.5	27	27	SSP 14SM	630
	16	11.5	M22x1.5	27	14	51.0	37.0	27	30	SSP 16SM	400
	20	15.5	M27x2.0	32	16	59.0	43.0	32	36	SSP 20SM	400
	25	18.0	M33x2.0	39	18	66.0	48.0	41	46	SSP 25SM	400
	30	23.5	M42x2.0	49	20	71.0	51.0	50	50	SSP 30SM	250
	38	29.0	M48x2.0	55	22	82.0	60.0	55	60	SSP 38SM	250

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, put suffix 'X' before part code if nut ferrule not required. (Ex: XSSP 16SM)
5, WP (Working Pressure).: 1 Mpa = 10 bar.

SSP - R - Straight Stud Standpipe Connector

Male BSPP Port End Connection (Type 'A' or 'B' Sealing)

24⁰ Fittings



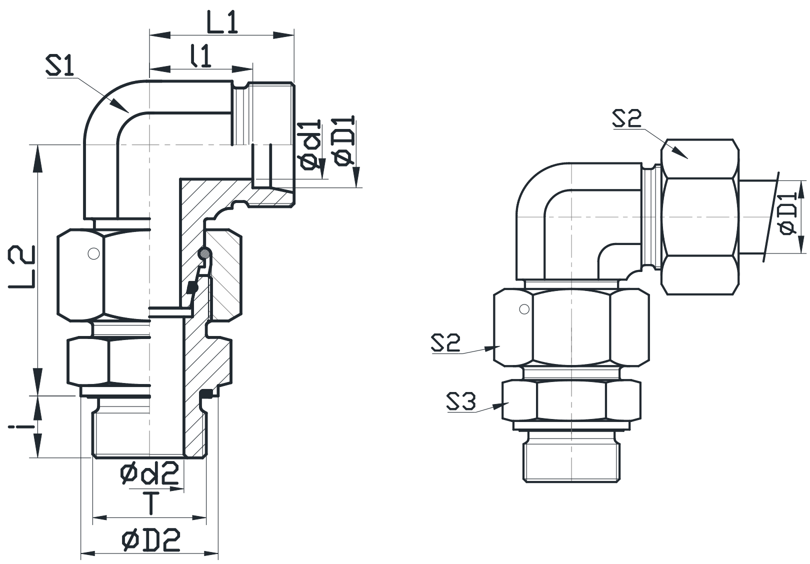
SERIES	ØD	Ød	T	ØC	i	L	l	S1	S2	PART CODE	WP (bar)
L	06	3.5	G1/8"	14	8	32.5	24.5	14	14	SSP 06LR	250
	08	4.5	G1/4"	18	12	41.5	29.5	19	17	SSP 08LR	250
	10	7.0	G1/4"	18	12	39.5	27.5	19	19	SSP 10LR	250
	12	7.5	G3/8"	22	12	46.0	34.0	22	22	SSP 12LR	250
	12	7.0	G1/4"	18	12	40.5	28.5	19	22	SSP 12LR1/4"	250
	12	7.5	G1/2"	26	14	48.5	34.5	27	22	SSP 12LR1/2"	250
	15	11.0	G1/2"	26	14	45.0	31.0	27	27	SSP 15LR	250
	18	14.0	G1/2"	26	14	45.5	31.5	27	32	SSP 18LR	160
	22	18.0	G3/4"	32	16	48.5	32.5	32	36	SSP 22LR	160
	28	23.0	G1"	39	18	53.0	35.0	41	41	SSP 28LR	100
	35	29.5	G1¼"	49	20	32.5	42.5	50	50	SSP 35LR	100
	42	35.5	G1½"	55	22	68.5	46.5	55	60	SSP 42LR	100
S	06	3.5	G1/4"	18	12	39.0	27.0	19	17	SSP 06SR	630
	08	4.5	G1/4"	18	12	41.5	29.5	19	19	SSP 08SR	630
	10	6.5	G3/8"	22	12	44.0	32.0	22	22	SSP 10SR	630
	12	7.5	G3/8"	22	12	46.0	34.0	22	24	SSP 12SR	630
	12	7.5	G1/2"	26	14	48.5	34.5	27	24	SSP 12SR1/2"	630
	14	9.5	G1/2"	26	14	50.5	36.5	27	27	SSP 14SR	630
	16	11.5	G1/2"	26	14	51.0	37.0	27	30	SSP 16SR	400
	16	11.5	G3/4"	32	16	55.0	39.0	32	30	SSP 16SR3/4"	400
	20	15.5	G3/4"	32	16	59.0	43.0	32	36	SSP 20SR	400
	25	18.0	G1"	39	18	66.0	48.0	41	46	SSP 25SR	400
	30	23.5	G1¼"	49	20	71.0	51.0	50	50	SSP 30SR	250
	38	29.0	G1½"	55	22	82.0	60.0	55	60	SSP 38SR	250

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, put suffix 'X' before part code if nut ferrule not required. (Ex: XSSP 16SR)
5, WP (Working Pressure).: 1 Mpa = 10 bar.

TWSLA - M - ED - Thrust Wired Swivel Elbow Assembly

Male METRIC Port End Connection (With ‘ED’ Seal)

24⁰ Fittings



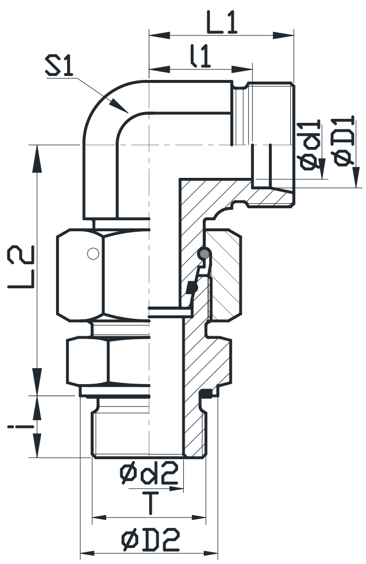
SERIES	ØD1	T	Ød1	Ød2	ØD2	i	L1	l1	L2	S1	S2	S3	PART CODE	WP (bar)
L	06	M10x1	04	04	14	8	19.0	12.0	34.5	12	14	14	TWSLA 06LM-ED	250
	08	M12x1.5	06	06	17	12	21.0	14.0	37.5	12	17	17	TWSLA 08LM-ED	250
	10	M14x1.5	08	07	19	12	22.0	15.0	40.0	14	19	19	TWSLA 10LM-ED	250
	12	M16x1.5	10	09	22	12	24.0	17.0	42.0	17	22	22	TWSLA 12LM-ED	250
	15	M18x1.5	12	11	24	12	28.0	21.0	46.0	19	27	24	TWSLA 15LM-ED	250
	18	M22x1.5	15	14	27	14	31.0	23.5	50.0	24	32	27	TWSLA 18LM-ED	160
	22	M26x1.5	19	18	32	16	35.0	27.5	55.0	27	36	32	TWSLA 22LM-ED	160
	28	M33x2	24	23	40	18	38.0	30.5	59.0	32	41	41	TWSLA 28LM-ED	100
	35	M42x2	30	30	50	20	45.0	34.5	68.5	41	50	50	TWSLA 35LM-ED	100
	42	M48x2	36	36	55	22	51.0	40.0	75.0	50	60	55	TWSLA 42LM-ED	100
S	06	M12x1.5	04	04	17	12	23.0	16.0	40.0	12	17	17	TWSLA 06SM-ED	630
	08	M14x1.5	05	05	19	12	24.0	17.0	42.5	14	19	19	TWSLA 08SM-ED	630
	10	M16x1.5	06	07	22	12	25.0	17.5	45.0	17	22	22	TWSLA 10SM-ED	630
	12	M18x1.5	08	08	24	12	29.0	21.5	48.0	19	24	24	TWSLA 12SM-ED	630
	14	M20x1.5	09	10	26	14	30.0	22.0	54.0	19	27	27	TWSLA 14SM-ED	630
	16	M22x1.5	12	12	27	14	33.0	24.5	55.0	24	30	27	TWSLA 16SM-ED	400
	20	M27x2	16	16	32	16	37.0	26.5	65.0	27	36	32	TWSLA 20SM-ED	400
	25	M33x2	20	20	40	18	42.0	30.5	73.0	32	46	41	TWSLA 25SM-ED	400
	30	M42x2	25	25	50	20	49.0	35.5	78.5	41	50	50	TWSLA 30SM-ED	250
	38	M48x2	32	32	55	22	57.0	41.0	89.0	50	60	55	TWSLA 38SM-ED	250

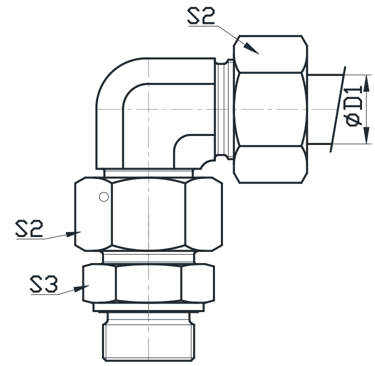
1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, put suffix ‘X’ before part code if nut ferrule not required. (Ex: XTWSLA 16SM-ED)
5, WP (Working Pressure).: 1 Mpa = 10 bar.

TWSLA - R - ED - Thrust Wired Swivel Elbow Assembly

Male BSPP Port End Connection (With 'ED' Seal)

24^0 Fittings



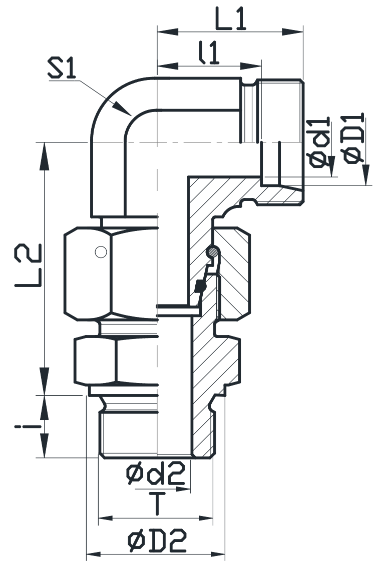


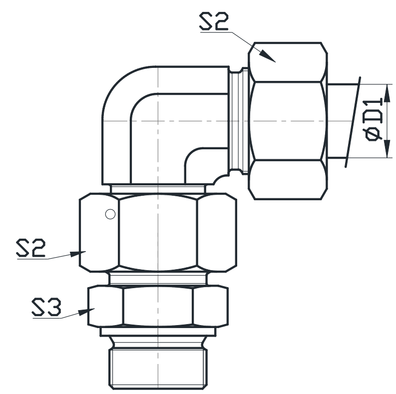
SERIES	ØD1	T	Ød1	Ød2	ØD2	i	L1	l1	L2	S1	S2	S3	PART CODE	WP (bar)
L	06	G1/8"	04	04	14	8	19.0	12.0	34.5	12	14	14	TWSLA 06LR-ED	250
	08	G1/4"	06	06	19	12	21.0	14.0	37.5	12	17	19	TWSLA 08LR-ED	250
	10	G1/4"	08	06	19	12	22.0	15.0	40.0	14	19	19	TWSLA 10LR-ED	250
	12	G3/8"	10	09	22	12	24.0	17.0	42.0	17	22	22	TWSLA 12LR-ED	250
	15	G1/2"	12	11	27	14	28.0	21.0	46.5	19	27	27	TWSLA 15LR-ED	250
	18	G1/2"	15	14	27	14	31.0	23.5	50.0	24	32	27	TWSLA 18LR-ED	160
	22	G3/4"	19	18	32	16	35.0	27.5	55.0	27	36	32	TWSLA 22LR-ED	160
	28	G1"	24	23	40	18	38.0	30.5	59.0	32	41	41	TWSLA 28LR-ED	100
	35	G1¼"	30	30	50	20	45.0	34.5	68.5	41	50	50	TWSLA 35LR-ED	100
	42	G1½"	36	36	55	22	51.0	40.0	75.0	50	60	55	TWSLA 42LR-ED	100
S	06	G1/4"	04	04	19	12	23.0	16.0	40.0	12	17	19	TWSLA 06SR-ED	630
	08	G1/4"	05	05	19	12	24.0	17.0	42.5	14	19	19	TWSLA 08SR-ED	630
	10	G3/8"	06	07	22	12	25.0	17.5	45.0	17	22	22	TWSLA 10SR-ED	630
	12	G3/8"	08	08	22	12	29.0	21.5	48.0	19	24	22	TWSLA 12SR-ED	630
	14	G1/2"	09	10	27	14	30.0	22.0	54.0	19	27	27	TWSLA 14SR-ED	630
	16	G1/2"	12	12	27	14	33.0	24.5	55.0	24	30	27	TWSLA 16SR-ED	400
	20	G3/4"	16	16	32	16	37.0	26.5	65.0	27	36	32	TWSLA 20SR-ED	400
	25	G1"	20	20	40	18	42.0	30.0	73.0	32	46	41	TWSLA 25SR-ED	400
	30	G1¼"	25	25	50	20	49.0	35.5	78.5	41	50	50	TWSLA 30SR-ED	250
	38	G1½"	32	32	55	22	57.0	41.0	89.0	50	60	55	TWSLA 38SR-ED	250

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, put suffix 'X' before part code if nut ferrule not required. (Ex: XTWSLA 16SR-ED)
5, WP (Working Pressure).: 1 Mpa = 10 bar.

TWSLA - M - Thrust Wired Swivel Elbow Assembly

Male METRIC Port End Connection (Type 'A' or 'B' Sealing)



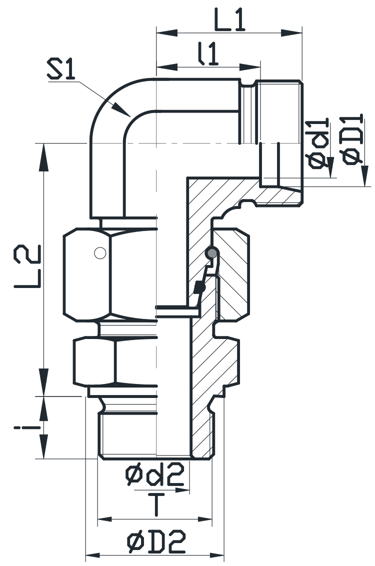


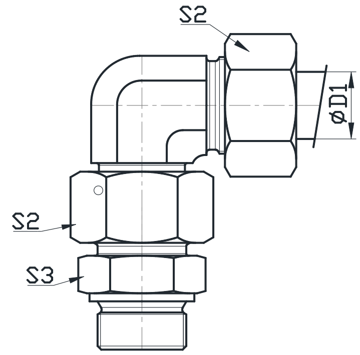
SERIES	ØD1	T	Ød1	Ød2	ØD2	i	L1	l1	L2	S1	S2	S3	PART CODE	WP (bar)
	06	M10x1	04	04	14	8	19.0	12.0	34.5	12	14	14	TWSLA 06LM	250
	08	M12x1.5	06	06	17	12	21.0	14.0	37.5	12	17	17	TWSLA 08LM	250
	10	M14x1.5	08	07	19	12	22.0	15.0	40.0	14	19	19	TWSLA 10LM	250
	12	M16x1.5	10	09	21	12	24.0	17.0	42.0	17	22	22	TWSLA 12LM	250
L	15	M18x1.5	12	11	23	12	28.0	21.0	46.0	19	27	24	TWSLA 15LM	250
	18	M22x1.5	15	14	27	14	31.0	23.5	50.0	24	32	27	TWSLA 18LM	160
	22	M26x1.5	19	18	31	16	35.0	27.5	55.0	27	36	32	TWSLA 22LM	160
	28	M33x2	24	23	39	18	38.0	30.5	59.0	32	41	41	TWSLA 28LM	100
	35	M42x2	30	30	49	20	45.0	34.5	68.5	41	50	50	TWSLA 35LM	100
	42	M48x2	36	36	55	22	51.0	40.0	75.0	50	60	55	TWSLA 42LM	100
	06	M12x1.5	04	04	17	12	23.0	16.0	40.0	12	17	17	TWSLA 06SM	630
	08	M14x1.5	05	05	19	12	24.0	17.0	42.5	14	19	19	TWSLA 08SM	630
	10	M16x1.5	06	07	21	12	25.0	17.5	45.0	17	22	22	TWSLA 10SM	630
S	12	M18x1.5	08	08	23	12	29.0	21.5	48.0	19	24	24	TWSLA 12SM	630
	14	M20x1.5	09	10	25	14	30.0	22.0	54.0	19	27	27	TWSLA 14SM	630
	16	M22x1.5	12	12	27	14	33.0	24.5	55.0	24	30	27	TWSLA 16SM	400
	20	M27x2	16	16	32	16	37.0	26.5	65.0	27	36	32	TWSLA 20SM	400
	25	M33x2	20	20	39	18	42.0	30.5	73.0	32	46	41	TWSLA 25SM	400
	30	M42x2	25	25	49	20	49.0	35.5	78.5	41	50	50	TWSLA 30SM	250
	38	M48x2	32	32	55	22	57.0	41.0	89.0	50	60	55	TWSLA 38SM	250

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, put suffix 'X' before part code if nut ferrule not required. (Ex: XTWSLA 16SM)
5, WP (Working Pressure).: 1 Mpa = 10 bar.

TWSLA - R - Thrust Wired Swivel Elbow Assembly

Male BSPP Port End Connection (Type 'A' or 'B' Sealing)



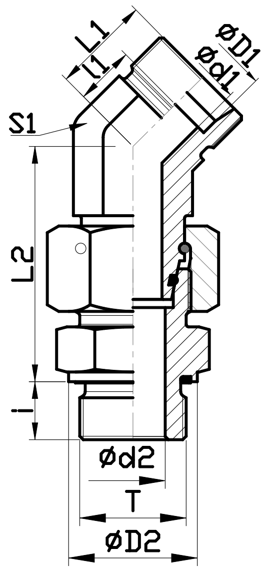


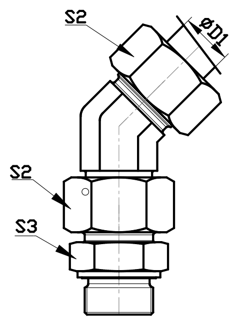
SERIES	ØD1	T	Ød1	Ød2	ØD2	i	L1	l1	L2	S1	S2	S3	PART CODE	WP (bar)
L	06	G1/8"	04	04	14	8	19.0	12.0	34.5	12	14	14	TWSLA 06LR	250
	08	G1/4"	06	06	18	12	21.0	14.0	37.5	12	17	19	TWSLA 08LR	250
	10	G1/4"	08	06	18	12	22.0	15.0	40.0	14	19	19	TWSLA 10LR	250
	12	G3/8"	10	09	22	12	24.0	17.0	42.0	17	22	22	TWSLA 12LR	250
	15	G1/2"	12	11	26	12	28.0	21.0	46.5	19	27	27	TWSLA 15LR	250
	18	G1/2"	15	14	26	14	31.0	23.5	50.0	24	32	27	TWSLA 18LR	160
	22	G3/4"	19	18	32	16	35.0	27.5	55.0	27	36	32	TWSLA 22LR	160
	28	G1"	24	23	39	18	38.0	30.5	59.0	32	41	41	TWSLA 28LR	100
	35	G1¼"	30	30	49	20	45.0	34.5	68.5	41	50	50	TWSLA 35LR	100
	42	G1½"	36	36	55	22	51.0	40.0	75.0	50	60	55	TWSLA 42LR	100
S	06	G1/4"	04	04	18	12	23.0	16.0	40.0	12	17	19	TWSLA 06SR	630
	08	G1/4"	05	05	18	12	24.0	17.0	42.5	14	19	19	TWSLA 08SR	630
	10	G3/8"	06	07	22	12	25.0	17.5	45.0	17	22	22	TWSLA 10SR	630
	12	G3/8"	08	08	22	12	29.0	21.5	48.0	19	24	22	TWSLA 12SR	630
	14	G1/2"	09	10	26	14	30.0	22.0	54.0	19	27	27	TWSLA 14SR	630
	16	G1/2"	12	12	26	14	33.0	24.5	55.0	24	30	27	TWSLA 16SR	400
	20	G3/4"	16	16	32	16	37.0	26.5	65.0	27	36	32	TWSLA 20SR	400
	25	G1"	20	20	39	18	42.0	30.5	73.0	32	46	41	TWSLA 25SR	400
	30	G1¼"	25	25	49	20	49.0	35.5	78.5	41	50	50	TWSLA 30SR	250
	38	G1½"	32	32	55	22	57.0	41.0	89.0	50	60	55	TWSLA 38SR	250

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, put suffix 'X' before part code if nut ferrule not required. (Ex: XTWSLA 16SR)
5, WP (Working Pressure).: 1 Mpa = 10 bar.

TWSLVA - M - ED - Thrust Wired Swivel Elbow Assembly

Male METRIC Port End Connection (With 'ED' Seal)



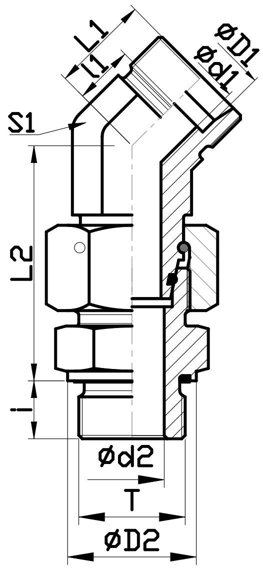


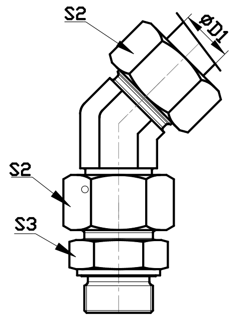
SERIES	ØD1	T	Ød1	Ød2	ØD2	i	L1	l1	L2	S1	S2	S3	PART CODE	WP (bar)
L	06	M10x1	04	04	14	8	21.0	14.0	34.5	19	14	14	TWSLVA 06LM-ED	250
	08	M12x1.5	06	06	17	12	22.0	15.0	37.5	19	17	17	TWSLVA 08LM-ED	250
	10	M14x1.5	08	07	19	12	23.0	16.0	40.0	19	19	19	TWSLVA 10LM-ED	250
	12	M16x1.5	10	09	22	12	24.0	17.0	42.0	19	22	22	TWSLVA 12LM-ED	250
	15	M18x1.5	12	11	24	12	24.0	17.0	46.0	19	27	24	TWSLVA 15LM-ED	250
	18	M22x1.5	15	14	27	14	26.5	19.0	50.0	24	32	27	TWSLVA 18LM-ED	160
	22	M26x1.5	19	18	32	16	30.0	22.5	55.0	27	36	32	TWSLVA 22LM-ED	160
	28	M33x2	24	23	40	18	32.0	24.5	59.0	36	41	41	TWSLVA 28LM-ED	100
	35	M42x2	30	30	50	20	37.5	27.0	68.5	41	50	50	TWSLVA 35LM-ED	100
	42	M48x2	36	36	55	22	37.0	27.0	75.0	50	60	55	TWSLVA 42LM-ED	100
S	06	M12x1.5	04	04	17	12	23.0	16.0	40.0	19	17	17	TWSLVA 06SM-ED	630
	08	M14x1.5	05	05	19	12	23.0	16.0	42.5	19	19	19	TWSLVA 08SM-ED	630
	10	M16x1.5	07	07	22	12	24.0	16.5	45.0	19	22	22	TWSLVA 10SM-ED	630
	12	M18x1.5	08	08	24	12	24.5	17.0	48.0	19	24	24	TWSLVA 12SM-ED	630
	16	M22x1.5	12	12	27	14	27.5	19.0	55.0	24	30	27	TWSLVA 16SM-ED	400
	20	M27x2	16	16	32	16	32.0	21.5	65.0	27	36	32	TWSLVA 20SM-ED	400
	25	M33x2	20	20	40	18	35.0	23.0	73.0	36	46	41	TWSLVA 25SM-ED	400
	30	M42x2	25	25	50	20	37.5	24.0	78.5	41	50	50	TWSLVA 30SM-ED	250
	38	M48x2	32	32	55	22	44.0	28.0	89.0	50	60	55	TWSLVA 38SM-ED	250

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, put suffix 'X' before part code if nut ferrule not required. (Ex: XTWSLVA 16SM-ED)
5, WP (Working Pressure).: 1 Mpa = 10 bar.

TWSLVA-R-ED - Thrust Wired Swivel Elbow Assembly

Male BSPP Port End Connection (With 'ED' Seal)



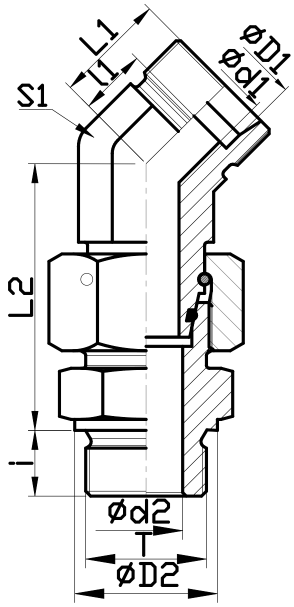


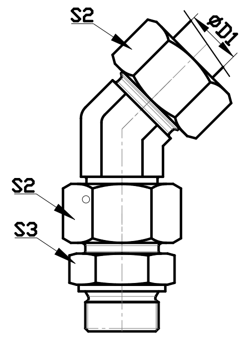
SERIES	ØD1	T	Ød1	Ød2	ØD2	i	L1	l1	L2	S1	S2	S3	PART CODE	WP (bar)
L	06	G1/8"	04	04	14	8	21.0	14.0	34.5	19	14	14	TWSLVA 06LR-ED	250
	08	G1/4"	06	06	19	12	22.0	15.0	37.5	19	17	19	TWSLVA 08LR-ED	250
	10	G1/4"	08	06	19	12	23.0	16.0	40.0	19	19	19	TWSLVA 10LR-ED	250
	12	G3/8"	10	09	22	12	24.0	17.0	42.0	19	22	22	TWSLVA 12LR-ED	250
	15	G1/2"	12	11	27	14	24.0	17.0	46.5	19	27	27	TWSLVA 15LR-ED	250
	18	G1/2"	15	14	27	14	26.5	19.0	50.0	24	32	27	TWSLVA 18LR-ED	160
	22	G3/4"	19	18	32	16	30.0	22.5	55.0	27	36	32	TWSLVA 22LR-ED	160
	28	G1"	24	23	40	18	32.0	24.5	59.0	36	41	41	TWSLVA 28LR-ED	100
	35	G1¼"	30	30	50	20	37.5	27.0	68.5	41	50	50	TWSLVA 35LR-ED	100
	42	G1½"	36	36	55	22	37.0	27.0	75.0	50	60	55	TWSLVA 42LR-ED	100
S	06	G1/4"	04	04	19	12	23.0	16.0	40.0	19	17	19	TWSLVA 06SR-ED	630
	08	G1/4"	05	05	19	12	23.0	16.0	42.5	19	19	19	TWSLVA 08SR-ED	630
	10	G3/8"	07	07	22	12	24.0	16.5	45.0	19	22	22	TWSLVA 10SR-ED	630
	12	G3/8"	08	08	22	12	24.5	17.0	48.0	19	24	22	TWSLVA 12SR-ED	630
	16	G1/2"	12	12	27	14	27.5	19.0	55.0	24	30	27	TWSLVA 16SR-ED	400
	20	G3/4"	16	16	32	16	32.0	21.5	65.0	27	36	32	TWSLVA 20SR-ED	400
	25	G1"	20	20	40	18	35.0	23.0	73.0	36	46	41	TWSLVA 25SR-ED	400
	30	G1¼"	25	25	50	20	37.5	24.0	78.5	41	50	50	TWSLVA 30SR-ED	250
	38	G1½"	32	32	55	22	44.0	28.0	89.0	50	60	55	TWSLVA 38SR-ED	250

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, put suffix 'X' before part code if nut ferrule not required. (Ex: XTWSLVA 16SR-ED)
5, WP (Working Pressure).: 1 Mpa = 10 bar.

TWSLVA-M - Thrust Wired Swivel Elbow Assembly

Male METRIC Port End Connection (Type 'A' or 'B' Sealing)





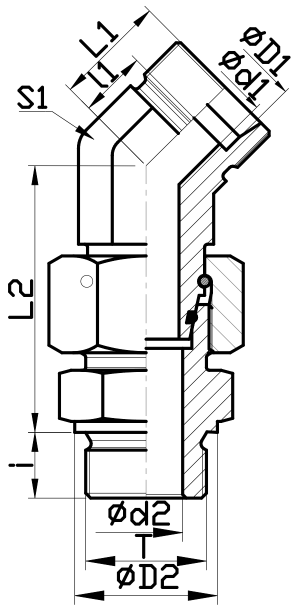
SERIES	ØD1	T	Ød1	Ød2	ØD2	i	L1	l1	L2	S1	S2	S3	PART CODE	WP (bar)
L	06	M10x1	04	04	14	8	21.0	14.0	34.5	19	14	14	TWSLVA 06LM	250
	08	M12x1.5	06	06	17	12	22.0	15.0	37.5	19	17	17	TWSLVA 08LM	250
	10	M14x1.5	08	07	19	12	23.0	16.0	40.0	19	19	19	TWSLVA 10LM	250
	12	M16x1.5	10	09	21	12	24.0	17.0	42.0	19	22	22	TWSLVA 12LM	250
	15	M18x1.5	12	11	23	12	24.0	17.0	46.0	19	27	24	TWSLVA 15LM	250
	18	M22x1.5	15	14	27	14	26.5	19.0	50.0	24	32	27	TWSLVA 18LM	160
	22	M26x1.5	19	18	31	16	30.0	22.5	55.0	27	36	32	TWSLVA 22LM	160
	28	M33x2	24	23	39	18	32.0	24.5	59.0	36	41	41	TWSLVA 28LM	100
	35	M42x2	30	30	49	20	37.5	27.0	68.5	41	50	50	TWSLVA 35LM	100
	42	M48x2	36	36	55	22	37.0	27.0	75.0	50	60	55	TWSLVA 42LM	100
S	06	M12x1.5	04	04	17	12	23.0	16.0	40.0	19	17	17	TWSLVA 06SM	630
	08	M14x1.5	05	05	19	12	23.0	16.0	42.5	19	19	19	TWSLVA 08SM	630
	10	M16x1.5	07	07	21	12	24.0	16.5	45.0	19	22	22	TWSLVA 10SM	630
	12	M18x1.5	08	08	23	12	24.5	17.0	48.0	19	24	24	TWSLVA 12SM	630
	16	M22x1.5	12	12	27	14	27.5	19.0	55.0	24	30	27	TWSLVA 16SM	400
	20	M27x2	16	16	32	16	32.0	21.5	65.0	27	36	32	TWSLVA 20SM	400
	25	M33x2	20	20	39	18	35.0	23.0	73.0	36	46	41	TWSLVA 25SM	400
	30	M42x2	25	25	49	20	37.5	24.0	78.5	41	50	50	TWSLVA 30SM	250
	38	M48x2	32	32	55	22	44.0	28.0	89.0	50	60	55	TWSLVA 38SM	250

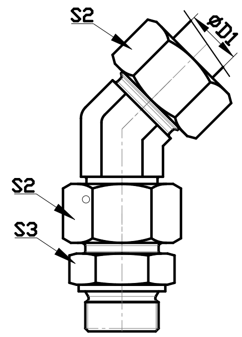
1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, put suffix 'X' before part code if nut ferrule not required. (Ex: XTWSLVA 16SM)
5, WP (Working Pressure).: 1 Mpa = 10 bar.

TWSLVA - R - Thrust Wired Swivel Elbow Assembly

Male BSPP Port End Connection (Type 'A' or 'B' Sealing)

24⁰ Fittings



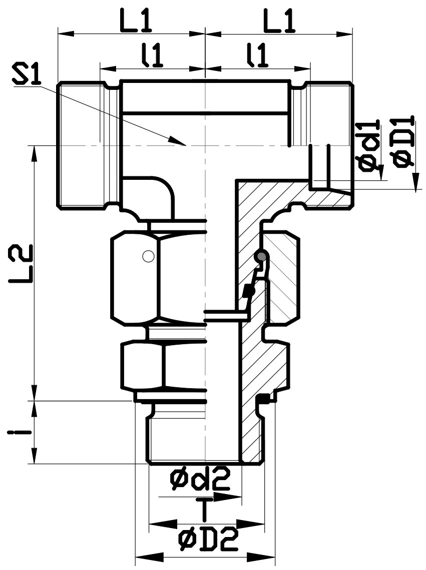


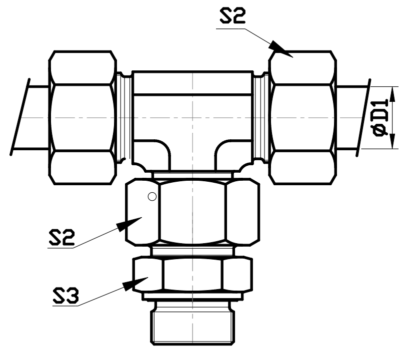
SERIES	ØD1	T	Ød1	Ød2	ØD2	i	L1	l1	L2	S1	S2	S3	PART CODE	WP (bar)
L	06	G1/8"	04	04	14	8	21.0	14.0	34.5	19	14	14	TWSLVA 06LR	250
	08	G1/4"	06	06	18	12	22.0	15.0	37.5	19	17	19	TWSLVA 08LR	250
	10	G1/4"	08	06	18	12	23.0	16.0	40.0	19	19	19	TWSLVA 10LR	250
	12	G3/8"	10	09	22	12	24.0	17.0	42.0	19	22	22	TWSLVA 12LR	250
	15	G1/2"	12	11	26	14	24.0	17.0	46.5	19	27	27	TWSLVA 15LR	250
	18	G1/2"	15	14	26	14	26.5	19.0	50.0	24	32	27	TWSLVA 18LR	160
	22	G3/4"	19	18	32	16	30.0	22.5	55.0	27	36	32	TWSLVA 22LR	160
	28	G1"	24	23	39	18	32.0	24.5	59.0	36	41	41	TWSLVA 28LR	100
	35	G1¼"	30	30	49	20	37.5	27.0	68.5	41	50	50	TWSLVA 35LR	100
	42	G1½"	36	36	55	22	37.0	27.0	75.0	50	60	55	TWSLVA 42LR	100
S	06	G1/4"	04	04	18	12	23.0	16.0	40.0	19	17	19	TWSLVA 06SR	630
	08	G1/4"	05	05	18	12	23.0	16.0	42.5	19	19	19	TWSLVA 08SR	630
	10	G3/8"	07	07	22	12	24.0	16.5	45.0	19	22	22	TWSLVA 10SR	630
	12	G3/8"	08	08	22	12	24.5	17.0	48.0	19	24	22	TWSLVA 12SR	630
	16	G1/2"	12	12	26	14	27.5	19.0	55.0	24	30	27	TWSLVA 16SR	400
	20	G3/4"	16	16	32	16	32.0	21.5	65.0	27	36	32	TWSLVA 20SR	400
	25	G1"	20	20	39	18	35.0	23.0	73.0	36	46	41	TWSLVA 25SR	400
	30	G1¼"	25	25	39	20	37.5	24.0	78.5	41	50	50	TWSLVA 30SR	250
	38	G1½"	32	32	55	22	44.0	28.0	89.0	50	60	55	TWSLVA 38SR	250

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, put suffix 'X' before part code if nut ferrule not required. (Ex: XTWSLVA 16SR)
5, WP (Working Pressure).: 1 Mpa = 10 bar.

TWBTA - M - ED Thrust Wired Swivel Branch Tee Assembly

Male METRIC Port End Connection (with 'ED' Seal)





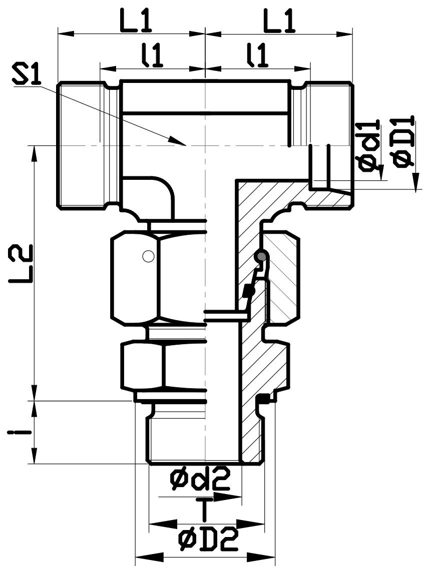
SERIES	ØD1	T	Ød1	Ød2	ØD2	i	L1	l1	L2	S1	S2	S3	PART CODE	WP (bar)
L	06	M10x1	04	04	14	8	19.0	12.0	34.5	12	14	14	TWBTA 06LM-ED	250
	08	M12x1.5	06	06	17	12	21.0	14.0	37.5	12	17	17	TWBTA 08LM-ED	250
	10	M14x1.5	08	07	19	12	22.0	15.0	40.0	14	19	19	TWBTA 10LM-ED	250
	12	M16x1.5	10	09	22	12	24.0	17.0	42.0	17	22	22	TWBTA 12LM-ED	250
	15	M18x1.5	12	11	24	12	28.0	21.0	46.0	19	27	24	TWBTA 15LM-ED	250
	18	M22x1.5	15	14	27	14	31.0	23.5	50.0	24	32	27	TWBTA 18LM-ED	160
	22	M26x1.5	19	18	32	16	35.0	27.5	55.0	27	36	32	TWBTA 22LM-ED	160
	28	M33x2	24	23	40	18	38.0	30.5	59.0	34	41	41	TWBTA 28LM-ED	100
	35	M42x2	30	30	50	20	45.0	34.5	68.5	41	50	50	TWBTA 35LM-ED	100
	42	M48x2	36	36	55	22	51.0	40.0	75.0	50	60	55	TWBTA 42LM-ED	100
S	06	M12x1.5	04	04	17	12	23.0	16.0	40.0	12	17	17	TWBTA 06SM-ED	630
	08	M14x1.5	05	05	19	12	24.0	17.0	42.5	14	19	19	TWBTA 08SM-ED	630
	10	M16x1.5	06	07	22	12	25.0	17.5	45.0	17	22	22	TWBTA 10SM-ED	630
	12	M18x1.5	08	08	24	12	29.0	21.5	48.0	19	24	24	TWBTA 12SM-ED	630
	14	M20x1.5	09	10	26	14	30.0	22.0	54.0	19	27	27	TWBTA 14SM-ED	630
	16	M22x1.5	12	12	27	14	33.0	24.5	55.0	24	30	27	TWBTA 16SM-ED	400
	20	M27x2	16	16	32	16	37.0	26.5	65.0	27	36	32	TWBTA 20SM-ED	400
	25	M33x2	20	20	40	18	42.0	30.5	73.0	34	46	41	TWBTA 25SM-ED	400
	30	M42x2	25	25	50	20	49.0	35.5	78.5	41	50	50	TWBTA 30SM-ED	250
	38	M48x2	32	32	55	22	57.0	41.0	89.0	50	60	55	TWBTA 38SM-ED	250

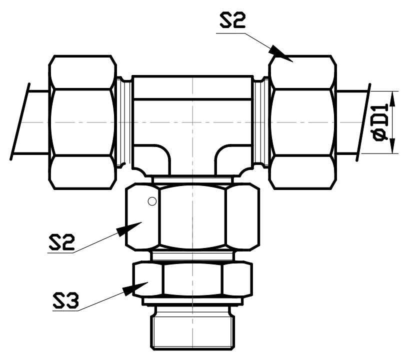
1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, put suffix 'X' before part code if nut ferrule not required. (Ex: XTWBTA 16SM-ED)
5, WP (Working Pressure).: 1 Mpa = 10 bar.

TWBTA - R - ED Thrust Wired Swivel Branch Tee Assembly

Male BSPP Port End Connection (with 'ED' Seal)

24⁰ Fittings



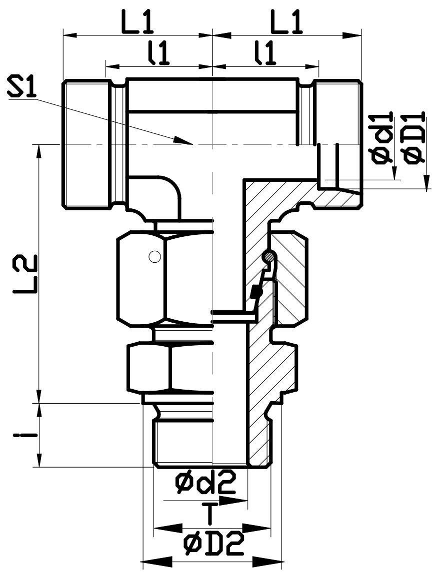


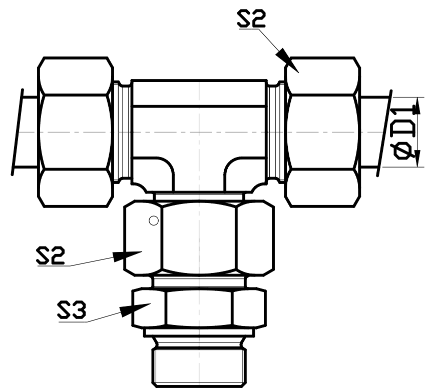
SERIES	ØD1	T	Ød1	Ød2	ØD2	i	L1	l1	L2	S1	S2	S3	PART CODE	WP (bar)
	06	G1/8"	04	04	14	8	19.0	12.0	34.5	12	14	14	TWBTA 06LR-ED	250
	08	G1/4"	06	06	19	12	21.0	14.0	37.5	12	17	19	TWBTA 08LR-ED	250
	10	G1/4"	08	06	19	12	22.0	15.0	40.0	14	19	19	TWBTA 10LR-ED	250
	12	G3/8"	10	09	22	12	24.0	17.0	42.0	17	22	22	TWBTA 12LR-ED	250
L	15	G1/2"	12	11	27	14	28.0	21.0	46.5	19	27	27	TWBTA 15LR-ED	250
	18	G1/2"	15	14	27	14	31.0	23.5	50.0	24	32	27	TWBTA 18LR-ED	160
	22	G3/4"	19	18	32	16	35.0	27.5	55.0	27	36	32	TWBTA 22LR-ED	160
	28	G1"	24	23	40	18	38.0	30.5	59.0	34	41	41	TWBTA 28LR-ED	100
	35	G1¼"	30	30	50	20	45.0	34.5	68.5	41	50	50	TWBTA 35LR-ED	100
	42	G1½"	36	36	55	22	51.0	40.0	75.0	50	60	55	TWBTA 42LR-ED	100
	06	G1/4"	04	04	19	12	23.0	16.0	40.0	12	17	19	TWBTA 06SR-ED	630
	08	G1/4"	05	05	19	12	24.0	17.0	42.5	14	19	19	TWBTA 08SR-ED	630
	10	G3/8"	06	07	22	12	25.0	17.5	45.0	17	22	22	TWBTA 10SR-ED	630
	12	G3/8"	08	08	22	12	29.0	21.5	48.0	19	24	22	TWBTA 12SR-ED	630
S	14	G1/2"	09	10	27	14	30.0	22.0	54.0	19	27	27	TWBTA 14SR-ED	630
	16	G1/2"	12	12	27	14	33.0	24.5	55.0	24	30	27	TWBTA 16SR-ED	400
	20	G3/4"	16	16	32	16	37.0	26.5	65.0	27	36	32	TWBTA 20SR-ED	400
	25	G1"	20	20	40	18	42.0	30.5	73.0	34	46	41	TWBTA 25SR-ED	400
	30	G1¼"	25	25	50	20	49.0	35.5	78.5	41	50	50	TWBTA 30SR-ED	250
	38	G1½"	32	32	55	22	57.0	41.0	89.0	50	60	55	TWBTA 38SR-ED	250

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, put suffix 'X' before part code if nut ferrule not required. (Ex: XTWBTA 16SR-ED)
5, WP (Working Pressure).: 1 Mpa = 10 bar.

TWBTA - M - Thrust Wired Swivel Branch Tee Assembly

Male METRIC Port End Connection (Type 'A' or 'B' Sealing)



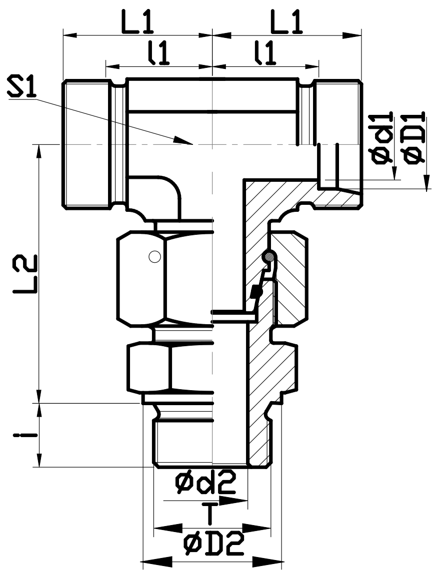


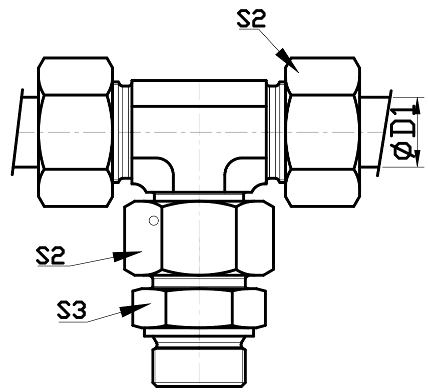
SERIES	ØD1	T	Ød1	Ød2	ØD2	i	L1	l1	L2	S1	S2	S3	PART CODE	WP (bar)
L	06	M10x1	04	04	14	8	19.0	12.0	34.5	12	14	14	TWBTA 06LM	250
	08	M12x1.5	06	06	17	12	21.0	14.0	37.5	12	17	17	TWBTA 08LM	250
	10	M14x1.5	08	07	19	12	22.0	15.0	40.0	14	19	19	TWBTA 10LM	250
	12	M16x1.5	10	09	21	12	24.0	17.0	42.0	17	22	22	TWBTA 12LM	250
	15	M18x1.5	12	11	23	12	28.0	21.0	46.0	19	27	24	TWBTA 15LM	250
	18	M22x1.5	15	14	27	14	31.0	23.5	50.0	24	32	27	TWBTA 18LM	160
	22	M26x1.5	19	18	31	16	35.0	27.5	55.0	27	36	32	TWBTA 22LM	160
	28	M33x2	24	23	39	18	38.0	30.5	59.0	34	41	41	TWBTA 28LM	100
	35	M42x2	30	30	49	20	45.0	34.5	68.5	41	50	50	TWBTA 35LM	100
	42	M48x2	36	36	55	22	51.0	40.0	75.0	50	60	55	TWBTA 42LM	100
S	06	M12x1.5	04	04	17	12	23.0	16.0	40.0	12	17	17	TWBTA 06SM	630
	08	M14x1.5	05	05	19	12	24.0	17.0	42.5	14	19	19	TWBTA 08SM	630
	10	M16x1.5	06	07	21	12	25.0	17.5	45.0	17	22	22	TWBTA 10SM	630
	12	M18x1.5	08	08	23	12	29.0	21.5	48.0	19	24	24	TWBTA 12SM	630
	14	M20x1.5	09	10	25	14	30.0	22.0	54.0	19	27	27	TWBTA 14SM	630
	16	M22x1.5	12	12	27	14	33.0	24.5	55.0	24	30	27	TWBTA 16SM	400
	20	M27x2	16	16	32	16	37.0	26.5	65.0	27	36	32	TWBTA 20SM	400
	25	M33x2	20	20	39	18	42.0	30.0	73.0	34	46	41	TWBTA 25SM	400
	30	M42x2	25	25	49	20	49.0	35.5	78.5	41	50	50	TWBTA 30SM	250
	38	M48x2	32	32	55	22	57.0	41.0	89.0	50	60	55	TWBTA 38SM	250

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, put suffix 'X' before part code if nut ferrule not required. (Ex: XTWBTA 16SM)
5, WP (Working Pressure).: 1 Mpa = 10 bar.

TWBTA - R - Thrust Wired Swivel Branch Tee Assembly

Male BSPP Port End Connection (Type 'A' or 'B' Sealing)



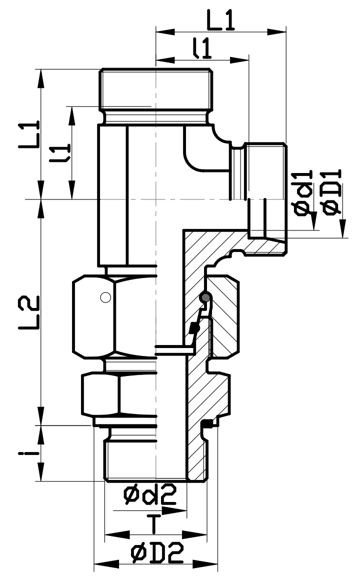


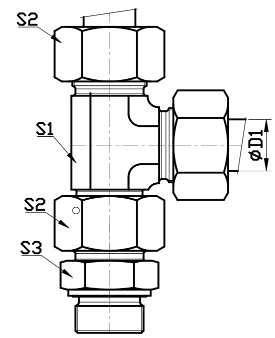
SERIES	ØD1	T	Ød1	Ød2	ØD2	i	L1	l1	L2	S1	S2	S3	PART CODE	WP (bar)
L	06	G1/8"	04	04	14	8	19.0	12.0	34.5	12	14	14	TWBTA 06LR	250
	08	G1/4"	06	06	18	12	21.0	14.0	37.5	12	17	19	TWBTA 08LR	250
	10	G1/4"	08	06	18	12	22.0	15.0	40.0	14	19	19	TWBTA 10LR	250
	12	G3/8"	10	09	22	12	24.0	17.0	42.0	17	22	22	TWBTA 12LR	250
	15	G1/2"	12	11	26	14	28.0	21.0	46.5	19	27	27	TWBTA 15LR	250
	18	G1/2"	15	14	26	14	31.0	23.5	50.0	24	32	27	TWBTA 18LR	160
	22	G3/4"	19	18	32	16	35.0	27.5	55.0	27	36	32	TWBTA 22LR	160
	28	G1"	24	23	39	18	38.0	30.5	59.0	34	41	41	TWBTA 28LR	100
	35	G1¼"	30	30	49	20	45.0	34.5	68.5	41	50	50	TWBTA 35LR	100
	42	G1½"	36	36	55	22	51.0	40.0	75.0	50	60	55	TWBTA 42LR	100
S	06	G1/4"	04	04	18	12	23.0	16.0	40.0	12	17	19	TWBTA 06SR	630
	08	G1/4"	05	05	18	12	24.0	17.0	42.5	14	19	19	TWBTA 08SR	630
	10	G3/8"	06	07	22	12	25.0	17.5	45.0	17	22	22	TWBTA 10SR	630
	12	G3/8"	08	08	22	12	29.0	21.5	48.0	19	24	22	TWBTA 12SR	630
	14	G1/2"	09	10	26	14	30.0	22.0	54.0	19	27	27	TWBTA 14SR	630
	16	G1/2"	12	12	26	14	33.0	24.5	55.0	24	30	27	TWBTA 16SR	400
	20	G3/4"	16	16	32	16	37.0	26.5	65.0	27	36	32	TWBTA 20SR	400
	25	G1"	20	20	39	18	42.0	30.5	73.0	34	46	41	TWBTA 25SR	400
	30	G1¼"	25	25	49	20	49.0	35.5	78.5	41	50	50	TWBTA 30SR	250
	38	G1½"	32	32	55	22	57.0	41.0	89.0	50	60	55	TWBTA 38SR	250

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, put suffix 'X' before part code if nut ferrule not required. (Ex: XTWBTA 16SR)
5, WP (Working Pressure).: 1 Mpa = 10 bar.

TWRTA - M - ED - Thrust Wired Swivel Run Tee Assembly

Male METRIC Port End Connection (With 'ED' Seal)



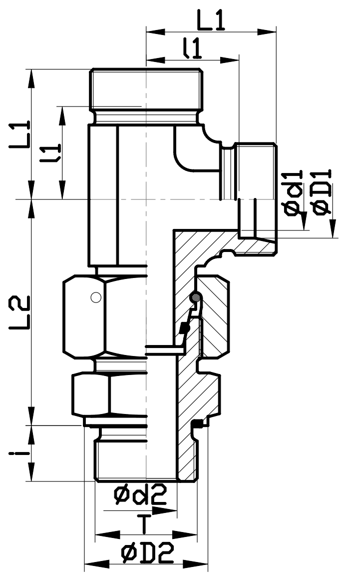


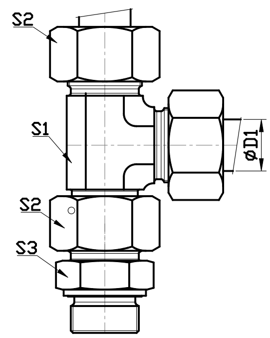
SERIES	ØD1	T	Ød1	Ød2	ØD2	i	L1	l1	L2	S1	S2	S3	PART CODE	WP (bar)
L	06	M10x1	04	04	14	8	19.0	12.0	34.5	12	14	14	TWRTA 06LM-ED	250
	08	M12x1.5	06	06	17	12	21.0	14.0	37.5	12	17	17	TWRTA 08LM-ED	250
	10	M14x1.5	08	07	19	12	22.0	15.0	40.0	14	19	19	TWRTA 10LM-ED	250
	12	M16x1.5	10	09	22	12	24.0	17.0	42.0	17	22	22	TWRTA 12LM-ED	250
	15	M18x1.5	12	11	24	12	28.0	21.0	46.0	19	27	24	TWRTA 15LM-ED	250
	18	M22x1.5	15	14	27	14	31.0	23.5	50.0	24	32	27	TWRTA 18LM-ED	160
	22	M26x1.5	19	18	32	16	35.0	27.5	55.0	27	36	32	TWRTA 22LM-ED	160
	28	M33x2	24	23	40	18	38.0	30.5	59.0	34	41	41	TWRTA 28LM-ED	100
	35	M42x2	30	30	50	20	45.0	34.5	68.5	41	50	50	TWRTA 35LM-ED	100
	42	M48x2	36	36	55	22	51.0	40.0	75.0	50	60	55	TWRTA 42LM-ED	100
S	06	M12x1.5	04	04	17	12	23.0	16.0	40.0	12	17	17	TWRTA 06SM-ED	630
	08	M14x1.5	05	05	19	12	24.0	17.0	42.5	14	19	19	TWRTA 08SM-ED	630
	10	M16x1.5	06	07	22	12	25.0	17.5	45.0	17	22	22	TWRTA 10SM-ED	630
	12	M18x1.5	08	08	24	12	29.0	21.5	48.0	19	24	24	TWRTA 12SM-ED	630
	14	M20x1.5	09	10	26	14	30.0	22.0	54.0	19	27	27	TWRTA 14SM-ED	630
	16	M22x1.5	12	12	27	14	33.0	24.5	55.0	24	30	27	TWRTA 16SM-ED	400
	20	M27x2	16	16	32	16	37.0	26.5	65.0	27	36	32	TWRTA 20SM-ED	400
	25	M33x2	20	20	40	18	42.0	30.5	73.0	34	46	41	TWRTA 25SM-ED	400
	30	M42x2	25	25	50	20	49.0	35.5	78.5	41	50	50	TWRTA 30SM-ED	250
	38	M48x2	32	32	55	22	57.0	41.0	89.0	50	60	55	TWRTA 38SM-ED	250

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, put suffix 'X' before part code if nut ferrule not required. (Ex: XTWRTA 16SM-ED)
5, WP (Working Pressure).: 1 Mpa = 10 bar.

TWRTA - R - ED Thrust Wired Swivel Run Tee Assembly

Male BSPP Port End Connection (With 'ED' Seal)



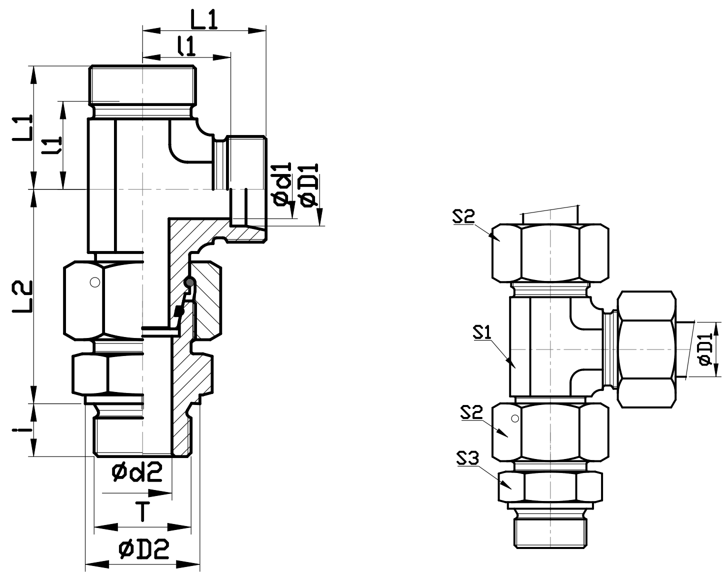


SERIES	ØD1	T	Ød1	Ød2	ØD2	i	L1	l1	L2	S1	S2	S3	PART CODE	WP (bar)
L	06	G1/8"	04	04	14	8	19.0	12.0	34.5	12	14	14	TWRTA 06LR-ED	250
	08	G1/4"	06	06	19	12	21.0	14.0	37.5	12	17	19	TWRTA 08LR-ED	250
	10	G1/4"	08	06	19	12	22.0	15.0	40.0	14	19	19	TWRTA 10LR-ED	250
	12	G3/8"	10	09	22	12	24.0	17.0	42.0	17	22	22	TWRTA 12LR-ED	250
	15	G1/2"	12	11	24	14	28.0	21.0	46.5	19	27	27	TWRTA 15LR-ED	250
	18	G1/2"	15	14	27	14	31.0	23.5	50.0	24	32	27	TWRTA 18LR-ED	160
	22	G3/4"	19	18	32	16	35.0	27.5	55.0	27	36	32	TWRTA 22LR-ED	160
	28	G1"	24	23	40	18	38.0	30.5	59.0	34	41	41	TWRTA 28LR-ED	100
	35	G1¼"	30	30	50	20	45.0	34.5	68.5	41	50	50	TWRTA 35LR-ED	100
	42	G1½"	36	36	55	22	51.0	40.0	75.0	50	60	55	TWRTA 42LR-ED	100
S	06	G1/4"	04	04	19	12	23.0	16.0	40.0	12	17	19	TWRTA 06SR-ED	630
	08	G1/4"	05	05	19	12	24.0	17.0	42.5	14	19	19	TWRTA 08SR-ED	630
	10	G3/8"	06	07	22	12	25.0	17.5	45.0	17	22	22	TWRTA 10SR-ED	630
	12	G3/8"	08	08	22	12	29.0	21.5	48.0	19	24	22	TWRTA 12SR-ED	630
	14	G1/2"	09	10	27	14	30.0	22.0	54.0	19	27	27	TWRTA 14SR-ED	630
	16	G1/2"	12	12	27	14	33.0	24.5	55.0	24	30	27	TWRTA 16SR-ED	400
	20	G3/4"	16	16	32	16	37.0	26.5	65.0	27	36	32	TWRTA 20SR-ED	400
	25	G1"	20	20	40	18	42.0	30.5	73.0	34	46	41	TWRTA 25SR-ED	400
	30	G1¼"	25	25	50	20	49.0	35.5	78.5	41	50	50	TWRTA 30SR-ED	250
	38	G1½"	32	32	55	22	57.0	41.0	89.0	50	60	55	TWRTA 38SR-ED	250

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, put suffix 'X' before part code if nut ferrule not required. (Ex: XTWRTA 16SR-ED)
5, WP (Working Pressure).: 1 Mpa = 10 bar.

TWRTA - M - Thrust Wired Swivel Run Tee Assembly

Male METRIC Port End Connection (Type 'A' or 'B' Sealing)

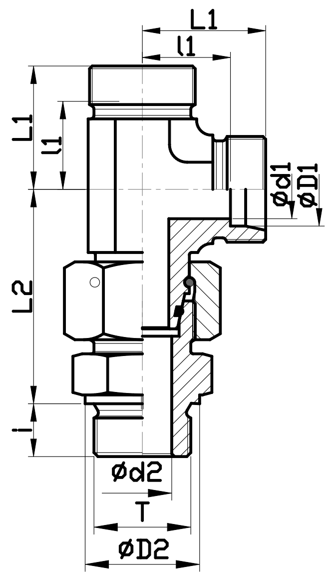


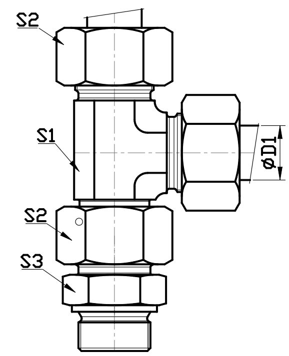
SERIES	ØD1	T	Ød1	Ød2	ØD2	i	L1	l1	L2	S1	S2	S3	PART CODE	WP (bar)
L	06	M10x1	04	04	14	8	19.0	12.0	34.5	12	14	14	TWRTA 06LM	250
	08	M12x1.5	06	06	17	12	21.0	14.0	37.5	12	17	17	TWRTA 08LM	250
	10	M14x1.5	08	07	19	12	22.0	15.0	40.0	14	19	19	TWRTA 10LM	250
	12	M16x1.5	10	09	21	12	24.0	17.0	42.0	17	22	22	TWRTA 12LM	250
	15	M18x1.5	12	11	23	12	28.0	21.0	46.0	19	27	24	TWRTA 15LM	250
	18	M22x1.5	15	14	27	14	31.0	23.5	50.0	24	32	27	TWRTA 18LM	160
	22	M26x1.5	19	18	31	16	35.0	27.5	55.0	27	36	32	TWRTA 22LM	160
	28	M33x2	24	23	39	18	38.0	30.5	59.0	34	41	41	TWRTA 28LM	100
	35	M42x2	30	30	49	20	45.0	34.5	68.5	41	50	50	TWRTA 35LM	100
	42	M48x2	36	36	55	22	51.0	40.0	75.0	50	60	55	TWRTA 42LM	100
S	06	M12x1.5	04	04	17	12	23.0	16.0	40.0	12	17	17	TWRTA 06SM	630
	08	M14x1.5	05	05	19	12	24.0	17.0	42.5	14	19	19	TWRTA 08SM	630
	10	M16x1.5	06	07	21	12	25.0	17.5	45.0	17	22	22	TWRTA 10SM	630
	12	M18x1.5	08	08	23	12	29.0	21.5	48.0	19	24	24	TWRTA 12SM	630
	14	M20x1.5	09	10	25	14	30.0	22.0	54.0	19	27	27	TWRTA 14SM	630
	16	M22x1.5	12	12	27	14	33.0	24.5	55.0	24	30	27	TWRTA 16SM	400
	20	M27x2	16	16	32	16	37.0	26.5	65.0	27	36	32	TWRTA 20SM	400
	25	M33x2	20	20	39	18	42.0	30.5	73.0	34	46	41	TWRTA 25SM	400
	30	M42x2	25	25	49	20	49.0	35.5	78.5	41	50	50	TWRTA 30SM	250
	38	M48x2	32	32	55	22	57.0	41.0	89.0	50	60	55	TWRTA 38SM	250

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, put suffix 'X' before part code if nut ferrule not required. (Ex: XTWRTA 16SM)
5, WP (Working Pressure).: 1 Mpa = 10 bar.

TWRTA - R - Thrust Wired Swivel Run Tee Assembly

Male BSPP Port End Connection (Type 'A' or 'B' Sealing)



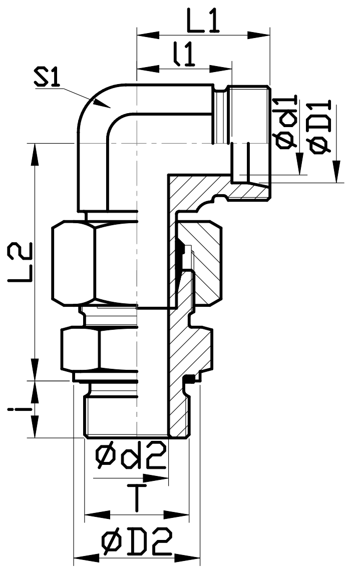


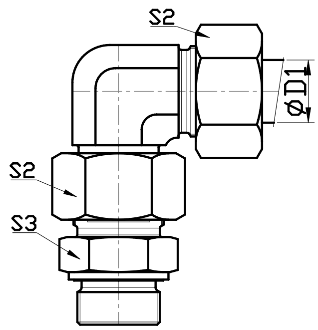
SERIES	ØD1	T	Ød1	Ød2	ØD2	i	L1	l1	L2	S1	S2	S3	PART CODE	WP (bar)
L	06	G1/8"	04	04	14	8	19.0	12.0	34.5	12	14	14	TWRTA 06LR	250
	08	G1/4"	06	06	18	12	21.0	14.0	37.5	12	17	19	TWRTA 08LR	250
	10	G1/4"	08	06	18	12	22.0	15.0	40.0	14	19	19	TWRTA 10LR	250
	12	G3/8"	10	09	22	12	24.0	17.0	42.0	17	22	22	TWRTA 12LR	250
	15	G1/2"	12	11	26	14	28.0	21.0	46.0	19	27	27	TWRTA 15LR	250
	18	G1/2"	15	14	26	14	31.0	23.5	50.0	24	32	27	TWRTA 18LR	160
	22	G3/4"	19	18	32	16	35.0	27.5	55.0	27	36	32	TWRTA 22LR	160
	28	G1"	24	23	39	18	38.0	30.5	59.0	34	41	41	TWRTA 28LR	100
	35	G1¼"	30	30	49	20	45.0	34.5	68.5	41	50	50	TWRTA 35LR	100
	42	G1½"	36	36	55	22	51.0	40.0	75.0	50	60	55	TWRTA 42LR	100
S	06	G1/4"	04	04	18	12	23.0	16.0	40.0	12	17	19	TWRTA 06SR	630
	08	G1/4"	05	05	18	12	24.0	17.0	42.5	14	19	19	TWRTA 08SR	630
	10	G3/8"	06	07	22	12	25.0	17.5	45.0	17	22	22	TWRTA 10SR	630
	12	G3/8"	08	08	22	12	29.0	21.5	48.0	19	24	22	TWRTA 12SR	630
	14	G1/2"	09	10	26	14	30.0	22.0	54.0	19	27	27	TWRTA 14SR	400
	16	G1/2"	12	12	26	14	33.0	24.5	55.0	24	30	27	TWRTA 16SR	400
	20	G3/4"	16	16	32	16	37.0	26.5	65.0	27	36	32	TWRTA 20SR	400
	25	G1"	20	20	39	18	42.0	30.5	73.0	34	46	41	TWRTA 25SR	400
	30	G1¼"	25	25	49	20	49.0	35.5	78.5	41	50	50	TWRTA 30SR	250
	38	G1½"	32	32	55	22	57.0	41.0	89.0	50	60	55	TWRTA 38SR	250

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, put suffix 'X' before part code if nut ferrule not required. (Ex: XTWRTA 16SR)
5, WP (Working Pressure).: 1 Mpa = 10 bar.

SLA - M - ED - Male Stud Swivel Elbow Assembly

Male METRIC Port End Connection (With 'ED' Seal)



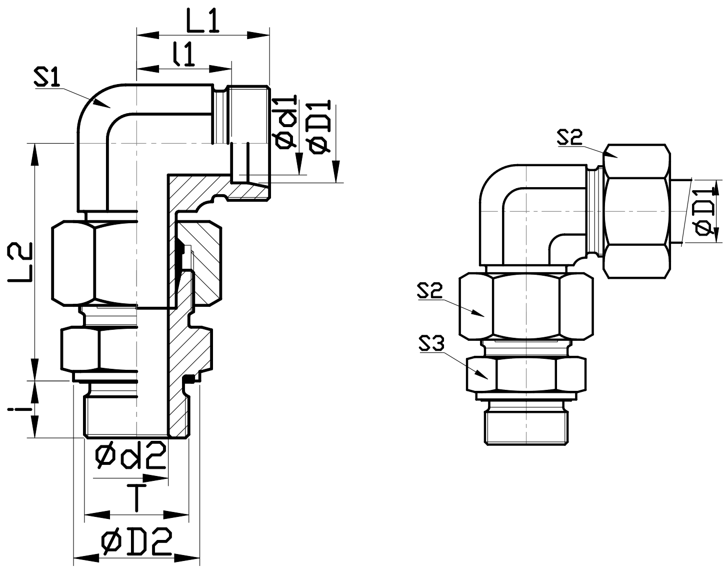


SERIES	ØD1	T	Ød1	Ød2	ØD2	i	L1	l1	L2	S1	S2	S3	PART CODE	WP (bar)
L	06	M10x1	04	04	14	8	19.0	12.0	34.5	12	14	14	SLA 06LM-ED	250
	08	M12x1.5	06	06	17	12	21.0	14.0	37.5	12	17	17	SLA 08LM-ED	250
	10	M14x1.5	08	07	19	12	22.0	15.0	40.0	14	19	19	SLA 10LM-ED	250
	12	M16x1.5	10	09	22	12	24.0	17.0	42.0	17	22	22	SLA 12LM-ED	250
	15	M18x1.5	12	11	24	12	28.0	21.0	46.0	19	27	24	SLA 15LM-ED	250
	18	M22x1.5	15	14	27	14	31.0	23.5	50.0	24	32	27	SLA 18LM-ED	160
	22	M26x1.5	19	18	32	16	35.0	27.5	55.0	27	36	32	SLA 22LM-ED	160
	28	M33x2	24	23	40	18	38.0	30.5	59.5	32	41	41	SLA 28LM-ED	100
	35	M42x2	30	30	50	20	45.0	34.5	68.5	41	50	50	SLA 35LM-ED	100
	42	M48x2	36	36	55	22	51.0	40.0	79.0	50	60	55	SLA 42LM-ED	100
S	06	M12x1.5	04	04	17	12	23.0	16.0	40.0	12	17	17	SLA 06SM-ED	630
	08	M14x1.5	05	05	19	12	24.0	17.0	42.5	14	19	19	SLA 08SM-ED	630
	10	M16x1.5	07	07	22	12	25.0	17.5	46.0	17	22	22	SLA 10SM-ED	630
	12	M18x1.5	08	08	24	12	29.0	21.5	48.0	19	24	24	SLA 12SM-ED	630
	14	M20x1.5	10	10	26	14	30.0	22.0	54.0	19	27	27	SLA 14SM-ED	630
	16	M22x1.5	12	12	27	14	33.0	24.5	56.0	24	30	27	SLA 16SM-ED	400
	20	M27x2	16	16	32	16	37.0	26.5	65.0	27	36	32	SLA 20SM-ED	400
	25	M33x2	20	20	40	18	42.0	30.0	73.0	32	46	41	SLA 25SM-ED	400
	30	M42x2	25	25	50	20	49.0	35.5	78.5	41	50	50	SLA 30SM-ED	250
	38	M48x2	32	32	55	22	57.0	41.0	92.5	50	60	55	SLA 38SM-ED	250

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, put suffix 'X' before part code if nut ferrule not required. (Ex: XSLA 16SM-ED)
5, WP (Working Pressure).: 1 Mpa = 10 bar.

SLA - R - ED - Male Stud Swivel Elbow Assembly

Male BSPP Port End Connection (With 'ED' Seal).

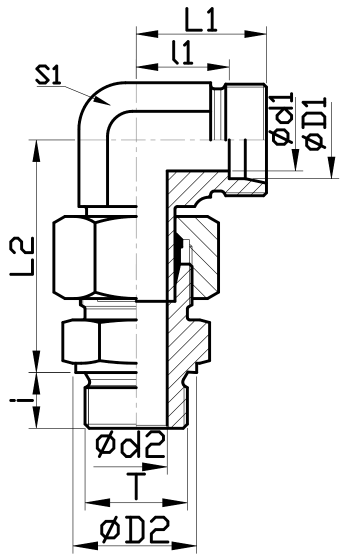


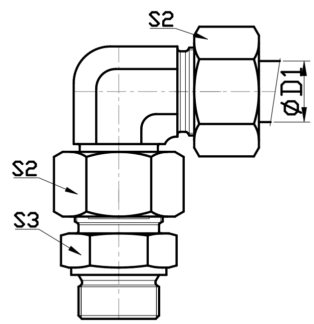
SERIES	ØD1	T	Ød1	Ød2	ØD2	i	L1	l1	L2	S1	S2	S3	PART CODE	WP (bar)
L	06	G1/8"	04	04	14	8	19.0	12.0	34.5	12	14	14	SLA 06LR-ED	250
	08	G1/4"	06	06	19	12	21.0	14.0	37.5	12	17	19	SLA 08LR-ED	250
	10	G1/4"	08	06	19	12	22.0	15.0	40.0	14	19	19	SLA 10LR-ED	250
	12	G3/8"	10	09	22	12	24.0	17.0	42.0	17	22	22	SLA 12LR-ED	250
	15	G1/2"	12	11	27	14	28.0	21.0	46.5	19	27	27	SLA 15LR-ED	250
	18	G1/2"	15	14	27	14	31.0	23.5	50.0	24	32	27	SLA 18LR-ED	160
	22	G3/4"	19	18	32	16	35.0	27.5	55.0	27	36	32	SLA 22LR-ED	160
	28	G1"	24	23	40	18	38.0	30.5	59.5	32	41	41	SLA 28LR-ED	100
	35	G1 1/4"	30	30	50	20	45.0	34.5	68.5	41	50	50	SLA 35LR-ED	100
	42	G1 1/2"	36	36	55	22	51.0	40.0	79.0	50	60	55	SLA 42LR-ED	100
S	06	G1/4"	04	04	19	12	23.0	16.0	40.0	12	17	19	SLA 06SR-ED	630
	08	G1/4"	05	05	19	12	24.0	17.0	42.5	14	19	19	SLA 08SR-ED	630
	10	G3/8"	07	07	22	12	25.0	17.5	46.0	17	22	22	SLA 10SR-ED	630
	12	G3/8"	08	08	22	12	29.0	21.5	48.0	19	24	22	SLA 12SR-ED	630
	14	G1/2"	10	10	27	14	30.0	22.0	54.0	19	27	27	SLA 14SR-ED	630
	16	G1/2"	12	12	27	14	33.0	24.5	56.0	24	30	27	SLA 16SR-ED	400
	20	G3/4"	16	16	32	16	37.0	26.5	65.0	27	36	32	SLA 20SR-ED	400
	25	G1"	20	20	40	18	42.0	30.0	73.0	32	46	41	SLA 25SR-ED	400
	30	G1 1/4"	25	25	50	20	49.0	35.5	78.5	41	50	50	SLA 30SR-ED	250
	38	G1 1/2"	32	32	55	22	57.0	41.0	92.5	50	60	55	SLA 38SR-ED	250

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, put suffix 'X' before part code if nut ferrule not required. (Ex: XSLA 16SR-ED)
5, WP (Working Pressure).: 1 Mpa = 10 bar.

SLA - M - Male Stud Swivel Elbow Assembly

Male METRIC Port End Connection (Type 'A' or 'B' Sealing).



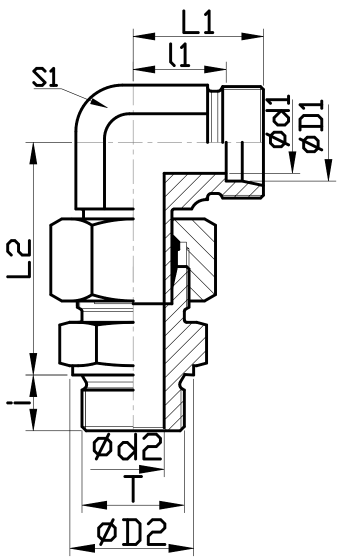


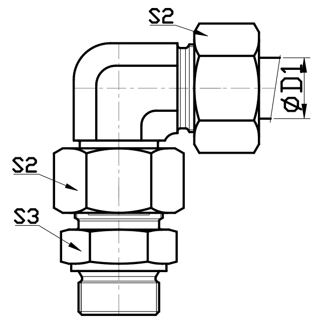
SERIES	ØD1	T	Ød1	Ød2	ØD2	i	L1	l1	L2	S1	S2	S3	PART CODE	WP (bar)
L	06	M10x1	04	04	14	8	19.0	12.0	34.5	12	14	14	SLA 06LM	250
	08	M12x1.5	06	06	17	12	21.0	14.0	37.5	12	17	17	SLA 08LM	250
	10	M14x1.5	08	07	19	12	22.0	15.0	40.0	14	19	19	SLA 10LM	250
	12	M16x1.5	10	09	21	12	24.0	17.0	42.0	17	22	22	SLA 12LM	250
	15	M18x1.5	12	11	23	12	28.0	21.0	46.0	19	27	24	SLA 15LM	250
	18	M22x1.5	15	14	27	14	31.0	23.5	50.0	24	32	27	SLA 18LM	160
	22	M26x1.5	19	18	31	16	35.0	27.5	55.0	27	36	32	SLA 22LM	160
	28	M33x2	24	23	39	18	38.0	30.5	59.5	32	41	41	SLA 28LM	100
	35	M42x2	30	30	49	20	45.0	34.5	68.5	41	50	50	SLA 35LM	100
	42	M48x2	36	36	55	22	51.0	40.0	79.0	50	60	55	SLA 42LM	100
S	06	M12x1.5	04	04	17	12	23.0	16.0	40.0	12	17	17	SLA 06SM	630
	08	M14x1.5	05	05	19	12	24.0	17.0	42.5	14	19	19	SLA 08SM	630
	10	M16x1.5	07	07	21	12	25.0	17.5	46.0	17	22	22	SLA 10SM	630
	12	M18x1.5	08	08	23	12	29.0	21.5	48.0	19	24	24	SLA 12SM	630
	14	M20x1.5	10	10	25	14	30.0	22.0	54.0	19	27	27	SLA 14SM	630
	16	M22x1.5	12	12	27	14	33.0	24.5	56.0	24	30	27	SLA 16SM	400
	20	M27x2	16	16	32	16	37.0	26.5	65.0	27	36	32	SLA 20SM	400
	25	M33x2	20	20	39	18	42.0	30.0	73.0	32	46	41	SLA 25SM	400
	30	M42x2	25	25	49	20	49.0	35.5	78.5	41	50	50	SLA 30SM	250
	38	M48x2	32	32	55	22	57.0	41.0	92.5	50	60	55	SLA 38SM	250

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, put suffix 'X' before part code if nut ferrule not required. (Ex: XSLA 16SM)
5, WP (Working Pressure).: 1 Mpa = 10 bar.

SLA - R - Male Stud Swivel Elbow Assembly

Male BSPP Port End Connection (Type 'A' or 'B' Sealing).



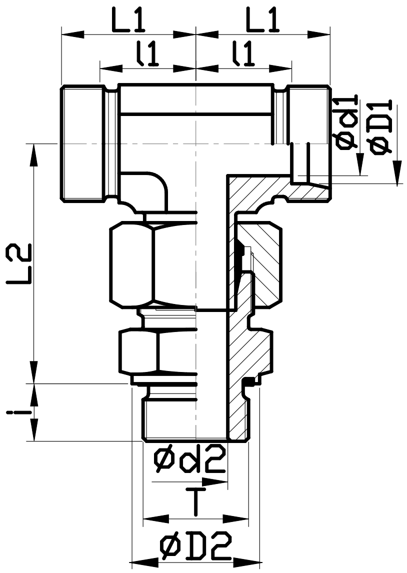


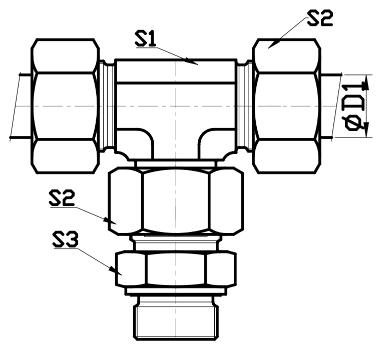
SERIES	ØD1	T	Ød1	Ød2	ØD2	i	L1	l1	L2	S1	S2	S3	PART CODE	WP (bar)
L	06	G1/8"	04	04	14	8	19.0	12.0	34.5	12	14	14	SLA 06LR	250
	08	G1/4"	06	06	18	12	21.0	14.0	37.5	12	17	19	SLA 08LR	250
	10	G1/4"	08	06	18	12	22.0	15.0	40.0	14	19	19	SLA 10LR	250
	12	G3/8"	10	09	22	12	24.0	17.0	42.0	17	22	22	SLA 12LR	250
	15	G1/2"	12	11	26	14	28.0	21.0	46.5	19	27	27	SLA 15LR	250
	18	G1/2"	15	14	26	14	31.0	23.5	50.0	24	32	27	SLA 18LR	160
	22	G3/4"	19	18	32	16	35.0	27.5	55.0	27	36	32	SLA 22LR	160
	28	G1"	24	23	39	18	38.0	30.5	59.5	32	41	41	SLA 28LR	100
	35	G1 1/4"	30	30	49	20	45.0	34.5	68.5	41	50	50	SLA 35LR	100
	42	G1 1/2"	36	36	55	22	51.0	40.0	79.0	50	60	55	SLA 42LR	100
S	06	G1/4"	04	04	18	12	23.0	16.0	40.0	12	17	19	SLA 06SR	630
	08	G1/4"	05	05	18	12	24.0	17.0	42.5	14	19	19	SLA 08SR	630
	10	G3/8"	07	07	22	12	25.0	17.5	46.0	17	22	22	SLA 10SR	630
	12	G3/8"	08	08	22	12	29.0	21.5	48.0	19	24	22	SLA 12SR	630
	14	G1/2"	10	10	26	14	30.0	22.0	54.0	19	27	27	SLA 14SR	630
	16	G1/2"	12	12	26	14	33.0	24.5	56.0	24	30	27	SLA 16SR	400
	20	G3/4"	16	16	32	16	37.0	26.5	65.0	27	36	32	SLA 20SR	400
	25	G1"	20	20	39	18	42.0	30.0	73.0	32	46	41	SLA 25SR	400
	30	G1 1/4"	25	25	49	20	49.0	35.5	78.5	41	50	50	SLA 30SR	250
	38	G1 1/2"	32	32	55	22	57.0	41.0	92.5	50	60	55	SLA 38SR	250

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, put suffix 'X' before part code if nut ferrule not required. (Ex: XSLA 16SR)
5, WP (Working Pressure).: 1 Mpa = 10 bar.

SBTA - M - ED - Male Stud Swivel Branch Tee Assembly

Male METRIC Port End Connection (With ‘ED’ seal).



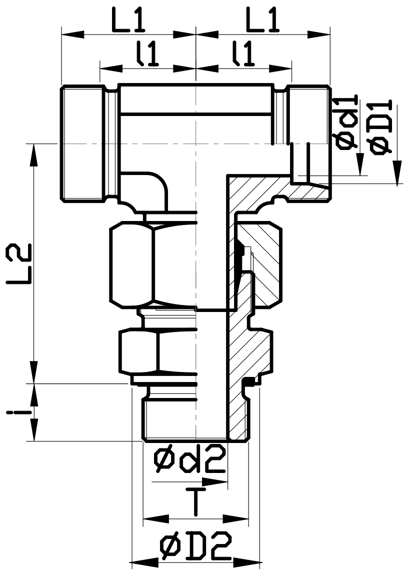


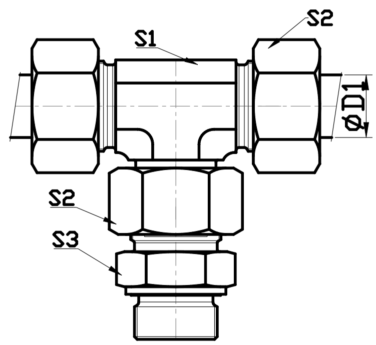
SERIES	ØD1	T	Ød1	Ød2	ØD2	i	L1	l1	L2	S1	S2	S3	PART CODE	WP (bar)
L	06	M10x1	04	04	14	8	19.0	12.0	34.5	12	14	14	SBTA 06LM-ED	250
	08	M12x1.5	06	06	17	12	21.0	14.0	37.5	12	17	17	SBTA 08LM-ED	250
	10	M14x1.5	08	07	19	12	22.0	15.0	40.0	14	19	19	SBTA 10LM-ED	250
	12	M16x1.5	10	09	22	12	24.0	17.0	43.0	17	22	22	SBTA 12LM-ED	250
	15	M18x1.5	12	11	24	12	28.0	21.0	46.0	19	27	24	SBTA 15LM-ED	250
	18	M22x1.5	15	14	27	14	31.0	23.5	50.0	24	32	27	SBTA 18LM-ED	160
	22	M26x1.5	19	18	32	16	35.0	27.5	55.5	27	36	32	SBTA 22LM-ED	160
	28	M33x2	24	23	40	18	38.0	30.5	61.0	34	41	41	SBTA 28LM-ED	100
	35	M42x2	30	30	50	20	45.0	34.5	72.0	41	50	50	SBTA 35LM-ED	100
	42	M48x2	36	36	55	22	51.0	40.0	79.0	50	60	55	SBTA 42LM-ED	100
S	06	M12x1.5	04	04	17	12	23.0	16.0	40.0	12	17	17	SBTA 06SM-ED	630
	08	M14x1.5	05	05	19	12	24.0	17.0	44.0	14	19	19	SBTA 08SM-ED	630
	10	M16x1.5	07	07	22	12	25.0	17.5	47.0	17	22	22	SBTA 10SM-ED	630
	12	M18x1.5	08	08	24	12	29.0	21.5	50.0	19	24	24	SBTA 12SM-ED	630
	14	M20x1.5	10	10	26	14	30.0	22.0	54.0	19	27	27	SBTA 14SM-ED	630
	16	M22x1.5	12	12	27	14	33.0	24.5	55.0	24	30	27	SBTA 16SM-ED	400
	20	M27x2	16	16	32	16	37.0	26.5	65.0	27	36	32	SBTA 20SM-ED	400
	25	M33x2	20	20	40	18	42.0	30.0	73.5	34	46	41	SBTA 25SM-ED	400
	30	M42x2	25	25	50	20	49.0	35.5	80.0	41	50	50	SBTA 30SM-ED	250
	38	M48x2	32	32	55	22	57.0	41.0	92.5	50	60	55	SBTA 38SM-ED	250

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, put suffix ‘X’ before part code if nut ferrule not required. (Ex: XSBTA 16SM-ED)
5, WP (Working Pressure).: 1 Mpa = 10 bar.

SBTA - R - ED - Male Stud Swivel Branch Tee Assembly

Male BSPP Port End Connection (With 'ED' seal).



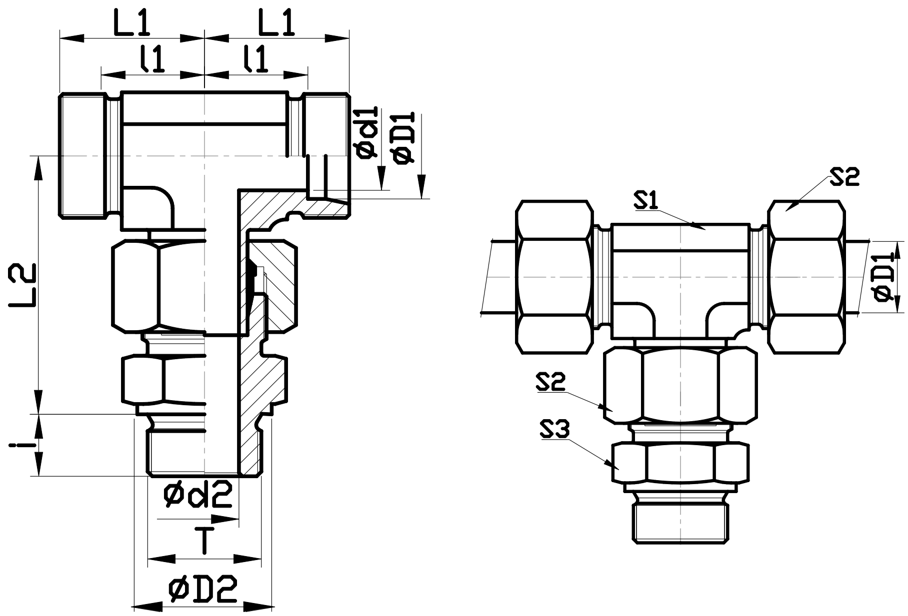


SERIES	ØD1	T	Ød1	Ød2	ØD2	i	L1	l1	L2	S1	S2	S3	PART CODE	WP (bar)
L	06	G1/8"	04	04	14	8	19.0	12.0	34.5	12	14	14	SBTA 06LR-ED	250
	08	G1/4"	06	06	19	12	21.0	14.0	37.5	12	17	19	SBTA 08LR-ED	250
	10	G1/4"	08	06	19	12	22.0	15.0	40.0	14	19	19	SBTA 10LR-ED	250
	12	G3/8"	10	09	22	12	24.0	17.0	43.0	17	22	22	SBTA 12LR-ED	250
	15	G1/2"	12	11	27	14	28.0	21.0	46.5	19	27	27	SBTA 15LR-ED	250
	18	G1/2"	15	14	27	14	31.0	23.5	50.0	24	32	27	SBTA 18LR-ED	160
	22	G3/4"	19	18	32	16	35.0	27.5	55.5	27	36	32	SBTA 22LR-ED	160
	28	G1"	24	23	40	18	38.0	30.5	61.0	34	41	41	SBTA 28LR-ED	100
	35	G1¼ "	30	30	50	20	45.0	34.5	72.0	41	50	50	SBTA 35LR-ED	100
	42	G1½ "	36	36	55	22	51.0	40.0	79.0	50	60	55	SBTA 42LR-ED	100
S	06	G1/4"	04	04	19	12	23.0	16.0	40.0	12	17	19	SBTA 06SR-ED	630
	08	G1/4"	05	05	19	12	24.0	17.0	44.0	14	19	19	SBTA 08SR-ED	630
	10	G3/8"	07	07	22	12	25.0	17.5	47.0	17	22	22	SBTA 10SR-ED	630
	12	G3/8"	08	08	22	12	29.0	21.5	50.0	19	24	22	SBTA 12SR-ED	630
	14	G1/2"	10	10	27	14	30.0	22.0	54.0	19	27	27	SBTA 14SR-ED	630
	16	G1/2"	12	12	27	14	33.0	24.5	55.0	24	30	27	SBTA 16SR-ED	400
	20	G3/4"	16	16	32	16	37.0	26.5	65.0	27	36	32	SBTA 20SR-ED	400
	25	G1"	20	20	40	18	42.0	30.0	73.5	34	46	41	SBTA 25SR-ED	400
	30	G1¼ "	25	25	50	20	49.0	35.5	80.0	41	50	50	SBTA 30SR-ED	250
	38	G1½ "	32	32	55	22	57.0	41.0	92.5	50	60	55	SBTA 38SR-ED	250

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, put suffix 'X' before part code if nut ferrule not required. (Ex: XSBTA 16SR-ED)
5, WP (Working Pressure).: 1 Mpa = 10 bar.

SBTA - M - Male Stud Swivel Branch Tee Assembly

Male METRIC Port End Connection (Type 'A' or 'B' Sealing).

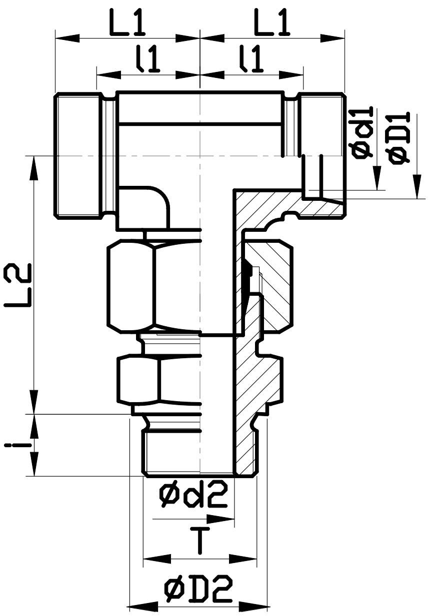


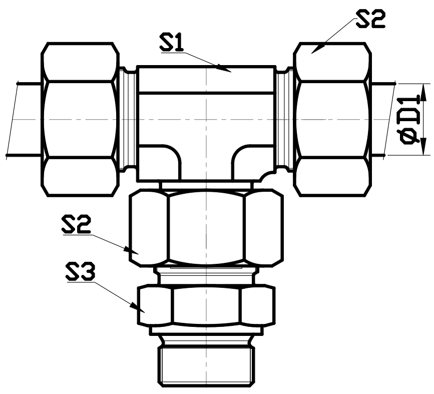
SERIES	ØD1	T	Ød1	Ød2	ØD2	i	L1	l1	L2	S1	S2	S3	PART CODE	WP (bar)
L	06	M10x1	04	04	14	8	19.0	12.0	34.5	12	14	14	SBTA 06LM	250
	08	M12x1.5	06	06	17	12	21.0	14.0	37.5	12	17	17	SBTA 08LM	250
	10	M14x1.5	08	07	19	12	22.0	15.0	40.0	14	19	19	SBTA 10LM	250
	12	M16x1.5	10	09	21	12	24.0	17.0	43.0	17	22	22	SBTA 12LM	250
	15	M18x1.5	12	11	23	12	28.0	21.0	46.0	19	27	24	SBTA 15LM	250
	18	M22x1.5	15	14	27	14	31.0	23.5	50.0	24	32	27	SBTA 18LM	160
	22	M26x1.5	19	18	31	16	35.0	27.5	55.5	27	36	32	SBTA 22LM	160
	28	M33x2	24	23	39	18	38.0	30.5	61.0	34	41	41	SBTA 28LM	100
	35	M42x2	30	30	49	20	45.0	34.5	72.0	41	50	50	SBTA 35LM	100
	42	M48x2	36	36	55	22	51.0	40.0	79.0	50	60	55	SBTA 42LM	100
S	06	M12x1.5	04	04	17	12	23.0	16.0	40.0	12	17	17	SBTA 06SM	630
	08	M14x1.5	05	05	19	12	24.0	17.0	44.0	14	19	19	SBTA 08SM	630
	10	M16x1.5	07	07	21	12	25.0	17.5	47.0	17	22	22	SBTA 10SM	630
	12	M18x1.5	08	08	23	12	29.0	21.5	50.0	19	24	24	SBTA 12SM	630
	14	M20x1.5	10	10	25	14	30.0	22.0	54.0	19	27	27	SBTA 14SM	630
	16	M22x1.5	12	12	27	14	33.0	24.5	55.0	24	30	27	SBTA 16SM	400
	20	M27x2	16	16	32	16	37.0	26.5	65.0	27	36	32	SBTA 20SM	400
	25	M33x2	20	20	39	18	42.0	30.0	73.5	34	46	41	SBTA 25SM	400
	30	M42x2	25	25	49	20	49.0	35.5	80.0	41	50	50	SBTA 30SM	250
	38	M48x2	32	32	55	22	57.0	41.0	92.5	50	60	55	SBTA 38SM	250

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, put suffix 'X' before part code if nut ferrule not required. (Ex: XSBTA 16SM)
5, WP (Working Pressure).: 1 Mpa = 10 bar.

SBTA - R - Male Stud Swivel Branch Tee Assembly

Male BSPP Port End Connection (Type 'A' or 'B' Sealing).





SERIES	ØD1	T	Ød1	Ød2	ØD2	i	L1	l1	L2	S1	S2	S3	PART CODE	WP (bar)
L	06	G1/8"	04	04	14	8	19.0	12.0	34.5	12	14	14	SBTA 06LR	250
	08	G1/4"	06	06	18	12	21.0	14.0	37.5	12	17	19	SBTA 08LR	250
	10	G1/4"	08	06	18	12	22.0	15.0	40.0	14	19	19	SBTA 10LR	250
	12	G3/8"	10	09	22	12	24.0	17.0	43.0	17	22	22	SBTA 12LR	250
	15	G1/2"	12	11	26	14	28.0	21.0	46.5	19	27	27	SBTA 15LR	250
	18	G1/2"	15	14	26	14	31.0	23.5	50.0	24	32	27	SBTA 18LR	160
	22	G3/4"	19	18	32	16	35.0	27.5	55.5	27	36	32	SBTA 22LR	160
	28	G1"	24	23	39	18	38.0	30.5	61.0	34	41	41	SBTA 28LR	100
	35	G1¼"	30	30	49	20	45.0	34.5	72.0	41	50	50	SBTA 35LR	100
	42	G1½"	36	36	55	22	51.0	40.0	79.0	50	60	55	SBTA 42LR	100
S	06	G1/4"	04	04	18	12	23.0	16.0	40.0	12	17	19	SBTA 06SR	630
	08	G1/4"	05	05	18	12	24.0	17.0	44.0	14	19	19	SBTA 08SR	630
	10	G3/8"	07	07	22	12	25.0	17.5	47.0	17	22	22	SBTA 10SR	630
	12	G3/8"	08	08	22	12	29.0	21.5	50.0	19	24	22	SBTA 12SR	630
	14	G1/2"	10	10	26	14	30.0	22.0	54.0	19	27	27	SBTA 14SR	630
	16	G1/2"	12	12	26	14	33.0	24.5	55.0	24	30	27	SBTA 16SR	400
	20	G3/4"	16	16	32	16	37.0	26.5	65.0	27	36	32	SBTA 20SR	400
	25	G1"	20	20	39	18	42.0	30.0	73.5	34	46	41	SBTA 25SR	400
	30	G1¼"	25	25	49	20	49.0	35.5	80.0	41	50	50	SBTA 30SR	250
	38	G1½"	32	32	55	22	57.0	41.0	92.5	50	60	55	SBTA 38SR	250

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, put suffix 'X' before part code if nut ferrule not required. (Ex: XSBTA 16SR)
5, WP (Working Pressure).: 1 Mpa = 10 bar.

SRTA - M - ED - Male Stud Swivel Run Tee Assembly

Male METRIC Port End Connection (With'ED' Seal).

24^{0} Fittings

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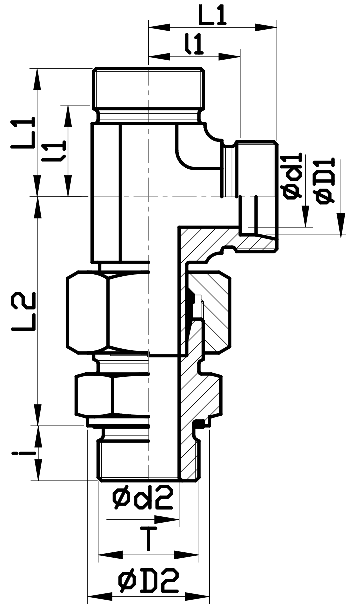

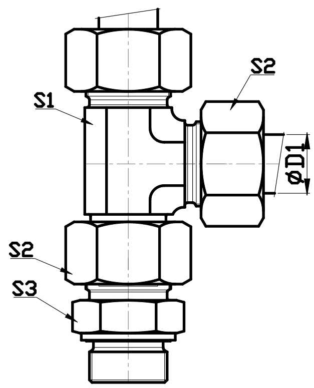

SERIES	ØD1	T	Ød1	Ød2	ØD2	i	L1	l1	L2	S1	S2	S3	PART CODE	WP (bar)
L	06	M10x1	04	04	14	8	19.0	12.0	34.5	12	14	14	SRTA 06LM-ED	250
	08	M12x1.5	06	06	17	12	21.0	14.0	37.5	12	17	17	SRTA 08LM-ED	250
	10	M14x1.5	08	07	19	12	22.0	15.0	40.0	14	19	19	SRTA 10LM-ED	250
	12	M16x1.5	10	09	22	12	24.0	17.0	43.0	17	22	22	SRTA 12LM-ED	250
	15	M18x1.5	12	11	24	12	28.0	21.0	46.0	19	27	24	SRTA 15LM-ED	250
	18	M22x1.5	15	14	27	14	31.0	23.5	50.0	24	32	27	SRTA 18LM-ED	160
	22	M26x1.5	19	18	32	16	35.0	27.5	55.5	27	36	32	SRTA 22LM-ED	160
	28	M33x2	24	23	40	18	38.0	30.5	61.0	34	41	41	SRTA 28LM-ED	100
	35	M42x2	30	30	50	20	45.0	34.5	72.0	41	50	50	SBTA 35LM-ED	100
	42	M48x2	36	36	55	22	51.0	40.0	79.0	50	60	55	SRTA 42LM-ED	100
S	06	M12x1.5	04	04	17	12	23.0	16.0	40.0	12	17	17	SRTA 06SM-ED	630
	08	M14x1.5	05	05	19	12	24.0	17.0	44.0	14	19	19	SRTA 08SM-ED	630
	10	M16x1.5	07	07	22	12	25.0	17.5	47.0	17	22	22	SRTA 10SM-ED	630
	12	M18x1.5	08	08	24	12	29.0	21.5	50.0	19	24	24	SRTA 12SM-ED	630
	14	M20x1.5	10	10	26	14	30.0	22.0	54.0	19	27	27	SRTA 14SM-ED	630
	16	M22x1.5	12	12	27	14	33.0	24.5	56.0	24	30	27	SRTA 16SM-ED	400
	20	M27x2	16	16	32	16	37.0	26.5	65.0	27	36	32	SRTA 20SM-ED	400
	25	M33x2	20	20	40	18	42.0	30.0	73.5	34	46	41	SRTA 25SM-ED	400
	30	M42x2	25	25	50	20	49.0	35.5	80.0	41	50	50	SRTA 30SM-ED	250
	38	M48x2	32	32	55	22	57.0	41.0	92.5	50	60	55	SRTA 38SM-ED	250

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, put suffix 'X' before part code if nut ferrule not required. (Ex: XSRTA 16SM-ED)
5, WP (Working Pressure).: 1 Mpa = 10 bar.

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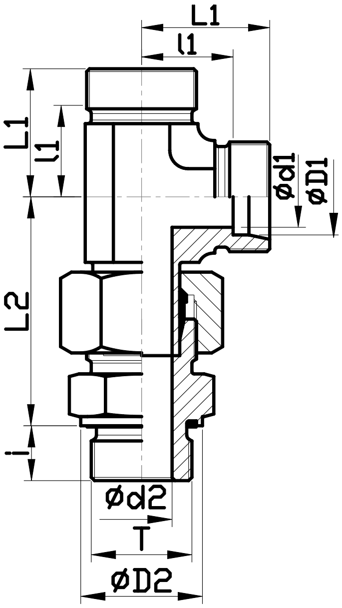
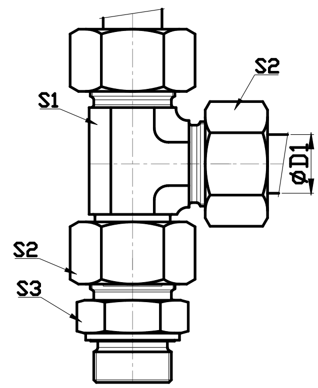
SRTA - R - ED - Male Stud Swivel Run Tee Assembly

Male BSPP Port End Connection (With'ED' Seal).

24^{0} Fittings



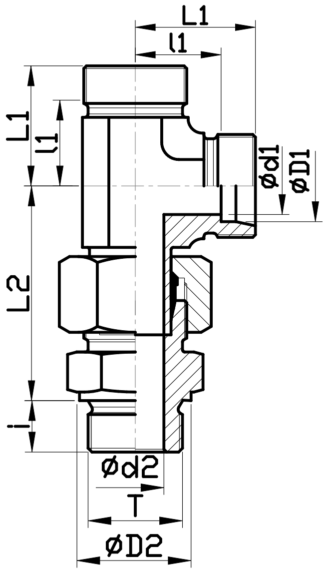


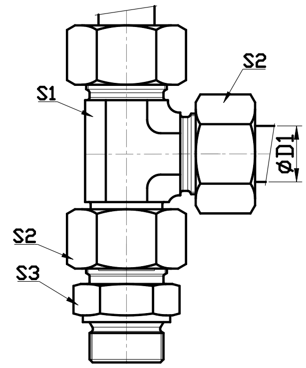
SERIES	ØD1	T	Ød1	Ød2	ØD2	i	L1	l1	L2	S1	S2	S3	PART CODE	WP (bar)
L	06	G1/8"	04	04	14	8	19.0	12.0	34.5	12	14	14	SRTA 06LR-ED	250
	08	G1/4"	06	06	19	12	21.0	14.0	37.5	12	17	19	SRTA 08LR-ED	250
	10	G1/4"	08	06	19	12	22.0	15.0	40.0	14	19	19	SRTA 10LR-ED	250
	12	G3/8"	10	09	22	12	24.0	17.0	43.0	17	22	22	SRTA 12LR-ED	250
	15	G1/2"	12	11	27	14	28.0	21.0	46.5	19	27	27	SRTA 15LR-ED	250
	18	G1/2"	15	14	27	14	31.0	23.5	50.0	24	32	27	SRTA 18LR-ED	160
	22	G3/4"	19	18	32	16	35.0	27.5	55.5	27	36	32	SRTA 22LR-ED	160
	28	G1"	24	23	40	18	38.0	30.5	61.0	34	41	41	SRTA 28LR-ED	100
	35	G1 1/4 "	30	30	50	20	45.0	34.5	72.0	41	50	50	SRTA 35LR-ED	100
	42	G1 1/2 "	36	36	55	22	51.0	40.0	79.0	50	60	55	SRTA 42LR-ED	100
S	06	G1/4"	04	04	19	12	23.0	16.0	40.0	12	17	19	SRTA 06SR-ED	630
	08	G1/4"	05	05	19	12	24.0	17.0	44.0	14	19	19	SRTA 08SR-ED	630
	10	G3/8"	07	07	22	12	25.0	17.5	47.0	17	22	22	SRTA 10SR-ED	630
	12	G3/8"	08	08	22	12	29.0	21.5	50.0	19	24	22	SRTA 12SR-ED	630
	14	G1/2"	10	10	27	14	30.0	22.0	54.0	19	27	27	SBTA 14SR-ED	630
	16	G1/2"	12	12	27	14	33.0	24.5	56.0	24	30	27	SRTA 16SR-ED	400
	20	G3/4"	16	16	32	16	37.0	26.5	65.0	27	36	32	SRTA 20SR-ED	400
	25	G1"	20	20	40	18	42.0	30.0	73.5	34	46	41	SRTA 25SR-ED	400
	30	G1 1/4 "	25	25	50	20	49.0	35.5	80.0	41	50	50	SRTA 30SR-ED	250
	38	G1 1/2 "	32	32	55	22	57.0	41.0	92.5	50	60	55	SRTA 38SR-ED	250

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, put suffix 'X' before part code if nut ferrule not required. (Ex: XSRTA 16SR-ED)
5, WP (Working Pressure).: 1 Mpa = 10 bar.

SRTA - M - Male Stud Swivel Run Tee Assembly

Male METRIC Port End Connection (Type 'A' or 'B' Sealing).



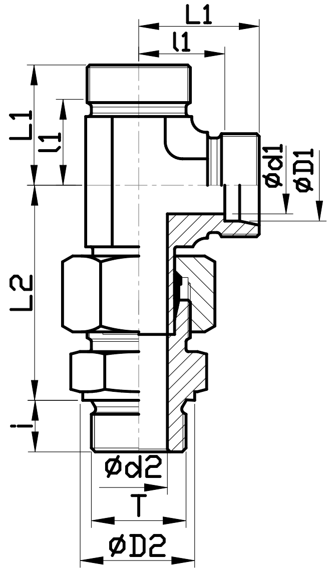


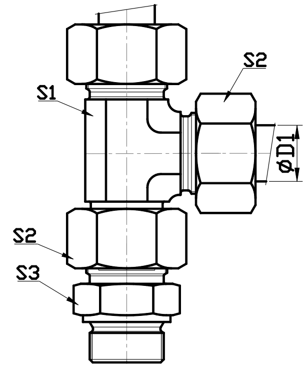
SERIES	ØD1	T	Ød1	Ød2	ØD2	i	L1	l1	L2	S1	S2	S3	PART CODE	WP (bar)
L	06	M10x1	04	04	14	8	19.0	12.0	34.5	12	14	14	SRTA 06LM	250
	08	M12x1.5	06	06	17	12	21.0	14.0	37.5	12	17	17	SRTA 08LM	250
	10	M14x1.5	08	07	19	12	22.0	15.0	40.0	14	19	19	SRTA 10LM	250
	12	M16x1.5	10	09	21	12	24.0	17.0	43.0	17	22	22	SRTA 12LM	250
	15	M18x1.5	12	11	23	12	28.0	21.0	46.0	19	27	24	SRTA 15LM	250
	18	M22x1.5	15	14	27	14	31.0	23.5	50.0	24	32	27	SRTA 18LM	160
	22	M26x1.5	19	18	31	16	35.0	27.5	55.5	27	36	32	SRTA 22LM	160
	28	M33x2	24	23	39	18	38.0	30.5	61.0	34	41	41	SRTA 28LM	100
	35	M42x2	30	30	49	20	45.0	34.5	72.0	41	50	50	SRTA 35LM	100
	42	M48x2	36	36	55	22	51.0	40.0	79.0	50	60	55	SRTA 42LM	100
S	06	M12x1.5	04	04	17	12	23.0	16.0	40.0	12	17	17	SRTA 06SM	630
	08	M14x1.5	05	05	19	12	24.0	17.0	44.0	14	19	19	SRTA 08SM	630
	10	M16x1.5	07	07	21	12	25.0	17.5	47.0	17	22	22	SRTA 10SM	630
	12	M18x1.5	08	08	23	12	29.0	21.5	50.0	19	24	24	SRTA 12SM	630
	14	M20x1.5	10	10	25	14	30.0	22.0	54.0	19	27	27	SRTA 14SM	630
	16	M22x1.5	12	12	27	14	33.0	24.5	56.0	24	30	27	SRTA 16SM	400
	20	M27x2	16	16	32	16	37.0	26.5	65.0	27	36	32	SRTA 20SM	400
	25	M33x2	20	20	39	18	42.0	30.0	73.5	34	46	41	SRTA 25SM	400
	30	M42x2	25	25	49	20	49.0	35.5	80.0	41	50	50	SRTA 30SM	250
	38	M48x2	32	32	55	22	57.0	41.0	92.5	50	60	55	SRTA 38SM	250

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, put suffix 'X' before part code if nut ferrule not required. (Ex: XSRTA 16SM)
5, WP (Working Pressure).: 1 Mpa = 10 bar.

SRTA - R - Male Stud Swivel Run Tee Assembly

Male BSPP Port End Connection (Type 'A' or 'B' Sealing).



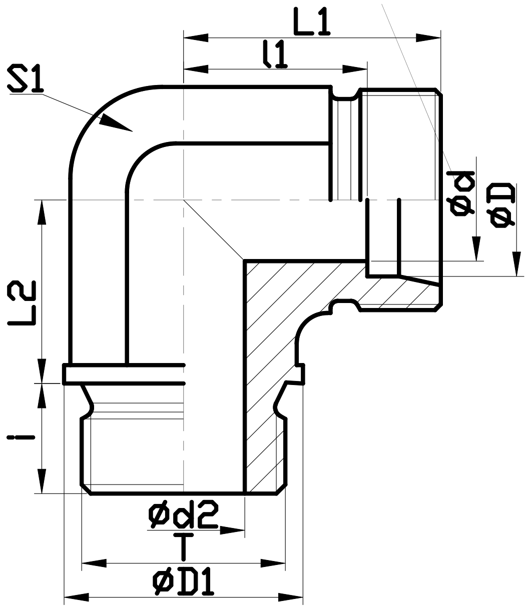


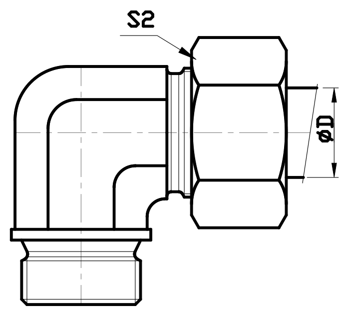
SERIES	ØD1	T	Ød1	Ød2	ØD2	i	L1	l1	L2	S1	S2	S3	PART CODE	WP (bar)
L	06	G1/8"	04	04	14	8	19.0	12.0	34.5	12	14	14	SRTA 06LR	250
	08	G1/4"	06	06	18	12	21.0	14.0	37.5	12	17	19	SRTA 08LR	250
	10	G1/4"	08	06	18	12	22.0	15.0	40.0	14	19	19	SRTA 10LR	250
	12	G3/8"	10	09	22	12	24.0	17.0	43.0	17	22	22	SRTA 12LR	250
	15	G1/2"	12	11	26	14	28.0	21.0	46.5	19	27	27	SRTA 15LR	250
	18	G1/2"	15	14	26	14	31.0	23.5	50.0	24	32	27	SRTA 18LR	160
	22	G3/4"	19	18	32	16	35.0	27.5	55.5	27	36	32	SRTA 22LR	160
	28	G1"	24	23	39	18	38.0	30.5	61.0	34	41	41	SRTA 28LR	100
	35	G1¼"	30	30	49	20	45.0	34.5	72.0	41	50	50	SRTA 35LR	100
	42	G1½"	36	36	55	22	51.0	40.0	79.0	50	60	55	SRTA 42LR	100
S	06	G1/4"	04	04	18	12	23.0	16.0	40.0	12	17	19	SRTA 06SR	630
	08	G1/4"	05	05	18	12	24.0	17.0	44.0	14	19	19	SRTA 08SR	630
	10	G3/8"	07	07	22	12	25.0	17.5	47.0	17	22	22	SRTA 10SR	630
	12	G3/8"	08	08	22	12	29.0	21.5	50.0	19	24	22	SRTA 12SR	630
	14	G1/2"	10	10	26	14	30.0	22.0	54.0	19	27	27	SRTA 14SR	630
	16	G1/2"	12	12	26	14	33.0	24.5	56.0	24	30	27	SRTA 16SR	400
	20	G3/4"	16	16	32	16	37.0	26.5	65.0	27	36	32	SRTA 20SR	400
	25	G1"	20	20	39	18	42.0	30.0	73.5	34	46	41	SRTA 25SR	400
	30	G1¼"	25	25	49	20	49.0	35.5	80.0	41	50	50	SRTA 30SR	250
	38	G1½"	32	32	55	22	57.0	41.0	92.5	50	60	55	SRTA 38SR	250

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, put suffix 'X' before part code if nut ferrule not required. (Ex: XSRTA 16SR)
5, WP (Working Pressure).: 1 Mpa = 10 bar.

LS-M - Elbow Stud Connector

Male METRIC End Connection (Type 'A' or 'B' Sealing).



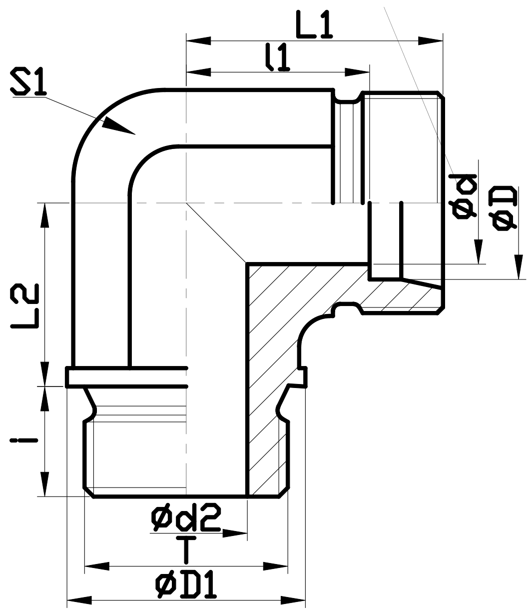


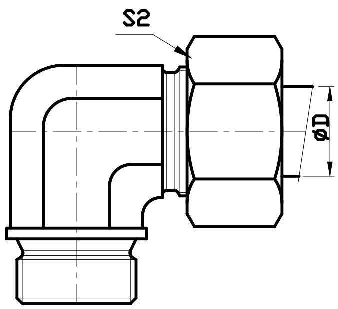
SERIES	ØD	Ød	Ød2	ØD1	T	l	S1	S2	L1	l1	L2	PART CODE	WP (bar)
L	22	19	18	31	M26X1.5	16	27	36	35.0	27.5	26	LS 22LM26X1.5	160
	28	24	23	39	M33X2	18	32	41	38.0	30.5	30	LS 28LM33X2	100
	35	30	30	49	M42X2	20	41	50	45.0	34.5	34	LS 35LM42X2	100
	42	36	36	55	M48X2	22	50	60	51.0	40.0	39	LS 42LM48X2	100
S	20	16	16	32	M27X2	16	27	36	37.0	26.5	26	LS 20SM27X2	400
	25	20	20	39	M33X2	18	32	46	42.0	30.0	30	LS 25SM33X2	400
	30	25	25	49	M42X2	20	41	50	49.0	35.5	34	LS 30SM42X2	250
	38	32	32	55	M48X2	22	50	60	57.0	41.0	39	LS 38SM48X2	250

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, put suffix 'X' before part code if nut ferrule not required. (Ex: XLS 25SM33x2)
5, S1 given for forging, will change if made from flat bar.
6, WP (Working Pressure).: 1 Mpa = 10 bar.

LS - R - Elbow Stud Connector

Male BSPP End Connection (Type 'A' or 'B' Sealing).



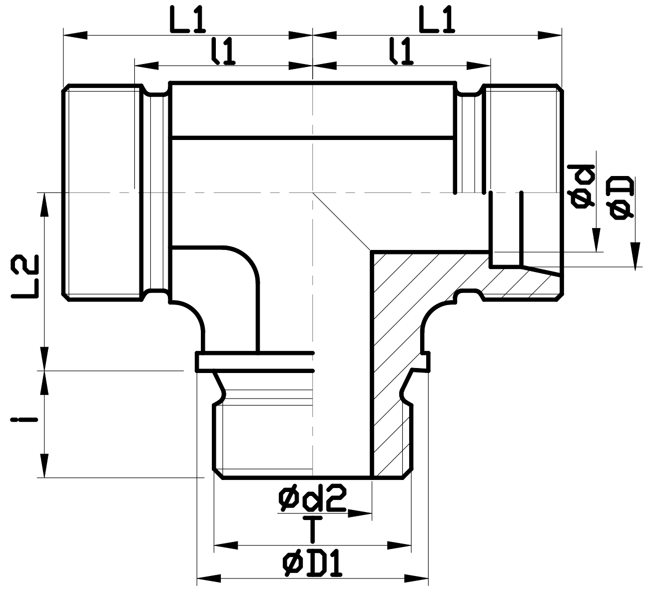


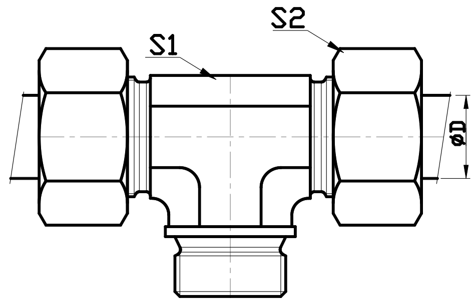
SERIES	ØD	Ød	Ød2	ØD1	T	l	S1	S2	L1	l1	L2	PART CODE	WP (bar)
L	22	19	18	32	G3/4"	16	27	36	35.0	27.5	26	LS 22LR3/4"	160
	28	24	23	39	G1"	18	32	41	38.0	30.5	30	LS 28LR1"	100
	35	30	30	49	G1 1/4"	20	41	50	45.0	34.5	34	LS 35LR1 1/4"	100
	42	36	36	55	G1 1/2"	22	50	60	51.0	40.0	39	LS 42LR1 1/2"	100
S	20	16	16	32	G3/4"	16	27	36	37.0	26.5	26	LS 20SR3/4"	400
	25	20	20	39	G 1"	18	32	46	42.0	30.0	30	LS 25SR1"	400
	30	25	25	49	G1 1/4"	20	41	50	49.0	35.5	34	LS 30SR1 1/4"	250
	38	32	32	55	G1 1/2"	22	50	60	57.0	41.0	39	LS 38SR1 1/2"	250

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, put suffix 'X' before part code if nut ferrule not required. (Ex: XLS 25SR1")
5, S1 given for forging, will change if made from flat bar.
6, WP (Working Pressure).: 1 Mpa = 10 bar.

MBT - M - Male Stud Branch Tee

Male METRIC End Connection (Type 'A' or 'B' Sealing).



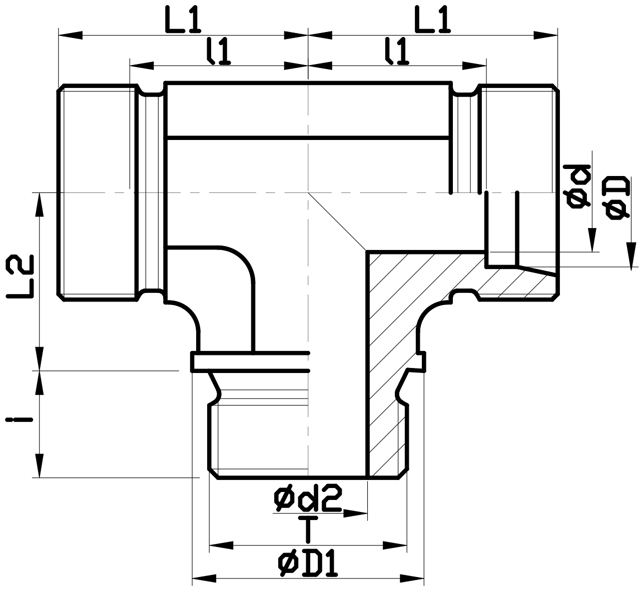


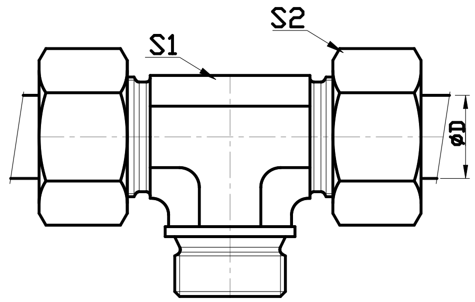
SERIES	ØD	Ød	Ød2	ØD1	T	l	S1	S2	L1	l1	L2	PART CODE	WP (bar)
L	22	19	18	31	M26X1.5	16	27	36	35.0	27.5	26	MBT 22LM26x1.5	160
	28	24	23	39	M33X2	18	34	41	38.0	30.5	30	MBT 28LM33x2.0	100
	35	30	30	49	M42X2	20	41	50	45.0	34.5	34	MBT 35LM42x2.0	100
	42	36	36	55	M48X2	22	50	60	51.0	40.0	39	MBT 42LM48x2.0	100
S	20	16	16	32	M27X2	16	27	36	37.0	26.5	26	MBT 20SM27x2.0	400
	25	20	20	39	M33X2	18	34	46	42.0	30.0	30	MBT 25SM33x2.0	400
	30	25	25	49	M42X2	20	41	50	49.0	35.5	34	MBT 30SM42x2.0	250
	38	32	32	55	M48X2	22	50	60	57.0	41.0	39	MBT 38SM48x2.0	250

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, put suffix 'X' before part code if nut ferrule not required. (Ex: XMBT 25SM33x2)
5, S1 given for forging, will change if made from flat bar.
6, WP (Working Pressure).: 1 Mpa = 10 bar.

MBT - R - Male Stud Branch Tee

Male BSPP End Connection (Type 'A' or 'B' Sealing).



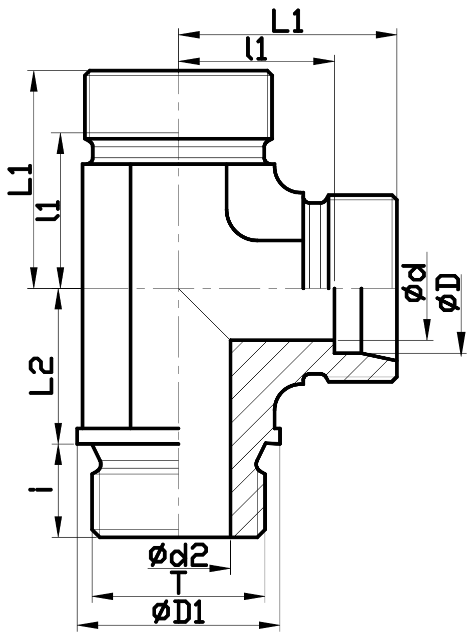


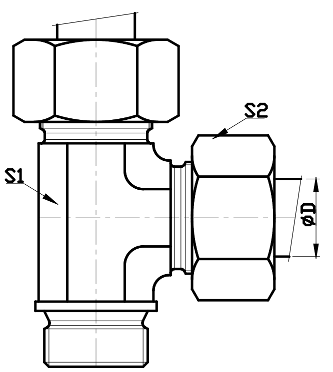
SERIES	ØD	Ød	Ød2	ØD1	T	l	S1	S2	L1	l1	L2	PART CODE	WP (bar)
L	22	19	18	32	G3/4"	16	27	36	35.0	27.5	26	MBT 22LR3/4"	160
	28	24	23	39	G1"	18	34	41	38.0	30.5	30	MBT 28LR1"	100
	35	30	30	49	G1¼"	20	41	50	45.0	34.5	34	MBT 35LR1 1/4"	100
	42	36	36	55	G1½"	22	50	60	51.0	40.0	39	MBT 42LR1 1/2"	100
S	20	16	16	32	G3/4"	16	27	36	37.0	26.5	26	MBT 20SR3/4"	400
	25	20	20	39	G 1"	18	34	46	42.0	30.0	30	MBT 25SR1"	400
	30	25	25	49	G1¼"	20	41	50	49.0	35.5	34	MBT 30SR1 1/4"	250
	38	32	32	55	G1½"	22	50	60	57.0	41.0	39	MBT 38SR1 1/2"	250

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, put suffix 'X' before part code if nut ferrule not required. (Ex: XMBT 25SR1")
5, S1 given for forging, will change if made from flat bar.
6, WP (Working Pressure).: 1 Mpa = 10 bar.

MRT - M - Male Stud Run Tee

Male METRIC End Connection (Type 'A' or 'B' Sealing).



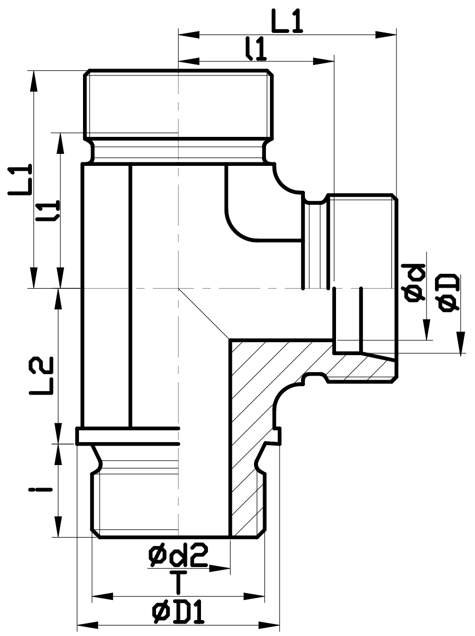


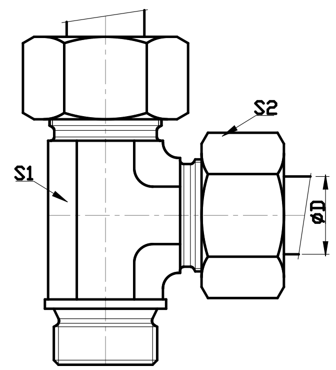
SERIES	ØD	Ød	Ød2	ØD1	T	l	S1	S2	L1	l1	L2	PART CODE	WP (bar)
L	22	19	18	31	M26X1.5	16	27	36	35.0	27.5	26	MRT 22LM26x1.5	160
	28	24	23	39	M33X2	18	34	41	38.0	30.5	30	MRT 28LM33x2.0	100
	35	30	30	49	M42X2	20	41	50	45.0	34.5	34	MRT 35LM42x2.0	100
	42	36	36	55	M48X2	22	50	60	51.0	40.0	39	MRT 42LM48x2.0	100
S	20	16	16	32	M27X2	16	27	36	37.0	26.5	26	MRT 20SM27x2.0	400
	25	20	20	39	M33X2	18	34	46	42.0	30.0	30	MRT 25SM33x2.0	400
	30	25	25	49	M42X2	20	41	50	49.0	35.5	34	MRT 30SM42x2.0	250
	38	32	32	55	M48X2	22	50	60	57.0	41.0	39	MRT 38SM48x2.0	250

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, put suffix 'X' before part code if nut ferrule not required. (Ex: XMRT 25SM33x2)
5, S1 given for forging, will change if made from flat bar.
6, WP (Working Pressure).: 1 Mpa = 10 bar.

MRT - R - Male Stud Run Tee

Male BSPP End Connection (Type 'A' or 'B' Sealing).



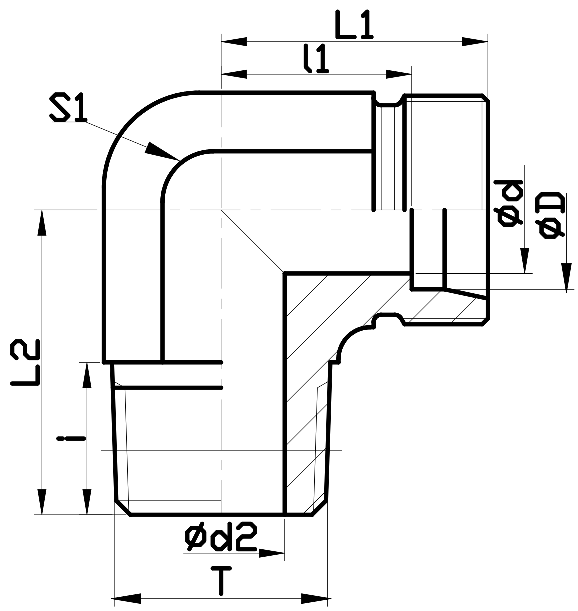


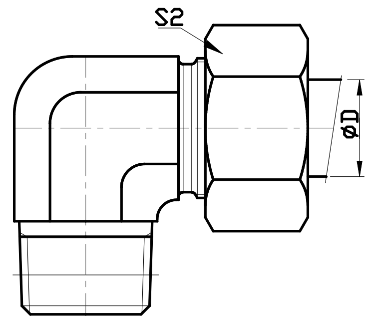
SERIES	ØD	Ød1	Ød2	ØD1	T	I	S1	S2	L1	I1	L2	PART CODE	WP (bar)
L	22	19	18	32	G3/4"	16	27	36	35.0	27.5	26	MRT 22LR3/4"	160
	28	24	23	39	G1"	18	34	41	38.0	30.5	30	MRT 28LR1"	100
	35	30	30	49	G1¼"	20	41	50	45.0	34.5	34	MRT 35LR1 1/4"	100
	42	36	36	55	G1½"	22	50	60	51.0	40.0	39	MRT 42LR1 1/2"	100
S	20	16	16	32	G3/4"	16	27	36	37.0	26.5	26	MRT 20SR3/4"	400
	25	20	20	39	G 1"	18	34	46	42.0	30.0	30	MRT 25SR1"	400
	30	25	25	49	G1¼"	20	41	50	49.0	35.5	34	MRT 30SR1 1/4"	250
	38	32	32	55	G1½"	22	50	60	57.0	41.0	39	MRT 38SR1 1/2"	250

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, put suffix 'X' before part code if nut ferrule not required. (Ex: XMRT 25SR1")
5, S1 given for forging, will change if made from flat bar.
6, WP (Working Pressure).: 1 Mpa = 10 bar.

LS - N - Elbow Stud Connector

Male NPT Thread.



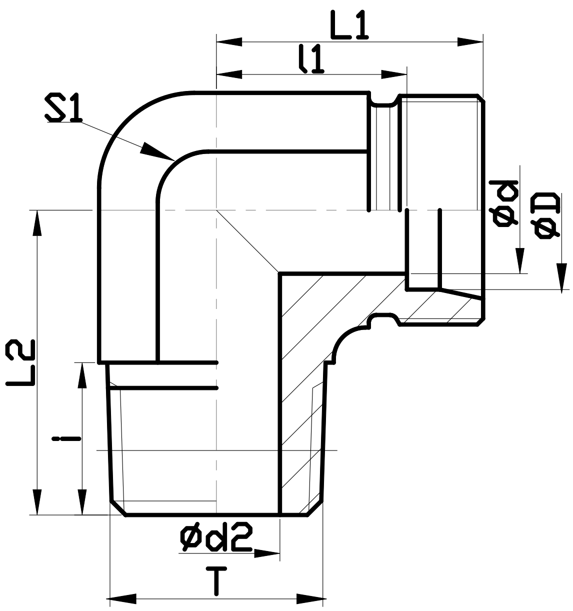


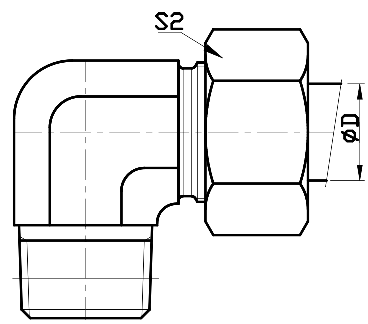
SERIES	ØD	Ød1	Ød2	T	i	S1	S2	L1	l1	L2	PART CODE	WP (bar)
L	06	4	4	1/8-27NPT	10.0	12	14	19.0	12.0	20	LS 06LN 1/8"	250
	06	4	7	1/4-18NPT	14.5	12	14	21.0	14.0	26	LS 06LN 1/4"	250
	06	4	8	3/8-18NPT	14.5	17	14	25.0	18.0	28	LS 06LN 3/8"	250
	08	6	4	1/8-27NPT	10.0	12	17	21.0	14.0	26	LS 08LN 1/8"	250
	08	6	6	1/4-18NPT	14.5	12	17	21.0	14.0	26	LS 08LN 1/4"	250
	10	8	7	1/4-18NPT	14.5	14	19	22.0	15.0	27	LS 10LN 1/4"	250
	10	8	8	3/8-18NPT	14.5	17	19	24.0	17.0	28	LS 10LN 3/8"	250
	12	10	7	1/4-18NPT	14.5	17	22	24.0	17.0	28	LS 12LN 1/4"	250
	12	10	8	3/8-18NPT	14.5	17	22	24.0	17.0	28	LS 12LN 3/8"	250
	12	10	11	1/2-14NPT	19.5	19	22	28.0	21.0	34	LS 12LN 1/2"	250
	15	12	11	1/2-14NPT	19.5	19	27	28.0	21.0	34	LS 15LN 1/2"	250
	18	15	12	1/2-14NPT	19.5	24	32	31.0	23.5	36	LS 18LN 1/2"	160
	22	19	16	3/4-14NPT	19.5	27	36	35.0	27.5	42	LS 22LN 3/4"	160
	28	24	21	1-11.5NPT	24.5	32	41	38.0	30.5	48	LS 28LN 1"	100
	35	30	28	1¼-11.5NPT	25.0	41	50	45.0	34.5	54	LS 35LN 1 1/4"	100
	42	36	34	1½-11.5NPT	26.0	50	60	51.0	40.0	61	LS 42LN 1 1/2"	100

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, put suffix ‘X’ before part code if nut ferrule not required. (Ex: XLS 18LN1/2")
4, S1 given for forging, will change if made from flat bar.
5, WP (Working Pressure).: 1 Mpa = 10 bar.

LS - N - Elbow Stud Connector

Male NPT Thread.



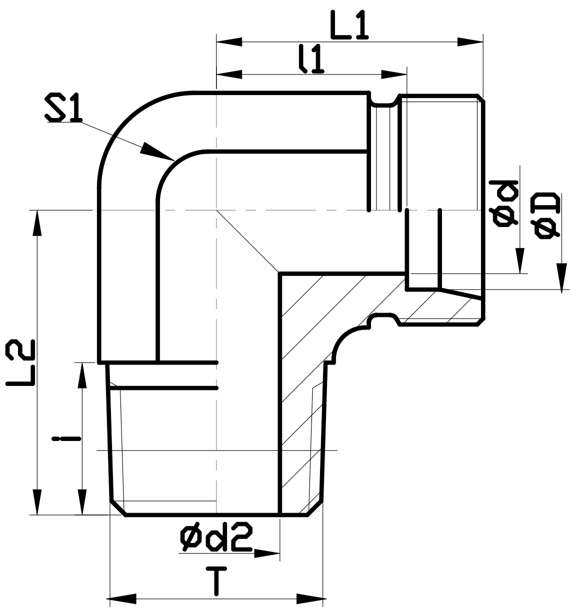


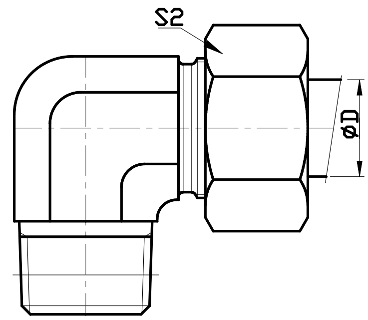
SERIES	ØD	Ød	Ød2	T	i	S1	S2	L1	l1	L2	PART CODE	WP (bar)
S	06	4	4	1/4-18NPT	14.5	12	17	23.0	16.0	26	LS 06SN 1/4"	630
	08	5	5	1/4-18NPT	14.5	14	19	24.0	17.0	27	LS 08SN 1/4"	630
	08	5	8	3/8-18NPT	14.5	17	19	25.0	18.0	28	LS 08SN 3/8"	630
	08	5	10	1/2-14NPT	19.5	19	19	30.0	23.0	34	LS 08SN 1/2"	630
	10	7	5	1/4-18NPT	14.5	17	22	25.0	17.5	28	LS 10SN 1/4"	630
	10	7	7	3/8-18NPT	14.5	17	22	25.0	17.5	28	LS 10SN 3/8"	630
	12	8	5	1/4-18NPT	14.5	19	24	29.0	21.5	29	LS 12SN 1/4"	630
	12	8	8	3/8-18NPT	14.5	19	24	29.0	22.5	28	LS 12SN 3/8"	630
	12	8	10	1/2-14NPT	19.5	19	24	30.0	22.5	34	LS 12SN 1/2"	630
	14	10	10	1/2-14NPT	19.5	19	27	30.0	22.0	34	LS 14SN 1/2"	630
	16	12	12	1/2-14NPT	19.5	24	30	33.0	24.5	36	LS 16SN 1/2"	400
	20	16	16	3/4-14NPT	19.5	27	36	37.0	26.5	42	LS 20SN 3/4"	400
	25	20	20	1-11.5NPT	24.5	32	46	42.0	30.0	48	LS 25SN 1"	400
	30	25	25	1 1/4-11.5NPT	25.0	41	50	49.0	35.5	54	LS 30SN 1 1/4"	250
	38	32	32	1 1/2-11.5NPT	26.0	50	60	57.0	41.0	61	LS 38SN 1 1/2"	250

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, S: High Pressure Working Series.
4, put suffix 'X' before part code if nut ferrule not required. (Ex: XLS 16SN1/2")
5, S1 given for forging, will change if made from flat bar.
6, WP (Working Pressure).: 1 Mpa = 10 bar.

LS - MT - Elbow Stud Connector

Male Taper Metric Thread.





SERIES	ØD	Ød	Ød2	T	l	S1	S2	L1	l1	L2	PART CODE	WP (bar)
L	06	04	04	M10x1	8	12	14	19.0	12.0	20	LS 06LMT10x1.0	250
	08	06	06	M12x1.5	12	12	17	21.0	14.0	26	LS 08LMT12x1.5	250
	10	08	07	M14x1.5	12	14	19	22.0	15.0	27	LS 10LMT14x1.5	250
	12	10	09	M16x1.5	12	17	22	24.0	17.0	28	LS 12LMT16x1.5	250
	15	12	11	M18x1.5	12	19	27	28.0	21.0	32	LS 15LMT18x1.5	250
	18	15	14	M22x1.5	14	24	32	31.0	23.0	36	LS 18LMT22x1.5	160
S	06	04	04	M12x1.5	12	12	17	23.0	16.0	26	LS 06SMT12x1.5	630
	08	05	05	M14x1.5	12	14	19	24.0	17.0	27	LS 08SMT14x1.5	630
	10	07	07	M16x1.5	12	17	22	25.0	17.5	28	LS 10SMT16x1.5	630
	12	08	08	M18x1.5	12	17	24	29.0	21.5	28	LS 12SMT18x1.5	630
	14	10	10	M20x1.5	14	19	27	30.0	22.0	32	LS 14SMT20x1.5	630
	16	12	12	M22x1.5	14	24	30	33.0	24.5	32	LS 16SMT22x1.5	400

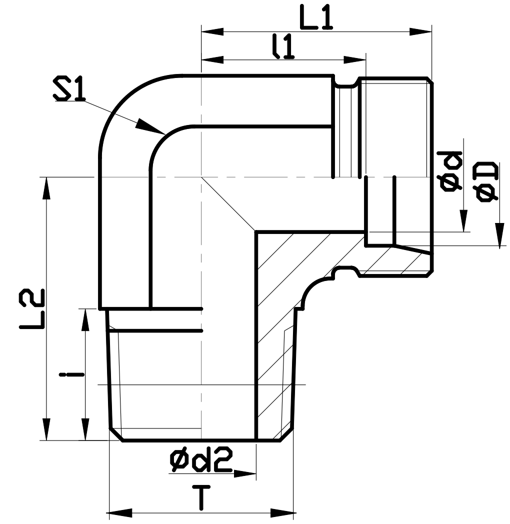
1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, put suffix ‘X’ before part code if nut ferrule not required. (Ex: XLS 16SMT22x1.5)
5, S1 given for forging, will change if made from flat bar.
6, WP (Working Pressure).: 1 Mpa = 10 bar.

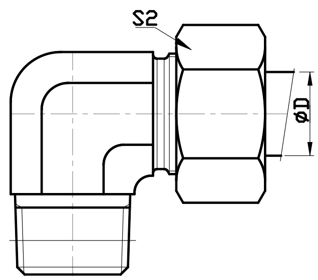
LS - RT - Elbow Stud Connector

Male Taper BSPT Thread.

24⁰ Fittings

Gem Engineering Industries (India) Pvt. Ltd.



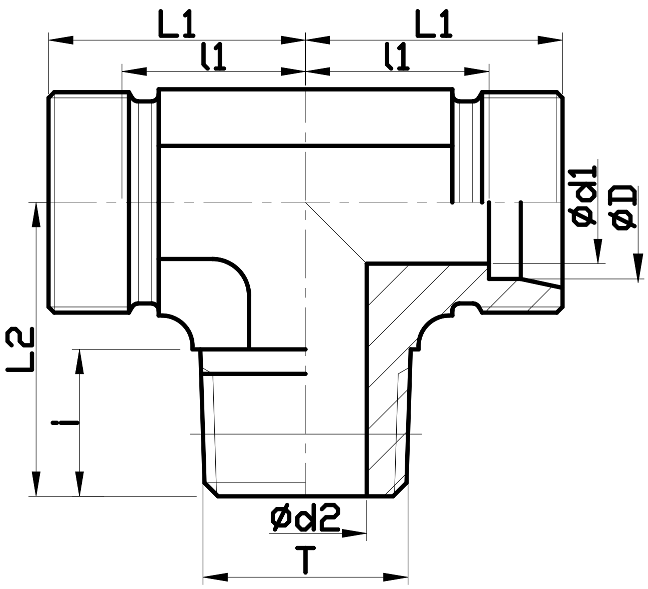


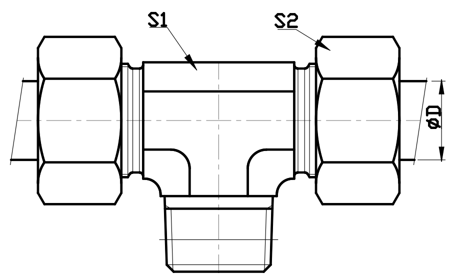
SERIES	ØD	Ød	Ød2	T	l	S1	S2	L1	l1	L2	PART CODE	WP (bar)
L	06	04	04	G1/8"	8	12	14	19.0	12.0	20	LS 06LRT 1/8"	250
	06	04	06	G1/4"	12	12	14	21.0	14.0	26	LS 06LRT 1/4"	250
	08	06	06	G1/4"	12	12	17	21.0	14.0	26	LS 08LRT 1/4"	250
	08	06	04	G1/8"	8	12	17	21.0	14.0	26	LS 08LRT 1/8"	250
	08	06	09	G3/8"	12	17	17	24.0	17.0	28	LS 08LRT 3/8"	250
	10	08	07	G1/4"	12	14	19	22.0	15.0	27	LS 10LRT 1/4"	250
	10	08	09	G3/8"	12	17	19	24.0	17.0	28	LS 10LRT 3/8"	250
	12	10	09	G3/8"	12	17	22	24.0	17.0	28	LS 12LRT 3/8"	250
	12	10	07	G1/4"	12	17	22	24.0	17.0	27	LS 12LRT 1/4"	250
	12	10	11	G1/2"	14	19	22	28.0	21.0	34	LS 12LRT 1/2"	250
	15	12	11	G1/2"	14	19	27	28.0	21.0	34	LS 15LRT 1/2"	250
	18	15	14	G1/2"	14	24	32	31.0	23.5	36	LS 18LRT 1/2"	160
S	06	04	04	G1/4"	12	12	17	23	16.0	26	LS 06SRT 1/4"	630
	06	04	07	G3/8"	12	17	17	25	18.0	28	LS 06SRT 3/8"	630
	08	05	05	G1/4"	12	14	19	24	17.0	27	LS 08SRT 1/4"	630
	08	05	07	G3/8"	12	17	19	25	18.0	28	LS 08SRT 3/8"	630
	10	07	07	G3/8"	12	17	22	25	17.5	28	LS 10SRT 3/8"	630
	10	07	05	G1/4"	12	17	22	25	17.5	28	LS 10SRT 1/4"	630
	10	07	10	G1/2"	14	19	22	30	22.5	32	LS 10SRT 1/2"	630
	12	08	08	G3/8"	12	19	24	29	21.5	28	LS 12SRT 3/8"	630
	12	08	11	G1/2"	14	19	24	30	22.5	32	LS 12SRT 1/2"	630
	14	10	10	G1/2"	14	19	27	30	22.0	32	LS 14SRT 1/2"	630
	16	12	12	G1/2"	14	24	30	33	24.5	32	LS 16SRT 1/2"	400

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, put suffix ‘X’ before part code if nut ferrule not required. (Ex: XLS 16SRT 1/2")
5, S1 given for forging, will change if made from flat bar.
6, WP (Working Pressure).: 1 Mpa = 10 bar.

MBT - MT - Male Stud Branch Tee

Male Taper METRIC Thread.



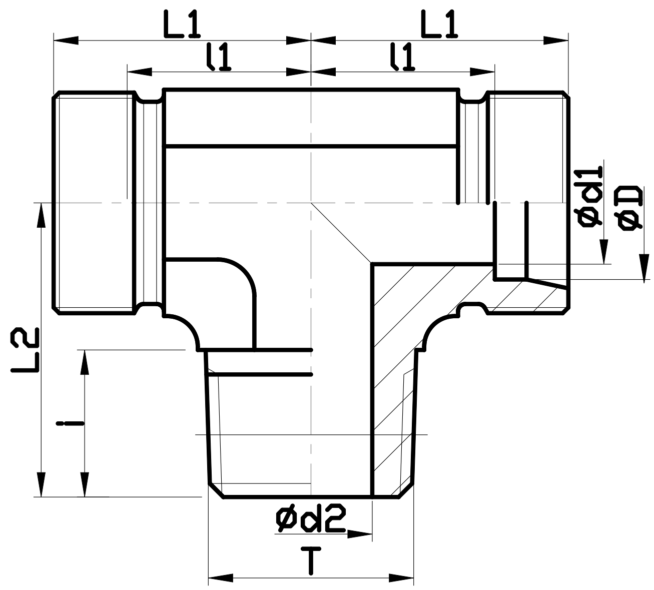


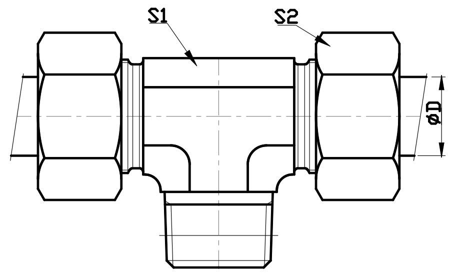
SERIES	ØD	Ød1	Ød2	T	l	S1	S2	L1	l1	L2	PART CODE	WP (bar)
L	06	04	04	M10X1	8	12	14	19	12.0	20	MBT 06LMT10x1.0	250
	08	06	06	M12X1.5	12	12	17	21	14.0	26	MBT 08LMT12x1.5	250
	10	08	07	M14X1.5	12	14	19	22	15.0	27	MBT 10LMT14x1.5	250
	12	10	09	M16X1.5	12	17	22	24	17.0	28	MBT 12LMT16x1.5	250
	15	12	11	M18X1.5	12	19	27	28	21.0	32	MBT 15LMT18x1.5	250
	18	15	14	M22X1.5	14	24	32	31	23.5	36	MBT 18LMT22x1.5	160
S	06	04	04	M12X1.5	12	12	17	23	16.0	26	MBT 06SMT12x1.5	630
	08	05	05	M14X1.5	12	14	19	24	17.0	27	MBT 08SMT14x1.5	630
	10	07	07	M16X1.5	12	17	22	25	17.5	28	MBT 10SMT16x1.5	630
	12	08	08	M18X1.5	12	17	24	29	21.5	28	MBT 12SMT18x1.5	630
	14	10	10	M20X1.5	14	19	27	30	22.0	32	MBT 14SMT20x1.5	630
	16	12	12	M22X1.5	14	24	30	33	24.5	32	MBT 16SMT22x1.5	400

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, put suffix ‘X’ before part code if nut ferrule not required. (Ex: XMBT 16SMT22x1.5)
5, S1 given for forging, will change if made from flat bar.
6, WP (Working Pressure).: 1 Mpa = 10 bar.

MBT - RT - Male Stud Branch Tee

Male Taper BSPT Thread.



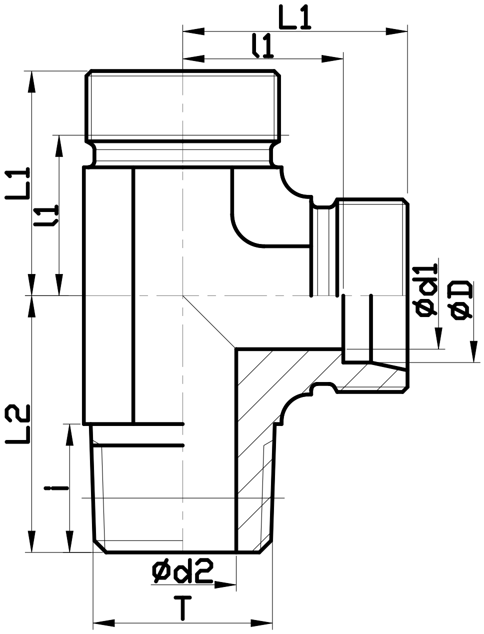


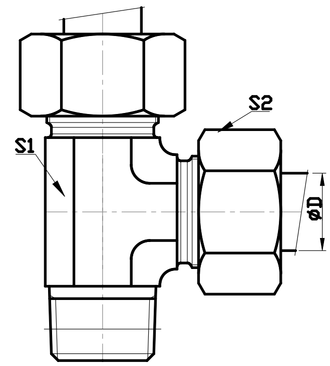
SERIES	ØD	Ød1	Ød2	T	l	S1	S2	L1	l1	L2	PART CODE	WP (bar)
L	06	04	04	G1/8"	8	12	14	19	12.0	20	MBT 06LRT1/8"	250
	08	06	06	G1/4"	12	12	17	21	14.0	26	MBT 08LRT1/4"	250
	10	08	07	G1/4"	12	14	19	22	15.0	27	MBT 10LRT1/4"	250
	12	10	09	G3/8"	12	17	22	24	17.0	28	MBT 12LRT3/8"	250
	15	12	11	G1/2"	14	19	27	28	21.0	34	MBT 15LRT1/2"	250
	18	15	14	G1/2"	14	24	32	31	23.5	36	MBT 18LRT1/2"	160
S	06	04	04	G1/4"	12	12	17	23	16.0	26	MBT 06SRT1/4"	630
	08	05	05	G1/4"	12	14	19	24	17.0	27	MBT 08SRT1/4"	630
	10	07	07	G3/8"	12	17	22	25	17.5	28	MBT 10SRT3/8"	630
	12	08	08	G3/8"	12	17	24	29	21.5	28	MBT 12SRT3/8"	630
	14	10	10	G1/2"	14	19	27	30	22.0	32	MBT 14SRT1/2"	630
	16	12	12	G1/2"	14	24	30	33	24.5	32	MBT 16SRT1/2"	400

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, put suffix ‘X’ before part code if nut ferrule not required. (Ex: XMBT 16SRT 1/2")
5, S1 given for forging, will change if made from flat bar.
6, WP (Working Pressure).: 1 Mpa = 10 bar.

MRT - MT - Male Stud Run Tee

Male Taper METRIC Thread.





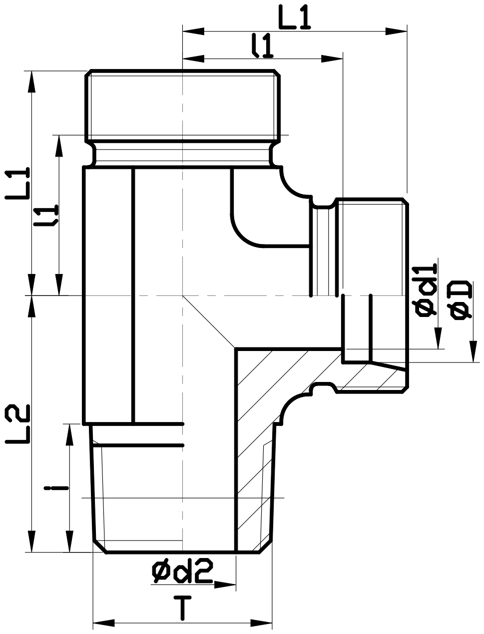
SERIES	ØD	Ød1	Ød2	T	l	S1	S2	L1	l1	L2	PART CODE	WP (bar)
L	06	04	04	M10X1	8	12	14	19	12.0	20	MRT 06LMT10x1.0	250
	08	06	06	M12X1.5	12	12	17	21	14.0	26	MRT 08LMT12x1.5	250
	10	08	07	M14X1.5	12	14	19	22	15.0	27	MRT 10LMT14x1.5	250
	12	10	09	M16X1.5	12	17	22	24	17.0	28	MRT 12LMT16x1.5	250
	15	12	11	M18X1.5	12	19	27	28	21.0	32	MRT 15LMT18x1.5	250
	18	15	14	M22X1.5	14	24	32	31	23.5	36	MRT 18LMT22x1.5	160
S	06	04	04	M12X1.5	12	12	17	23	16.0	26	MRT 06SMT12x1.5	630
	08	05	05	M14X1.5	12	14	19	24	17.0	27	MRT 08SMT14x1.5	630
	10	07	07	M16X1.5	12	17	22	25	17.5	28	MRT 10SMT16x1.5	630
	12	08	08	M18X1.5	12	17	24	29	21.5	28	MRT 12SMT18x1.5	630
	14	10	10	M20X1.5	14	19	27	30	22.0	32	MRT 14SMT20x1.5	630
	16	12	12	M22X1.5	14	24	30	33	24.5	32	MRT 16SMT22x1.5	400

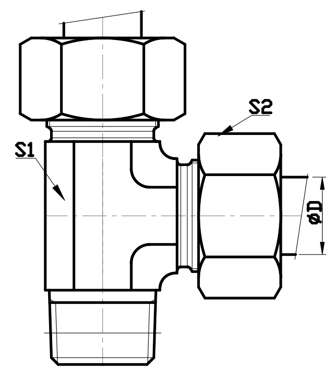
1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, put suffix 'X' before part code if nut ferrule not required. (Ex: XMRT 16SMT22x1.5)
5, S1 given for forging, will change if made from flat bar.
6, WP (Working Pressure).: 1 Mpa = 10 bar.

MRT - RT - Male Stud Run Tee

Male Taper BSPT Thread.

24⁰ Fittings



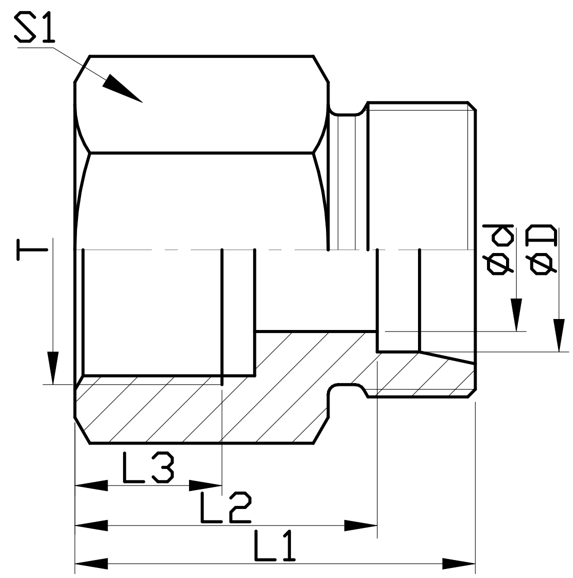


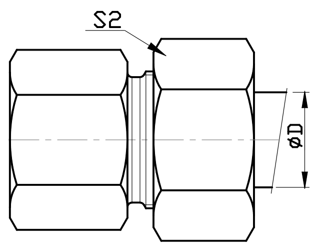
SERIES	ØD	Ød1	Ød2	T	l	S1	S2	L1	l1	L2	PART CODE	WP (bar)
L	06	04	04	G1/8"	8	12	14	19	12.0	20	MRT 06LRT1/8"	250
	08	06	06	G1/4"	12	12	17	21	14.0	26	MRT 08LRT1/4"	250
	10	08	07	G1/4"	12	14	19	22	15.0	27	MRT 10LRT1/4"	250
	12	10	09	G3/8"	12	17	22	24	17.0	28	MRT 12LRT3/8"	250
	15	12	11	G1/2"	14	19	27	28	21.0	34	MRT 15LRT1/2"	250
	18	15	14	G1/2"	14	24	32	31	23.5	36	MRT 18LRT1/2"	160
S	06	04	04	G1/4"	12	12	17	23	16.0	26	MRT 06SRT1/4"	630
	08	05	05	G1/4"	12	14	19	24	17.0	27	MRT 08SRT1/4"	630
	10	07	07	G3/8"	12	17	22	25	17.5	28	MRT 10SRT3/8"	630
	12	08	08	G3/8"	12	17	24	29	21.5	28	MRT 12SRT3/8"	630
	14	10	10	G1/2"	14	17	27	30	22.0	32	MRT 14SRT1/2"	630
	16	12	12	G1/2"	14	24	30	33	24.5	32	MRT 16SRT1/2"	400

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, put suffix ‘X’ before part code if nut ferrule not required. (Ex: XMRT 16SRT 1/2")
5, S1 given for forging, will change if made from flat bar.
6, WP (Working Pressure).: 1 Mpa = 10 bar.

SF - M - Straight Female Stud Coupling

Female METRIC Thread



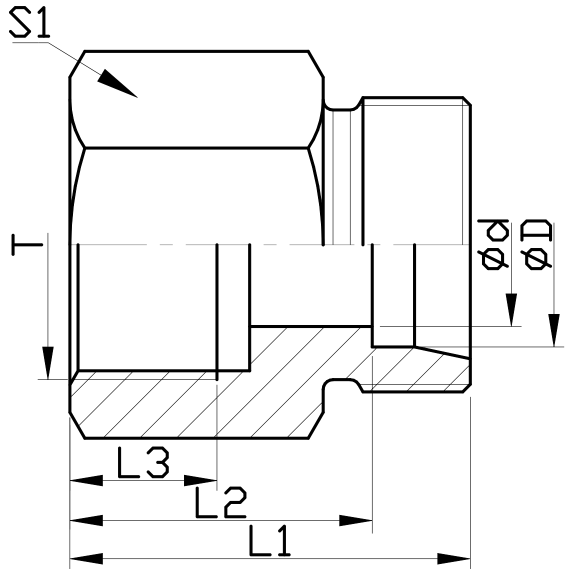


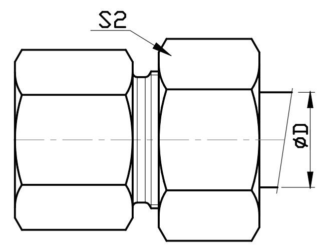
SERIES	ØD	Ød	T	S1	S2	L1	L2	L3	PART CODE	WP (bar)
	06	04	M10x1	14	14	26.5	19.5	8.0	SF 06LM10x1.0	250
	08	06	M12x1.5	17	17	31.0	24.0	12.0	SF 08LM12x1.5	250
	10	08	M14x1.5	19	19	32.0	25.0	12.0	SF 10LM14x1.5	250
	12	10	M16x1.5	22	22	33.0	26.0	12.0	SF 12LM16x1.5	250
L	15	12	M18x1.5	24	27	35.0	28.0	12.0	SF 15LM18x1.5	250
	18	15	M22x1.5	30	32	37.0	29.5	14.0	SF 18LM22x1.5	160
	22	19	M26x1.5	32	36	42.0	34.5	16.0	SF 22LM26x1.5	160
	28	24	M33x2	41	41	45.0	37.5	18.0	SF 28LM33x2.0	100
	35	30	M42x2	55	50	51.0	40.5	20.0	SF 35LM42x2.0	100
	42	36	M48x2	60	60	53.0	42.0	22.0	SF 42LM48x2.0	100
	06	04	M12x1.5	17	17	33.0	26.0	12.0	SF 06SM12x1.5	630
	08	05	M14x1.5	17	19	33.0	26.0	12.0	SF 08SM14x1.5	630
	10	07	M16x1.5	22	22	34.0	26.5	12.0	SF 10SM16x1.5	630
	12	08	M18x1.5	24	24	35.0	27.5	12.0	SF 12SM18x1.5	630
S	14	10	M20x1.5	27	27	39.0	31.0	14.0	SF 14SM20x1.5	630
	16	12	M22x1.5	30	30	39.0	30.5	14.0	SF 16SM22x1.5	400
	20	16	M27x2	36	36	45.0	34.5	16.0	SF 20SM27x2.0	400
	25	20	M33x2	41	46	49.0	37.0	18.0	SF 25SM33x2.0	400
	30	25	M42x2	55	50	55.0	41.5	20.0	SF 30SM42x2.0	250
	38	32	M48x2	60	60	59.0	43.0	22.0	SF 38SM48x2.0	250

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, put suffix ‘X’ before part code if nut ferrule not required. (Ex: XSF 16SM22x1.5)
5, WP (Working Pressure).: 1 Mpa = 10 bar.

SF - R - Straight Female Stud Coupling

Female BSP/BSPT Thread





SERIES	ØD	Ød	T	S1	S2	L1	L2	L3	PART CODE	WP (bar)
L	06	04	1/8"	14	14	26.0	19.0	8.0	SF 06LR 1/8"	250
	06	04	1/4"	19	14	31.0	24.0	12.0	SF 06LR 1/4"	250
	08	06	1/4"	19	17	31.0	24.0	12.0	SF 08LR 1/4"	250
	08	06	3/8"	24	17	32.0	25.0	12.0	SF 08LR 3/8"	250
	08	06	1/2"	27	17	36.0	29.0	14.0	SF 08LR 1/2"	250
	10	08	1/4"	19	19	32.0	25.0	12.0	SF 10LR 1/4"	250
	10	08	3/8"	24	19	33.0	26.0	12.0	SF 12LR 3/8"	250
	10	08	1/2"	27	19	37.0	30.0	14.0	SF 15LR 1/2"	250
	12	10	3/8"	24	22	33.0	26.0	12.0	SF 18LR 3/8"	250
	12	10	1/2"	27	22	37.0	30.0	14.0	SF 22LR 1/2"	250
	15	12	1/2"	27	27	38.0	31.0	14.0	SF 28LR 1/2"	250
	18	15	1/2"	27	32	38.0	30.5	14.0	SF 35LR 1/2"	160
	18	15	3/8"	27	32	34.0	26.5	12.0	SF 35LR 3/8"	160
	22	19	3/4"	36	36	43.0	35.5	16.0	SF 42LR 3/4"	160
	28	24	1"	41	41	45.5	38.0	18.0	SF 35LR 1"	100
	35	30	1 1/4"	55	50	51.5	41.0	20.0	SF 35LR 1 1/4"	100
	42	36	1 1/2"	60	60	53.5	42.5	22.0	SF 42LR 1 1/2"	100

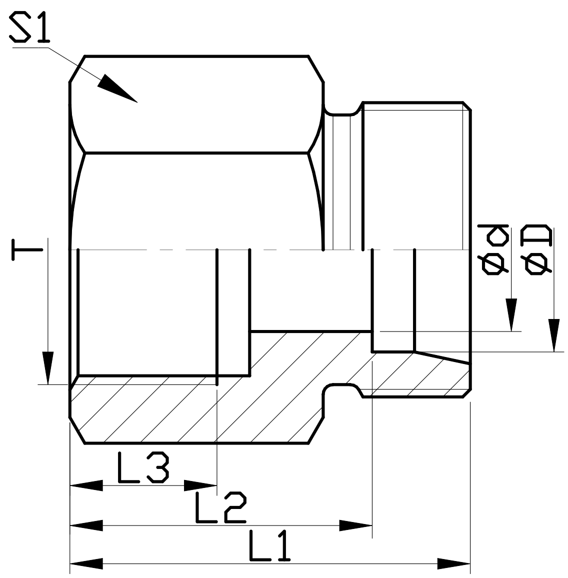
1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, put suffix 'X' before part code if nut ferrule not required. (Ex: XSF 18LR 3/8")
4, WP (Working Pressure).: 1 Mpa = 10 bar.

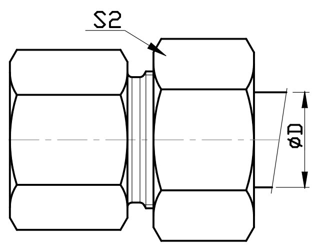
SF - R - Straight Female Coupling

Female BSP/BSPT Thread

24⁰ Fittings

Gem Engineering Industries (India) Pvt. Ltd.



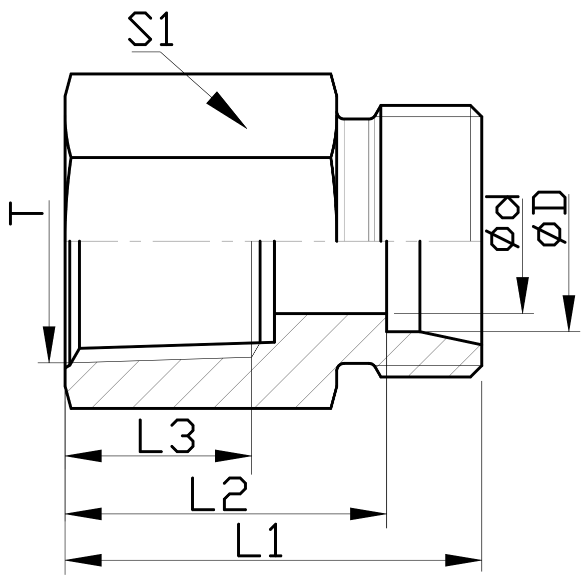


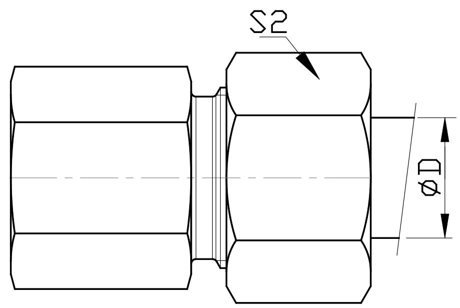
SERIES	ØD	Ød	T	S1	S2	L1	L2	L3	PART CODE	WP (bar)
S	06	04	1/4"	19	17	33.0	26.0	12.0	SF 06SR 1/4"	630
	08	05	1/4"	19	19	33.0	26.0	12.0	SF 08SR 1/4"	630
	10	07	3/8"	24	22	34.0	26.5	12.0	SF 10SR 3/8"	630
	12	08	3/8"	24	24	34.0	26.5	12.0	SF 12SR 3/8"	630
	12	08	1/2"	30	24	38.0	30.5	14.0	SF 12SR 1/2"	630
	14	10	1/2"	30	27	40.0	32.0	14.0	SF 14SR 1/2"	630
	16	12	1/2"	30	30	40.0	31.5	14.0	SF 16SR 1/2"	400
	20	16	3/4"	36	36	45.0	34.5	16.0	SF 20SR 3/4"	400
	25	20	1"	41	46	49.5	37.5	18.0	SF 25SR 1"	400
	30	25	1 1/4"	55	50	55.5	42.0	22.0	SF 30SR 1 1/4"	250
	38	32	1 1/2"	60	60	59.5	43.5	22.0	SF 38SR 1 1/2"	250

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, S: High Pressure Working Series.
3, put suffix ‘X’ before part code if nut ferrule not required. (Ex: XSF 16SR 1/2")
4, WP (Working Pressure).: 1 Mpa = 10 bar.

SF - N - Straight Female Stud Coupling

Female NPT Thread



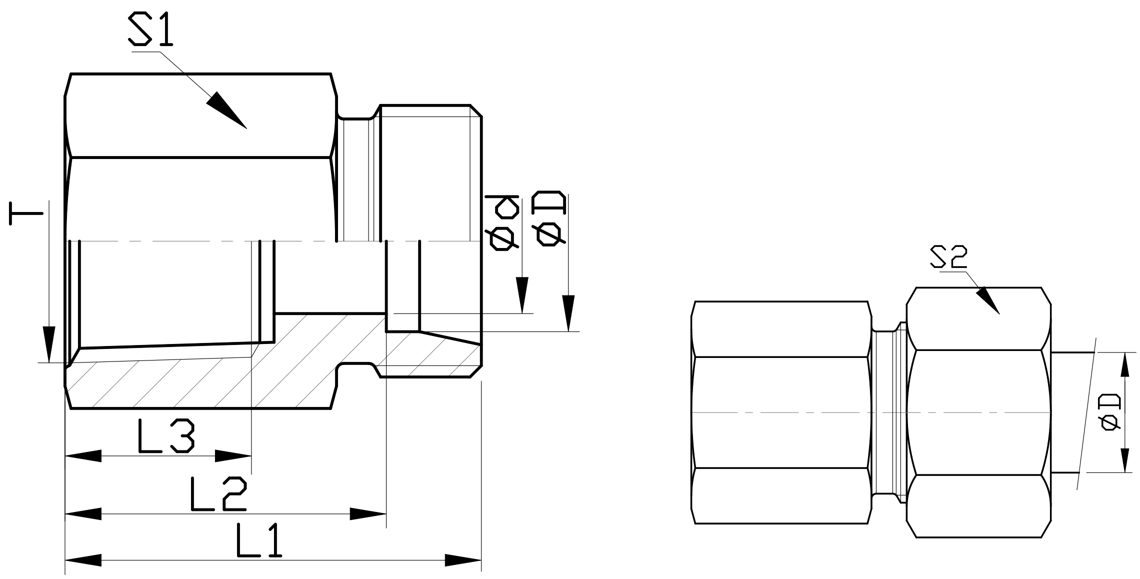


SERIES	ØD	Ød	T	S1	S2	L1	L2	L3	PART CODE	WP (bar)
	06	4	1/8-27NPT	14	14	26.0	19.0	11.6	SF 06LN 1/8"	250
	06	4	1/4-18NPT	19	14	30.5	23.5	16.4	SF 06LN 1/4"	250
	08	6	1/4-18NPT	19	17	30.5	23.5	16.4	SF 08LN 1/4"	250
L	10	8	1/4-18NPT	19	19	31.0	24.0	16.4	SF 10LN 1/4"	250
	12	10	3/8-18NPT	24	22	34.0	27.0	17.4	SF 12LN 3/8"	250
	12	10	1/2-14NPT	27	22	39.0	32.0	22.6	SF 12LN 1/2"	250
	15	12	1/2-14NPT	27	27	40.0	33.0	22.6	SF 15LN 1/2"	250
	18	15	1/2-14NPT	27	32	40.0	32.5	22.6	SF 18LN 1/2"	160
	22	19	3/4-14NPT	36	36	43.0	35.5	23.1	SF 22LN 3/4"	160
	28	24	1-11.5NPT	41	41	48.0	40.5	27.8	SF 28LN 1"	160
	35	30	1¼-11.5NPT	55	50	51.0	40.5	28.3	SF 35LN 1 1/4"	100
	42	36	1½-11.5NPT	60	60	53.0	42.0	28.3	SF 42LN 1 1/2"	100

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, put suffix ‘X’ before part code if nut ferrule not required. (Ex: XSF 18LN 1/2")
4, WP (Working Pressure).: 1 Mpa = 10 bar.

SF - N - Straight Female Stud Coupling

Female NPT Thread

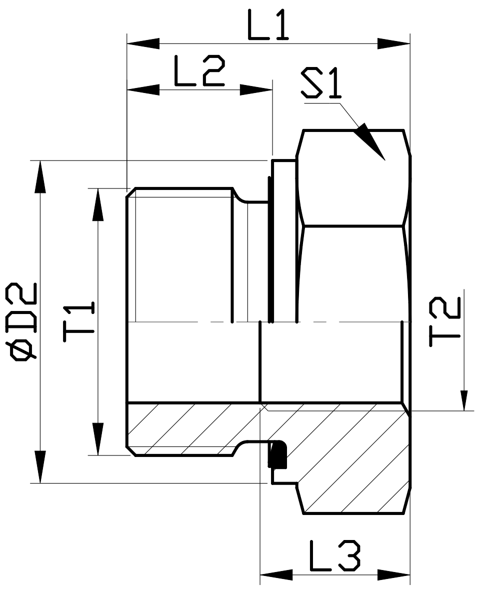


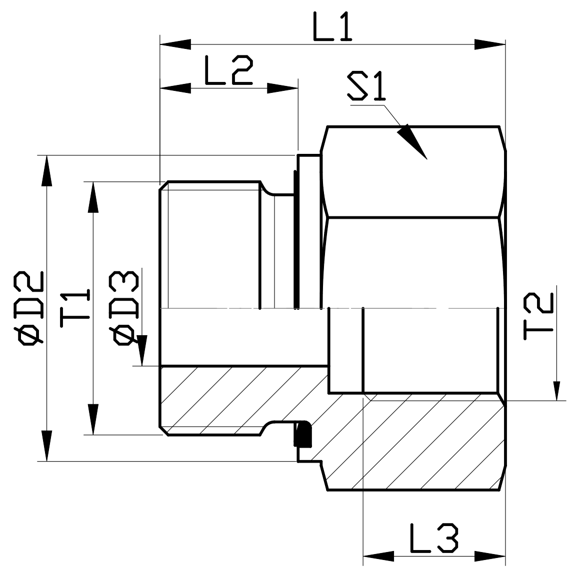
SERIES	ØD	Ød	T	S1	S2	L1	L2	L3	PART CODE	WP (bar)
S	06	4	1/8-27NPT	14	17	29.0	22.0	11.6	SF 06SN 1/8"	630
	06	4	1/4-18NPT	19	17	33.0	26.0	16.4	SF 06SN 1/4"	630
	08	5	1/4-18NPT	19	19	33.0	26.0	16.4	SF 08SN 1/4"	630
	10	7	3/8-18NPT	24	22	35.0	27.0	17.4	SF 10SN 3/8"	630
	12	8	1/4-18NPT	22	24	32.5	25.0	16.4	SF 12SN 1/4"	630
	12	8	3/8-18NPT	24	24	35.0	27.5	17.4	SF 12SN 3/8"	630
	12	8	1/2-14NPT	27	24	41.0	33.5	22.6	SF 12SN 1/2"	630
	14	10	1/2-14NPT	27	27	43.0	35.0	22.6	SF 14SN 1/2"	630
	16	12	1/2-14NPT	27	30	43.0	34.5	22.6	SF 16SN 1/2"	400
	20	16	1/2-14NPT	32	36	44.0	33.5	22.6	SF 20SN 1/2"	400
	20	16	3/4-14NPT	36	36	46.0	35.5	23.1	SF 20SN 3/4"	400
	25	20	1-11.5NPT	41	46	53.0	41.0	27.8	SF 25SN 1"	400
	30	25	1¼-11.5NPT	55	50	57.0	43.5	28.3	SF 30SN 1 1/4"	250
	38	32	1½-11.5NPT	60	60	59.0	43.0	28.3	SF 38SN 1 1/2"	250

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, S: High Pressure Working Series.
3, put suffix ‘X’ before part code if nut ferrule not required. (Ex: XSF 16SN 1/2")
4, WP (Working Pressure).: 1 Mpa = 10 bar.

RS-R-ED - Reducer / Expander Stud

Male BSPP Thread / Female BSPP Thread





SERIES	T1	T2	ØD2	ØD3	S1	L1	L2	L3	PART CODE	WP (bar)
	G1/8"	G1/4"	14	04	19	31.0	08	12.0	RS 1/8" EDx1/4"F	400
	G1/8"	G3/8"	14	04	24	32.0	08	12.0	RS 1/8" EDx3/8"F	400
	G1/4"	G1/8"	19	05	19	29.0	12	8.0	RS 1/4" EDx1/8"F	400
	G1/4"	G3/8"	19	05	24	36.0	12	12.0	RS 1/4" EDx3/8"F	400
	G1/4"	G1/2"	19	05	30	40.0	12	14.0	RS 1/4" EDx1/2"F	400
	G1/4"	G3/4"	19	05	36	43.0	12	16.0	RS 1/4" EDx3/4"F	400
	G3/8"	G1/8"	22		22	22.5	12	8.0	RS 3/8" EDx1/8"F	400
	G3/8"	G1/4"	22	08	22	36.0	12	12.0	RS 3/8" EDx1/4"F	400
	G3/8"	G1/2"	22	08	30	41.0	12	14.0	RS 3/8" EDx1/2"F	400
	G3/8"	G3/4"	22	08	36	44.0	12	16.0	RS 3/8" EDx3/4"F	315
	G1/2"	G1/8"	27		27	24.0	14	8.0	RS 1/2" EDx1/8"F	400
	G1/2"	G1/4"	27		27	24.0	14	12.0	RS 1/2" EDx1/4"F	400
	G1/2"	G3/8"	27	12	27	37.0	14	12.0	RS 1/2" EDx3/8"F	400
	G1/2"	G3/4"	27	12	36	46.0	14	16.0	RS 1/2" EDx3/4"F	315
	G1/2"	G1"	27	12	41	49.0	14	18.0	RS 1/2" EDx1"F	315
	G1/2"	G1 1/4"	27	10	55	53.0	14	20.0	RS 1/2" EDx1 1/4"F	315
	G3/4"	G1/4"	32		32	26.0	16	12.0	RS 3/4" EDx1/4"F	315
	G3/4"	G3/8"	32		32	26.0	16	12.0	RS 3/4" EDx3/8"F	315
	G3/4"	G1/2"	32	16	32	43.0	16	14.0	RS 3/4" EDx1/2"F	315
	G3/4"	G1"	32	16	41	51.0	16	18.0	RS 3/4" EDx1"F	315

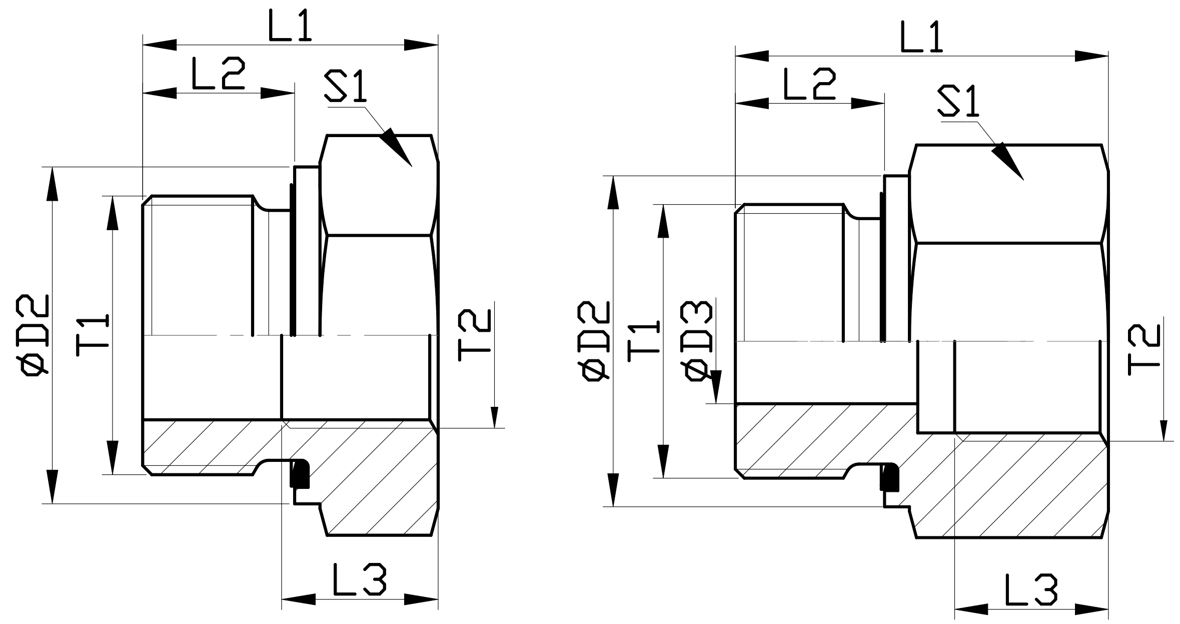
1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, WP (Working Pressure).: 1 Mpa = 10 bar.

RS - R - ED - Reducer / Expander Stud

Male BSPP Thread / Female BSPP Thread

24⁰ Fittings

Gem Engineering Industries (India) Pvt. Ltd.



SERIES	T1	T2	ØD2	ØD3	S1	L1	L2	L3	PART CODE	WP (bar)
	G3/4"	G1 1/4"	32	16	55	55.0	16	20.0	RS 3/4" EDx1 1/4"F	315
	G3/4"	G1 1/2"	32	16	60	57.0	16	22.0	RS 3/4" EDx1 1/2"F	250
	G1"	G1/4"	40		41	29.0	18	12.0	RS 1" EDx1/4"F	315
	G1"	G3/8"	40		41	29.0	18	12.0	RS 1" EDx3/8"F	315
	G1"	G1/2"	40		41	29.0	18	14.0	RS 1" EDx1/2"F	315
	G1"	G3/4"	40	20	41	49.0	18	16.0	RS 1" EDx3/4"F	315
	G1"	G1 1/4"	40	20	55	57.0	18	20.0	RS 1" EDx1 1/4"F	315
	G1"	G1 1/2"	40	20	60	59.0	18	22.0	RS 1" EDx1 1/2"F	250
	G1 1/4"	G1/2"	50		50	32.0	20	14.0	RS 1 1/4" EDx1/2"F	315
	G1 1/4"	G3/4"	50		50	32.0	20	16.0	RS 1 1/4" EDx3/4"F	315
	G1 1/4"	G1"	50	25	50	52.0	20	18.0	RS 1 1/4" EDx1"F	315
	G1 1/4"	G1 1/2"	50	25	60	60.0	20	22.0	RS 1 1/4" EDx1 1/2"F	250
	G1 1/2"	G1/2"	55		55	36.0	22	14.0	RS 1 1/2" EDx1/2"F	250
	G1 1/2"	G3/4"	55		55	36.0	22	16.0	RS 1 1/2" EDx3/4"F	250
	G1 1/2"	G1"	55		55	36.0	22	18.0	RS 1 1/2" EDx1"F	250
	G1 1/2"	G1 1/4"	55	32	55	58.0	22	20.0	RS 1 1/2" EDx1 1/4"F	250
	G2"	G1 1/2"	75	40	75	65.0	24	22.0	RS 2" EDx1 1/2"F	160

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, WP (Working Pressure).: 1 Mpa = 10 bar.

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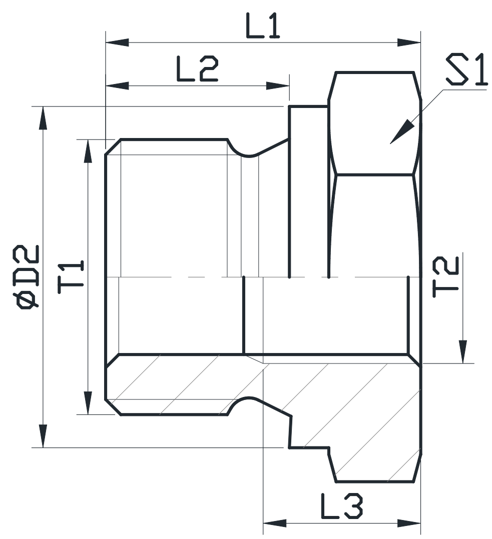
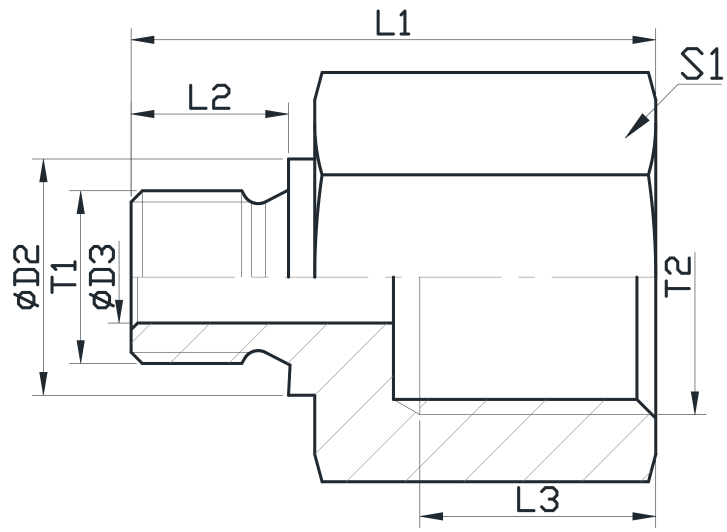
RS - R - Reducer / Expander Stud

Male BSPP Thread / Female BSPP Thread (Male BSPP port end connection
Type 'A' or 'B' Sealing)

24⁰ Fittings



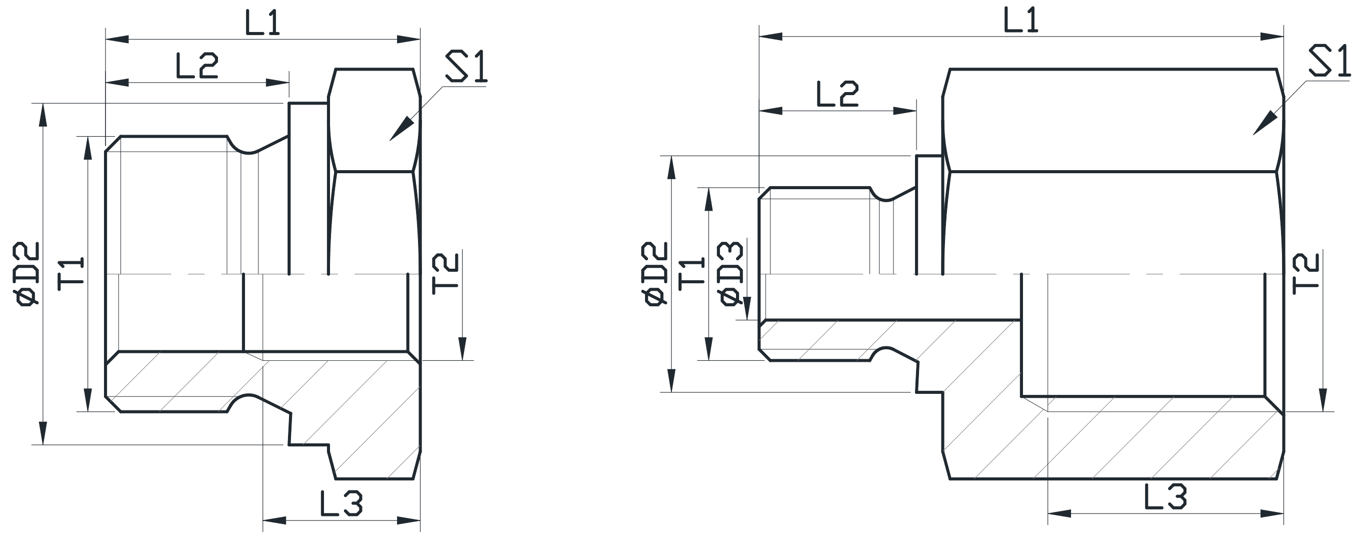


SERIES	T1	T2	ØD2	ØD3	S1	L1	L2	L3	PART CODE	WP (bar)
	G1/8"	G1/4"	14	04	19	31.0	08	12.0	RS 1/8"(M)x1/4"(F)R	400
	G1/8"	G3/8"	14	04	24	32.0	08	12.0	RS 1/8"(M)x3/8"(F)R	400
	G1/4"	G1/8"	18	05	19	28.0	12	8.0	RS 1/4"(M)x1/8"(F)R	400
	G1/4"	G3/8"	18	05	24	36.0	12	12.0	RS 1/4"(M)x3/8"(F)R	400
	G1/4"	G1/2"	18	05	30	40.0	12	14.0	RS 1/4"(M)x1/2"(F)R	400
	G1/4"	G3/4"	18	05	36	43.0	12	16.0	RS 1/4"(M)x3/4"(F)R	315
	G3/8"	G1/8"	22		22	22.5	12	8.0	RS 3/8"(M)x1/8"(F)R	400
	G3/8"	G1/4"	22	08	22	36.0	12	12.0	RS 3/8"(M)x1/4"(F)R	400
	G3/8"	G1/2"	22	08	30	41.0	12	14.0	RS 3/8"(M)x1/2"(F)R	400
	G3/8"	G3/4"	22	08	36	44.0	12	16.0	RS 3/8"(M)x3/4"(F)R	315
	G1/2"	G1/8"	26		27	24.0	14	8.0	RS 1/2"(M)x1/8"(F)R	400
	G1/2"	G1/4"	26		27	24.0	14	12.0	RS 1/2"(M)x1/4"(F)R	315
	G1/2"	G3/8"	26	12	27	37.0	14	12.0	RS 1/2"(M)x3/8"(F)R	315
	G1/2"	G3/4"	26	12	36	46.0	14	16.0	RS 1/2"(M)x3/4"(F)R	315
	G1/2"	G1"	26	12	41	49.0	14	18.0	RS 1/2"(M)x1"(F)R	315
	G1/2"	G1 1/4"	26	10	55	53.0	14	20.0	RS 1/2"(M)x1 1/4"(F)R	160
	G3/4"	G1/4"	32		32	26.0	16	12.0	RS 3/4"(M)x1/4"(F)R	315
	G3/4"	G3/8"	32		32	26.0	16	12.0	RS 3/4"(M)x3/8"(F)R	315
	G3/4"	G1/2"	32	16	32	40.0	16	14.0	RS 3/4"(M)x1/2"(F)R	315
	G3/4"	G1"	32	16	41	51.0	16	18.0	RS 3/4"(M)x1"(F)R	315

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, WP (Working Pressure).: 1 Mpa = 10 bar.

RS - R - Reducer / Expander Stud

Male BSPP Thread / Female BSPP Thread (Male BSPP port end connection
Type 'A' or 'B' Sealing)

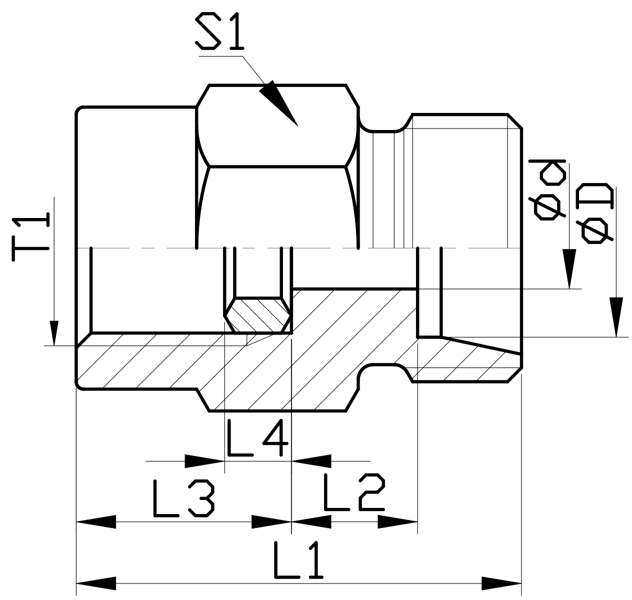


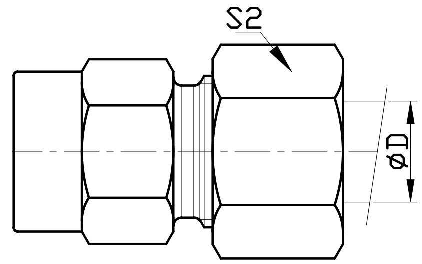
SERIES	T1	T2	ØD2	ØD3	S1	L1	L2	L3	PART CODE	WP (bar)
	G3/4"	G1 1/4"	32	16	55	55.0	16	20.0	RS 3/4"(M)x1 1/4"(F)R	160
	G3/4"	G1 1/2"	32	16	60	57.0	16	22.0	RS 3/4"(M)x1 1/2"(F)R	160
	G1"	G1/4"	39		41	29.0	18	12.0	RS 1"(M)x1/4"(F)R	315
	G1"	G3/8"	39		41	29.0	18	12.0	RS 1"(M)x3/8"(F)R	315
	G1"	G1/2"	39		41	29.0	18	14.0	RS 1"(M)x1/2"(F)R	315
	G1"	G3/4"	39	20	41	47.0	18	16.0	RS 1"(M)x3/4"(F)R	315
	G1"	G1 1/4"	39	20	55	57.0	18	20.0	RS 1"(M)x1 1/4"(F)R	160
	G1"	G1 1/2"	39	20	60	59.0	18	22.0	RS 1"(M)x1 1/2"(F)R	160
	G1 1/4"	G1/2"	49		50	32.0	20	14.0	RS 1 1/4"(M)x1/2"(F)R	160
	G1 1/4"	G3/4"	49		50	32.0	20	16.0	RS 1 1/4"(M)x3/4"(F)R	160
	G1 1/4"	G1"	49	25	50	52.0	20	18.0	RS 1 1/4"(M)x1"(F)R	160
	G1 1/4"	G1 1/2"	49	25	60	60.0	20	22.0	RS 1 1/4"(M)x1 1/2"(F)R	160
	G1 1/2"	G1/2"	55		55	36.0	22	14.0	RS 1 1/2"(M)x1/2"(F)R	160
	G1 1/2"	G3/4"	55		55	36.0	22	16.0	RS 1 1/2"(M)x3/4"(F)R	160
	G1 1/2"	G1"	55		55	36.0	22	18.0	RS 1 1/2"(M)x1"(F)R	160
	G1 1/2"	G1 1/4"	55	32	55	58.0	22	20.0	RS 1 1/2"(M)x1 1/4"(F)R	160
	G2"	G1 1/2"	68	40	70	62.0	24	22.0	RS 2"(M)x1 1/2"(F)R	160

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, WP (Working Pressure).: 1 Mpa = 10 bar.

SG - R - Straight Gauge Connector

Female BSPP Thread





SERIES	ØD	Ød	T1	S1	S2	L1	L2	L3	L4	PART CODE	WP (bar)
L	06	2.5	G1/4"	19	14	29	7.5	14.5	4.5	SG 06LR	250
	08	5.5	G1/4"	19	17	29	7.5	14.5	4.5	SG 08LR	250
	10	5.5	G1/4"	19	19	30	8.5	14.5	4.5	SG 10LR	250
	12	5.5	G1/4"	19	22	30	8.5	14.5	4.5	SG 12LR	250
S	06	3.5	G1/2"	27	17	38	11.0	20.0	5.0	SG 06SR	630
	08	3.5	G1/2"	27	19	38	11.0	20.0	5.0	SG 08SR	630
	10	7.5	G1/2"	27	22	38	10.5	20.0	5.0	SG 10SR	630
	12	7.5	G1/2"	27	24	38	10.5	20.0	5.0	SG 12SR	630

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, put suffix 'X' before part code if nut ferrule not required. (Ex: XSG 12SR)
5, WP (Working Pressure).: 1 Mpa = 10 bar.

TWGC - R - Thrust Wired Swivel Gauge Connector

Female BSPP Thread

24⁰ Fittings

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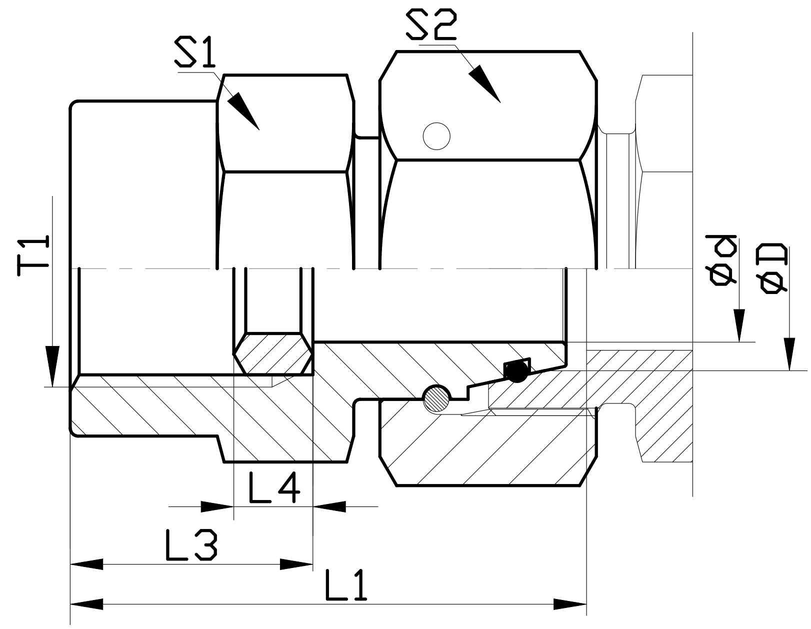
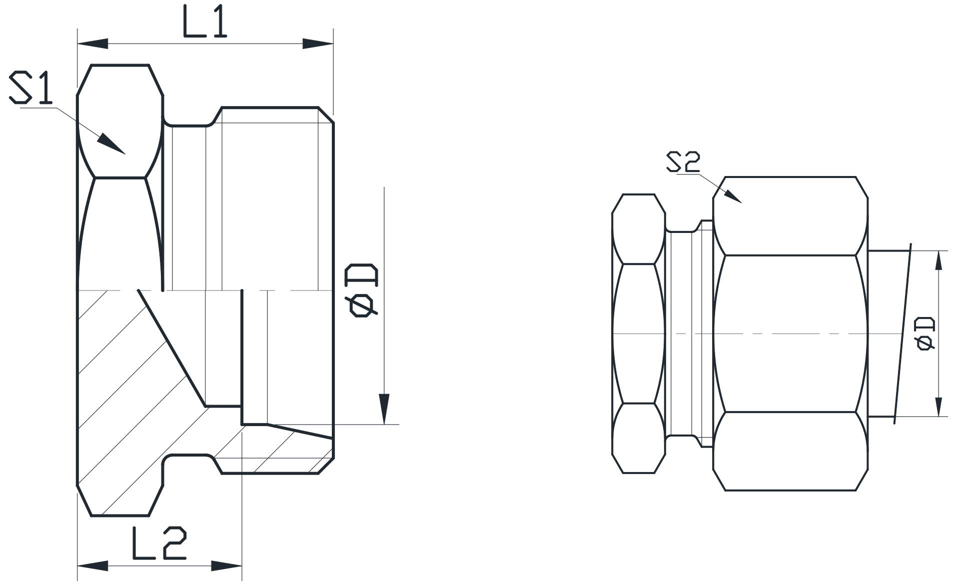


SERIES	ØD	Ød	T1	S1	S2	L1	L3	L4	PART CODE	WP (bar)
L	06	2.5	G1/4"	19	14	35.5	14.5	4.5	TWGC 06LR	250
	08	4.0	G1/4"	19	17	35.5	14.5	4.5	TWGC 08LR	250
	10	5.5	G1/4"	19	19	36.0	14.5	4.5	TWGC 10LR	250
	12	5.5	G1/4"	19	22	36.0	14.5	4.5	TWGC 12LR	250
S	06	2.5	G1/2"	27	17	42.5	20.0	5.0	TWGC 06SR	630
	06	2.5	G1/4"	19	17	35.5	14.5	4.5	TWGC 06SR 1/4"	630
	08	4.0	G1/2"	27	19	43.0	20.0	5.0	TWGC 08SR	630
	08	4.0	G1/4"	19	19	35.5	14.5	4.5	TWGC 08SR 1/4"	630
	10	6.0	G1/2"	27	22	43.5	20.0	5.0	TWGC 10SR	630
	10	7.0	G1/4"	19	22	39.0	14.5	4.5	TWGC 10SR 1/4"	630
	12	7.0	G1/2"	27	24	45.0	20.0	5.0	TWGC 12SR	630
	12	7.0	G1/4"	19	24	39.0	14.5	4.5	TWGC 12SR 1/4"	630

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, WP (Working Pressure).: 1 Mpa = 10 bar.

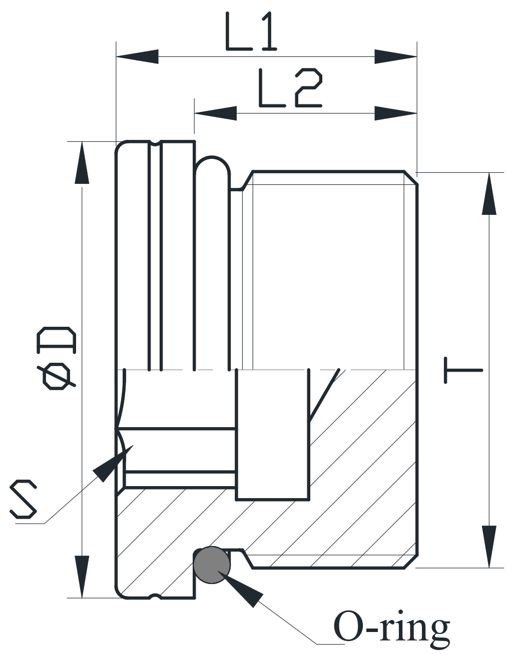
TP - Tube Plug



SERIES	ØD	S1	S2	L1	L2	PART CODE	WP (bar)
L	06	14	14	14	7.0	TP 06L	250
	08	14	17	15	8.0	TP 08L	250
	10	17	19	16	9.0	TP 10L	250
	12	19	22	17	10.0	TP 12L	250
	15	24	27	18	11.0	TP 15L	250
	18	27	32	19	11.5	TP 18L	160
	22	32	36	21	13.5	TP 22L	160
	28	41	41	22	14.5	TP 28L	100
	35	46	50	25	14.5	TP 35L	100
	42	55	60	27	16.0	TP 42L	100
S	06	14	17	18	11.0	TP 06S	630
	08	17	19	20	17.5	TP 08S	630
	10	19	22	20	12.5	TP 10S	630
	12	22	24	22	14.5	TP 12S	630
	14	24	27	24	16.0	TP 14S	630
	16	27	30	24	15.5	TP 16S	400
	20	32	36	28	17.5	TP 20S	400
	25	41	46	32	20.0	TP 25S	400
	30	46	50	34	20.5	TP 30S	250
	38	55	60	39	23.0	TP 38S	250

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, put suffix ‘X’ before part code if nut ferrule not required. (Ex: XTP 16S)
5, WP (Working Pressure).: 1 Mpa = 10 bar.

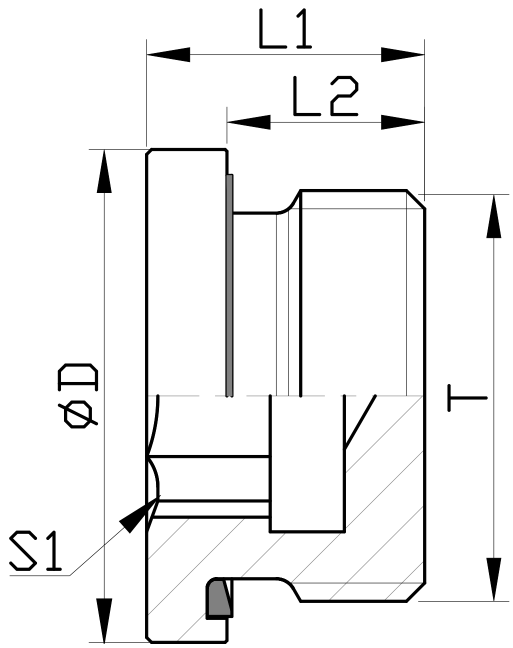
HSP - M - O - Hex Socket Plug



SERIES	T	ØD	S	L1	L2	PART CODE	WP (bar)
	M10x1	13	5	13.5	9.5	HSP M10x1 -O	630
	M12x1.5	17	6	15.0	11.0	HSP M12x1.5 -O	630
	M14x1.5	19	6	16.0	11.0	HSP M14x1.5 -O	630
	M16x1.5	21	8	17.5	12.5	HSP M16x1.5 -O	630
	M18x1.5	23	8	19.0	14.0	HSP M18x1.5 -O	630
	M22x1.5	27	10	20.0	15.0	HSP M22x1.5 -O	630
	M26x1.5	31	12	21.0	16.0	HSP M26x1.5 -O	400
	M27x2	32	12	23.5	18.5	HSP M27x2 -O	400
	M33x2	38	14	25.0	18.5	HSP M33x2 -O	400
	M42x2	48	22	25.5	19.0	HSP M42x2 -O	400
	M48x2	55	24	28.0	21.5	HSP M48x2 -O	400

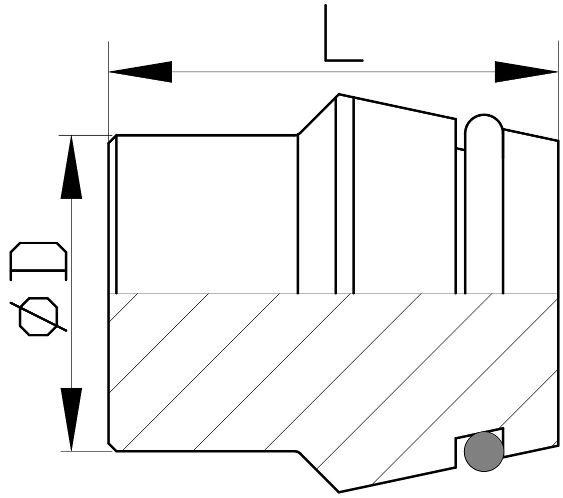
1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, WP (Working Pressure).: 1 Mpa = 10 bar.

HSP - M/R - ED - Hex Socket Plug



SERIES	T	T	ØD	S1	L1	L2	PART CODE	PART CODE	WP (bar)
	M10x1	G1/8"	14	5	12.0	08	HSP M10x1 -ED	HSP 1/8"R -ED	400
	M12x1.5		17	6	17.0	12	HSP M12x1.5 -ED		400
	M14x1.5	G1/4"	19	6	17.0	12	HSP M14x1.5 -ED	HSP 1/4"R -ED	400
	M16x1.5	G3/8"	22	8	17.0	12	HSP M16x1.5 -ED	HSP 3/8"R -ED	400
	M18x1.5		24	8	17.0	12	HSP M18x1.5 -ED		400
	M20x1.5		26	10	19.0	14	HSP M20x1.5 -ED		400
	M22x1.5	G1/2"	27	10	19.0	14	HSP M22x1.5 -ED	HSP 1/2"R -ED	400
	M26x1.5		32	12	21.0	16	HSP M26x1.5 -ED		400
	M27x2	G3/4"	32	12	21.0	16	HSP M27x2 -ED	HSP 3/4"R -ED	400
	M33x2	G1"	40	17	22.5	16	HSP M33x2 -ED	HSP 1"R -ED	400
	M42x2	G1 1/4"	50	22	22.5	16	HSP M42x2 -ED	HSP 1 1/4"R -ED	315
	M48x2	G1 1/2"	55	24	22.5	16	HSP M48x2 -ED	HSP 1 1/2"R -ED	315

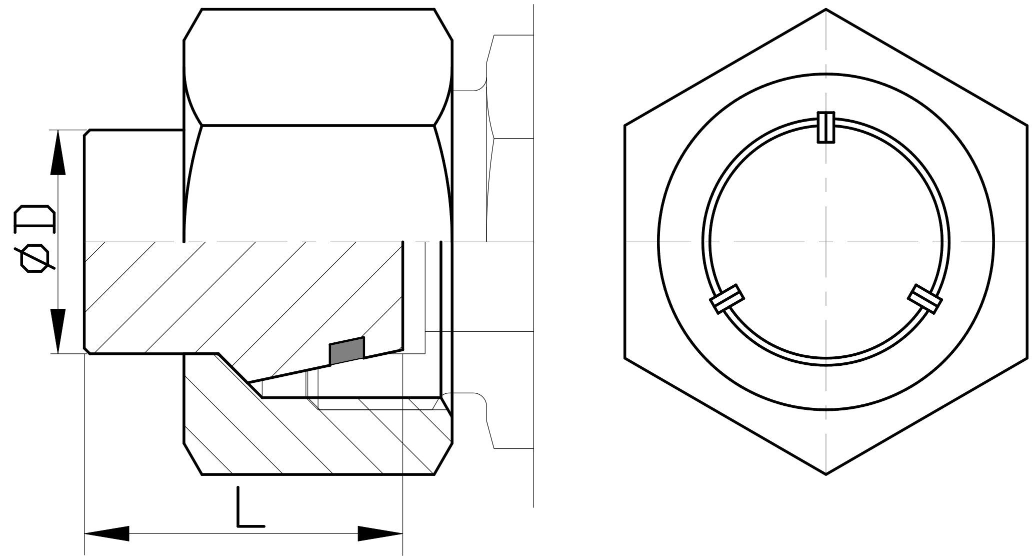
1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, WP (Working Pressure).: 1 Mpa = 10 bar.



SERIES	ØD	L	PART CODE	WP (bar)
L	06	18.5	CP 06L	250
	08	18.5	CP 08L	250
	10	20.0	CP 10L	250
	12	20.5	CP 12L	250
	15	20.5	CP 15L	250
	18	22.5	CP 18L	160
	22	25.0	CP 22L	160
	28	25.5	CP 28L	100
	35	30.0	CP 35L	100
	42	30.0	CP 42L	100
S	06	18.5	CP 06S	630
	08	18.5	CP 08S	630
	10	20.0	CP 10S	630
	12	20.5	CP 12S	630
	14	22.5	CP 14S	630
	16	23.5	CP 16S	400
	20	28.5	CP 20S	400
	25	29.0	CP 25S	400
	30	30.5	CP 30S	250
	38	33.0	CP 38S	250

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, WP (Working Pressure).: 1 Mpa = 10 bar.

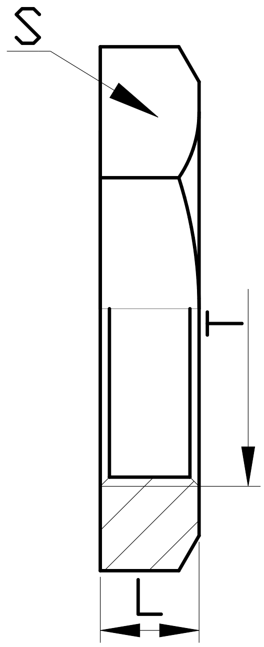
CPA - Cone Plug Assembly



SERIES	ØD	L	PART CODE	WP (bar)
L	06	18.5	CPA 06L	250
	08	18.5	CPA 08L	250
	10	20.0	CPA 10L	250
	12	20.5	CPA 12L	250
	15	20.5	CPA 15L	250
	18	22.5	CPA 18L	160
	22	25.0	CPA 22L	160
	28	25.5	CPA 28L	100
	35	30.0	CPA 35L	100
	42	30.0	CPA 42L	100
S	06	18.5	CPA 06S	630
	08	18.5	CPA 08S	630
	10	20.0	CPA 10S	630
	12	20.5	CPA 12S	630
	14	22.5	CPA 14S	630
	16	23.5	CPA 16S	400
	20	28.5	CPA 20S	400
	25	29.0	CPA 25S	400
	30	30.5	CPA 30S	250
	38	33.0	CPA 38S	250

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, WP (Working Pressure).: 1 Mpa = 10 bar.

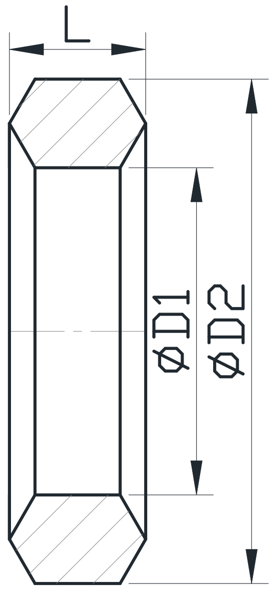
BN - Bulkhead Lock Nut



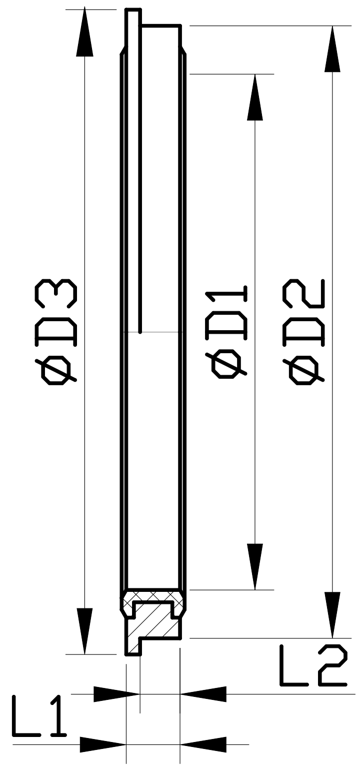
SERIES	ØD	T	L	S	PART CODE
L	06	M12x1.5	6	17	BN 06L
	08	M14x1.5	6	19	BN 08L
	10	M16x1.5	6	22	BN 10L
	12	M18x1.5	6	24	BN 12L
	15	M22x1.5	7	30	BN 15L
	18	M26x1.5	8	36	BN 18L
	22	M30x2	8	41	BN 22L
	28	M36x2	9	46	BN 28L
	35	M45x2	9	55	BN 35L
	42	M52x2	10	65	BN 42L
S	06	M14x1.5	6	19	BN 06S
	08	M16x1.5	6	22	BN 08S
	10	M18x1.5	6	24	BN 10S
	12	M20x1.5	6	27	BN 12S
	14	M22x1.5	7	30	BN 14S
	16	M24x1.5	7	32	BN 16S
	20	M30x2	8	41	BN 20S
	25	M36x2	9	46	BN 25S
	30	M42x2	9	50	BN 30S
	38	M52x2	10	65	BN 38S

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.

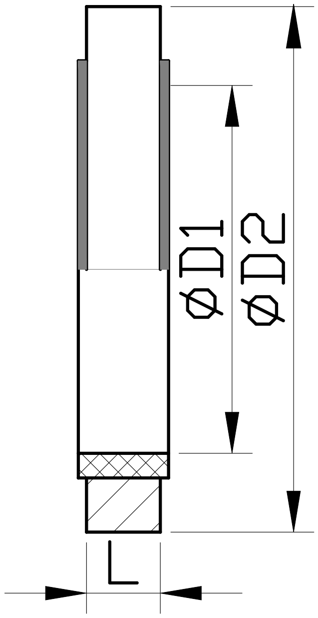
Seal Ring for Gauge Connector



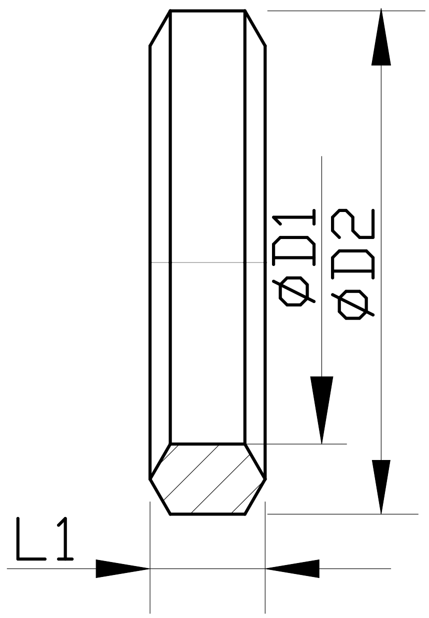
Inner thread	ØD1	ØD2	L	PART CODE
G1/4"	6	11.3	4.5	1/4" Seal ring
G1/2"	12	18.5	5.0	1/2" Seal ring



SERIES	T	T	ØD1	ØD2	ØD3	L1	L2	PART CODE	PART CODE
	M10x1	1/8"	10.3	14.9	16.0	2.5	1.1	MSS M10x1	MSS 1/8"R
	M12x1.5		12.3	17.0	18.0	3.0	1.6	MSS M12x1.5	
	M14x1.5	1/4"	14.3	18.9	20.0	3.0	1.6	MSS M14x1.5	MSS 1/4"R
	M16x1.5	3/8"	17.0	21.9	24.0	3.0	2.1	MSS M16x1.5	MSS 3/8"R
	M18x1.5		18.3	23.9	23.9	3.0		MSS M18x1.5	
	M22x1.5	1/2"	22.3	26.9	30.0	4.5	2.6	MSS M22x1.5	MSS 1/2"R
	M26x1.5		26.3	31.9	35.0	3.5	2.6	MSS M26x1.5	
	M27x2	3/4"	27.3	32.9	38.0	3.5	2.6	MSS M27x2	MSS 3/4"R
	M33x2	1"	33.6	39.9	42.0	3.5	2.6	MSS M33x2	MSS 1"R
	M42x2	1 1/4"	42.4	49.9	49.9	3.5		MSS M42x2	MSS 1 1/4"R
	M48x2	1 1/2"	48.4	59.9	60.0	3.5	2.6	MSS M48x2	MSS 1 1/2"R

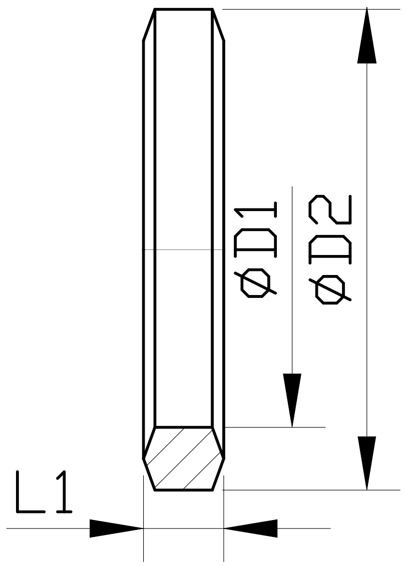


SERIES	T	ØD1	ØD2	L	PART CODE
	G1/8"	10.0	17.0	2.5	MBS 1/8"R
	G1/4"	13.5	22.0	3.0	MBS 1/4"R
	G3/8"	17.1	27.0	3.0	MBS 3/8"R
	G1/2"	21.4	32.0	4.5	MBS 1/2"R
	G3/4"	26.8	41.0	3.5	MBS 3/4"R
	G1"	33.5	46.0	3.5	MBS 1"R
	G1 1/4"	42.4	57.0	3.5	MBS 1 1/4"R
	G1 1/2"	48.4	64.0	3.5	MBS 1 1/2"R
	M10x1	10.3	17.0	2.5	MBS M10x1
	M12x1.5	12.3	22.0	3.0	MBS M12x1.5
	M14x1.5	14.3	22.5	3.0	MBS M14x1.5
	M16x1.5	16.4	27.0	3.0	MBS M16x1.5
	M18x1.5	18.4	29.0	3.0	MBS M18x1.5
	M20x1.5	20.4	32.0	3.0	MBS M20x1.5
	M22x1.5	22.4	32.0	4.5	MBS M22x1.5
	M26x1.5	26.4	41.0	3.5	MBS M26x1.5
	M27x2	27.4	41.0	3.5	MBS M27x2
	M33x2	33.5	46.0	3.5	MBS M33x2
	M42x2	42.4	57.0	3.5	MBS M42x2
	M48x2	48.4	64.0	3.5	MBS M48x2



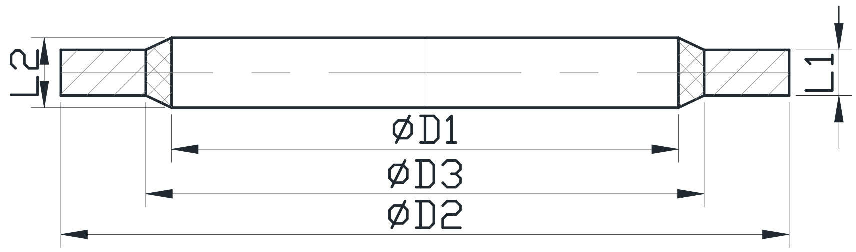
SERIES	T	ØD1	ØD2	L1	PART CODE
	M10x1	10.1	14	3.2	MSR M10x1
	M12x1.5	12.1	17	4.2	MSR M12x1.5
	M14x1.5	14.1	19	4.5	MSR M14x1.5
	M16x1.5	16.1	21	4.5	MSR M16x1.5
	M18x1.5	18.1	23	4.5	MSR M18x1.5
	M20x1.5	20.1	25	4.5	MSR M20x1.5
	M22x1.5	22.1	27	4.5	MSR M22x1.5
	M26x1.5	26.1	31	4.5	MSR M26x1.5
	M27x2	27.1	32	5.0	MSR M27x2
	M33x2	33.1	39	6.0	MSR M33x2
	M42x2	42.1	49	6.5	MSR M42x2
	M48x2	48.1	55	6.5	MSR M48x2

SERIES	T	ØD1	ØD2	L1	PART CODE
	G1/8"	9.8	14	3.2	MSR 1/8"R
	G1/4"	13.3	18	4.5	MSR 1/4"R
	G3/8"	16.8	22	4.5	MSR 3/8"R
	G1/2"	21.1	26	5.0	MSR 1/2"R
	G3/4"	26.6	32	5.0	MSR 3/4"R
	G1"	33.4	39	6.0	MSR 1"R
	G1 1/4"	42.1	49	6.5	MSR 1 1/4"R
	G1 1/2"	48.1	55	6.5	MSR 1 1/2"R



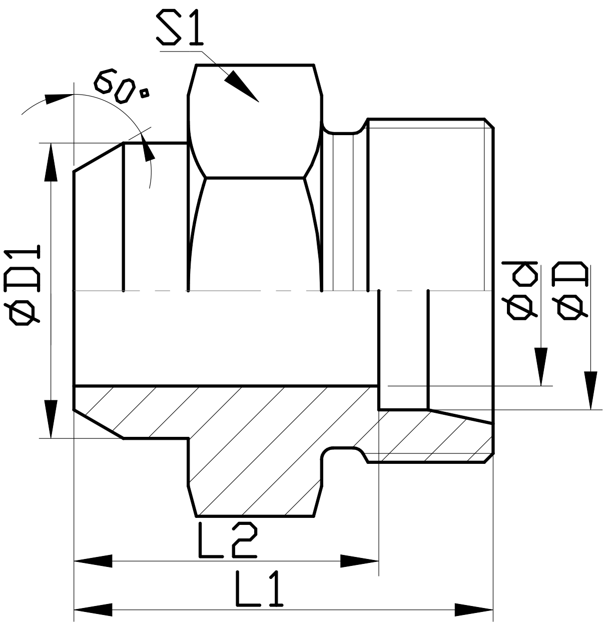
SERIES	T	ØD1	ØD2	L1	PART CODE
	M08x1	8.1	12	2.5	MSRH M08x1
	M10x1	10.1	14	3.0	MSRH M10x1
	M12x1.5	12.1	17	3.0	MSRH M12x1.5
	M14x1.5	14.1	19	3.0	MSRH M14x1.5
	M16x1.5	16.1	21	3.0	MSRH M16x1.5
	M18x1.5	18.1	23	3.0	MSRH M18x1.5
	M20x1.5	20.1	25	3.0	MSRH M20x1.5
	M22x1.5	22.1	27	4.5	MSRH M22x1.5
	M26x1.5	26.1	31	3.5	MSRH M26x1.5
	M27x2	27.1	32	3.5	MSRH M27x2
	M33x2	33.1	39	3.5	MSRH M33x2
	M42x2	42.1	49	3.5	MSRH M42x2
	M48x2	48.1	55	3.5	MSRH M48x2

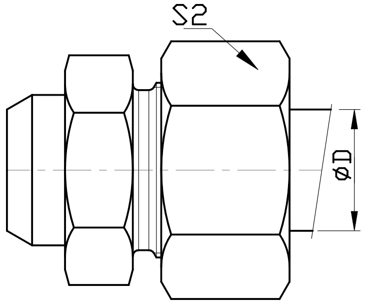
SERIES	T	ØD1	ØD2	L1	PART CODE
	G1/8"	9.8	14	2.5	MSRH 1/8"R
	G1/4"	13.3	18	3.0	MSRH 1/4"R
	G3/8"	16.8	22	3.0	MSRH 3/8"R
	G1/2"	21.1	26	4.5	MSRH 1/2"R
	G3/4"	26.6	32	3.5	MSRH 3/4"R
	G1"	33.4	39	3.5	MSRH 1"R
	G1 1/4"	42.1	49	3.5	MSRH 1 1/4"R
	G1 1/2"	48.1	55	3.5	MSRH 1 1/2"R



Nominal Size	ØD1	ØD2	ØD3	L1	L2	Suitable for METRIC	Suitable for BSP
8.6x15.9	8.6	15.9	10.37	2.0	3.02	-	G1/8"
10.7x16	10.7	16	12.4	1.5	2.3	M10	-
10.7x18	10.7	18	12.4	1.5	2.3	M10	-
12.7x18	12.7	18	14.4	1.5	2.3	M12	-
12.7x20	12.7	20	14.4	1.5	2.3	M12	-
14.7x22	14.7	22	16.4	1.5	2.3	M14	G1/4"
15.55x23.8	15.55	23.8	17.28	2.0	3.0	-	G3/8"
16.7x24	16.7	24	18.4	1.5	2.3	M16	-
17.4x24	17.4	24	19.2	1.5	2.3	-	-
18.7x26	18.7	26	20.4	1.5	2.3	M18	-
20.7x28	20.7	28	22.5	1.5	2.3	M20	-
22.7x30	22.7	30	24.4	2.0	2.8	M22	G1/2"
24.7x32	24.7	32	26.4	2.0	2.8	M24	G5/8"
26.7x35	26.7	35	28.4	2.0	2.8	M26	-
27.7x36	27.7	36	29.4	2.0	2.8	M27	G3/4"
31.0x39	31.0	39	33.0	2.0	2.8	M30	-
33.7x42	33.7	42	35.8	2.0	2.8	M33	G1"
36.7x46	36.7	46	38.4	2.0	2.8	M36	-
42.7x53	42.7	53	44.4	3.0	3.8	M42	G1 1/4"
48.7x59	48.7	59	50.8	3.0	3.8	M48	-

WC - Straight Weldable Coupling

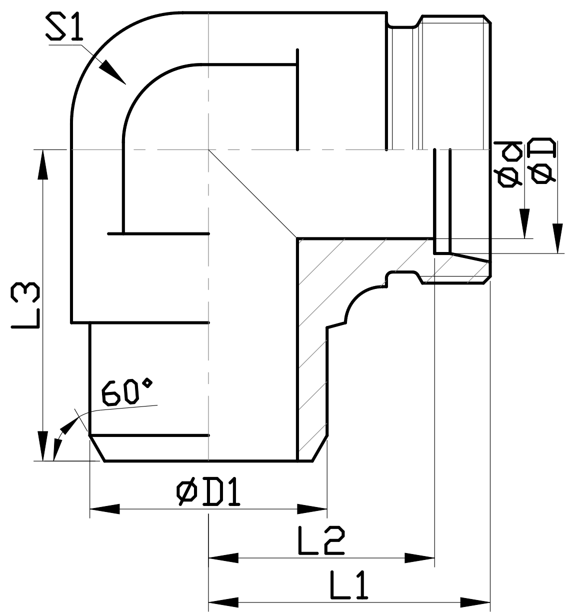


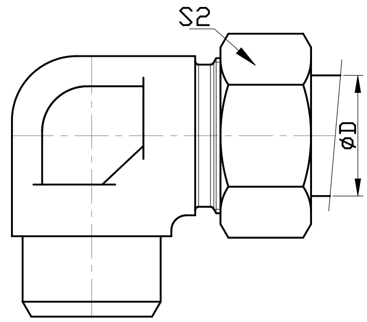


SERIES	ØD	Ød	ØD1	S1	S2	L1	L2	PART CODE	WP (bar)
L	06	04	10	14	14	21	14.0	WC 06L	250
	08	06	12	17	17	23	16.0	WC 08L	250
	10	08	14	17	19	25	18.0	WC 10L	250
	12	10	16	19	22	25	18.0	WC 12L	250
	15	12	19	22	27	29	22.0	WC 15L	250
	18	15	22	27	32	31	23.5	WC 18L	160
	22	19	27	32	36	36	28.5	WC 22L	160
	28	24	32	41	41	38	30.5	WC 28L	100
	35	30	40	46	50	43	32.5	WC 35L	100
	42	36	46	55	60	46	35.0	WC 42L	100
S	06	04	11	14	17	26	19.0	WC 06S	630
	08	05	13	17	19	28	21.0	WC 08S	630
	10	07	15	19	22	30	22.5	WC 10S	630
	12	08	17	22	24	32	24.5	WC 12S	630
	14	10	19	24	27	35	27.0	WC 14S	630
	16	12	21	27	30	35	26.5	WC 16S	400
	20	16	26	32	36	40	29.5	WC 20S	400
	25	20	31	41	46	44	32.0	WC 25S	400
	30	25	36	46	50	49	35.5	WC 30S	250
	38	32	44	55	60	54	38.0	WC 38S	250

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, put suffix 'X' before part code if nut ferrule not required. (Ex: XWC 16S)
5, WP (Working Pressure).: 1 Mpa = 10 bar.

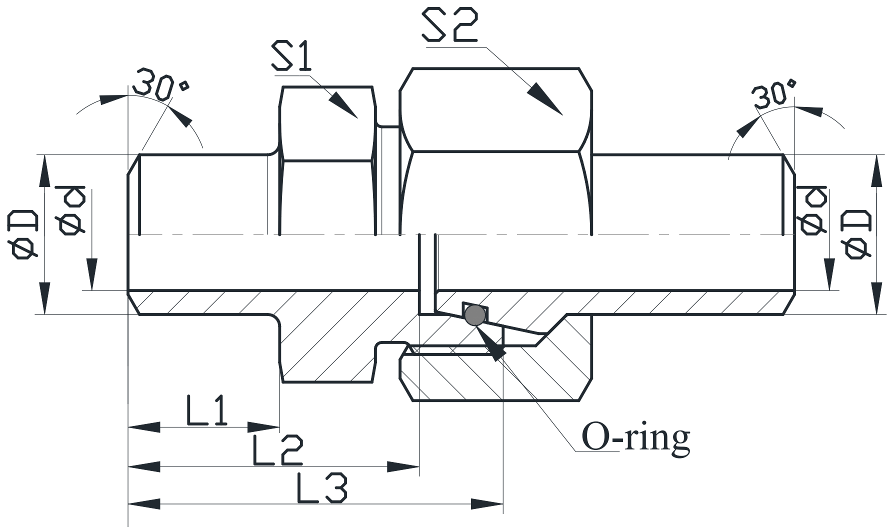
LWC - Elbow Weldable Coupling





SERIES	ØD	Ød	ØD1	S1	S2	L1	L2	L3	PART CODE	WP (bar)
L	06	04	10	12	14	19	12.0	19	LWC 06L	250
	08	06	12	12	17	21	14.0	23	LWC 08L	250
	10	08	14	14	19	22	15.0	24	LWC 10L	250
	12	10	16	17	22	24	17.0	25	LWC 12L	250
	15	12	19	19	27	28	21.0	30	LWC 15L	250
	18	15	22	24	32	31	23.5	33	LWC 18L	160
	22	19	27	27	36	35	27.5	37	LWC 22L	160
	28	24	32	32	41	38	30.5	42	LWC 28L	100
	35	30	40	41	50	45	34.5	49	LWC 35L	100
	42	36	46	50	60	51	40.0	57	LWC 42L	100
S	06	04	11	12	17	23	16.0	23	LWC 06S	630
	08	05	13	14	19	24	17.0	24	LWC 08S	630
	10	07	15	17	22	25	17.5	25	LWC 10S	630
	12	08	17	17	24	29	21.5	29	LWC 12S	630
	14	10	19	19	27	30	22.0	30	LWC 14S	630
	16	12	21	24	30	33	24.5	33	LWC 16S	400
	20	16	26	27	36	37	26.5	37	LWC 20S	400
	25	20	31	32	46	42	30.0	42	LWC 25S	400
	30	25	36	41	50	49	35.5	49	LWC 30S	250
	38	32	44	50	60	57	41.0	57	LWC 38S	250

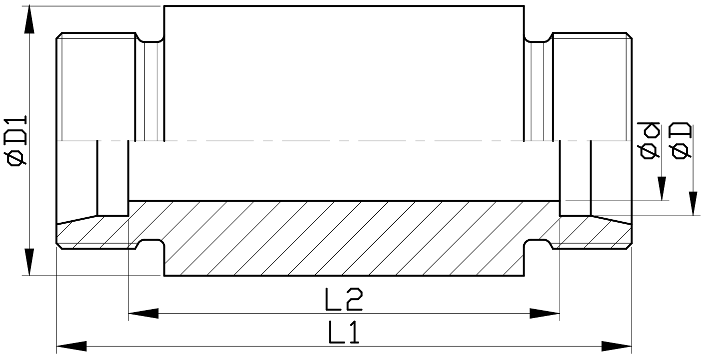
1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, put suffix 'X' before part code if nut ferrule not required. (Ex: XLWC 16S)
5, S1 given for forging, will change if made from flat bar.
6, WP (Working Pressure).: 1 Mpa = 10 bar.

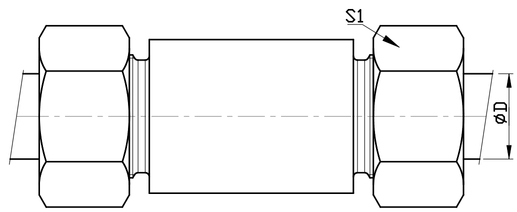


SERIES	ØD	Ød	S1	S2	L1	L2	L3	recommended tube	PART CODE	WP (bar)
S	10	06	19	22	10.0	24.5	32.0	10x2.0	WF 10Sx2.0	400
	10	05	19	22	10.0	24.5	32.0	10x2.5	WF 10Sx2.5	630
	12	08	22	24	15.0	29.5	37.0	12x2.0	WF 12Sx2.0	315
	12	07	22	24	15.0	29.5	37.0	12x2.5	WF 12Sx2.5	400
	12	06	22	24	15.0	29.5	37.0	12x3.0	WF 12Sx3.0	630
	16	11	27	30	16.5	33.0	41.5	16x2.5	WF 16Sx2.5	315
	16	10	27	30	16.5	33.0	41.5	16x3.0	WF 16Sx3.0	400
	20	14	32	36	19.0	36.5	47.0	20x3.0	WF 20Sx3.0	315
	20	12	32	36	19.0	36.5	47.0	20x4.0	WF 20Sx4.0	400
	25	19	41	46	19.5	39.5	51.5	25x3.0	WF 25Sx3.0	250
	25	17	41	46	19.5	39.5	51.5	25x4.0	WF 25Sx4.0	315
	25	16	41	46	19.5	39.5	51.5	25x4.5	WF 25Sx4.5	400
	30	24	46	50	23.0	44.5	58.0	30x3.0	WF 30Sx3.0	160
	30	22	46	50	23.0	44.5	58.0	30x4.0	WF 30Sx4.0	250
	38	32	55	60	22.0	44.0	60.0	38x3.0	WF 38Sx3.0	160
	38	28	55	60	22.0	44.0	60.0	38x5.0	WF 38Sx5	250

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, S: High Pressure Working Series.
3, WP (Working Pressure).: 1 Mpa = 10 bar.

TSC - Extended Straight Coupling

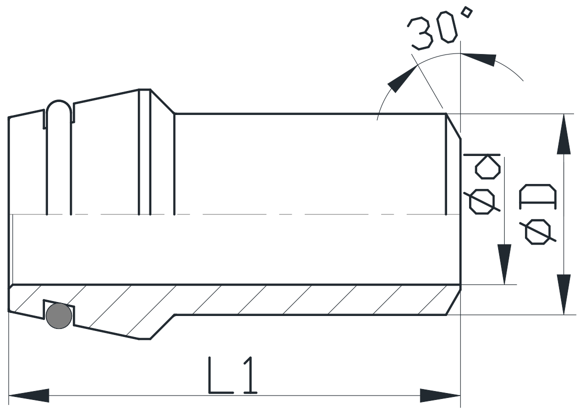


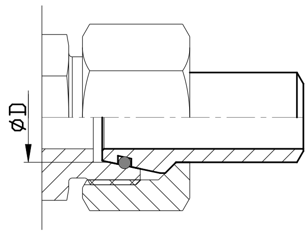


SERIES	ØD	Ød	ØD1	S1	L1	L2	PART CODE	WP (bar)
L	06	04	18	14	70	56	TSC 06L	250
	08	06	20	17	70	56	TSC 08L	250
	10	08	22	19	72	58	TSC 10L	250
	12	10	25	22	72	58	TSC 12L	250
	15	12	28	27	84	70	TSC 15L	250
	18	15	32	32	84	69	TSC 18L	160
	22	19	36	36	88	73	TSC 22L	160
	28	24	40	41	88	73	TSC 28L	100
	35	30	50	50	92	71	TSC 35L	100
	42	36	60	60	92	70	TSC 42L	100
S	06	04	20	17	74	60	TSC 06S	630
	08	05	22	19	74	60	TSC 08S	630
	10	07	25	22	74	59	TSC 10S	630
	12	08	28	24	74	59	TSC 12S	630
	14	10	30	27	88	72	TSC 14S	630
	16	12	35	30	88	71	TSC 16S	400
	20	16	38	36	92	71	TSC 20S	400
	25	20	45	46	96	72	TSC 25S	400
	30	25	50	50	100	73	TSC 30S	250
	38	32	60	60	104	72	TSC 38S	250

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, put suffix ‘X’ before part code if nut ferrule not required. (Ex: XTSC 16S)
5, WP (Working Pressure).: 1 Mpa = 10 bar.

WN - Weld Nipple



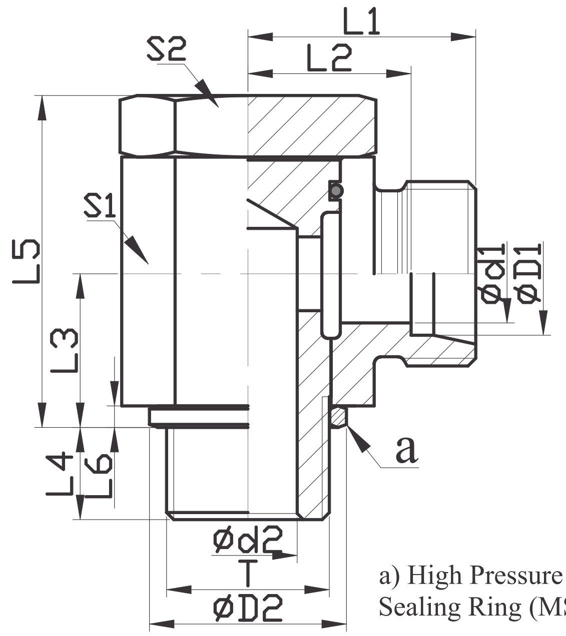


SERIES	ØD	Ød	L1	recommended tube	PART CODE	WP (bar)
L/S	06	2.5	31.0	06x1.75	WN 06L/Sx1.75	630
	08	4.0	31.0	08x2.0	WN 08L/Sx2.0	630
	10	6.0	32.5	10x2.0	WN 10L/Sx2.0	400
	10	5.0	32.5	10x2.5	WN 10L/Sx2.5	630
	12	8.0	32.5	12x2.0	WN 12L/Sx2.0	315
	12	7.0	32.5	12x2.5	WN 12L/Sx2.5	400
	12	6.0	32.5	12x3.0	WN 12L/Sx2.5	630
L	15	10.0	34.0	15x2.5	WN 15Lx2.5	100
	18	13.0	36.0	18x2.5	WN 18Lx2.5	160
	22	17.0	38.5	22x2.5	WN 22Lx2.5	160
	28	23.0	41.5	28x2.5	WN 28Lx2.5	100
	35	29.0	47.5	35x3.0	WN 35Lx3.0	100
	42	36.0	48.5	42x3.0	WN 42Lx3.0	100
S	14	9.0	33.0	14x2.5	WN 14Sx2.5	315
	16	11.0	39.0	16x2.5	WN 16Sx2.5	315
	16	10.0	39.0	16x3.0	WN 16Sx3.0	400
	20	14.0	45.0	20x3.0	WN 20Sx3.0	315
	25	19.0	49.5	25x3.0	WN 25Sx3.0	250
	25	17.0	49.5	25x4.0	WN 25Sx4.0	315
	25	16.0	49.5	25x4.5	WN 25Sx4.5	400
	30	24.0	52.0	30x3.0	WN 30Sx3.0	160
	30	22.0	52.0	30x4.0	WN 30Sx4.0	250
	38	32.0	56.5	38x3.0	WN 38Sx3.0	160
	38	28.0	56.5	38x5.0	WN 38Sx5.0	250

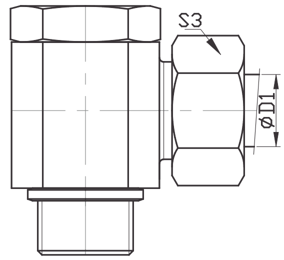
1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, WP (Working Pressure).: 1 Mpa = 10 bar.

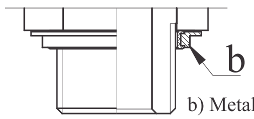
HBL - M - High Pressure Banjo Elbow

METRIC Sealing Rings

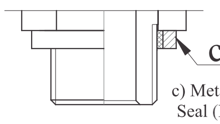


a) High Pressure Metal Sealing Ring (MSRH)

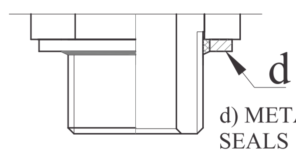




b) Metal Soft Seal (MSS)



c) Metal Bonded Seal (MBS)



d) METAL BONDED SEALS

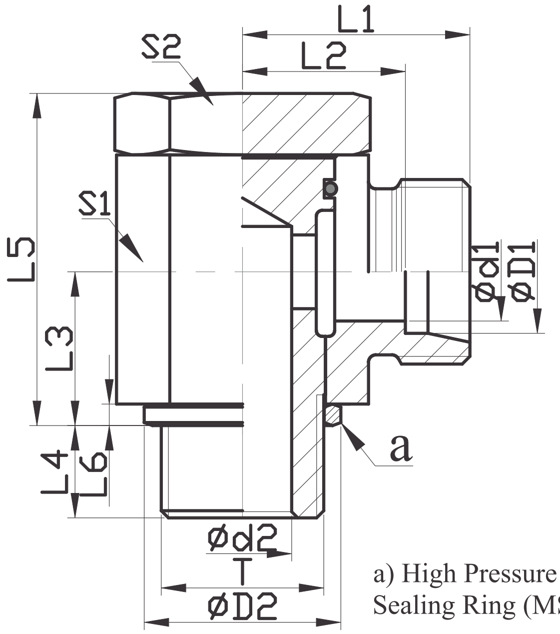
SERIES	ØD1	Ød1	Ød2	ØD2	T	L1	L2	L3	L4	L5	L6	S1	S2	S3	PART CODE	WP (bar)
L	06	04	4.5	14	M10x1	19.0	12.0	10.5	08	24.0	2.5	17	17	14	HBL 06LM	250
	08	06	6.0	17	M12x1.5	21.5	14.5	14.0	12	30.0	3.0	22	19	17	HBL 08LM	250
	10	08	6.0	19	M14x1.5	22.5	15.5	14.0	12	30.0	3.0	22	19	19	HBL 10LM	250
	12	10	7.5	21	M16x1.5	25.0	18.0	16.5	12	36.0	3.0	27	24	22	HBL 12LM	250
	15	11	9.0	23	M18x1.5	27.5	21.5	18.5	12	39.5	3.0	32	27	27	HBL 15LM	250
	18	15	12.0	27	M22x1.5	28.5	21.0	21.5	14	45.0	4.5	32	30	32	HBL 18LM	250
	22	19	17.0	31	M26x1.5	35.0	27.5	24.0	16	53.0	3.5	41	36	36	HBL 22LM	160
	28	24	21.0	39	M33x2	39.5	32.0	30.5	18	66.0	3.5	50	46	41	HBL 28LM	160
	35	30	27.0	49	M42x2	46.5	36.0	35.5	20	76.0	3.5	60	55	50	HBL 35LM	160
	42	36	34.0	55	M48x2	51.5	40.5	40.5	22	87.0	3.5	70	60	60	HBL 42LM	160
S	06	04	6.0	17	M12x1.5	23.5	16.5	14.0	12	30.0	3.0	22	19	17	HBL 06SM	315
	08	05	6.0	19	M14x1.5	23.5	16.5	14.0	12	30.0	3.0	22	19	19	HBL 08SM	315
	10	07	7.5	21	M16x1.5	26.0	18.5	16.5	12	36.0	3.0	27	24	22	HBL 10SM	315
	12	08	9.0	23	M18x1.5	27.5	20.0	18.5	12	39.5	3.0	27	27	24	HBL 12SM	315
	14	10	10.0	25	M20x1.5	30.5	22.5	20.0	14	43.5	3.0	32	30	27	HBL 14SM	315
	16	12	12.0	27	M22x1.5	30.5	22.0	21.5	14	45.0	4.5	32	30	30	HBL 16SM	315
	20	16	16.0	32	M27x2	37.0	26.5	24.0	16	53.0	3.5	41	36	36	HBL 20SM	160
	25	20	21.0	39	M33x2	43.5	31.5	30.5	18	66.0	3.5	50	46	46	HBL 25SM	160
	30	25	27.0	49	M42x2	50.5	37.0	35.5	20	76.0	3.5	60	55	50	HBL 30SM	160
	38	32	34.0	55	M48x2	57.5	41.5	40.5	22	87.0	3.5	70	60	60	HBL 38SM	160

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, WP (Working Pressure).: 1 Mpa = 10 bar.
5, select sealing ring a/b/c/d as shown in figure.
6, put suffix 'X' before part code if nut ferrule not required. (Ex: XHBL 16SM)

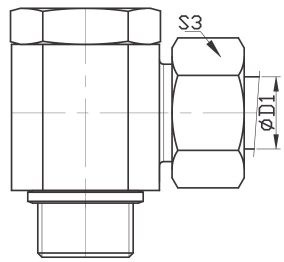
HBL - R - High Pressure Banjo Elbow

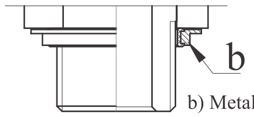
BSPP Sealing Rings

24⁰ Fittings

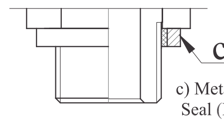


a) High Pressure Metal Sealing Ring (MSRH)

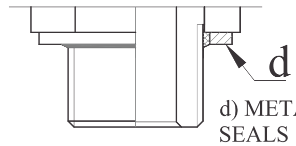




b) Metal Soft Seal (MSS)



c) Metal Bonded Seal (MBS)



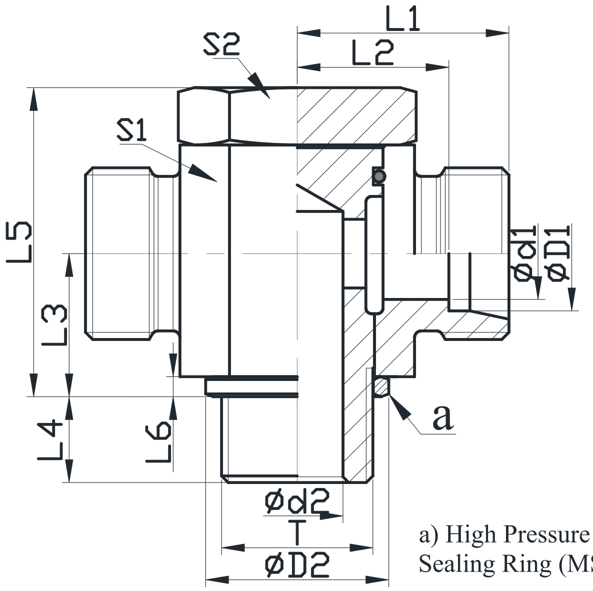
d) METAL BONDED SEALS

SERIES	ØD1	Ød1	Ød2	ØD2	T	L1	L2	L3	L4	L5	L6	S1	S2	S3	PART CODE	WP(bar)
L	06	04	4.5	14	G1/8"	19.0	12.0	10.5	08	24	2.5	17	17	14	HBL 06LR	250
	08	06	6.0	18	G1/4"	21.5	14.5	14.0	12	30	3.0	22	19	17	HBL 08LR	250
	10	08	6.0	18	G1/4"	22.5	15.5	14.0	12	30	3.0	22	19	19	HBL 10LR	250
	12	10	7.5	22	G3/8"	25.0	18.0	16.5	12	36	3.0	27	24	22	HBL 12LR	250
	15	12	11.0	26	G1/2"	28.5	21.5	21.5	14	45	4.5	32	30	27	HBL 15LR	250
	18	15	11.0	26	G1/2"	28.5	21.0	21.5	14	45	4.5	32	30	32	HBL 18LR	250
	22	19	17.0	32	G3/4"	35.0	27.5	24.0	16	53	3.5	41	36	36	HBL 22LR	160
	28	24	21.0	39	G1"	39.5	32.0	30.5	18	66	3.5	50	46	41	HBL 28LR	160
	35	30	27.0	57	G1¼"	46.5	36.0	35.5	20	76	3.5	60	55	50	HBL 35LR	160
	42	36	34.0	55	G1½"	51.5	40.5	40.5	22	87	3.5	70	60	60	HBL 42LR	160
S	06	04	6.0	18	G1/4"	23.5	16.5	14.0	12	30	3.0	22	19	17	HBL 06SR	315
	08	05	6.0	18	G1/4"	23.5	16.5	14.0	12	30	3.0	22	19	19	HBL 08SR	315
	10	07	7.5	22	G3/8"	26.0	18.5	16.5	12	36	3.0	27	24	22	HBL 10SR	315
	12	08	7.5	22	G3/8"	26.0	18.5	16.5	12	36	3.0	27	24	24	HBL 12SR	315
	14	10	11.0	26	G1/2"	30.5	22.5	21.5	14	45	4.5	32	30	27	HBL 14SR	315
	16	12	11.0	26	G1/2"	30.5	22.0	21.5	14	45	4.5	32	30	30	HBL 16SR	315
	20	16	17.0	32	G3/4"	37.0	26.5	24.0	16	53	3.5	41	36	36	HBL 20SR	160
	25	20	21.0	39	G1"	43.5	31.5	30.5	18	66	3.5	50	46	46	HBL 25SR	160
	30	25	27.0	49	G1¼"	50.5	37.0	35.5	20	76	3.5	60	55	50	HBL 30SR	160
	38	32	34.0	55	G1½"	57.5	41.5	40.5	22	87	3.5	70	60	60	HBL 38SR	160

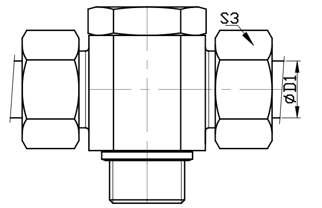
1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, WP (Working Pressure).: 1 Mpa = 10 bar.
5, select sealing ring a/b/c/d as shown in figure.
6, put suffix ‘X’ before part code if nut ferrule not required. (Ex: XHBL 16SR)

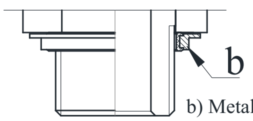
HBT - M - High Pressure Banjo Tee

METRIC Sealing Rings

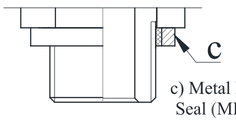


a) High Pressure Metal Sealing Ring (MSRH)

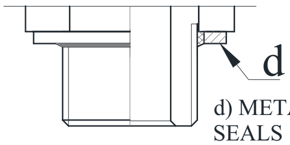




b) Metal Soft Seal (MSS)



c) Metal Bonded Seal (MBS)



d) METAL BONDED SEALS

SERIES	ØD1	Ød1	Ød2	ØD2	T	L1	L2	L3	L4	L5	L6	S1	S2	S3	PART CODE	WP (bar)
L	06	04	4.5	14	M10x1	19.0	12.0	10.5	08	24.0	2.5	17	17	14	HBT 06LM	250
	08	06	6.0	17	M12x1.5	21.5	14.5	14.0	12	30.0	3.0	22	19	17	HBT 08LM	250
	10	08	6.0	19	M14x1.5	22.5	15.5	14.0	12	30.0	3.0	22	19	19	HBT 10LM	250
	12	10	7.5	21	M16x1.5	25.0	18.0	16.5	12	36.0	3.0	27	24	22	HBT 12LM	250
	15	11	9.0	23	M18x1.5	27.5	21.5	18.5	12	39.5	3.0	32	27	27	HBT 15LM	250
	18	15	12.0	27	M22x1.5	28.5	21.0	21.5	14	45.0	4.5	32	30	32	HBT 18LM	250
	22	19	17.0	31	M26x1.5	35.0	27.5	24.0	16	53.0	3.5	41	36	36	HBT 22LM	160
	28	24	21.0	39	M33x2	39.5	32.0	30.5	18	66.0	3.5	50	46	41	HBT 28LM	160
	35	30	27.0	49	M42x2	46.5	36.0	35.5	20	76.0	3.5	60	55	50	HBT 35LM	160
	42	36	34.0	55	M48x2	51.5	40.5	40.5	22	87.0	3.5	70	60	60	HBT 42LM	160
S	06	04	6.0	17	M12x1.5	23.5	16.5	14.0	12	30.0	3.0	22	19	17	HBT 06SM	315
	08	05	6.0	19	M14x1.5	23.5	16.5	14.0	12	30.0	3.0	22	19	19	HBT 08SM	315
	10	07	7.5	21	M16x1.5	26.0	18.5	16.5	12	36.0	3.0	27	24	22	HBT 10SM	315
	12	08	9.0	23	M18x1.5	27.5	20.0	18.5	12	39.5	3.0	27	27	24	HBT 12SM	315
	14	10	10.0	25	M20x1.5	30.5	22.5	20.0	14	43.5	3.0	32	30	27	HBT 14SM	315
	16	12	12.0	27	M22x1.5	30.5	22.0	21.5	14	45.0	4.5	32	30	30	HBT 16SM	315
	20	16	16.0	32	M27x2	37.0	26.5	24.0	16	53.0	3.5	41	36	36	HBT 20SM	160
	25	20	21.0	39	M33x2	43.5	31.5	30.5	18	66.0	3.5	50	46	46	HBT 25SM	160
	30	25	27.0	49	M42x2	50.5	37.0	35.5	20	76.0	3.5	60	55	50	HBT 30SM	160
	38	32	34.0	55	M48x2	57.5	41.5	40.5	22	87.0	3.5	70	60	60	HBT 38SM	160

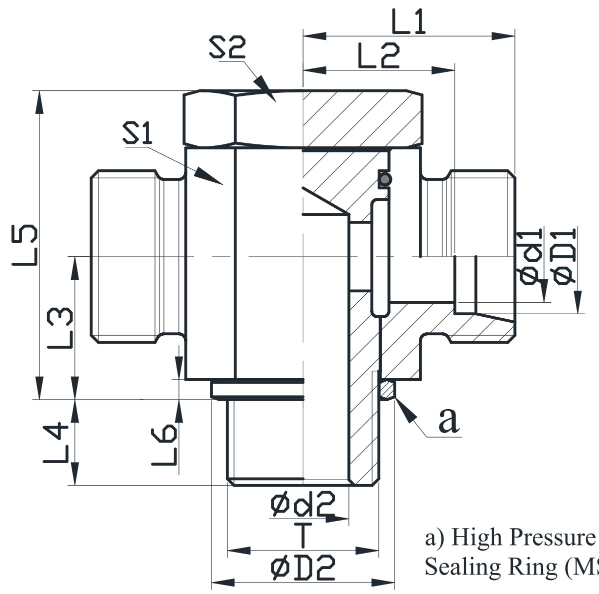
1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, WP (Working Pressure).: 1 Mpa = 10 bar.
5, select sealing ring a/b/c/d as shown in figure.
6, put suffix ‘X’ before part code if nut ferrule not required. (Ex: XHBT 16SM)

HBT - R - High Pressure Banjo Tee

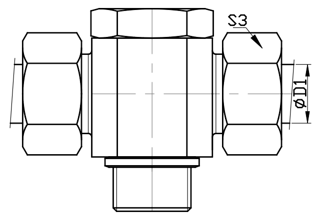
BSPP Sealing Rings

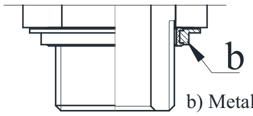
24⁰ Fittings

Gem Engineering Industries (India) Pvt. Ltd.

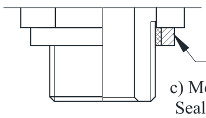


a) High Pressure Metal Sealing Ring (MSRH)

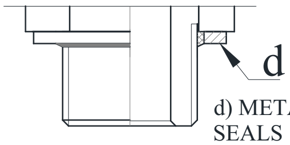




b) Metal Soft Seal (MSS)



c) Metal Bonded Seal (MBS)



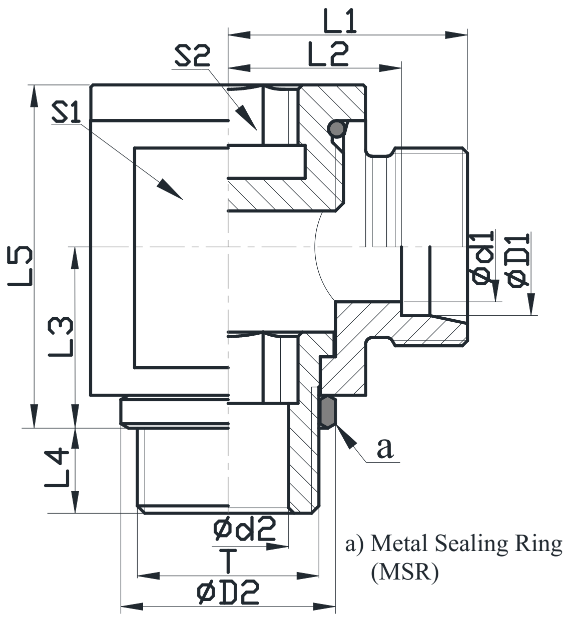
d) METAL BONDED SEALS

SERIES	ØD1	Ød1	Ød2	ØD2	T	L1	L2	L3	L4	L5	L6	S1	S2	S3	PART CODE	WP (bar)
L	06	04	4.5	14	G1/8"	19.0	12.0	10.5	08	24	2.5	17	17	14	HBT 06LR	250
	08	06	6.0	18	G1/4"	21.5	14.5	14.0	12	30	3.0	22	19	17	HBT 08LR	250
	10	08	6.0	18	G1/4"	22.5	15.5	14.0	12	30	3.0	22	19	19	HBT 10LR	250
	12	10	7.5	22	G3/8"	25.0	18.0	16.5	12	36	3.0	27	24	22	HBT 12LR	250
	15	12	11.0	26	G1/2"	28.5	21.5	21.5	14	45	4.5	32	30	27	HBT 15LR	250
	18	15	11.0	26	G1/2"	28.5	21.0	21.5	14	45	4.5	32	30	32	HBT 18LR	250
	22	19	17.0	32	G3/4"	35.0	27.5	24.0	16	53	3.5	41	36	36	HBT 22LR	160
	28	24	21.0	39	G1"	39.5	32.0	30.5	18	66	3.5	50	46	41	HBT 28LR	160
	35	30	27.0	57	G1¼"	46.5	36.0	35.5	20	76	3.5	60	55	50	HBT 35LR	160
	42	36	34.0	55	G1½"	51.5	40.5	40.5	22	87	3.5	70	60	60	HBT 42LR	160
S	06	04	6.0	18	G1/4"	23.5	16.5	14.0	12	30	3.0	22	19	17	HBT 06SR	315
	08	05	6.0	18	G1/4"	23.5	16.5	14.0	12	30	3.0	22	19	19	HBT 08SR	315
	10	07	7.5	22	G3/8"	26.0	18.5	16.5	12	36	3.0	27	24	22	HBT 10SR	315
	12	08	7.5	22	G3/8"	26.0	18.5	16.5	12	36	3.0	27	24	24	HBT 12SR	315
	14	10	11.0	26	G1/2"	30.5	22.5	21.5	14	45	4.5	32	30	27	HBT 14SR	315
	16	12	11.0	26	G1/2"	30.5	22.0	21.5	14	45	4.5	32	30	30	HBT 16SR	315
	20	16	17.0	32	G3/4"	37.0	26.5	24.0	16	53	3.5	41	36	36	HBT 20SR	160
	25	20	21.0	39	G1"	43.5	31.5	30.5	18	66	3.5	50	46	46	HBT 25SR	160
	30	25	27.0	49	G1¼"	50.5	37.0	35.5	20	76	3.5	60	55	50	HBT 30SR	160
	38	32	34.0	55	G1½"	57.5	41.5	40.5	22	87	3.5	70	60	60	HBT 38SR	160

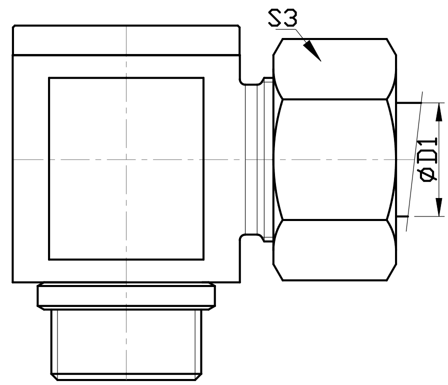
1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, WP (Working Pressure).: 1 Mpa = 10 bar.
5, select sealing ring a/b/c/d as shown in figure.
6, put suffix ‘X’ before part code if nut ferrule not required. (Ex: XHBT 16SR)

TBL - M - Throttle Free Banjo Elbow

METRIC Metal Sealing Ring (MSR)



a) Metal Sealing Ring (MSR)

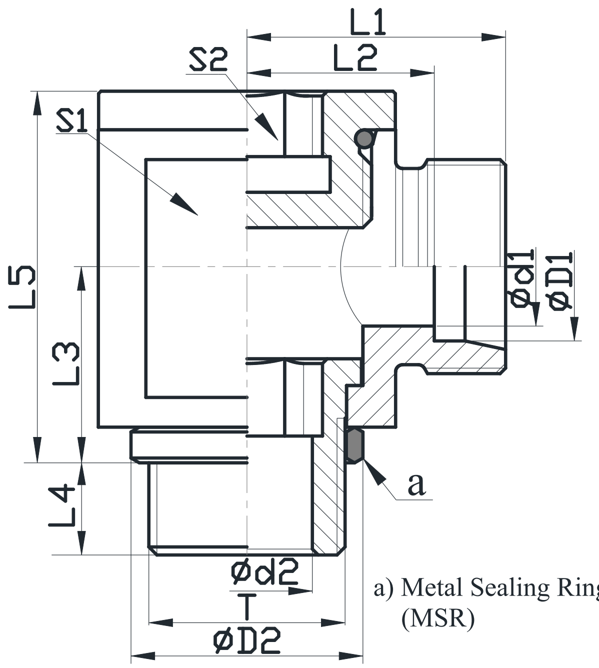


SERIES	ØD1	Ød1	Ød2	ØD2	T	L1	L2	L3	L4	L5	S1	S2	S3	PART CODE	WP (bar)
L	06	04	4.0	14	M10x1	19.5	12.5	12	08	24	18	06	14	TBL 06LM	160
	08	06	5.5	17	M12x1.5	21.5	14.5	15	12	30	22	06	17	TBL 08LM	160
	10	08	7.0	19	M14x1.5	22.5	15.5	16	12	30	22	08	19	TBL 10LM	100
	12	10	8.0	21	M16x1.5	25.0	18.0	18	12	37	27	10	22	TBL 12LM	100
	15	12	10.0	23	M18x1.5	28.0	21.0	20	12	40	30	12	27	TBL 15LM	100
	18	15	14.0	27	M22x1.5	29.0	21.5	23	14	46	36	14	32	TBL 18LM	100
	22	19	17.5	31	M26x1.5	33.5	26.0	25	16	51	41	17	36	TBL 22LM	100
	28	24	22.0	39	M33x2	39.0	31.5	32	18	64	50	22	41	TBL 28LM	100
	35	30	27.5	49	M42x2	46.0	35.5	37	20	76	60	27	50	TBL 35LM	63
	42	36	32.5	55	M48x2	51.0	40.0	42	22	85	70	32	60	TBL 42LM	63
S	06	04	5.5	17	M12x1.5	23.5	16.5	15	12	30	22	06	17	TBL 06SM	160
	08	05	7.0	19	M14x1.5	23.5	16.5	16	12	30	22	08	19	TBL 08SM	160
	10	07	8.0	21	M16x1.5	26.0	18.5	18	12	37	27	10	22	TBL 10SM	100
	12	08	10.0	23	M18x1.5	28.0	20.5	20	12	41	30	12	24	TBL 12SM	100
	14	10	12.0	25	M20x1.5	31.0	23.0	21	14	42	32	12	27	TBL 14SM	100
	16	12	14.0	27	M22x1.5	31.0	22.5	23	14	46	36	14	30	TBL 16SM	100
	20	16	17.5	32	M27x2	38.0	27.5	28	16	58	46	17	36	TBL 20SM	100
	25	20	22.0	39	M33x2	43.0	31.0	32	18	64	50	22	46	TBL 25SM	100
	30	25	27.5	49	M42x2	50.0	36.5	37	20	76	60	27	50	TBL 30SM	63
	38	32	32.5	55	M48x2	56.0	41.0	42	22	85	70	32	60	TBL 38SM	63

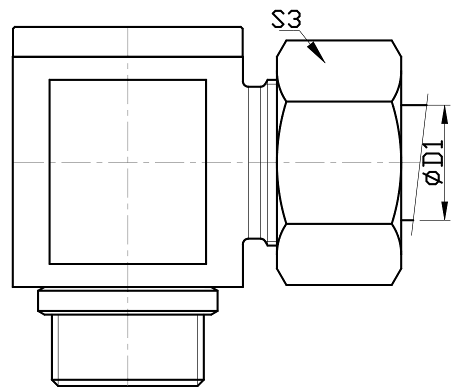
1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, put suffix ‘X’ before part code if nut ferrule not required. (Ex: XTBL 16SM)
5, WP (Working Pressure).: 1 Mpa = 10 bar.

TBL-R - Throttle Free Banjo Elbow

BSPP Metal Sealing Ring (MSR)

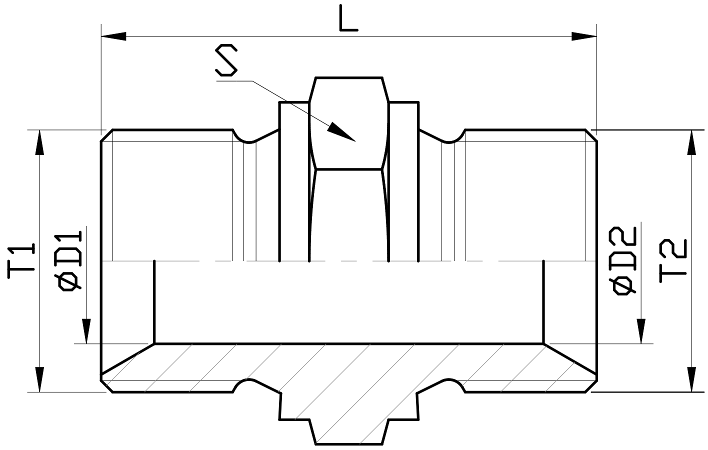


a) Metal Sealing Ring (MSR)



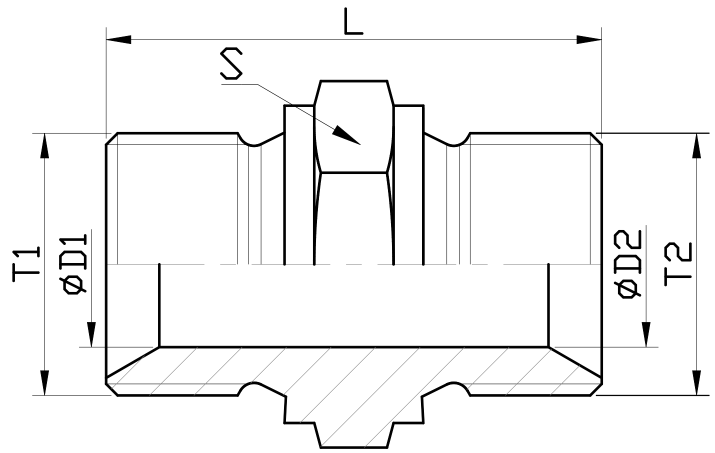
SERIES	ØD1	Ød1	Ød2	ØD2	T	L1	L2	L3	L4	L5	S1	S2	S3	PART CODE	WP(bar)
L	06	04	4.0	14	G1/8"	19.5	12.5	12	08	24	18	06	14	TBL 06LR	160
	08	06	6.0	18	G1/4"	21.5	14.5	16	12	30	22	06	17	TBL 08LR	160
	10	08	6.0	18	G1/4"	22.5	15.5	16	12	30	22	08	19	TBL 10LR	100
	12	10	8.5	22	G3/8"	25.0	18.0	18	12	37	27	10	22	TBL 12LR	100
	15	12	12.0	26	G1/2"	29.0	22.0	21	14	42	32	12	27	TBL 15LR	100
	18	15	12.0	26	G1/2"	29.0	21.5	23	14	46	36	12	32	TBL 18LR	100
	22	19	17.5	32	G3/4"	36.0	28.5	28	16	58	46	17	36	TBL 22LR	100
	28	24	22.0	39	G1"	39.0	31.5	32	18	64	50	22	41	TBL 28LR	100
	35	30	27.5	49	G1 1/4"	46.0	35.5	37	20	76	60	27	50	TBL 35LR	63
	42	36	32.5	55	G1 1/2"	51.5	40.0	42	22	85	70	32	60	TBL 42LR	63
S	06	04	6.0	18	G1/4"	23.5	16.5	16	12	30	22	08	17	TBL 06SR	160
	08	05	6.0	18	G1/4"	23.5	16.5	16	12	30	22	08	19	TBL 08SR	160
	10	07	8.5	22	G3/8"	26.0	18.5	18	12	37	27	10	22	TBL 10SR	100
	12	08	8.5	22	G3/8"	26.0	18.5	18	12	37	27	10	24	TBL 12SR	100
	14	10	12.0	26	G1/2"	31.0	23.0	21	14	42	32	12	27	TBL 14SR	100
	16	12	12.0	26	G1/2"	31.0	22.5	23	14	46	36	12	30	TBL 16SR	100
	20	16	17.5	32	G3/4"	38.0	27.5	28	16	58	46	17	36	TBL 20SR	100
	25	20	22.0	39	G1"	43.0	31.0	32	18	64	50	22	46	TBL 25SR	100
	30	25	27.5	49	G1 1/4"	50.0	36.5	37	20	76	60	27	50	TBL 30SR	63
	38	32	32.5	55	G1 1/2"	57.5	41.0	42	22	85	70	32	60	TBL 38SR	63

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, L: Low Pressure Working Series.
3, S: High Pressure Working Series.
4, put suffix 'X' before part code if nut ferrule not required. (Ex: XTBL 16SR)
5, WP (Working Pressure).: 1 Mpa = 10 bar.



Thread BSPP T1	Thread BSPP T2	ØD1	ØD2	L	S	PART CODE	WP (bar)
1/8"	1/8"	4.0	4.0	26.0	14	HAG -02/-02	350
1/8"	1/4"	4.0	6.0	30.5	19	HAG -02/-04	350
1/8"	3/8"	4.0	8.0	32.0	22	HAG -02/-06	350
1/8"	1/2"	4.0	11.0	36.5	27	HAG -02/-08	200
1/4"	1/4"	6.0	6.0	34.0	19	HAG -04/-04	350
1/4"	3/8"	6.0	8.0	35.5	22	HAG -04/-06	350
1/4"	1/2"	6.0	11.0	40.0	27	HAG -04/-08	200
1/4"	3/4"	6.0	16.7	43.0	32	HAG -04/-12	200
1/4"	1"	6.0	22.2	48.0	41	HAG -04/-16	120
3/8"	3/8"	8.0	8.0	37.0	22	HAG -06/-06	350
3/8"	1/2"	8.0	11.0	41.5	27	HAG -06/-08	200
3/8"	3/4"	8.0	16.7	44.5	32	HAG -06/-12	200
3/8"	1"	8.0	22.2	49.5	41	HAG -06/-16	120
3/8"	1 1/4"	8.0	29.0	50.5	50	HAG -06/-20	105
1/2"	1/2"	11.0	11.0	45.0	27	HAG -08/-08	200
1/2"	3/4"	11.0	16.7	48.0	32	HAG -08/-12	200
1/2"	1"	11.0	22.2	53.0	41	HAG -08/-16	120
1/2"	1 1/4"	11.0	29.0	54.0	50	HAG -08/-20	105
5/8"	5/8"	14.3	14.3	45.0	30	HAG -10/-10	200
5/8"	3/4"	14.3	16.7	48.0	32	HAG -10/-12	200
3/4"	3/4"	16.7	16.7	50.0	32	HAG -12/-12	200
3/4"	1"	16.7	22.2	55.0	41	HAG -12/-16	120
3/4"	1 1/4"	16.7	29.0	56.0	50	HAG -12/-20	105
3/4"	1 1/2"	16.7	33.0	61.5	55	HAG -12/-24	105
1"	1"	22.2	22.2	58.0	41	HAG -16/-16	120

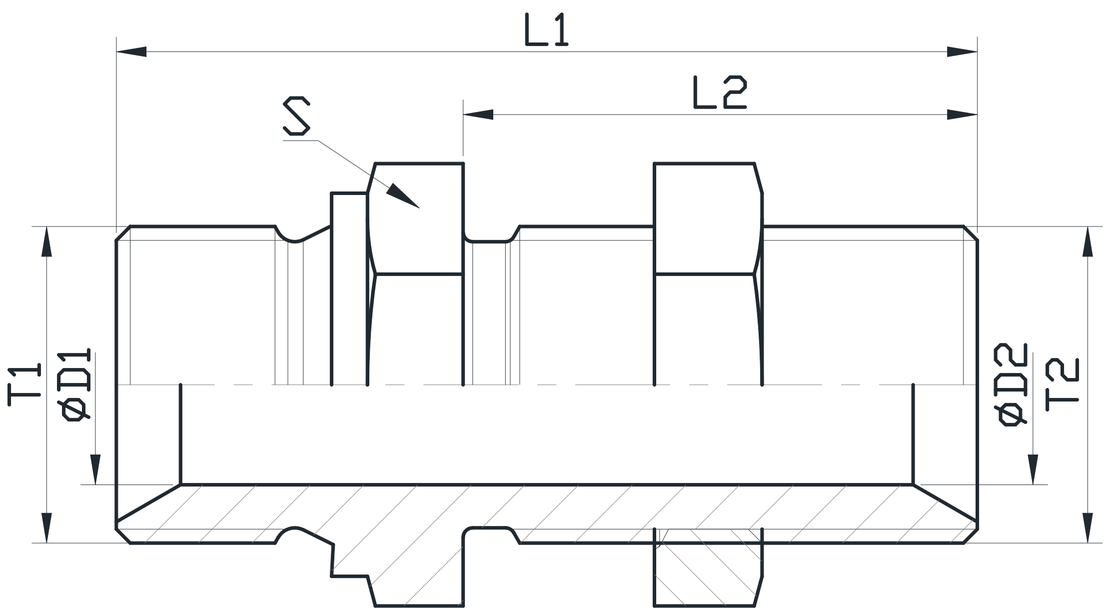
1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, WP (Working Pressure).: 1 Mpa = 10 bar.



Thread BSPP T1	Thread BSPP T2	ØD1	ØD2	L	S	PART CODE	WP (bar)
1"	1 1/4"	22.2	29.0	59.0	50	HAG -16/-20	105
1"	1 1/2"	22.2	33.0	64.5	55	HAG -16/-24	105
1"	2"	22.2	46.0	68.0	70	HAG -16/-32	70
1 1/4"	1 1/4"	29.0	29.0	59.0	50	HAG -20/-20	105
1 1/4"	1 1/2"	29.0	33.0	64.5	55	HAG -20/-24	105
1 1/4"	2"	29.0	46.0	68.0	70	HAG -20/-32	70
1 1/2"	3/8"	33.0	8.0	56.0	55	HAG -24/-06	105
1 1/2"	1/2"	33.0	11.0	59.5	55	HAG -24/-08	105
1 1/2"	1 1/2"	33.0	33.0	69.0	55	HAG -24/-24	105
1 1/2"	2"	33.0	46.0	72.5	70	HAG -24/-32	70
2"	2"	46.0	46.0	75.0	70	HAG -32/-32	70
2"	2 1/2"	46.0	60.0	80.0	85	HAG -32/-40	70

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, WP (Working Pressure).: 1 Mpa = 10 bar.

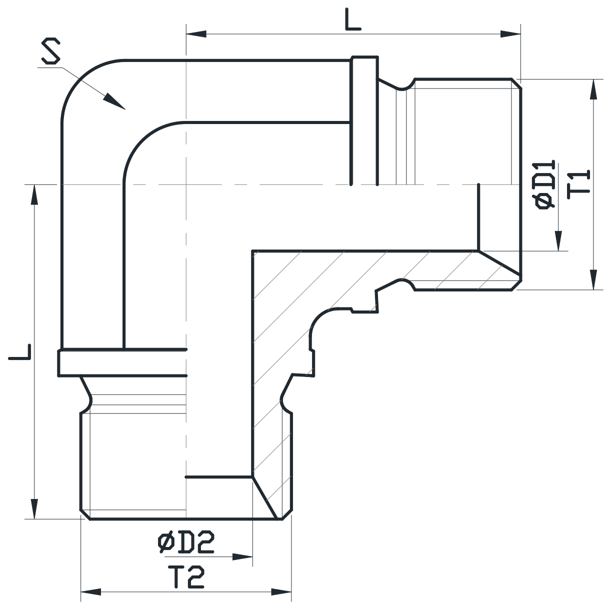
HBAG - Hydraulic Bulkhead Adapter



Thread BSPP T1	Thread BSPP T2	ØD1	ØD2	L1	L2	S	PART CODE	WP (bar)
1/4"	1/4"	6.0	6.0	54.0	34.0	19	HBAG -04/-04	350
3/8"	3/8"	8.0	8.0	56.5	35.0	22	HBAG -06/-06	350
1/2"	1/2"	11.0	11.0	65.0	39.0	27	HBAG -08/-08	200
3/4"	3/4"	16.7	16.7	72.0	43.0	32	HBAG -12/-12	200
1"	1"	22.2	22.2	81.0	47.0	41	HBAG -16/-16	120
1 1/4"	1 1/4"	29.0	29.0	85.0	50.0	50	HBAG -20/-20	105
1 1/2"	1 1/2"	33.0	33.0	95.0	54.5	55	HBAG -24/-24	105
2"	2"	46.0	46.0	120.0	58.0	70	HBAG -32/-32	70

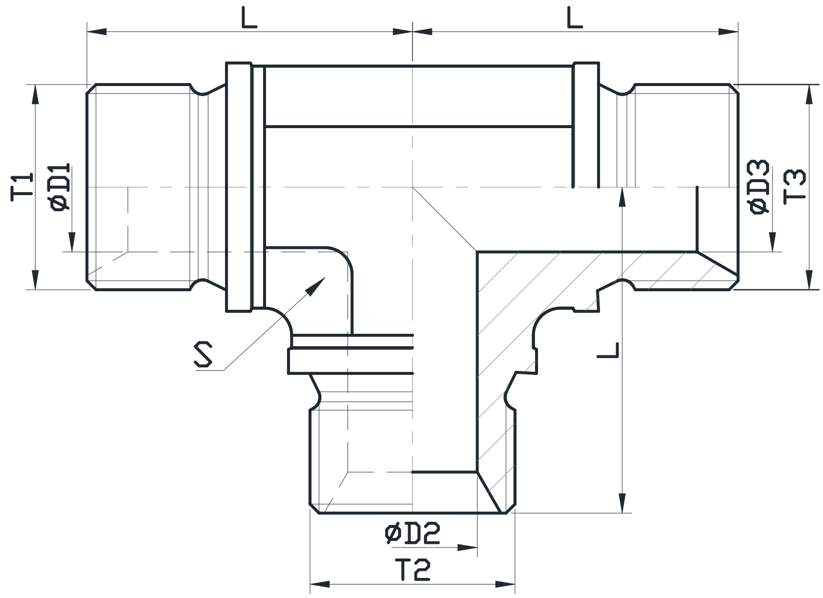
1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, WP (Working Pressure).: 1 Mpa = 10 bar.

HEG - Hydraulic Elbow Connector



Thread BSPP T1	Thread BSPP T2	ØD1	ØD2	L	S	PART CODE	WP (bar)
1/8"	1/8"	4.0	4.0	23.5	12	HEG -02/-02	350
1/8"	1/4"	4.0	6.0	27.5	14	HEG -02/-04	350
1/8"	3/8"	4.0	8.0	31.0	19	HEG -02/-06	350
1/4"	1/4"	6.0	6.0	27.5	14	HEG -04/-04	350
1/4"	3/8"	6.0	8.0	31.0	19	HEG -04/-06	350
1/4"	1/2"	6.0	11.0	36.5	22	HEG -04/-08	200
3/8"	3/8"	8.0	8.0	31.0	19	HEG -06/-06	350
3/8"	1/2"	8.0	11.0	36.5	22	HEG -06/-08	200
1/2"	1/2"	11.0	11.0	36.5	22	HEG -08/-08	200
1/2"	3/4"	11.0	16.7	42.0	27	HEG -08/-12	200
1/2"	1"	11.0	22.2	48.5	32	HEG -08/-16	120
3/4"	3/4"	16.7	16.7	42.0	27	HEG -12/-12	200
3/4"	1"	16.7	22.2	48.5	32	HEG -12/-16	120
1"	1"	22.2	22.2	48.5	32	HEG -16/-16	120

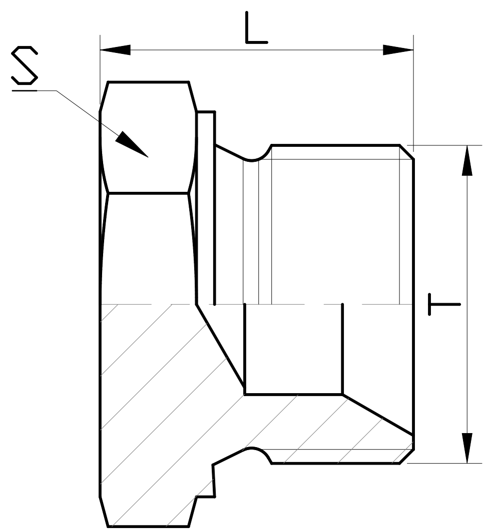
1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, WP (Working Pressure).: 1 Mpa = 10 bar.
3, ‘S’ given for forging, will change if made from flat bar.



Thread BSPP T1	Thread BSPP T2	Thread BSPP T3	ØD1	ØD2	ØD3	L	S	PART CODE	WP (bar)
1/8"	1/8"	1/8"	4.0	4.0	4.0	23.5	12	HTG -02/-02/-02	350
1/4"	1/4"	1/4"	6.0	6.0	6.0	27.5	14	HTG -04/-04/-04	350
3/8"	3/8"	3/8"	8.0	8.0	8.0	31.0	19	HTG -06/-06/-06	350
1/2"	1/2"	1/2"	11.0	11.0	11.0	36.5	22	HTG -08/-08/-08	200
3/4"	3/4"	3/4"	16.7	16.7	16.7	42.0	27	HTG -12/-12/-12	200
1"	1"	1"	22.2	22.2	22.2	48.5	32	HTG -16/-16/-16	120

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, WP (Working Pressure).: 1 Mpa = 10 bar.
3, 'S' given for forging, will change if made from flat bar.

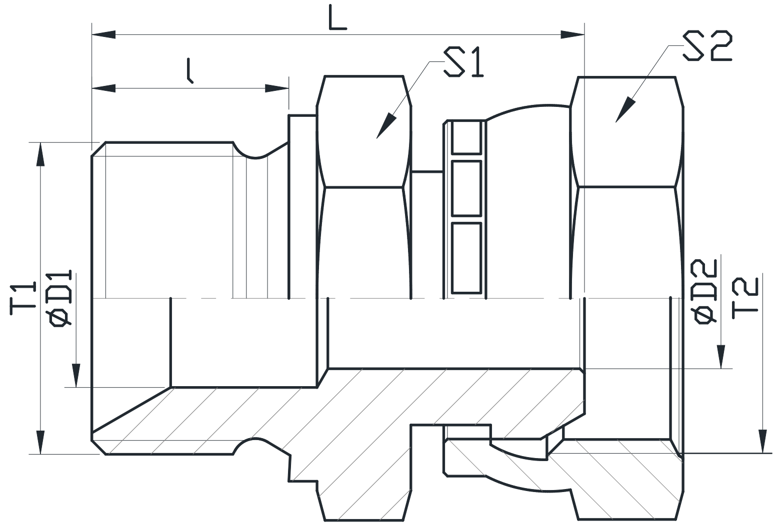
HDPG - Hydraulic Dummy Plug



Thread BSPP T	L	S	PART CODE	WP (bar)
1/8"	15	14	HDPG -02	350
1/4"	20	19	HDPG -04	350
3/8"	22	22	HDPG -06	350
1/2"	26	27	HDPG -08	200
5/8"	26	30	HDPG -10	200
3/4"	29	32	HDPG -12	200
1"	32	41	HDPG -16	120
1 1/4"	39	50	HDPG -20	105
1 1/2"	40	55	HDPG -24	105
2"	43	70	HDPG -32	70

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, WP (Working Pressure).: 1 Mpa = 10 bar.

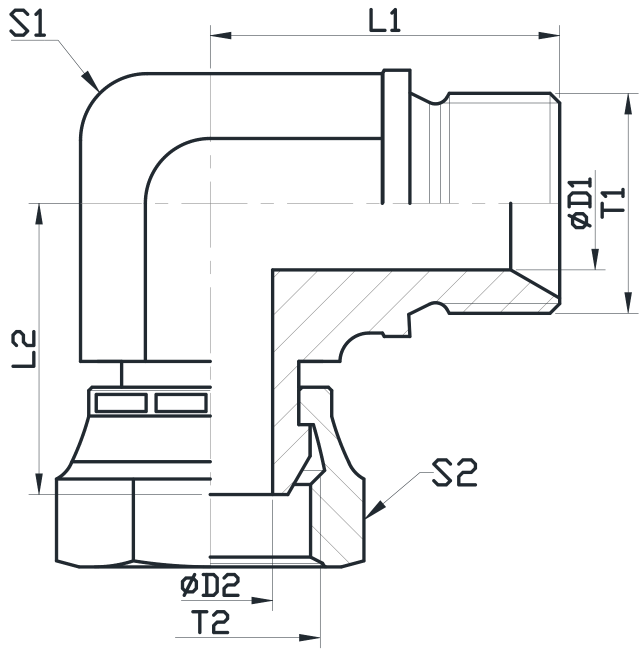
HSMSG - Hydraulic Swivel Male Stud



Thread BSPP T1	Thread BSPP T2	ØD1	ØD2	L	l	S1	S2	PART CODE	WP (bar)
1/4"	1/4"	6.0	4.0	32.0	12	19	19	HSMS -04/-04	350
3/8"	3/8"	8.0	7.0	34.5	13	22	22	HSMS -06/-06	350
1/2"	1/2"	11.0	9.0	41.0	16	27	27	HSMS -08/-08	200
3/4"	3/4"	16.7	14.0	44.0	18	32	32	HSMS -12/-12	200
1"	1"	19.0	19.0	52.5	21	41	41	HSMS -16/-16	120

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, WP (Working Pressure).: 1 Mpa = 10 bar.

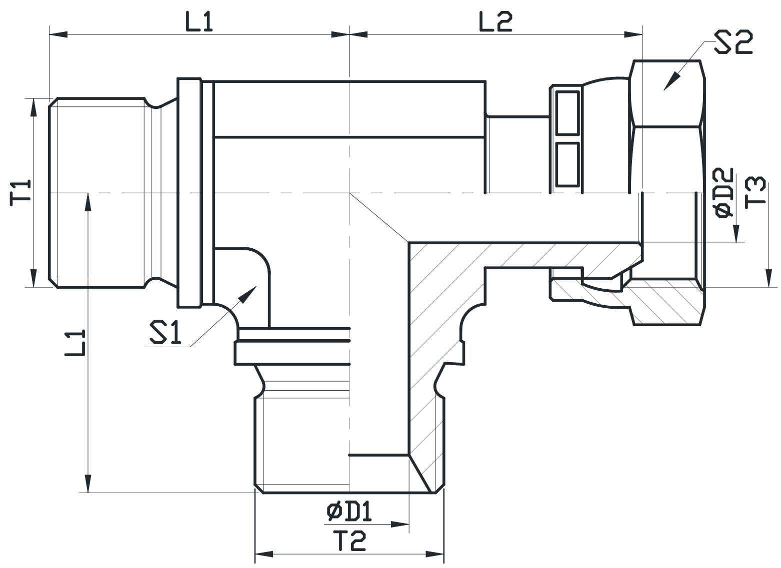
HSLG - Hydraulic Swivel Elbow



Thread BSPP T1	Thread BSPP T2	ØD1	ØD2	L1	L2	S1	S2	PART CODE	WP (bar)
1/4"	1/4"	6.0	4.0	27.5	26.0	14	19	HSLG -04/-04	350
3/8"	3/8"	8.0	7.0	31.0	30.5	19	22	HSLG -04/-06	350
1/2"	1/2"	11.0	9.0	36.5	36.0	22	27	HSLG -08/-08	200
3/4"	3/4"	16.0	15.0	42.0	35.0	27	32	HSLG -12/-12	200
1"	1"	22.2	19.0	48.5	44.0	32	41	HSLG -16/-16	120

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, WP (Working Pressure).: 1 Mpa = 10 bar.
3, ‘S1’ given for forging, will change if made from flat bar.

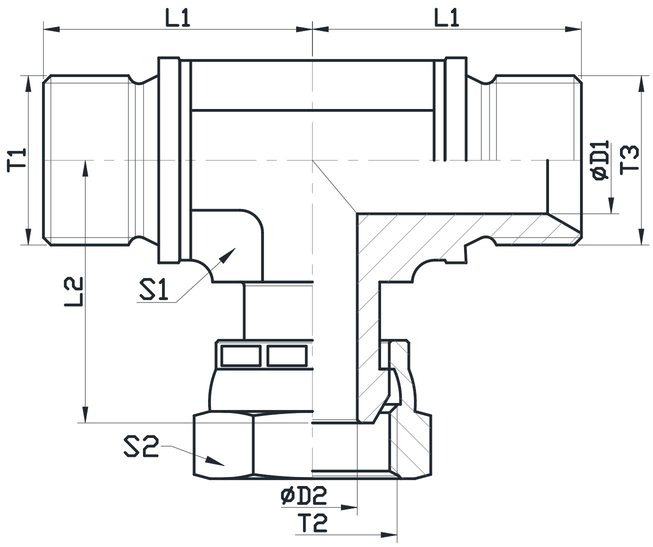
HSRTG - Hydraulic Swivel Run Tee



Thread BSPP T1	Thread BSPP T2	Thread BSPP T3	ØD1	ØD2	L1	L2	S1	S2	PART CODE	WP (bar)
1/4"	1/4"	1/4"	6	4	27.5	26	14	19	HSRTG -04/-04/-04	350
3/8"	3/8"	3/8"	8	7	31	30.5	19	22	HSRTG -06/-06/-06	350
1/2"	1/2"	1/2"	11	9	36.5	36	22	27	HSRTG -08/-08/-08	200
3/4"	3/4"	3/4"	16.7	14	42	41	27	32	HSRTG -12/-12/-12	200
1"	1"	1"	22.2	19	48.5	44	33	41	HSRTG -16/-16/-16	120

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, WP (Working Pressure).: 1 Mpa = 10 bar.
3, 'S1' given for forging, will change if made from flat bar.

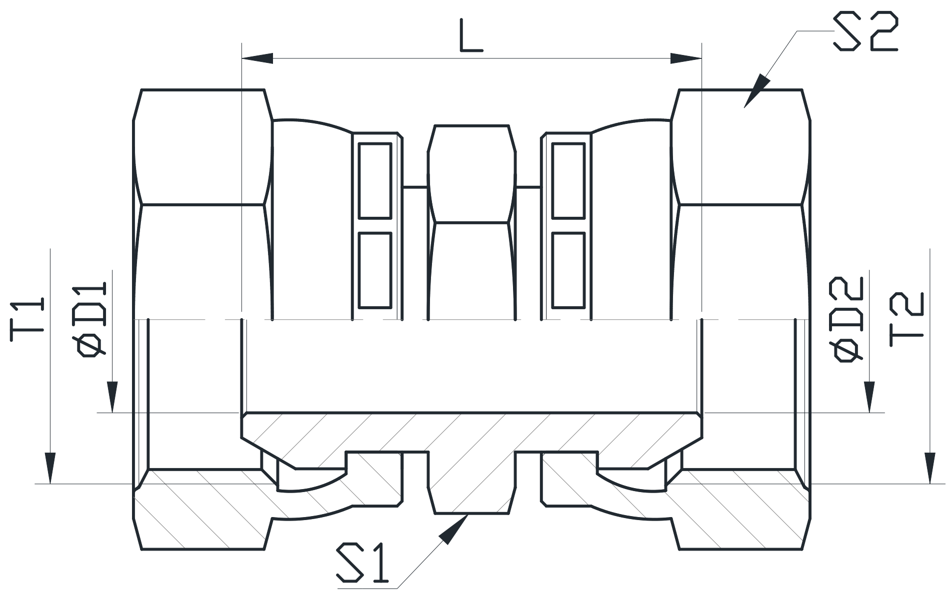
HSBTG - Hydraulic Swivel Branch Tee



Thread BSPP T1	Thread BSPP T2	Thread BSPP T3	ØD1	ØD2	L1	L2	S1	S2	PART CODE	WP (bar)
1/4"	1/4"	1/4"	6	4	27.5	26	14	19	HSBTG -04/-04/-04	350
3/8"	3/8"	3/8"	8	7	31	30.5	19	22	HSBTG -06/-06/-06	350
1/2"	1/2"	1/2"	11	9	36.5	36	22	27	HSBTG -08/-08/-08	200
3/4"	3/4"	3/4"	16.7	14	42	41	27	32	HSBTG -12/-12/-12	200
1"	1"	1"	22.2	19	48.5	44	33	41	HSBTG -16/-16/-16	120

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, WP (Working Pressure).: 1 Mpa = 10 bar.
3, 'S1' given for forging, will change if made from flat bar.

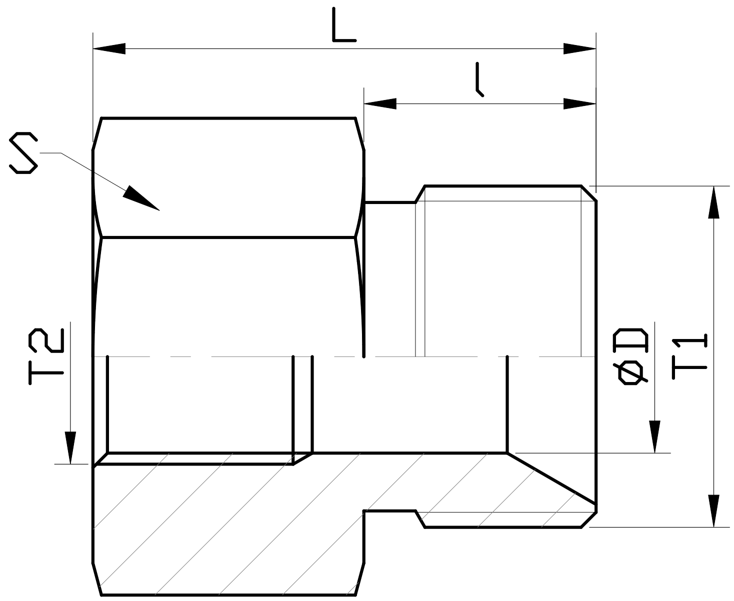
HSUG - Hydraulic Swivel Union



Thread BSPP T1	Thread BSPP T2	ØD1	ØD2	S1	S2	L	PART CODE	WP (bar)
1/4"	1/4"	4	4	14	19	28	HSUG -04/-04	350
3/8"	3/8"	7	7	17	22	31	HSUG -06/-06	350
1/2"	1/2"	9	9	22	27	36	HSUG -08/-08	200
3/4"	3/4"	15	15	27	32	37	HSUG -12/-12	200
1"	1"	20	20	32	41	44	HSUG -16/-16	120

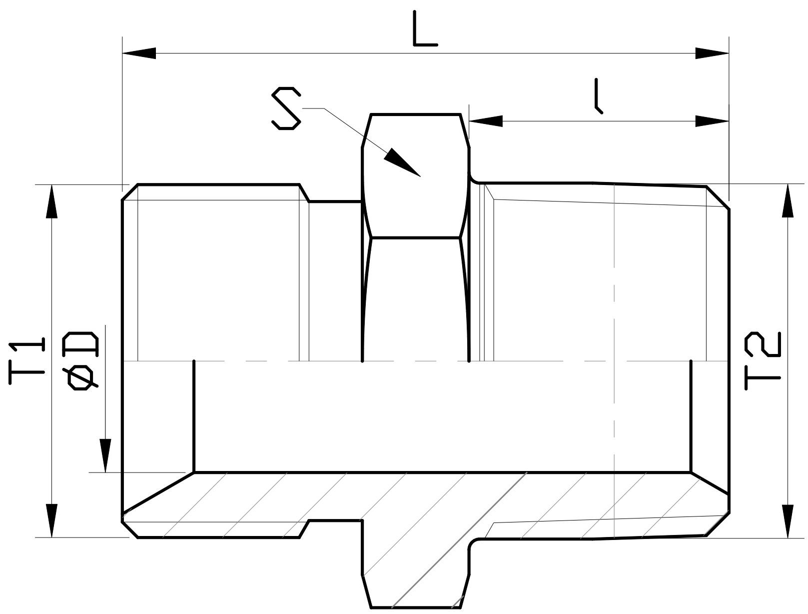
1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, WP (Working Pressure).: 1 Mpa = 10 bar.

HMFCG - Hydraulic Male & Female Connector



Thread BSPP T1	Thread BSPP T2	ØD	L	l	S	PART CODE	WP (bar)
3/8"	1/4"	8.0	36	13.0	22	HMFCG -06M/-04F	350
1/2"	1/4"	11.0	38	16.0	27	HMFCG -08M/-04F	200
1/2"	3/8"	11.0	40	16.0	22	HMFCG -08M/-06F	200
3/4"	1/4"	16.7	40	18.0	32	HMFCG -12M/-04F	200
3/4"	3/8"	16.7	42	18.0	32	HMFCG -12M/-06F	200
3/4"	1/2"	16.7	48	18.0	32	HMFCG -12M/-08F	200
1"	1/4"	22.2	43	21.0	41	HMFCG -16M/-04F	120
1"	3/8"	22.2	45	21.0	41	HMFCG -16M/-06F	120
1"	1/2"	22.2	51	21.0	41	HMFCG -16M/-08F	120
1"	3/4"	22.2	52	21.0	41	HMFCG -16M/-12F	120

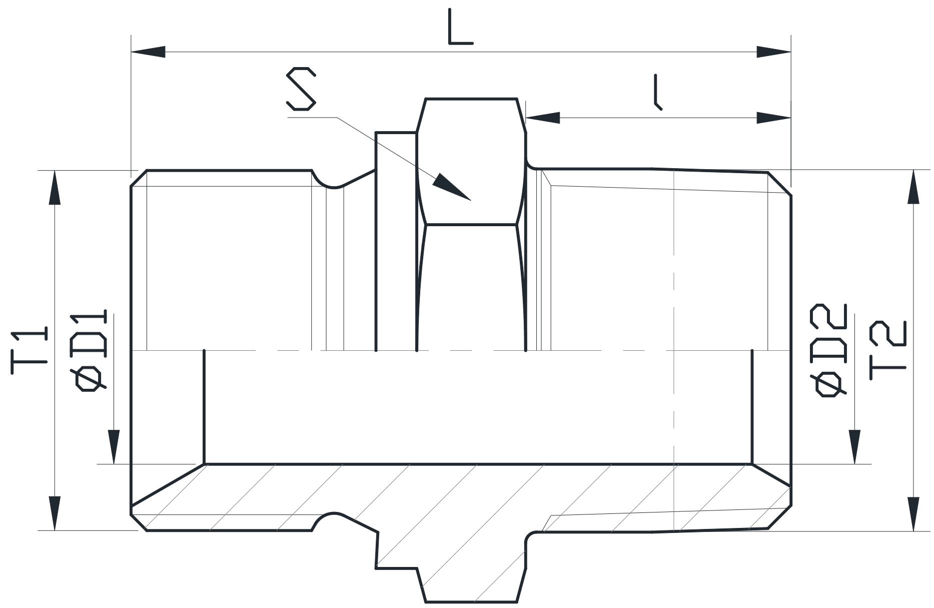
1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, WP (Working Pressure).: 1 Mpa = 10 bar.



Thread BSPP T1	Thread BSPT T2	ØD	L	l	S	PART CODE	WP (bar)
1/8"	1/8"	4	22	8	14	HA -02G/-02RT	315
1/4"	1/4"	5	30	12	19	HA -04G/-04RT	315
3/8"	3/8"	8	31	12	22	HA -06G/-06RT	315
1/2"	1/2"	11	37	14	27	HA -08G/-08RT	160
3/4"	3/4"	16.7	42	16	32	HA -12G/-12RT	160
1"	1"	22.2	49	18	41	HA -16G/-16RT	120
1 1/4"	1 1/4"	28.6	52	20	50	HA -20G/-20RT	105
1 1/2"	1 1/2"	33.3	59.5	22	55	HA -24G/-24RT	105

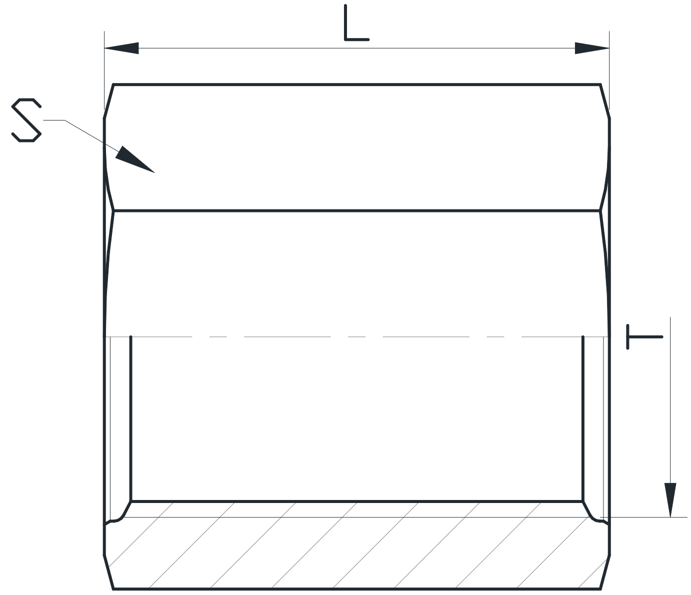
1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, WP (Working Pressure).: 1 Mpa = 10 bar.

HAGN - Hydraulic Adapter (BSP x NPT)



Thread BSPP T1	Thread NPT T2	ØD1	ØD2	L	l	S	PART CODE	WP (bar)
1/8"	1/4"	4.0	6.0	31.0	14.5	19	HA -02G/-04N	350
1/4"	1/4"	6.0	6.0	34.5	14.5	19	HA -04G/-04N	350
1/4"	3/8"	6.0	8.0	36.5	14.5	19	HA -04G/-06N	350
3/8"	1/4"	8.0	6.0	36.0	14.5	22	HA -06G/-04N	350
3/8"	1/2"	8.0	11.0	42.0	19.5	22	HA -06G/-08N	200
3/8"	3/8"	8.0	8.0	36.0	14.5	22	HA -06G/-06N	350
1/2"	1/4"	11.0	6.0	40.5	14.5	27	HA -08G/-04N	200
1/2"	3/8"	11.0	8.0	40.5	14.5	27	HA -08G/-06N	200
1/2"	1/2"	11.0	11.0	45.5	19.5	27	HA -08G/-08N	200
3/4"	3/4"	16.7	16.7	48.5	19.5	32	HA -12G/-12N	200
3/4"	1"	16.7	22.2	55.5	24.5	36	HA -12G/-16N	120
1"	1/2"	22.2	11.0	53.5	19.5	41	HA -16G/-08N	120
1"	1"	22.2	22.2	58.5	24.5	41	HA -16G/-16N	120
1 1/4"	3/4"	29.0	16.7	54.5	19.5	50	HA -20G/-12N	105
1 1/4"	1 1/4"	28.6	28.6	60.0	25.0	50	HA -20G/-20N	105
1 1/2"	1 1/2"	33.0	33.0	65.0	24.5	55	HA -24G/-24N	105
2"	2"	56.3	56.3	67.0	27.0	65	HA -32G/-32N	70

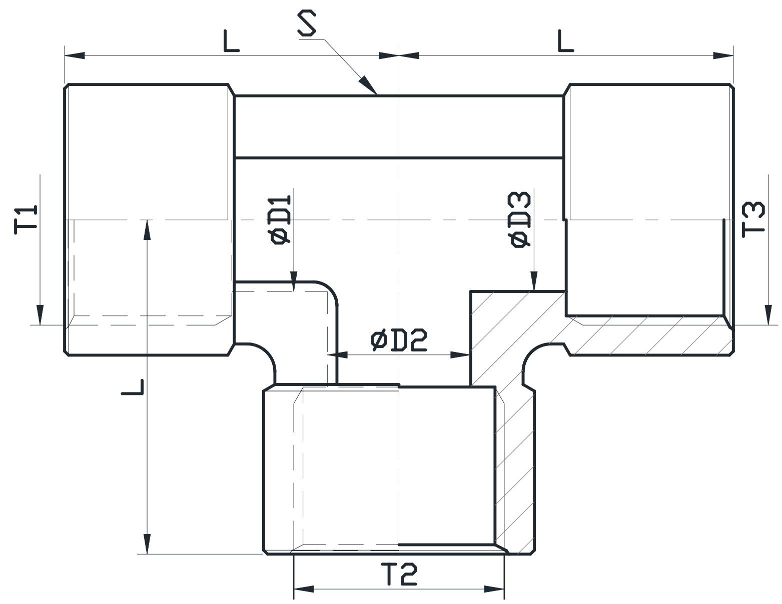
1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, WP (Working Pressure).: 1 Mpa = 10 bar.
3, 'S' given for forging, will change if made from flat bar.



Thread BSPP T2	L	S	PART CODE	WP (bar)
1/8"	19	14	HFCG -02(F)	420
1/4"	28	17	HFCG -04(F)	420
3/8"	28	22	HFCG -06(F)	420
1/2"	33	27	HFCG -08(F)	350
3/4"	37	32	HFCG -12(F)	280
1"	42	41	HFCG -16(F)	180

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, WP (Working Pressure).: 1 Mpa = 10 bar.

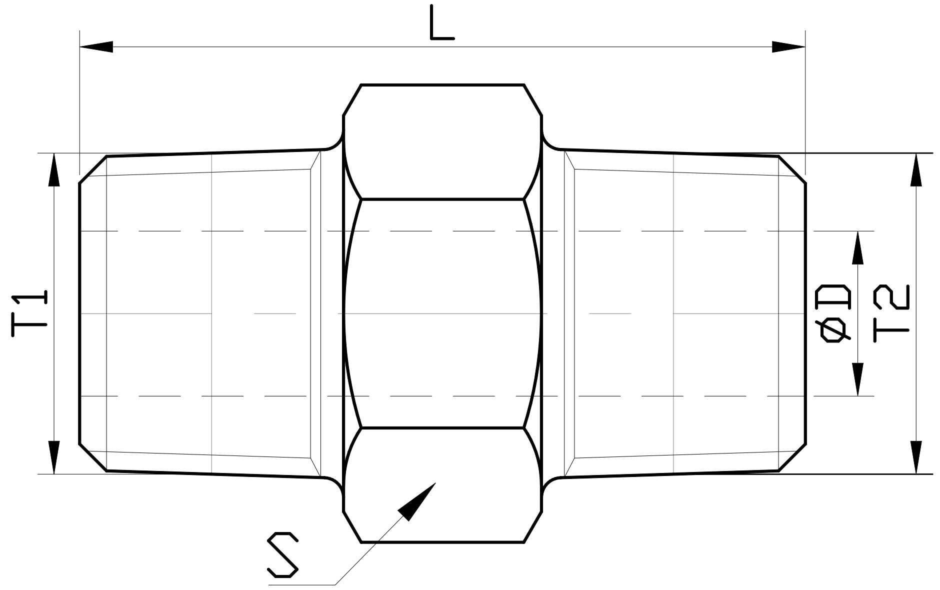
HFTG - Hydraulic Female Tee



Thread BSPP T1	Thread BSPP T2	Thread BSPP T3	ØD1	ØD2	ØD3	L	S	PART CODE	WP (bar)
1/4"	1/4"	1/4"	6.0	6.0	6.0	28.0	14	HFTG -04/-04/-04	350
3/8"	3/8"	3/8"	8.0	8.0	8.0	31.0	19	HFTG -06/-06/-06	315
1/2"	1/2"	1/2"	11.0	11.0	11.0	37.0	22	HFTG -08/-08/-08	210
3/4"	3/4"	3/4"	18.0	18.0	18.0	42.0	27	HFTG -12/-12/-12	210
1"	1"	1"	22.2	22.2	22.2	48.5	33	HFTG -16/-16/-16	120

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, WP (Working Pressure).: 1 Mpa = 10 bar.
3, 'S' given for forging, will change if made from flat bar.

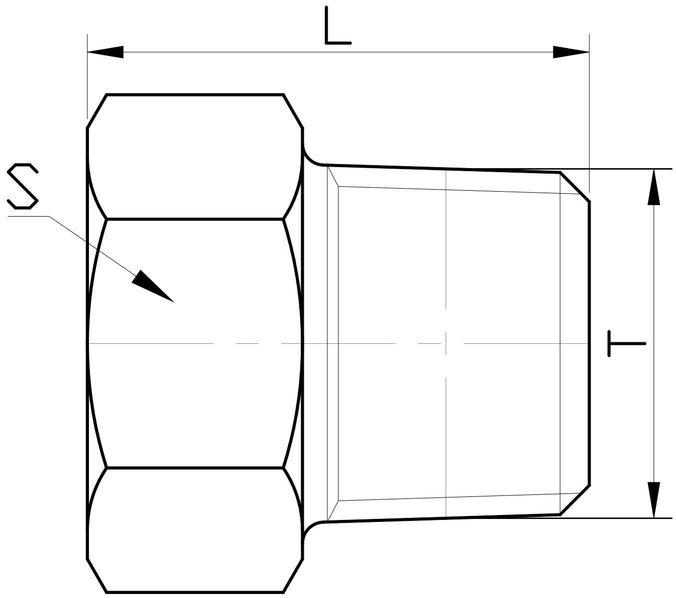
HART - Hydraulic Adapter (BSPT x BSPT)



Thread BSPT T1	Thread BSPT T2	ØD	L	S	PART CODE	WP (bar)
1/8"	1/8"	4	21	12	HART -02/-02	315
1/4"	1/4"	6	30	14	HART -04/-04	315
3/8"	3/8"	8	30	19	HART -06/-06	315
1/2"	1/2"	11	35	22	HART -08/-08	315
3/4"	3/4"	16.7	40	27	HART -12/-12	160
1"	1"	22.2	46	36	HART -16/-16	160

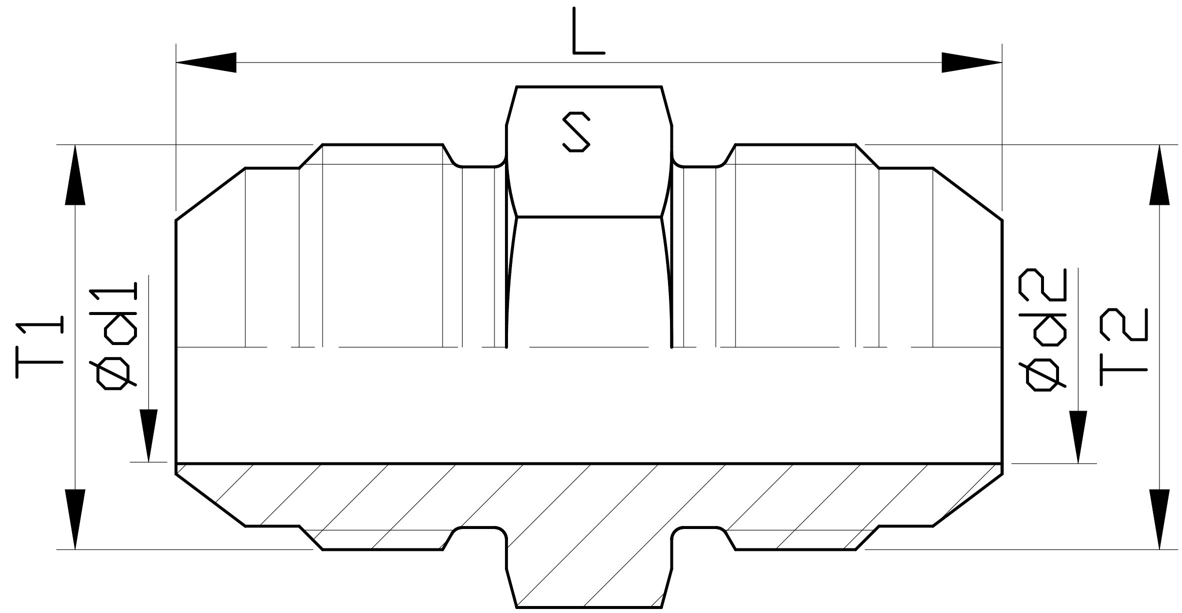
1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, WP (Working Pressure).: 1 Mpa = 10 bar.

HDPRT - Hydraulic DummyPlug (BSPT)



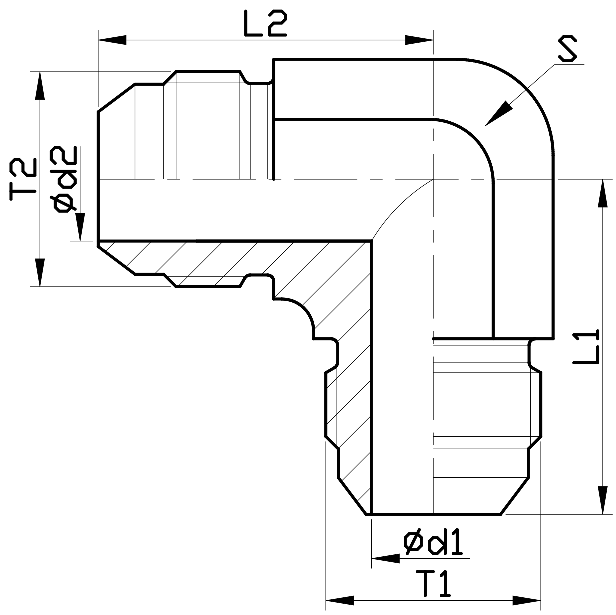
Thread BSPT T	L	S	PART CODE	WP (bar)
1/8"	13	12	HDPRT -02	315
1/4"	18	14	HDPRT -04	315
3/8"	18	19	HDPRT -06	315
1/2"	21	22	HDPRT -08	315
3/4"	24	27	HDPRT -12	160
1"	28	36	HDPRT -16	160

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, WP (Working Pressure).: 1 Mpa = 10 bar.



Tube2 O.D mm	in.	Thread UN/UNF-2A T1	Thread UN/UNF-2A T2	S	Ød1	Ød2	L	PART CODE	WP (bar)
6	1/4"	7/16”-20	7/16”-20	12	4.4	4.4	35	SFU 7/16"x7/16"	350
8	5/16"	1/2”-20	1/2”-20	14	6	6	35	SFU 1/2"x1/2"	350
10	3/8"	9/16”-18	9/16”-18	17	7.5	7.5	36	SFU 9/16"x9/16"	250
12	1/2"	3/4”-16	3/4”-16	22	9.9	9.9	41	SFU 3/4"x3/4"	250
14, 15, 16	5/8"	7/8”-14	7/8”-14	24	12.3	12.3	48	SFU 7/8"x7/8"	200
18, 20	3/4"	1 1/16”-12	1 1/16”-12	30	15.5	15.5	55	SFU 1 1/16"x1 1/16"	200
25	1"	1 5/16”-12	1 5/16”-12	36	21.5	21.5	57	SFU 1 5/16"x1 5/16"	160
28, 30, 32	1 1/4"	1 5/8”-12	1 5/8”-12	46	27.5	27.5	62	SFU 1 5/8"x1 5/8"	125
35, 38	1 1/2"	1 7/8”-12	1 7/8”-12	50	33	33	70	SFU 1 7/8"x1 7/8"	100
-	2"	2 1/2”-12	2 1/2”-12	65	45	45	87	SFU 2 1/2"x2 1/2"	80

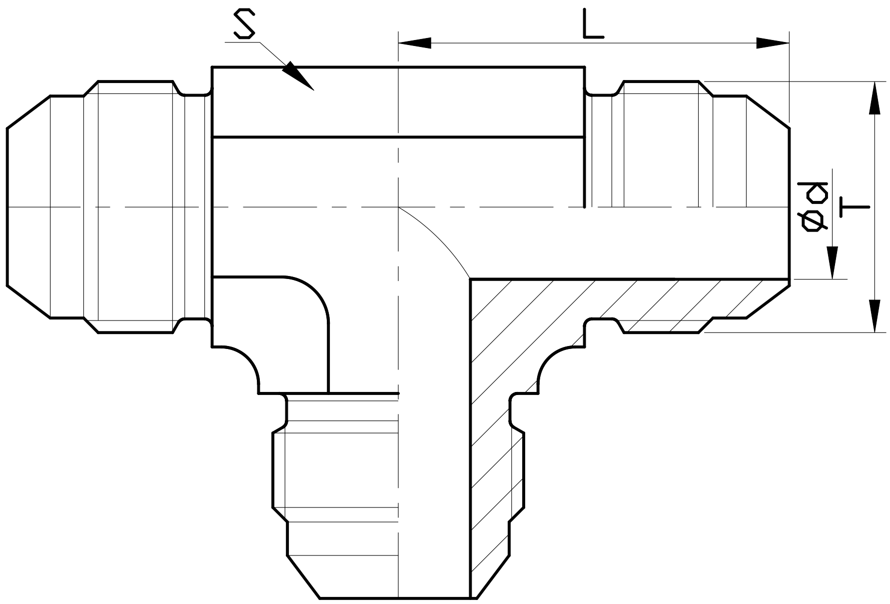
1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, WP (Working Pressure).: 1 Mpa = 10 bar.



Tube O.D mm	Tube O.D in.	Thread UN/UNF-2A T1	Thread UN/UNF-2A T2	Ød1	Ød2	L1	L2	S	PART CODE	WP (bar)
6	1/4"	7/16”-20	7/16”-20	4.4	4.4	23	23	12	FE 7/16"x7/16"	350
8	5/16"	1/2”-20	1/2”-20	6	6	24	24	14	FE 1/2"x1/2"	350
10	3/8"	9/16”-18	9/16”-18	7.5	7.5	27	27	14	FE 9/16"x9/16"	250
12	1/2"	3/4”-16	3/4”-16	9.9	9.9	32	32	22	FE 3/4"x3/4"	250
14, 15, 16	5/8"	7/8”-14	7/8”-14	12.3	12.3	37	37	22	FE 7/8"x7/8"	200
18, 20	3/4"	1 1/16”-12	1 1/16”-12	15.5	15.5	42	42	27	FE 1 1/16"x1 1/16"	200
22, 25	1"	1 5/16”-12	1 5/16”-12	21.5	21.5	46	46	33	FE 1 5/16"x1 5/16"	160
28, 30, 32	1 1/4"	1 5/8”-12	1 5/8”-12	27.5	27.5	52	52	46	FE 1 5/8"x1 5/8"	125
35, 38	1 1/2"	1 7/8”-12	1 7/8”-12	33	33	59	59	50	FE 1 7/8"x1 7/8"	100
-	2"	2 1/2”-12	2 1/2”-12	45	45	78	78	66	FE 2 1/2"x2 1/2"	80

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, WP (Working Pressure).: 1 Mpa = 10 bar.
3, ‘S’ given for forging, will change if made from flat bar.

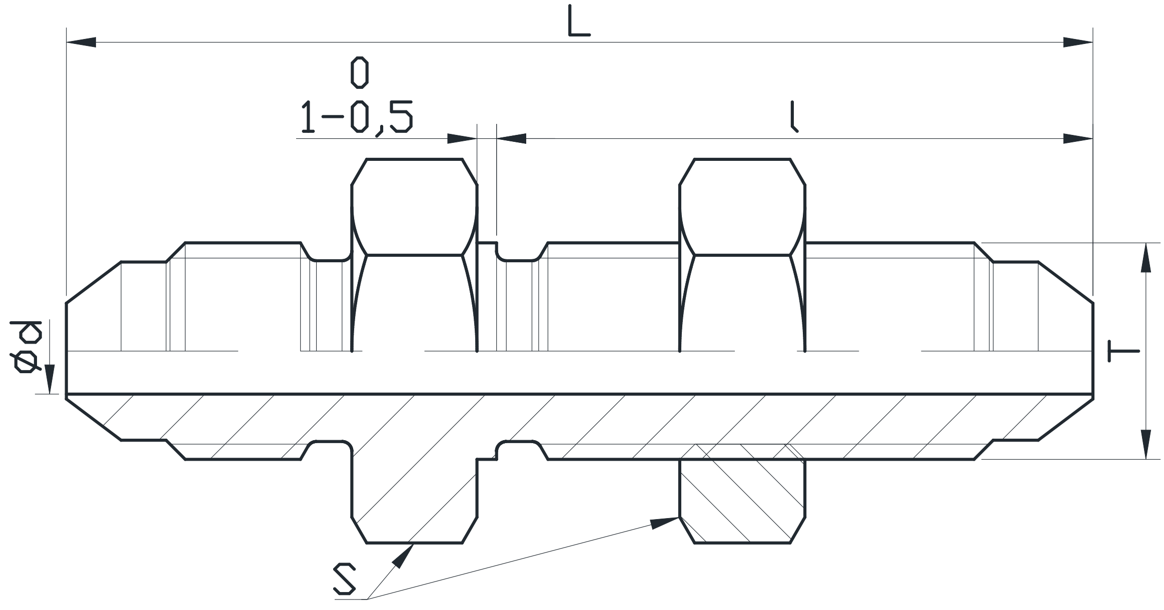
FT - Flare Union Tee



Tube O.D mm	Tube O.D in.	Thread UN/UNF-2A T	Ød	L	S	PART CODE	WP (bar)
6	1/4"	7/16"-20	4.4	23	12	FT 7/16"-20	350
8	5/16"	1/2"-20	6	24	14	FT 1/2"-20	350
10	3/8"	9/16"-18	7.5	27	14	FT 9/16"-18	250
12	1/2"	3/4"-16	9.9	32	22	FT 3/4"-16	250
14, 15, 16	5/8"	7/8"-14	12.3	37	22	FT 7/8"-14	200
18, 20	3/4"	1 1/16"-12	15.5	42	27	FT 1 1/16"-12	200
22, 25	1"	1 5/16"-12	21.5	46	33	FT 1 5/16"-12	160
28, 30, 32	1 1/4"	1 5/8"-12	27.5	52	46	FT 1 5/8"-12	125
35, 38	1 1/2"	1 7/8"-12	33	59	50	FT 1 7/8"-12	100
-	2"	2 1/2"-12	45	78	66	FT 2 1/2"-12	80

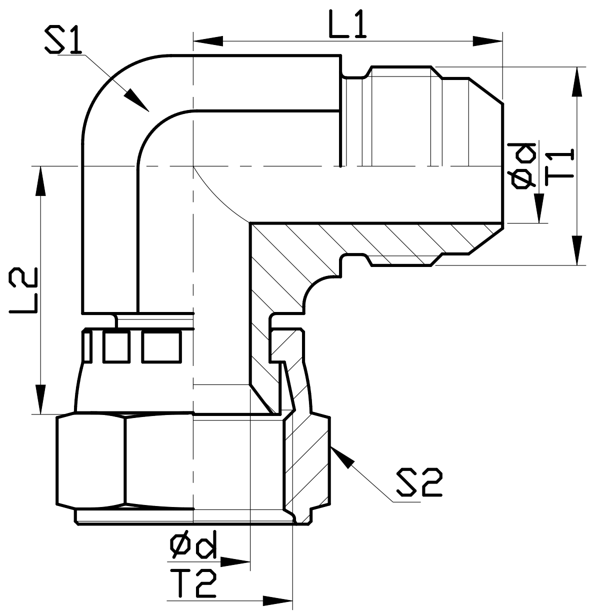
1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, WP (Working Pressure).: 1 Mpa = 10 bar.
3, 'S' given for forging, will change if made from flat bar.

FBH - Flare Bulk Head Union



Tube2 O.D mm	in.	Thread UN/UNF-2A T	Ød	L	l	S	PART CODE	WP (bar)
6	1/4"	7/16"-20	4.4	53	31	17	FBH 7/16"-20	350
8	5/16"	1/2"-20	6	53	31	19	FBH 1/2"-20	350
10	3/8"	9/16"-18	7.5	55	33	22	FBH 9/16"-18	250
12	1/2"	3/4"-16	9.9	62	37	24	FBH 3/4"-16	250
14, 15, 16	5/8"	7/8"-14	12.3	70	40	30	FBH 7/8"-14	200
18, 20	3/4"	1 1/16"-12	15.5	79	44	36	FBH 1 1/16"-12	200
25	1"	1 5/16"-12	21.5	80	44	41	FBH 1 5/16"-12	160
28, 30, 32	1 1/4"	1 5/8"-12	27.5	84	46	50	FBH 1 5/8"-12	125
35, 38	1 1/2"	1 7/8"-12	33	89	46	55	FBH 1 7/8"-12	100

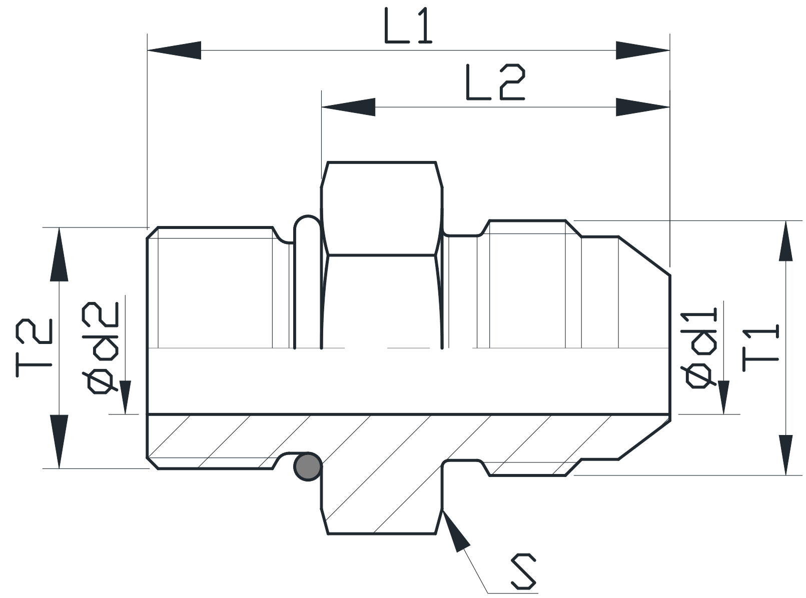
1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, WP (Working Pressure).: 1 Mpa = 10 bar.



Tube2 O.D mm	in.	Thread UN/UNF-2A T1	Thread UN/UNF-2B T2	Ød	L1	L2	S1	S2	PART CODE	WP (bar)
8	5/16"	1/2”-20	1/2”-20	6	24	17.4	12	19	FSWE 1/2"x1/2"	350
10	3/8"	9/16”-18	9/16”-18	7.5	27	22.3	14	19	FSWE 9/16"x9/16"	250
12	1/2"	3/4”-16	3/4”-16	9.9	32	26.2	19	27	FSWE 3/4"x3/4"	250
14, 15, 16	5/8"	7/8”-14	7/8”-14	12.3	37	20.4	22	27	FSWE 7/8"x7/8"	200
18, 20	3/4"	1 1/16”-12	1 1/16”-12	15.5	42	30	26	32	FSWE 1 1/16"x1 1/16"	200
25	1"	1 5/16”-12	1 5/16”-12	21.5	46	35.7	32	41	FSWE 1 5/16"x1 5/16"	160

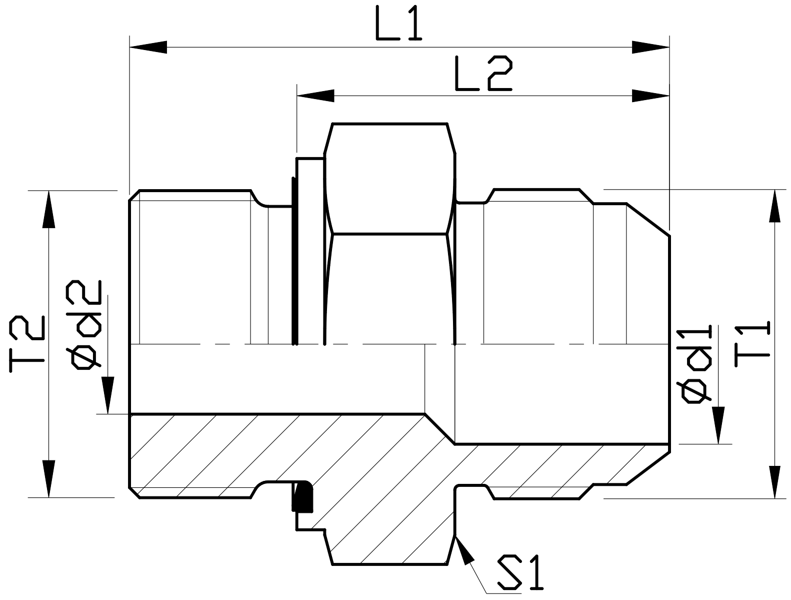
1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, WP (Working Pressure).: 1 Mpa = 10 bar.
3, ‘S1’ given for forging, will change if made from flat bar.

MFU - Male Stud Flare Union - O-ring



Tube2 O.D mm	Tube2 O.D in.	Thread UN/UNF-2A T1	Thread UN/UNF-2A T2	Ød1	Ød2	L1	L2	S	PART CODE	WP (bar)
6	1/4"	7/16”-20	7/16”-20	4.4	4.4	31	22	14	MFU 7/16"x7/16" -O	350
8	5/16"	1/2”-20	1/2”-20	6	6	31	22	17	MFU 1/2"x1/2" -O	350
10	3/8"	9/16”-18	9/16”-18	7.5	7.5	33	23	17	MFU 9/16"x9/16" -O	250
12	1/2"	3/4”-16	3/4”-16	9.9	9.9	38	27	22	MFU 3/4"x3/4" -O	250
14, 15, 16	5/8"	7/8”-14	7/8”-14	12.3	12.3	43	31	27	MFU 7/8"x7/8" -O	200
18, 20	3/4"	1 1/16”-12	1 1/16”-12	15.5	15.5	50	35	32	MFU 1 1/16"x1 1/16" -O	200
25	1"	1 5/16”-12	1 5/16”-12	21.5	21.5	52	37	41	MFU 1 5/16"x1 5/16" -O	160
28, 30, 32	1 1/4"	1 5/8”-12	1 5/8”-12	27.5	27.5	55	40	50	MFU 1 5/8"x1 5/8" -O	125
35, 38	1 1/2"	1 7/8”-12	1 7/8”-12	33	33	60	45	55	MFU 1 7/8"x1 7/8" -O	100
-	2"	2 1/2”-12	2 1/2”-12	45	45	71	56	70	MFU 2 1/2"x2 1/2" -O	80

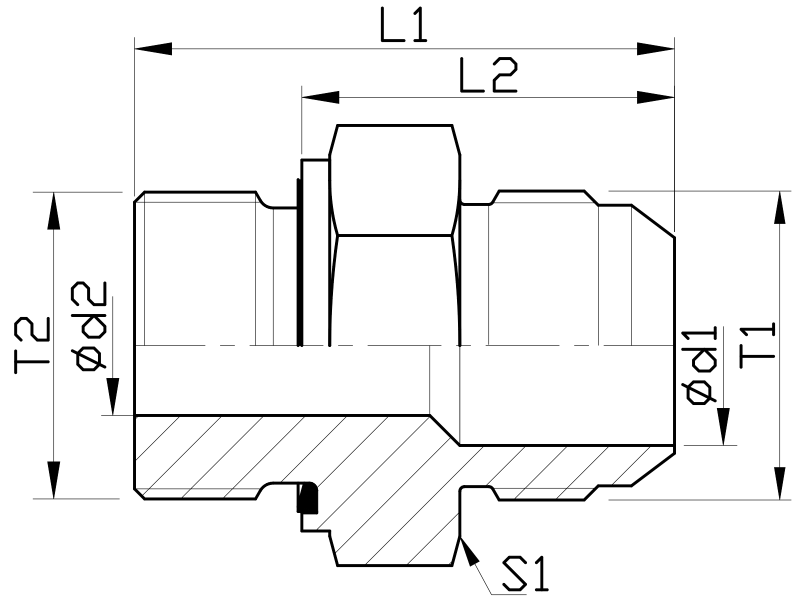
1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, WP (Working Pressure).: 1 Mpa = 10 bar.



Tube O.D mm	in.	Thread UN/UNF-2A T1	Thread BSPP T2	S1	Ød1	Ød2	L1	L2	PART CODE	WP (bar)
6	1/4"	7/16”-20	1/8”-28	14	4	4	30	22	MFU 7/16"xG1/8" -ED	350
6	1/4"	7/16”-20	1/4”-19	19	4	4	35	23	MFU 7/16"xG1/4" -ED	350
6	1/4"	7/16”-20	3/8”-19	22	4	4	36	24	MFU 7/16"xG3/8" -ED	350
6	1/4"	7/16”-20	1/2”-14	27	4	4	39	25	MFU 7/16"xG1/2" -ED	350
6	1/4"	7/16”-20	3/4”-14	32	4	18	43	27	MFU 7/16"xG3/4" -ED	350
8	5/16"	1/2”-20	1/8”-28	14	6	4	30	22	MFU 1/2"xG1/8" -ED	350
8	5/16"	1/2”-20	1/4”-19	19	6	6	35	23	MFU 1/2"xG1/4" -ED	350
8	5/16"	1/2”-20	3/8”-19	22	6	6	36	24	MFU 1/2"xG3/8" -ED	350
10	3/8"	9/16”-18	1/4”-19	19	8	6	35	23	MFU 9/16"xG1/4" -ED	250
10	3/8"	9/16”-18	1/8”-28	17	8	4	31	23	MFU 9/16"xG1/8" -ED	250
10	3/8"	9/16”-18	3/8”-19	22	8	8	36	24	MFU 9/16"xG3/8" -ED	250
10	3/8"	9/16”-18	1/2”-14	27	8	8	40	25	MFU 9/16"xG1/2" -ED	250
10	1/2"	9/16”-18	3/4”-14	32	8	18	42	26	MFU 9/16"xG3/4" -ED	250
12	1/2"	3/4”-16	3/8”-19	22	10	10	39	27	MFU 3/4"xG3/8" -ED	250
12	1/2"	3/4”-16	1/4”-19	19	10	6	39	27	MFU 3/4"xG1/4" -ED	250
12	1/2"	3/4”-16	1/2”-14	27	10	10	42	28	MFU 3/4"xG1/2" -ED	250
12	1/2"	3/4”-16	3/4”-14	32	10	10	46	30	MFU 3/4"xG3/4" -ED	250
12	1/2"	3/4”-16	1”-11	41	10	23	53	35	MFU 3/4"xG1" -ED	250
14, 15, 16	5/8"	7/8”-14	1/2”-14	27	12	12	45	31	MFU 7/8"xG1/2" -ED	200
14, 15, 16	5/8"	7/8”-14	1/4”-19	24	13	6	41	29	MFU 7/8"xG1/4" -ED	200

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, WP (Working Pressure).: 1 Mpa = 10 bar.

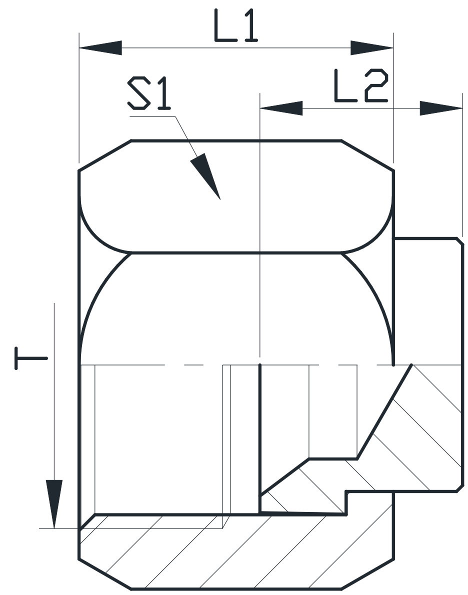
MFU-ED - Male Stud Flare Union - **ED**



Tube O.D mm	Tube O.D in.	Thread UN/UNF-2A T1	Thread BSPP T2	S1	Ød1	Ød2	L1	L2	PART CODE	WP (bar)
14, 15, 16	5/8"	7/8"-14	3/8"-19	24	12	9	43	31	MFU 7/8"xG3/8" -ED	200
14, 15, 16	5/8"	7/8"-14	3/4"-14	32	12	12	48	32	MFU 7/8"xG3/4" -ED	200
14, 15, 16	5/8"	7/8"-14	1"-11	41	13	13	51	33	MFU 7/8"xG1" -ED	200
18, 20	3/4"	1 1/16"-12	3/4"-14	32	16	16	51	35	MFU 1 1/16"xG3/4" -ED	200
18, 20	3/4"	1 1/16"-12	3/8"-19	27	16	9	50	38	MFU 1 1/16"xG3/8" -ED	200
18, 20	3/4"	1 1/16"-12	1/2"-14	27	16	14	49	35	MFU 1 1/16"xG1/2" -ED	200
18, 20	3/4"	1 1/16"-12	1"-11	41	16	16	54	35	MFU 1 1/16"xG1" -ED	200
18, 20	3/4"	1 1/16"-12	1 1/4"-11	50	16	30	62	42	MFU 1 1/16"xG1 1/4" -ED	200
22	7/8"	1 3/16"-12	3/4"-14	32	18	18	51	35	MFU 1 3/16"xG3/4" -ED	200
25	1"	1 5/16"-12	1"-11	41	22	22	55	37	MFU 1 5/16"xG1" -ED	160
25	1"	1 5/16"-12	1/2"-14	41	22	14	51	37	MFU 1 5/16"xG1/2" -ED	160
25	1"	1 5/16"-12	3/4"-14	36	22	18	53	37	MFU 1 5/16"xG3/4" -ED	160
25	1"	1 5/16"-12	1 1/4"-11	50	22	22	59	39	MFU 1 5/16"xG1 1/4" -ED	160
28, 30, 32	1 1/4"	1 5/8"-12	1 1/4"-11	50	28	28	60	40	MFU 1 5/8"xG1 1/4" -ED	125
28, 30, 32	1 1/4"	1 5/8"-12	3/4"-14	46	28	18	59	40	MFU 1 5/8"xG3/4" -ED	125
28, 30, 32	1 1/4"	1 5/8"-12	1"-11	46	28	23	62	44	MFU 1 5/8"xG1" -ED	125
28, 30, 32	1 1/4"	1 5/8"-12	1 1/2"-11	55	28	28	64	42	MFU 1 5/8"xG1 1/2" -ED	125
35, 38	1 1/2"	1 7/8"-12	1 1/2"-11	55	33	33	67	45	MFU 1 7/8"xG1 1/2" -ED	100
35, 38	1 1/2"	1 7/8"-12	1"-11	50	33	23	63	45	MFU 1 7/8"xG1" -ED	100
35, 38	1 1/2"	1 7/8"-12	1 1/4"-11	50	33	30	62	42	MFU 1 7/8"xG1 1/4" -ED	100
42	-	2 1/4"-12	1 1/2"-11	60	39	36	71	49	MFU 2 1/4"xG1 1/2" -ED	80

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, WP (Working Pressure).: 1 Mpa = 10 bar.

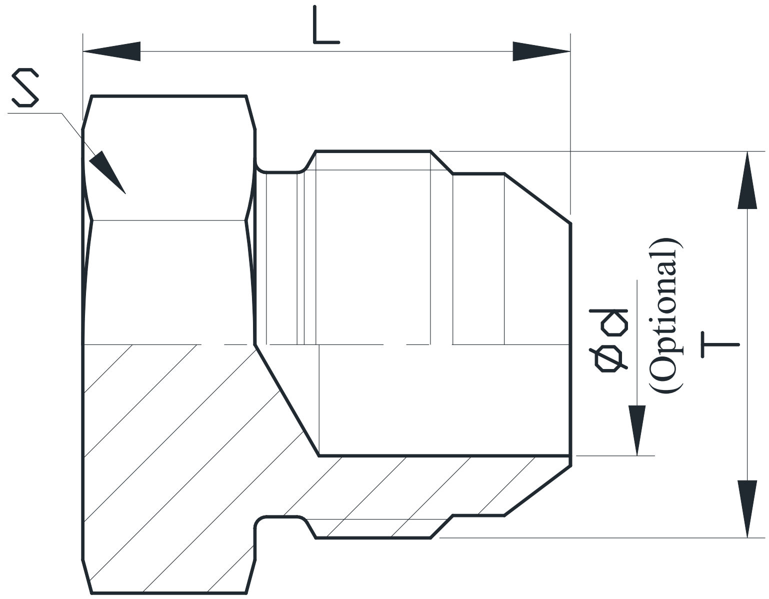
FC - Flare Cap



Tube2 O.D mm	in.	Thread UN/UNF-2B T	S1	L1	L2	PART CODE	WP (bar)
6	1/4"	7/16”-20	14	15.5	8.7	FC 7/16"-20	350
8	5/16"	1/2”-20	17	17	10.3	FC 1/2"-20	350
10	3/8"	9/16”-18	19	18.3	11.9	FC 9/16"-18	250
12	1/2"	3/4”-16	22	21.3	13.5	FC 3/4"-16	250
14, 15, 16	5/8"	7/8”-14	27	24.6	13.5	FC 7/8"-14	200
18, 20	3/4"	1 1/16”-12	32	25.9	16.7	FC 1 1/16"-12	200
25	1"	1 5/16”-12	41	28.4	15.9	FC 1 5/16"-12	160
28, 30, 32	1 1/4"	1 5/8”-12	50	31	19.1	FC 1 5/8"-12	125
35, 38	1 1/2"	1 7/8”-12	60	35.8	23.8	FC 1 7/8"-12	100
-	2"	2 1/2”-12	75	44.2	30.1	FC 2 1/2"-12	80

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, WP (Working Pressure).: 1 Mpa = 10 bar.

FP - Flare Plug



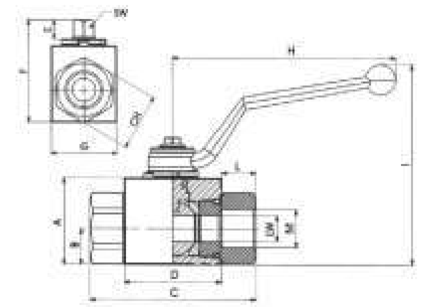
Tube2 O.D mm	in.	Thread UN/UNF-2A T	S	Ød	L	PART CODE	WP (bar)
6	1/4"	7/16”-20	12	4.4	20	FP 7/16"-20	350
8	5/16"	1/2”-20	14	6	20	FP 1/2"-20	350
10	3/8"	9/16”-18	17	7.5	21	FP 9/16"-18	250
12	1/2"	3/4”-16	22	9.9	24	FP 3/4"-16	250
14, 15, 16	5/8"	7/8”-14	24	12.3	28	FP 7/8"-14	200
18, 20	3/4"	1 1/16”-12	30	15.5	32.	FP 1 1/16"-12	200
25	1"	1 5/16”-12	36	21.5	34	FP 1 5/16"-12	160
28, 30, 32	1 1/4"	1 5/8”-12	46	27.5	37	FP 1 5/8"-12	125
35, 38	1 1/2"	1 7/8”-12	50	33	42	FP 1 7/8"-12	100
-	2"	2 1/2”-12	65	45	52	FP 2 1/2"-12	80

1, Material: Steel, Zinc Plated with Trivalent Yellow Passivation.
2, WP (Working Pressure).: 1 Mpa = 10 bar.

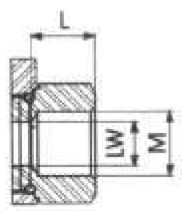
Hydraulic Ball Valves GV2

Specification

Type : ball valve GV2 way
Body : block
Material : 1,0737
Ball Seats : from DN4 up to DN25
O - Rings : NBR, FKM, EPDM, MVQ
Operation Pressure : 500 Bar depending on valve size and seal materials selected
Temp. rang : -10°C to +100°C depending on seal material selected



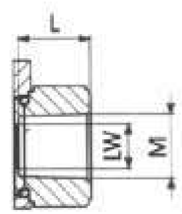
GV2 DIN ISO 228 BSP
STANDARD



DIN ISO 228

TYPE	PN	DN	A	B	C	D	E	F	G	H	I	L	M	CH	SW	LW	WEIGHT KG
GV2 G 1/8"	500 Bar	4	35	14	71	42	11	49	30	110	91	11	G1/8	24	9	4	0,512
GV2 G 4/4"	500 Bar	6	35	14	71	42	11	49	30	110	91	15.5	G1/4	24	9	6	0,497
GV2 G 3/8"	500 Bar	10	40	17	73	44	11	54.25	35	110	96	15.5	G3/8	30	9	10	0,652
GV2 G 1/2"	500 Bar	13	43	18	83	48	11	57	37	110	99	17	G1/2	32	9	13	0,77
GV2 G 3/4"	400 Bar	20	55	23	95	62	14	73.5	45	180	106	21	G 3/4	41	14	20	1,46
GV2 G 1"	350 Bar	25	65	29	112	66	14	83.5	55	180	116	24	G 1"	50	14	25	2,23
GV2 G 1" 1/4 R	350 Bar	25	65	29	120	66	14	83.5	55	180	116	24	G 1"1/4	55	14	25	2,299
GV2 G 1" 1/2 R	350 Bar	25	65	29	124	66	14	83.5	55	180	116	24	G 1"1/2	60	14	25	2,413
GV2 G 1" 1/4	350 Bar	85	85	37	110	83	17	103	75	305	145	13	G 1" 1/4	65	17	32	4,140
GV2 G 1" 1/2	350 Bar	96	95	42	130	91	17	114	85	305	155	19	G 1" 1/2	70	17	38	5.540
GV2 G 2"	350 Bar	112	113	52	140	100	17	131	110	305	173	19	G 2"	85	17	50	8,580

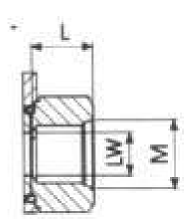
GV2 ANSI / ASM B1.20NPT
STANDARD



ANSI / ASME B1.20.1

TYPE	PN	DN	A	B	C	D	E	F	G	H	I	L	M	CH	SW	LW	WEIGHT KG
GV2N 1/8"	500 Bar	4	35	14	71	42	11	49	30	110	91	11	N 1/8	24	9	4	0,512
GV2 N 1/4"	500 Bar	6	35	14	71	42	11	49	30	110	91	17	N 1/4	24	9	6	0,5
GV2N 3/8"	500 Bar	10	40	17	73	44	11	54,25	35	110	96	17	N 3/8	30	9	10	0,655
GV2N 1/2"	500 Bar	13	43	18	83	48	11	57	37	110	99	21	N 1/2	32	9	13	0,771
GV2N 3/4"	400 Bar	20	55	23	95	62	14	73,5	45	180	106	21	N 3/4	41	14	20	1,478
GV2N 1"	350 Bar	25	65	29	112	66	14	83.5	55	180	116	24	N 1"	50	14	25	2,279
GV2N 1" 1/4 R	350 Bar	25	65	29	120	66	14	83,5	55	180	116	24	N 1" 1/4	55	14	25	2,351
GV2N 1" 1/2 R	350 Bar	25	65	29	124	66	14	83,5	55	180	116	24	N 1" 1/2	60	14	25	2,482
GV2N 1" 1/4	350 Bar	85	85	37	110	83	17	103	75	305	145	13	G 1" 1/4	65	17	32	4,140
GV2N 1" 1/2	350 Bar	96	95	42	130	91	17	114	85	305	155	19	G 1" 1/2	70	17	38	5,540
GV2N 2"	350 Bar	112	113	52	140	100	17	131	110	305	173	19	G 2"	85	17	50	8,580

GV2 SAE J1926-1
STANDARD



SAE J1926-1

TYPE	PN	DN	A	B	C	D	E	F	G	H	I	L	M	CH	SW	LW	WEIGHT KG
Gv2 SAE4	500 Bar	6	35	14	71	42	11	49	30	110	91	15,5	7/16 UNF	24	9	6	0,504
GV2 SAE6	500 Bar	10	4	17	73	44	11	54,25	35	110	96	16	9/16 UNF	30	9	10	0,663
GV2 SAE8	500 Bar	13	43	18	83	48	11	57	37	110	99	17,5	3/4 UNF	32	9	19	0,779
GV2 SAE12	400 Bar	20	55	23	95	62	14	73,5	45	180	106	23	1"1/16 UN	41	14	20	1,441
GV2 SAE16	350 Bar	25	65	29	112	66	14	83,5	55	180	116	23	1"5/16 UN	50	14	25	2,335
GV2 SAE20R	350 Bar	25	65	29	120	66	14	83,5	55	180	116	23	1"5/8 UN	55	14	25	2,307
GV2 SAE24R	350 Bar	25	65	29	124	66	14	83,5	55	180	116	23	1"7/8 UN	60	14	25	2,399
GV2 SAE 1" 1/4	350 Bar	85	85	37	110	83	17	103	75	305	145	13	G 1" 1/4	65	17	32	4,140
GV2 SAE 1" 1/2	350 Bar	96	95	42	130	91	17	114	85	305	155	19	G 1" 1/2	70	17	38	5,540
GV2 SAE 2"	350 Bar	112	113	52	140	100	17	131	110	305	173	19	G 2"	85	17	50	8,580

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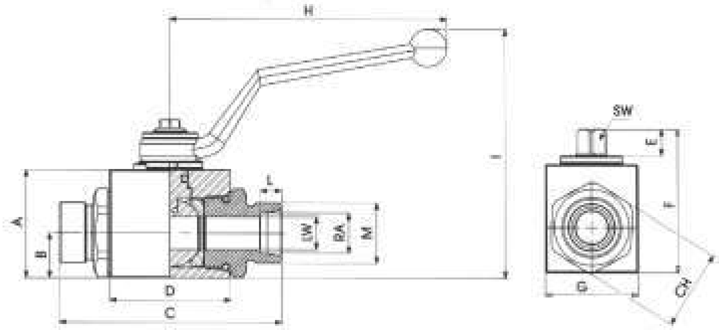
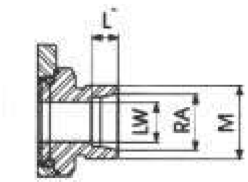
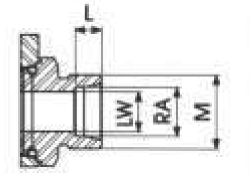




GV2 DIN 2353
LIGHT SERIES
STANDARD

DIN 2353 LIGHT SERIES

TYPE	PN	DN	A	B	C	D	E	F	G	H	I	L	M	CH	SW	LW	RA	WEIGHT KG
Gv2 6L	500 Bar	6	35	14	76	42	11	49	30	110	91	7	12X1.5	24	6	9	6	0,475
GV2 8L	500 Bar	6	35	14	76	42	11	49	30	110	91	7	14X1.5	24	6	9	8	0,477
GV2 10L	500 Bar	10	40	17	76	44	11	54	35	110	96	7	16X1.5	30	10	9	10	0,597
GV2 12L	500 Bar	10	40	17	79	44	11	54	35	110	96	7	18X1.5	30	10	9	12	0,616
GV2 15L	500 Bar	13	43	18	87	48	11	57	37	110	99	7	22X1.5	32	13	9	15	0,731
GV2 18L	500 Bar	13	43	18	87	48	11	57	37	110	99	7,5	26X1.5	32	13	9	18	0,748
GV2 22L	400 Bar	20	55	23	110	62	14	73	45	180	106	7,5	30X2	41	20	14	22	1,463
GV2 28L	350 Bar	25	65	29	117	66	14	83	55	180	116	7,5	36X2	50	25	14	28	2,131
GV2 35L	350 Bar	25	65	29	119	66	14	83	55	180	116	10,5	45X2	50	25	14	35	2,163
GV2 42L	350 Bar	25	65	29	119	66	14	83	55	180	116	11	52X2	55	25	14	42	2,256



GV2DIN 2353
HEAVY SERIES
STANDARD

DIN 2353 HEAVY SERIES

TYPE	PN	DN	A	B	C	D	E	F	G	H	I	L	M	CH	SW	LW	RA	WEIGHT KG
Gv2 8S	500 Bar	4	35	14	76	42	11	49	30	110	91	7	16x1,5	24	4	9	8	0,501
GV2 10S	500 Bar	6	35	14	76	42	11	49	30	110	91	7.5	18x1,5	24	6	9	10	0,501
GV2 12S	500 Bar	10	40	17	76	44	11	54	35	110	96	7,5	20x1,5	30	10	9	12	0,599
GV2 14S	500 Bar	10	40	17	82	44	11	54	35	110	96	8	22x1,5	30	10	9	14	0,629
GV2 16S	500 Bar	13	43	18	89	48	11	57	37	110	99	8.5	24x1,5	32	13	9	16	0,67
GV2 20S	500 Bar	13	43	18	93	48	11	57	37	110	99	10,5	30x2	32	13	9	20	0,786
GV2 25S	400 Bar	20	55	23	111	62	14	73	45	180	106	12	36x2	41	20	14	25	1,485
GV2 30S	350 Bar	25	65	29	121	66	14	83	55	180	116	13	42x2	50	25	14	30	2,145
GV238S	350 Bar	25	65	29	131	66	14	83	55	180	116	16	52x2	55	25	14	38	2,373

GEM Engineering Industries (India) Pvt. Ltd.

Manufacturer of Hydraulic Tube Fittings, Hose Fittings and Hose Assemblies

Confirmed Integrated Management System Standard

ISO 9001, ISO 14001 and OHSAS 18001

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