

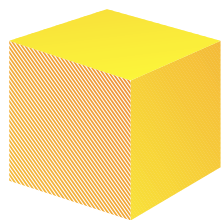
SAE-J1453



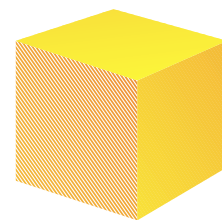
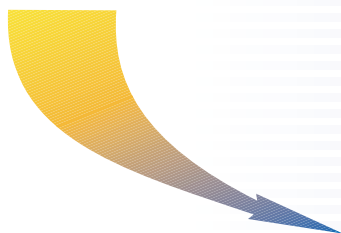
ORFS CATALOGUE



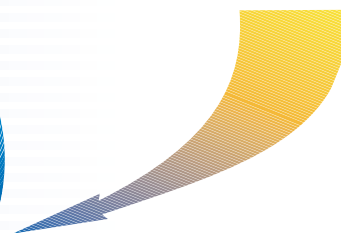
IL GRUPPO



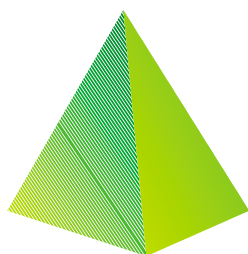
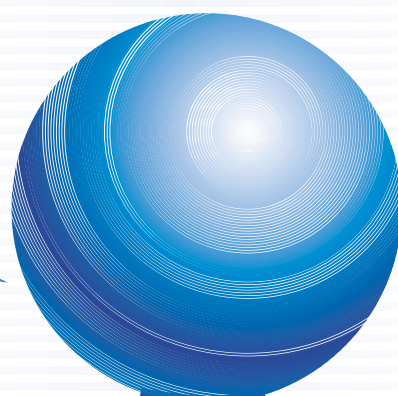
CASALGRASSO
produzione



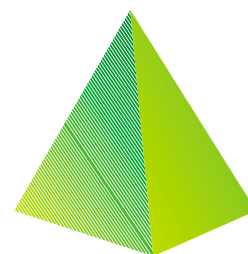
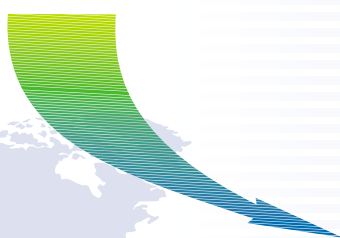
CREMELLA
produzione



VOLPIANO
Sede commerciale
e magazzino



MODENA
filiale



TREVISO
filiale





SAE J1453

CARBON STEEL PIPE FITTING

This type of fitting has been used since many years in every kind of industrial application, to the full satisfaction of users through out the world.

The casting technology assures a constant quality of the raw product in general and of the specific steels required for specific purposes in particular. The machinability of this steel gives no problems for the manufacturing of the final product.

Protective treatments introduced only recently have relaunched the employ of this steel for applications which not long ago were deemed as not possible.

ble.

We are therefore glad to be able to put this catalogue at your disposal, to enable you to choose the parts required for every application.

All fittings recalled in this catalogue can be delivered in the various types of carbon steel available on the market.



SAE J1453

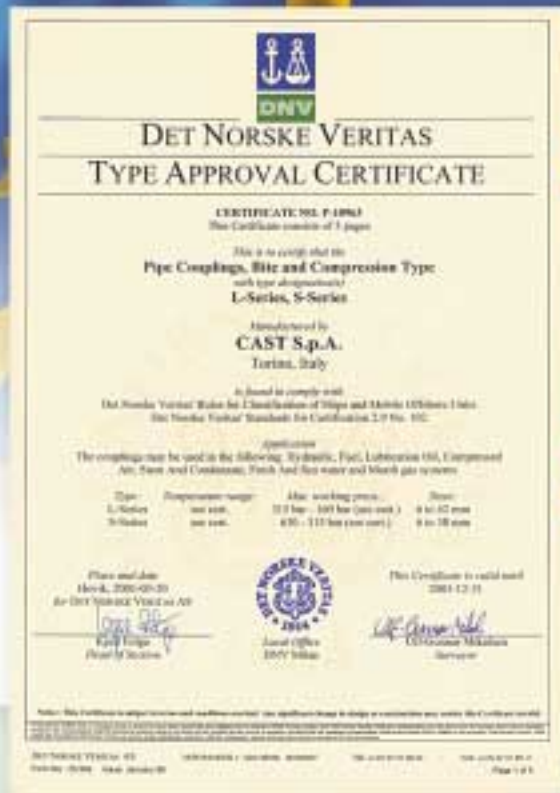
STAINLESS STEEL PIPE FITTING

Thanks to new technologies, this particular type of steel has now entered the most various industrial sectors, especially into those of advanced technology: as for instance, chemistry with all the problems given by different fluids that create the final process; or components for instruments with the problems regarding the purity of the fluids used to control complicated machinery; or gas pipelines, with problems with temperature and working stress; or Nuclear Power Plants, Aviation and Navy.

These and many other sectors as important as these ones, led us to take care, primarily, since a few years, of the problems of this particular product.

We are therefore glad to be able to put this catalogue at your disposal, to enable you to choose the parts required for every application .

All fittings recalled in this catalogue can be delivered in the various types of stainless steel available on the market.










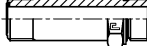
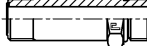



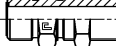



























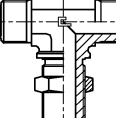
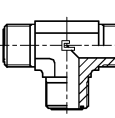
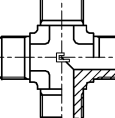
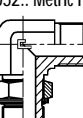
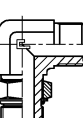
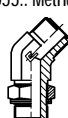
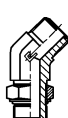


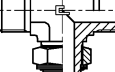
















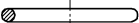
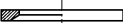
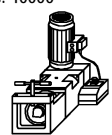

FOR A CONSTANT IMPROVEMENT

The staff concerned full time in the Quality and Research is highly competent and constantly brought up to date and represents the 10% of the employees working with our company.

Since 1993 our manual and quality procedures constantly follow the reference rules development.

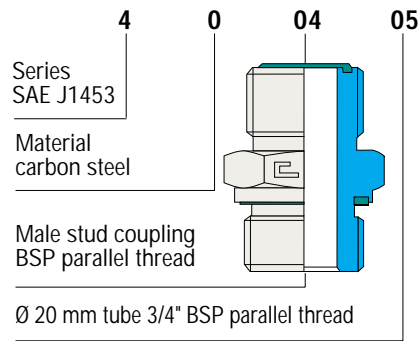
The numerous inspections carried out by the certification agencies have always confirmed the continuous adjustment to the ISO 9001 norm requirements and the steadfast improvement of our quality system.

Type: 4001..  pag 30	Type: 4002..  pag 31	Type: 4003..  pag 32	Type: 4004.. BSPP Type: 4005.. Metric Paral.  pag 33/34	Type: 4006.. UNF/UN-2A  pag 35	Type: 4007.. BSPP Type: 4008.. Metric Paral.  pag 36/37	Type: 4009.. NPTF  pag 38
Type: 4010.. BSPP  pag 39	Type: 4011.. NPTF  pag 39	Type: 4012.. BSPP Type: 4013.. Metric Paral.  pag 40/41	Type: 4014.. UNF/UN-2A  pag 41	Type: 4015.. BSPP  pag 42	Type: 4016.. NPTF  pag 42	Type: 4017..  pag 43
Type: 4018..  pag 43	Type: 4019..  pag 44	Type: 4020..  pag 45/46	Type: 4021..  pag 46	Type: 4022.. BSPP  pag 47	Type: 4023.. Metric Paral.  pag 47	Type: 4024.. BSPP  pag 48
Type: 4025.. Metric Paral.  pag 48	Type: 4026.. ORFS/DIN  pag 49	Type: 4027.. ORFS/DIN sw.  pag 50	Type: 4028.. ORFS/JIC  pag 51	Type: 4029.. ORFS/JIC sw.  pag 51	Type: 4030.. ORFS sw. /JIC  pag 52	Type: 4031.. ORFS/BSI  pag 52
Type: 4032..ORFS sw. /BSI  pag 53	Type: 4033.. BSPP Type: 4034.. Metric Paral.  pag 54	Type: 4035.. UNF/UN-2A  pag 55	Type: 4036.. BSPP Type: 4037.. Metric Paral.  pag 55/56	Type: 4038..ORFS  pag 56	Type: 4039.. NPTF  pag 57	Type: 4040.. NPTF  pag 58
Type: 4041..  pag 59	Type: 4042..  pag 59	Type: 4043..  pag 60	Type: 4044..  pag 60	Type: 4045..  pag 61	Type: 4046..  pag 61	Type: 4047..  pag 62
Type: 4048..  pag 62	Type: 4049..  pag 63	Type: 4050..  pag 63	Type: 4051.. BSPP Type: 4052.. Metric Paral.  pag 64/65	Type: 4053.. UNF/UN-2A  pag 66	Type: 4054.. BSPP Type: 4055.. Metric Paral.  pag 67/68	Type: 4056.. UNF/UN-2A  pag 69
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Type: 4068.. UNF/UN-2A  pag 80	Type: 4069.. BSPP Type: 4070.. Metric Paral.  pag 81	Type: 4071.. UNF/UN-2A  pag 82	Type: 4072..  pag 83	Type: 4073..  pag 83	Type: 4074..  pag 84	Type: 4075..  pag 84

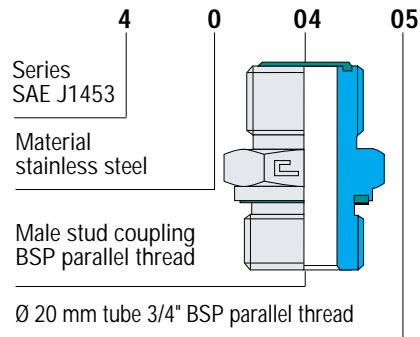
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ORDERING EXAMPLE

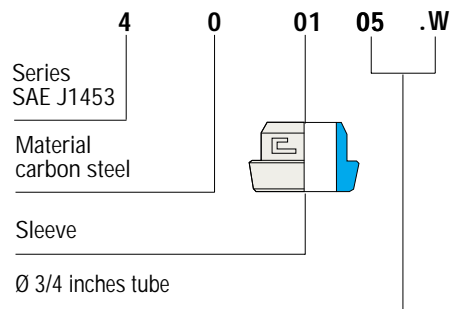
- If you require a male stud coupling for a Ø 20 mm tube with thread 3/4" BSP parallel made of carbon steel with elastomeric NBR seal on the threaded end specify:
- If you wish for the VITON seal add ".V" after



- If you require a male stud coupling for a Ø 20 mm tube with thread 3/4" BSP parallel made of stainless steel with elastomeric VITON seal on the threaded end specify:
- If you wish for the NBR seal add ".N" after the last number.



- If you wish to use steel tube with inches measures add at the end of the code the letter ".W" specify:



DELIVERIES

Cast S.p.A. fittings are delivered in the configuration shown in the pictures of this catalogue.
New range: please contact our offices for further delivery details.

VITON® is a DuPont Dow Elastomers Trade Mark

GENERAL INFORMATIONS

• STEEL USED

Carbon steel fittings

Component	Material specification				Reference norm
Sleeve	CF9SMnPb36	CF9SMnPb28	CF9SMn36	CF9SMn28	UNI 4838
	11SMnPb37	11SMnPb30	11SMn37	11SMn30	EN 10087
Nut	CF9SMnPb36	CF9SMnPb28	CF9SMn36	CF9SMn28	UNI 4838
	11SMnPb37	11SMnPb30	11SMn37	11SMn30	EN 10087
Straight body	CF9SMnPb36	CF9SMnPb28	CF9SMn36	CF9SMn28	UNI 4838
	11SMnPb37	11SMnPb30	11SMn37	11SMn30	EN 10087
Forged body	-	-	CF9SMn36	CF9SMn28	UNI 4838
	-	-	11SMn37	11SMn30	EN 10087

Stainless steel fittings

Component	Material specification		Reference norm
Sleeve	X6CrNiMoTi17-12-2 (1.4571)	X5CrNiMo17-12-2 (1.4401)	DIN 17440
			EN 10088
Nut	X6CrNiMoTi17-12-2 (1.4571)	X2CrNiMo17-12-2 (1.4404)	DIN 17440
			EN 10088
Straight body	X6CrNiMoTi17-12-2 (1.4571)	X5CrNiMo17-12-2 (1.4401)	DIN 17440
			EN 10088
Forged body	X6CrNiMoTi17-12-2 (1.4571)	X5CrNiMo17-12-2 (1.4401)	DIN 17440
			EN 10088

• ALLOWED WORKING TEMPERATURES

Carbon Steel -20° to + 120° degrees Celsius, according to ISO 8434
 Stainless steel -60° to + 200° degrees Celsius, according to ISO 8434

• PRESSURE RATE REDUCTION

The allowed working pressure for stainless steel fittings manufactured with 1.4571 must be reduced according to the working registered temperature as per ISO 8434. In case of multi-components systems all the parameters must be calculated on the weakest component used.

Type of steel Working	Temperature	Lowering percentage
1.4571	≥ 50°C	- 4%
1.4571	≥ 100°C	- 11%
1.4571	≥ 200°C	- 20%

• GASKETS

The gaskets used on fittings are normally manufactured in NBR. All have a working temperature of -35° to +100° degrees Celsius with a hardness of 85±5 shores. For higher temperatures Viton® seals are suggested with working temperatures between -25° to +200° degrees Celsius with a hardness of 80±5 shores. All o-ring on the ORFS tube side have a hardness of 90±5 shores. All the items that are assembled with gaskets or seals of any kind must be handled according to the DIN 7716 norm (requisites for the stocking of rubber product).

• SEAL ON THREADED ENDS

To obtain the maximum performance, the taper male thread is to be matched with the taper female thread. The cylindrical male thread is to be matched with the cylindrical female thread. It is possible to match a taper male thread with a cylindrical female thread, but this combination is technically valid only in pipings where medium/low performances are required and is never to be used where high pressures are applied. In case of matching of a cylindrical thread with relatively soft material, it is advisable to use the plain gasket type of seal that guarantees a perfect sealing even with a relatively low tightening torque.

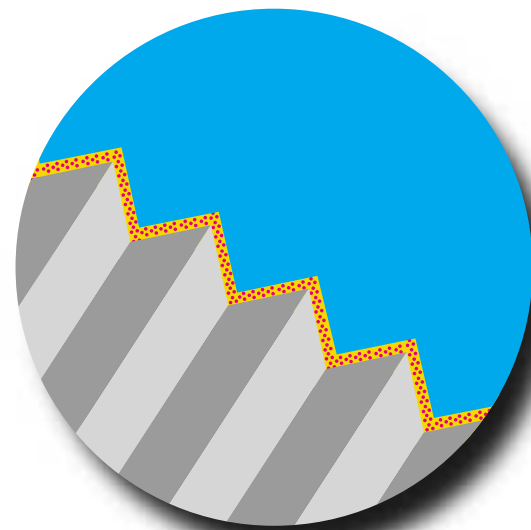
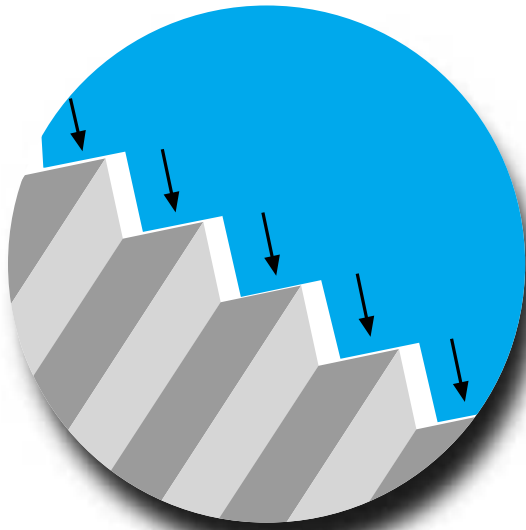
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• CARBON STEEL FITTINGS FINISH TREATMENT

All fittings are zinc-plated according to UNI ISO 2081 and 4520. The parts after treatment appear white with yellow shades of color. The plating thickness is 8÷12 microns. This new treatment fully comply to the latest EEC environmental directives as its hexavalent chromium free. The resistance in saline fog with standard salt concentration (test in accordance with UNI ISO 9227) is 400 hours before the protective layer begins to wear off. Additionally, this treatment, chemically lubricate the items reducing as well torque strength requirements. Due to this treatment the parts may be used also in external exposure provided that the environment be not very aggressive.

• STAINLESS STEEL FITTINGS FINISH TREATMENT

All the fittings and valves are treated with a chemical cleaning process which eliminate all oxides and burrs due to the machining phase, without altering or damaging the product. After this, follows a bath to clean the product and take away the last impurities, if any. The piece at the end of the treatment looks real bright, very indicated for industrial applications where this type of steel is normally requested.



STAINLESS STEEL FITTINGS

Seen the special characteristics of this type of steel (hard but mild) particular attentions are required to avoid problems. One of these requirements is the correct lubrication of all the components to be done during pre-assembling and assembling. Therefore is required to use the right lubricant to make properly functional systems, at all times.



ANTI-SEIZING COMPOUND (NICKEL BASIS)

The anti-seizing compound (Nickel Basis) exposed to a strong pressure originates "millions of grains of Nickel" rolling between the surfaces. It allows a safer tightening and an easier unblocking. This compound may be used both indoors and outdoors.

It protects the threads from wearing out and breaking, keeps away rust and corrosion. Nickel covers the connected surfaces avoiding any founding or welding and moreover there is only pure colloidal nickel and no trace of carbonic deposits.

According to specification Mil. A 907 D.

Approved by the Ministry of Agriculture of the United States of America (USAD).

Packaging weight 227 gr. Art. 82356.

N.B.: Do not use on systems with oxygen or in the presence of ammonia or acetylene.

ALLOWED CARBON STEEL TUBES

- For steel tubes in mild carbon steel we advise to use calibrated seamless cold drawn without welding tubes ST 37.4 as per DIN 1630.
- Maximum allowed hardness on the outside diameter of the tube is 75HRB.
- The indicated pressure are to be intended at a constant pressure rate and with temperatures between -20° and +120° degrees Celsius.

ØTube mm	Tolerance mm	Thickness mm	Static DIN 2413-I pressure bar	Dinamic DIN 2413-III pressure bar	Weight Kg/m
6	±0,1	1	389	374	0,123
6		1,5	549	528	0,166
6		2	692	665	0,197
8	±0,1	1	333	289	0,222
8		1,5	431	414	0,240
8		2	549	528	0,296
8		2,5	658	632	0,339
10	±0,1	1	282	249	0,222
10		1,5	373	358	0,314
10		2	478	460	0,395
10		2,5	576	553	0,462
10		3	666	641	0,518
12	±0,8	1	235	210	0,271
12		1,5	353	305	0,388
12		2	409	393	0,493
12		2,5	495	476	0,586
12		3	576	553	0,666
12		3,5	651	627	0,734
14	±0,08	1,5	302	265	0,462
14		2	403	343	0,592
14		2,5	434	417	0,709
14		3	507	487	0,814
15	±0,08	1,5	282	249	0,499
15		2	376	323	0,641
15		2,5	409	393	0,771
15		3	478	460	0,888
16	±0,08	1	176	161	0,370
16		1,5	264	234	0,536
16		2	353	305	0,691
16		2,5	386	372	0,832
16		3	452	435	0,962
18	±0,08	1	157	143	0,419
18		1,5	235	210	0,610
18		2	313	274	0,789
18		2,5	392	335	0,956
18		3	409	393	1,111
18		4	522	502	1,381

ØTube mm	Tolerance mm	Thickness mm	Static DIN 2413-I pressure bar	Dinamic DIN 2413-III pressure bar	Weight Kg/m
20	±0,08	2	282	249	0,888
20		2,5	353	305	1,079
20		3	373	358	1,258
20		3,5	426	410	1,424
20		4	478	460	1,578
22	±0,08	1,5	192	174	0,758
22		2	256	228	0,986
22		2,5	320	280	1,202
22		3	385	329	1,406
22		4	441	424	1,766
22		5	532	512	2,367
25	±0,08	2	226	202	1,134
25		2,5	282	249	1,387
25		3	338	294	1,628
25		4	394	379	2,072
25		4,5	437	420	2,275
25		5	478	460	2,466
28	±0,08	2	201	182	1,282
28		2,5	252	224	1,572
28		3	302	265	1,850
28		4	403	343	2,368
28		5	434	417	2,836
30	±0,08	2	188	171	1,381
30		2,5	235	210	1,695
30		3	282	249	1,998
30		4	376	323	2,565
30		5	409	393	3,083
32	±0,15	3	265	235	2,146
32		4	353	305	2,762
32		5	387	372	3,329
35	±0,15	3	242	216	2,367
35		4	322	281	3,058
38	±0,15	3	223	200	2,589
38		4	297	261	3,354
38		5	371	319	4,069

CALCULATION PRESSURES

The calculation of pressure with static load is made to DIN 2413-I with yield point $K=235N/mm^2$.
 For tubes with external/internal diameter ratio >1.35 calculation is made to DIN 2413-III but with yield point $=235N/mm^2$.
 The calculation of pressures with dynamic stress is made to DIN 2413-III with permanent fatigue strength $K=226N/mm^2$.
 Safety factor $S=1.5$. Allowance factor $c=0.8$ for diameter tube 4mm, $c=0.85$ for diameter tube 6-8mm, $c=0.9$ for diameter tube $>8mm$.
 Corrosion: additional allowance are not considered for calculation of pressures.

ALLOWED STAINLESS STEEL TUBES ON ALL SERIES

- For steel tubes in stainless steel we advise to use calibrated seamless cold drawn without welding tubes 1.4571 as per DIN 17458 or ASTM A269.
- Maximum allowed hardness on the outside diameter of the tube is 85HRB.
- The indicated pressure are to be intended on a constant pressure rate and with temperatures between -60° and +200° degrees Celsius.

ØTube mm	Tolerance mm	Thickness mm	Static DIN 2413-I pressure bar	Weight Kg/m
6	±0,1	1	426	0,125
6		1,5	600	0,169
6		2	753	0,200
8	±0,1	1	367	0,225
8		1,5	471	0,244
8		2	600	0,301
8		2,5	717	0,344
10	±0,1	1	294	0,225
10		1,5	389	0,319
10		2	498	0,401
10		2,5	600	0,469
10		3	694	0,526
12	±0,1	1	245	0,275
12		1,5	368	0,394
12		2	426	0,500
12		2,5	516	0,595
12		3	600	0,676
12		3,5	679	0,745
14	±0,08	1,5	315	0,469
14		2	420	0,601
14		2,5	452	0,720
14		3	529	0,826
15	±0,08	1,5	294	0,507
15		2	392	0,651
15		2,5	426	0,782
15		3	498	0,902
16	±0,08	1	183	0,373
16		1,5	275	0,544
16		2	368	0,702
16		2,5	402	0,845
16		3	471	0,977
18	±0,08	1	163	0,423
18		1,5	245	0,619
18		2	326	0,801
18		2,5	409	0,971
18		3	426	1,128
18		4	544	1,401

ØTube mm	Tolerance mm	Thickness mm	Static DIN 2413-I pressure bar	Weight Kg/m
20	±0,08	2	294	0,902
20		2,5	368	1,095
20		3	389	1,277
20	±0,08	3,5	444	1,446
20		4	498	1,602
22		1,5	200	0,764
22		2	267	1,001
22		2,5	334	1,220
22		3	401	1,427
22		4	459	1,802
22		5	555	2,402
25	±0,08	2	236	1,151
25		2,5	294	1,408
25		3	352	1,653
25		4	411	2,104
25		4,5	456	2,310
25		5	498	2,490
28	±0,08	2	210	1,301
28		2,5	263	1,596
28		3	315	1,878
28		4	420	2,403
28		5	452	2,878
30	±0,08	2	196	1,402
30		2,5	245	1,721
30		3	294	2,028
30		4	392	2,604
30		5	426	3,110
32	±0,15	3	275	2,177
32		4	368	2,803
32		5	403	3,378
35	±0,15	3	252	2,403
35		4	336	3,104
38	±0,15	3	232	2,628
38		4	310	3,405
38		5	387	4,131

CALCULATION PRESSURES

The calculation of pressure with static load is made to DIN 2413-I with yield point $K=245N/mm^2$.

For tubes with external/internal diameter ratio >1.35 calculation is made to DIN 2413-III but with yield point $=245N/mm^2$.

Pressures with dynamic stress according to DIN 2413-III are not listed because in DIN 17458 the permanent fatigue stress K is also not listed.

We recommend for calculation in accordance to DIN 2413 III to assume a value $K=190N/mm^2$.

Safety factor $S=1.5$, Allowance factor $c=0.9$.

Corrosion: additional allowance are not considered for calculation of pressures.

• COMPATIBLE FLUIDS TABLE

The following table resumes, according to the compatibility with the used fluid, the best possible choice as combination between the fitting type of steel (carbon or stainless steel), material of the elastomeric seal (NBR or Viton®) and type of sealing (plain metal to metal or metal plus elastomeric sealing).

Fluid	Carbon steel	Stainless steel	NBR	VITON®
Acetiylen	●	●	●	●
Aceton	●	●	●	●
Hydrochloric Acid	●	●	●	●
Phosphoric Acid	●	●	●	●
Nitrico Acid	●	●	●	●
Solforic Acid	●	●	●	●
Water	●	●	●	●
Distilled water	●	●	●	●
Sea water	●	●	●	●
Hydrogen peroxide	●	●	●	●
Turpentine	●	●	●	●
Ammonia gas, cold	●	●	●	●
Ammonia liquid	●	●	●	●
Carbonic dioxide	●	●	●	●
Argon	●	●	●	●
Air	●	●	●	●
Compressed air	●	●	●	●
ASTM-Oil, n°1	●	●	●	●
ASTM-Oil, n°2	●	●	●	●
ASTM-Oil, n°3	●	●	●	●
Nitrogen	●	●	●	●
Benzene	●	●	●	●
Sulfur oxide	●	●	●	●
Carbon bisolfure	●	●	●	●
Butane	●	●	●	●
Clorine	●	●	●	●
Helium	●	●	●	●
Etane	●	●	●	●
Ether	●	●	●	●
Combustibile gas	●	●	●	●
Natural gas	●	●	●	●
Natural gas untreated	●	●	●	●
Diesel fuel	●	●	●	●
Glycerin	●	●	●	●
Glycol	●	●	●	●
Hydrogen	●	●	●	●
Iodine	●	●	●	●
Kerosene	●	●	●	●
Methane	●	●	●	●
Methanol	●	●	●	●
Fuel oil	●	●	●	●

Fluid	Carbon steel	Stainless steel	NBR	VITON®
Neon	●	●	●	●
Oil	●	●	●	●
Heating fuel oil	●	●	●	●
Automotive brake fluid	●	●	●	●
Transmission fluid	●	●	●	●
Mineral oil	●	●	●	●
Natural mineral oil	●	●	●	●
Hydraulic oil	●	●	●	●
Vegetable oil	●	●	●	●
Carboni monoxide	●	●	●	●
Oxygen	●	●	●	●
Ozone	●	●	●	●
Pentane	●	●	●	●
Pentane liquid	●	●	●	●
Propane	●	●	●	●
Silicone	●	●	●	●
Styrol	●	●	●	●
Toluol	●	●	●	●
Trichloroethylene	●	●	●	●
Steam	●	●	●	●
Xylol	●	●	●	●

Legenda

- = Sufficient
- = Scarce
- = Not recommended
- = Not sufficient data

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PRESCRIPTIONS TO COMPLY WITH ON ORFS FITTINGS

- Use only CAST S.p.A. components for the same assembly.
- Apply completely the General Instructions, Utilization Norms, Safety Factors, Assembly Instruction and Working Pressures for the specific fitting is used.
- Respect the working temperature rates and temperature related pressure rate reduction, if any.
- Respect the indicated tightening values as well as the assembly instructions.
- Lubricate all the components, as indicated in the assembly instructions, with specific products.
- All tubes must be properly brazed or flared before being assembled on machine board. Is not allowed to make such operations directly on machine board.
- Use only high quality carbon and stainless steel tubes as per our indication on pages 8 and 9.
- Is not allowed to mix different materials (carbon and stainless steel) in the same connection.
- Always check the correct alignment of the system.
- Is not allowed, in any case, to use non conform tubes or fittings, as well as is not allowed to make non conform assembly.
- Is not allowed to alter in any way CAST S.p.A. products.
- Fully comply to all technical information indicated in this catalogue.
- In case of doubt always refer to the safety concept.

Not following any of these prescription may alter greatly the functionality of the products causing problems to the system, and the immediate loss of all products guarantees.

• PRODUCT LIABILITY

73. D.P.R. 224-CEE 85/347 states that " ... the responsibility will be charged to the negligent part ... "

This means that the manufacturer will be held responsible if, and only if, the product was effectively faulty.

The distributor that has done the final sale shall check, under its own responsibility, that its final customer was well aware of all technical problems inherent to the product used such as assembly instructions, and that the product was used for the right application.

On the same line the end user will be considered responsible part if did not follow completely the written prescriptions of the manufacturer (General Catalogue) that must be notified to him by the part doing the sale. Should the end user be short of this technical documentation CAST S.p.A. will be glad to send it directly.

In view of this European norm CAST S.p.A. declines any responsibility in the case which the user fails to comply strictly and entirely with the General Instruction, Utilization Norms, Safety Factors, Assembly Instruction and Working Pressures as any other technical information clearly indicated in this General Catalogue as failure to these prescriptions may affect the functional safety of the products and results in voiding the user's warranty rights.

As per the quoted norm there is a 500,00 Euro franchise.



SAE J1453

THE NEW CAST ORFS FITTING
A DRY AS THE DUST SEAL
EASY TO ASSEMBLE
A KNOWN PRODUCT, SAFE AND RELIABLE

AVAILABLE IN CARBON AND STAINLESS STEEL

THEORY OF OPERATION – FLARED TUBE

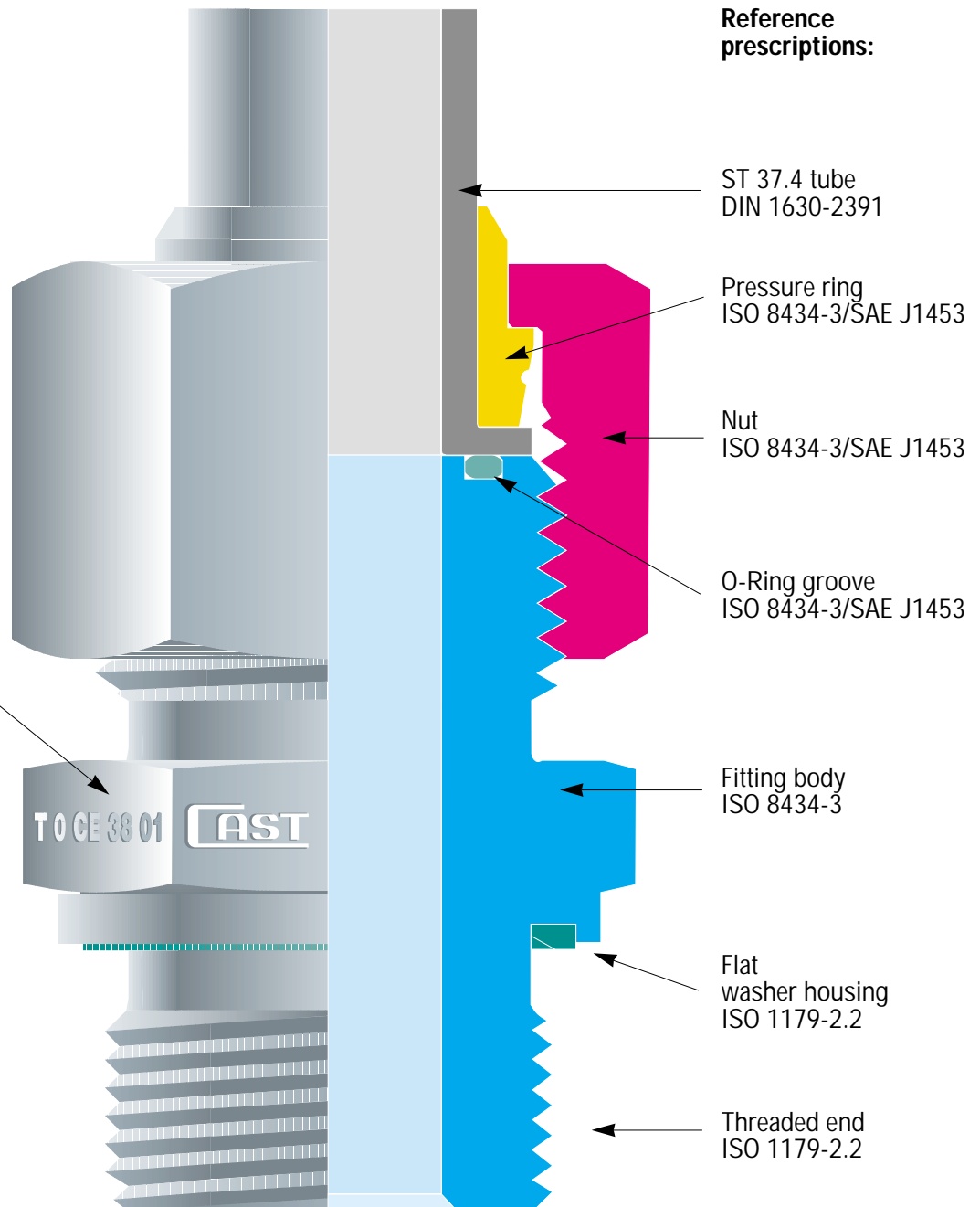
The CAST S.p.A. fitting according to the norms ISO 8434-3 / SAE J1453, is a mechanical fitting traditionally used for high pressure oleo-dynamic systems.

The sealing is made by the contact between two metal surfaces, with no deformation of the single components, plus an elastomeric sealing (O-Ring) placed into a groove on the front part of the fitting.

The coupling between the body of the fitting and the flared tube is guaranteed by the tightening nut and by the pressure sleeve on the inside. This allow to realize a fast assembling-disassembling tube making the easiest realization of complex oleo-dynamic systems.

**COUPLING SYSTEM
SAE J1453**

Reference prescriptions:



ST 37.4 tube
DIN 1630-2391

Pressure ring
ISO 8434-3/SAE J1453

Nut
ISO 8434-3/SAE J1453

O-Ring groove
ISO 8434-3/SAE J1453

Fitting body
ISO 8434-3

Flat washer housing
ISO 1179-2.2

Threaded end
ISO 1179-2.2

Traceability Decoding:

CAST =
Manufacturer

- T =
Production plant
- 0 =
Year manufactured
- CE =
Made in EEC
- 38 =
Type of steel used
- 01 =
Heat number of the steel used

T 0 CE 38 01 **CAST**

TECHNICAL CHARACTERISTICS

The CAST S.p.A. ORFS fitting grants a perfect sealing of the system independently from the used fluid, as long as corrosive fluids are not used and all the specific prescription for this type of fitting are complied with.

These fittings are manufactured in a single series defined "UNIVERSAL" since the body and the nut of the fitting remain the same even when switching from a inches sized tube to a metric tube, and since there are no doubles of diameters with different working pressures.

Vibrations, in the norm, do not alter the functionality of this type of fitting, also at the top level of the quoted values, and therefore keeps the best characteristics of absolute guarantee, safety and reliability. For these specific reasons this fitting may be used in hard working conditions.

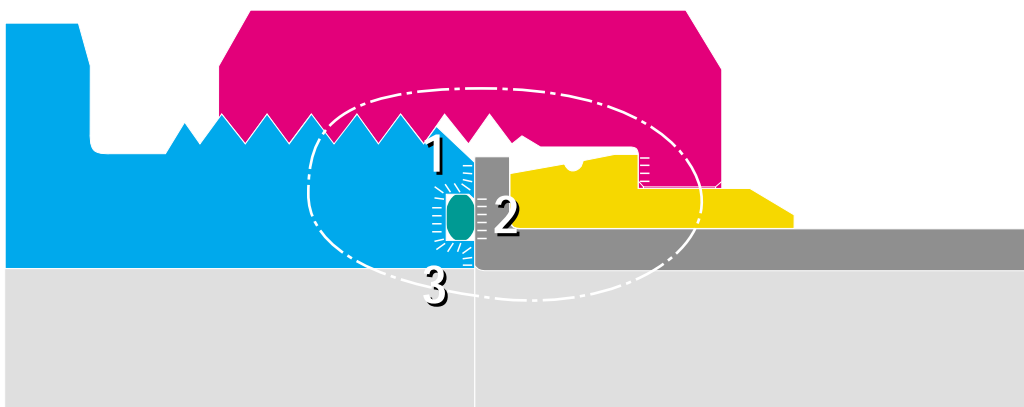
Under the mechanical strength given by the tightening of the nut on the fitting body, the flared part of the tube couples with the flat part of the fitting body giving birth to a metal to metal seal supported by the elastomeric seal as well.

The pressure sleeve hosted in the inside part of the nut assures the correct alignment of the system diminishing the vibrations and avoiding any possible trouble or damaging of the tube during the assembly phase.

Before assembly on the metal tube



After assembly on the metal tube



Field of force after assembly



Pressure surfaces after assembly



Sealing points

1 - 2 - 3

THEORY OF OPERATION – BRAZED FERRULE

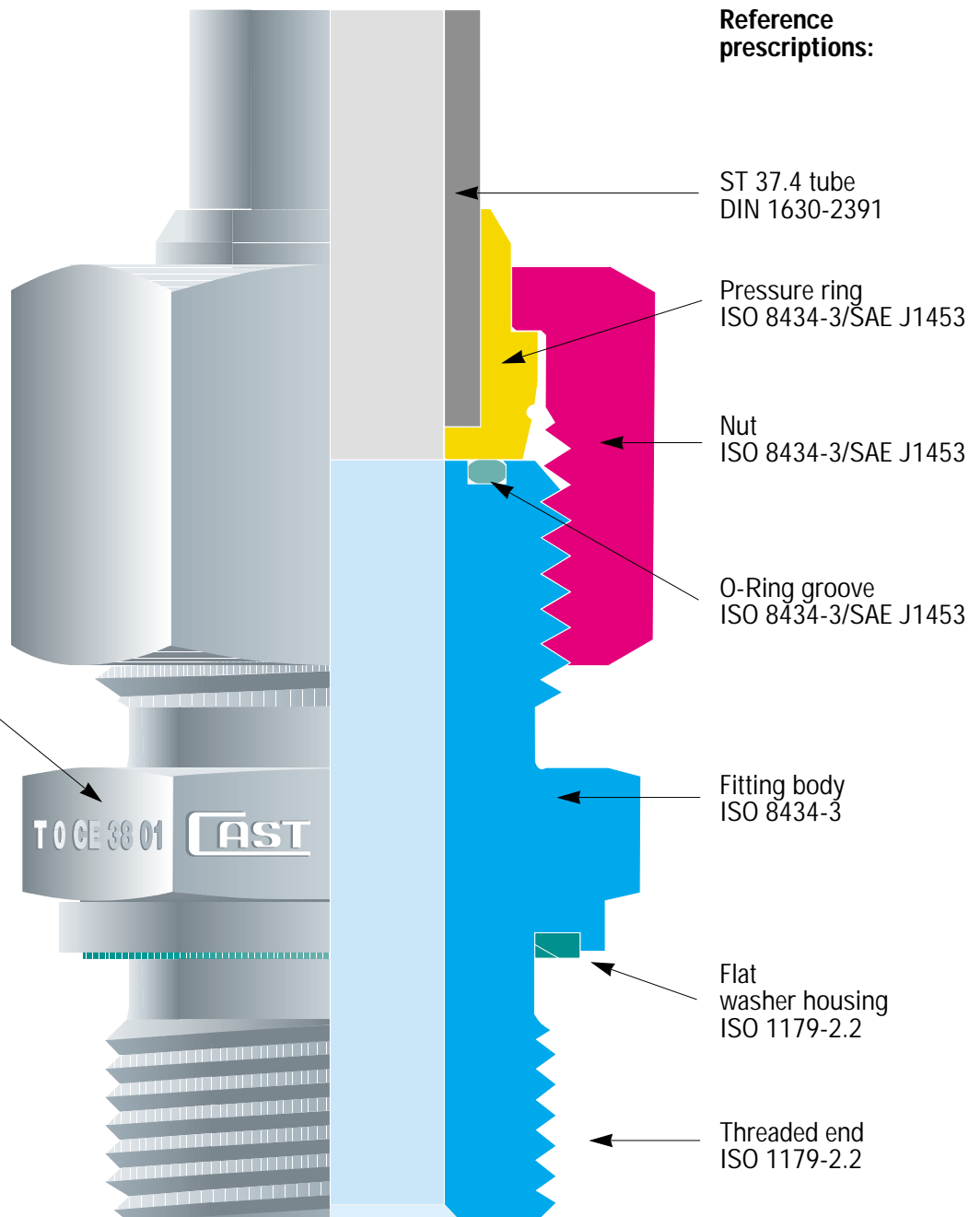
The CAST S.p.A. fitting according to the norms ISO 8434-3 / SAE J1453, is a mechanical fitting traditionally used for high pressure oleo-dynamic systems.

The sealing is made by the contact between two metal surfaces, with no deformation of the single components, plus an elastomeric sealing (O-Ring) placed into a groove on the front part of the fitting.

The coupling between the body of the fitting and the brazed ferrule is guaranteed by the tightening nut on the inside. This allow to realize a fast assembling-disassembling tube making the easiest realization of complex oleo-dynamic systems.

COUPLING SYSTEM SAE J1453

Reference prescriptions:



Traceability Decoding:

CAST =
Manufacturer

- T =
Production plant
- 0 =
Year manufactured
- CE =
Made in EEC
- 38 =
Type of steel used
- 01 =
Heat number of the steel used

T 0 CE 38 01 **CAST**

TECHNICAL CHARACTERISTICS

The CAST S.p.A. ORFS fitting grants a perfect sealing of the system independently from the used fluid, as long as corrosive fluids are not used and all the specific prescription for this type of fitting are complied with.

These fittings are manufactured in a single series defined "UNIVERSAL" since the body and the nut of the fitting remain the same even when switching from a inches sized tube to a metric tube, and since there are no doubles of diameters with different working pressures.

Vibrations, in the norm, do not alter the functionality of this type of fitting, also at the top level of the quoted values, and therefore keeps the best characteristics of absolute guarantee, safety and reliability. For these specific reasons this fitting may be used in hard working conditions.

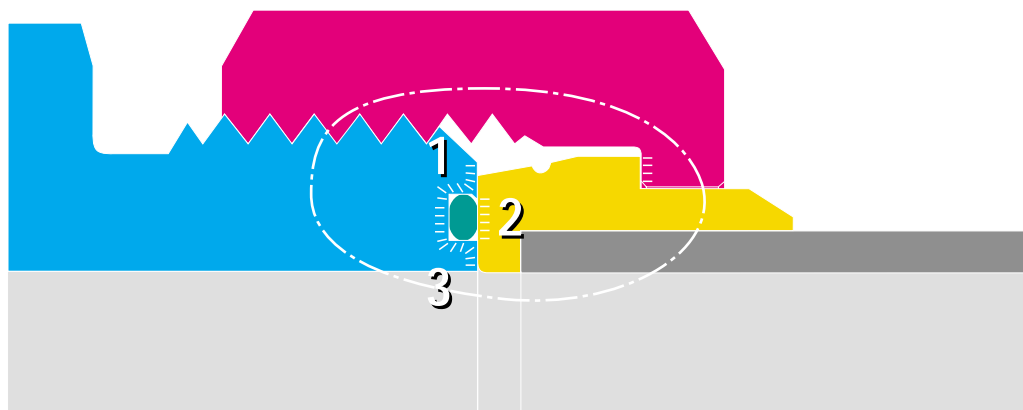
Under the mechanical strength given by the tightening of the nut on the fitting body, the flared part of the tube couples with the flat part of the fitting body giving birth to a metal to metal seal supported by the elastomeric seal as well.

The pressure sleeve hosted in the inside part of the nut assures the correct alignment of the system diminishing the vibrations and avoiding any possible trouble or damaging of the tube during the assembly phase.

Before assembly on the metal tube



After assembly on the metal tube



Field of force after assembly



Pressure surfaces after assembly



Sealing points

1 - 2 - 3

PRODUCT MATURITY

For many years now, there has been an increasing imperative market demand for fluid system components able to guarantee three main factors: safety, easy assembly, leakage-free tightness.

These elements, now considered essential for safety of the working environment (Law 626/94), product liability (Presidential Decree 224-EEC 85/374) and for the entire environmental protection system make the ORFS fitting an effective response to all the above-mentioned problems.

SEALING

The new fitting solve the total sealing problem in the following way:

- On the flat front face of the fitting has been realized a groove as insert place for an O-ring. This elastomeric seal guarantees a perfect sealing at all times.
- The realization of the groove according the the ISO 8434-3 and SAE J1453 norms guarantees the placement of the o-ring in the correct position without the use of additional chemical glues.
- The realization of the groove allows us to improve the sealing characteristics of the fitting also on the metal to metal sealing, dividing in two different sealing points the metal surface. The ORFS fitting avoids therefore small leakages and sweatings.
- Strenuous tests carried out in our technical laboratory in Volpiano (TO) have made clear, beyond any doubt the reliability of the sealing with or without the O-ring itself.

GENERAL INSTRUCTIONS

- Before start the flaring of the tubes please check that all the tools to be used in the process are conforming to the standards. Check the tools every 30-50 flarings.
- Before start the brazing of the tubes please check that all the tools to be used in the process are conforming to the standards. Always check the correctness of the brazing.
- Before fastening the pre-assembled tube to the machine on-board system, check alignment between the tube and the fitting. Fittings must not be used to correct any misalignment or to support tubes. Long tubes or those liable to high stress must be clamped to avoid excessive vibrations. Misalignment may impair system functioning.
- Correct lubrication of the components to be tightened is indispensable for correct functioning of the system: mineral oil for carbon steel fittings, nickel-based anti-seizing compound for stainless steel fittings.
- All the fittings contained in this catalogue may be used for oleo-dynamic systems only.
- Is not allowed the mixing of different materials.
- The indicated pressures are intended for steel tubes only.

UTILIZATION STANDARDS

CARBON STEEL FITTINGS

- High quality tubes must be employed to assure correct use and related technical performances of carbon steel fittings. Use of tubes without the aforementioned characteristics may seriously impair the efficiency of the fitting. We recommend to use the following tubes only: seamless cold drawn steel tubes as per ST 37.4 complying with DIN 1630, with maximum permissible hardness, measured on the outer diameter of the tube of 75HRB.
- The flaring of the tube must be made with the flaring machine model 400000 and not with hand tools. It is important that the flaring is concentric and perpendicular to the tube and ferrule.
- The brazing must be made with suitable materials. It is important that the flaring is concentric and perpendicular to the tube and ferrule.
- In order to obtain a curve of the tube as close to the tightening point as possible (Fitting body) the structural constructing ties typical of the ORFS fittings must be considered. This product forces the user to leave a part of the ending section of the tube perfectly parallel. This part must be used during the flaring operation to block the tube. Please refer to the "C" quote.

STAINLESS STEEL FITTINGS

- High quality tubes must be employed to assure correct use and related technical performances of stainless steel fittings. Use of tubes without the aforementioned characteristics may seriously impair the efficiency of the fitting. We recommend to use the following tubes only: cold drawn seamless stainless steel tubes with no welding as per 1.4571 DIN 17458 or ASTM A 269, with maximum permissible hardness, measured on the outer diameter of the tube of 85 HRB.
- The flaring of the tube must be made with the flaring machine model 400000 and not with hand tools. It is important that the flaring is concentric and perpendicular to the tube and ferrule.
- The brazing must be made with suitable materials. It is important that the flaring is concentric and perpendicular to the tube and ferrule.
- In order to obtain a curve of the tube as close to the tightening point as possible (Fitting body) the structural constructing ties typical of the ORFS fittings must be considered. This product force the user to leave a part of the ending section of the tube perfectly parallel. This part must be used during the flaring operation to block the tube. Please refer to the "C" quote.

DETAIL ORFS SEALING POINTS

Tube: Ø20x2
 Assembly: as per tightening torque indicated on this catalogue (90Nm)
 Magnifying: Microscope x5
 Detail scale: 0,5



SEALING POINT 1 – 90°



CONE SEALING POINT 2 – O-RING



SEALING POINT 3 – 90°

QUALITY ASSURANCE ACCORDING TO UNI EN ISO 9001

The Quality Assurance System complies with UNI EN ISO 9001, certificate (N°90/94) issued by the RINA certification authority recognized by IQNET at European level.

At the customer's request, our Quality Service will issue certificates of origin for the materials used to manufacture the products delivered.

Our Quality Experts are always ready to provide customers with advice, to guide them around our facilities as to provide documentation of the traceability system applied.

COMPONENT TESTING

In addition to the normal dimensional checks carried out during machining, percentage inspections of the finished product, practical tightness and fatigue tests, coupling tests between the various parts are also carried out on CAST fittings. At the customer's request, our Product Test and Inspection Service issues the certificate of the tests carried out: dimensional and geometrical tests, checking of static seal at low and high pressure, dynamic seal at high pressure (maximum operating pressure + 33% as per ISO 8434-5).

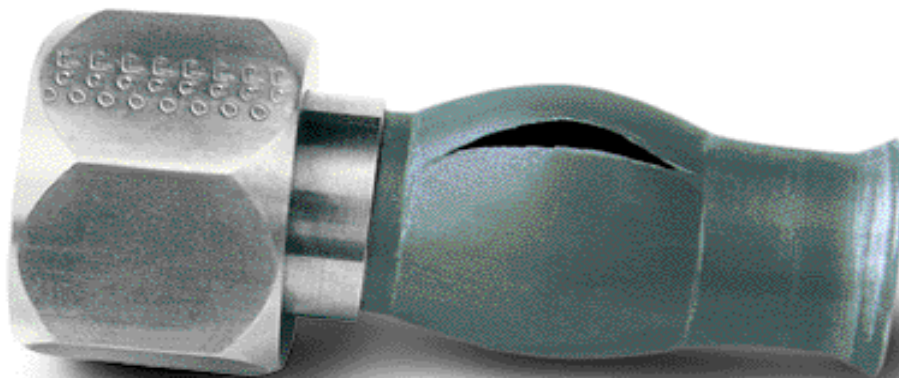
If required by the customer, tests can be carried out by various Third Party Authorities including: RINA – DVGW - Lloyd's Register of Shipping - Det Norske Veritas - Germanischer Lloyd - American Bureau of shipping (to be specified on the order).

SAFETY FACTORS

- The new ORFS fitting solves all the problems of safety since has been carefully designed for that purpose.
- The use of high quality steel tubes in the right wall thickness, make this specific type of fitting particularly safe creating values of highest reliability between the sleeve, the fitting body and the tube, since is the flared part the strong point of this technology.

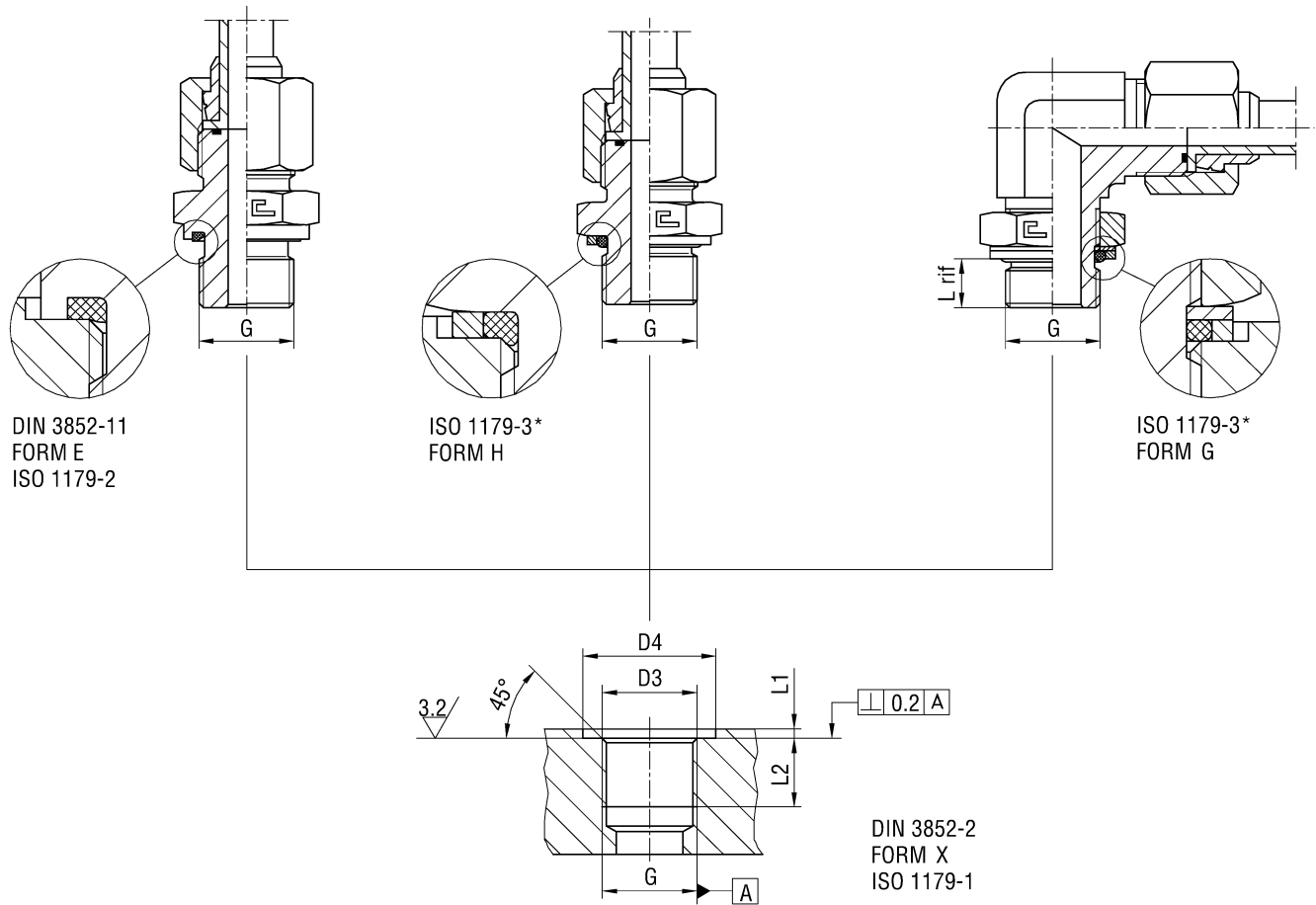
CAST S.p.A. production is made in compliance with the reference norm.

- Nominal working pressures indicated in this catalogue are intended as maximums (including pressure peaks). To use this fitting at higher requirements test must be carried out in accordance with the manufacturer.
- The safety factor 4:1 is intended as static test with the temperatures within the given range and complying with all the references contained in ISO 8434-3, as far as tube connection is concerned.
- Same safety factor 4:1 for parallel stud ends with elastomeric seal. For studs with conical with metal to metal seal the safety factor is 2,5:1.
- Is understood that the product is guaranteed only if the full connection is made entirely with CAST S.p.A. products and components.



*Destructive testing with 25x2 carbon steel tube
 The tube burst at 800 bar without any leaks or sweating from the seal points.*

STUD ENDS SAE J1453 WITH BSPP THREAD



Serie	ØTube	BSPP Thread	D3	D4 min form E	D4 min form G/H	L1 max	L2 min	L rif	Torque (Nm) +10% form E	Torque (Nm) +10% form H	Torque (Nm) +10% form G
UNIVERSAL	6	G 1/8	9,8	15	17,2	1	8	7,5	20	20	20
	8-10	G 1/4	13,2	20	20,7	1,5	12	10,2	55	55	55
	12	G 3/8	16,7	23	24,5	2	12	10,4	80	80	80
	14-15-16	G 1/2	21	28	29,6	2,5	14	13,1	110	110	110
	18-20	G 3/4	26,5	33	36,9	2,5	16	13,5	170	170	170
	22-25	G 1	33,3	41	46,1	2,5	18	14,7	330	330	330
	28-30-32	G 1 1/4	42	51	54	2,5	20	14,7	430	430	430
	35-38	G 1 1/2	47,9	56	60,5	2,5	22	14,7	510	510	510

Performances:

- Pressure capacity
- Sealing characteristics
- Additional sealing required
- Safety factor

Sealing form E:

- Excellent
- Excellent
- No
- 4:1

Sealing forma H:

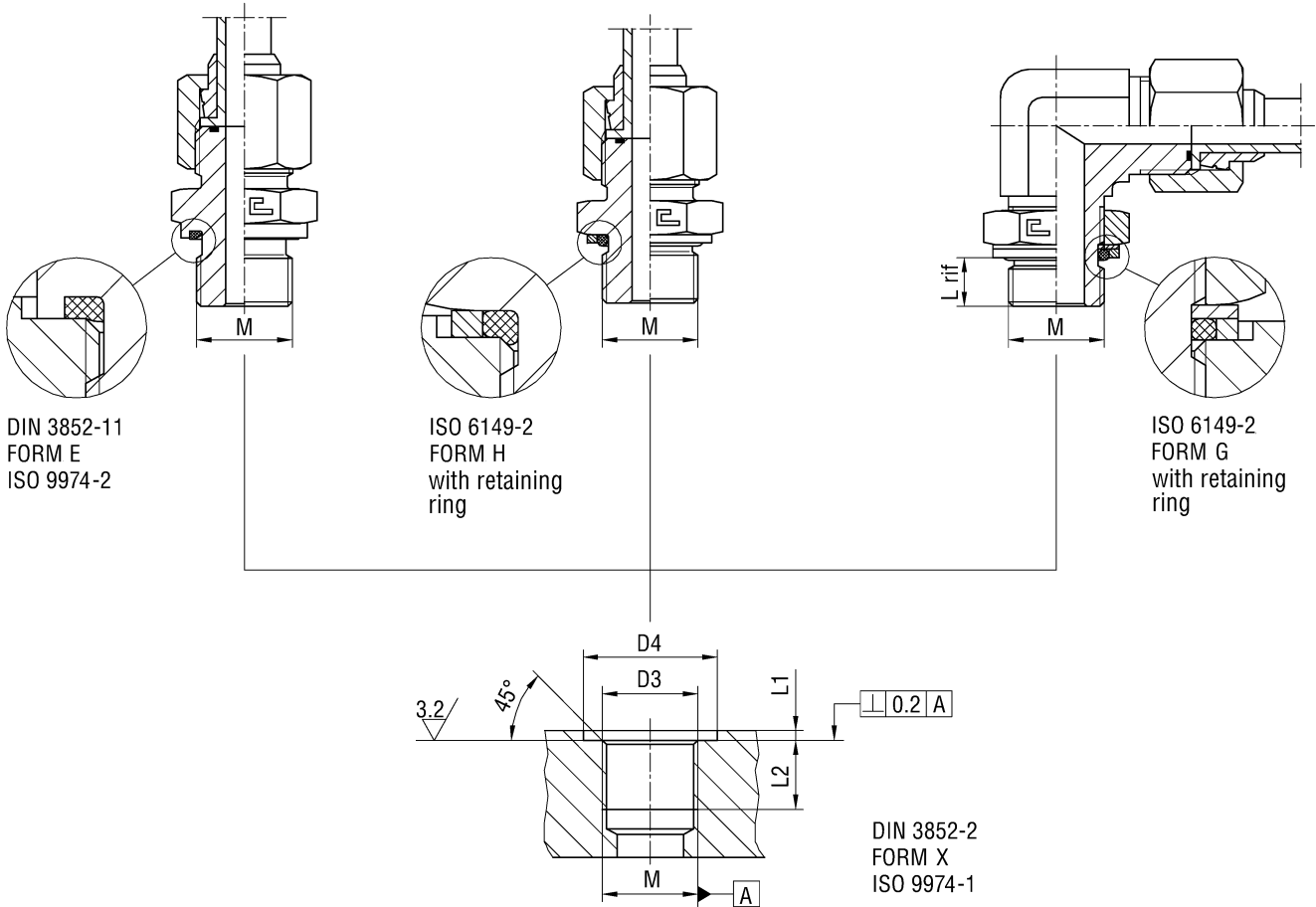
- Excellent
- Excellent
- No
- 4:1

Sealing form G:

- Excellent
- Excellent
- No
- 4:1

Notes: Assembly torque values shown in the table referred to carbon steel coupling only.
For stainless steel fittings, please take away in consideration the maximum values indicated.
*In revision phase

STUD ENDS SAE J1453 WITH METRIC THREAD



Serie	ØTube	Metric Thread	D3	D4 min form E	D4 min ISO 6149	L1 max	L2 min	L rif	Torque (Nm) +10% form E	Torque (Nm) +10% form H	Torque (Nm) +10% form G
UNIVERSAL	6	M10x1	10	15	16	1	8	7,6	20	20	20
	8-10	M12x1,5	12	18	19	1,5	12	9,7	40	40	40
	8-10	M14x1,5	14	20	21	1,5	12	9,7	55	55	55
	12	M16x1,5	16	23	24	1,5	12	10,2	70	70	70
	14-15-16	M18x1,5	18	25	26	2	12	10,9	85	85	85
	14-15-16	M20x1,5	20	27	27	2	14	12	120	120	120
	14-15-16	M22x1,5	22	28	29	2,5	14	12	130	130	130
	18-20	M27x2	27	33	34	2,5	16	13,8	170	170	170
	22-25	M33x2	33	41	43	2,5	18	13,8	330	330	330
	28-30-32	M42x2	42	51	52	2,5	22	13,8	430	430	430
	35-38	M48x2	48	56	57	2,5	22	15,3	510	510	510

Performances:

- Pressure capacity
- Sealing characteristics
- Additional sealing required
- Safety factor

Sealing form E:

Excellent
Excellent
No
4:1

Sealing forma H:

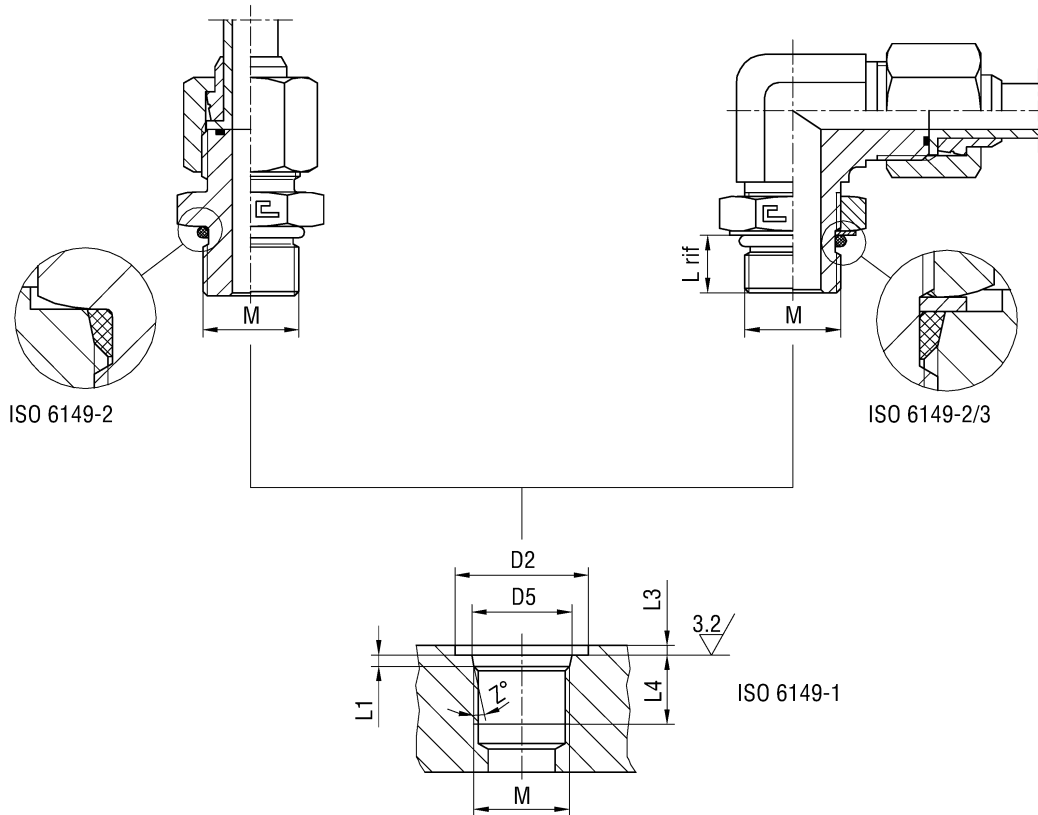
Excellent
Excellent
No
4:1

Sealing form G:

Excellent
Excellent
No
4:1

Notes: Assembly torque values shawn in the table referred to carbon steel coupling only. For stainless steel fittings, please take aways in consideration the maximum values indicated.

STUD ENDS SAE J1453 WITH METRIC THREAD (ISO 6149)



Serie	P max ISO 6149 STRAIGHT	P max ISO 6149 ADJUSTABLE	ØTube	Metric Thread	D2 min	D5	L1	L3 max	L4 min	L rif	Z°	Torque (Nm) ISO 6149 +10% STRAIGHT	Torque (Nm) ISO 6149 +10% ADJUSTABLE
UNIVERSAL	630	400	6	M10x1	16	11,1	1,6	1	10	8,6	12	15	15
	630	400	8-10	M12x1,5	19	13,8	2,4	1,5	11,5	11,1	15	30	30
	630	400	8-10	M14x1,5	21	15,8	2,4	1,5	11,5	11,1	15	40	40
	630	400	12	M16x1,5	24	17,8	2,4	1,5	13	11,6	15	50	50
	630	400	14-15-16	M18x1,5	26	19,8	2,4	2	14,5	12,3	15	60	60
	400	400	14-15-16	M20x1,5	27	21,8	2,4	2	14,5	13,4	15	70	70
	400	400	14-15-16	M22x1,5	29	23,8	2,4	2	15,5	13,4	15	85	85
	400	400	18-20	M27x2	34	29,4	3,1	2	19	15,8	15	150	150
	400	315	22-25	M33x2	43	35,4	3,1	2,5	19	15,8	15	260	260
	250	250	28-30-32	M42x2	52	44,4	3,1	2,5	19,5	15,8	15	280	280
250	250	35-38	M48x2	57	50,4	3,1	2,5	22	17,3	15	360	360	

Performances:

- Pressure capacity
- Sealing characteristics
- Additional sealing required
- Safety factor

STRAIGHT sealing:

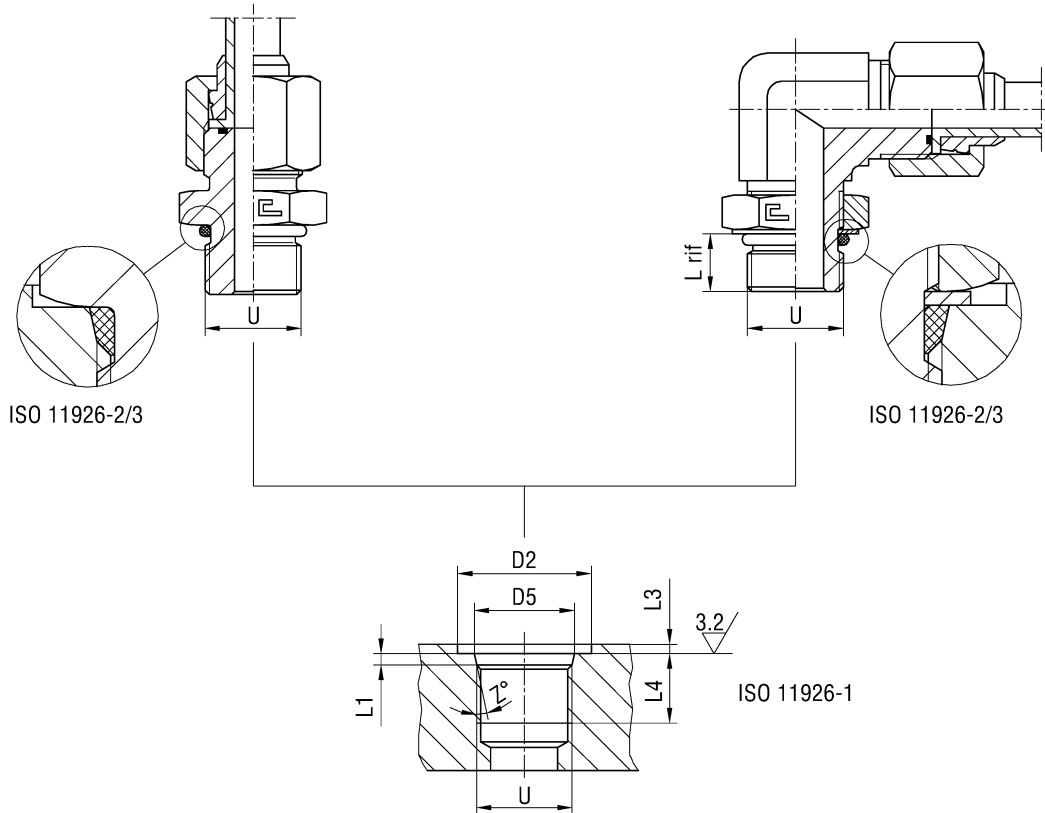
- Excellent
- Excellent
- No
- 4:1

ADJUSTABLE sealing:

- Excellent
- Excellent
- No
- 4:1

Notes: Assembly torque values shown in the table referred to carbon steel coupling only. For stainless steel fittings, please take away in consideration the maximum values indicated.

STUD ENDS SAE J1453 WITH UNF/UN-2A THREAD



Serie	ØTube	UNF/UN2A Thread	D2 min	D5	L1	L3 max	L4 min	L rif	Z°	Torque (Nm) +10% STRAIGHT	Torque (Nm) +10% ADJUSTABLE
UNIVERSAL	6	7/16-20 UNF-2A	21	12,45	2,4	1,6	11,5	9,9	12	20	20
	8-10	1/2-20 UNF-2A	23	14,05	2,4	1,6	11,5	9,9	12	25	25
	8-10	9/16-18 UNF-2A	25	15,7	2,5	1,6	12,7	11,1	12	35	55
	12	3/4-16 UNF-2A	30	20,65	2,5	2,4	14,3	12,5	15	60	60
	14-15-16	7/8-14 UNF-2A	34	24	2,5	2,4	16,7	14,5	15	85	85
	18-20	1 1/16-12 UN-2A	41	29,2	3,3	2,4	19	16,8	15	150	150
	22-25	5/16-12 UN-2A	49	35,55	3,3	3,2	19	16,8	15	230	230
	28-30-32	1 5/8-12 UN-2A	58	43,55	3,3	3,2	19	16,8	15	250	250
	35-38	1 7/8-12 UN-2A	65	49,9	3,3	3,2	19	16,8	15	320	320

Performances:

- Pressure capacity
- Sealing characteristics
- Additional sealing required
- Safety factor

STRAIGHT sealing:

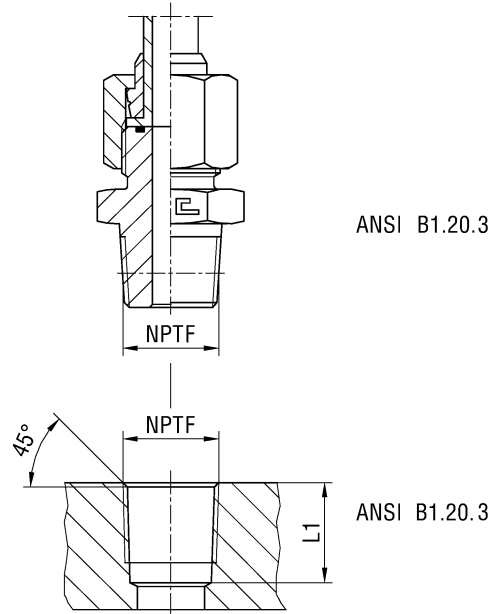
- Excellent
- Excellent
- No
- 4:1

ADJUSTABLE sealing:

- Excellent
- Excellent
- No
- 4:1

Notes: Assembly torque values shown in the table referred to carbon steel coupling only. For stainless steel fittings, please take away in consideration the maximum values indicated.

STUD ENDS SAE J1453 WITH NPTF THREAD

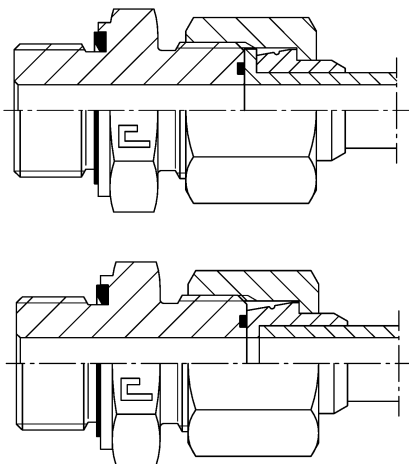


Serie	ØTube	NPTF Thread	L1
UNIVERSAL	6	1/8-27 NPTF	11,6
	8-10	1/4-18 NPTF	16,4
	12	3/8-18 NPTF	17,4
	14-15-16	1/2-14 NPTF	22,6
	18-20	3/4-14 NPTF	23,1
	22-25	1-11,5 NPTF	27,8
	28-30-32	1 1/4-11,5 NPTF	28,3
	35-38	1 1/2-11,5 NPTF	28,3

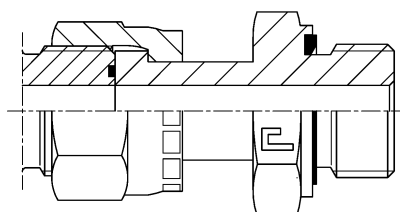
Performances:
 - Pressure capacity
 - Sealing characteristics
 - Additional sealing required
 - Safety factor

Taper sealing:
 Low-Medium
 Low-Medium
 Yes
 2,5:1

TIGHTENING TORQUES FOR TUBE ENDS AND CRIMPED NUT FITTINGS



Assembly on tube end



Assembly on crimped nut

Serie	Ø Metric Tube	Ø Inch Tube	Thread UNF/UNS/UN-2A	Torque Tube side +10% (Nm)	Torque Crimped side +10% (Nm)
UNIVERSAL	6	1/4	9/16-18	25	25
	8-10	5/16-3/8	11/16-16	40	40
	12	1/2	13/16-16	55	55
	14-15-16	5/8	1-14	60	60
	18-20	3/4	1 3/16-12	90	90
	22-25	7/8-1	1 7/16-12	125	125
	28-30-32	1 1/4	1 11/16-12	170	170
	35-38	1 1/2	2-12	200	200

Notes:

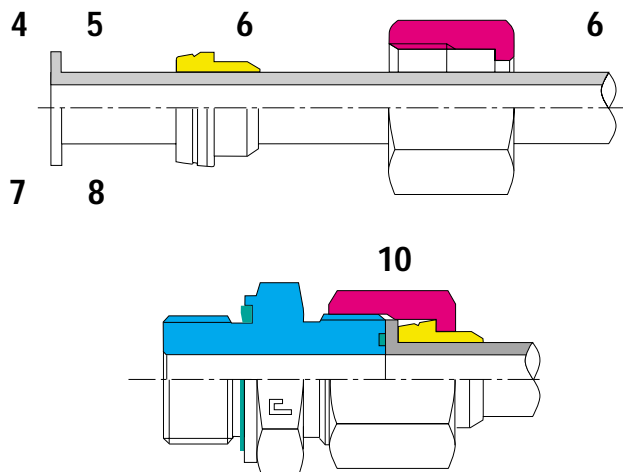
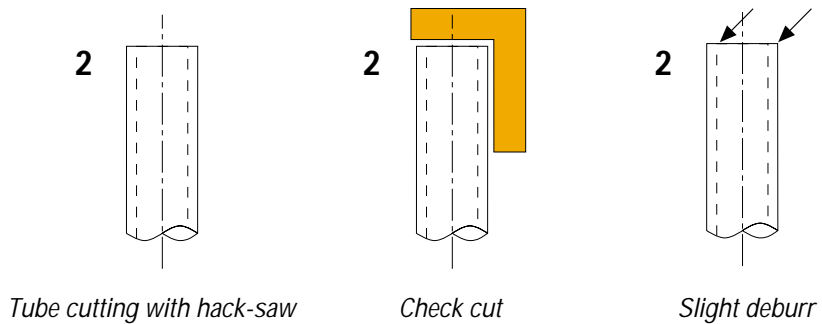
All the values reported in the above tightening tables and mere indication, and come from a series of practical tests carried out in the technical laboratory of Volpiano (TO). These may vary according to the materials and of the tolerances of the employed components.

All the values express in Newton Meters (Nm) for the tightening torques on the cone SAE J1453, represent the torquing moment necessary to have the correct tightness on the tube end side.

All the values express in Newton Meters (Nm) for the tightening torques on the crimped nut, represent the torquing moment necessary to have the correct fastening of the nut.

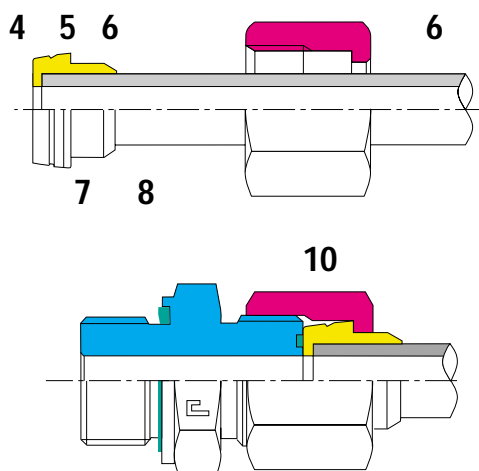
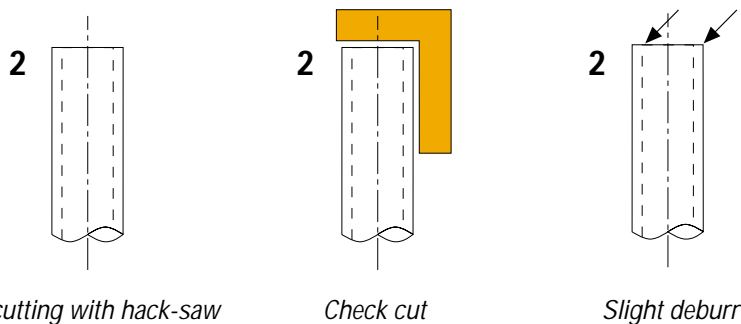
ASSEMBLY INSTRUCTIONS ACCORDING TO SAE J1453 FOR FLARED TUBES

1. Before to start to flare the tube check for the correct parameters of all the tools to be used and substitute those not complying to the requirements.
2. Cut the tube at a 90° angle using the appropriate tool (do not use roll tube cutters). Check for the correct cut of the tube and deburr internally and externally.
3. To obtain the wanted length of the tube please add the "L1" quote on the technical information datas for tube flaring on page 28.
4. Check for any damage that could impair the usefulness of the fitting, on the internal part of the tube. Never use a non complying tube.
5. Clean properly with appropriate products the part of the tube to be flared.
6. Assemble the nut and sleeve on the tube taking care that the open part of the nut is directed the same way where the tube shall be flared so as must be the head of the sleeve, see below.
7. Flare the tube using the appropriate flaring machine, and carefully respecting all the indications in the below table. The drawings indicate the quotes that must be considered.
8. Check that the flaring of the tube has been made correctly and that no structural damages that could impair the correct working of the tube are present.
9. Clean nut, sleeve, fitting and tube and lubricate with suggested products.
10. Couple the flared tube on the fitting cone, and tighten by hand the nut on the body of the fitting to check the correct alignment of the parts involved, then using a wrench tighten until reaching the metal to metal contact of the conical parts.
11. Repeated assembly and disassembly will not alter the functionality of the products.
12. Please refer to the table on page 25 for the correct tightening torques to be applied.

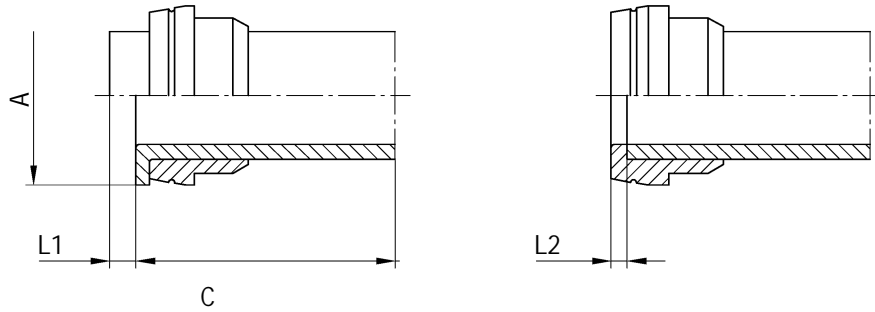


ASSEMBLY INSTRUCTIONS ACCORDING TO SAE J1453 FOR BRAZED TUBES

1. Before to start to braze the tube check for the correct parameters of all the tools to be used and substitute those not complying to the requirements.
2. Cut the tube at a 90° angle using the appropriate tool (do not use roll tube cutters). Check for the correct cut of the tube and deburr internally and externally.
3. To obtain the wanted length of the tube please add the "L1" quote on the technical information datas for tube brazing on page 28.
4. Check for any damage that could impair the usefulness of the fitting, on the internal part of the tube. Never use a non complying tube.
5. Clean properly with appropriate products the part of the tube to be brazed.
6. Assemble the nut and sleeve on the tube taking care that the open part of the nut is directed the same way where the tube shall be brazed so as must be the head of the sleeve, see below.
7. Braze the tube using appropriate brazing tools, ensuring that the tube is correctly in contact in the inside part of the sleeve, and making sure not to overheat or carbonise the components.
8. Check that the brazing of the tube has been made correctly and that no structural damages that could impair the correct working of the tube are present.
9. Clean nut, sleeve, fitting and tube and lubricate with suggested products.
10. Couple the brazed tube on the fitting cone, and tighten by hand the nut on the body of the fitting to check the correct alignment of the parts involved, then using a wrench tighten until reaching the metal to metal contact of the conical parts.
11. Repeated assembly and disassembly will not alter the functionality of the products.
12. Please refer to the table on page 25 for the correct tightening torques to be applied.



TECHNICAL DATAS FOR TUBE PREPARATION

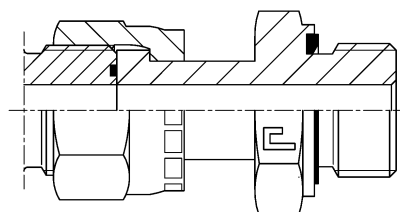


Ø Metric Tube	Ø Inch Tube	Flaring Ø		L1	L2	C
		A min	A max			
6x1	1/4x0,035	12.10	12.75	-	1	32
6x1,5	1/4x0,065			-		
8x1	5/16x0,035	14.85	15.75	-	1	40
8x1,5	5/16x0,065			-		
10x1	3/8x0,035			2,5		
10x1,5	3/8x0,065			2		
10x2	3/8x0,083			1,5		
12x1	1/2x0,035	18	18.90	-	1	45
12x1,5	1/2x0,065			3		
12x2	1/2x0,083			2,5		
12x2,5	1/2x0,095			2		
14x1,5	-			-		
14x2	-	-				
14x2,5	-	-				
15x1,5	-	22.20	23.45	4,5	1,5	45
15x2	-			4		
15x2,5	-			3,5		
16x1,5	5/8x0,065			4		
16x2	5/8x0,083			3,5		
16x2,5	5/8x0,095	3				
16x3	5/8x0,120			2,5		
18x1,5	-	26.60	27.85	-	1,5	50
18x2	-			5		
18x2,5	-			4,5		
18x3	-			4		

Ø Metric Tube	Ø Inch Tube	Flaring Ø		L1	L2	C
		A min	A max			
20x2	3/4x0,083	26.60	27.85	4	1,5	50
20x2,5	3/4x0,095			3,5		
20x3	3/4x0,120			3		
20x3,5	3/4x0,134			2,5		
22x2	7/8x0,083	32.95	34.20	-	1,5	60
22x2,5	7/8x0,095			-		
22x3	7/8x0,120			-		
25x2,5	1x0,095			4,5		
25x3	1x0,120			4		
25x4	1x0,156			3		
25x5	1x0,188			2		
28x2	-	39.35	40.55	-	1,5	60
28x2,5	-			-		
28x3	-			-		
30x2	-			5,5		
30x2,5	-			5		
30x3	-			4,5		
30x4	-			4		
32x3	1 1/4x0,120			4		
32x4	1 1/4x0,156	-				
35x3	-	47.25	48.50	-	1,5	70
35x4	-			-		
38x3	1 1/2x0,120			7		
38x4	1 1/2x0,156			6		

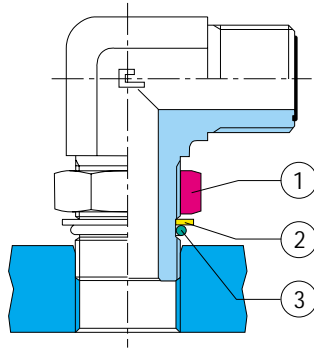
ASSEMBLY INSTRUCTIONS FOR SWIVEL NUT FITTINGS SERIES ORFS

1. Before to start to assemble check for the correct parameters of all the tools to be used and substitute those not complying to the requirements.
2. Clean nut, fitting and tube and lubricate with suggested products.
3. Check the correct alignment of the parts involved, then using a wrench tighten until reaching the metal to metal contact of the parts.
4. Repeated assembly and disassembly will not alter the functionality of the products.
5. Please refer to the related tables for the correct tightening torques to be applied.



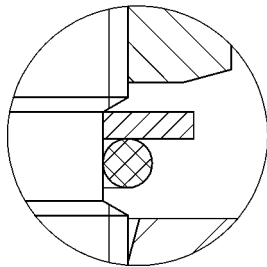
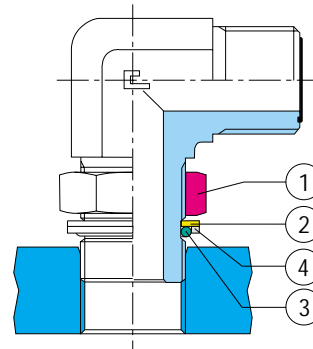
ASSEMBLY INSTRUCTIONS FOR ADJUSTABLE FITTINGS

ISO 6149 Metric thread
ISO 11926 UNF/UN-2A thread

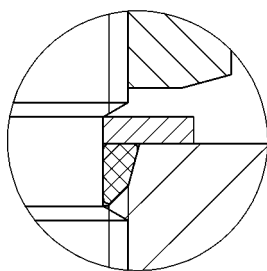
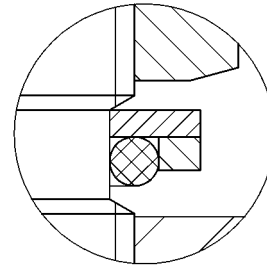


- 1 Back up hexagonal nut
- 2 Back up sleeve
- 3 O-ring
- 4 Retaining ring

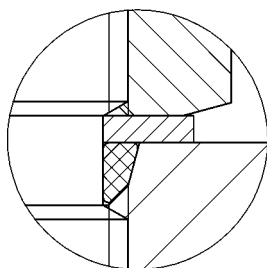
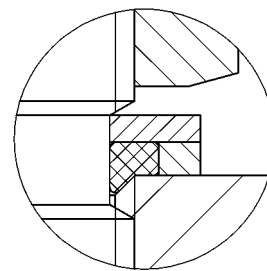
BSPP Thread (In revision phase)
ISO 6149 Metric thread with retaining ring



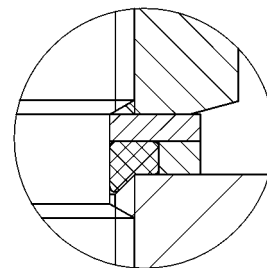
Lubricate the o-ring.
Unscrew the back up hexagonal nut and check that the back up sleeve is positioned as in the side picture.
The correct position of the back up sleeve may be obtained when the fitting is screwed into the female thread.



Lubricate the o-ring.
Screw the fitting in to the point that the back up sleeve is in contact with the base of the female checking that the o-ring is positioned correctly into its shaped housing.



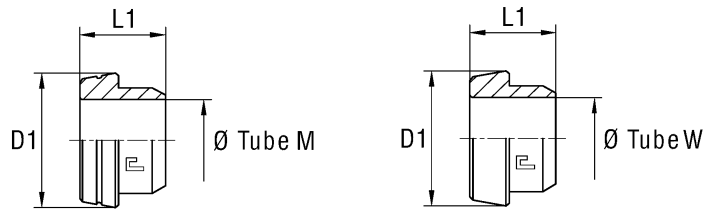
Unscrew the fitting up to a maximum of 1 turn to obtain the desired positioning.
Keep the fitting still with a wrench and block the back up hexagonal nut.
Please refer to the related tables for the correct tightening torques to be applied.



N.B. To obtain the ISO 6149 type of sealing please take out the retaining ring from the standard fitting.

SLEEVE

Type: 4001..

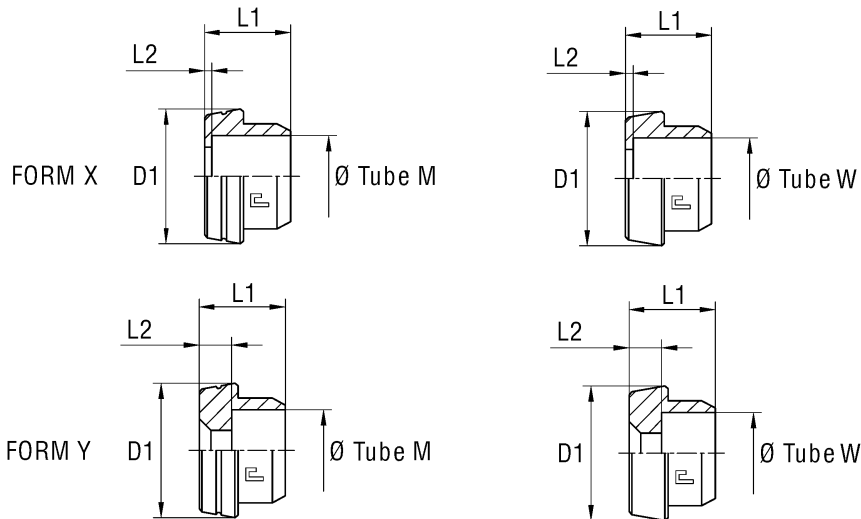


Serie	Bar	Ordering metric tube	Ordering Inch tube	Ø Tube M	Ø Tube W	D1	L1	
UNIVERSAL	630	400101	400101.W	6	1/4	12,75	7,5	
		400102	400102.W	10	3/8	15,75	8,5	
		400103	400103.W	12	1/2	18,9	10,5	
	420	400104	400104.W	16	5/8	23,45	10,5	
		400105	400105.W	20	3/4	27,85	12	
		400106	400106.W	25	1	34,2	13,5	
	280	400107	400107.W	30	1 1/4	40,55	13	
		400108	400108.W	38	1 1/2	48,5	12,5	
	630	400109	400109.W	8	5/16	15,75	8,5	
	420	400110	-	-	14	-	23,45	10,5
		400111	-	-	15	-	23,45	10,5
		400112	-	-	18	-	27,85	12
		400113	400113.W	-	22	7/8	34,2	13,5
	280	400114	-	-	28	-	40,55	13
		400115	-	-	32	-	40,55	13
		400116	-	-	35	-	48,5	12,5

Note: If you wish to order a fitting in stainless steel, please change the first two digit from 40.. to 41..

BRAZE SLEEVE

Type: 4002..

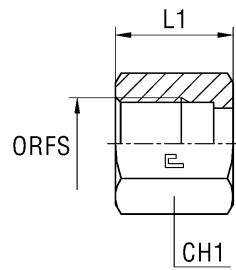


Serie	Bar	Ordering metric tube	Ordering Inch tube	Ø Tube A ^M	Ø Tube B ^M	Ø Tube A ^W	Ø Tube B ^W	FORM	D1	L1	L2
UNIVERSAL	630	400201	400201.W	6	-	1/4	-	X	12,75	9,5	1
		400202	400202.W	10	-	3/8	-	X	15,75	9,5	1
		400203	400203.W	12	-	1/2	-	X	18,9	9,5	1
	420	400204	400204.W	16	-	5/8	-	X	23,45	10,5	1,5
		400205	400205.W	20	-	3/4	-	X	27,85	14	1,5
		400206	400206.W	25	-	1	-	X	34,2	15,5	1,5
	280	400207	400207.W	30	-	1 1/4	-	X	40,55	15,5	1,5
		400208	400208.W	38	-	1 1/2	-	X	48,5	15,5	1,5
	630	400209	400209.W	8	-	5/16	-	X	15,75	9,5	1
	420	400210	-	14	-	-	-	X	23,45	10,5	1,5
		400211	-	15	-	-	-	X	23,45	10,5	1,5
		400212	-	18	-	-	-	X	27,85	14	1,5
		400213	400213.W	22	-	7/8	-	X	34,2	15,5	1,5
	280	400214	-	28	-	-	-	X	40,55	15,5	1,5
		400215	-	32	-	-	-	X	40,55	15,5	1,5
		400216	-	35	-	-	-	X	48,5	15,5	1,5
	630	400217	400217.W	8-10	6	5/16-3/8	1/4	Y	15,75	10,5	2
		400218	400218.W	12	6	1/2	1/4	Y	18,9	12	3,5
		400219	400219.W	12	10	1/2	3/8	Y	18,9	12	3,5
	420	400220	400220.W	14-15-16	6	5/8	1/4	Y	23,45	13,5	5
		400221	400221.W	14-15-16	10	5/8	3/8	Y	23,45	13,5	5
		400222	400222.W	14-15-16	12	5/8	1/2	Y	23,45	13,5	5
		400223	400223.W	18-20	6	3/4	1/4	Y	27,85	14,5	6
		400224	400224.W	18-20	10	3/4	3/8	Y	27,85	14,5	6
		400225	400225.W	18-20	12	3/4	1/2	Y	27,85	14,5	6
		400226	400226.W	18-20	16	3/4	5/8	Y	27,85	14,5	5,5
		400227	400227.W	22-25	12	7/8-1	1/2	Y	34,2	15,5	7
		400228	400228.W	22-25	16	7/8-1	5/8	Y	34,2	15,5	6,5
		400229	400229.W	22-25	20	7/8-1	3/4	Y	34,2	17	4,5
		400230	400230.W	22-25	22	7/8-1	7/8	Y	34,2	17	3
280	400231	400231.W	28-30-32	20	1 1/4	3/4	Y	40,55	19,5	7	
	400232	400232.W	28-30-32	25	1 1/4	1	Y	40,55	21	7	
	400233	400233.W	35-38	25	1 1/2	1	Y	48,5	21	7	
	400234	400234.W	32-38	30	1 1/2	1 1/4	Y	48,5	21	7	

Note: If you wish to order a fitting in stainless steel, please change the first two digit from 40.. to 41..

NUT

Type: 4003..

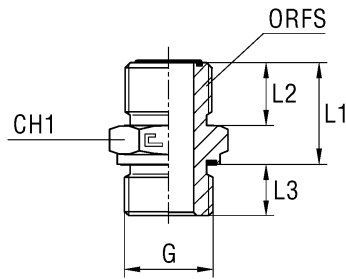


Serie	Bar	Ordering Nut	Ø Tube M	Ø Tube W	ORFS	D1	L1
UNIVERSAL	630	400301	6	1/4	9/16-18	15	17
		400302	8-10	5/16-3/8	11/16-16	17	22
		400303	12	1/2	13/16-16	20	24
	420	400304	14-15-16	5/8	1-14	24	30
		400305	18-20	3/4	13/16-12	26,5	36
		400306	22-25	7/8-1	17/16-12	27,5	41
	280	400307	28-30-32	1 1/4	1 11/16-12	27,5	50
		400308	35-38	1 1/2	2-12	27,5	60

Note: If you wish to order a fitting in stainless steel, please change the first two digit from 40.. to 41..

MALE STUD COUPLING WITH ELASTOMER SEAL Thread BSP Parallel

Type: 4004..

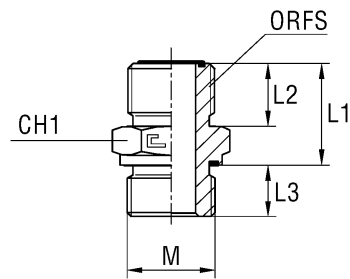


Serie	Bar	Ordering Body	Ø Tube M	Ø Tube W	G	L1	L2	L3	CH1	ORFS
UNIVERSAL	630	400401	6	1/4	1/8	17,5	10	8	17	9/16-18
		400402	8-10	5/16-3/8	1/4	20	11	12	19	11/16-16
		400403	12	1/2	3/8	22,5	13	12	22	13/16-16
	420	400404	14-15-16	5/8	1/2	27	15,5	14	27	1-14
		400405	18-20	3/4	3/4	30	17	16	32	13/16-12
		400406	22-25	7/8-1	1	32	17,5	18	41	17/16-12
	280	400407	28-30-32	1 1/4	1 1/4	34	17,5	20	50	111/16-12
		400408	35-38	1 1/2	1 1/2	35,5	17,5	22	55	2-12
	630	400409	6	1/4	1/4	19	10	12	19	9/16-18
		400410	6	1/4	3/8	19,5	10	12	22	9/16-18
		400411	6	1/4	1/2	21,5	10	14	27	9/16-18
		400412	8-10	5/16-3/8	1/8	19,5	11	8	19	11/16-16
		400413	8-10	5/16-3/8	3/8	20,5	11	12	22	11/16-16
		400414	8-10	5/16-3/8	1/2	22,5	11	14	27	11/16-16
	420	400415	8-10	5/16-3/8	3/4	24	11	16	32	11/16-16
	630	400416	12	1/2	1/4	23	13	12	22	13/16-16
		400417	12	1/2	1/2	24,5	13	14	27	13/16-16
	420	400418	12	1/2	3/4	26	13	16	32	13/16-16
		400419	14-15-16	5/8	1/4	26	15,5	12	27	1-14
		400420	14-15-16	5/8	3/8	26,5	15,5	12	27	1-14
		400421	14-15-16	5/8	3/4	28,5	15,5	16	32	1-14
		400422	14-15-16	5/8	1	30	15,5	18	41	1-14
		400423	18-20	3/4	1/4	29	17	12	32	13/16-12
		400424	18-20	3/4	1/2	30	17	14	32	13/16-12
		400425	18-20	3/4	1	31,5	17	18	41	13/16-12
		400426	18-20	3/4	1 1/4	33,5	17	20	50	13/16-12
		400427	22-25	7/8-1	1/4	31	17,5	12	41	17/16-12
	420	400428	22-25	7/8-1	3/4	32	17,5	16	41	17/16-12
		400429	22-25	7/8-1	1 1/4	34	17,5	20	50	17/16-12
	280	400430	22-25	7/8-1	1 1/2	35,5	17,5	22	55	17/16-12
400431		28-30-32	1 1/4	1	34	17,5	18	46	111/16-12	
400432		28-30-32	1 1/4	1 1/2	35,5	17,5	22	55	111/16-12	

Note: If you wish to order a fitting in stainless steel, please change the first two digit from 40.. to 41..

MALE STUD COUPLING WITH ELASTOMER SEAL Thread Metric Parallel

Type: 4005..

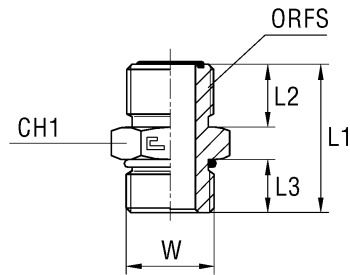


Serie	Bar	Ordering Body	Ø Tube M	Ø Tube W	M	L1	L2	L3	CH1	ORFS
UNIVERSAL	630	400501	6	1/4	12x1,5	18	10	12	17	9/16-18
		400502	8-10	5/16-3/8	14x1,5	20	11	12	19	11/16-16
		400503	12	1/2	18x1,5	22,5	13	12	24	13/16-16
	420	400504	14-15-16	5/8	22x1,5	27	15,5	14	27	1-14
		400505	18-20	3/4	27x2	30	17	16	32	13/16-12
		400506	22-25	7/8-1	33x2	32	17,5	18	41	17/16-12
	280	400507	28-30-32	1 1/4	42x2	34	17,5	20	50	111/16-12
		400508	35-38	1 1/2	48x2	35,5	17,5	22	55	2-12
	350	400509	6	1/4	10x1	17,5	10	8	17	9/16-18
	630	400510	6	1/4	14x1,5	19	10	12	19	9/16-18
		400511	8-10	5/16-3/8	12x1,5	20	11	12	19	11/16-16
		400512	8-10	5/16-3/8	16x1,5	22	11	12	22	11/16-16
		400513	8-10	5/16-3/8	18x1,5	20,5	11	12	24	11/16-16
		400514	12	1/2	14x1,5	23	13	12	22	13/16-16
		400515	12	1/2	16x1,5	22,5	13	12	22	13/16-16
	420	400516	12	1/2	22x1,5	24,5	13	14	27	13/16-16
		400517	14-15-16	5/8	18x1,5	26,5	15,5	12	27	1-14
		400518	14-15-16	5/8	27x2	28,5	15,5	16	32	1-14
		400519	18-20	3/4	22x1,5	30	17	14	32	13/16-12
		400520	18-20	3/4	33x2	31,5	17	18	41	13/16-12
		400521	22-25	7/8-1	27x2	32	17,5	16	41	17/16-12
	280	400522	22-25	7/8-1	42x2	34	17,5	20	50	17/16-12
		400523	28-30-32	1 1/4	33x2	34	17,5	18	46	111/16-12
		400524	28-30-32	1 1/4	48x2	35,5	17,5	22	55	111/16-12

Note: If you wish to order a fitting in stainless steel, please change the first two digit from 40.. to 41..

MALE STUD COUPLING WITH O-RING Thread UNF/UN-2A

Type: 4006..

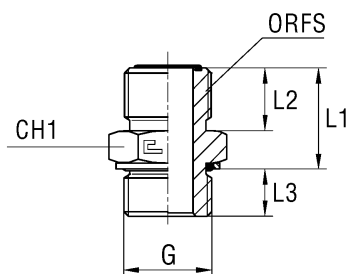


Serie	Bar	Ordering Body	Ø Tube M	Ø Tube W	W	L1	L2	L3	CH1	ORFS
UNIVERSAL	630	400601	6	1/4	7/16-20	18	10	11	17	9/16-18
		400602	8-10	5/16-3/8	9/16-18	20	11	12	19	11/16-16
		400603	12	1/2	3/4-16	22,5	13	14	22	13/16-16
	420	400604	14-15-16	5/8	7/8-14	27	15,5	16	27	1-14
		400605	18-20	3/4	1 1/16-12	30	17	18,5	32	13/16-12
		400606	22-25	7/8-1	1 5/16-12	32	17,5	18,5	41	17/16-12
	280	400607	28-30-32	1 1/4	1 5/8-12	33,5	17,5	18,5	46	1 11/16-12
		400608	35-38	1 1/2	1 7/8-12	35,5	17,5	18,5	55	2-12
	630	400609	6	1/4	1/2-20	18	10	11	17	9/16-18
		400610	6	1/4	9/16-18	19	10	12	19	9/16-18
		400611	6	1/4	3/4-16	19,5	10	14	22	9/16-18
		400612	8-10	5/16-3/8	7/16-20	20	11	11	19	11/16-16
		400613	8-10	5/16-3/8	1/2-20	20	11	11	19	11/16-16
		400614	8-10	5/16-3/8	3/4-16	20,5	11	14	22	11/16-16
		400615	8-10	5/16-3/8	7/8-14	22,5	11	16	27	11/16-16
	420	400616	8-10	5/16-3/8	1 1/16-12	24	11	18,5	32	11/16-16
	630	400617	12	1/2	9/16-18	22,5	13	12	22	13/16-16
		400618	12	1/2	7/8-14	24,5	13	16	27	13/16-16
	420	400619	12	1/2	1 1/16-12	26	13	18,5	32	13/16-16
		400620	12	1/2	1 5/16-12	27,5	13	18,5	41	13/16-16
		400621	14-15-16	5/8	3/4-16	27	15,5	14	27	1-14
		400622	14-15-16	5/8	1 1/16-12	28,5	15,5	18,5	32	1-14
		400623	18-20	3/4	3/4-16	30	17	14	32	13/16-12
		400624	18-20	3/4	7/8-14	30	17	16	32	13/16-12
		400625	18-20	3/4	1 5/16-12	31,5	17	18,5	41	13/16-12
	280	400626	22-25	7/8-1	1 1/16-12	32	17,5	18,5	41	17/16-12
		400627	22-25	7/8-1	1 5/8-12	33,5	17,5	18,5	46	17/16-12
		400628	28-30-32	1 1/4	1 5/16-12	33,5	17,5	18,5	46	1 11/16-12
		400629	28-30-32	1 1/4	1 7/8-12	35,5	17,5	18,5	55	1 11/16-12
		400630	35-38	1 1/2	1 5/8-12	35,5	17,5	18,5	55	2-12

Note: If you wish to order a fitting in stainless steel, please change the first two digit from 40.. to 41..

MALE STUD COUPLING WITH O-RING AND WASHER Thread BSP Parallel

Type: 4007..

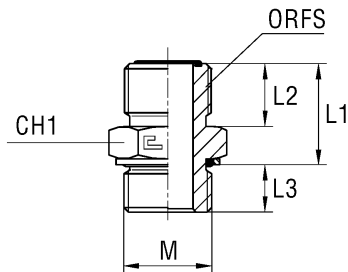


Serie	Bar	Ordering Body	Ø Tube M	Ø Tube W	G	L1	L2	L3	CH1	ORFS
UNIVERSAL	350	400701	6	1/4	1/8	18,8	10	6,7	17	9/16-18
	400	400702	8-10	5/16-3/8	1/4	21,8	11	10,2	19	11/16-16
	350	400703	12	1/2	3/8	24,3	13	10,2	22	13/16-16
	315	400704	14-15-16	5/8	1/2	28,8	15,5	12,2	27	1-14
		400705	18-20	3/4	3/4	31,8	17	14,2	36	13/16-12
	280	400706	22-25	7/8-1	1	34,6	17,5	15,4	41	17/16-12
		400707	28-30-32	1 1/4	1 1/4	36,6	17,5	17,4	50	1 11/16-12
	250	400708	35-38	1 1/2	1 1/2	38,1	17,5	19,4	55	2-12
	400	400709	6	1/4	1/4	20,8	10	10,2	19	9/16-18
	350	400710	6	1/4	3/8	21,3	10	10,2	22	9/16-18
	315	400711	6	1/4	1/2	23,3	10	12,2	27	9/16-18
	350	400712	8-10	5/16-3/8	1/8	20,8	11	6,7	19	11/16-16
		400713	8-10	5/16-3/8	3/8	22,3	11	10,2	22	11/16-16
	315	400714	8-10	5/16-3/8	1/2	24,3	11	12,2	27	11/16-16
		400715	8-10	5/16-3/8	3/4	25,8	11	14,2	36	11/16-16
	400	400716	12	1/2	1/4	24,8	13	10,2	22	13/16-16
	315	400717	12	1/2	1/2	26,3	13	12,2	27	13/16-16
		400718	12	1/2	3/4	27,8	13	14,2	36	13/16-16
	400	400719	14-15-16	5/8	1/4	27,8	15,5	10,2	27	1-14
	350	400720	14-15-16	5/8	3/8	28,3	15,5	10,2	27	1-14
	315	400721	14-15-16	5/8	3/4	30,3	15,5	14,2	36	1-14
	280	400722	14-15-16	5/8	1	32,6	15,5	15,4	41	1-14
	400	400723	18-20	3/4	1/4	30,8	17	10,2	32	13/16-12
	315	400724	18-20	3/4	1/2	31,8	17	12,2	32	13/16-12
	200	400725	18-20	3/4	1	34,1	17	15,4	41	13/16-12
		400726	18-20	3/4	1 1/4	36,1	17	17,4	50	13/16-12
	400	400727	22-25	7/8-1	1/4	32,8	17,5	10,2	41	17/16-12
	315	400728	22-25	7/8-1	3/4	33,8	17,5	14,2	41	17/16-12
	280	400729	22-25	7/8-1	1 1/4	36,6	17,5	17,4	50	17/16-12
	250	400730	22-25	7/8-1	1 1/2	38,1	17,5	19,4	55	17/16-12
	280	400731	28-30-32	1 1/4	1	36,6	17,5	15,4	46	1 11/16-12
	250	400732	28-30-32	1 1/4	1 1/2	38,1	17,5	19,4	55	1 11/16-12

Note: If you wish to order a fitting in stainless steel, please change the first two digit from 40.. to 41..

MALE STUD COUPLING WITH O-RING AND WASHER Thread Metric Parallel

Type: 4008..

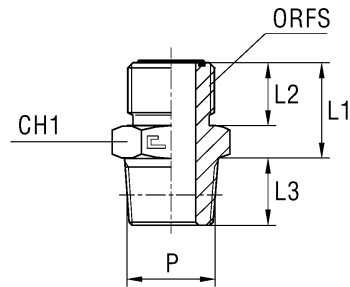


Serie	Bar	Ordering Body	Ø Tube M	Ø Tube W	M	L1	L2	L3	CH1	ORFS
UNIVERSAL	400	400801	6	1/4	12x1,5	18,9	10	9,6	17	9/16-18
		400802	8-10	5/16-3/8	14x1,5	21,4	11	9,6	19	11/16-16
		400803	12	1/2	18x1,5	25,4	13	12,6	24	13/16-16
	315	400804	14-15-16	5/8	22x1,5	28,4	15,5	13,6	27	1-14
		400805	18-20	3/4	27x2	32	17	16,5	32	13/16-12
	280	400806	22-25	7/8-1	33x2	35,5	17,5	16,5	41	17/16-12
		400807	28-30-32	1 1/4	42x2	37,5	17,5	17	50	11/16-12
	250	400808	35-38	1 1/2	48x2	37,5	17,5	19,5	55	2-12
	400	400809	6	1/4	10x1	19	10	8,5	17	9/16-18
		400810	6	1/4	14x1,5	20,4	10	9,6	19	9/16-18
		400811	8-10	5/16-3/8	12x1,5	21,4	11	9,6	19	11/16-16
		400812	8-10	5/16-3/8	16x1,5	22,4	11	11,1	22	11/16-16
		400813	8-10	5/16-3/8	18x1,5	23,4	11	12,6	24	11/16-16
		400814	12	1/2	14x1,5	24,4	13	9,6	22	13/16-16
	315	400815	12	1/2	16x1,5	24,4	13	11,1	22	13/16-16
		400816	12	1/2	22x1,5	25,9	13	13,6	27	13/16-16
	400	400817	14-15-16	5/8	18x1,5	28,4	15,5	12,6	27	1-14
	315	400818	14-15-16	5/8	27x2	30,5	15,5	16,5	32	1-14
		400819	18-20	3/4	22x1,5	31,4	17	13,6	32	13/16-12
	280	400820	18-20	3/4	33x2	35	17	16,5	41	13/16-12
	315	400821	22-25	7/8-1	27x2	35,5	17,5	16,5	41	17/16-12
	280	400822	22-25	7/8-1	42x2	37,5	17,5	17	50	17/16-12
		400823	28-30-32	1 1/4	33x2	37,5	17,5	16,5	46	11/16-12
	250	400824	28-30-32	1 1/4	48x2	37,5	17,5	19,5	55	11/16-12

Note: If you wish to order a fitting in stainless steel, please change the first two digit from 40.. to 41..

MALE STUD COUPLING Thread NPTF

Type: 4009..

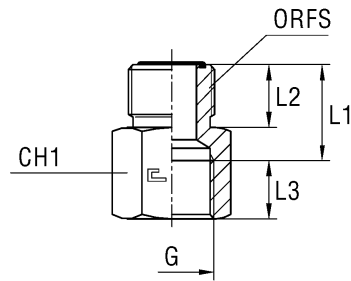


Serie	Bar	Ordering Body	Ø Tube M	Ø Tube W	P	L1	L2	L3	CH1	ORFS
UNIVERSAL	420	400901	6	1/4	1/8	17,5	10	10	17	9/16-18
	630	400902	8-10	5/16-3/8	1/4	20	11	14,5	19	11/16-16
		400903	12	1/2	3/8	22,5	13	14,5	22	13/16-16
	420	400904	14-15-16	5/8	1/2	27	15,5	19	27	1-14
		400905	18-20	3/4	3/4	30	17	19	32	13/16-12
		400906	22-25	7/8-1	1	32	17,5	24	41	17/16-12
	280	400907	28-30-32	1 1/4	1 1/4	34	17,5	25	46	1 11/16-12
		400908	35-38	1 1/2	1 1/2	35,5	17,5	26	55	2-12
	630	400909	6	1/4	1/4	17,5	10	14,5	17	9/16-18
		400910	6	1/4	3/8	17,5	10	14,5	17	9/16-18
		400911	8-10	5/16-3/8	3/8	20	11	14,5	19	11/16-16
		400912	8-10	5/16-3/8	1/2	20,5	11	19	22	11/16-16
		400913	12	1/2	1/4	22,5	13	14,5	22	13/16-16
		400914	12	1/2	1/2	22,5	13	19	22	13/16-16
	420	400915	12	1/2	3/4	24,5	13	19	27	13/16-16
		400916	14-15-16	5/8	3/8	27	15,5	14,5	27	1-14
		400917	14-15-16	5/8	3/4	27	15,5	19	27	1-14
		400918	18-20	3/4	1/2	30	17	19	32	13/16-12
		400919	18-20	3/4	1	30	17	24	36	13/16-12
		400920	22-25	7/8-1	3/4	32	17,5	19	41	17/16-12
280	400921	28-30-32	1 1/4	1	34	17,5	24	46	1 11/16-12	
	400922	35-38	1 1/2	1 1/4	35,5	17,5	25	55	2-12	

Note: If you wish to order a fitting in stainless steel, please change the first two digit from 40.. to 41..

FEMALE STUD COUPLING Thread BSP Parallel

Type: 4010..

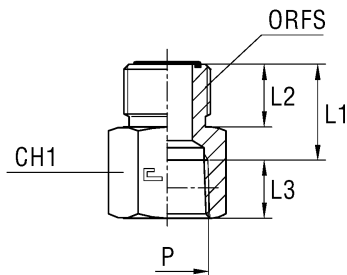


Serie	Bar	Ordering Body	Ø Tube M	Ø Tube W	G	L1	L2	L3	CH1	ORFS
UNIVERSAL	630	401001	6	1/4	1/4	17	10	14	19	9/16-18
		401002	8-10	5/16-3/8	1/4	18	11	14	19	11/16-16
		401003	12	1/2	3/8	21	13	14	24	13/16-16
	420	401004	14-15-16	5/8	1/2	24,5	15,5	17	30	1-14
		401005	18-20	3/4	3/4	27	17	19	36	13/16-12
		401006	22-25	7/8-1	1	27	17,5	21,5	41	17/16-12
	280	401007	28-30-32	1 1/4	1 1/4	30	17,5	23,5	55	1 11/16-12
		401008	35-38	1 1/2	1 1/2	30	17,5	25,5	60	2-12
	630	401009	12	1/2	1/4	20	13	14	22	13/16-16
	420	401010	18-20	3/4	1/2	26	17	17	32	13/16-12

Note: If you wish to order a fitting in stainless steel, please change the first two digit from 40.. to 41..

FEMALE STUD COUPLING Thread NPTF

Type: 4011..

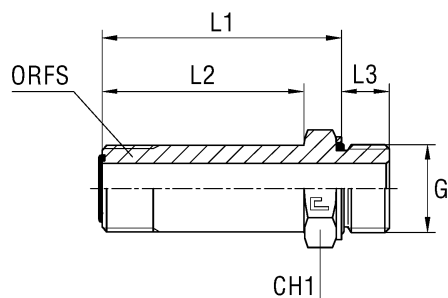


Serie	Bar	Ordering Body	Ø Tube M	Ø Tube W	P	L1	L2	L3	CH1	ORFS
UNIVERSAL	630	401101	6	1/4	1/4	17,5	10	14	19	9/16-18
		401102	8-10	5/16-3/8	1/4	18,5	11	14	19	11/16-16
		401103	12	1/2	3/8	21,5	13	14,5	24	13/16-16
	420	401104	14-15-16	5/8	1/2	25	15,5	19	30	1-14
		401105	18-20	3/4	3/4	27,5	17	19,5	36	13/16-12
		401106	22-25	7/8-1	1	30,5	17,5	23,5	41	17/16-12
	280	401107	28-30-32	1 1/4	1 1/4	32,5	17,5	24	55	1 11/16-12
		401108	35-38	1 1/2	1 1/2	32,5	17,5	24	60	2-12
	630	401109	12	1/2	1/4	20,5	13	14	22	13/16-16
	420	401110	18-20	3/4	1/2	26,5	17	19	32	13/16-12

Note: If you wish to order a fitting in stainless steel, please change the first two digit from 40.. to 41..

LONG MALE STUD COUPLING WITH O-RING AND WASHER Thread BSP Parallel

Type: 4012..

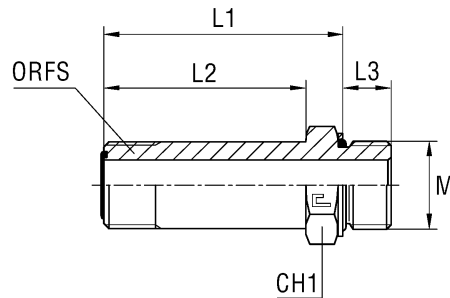


Serie	Bar	Ordering Body	Ø Tube M	Ø Tube W	G	L1	L2	L3	CH1	ORFS
UNIVERSAL	350	401201	6	1/4	1/8	42,3	33,5	6,7	17	9/16-18
	400	401202	8-10	5/16-3/8	1/4	47,8	37	10,2	19	11/16-16
	350	401203	12	1/2	3/8	55,8	44,5	10,2	22	13/16-16
	315	401204	14-15-16	5/8	1/2	65,8	52,5	12,2	27	1-14
		401205	18-20	3/4	3/4	78,8	64	14,2	36	13/16-12
	280	401206	22-25	7/8-1	1	90,1	73	15,4	41	17/16-12
		401207	28-30-32	1 1/4	1 1/4	105,6	86,5	17,4	50	1 11/16-12
	250	401208	35-38	1 1/2	1 1/2	117,6	97	19,4	55	2-12
	400	401209	6	1/4	1/4	44,3	33,5	10,2	19	9/16-18
	350	401210	6	1/4	3/8	44,8	33,5	10,2	22	9/16-18
		401211	8-10	5/16-3/8	3/8	48,3	37	10,2	22	11/16-16
	315	401212	8-10	5/16-3/8	1/2	50,3	37	12,2	27	11/16-16
	400	401213	12	1/2	1/4	56,3	44,5	10,2	22	13/16-16
	315	401214	12	1/2	1/2	57,8	44,5	12,2	27	13/16-16
		401215	12	1/2	3/4	59,3	44,5	14,2	36	13/16-16
	350	401216	14-15-16	5/8	3/8	65,3	52,5	10,2	27	1-14
	315	401217	14-15-16	5/8	3/4	67,3	52,5	14,2	36	1-14
		401218	18-20	3/4	1/2	78,8	64	12,2	32	13/16-12
	200	401219	18-20	3/4	1	81,1	64	15,4	41	13/16-12
		401920	18-20	3/4	1 1/4	83,1	64	17,4	50	13/16-12
	315	401221	22-25	7/8-1	3/4	89,3	73	14,2	41	17/16-12
	280	401222	22-25	7/8-1	1 1/4	92,1	73	17,4	50	17/16-12
		401223	28-30-32	1 1/4	1	105,6	86,5	15,4	46	1 11/16-12

Note: If you wish to order a fitting in stainless steel, please change the first two digit from 40.. to 41..

LONG MALE STUD COUPLING WITH O-RING AND WASHER
Thread Metric Parallel

Type: 4013..

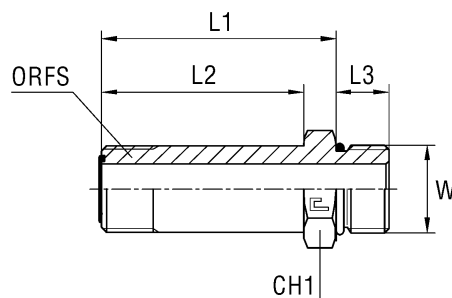


Serie	Bar	Ordering Body	Ø Tube M	Ø Tube W	M	L1	L2	L3	CH1	ORFS
UNIVERSAL	400	401301	6	1/4	12x1,5	42,9	33,5	9,6	17	9/16-18
		401302	8-10	5/16-3/8	14x1,5	47,4	37	9,6	19	11/16-16
		401303	12	1/2	18x1,5	55,4	44,5	12,6	24	13/16-16
	315	401304	14-15-16	5/8	22x1,5	65,4	52,5	13,6	27	1-14
		401305	18-20	3/4	27x2	79	64	16,5	32	13/16-12
	280	401306	22-25	7/8-1	33x2	89,5	73	16,5	41	17/16-12
		401307	28-30-32	1 1/4	42x2	104,5	86,5	17	50	111/16-12
	250	401308	35-38	1 1/2	48x2	117	97	19,5	55	2-12
		401309	6	1/4	10x1	42,5	33,5	8,5	17	9/16-18
	400	401310	8-10	5/16-3/8	16x1,5	47,4	37	11,1	22	11/16-16
		401311	12	1/2	16x1,5	54,9	44,5	11,1	22	13/16-16
		401312	14-15-16	5/8	18x1,5	65,4	52,5	12,6	27	1-14
	315	401313	18-20	3/4	22x1,5	78,4	64	13,6	32	13/16-12
		401314	22-25	7/8-1	27x2	89,5	73	16,5	41	17/16-12

Note: If you wish to order a fitting in stainless steel, please change the first two digit from 40.. to 41..

LONG MALE STUD COUPLING WITH O-RING
Thread UNF/UN-2A

Type: 4014..

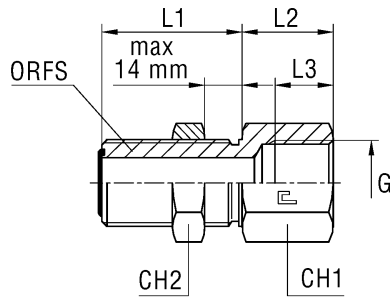


Serie	Bar	Ordering Body	Ø Tube M	Ø Tube W	W	L1	L2	L3	CH1	ORFS
UNIVERSAL	630	401401	6	1/4	7/16-20	41,5	33,5	11	17	9/16-18
		401402	8-10	5/16-3/8	9/16-18	46	37	12	19	11/16-16
		401403	12	1/2	3/4-16	54	44,5	14	22	13/16-16
	420	401404	14-15-16	5/8	7/8-14	64	52,5	16	27	1-14
		401405	18-20	3/4	1 1/16-12	77	64	18,5	32	13/16-12
		401406	22-25	7/8-1	1 5/16-12	87,5	73	18,5	41	17/16-12
	280	401407	28-30-32	1 1/4	1 5/8-12	102,5	86,5	18,5	46	111/16-12
		401408	35-38	1 1/2	1 7/8-12	115	97	18,5	55	2-12
	630	401409	8-10	5/16-3/8	7/16-20	46	37	11	19	11/16-16
		401410	8-10	5/16-3/8	3/4-16	46,5	37	14	22	11/16-16
		401411	12	1/2	7/8-14	56	44,5	16	27	13/16-16
	420	401412	14-15-16	5/8	3/4-16	64	52,5	14	27	1-14
		401413	14-15-16	5/8	1 1/16-12	65,5	52,5	18,5	32	1-14
		401414	18-20	3/4	7/8-14	77	64	16	32	13/16-12
		401415	18-20	3/4	1 5/16-12	78,5	64	18,5	41	13/16-12

Note: If you wish to order a fitting in stainless steel, please change the first two digit from 40.. to 41..

FEMALE BULKHEAD CONNECTION
Thread BSP Parallel

Type: 4015..

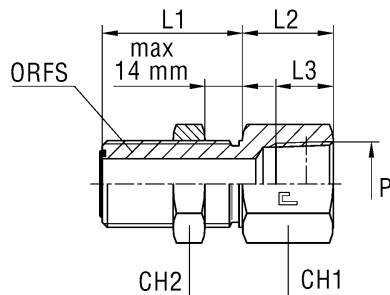


Serie	Bar	Ordering Body	Ø Tube M	Ø Tube W	G	L1	L2	L3	CH1	CH2	ORFS
UNIVERSAL	630	401501	6	1/4	1/4	31,5	21	14	22	22	9/16-18
		401502	8-10	5/16-3/8	1/4	34	21	14	27	27	11/16-16
		401503	12	1/2	3/8	36,5	22	14	30	30	13/16-16
	420	401504	14-15-16	5/8	1/2	40,5	26	17	36	36	1-14
		401505	18-20	3/4	3/4	41,5	29	19	41	41	13/16-12
		401506	22-25	7/8-1	1	42	31	21,5	46	46	17/16-12
	280	401507	28-30-32	1 1/4	1 1/4	42	36	23,5	50	50	1 11/16-12
		401508	35-38	1 1/2	1 1/2	42	38	25,5	60	60	2-12

Note: If you wish to order a fitting in stainless steel, please change the first two digit from 40.. to 41..

FEMALE BULKHEAD CONNECTION
Thread NPTF

Type: 4016..

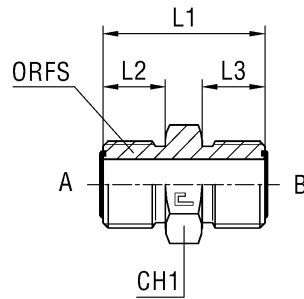


Serie	Bar	Ordering Body	Ø Tube M	Ø Tube W	P	L1	L2	L3	CH1	CH2	ORFS
UNIVERSAL	630	401601	6	1/4	1/4	31,5	21,5	14	22	22	9/16-18
		401602	8-10	5/16-3/8	1/4	34	21,5	14	27	27	11/16-16
		401603	12	1/2	3/8	36,5	22,5	14,5	30	30	13/16-16
	420	401604	14-15-16	5/8	1/2	40,5	28,5	19	36	36	1-14
		401605	18-20	3/4	3/4	41,5	30	19,5	41	41	13/16-12
		401606	22-25	7/8-1	1	42	36,5	2,5	46	46	17/16-12
	280	401607	28-30-32	1 1/4	1 1/4	42	39	24	50	50	1 11/16-12
		401608	35-38	1 1/2	1 1/2	42	39	24	60	60	2-12

Note: If you wish to order a fitting in stainless steel, please change the first two digit from 40.. to 41..

STRAIGHT COUPLING

Type: 4017..

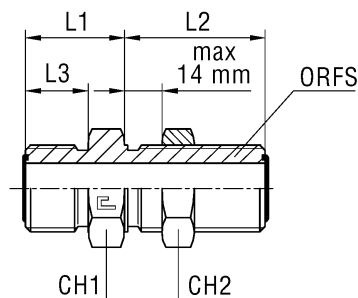


Serie	Bar	Ordering Body	Ø Tube A ^m	Ø Tube B ^m	Ø Tube A ^w	Ø Tube B ^w	L1	L2	L3	CH1	ORFS A	ORFS B
UNIVERSAL	630	401701	6	6	1/4	1/4	27,5	10	10	17	9/16-18	9/16-18
		401702	8-10	8-10	5/16-3/8	5/16-3/8	31	11	11	19	11/16-16	11/16-16
		401703	12	12	1/2	1/2	35,5	13	13	22	13/16-16	13/16-16
	420	401704	14-15-16	14-15-16	5/8	5/8	42,5	15,5	15,5	27	1-14	1-14
		401705	18-20	18-20	3/4	3/4	47	17	17	32	13/16-12	13/16-12
		401706	22-25	22-25	7/8-1	7/8-1	49,5	17,5	17,5	41	17/16-12	17/16-12
	280	401707	28-30-32	28-30-32	1 1/4	1 1/4	51,5	17,5	17,5	46	1 11/16-12	1 11/16-12
		401708	35-38	35-38	1 1/2	1 1/2	53	17,5	17,5	55	2-12	2-12
	630	401709	8-10	6	5/16-3/8	1/4	30	11	10	19	11/16-16	9/16-18
		401710	12	8-10	1/2	5/16-3/8	33,5	13	11	22	13/16-16	11/16-16
	420	401711	14-15-16	12	5/8	1/2	40	15,5	13	27	1-14	13/16-16
		401712	18-20	8-10	3/4	5/16-3/8	41	17	11	32	13/16-12	11/16-16
		401713	18-20	12	3/4	1/2	43	17	13	32	13/16-12	13/16-16
		401714	18-20	14-15-16	3/4	5/8	45,5	17	15,5	32	13/16-12	1-14
		401715	22-25	18-20	7/8-1	3/4	49	17,5	17	41	17/16-12	13/16-12
	280	401716	28-30-32	22-25	1 1/4	7/8-1	51,5	17,5	17,5	46	1 11/16-12	17/16-12

Note: If you wish to order a fitting in stainless steel, please change the first two digit from 40.. to 41..

BULKHEAD STRAIGHT CONNECTION

Type: 4018..

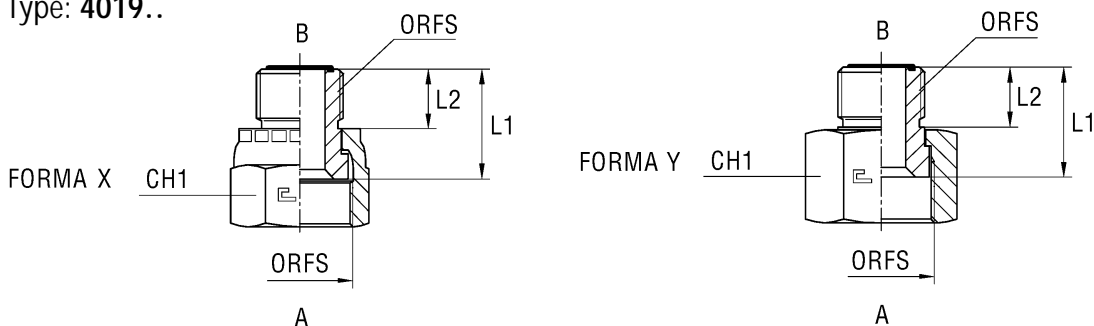


Serie	Bar	Ordering Body	Ø Tube M	Ø Tube W	L1	L2	L3	CH1	CH2	ORFS
UNIVERSAL	630	401801	6	1/4	16,5	31,5	10	22	22	9/16-18
		401802	8-10	5/16-3/8	19	34	11	27	27	11/16-16
		401803	12	1/2	22	36,5	13	30	30	13/16-16
	420	401804	14-15-16	5/8	26	40,5	15,5	36	36	1-14
		401805	18-20	3/4	27,5	41,5	17	41	41	13/16-12
	280	401806	22-25	7/8-1	28	42	17,5	46	46	17/16-12
		401807	28-30-32	1 1/4	28	42	17,5	50	50	1 11/16-12
		401808	35-38	1 1/2	28	42	17,5	60	60	2-12

Note: If you wish to order a fitting in stainless steel, please change the first two digit from 40.. to 41..

STRAIGHT INTERMEDIATE REDUCTION

Type: 4019..

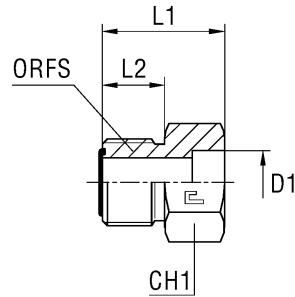


Serie	Bar	Ordering Body	Ø Tube A ^m	Ø Tube B ^m	Ø Tube A ^v	Ø Tube B ^v	FORM	L1	L2	CH1	ORFS A	ORFS B
UNIVERSAL	630	401901	8-10	6	5/16-3/8	1/4	X	20	10	22	11/16-16	9/16-18
		401902	12	6	1/2	1/4	Y	22	10	24	13/16-16	9/16-18
	420	401903	14-15-16	6	5/8	1/4	Y	23	10	30	1-14	9/16-18
		401904	18-20	6	3/4	1/4	Y	25	10	36	13/16-12	9/16-18
		401905	22-25	6	7/8-1	1/4	Y	26	10	41	17/16-12	9/16-18
	280	401906	28-30-32	6	1 1/4	1/4	Y	26,5	10	50	1 11/16-12	9/16-18
		401907	35-38	6	1 1/2	1/4	Y	26,5	10	60	2-12	9/16-18
	630	401908	12	8-10	1/2	5/16-3/8	X	23	11	24	13/16-16	11/16-16
	420	401909	14-15-16	8-10	5/8	5/16-3/8	Y	24	11	30	1-14	11/16-16
		401910	18-20	8-10	3/4	5/16-3/8	Y	26	11	36	13/16-12	11/16-16
		401911	22-25	8-10	7/8-1	5/16-3/8	Y	27	11	41	17/16-12	11/16-16
	280	401912	28-30-32	8-10	1 1/4	5/16-3/8	Y	27,5	11	50	1 11/16-12	11/16-16
		401913	35-38	8-10	1 1/2	5/16-3/8	Y	27,5	11	60	2-12	11/16-16
	420	401914	14-15-16	12	5/8	1/2	Y	25,5	13	30	1-14	13/16-16
		401915	18-20	12	3/4	1/2	Y	27,5	13	36	13/16-12	13/16-16
		401916	22-25	12	7/8-1	1/2	Y	29	13	41	17/16-12	13/16-16
	280	401917	28-30-32	12	1 1/4	1/2	Y	29,5	13	50	1 11/16-12	13/16-16
		401918	35-38	12	1 1/2	1/2	Y	29,5	13	60	2-12	13/16-16
	420	401919	18-20	14-15-16	3/4	5/8	X	29,5	15,5	36	13/16-12	1-14
		401920	22-25	14-15-16	7/8-1	5/8	Y	32	15,5	41	17/16-12	1-14
	280	401921	28-30-32	14-15-16	1 1/4	5/8	Y	32	15,5	50	1 11/16-12	1-14
		401922	35-38	14-15-16	1 1/2	5/8	Y	32	15,5	60	2-12	1-14
	420	401923	22-25	18-20	7/8-1	3/4	X	33	17	41	17/16-12	13/16-12
	280	401924	28-30-32	18-20	1 1/4	3/4	Y	33,5	17	50	1 11/16-12	13/16-12
		401925	35-38	18-20	1 1/2	3/4	Y	33,5	17	60	2-12	13/16-12
		401926	28-30-32	22-25	1 1/4	7/8-1	X	34	17,5	50	1 11/16-12	17/16-12
		401927	35-38	22-25	1 1/2	7/8-1	Y	34	17,5	60	2-12	17/16-12
		401928	35-38	28-30-32	1 1/2	1 1/4	Y	34	17,5	60	2-12	1 11/16-12

Note: If you wish to order a fitting in stainless steel, please change the first two digit from 40.. to 41..

WELDABLE STRAIGHT FEMALE

Type: 4020..

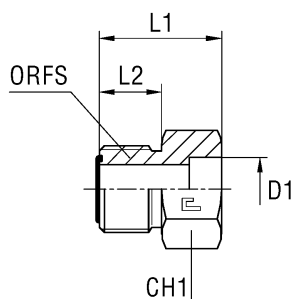


Serie	Bar	Ordering metric tube	Ordering Inch tube	Ø Tube M	Ø Tube W	D1 ^M	D1 ^W	L1	L2	CH1	ORFS
UNIVERSAL	630	402001	402001.W	6	1/4	6	1/4	22	10	17	9/16-18
		402002	402002.W	8-10	5/16-3/8	10	3/8	23	11	19	11/16-16
		402003	402003.W	12	1/2	12	1/2	24,5	13	22	13/16-16
	420	402004	402004.W	14-15-16	5/8	16	5/8	28	15,5	27	1-14
		402005	402005.W	18-20	3/4	20	3/4	33,5	17	32	13/16-12
		402006	402006.W	22-25	7/8-1	25	1	38,5	17,5	41	17/16-12
	280	402007	402007.W	28-30-32	1 1/4	30	1 1/4	38,5	17,5	46	1 11/16-12
		402008	402008.W	35-38	1 1/2	38	1 1/2	38,5	17,5	55	2-12
	630	402009	402009.W	6	1/4	8	5/16	22	10	17	9/16-18
		402010	402010.W	6	1/4	10	3/8	22	10	17	9/16-18
		402011	402011.W	6	1/4	12	1/2	22	10	19	9/16-18
		402012	402012.W	8-10	5/16-3/8	6	1/4	23	11	19	11/16-16
		402013	402013.W	8-10	5/16-3/8	8	5/16	23	11	19	11/16-16
		402014	402014.W	8-10	5/16-3/8	12	1/2	23	11	19	11/16-16
	420	402015	-	8-10	5/16-3/8	14	-	23,5	11	22	11/16-16
		402016	-	8-10	5/16-3/8	15	-	23,5	11	22	11/16-16
		402017	402017.W	8-10	5/16-3/8	16	5/8	23,5	11	22	11/16-16
	630	402018	402018.W	12	1/2	6	1/4	24,5	13	22	13/16-16
		402019	402019.W	12	1/2	8	5/16	24,5	13	22	13/16-16
		402020	402020.W	12	1/2	10	3/8	24,5	13	22	13/16-16
	420	402021	-	12	1/2	14	-	25	13	22	13/16-16
		402022	-	12	1/2	15	-	25	13	22	13/16-16
		402023	402023.W	12	1/2	16	5/8	25	13	22	13/16-16
		402024	-	12	1/2	18	-	28,5	13	27	13/16-16
		402025	402025.W	12	1/2	20	3/4	28,5	13	27	13/16-16
		402026	402026.W	12	1/2	22	7/8	28,5	13	32	13/16-16
		402027	402027.W	12	1/2	25	1	30	13	32	13/16-16
		402028	402028.W	14-15-16	5/8	10	3/8	27,5	15,5	27	1-14
		402029	402029.W	14-15-16	5/8	12	1/2	27,5	15,5	27	1-14
		402030	-	14-15-16	5/8	14	-	28	15,5	27	1-14
		402031	-	14-15-16	5/8	15	-	28	15,5	27	1-14
		402032	-	14-15-16	5/8	18	-	31,5	15,5	27	1-14
		402033	402033.W	14-15-16	5/8	20	3/4	31,5	15,5	27	1-14
		402034	402034.W	18-20	3/4	12	1/2	29,5	17	32	13/16-12
		402035	-	18-20	3/4	14	-	30	17	32	13/16-12
		402036	-	18-20	3/4	15	-	30	17	32	13/16-12
		402037	402037.W	18-20	3/4	16	5/8	30	17	32	13/16-12
		402038	-	18-20	3/4	18	-	33,5	17	32	13/16-12
		402039	402039.W	18-20	3/4	22	7/8	33,5	17	32	13/16-12
		402040	402040.W	18-20	3/4	25	1	35	17	32	13/16-12
		402041	402041.W	22-25	7/8-1	12	1/2	33	17,5	41	17/16-12
		402042	-	22-25	7/8-1	14	-	33,5	17,5	41	17/16-12
		402043	-	22-25	7/8-1	15	-	33,5	17,5	41	17/16-12
		402044	402044.W	22-25	7/8-1	16	5/8	33,5	17,5	41	17/16-12
		402045	-	22-25	7/8-1	18	-	37	17,5	41	17/16-12
		402046	402046.W	22-25	7/8-1	20	3/4	37	17,5	41	17/16-12
		402047	402047.W	22-25	7/8-1	22	7/8	37	17,5	41	17/16-12
	280	402048	-	22-25	7/8-1	28	-	38,5	17,5	41	17/16-12
		402049	402049.W	22-25	7/8-1	30	1 1/4	38,5	17,5	41	17/16-12
		402050	-	22-25	7/8-1	32	-	38,5	17,5	41	17/16-12

Note: If you wish to order a fitting in stainless steel, please change the first two digit from 40.. to 41..

WELDABLE STRAIGHT FEMALE

Type: 4020..

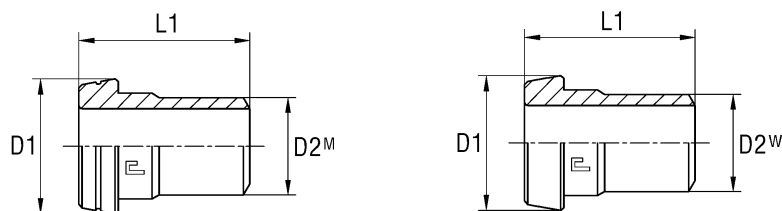


Serie	Bar	Ordering metric tube	Ordering Inch tube	Ø Tube M	Ø Tube W	D1 ^M	D1 ^W	L1	L2	CH1	ORFS
UNIVERSAL	280	402051	-	28-30-32	1 1/4	18	-	37	17,5	46	111/16-12
		402052	402052.W	28-30-32	1 1/4	20	3/4	37	17,5	46	111/16-12
		402053	402053.W	28-30-32	1 1/4	22	7/8	37	17,5	46	111/16-12
		402054	402054.W	28-30-32	1 1/4	25	1	38,5	17,5	46	111/16-12
		402055	-	28-30-32	1 1/4	28	-	38,5	17,5	46	111/16-12
		402056	-	28-30-32	1 1/4	32	-	38,5	17,5	46	111/16-12
		402057	-	28-30-32	1 1/4	35	-	38,5	17,5	50	111/16-12
		402058	402058.W	28-30-32	1 1/4	38	1 1/2	38,5	17,5	50	111/16-12
		402059	402059.W	35-38	1 1/2	25	1	38,5	17,5	55	2-12
		402060	-	35-38	1 1/2	28	-	38,5	17,5	55	2-12
		402061	402061.W	35-38	1 1/2	30	1 1/4	38,5	17,5	55	2-12
		402062	-	35-38	1 1/2	32	-	38,5	17,5	55	2-12
402063	-	35-38	1 1/2	35	-	38,5	17,5	55	2-12		

Note: If you wish to order a fitting in stainless steel, please change the first two digit from 40.. to 41..

WELDING NIPPLE

Type: 4021..

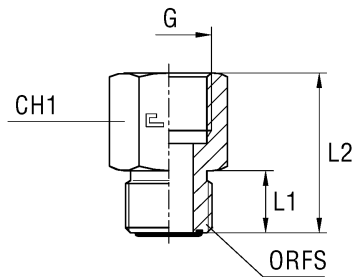


Serie	Bar	Ordering metric tube	Ordering Inch tube	Ø Tube M	Ø Tube W	D1	D2 ^M	D2 ^W	L1
UNIVERSAL	630	402101	402101.W	6	1/4	12,75	6	1/4	25
		402102	402102.W	8-10	5/16-3/8	15,75	10	3/8	26
		402103	402103.W	12	1/2	18,9	12	1/2	26
	420	402104	402104.W	14-15-16	5/8	23,45	16	5/8	32
		402105	402105.W	18-20	3/4	17,85	20	3/4	37
		402106	402106.W	22-25	7/8-1	34,2	25	1	42
	280	402107	402107.W	28-30-32	1 1/4	40,55	30	1 1/4	44
		402108	402108.W	35-38	1 1/2	48,5	38	1 1/2	49
	630	402109	402109.W	8-10	5/16-3/8	15,75	8	5/16	25
	420	402110	-	14-15-16	5/8	23,45	14	-	32
		402111	-	14-15-16	5/8	23,45	15	-	32
		402112	-	18-20	3/4	17,85	18	-	37
		402113	402113.W	22-25	7/8-1	34,2	22	7/8	37
	280	402114	-	28-30-32	1 1/4	40,55	28	-	44
		402115	-	28-30-32	1 1/4	40,55	32	-	44
		402116	-	35-38	1 1/2	48,5	35	-	44

Note: If you wish to order a fitting in stainless steel, please change the first two digit from 40.. to 41..

FEMALE GAUGE COUPLING Thread BSP Parallel

Type: 4022..

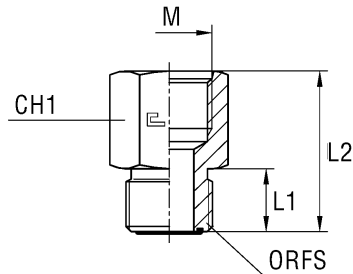


Serie	Bar	Ordering Body	Ø Tube M	Ø Tube W	G	L1	L2	CH1	ORFS
UNIVERSAL	630	402201	6	1/4	1/4	10	27	19	9/16-18
		402202	8-10	5/16-3/8	1/4	11	28	19	11/16-16
		402203	12	1/2	1/4	13	30	22	13/16-16
		402204	6	1/4	1/2	10	37	30	9/16-18
		402205	8-10	5/16-3/8	1/2	11	38	30	11/16-16
		402206	12	1/2	1/2	13	40	30	13/16-16

Note: If you wish to order a fitting in stainless steel, please change the first two digit from 40.. to 41..

FEMALE GAUGE COUPLING Thread Metric Parallel

Type: 4023..

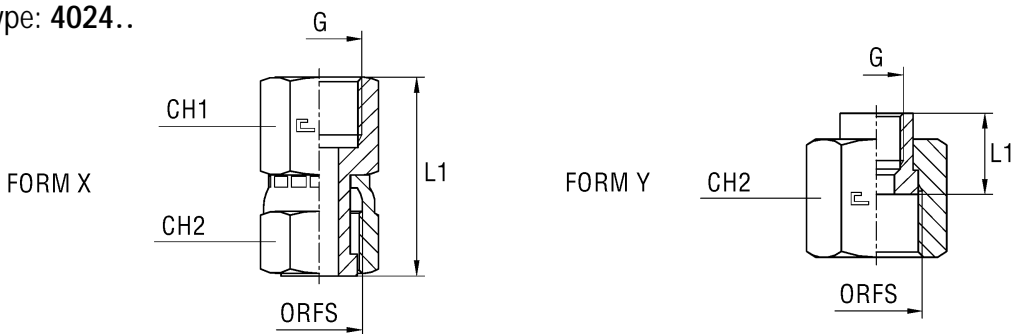


Serie	Bar	Ordering Body	Ø Tube M	Ø Tube W	M	L1	L2	CH1	ORFS
UNIVERSAL	630	402301	6	1/4	14x1,5	10	29	19	9/16-18
		402302	8-10	5/16-3/8	14x1,5	11	30	19	11/16-18
		402303	12	1/2	14x1,5	13	32	22	13/16-16
	420	402304	14-15-16	5/8	14x1,5	15,5	34,5	27	1-14
		402305	18-20	3/4	14x1,5	17	36	32	13/16-12

Note: If you wish to order a fitting in stainless steel, please change the first two digit from 40.. to 41..

ADJUSTABLE FEMALE GAUGE COUPLING Thread BSP Parallel

Type: 4024..

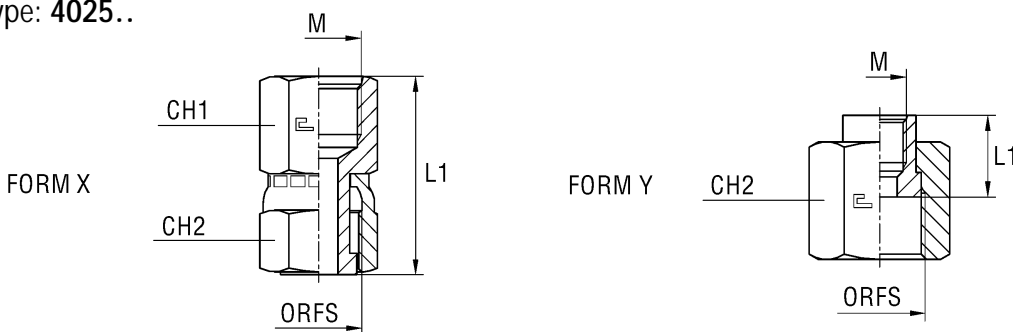


Serie	Bar	Ordering Body	Ø Tube M	Ø Tube W	FORM	G	L1	CH1	CH2	ORFS
UNIVERSAL	630	402401	6	1/4	X	1/4	39	19	17	9/16-18
		402402	8-10	5/16-3/8	X	1/4	41	19	22	11/16-16
		402403	12	1/2	X	1/4	43	19	24	13/16-16
	420	402404	14-15-16	5/8	Y	1/4	15,5	-	30	1-14
		402405	18-20	3/4	Y	1/4	15,5	-	36	13/16-12
		402406	22-25	7/8-1	Y	1/4	15,5	-	41	17/16-12
	280	402407	28-30-32	1 1/4	Y	1/4	15,5	-	50	111/16-12
		402408	35-38	1 1/2	Y	1/4	15,5	-	60	2-12

Note: If you wish to order a fitting in stainless steel, please change the first two digit from 40.. to 41..

ADJUSTABLE FEMALE GAUGE COUPLING Thread Metric Parallel

Type: 4025..

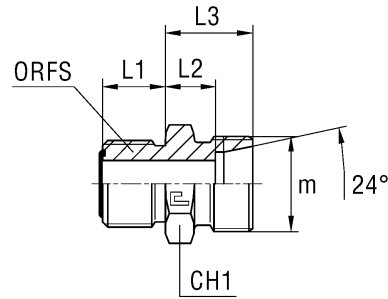


Serie	Bar	Ordering Body	Ø Tube M	Ø Tube W	FORM	M	L1	CH1	CH2	ORFS
	630	402501	6	1/4	X	10x1	39	19	17	9/16-18
		402502	8-10	5/16-3/8	X	10x1	41	19	22	11/16-16
		402503	12	1/2	X	10x1	43	19	24	13/16-16
	420	402504	14-15-16	5/8	Y	10x1	15,5	-	30	1-14
		402505	18-20	3/4	Y	10x1	15,5	-	36	13/16-12
		402506	22-25	7/8-1	Y	10x1	15,5	-	41	17/16-12
	280	402507	28-30-32	1 1/4	Y	10x1	15,5	-	50	111/16-12
		402508	35-38	1 1/2	Y	10x1	15,5	-	60	2-12

Note: If you wish to order a fitting in stainless steel, please change the first two digit from 40.. to 41..

ADAPTER SAE J1453 / DIN 2353

Type: 4026..

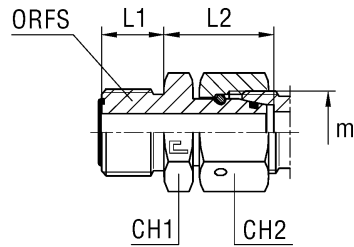


Serie	Bar	Ordering Body	Ø Tube M	Ø Tube W	Ø Tube 24°	m	L1	L2	L3	CH1	ORFS
UNIVERSAL	315	402601	6	1/4	6L	12x1,5	10	10,5	17,5	17	9/16-18
		402602	6	1/4	8L	14x1,5	10	10,5	17,5	17	9/16-18
		402603	8-10	5/16-3/8	10L	16x1,5	11	13	20	19	11/16-16
		402604	12	1/2	12L	18x1,5	13	13,5	20,5	22	13/16-16
		402605	14-15-16	5/8	15L	22x1,5	15,5	16,5	23,5	27	1-14
		402606	18-20	3/4	18L	26x1,5	17	17,5	25	32	13/16-12
	160	402607	22-25	7/8-1	22L	30x2	17,5	21	28,5	41	17/16-12
		402608	28-30-32	1 1/4	28L	36x2	17,5	23	30,5	46	1 11/16-12
		402609	35-38	1 1/2	35L	45x2	17,5	23,5	34	55	2-12
		402610	35-38	1 1/2	42L	52x2	17,5	23	34	55	2-12
	630	402611	6	1/4	6S	14x1,5	10	12,5	19,5	17	9/16-18
		402612	6	1/4	8S	16x1,5	10	12,5	19,5	17	9/16-18
		402613	8-10	5/16-3/8	10S	18x1,5	11	13,5	21	19	11/16-16
		402614	12	1/2	12S	20x1,5	13	14	21,5	22	13/16-16
	420	402615	14-15-16	5/8	14S	22x1,5	15,5	19,5	28,5	27	1-14
	400	402616	14-15-16	5/8	16S	24x1,5	15,5	20	28,5	27	1-14
		402617	18-20	3/4	20S	30x2	17	18,5	29	32	13/16-12
		402618	22-25	7/8-1	25S	36x2	17,5	20,5	31,5	41	17/16-12
	280	402619	28-30-32	1 1/4	30S	42x2	17,5	23	36,5	46	1 11/16-12
		402620	35-38	1 1/2	38S	52x2	17,5	24	40	55	2-12

Note: If you wish to order a fitting in stainless steel, please change the first two digit from 40.. to 41..

ADAPTER SAE J1453 / DIN 2353 WITH SWIVEL NUT

Type: 4027..



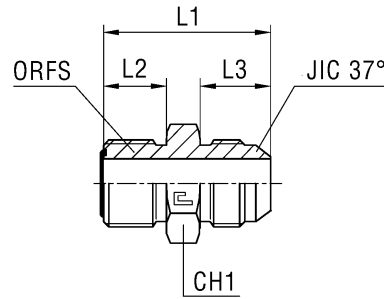
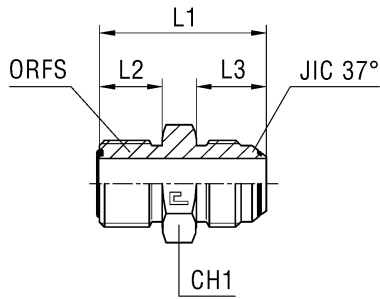
Serie	Bar	Ordering Body	Ø Tube M	Ø Tube W	Ø Tube 24°	m	L1	L2	CH1	CH2	ORFS
UNIVERSAL	315	402701	6	1/4	6L	12x1,5	10	24,5	17	14	9/16-18
		402702	6	1/4	8L	14x1,5	10	24,5	17	17	9/16-18
		402703	8-10	5/16-3/8	10L	16x1,5	11	26,5	19	19	11/16-16
		402704	12	1/2	12L	18x1,5	13	27	22	22	13/16-16
		402705	14-15-16	5/8	15L	22x1,5	15,5	31	27	27	1-14
	402706	18-20	3/4	18L	26x1,5	17	33,5	32	32	13/16-12	
	160	402707	22-25	7/8-1	22L	30x2	17,5	36	41	36	17/16-12
		402708	28-30-32	1 1/4	28L	36x2	17,5	39	46	41	1 11/16-12
		402709	35-38	1 1/2	35L	45x2	17,5	45	55	50	2-12
		402710	35-38	1 1/2	42L	52x2	17,5	45	55	60	2-12
	630	402711	6	1/4	6S	14x1,5	10	24,5	17	17	9/16-18
		402712	6	1/4	8S	16x1,5	10	25	17	19	9/16-18
		402713	8-10	5/16-3/8	10S	18x1,5	11	27	19	22	11/16-16
		402714	12	1/2	12S	20x1,5	13	27,5	22	24	13/16-16
	420	402715	14-15-16	5/8	14S	22x1,5	15,5	32,5	27	27	1-14
	400	402716	14-15-16	5/8	16S	24x1,5	15,5	35	27	30	1-14
		402717	18-20	3/4	20S	30x2	17	39	32	36	13/16-12
		402718	22-25	7/8-1	25S	36x2	17,5	43	41	46	17/16-12
	280	402719	28-30-32	1 1/4	30S	42x2	17,5	47,5	46	50	1 11/16-12
		402720	35-38	1 1/2	38S	52x2	17,5	51	55	60	2-12

Note: If you wish to order a fitting in stainless steel, please change the first two digit from 40.. to 41..

ADAPTER SAE J1453 / SAE J514

Type: 4028.. With O-ring

Type: 4028..3 Standard

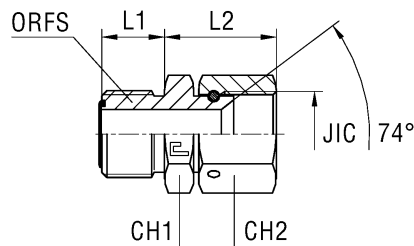


Serie	Bar	Ordering Body o-ring	Ø Tube M	Ø Tube W	L1	L2	L3	CH1	ORFS	JIC 37°	Ordering Standard Body
UNIVERSAL	450	402801	6	1/4	31,5	10	14	17	9/16-18	7/16-20	402801.3
	350	402802	8-10	5/16-3/8	34	11	14,1	19	11/16-16	9/16-18	402802.3
		402803	12	1/2	39	13	16,7	22	13/16-16	3/4-16	402803.3
		402804	14-15-16	5/8	46,5	15,5	19,3	27	1-14	7/8-14	402804.3
		402805	18-20	3/4	52	17	21,9	32	13/16-12	11/16-12	402805.3
	290	402806	22-25	7/8-1	55	17,5	23,1	41	17/16-12	15/16-12	402806.3
	240	402807	28-30-32	1 1/4	58,5	17,5	24,3	46	111/16-12	15/8-12	402807.3
		402808	35-38	1 1/2	63	17,5	27,5	55	2-12	17/8-12	402808.3
	450	402809	8-10	5/16-3/8	34	11	14	19	11/16-16	1/2-20	402809.3

Note: If you wish to order a fitting in stainless steel, please change the first two digit from 40.. to 41..

ADAPTER SAE J1453 / SAE J514 WITH SWIVEL NUT

Type: 4029..



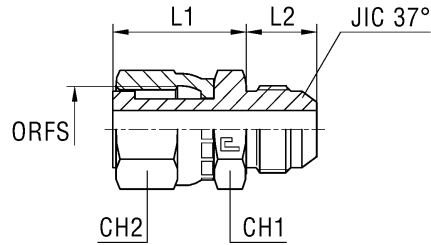
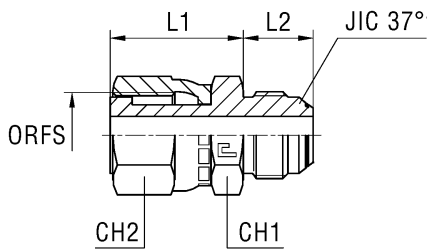
Serie	Bar	Ordering Body	Ø Tube M	Ø Tube W	L1	L2	CH1	CH2	ORFS	JIC 37°
UNIVERSAL	450	402901	6	1/4	10	25	17	14	9/16-18	7/16-20
	350	402902	8-10	5/16-3/8	11	29	19	19	11/16-16	9/16-18
		402903	12	1/2	13	31,5	22	22	13/16-16	3/4-16
		402904	14-15-16	5/8	15,5	37,5	27	27	1-14	7/8-14
		402905	18-20	3/4	17	39	32	32	13/16-12	11/16-12
	290	402906	22-25	7/8-1	17,5	44,5	41	41	17/16-12	15/16-12
	240	402907	28-30-32	1 1/4	17,5	45,5	46	50	111/16-12	15/8-12
		402908	35-38	1 1/2	17,5	55,5	55	60	2-12	17/8-12
	450	402909	8-10	5/16-3/8	11	28	19	17	11/16-16	1/2-20

Note: If you wish to order a fitting in stainless steel, please change the first two digit from 40.. to 41..

ADAPTER SAE J1453 WITH SWIVEL NUT / SAE J514

Type: 4030.. With o-ring

Type: 4030..3 Standard

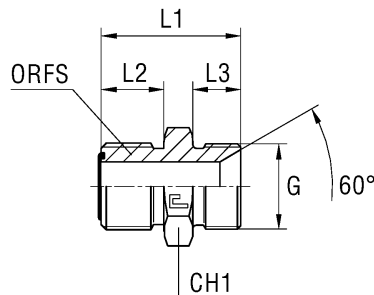


Serie	Bar	Ordering Body o-ring	Ø Tube M	Ø Tube W	L1	L2	CH1	CH2	ORFS	JIC 37°	Ordering Body Standard
UNIVERSAL	450	403001	6	1/4	23,5	14	17	17	9/16-18	7/16-20	403001.3
	350	403002	8-10	5/16-3/8	26,9	14,1	22	22	11/16-16	9/16-18	403002.3
		403003	12	1/2	30,3	16,7	24	24	13/16-16	3/4-16	403003.3
		403004	14-15-16	5/8	36,7	19,3	30	30	1-14	7/8-14	403004.3
		403005	18-20	3/4	40,6	21,9	36	36	13/16-12	11/16-12	403005.3
	290	403006	22-25	7/8-1	42,9	23,1	41	41	17/16-12	15/16-12	403006.3
	240	403007	28-30-32	1 1/4	44,7	24,3	50	50	111/16-12	15/8-12	403007.3
		403008	35-38	1 1/2	46,5	27,5	60	60	2-12	17/8-12	403008.3
	450	403009	8-10	5/16-3/8	27	14	22	22	11/16-16	1/2-20	403009.3

Note: If you wish to order a fitting in stainless steel, please change the first two digit from 40.. to 41..

ADAPTER SAE J1453 / BSI 5200

Type: 4031..

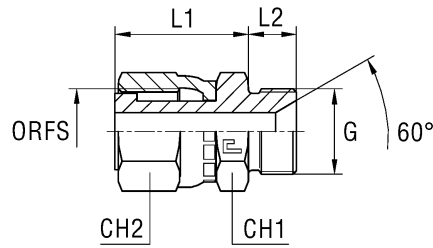


Serie	Bar	Ordering Body	Ø Tube M	Ø Tube W	G	L1	L2	L3	CH1	ORFS	
UNIVERSAL	400	403101	6	1/4	1/8	25,5	10	8	17	9/16-18	
		403102	8-10	5/16-3/8	1/4	31	11	11	19	11/16-16	
		403103	12	1/2	3/8	34,5	13	12	22	13/16-16	
	350	403104	14-15-16	5/8	1/2	41	15,5	14	27	1-14	
	315	403105	18-20	3/4	3/4	46	17	16	32	13/16-12	
	250	403106	22-25	7/8-1	1	51	17,5	19	41	17/16-12	
	200	403107	28-30-32	1 1/4	1 1/4	54	17,5	20	46	111/16-12	
	160	403108	35-38	1 1/2	1 1/2	58,5	17,5	23	55	2-12	
	400	403109	6	1/4	1/4	28,5	10	11	17	17	9/16-18
		403110	6	1/4	3/8	29,5	10	12	17	17	9/16-18
		403111	8-10	5/16-3/8	3/8	32	11	12	19	11/16-16	
		350	403112	8-10	5/16-3/8	1/2	34,5	11	14	22	11/16-16
		400	403113	12	1/2	1/4	33,5	13	11	22	13/16-16
		350	403114	12	1/2	1/2	36,5	13	14	22	13/16-16
		315	403115	12	1/2	3/4	40,5	13	16	27	13/16-16
		400	403116	14-15-16	5/8	3/8	39	15,5	12	27	1-14
		350	403117	14-15-16	5/8	5/8	43	15,5	16	27	1-14
		315	403118	14-15-16	5/8	3/4	43	15,5	16	27	1-14
		350	403119	18-20	3/4	1/2	44	17	14	32	13/16-12
		250	403120	18-20	3/4	1	49	17	19	36	13/16-12
	315	403121	22-25	7/8-1	3/4	48	17,5	16	41	17/16-12	
	200	403122	22-25	7/8-1	1 1/4	54	17,5	20	46	17/16-12	

Note: If you wish to order a fitting in stainless steel, please change the first two digit from 40.. to 41..

ADAPTER SAE J1453 WITH SWIVEL NUT / BSI 5200

Type: 4032..

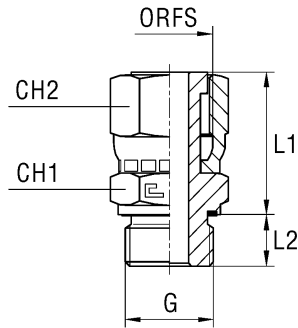


Serie	Bar	Ordering Body	Ø Tube M	Ø Tube W	G	L1	L2	CH1	CH2	ORFS
UNIVERSAL	400	403201	6	1/4	1/8	23,5	8	14	17	9/16-18
		403202	8-10	5/16-3/8	1/4	27	11	17	22	11/16-16
		403203	12	1/2	3/8	30,5	12	19	24	13/16-16
	350	403204	14-15-16	5/8	1/2	36,5	14	24	30	1-14
	315	403205	18-20	3/4	3/4	40,5	16	30	36	13/16-12
	250	403206	22-25	7/8-1	1	43	19	36	41	17/16-12
	200	403207	28-30-32	1 1/4	1 1/4	44,5	20	46	50	1 11/16-12
	160	403208	35-38	1 1/2	1 1/2	46,5	23	50	60	2-12
	400	403209	6	1/4	1/4	23,5	11	14	17	9/16-18
		403210	6	1/4	3/8	25	12	17	17	9/16-18
		403211	8-10	5/16-3/8	3/8	27	12	17	22	11/16-16
	350	403212	8-10	5/16-3/8	1/2	27,5	14	22	22	11/16-16
	400	403213	12	1/2	1/4	30,5	11	19	24	13/16-16
	350	403214	12	1/2	1/2	30,5	14	22	24	13/16-16
	315	403215	12	1/2	3/4	34	16	27	24	13/16-16
	400	403216	14-15-16	5/8	3/8	36,5	12	24	30	1-14
	350	403217	14-15-16	5/8	5/8	36,5	16	24	30	1-14
	315	403218	14-15-16	5/8	3/4	38	16	27	30	1-14
	350	403219	18-20	3/4	1/2	40,5	14	30	36	13/16-12
	250	403220	18-20	3/4	1	42	19	36	36	13/16-12
	315	403221	22-25	7/8-1	3/4	43	16	36	41	17/16-12
	200	403222	22-25	7/8-1	1 1/4	44,5	20	46	41	17/16-12

Note: If you wish to order a fitting in stainless steel, please change the first two digit from 40.. to 41..

**MALE STUD CRIMPED NUT COUPLING WITH CRIMPED NUT AND ELASTOMERIC SEAL
Thread BSP Parallel**

Type: 4033..

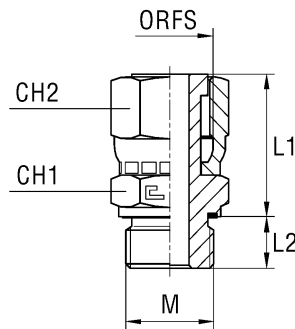


Serie	Bar	Ordering Body	Ø Tube M	Ø Tube W	G	L1	L2	CH1	CH2	ORFS
UNIVERSAL	630	403301	6	1/4	1/8	26,5	8	14	17	9/16-18
		403302	8-10	5/16-3/8	1/4	28,5	12	19	22	11/16-16
		403303	12	1/2	3/8	35,5	12	22	24	13/16-16
	420	403304	14-15-16	5/8	1/2	38	14	27	30	1-14
		403305	18-20	3/4	3/4	41,5	16	32	36	13/16-12
		403306	22-25	7/8-1	1	49	18	41	41	17/16-12
	280	403307	28-30-32	1 1/4	1 1/4	49	20	50	50	11 1/16-12
		403308	35-38	1 1/2	1 1/2	48	22	55	60	2-12
	630	403309	6	1/4	1/4	26,5	12	19	17	9/16-18
		403310	8-10	5/16-3/8	3/8	32,5	12	22	22	11/16-16
		403311	12	1/2	1/2	34	14	27	24	13/16-16
	420	403312	18-20	3/4	1 1/4	48	20	50	36	13/16-12

Note: If you wish to order a fitting in stainless steel, please change the first two digit from 40.. to 41..

**MALE NUT COUPLING WITH CRIMPED NUT AND ELASTOMERIC SEAL
Thread Metric Parallel**

Type: 4034..

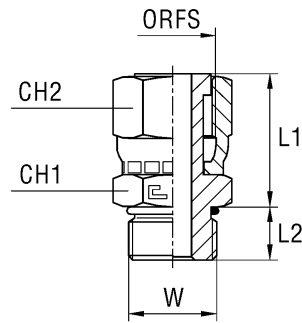


Serie	Bar	Ordering Body	Ø Tube M	Ø Tube W	M	L1	L2	CH1	CH2	ORFS
UNIVERSAL	630	403401	6	1/4	12x1,5	26,5	12	17	17	9/16-18
		403402	8-10	5/16-3/8	14x1,5	28,5	12	19	22	11/16-16
		403403	12	1/2	18x1,5	35,5	12	24	24	13/16-16
	420	403404	14-15-16	5/8	22x1,5	38	14	27	30	1-14
		403405	18-20	3/4	27x2	41,5	16	32	36	13/16-12
		403406	22-25	7/8-1	33x2	49	18	41	41	17/16-12
	280	403407	28-30-32	1 1/4	42x2	49	20	50	50	11 1/16-12
		403408	35-38	1 1/2	48x2	49	22	55	60	2-12
	350	403409	6	1/4	10x1	26,5	8	17	17	9/16-18
	630	403410	8-10	5/16-3/8	16x1,5	28,5	12	22	22	11/16-16
		403411	12	1/2	16x1,5	31,5	12	22	24	13/16-16
	420	403412	14-15-16	5/8	18x1,5	38	12	27	30	1-14
		403413	18-20	3/4	22x1,5	41,5	14	32	36	13/16-12
		403414	22-25	7/8-1	27x2	49	16	41	41	17/16-12

Note: If you wish to order a fitting in stainless steel, please change the first two digit from 40.. to 41..

MALE STUD COUPLING WITH CRIMPED NUT AND O-RING
Thread UNF/UN-2A

Type: 4035..

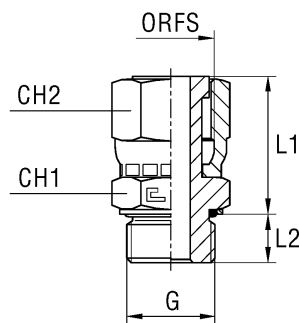


Serie	Bar	Ordering Body	Ø Tube M	Ø Tube W	W	L1	L2	CH1	CH2	ORFS
UNIVERSAL	630	403501	6	1/4	7/16-20	26,5	11	17	17	9/16-18
		403502	8-10	5/16-3/8	9/16-18	28,5	12	19	22	11/16-16
		403503	12	1/2	3/4-16	35,5	14	22	24	13/16-16
	420	403504	14-15-16	5/8	7/8-14	38	16	27	30	1-14
		403505	18-20	3/4	1 1/16-12	41,5	18,5	32	36	13/16-12
		403506	22-25	7/8-1	1 5/16-12	49	18,5	41	41	17/16-12
	280	403507	28-30-32	1 1/4	1 5/8-12	49	18,5	46	50	1 11/16-12
		403508	35-38	1 1/2	1 7/8-12	49	18,5	55	60	2-12
	630	403509	8-10	5/16-3/8	7/16-20	28,5	11	19	22	11/16-16
		403510	8-10	5/16-3/8	3/4-16	32,5	11	22	22	11/16-16
		403511	12	1/2	7/8-14	34	16	27	24	13/16-16
	420	403512	14-15-16	5/8	3/4-16	38	14	27	30	1-14
		403513	14-15-16	5/8	1 1/16-12	39	18,5	32	30	1-14
		403514	18-20	3/4	7/8-14	41,5	16	302	36	13/16-12
		403515	18-20	3/4	1 5/16-12	48	18,5	41	36	13/16-12

Note: If you wish to order a fitting in stainless steel, please change the first two digit from 40.. to 41..

MALE STUD COUPLING WITH O-RING CRIMPED NUT AND WASHER
Thread BSP Parallel

Type: 4036..

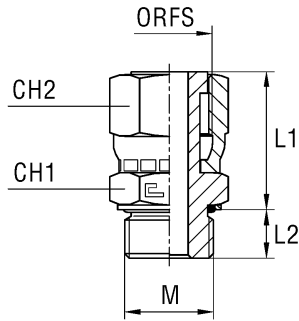


Serie	Bar	Ordering Body	Ø Tube M	Ø Tube W	G	L1	L2	CH1	CH2	ORFS	
UNIVERSAL	350	403601	6	1/4	1/8	27,8	6,7	14	17	9/16-18	
	400	403602	8-10	5/16-3/8	1/4	30,3	10,2	19	22	11/16-16	
	350	403603	12	1/2	3/8	37,3	10,2	22	24	13/16-16	
	315	403604	14-15-16	5/8	1/2	1/2	39,8	12,2	27	30	1-14
		403605	18-20	3/4	3/4	43,3	14,2	32	36	13/16-12	
	280	403606	22-25	7/8-1	1	51,6	15,4	41	41	17/16-12	
		403607	28-30-32	1 1/4	1 1/4	51,6	17,4	50	50	1 11/16-12	
	250	403608	35-38	1 1/2	1 1/2	51,6	19,4	55	60	2-12	
	400	403609	6	1/4	1/4	28,3	10,2	19	17	9/16-18	
	350	403610	8-10	5/16-3/8	3/8	34,3	10,2	22	22	11/16-16	
	315	403611	12	1/2	1/2	35,8	12,2	27	24	13/16-16	
	200	403612	18-20	3/4	1 1/4	50,6	17,4	50	36	13/16-12	

Note: If you wish to order a fitting in stainless steel, please change the first two digit from 40.. to 41..

MALE STUD COUPLING WITH CRIMPED NUT O-RING AND WASHER
Thread Metric Parallel

Type: 4037..

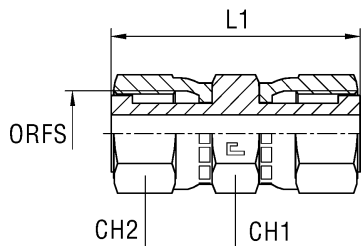


Serie	Bar	Ordering Body	Ø Tube M	Ø Tube W	M	L1	L2	CH1	CH2	ORFS
UNIVERSAL	400	403701	6	1/4	12x1,5	28,9	9,6	17	17	9/16-18
		403702	8-10	5/16-3/8	14x1,5	29,4	9,6	19	22	11/16-16
		403703	12	1/2	18x1,5	36,9	12,6	24	24	13/16-16
	315	403704	14-15-16	5/8	22x1,5	39,4	13,6	27	30	1-14
		403705	18-20	3/4	27x2	43,5	16,5	32	36	13/16-12
	280	403706	22-25	7/8-1	33x2	51	16,5	41	41	17/16-12
		403707	28-30-32	1 1/4	42x2	51	17	50	50	111/16-12
	250	403708	35-38	1 1/2	48x2	51	19,5	55	60	2-12
	400	403709	6	1/4	10x1	27,5	7,5	17	17	9/16-18
		403710	8-10	5/16-3/8	16x1,5	29,9	11,1	22	22	11/16-16
		403711	12	1/2	16x1,5	32,9	11,1	22	24	13/16-16
		403712	14-15-16	5/8	18x1,5	39,4	12,6	27	30	1-14
	315	403713	18-20	3/4	22x1,5	42,9	13,6	32	36	13/16-12
		403714	22-25	7/8-1	27x2	51	16,5	41	41	17/16-12

Note: If you wish to order a fitting in stainless steel, please change the first two digit from 40.. to 41..

STRAIGHT WITH DOUBLE CRIMPED NUT COUPLING

Type: 4038..

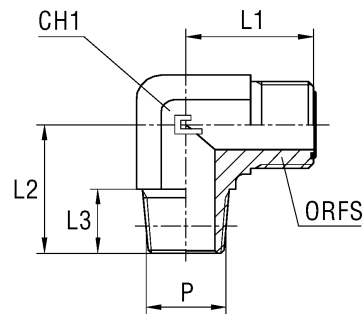


Serie	Bar	Ordering Body	Ø Tube M	Ø Tube W	L1	CH1	CH2	ORFS
UNIVERSAL	630	403801	6	1/4	39,5	17	17	9/16-18
		403802	8-10	5/16-3/8	45	19	22	11/16-16
		403803	12	1/2	51,5	22	24	13/16-16
	420	403804	14-15-16	5/8	61,5	27	30	1-14
		403805	18-20	3/4	68	32	36	13/16-12
		403806	22-25	7/8-1	71,5	41	41	17/16-12
	280	403807	28-30-32	1 1/4	73,5	46	50	111/16-12
		403808	35-38	1 1/2	75	55	60	2-12

Note: If you wish to order a fitting in stainless steel, please change the first two digit from 40.. to 41..

MALE STUD ELBOW Thread NPTF

Type: 4039..

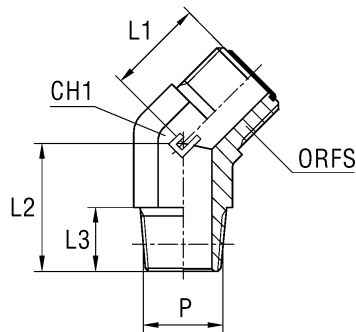


Serie	Bar	Ordering Body	Ø Tube M	Ø Tube W	P	L1	L2	L3	CH1	ORFS
UNIVERSAL	420	403901	6	1/4	1/8	21,5	20	10	14	9/16-18
	630	403902	8-10	5/16-3/8	1/4	25	31	14,5	19	11/16-16
		403903	12	1/2	3/8	28	31	14,5	19	13/16-16
	420	403904	14-15-16	5/8	1/2	33,5	37,5	19	27	1-14
		403905	18-20	3/4	3/4	37,5	40	19	30	13/16-12
		403906	22-25	7/8-1	1	41,5	50	24	36	17/16-12
	280	403907	28-30-32	1 1/4	1 1/4	44,5	60	25	41	111/16-12
		403908	35-38	1 1/2	1 1/2	49	67	26	48	2-12
	630	403909	6	1/4	1/4	21,5	28	14,5	14	9/16-18
		403910	6	1/4	3/8	23,5	31	14,5	19	9/16-18
		403911	8-10	5/16-3/8	3/8	25	31	14,5	19	11/16-16
		403912	8-10	5/16-3/8	1/2	28	37,5	19	22	11/16-16
		403913	12	1/2	1/4	28	31	14,5	19	13/16-16
		403914	12	1/2	1/2	30	37,5	19	22	13/16-16
	420	403915	12	1/2	3/4	31,5	40	19	27	13/16-16
		403916	14-15-16	5/8	3/8	33,5	33	14,5	27	1-14
		403917	14-15-16	5/8	3/4	33,5	40	19	27	1-14
		403918	18-20	3/4	1/2	37,5	40	19	30	13/16-12
		403919	18-20	3/4	1	38	50	24	33	13/16-12
		403920	22-25	7/8-1	3/4	41,5	45,5	19	36	17/16-12
	280	403921	28-30-32	1 1/4	1	44,5	51	24	41	111/16-12
		403922	35-38	1 1/2	1 1/4	49	66	25	48	2-12

Note: If you wish to order a fitting in stainless steel, please change the first two digit from 40.. to 41..

MALE STUD ELBOW 45° Thread NPTF

Type: 4040..

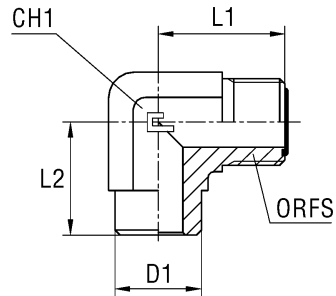


Serie	Bar	Ordering Body	Ø Tube M	Ø Tube W	P	L1	L2	L3	CH1	ORFS
UNIVERSAL	420	404001	6	1/4	1/8	16	16,5	10	14	9/16-18
	630	404002	8-10	5/16-3/8	1/4	19	24	14,5	19	11/16-16
		404003	12	1/2	3/8	20,5	24	14,5	19	13/16-16
	420	404004	14-15-16	5/8	1/2	23,5	30,5	19	27	1-14
		404005	18-20	3/4	3/4	26	30,5	19	30	13/16-12
		404006	22-25	7/8-1	1	30	38	24	36	17/16-12
	280	404007	28-30-32	1 1/4	1 1/4	32	42	25	41	111/16-12
		404008	35-38	1 1/2	1 1/2	37	45	26	48	2-12
	630	404009	6	1/4	1/4	16	22	14,5	14	9/16-18
		404010	6	1/4	3/8	17,5	24	14,5	19	9/16-18
		404011	8-10	5/16-3/8	3/8	19	24	14,5	19	11/16-16
		404012	8-10	5/16-3/8	1/2	20	29,5	19	22	11/16-16
		404013	12	1/2	1/4	20,5	24	14,5	19	13/16-16
		404014	12	1/2	1/2	21	29,5	19	22	13/16-16
	420	404015	12	1/2	3/4	21,5	30,5	19	27	13/16-16
		404016	14-15-16	5/8	3/8	23,5	27	14,5	27	1-14
		404017	14-15-16	5/8	3/4	23,5	30,5	19	27	1-14
		404018	18-20	3/4	1/2	26	30,5	19	30	13/16-12
		404019	18-20	3/4	1	29,5	38	24	33	13/16-12
		404020	22-25	7/8-1	3/4	30	33	19	36	17/16-12
	280	404021	28-30-32	1 1/4	1	32	41	24	41	111/16-12
		404022	35-38	1 1/2	1 1/4	37	44	25	48	2-12

Note: If you wish to order a fitting in stainless steel, please change the first two digit from 40.. to 41..

MALE WELDABLE ELBOW

Type: 4041..

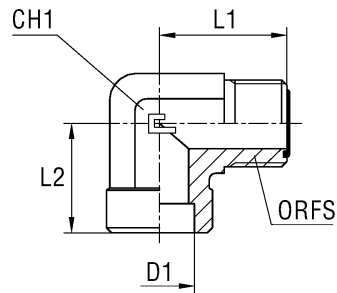


Serie	Bar	Ordering body	Ø Tube M	Ø Tube W	D1	L1	L2	CH1	ORFS
UNIVERSAL	630	404101	6	1/4	6	21,5	20	14	9/16-18
		404102	8-10	5/16-3/8	10	25	25	19	11/16-16
		404103	12	1/2	12	28	25	19	13/16-16
	420	404104	14-15-16	5/8	16	33,5	33,5	27	1-14
		404105	18-20	3/4	20	37,5	37,5	30	13/16-12
		404106	22-25	7/8-1	25	41,5	42	36	17/16-12
	280	404107	28-30-32	1 1/4	30	44,5	45	41	1 11/16-12
		404108	35-38	1 1/2	38	49	49	48	2-12
	630	404109	8-10	5/16-3/8	8	25	25	19	11/16-16
		420	404110	14-15-16	5/8	14	33,5	33,5	27
	404111		14-15-16	5/8	15	33,5	33,5	27	1-14
	404112		18-20	3/4	18	37,5	37,5	30	13/16-12
	404113		22-25	7/8-1	22	41,5	42	36	17/16-12
	280	404114	28-30-32	1 1/4	28	44,5	45	41	1 11/16-12
		404115	28-30-32	1 1/4	32	44,5	45	41	1 11/16-12
		404116	35-38	1 1/2	35	49	49	48	2-12

Note: If you wish to order a fitting in stainless steel, please change the first two digit from 40.. to 41..

FEMALE WELDABLE ELBOW

Type: 4042..

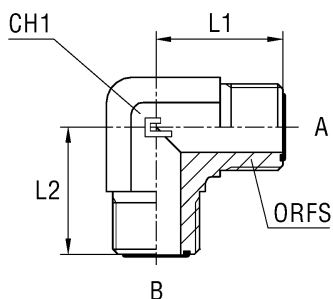


Serie	Bar	Ordering body	Ø Tube M	Ø Tube W	D1	L1	L2	CH1	ORFS
UNIVERSAL	630	404201	6	1/4	6	21,5	20	14	9/16-18
		404202	8-10	5/16-3/8	10	25	23	19	11/16-16
		404203	12	1/2	12	28	25	19	13/16-16
	420	404204	14-15-16	5/8	16	33,5	30	27	1-14
		404205	18-20	3/4	20	37,5	32	30	13/16-12
		404206	22-25	7/8-1	25	41,5	36	36	17/16-12
	280	404207	28-30-32	1 1/4	30	44,5	42	41	1 11/16-12
		404208	35-38	1 1/2	38	49	44	48	2-12
	630	404209	8-10	5/16-3/8	8	25	23	19	11/16-16
		420	404210	14-15-16	5/8	14	33,5	30	27
	404211		14-15-16	5/8	15	33,5	30	27	1-14
	404212		18-20	3/4	18	37,5	32	30	13/16-12
	404213		22-25	7/8-1	22	41,5	36	36	17/16-12
	280	404214	28-30-32	1 1/4	28	44,5	42	41	1 11/16-12
		404215	28-30-32	1 1/4	32	44,5	42	41	1 11/16-12
		404216	35-38	1 1/2	35	49	44	48	2-12

Note: If you wish to order a fitting in stainless steel, please change the first two digit from 40.. to 41..

EQUAL ELBOW

Type: 4043..

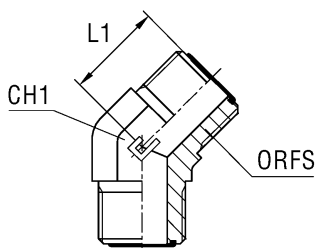


Serie	Bar	Ordering Body	Ø Tube A ^M	Ø Tube B ^M	Ø Tube A ^W	Ø Tube B ^W	L1	L2	CH1	ORFS A	ORFS B
UNIVERSAL	630	404301	6	6	1/4	1/4	21,5	21,5	14	9/16-18	9/16-18
		404302	8-10	8-10	5/16-3/8	5/16-3/8	25	25	19	11/16-16	11/16-16
		404303	12	12	1/2	1/2	28	28	19	13/16-16	13/16-16
	420	404304	14-15-16	14-15-16	5/8	5/8	33,5	33,5	27	1-14	1-14
		404305	18-20	18-20	3/4	3/4	37,5	37,5	30	13/16-12	13/16-12
		404306	22-25	22-25	7/8-1	7/8-1	41,5	41,5	36	17/16-12	17/16-12
	280	404307	28-30-32	28-30-32	1 1/4	1 1/4	44,5	44,5	41	1 11/16-12	1 11/16-12
		404308	35-38	35-38	1 1/2	1 1/2	49	49	48	2-12	2-12
	630	404309	8-10	6	5/16-3/8	1/4	25	23,5	19	11/16-16	9/16-18
		404310	12	8-10	1/2	3/8-5/16	28	25	19	13/16-16	11/16-16
	420	404311	14-15-16	12	5/8	1/2	33,5	31,5	27	1-14	13/16-16
		404312	18-20	8-10	3/4	5/16-3/8	37,5	32,5	30	13/16-12	11/16-16
		404313	18-20	12	3/4	1/2	37,5	34,5	30	13/16-12	13/16-16
		404314	18-20	14-15-16	3/4	5/8	37,5	36,5	30	13/16-12	1-14
	280	404315	22-25	18-20	7/8-1	3/4	41,5	41	36	17/16-12	13/16-12
		404316	28-30-32	22-25	1 1/4	7/8-1	44,5	44,5	41	1 11/16-12	17/16-12

Note: If you wish to order a fitting in stainless steel, please change the first two digit from 40.. to 41..

EQUAL 45° ELBOW

Type: 4044..

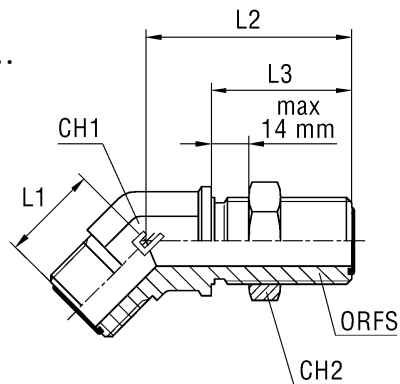


Serie	Bar	Ordering Body	Ø Tube M	Ø Tube W	L1	CH1	ORFS
UNIVERSAL	630	404401	6	1/4	16	14	9/16-18
		404402	8-10	5/16-3/8	19	19	11/16-16
		404403	12	1/2	20,5	19	13/16-16
	420	404404	14-15-16	5/8	23,5	27	1-14
		404405	18-20	3/4	26	30	13/16-12
		404406	22-25	7/8-1	30	36	17/16-12
	280	404407	28-30-32	1 1/4	32	41	1 11/16-12
		404408	35-38	1 1/2	37	48	2-12

Note: If you wish to order a fitting in stainless steel, please change the first two digit from 40.. to 41..

45° BULKHEAD ELBOW

Type: 4045..

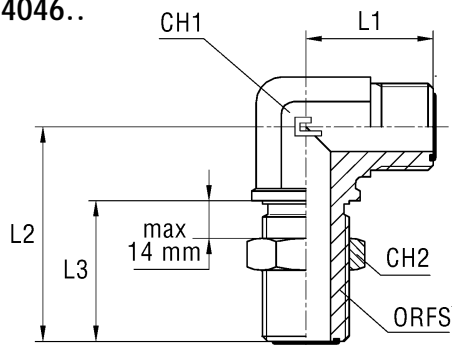


Serie	Bar	Ordering Body	Ø Tube M	Ø Tube W	L1	L2	L3	CH1	CH2	ORFS
UNIVERSAL	630	404501	6	1/4	16	44	31,5	14	22	9/16-18
		404502	8-10	5/16-3/8	19	48,5	34	19	27	11/16-16
		404503	12	1/2	20,5	51	36,5	19	30	13/16-16
	420	404504	14-15-16	5/8	23,5	56,5	40,5	27	36	1-14
		404505	18-20	3/4	26	60,5	41,5	30	41	13/16-12
		404506	22-25	7/8-1	30	65	42	36	46	17/16-12
	280	404507	28-30-32	1 1/4	32	67	42	41	50	1 11/16-12
		404508	35-38	1 1/2	37	67	42	48	60	2-12

Note: If you wish to order a fitting in stainless steel, please change the first two digit from 40.. to 41..

BULKHEAD ELBOW

Type: 4046..

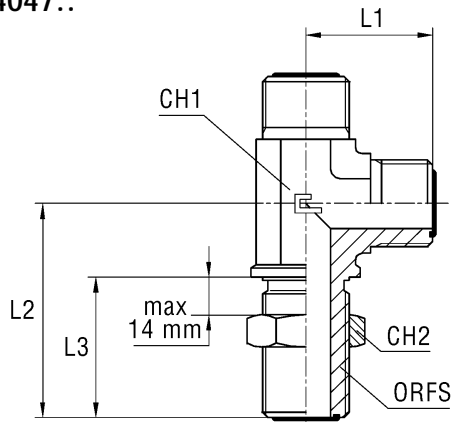


Serie	Bar	Ordering Body	Ø Tube M	Ø Tube W	L1	L2	L3	CH1	CH2	ORFS
UNIVERSAL	630	404601	6	1/4	21,5	47	31,5	14	22	9/16-18
		404602	8-10	5/16-3/8	25	52	34	19	27	11/16-16
		404603	12	1/2	28	55,5	36,5	19	30	13/16-16
	420	404604	14-15-16	5/8	33,5	63	40,5	27	36	1-14
		404605	18-20	3/4	37,5	67	41,5	30	41	13/16-12
		404606	22-25	7/8-1	41,5	71	42	36	46	17/16-12
	280	404607	28-30-32	1 1/4	44,5	75,5	42	41	50	1 11/16-12
		404608	35-38	1 1/2	49	79,5	42	48	60	2-12

Note: If you wish to order a fitting in stainless steel, please change the first two digit from 40.. to 41..

BULKHEAD BARREL TEE

Type: 4047..

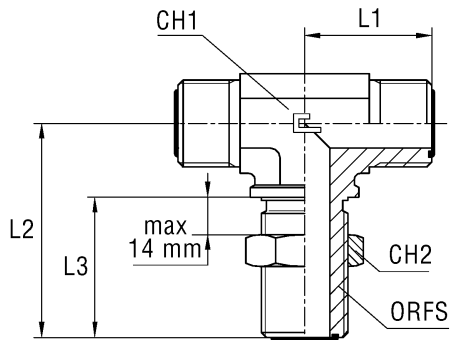


Serie	Bar	Ordering Body	Ø Tube M	Ø Tube W	L1	L2	L3	CH1	CH2	ORFS
UNIVERSAL	630	404701	6	1/4	21,5	47	31,5	14	22	9/16-18
		404702	8-10	5/16-3/8	25	52	34	19	27	11/16-16
		404703	12	1/2	28	55,5	36,5	19	30	13/16-16
	420	404704	14-15-16	5/8	33,5	63	40,5	27	36	1-14
		404705	18-20	3/4	37,5	67	41,5	30	41	13/16-12
		404706	22-25	7/8-1	41,5	71	42	36	46	17/16-12
	280	404707	28-30-32	1 1/4	44,5	75,5	42	41	50	1 11/16-12
		404708	35-38	1 1/2	49	79,5	42	48	60	2-12

Note: If you wish to order a fitting in stainless steel, please change the first two digit from 40.. to 41..

BULKHEAD BRANCH TEE

Type: 4048..

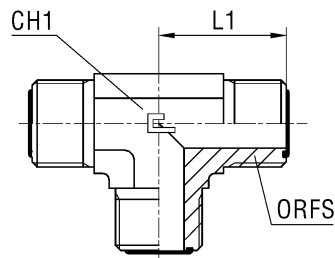


Serie	Bar	Ordering Body	Ø Tube M	Ø Tube W	L1	L2	L3	CH1	CH2	ORFS
UNIVERSAL	630	404801	6	1/4	21,5	47	31,5	14	22	9/16-18
		404802	8-10	5/16-3/8	25	52	34	19	27	11/16-16
		404803	12	1/2	28	55,5	36,5	19	30	13/16-16
	420	404804	14-15-16	5/8	33,5	63	40,5	27	36	1-14
		404805	18-20	3/4	37,5	67	41,5	30	41	13/16-12
		404806	22-25	7/8-1	41,5	71	42	36	46	17/16-12
	280	404807	28-30-32	1 1/4	44,5	75,5	42	41	50	1 11/16-12
		404808	35-38	1 1/2	49	79,5	42	48	60	2-12

Note: If you wish to order a fitting in stainless steel, please change the first two digit from 40.. to 41..

EQUAL TEE

Type: 4049..

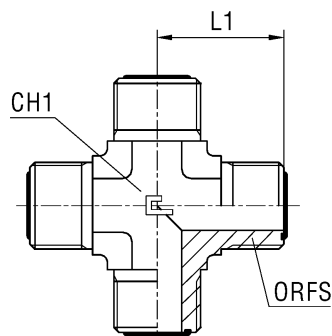


Serie	Bar	Ordering Body	Ø Tube M	Ø Tube W	L1	CH1	ORFS
UNIVERSAL	630	404901	6	1/4	21,5	14	9/16-18
		404902	8-10	5/16-3/8	25	19	11/16-16
		404903	12	1/2	28	19	13/16-16
	420	404904	14-15-16	5/8	33,5	27	1-14
		404905	18-20	3/4	37,5	30	13/16-12
		404906	22-25	7/8-1	41,5	36	17/16-12
	280	404907	28-30-32	1 1/4	44,5	41	1 11/16-12
		404908	35-38	1 1/2	49	48	2-12

Note: If you wish to order a fitting in stainless steel, please change the first two digit from 40.. to 41..

EQUAL CROSS

Type: 4050..

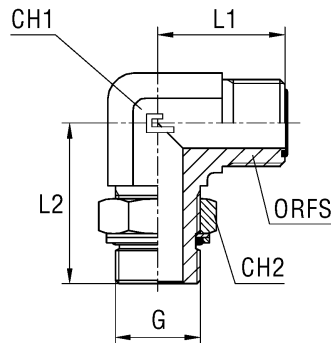


Serie	Bar	Ordering Body	Ø Tube M	Ø Tube W	L1	CH1	ORFS
UNIVERSAL	630	405001	6	1/4	21,5	14	9/16-18
		405002	8-10	5/16-3/8	25	19	11/16-16
		405003	12	1/2	28	19	13/16-16
	420	405004	14-15-16	5/8	33,5	27	1-14
		405005	18-20	3/4	37,5	30	13/16-12
		405006	22-25	7/8-1	41,5	36	17/16-12
	280	405007	28-30-32	1 1/4	44,5	41	1 11/16-12
		405008	35-38	1 1/2	49	48	2-12

Note: If you wish to order a fitting in stainless steel, please change the first two digit from 40.. to 41..

ADJUSTABLE MALE STUD ELBOW WITH O-RING AND WASHER
Thread BSP Parallel

Type: 4051..



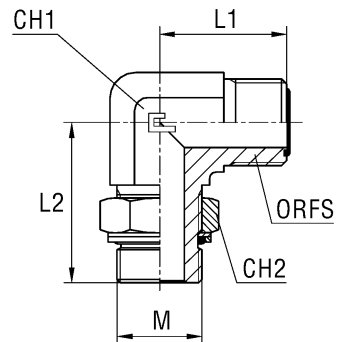
Serie	Bar	Ordering Body	Ø Tube M	Ø Tube W	G	L1	L2	CH1	CH2	ORFS
UNIVERSAL	350	405101	6	1/4	1/8	21,5	30	14	14	9/16-18
	315	405102	8-10	5/16-3/8	1/4	25	37	19	19	11/16-16
	250	405103	12	1/2	3/8	28	38	19	22	13/16-16
		405104	14-15-16	5/8	1/2	33,5	48	27	27	1-14
		405105	18-20	3/4	3/4	37,5	51,5	30	36	13/16-12
	200	405106	22-25	7/8-1	1	41,5	58,5	36	41	17/16-12
		405107	28-30-32	1 1/4	1 1/4	44,5	60,5	41	50	1 11/16-12
	160	405108	35-38	1 1/2	1 1/2	49	64	48	55	2-12
	315	405109	6	1/4	1/4	21,5	35	14	19	9/16-18
	250	405110	6	1/4	3/8	23,5	38	19	22	9/16-18
		405111	8-10	5/16-3/8	3/8	25	38	19	22	11/16-16
		405112	8-10	5/16-3/8	1/2	28	48	22	27	11/16-16
	315	405113	12	1/2	1/4	28	37	19	19	13/16-16
	250	405114	12	1/2	1/2	30	48	22	27	13/16-16
		405115	12	1/2	3/4	31,5	51,5	27	36	13/16-16
	315	405116	14-15-16	5/8	1/4	33,5	42,5	27	19	1-14
	250	405117	14-15-16	5/8	3/8	33,5	42,5	27	22	1-14
		405118	14-15-16	5/8	3/4	33,5	51,5	27	36	1-14
	200	405119	14-15-16	5/8	1	37	58,5	33	41	1-14
	315	405120	18-20	3/4	1/4	37,5	43,5	30	19	13/16-12
	250	405121	18-20	3/4	1/2	37,5	49	30	27	13/16-12
	200	405122	18-20	3/4	1	38	58,5	33	41	13/16-12
	315	405123	22-25	7/8-1	1/4	41,5	52	36	19	17/16-12
	250	405124	22-25	7/8-1	3/4	41,5	57,5	36	36	17/16-12
	200	405125	22-25	7/8-1	1 1/4	44,5	60,5	41	50	17/16-12
		405126	28-30-32	1 1/4	1	44,5	60,5	41	41	1 11/16-12
	160	405127	28-30-32	1 1/4	1 1/2	48,5	64	48	55	1 11/16-12

Note: If you wish to order a fitting in stainless steel, please change the first two digit from 40.. to 41..

ADJUSTABLE MALE STUD ELBOW WITH O-RING AND WASHER

Thread Metric Parallel

Type: 4052..

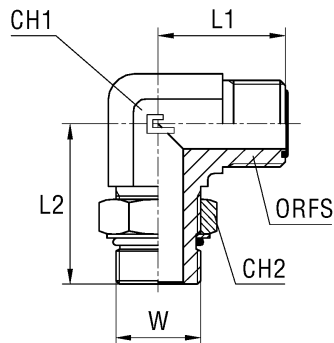


Serie	Bar	Ordering Body	Ø Tube M	Ø Tube W	M	L1	L2	CH1	CH2	ORFS
UNIVERSAL	315	405201	6	1/4	12x1,5	21,5	33	14	17	9/16-18
		405202	8-10	5/16-3/8	14x1,5	25	35,5	19	19	11/16-16
		405203	12	1/2	18x1,5	28	41	19	24	13/16-16
	250	405204	14-15-16	5/8	22x1,5	33,5	49	27	27	1-14
		405205	18-20	3/4	27x2	37,5	55,5	30	32	13/16-12
	160	405206	22-25	7/8-1	33x2	41,5	59,5	36	41	17/16-12
		405207	28-30-32	1 1/4	42x2	44,5	63	41	50	1 11/16-12
		405208	35-38	1 1/2	48x2	49	68,5	48	55	2-12
	315	405209	6	1/4	10x1	21,5	30	14	14	9/16-18
		405210	8-10	5/16-3/8	16x1,5	25	37,5	19	22	11/16-16
		405211	12	1/2	16x1,5	28	37,5	19	22	13/16-16
	250	405212	12	1/2	22x1,5	31,5	49	27	27	13/16-16
	315	405213	14-15-16	5/8	18x1,5	33,5	47,5	27	24	1-14
	250	405214	14-15-16	5/8	27x2	33,5	55,5	27	32	1-14
		405215	18-20	3/4	22x1,5	37,5	49,5	30	27	13/16-12
	160	405216	18-20	3/4	33x2	38	59,5	33	41	13/16-12
	250	405217	22-25	7/8-1	27x2	41,5	59,5	36	32	17/16-12
	160	405218	22-25	7/8-1	42x2	44,5	63	41	50	17/16-12
		405219	28-30-32	1 1/4	48x2	48,5	68,5	48	55	1 11/16-12

Note: If you wish to order a fitting in stainless steel, please change the first two digit from 40.. to 41..

ADJUSTABLE MALE STUD ELBOW WITH O-RING
Thread UNF/UN-2A

Type: 4053..

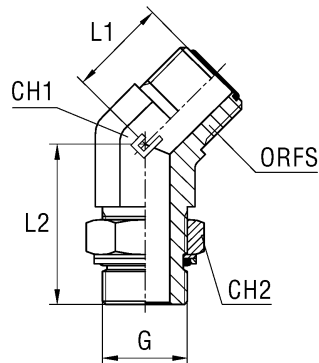


Serie	Bar	Ordering Body	Ø Tube M	Ø Tube W	W	L1	L2	CH1	CH2	ORFS
UNIVERSAL	420	405301	6	1/4	7/16-20	21,5	32,5	14	14	9/16-18
		405302	8-10	5/16-3/8	9/16-18	25	37	19	17	11/16-16
		405303	12	1/2	3/4-16	28	40,5	19	22	13/16-16
		405304	14-15-16	5/8	7/8-14	33,5	50	27	27	1-14
		405305	18-20	3/4	1 1/16-12	37,5	55	30	32	13/16-12
	380	405306	22-25	7/8-1	15/16-12	41,5	59,5	36	41	17/16-12
	280	405307	28-30-32	1 1/4	15/8-12	44,5	62	41	50	111/16-12
		405308	35-38	1 1/2	17/8-12	49	66	48	55	2-12
	420	405309	6	1/4	9/16-18	21,5	34,5	14	17	9/16-18
		405310	6	1/4	3/4-16	23,5	40,5	19	22	9/16-18
		405311	8-10	5/16-3/8	7/16-20	25	35	19	14	11/16-16
		405312	8-10	5/16-3/8	3/4-16	25	40,5	19	22	11/16-16
		405313	8-10	5/16-3/8	7/8-14	28	50	22	27	11/16-16
		405314	8-10	5/16-3/8	1 1/16-12	29,5	55	27	32	11/16-16
		405315	12	1/2	9/16-18	28	37	19	17	13/16-16
		405316	12	1/2	7/8-14	30	50	22	27	13/16-16
		405317	12	1/2	1 1/16-12	31,5	55	27	32	13/16-16
		405318	14-15-16	5/8	3/4-16	33,5	46	27	22	1-14
		405319	14-15-16	5/8	1 1/16-12	33,5	55	27	32	1-14
		405320	18-20	3/4	3/4-16	37,5	47	30	22	13/16-12
		405321	18-20	3/4	7/8-14	37,5	51	30	27	13/16-12
		380	405322	18-20	3/4	15/16-12	38	59,5	33	41
	420	405323	22-25	7/8-1	1 1/16-12	41,5	59	36	32	17/16-12
	280	405324	22-25	7/8-1	15/8-12	44,5	62	41	50	17/16-12
		405325	28-30-32	1 1/4	15/16-12	44,5	62	41	41	111/16-12
		405326	28-30-32	1 1/4	17/8-12	48,5	66	48	55	111/16-12
		405327	35-38	1 1/2	15/8-12	49	66	48	50	2-12

Note: If you wish to order a fitting in stainless steel, please change the first two digit from 40.. to 41..

45° ADJUSTABLE MALE STUD ELBOW WITH O-RING AND WASHER
Thread BSP Parallel

Type: 4054..

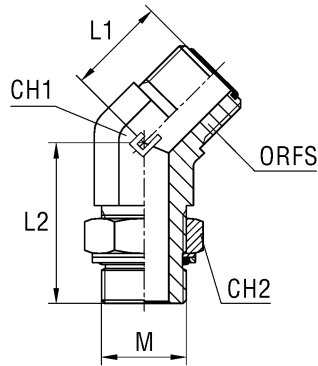


Serie	Bar	Ordering Body	Ø Tube M	Ø Tube W	G	L1	L2	CH1	CH2	ORFS
UNIVERSAL	350	405401	6	1/4	1/8	16	27,5	14	14	9/16-18
	315	405402	8-10	5/16-3/8	1/4	19	32,5	19	19	11/16-16
	250	405403	12	1/2	3/8	20,5	33,5	19	22	13/16-16
		405404	14-15-16	5/8	1/2	23,5	43	27	27	1-14
		405405	18-20	3/4	3/4	26	46,5	30	36	13/16-12
	200	405406	22-25	7/8-1	1	30	51	36	41	17/16-12
		405407	28-30-32	1 1/4	1 1/4	32	52,5	41	50	1 11/16-12
	160	405408	35-38	1 1/2	1 1/2	37	52,5	48	55	2-12
	315	405409	6	1/4	1/4	16	31,5	14	19	9/16-18
	250	405410	6	1/4	3/8	17,5	33,5	19	22	9/16-18
		405411	8-10	5/16-3/8	3/8	19	33,5	19	22	11/16-16
		405412	8-10	5/16-3/8	1/2	20	43	22	27	11/16-16
	315	405413	12	1/2	1/4	20,5	32,5	19	19	13/16-16
	250	405414	12	1/2	1/2	21	43	22	27	13/16-16
		405415	12	1/2	3/4	21,5	46,5	27	36	13/16-16
	315	405416	14-15-16	5/8	1/4	23,5	36	27	19	1-14
	250	405417	14-15-16	5/8	3/8	23,5	37	27	22	1-14
		405418	14-15-16	5/8	3/4	23,5	46,5	27	36	1-14
	200	405419	14-15-16	5/8	1	28,5	51	33	41	1-14
	315	405420	18-20	3/4	1/4	26	40,5	30	19	13/16-12
	250	405421	18-20	3/4	1/2	26	44,5	30	27	13/16-12
	200	405422	18-20	3/4	1	29,5	51	33	41	13/16-12
	315	405423	22-25	7/8-1	1/4	30	41	36	19	17/16-12
	250	405424	22-25	7/8-1	3/4	30	47	36	36	17/16-12
	200	405425	22-25	7/8-1	1 1/4	32	52,5	41	50	17/16-12
		405426	28-30-32	1 1/4	1	32	52,5	41	41	1 11/16-12
	160	405427	28-30-32	1 1/4	1 1/2	35,5	52,5	48	55	1 11/16-12

Note: If you wish to order a fitting in stainless steel, please change the first two digit from 40.. to 41..

45° ADJUSTABLE MALE STUD ELBOW WITH O-RING AND WASHER
Thread Metric Parallel

Type: 4055..

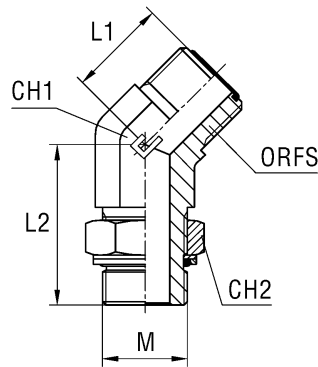


Serie	Bar	Ordering Body	Ø Tube M	Ø Tube W	M	L1	L2	CH1	CH2	ORFS
UNIVERSAL	315	405501	6	1/4	12x1,5	16	30	14	17	9/16-18
		405502	8-10	5/16-3/8	14x1,5	19	31	19	19	11/16-16
		405503	12	1/2	18x1,5	20,5	36,5	19	24	13/16-16
	250	405504	14-15-16	5/8	22x1,5	23,5	44	27	27	1-14
		405505	18-20	3/4	27x2	26	50	30	32	13/16-12
		405506	22-25	7/8-1	33x2	30	52,5	36	41	17/16-12
	160	405507	28-30-32	1 1/4	42x2	32	54	41	50	111/16-12
		405508	35-38	1 1/2	48x2	37	56,5	48	55	2-12
	315	405509	6	1/4	10x1	16	27	14	14	9/16-18
		405510	8-10	5/16-3/8	16x1,5	19	33	19	22	11/16-16
		405511	12	1/2	16x1,5	20,5	33	19	22	13/16-16
	250	405512	12	1/2	22x1,5	21,5	44	27	27	13/16-16
	315	405513	14-15-16	5/8	18x1,5	23,5	42,5	27	24	1-14
	250	405514	14-15-16	5/8	27x2	23,5	50	27	32	1-14
		405515	18-20	3/4	22x1,5	26	44	30	27	13/16-12
	160	405516	18-20	3/4	33x2	29,5	52,5	33	41	13/16-12
	250	405517	22-25	7/8-1	27x2	30	52,5	36	32	17/16-12
	160	405518	22-25	7/8-1	42x2	32	54	41	50	17/16-12
		405519	28-30-32	1 1/4	48x2	35,5	56,5	48	55	111/16-12

Note: If you wish to order a fitting in stainless steel, please change the first two digit from 40.. to 41..

45° ADJUSTABLE MALE STUD ELBOW WITH O-RING
Thread UNF/UN-2A

Type: 4056..

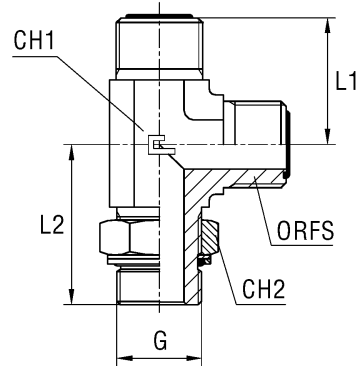


Serie	Bar	Ordering Body	Ø Tube M	Ø Tube W	W	L1	L2	CH1	CH2	ORFS
UNIVERSAL	420	405601	6	1/4	7/16-20	16	30	14	14	9/16-18
		405602	8-10	5/16-3/8	9/16-18	19	33	19	17	11/16-16
		405603	12	1/2	3/4-16	20,5	36,5	19	22	13/16-16
		405604	14-15-16	5/8	7/8-14	23,5	45	27	27	1-14
		405605	18-20	3/4	1 1/16-12	26	50	30	32	13/16-12
	380	405606	22-25	7/8-1	15/16-12	30	52,5	36	41	17/16-12
	280	405607	28-30-32	1 1/4	15/8-12	32	53,5	41	50	111/16-12
		405608	35-38	1 1/2	17/8-12	37	53,5	48	55	2-12
	420	405609	6	1/4	9/16-18	16	33	14	17	9/16-18
		405610	6	1/4	3/4-16	17,5	36,5	19	22	9/16-18
		405611	8-10	5/16-3/8	7/16-20	19	31	19	14	11/16-16
		405612	8-10	5/16-3/8	3/4-16	19	36,5	19	22	11/16-16
		405613	8-10	5/16-3/8	7/8-14	20	45	22	27	11/16-16
		405614	8-10	5/16-3/8	1 1/16-12	19,5	50	27	32	11/16-16
		405615	12	1/2	9/16-18	20,5	32,5	19	17	13/16-16
		405616	12	1/2	7/8-14	21	45	22	27	13/16-16
		405617	12	1/2	1 1/16-12	21,5	50	27	32	13/16-16
		405618	14-15-16	5/8	3/4-16	23,5	40,5	27	22	1-14
		405619	14-15-16	5/8	1 1/16-12	23,5	50	27	32	1-14
		405620	18-20	3/4	3/4-16	26	40,5	30	22	13/16-12
		405621	18-20	3/4	7/8-14	26	46	30	27	13/16-12
		380	405622	18-20	3/4	15/16-12	29,5	52,5	33	41
	420	405623	22-25	7/8-1	1 1/16-12	30	51,5	36	32	17/16-12
	280	405624	22-25	7/8-1	15/8-12	32	53,5	41	50	17/16-12
		405625	28-30-32	1 1/4	15/16-12	32	53,5	41	41	111/16-12
		405626	28-30-32	1 1/4	17/8-12	35,5	53,5	48	55	111/16-12
		405627	35-38	1 1/2	15/8-12	37	53,5	48	50	2-12

Note: If you wish to order a fitting in stainless steel, please change the first two digit from 40.. to 41..

ADJUSTABLE MALE STUD BARREL TEE WITH O-RING AND WASHER
Thread BSP Parallel

Type: 4057..

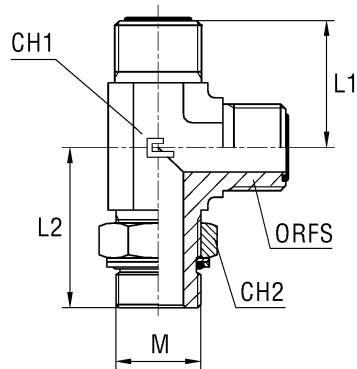


Serie	Bar	Ordering Body	Ø Tube M	Ø Tube W	G	L1	L2	CH1	CH2	ORFS
UNIVERSAL	350	405701	6	1/4	1/8	21,5	30	14	14	9/16-18
	315	405702	8-10	5/16-3/8	1/4	25	37	19	19	11/16-16
	250	405703	12	1/2	3/8	28	38	19	22	13/16-16
		405704	14-15-16	5/8	1/2	33,5	48	27	27	1-14
		405705	18-20	3/4	3/4	37,5	51,5	30	36	13/16-12
	200	405706	22-25	7/8-1	1	41,5	58,5	36	41	17/16-12
		405707	28-30-32	1 1/4	1 1/4	44,5	60,5	41	50	1 11/16-12
	160	405708	35-38	1 1/2	1 1/2	49	64	48	55	2-12
	315	405709	6	1/4	1/4	21,5	35	14	19	9/16-18
	250	405710	6	1/4	3/8	23,5	38	19	22	9/16-18
		405711	8-10	5/16-3/8	3/8	25	38	19	22	11/16-16
		405712	8-10	5/16-3/8	1/2	28	48	22	27	11/16-16
	315	405713	12	1/2	1/4	28	37	19	19	13/16-16
	250	405714	12	1/2	1/2	30	48	22	27	13/16-16
		405715	12	1/2	3/4	31,5	51,5	27	36	13/16-16
	315	405716	14-15-16	5/8	1/4	33,5	42,5	27	19	1-14
	250	405717	14-15-16	5/8	3/8	33,5	42,5	27	22	1-14
		405718	14-15-16	5/8	3/4	33,5	51,5	27	36	1-14
	200	405719	14-15-16	5/8	1	37	58,5	33	41	1-14
	315	405720	18-20	3/4	1/4	37,5	43,5	30	19	13/16-12
	250	405721	18-20	3/4	1/2	37,5	49	30	27	13/16-12
	200	405722	18-20	3/4	1	38	58,5	33	41	13/16-12
	315	405723	22-25	7/8-1	1/4	41,5	52	36	19	17/16-12
	250	405724	22-25	7/8-1	3/4	41,5	57,5	36	36	17/16-12
	200	405725	22-25	7/8-1	1 1/4	44,5	60,5	41	50	17/16-12
		405726	28-30-32	1 1/4	1	44,5	60,5	41	41	1 11/16-12
	160	405727	28-30-32	1 1/4	1 1/2	48,5	64	48	55	1 11/16-12

Note: If you wish to order a fitting in stainless steel, please change the first two digit from 40.. to 41..

ADJUSTABLE MALE STUD BARREL TEE WITH O-RING AND WASHER
Thread Metric Parallel

Type: 4058..

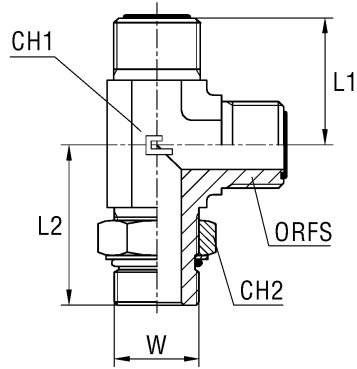


Serie	Bar	Ordering Body	Ø Tube M	Ø Tube W	M	L1	L2	CH1	CH2	ORFS
UNIVERSAL	315	405801	6	1/4	12x1,5	21,5	33	14	17	9/16-18
		405802	8-10	5/16-3/8	14x1,5	25	35,5	19	19	11/16-16
		405803	12	1/2	18x1,5	28	41	19	24	13/16-16
	250	405804	14-15-16	5/8	22x1,5	33,5	49	27	27	1-14
		405805	18-20	3/4	27x2	37,5	55,5	30	32	13/16-12
	160	405806	22-25	7/8-1	33x2	41,5	59,5	36	41	17/16-12
		405807	28-30-32	1 1/4	42x2	44,5	63	41	50	1 11/16-12
		405808	35-38	1 1/2	48x2	49	68,5	48	55	2-12
	315	405809	6	1/4	10x1	21,5	30	14	14	9/16-18
		405810	8-10	5/16-3/8	16x1,5	25	37,5	19	22	11/16-16
		405811	12	1/2	16x1,5	28	37,5	19	22	13/16-16
	250	405812	12	1/2	22x1,5	31,5	49	27	27	13/16-16
	315	405813	14-15-16	5/8	18x1,5	33,5	47,5	27	24	1-14
	250	405814	14-15-16	5/8	27x2	33,5	55,5	27	32	1-14
		405815	18-20	3/4	22x1,5	37,5	49,5	30	27	13/16-12
	160	405816	18-20	3/4	33x2	38	59,5	33	41	13/16-12
	250	405817	22-25	7/8-1	27x2	41,5	59,5	36	32	17/16-12
	160	405818	22-25	7/8-1	42x2	44,5	63	41	50	17/16-12
		405819	28-30-32	1 1/4	48x2	48,5	68,5	48	55	1 11/16-12

Note: If you wish to order a fitting in stainless steel, please change the first two digit from 40.. to 41..

ADJUSTABLE MALE STUD BARREL TEE WITH O-RING
Thread UNF/UN-2A

Type: 4059..

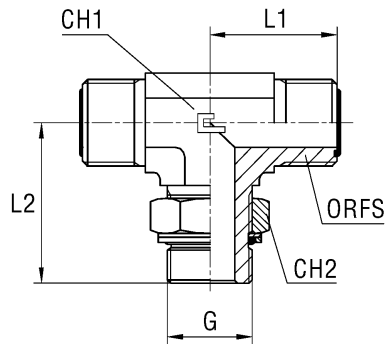


Serie	Bar	Ordering Body	Ø Tube M	Ø Tube W	W	L1	L2	CH1	CH2	ORFS
UNIVERSAL	420	405901	6	1/4	7/16-20	21,5	32,5	14	14	9/16-18
		405902	8-10	5/16-3/8	9/16-18	25	37	19	17	11/16-16
		405903	12	1/2	3/4-16	28	40,5	19	22	13/16-16
		405904	14-15-16	5/8	7/8-14	33,5	50	27	27	1-14
		405905	18-20	3/4	1 1/16-12	37,5	55	30	32	13/16-12
	380	405906	22-25	7/8-1	15/16-12	41,5	59,5	36	41	17/16-12
	280	405907	28-30-32	1 1/4	15/8-12	44,5	62	41	50	111/16-12
		405908	35-38	1 1/2	17/8-12	49	66	48	55	2-12
	420	405909	6	1/4	9/16-18	21,5	34,5	14	17	9/16-18
		405910	6	1/4	3/4-16	23,5	40,5	19	22	9/16-18
		405911	8-10	5/16-3/8	7/16-20	25	35	19	14	11/16-16
		405912	8-10	5/16-3/8	3/4-16	25	40,5	19	22	11/16-16
		405913	8-10	5/16-3/8	7/8-14	28	50	22	27	11/16-16
		405914	8-10	5/16-3/8	1 1/16-12	29,5	55	27	32	11/16-16
		405915	12	1/2	9/16-18	28	37	19	17	13/16-16
		405916	12	1/2	7/8-14	30	50	22	27	13/16-16
		405917	12	1/2	1 1/16-12	31,5	55	27	32	13/16-16
		405918	14-15-16	5/8	3/4-16	33,5	46	27	22	1-14
		405919	14-15-16	5/8	1 1/16-12	33,5	55	27	32	1-14
		405920	18-20	3/4	3/4-16	37,5	47	30	22	13/16-12
		405921	18-20	3/4	7/8-14	37,5	51	30	27	13/16-12
		380	405922	18-20	3/4	15/16-12	38	59,5	33	41
	420	405923	22-25	7/8-1	1 1/16-12	41,5	59	36	32	17/16-12
	280	405924	22-25	7/8-1	15/8-12	44,5	62	41	50	17/16-12
		405925	28-30-32	1 1/4	15/16-12	44,5	62	41	41	111/16-12
		405926	28-30-32	1 1/4	17/8-12	48,5	66	48	55	111/16-12
		405927	35-38	1 1/2	15/8-12	49	66	48	50	2-12

Note: If you wish to order a fitting in stainless steel, please change the first two digit from 40.. to 41..

ADJUSTABLE MALE STUD BRANCH TEE WITH O-RING AND WASHER
Thread BSP Parallel

Type: 4060..

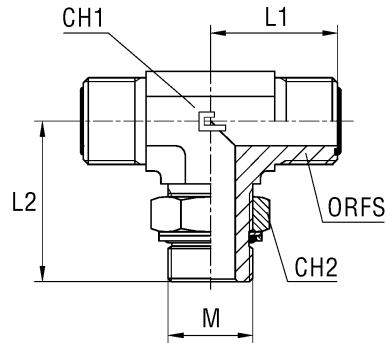


Serie	Bar	Ordering Body	Ø Tube M	Ø Tube W	G	L1	L2	CH1	CH2	ORFS
UNIVERSAL	350	406001	6	1/4	1/8	21,5	30	14	14	9/16-18
	315	406002	8-10	5/16-3/8	1/4	25	37	19	19	11/16-16
	250	406003	12	1/2	3/8	28	38	19	22	13/16-16
		406004	14-15-16	5/8	1/2	33,5	48	27	27	1-14
		406005	18-20	3/4	3/4	37,5	51,5	30	36	13/16-12
	200	406006	22-25	7/8-1	1	41,5	58,5	36	41	17/16-12
		406007	28-30-32	1 1/4	1 1/4	44,5	60,5	41	50	111/16-12
	160	406008	35-38	1 1/2	1 1/2	49	64	48	55	2-12
	315	406009	6	1/4	1/4	21,5	35	14	19	9/16-18
	250	406010	6	1/4	3/8	23,5	38	19	22	9/16-18
		406011	8-10	5/16-3/8	3/8	25	38	19	22	11/16-16
		406012	8-10	5/16-3/8	1/2	28	48	22	27	11/16-16
	315	406013	12	1/2	1/4	28	37	19	19	13/16-16
	250	406014	12	1/2	1/2	30	48	22	27	13/16-16
		406015	12	1/2	3/4	31,5	51,5	27	36	13/16-16
	315	406016	14-15-16	5/8	1/4	33,5	42,5	27	19	1-14
	250	406017	14-15-16	5/8	3/8	33,5	42,5	27	22	1-14
		406018	14-15-16	5/8	3/4	33,5	51,5	27	36	1-14
	200	406019	14-15-16	5/8	1	37	58,5	33	41	1-14
	315	406020	18-20	3/4	1/4	37,5	43,5	30	19	13/16-12
	250	406021	18-20	3/4	1/2	37,5	49	30	27	13/16-12
	200	406022	18-20	3/4	1	38	58,5	33	41	13/16-12
	315	406023	22-25	7/8-1	1/4	41,5	52	36	19	17/16-12
	250	406024	22-25	7/8-1	3/4	41,5	57,5	36	36	17/16-12
	200	406025	22-25	7/8-1	1 1/4	44,5	60,5	41	50	17/16-12
		406026	28-30-32	1 1/4	1	44,5	60,5	41	41	111/16-12
	160	406027	28-30-32	1 1/4	1 1/2	48,5	64	48	55	111/16-12

Note: If you wish to order a fitting in stainless steel, please change the first two digit from 40.. to 41..

ADJUSTABLE MALE STUD BRANCH TEE WITH O-RING AND WASHER
Thread Metric Parallel

Type: 4061..

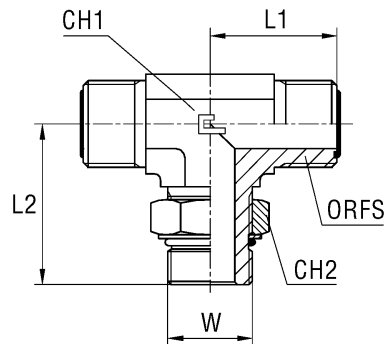


Serie	Bar	Ordering Body	Ø Tube M	Ø Tube W	M	L1	L2	CH1	CH2	ORFS
UNIVERSAL	315	406101	6	1/4	12x1,5	21,5	33	14	17	9/16-18
		406102	8-10	5/16-3/8	14x1,5	25	35,5	19	19	11/16-16
		406103	12	1/2	18x1,5	28	41	19	24	13/16-16
	250	406104	14-15-16	5/8	22x1,5	33,5	49	27	27	1-14
		406105	18-20	3/4	27x2	37,5	55,5	30	32	13/16-12
	160	406106	22-25	7/8-1	33x2	41,5	59,5	36	41	17/16-12
		406107	28-30-32	1 1/4	42x2	44,5	63	41	50	111/16-12
		406108	35-38	1 1/2	48x2	49	68,5	48	55	2-12
	315	406109	6	1/4	10x1	21,5	30	14	14	9/16-18
		406110	8-10	5/16-3/8	16x1,5	25	37,5	19	22	11/16-16
		406111	12	1/2	16x1,5	28	37,5	19	22	13/16-16
	250	406112	12	1/2	22x1,5	31,5	49	27	27	13/16-16
	315	406113	14-15-16	5/8	18x1,5	33,5	47,5	27	24	1-14
	250	406114	14-15-16	5/8	27x2	33,5	55,5	27	32	1-14
		406115	18-20	3/4	22x1,5	37,5	49,5	30	27	13/16-12
	160	406116	18-20	3/4	33x2	38	59,5	33	41	13/16-12
	250	406117	22-25	7/8-1	27x2	41,5	59,5	36	32	17/16-12
	160	406118	22-25	7/8-1	42x2	44,5	63	41	50	17/16-12
		406119	28-30-32	1 1/4	48x2	48,5	68,5	48	55	111/16-12

Note: If you wish to order a fitting in stainless steel, please change the first two digit from 40.. to 41..

ADJUSTABLE MALE STUD BRANCH TEE WITH O-RING
Thread UNF/UN-2A

Type: 4062..

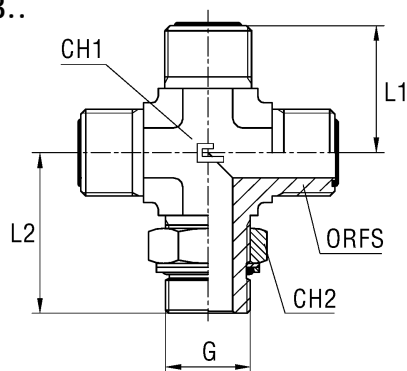


Serie	Bar	Ordering Body	Ø Tube M	Ø Tube W	W	L1	L2	CH1	CH2	ORFS
UNIVERSAL	420	406201	6	1/4	7/16-20	21,5	32,5	14	14	9/16-18
		406202	8-10	5/16-3/8	9/16-18	25	37	19	17	11/16-16
		406203	12	1/2	3/4-16	28	40,5	19	22	13/16-16
		406204	14-15-16	5/8	7/8-14	33,5	50	27	27	1-14
		406205	18-20	3/4	1 1/16-12	37,5	55	30	32	13/16-12
	380	406206	22-25	7/8-1	15/16-12	41,5	59,5	36	41	17/16-12
	280	406207	28-30-32	1 1/4	15/8-12	44,5	62	41	50	111/16-12
		406208	35-38	1 1/2	17/8-12	49	66	48	55	2-12
	420	406209	6	1/4	9/16-18	21,5	34,5	14	17	9/16-18
		406210	6	1/4	3/4-16	23,5	40,5	19	22	9/16-18
		406211	8-10	5/16-3/8	7/16-20	25	35	19	14	11/16-16
		406212	8-10	5/16-3/8	3/4-16	25	40,5	19	22	11/16-16
		406213	8-10	5/16-3/8	7/8-14	28	50	22	27	11/16-16
		406214	8-10	5/16-3/8	1 1/16-12	29,5	55	27	32	11/16-16
		406215	12	1/2	9/16-18	28	37	19	17	13/16-16
		406216	12	1/2	7/8-14	30	50	22	27	13/16-16
		406217	12	1/2	1 1/16-12	31,5	55	27	32	13/16-16
		406218	14-15-16	5/8	3/4-16	33,5	46	27	22	1-14
		406219	14-15-16	5/8	1 1/16-12	33,5	55	27	32	1-14
		406220	18-20	3/4	3/4-16	37,5	47	30	22	13/16-12
		406221	18-20	3/4	7/8-14	37,5	51	30	27	13/16-12
		380	406222	18-20	3/4	15/16-12	38	59,5	33	41
	420	406223	22-25	7/8-1	1 1/16-12	41,5	59	36	32	17/16-12
	280	406224	22-25	7/8-1	15/8-12	44,5	62	41	50	17/16-12
		406225	28-30-32	1 1/4	15/16-12	44,5	62	41	41	111/16-12
		406226	28-30-32	1 1/4	17/8-12	48,5	66	48	55	111/16-12
		406227	35-38	1 1/2	15/8-12	49	66	48	50	2-12

Note: If you wish to order a fitting in stainless steel, please change the first two digit from 40.. to 41..

ADJUSTABLE MALE STUD CROSS WITH O-RING AND WASHER Thread BSP Parallel

Type: 4063..

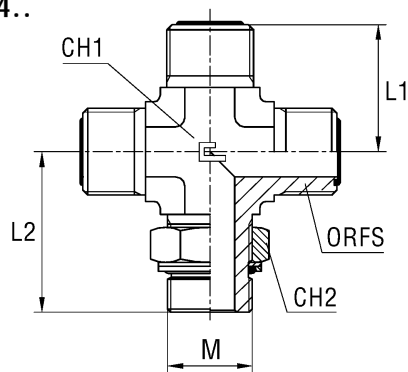


Serie	Bar	Ordering Body	Ø Tube M	Ø Tube W	G	L1	L2	CH1	CH2	ORFS
UNIVERSAL	350	406301	6	1/4	1/8	21,5	30	14	14	9/16-18
	315	406302	8-10	5/16-3/8	1/4	25	37	19	19	11/16-16
	250	406303	12	1/2	3/8	28	38	19	22	13/16-16
		406304	14-15-16	5/8	1/2	33,5	48	27	27	1-14
		406305	18-20	3/4	3/4	37,5	51,5	30	36	13/16-12
	200	406306	22-25	7/8-1	1	41,5	58,5	36	41	17/16-12
		406307	28-30-32	1 1/4	1 1/4	44,5	60,5	41	50	111/16-12
	160	406308	35-38	1 1/2	1 1/2	49	64	48	55	2-12

Note: If you wish to order a fitting in stainless steel, please change the first two digit from 40.. to 41..

ADJUSTABLE MALE STUD CROSS WITH O-RING AND WASHER Thread Metric Parallel

Type: 4064..

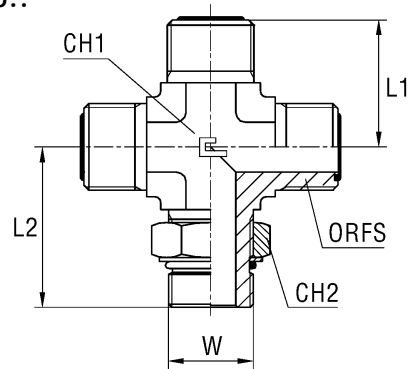


Serie	Bar	Ordering Body	Ø Tube M	Ø Tube W	M	L1	L2	CH1	CH2	ORFS
UNIVERSAL	315	406401	6	1/4	12x1,5	21,5	33	14	17	9/16-18
		406402	8-10	5/16-3/8	14x1,5	25	35,5	19	19	11/16-16
		406403	12	1/2	18x1,5	28	41	19	24	13/16-16
	250	406404	14-15-16	5/8	22x1,5	33,5	49	27	27	1-14
		406405	18-20	3/4	27x2	37,5	55,5	30	32	13/16-12
	160	406406	22-25	7/8-1	33x2	41,5	59,5	36	41	17/16-12
		406407	28-30-32	1 1/4	42x2	44,5	63	41	50	111/16-12
		406408	35-38	1 1/2	48x2	49	68,5	48	55	2-12

Note: If you wish to order a fitting in stainless steel, please change the first two digit from 40.. to 41..

ADJUSTABLE MALE STUD CROSS WITH O-RING
Thread UNF/UN-2A

Type: 4065..

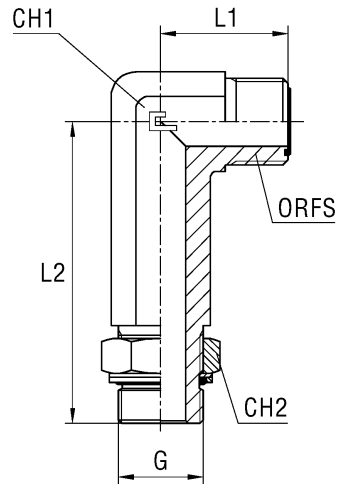


Serie	Bar	Ordering Body	Ø Tube M	Ø Tube W	W	L1	L2	CH1	CH2	ORFS
UNIVERSAL	420	406501	6	1/4	7/16-20	21,5	32,5	14	14	9/16-18
		406502	8-10	5/16-3/8	9/16-18	25	37	19	17	11/16-16
		406503	12	1/2	3/4-16	28	40,5	19	22	13/16-16
		406504	14-15-16	5/8	7/8-14	33,5	50	27	27	1-14
		406505	18-20	3/4	1 1/16-12	37,5	55	30	32	13/16-12
	380	406506	22-25	7/8-1	15/16-12	41,5	59,5	36	41	17/16-12
	280	406507	28-30-32	1 1/4	15/8-12	44,5	62	41	50	1 11/16-12
		406508	35-38	1 1/2	17/8-12	49	66	48	55	2-12

Note: If you wish to order a fitting in stainless steel, please change the first two digit from 40.. to 41..

LONG ADJUSTABLE MALE STUD ELBOW WITH O-RING AND WASHER
Thread BSP Parallel

Type: 4066..

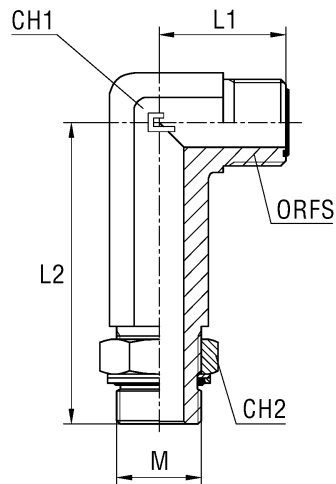


Serie	Bar	Ordering Body	Ø Tube M	Ø Tube W	G	L1	L2	CH1	CH2	ORFS	
UNIVERSAL	350	406601	6	1/4	1/8	21,5	54	14	14	9/16-18	
	315	406602	8-10	5/16-3/8	1/4	25	66,5	19	19	11/16-16	
	250		406603	12	1/2	3/8	28	72,5	19	22	13/16-16
			406604	14-15-16	5/8	1/2	33,5	87	27	27	1-14
			406605	18-20	3/4	3/4	37,5	97,5	30	36	13/16-12
	200		406606	22-25	7/8-1	1	41,5	113,5	36	41	17/16-12
			406607	28-30-32	1 1/4	1 1/4	44,5	125	41	50	111/16-12
	160	406608	35-38	1 1/2	1 1/2	49	137	48	55	2-12	
	315	406609	6	1/4	1/4	21,5	59	14	19	9/16-18	
	250		406610	6	1/4	3/8	23,5	72,5	19	22	9/16-18
			406611	8-10	5/16-3/8	3/8	25	72,5	19	22	11/16-16
			406612	8-10	5/16-3/8	1/2	28	87	22	27	11/16-16
	315	406613	12	1/2	1/4	28	66,5	19	19	13/16-16	
	250		406614	12	1/2	1/2	30	87	22	27	13/16-16
			406615	12	1/2	3/4	31,5	97,5	27	36	13/16-16
	315	406616	14-15-16	5/8	1/4	33,5	81,5	27	19	1-14	
	250		406617	14-15-16	5/8	3/8	33,5	81,5	27	22	1-14
			406618	14-15-16	5/8	3/4	33,5	97,5	27	36	1-14
	200	406619	14-15-16	5/8	1	37	113,5	33	41	1-14	
	315	406620	18-20	3/4	1/4	37,5	89,5	30	19	13/16-12	
	250	406621	18-20	3/4	1/2	37,5	95	30	27	13/16-12	
	200	406622	18-20	3/4	1	38	113,5	33	41	13/16-12	
	315	406623	22-25	7/8-1	1/4	41,5	107	36	19	17/16-12	
	250	406624	22-25	7/8-1	3/4	41,5	112,5	36	36	17/16-12	
	200		406625	22-25	7/8-1	1 1/4	44,5	125	41	50	17/16-12
			406626	28-30-32	1 1/4	1	44,5	125	41	41	111/16-12
	160	406627	28-30-32	1 1/4	1 1/2	48,5	137	48	55	111/16-12	

Note: If you wish to order a fitting in stainless steel, please change the first two digit from 40.. to 41..

LONG ADJUSTABLE MALE STUD ELBOW WITH O-RING AND WASHER
Thread Metric Parallel

Type: 4067..

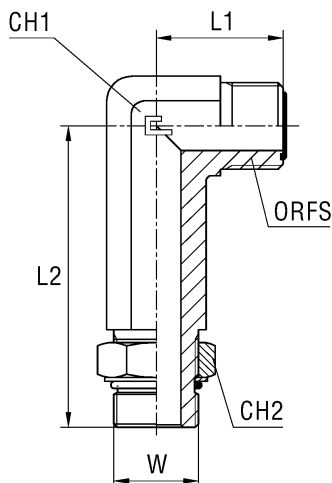


Serie	Bar	Ordering Body	Ø Tube M	Ø Tube W	M	L1	L2	CH1	CH2	ORFS
UNIVERSAL	315	406701	6	1/4	12x1,5	21,5	56,5	14	17	9/16-18
		406702	8-10	5/16-3/8	14x1,5	25	66	19	19	11/16-16
		406703	12	1/2	18x1,5	28	75	19	24	13/16-16
	250	406704	14-15-16	5/8	22x1,5	33,5	88	27	27	1-14
		406705	18-20	3/4	27x2	37,5	100	30	32	13/16-12
	160	406706	22-25	7/8-1	33x2	41,5	114	36	41	17/16-12
		406707	28-30-32	1 1/4	42x2	44,5	126	41	50	111/16-12
		406708	35-38	1 1/2	48x2	49	141	48	55	2-12
	315	406709	6	1/4	10x1	21,5	53,5	14	14	9/16-18
		406710	8-10	5/16-3/8	16x1,5	25	67	19	22	11/16-16
		406711	12	1/2	16x1,5	28	67	19	22	13/16-16
	250	406712	12	1/2	22x1,5	31,5	88	27	27	13/16-16
	315	406713	14-15-16	5/8	18x1,5	33,5	86,5	27	24	1-14
	250	406714	14-15-16	5/8	27x2	33,5	100	27	32	1-14
		406715	18-20	3/4	22x1,5	37,5	88	30	27	13/16-12
	160	406716	18-20	3/4	33x2	38	114	33	41	13/16-12
	250	406717	22-25	7/8-1	27x2	41,5	114	36	32	17/16-12
	160	406718	22-25	7/8-1	42x2	44,5	126	41	50	17/16-12
		406719	28-30-32	1 1/4	48x2	48,5	141	48	55	111/16-12

Note: If you wish to order a fitting in stainless steel, please change the first two digit from 40.. to 41..

LONG ADJUSTABLE MALE STUD ELBOW WITH O-RING
Thread UNF/UN-2A

Type: 4068..

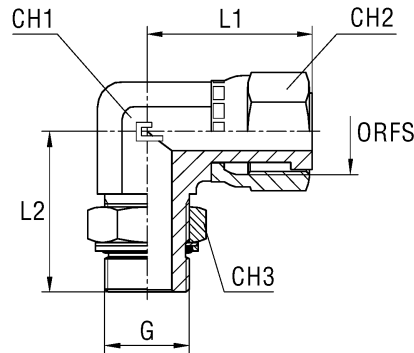


Serie	Bar	Ordering Body	Ø Tube M	Ø Tube W	W	L1	L2	CH1	CH2	ORFS
UNIVERSAL	420	406801	6	1/4	7/16-20	21,5	56,5	14	14	9/16-18
		406802	8-10	5/16-3/8	9/16-18	25	66,5	19	17	11/16-16
		406803	12	1/2	3/4-16	28	75	19	22	13/16-16
		406804	14-15-16	5/8	7/8-14	33,5	89	27	27	1-14
		406805	18-20	3/4	1 1/16-12	37,5	101	30	32	1 3/16-12
	380	406806	22-25	7/8-1	1 5/16-12	41,5	114,5	36	41	1 7/16-12
	280	406807	28-30-32	1 1/4	1 5/8-12	44,5	126,5	41	50	1 11/16-12
		406808	35-38	1 1/2	1 7/8-12	49	139	48	55	2-12
	420	406809	6	1/4	9/16-18	21,5	58,5	14	17	9/16-18
		406810	6	1/4	3/4-16	23,5	75	19	22	9/16-18
		406811	8-10	5/16-3/8	7/16-20	25	64,5	19	14	11/16-16
		406812	8-10	5/16-3/8	3/4-16	25	75	19	22	11/16-16
		406813	8-10	5/16-3/8	7/8-14	28	89	22	27	11/16-16
		406814	8-10	5/16-3/8	1 1/16-12	29,5	101	27	32	11/16-16
		406815	12	1/2	9/16-18	28	66,5	19	17	13/16-16
		406816	12	1/2	7/8-14	30	89	22	27	13/16-16
		406817	12	1/2	1 1/16-12	31,5	101	27	32	13/16-16
		406818	14-15-16	5/8	3/4-16	33,5	85	27	22	1-14
		406819	14-15-16	5/8	1 1/16-12	33,5	101	27	32	1-14
		406820	18-20	3/4	3/4-16	37,5	85	30	22	1 3/16-12
		406821	18-20	3/4	7/8-14	37,5	89	30	27	1 3/16-12
		380	406822	18-20	3/4	1 5/16-12	38	114,5	33	41
	420	406823	22-25	7/8-1	1 1/16-12	41,5	114	36	32	1 7/16-12
	280	406824	22-25	7/8-1	1 5/8-12	44,5	126,5	41	50	1 7/16-12
		406825	28-30-32	1 1/4	1 5/16-12	44,5	126,5	41	41	1 11/16-12
		406826	28-30-32	1 1/4	1 7/8-12	48,5	139	48	55	1 11/16-12
		406827	35-38	1 1/2	1 5/8-12	49	139	48	50	2-12

Note: If you wish to order a fitting in stainless steel, please change the first two digit from 40.. to 41..

ADJUSTABLE MALE STUD ELBOW WITH CRIMPED NUT, O-RING AND WASHER
Thread BSP Parallel

Type: 4069..

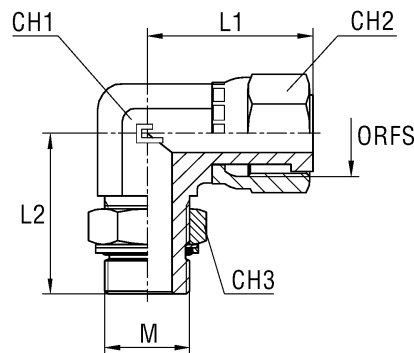


Serie	Bar	Ordering Body	Ø Tube M	Ø Tube W	G	L1	L2	CH1	CH2	CH3	ORFS
UNIVERSAL	350	406901	6	1/4	1/8	26,5	30	14	17	14	9/16-18
	315	406902	8-10	5/16-3/8	1/4	29	37	19	22	19	11/16-16
	250	406903	12	1/2	3/8	38	38	19	24	22	13/16-16
		406904	14-15-16	5/8	1/2	41	48	27	30	27	1-14
		406905	18-20	3/4	3/4	46,5	51,5	30	36	36	13/16-12
	200	406906	22-25	7/8-1	1	53,5	58,5	36	41	41	17/16-12
		406907	28-30-32	1 1/4	1 1/4	58	60,5	41	50	50	1 11/16-12
	160	406908	35-38	1 1/2	1 1/2	61	64	48	60	55	2-12

Note: If you wish to order a fitting in stainless steel, please change the first two digit from 40.. to 41..

ADJUSTABLE MALE STUD ELBOW WITH CRIMPED NUT, O-RING AND WASHER
Thread Metric Parallel

Type: 4070..

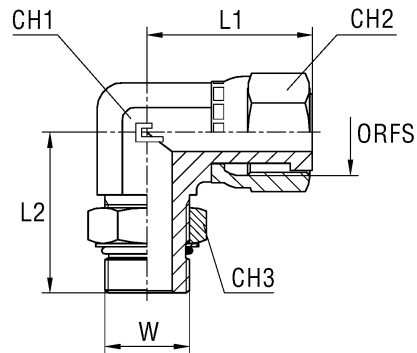


Serie	Bar	Ordering Body	Ø Tube M	Ø Tube W	M	L1	L2	CH1	CH2	CH3	ORFS
UNIVERSAL	315	407001	6	1/4	12x1,5	26,5	33	14	17	17	9/16-18
		407002	8-10	5/16-3/8	14x1,5	29	35,5	19	22	19	11/16-16
		407003	12	1/2	18x1,5	38	41	19	24	24	13/16-16
	250	407004	14-15-16	5/8	22x1,5	41	49	27	30	27	1-14
		407005	18-20	3/4	27x2	46,5	55,5	30	36	32	13/16-12
	160	407006	22-25	7/8-1	33x2	53,5	59,5	36	41	41	17/16-12
		407007	28-30-32	1 1/4	42x2	58	63	41	50	50	1 11/16-12
		407008	35-38	1 1/2	48x2	61	68,5	48	60	55	2-12

Note: If you wish to order a fitting in stainless steel, please change the first two digit from 40.. to 41..

ADJUSTABLE MALE STUD ELBOW WITH CRIMPED NUT AND O-RING
Thread UNF/UN-2A

Type: 4071..

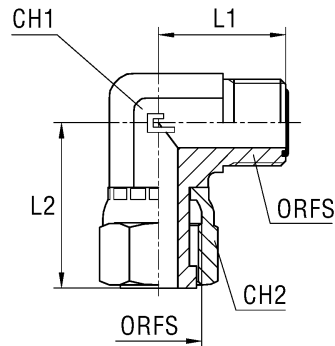


Serie	Bar	Ordering Body	Ø Tube M	Ø Tube W	W	L1	L2	CH1	CH2	CH3	ORFS
UNIVERSAL	420	407101	6	1/4	7/16-20	26,5	32,5	14	17	14	9/16-18
		407102	8-10	5/16-3/8	9/16-18	29	37	19	22	17	11/16-16
		407103	12	1/2	3/4-16	38	40,5	19	24	22	13/16-16
		407104	14-15-16	5/8	7/8-14	41	50	27	30	27	1-14
		407105	18-20	3/4	1 1/16-12	46,5	55	30	36	32	13/16-12
	380	407106	22-25	7/8-1	1 5/16-12	53,5	59,5	36	41	41	17/16-12
	280	407107	28-30-32	1 1/4	1 5/8-12	58	62	41	50	50	1 11/16-12
		407108	35-38	1 1/2	1 7/8-12	61	66	48	60	55	2-12

Note: If you wish to order a fitting in stainless steel, please change the first two digit from 40.. to 41..

CRIMPED NUT ELBOW

Type: 4072..

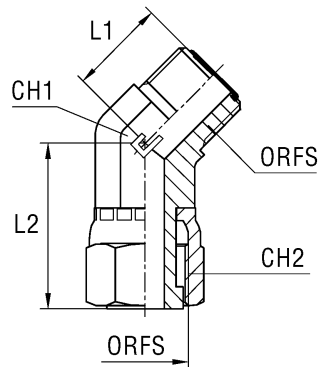


Serie	Bar	Ordering Body	Ø Tube M	Ø Tube W	L1	L2	CH1	CH2	ORFS
UNIVERSAL	630	407201	6	1/4	21,5	26,5	14	17	9/16-18
		407202	8-10	5/16-3/8	25	29	19	22	11/16-16
		407203	12	1/2	28	38	19	24	13/16-16
	420	407204	14-15-16	5/8	33,5	41	27	30	1-14
		407205	18-20	3/4	37,5	46,5	30	36	13/16-12
		407206	22-25	7/8-1	41,5	53,5	36	41	17/16-12
280	407207	28-30-32	1 1/4	44,5	58	41	50	1 11/16-12	
	407208	35-38	1 1/2	49	61	48	60	2-12	

Note: If you wish to order a fitting in stainless steel, please change the first two digit from 40.. to 41..

CRIMPED NUT 45° ELBOW

Type: 4073..

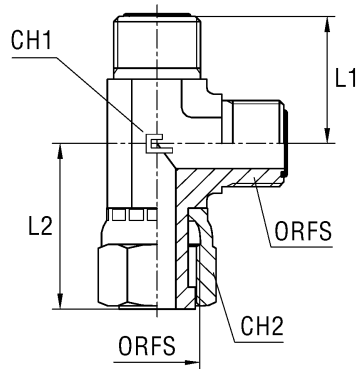


Serie	Bar	Ordering Body	Ø Tube M	Ø Tube W	L1	L2	CH1	CH2	ORFS
UNIVERSAL	630	407301	6	1/4	16	26,5	14	17	9/16-18
		407302	8-10	5/16-3/8	19	29	19	22	11/16-16
		407303	12	1/2	20,5	38	19	24	13/16-16
	420	407304	14-15-16	5/8	23,5	41	27	30	1-14
		407305	18-20	3/4	26	46,5	30	36	13/16-12
		407306	22-25	7/8-1	30	53,5	36	41	17/16-12
	280	407307	28-30-32	1 1/4	32	58	41	50	1 11/16-12
		407308	35-38	1 1/2	37	61	48	60	2-12

Note: If you wish to order a fitting in stainless steel, please change the first two digit from 40.. to 41..

CRIMPED NUT BARREL TEE

Type: 4074..

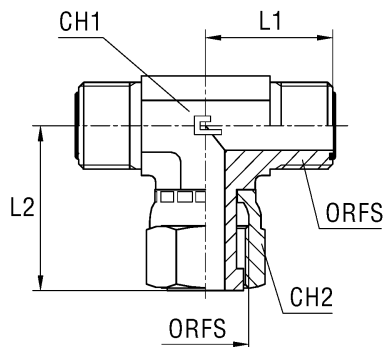


Serie	Bar	Ordering Body	Ø Tube M	Ø Tube W	L1	L2	CH1	CH2	ORFS
UNIVERSAL	630	407401	6	1/4	21,5	26,5	14	17	9/16-18
		407402	8-10	5/16-3/8	25	29	19	22	11/16-16
		407403	12	1/2	28	38	19	24	13/16-16
	420	407404	14-15-16	5/8	33,5	41	27	30	1-14
		407405	18-20	3/4	37,5	46,5	30	36	13/16-12
		407406	22-25	7/8-1	41,5	53,5	36	41	17/16-12
	280	407407	28-30-32	1 1/4	44,5	58	41	50	1 11/16-12
		407408	35-38	1 1/2	49	61	48	60	2-12

Note: If you wish to order a fitting in stainless steel, please change the first two digit from 40.. to 41..

CRIMPED NUT BRANCH TEE

Type: 4075..

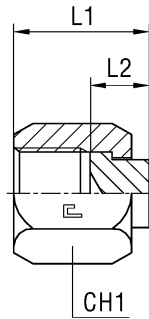


Serie	Bar	Ordering Body	Ø Tube M	Ø Tube W	L1	L2	CH1	CH2	ORFS
UNIVERSAL	630	407501	6	1/4	21,5	26,5	14	17	9/16-18
		407502	8-10	5/16-3/8	25	29	19	22	11/16-16
		407503	12	1/2	28	38	19	24	13/16-16
	420	407504	14-15-16	5/8	33,5	41	27	30	1-14
		407505	18-20	3/4	37,5	46,5	30	36	13/16-12
		407506	22-25	7/8-1	41,5	53,5	36	41	17/16-12
	280	407507	28-30-32	1 1/4	44,5	58	41	50	1 11/16-12
		407508	35-38	1 1/2	49	61	48	60	2-12

Note: If you wish to order a fitting in stainless steel, please change the first two digit from 40.. to 41..

FEMALE PLUG Thread UNF/UN-2B

Type: 4076..

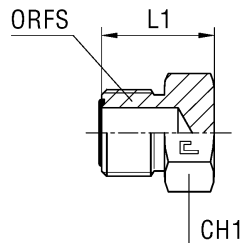


Serie	Bar	Ordering Body	Ø Tube M	Ø Tube W	L1	L2	CH1	ORFS
UNIVERSAL	630	407601	6	1/4	16,5	8,5	17	9/16-18
		407602	8-10	5/16-3/8	18	9,5	22	11/16-16
		407603	12	1/2	22	12	24	13/16-16
	420	407604	14-15-16	5/8	24,5	12	30	1-14
		407605	18-20	3/4	27	13,5	36	13/16-12
		407606	22-25	7/8-1	28,5	15	41	17/16-12
	280	407607	28-30-32	1 1/4	28,5	15	50	1 11/16-12
		407608	35-38	1 1/2	28,5	15	60	2-12

Note: Desiderando ordinare il raccordo prescelto in acciaio inox, sostituire nel codice il 40.. iniziale con 41..

TUBE PLUG Thread UNF/UN-2A

Type: 4077..

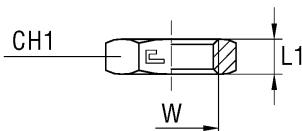


Serie	Bar	Ordering Body	Ø Tube M	Ø Tube W	L1	CH1	ORFS	
UNIVERSAL	630	407701	6	1/4	16,5	17	9/16-18	
		407702	8-10	5/16-3/8	19	19	11/16-16	
		407703	12	1/2	22	22	13/16-16	
	420	407704	14-15-16	5/8	26	27	1-14	
		407705	18-20	3/4	27,5	32	13/16-12	
		407706	22-25	7/8-1	28	41	17/16-12	
	280	407707	28-30-32	1 1/4	28	28	46	1 11/16-12
		407708	35-38	1 1/2	28	28	55	2-12

Note: If you wish to order a fitting in stainless steel, please change the first two digit from 40.. to 41..

EXAGONAL NUT Thread UNF/UN-2B

Type: 4078..

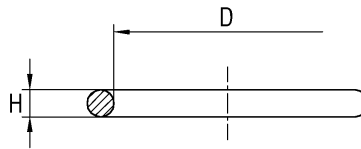


Serie	Bar	Ordering Body	Ø Tube M	Ø Tube W	L1	CH1	ORFS
UNIVERSAL	630	407801	6	1/4	7	22	9/16-18
		407802	8-10	3/8	8	27	11/16-16
		407803	12	1/2	9	30	13/16-16
	420	407804	14-15-16	5/8	10,5	36	1-14
		407805	18-20	3/4	10,5	41	13/16-12
		407806	22-25	1	10,5	46	17/16-12
	280	407807	28-30-32	1 1/4	10,5	50	1 11/16-12
		407808	35-38	1 1/2	10,5	60	2-12

Note: If you wish to order a fitting in stainless steel, please change the first two digit from 40.. to 41..

O-RING

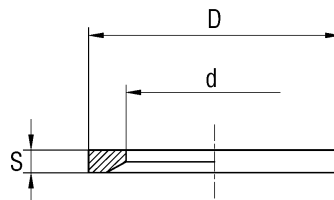
Type: **0301.. NBR**
 Type: **0302.. VITON®**



Ordering NBR	Ordering VITON®	D	H	Ordering NBR	Ordering VITON®	D	H	Ordering NBR	Ordering VITON®	D	H
030101	030201	4	1	030127	030227	15	2	030153	030253	38	1
030102	030202	4	1,5	030128	030228	15,3	2,2	030154	030254	38	2,5
030103	030203	6	1	030129	030229	16	1	030155	030255	38,6	2,9
030104	030204	6	1,5	030130	030230	16,3	2,4	030156	030256	42	1
030105	030205	7,5	1,5	030131	030231	16,36	2,2	030157	030257	43,69	3
030106	030206	7,97	1,88	030132	030232	17,86	2,62	030158	030258	44,04	3,53
030107	030207	8	1	030133	030233	18	1	030159	030259	44,6	2,9
030108	030208	8,4	1,6	030134	030234	19,18	2,46	030160	030260	55,56	3,53
030109	030209	8,92	1,83	030135	030235	19,3	2,2	030161	030261	60	2,62
030110	030210	9	1,5	030136	030236	20	1	030162	030262	4	0,5
030111	030211	9,3	2,2	030137	030237	20	2	030163	030263	5,5	0,5
030112	030212	10	1	030138	030238	20,3	2,4	030164	030264	7	0,5
030113	030213	10	2	030139	030239	22	1	030165	030265	10	0,5
030114	030214	10,52	1,93	030140	030240	23,47	2,62	030166	030266	13	0,5
030115	030215	10,77	2,62	030141	030241	23,47	2,95	030167	030267	16	0,5
030116	030216	11,3	2,2	030142	030242	23,6	2,9	030168	030268	48	1
030117	030217	11,9	1,98	030143	030243	25	1	030169	030269	17,3	2,2
030118	030218	12	1	030144	030244	25,3	2,4	030170	030270	7,65	1,78
030119	030219	12	2	030145	030245	26	2	030171	030271	9,25	1,78
030120	030220	13,3	2,2	030146	030246	28	1	030172	030272	12,42	1,78
030121	030221	13,94	2,62	030147	030247	30	1	030173	030273	15,6	1,78
030122	030222	14	1	030148	030248	32	2,5	030174	030274	18,77	1,78
030123	030223	15	1	030149	030249	33,3	2,4	030175	030275	23,52	1,78
030124	030224	15	2	030150	030250	35	1	030176	030276	29,87	1,78
030125	030225	15,3	2,2	030151	030251	37,46	3	030177	030277	37,82	1,78
030126	030226	16	1	030152	030252	37,69	3,53	-	-	-	-

ELASTOMERIC SEAL

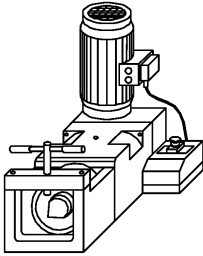
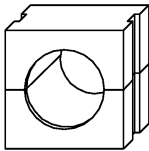
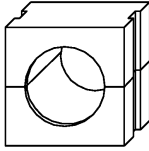
Type: **0303.. NBR**
 Type: **0304.. VITON®**



Ordering NBR	Ordering VITON®	M	G	D	d	s
030301	030401	8x1	-	9,9	6,5	1
030302	030402	10x1	1/8	11,4	8,4	1
030303	030403	12x1,5	-	14,9	9,8	1,5
030304	030404	14x1,5	1/4	16,5	11,6	1,5
030305	030405	16x1,5	-	18,9	13,8	1,5
030306	030406	-	3/8	18,9	14,7	1,5
030307	030407	18x1,5	-	20,9	15,7	1,5
030308	030408	20x1,5	-	22,9	17,8	1,5
030309	030409	-	1/2	23,9	18,5	1,5
030310	030410	22x1,5	-	24,3	19,6	1,5
030311	030411	26x1,5 27x2	3/4	29,2	23,9	1,5
030312	030412	33x2	1	35,7	29,7	2
030313	030413	42x2	1 1/4	45,8	38,8	2
030314	030414	48x2	1 1/2	50,7	44,7	2
030315	030415	-	2	63,5	56,5	2

VITON® is a DuPont Dow Elastomers Trade Mark

ASSEMBLY TOOLS SERIE SAE J1453

SWAGING MACHINE		METRIC		INCHES	
					
Serie	Ordering Machine	ØTube	Ordering Metric	ØTube	Ordering Inches
UNIVERSAL	400000	6	400001	1/4	400001.W
		10	400002	3/8	400002.W
		12	400003	1/2	400003.W
		16	400004	5/8	400004.W
		20	400005	3/4	400005.W
		25	400006	1	400006.W
		30	400007	1 1/4	400007.W
		38	400008	1 1/2	400008.W
		8	400009	5/16	400009.W
		14	400010	-	-
		15	400011	-	-
		18	400012	-	-
		22	400013	7/8	400013.W
		28	400014	-	-
		32	400015	-	-
		35	400016	-	-

