

Алматы (7273)495-231
Ангарск (3955)60-70-56
Архангельск (8182)63-90-72
Астрахань (8512)99-46-04
Барнаул (3852)73-04-60
Белгород (4722)40-23-64
Благовещенск (4162)22-76-07
Брянск (4832)59-03-52
Владивосток (423)249-28-31
Владикавказ (8672)28-90-48
Владимир (4922)49-43-18
Волгоград (844)278-03-48
Вологда (8172)26-41-59
Воронеж (473)204-51-73
Екатеринбург (343)384-55-89

Иваново (4932)77-34-06
Ижевск (3412)26-03-58
Иркутск (395)279-98-46
Казань (843)206-01-48
Калининград (4012)72-03-81
Калуга (4842)92-23-67
Кемерово (3842)65-04-62
Киров (8332)68-02-04
Коломна (4966)23-41-49
Кострома (4942)77-07-48
Краснодар (861)203-40-90
Красноярск (391)204-63-61
Курск (4712)77-13-04
Курган (3522)50-90-47
Липецк (4742)52-20-81

Магнитогорск (3519)55-03-13
Москва (495)268-04-70
Мурманск (8152)59-64-93
Набережные Челны (8552)20-53-41
Нижний Новгород (831)429-08-12
Новокузнецк (3843)20-46-81
Ноябрьск (3496)41-32-12
Новосибирск (383)227-86-73
Омск (3812)21-46-40
Орел (4862)44-53-42
Оренбург (3532)37-68-04
Пенза (8412)22-31-16
Петрозаводск (8142)55-98-37
Псков (8112)59-10-37

Пермь (342)205-81-47
Ростов-на-Дону (863)308-18-15
Рязань (4912)46-61-64
Самара (846)206-03-16
Саранск (8342)22-96-24
Санкт-Петербург (812)309-46-40
Саратов (845)249-38-78
Севастополь (8692)22-31-93
Симферополь (3652)67-13-56
Смоленск (4812)29-41-54
Сочи (862)225-72-31
Ставрополь (8652)20-65-13
Сургут (3462)77-98-35
Сыктывкар (8212)25-95-17
Тамбов (4752)50-40-97

Тверь (4822)63-31-35
Тольятти (8482)63-91-07
Томск (3822)98-41-53
Тула (4872)33-79-87
Тюмень (3452)66-21-18
Ульяновск (8422)24-23-59
Улан-Удэ (3012)59-97-51
Уфа (347)229-48-12
Хабаровск (4212)92-98-04
Чебоксары (8352)28-53-07
Челябинск (351)202-03-61
Череповец (8202)49-02-64
Чита (3022)38-34-83
Якутск (4112)23-90-97
Ярославль (4852)69-52-93

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Казахстан +7(7172)727-132

Киргизия +996(312)96-26-47

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**Технические характеристики на
латунные компрессионные фитинги,
компрессионные фитинги с внешней
гайкой, вставные фитинги, вращающиеся
соединения, вставные фитинги для
автомобилей
компании **IMI NORGREN****

- > **Tube size:** Ø 6 ... 18 mm
- > **Simple tube connection and disconnection** – no tools required
- > **Fewer component parts** – internally machined form in body to secure collet reduces number of potential leak paths
- > **Internal tube support** as standard for greater safety
- > **Corrosion resistant**
- > **Easy identification** – all collets marked with tube size
- > **Reduced assembly & maintenance times** provide time/labour savings
- > **Greater reliability and reduced testing**
- > **Ease of tube insertion** in areas of restricted access



Technical features

Medium:

Compressed air

Maximum working pressure:

0 to 10 bar (0 ... 145 psi)

Ambient/Media temperature:

-40 ... +100°C (-40 ... +212°F)

Tubing:

Tube should be to DIN 74324

Standards & Legislation:

Fittings and tubing comply to department of transport Federal motor vehicle safety standard, (DOT FMVSS 106) (Mandatory requirements for Inch tube fittings in U.S.A.) Society for automotive engineers SAE J1131 (inch tube and fittings) German TUV approval and DIN 74324 (metric tube and fittings)

Swivel fittings:

The swivel feature should be used for positioning purposes only and should not be used as a rotating joint.

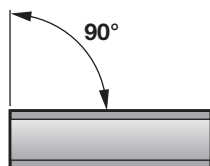
Additional ranges:

The selection of metric fittings listed in this catalogue form part of a wider range of vehicle push-in fittings for further details consult Norgren Technical service.

Materials:

Body (straights), tube support, collet: brass BS 2874 CZ 121
 Body (elbows, tees): brass BS 2874 CZ 122
 'O'-ring: buna N (low NBR)
 Thread sealant: precoat 5

Method of assembly



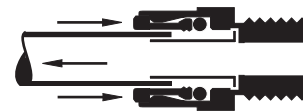
1. Ensure that the end of the tube is cut square and is free from burrs.



2. Push the tube through the collet into the fitting.

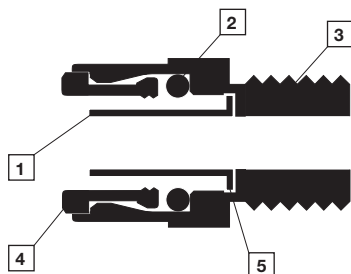


3. Continue pushing the tube through the 'O'-ring until it bottoms on the tube stop. Then pull back on the tube to reinforce the collet teeth gripping action.



4. To disconnect - first ensure there is no air present. Push the tube into the fitting until it bottoms on the tube stop. Then hold down the collet and withdraw the tube.

Component functions



- 1 Tube support
- 2 'O'-ring
- 3 Body
- 4 Collet
- 5 Tube stop

Body

The body has an internally machined form to secure the collet(s), 'O'-Ring(s) and Tube support(s). It also has internal & externally machined thread form(s) for connection to ports where applicable.

Collet

The purpose of the collet is to grip the tube and ensure it is retained by the fitting at all times.

'O'-ring

The 'O'-Ring is to ensure adequate interference between the tube & fitting body therefore providing a pneumatic seal at all times.

Tube support

The tube support prevents the tube collapsing during extreme tensile loading conditions. Such conditions are only encountered during performance testing and far exceed those experienced during normal use.

Straight adaptors and connectors

Straight adaptor (metric) 974666	Straight adaptor (BSP taper) 974530	Straight connector (equal) 974503	Reducing straight connector 974504
			
Page 2	Page 2	Page 4	Page 4

Elbow adaptors and connector

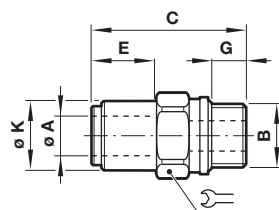
Swivel elbow adaptor (metric) 974521	Universal hobbs elbow adaptor (metric) 974138	Swivel elbow adaptor (BSP parallel) 974104	Elbow adaptor (BSP taper) 974330	Elbow connector 974511
				
Page 3	Page 3	Page 3	Page 3	Page 3

Tee connectors

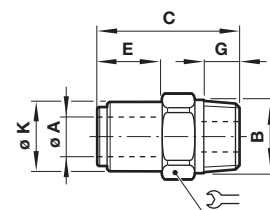
Tee connector (equal) 974514	Reducing tee connector 974588
	
Page 4	Page 4

Dimensions

Straight adaptor metric thread



Straight adaptor BSP taper thread

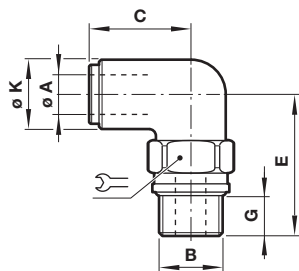


Dimensions in mm
Projection/First angle

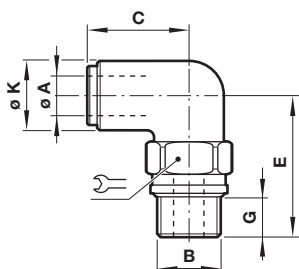


O/D Tube A	B	C	E	G	Ø K		Model
6	M10 x 1,0	28,5	13,5	8,0	13,0	14	97466631
6	M12 x 1,5	30,5	11,5	10,0	13,0	17	97466633
6	M14 x 1,5	31,5	13,5	10,0	13,0	19	97466634
6	M16 x 1,5	27,5	7,5	10,0	13,0	22	97466635
6	M22 x 1,5	30,5	5,0	12,0	13,0	27	97466638
8	M10 x 1,0	29,5	12,5	8,0	15,0	17	97466641
8	M12 x 1,5	31,5	12,5	10,0	15,0	17	97466643
8	M14 x 1,5	31,5	13,5	10,0	15,0	19	97466644
8	M16 x 1,5	31,5	11,5	10,0	15,0	22	97466645
8	M22 x 1,5	30,5	15,0	12,0	15,0	27	97466648
10	M10 x 1,0	33,0	16,0	8,0	17,0	17	97466651
10	M12 x 1,5	35,0	16,0	10,0	17,0	17	97466653
10	M14 x 1,5	5,0	15,0	10,0	17,0	19	97466654
10	M16 x 1,5	35,0	15,0	10,0	17,0	22	97466655
10	M22 x 1,5	31,0	5,5	12,0	17,0	27	97466658
12	M12 x 1,5	38,5	18,5	10,0	20,5	22	97466663
12	M14 x 1,5	38,5	18,5	10,0	20,5	22	97466664
12	M16 x 1,5	39,0	19,0	10,0	20,5	22	97466665
12	M22 x 1,5	35,0	9,5	12,0	20,5	27	97466668
15	M22 x 1,5	45,0	19,5	12,0	26,0	27	97466670
16	M16 x 1,5	42,5	19,5	10,0	26,0	27	97466679
16	M22 x 1,5	44,5	19,5	12,0	26,0	27	97466675
18	M22 x 1,5	44,5	18,5	12,0	29,0	30	97466680

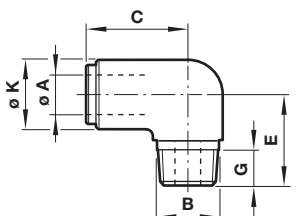
O/D Tube A	Taper B	C	E	G	Ø K		Model
6	R1/8	26,5	11,0	9,5	12,5	13	97453004
6	R1/4	27,0	9,5	11,1	12,5	14	97453010
8	R1/8	30,0	13,5	9,5	14,5	15	97453005
8	R1/4	30,0	11,5	11,1	14,5	15	97453011
10	R1/4	34,5	16,0	11,1	16,5	17	97453012
10	R3/8	34,5	13,5	12,5	16,5	17	97453020
12	R1/4	39,5	19,0	11,1	20,0	22	97453013

**Swivel elbow adaptor
metric thread**


O/D Tube A	B	C	E	G	Ø K		Model
6	M16 x 1,5	21,5	30,0	10,0	17,5	22	97452135
8	M12 x 1,5	23,0	27,0	10,0	17,5	17	97452143
8	M16 x 1,5	27,0	26,0	12,5	17,5	26	97452145
8	M22 x 1,5	25,0	35,5	12,0	26,0	27	97452148
10	M12 x 1,5	27,5	29,0	10,0	18,5	17	97452153
10	M16 x 1,5	27,5	30,0	10,0	18,5	22	97452155
10	M22 x 1,5	27,5	35,5	12,0	26,0	27	97452158
12	M16 x 1,5	32,5	34,0	10,0	22,0	22	97452165
12	M22 x 1,5	32,5	40,0	12,0	26,0	27	97452168

**Swivel elbow adaptor
BSP parallel thread**


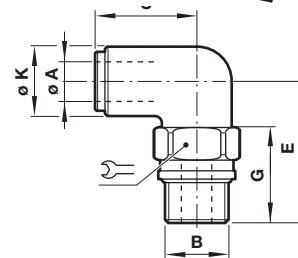
O/D Tube A	BSP parallel B	C	E	G	Ø K		Model
6	R1/8	21,0	23,0	7,0	12,0	15,0	97410404
10	R1/4	27,5	31,0	10,0	15,0	19,0	97410412

**Elbow adaptor
BSP taper thread**


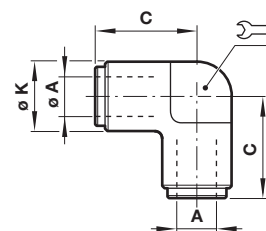
O/D Tube A	BSP Taper B	C	E	G	Ø K		Model
6	R1/8	20,5	20,0	9,5	14,0		97433004
6	R1/4	22,0	22,0	11,0	16,0		97433010
8	R1/4	23,0	22,0	11,0	16,0		97433011
10	R1/4	25,0	24,0	11,0	17,5		97433012
12	R1/4	30,0	27,0	11,0	24,0		97433013
12	R1/2	30,5	31,0	16,0	24,0		97433030

**Universal hobbs elbow adaptor
metric thread**


Dimensions in mm
Projection/First angle

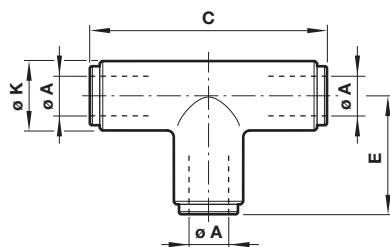


O/D Tube A	B	C	E	G	Ø K		Model
6	M10 x 1,0	23,5	26,0	16,0	14,0	15	97413831
6	M12 x 1,5	23,5	29,0	19,0	14,0	17	97413833
6	M16 x 1,5	24,5	34,0	21,5	17,5	24	97413835
6	M22 x 1,5	28,5	41,5	25,0	26,0	30	97413838
8	M12 x 1,5	25,5	31,5	19,0	17,5	17	97413843
8	M16 x 1,5	25,5	34,0	21,5	17,5	24	97413845
8	M22 x 1,5	28,5	41,5	25,0	26,0	30	97413848
10	M10 x 1,0	27,0	28,0	16,0	18,5	15	97413851
10	M12 x 1,5	29,0	31,0	19,0	18,5	17	97413853
10	M14 x 1,5	28,0	31,5	19,5	18,5	19	97413854
10	M16 x 1,5	29,0	33,5	21,5	18,5	24	97413855
10	M22 x 1,5	32,0	40,5	25,0	26,0	30	97413858
12	M16 x 1,5	32,0	35,5	21,5	22,0	24	97413865
12	M22 x 1,5	34,5	40,5	25,0	26,0	30	97413868
16	M16 x 1,5	38,0	38,5	25,0	26,0	24	97413879
16	M22 x 1,5	38,0	40,5	21,5	26,0	30	97413875
18	M22 x 1,5	39,5	43,0	25,0	23,0	30	97413880

Elbow connector


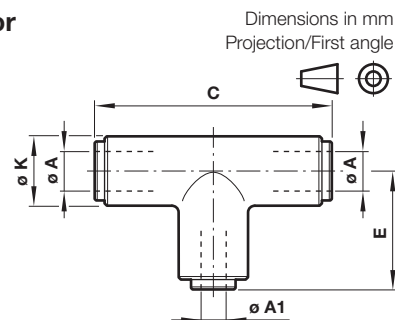
O/D Tube A	C	Ø K		Model
6	21,0	13,0	10	97451104
8	23,0	15,0	11	97451105
9	27,0	17,0	14	97451113
10	27,0	17,0	14	97451106
12	32,0	20,5	16	97451107
15	38,5	27,0	27	97451115
16	39,0	27,0	27	97451108

Equal tee connector



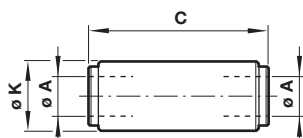
O/D Tube A	C	E	Ø K	Model
6	42,0	21,0	13,0	97451404
8	45,5	23,0	15,0	97451405
9	54,0	27,0	14,0	97451413
10	54,0	27,0	17,0	97451406
12	64,0	32,0	20,5	97451407
15	77,0	38,5	27,0	97451415
16	78,0	39,0	27,0	97451408

Reducing tee connector



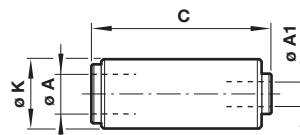
O/D Tube A	Tube A	Tube Ø A1	C	E	Ø K	Model
10	10	6	55,0	23,5	17,0	97458801
12	12	6	64,0	25,5	21,0	97458810
12	12	8	64,0	27,5	21,0	97458822

Equal straight connector



O/D Tube A	C	Ø K	Model
6	35,6	13,0	97450304
8	37,6	15,0	97450305
9	44,1	17,0	97450313
10	44,1	17,0	97450306
11	46,1	19,0	97450336
12	51,1	20,5	97450307
14	50,2	22,0	97450392
15	61,5	25,4	97450315
16	61,5	25,4	97450308

Reducing straight connector



O/D Tube A	O/D Tube Ø A1	C	Ø K	Model
8	6	38,5	15,0	97450447
10	6	43,5	17,0	97450448

Warning

These products are intended for use in industrial compressed air and rail transport 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 IMI NORGREN.

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.

43 Series

Compression fittings external nut



- > Port size: Ø 4 ... 22 mm
- > Rugged and durable
- > Ideal for most industrial applications
- > Wide range of types and sizes
- > Thread sizes from 1/8" to 1" BSP
- > Supplied assembled with tubing sleeves, nuts and appropriate seals



Technical features

Medium:

These fittings are designed for use with compressed air, oils, water and other fluids used in pneumatic and low pressure hydraulic applications.

Operating pressure:

Ø 4 ... 14 mm = 100 bar (1450 psi)
 Ø 16 ... 22 mm = 40 bar (580 psi)
 These maximum working pressure is limited by copper tubing with 1 mm wall thickness and +20 °C (+68°F) or limited by metal and PA tubing

Tube sizes:

4, 6, 8, 10, 12, 14, 15, 16, 18 or 22 mm

Thread sizes:

1/8", 1/4", 3/8", 1/2", 3/4", 1"

Tube types:

PA 11 or 12 and other plasticised or unplasticised tubing and other soft plastic tubing Copper, annealed and half-hard.
 Double wall brazed steel tube (Bundy)

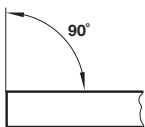
Ambient/Media temperature:

The maximum working temperature is limited by the type of tubing being used

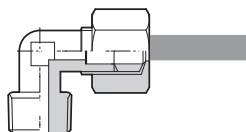
Materials:

Brass to OT 58 UNI 5705 for all items, except plastic washers
 Plastic washers: PA
 All brass items have a nickel plated finish unless otherwise stated

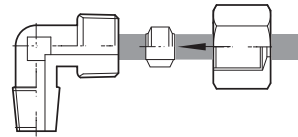
Method of assembly



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



2. For larger sizes of metal tubes it is beneficial to lightly oil the tubing nut and sleeve before tightening the joint. 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 11/4-11/2 full turns. Slacken off the assembly and ensure that the groove made by sleeve even. Release nut and re-tighten nut an extra quarter turn.

Note

When fitting to curved tubes ensure that section entering the fitting is straight for a minimum of twice the nut height. 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, may lead to damage of the fittings or an unsatisfactory seal.

Straight adaptors and connectors

Straight male adaptor 43125  Page 3	Straight male adaptor with seal 43225  Page 3	Straight female adaptor 43226  Page 3	Straight stem adaptor with seal 43215  Page 3	Straight connector 43020  Page 4	Bulkhead connector 43029  Page 4
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Elbow adaptors and connectors

Male elbow adaptor 43145  Page 4	Elbow connector 43040  Page 4
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Tee connectors and adaptors

Male tee adaptor 43165  Page 5	Tee connector 43060  Page 5	Male side tee adaptor 43175  Page 5	Four way connector 43090  Page 5
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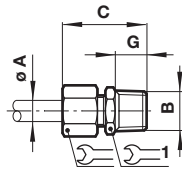
Elbow banjo assembly

Elbow banjo assembly with seals 43A51  Page 5	Banjo bolt with seals 43A00  Page 6	Single banjo body 43051  Page 6
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Accessories

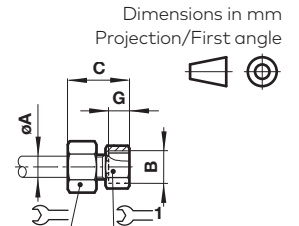
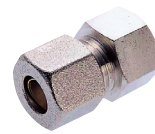
Universal tubing sleeve 43002  Page 6	Tube support 43033  Page 6	Tubing nut 43001  Page 6	Reducing connector 43028  Page 6	Tubing plug 43004  Page 7	Stem tailpiece connector 43019  Page 7
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Straight male adaptor 43125



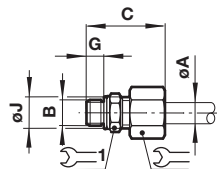
Ø A	B	C	G		1	Model
4	R1/8	26,5	7,5	10	10	431250418
4	R1/4	29,5	11	10	14	431250428
6	R1/8	28	7,5	13	11	431250618
6	R1/4	31,5	11	13	14	431250628
6	R3/8	32	11,5	13	17	431250638
8	R1/8	30	7,5	14	13	431250818
8	R1/4	33,5	11	14	14	431250828
8	R3/8	34	11,5	14	17	431250838
10	R1/4	36	11	19	16	431251028
10	R3/8	36,5	11,5	19	17	431251038
10	R1/2	38	13	19	21	431251048
12	R1/4	36,5	11	22	18	431251228
12	R3/8	37	11,5	22	18	431251238
12	R1/2	38,5	13	22	21	431251248
14	R3/8	38,5	11,5	24	20	431251438
14	R1/2	39,5	13	24	21	431251448
15	R1/2	39,5	13	24	21	431251548
16	R1/2	42	13	27	22	431251648
16	R3/4	43,5	14,5	27	27	431251668
18	R1/2	42,5	13	30	24	431251848
18	R3/4	44	14,5	30	27	431251868
22	R1/2	45	13	36	30	431252248
22	R3/4	46,5	14,5	36	30	431252268

Straight female adaptor 43226



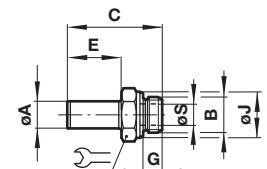
Ø A	B	C	G		1	Model
4	G1/8	25	8,5	14	10	432260418
6	G1/8	26	8,5	14	13	432260618
6	G1/4	28,5	11	17	13	432260628
8	G1/8	28	8,5	14	14	432260818
8	G1/4	30,5	11	17	14	432260828
8	G3/8	31	11,5	20	14	432260838
10	G1/4	33	11	17	19	432261028
10	G3/8	33,5	11,5	20	19	432261038
10	G1/2	35,5	13,5	24	19	432261048
12	G1/4	33,5	11	18	22	432261228
12	G3/8	34	11,5	20	22	432261238
12	G1/2	36	13,5	24	22	432261248
14	G3/8	33,5	20	24	11,5	432261438
14	G1/2	36	24	24	13,5	432261448
15	G1/2	36,5	24	24	13,5	432261548
16	G1/2	38,5	24	27	13,5	432261648
16	G3/4	40	30	27	14,5	432261668
18	G1/2	39	24	30	13,5	432261848
18	G3/4	40,5	30	30	14,5	432261868
22	G3/4	41	30	36	14,5	432262268

Straight male adaptor with seal 43225



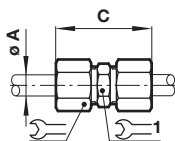
Ø A	B	C	G	Ø J		1	Model
4	G1/8	26	7,5	14	10	13	432250418
6	G1/8	27	7,5	14	13	13	432250618
6	G1/4	30,5	9,5	18	13	17	432250628
8	G1/8	30	7,5	14	14	13	432250818
8	G1/4	32,5	9,5	18	14	17	432250828
8	G3/8	36,5	13	21	14	22	432250838
10	G1/4	35	9,5	18	19	17	432251028
10	G3/8	39	13	21	19	22	432251038
14	G3/8	39,5	13	21	24	22	432251438
14	G1/2	41,5	14,5	26	24	27	432251448
22	G3/4	48	15,5	33	36	32	432252268
22	G1	51	17,5	41	36	41	432252288

Straight stem adaptor with seal 43215



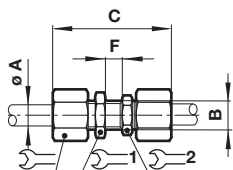
Ø A	B	C	E	G	Ø J	Ø S		Model
6	G1/8	27,5	16	6,5	14	4	10	432150618
6	G1/4	31	16	8	18	4	13	432150628
8	G1/8	31,5	19	6,5	14	5,5	14	432150818
8	G1/4	34	19	8	18	6	19	432150828
8	G3/8	38	19	11	21	6	22	432150838
10	G1/4	35	20	8	18	8	24	432151028
10	G3/8	39	20	11	21	8	24	432151038
14	G3/8	40	21	11	21	11	27	432151438
14	G1/2	42	21	12	26	12	30	432151448

Straight connector 43020



Ø A	C		 1	Model
4	33	10	10	430200400
6	36	13	11	430200600
8	40	14	13	430200800
10	45,5	19	16	430201000
12	46,5	22	18	430201200
14	47	24	21	430201400
15	51	24	21	430201500
16	52	27	22	430201600
18	54	30	26	430201800
22	57	36	30	430202200

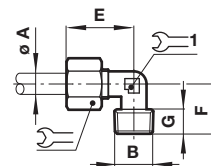
Bulkhead connector 43029



Ø A	B	C	F		 1	 2	Model
4	M 8x1,0	49	12	10	13	10	430290400
6	M10x1,0	53	12,5	13	14	13	430290600
8	M12x1,0	57	12,5	14	17	14	430290800
10	M16x1,5	64	13	19	22	19	430291000
12	M18x1,5	70	17	22	22	22	430291200
14	M20x1,5	72	19	24	24	24	430291400

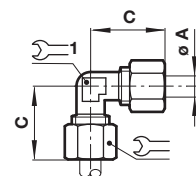
Male elbow adaptor 43145

Dimensions in mm
Projection/First angle



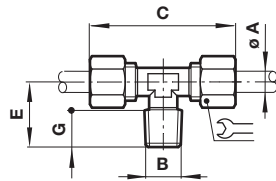
Ø A	B	E	F	G		 1	Model
4	R1/8	21,5	15	7,5	10	8	431450418
6	R1/8	26	18	7,5	13	9	431450618
6	R1/4	24	19	11	13	9	431450628
8	R1/8	30	18	7,5	14	11	431450818
8	R1/4	30	22	11	14	11	431450828
8	R3/8	30,5	24	11,5	14	13	431450838
10	R1/4	33	23,5	11	19	13	431451028
10	R3/8	33	24	11,5	19	13	431451038
10	R1/2	35	25	13	19	14	431451048
12	R1/4	35,5	24	11	22	14	431451228
12	R3/8	35,5	24,5	11,5	22	14	431451238
12	R1/2	35,5	25	13	22	14	431451248
14	R3/8	38,5	26	11,5	24	17	431451438
14	R1/2	38,5	28,5	13	24	17	431451448
15	R1/2	38,5	28,5	13	24	17	431451548
16	R1/2	39,5	28	13	27	17	431451648
18	R1/2	40,5	29,5	13	30	20	431451848
18	R3/4	40,5	32	11,5	30	20	431451868
22	R3/4	43	34	11,5	36	27	431452268

Elbow connector 43040



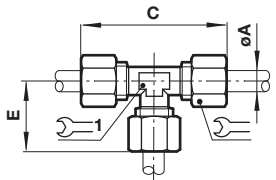
Ø A	C		 1	Model
4	21,5	10	8	430400400
6	26	13	9	430400600
8	30	14	11	430400800
10	33	19	13	430401000
12	35,5	22	14	430401200
14	36,5	24	17	430401400
15	37,5	24	17	430401500
16	39	27	17	430401600
18	40,5	30	20	430401800
22	43	36	27	430402200

Male tee adaptor 43165



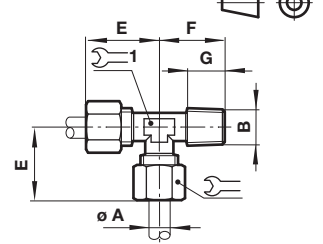
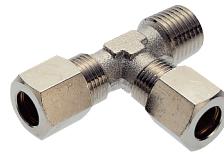
Ø A	B	C	E	G	1	Model
4	R1/8	42	15	7,5	10	431650418
6	R1/8	48	16,5	7,5	13	431650618
6	R1/4	48	20,5	11	13	431650628
8	R1/8	56	16,5	7,5	14	431650818
8	R1/4	56	20,5	11	14	431650828
8	R3/8	60	23	11,5	14	431650838
10	R1/4	64	22,5	11	19	431651028
10	R3/8	64	23,5	11,5	19	431651038
10	R1/2	68	27	13	19	431651048
12	R1/4	68	24,5	11	22	431651228
12	R3/8	71	24,5	11,5	22	431651238
12	R1/2	71	25	13	22	431651248
14	R3/8	77	26	11,5	24	431651438
14	R1/2	77	28,5	13	24	431651448
15	R1/2	77	28,5	13	24	431651548
16	R1/2	79	28	13	27	431651648
18	R1/2	81	29,5	13	30	431651848
18	R3/4	81	32	14,5	30	431651868
22	R3/4	86	34	11,5	36	431652268

Tee connector 43060



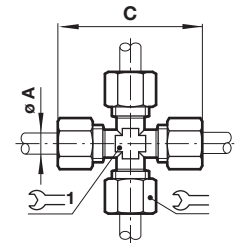
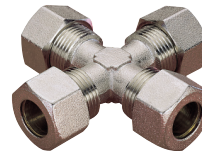
Ø A	C	E	1	Model
4	43	21,5	10	430600400
6	48	24	13	430600600
8	57	28,5	14	430600800
10	64	32	19	430601000
12	70	35	22	430601200
14	77	38,5	24	430601400
15	77	38,5	24	430601500
16	78	39	27	430601600
18	81	40,5	30	430601800
22	86	43	36	430602200

Male side tee adaptor 43175



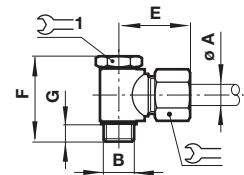
Ø A	B	E	F	G	1	Model
4	R1/8	15	21	7,5	10	431750418
6	R1/8	19	24	7,5	13	431750618
6	R1/4	20	26	11	13	431750628
8	R1/8	18	26	7,5	14	431750818
8	R1/4	20	26	11	14	431750828
8	R3/8	23	26	11,5	14	431750838

Four way connector 43090



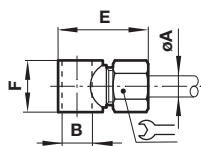
Ø A	C	1	Model
4	47	10	430900400
6	48	13	430900600
8	58	14	430900800
10	66	19	430901000
12	74,5	22	430901200
14	74,5	24	430901400

Elbow banjo assembly with seals 43A51



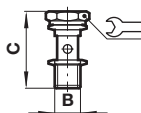
Ø A	B	E	F	G	1	Model
4	G1/8	22,5	31	8	10	43A510418
6	G1/8	23,5	31	8	13	43A510618
6	G1/4	26,5	33,5	6	13	43A510628
8	G1/8	28,5	31	8	14	43A510818
8	G1/4	28,5	33,5	6	14	43A510828
8	G3/8	30	34,5	8	14	43A510838
10	G1/4	32,5	33,5	7	19	43A511028
10	G3/8	32,5	34,5	8	19	43A511038
14	G1/4	36,5	44	8	24	43A511428
14	G3/8	36,5	46	9	24	43A511438
14	G1/2	36,5	49	11	24	43A511448
22	G3/4	46	64	12	36	43A512268

Single banjo body 43051



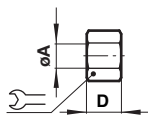
Ø A	B	E	F	Version		Model
4	1/8"	30	17	short banjo bolt	10	430510418
6	1/8"	28	17	short banjo bolt	13	430510618
6	1/4"	36	17	short banjo bolt	13	430510628
8	1/8"	38	17	short banjo bolt	14	430510818
8	1/4"	38	17	short banjo bolt	14	430510828
8	3/8"	41	20	short banjo bolt	14	430510838
10	1/4"	43	20	short banjo bolt	19	430511028
10	3/8"	43	20	short banjo bolt	19	430511038
14	1/4"	50	30	long banjo bolt	24	430511428
14	3/8"	50	30	long banjo bolt	24	430511438
14	1/2"	50	30	long banjo bolt	24	430511448
22	3/4"	63	42	long banjo bolt	36	430512268

Banjo bolt with seals 43A00



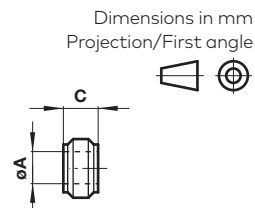
B	C	Version		Model
G1/8	31	short	14	43A000018
G1/4	33,5	short	17	43A000028
G3/8	34,5	short	19	43A000038
G1/4	44	long	17	43A000L28
G3/8	46	long	22	43A000L38
G1/2	49	long	24	43A000L48
G3/4	64	long	32	43A000L68

Tubing nut 43001



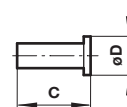
Ø A	B	C		Model
4	M8x1,0	10,5	10	430010400
6	M10x1,0	10,5	13	430010600
8	M12x1,0	12,5	14	430010800
10	M16x1,5	15	19	430011000
12	M18x1,5	15	22	430011200
14	M20x1,5	15	24	430011400
15	M20x1,5	15	24	430011500
16	M22x1,5	17	27	430011600
18	M24x1,5	18	30	430011800
22	M30x1,5	19	36	430012200

Universal tubing sleeve 43002 Natural brass finish



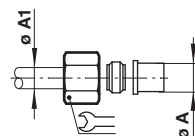
Ø A	C	Model
4	6	430020400
6	6,5	430020600
8	7	430020800
10	8	430021000
12	8,5	430021200
14	8,5	430021400
15	8,5	430021500
16	9	430021600
18	9,5	430021800
22	10	430022200

Tube support 43033 Natural brass finish, for use on plastic tubing.



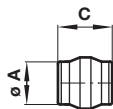
Ø Tube O.D./I.D	C	ØD	Model
4/2,7	13,5	3,8	430330403
6/4	13,5	5	430330604
8/6	16,5	7	430330806
10/8	17,5	9	430331008
12/9	19,5	11	430331209
12/10	19	11	430331210
14/12	21,5	13,5	430331412
15/12,5	21,5	14	430331512
16/13	22,5	15	430331613
18/15	23,5	17,5	430331815
18/16	23,5	17,5	430331816
22/18	25	19	430332218

Reducing connector 43028 Natural brass finish for sleeve and reducer.



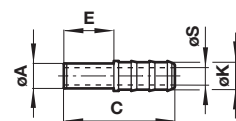
Ø A	Ø A1		Model
6	4	13	430280604
8	6	14	430280806
10	8	19	430281008
12	10	22	430281210
14	12	24	430281412

Tubing plug 43004 Natural brass finish



Ø A	C	Model
4	10	430040400
6	10,5	430040600
8	10,5	430040800
10	11,5	430041000
12	12	430041200
14	14	430041400
15	14	430041500
16	14	430041600
18	16	430041800
22	15	430042200

Stem tailpiece connector 43019 Natural brass finish



Dimensions in mm
Projection/First angle



Ø A	C	E	Ø K	Ø S	Model
6	40,5	22,5	7	5,5	430190607
8	43,5	22,5	7	5,5	430190807
8	43,5	22,5	10	8	430190810
10	44,5	22,5	7	5,5	430191007
10	44,5	22,5	10	8	430191010
12	45	22,5	10	8	430191210
12	52	29,5	13	11	430191213
14	52,5	29,5	13	11,5	430191413

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.

- > Port size: Ø 4/2,5 ... 15/12,5 mm (OD/ID tube)
- > Neat, compact design
- > Precision machined for complete reliability
- > Corrosion resistant
- > Unique barb shape ensures good grip on tube even if fitting is tightened by hand
- > Ideal for use in confined spaces where tight bend radii are required



Technical features

Medium:

Compressed air

Operating pressure:

15 bar (218 psi) maximum

Thread sizes:

M5, 1/8", 1/4", 3/8" or 1/2"

Tube sizes:

4/2,5 mm, 5/3 mm, 6/4 mm,
8/6 mm, 10/8 mm, 12/10 mm,
15/12,5 mm OD/ID

Tube types:

PUR or PA extra flexibility

Ambient/Media temperature:

-18°C ... +70°C (-0,4 ... +158°F)

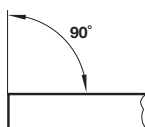
Materials:

Nut and body: Nickel plated brass
to OT58 UNI 5705

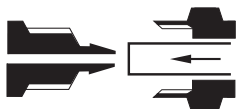
'O' ring: NBR 70

Sealing washer: PA 66

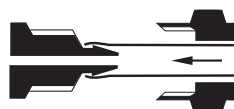
Method of assembly



1. Ensure that the end of the tube is cut square and is free from burrs.



2. Place the knurled nut over the tube.



3. Push the tube over the barbed end of the fitting up to the tube stop.



4. Screw the knurled nut onto the fitting until finger tight. The hexagon on the nut is to aid release.

Straight adaptors and connectors

Straight male adaptor
24125



Page 3

Straight male adaptor with seal
24225



Page 3

Straight female adaptor
24226



Page 3

Straight male adaptor
24020



Page 3

Bulkhead connector
24029



Page 3

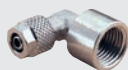
Elbow adaptors and connectors

Elbow male adaptor
24145



Page 4

Elbow female adaptor
24246



Page 4

Swivel elbow adaptor with seal
24247



Page 4

Elbow connector
24040



Page 4

Tee connectors and adaptors

Tee male adaptor
24165



Page 4

Tee connector
24060



Page 5

Side tee male adaptor
24175



Page 4

Equal cross connector
24090



Page 5

Elbow banjo assembly

Banjo flow regulator with seals
Regulating out
24K51



Page 6

Elbow banjo assembly with seals
24A51



Page 5

Tee elbow banjo assembly with seals
24A71



Page 5

Accessories

Tubing nut
24001

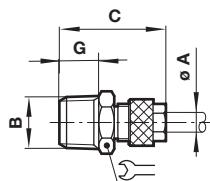


Page 6

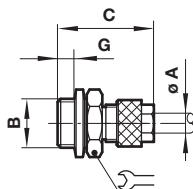
Plug
24005



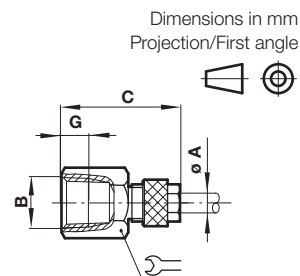
Page 6

Straight male adaptor
24125


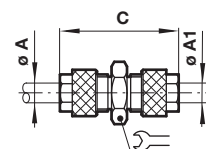
Ø A O/D / I/D tube	B	C	G		Model
4/2,5	R1/8	23	7,5	12	241250418
5/3	R1/8	23	7,5	12	241250518
6/4	R1/8	25,5	7,5	12	241250618
6/4	R1/4	29,5	11	14	241250628
6/4	R3/8	30	11,5	17	241250638
8/6	R1/8	27	7,5	14	241250818
8/6	R1/4	31	11	14	241250828
8/6	R3/8	31,5	11,5	17	241250838
8/6	R1/2	34	14	22	241250848
10/8	R1/8	29	7,5	14	241251018
10/8	R1/4	33	11	14	241251028
10/8	R3/8	33,5	11,5	17	241251038
10/8	R1/2	36,5	14	22	241251048
12/10	R3/8	35	11,5	17	241251238
12/10	R1/2	38	14	22	241251248
15/12,5	R1/2	40	14	22	241251548

Straight male adaptor with seal
24225


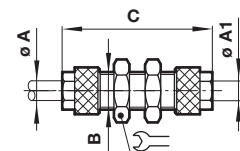
Ø A O/D / I/D tube	B	C	G		Model
4/2,5	M5	19,5	3	8	242250405
4/2,5	G1/8	21,5	4	13	242250418
5/3	M5	22	3	8	242250505
5/3	G1/8	24	4	13	242250518
6/4	M5	22	3	8	242250605
6/4	G1/8	24	4	13	242250618
6/4	G1/4	17	5	17	242250628
6/4	G3/8	19	6	19	242250638
6/4	G1/2	24	7	24	242250648
8/6	G1/8	14	4	14	242250818
8/6	G1/4	17	5	17	242250828
8/6	G3/8	19	6	19	242250838
8/6	G1/2	24	7	24	242250848
10/8	G1/8	14	4	14	242251018
10/8	G1/4	17	5	17	242251028
10/8	G3/8	19	6	19	242251038
10/8	G1/2	24	7	24	242251048
12/10	G3/8	19	6	19	242251238
12/10	G1/2	24	7	24	242251248
15/12,5	G1/2	24	7	24	242251548

Straight female adaptor
24226


Ø A O/D / I/D tube	B	C	G		Model
6/4	G1/8	23,5	7,5	14	242260618
6/4	G1/4	27	11	17	242260628
6/4	G3/8	28	11,5	22	242260638
8/6	G1/8	24,5	7,5	14	242260818
8/6	G1/4	28,5	11	17	242260828
8/6	G3/8	29	11,5	22	242260838
8/6	G1/2	33	15	24	242260848
10/8	G1/4	30,5	11	17	242261028
10/8	G3/8	33,5	11,5	22	242261038
10/8	G1/2	35,5	15	24	242261048

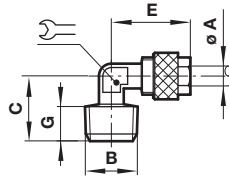
Straight male adaptor
24202


Ø A O/D / I/D tube	Ø A1 O/D / I/D tube	C		Model
4/2,5	4/2,5	27,5	8	240200400
5/3	5/3	31,5	10	240200500
6/4	5/3	32	12	240200605
6/4	6/4	32	12	240200600
8/6	6/4	33,5	12	240200806
8/6	8/6	35	12	240200800
10/8	10/8	39	14	240201000
12/10	12/10	43	17	240201200
15/12,5	15/12,5	47	22	240201500

Bulkhead connector
24029


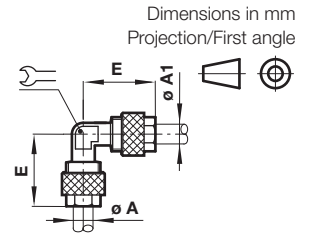
Ø A O/D / I/D tube	Ø A1 O/D / I/D tube	B	C		Model
4/2,5	4/2,5	M6x0,5	39,5	9	240290400
5/3	5/3	M7x0,75	39,5	9	240290500
6/4	6/4	M10x1	45,5	14	240290600
8/6	6/4	M12x1	47,5	17	240290806
8/6	8/6	M12x1	48,5	17	240290800
10/8	10/8	M14x1	54	17	240291000
12/10	12/10	M16x1	57	19	240291200
15/12,5	15/12,5	M20x1	59	24	240291500

Elbow male adaptor
24145



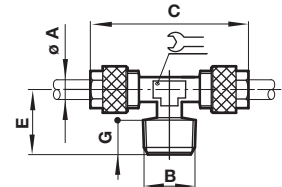
Ø A O/D / I/D tube	B	C	E	G		Model
4/2,5	R1/8	15	18,5	7,5	8	241450418
5/3	R1/8	15	18,5	7,5	8	241450518
6/4	R1/8	15	18,5	7,5	8	241450618
6/4	R1/4	19	20,5	11	8	241450628
6/4	R3/8	20,5	21	11,5	9	241450638
8/6	R1/8	16,5	20	7,5	9	241450818
8/6	R1/4	19	22	11	9	241450828
8/6	R3/8	21	23,5	11,5	9	241450838
8/6	R1/2	28	23,5	14	16	241450848
10/8	R1/8	18	24	7,5	11	241451018
10/8	R1/4	22	24	11	11	241451028
10/8	R3/8	22	25,5	11,5	11	241451038
10/8	R1/2	16	28	25,5	11	241451048
12/10	R3/8	22,5	27	11,5	13	241451238
12/10	R1/2	28	27	14	16	241451248
15/12,5	R1/2	28	31,5	14	16	241451548

Elbow connector
24040



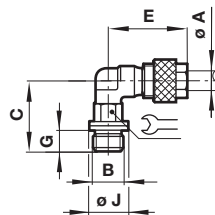
Ø A O/D / I/D tube	Ø A1 O/D / I/D tube	E		Model
4/2,5	4/2,5	20	8	240400400
5/3	5/3	20,5	8	240400500
6/4	6/4	20,5	8	240400600
6/4	8/6	22	9	240400806
8/6	8/6	22	9	240400800
10/8	10/8	25,5	11	240401000
12/10	12/10	27	13	240401200
15/12,5	15/12,5	33,5	16	240401500

Tee male adaptor
24165



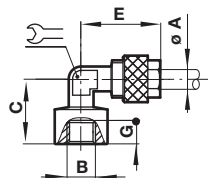
Ø A O/D / I/D tube	B	C	E	G		Model
4/2,5	R1/8	37	15	7,5	8	241650418
5/3	R1/8	37	15	7,5	8	241650518
6/4	R1/8	37	15	7,5	8	241650618
6/4	R1/4	41	19	11	9	241650628
8/6	R1/8	40	16,5	7,5	9	241650818
8/6	R1/4	44	20,5	11	9	241650828
10/8	R1/8	48	18	7,5	11	241651018
10/8	R1/4	48	22	11	11	241651028
10/8	R3/8	51	22	11,5	11	241651038
12/10	R3/8	54	22,5	11,5	13	241651238
15/12,5	R1/2	63	28	14	16	241651548

Swivel elbow adaptor with seal
24247



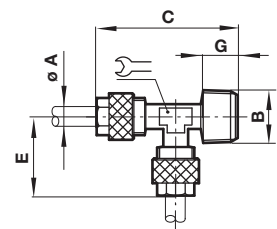
Ø A O/D / I/D tube	B	C	E	G	Ø J		Model
6/4	G1/8	20	20,5	4	14	14	242470618
6/4	G1/4	22	20,5	5	18	17	242470628
8/6	G1/8	20	21,5	4	14	14	242470818
8/6	G1/4	23	23	5	18	17	242470828
10/8	G1/4	24	24	5	18	17	242471028

Elbow female adaptor
24246

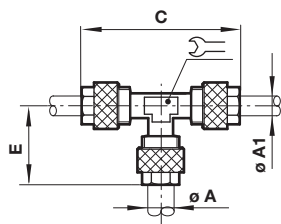


Ø A O/D / I/D tube	B	C	E	G		Model
5/3	G1/8	18	20,5	7,5	8	242460518
6/4	G1/8	18	20,5	7,5	8	242460618
6/4	G1/4	21	21	11	9	242460628
8/6	G1/8	19	22	7,5	9	242460818
8/6	G1/4	21	23,5	11	9	242460828
10/8	G1/4	22	25,5	11	11	242461028
10/8	G3/8	25	25,5	11,5	14	242461038

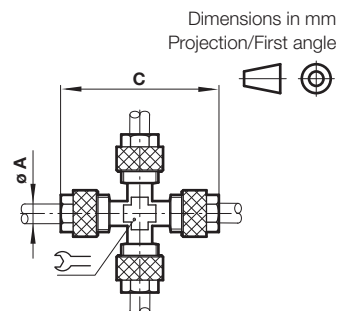
Side tee male adaptor
24175



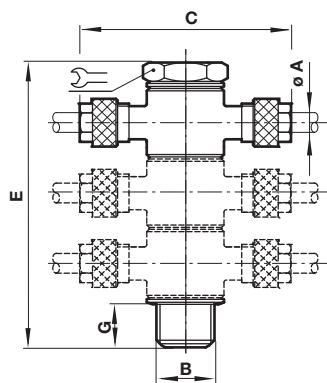
Ø A O/D / I/D tube	B	C	E	G		Model
5/3	R1/8	36,5	20,5	7,5	8	241750518
6/4	R1/8	36,5	20,5	7,5	8	241750618
6/4	R1/4	40	20,5	11	8	241750628
8/6	R1/8	38	22	7,5	9	241750818
8/6	R1/4	41,5	22	11	9	241750828
10/8	R1/8	41,5	25,5	7,5	11	241751018
10/8	R1/4	45	25,5	11	11	241751028
10/8	R3/8	45,5	25,5	11,5	11	241751038
12/10	R3/8	48,5	28	11,5	13	241751238

Tee connector
24060


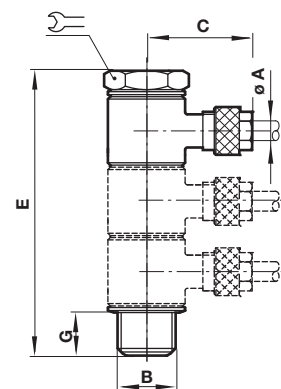
Ø A O/D / I/D tube	Ø A1	C	E		Typ
4/2,5	4/2,5	38,5	19,5	8	240600400
5/3	5/3	41	20,5	8	240600500
6/4	6/4	41	20,5	8	240600600
8/6	6/4	44	20,5	9	240600806
8/6	8/6	44	22	9	240600800
10/8	6/4	51	20,5	11	240601006
10/8	8/6	51	22	11	240601008
10/8	10/8	51	25,5	11	240601000
12/10	12/10	54	28	13	240601200
15/12,5	15/12,5	63	32,5	16	240601500

Equal cross connector
24090


Ø A O/D / I/D tube	C		Typ
6/4	41,5	8	240900600
8/6	44,5	9	240900800
10/8	51	11	240901000
12/10	58	13	240901200

Tee elbow banjo assembly with seals
24A71


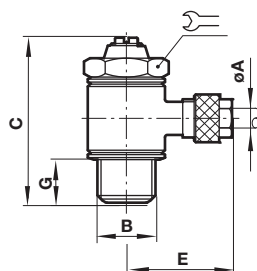
Ø A O/D / I/D tube	B	C	E	G	Version		Model
4/2,5	M5	33	18	4	single	8	24A710405
4/2,5	G1/8	46,5	27,5	6	single	14	24A710418
5/3	M5	33	18	4	single	8	24A710505
5/3	G1/8	46,5	27,5	6	single	14	24A710518
6/4	M5	33	18	4	single	8	24A710605
6/4	G1/8	46,5	27,5	6	single	14	24A710618
6/4	G1/4	50,5	30	8	single	17	24A710628
6/4	G3/8	53,5	30,5	9	single	19	24A710638
8/6	G1/8	49,5	27,5	6	single	14	24A710818
8/6	G1/4	55	30	8	single	17	24A710828
8/6	G3/8	55,5	30,5	9	single	19	24A710838
8/6	G1/2	61	31,5	10	single	24	24A710848
12/10	G3/8	63	30,5	9	single	19	24A711238
12/10	G1/2	70	31,5	10	single	24	24A711248
4/2,5	G1/8	46,5	43	6	double	14	24B710418
6/4	G1/4	50,5	46	8	double	17	24B710628
8/6	G1/4	55	46	8	double	17	24B710828
10/8	G1/4	59	46	8	double	17	24B711028
4/2,5	G1/8	46,5	59	6	triple	14	24C710418
6/4	G1/4	50,5	62	8	triple	17	24C710628
8/6	G1/4	55	62	8	triple	17	24C710828
10/8	G1/4	59	62	8	triple	17	24C711028

Elbow banjo assembly with seals
24A51


Ø A O/D / I/D tube	B	C	E	G	Version		Model
4/2,5	M5	16,5	18	4	single	8	24A510405
4/2,5	G1/8	23,5	27,5	6	single	14	24A510418
5/3	M5	16,5	18	4	single	8	24A510505
5/3	G1/8	23,5	27,5	6	single	14	24A510518
6/4	M5	16,5	18	4	single	8	24A510605
6/4	G1/8	23,5	27,5	6	single	14	24A510618
6/4	G1/4	25,5	30	8	single	17	24A510628
6/4	G3/8	27	30,5	9	single	19	24A510638
8/6	G1/8	24,5	27,5	6	single	14	24A510818
8/6	G1/4	27,5	30	8	single	17	24A510828
8/6	G3/8	27,5	30,5	9	single	19	24A510838
10/8	G1/4	29,5	30	8	single	17	24A511028
12/10	G3/8	31,5	30,5	9	single	19	24A511238
12/10	G1/2	35	31,5	10	single	24	24A511248
4/2,5	G1/8	23,5	43	6	double	14	24B510418
5/3	G1/8	23,5	43	6	double	14	24B510518
6/4	G1/8	23,5	43	6	double	14	24B510618
6/4	G1/4	25,5	46	8	double	17	24B510628
8/6	G1/4	27,5	46	8	double	17	24B510828
10/8	G1/4	29,5	46	8	double	17	24B511028
10/8	G1/2	34	47,5	10	double	24	24B511048
12/10	G3/8	31,5	46,5	9	double	19	24B511238
4/2,5	G1/8	23,5	59	6	triple	14	24C510418
6/4	G1/4	25,5	62	8	triple	17	24C510628
8/6	G1/4	27,5	62	8	triple	17	24C510828
10/8	G1/4	29,5	62	8	triple	17	24C511028

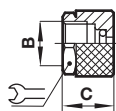
Banjo flow regulator with seals
Regulating out
24K51

Dimensions in mm
Projection/First angle



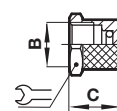
Ø A O/D / I/D tube	B	C	E	G		Typ
4/2,5	M5	16,5	24	4	8	24K510405
4/2,5	G1/8	23,5	30,5	6	14	24K510418
6/4	M5	16,5	24	4	8	24K510605
6/4	G1/8	23,5	30,5	6	14	24K510618
6/4	G1/4	25,5	30,5	8	17	24K510628
8/6	G1/8	24,5	30,5	6	14	24K510818
8/6	G1/4	27,5	35,5	8	17	24K510828
10/8	G1/4	29,5	35,5	8	17	24K511028

Tubing nut
24001



Ø A O/D / I/D tube	C	Ø K		Model
4/2,5	10	8	7	240010400
5/3	10	9	8	240010500
6/4	11	12	10	240010600
8/6	11,5	14	12	240010800
10/8	13,5	16	14	240011000
12/10	15	18	15	240011200

Plug
24005



Ø A O/D / I/D tube	B	C		Model
4/3	M6 x 0,5	10,5	8	240050400
6/4	M10 x 1	11,5	12	240050600
8/6	M12 x 1	13,5	14	240050800

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 IMI NORGREN.

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.

Compression Fittings

36 Series Metric

- > Wide range of types and sizes
- > Rugged and durable
- > Suitable for use under extreme conditions of temperature and pressure
- > Leakage free tube sealing
- > Suitable for metallic and nylon tubing
- > Thread adaptor not required - machining profile available
- > Now available in single part number format



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:

4, 5, 6, 8, 10, 12, 16, 22, 28mm O/D

Thread types:

Parallel BSP - ISO 228

Taper BSP - ISO 7

Taper NPTF - ASME B1.20.1

Thread sizes:

1/8" ... 3/4"

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.

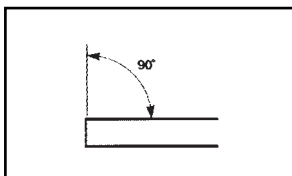
28mm tube 15 bar max.

Materials:

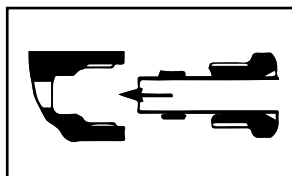
Tubing nut, sleeve & body manufactured from bar: brass to BS EN 12164:2011

Body manufactured from stamping: brass to BS EN 12165:2016

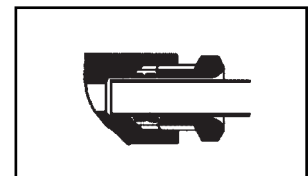
Method of Assembly



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



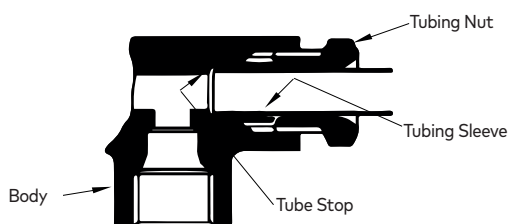
2. Place the tubing nut and sleeve on the tube and push the tube into the fitting until it bottoms on the tube stop.



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.

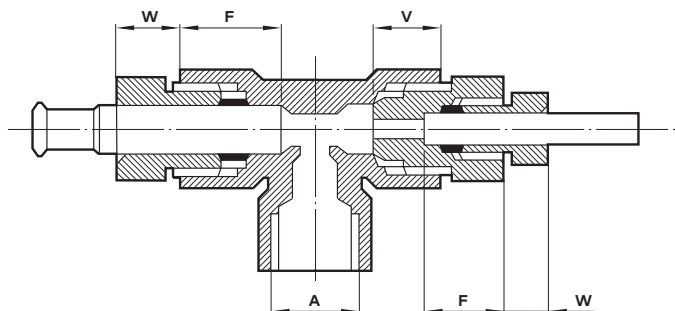
The method of preparation and assembly described will ensure leak-proof joints over a wide pressure range, depending upon the size and type of tubing being used. Failure to follow this guide, or over-tightening at any joint, will only lead to damage of the fittings or an unsatisfactory seal.

Components



Typical Dimensions

Hose stem to tube with reducing connector



O/D Tube	A thread details	F	V	W
4	M8 x 1,0	10,5	8,3	6
5	M10 x 1,0	12	9,5	6,5
6	M11 x 1,0	12	9,4	7
8	M13 x 1,0	15	11,7	8
10	M15 x 1,0	16,5	12,7	8
12	M18 x 1,5	17	13,4	9
15	M22 x 1,5	18,5	16	10
16	M24 x 1,5	19	16,2	10,5
18	M26 x 1,5	20	17	10,5
22	M30 x 1,5	24,5	20,5	11
28	M38 x 1,5	30	25,8	12,5

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	Annealed copper	Nylon 11 & 12	Double wall brazed steel
4	4,5 Nm	3,4 Nm	2,8 Nm	5,7 Nm
5	6,8 Nm	5,7 Nm	5,7 Nm	-
6	9,0 Nm	7,9 Nm	5,7 Nm	10,2 Nm
8	11,3 Nm	7,9 Nm	5,7 Nm	12,4 Nm
10	21,5 Nm	18,1 Nm	13,6 Nm	21,5 Nm
12	24,9 Nm	22,6 Nm	15,8 Nm	27,1 Nm
16	46,0 Nm	31,0 Nm	26,0 Nm	-
22	79,0 Nm	68,0 Nm	46,0 Nm	-
28	76,0 Nm	68,0 Nm	96,0 Nm	-

Metric - Recommended torque using 360501** series tubing sleeves

Tubing nuts and tubing sleeves

Universal tubing sleeve
360501



Page 5

Tubing nut
360500



Page 5

Tubing sleeve
metallic tube
360502



Page 5

Straight Connectors and Adaptors

Straight adaptor male
ISO R - female tube
360530



Page 6

Straight adaptor male
ISO G - female tube
360504



Page 7

Straight adaptor female
ISO G - female tube
360505



Page 8

Straight connector
female tube
360503



Page 8

Bracketed straight
connector - female tube
360552



Page 8

Bulkhead connector
female tube
360508



Page 8

Bulkhead locknut
360520



Page 8

Straight stem adaptor
male ISO R - tube stem
360531



Page 9

Straight stem adaptor
male ISO G - tube stem
360521



Page 9

Nippled adaptor male
ISO R - male tube
360556



Page 9

Nippled adaptor female
ISO G - male tube
360557



Page 9

Nippled stem connector
male tube - tube stem
360625



Page 9

Reducing connector
female tube - male tube
360517



Page 10

Stem tailpiece adaptor
tube stem - hose
360524



Page 10

Tubing plug
male tube thread
360509



Page 10

Straight adaptor male
NPTF - female tube
360532



Page 10

Elbow Connectors and Adaptors

Elbow adaptor
male ISO R - female tube
360005



Page 11

Hobbs elbow adaptor
male ISO G - female tube
360541



Page 11

Hobbs coned locknut
ISO G
360540



Page 11

Hobbs seal
340156



Page 11

Elbow adaptor female
ISO G - female tube
360555



Page 12

Elbow connector
female tube
360511



Page 12

Bracketed elbow
connector - female tube
360548



Page 12

Elbow stem connector
female tube - tube stem
360551



Page 12

Elbow adaptor male
NPTF - female tube
360331



Page 12

Tee Connectors and Adaptors

Tee connector
female tube
360514



Page 13

Bracketed tee connector
female tube
360549



Page 13

Stem tee connector
female tube - tube stem
360550



Page 13

Side stem tee connector
female tube - tube stem
360511



Page 13

90° stem tee connector
female tube - tube stem
360631



Page 14

Accessories

Folded copper washer
480213



Page 14

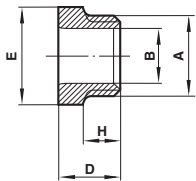
Bonded washer
480215



Page 14

Tubing Nut

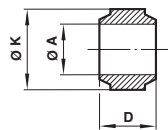
360500**



B O/D tube	A thread	D	E A/F	H	Model
4	M8 x 1.0	9.5	8	6.5	36050002
5	M10 x 1.0	10	10	6.5	36050003
6	M11 x 1.0	10.5	13	6.5	36050004
8	M13 x 1.0	12.1	13	7.6	36050005
10	M15 x 1.0	13.3	17	8.3	36050006
12	M18 x 1.5	15.7	19	8.7	36050007
16	M24 x 1.5	17.1	24	10.1	36050008
22	M30 x 1.5	21.5	30	14	36050010
28	M38 x 1.5	24.5	41	15.5	36050012

Universal Tubing Sleeve

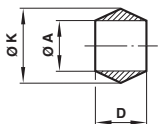
Suitable for nylon and metallic tubing
360501**



A O/D tube	D	K	Model
4	4.2	6.4	36050102
5	5.2	7.5	36050103
6	5.5	8.5	36050104
8	6.3	10.5	36050105
10	7	13	36050106
12	7.7	15.5	36050107
16	9	20	36050108
22	10.5	26.5	36050110
28	13.2	33	36050112

Tubing Sleeve

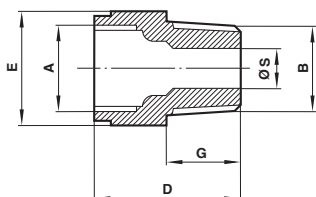
Suitable for metallic tubing only
360502**



A O/D tube	D	K	Model
4	4.6	5.7	36050202
6	5.5	8	36050204
8	6.3	10.3	36050205
10	7.5	12.6	36050206
12	7.5	14.9	36050207

Straight Male Adaptor

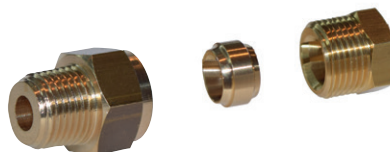
Female O/D tube to male taper ISO R thread
360530**



A thread for O/D tube	B thread	D	E A/F	G	S	Model
4	R1/8	18.5	13	9.5	2.8	36053002
5	R1/8	20	13	9.5	3.4	36053003
6	R1/8	20	14	9.5	4	36053004
8	R1/8	26.5	17	9.5	4.7	36053005
10	R1/8	28	19	9.5	4.7	36053006
4	R1/4	18	14	11.11	2.8	36053008
5	R1/4	21.6	14	11.11	3.4	36053009
6	R1/4	21.6	14	11.11	4	36053010
8	R1/4	23	17	11.11	6	36053011
10	R1/4	30	19	11.11	7	36053012
12	R1/4	31.1	22	11.11	6.4	36053013
8	R3/8	21	19	12.7	6	36053019
10	R3/8	26	19	12.7	8	36053020
12	R3/8	29	22	12.7	9.6	36053021
8	R1/2	25	22	15.9	6	36053028
10	R1/2	27	22	15.9	8	36053029
12	R1/2	30	22	15.9	10	36053030
16	R1/2	38.5	30	15.9	13.6	36053031
12	R3/4	33	30	19.1	10	36053044
16	R3/4	35	30	19.1	13.6	36053045

Straight Male Adaptor

Female O/D tube to male taper ISO R thread – kit of parts
18125****

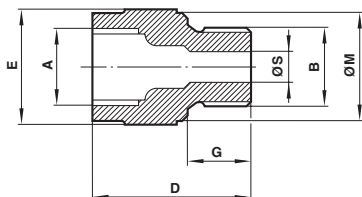


O/D tube	Thread	Adaptor	Tubing sleeve	Tubing nut	Model
4	R1/8	36053002	36050102	36050002	181250418
6	R1/8	36053004	36050104	36050004	181250618
8	R1/8	36053005	36050105	36050005	181250818
4	R1/4	36053008	36050102	36050002	181250428
6	R1/4	36053010	36050104	36050004	181250628
8	R1/4	36053011	36050105	36050005	181250828
10	R1/4	36053012	36050106	36050006	181251028
10	R3/8	36053020	36050106	36050006	181251038
12	R3/8	36053021	36050107	36050007	181251238
12	R1/2	36053030	36050107	36050007	181251248

Note: Minimum order quantity of 10 pieces sizes 4mm to 8mm tube, 1/8" and 1/4" thread

Straight Male Adaptor

Female O/D tube to male parallel ISO G thread
360504**



A thread for O/D tube	B thread	D	E A/F	G	M	S	Model
4	G1/8	15	13	7.4	13	2.8	36050402
6	G1/8	21	17	7.4	14	4	36050404
8	G1/8	25	17	7.4	14	5	36050405
6	G1/4	21	19	10	18	4	36050410
8	G1/4	25	19	10	18	6	36050411
10	G1/4	30	19	10	18	7	36050412
12	G1/4	30	22	10	18	7	36050413
6	G3/8	22	22	11.4	22	4	36050418
8	G3/8	23	24	11.4	22	6	36050419
10	G3/8	24	24	11.4	22	7.6	36050420
12	G3/8	29	24	11.4	22	9.6	36050421
8	G1/2	25	27	15	26	6	36050428
10	G1/2	25	27	15	26	7.6	36050429
12	G1/2	27	27	15	26	9.6	36050430
16	G1/2	36	27	15	26	13.6	36050431
16	G3/4	32	36	16.3	32	13.6	36050445
22	G3/4	43	36	16.3	32	19.0	36050447
22	G1	42	41	19.1	39	19.0	36050460

Straight Male Adaptor

Female O/D tube to male parallel ISO G thread – kit of parts
18225****

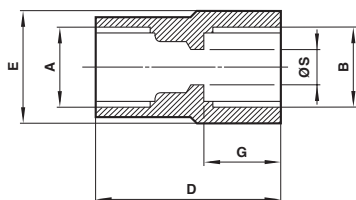


O/D tube	Thread	Adaptor	Tubing sleeve	Tubing nut	Model
6	G1/8	36050404	36050104	36050004	182250618
8	G1/8	36050405	36050105	36050005	182250818
6	G1/4	36050410	36050104	36050004	182250628
8	G1/4	36050411	36050105	36050005	182250828

Note: Minimum order quantity of 10 pieces sizes 4mm to 8mm tube, 1/8" and 1/4" thread

Straight Adaptor

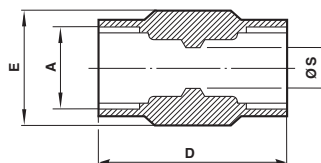
Female O/D tube to female parallel ISO G thread
360505**



A thread for O/D tube	B thread	D	E A/F	G	S	Model
4	G1/8	23	13	11	2.8	36050502
6	G1/8	25	13	11	4	36050504
6	G1/4	27	17	12.7	4	36050510
8	G1/4	30	17	12.7	6	36050511
10	G1/4	31	19	12.7	7.6	36050512
10	G3/8	33	22	14.5	7.6	36050520
12	G3/8	33.5	22	14.5	9.6	36050521
12	G1/2	37	27	17.5	9.6	36050530

Straight Connector

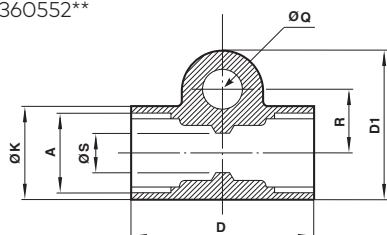
Female O/D tube
360503**



A thread for O/D tube	D	E A/F	S	Model
4	22	10	2.8	36050302
6	26	13	4	36050304
8	32	17	6	36050305
10	35	19	7.6	36050306
12	36	22	9.6	36050307

Bracketed Straight Connector

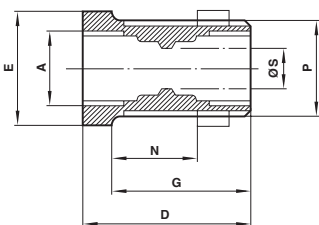
Female O/D tube
360552**



A thread for O/D tube	D	D1	K	Q	R	S	Model
8	33.3	24.6	17.5	6.75 x 19.0	9.5	6.5	36055205

Bulkhead Connector

Female O/D tube
360508**



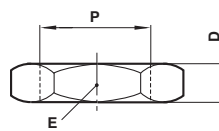
A thread for O/D tube	D	E A/F	G	N max. bulkhead	P thread	S	Bulkhead clearance drilling	Locknut number	Model
4	23	17	18	12	M12 x 1.0	2.8	13	36052001	36050802
6	26	19	20	13	M15 x 1.0	4	16	36052003	36050804
8	32	22	26	19	M18 x 1.5	6	19	36052005	36050805
10	35	24	29	20	M20 x 1.5	7.6	21	36052006	36050806
12	36	30	30	21	M24 x 1.5	9.6	25	36052007	36050807
16	41	36	35	25	M30 x 1.5	13.6	32	36052008	36050808

Minimum Bulkhead thickness 3,0

Locknuts should be ordered separately.

Bulkhead Locknut

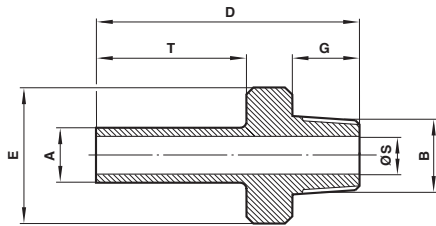
360520**



P thread	D	E A/F	Model
M12 x 1.0	5	17	36052001
M15 x 1.0	6	22	36052003
M18 x 1.5	6	24	36052005
M20 x 1.5	7	27	36052006
M24 x 1.5	7	30	36052007
M30 x 1.5	8	41	36052008

Straight Stem Adaptor

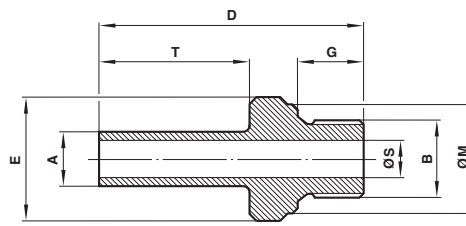
O/D tube stem to male taper ISO R thread
360531**



A O/D stem	B thread	D	E A/F	G	S	T	Model
6	R1/8	37	13	9.5	4	23	36053104
6	R1/4	42	14	11.1	4	23	36053110
8	R1/4	45	14	11.1	5	26	36053111
10	R1/4	47	14	11.1	7	28	36053112

Straight Stem Adaptor

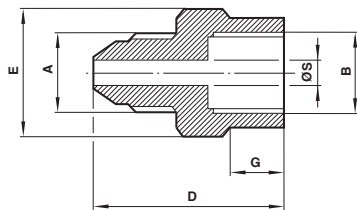
O/D tube stem to male parallel ISO G thread
360521**



A O/D stem	B thread	D	E A/F	G	M	S	T	Model
8	G1/4	45	19	10	18	5	26	36052111
16	G1/2	61	27	15	26	12	35	36052131

Nippled Adaptor

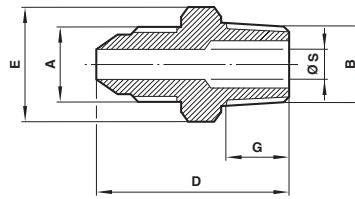
Male O/D tube to female parallel ISO G thread
360557**



A thread for O/D tube	B thread	D	E A/F	G	S	Model
6	G1/8	24.5	13	7.5	4	36055704
8	G1/4	30	17	6	5.4	36055711
10	G1/4	31.5	17	6	7	36055712

Nippled Adaptor

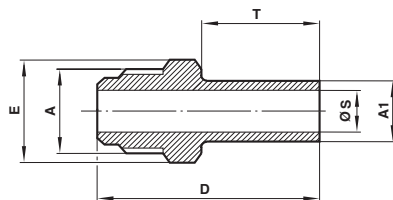
Male O/D tube to male taper ISO R thread
360556**



A thread for O/D tube	B thread	D	E A/F	G	S	Model
8	R1/8	30	14	9.5	5	36055605
6	R1/4	30	14	11.1	4	36055610
8	R1/4	32	14	11.1	5.4	36055611

Nippled Stem Connector

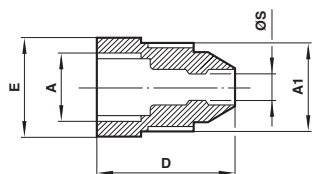
Male O/D tube to O/D tube stem
360625**



A1 O/D stem	A thread for O/D tube	D	E A/F	S	T	Model
8	8	45.5	13	5	26	36062505
10	10	49	17	7	28	36062506
12	12	53.5	19	9	30	36062507

Reducing Connector

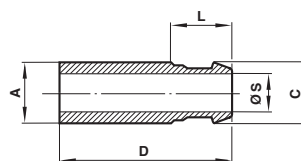
Female O/D tube to male O/D tube
360517**



A thread for O/D tube	A thread for O/D tube	D	E A/F	S	Model
6	4	16	13	2.8	36051727
8	4	19.5	13	2.8	36051728
8	5	19.5	13	3.4	36051738
8	6	25	13	4	36051747
12	6	23.5	19	4	36051749
12	8	23.5	19	6	36051757
16	12	27	24	9.6	36051771

Stem Tailpiece Adaptor

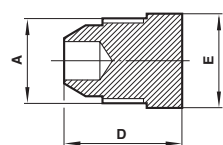
O/D tube stem to hose
360524**



A O/D stem	C hose bore	D	L	S	Model
6	6.3	40.5	17.5	4.3	36052424
8	6.3	43.5	17.5	4.3	36052425
10	10	47	19	7.3	36052442
16	12.5	54.8	20	9.7	36052453

Tubing Plug

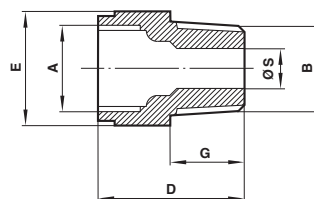
Male O/D tube thread
360509**



A thread for O/D tube	D	E A/F	Model
4	15.3	8	36050902
6	17	13	36050904
8	19.5	13	36050905
10	21	17	36050906
12	23.5	19	36050907
16	27	24	36050908

Straight Male Adaptor (NPTF)

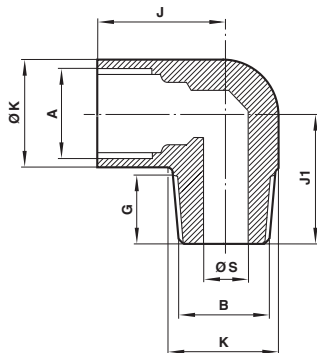
Female O/D tube to male NPTF thread
360532**



A thread for O/D tube	B thread NPTF	D	E A/F	G	S	Model
6	1/8"	20	14	9.5	4	36053204
6	1/4"	22.5	17	14.3	4	36053210

Male Elbow Adaptor

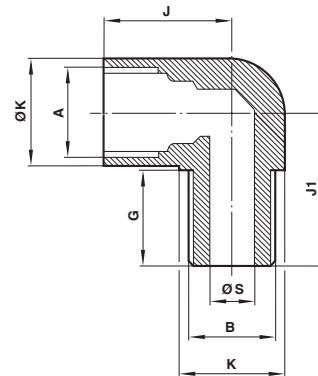
Female O/D tube to male taper ISO R thread
360005**



A thread for O/D tube	B thread	G	J	J1	K	S	Model
4	R1/8	9.5	14.9	16.5	11.1	4.7	36000502
5	R1/8	9.5	16.5	17	12.7	4.7	36000503
6	R1/8	9.5	16.5	18.2	14.3	4.7	36000504
8	R1/8	9.5	20	20	15.9	4.7	36000505
4	R1/4	11.1	15.7	19.8	14.3	6.3	36000508
6	R1/4	11.1	17.2	19	14.3	6.3	36000510
8	R1/4	11.1	20.6	21	15.9	6.3	36000511
10	R1/4	11.1	21	23	20.6	6.3	36000512
12	R1/4	11.1	22.2	25	24.6	6.3	36000513
8	R3/8	12.7	21.8	24	17.4	9.6	36000519
10	R3/8	12.7	21.5	24	20.6	8	36000520
12	R3/8	12.7	24.5	26	24.6	9.6	36000521
10	R1/2	15.9	24.9	29.2	24.6	12.7	36000529
12	R1/2	15.9	25.4	33	28.6	12.7	36000530
16	R1/2	15.9	28	32	28.6	12.7	36000531
16	R3/4	19.0	29.0	34.5	28.6	17.5	36000545

Hobbs Elbow Adaptor

Female O/D tube to male parallel ISO R thread
360541**

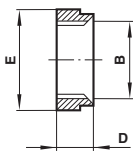


A thread for O/D tube	B thread	G	J	J1	K	S	Model
8	G1/4	17.5	20.6	27	15.8	6.3	36054111
16	G1/2	23.0	28.0	38.0	28.6	12.7	36054131

The design of a Hobbs fittings allows the fittings to be screwed into a parallel BSP tapping and accurately located for position in both height and direction before it is secured with the special coned locknut and polyurethane seal.

Hobbs Coned Locknut

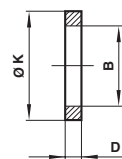
Female parallel ISO G thread
360540**



B thread	D	E A/F	Model
G1/8	7	17	36054001
G1/4	8.4	19	36054002
G3/8	9.6	24	36054003
G1/2	10.9	27	36054004

Hobbs Seal

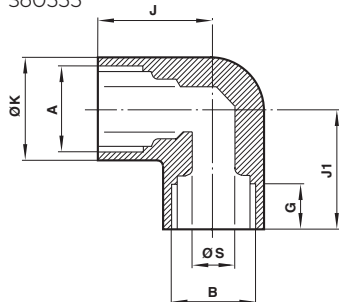
340156**



B to seal thread	D	K	Model
G1/4	2.5	15.9	34015602
G3/8	2.5	20.7	34015603
G1/2	2.6	24.3	34015604

Female Elbow Adaptor

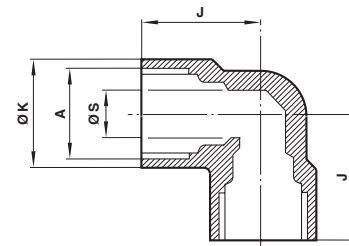
Female O/D tube to female parallel ISO R thread
360555**



A thread for O/D tube	B Thread	G	J	J1	K	S	Model
4	G1/8	7.4	14	12.5	12.7	2.8	36055502
6	G1/4	11	16	17.5	17.5	4	36055510
8	G1/4	11	20	18.5	17.5	6	36055511
10	G1/4	11	22	18.5	20.6	7.6	36055512
10	G3/8	11.4	21.5	22	20.6	7.6	36055520
12	G3/8	11.4	24.5	22	24.6	9.6	36055521
12	G1/2	15	24.5	26	24.6	9.6	36055530

Elbow Connector

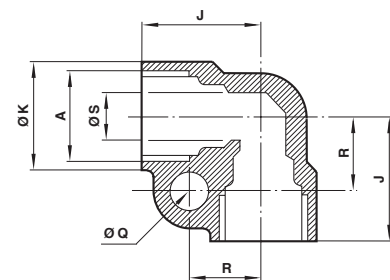
Female O/D tube to female O/O tube
360511**



A thread for O/D tube	J	K	S	Model
6	16	14.3	4	36051104
8	20	16	6	36051105
10	23	20	7.6	36051106
12	25	24	9.6	36051107

Bracketed Elbow Connector

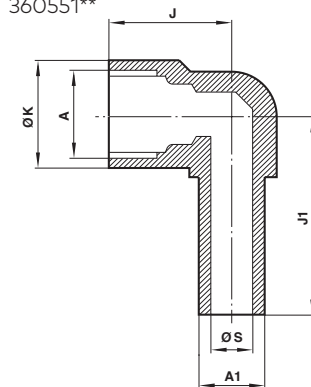
Female O/D tube to female O/D tube
360548**



A thread for O/D tube	J	K	Q	R	S	Model
6	21	16.7	6.75 x 19.0	7.8	4.5	36054804
8	26.2	16.7	6.75 x 19.0	7.8	6.5	36054805

Stem Elbow Connector

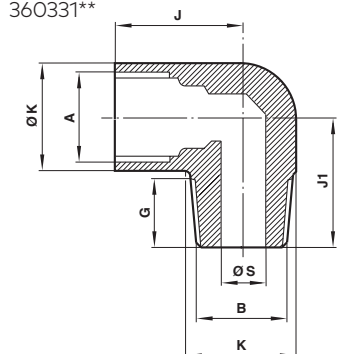
Female O/D tube to O/D tube stem
360551**



A thread for O/D tube	A1 O/D stem	J	J1	K	S	Model
6	6	19	30.6	14.3	4	36055104
8	8	23	34.9	17.5	5	36055105
10	10	23	41.3	23	7	36055106
12	12	24	43.5	23	9	36055107
16	16	30	53	30	12	36055108

Male Elbow Adaptor

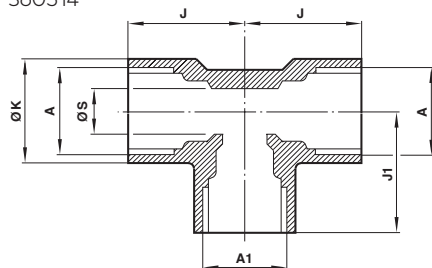
Female tube to male NPTF thread
360331**



A thread for O/D tube	B NPTF thread	G	J	J1	K	S	Model
12	3/8"	14.3	24.5	28.6	24.6	9.6	36033121

Tee Connector

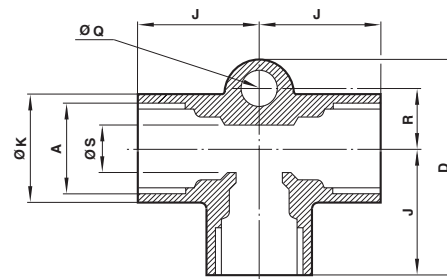
Female O/D tube
360514**



A thread for O/D tube	A1 thread for O/D tube	J	J1	K	S	Model
6	6	16	16	14.3	4	36051404
8	8	20	20	16	6	36051405
10	10	23	23	20	7.6	36051406
12	12	25	25	24	9.6	36051407

Bracketed Tee Connector

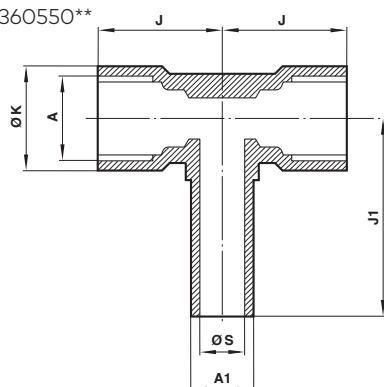
Female O/D tube
360549**



A thread for O/D tube	D	J	K	Q	R	S	Model
8	36.4	20.5	17.7	6.75 x 19.0	9.5	6.5	36054905

Stem Tee Connector

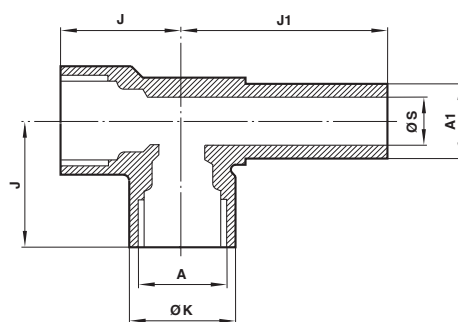
Female O/D tube to O/D tube stem
360550**



A thread for O/D tube	A O/D stem	J	J1	K	S	Model
8	8	18.5	34.9	17.5	5	36055005

Side Stem Tee Connector

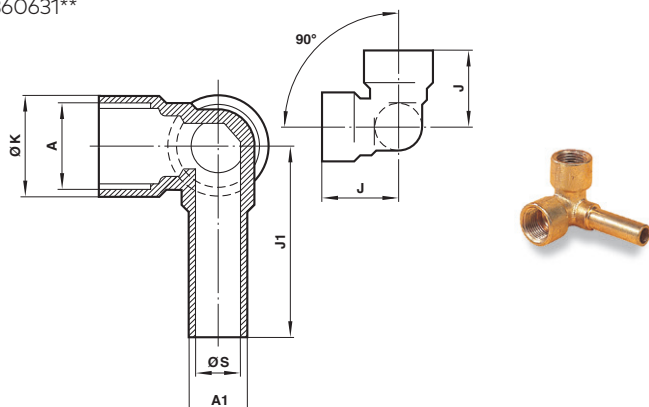
Female O/D tube to O/D tube stem
360511**



A thread for O/D tube	A1 O/D stem	J	J1	K	S	Model
6	6	19	30.6	14.3	4	36062604
8	8	23	34.9	17.4	5	36062605

90° Stem Tee Connector

Female O/D tube to O/D tube stem
360631**



A thread for O/D tube	A1 O/D stem	J	J1	K	S	Model
6	6	19	33.5	14.3	4	36063104
8	8	23	38	17.5	5	36063105

Folded Copper Washer

480213**

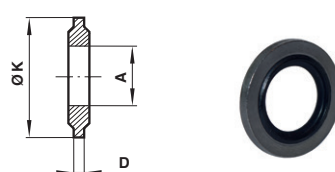


A for ISO G thread	D	K	Model
G1/8	1.8	13.5	48021301
G1/4	1.8	17.6	48021302
G3/8	1.8	20.9	48021303
G1/2	1.8	26.4	48021304
G3/4	1.8	32.4	48021306
G1	1.8	38.9	48021308

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

Bonded Washer

480215**

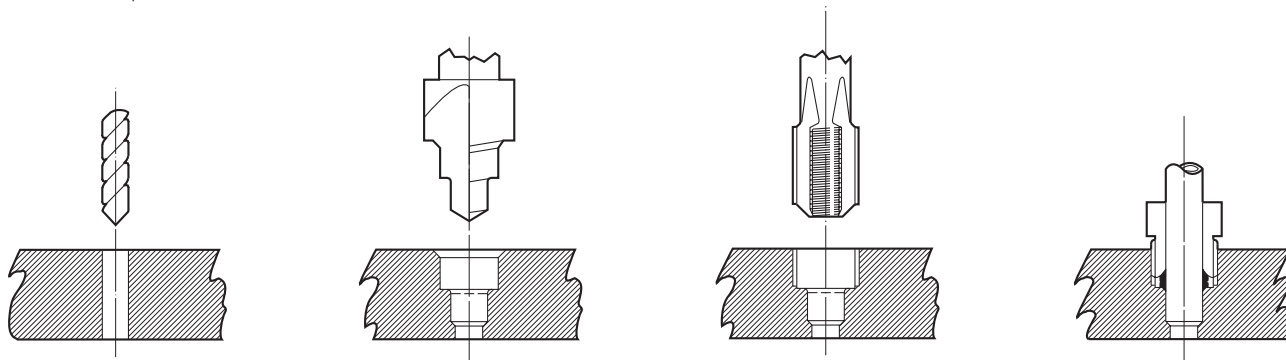


A for ISO G thread	D	K	Model
G1/8	2	15.9	48021501
G1/4	2	20.6	48021502
G3/8	2	23.8	48021503
G1/2	2	28.6	48021504
G3/4	2	34.9	48021506
G1	2.5	42.8	48021508

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.

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.

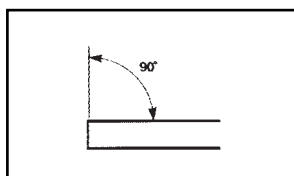
(Metric sizes shown for comparative reference).

Materials:

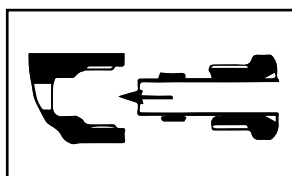
Tubing nut, sleeve & body manufactured from bar: brass to BS EN 12164:2011

Body manufactured from stamping: brass to BS EN 12165:2016

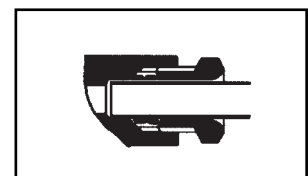
Method of Assembly



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



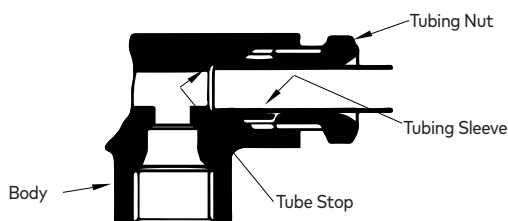
2. Place the tubing nut and sleeve on the tube and push the tube into the fitting until it bottoms on the tube stop.



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.

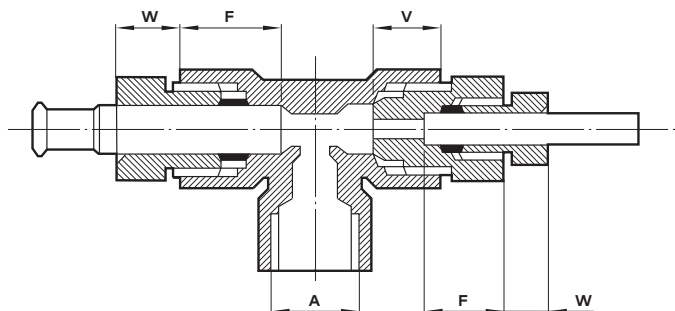
The method of preparation and assembly described will ensure leak-proof joints over a wide pressure range, depending upon the size and type of tubing being used. Failure to follow this guide, or over-tightening at any joint, will only lead to damage of the fittings or an unsatisfactory seal.

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 = nipped 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

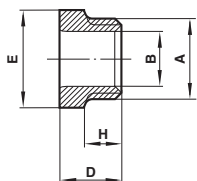
Bonded washer
480215



Page 7

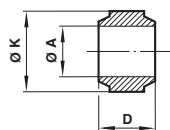
Tubing Nut

340279**



Universal Tubing Sleeve

Suitable for nylon and metallic tubing
340278**

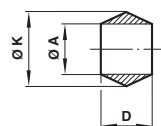


B O/D tube	A thread	D	E A/F	H	Model
3/16"	3/8" x 24 TPI	0.40	0.45	0.26	34027903
1/4"	7/16" x 24 TPI	0.43	0.45	0.27	34027904
5/16"	1/2" x 24 TPI	0.45	0.53	0.27	34027905
3/8"	9/16" x 24 TPI	0.48	0.60	0.28	34027906
1/2"	3/4" x 24 TPI	0.57	0.82	0.33	34027907
5/8"	7/8" x 20 TPI	0.66	0.92	0.38	34027908

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

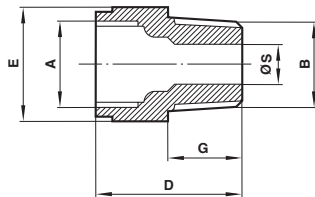
Suitable for metallic tubing only
340003**



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

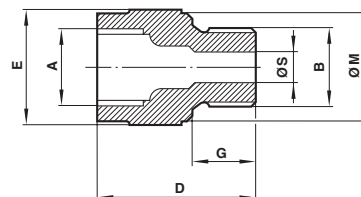
Female O/D tube to male taper ISO R thread
340346**



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

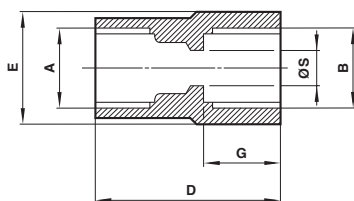
Female O/D tube to male parallel ISO G thread
340348**



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

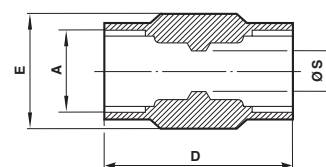
Female O/D tube to female parallel ISO G thread
340344**



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

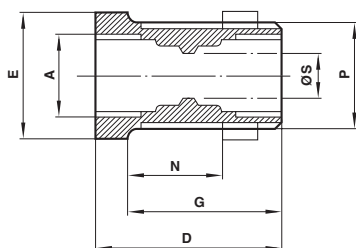
Female O/D tube
340007**



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

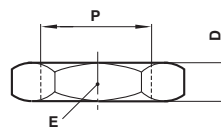
Female O/D tube
340021**



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

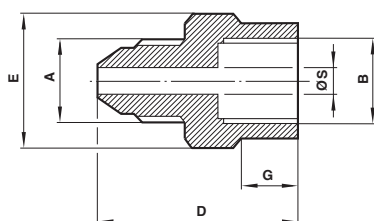
340223**



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

Nippled Adaptor

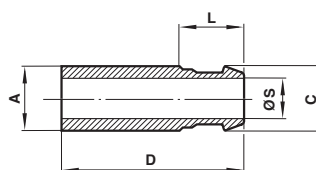
Male O/D tube to female parallel ISO G thread
340351**



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

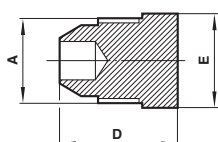
O/D tube stem to hose
340056**



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

Tubing Plug

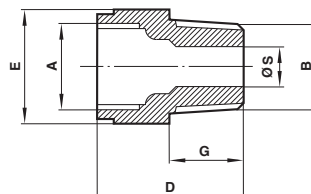
Male O/D tube thread
340036**



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)

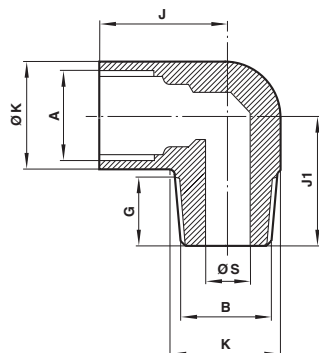
Female O/D tube to male NPTF thread
340347**



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

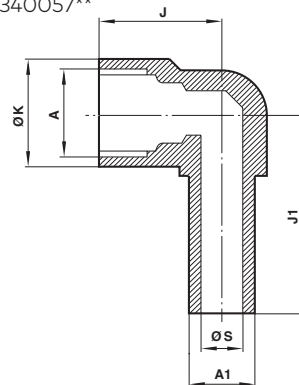
Female O/D tube to male taper ISO R thread
340330**



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

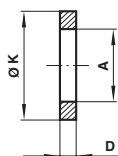
Female O/D tube to O/D tube stem
340057**



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**



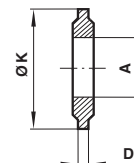
Dimensions shown in mm

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**



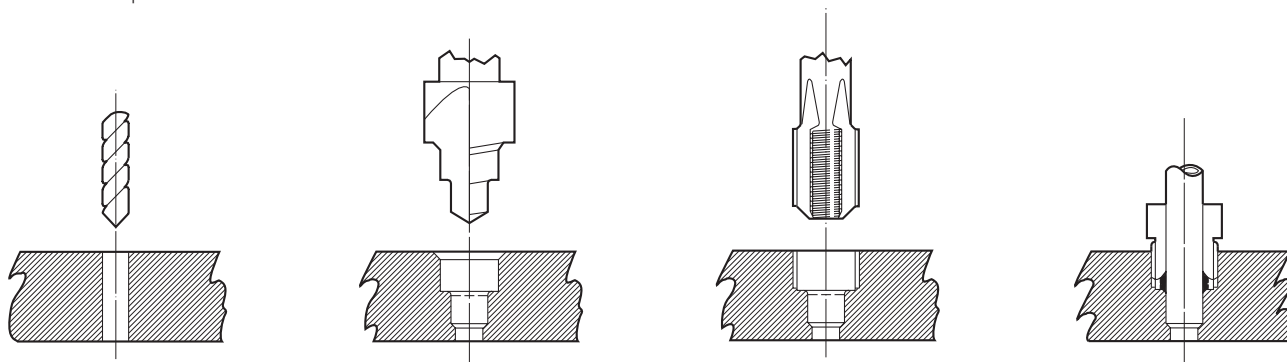
Dimensions shown in mm

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.

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