

Compression Fittings

34 Series Inch

- > **Wide range of types and sizes**
- > **Rugged and durable**
- > **Suitable for use under extreme conditions of pressure and temperature**
- > **Leakage free tube sealing**
- > **Suitable for metallic and nylon tubing**
- > **Ideal for most general industrial applications**



Technical features

Medium:

Compressed air or any fluids compatible with the materials/ tubing listed

Operating pressure:

The maximum working pressure is limited by the type of tubing being used. See typical application below.

Ambient temperature:

The maximum working temperature is generally limited by the type of tubing being used. See typical application below.

Tube sizes:

3/16", 1/4", 5/16", 3/8", 1/2", 5/8" O/D

Thread types:

Parallel BSP - ISO 228
Taper BSP - ISO 7
Taper NPTF - ASME B1.20.1

Thread sizes:

1/8" ... 1/2"

Tube types:

Nylon 11 or 12 and other plasticised or unplasticised tubing which conforms to the tolerances specified in BS5409: Part 1 1976
Copper, annealed and half-hard to BS EN 12449:2016.
Double wall brazed steel.

Typical Application

Tube material - Annealed copper:

Working temperature range
-200°C ... +50°C
4 mm diameter tube - 128 bar max.
28 mm diameter tube - 41 bar max.

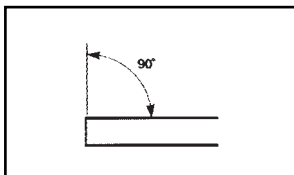
Tube material - Nylon:

Standard temperature range
-40 ... 20°C
4mm tube 28 bar max.
28mm tube 15 bar max.
(Metric sizes shown for comparative reference).

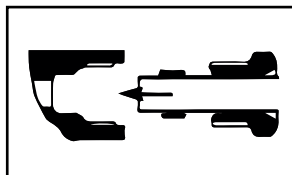
Materials:

Tubing nut, sleeve & body manufactured from bar: brass to BS EN 12164:2011
Body manufactured from stamping: brass to BS EN 12165:2016

Method of Assembly



1. Ensure that the tube is cut square and is free from fraze.



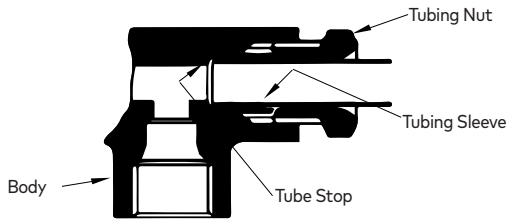
2. Place the tubing nut and sleeve on the tube and push the tube into the fitting until it bottoms on the tube stop.



3. Holding the tube firmly in contact with the tube stop screw the tubing nut down finger tight and then tighten a further 1 to 1 3/4 full turns. Slacken off the assembly and then pinch down again.

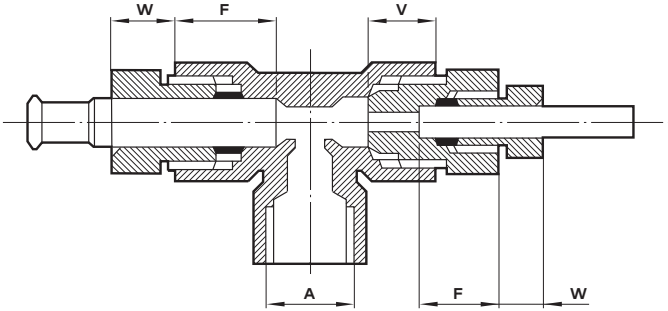
The method of preparation and assembly described will ensure leak-proof joints over a wide pressure range, depending upon the size and type of tubing being used. Failure to follow this guide, or over-tightening at any joint, will only lead to damage of the fittings or an unsatisfactory seal.

Components



Typical Dimensions

Hose stem to tube with reducing connector



O/D Tube	A thread details	F	V	W
3/16"	3/8" x 24 TPI	0.44	0.35	0.26
1/4"	7/16" x 24 TPI	0.50	0.38	0.26
5/16"	1/2" x 24 TPI	0.56	0.42	0.26
3/8"	9/16" x 24 TPI	0.60	0.42	0.28
1/2"	3/4" x 24 TPI	0.66	0.50	0.26
5/8"	7/8" x 20 TPI	0.72	0.58	0.34
3/4"	1.025" x 18 TPI	0.78	0.64	0.40

A = outside diameter tube size and thread details.*

F = tube or stem length inside fitting.

V = nipples connector length inside fitting.

W = projection of tubing nut from compression joint.

All these dimensions are common to a particular tubing outside diameter size. Refer to later pages in this section for details of individual coupling dimensions. Dimensions V & W will vary with the torque applied so these dimensions are guidance only.

***Note:** The 'O/D tube' sizes in the following tables refer to the Enots compression threads listed above.

Torque Figures

O/D Tube	Half hard copper	Nylon 11 & 12	Double wall brazed steel
3/16"	50 lbf in	60 lbf in	60 lbf in
1/4"	80 lbf in	60 lbf in	60 lbf in
5/16"	80 lbf in	60 lbf in	80 lbf in
3/8"	115 lbf in	70 lbf in	110 lbf in
1/2"	35 lbf ft	20 lbf ft	25 lbf ft
5/8"	35 lbf ft	35 lbf ft	-
3/4"	60 lbf ft	35 lbf ft	-

Inch - Recommended torque using 340278** series tubing sleeves

Tubing nuts and tubing sleeves

Tubing nut
340279



Page 4

Universal tubing sleeve
340278



Page 4

Metallic tubing sleeve
340003



Page 4

Straight Connectors and Adaptors

Straight adaptor male
ISO R - female tube
340346



Page 5

Straight adaptor male
ISO G - female tube
340348



Page 5

Straight adaptor female
ISO G - female tube
340344



Page 5

Straight connector
female tube
340007



Page 5

Bulkhead connector
female tube
340021



Page 6

Bulkhead locknut
340223



Page 6

Nipped adaptor female
ISO G - male tube
340351



Page 6

Stem tailpiece adaptor
tube stem - hose
340056



Page 6

Tubing plug - male tube
thread
340038



Page 6

Straight adaptor male
NPTF - female tube
340347



Page 6

Elbow Connectors and Adaptors

Elbow adaptor male ISO
R - female tube
340330



Page 7

Elbow stem connector
female tube - tube stem
340057



Page 7

Accessories

Folded copper washer
480213



Page 7

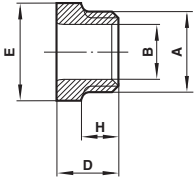
Bonded washer
480215



Page 7

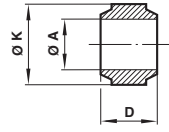
Tubing Nut

340279**



Universal Tubing Sleeve

Suitable for nylon and metallic tubing
340278**

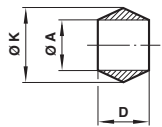


B O/D tube	A thread	D	E A/F	H	Model
3/16"	3/8" x 24 TPI	0.40	0.45	0.26	34027903
1/4"	7/16" x 24 TPI	0.43	0.45	0.27	34027904
5/16"	1/2" x 24 TPI	0.45	0.53	0.27	34027905
3/8"	9/16" x 24 TPI	0.48	0.60	0.28	34027906
1/2"	3/4" x 24 TPI	0.57	0.82	0.33	34027907
5/8"	7/8" x 20 TPI	0.66	0.92	0.38	34027908

A O/D tube	D	K	Model
3/16"	0.19	0.31	34027803
1/4"	0.24	0.38	34027804
5/16"	0.28	0.44	34027805
3/8"	0.27	0.50	34027806
1/2"	0.32	0.67	34027807
5/8"	0.35	0.80	34027808

Metallic Tubing Sleeve

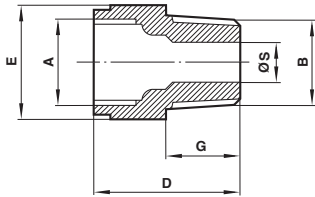
Suitable for metallic tubing only
340003**



A O/D tube	D	K	Model
3/16"	0.23	0.27	34000303
1/4"	0.28	0.35	34000304
5/16"	0.29	0.41	34000305
3/8"	0.28	0.47	34000306
1/2"	0.37	0.62	34000307

Straight Male Adaptor

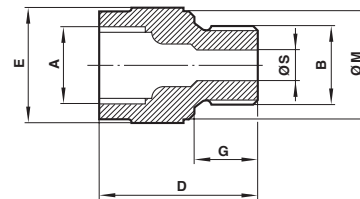
Female O/D tube to male taper ISO R thread
340346**



A thread for O/D tube	B thread	D	E A/F	G	S	Model
3/16"	R1/8	0.78	0.53	0.38	0.16	34034608
1/4"	R1/8	0.97	0.53	0.38	0.19	34034609
5/16"	R1/8	1.09	0.60	0.38	0.19	34034610
3/16"	R1/4	0.84	0.60	0.44	0.16	34034615
1/4"	R1/4	0.88	0.60	0.44	0.19	34034616
5/16"	R1/4	0.88	0.60	0.44	0.25	34034617
3/8"	R1/4	1.19	0.71	0.44	0.25	34034618
1/2"	R1/4	1.31	0.92	0.44	0.31	34034619
5/16"	R3/8	0.94	0.71	0.50	0.25	34034625
3/8"	R3/8	1.00	0.71	0.50	0.31	34034626
1/2"	R3/8	1.31	0.92	0.50	0.41	34034627
5/16"	R1/2	0.88	0.92	0.63	0.25	34034634
3/8"	R1/2	1.00	0.92	0.63	0.31	34034635
1/2"	R1/2	1.25	0.92	0.63	0.44	34034636
5/8"	R1/2	1.50	1.01	0.63	0.50	34034637

Straight Male Adaptor

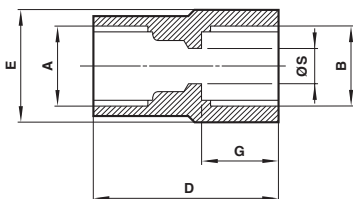
Female O/D tube to male parallel ISO G thread
340348**



A thread for O/D tube	B thread	D	E A/F	G	M	S	Model
1/4"	G1/8	0.84	0.60	0.29		0.19	34034809

Straight Adaptor

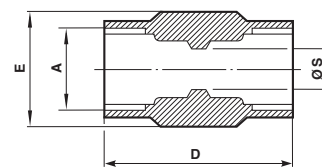
Female O/D tube to female parallel ISO G thread
340344**



A thread for O/D tube	B thread	D	E A/F	G	S	Model
3/16"	G1/8	0.81	0.53	0.25	0.16	34034408
1/4"	G1/4	1.00	0.60	0.38	0.19	34034416
3/8"	G1/4	1.06	0.71	0.38	0.31	34034418
1/2"	G1/2	1.19	1.01	0.44	0.44	34034436

Straight Connector

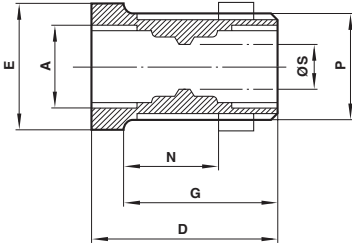
Female O/D tube
340007**



A thread for O/D tube	D	E A/F	S	Model
3/16"	1.00	0.53	0.16	34000703
1/4"	1.13	0.53	0.19	34000704
5/16"	1.25	0.60	0.25	34000705
3/8"	1.31	0.71	0.31	34000706
1/2"	1.56	0.92	0.44	34000707

Bulkhead Connector

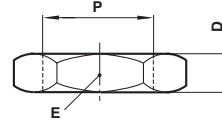
Female O/D tube
340021**



A thread for O/D tube	D	E A/F	G	N max. bulkhead	P thread ISO G parallel	S	Bulkhead clearance drilling	Locknut number	Model
3/16"	1.13	0.71	0.88	0.63	G1/4	0.16	0.53	34022302	34002103
1/4"	1.13	0.82	0.88	0.63	G3/8	0.19	0.69	34022303	34002104

Bulkhead locknut

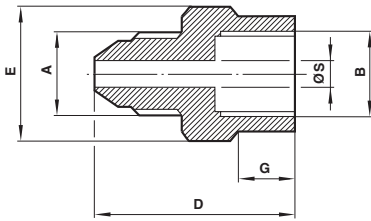
340223**



P thread ISO G parallel	D	E A/F	Model
G1/8	0.19	0.53	34022301
G1/4	0.25	0.71	34022302
G3/8	0.25	0.82	34022303
G1/2	0.25	1.01	34022304

Nipped Adaptor

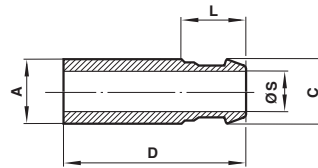
Male O/D tube to female parallel ISO G thread
340351**



A thread for O/D tube	B thread	D	E A/F	G	S	Model
5/16"	G1/4	1.22	0.71	0.38	0.19	34035117

Stem Tailpiece Adaptor

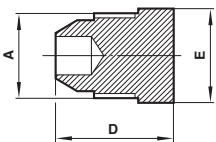
O/D tube stem to hose
340056**



A O/D stem	C hose bore	D	L	S	Model
5/16"	5/16"	2.00	0.75	0.22	34005605
1/2"	1/2"	2.28	0.78	0.41	34005607

Tube Plug

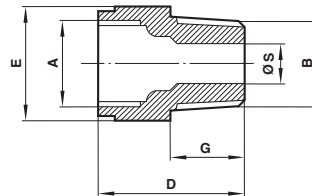
Male O/D tube thread
340036**



A thread for O/D tube	D	E A/F	Model
1/4"	0.73	0.45	34003604
5/16"	0.72	0.53	34003605

Straight Male Adaptor (NPTF)

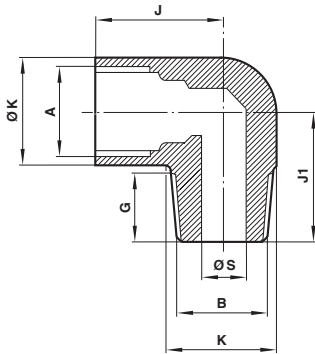
Female O/D tube to male NPTF thread
340347**



A thread for O/D tube	B thread NPTF	D	E A/F	G	S	Model
1/4"	1/8"	0.97	0.56	0.38	0.19	34034709

Male Elbow Adaptor

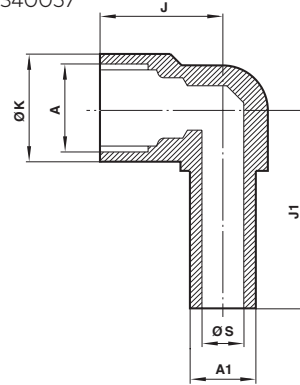
Female O/D tube to male taper ISO R thread
340330**



A thread for O/D tube	B thread	G	J	J1	K	S	Model
3/16"	R1/8	0.38	0.69	0.69	0.50	0.19	34033008
1/4"	R1/8	0.38	0.69	0.69	0.56	0.19	34033009
5/16"	R1/8	0.38	0.81	0.81	0.63	0.19	34033010
1/4"	R1/4	0.44	0.69	0.8	0.56	0.25	34033016
5/16"	R1/4	0.44	0.81	0.83	0.63	0.25	34033017
3/8"	R1/4	0.44	0.88	0.88	0.69	0.25	34033018
1/2"	R1/4	0.44	1.00	1.03	0.97	0.25	34033019
3/8"	R3/8	0.50	0.88	0.94	0.69	0.38	34033026
1/2"	R3/8	0.50	1.00	1.13	0.97	0.38	34033027
1/2"	R1/2	0.63	1.00	1.15	0.97	0.50	34033036

Stem Elbow Connector

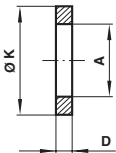
Female O/D tube to O/D tube stem
340057**



A thread for O/D tube	A1 O/D stem	J	J1	K	S	Model
1/4"	1/4"	0.75	1.21	0.56	0.17	34005704
3/8"	3/8"	0.91	1.38	0.69	0.28	34005706
1/2"	1/2"	1.03	1.78	0.91	0.38	34005707

Folded Copper Washer

480213**



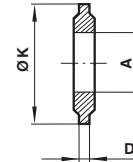
Dimensions shown in mm

A for ISO G thread	D	K	Model
G1/8	1.8	13.5	48021301
G1/4	1.8	17.6	48021302
G3/8	1.8	20.9	48021303
G1/2	1.8	26.4	48021304
G3/4	1.8	32.4	48021306
G1	1.8	38.9	48021308

Operating Pressure: 20 Bar (max)
Temperature: -10°C to +80°C

Bonded Washer

480215**



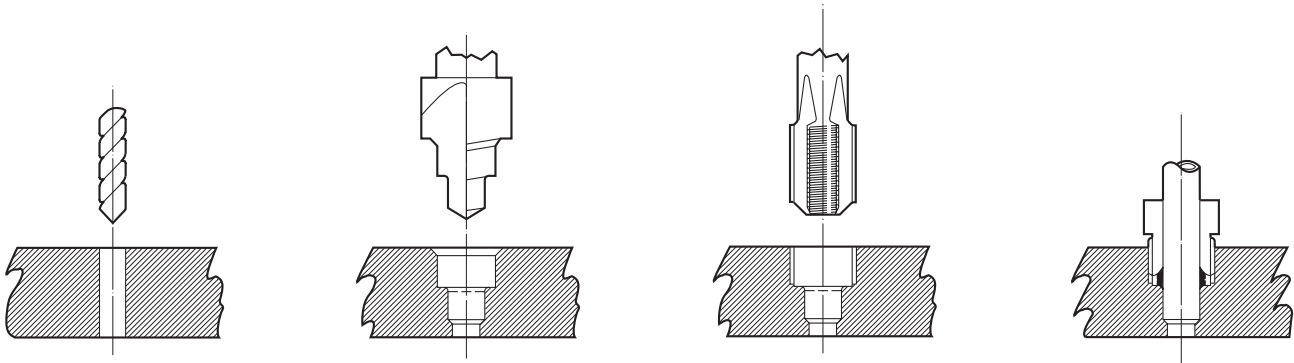
Dimensions shown in mm

A for ISO G thread	D	K	Model
G1/8	2	15.9	48021501
G1/4	2	20.6	48021502
G3/8	2	23.8	48021503
G1/2	2	28.6	48021504
G3/4	2	34.9	48021506
G1	2.5	42.8	48021508

Operating Pressure: 128 Bar (max)
Temperature: -30°C to +110°C

Instructions For Machining

Where for some reason, such as saving overall space, it is desired to dispense with the male adaptor and fit a tube, complete with its associated nut and sleeve, direct into a casting, this may be done as illustrated below, by machining the correct form and thread with the appropriate size of form cutter and tap.



1. DRILL

It is difficult to recommend specific drill sizes to suit our range of form cutters and taps without having detailed knowledge of the material to be machined and details of the particular installation.

As a general rule, however, when preparing for a Norgren compression assembly, a drill size of 1 mm less in diameter than the tubing size should be used, up to and including 8 mm tube. For larger tubing, a drill of approximately 2 mm less in diameter is recommended.

2. FORM

The correct form cutter should be selected from the table overleaf for the outside diameter tubing being used.

3. TAP

The correct size thread tap should be selected from the table overleaf for the outside diameter tubing being used. Owing to the fine pitch of the threads used, only a plug tap is required.

4. ASSEMBLY

The tube, or stem fittings, with appropriate tubing nut and sleeve, can now be assembled into the port.

We can advise on individual problems but we cannot be held responsible for failures due to non-observance of the dimensions and tolerances which we lay down for these compression unions.

Note: Form cutters are available on request, contact Norgren technical service for more information

Warning

These products are intended for use in industrial compressed air systems only. Do not use these products where pressures and temperatures can exceed those listed under **»Technical features/data«**.

Before using these products with fluids other than those specified, for non-industrial applications, life-support systems or other applications not within published specifications, consult Norgren Ltd.

Through misuse, age, or malfunction, components used in fluid power systems can fail in various modes.

The system designer is warned to consider the failure modes of all component parts used in fluid power systems and to provide adequate safeguards to prevent personal injury or damage to equipment in the event of such failure.

System designers must provide a warning to end users in the system instructional manual if protection against a failure mode cannot be adequately provided.

System designers and end users are cautioned to review specific warnings found in instruction sheets packed and shipped with these products.