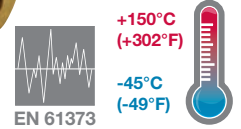


- > Port size: Ø 1/8" ... 2" nominal pipe size, NPT thread
- > For use in areas of vibration
- > Pre-assembled units
- > No special assembly tools or heat required
- > Can be remade without damage to tube
- > Suitable for use on seam welded as well as seamless tube or pipe
- > Thinner tube can be used; as thin as 0,03" (0,8 mm) wall thickness
- > Lower torque requirement on the tube nut than fittings which bite into the tube
- > Will cope with tube misalignment of ±4°



### Technical features

#### Medium:

Compressed air, water (plus other media suitable for use with materials of construction).

#### Operating pressure:

Typically up to 218 psi (15 bar) For applications above 218 psi (15 bar) bar contact Norgren technical service

#### Ambient temperature:

-45 ... +150°C (-49 ... +302°F) with HNBR 'O'-ring (yellow)

#### Tube sizes (nominal pipe size see page 2 for corresponding tube outside diameter):

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

#### Thread sizes:

1/8", 1/4", 3/8", 1/2", 3/4", 1", 1 1/2" (BSPT and BSPP)

#### Tubing:

Designed for use with: Copper tube to BS 2871 Nylon – PA12 (tube support required)

stainless steel tube to AISI 304 and AISI 316

#### Testing & Approvals:

PED 97/23/EC Shock & vibration tested to EN 61373 Category 2 – (Bogie mounted) Salt spray tested to ISO 9227-06, data on request

#### Materials:

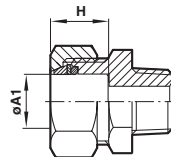
Body & nut: brass Washer & clamping: brass 'O'-Ring: HNBR – colour coded yellow

### Technical data

#### Recommended nut torque settings

Nominal pipe size	Recommended torque	Tube Ø	Recommended torque
1/8"	20 Nm (15 ft.lb.)	1"	150 Nm (111 ft.lb.)
1/4"	30 Nm (22 ft.lb.)	1 1/4"	300 Nm (221 ft.lb.)
3/8"	40 Nm (30 ft.lb.)	1 1/2"	310 Nm (229 ft.lb.)
1/2"	45 Nm (33 ft.lb.)	2"	320 Nm (236 ft.lb.)
3/4"	90 Nm (66 ft.lb.)		

Torque settings based on Railway applications up to 15 bar for use with stainless steel tube



#### Tube stop position and tube outside diameter details

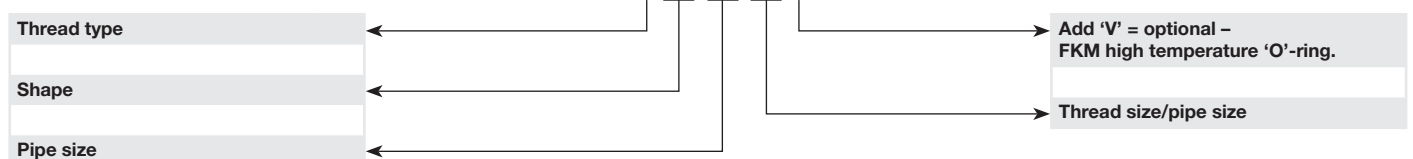
Nominal pipe size	Pipe O/D Ø A1"	Pipe O/D Ø A1 mm	H mm
1/8"	0,405	10,3 ± 0,1	18
1/4"	0,540	13,7 ± 0,2	18,5
3/8"	0,675	17,1 ± 0,13	20
1/2"	0,840	21,3 ± 0,16	20
3/4"	1,050	26,7 ± 0,2	21,5
1"	1,315	33,4 ± 0,3	22,5
1 1/4"	1,660	42,2 ± 0,3	27
1 1/2"	1,900	48,3 ± 0,3	25
2"	2,375	60,3 ± 0,3	35

The information provided in this table are typical values as dimension H will vary slightly with torque applied to the nut.

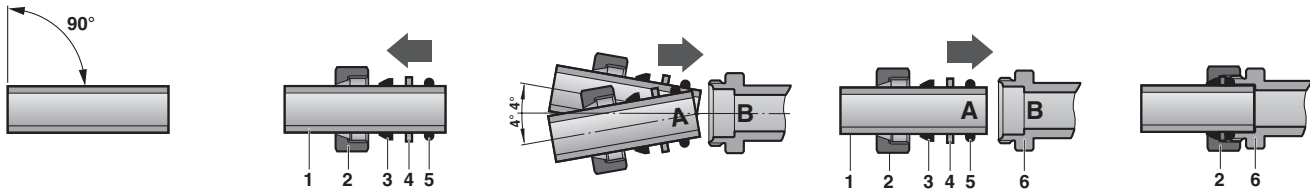
For fittings without tube stops such as straight connector and bulkheads the above tube insertion depths are also applicable

### Option selector

83★★★★★★



## Method of assembly



1. Ensure that the end of the tube is cut square and is free from burrs.
2. Slide the nut (2) onto the pipe (1) from right to left. Slide the split ring (3) onto the pipe (1) from right to left keeping the smaller edge towards the nut (2). Slide the washer (4) onto the pipe (1) from right to left. Slide the 'O'-ring (5) onto the pipe (1) from right to left. N.B. The pipe head must be deburred to ensure the 'O'-ring is not damaged.
3. Before installing the pipe fittings, check that the pipes misalignment is not higher than  $\pm 4^\circ$
4. Move the pipe head (A) with all components assembled as shown towards the casing abutment (B). In pipe fittings without abutment (B), the pipe should be inserted as per the tube stop/abutment position listed below.
5. Move the four components from left to right and screw the nut (2) onto the pipe fitting casing (6).

## Straight adaptors and connectors

Straight adaptor (taper)	Female adaptor (taper)	Straight union (equal)	Straight union (unequal)	Bulkhead union	Cap	Straight stem connector (taper)
83425	83426	83020	83020	83029	83012	83415
						
Page 3	Page 3	Page 4	Page 4	Page 4	Page 4	Page 5






## Elbow connectors and adaptors

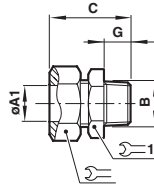
Union elbow (equal)	Union elbow (unequal)	90° Elbow adaptor (taper)	90° Elbow adaptor female (taper)
83040	83040	83445	83446
			
Page 5	Page 5	Page 6	Page 6



## Tee connectors and adaptors

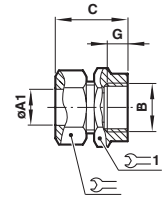
Union tee (equal)	Union tee (unequal)	Tee adaptor (taper)	Tee adaptor female (taper)
83060	83060	83465	83466
			
Page 7	Page 7	Page 7	Page 8



## Accessories

Tubing nut 830F4	Split ring 830J1	Tubing washer 830E7	Tubing 'O'-ring 8000K	Thread 'O'-ring ISO G parallel thread 8000K
				
Page 8	Page 8	Page 7	Page 8	Page 8

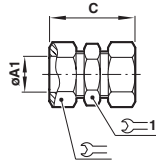
**Straight adaptor (taper)**  
**83425**




Ø A1 nominal pipe size	B	C	G		 1	Weight	Model	
mm	NPT	inch	inch	mm	mm	g		
1/8"	10,3	1/8"	1.36	0.39	24	20	80	834250118
1/8"	10,3	1/4"	1.44	0.47	24	20	83	834250128
1/8"	10,3	3/8"	1.44	0.47	24	20	83	834250138
1/8"	10,3	1/2"	1.48	0.51	24	21	96	834250148
1/4"	13,7	1/8"	1.48	0.39	28	25	128	834250418
1/4"	13,7	1/4"	1.52	0.47	28	25	128	834250428
1/4"	13,7	3/8"	1.52	0.47	28	25	128	834250438
1/4"	13,7	1/2"	1.56	0.51	28	25	134	834250448
1/4"	13,7	3/4"	1.63	0.59	28	28	144	834250468
1/4"	13,7	1"	1.75	0.71	28	34	202	834250488
3/8"	17,1	1/4"	1.54	0.47	31	27	128	834250628
3/8"	17,1	3/8"	1.54	0.47	31	27	134	834250638
3/8"	17,1	1/2"	1.57	0.51	31	27	144	834250648
3/8"	17,1	3/4"	1.65	0.59	31	28	150	834250668
3/8"	17,1	1"	1.77	0.71	31	34	192	834250688
1/2"	21,3	1/4"	1.59	0.47	38	34	192	834250728
1/2"	21,3	3/8"	1.59	0.47	38	34	202	834250738
1/2"	21,3	1/2"	1.63	0.51	38	34	208	834250748
1/2"	21,3	3/4"	1.71	0.59	38	34	214	834250768
1/2"	21,3	1"	1.83	0.71	38	34	230	834250788
3/4"	26,7	3/8"	1.65	0.47	44	40	266	834250938
3/4"	26,7	1/2"	1.69	0.51	44	40	288	834250948
3/4"	26,7	3/4"	1.77	0.59	44	40	266	834250968
3/4"	26,7	1"	1.89	0.71	44	40	304	834250988
3/4"	26,7	1 1/4"	1.89	0.71	44	45	384	8342509A8
1"	33,4	1/2"	1.87	0.51	53	48	416	834251048
1"	33,4	3/4"	1.95	0.59	53	48	448	834251068
1"	33,4	1"	2.07	0.71	53	48	464	834251088
1"	33,4	1 1/4"	2.07	0.71	53	48	464	8342510A8
1"	33,4	1 1/2"	2.15	0.79	53	50	496	8342510B8
1 1/4"	42,2	3/4"	1.95	0.59	66	60	640	834251168
1 1/4"	42,2	1"	2.07	0.71	66	60	624	834251188
1 1/4"	42,2	1 1/4"	2.07	0.71	66	60	672	8342511A8
1 1/4"	42,2	1 1/2"	2.24	0.79	66	60	672	8342511B8
1 1/4"	42,2	2"	2.42	0.79	66	60	704	8342511C8
1 1/2"	48,3	1"	2.15	0.71	71	65	688	834251288
1 1/2"	48,3	1 1/4"	2.15	0.71	71	65	736	8342512A8
1 1/2"	48,3	1 1/2"	2.22	0.79	71	65	704	8342512B8
1 1/2"	48,3	2"	2.42	0.79	71	65	816	8342512C8
2"	60,3	1 1/4"	2.34	0.71	84	78	896	8342513A8
2"	60,3	1 1/2"	2.42	0.79	84	78	992	8342513B8
2"	60,3	2"	2.42	0.79	84	78	1040	8342513C8

**Female adaptor (taper)**  
**83426**

 Dimensions in inch/mm  
 Projection/First angle

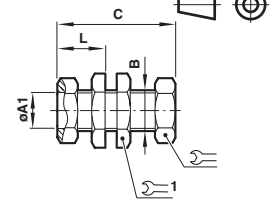

Ø A1 nominal pipe size	B	C	G		 1	Weight	Model	
mm	NPT	inch	inch	mm	mm	g		
1/8"	10,3	1/8"	11.02	4.33	24	18	80	834260118
1/8"	10,3	1/4"	11.81	4.72	24	23	96	834260128
1/8"	10,3	3/8"	12.20	4.92	24	26	112	834260138
1/8"	10,3	1/2"	12.60	5.12	24	32	128	834260148
1/4"	13,7	1/8"	13.19	4.33	28	23	128	834260418
1/4"	13,7	1/4"	13.19	4.72	28	23	144	834260428
1/4"	13,7	3/8"	13.19	4.92	28	26	144	834260438
1/4"	13,7	1/2"	14.37	5.12	28	32	176	834260448
1/4"	13,7	3/4"	14.76	5.91	28	37	192	834260468
1/4"	13,7	1"	15.16	7.09	28	47	240	834260488
3/8"	17,1	1/4"	12.60	4.72	31	27	144	834260628
3/8"	17,1	3/8"	13.19	4.92	31	27	144	834260638
3/8"	17,1	1/2"	13.58	5.12	31	32	160	834260648
3/8"	17,1	3/4"	15.16	5.91	31	37	176	834260668
3/8"	17,1	1"	15.55	7.09	31	47	240	834260688
1/2"	21,3	1/4"	12.60	4.72	38	32	176	834260728
1/2"	21,3	3/8"	13.39	4.92	38	32	208	834260738
1/2"	21,3	1/2"	13.98	5.12	38	32	192	834260748
1/2"	21,3	3/4"	15.55	5.91	38	37	224	834260768
1/2"	21,3	1"	16.73	7.09	38	47	320	834260788
3/4"	26,7	1/4"	13.39	4.72	44	38	272	834260928
3/4"	26,7	3/8"	13.39	4.92	44	38	272	834260938
3/4"	26,7	1/2"	13.58	5.12	44	38	282	834260948
3/4"	26,7	3/4"	14.57	5.91	44	38	272	834260968
3/4"	26,7	1"	16.54	7.09	44	47	384	834260988
3/4"	26,7	1 1/4"	17.32	7.09	44	60	448	8342609A8
3/4"	26,7	1 1/2"	17.72	7.87	44	65	544	8342609B8
1"	33,4	1/2"	15.16	5.12	53	48	448	834261048
1"	33,4	3/4"	16.34	5.91	53	48	448	834261068
1"	33,4	1"	17.13	7.09	53	48	464	834261088
1"	33,4	1 1/4"	17.52	7.09	53	60	496	8342610A8
1"	33,4	1 1/2"	18.70	7.87	53	65	576	8342610B8
1 1/4"	42,2	3/4"	17.72	5.91	66	60	720	834261168
1 1/4"	42,2	1"	18.11	7.09	66	60	736	834261188
1 1/4"	42,2	1 1/4"	18.11	7.09	66	60	768	8342611A8
1 1/4"	42,2	1 1/2"	18.50	7.87	66	65	784	8342611B8
1 1/4"	42,2	2"	18.50	8.66	66	80	896	8342611C8
1 1/2"	48,3	1"	18.70	7.09	71	65	720	834261288
1 1/2"	48,3	1 1/4"	18.70	7.09	71	65	736	8342612A8
1 1/2"	48,3	1 1/2"	18.90	7.87	71	65	752	8342612B8
1 1/2"	48,3	2"	20.08	8.66	71	80	928	8342612C8
2"	60,3	1 1/4"	19.88	7.09	84	80	1056	8342613A8
2"	60,3	1 1/2"	20.67	7.87	84	80	1088	8342613B8
2"	60,3	2"	21.06	8.66	84	80	1152	8342613C8



**Straight union (equal)  
83020**



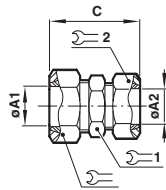
Ø A1 nominal pipe size		C			Weight	Model
mm	inch	mm	mm	mm	g	
1/8"	10,3	0.41	24	20	102	830200100
1/4"	13,7	0.54	28	25	170	830200400
3/8"	17,1	0.67	31	28	176	830200600
1/2"	21,3	0.84	38	34	262	830200700
3/4"	26,7	1.05	44	43	384	830200900
1"	33,4	1.31	53	48	608	830201000
1 1/4"	42,2	1.66	66	60	864	830201100
1 1/2"	48,3	1.90	71	65	960	830201200
2"	60,3	2.37	84	80	1504	830201300




**Bulkhead union  
83029**



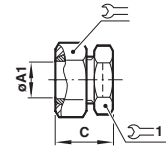
Ø A1 nominal pipe size	Ø B	C	L			Weight	Model		
mm	inch	mm	inch	mm	mm	g			
1/8"	10,3	0.75	19	2.28	0.96	24	23	176	830290100
1/4"	13,7	0.94	24	2.48	1.04	28	30	368	830290400
3/8"	17,1	1.06	27	2.44	1.06	31	32	384	830290600
1/2"	21,3	1.30	33	2.60	1.12	38	38	416	830290700
3/4"	26,7	1.54	39	2.68	1.18	44	46	544	830290900
1"	33,4	1.85	47	3.03	1.36	53	55	928	830291000
1 1/4"	42,2	2.32	59	3.19	1.36	66	70	1248	830291100
1 1/2"	48,3	2.52	64	3.27	1.40	71	75	1472	830291200
2"	60,3	3.03	77	3.82	1.63	84	90	2208	830291300



**Straight union (unequal)  
83020**

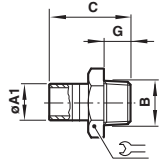



Ø A1 nominal pipe size	Ø A2 nominal pipe size	C				Weight	Model		
mm	mm	mm	mm	mm	mm	g			
1/4"	13,7	1/8"	10,3	1.77	28	25	24	154	830200401
3/8"	17,1	1/8"	10,3	1.79	31	27	24	160	830200601
3/8"	17,1	1/4"	13,7	1.79	31	28	28	192	830200604
1/2"	21,3	1/4"	13,7	1.85	38	34	28	240	830200704
1/2"	21,3	3/8"	17,1	1.87	38	34	31	240	830200706
3/4"	26,7	1/4"	13,7	1.91	44	38	30	304	830200904
3/4"	26,7	3/8"	17,1	1.93	44	38	31	304	830200906
3/4"	26,7	1/2"	21,3	1.99	44	40	38	336	830200907
1"	33,4	3/8"	17,1	2.15	53	48	31	464	830201006
1"	33,4	1/2"	21,3	2.17	53	48	38	496	830201007
1"	33,4	3/4"	26,7	2.22	53	48	55	528	830201009
1 1/4"	42,2	1/2"	21,3	2.13	66	60	37	704	830201107
1 1/4"	42,2	3/4"	26,7	2.19	66	60	44	736	830201109
1 1/4"	42,2	1"	33,4	2.32	66	60	53	784	830201110
1 1/2"	48,3	1"	33,4	2.36	71	65	53	896	830201210
1 1/2"	48,3	1 1/4"	42,2	2.36	71	65	66	960	830201211
2"	60,3	1"	33,4	2.56	84	78	53	1184	830201310
2"	60,3	1 1/4"	42,2	2.56	84	78	66	1248	830201311
2"	60,3	1 1/2"	48,3	2.68	84	78	71	1312	830201312

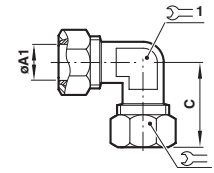
**Cap  
83012**





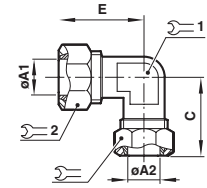
Ø A1 nominal pipe size	C			Weight	Model	
mm	inch	mm	mm	g		
1/8"	10,3	0.96	24	22	80	830120100
1/4"	13,7	0.96	28	24	112	830120400
3/8"	17,1	1.06	31	27	128	830120600
1/2"	21,3	1.04	38	34	176	830120700
3/4"	26,7	1.18	44	40	256	830120900
1"	33,4	1.32	53	48	416	830121000
1 1/4"	42,2	1.36	66	60	640	830121100
1 1/2"	48,3	1.44	71	65	736	830121200
2"	60,3	1.63	84	76	960	830121300




**Straight stem connector (taper)**  
**83415**


Ø A1 nominal pipe size	B	C	G		Weight	Model	
mm	NPT	inch	inch	mm	g		
1/8"	10,3	1/8"	1.36	0.39	12	32	834150118
1/8"	10,3	1/4"	1.44	0.39	16	38	834150128
1/4"	13,7	1/4"	1.50	0.39	15	38	834150428
1/4"	13,7	3/8"	1.50	0.39	17	48	834150438
1/4"	13,7	1/2"	1.54	0.39	21	64	834150448
3/8"	17,1	3/8"	1.54	0.39	19	58	834150638
3/8"	17,1	1/2"	1.57	0.39	21	74	834150648
3/8"	17,1	3/4"	1.65	0.59	27	102	834150668
1/2"	21,3	3/8"	1.57	0.47	23	74	834150738
1/2"	21,3	1/2"	1.61	0.51	23	80	834150748
1/2"	21,3	3/4"	1.69	0.59	27	96	834150768
1/2"	21,3	1"	1.81	0.71	34	144	834150788
3/4"	26,7	3/8"	1.69	0.47	28	102	834150938
3/4"	26,7	1/2"	1.73	0.51	28	112	834150948
3/4"	26,7	3/4"	1.81	0.59	28	128	834150968
3/4"	26,7	1"	1.93	0.71	34	176	834150988
1"	33,4	1/2"	1.81	0.51	35	170	834151048
1"	33,4	3/4"	1.89	0.59	36	176	834151068
1"	33,4	1"	2.01	0.71	36	208	834151088
1"	33,4	1 1/4"	2.01	0.71	42	256	8341510A8
1"	33,4	1 1/2"	2.17	0.79	48	272	8341510B8
1 1/4"	42,2	1"	2.22	0.71	44	304	834151188
1 1/4"	42,2	1 1/4"	2.22	0.71	45	320	8341511A8
1 1/4"	42,2	1 1/2"	2.30	0.79	48	352	8341511B8
1 1/4"	42,2	2"	2.30	0.79	65	448	8341511C8
1 1/2"	48,3	1"	2.26	0.71	50	352	834151288
1 1/2"	48,3	1 1/4"	2.26	0.71	50	368	8341512A8
1 1/2"	48,3	1 1/2"	2.34	0.79	50	384	8341512B8
1 1/2"	48,3	2"	2.34	0.79	65	480	8341512C8
2"	60,3	1"	2.56	0.71	65	576	834151388
2"	60,3	1 1/4"	2.56	0.71	65	592	8341513A8
2"	60,3	1 1/2"	2.64	0.79	65	608	8341513B8
2"	60,3	2"	2.64	0.79	65	640	8341513C8

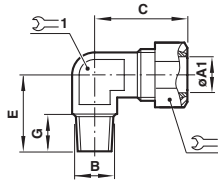
**Union elbow (equal)**  
**83040**

 Dimensions in inch/mm  
 Projection/First angle


Ø A1 nominal pipe size	C			Weight	Model	
mm	inch	mm	mm	g		
1/8"	10,3	1.26	24	14	144	830400100
1/4"	13,7	1.44	28	18	192	830400400
3/8"	17,1	1.50	31	22	208	830400600
1/2"	21,3	1.54	38	28	320	830400700
3/4"	26,7	1.67	44	32	432	830400900
1"	33,4	2.11	53	40	720	830401000
1 1/4"	42,2	2.20	66	50	1104	830401100
1 1/2"	48,3	2.44	71	55	1184	830401200
2"	60,3	2.78	84	68	1872	830401300

**Union elbow (unequal)**  
**83040**


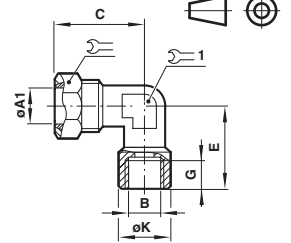
Ø A1 nominal pipe size	Ø A2 nominal pipe size	C	E				Weight	Model		
mm	mm	mm	mm	mm	1 mm	2 mm	g			
1/4"	13,7	1/8"	10,3	1.32	1.48	24	18	28	192	830400401
3/8"	17,1	1/8"	10,3	1.38	1.52	24	20	31	198	830400601
3/8"	17,1	1/4"	13,7	1.52	1.16	28	20	31	224	830400604
1/2"	23,3	1/4"	13,7	1.56	1.52	28	27	38	304	830400704
1/2"	23,3	3/8"	17,1	1.57	1.48	31	27	38	304	830400706
3/4"	26,7	1/4"	13,7	1.65	1.63	28	33	44	400	830400904
3/4"	26,7	3/8"	17,1	1.63	1.63	31	33	44	400	830400906
3/4"	26,7	1/2"	23,3	1.59	1.71	38	33	44	416	830400907
1"	33,4	1/4"	13,7	1.87	2.05	28	40	53	608	830401004
1"	33,4	3/8"	17,1	1.91	2.05	31	40	53	624	830401006
1"	33,4	1/2"	23,3	1.89	1.99	38	40	53	672	830401007
1"	33,4	3/4"	26,7	1.97	2.05	44	40	53	704	830401009
1 1/4"	42,2	3/4"	26,7	2.17	2.22	44	50	66	834	830401109
1 1/4"	42,2	1"	33,4	2.26	2.20	53	50	66	1120	830401110
1 1/2"	48,3	1"	33,4	2.44	2.42	53	55	71	1344	830401210
1 1/2"	48,3	1 1/4"	42,2	2.38	2.44	66	55	71	1312	830401211
2"	60,3	1 1/4"	42,2	2.62	2.80	66	68	84	2080	830401311
2"	60,3	1 1/2"	48,3	2.70	2.80	71	68	84	1952	830401312

**90° Elbow adaptor (taper)**  
**83445**

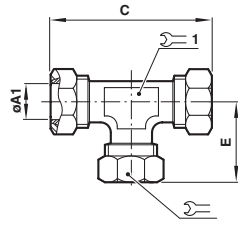


Ø A1 nominal pipe size	B	C	E	G			Weight	Model	
mm	NPT	inch	inch	inch	mm	1 mm	g		
1/8"	10,3	1/8"	1.28	0.89	0.39	24	14	96	834450118
1/8"	10,3	1/4"	1.24	1.00	0.53	24	14	90	834450128
1/8"	10,3	3/8"	1.28	0.98	0.53	24	14	102	834450138
1/8"	10,3	1/2"	1.30	1.14	0.59	24	18	122	834450148
1/4"	13,7	1/8"	1.40	1.00	0.39	28	18	128	834450418
1/4"	13,7	1/4"	1.42	1.08	0.47	28	18	128	834450428
1/4"	13,7	3/8"	1.42	1.08	0.47	28	18	134	834450438
1/4"	13,7	1/2"	1.44	1.14	0.51	28	18	144	834450448
1/4"	13,7	3/4"	1.44	1.30	0.67	28	20	170	834450468
1/4"	13,7	1"	1.56	1.56	0.81	28	27	266	834450488
3/8"	17,1	1/4"	1.50	1.08	0.47	31	22	160	834450628
3/8"	17,1	3/8"	1.50	1.10	0.47	31	22	160	834450638
3/8"	17,1	1/2"	1.52	1.14	0.59	31	22	147	834450648
3/8"	17,1	3/4"	1.61	1.14	0.67	31	22	160	834450668
3/8"	17,1	1"	1.65	1.57	0.71	31	27	160	834450688
1/2"	21,3	1/8"	1.54	1.16	0.39	38	27	208	834450718
1/2"	21,3	1/4"	1.54	1.24	0.47	38	27	240	834450728
1/2"	21,3	3/8"	1.54	1.22	0.49	38	27	256	834450738
1/2"	21,3	1/2"	1.50	1.30	0.53	38	27	256	834450748
1/2"	21,3	3/4"	1.54	1.36	0.67	38	27	266	834450768
1/2"	21,3	1"	1.50	1.54	0.81	38	27	266	834450788
3/4"	21,3	1/4"	1.67	1.38	0.47	44	32	352	834450928
3/4"	21,3	3/8"	1.67	1.38	0.49	44	32	352	834450938
3/4"	21,3	1/2"	1.71	1.36	0.53	44	32	346	834450948
3/4"	21,3	3/4"	1.67	1.46	0.61	44	32	346	834450968
3/4"	21,3	1"	1.63	1.57	0.81	44	32	368	834450988
3/4"	21,3	1 1/4"	1.63	1.63	0.71	44	40	560	8344509A8
3/4"	21,3	1 1/2"	1.69	2.05	0.79	44	50	800	8344509B8
1"	33,4	1/2"	2.07	1.67	0.53	53	40	640	834451048
1"	33,4	3/4"	2.03	1.73	0.59	53	40	640	834451068
1"	33,4	1"	2.09	1.85	0.71	53	40	624	834451088
1"	33,4	1 1/4"	2.03	1.87	0.81	53	40	624	8344510A8
1"	33,4	1 1/2"	2.03	2.03	0.89	53	40	592	8344510B8
1 1/4"	42,2	3/4"	2.2	1.91	0.59	66	50	944	834451168
1 1/4"	42,2	1"	2.22	2.07	0.71	66	50	960	834451188
1 1/4"	42,2	1 1/4"	2.22	2.03	0.71	66	50	1024	8344511A8
1 1/4"	42,2	1 1/2"	2.26	2.07	0.79	66	50	960	8344511B8
1 1/4"	42,2	2"	2.2	2.11	0.79	66	68	1600	8344511C8
1 1/2"	48,3	1"	2.38	2.15	0.79	71	55	1248	834451288
1 1/2"	48,3	1 1/4"	2.26	2.07	0.73	71	55	1248	8344512A8
1 1/2"	48,3	1 1/2"	2.42	2.24	0.79	71	55	1184	8344512B8
1 1/2"	48,3	2"	2.44	2.26	0.79	71	68	1600	8344512C8
2"	60,3	1 1/4"	2.76	2.32	0.71	84	68	1920	8344513A8
2"	60,3	1 1/2"	2.74	2.30	0.79	84	68	1856	8344513B8
2"	60,3	2"	2.78	2.28	0.79	84	68	1824	8344513C8

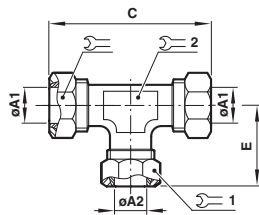
**90° Elbow adaptor female (taper)**  
**83446**



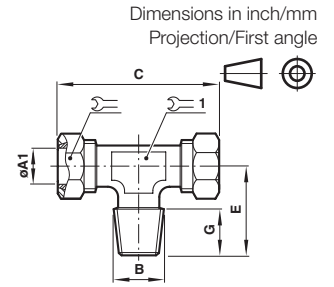
Ø A1 nominal pipe size	B	C	E	G	Ø K			Weight	Model	
mm	NPT	inch	inch	inch	inch	mm	1 mm	g		
1/8"	10,3	1/8"	1.24	1.14	0.43	0.69	24	14	112	834460118
1/8"	10,3	1/4"	1.48	1.18	0.47	0.87	24	18	144	834460128
1/8"	10,3	3/8"	1.48	1.30	0.49	0.98	24	20	170	834460138
1/8"	10,3	1/2"	1.48	1.46	0.51	1.18	24	27	266	834460148
1/4"	13,7	1/8"	1.46	1.14	0.43	0.69	28	18	154	834460418
1/4"	13,7	1/4"	1.42	1.18	0.47	0.87	28	18	160	834460428
1/4"	13,7	3/8"	1.46	1.28	0.49	0.98	28	20	170	834460438
1/4"	13,7	1/2"	1.54	1.57	0.51	1.18	28	27	288	834460448
1/4"	13,7	3/4"	1.54	1.54	0.59	1.44	28	27	304	834460468
3/8"	17,1	1/4"	1.52	1.18	0.47	0.87	31	20	176	834460628
3/8"	17,1	3/8"	1.52	1.24	0.49	0.98	31	20	176	834460638
3/8"	17,1	1/2"	1.57	1.59	0.51	1.18	31	27	336	834460648
3/8"	17,1	3/4"	1.56	1.56	0.59	1.44	31	27	288	834460668
1/2"	21,3	1/4"	1.52	1.32	0.47	0.87	38	27	288	834460728
1/2"	21,3	3/8"	1.52	1.28	0.49	0.98	38	27	272	834460738
1/2"	21,3	1/2"	1.54	1.56	0.51	1.18	38	27	304	834460748
1/2"	21,3	3/4"	1.50	1.59	0.59	1.44	38	27	320	834460768
1/2"	21,3	1"	1.67	1.71	0.71	1.77	38	32	480	834460788
3/4"	26,7	3/8"	1.67	1.40	0.49	0.98	44	32	384	834460938
3/4"	26,7	1/2"	1.69	1.42	0.51	1.18	44	32	384	834460948
3/4"	26,7	3/4"	1.65	1.73	0.59	1.44	44	32	416	834460968
3/4"	26,7	1"	1.69	1.73	0.71	1.77	44	32	432	834460988
1"	33,4	3/8"	2.05	1.85	0.49	0.98	53	40	640	834461038
1"	33,4	1/2"	2.01	1.81	0.51	1.18	53	40	640	834461048
1"	33,4	3/4"	2.05	1.77	0.59	1.44	53	40	624	834461068
1"	33,4	1"	2.01	1.99	0.71	1.77	53	40	672	834461088
1"	33,4	1 1/4"	2.17	2.09	0.71	2.17	53	50	1056	8344610A8
1"	33,4	1 1/2"	2.30	2.19	0.79	2.48	53	50	1120	8344610B8
1 1/4"	42,2	1"	2.24	2.19	0.71	1.77	66	50	1232	834461188
1 1/4"	42,2	1 1/4"	2.22	2.22	0.71	2.17	66	50	1248	8344611A8
1 1/4"	42,2	1 1/2"	2.20	2.24	0.79	2.48	66	50	1248	8344611B8
1 1/2"	48,3	1"	2.36	2.24	0.71	1.77	71	55	1232	834461288
1 1/2"	48,3	1 1/4"	2.44	2.20	0.71	2.17	71	55	1216	8344612A8
1 1/2"	48,3	1 1/2"	2.42	2.17	0.79	2.48	71	55	1184	8344612B8
2"	60,3	1 1/4"	2.80	2.24	0.71	2.17	84	68	1856	8344613A8
2"	60,3	1 1/2"	2.83	2.26	0.79	2.48	84	68	1856	8344613B8

**Union tee (equal)**  
**83060**


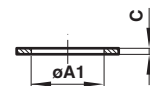
Ø A1 nominal pipe size	C	E	1	1	Weight	Model	
mm	inch	inch	mm	mm	g		
1/8"	10,3	2.44	1.22	24	16	192	830600100
1/4"	13,7	2.83	1.42	28	18	272	830600400
3/8"	17,1	2.95	1.48	31	20	288	830600600
1/2"	21,3	3.07	1.54	38	27	448	830600700
3/4"	26,7	3.31	1.65	44	32	576	830600900
1"	33,4	4.06	2.03	53	40	912	830601000
1 1/4"	42,2	4.53	2.26	66	50	1456	830601100
1 1/2"	48,3	4.80	2.40	71	55	1584	830601200
2"	60,3	5.75	2.87	84	68	2592	830601300

**Union tee (unequal)**  
**83060**


Ø A1 nominal pipe size	Ø A2 nominal pipe size	C	E	1	2	Weight	Model		
mm	mm	mm	inch	inch	mm	mm	g		
1/8"	1/4"	13,7	2.66	1.44	24	28	18	147	830600104
1/8"	3/8"	17,1	2.66	1.56	24	31	20	160	830600106
1/4"	3/8"	17,1	2.76	1.52	28	31	20	288	830600406
3/8"	1/4"	13,7	2.91	1.46	31	28	20	288	830600604
3/8"	1/2"	21,3	3.07	1.52	31	38	27	400	830600607
1/2"	1/4"	13,7	3.09	1.56	38	28	27	410	830600704
1/2"	3/8"	17,1	3.07	1.56	38	31	27	384	830600706
1/2"	3/4"	26,7	3.19	1.65	38	44	32	544	830600709
3/4"	1/4"	13,7	3.35	1.63	44	28	32	512	830600904
3/4"	3/8"	17,1	3.35	1.63	44	31	32	528	830600906
3/4"	1/2"	21,3	3.33	1.61	44	38	32	560	830600907
1"	3/8"	17,1	4.06	1.93	53	31	40	848	830601006
1"	1/2"	21,3	4.06	1.97	53	38	40	880	830601007
1"	3/4"	26,7	4.06	1.97	53	44	40	928	830601009
1 1/4"	3/4"	26,7	4.53	2.20	66	44	50	1152	830601109
1 1/4"	1"	33,4	4.45	2.32	66	53	50	1536	830601110
1 1/2"	1"	33,4	4.80	2.42	71	53	55	1664	830601210
1 1/2"	1 1/4"	42,2	4.92	2.48	71	66	55	1760	830601211
2"	1 1/4"	42,2	5.75	2.70	84	66	68	2432	830601311
2"	1 1/2"	48,3	5.75	2.74	84	71	68	2528	830601312

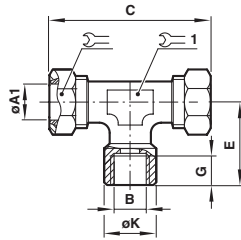
**Tee adaptor (taper)**  
**83465**


Ø A1 nominal pipe size	B	C	E	G	1	1	Weight	Model	
mm	NPT	inch	inch	inch	mm	mm	g		
1/8"	10,3	1/8"	2,40	0.87	0.39	24	14	144	834650118
1/4"	13,7	1/8"	2,87	0.98	0.39	28	18	208	834650418
1/4"	13,7	1/4"	2,89	1.08	0.47	28	18	224	834650428
1/4"	13,7	3/8"	2,87	1.06	0.47	28	18	224	834650438
1/4"	13,7	1/2"	2,81	1.14	0.51	28	18	224	834650448
3/8"	17,1	1/4"	3,07	1.10	0.47	31	20	240	834650628
3/8"	17,1	3/8"	2,91	1.10	0.47	31	20	240	834650638
3/8"	17,1	1/2"	2,99	1.22	0.51	31	20	240	834650648
1/2"	21,3	1/4"	3,03	1.26	0.47	38	27	352	834650728
1/2"	21,3	3/8"	3,09	1.28	0.47	38	27	368	834650738
1/2"	21,3	1/2"	3,09	1.30	0.51	38	27	384	834650748
1/2"	21,3	3/4"	3,07	1.38	0.59	38	27	384	834650768
3/4"	26,7	1/2"	3,35	1.36	0.51	44	32	512	834650948
3/4"	26,7	3/4"	3,33	1.34	0.59	44	32	512	834650968
3/4"	26,7	1"	3,35	1.32	0.71	44	33	528	834650988
1"	33,4	1/2"	4,02	1.46	0.51	53	40	816	834651048
1"	33,4	3/4"	4,02	1.54	0.59	53	40	816	834651068
1"	33,4	1"	4,04	1.61	0.71	53	40	816	834651088
1"	33,4	1 1/4"	4,02	1.65	0.71	53	40	848	8346510A8
1 1/4"	42,2	1"	4,47	1.95	0.71	66	50	1376	834651188
1 1/4"	42,2	1 1/4"	4,57	1.97	0.71	66	50	1344	8346511A8
1 1/4"	42,2	1 1/2"	4,41	1.93	0.79	66	50	1408	8346511B8
1 1/2"	48,3	1"	4,84	1.97	0.71	71	55	1472	834651288
1 1/2"	48,3	1 1/4"	4,84	1.97	0.71	71	55	1504	8346512A8
1 1/2"	48,3	1 1/2"	4,84	2.03	0.79	71	55	1536	8346512B8
1 1/2"	48,3	2"	4,84	2.05		71	68	1536	8346512C8
2"	60,3	1 1/4"	5,63	1.97	0.71	84	68	2304	8346513A8
2"	60,3	1 1/2"	5,63	2.05	0.79	84	68	2528	8346513B8
2"	60,3	2"	5,63	2.05		84	68	2560	8346513C8

**Tubing washer**  
**830E7**


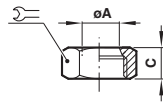
Ø A1 for nominal pipe size	Ø A1	C	Model
mm	mm	mm	
1/8"	10,5	1,5	830E70100
1/4"	13,8	1,5	830E70400
3/8"	17,5	1,5	830E70600
1/2"	21,8	1,5	830E70700
3/4"	27,4	2	830E70900
1"	37,2	2	830E71000
1 1/4"	42,9	2	830E71100
1 1/2"	48,8	2	830E71200
2"	60,9	3	830E71300

**Tee adaptor female (taper)**  
**83466**



Ø A1 nominal pipe size	B	C	E	G	ØK	1	Weight	Model		
mm	inch	inch	inch	inch	inch	mm	g			
1/8"	10,3	1/8"	2.62	1.16	0.43	0.69	24	18	240	834660411
1/4"	13,7	1/8"	2.76	1.10	0.43	0.69	28	18	272	834660418
1/4"	13,7	1/4"	2.78	1.08	0.47	0.87	28	18	272	834660428
1/4"	13,7	3/8"	2.87	1.18	0.49	0.98	28	20	288	834660438
1/4"	13,7	1/2"	3.09	1.22	0.51	1.18	28	27	416	834660468
3/8"	17,1	1/4"	3.11	1.26	0.47	0.87	31	20	256	834660628
3/8"	17,1	3/8"	3.11	1.30	0.49	0.98	31	22	256	834660638
3/8"	17,1	1/2"	3.17	1.20	0.51	1.18	31	27	352	834660648
1/2"	21,3	1/4"	2.99	1.30	0.47	0.87	38	27	384	834660728
1/2"	21,3	3/8"	3.05	1.22	0.49	0.98	38	27	384	834660738
1/2"	21,3	1/2"	3.05	1.22	0.51	1.18	38	27	416	834660748
1/2"	21,3	3/4"	3.19	1.30	0.59	1.44	38	32	480	834660768
3/4"	26,7	1/2"	3.31	1.26	0.51	1.18	44	33	528	834660948
3/4"	26,7	3/4"	3.35	1.28	0.59	1.44	44	32	464	834660968
3/4"	26,7	1"	3.92	1.57	0.71	1.77	44	40	800	834660988
1"	33,4	1/2"	4.02	1.61	0.51	1.18	53	40	864	834661048
1"	33,4	3/4"	4.06	1.57	0.59	1.44	53	40	848	834661068
1"	33,4	1"	4.06	1.61	0.71	1.77	53	40	816	834661088
1 1/4"	42,2	1"	4.63	1.89	0.71	1.77	66	50	1408	834661188
1 1/2"	48,3	1"	4.8	1.97	0.71	1.77	71	55	1536	834661288

**Tube nut**  
**830F4**



Ø A1 for nominal pipe size	Ø A	C	Model
mm	mm	mm	
1/8"	10,3	14,5	830F40100
1/4"	13,7	15	830F40400
3/8"	17,1	14,5	830F40600
1/2"	21,3	15,5	830F40700
3/4"	26,7	17	830F40900
1"	33,4	18,5	830F41000
1 1/4"	42,2	19,5	830F41100
1 1/2"	48,3	21	830F41200
2"	60,3	23,5	830F41300

**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«.

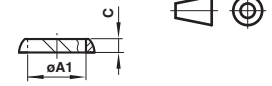
Before using these products with fluids other than those specified, for non-industrial applications, life-support systems or other applications not within published specifications, consult IMI NORGREN.

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

**Split ring**  
**830J1**

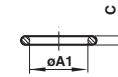


Dimensions in inch/mm  
Projection/First angle



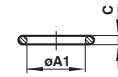
Ø A1 for nominal pipe size	C	Model
mm	mm	
1/8"	10,5	830J10100
1/4"	13,9	830J10400
3/8"	17,4	830J10600
1/2"	21,6	830J10700
3/4"	27,1	830J10900
1"	34,3	830J11000
1 1/4"	42,6	830J11100
1 1/2"	48,5	830J11200
2"	60,4	830J11300

**Tube 'O'-ring – HNBR (yellow)**  
**8000K**



For tube Ø	Ø A1 mm	C mm	Model
1/8"	8,9	1,9	8000K21000
1/4"	12,1	2,7	8000K30400
3/8"	16,9	2,7	8000K21800
1/2"	19,8	3,6	8000K30700
3/4"	26,2	3,6	8000K30900
1"	32,5	3,6	8000K31000
1 1/4"	40,6	5,3	8000K31100
1 1/2"	43,8	5,3	8000K31200
2"	59,8	5,3	8000K31300

**Thread 'O'-ring ISO G parallel thread – HNBR (yellow)**  
**8000K**



For thread	Ø A1 mm	C mm	Model
G1/8	8,9	1,9	8000K21000
G1/4	12,1	2,7	8000K30400
G3/8	15,1	2,7	8000K21600
G1/2	19,8	3,6	8000K30700
G3/4	24,6	3,6	8000K22500
G1	30,8	3,6	8000K23200
G1 1/4	37,5	5,3	8000K400A8
G1 1/2	43,8	5,3	8000K24500
G2	56,5	5,3	8000K400C8

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.