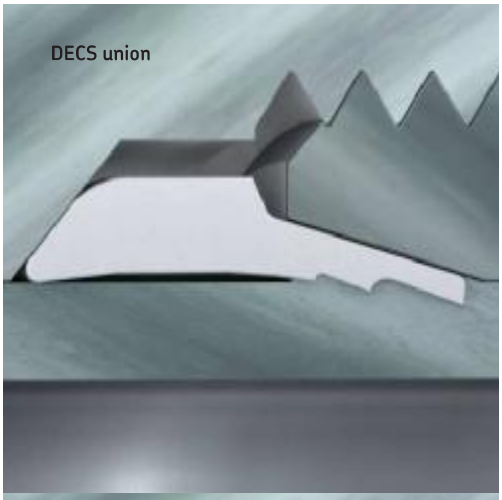
High-pressure cutting sleeve unions acc. to ISO 8334-1

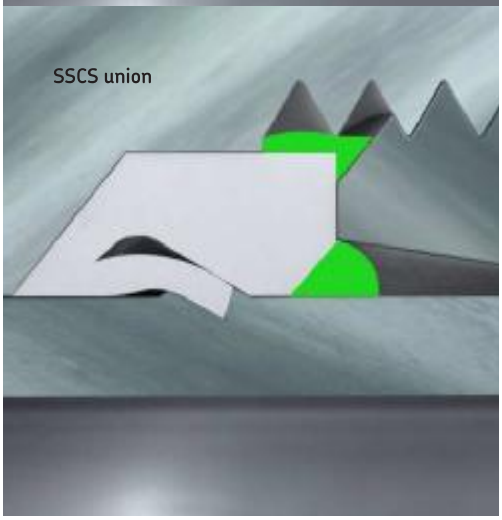
DECS union



SSCS union







Description

Solderless pipe fittings with cutting sleeves are designed for high-pressure oil, fluid grease and grease lubrication systems with pressures up to 400 bar and more with an operating temperature range from -25 to 80 °C . Depending on the operating pressure, the fittings are available in 3 pressure series: LL (very light), L (light) and S (heavy). The pipe connections, threads and pressure series are defined in DIN EN ISO 8434-1 (formerly DIN 2353).

In consideration of the application, the fittings are available in various materials (galvanized steel, stainless steel and brass).

Cutting sleeve fittings, also called bite-type fittings, are very popular due to simple assembly that requires only two wrenches. It is recognised for its high-pressure performance from a compact body. During assembly, the cutting ring forms, cutting edges into the tube that will remain after reassembly. The cutting ring can also be preassembled by a manual device or with the help of a tool.

Types of cutting sleeve unions

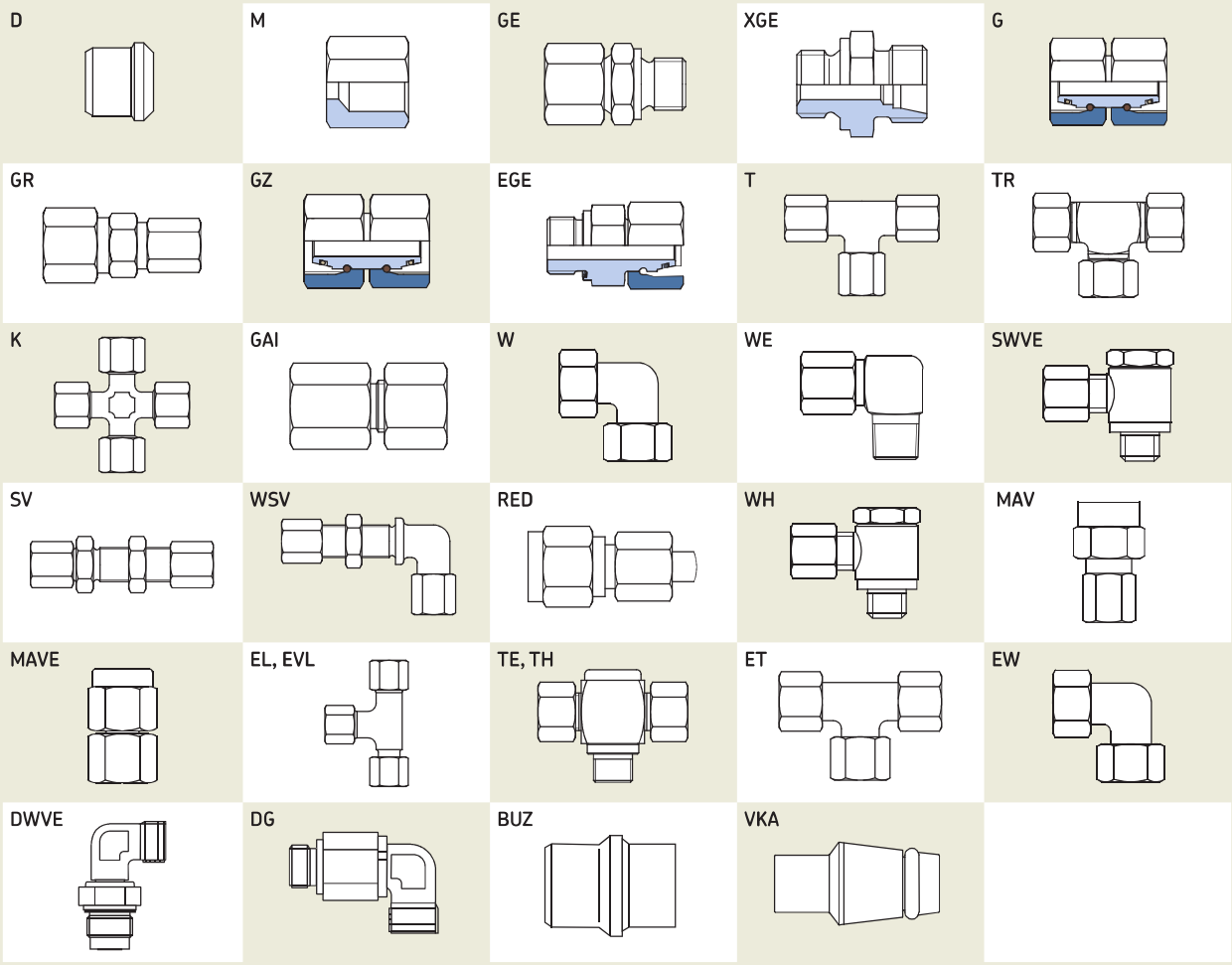
- Double-edged cutting sleeve union (DECS)
- Soft-seal cutting sleeve union (SSCS)

Series

	LL	L		S	
Design	very light	light		rigid	
Tube diameter (mm)	4, 6, 8, 10, 12	6, 8 ,10, 12, 15	22, 26	6, 8, 10, 12	16, 20, 30
Nominal pressure	100 bar *1 450 psi*	315 bar *4 568 psi*	160 bar *2 320 psi*	630 bar *9 137 psi*	400 bar *5 800 psi*
Operation pressure max.	200 bar *2 900 psi*	500 bar *7 250 psi*	250 bar *3 625 psi*	900 bar *13 053 psi*	420 bar *6 090 psi*
Space requirement	very small	small		large	
Lubrication systems	medium-pressure lubrication systems			high-pressure grease systems	
Typical applications	vehicles, machine tools, wind mills			presses, injection molding machines, heavy industry	

High-pressure cutting sleeve unions

Fitting types



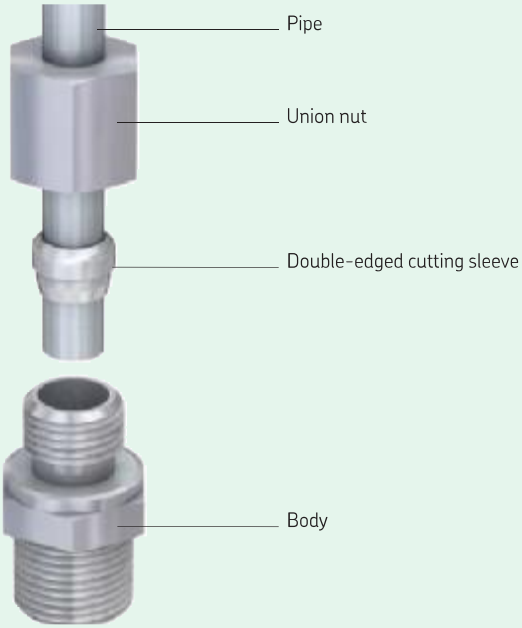
Nomenclature of fitting designations

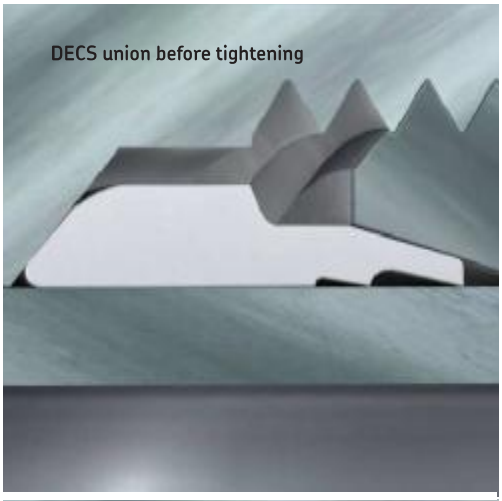
D		4					
M	ST	6		-LL	G1/8		
GE	VA	8		-L	R1/8		
...	MS	10	Z	-S	M8x1K	ED	CF
Fitting type							
	Material						
		Tube diameter in mm					
			Soft seal (fitting seal)				
				Series			
					Thread type		
						Soft seal (tube seal)	
							Surface coating

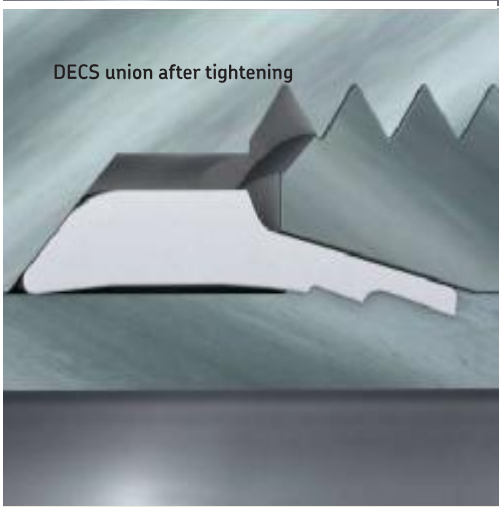
Legend of fitting type abbreviations

D	Cutting sleeve
M	Union nuts
GE	Straight screw-in connector
XGE	Straight screw-in gland
G	Straight tube-to-tube connector
GR	Straight tube-to-tube reducing connector
GZ	Union stud
EGE	Straight tube stud
T	T-connector
TR	T reducing connector
K	K-connector
GAI	Female connector straight
W	Elbow connector
WE	Elbow screw-in connector
SWVE	Banjo fitting
SV	Straight bulkhead connector
WSV	Elbow bulkhead connector
RED	Reducing connectors
WH	Banjo fitting (high-pressure)
MAV	Connectors for pressure gauge
MAVE	Connectors for pressure gauge (adjustable)
EL	L-connectors adjustable
EVL	Standpipe branch tee
TE	Screw-in T-connector
TH	Screw-in T-connector (high-pressure)
ET	Swivel nut branch tee
EW	Swivel nut elbow
DWVE	Elbow male stud plain bearing rotary union
DG	Elbow bulkhead ball bearing rotary union
BUZ	Blanking plug for cones
VKA	Blanking plug for cones

Double-edged cutting sleeve union (DECS)







Description

Double-edged cutting sleeve unions (DECS) consist of a union nut, a double-edged cutting sleeve and a body. To mount the union, the union nut and double-edged cutting sleeve must be placed on the pipe end. Both parts must be aligned as shown on the illustration above. Then the pipe can be pushed into the body before tightening the union nut. During this process, the double-edged cutting sleeve cuts into the pipe to seal the connection as shown in the illustration above.

The following must be considered when tightening the union:

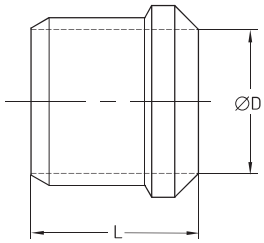
- Manual presetting – tighten the nut by 1 1/4 turns
- Final assembly – 1/4 turn after perceptible rise in force

Features and benefits

- Compact installation dimensions
- Virtually leakage-free, high-pressure union
- Recommended for high-pressure grease applications
- Suitable for thin and heavy pipes made from steel, stainless steel, copper and aluminum
- Common fitting system for high-pressure systems, especially for oil and grease lubrication
- Over-assembly protection through noticeable increase in force when tightening union nut
- Pipe vibration dampening resulting from pipe fixation during assembly (caused by DECS union)
- Wide operating temperature range from -25 to 80 °C

Double-edged cutting sleeve unions

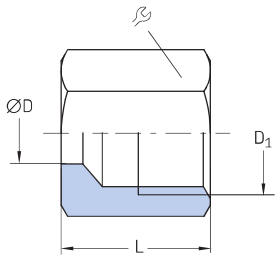
Double-edged cutting sleeves D acc. to DIN 3861/ISO 8434-1



Order number	Designation		Series	Tube ØD	L	Material	Operating pressure max.		Weight	
				mm	mm		bar	*psi*	g	*lb*
Steel, galvanized										
223-14083-3	FERRULE	ST D 4-LL	LL	4	6	Steel, galvanized	100	*1 450*	0,3	*0.00*
223-12295-2	FERRULE	ST D 6-LL	LL	6	7	Steel, galvanized	100	*1 450*	0,8	*0.00*
223-12295-5	FERRULE	ST D 8-LL	LL	8	7	Steel, galvanized	100	*1 450*	1	*0.00*
223-12295-9	FERRULE	ST D 10-LL	LL	10	7	Steel, galvanized	100	*1 450*	1,3	*0.00*
223-12295-3	FERRULE	ST D 6-L/S	L/S	6	9,5	Steel, galvanized	250	*3 625*	1	*0.00*
223-12295-6	FERRULE	ST D 8-L/S	L/S	8	10	Steel, galvanized	250	*3 625*	1,7	*0.00*
223-12295-8	FERRULE	ST D 10-L/S	L/S	10	10	Steel, galvanized	250	*3 625*	3,1	*0.01*
223-12296-1	FERRULE	ST D 12-L/S	L/S	12	10,5	Steel, galvanized	250	*3 625*	3,5	*0.01*
223-12296-9	FERRULE	ST D 15-L	L	15	10	Steel, galvanized	160	*2 320*	4,5	*0.01*
223-12583-1	FERRULE	ST D 18-L	L	18	10,5	Steel, galvanized	160	*2 320*	5,5	*0.01*
223-12296-8	FERRULE	ST D 16-S	S	16	10	Steel, galvanized	400	*5 800*	5,6	*0.01*
223-12296-3	FERRULE	ST D 20-S	S	20	13	Steel, galvanized	400	*5 800*	11,4	*0.03*
223-12296-5	FERRULE	ST D 30-S	S	30	13	Steel, galvanized	400	*5 800*	19,3	*0.04*
Stainless steel										
223-13639-5	FERRULE	VA D 4-LL	LL	4	6	Stainless steel	100	*1 450*	0,3	*0.00*
223-13639-3	FERRULE	VA D 6-L/S	L/S	6	9,5	Stainless steel	250	*3 625*	1	*0.00*
223-13639-2	FERRULE	VA D 6-LL	LL	6	7	Stainless steel	100	*1 450*	0,8	*0.00*
223-13639-1	FERRULE	VA D 8-L/S	L/S	8	9,5	Stainless steel	250	*3 625*	1,7	*0.00*
223-13639-4	FERRULE	VA D 10-L/S	L/S	10	9,5	Stainless steel	250	*3 625*	3,1	*0.01*
223-13639-9	FERRULE	VA D 12-L/S	L/S	12	10	Stainless steel	250	*3 625*	3,5	*0.01*
223-13639-7	FERRULE	VA D 16-S	S	16	9,5	Stainless steel	400	*5 800*	5,6	*0.01*
223-13639-8	FERRULE	VA D 20-S	S	20	12,5	Stainless steel	400	*5 800*	11,4	*0.03*
223-14092-5	FERRULE	VA D 30-S	S	30	12,5	Stainless steel	400	*5 800*	19,3	*0.04*
Zinc-nickel										
406-351	FERRULE	ST D 6-LL Z3W	LL	6	7	Zinc-nickel	100	*1 450*	1	*0.00*
408-351	FERRULE	ST D 8-LL Z3W	LL	8	7	Zinc-nickel	100	*1 450*	1	*0.00*
406-361	FERRULE	ST D 6-L Z3W	L	6	11,5	Zinc-nickel	250	*3 625*	2	*0.00*
408-361	FERRULE	ST D 8-L Z3W	L	8	11,5	zinc-nickel	250	*3 625*	2	*0.00*

Double-edged cutting sleeve unions

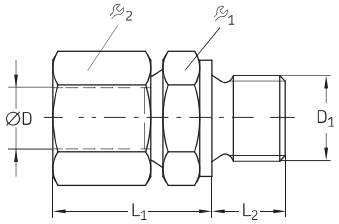
Union nuts M
acc. to DIN 3861/ISO 8434-1



Order number	Designation	Series	Tube ØD	D_1	L		Material	Operating pressure max.		Weight	
			mm	mm	mm	mm		bar	*psi*	g	*lb*
Steel, galvanized											
223-13032-1	COUPLING NUT ST M 4-LL CF	LL	4	M8×1	11	10	Steel, galvanized	100	*1 450*	4	*0.01*
223-12374-9	COUPLING NUT ST M 6-LL CF	LL	6	M10×1	12	12	Steel, galvanized	100	*1 450*	6	*0.01*
223-13032-3	COUPLING NUT ST M 8-LL CF	LL	8	M12×1	12	14	Steel, galvanized	100	*1 450*	7	*0.02*
223-12374-6	COUPLING NUT ST M 10-LL CF	LL	10	M14×1	12,5	17	Steel, galvanized	100	*1 450*	11	*0.02*
223-12373-9	COUPLING NUT ST M 6-L CF	L	6	M12×1,5	14,5	14	Steel, galvanized	250	*3 625*	10	*0.02*
223-13032-4	COUPLING NUT ST M 8-L CF	L	8	M14×1,5	14,5	17	Steel, galvanized	250	*3 625*	15	*0.03*
223-13032-6	COUPLING NUT ST M 10-L CF	L	10	M16×1,5	16	19	Steel, galvanized	250	*3 625*	18	*0.04*
223-12373-2	COUPLING NUT ST M 12-L CF	L	12	M18×1,5	16	22	Steel, galvanized	250	*3 625*	25	*0.06*
223-12374-8	COUPLING NUT ST M 15-L CF	L	15	M22×1,5	18	27	Steel, galvanized	250	*3 625*	42	*0.09*
223-12374-7	COUPLING NUT ST M 18-L CF	L	18	M26×1,5	18	32	Steel, galvanized	250	*3 625*	62	*0.14*
223-13032-9	COUPLING NUT ST M 16-S CF	S	16	M24×1,5	20,5	30	Steel, galvanized	400	*5 800*	66	*0.15*
223-12373-6	COUPLING NUT ST M 20-S CF	S	20	M30×2	24	36	Steel, galvanized	400	*5 800*	102	*0.22*
223-12374-2	COUPLING NUT ST M 30-S CF	S	30	M42×2	29	50	Steel, galvanized	400	*5 800*	219	*0.48*
Zinc-nickel											
406-352	COUPLING NUT ST M 6-LL Z3W	LL	6	M10×1	11,5	12	Zinc-nickel	100	*1 450*	5	*0.01*
408-352	COUPLING NUT ST M 8-LL Z3W	LL	8	M12×1	12	14	Zinc-nickel	100	*1 450*	5	*0.01*
406-362	COUPLING NUT ST M 6-L Z3W	L	6	M12×1,5	14,5	14	Zinc-nickel	250	*3 625*	30	*0.07*
408-362	COUPLING NUT ST M 8-L Z3W	L	8	M14×1,5	14,5	17	Zinc-nickel	250	*3 625*	35	*0.08*
Stainless steel											
223-13638-6	COUPLING NUT VA M 4-LL	LL	4	M8×1	11	10	Stainless steel	100	*1 450*	4	*0.01*
223-13638-2	COUPLING NUT VA M 6-LL	LL	6	M10×1	12	12	Stainless steel	100	*1 450*	6	*0.01*
223-14082-5	COUPLING NUT VA M 6-L	L	6	M12×1,5	14,5	14	Stainless steel	250	*3 625*	10	*0.02*
223-13638-1	COUPLING NUT VA M 8-L	L	8	M14×1,5	14,5	17	Stainless steel	250	*3 625*	15	*0.03*
223-13638-3	COUPLING NUT VA M 10-L	L	10	M16×1,5	16	19	Stainless steel	250	*3 625*	18	*0.04*
223-14082-3	COUPLING NUT VA M 12-L	L	12	M18×1,5	16	22	Stainless steel	250	*3 625*	25	*0.06*
223-13638-7	COUPLING NUT VA M 16-S	S	16	M24×1,5	20,5	30	Stainless steel	400	*5 800*	66	*0.15*
223-13638-9	COUPLING NUT VA M 20-S	S	20	M30×2	24	36	Stainless steel	400	*5 800*	102	*0.22*
223-14082-6	COUPLING NUT VA M 30-S	S	30	M42×2	29	50	Stainless steel	400	*5 800*	219	*0.48*

Double-edged cutting sleeve unions

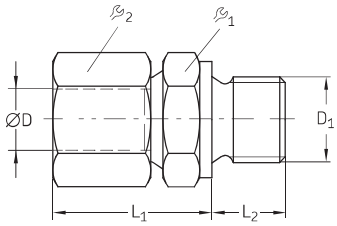
Straight screw-in connectors GE with metrical thread



Order number	Designation	Series	Tube ØD	D_1	L_1	L_2	$\mathcal{S}_1$	$\mathcal{S}_2$	Material	Operating pressure max.		Weight	
			mm	mm	mm	mm	mm	mm		bar	*psi*	g	*lb*
Cylindrical thread													
223-12571-2	TB.FITT.ST GE 6-L M10x1,0 CF	L	6	M10×1	23	8	14	14	Steel, galvanized	315	*4 570*	40	*0.09*
223-12361-6	TB.FITT.ST GE 8-L M12x1,5 CF	L	8	M12×1,5	25	12	17	17	Steel, galvanized	315	*4 570*	40	*0.09*
223-10263-8	TB.FITT.ST GE10-L M10x1,0 CF	L	10	M10×1	23	8	14	14	Steel, galvanized	315	*4 570*	40	*0.09*
223-14129-4	TB.FITT.ST GE10-L M14x1,5 CF	L	10	M14×1,5	26	12	19	19	Steel, galvanized	315	*4 570*	50	*0.11*
223-10313-2	TB.FITT.ST GE10-L M18x1,5 CF	L	10	M18×1,5	27	12	24	19	Steel, galvanized	315	*4 570*	71	*0.16*
412-423	TB.FITT.ST GE12-L M14x1,5 CF	L	12	M14×1,5	26	12	19	22	Steel, galvanized	315	*4 570*	60	*0.13*
412-403	TB.FITT.ST GE12-L M16x1,5 CF	L	12	M16×1,5	27	12	22	22	Steel, galvanized	315	*4 570*	70	*0.15*
412-433	TB.FITT.ST GE12-L M18x1,5 CF	L	12	M18×1,5	27	12	24	22	Steel, galvanized	315	*4 570*	77	*0.17*
415-403	TB.FITT.ST GE15-L M18x1,5 CF	L	15	M18×1,5	29	12	24	27	Steel, galvanized	250	*3 626*	97	*0.21*
415-413	TB.FITT.ST GE15-L M22x1,5 CF	L	15	M22×1,5	30	14	27	27	Steel, galvanized	250	*3 626*	100	*0.22*
418-403	TB.FITT.ST GE18-L M22x1,5 CF	L	18	M22×1,5	31	14	27	32	Steel, galvanized	250	*3 626*	143	*0.32*
223-11242-5	TB.FITT.ST GE18-L M18x1,5 CF	L	18	M18×1,5	30	12	27	32	Steel, galvanized	250	*3 626*	150	*0.33*
223-11242-4	TB.FITT.ST GE22-L M27x2,0 CF	L	22	M27×2	33	16	32	36	Steel, galvanized	160	*2 320*	160	*0.35*
223-14214-8	TB.FITT.ST GE28-L M33x2,0 CF	L	28	M33×2	34	18	41	41	Steel, galvanized	160	*2 320*	280	*0.62*
96-0335-0058	TB.FITT.ST GE35-L M42x2,0 CF	L	35	M42×2	39	20	50	50	Steel, galvanized	160	*2 320*	450	*0.99*
96-0342-0058	TB.FITT.ST GE42-L M48x2,0 CF	L	42	M48×2	42	22	55	60	Steel, galvanized	160	*2 320*	600	*1.32*
96-1206-0058	TB.FITT.ST GE 6-S M12x1,5K CF	S	6	M12×1,5	28	12	17	17	Steel, galvanized	800	*11 600*	30	*0.07*
408-413	TB.FITT.ST GE 8-S M14×1,5 CF	S	8	M14×1,5	30	12	19	17	Steel, galvanized	800	*11 600*	66	*0.15*
410-413	TB.FITT.ST GE10-S M16×1,5 CF	S	10	M16×1,5	31	12	22	22	Steel, galvanized	800	*11 600*	87	*0.19*
412-453	TB.FITT.ST GE12-S M18×1,5 CF	S	12	M18×1,5	33	12	24	24	Steel, galvanized	630	*9 140*	111	*0.24*
96-1214-0058	TB.FITT.ST GE14-S M20x1,5K CF	S	14	M20×1,5	37	14	27	17	Steel, galvanized	630	*9 140*	140	*0.31*
Tapered thread													
223-12533-5	TB.FITT.ST GE 4-LL M6x1 K CF	LL	4	M6×1 tap.	26	8	9	10	Steel, galvanized	100	*1 450*	12	*0.03*
223-12271-8	TB.FITT.ST GE 4-LL M8x1 K CF	LL	4	M8×1 tap.	26	8	10	10	Steel, galvanized	100	*1 450*	15	*0.03*
223-13069-1	TB.FITT.ST GE 4-LL M10x1 K CF	LL	4	M10×1 tap.	26	8	10	10	Steel, galvanized	100	*1 450*	16	*0.04*
223-12533-9	TB.FITT.ST GE 6-LL M6x1 K CF	LL	6	M6×1 tap.	26	8	11	12	Steel, galvanized	100	*1 450*	19	*0.04*
223-13023-1	TB.FITT.ST GE 6-LL M8x1 K CF	LL	6	M8×1 tap.	26	8	11	12	Steel, galvanized	100	*1 450*	20	*0.04*
223-12271-7	TB.FITT.ST GE 6-LL M10x1 K CF	LL	6	M10×1 tap.	26	8	11	12	Steel, galvanized	100	*1 450*	21	*0.05*
223-13021-1	TB.FITT.ST GE 8-LL M10x1,0K CF	LL	8	M10×1 tap.	28	8	12	14	Steel, galvanized	100	*1 450*	24	*0.05*
410-443	TB.FITT.ST GE10-L M10x1,0K CF	L	10	M10×1 tap.	25	9	19	17	Steel, galvanized	500	*7 250*	56	*0.12*
223-13658-7	TB.FITT.VA GE 6-LL M 6x1 K	LL	6	M6×1 tap.	26	8	11	12	Stainless steel	100	*1 450*	26	*0.06*
223-13658-6	TB.FITT.VA GE 6-LL M 8x1 K	LL	6	M8×1 tap.	26	8	11	12	Stainless steel	100	*1 450*	27	*0.06*
223-13658-5	TB.FITT.VA GE 6-LL M 10x1 K	LL	6	M10×1 tap.	26	8	11	12	Stainless steel	100	*1 450*	31	*0.07*
223-13715-1	TB.FITT.VA GE 8-LL M 10x1 K	LL	8	M10×1 tap.	28	8	12	14	Stainless steel	100	*1 450*	33	*0.07*
223-14184-5	TB.FITT.VA GE 6-L M 10x1 K	L	6	M10×1 tap.	23	8	14	14	Stainless steel	100	*1 450*	31	*0.07*
410-403-S3	TB.FITT.VA GE10-L M14x1,5K	L	10	M14×1,5 tap.	26	12	19	19	Stainless steel	315	*4 570*	24	*0.05*

Double-edged cutting sleeve unions

Straight screw-in connectors GE with Whitworth pipe thread

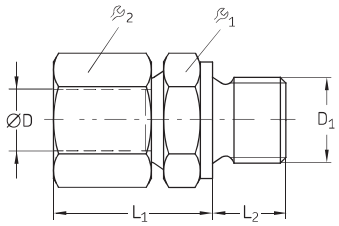


Order number	Designation	Series	Tube ØD	D_1	L_1	L_2			Material	Operating pressure max.		Weight	
			mm	in	mm	mm	mm	mm		bar	*psi*	g	*lb*
Cylindrical thread													
223-13016-3	FITTING ST GE 6-L G 1/8 A CF	L	6	G 1/8 A	23	8	14	14	Steel, galvanized	315	*4 570*	18	*0.04*
223-12477-8	FITTING ST GE 6-L G 1/4 A CF	L	6	G 1/4 A	25	12	19	14	Steel, galvanized	315	*4 570*	35	*0.08*
223-13766-6	FITTING ST GE 6-L G 3/8 A CF	L	6	G 3/8 A	26	12	22	14	Steel, galvanized	315	*4 570*	51	*0.11*
223-10814-2	FITTING ST GE 8-L G 1/8 A CF	L	8	G 1/8 A	23	8	14	17	Steel, galvanized	315	*4 570*	24	*0.05*
223-12477-6	FITTING ST GE 8-L G 1/4 A CF	L	8	G 1/4 A	25	12	19	17	Steel, galvanized	315	*4 570*	35	*0.08*
223-10080-3	FITTING ST GE 8-L G 3/8 A CF	L	8	G 3/8 A	26	12	22	17	Steel, galvanized	315	*4 570*	53	*0.12*
408-453W	FITTING ST GE 8-L G 1/2 A CF	L	8	G 1/2 A	27	14	27	17	Steel, galvanized	315	*4 570*	82	*0.18*
223-12272-9	FITTING ST GE 10-L G 1/4 A CF	L	10	G 1/4 A	26	12	19	19	Steel, galvanized	315	*4 570*	41	*0.09*
223-14214-4	FITTING ST GE 10-L G 3/8 A CF	L	10	G 3/8 A	27	12	22	19	Steel, galvanized	315	*4 570*	55	*0.12*
223-10313-7	FITTING ST GE 10-L G 1/2 A CF	L	10	G 1/2 A	28	14	27	19	Steel, galvanized	315	*4 570*	83	*0.18*
223-12477-9	FITTING ST GE 12-L G 1/4 A CF	L	12	G 1/4 A	27	12	19	22	Steel, galvanized	315	*4 570*	46	*0.10*
223-12360-8	FITTING ST GE 12-L G 3/8 A CF	L	12	G 3/8 A	27	12	22	22	Steel, galvanized	315	*4 570*	56	*0.12*
412-453W	FITTING ST GE 12-L G 1/2 A CF	L	12	G 1/2 A	28	14	27	22	Steel, galvanized	250	*3 625*	79	*0.17*
415-443W	FITTING ST GE 15-L G 3/4 A CF	L	15	G 3/4 A	30	16	32	27	Steel, galvanized	250	*3 625*	163	*0.36*
223-12361-9	FITTING ST GE 15-L G 1/2 A CF	L	15	G 1/2 A	29	14	27	27	Steel, galvanized	250	*3 625*	119	*0.26*
223-13621-8	FITTING ST GE 15-L G 3/8 A CF	L	15	G 3/8 A	29	12	24	27	Steel, galvanized	250	*3 625*	101	*0.22*
223-13766-1	FITTING ST GE 18-L G 1/2 A CF	L	18	G 1/2 A	31	14	27	32	Steel, galvanized	250	*3 625*	139	*0.31*
418-413W	FITTING ST GE 18-L G 3/4 A CF	L	18	G 3/4 A	30	16	32	32	Steel, galvanized	250	*3 625*	178	*0.39*
223-13749-3	FITTING ST GE 22-L G 1/2 A CF	L	22	G 1/2 A	33	14	32	36	Steel, galvanized	160	*2 320*	180	*0.40*
223-13016-2	FITTING ST GE 22-L G 3/4 A CF	L	22	G 3/4 A	33	16	32	36	Steel, galvanized	160	*2 320*	191	*0.42*
223-14214-9	FITTING ST GE 28-L G 3/4 A CF	L	28	G 3/4 A	34	16	41	41	Steel, galvanized	160	*2 320*	257	*0.57*
223-13610-9	FITTING ST GE 28-L G 1 A CF	L	28	G 1 A	34	18	41	41	Steel, galvanized	160	*2 320*	287	*0.63*
223-12477-1	FITTING ST GE 6-S G 1/4 A CF	S	6	G 1/4 A	28	12	19	17	Steel, galvanized	400	*5 800*	54	*0.12*
223-12477-2	FITTING ST GE 8-S G 1/4 A CF	S	8	G 1/4 A	30	12	19	19	Steel, galvanized	400	*5 800*	60	*0.13*
223-13016-6	FITTING ST GE 8-S G 3/8 A CF	S	8	G 3/8 A	30	12	22	19	Steel, galvanized	400	*5 800*	78	*0.17*
223-13016-9	FITTING ST GE 10-S G 1/4 A CF	S	10	G 1/4 A	31	12	19	22	Steel, galvanized	400	*5 800*	77	*0.17*
223-13016-4	FITTING ST GE 10-S G 3/8 A CF	S	10	G 3/8 A	31	12	22	22	Steel, galvanized	400	*5 800*	90	*0.20*
223-13016-7	FITTING ST GE 12-S G 3/8 A CF	S	12	G 3/8 A	33	12	22	24	Steel, galvanized	400	*5 800*	96	*0.21*
223-14129-3	FITTING ST GE 12-S G 1/2 A CF	S	12	G 1/2 A	24	14	27	24	Steel, galvanized	400	*5 800*	91	*0.20*
96-1114-0058	FITTING ST GE 14-S G 1/2 A CF	S	14	G 1/2 A	27	14	27	27	Steel, galvanized	400	*5 800*	153	*0.34*
223-13749-5	FITTING ST GE 16-S G 3/8 A CF	S	16	G 3/8 A	36	12	27	30	Steel, galvanized	400	*5 800*	165	*0.36*
223-13621-1	FITTING ST GE 16-S G 1/2 A CF	S	16	G 1/2 A	37	14	27	30	Steel, galvanized	400	*5 800*	164	*0.36*
223-12360-6	FITTING ST GE 20-S G 1/2 A CF	S	20	G 1/2 A	42	14	32	36	Steel, galvanized	400	*5 800*	214	*0.47*
223-12359-6	FITTING ST GE 20-S G 3/4 A CF	S	20	G 3/4 A	42	16	32	32	Steel, galvanized	400	*5 800*	224	*0.49*
Tapered thread													
223-12270-8	FITTING ST GE 4-LL R 1/8K CF	LL	4	R 1/8	26	8	11	10	Steel, galvanized	100 [1]	*1 450* [1]	12	*0.03*
223-12270-7	FITTING ST GE 6-LL R 1/8K CF	LL	6	R 1/8	26	8	11	12	Steel, galvanized	100 [1]	*1 450* [1]	15	*0.03*
223-12270-9	FITTING ST GE 8-LL R 1/8K CF	LL	8	R 1/8	28	8	12	14	Steel, galvanized	100 [1]	*1 450* [1]	18	*0.04*
223-13621-6	FITTING ST GE 8-LL R 1/4K CF	LL	8	R 1/4	32	12	14	14	Steel, galvanized	100 [1]	*1 450* [1]	26	*0.06*
96-5911-0058	FITTING ST GE10-LL R 1/4K CF	LL	10	R 1/4	32	12	14	17	Steel, galvanized	100 [1]	*1 450* [1]	36	*0.08*
96-5912-0058	FITTING ST GE12-LL R 1/8K CF	LL	12	R 1/8	32	12	17	19	Steel, galvanized	100 [1]	*1 450* [1]	65	*0.14*
96-5913-0058	FITTING ST GE12-LL R 3/8K CF	LL	12	R 3/8	32	12	17	19	Steel, galvanized	100 [1]	*1 450* [1]	55	*0.12*
410-443W	FITTING ST GE10-L R 1/8K CF	L	10	R 1/8	34	8	14	17	Steel, galvanized	315	*4 570*	42	*0.09*

[1] In grease lubrication systems fittings are permittted for operating pressures up to 350 bar, *5080 psi*

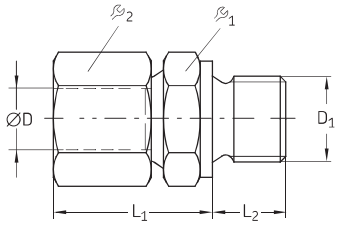
Double-edged cutting sleeve unions

Straight screw-in connectors GE with Whitworth pipe thread, made from stainless steel or brass



Order number	Designation	Series	Tube ØD	D1	L1	L2			Material	Operating pressure max.		Weight	
			mm	in	mm	mm	mm	mm		bar	*psi*	g	*lb*
Stainless steel													
223-13614-9	TB.FITT.VA GE 6-LL R 1/8K	LL	6	R 1/8	26	8	11	10	Stainless steel	100	*1 450*	65	*0.14*
223-13658-2	TB.FITT.VA GE 6-L G 1/8A	L	6	G 1/8A	23	8	14	14	Stainless steel	315	*4 570*	23	*0.05*
223-13658-9	TB.FITT.VA GE 6-L G 1/4A	L	6	G 1/4A	25	12	19	14	Stainless steel	315	*4 570*	40	*0.09*
223-13658-1	TB.FITT.VA GE 8-LL G 1/8A	LL	8	G 1/8A	24	8	14	17	Stainless steel	315	*4 570*	33	*0.07*
223-14420-7	TB.FITT.VA GE10-L G 1/4A	L	10	G 1/4A	26	12	19	19	Stainless steel	315	*4 570*	50	*0.11*
223-13715-9	TB.FITT.VA GE15-L G 1/2A	L	15	G 1/2A	29	14	27	27	Stainless steel	250	*3 625*	119	*0.26*
223-13715-6	TB.FITT.VA GE15-L G 3/8A	L	15	G 3/8A	29	12	24	27	Stainless steel	250	*3 625*	88	*0.19*
223-14420-8	TB.FITT.VA GE18-L G 1/2A	L	18	G 1/2A	31	14	27	32	Stainless steel	250	*3 625*	139	*0.31*
99-0222-0058	TB.FITT.VA GE22-L G 3/4A	L	22	G 3/4A	33	16	32	36	Stainless steel	160	*2 320*	191	*0.42*
223-14184-2	TB.FITT.VA GE28-L G 1A	L	28	G 1A	34	18	41	41	Stainless steel	160	*2 320*	278	*0.61*
223-13614-7	TB.FITT.VA GE 6-S G 1/4A	S	6	G 1/4A	28	12	19	17	Stainless steel	400	*5 800*	54	*0.12*
223-13614-6	TB.FITT.VA GE 8-S G 1/4A	S	8	G 1/4A	30	12	19	19	Stainless steel	400	*5 800*	64	*0.14*
223-12452-9	TB.FITT.VA GE10-S G 1/4A	S	10	G 1/4A	31	12	19	22	Stainless steel	400	*5 800*	77	*0.17*
223-12452-7	TB.FITT.VA GE16-S G 1/2A	S	16	G 1/2A	37	14	27	30	Stainless steel	400	*5 800*	164	*0.36*
223-13658-4	TB.FITT.VA GE20-S G 1/2A	S	20	G 1/2A	42	14	32	36	Stainless steel	400	*5 800*	214	*0.47*
223-12452-5	TB.FITT.VA GE20-S G 3/4A	S	20	G 3/4A	42	16	32	32	Stainless steel	400	*5 800*	224	*0.49*
Brass													
223-12377-7	TB.FITT.MS GE 8-L G 1/4A	L	8	G 1/4A	25	12	19	17	Brass	200	*2 900*	26	*0.06*
223-12377-8	TB.FITT.MS GE15-L G 1/2A	L	15	G 1/2A	29	14	27	27	Brass	160	*2 320*	72	*0.16*

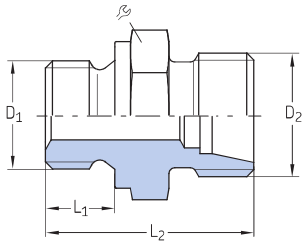
Straight screw-in connectors GE with NPT pipe thread



Order number	Designation	Series	Tube ØD	D1	L1	L2			Material	Operating pressure max.		Weight	
			mm	in	mm	mm	mm	mm		bar	*psi*	g	*lb*
Cylindrical thread													
223-14214-2	FITTING ST GE 6-L 1/8NPT CF	L	6	1/8 NPT	32	10	11	12	Steel, galvanized	100	*1 450*	24	*0.05*
223-12273-5	FITTING ST GE 8-L 1/4NPT CF	L	8	1/4 NPT	38	14.5	17	17	Steel, galvanized	315	*4 570*	42	*0.09*
223-13096-2	FITTING ST GE 10-S 1/4NPT CF	S	10	1/4 NPT	44	14.5	19	22	Steel, galvanized	630	*9 140*	77	*0.17*
223-14214-5	FITTING ST GE 20-S 1/2NPT CF	S	20	1/2 NPT	59	19.5	32	36	Steel, galvanized	400	*5 800*	235	*0.52*

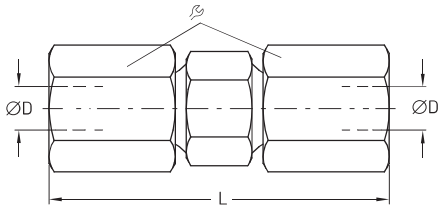
Double-edged cutting sleeve unions

Straight screw-in glands XGE



Order number	Designation	Series	Tube ∅	D_1	D_2	L_1	L_2		Material	Operating pressure max.		Weight	
			mm		mm	mm	mm	mm		bar	*psi*	g	*lb*
223-13766-9	TB.FITT.ST XGE 6-LL M 10x1,0K CF	LL	6	M10×1 tap.	M10×1	8	20	11	Steel, galv.	100	*1 450*	17	*0.04*
223-14129-1	TB.FITT.ST XGE 6-LL M 8x1,0K CF	LL	6	M8×1 tap.	M10×1	8	20	11	Steel, galv.	100	*1 450*	17	*0.04*
223-14129-2	TB.FITT.ST XGE 6-LL R 1/8K CF	LL	6	R 1/8	M12×1,5	8	20	11	Steel, galv.	100	*1 450*	18	*0.04*
223-14234-7	TB.FITT.ST XGE 6-L M 10x1,0 CF	L	6	M10×1	M12×1,5	8	23,5	14	Steel, galv.	500	*7 250*	20	*0.04*
408-313	TB.FITT.ST XGE 8-L M 14x1,5 CF	L	8	M14×1,5	M14×1,5	9	36	17	Steel, galv.	500	*7 250*	31	*0.07*
410-313	TB.FITT.ST XGE10-L M 16x1,5 CF	L	10	M16×1,5	M16×1,5	9	31,5	22	Steel, galv.	500	*7 250*	40	*0.09*
223-14304-2	TB.FITT.ST XGE 10-L M 14x1,5 CF	L	10	M14×1,5	M16×1,5	9	30,0	19	Steel, galv.	500	*7 250*	40	*0.09*
223-14304-7	TB.FITT.ST XGE 12-L M 14x1,5 CF	L	12	M14×1,5	M18×1,5	12	30,0	19	Steel, galv.	400	*5 800*	55	*0.12*
223-13610-8	TB.FITT.ST XGE 18-L M 22x1,5 CF	L	18	M22×1,5	M26×1,5	14	36,0	27	Steel, galv.	315	*4 570*	148	*0.33*
223-11229-9	TB.FITT.ST XGE 8-L G 1/4A CF	L	8	G 1/4A	M14×1,5	12	30	19	Steel, galv.	500	*7 250*	35	*0.08*
223-14234-4	TB.FITT.ST XGE10-L G 1/8A CF	L	10	G 1/8A	M18×1,5	12	34	17	Steel, galv.	500	*7 250*	33	*0.07*
223-10055-9	TB.FITT.ST XGE10-L G 3/8A CF	L	10	G 3/8A	M18×1,5	12	31,5	22	Steel, galv.	500	*7 250*	55	*0.12*
223-14418-7	TB.FITT.ST XGE18-L G 1/2A CF	L	18	G 1/2A	M26×1,5	14	36	27	Steel, galv.	400	*5 800*	139	*0.31*
223-11089-3	TB.FITT.ST XGE10-S G 1/4A CF	S	10	G 1/4A	M18×1,5	12	30	19	Steel, galv.	800	*11 600*	41	*0.09*
223-14304-5	TB.FITT.ST XGE20-S G 1/2A CF	S	20	G 1/2A	M30×2	14	45	32	Steel, galv.	420	*6 090*	262	*0.58*

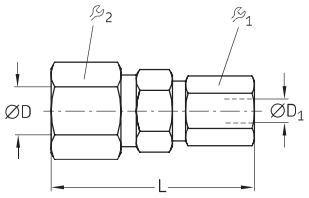
Straight tube-to-tube connectors G



Order number	Designation	Series	Tube ØD	L		Material	Operating pressure max.		Weight	
			mm	mm	mm		bar	*psi*	g	*lb*
Steel, galvanized										
223-12531-8	TB.FITT.ST G 4-LL CF	LL	4	31	10	Steel, galvanized	100	*1 450*	13	*0.03*
223-12482-9	TB.FITT.ST G 6-LL CF	LL	6	32	12	Steel, galvanized	100	*1 450*	21	*0.05*
223-12531-9	TB.FITT.ST G 8-LL CF	LL	8	35	14	Steel, galvanized	100	*1 450*	26	*0.06*
223-12531-2	TB.FITT.ST G 10-L CF	L	10	42	19	Steel, galvanized	500	*7 250*	65	*0.14*
223-13732-8	TB.FITT.ST G 12-L CF	L	12	43	22	Steel, galvanized	500	*7 250*	84	*0.19*
223-12531-6	TB.FITT.ST G 15-L CF	L	15	46	27	Steel, galvanized	400	*5 800*	145	*0.32*
223-13732-4	TB.FITT.ST G 18-L CF	L	18	48	32	Steel, galvanized	400	*5 800*	205	*0.45*
223-13049-3	TB.FITT.ST G 10-S CF	S	10	49	22	Steel, galvanized	800	*11 600*	112	*0.25*
223-12531-4	TB.FITT.ST G 16-S CF	S	16	57	30	Steel, galvanized	630	*9 140*	234	*0.52*
223-12363-2	TB.FITT.ST G 20-S CF	S	20	66	36	Steel, galvanized	420	*6 090*	369	*0.81*
223-12363-6	TB.FITT.ST G 30-S CF	S	30	80	50	Steel, galvanized	420	*6 090*	806	*1.78*
Stainless steel										
223-13615-5	TB.FITT.VA G 6-L	L	6	39	14	Stainless steel	315	*4 570*	36	*0.08*
223-13615-3	TB.FITT.VA G 8-L	L	8	40	17	Stainless steel	315	*4 570*	50	*0.11*
223-13615-6	TB.FITT.VA G 10-L	L	10	42	19	Stainless steel	315	*4 570*	37	*0.08*
223-12454-8	TB.FITT.VA G 15-L	L	15	46	27	Stainless steel	315	*4 570*	145	*0.32*
223-12454-1	TB.FITT.VA G 10-S	S	10	49	22	Stainless steel	630	*9 140*	112	*0.25*
223-12454-6	TB.FITT.VA G 16-S	S	16	57	30	Stainless steel	400	*5 800*	234	*0.52*
223-12454-3	TB.FITT.VA G 20-S	S	20	66	36	Stainless steel	400	*5 800*	369	*0.81*
223-12454-5	TB.FITT.VA G 30-S	S	30	80	50	Stainless steel	400	*5 800*	806	*1.78*

Double-edged cutting sleeve unions

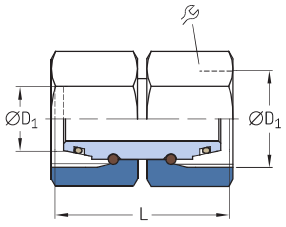
Straight tube-to-tube reducing connectors GR



Order number	Designation	Series	Tube ØD	Tube ØD1	L	⌀1	⌀2	Material	Operating pressure max.		Weight	
			mm	mm	mm	mm	mm		bar	*psi*	g	*lb*
Steel, galvanized												
223-12542-2	TB.FITT.ST GR 6/ 4-LL CF	LL	6	4	32	10	12	Steel, galvanized	100	*1 450*	7	*0.02*
504-412	TB.FITT.ST GR 8/ 4-LL CF	LL	8	4	34	10	14	Steel, galvanized	100	*1 450*	9	*0.02*
223-13705-5	TB.FITT.ST GR 8/ 6-L CF	L	8	6	40	14	17	Steel, galvanized	500	*7 250*	16	*0.04*
223-13622-3	TB.FITT.ST GR 10/ 6-L CF	L	10	6	41	14	19	Steel, galvanized	500	*7 250*	21	*0.05*
223-13024-4	TB.FITT.ST GR 10/ 8-L CF	L	10	8	41	17	19	Steel, galvanized	500	*7 250*	21	*0.05*
223-10986-1	TB.FITT.ST GR 12/ 6-L CF	L	12	6	42	14	22	Steel, galvanized	400	*5 800*	26	*0.06*
223-13622-7	TB.FITT.ST GR 12/ 8-L CF	L	12	8	42	17	22	Steel, galvanized	400	*5 800*	26	*0.06*
510-410	TB.FITT.ST GR 12/10-L CF	L	12	10	43	19	22	Steel, galvanized	400	*5 800*	29	*0.06*
223-13024-8	TB.FITT.ST GR 15/ 8-L CF	L	15	8	45	17	27	Steel, galvanized	400	*5 800*	42	*0.09*
223-12542-7	TB.FITT.ST GR 15/10-L CF	L	15	10	45	19	27	Steel, galvanized	400	*5 800*	46	*0.10*
223-12542-8	TB.FITT.ST GR 15/12-L CF	L	15	12	45	22	27	Steel, galvanized	400	*5 800*	45	*0.10*
510-413	TB.FITT.ST GR 18/10-L CF	L	18	10	46	19	32	Steel, galvanized	400	*5 800*	65	*0.14*
512-412	TB.FITT.ST GR 18/12-L CF	L	18	12	46	22	32	Steel, galvanized	400	*5 800*	64	*0.14*
515-410	TB.FITT.ST GR 18/15-L CF	L	18	15	48	27	32	Steel, galvanized	400	*5 800*	65	*0.14*
223-13622-1	TB.FITT.ST GR 16/10-S CF	S	16	10	54	22	30	Steel, galvanized	630	*9 140*	80	*0.18*
223-12364-4	TB.FITT.ST GR 20/10-S CF	S	20	10	60	22	36	Steel, galvanized	420	*6 090*	129	*0.28*
223-13024-1	TB.FITT.ST GR 30/20-S CF	S	30	20	74	36	50	Steel, galvanized	420	*6 090*	299	*0.66*
Stainless steel												
223-13619-9	TB.FITT.VA GR 16/10 S	S	16	10	54	22	30	Stainless steel	400	*5 800*	80	*0.18*
223-13619-2	TB.FITT.VA GR 20/10 S	S	20	10	60	22	36	Stainless steel	400	*5 800*	129	*0.28*
223-13791-5	TB.FITT.VA GR 30/20 S	S	30	20	74	36	50	Stainless steel	400	*5 800*	299	*0.66*

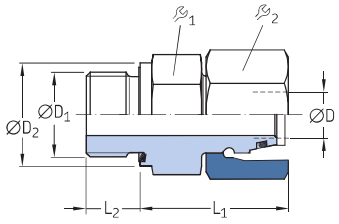
Double-edged cutting sleeve unions

Union studs GZ



Order number	Designation	Series	Tube ØD	D_1	L		Material	Operating pressure max.		Weight	
			mm	mm	mm	mm		bar	*psi*	g	*lb*
Steel, galvanized											
223-10550-2	TB.STUD ST GZ 6-L CF	L	6	M14×1,5	33	14	Steel, galvanized	500	*7 250*	28	*0.06*
223-10550-8	TB.STUD ST GZ 8-L CF	L	8	M14×1,5	33	17	Steel, galvanized	500	*7 250*	41	*0.09*
223-14253-2	TB.STUD ST GZ10-L CF	L	10	M16×1,5	34	19	Steel, galvanized	500	*7 250*	53	*0.12*
223-10550-6	TB.STUD ST GZ12-L CF	L	12	M18×1,5	34	22	Steel, galvanized	400	*5 800*	71	*0.16*
223-14253-5	TB.STUD ST GZ15-L CF	L	15	M22×1,5	39	27	Steel, galvanized	400	*5 800*	129	*0.28*
223-10550-1	TB.STUD ST GZ 6-S CF	S	6	M14×1,5	33	17	Steel, galvanized	800	*11 600*	41	*0.09*
223-14253-4	TB.STUD ST GZ10-S CF	S	10	M18×1,5	35	22	Steel, galvanized	800	*11 600*	74	*0.16*
223-14253-1	TB.STUD ST GZ16-S CF	S	16	M24×1,5	42	30	Steel, galvanized	630	*9 140*	172	*0.38*
223-14497-8	TB.STUD ST GZ20-S CF	S	20	M30×2	48	36	Steel, galvanized	420	*6 090*	261	*0.58*
223-14253-3	TB.STUD ST GZ30-S CF	S	30	M42×2	62	50	Steel, galvanized	420	*6 090*	605	*1.33*
Stainless steel											
223-14497-1	TB.STUD VA GZ10-L	L	10	M16×1,5	34	19	Stainless steel	315	*4 570*	53	*0.12*
223-14497-4	TB.STUD VA GZ20-S	S	20	M30×2	48	36	Stainless steel	400	*5 800*	261	*0.58*

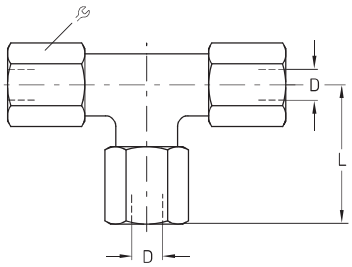
Straight tube studs EGE



Order number	Designation	Series	Tube ØD	$ØD_1$	$ØD_2$	L_1	L_2			Material	Operating pressure max.		Weight	
			mm		mm	mm	mm	mm	mm		bar	*psi*	g	*lb*
223-14130-7	TB.STUD ST EGE 6-L G 1/8A-ED CF	L	6	G 1/8A	14	24,5	8	14	14	Steel, galv.	500	*7 250*	27	*0.06*
223-13686-1	TB.STUD ST EGE10-L G 1/4A-ED CF	L	10	G 1/4A	19	27,5	12	19	19	Steel, galv.	500	*7 250*	54	*0.12*
223-14130-9	TB.STUD ST EGE10-L G 3/8A-ED CF	L	10	G 3/8A	22	29	12	22	19	Steel, galv.	400	*5 800*	70	*0.15*
223-14187-4	TB.STUD ST EGE10-L M14x1,5-ED CF	L	10	M14×1,5	19	27,5	12	19	19	Steel, galv.	500	*7 250*	49	*0.11*
223-10563-8	TB.STUD ST EGE12-L M16x1,5-ED CF	L	12	M16×1,5	22	30,5	12	22	22	Steel, galv.	400	*5 800*	67	*0.15*
223-14187-4	TB.STUD ST EGE10-L 1/4 NPT-ED CF	L	10	1/4 NPT	19	27,5	12	19	19	Steel, galv.	315	*4 570*	44	*0.10*
223-10563-5	TB.STUD ST EGE12-L G 1/4A-ED CF	L	12	G 1/4A	19	27,5	12	19	22	Steel, galv.	400	*5 800*	61	*0.13*
223-14130-2	TB.STUD ST EGE15-L G 1/2A-ED CF	L	15	G 1/2A	27	32	14	27	27	Steel, galv.	400	*5 800*	114	*0.25*
223-10563-7	TB.STUD ST EGE 6-S G 1/4A-ED CF	S	6	G 1/4A	19	27	12	19	17	Steel, galv.	800	*11 600*	53	*0.12*
223-10563-6	TB.STUD ST EGE12-S G 3/8A-ED CF	S	12	G 3/8A	22	34	12	22	24	Steel, galv.	630	*9 140*	95	*0.21*
223-14130-2	TB.STUD ST EGE30-S 3/4 NPT-ED CF	S	20	3/4 NPT	32	43	16	32	36	Steel, galv.	400	*5 800*	254	*0.56*

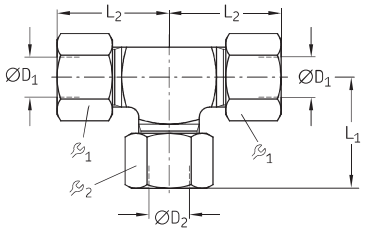
Double-edged cutting sleeve unions

T-connectors T



Order number	Designation	Series	Tube ØD	L		Material	Operating pressure max.		Weight	
			mm	mm	mm		bar	*psi*	g	*lb*
Steel, galvanized										
223-12563-5	TB.FITT.ST T 4-LL CF	LL	4	21	10	Steel, galvanized	100	*1 450*	31	*0.07*
223-12484-2	TB.FITT.ST T 6-L CF	L	6	27	14	Steel, galvanized	500	*7 250*	58	*0.13*
223-12484-6	TB.FITT.ST T 8-L CF	L	8	29	17	Steel, galvanized	500	*7 250*	104	*0.23*
223-13057-5	TB.FITT.ST T10-L CF	L	10	30	19	Steel, galvanized	500	*7 250*	111	*0.24*
412-407	TB.FITT.ST T12-L CF	L	12	32	22	Steel, galvanized	400	*5 800*	149	*0.33*
223-12563-2	TB.FITT.ST T15-L CF	L	15	36	27	Steel, galvanized	400	*5 800*	247	*0.54*
418-407	TB.FITT.ST T18-L CF	L	18	40	32	Steel, galvanized	400	*5 800*	383	*0.84*
223-13057-4	TB.FITT.ST T22-L CF	L	22	44	36	Steel, galvanized	250	*3 625*	492	*1.08*
223-12563-9	TB.FITT.ST T10-S CF	S	10	34	22	Steel, galvanized	800	*11 600*	193	*0.43*
223-13057-2	TB.FITT.ST T16-S CF	S	16	43	30	Steel, galvanized	630	*9 140*	418	*0.92*
223-12366-2	TB.FITT.ST T20-S CF	S	20	48	36	Steel, galvanized	420	*6 090*	867	*1.91*
223-12366-6	TB.FITT.ST T30-S CF	S	30	62	50	Steel, galvanized	420	*6 090*	2 274	*5.01*
Stainless steel										
223-13616-3	TB.FITT.VA T10-L	L	10	30	19	Stainless steel	315	*4 570*	111	*0.24*
223-12455-1	TB.FITT.VA T10-S	S	10	34	22	Stainless steel	630	*9 140*	193	*0.43*
223-12455-5	TB.FITT.VA T16-S	S	16	43	30	Stainless steel	400	*5 800*	418	*0.92*
223-12455-2	TB.FITT.VA T20-S	S	20	48	36	Stainless steel	400	*5 800*	867	*1.91*

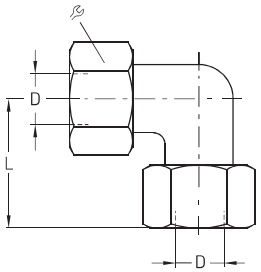
Reducing T-connectors TR



Order number	Designation	Series	Tube $ØD_1$	Tube $ØD_2$	L_1	L_2			Material	Operating pressure max.		Weight	
			mm	mm	mm	mm	mm	mm		bar	*psi*	g	*lb*
Steel, galvanized													
223-12573-6	TB.FITT.ST TR10/ 6/10-L CF	L	10	6	30	30	19	14	Steel, galvanized	500	*7 250*	94	*0.21*
223-12541-5	TB.FITT.ST TR15/10/15-L CF	L	15	10	36	36	27	19	Steel, galvanized	400	*5 800*	213	*0.47*
223-13025-6	TB.FITT.ST TR12/10/12-S CF	S	12	10	38	38	24	22	Steel, galvanized	630	*9 140*	217	*0.48*
223-12367-2	TB.FITT.ST TR20/10/20-S CF	S	20	10	46	48	36	22	Steel, galvanized	420	*6 090*	503	*1.11*
223-12367-4	TB.FITT.ST TR20/12/20-S CF	S	20	12	46	48	36	24	Steel, galvanized	420	*6 090*	522	*1.15*
Stainless steel													
223-13672-8	TB.FITT.VA TR18/10/18-L	L	18	10	39	40	32	19	Stainless steel	315	*4 570*	305	*0.67*
223-13672-3	TB.FITT.VA TR20/10/20-S	S	20	10	46	48	36	22	Stainless steel	400	*5 800*	529	*1.17*

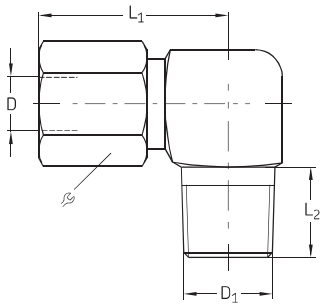
Double-edged cutting sleeve unions

Elbow connectors W



Order number	Designation	Series	Tube ØD	L		Material	Operating pressure max.		Weight	
			mm	mm	mm		bar	*psi*	g	*lb*
Steel, galvanized										
223-12483-2	TB.FITT.ST W6-L CF	L	6	27	14	Steel, galvanized	500	*7 250*	41	*0.09*
223-12483-5	TB.FITT.ST W8-L CF	L	8	29	17	Steel, galvanized	500	*7 250*	60	*0.13*
223-12483-8	TB.FITT.ST W10-L CF	L	10	30	19	Steel, galvanized	500	*7 250*	75	*0.17*
223-12562-2	TB.FITT.ST W15-L CF	L	15	36	27	Steel, galvanized	400	*5 800*	128	*0.28*
443-218-001	TB.FITT.ST W18-L CF	L	18	40	32	Steel, galvanized	400	*5 800*	208	*0.46*
443-290-001	TB.FITT.ST W22-L CF	L	22	44	36	Steel, galvanized	250	*3 625*	267	*0.59*
223-12562-7	TB.FITT.ST W10-S CF	S	10	34	22	Steel, galvanized	800	*11 600*	133	*0.29*
223-12280-9	TB.FITT.ST W12-S CF	S	12	38	24	Steel, galvanized	630	*9 140*	175	*0.39*
223-12562-8	TB.FITT.ST W16-S CF	S	16	43	30	Steel, galvanized	630	*9 140*	232	*0.51*
223-12365-2	TB.FITT.ST W20-S CF	S	20	48	36	Steel, galvanized	420	*6 090*	333	*0.73*
Stainless steel										
223-14424-5	TB.FITT.VA W 8-L	L	8	29	17	Stainless steel	315	*4 570*	60	*0.13*
223-13675-6	TB.FITT.VA W 10-S	S	10	34	22	Stainless steel	630	*9 140*	133	*0.29*
223-13675-2	TB.FITT.VA W 20-S	S	20	48	36	Stainless steel	400	*5 800*	333	*0.73*

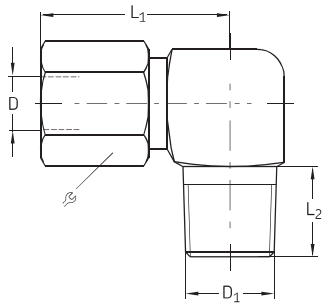
Elbow screw-in connectors WE with metrical thread



Order number	Designation	Series	Tube ØD	$ØD_1$	L_1	L_2		Material	Operating pressure max.		Weight	
			mm	mm	mm	mm	mm		bar	*psi*	g	*lb*
Steel, galvanized												
223-13023-2	TB.FITT.ST WE 6-LL M6x1,0K CF	LL	6	M6×1 tap.	19	8	12	Steel, galvanized	100	*1 450*	24	*0.05*
223-13023-3	TB.FITT.ST WE 6-LL M8x1K CF	LL	6	M8×1 tap.	21	8	12	Steel, galvanized	100	*1 450*	24	*0.05*
223-13021-3	TB.FITT.ST WE 6-LL M10x1K CF	LL	6	M10×1 tap.	15	8	12	Steel, galvanized	100	*1 450*	24	*0.05*
223-12362-4	TB.FITT.ST WE 8-LL M10x1K CF	LL	8	M10×1 tap.	17	8	14	Steel, galvanized	100	*1 450*	33	*0.07*
223-12485-8	TB.FITT.ST WE 6-L M10x1K CF	L	6	M10×1 tap.	19	8	14	Steel, galvanized	315	*4 570*	41	*0.09*
223-12362-8	TB.FITT.ST WE 8-L M12x1,5K CF	L	8	M12×1,5 tap.	21	12	17	Steel, galvanized	315	*4 570*	63	*0.14*
410-405	TB.FITT.ST WE10-L M14x1,5K CF	L	10	M14×1,5 tap.	30	12	19	Steel, galvanized	315	*4 570*	125	*0.28*
412-405	TB.FITT.ST WE12-L M16x1,5K CF	L	12	M16×1,5 tap.	24	12	22	Steel, galvanized	315	*4 570*	117	*0.26*
415-405	TB.FITT.ST WE15-L M18x1,5K CF	L	15	M18×1,5 tap.	28	12	27	Steel, galvanized	315	*4 570*	125	*0.28*
223-12485-2	TB.FITT.ST WE10-S M16x1,5K CF	S	10	M16×1,5 tap.	25	12	22	Steel, galvanized	400	*5 800*	123	*0.27*
Stainless steel												
404-405-S3	TB.FITT.VA WE 4-LL M 8x1,0K	LL	4	M8×1 tap.	15	8	10	Stainless steel	100	*1 450*	18	*0.04*
223-13677-2	TB.FITT.VA WE 6-LL M 8x1,0K	LL	6	M8×1 tap.	21	8	12	Stainless steel	100	*1 450*	24	*0.05*

Double-edged cutting sleeve unions

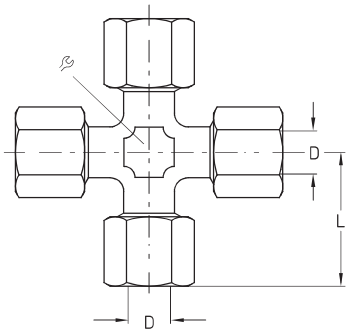
Elbow screw-in connectors WE with Whitworth pipe thread



Order number	Designation	Series	Tube ØD	ØD1	L1	L2		Material	Operating pressure max.		Weight	
			mm	in	mm	mm	mm		bar	*psi*	g	*lb*
Steel, galvanized												
223-13021-4	TB.FITT.ST WE 4-LL R 1/8K CF	LL	4	R 1/8	15	8	10	Steel, galvanized	100	*1 450*	21	*0.05*
223-13021-6	TB.FITT.ST WE 8-LL R 1/8K CF	LL	8	R 1/8	17	8	14	Steel, galvanized	100	*1 450*	32	*0.07*
96-6112-0058	TB.FITT.ST WE12-LL R 1/4K CF	LL	12	R 1/4	19	12	19	Steel, galvanized	100	*1 450*	61	*0.13*
223-13048-1	TB.FITT.ST WE 6-L R 1/8K CF	L	6	R 1/8	19	8	14	Steel, galvanized	315	*4 570*	42	*0.09*
223-12380-6	TB.FITT.ST WE 6-L R 1/4K CF	L	6	R 1/4	21	12	14	Steel, galvanized	315	*4 570*	59	*0.13*
408-425W	TB.FITT.ST WE 8-L R 1/8K CF	L	8	R 1/8	21	8	17	Steel, galvanized	315	*4 570*	66	*0.15*
223-14240-5	TB.FITT.ST WE 8-L R 1/4K CF	L	8	R 1/4	21	12	17	Steel, galvanized	315	*4 570*	63	*0.14*
223-13048-5	TB.FITT.ST WE10-L R 1/4K CF	L	10	R 1/4	22	12	19	Steel, galvanized	315	*4 570*	82	*0.18*
412-405W	TB.FITT.ST WE12-L R 3/8K CF	L	12	R 3/8	24	12	22	Steel, galvanized	315	*4 570*	116	*0.26*
223-13021-7	TB.FITT.ST WE15-L R 1/2K CF	L	15	R 1/2	28	14	27	Steel, galvanized	315	*4 570*	141	*0.31*
418-405W	TB.FITT.ST WE18-L R 1/2K CF	L	18	R 1/2	31	14	32	Steel, galvanized	315	*4 570*	230	*0.51*
223-13048-6	TB.FITT.ST WE10-S R 3/8K CF	S	10	R 3/8	25	12	22	Steel, galvanized	400	*5 800*	138	*0.30*
96-1412-0058	TB.FITT.ST WE12-S R 3/8K CF	S	12	R 3/8	29	12	24	Steel, galvanized	400	*5 800*	164	*0.36*
223-13048-8	TB.FITT.ST WE16-S R 1/2K CF	S	16	R 1/2	33	14	30	Steel, galvanized	400	*5 800*	232	*0.51*
Stainless steel												
223-13620-8	TB.FITT.VA WE 6-L R 1/8K	L	6	R 1/8	19	8	14	Stainless steel	315	*4 570*	42	*0.09*
223-13677-5	TB.FITT.VA WE 8-L R 1/4K	L	8	R 1/4	21	12	17	Stainless steel	315	*4 570*	63	*0.14*
223-12453-1	TB.FITT.VA WE 10-L R 1/4K	L	10	R 1/4	22	12	19	Stainless steel	315	*4 570*	82	*0.18*

Double-edged cutting sleeve unions

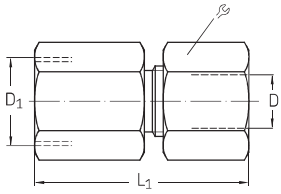
K-connectors K



Order number	Designation	Series	Tube ∅D	L		Material	Operating pressure max.		Weight	
			mm	mm	mm		bar	*psi*	g	*lb*
96-2106-0058	TB.FITT.ST K 6-LL CF	LL	6	21	12	Steel, galvanized	100	*1 450*	27	*0.06*
446-308-001	TB.FITT.ST K 8-LL CF	LL	8	23	14	Steel, galvanized	100	*1 450*	52	*0.11*
446-310-001	TB.FITT.ST K10-LL CF	LL	10	30	19	Steel, galvanized	100	*1 450*	110	*0.24*
446-312-001	TB.FITT.ST K12-LL CF	LL	12	32	22	Steel, galvanized	100	*1 450*	129	*0.28*
446-315-001	TB.FITT.ST K15-LL CF	LL	15	36	27	Steel, galvanized	100	*1 450*	306	*0.67*
96-2118-0058	TB.FITT.ST K18-L CF	L	18	40	32	Steel, galvanized	160	*2 320*	420	*0.93*
96-2122-0058	TB.FITT.ST K22-LL CF	L	22	44	36	Steel, galvanized	160	*2 320*	550	*1.21*
223-12423-7	TB.FITT.ST K10-L CF	L	10	30	19	Steel, galvanized	315	*4 570*	136	*0.30*
223-12432-2	TB.FITT.ST K10-S CF	S	10	34	22	Steel, galvanized	630	*9 140*	233	*0.51*
223-12432-8	TB.FITT.ST K20-S CF	S	20	48	36	Steel, galvanized	315	*4 570*	791	*1.74*

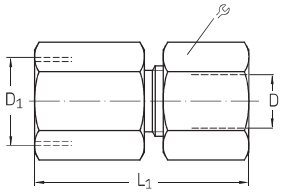
Double-edged cutting sleeve unions

Female connector straight GAI with mectrical thread



Order number	Designation	Series	Tube ØD	ØD1	L1	L2		Material	Operating pressure max.		Weight	
			mm	mm	mm	mm	mm		bar	*psi*	g	*lb*
223-10307-2	TB.FITT.ST GAI 6-L M10x1,0 CF	L	6	M10×1	26,5	19,5	14	Steel, galvanized	315	*4 570*	30	*0.07*
96-0508-0060	TB.FITT.ST GAI 8-L M12x1,5 CF	L	8	M12×1,5	31	24	17	Steel, galvanized	315	*4 570*	49	*0.11*
223-13033-2	TB.FITT.ST GAI10-L M14x1,5 CF	L	10	M14×1,5	32	25	19	Steel, galvanized	315	*4 570*	60	*0.13*
96-0512-0060	TB.FITT.ST GAI12-L M16x1,5 CF	L	12	M16×1,5	33	26	22	Steel, galvanized	315	*4 570*	80	*0.18*
223-13693-9	TB.FITT.ST GAI18-L M22x1,5 CF	L	18	M22×1,5	37	29,5	32	Steel, galvanized	315	*4 570*	179	*0.39*
96-0606-0060	TB.FITT.ST GAI 6-S M12x1,5 CF	S	6	M12x1	33	26	17	Steel, galvanized	400	*5 800*	54	*0.12*
96-0608-0060	TB.FITT.ST GAI 8-S M14x1,5 CF	S	8	M14×1,5	33	26	19	Steel, galvanized	400	*5 800*	73	*0.16*

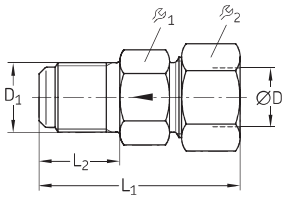
Female connector straight GAI with Whitworth pipe thread



Order number	Designation	Series	Tube ØD	ØD1	L1	L2		Material	Operating pressure max.		Weight	
			mm	in	mm	mm	mm		bar	*psi*	g	*lb*
Steel, galvanized												
223-13693-4	TB.FITT.ST GAI 6-L G1/8 CF	L	6	G 1/8	26	19	14	Steel, galvanized	315	*4 570*	30	*0.07*
223-13693-6	TB.FITT.ST GAI 8-L G1/4 CF	L	8	G 1/4	31	24	19	Steel, galvanized	315	*4 570*	56	*0.12*
223-13693-2	TB.FITT.ST GAI10-L G1/4 CF	L	10	G 1/4	32	25	19	Steel, galvanized	315	*4 570*	61	*0.13*
96-0712-0060	TB.FITT.ST GAI12-L G3/8 CF	L	12	G 3/8	33	26	24	Steel, galvanized	315	*4 570*	92	*0.20*
96-0715-0060	TB.FITT.ST GAI15-L G1/2 CF	L	15	G 1/2	38	31	27	Steel, galvanized	315	*4 570*	134	*0.30*
96-0718-0060	TB.FITT.ST GAI18-L G1/2 CF	L	18	G 1/2	38	30,5	27	Steel, galvanized	315	*4 570*	157	*0.35*
223-12273-2	TB.FITT.ST GAI22-L G3/4 CF	L	22	G 3/4	43	35,5	36	Steel, galvanized	160	*2 320*	262	*0.58*
223-13693-1	TB.FITT.ST GAI10-S G3/8 CF	S	10	G 3/8	33	26	24	Steel, galvanized	315	*4 570*	84	*0.19*
Stainless steel												
223-14116-2	TB.FITT.VA GAI10-S G3/8	S	10	G 3/8	34	26,5	24	Stainless steel	400	*5 800*	102	*0.22*
223-14116-9	TB.FITT.VA GAI20-S G3/4	S	20	G 3/4	45	34,5	36	Stainless steel	315	*4 570*	309	*0.68*

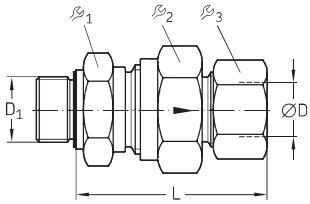
Double-edged cutting sleeve unions

Check valves GERV



Order number	Designation	Series	Tube ØD	$ØD_1$	L_1	L_2	$\mathcal{S}_1$	$\mathcal{S}_2$	Material	Operating pressure max.		Weight	
			mm		mm	mm	mm	mm		bar	*psi*	g	*lb*
Steel, galvanized													
223-12290-2	CHECK VALVE ST GERV 4-LL G 1/8A L CF	LL	4	G 1/8	30	11	10	11	Steel, galvanized	100	*1 450*	12	*0.03*
223-12290-7	CHECK VALVE ST GERV 6-LL G 1/8A L CF	LL	6	G 1/8	30	11	12	11	Steel, galvanized	100	*1 450*	16	*0.04*
223-13052-8	CHECK VALVE ST GERV 6-LL M10×1 L CF	LL	6	M10×1	30	11	12	11	Steel, galvanized	100	*1 450*	15	*0.03*
223-13051-1	CHECK VALVE ST GERV 8-L G 1/4A L CF	L	8	G 1/4	42	14	17	17	Steel, galvanized	400	*5 800*	45	*0.10*
223-13051-2	CHECK VALVE ST GERV10 -L G 1/4A L CF	L	10	G 1/4	41	14	19	19	Steel, galvanized	400	*5 800*	60	*0.13*
223-12372-9	CHECK VALVE ST GERV 6-S G 1/4A L CF	S	6	G 1/4	44	14	17	17	Steel, galvanized	420	*6 090*	60	*0.13*
Stainless steel													
223-12535-9	CHECK VALVE VA GERV 6-LL G 1/8A L	LL	6	G 1/8	30	11	12	11	Stainless steel	100	*1 450*	16	*0.04*
223-11185-1	CHECK VALVE VA GERV 6-S G 1/4A L	S	6	G 1/4	44	14	17	17	Stainless steel	400	*5 800*	60	*0.13*
223-12535-5	CHECK VALVE VA GERV 8-S G 1/4A L	S	8	G 1/4	42	14	19	19	Stainless steel	400	*5 800*	45	*0.10*

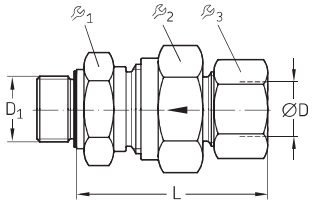
Check valves RHV



Order number	Designation	Series	Tube ØD	$ØD_1$	L	$\mathcal{S}_1$	$\mathcal{S}_2$	$\mathcal{S}_3$	Material	Operating pressure max.		Weight	
			mm	in	mm	mm	mm	mm		bar	*psi*	g	*lb*
Steel, galvanized													
223-14464-9	CHECK VALVE ST RHV 6-L G 1/8A V CF	L	6	G 1/8	42,5	17	17	14	Steel, galvanized	400	*5 800*	59	*0.13*
223-13079-1	CHECK VALVE ST RHV 8-L G 1/4A V CF	L	8	G 1/4	44,5	19	19	17	Steel, galvanized	400	*5 800*	89	*0.20*
223-12291-4	CHECK VALVE ST RHV10-L G 1/4A V CF	L	10	G 1/4	53	22	24	19	Steel, galvanized	400	*5 800*	126	*0.28*
223-12429-1	CHECK VALVE ST RHV 6-S G 1/4A V CF	S	6	G 1/4	46	19	19	17	Steel, galvanized	420	*6 090*	82	*0.18*
223-12291-2	CHECK VALVE ST RHV 8-S G 1/4A V CF	S	8	G 1/4	46	19	19	19	Steel, galvanized	420	*6 090*	102	*0.22*
223-12291-6	CHECK VALVE ST RHV10-S G 3/8A V CF	S	10	G 3/8	54	22	24	22	Steel, galvanized	420	*6 090*	166	*0.37*
Stainless steel													
210-13681-1	RS-VENT VA RHV 8-L G 1/4A V	L	8	G 1/4	44,5	19	19	17	Stainless steel	250	*3 625*	89	*0.20*

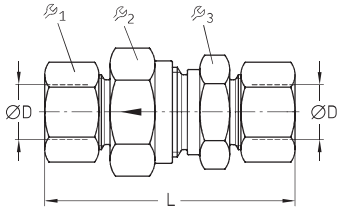
Double-edged cutting sleeve unions

Check valves RHZ



Order number	Designation	Series	Tube ØD	ØD1	L	1	2	3	Material	Operating pressure max.		Weight	
			mm		mm	mm	mm	mm		bar	*psi*	g	*lb*
Steel, galvanized													
223-12292-2	CHECK VALVE ST RHZ 6-L G 1/8A-ED L CF	L	6	G 1/8	41	17	17	14	Steel, galvanized	400	*5 800*	51	*0.11*
223-12292-5	CHECK VALVE ST RHZ10-L G 1/4A L CF	L	10	G 1/4	53	22	24	19	Steel, galvanized	400	*5 800*	148	*0.33*
223-13706-3	CHECK VALVE ST RHZ 6-L M10×1.0 L CF	L	6	M10×1	41	17	17	14	Steel, galvanized	400	*5 800*	51	*0.11*
223-12292-9	CHECK VALVE ST RHZ 6-S G 1/4A L CF	S	6	G 1/4	46	19	19	17	Steel, galvanized	420	*6 090*	80	*0.18*
Stainless steel													
223-13692-3	CHECK VALVE VA RHZ 6-L G 1/8A L	L	6	G 1/8	41	17	17	14	Stainless steel	250	*3 625*	51	*0.11*

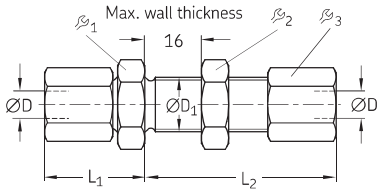
Check valves RHD



Order number	Designation	Series	Tube ØD	L	1	2	3	Material	Operating pressure max.		Weight	
			mm	mm	mm	mm	mm		bar	*psi*	g	*lb*
Steel, galvanized												
223-13643-8	CHECK VALVE ST RHD 6-L CF	L	6	58	17	17	14	Steel, galvanized	400	*5 800*	70	*0.15*
223-13643-3	CHECK VALVE ST RHD 8-L CF	L	8	59	19	19	17	Steel, galvanized	400	*5 800*	95	*0.21*
223-13643-2	CHECK VALVE ST RHD10-L CF	L	10	69,5	22	24	19	Steel, galvanized	400	*5 800*	146	*0.32*
223-14464-8	CHECK VALVE ST RHD18-L CF	L	18	83,5	36	36	32	Steel, galvanized	400	*5 800*	428	*0.94*
223-13643-1	CHECK VALVE ST RHD10-S CF	S	10	72,5	22	24	22	Steel, galvanized	420	*6 090*	189	*0.42*
223-13643-4	CHECK VALVE ST RHD16-S CF	S	16	86,5	32	36	30	Steel, galvanized	420	*6 090*	430	*0.95*
223-13643-6	CHECK VALVE ST RHD20-S CF	S	20	97,5	41	46	36	Steel, galvanized	420	*6 090*	732	*1.61*
Stainless steel												
223-13770-6	CHECK VALVE VA RHD 6-L	L	6	58	17	17	14	Stainless steel	250	*3 625*	70	*0.15*
223-13770-8	CHECK VALVE VA RHD 8-L	L	8	59	19	19	17	Stainless steel	250	*3 625*	95	*0.21*
223-13770-2	CHECK VALVE VA RHD10-S	S	10	72,5	22	24	22	Stainless steel	400	*5 800*	189	*0.42*
223-13770-5	CHECK VALVE VA RHD20-S	S	20	97,5	41	46	36	Stainless steel	250	*3 625*	732	*1.61*

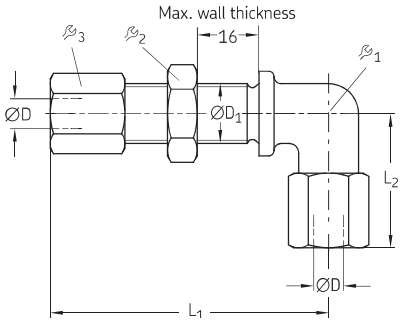
Double-edged cutting sleeve unions

Straight bulkhead connectors SV



Order number	Designation	Series	Tube ØD	ØD1	L1	L2				Material	Operating pressure max.		Weight	
			mm	mm	mm	mm	mm	mm	mm		bar	*psi*	g	*lb*
Steel, galvanized														
223-12368-4	TB.FITT.ST SV 6-L CF	L	6	12,5	22	42	17	17	14	Steel, galvanized	500	*7 250*	63	*0.14*
223-12368-6	TB.FITT.ST SV 8-L CF	L	8	14,5	23	42	19	19	17	Steel, galvanized	500	*7 250*	84	*0.19*
223-12368-8	TB.FITT.ST SV 10-L CF	L	10	16,5	25	43	22	22	19	Steel, galvanized	500	*7 250*	109	*0.24*
223-13698-4	TB.FITT.ST SV 12-L CF	L	12	18,5	25	44	24	24	22	Steel, galvanized	400	*5 800*	134	*0.30*
223-12564-2	TB.FITT.ST SV 15-L CF	L	15	22,5	27	46	27	30	27	Steel, galvanized	400	*5 800*	222	*0.49*
223-12564-8	TB.FITT.ST SV 18-L CF	L	18	26,5	30	49	32	36	32	Steel, galvanized	400	*5 800*	334	*0.74*
422-416	TB.FITT.ST SV22-L CF	L	22	30,5	33	51	36	41	36	Steel, galvanized	250	*3 625*	432	*0.95*
223-12564-6	TB.FITT.ST SV 10-S CF	S	10	18,5	31	46	24	24	22	Steel, galvanized	800	*11 600*	180	*0.40*
223-12368-2	TB.FITT.ST SV 20-S CF	S	20	30,5	39	55	41	41	36	Steel, galvanized	420	*6 090*	688	*1.52*
Stainless steel														
223-13671-9	TB.FITT.VA SV 8-S	S	8	16,5	28	44	22	22	19	Stainless steel	630	*9 140*	133	*0.29*
223-12564-3	TB.FITT.VA SV 10-S	S	10	18,5	31	46	24	24	22	Stainless steel	630	*9 140*	180	*0.40*
223-13671-2	TB.FITT.VA SV 20-S	S	20	30,5	39	55	41	41	36	Stainless steel	400	*5 800*	688	*1.52*

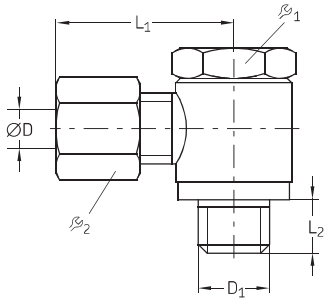
Elbow bulkhead connectors WSV



Order number	Designation	Series	Tube ØD	ØD1	L1	L2				Material	Operating pressure max.		Weight	
			mm	mm	mm	mm	mm	mm	mm		bar	*psi*	g	*lb*
Steel, galvanized														
223-13050-4	TB.FITT.ST WSV 6-L CF	L	6	12,5	48	27	12	17	14	Steel, galvanized	315	*4 570*	75	*0.17*
223-12409-6	TB.FITT.ST WSV 8-L CF	L	8	14,5	51	29	12	19	17	Steel, galvanized	315	*4 570*	95	*0.21*
223-12409-9	TB.FITT.ST WSV10-L CF	L	10	16,5	53	30	14	22	19	Steel, galvanized	315	*4 570*	120	*0.26*
412-409	TB.FITT.ST WSV12-L CF	L	12	18,5	56	32	17	24	22	Steel, galvanized	315	*4 570*	141	*0.31*
223-12409-8	TB.FITT.ST WSV15-L CF	L	15	22,5	61	36	19	30	27	Steel, galvanized	315	*4 570*	184	*0.41*
418-409	TB.FITT.ST WSV18-L CF	L	18	26,5	64	40	24	36	32	Steel, galvanized	315	*4 570*	374	*0.82*
223-13050-3	TB.FITT.ST WSV22-L CF	L	22	30,5	72	44	27	41	36	Steel, galvanized	160	*2 320*	505	*1.11*
223-13050-2	TB.FITT.ST WSV10-S CF	S	10	18,5	57	34	17	24	22	Steel, galvanized	630	*9 140*	196	*0.43*
223-12409-2	TB.FITT.ST WSV20-S CF	S	20	30,5	74	48	27	41	36	Steel, galvanized	400	*5 800*	616	*1.36*
Stainless steel														
223-10364-6	TB.FITT.VA WSV 8-S	S	8	16,5	54	32	14	22	19	Stainless steel	630	*9 140*	155	*0.34*
223-10364-3	TB.FITT.VA WSV10-S	S	10	18,5	57	34	17	24	22	Stainless steel	630	*9 140*	196	*0.43*
223-13758-4	TB.FITT.VA WSV20-S	S	20	30,5	74	48	27	41	36	Stainless steel	400	*5 800*	616	*1.36*

Double-edged cutting sleeve unions

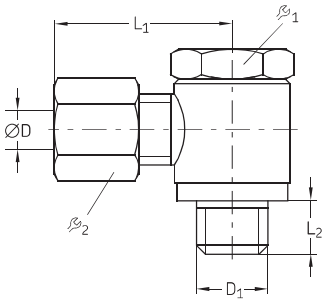
Banjo fittings SWVE with metrical thread



Order number	Designation	Series	Tube ØD	D_1	L_1	L_2	$\mathcal{S}_1$	$\mathcal{S}_2$	Material	Operating pressure max.		Weight	
			mm	mm	mm	mm	mm	mm		bar	*psi*	g	*lb*
Steel, galvanized													
223-12480-2	TB.FITT.ST SWVE 4-LL M 8x1 CF	LL	4	M8×1	20	6	12	10	Steel, galvanized	63	*915*	22	*0.05*
223-12480-7	TB.FITT.ST SWVE 6-LL M10x1 CF	LL	6	M10×1	22	6	14	12	Steel, galvanized	63	*915*	36	*0.08*
96-7108-0058	TB.FITT.ST SWVE 8-LL M10x1 CF	LL	8	M10×1	23	6	14	14	Steel, galvanized	63	*915*	39	*0.09*
223-12369-7	TB.FITT.ST SWVE 6-L M10x1 CF	L	6	M10×1	25	6	14	14	Steel, galvanized	160	*2 320*	43	*0.09*
96-7808-0058	TB.FITT.ST SWVE 8-L M12x1,5 CF	L	8	M12×1,5	27	9	17	17	Steel, galvanized	160	*2 320*	68	*0.15*
445-535-101	TB.FITT.ST SWVE10-L M14x1,5 CF	L	10	M14×1,5	29	9	19	19	Steel, galvanized	160	*2 320*	89	*0.20*
96-7812-0058	TB.FITT.ST SWVE12-L M16x1,5 CF	L	12	M16×1,5	30	9	21	22	Steel, galvanized	100	*1 450*	128	*0.28*
96-7815-0058	TB.FITT.ST SWVE15-L M18x1,5 CF	L	15	M18×1,5	33	9	24	27	Steel, galvanized	100	*1 450*	185	*0.41*
96-7818-0058	TB.FITT.ST SWVE18-L M22x1,5 CF	L	18	M22×1,5	37	11	27	32	Steel, galvanized	100	*1 450*	309	*0.68*
96-7822-0058	TB.FITT.ST SWVE22-L M26x1,5 Z3	L	22	M26×1,5	42	13	32	36	Steel, galvanized	100	*1 450*	440	*0.97*
96-8006-0058	TB.FITT.ST SWVE 6-S M12x1,5 CF	S	6	M12×1,5	29	9	17	17	Steel, galvanized	160	*2 320*	74	*0.16*
96-8008-0058	TB.FITT.ST SWVE 8-S M14x1,5 CF	S	8	M14×1,5	30	9	19	19	Steel, galvanized	160	*2 320*	98	*0.22*
223-13669-4	TB.FITT.ST SWVE10-S M16x1,5 CF	S	10	M16×1,5	32	9	22	22	Steel, galvanized	100	*1 450*	140	*0.31*
96-8012-0058	TB.FITT.ST SWVE12-S M18x1,5 CF	S	12	M18×1,5	33	9	24	24	Steel, galvanized	100	*1 450*	172	*0.38*
96-8014-0058	TB.FITT.ST SWVE14-S M20x1,5 Z3	S	14	M20×1,5	38	11	27	27	Steel, galvanized	100	*1 450*	236	*0.52*
96-8016-0058	TB.FITT.ST SWVE16-S M22x1,5 Z3	S	16	M22×1,5	40	11	27	30	Steel, galvanized	100	*1 450*	324	*0.71*
Stainless steel													
223-12456-6	TB.FITT.VA SWVE 6-LL M10x1	LL	6	M10×1	22	6	14	12	Stainless steel	63	*915*	36	*0.08*
223-10389-3	TB.FITT.VA SWVE 8-LL M10x1	LL	8	M10×1	23	6	14	14	Stainless steel	63	*915*	39	*0.09*
223-14089-9	TB.FITT.VA SWVE 6-L M10x1	L	6	M10×1	25	6	14	14	Stainless steel	160	*2 320*	43	*0.09*

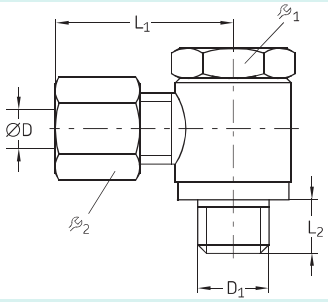
Double-edged cutting sleeve unions

Banjo fittings SWVE with Whitworth pipe thread



Order number	Designation	Series	Tube ØD	D_1	L_1	L_2			Material	Operating pressure max.		Weight	
			mm	in	mm	mm	mm	mm		bar	*psi*	g	*lb*
Steel, galvanized													
223-13629-1	TB.FITT.ST SWVE 4-LL G 1/8A CF	LL	4	G 1/8A	21	6	14	10	Steel, galvanized	63	*915*	32	*0.07*
223-12479-9	TB.FITT.ST SWVE 6-LL G 1/8A CF	LL	6	G 1/8A	22	6	14	12	Steel, galvanized	63	*915*	35	*0.08*
223-12479-8	TB.FITT.ST SWVE 8-LL G 1/8A CF	LL	8	G 1/8A	23	6	14	14	Steel, galvanized	63	*915*	38	*0.08*
223-12479-5	TB.FITT.ST SWVE 6-L G 1/8A CF	L	6	G 1/8A	25	6	14	14	Steel, galvanized	160	*2 320*	43	*0.09*
223-12284-7	TB.FITT.ST SWVE 8-L G 1/4A CF	L	8	G 1/4A	28	9	19	17	Steel, galvanized	160	*2 320*	82	*0.18*
223-12369-9	TB.FITT.ST SWVE10-L G 1/4A CF	L	10	G 1/4A	29	9	19	22	Steel, galvanized	160	*2 320*	87	*0.19*
223-13669-3	TB.FITT.ST SWVE12-L G 3/8A CF	L	12	G 3/8A	30	9	19	22	Steel, galvanized	100	*1 450*	130	*0.29*
445-513-181	TB.FITT.ST SWVE18-L G 1/2AA CF	L	18	G 1/2A	37	11	27	32	Steel, galvanized	100	*1 450*	317	*0.70*
445-517-222	TB.FITT.ST SWVE22-L G 3/4A CF	L	22	G 3/4A	42	13	32	36	Steel, galvanized	100	*1 450*	438	*0.97*
223-12285-8	TB.FITT.ST SWVE 6-S G 1/4A CF	S	6	G 1/4A	30	9	19	17	Steel, galvanized	160	*2 320*	88	*0.19*
223-12285-9	TB.FITT.ST SWVE 8-S G 1/4A CF	S	8	G 1/4A	30	9	19	19	Steel, galvanized	160	*2 320*	96	*0.21*
223-12285-5	TB.FITT.ST SWVE10-S G 3/8A CF	S	10	G 3/8A	32	9	22	22	Steel, galvanized	100	*1 450*	142	*0.31*
223-12285-6	TB.FITT.ST SWVE12-S G 3/8A CF	S	12	G 3/8A	33	9	24	24	Steel, galvanized	100	*1 450*	185	*0.41*
96-7914-0058	TB.FITT.ST SWVE14-S G 1/2A Z3	S	14	G 1/2A	38	11	27	27	Steel, galvanized	100	*1 450*	234	*0.52*
96-7916-0058	TB.FITT.ST SWVE16-S G 1/2A CF	S	16	G 1/2A	40	11	27	30	Steel, galvanized	100	*1 450*	321	*0.71*
223-12285-7	TB.FITT.ST SWVE20-S G 3/4A CF	S	20	G 3/4A	46	13	32	36	Steel, galvanized	100	*1 450*	472	*1.04*
Stainless steel													
223-12456-7	TB.FITT.VA SWVE 6-LL G 1/8A	LL	6	G 1/8A	22	6	14	12	Stainless steel	63	*915*	35	*0.08*
223-12456-9	TB.FITT.VA SWVE 8-L G 1/4A	L	8	G 1/4A	28	9	19	17	Stainless steel	160	*2 320*	82	*0.18*
223-12456-1	TB.FITT.VA SWVE 10-L G 1/4A	L	10	G 1/4A	29	9	19	22	Stainless steel	160	*2 320*	87	*0.19*
223-14089-5	TB.FITT.VA SWVE 12-L G 3/8A	L	12	G 3/8A	30	9	19	22	Stainless steel	100	*1 450*	130	*0.29*
223-10389-4	TB.FITT.VA SWVE 6-S G 1/4A	S	6	G 1/4A	22	9	19	17	Stainless steel	160	*2 320*	45	*0.10*
223-14089-6	TB.FITT.VA SWVE 16-S G 1/2A	S	16	G 1/2A	40	11	27	30	Stainless steel	100	*1 450*	321	*0.71*

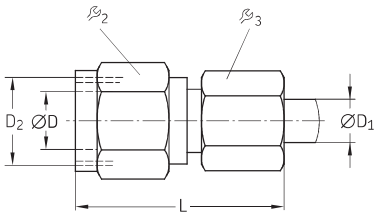
Banjo fittings WH (high-pressure)

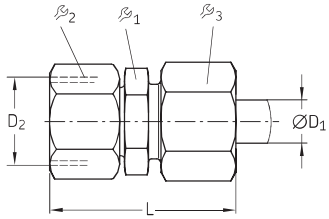


Order number	Designation	Series	Tube ØD	D_1	L_1	L_2			Material	Operating pressure max.		Weight	
			mm		mm	mm	mm	mm		bar	*psi*	g	*lb*
Steel, galvanized													
223-13679-8	TB.FITT.ST WH10-L G1/4A-KD CF	L	10	G 1/4A	30	12	19	19	Steel, galvanized	315	*4 570*	123	*0.27*
223-13679-3	TB.FITT.ST WH10-S G3/8A-KD CF	S	10	G 3/8A	35	12	24	22	Steel, galvanized	400	*5 800*	212	*0.47*
223-13679-9	TB.FITT.ST WH10-S M16x1,5-KD CF	S	10	M16×1,5	35	12	24	22	Steel, galvanized	315	*4 570*	220	*0.49*
Stainless steel													
223-14238-4	TB.FITT.VA WH10-L G1/4A	L	10	G 1/4A	30	12	19	19	Stainless steel	315	*4 570*	123	*0.27*

Double-edged cutting sleeve unions

Reducing connectors RED with cylindrical thread

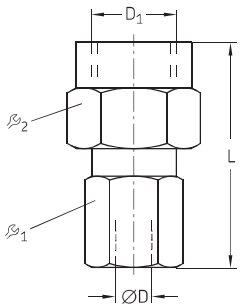




Order number	Designation	Series	Tube ØD	Tube ØD1	D2	L	SW1	SW2	SW3	Material	Operating pressure max.		Weight	
			mm	mm	mm	mm	mm	mm	mm		bar	*psi*	g	*lb*
96-1406-0060	TB.FITT.ST RED 6/ 4-LL CF	LL	6	4	M10×1	29	–	12	10	Steel, galvanized	100	*1 450*	21	*0.05*
96-1408-0060	TB.FITT.ST RED 8/ 4-LL CF	LL	8	4	M12×1	29	–	14	10	Steel, galvanized	100	*1 450*	28	*0.06*
96-1410-0060	TB.FITT.ST RED 8/ 6-LL CF	LL	8	6	M12×1	29	–	14	12	Steel, galvanized	100	*1 450*	32	*0.07*
223-10670-3	TB.FITT.ST RED 8/ 6-L CF	L	8	6	M14×1,5	38,0	12	17	14	Steel, galvanized	500	*7 250*	36	*0.08*
223-12582-5	TB.FITT.ST RED10/ 6-L CF	L	10	6	M16×1,5	40,0	14	19	14	Steel, galvanized	500	*7 250*	48	*0.11*
473-808-371	TB.FITT.ST RED10/ 8-L CF	L	10	8	M16×1,5	40	17	22	17	Steel, galvanized	500	*7 250*	58	*0.13*
223-13699-7	TB.FITT.ST RED12/ 6-L CF	L	12	6	M20×1,5	40	17	22	14	Steel, galvanized	400	*5 800*	60	*0.13*
473-808-392	TB.FITT.ST RED12/ 8-L CF	L	12	8	M18×1,5	40	17	22	17	Steel, galvanized	400	*5 800*	69	*0.15*
223-14293-2	TB.FITT.ST RED12/10-L CF	L	12	10	M18×1,5	41,0	17	22	19	Steel, galvanized	400	*5 800*	63	*0.14*
223-14152-2	TB.FITT.ST RED15/ 8-L CF	L	15	8	M22×1,5	43,0	19	27	17	Steel, galvanized	400	*5 800*	102	*0.22*
223-14293-4	TB.FITT.ST RED15/10-L CF	L	15	10	M22×1,5	44,0	19	27	19	Steel, galvanized	400	*5 800*	104	*0.23*
96-1541-0060	TB.FITT.ST RED18/ 6-L CF	L	18	6	M26×1,5	43,0	24	32	14	Steel, galvanized	400	*5 800*	121	*0.27*
96-1542-0060	TB.FITT.ST RED18/ 8-L CF	L	18	8	M26×1,5	43,0	24	32	17	Steel, galvanized	400	*5 800*	128	*0.28*
96-1543-0060	TB.FITT.ST RED18/10-L CF	L	18	10	M26×1,5	44,0	24	32	19	Steel, galvanized	400	*5 800*	131	*0.29*
223-14293-8	TB.FITT.ST RED18/15-L CF	L	18	15	M26×1,5	45,0	24	32	27	Steel, galvanized	400	*5 800*	162	*0.36*
96-1551-0060	TB.FITT.ST RED22/ 6-L CF	L	22	6	M30×2	47,0	27	36	14	Steel, galvanized	250	*3 625*	170	*0.37*
223-12581-9	TB.FITT.ST RED22/15-L CF	L	22	15	M30×2	49,0	27	36	27	Steel, galvanized	250	*3 625*	211	*0.47*
96-1556-0060	TB.FITT.ST RED22/18-L CF	L	22	18	M30×2	50,0	27	36	32	Steel, galvanized	250	*3 625*	235	*0.52*
223-10688-1	TB.FITT.ST RED 8/ 6-S CF	S	8	6	M16×1,5	42	14	19	17	Steel, galvanized	800	*11 600*	61	*0.13*
223-10187-1	TB.FITT.ST RED10/ 6-S CF	S	10	6	M18×1,5	42	17	22	17	Steel, galvanized	800	*11 600*	74	*0.16*
223-13054-4	TB.FITT.ST RED10/ 8-S CF	S	10	8	M18×1,5	42	17	22	19	Steel, galvanized	800	*11 600*	81	*0.18*
223-12287-8	TB.FITT.ST RED12/ 8-S CF	S	12	8	M20×1,5	44	17	24	19	Steel, galvanized	630	*9 140*	91	*0.20*
223-12288-2	TB.FITT.ST RED12/10-S CF	S	12	10	M20×1,5	46	19	24	22	Steel, galvanized	630	*9 140*	109	*0.24*
96-1633-0060	TB.FITT.ST RED14/10-S CF	S	14	10	M22×1,5	47	19	27	22	Steel, galvanized	630	*9 140*	125	*0.28*
96-1642-0060	TB.FITT.ST RED16/ 8-S CF	S	16	8	M24×1,5	47	22	30	19	Steel, galvanized	630	*9 140*	137	*0.30*
223-14293-1	TB.FITT.ST RED16/10-S CF	S	16	10	M24×1,5	48	22	30	22	Steel, galvanized	630	*9 140*	149	*0.33*
96-1644-0060	TB.FITT.ST RED16/12-S CF	S	16	12	M24×1,5	48	22	30	24	Steel, galvanized	630	*9 140*	156	*0.34*
223-12577-8	TB.FITT.ST RED20/ 6-S CF	S	20	6	M30×2	51	27	36	17	Steel, galvanized	420	*6 090*	191	*0.42*
96-1652-0060	TB.FITT.ST RED20/ 8-S CF	S	20	8	M30×2	51	27	36	19	Steel, galvanized	420	*6 090*	197	*0.43*
223-12577-2	TB.FITT.ST RED20/10-S CF	S	20	10	M30×2	52	27	36	22	Steel, galvanized	420	*6 090*	208	*0.46*
223-12580-2	TB.FITT.ST RED20/12-S CF	S	20	12	M30×2	52	27	36	24	Steel, galvanized	420	*6 090*	215	*0.47*
223-13759-7	TB.FITT.ST RED20/16-S CF	S	20	16	M30×2	55	27	36	30	Steel, galvanized	420	*6 090*	254	*0.56*

Double-edged cutting sleeve unions

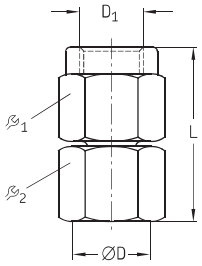
Connectors for pressure gauges MAV



Order number	Designation	Series	Tube ØD	D_1	L	SW1	SW2	Material	Operating pressure max.		Weight	
			mm	in	mm	mm	mm		bar	*psi*	g	*lb*
Steel, galvanized												
223-12481-4	TB.FITT.ST MAV 6-L G 1/4 CF	L	6	G 1/4	37	19	14	Steel, galvanized	315	*4 570*	49	*0.11*
223-12481-6	TB.FITT.ST MAV 8-L G 1/4 CF	L	8	G 1/4	37	19	17	Steel, galvanized	315	*4 570*	55	*0.12*
223-13028-2	TB.FITT.ST MAV10-L G 1/4 CF	L	10	G 1/4	38	19	19	Steel, galvanized	315	*4 570*	62	*0.14*
223-12481-8	TB.FITT.ST MAV12-L G 1/4 CF	L	12	G 1/4	38	19	22	Steel, galvanized	315	*4 570*	71	*0.16*
96-8906-0058	TB.FITT.ST MAV 6-S G 1/2 CF	S	6	G 1/2	42,5	27	17	Steel, galvanized	630	*9 140*	95	*0.21*
441-108-132	TB.FITT.ST MAV 8-S G 1/2 CF	S	8	G 1/2	46	27	19	Steel, galvanized	630	*9 140*	105	*0.23*
223-13028-4	TB.FITT.ST MAV10-S G 1/2 CF	S	10	G 1/2	47	27	22	Steel, galvanized	630	*9 140*	111	*0.24*
223-12286-8	TB.FITT.ST MAV12-S G 1/2 CF	S	12	G 1/2	47	27	24	Steel, galvanized	630	*9 140*	131	*0.29*
Stainless steel												
223-13685-3	TB.FITT.VA MAV 6-L G 1/4	L	6	G 1/4	37	19	14	Stainless steel	315	*4 570*	49	*0.11*
223-13685-1	TB.FITT.VA MAV10-S G 1/2	S	10	G 1/2	47	27	22	Stainless steel	630	*9 140*	111	*0.24*

Connectors for pressure gauges MAVE

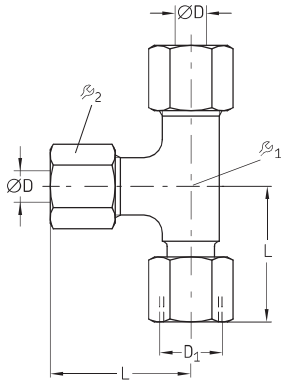
(Swivel with O-ring)



Order number	Designation	Series	Tube ØD	D_1	L	SW1	SW2	Material	Operating pressure max.		Weight	
			mm	in	mm	mm	mm		bar	*psi*	g	*lb*
Steel, galvanized												
96-8804-0058	TB.FITT.ST MAVE 4-L G 1/4 CF	L	4	G 1/4	33	19	10	Steel, galvanized	315	*4 570*	42	*0.09*
223-13655-1	TB.FITT.ST MAVE 6-L G 1/4 CF	L	6	G 1/4	35,5	19	14	Steel, galvanized	315	*4 570*	46	*0.10*
223-10889-2	TB.FITT.ST MAVE 8-L G 1/4 CF	L	8	G 1/4	35,5	19	17	Steel, galvanized	315	*4 570*	52	*0.11*
223-13655-7	TB.FITT.ST MAVE10-L G 1/4 CF	L	10	G 1/4	36,0	19	19	Steel, galvanized	315	*4 570*	59	*0.13*
223-14268-4	TB.FITT.ST MAVE12-L G 1/4 CF	L	12	G 1/4	36,0	19	22	Steel, galvanized	315	*4 570*	70	*0.15*
2230-00000116	TB.FITT.ST MAVE 6-S G 1/2 CF	S	6	G 1/2	42,5	27	17	Steel, galvanized	630	*9 140*	95	*0.21*
223-13655-2	TB.FITT.ST MAVE10-S G 1/2 CF	S	10	G 1/2	43,5	27	22	Steel, galvanized	630	*9 140*	109	*0.24*
223-13655-4	TB.FITT.ST MAVE12-S G 1/2 CF	S	12	G 1/2	45,0	27	24	Steel, galvanized	630	*9 140*	125	*0.28*
Stainless steel												
223-14268-7	TB.FITT.VA MAVE 6-L G 1/4	L	6	G 1/4	35,5	19	14	Stainless steel	315	*4 570*	46	*0.10*
223-13655-5	TB.FITT.VA MAVE10-S G 1/2	S	10	G 1/2	43,5	27	22	Stainless steel	630	*9 140*	109	*0.24*

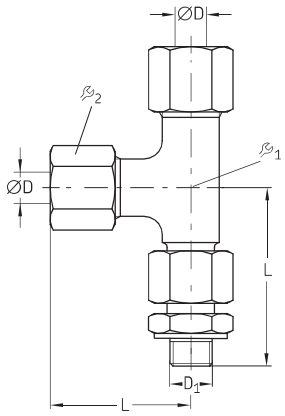
Double-edged cutting sleeve unions

L-connectors EL directionally adjustable



Order number	Designation	Series	Tube ØD	$ØD_1$	L	S_1	S_2	Material	Operating pressure max.		Weight	
			mm	mm	mm	mm	mm		bar	*psi*	g	*lb*
Steel, galvanized												
223-14190-6	TB.STUD ST EL 6-L CF	L	6	M12×1,5	27	12	14	Steel, galvanized	500	*7 250*	68	*0.15*
223-14190-7	TB.STUD ST EL 8-L CF	L	8	M14×1,5	29	12	17	Steel, galvanized	500	*7 250*	87	*0.19*
223-13040-9	TB.STUD ST EL 10-L CF	L	10	M16×1,5	30	14	19	Steel, galvanized	500	*7 250*	110	*0.24*
223-13761-5	TB.STUD ST EL 12-L CF	L	12	M18×1,5	32	17	22	Steel, galvanized	400	*5 800*	151	*0.33*
223-14190-5	TB.STUD ST EL 15-L CF	L	15	M22×1,5	36	19	27	Steel, galvanized	400	*5 800*	245	*0.54*
443-418-181	TB.STUD ST EL 18-L CF	L	18	M26×1,5	40	24	32	Steel, galvanized	400	*5 800*	369	*0.81*
223-13040-3	TB.STUD ST EL 6-S CF	S	6	M14×1,5	31	12	17	Steel, galvanized	800	*11 600*	103	*0.23*
223-13040-7	TB.STUD ST EL 8-S CF	S	8	M16×1,5	32	14	19	Steel, galvanized	800	*11 600*	130	*0.29*
223-14190-2	TB.STUD ST EL 10-S CF	S	10	M18×1,5	34	17	22	Steel, galvanized	800	*11 600*	136	*0.30*
223-14190-4	TB.STUD ST EL 12-S CF	S	12	M20×1,5	38	17	24	Steel, galvanized	630	*9 140*	212	*0.47*
223-14190-1	TB.STUD ST EL 16-S CF	S	16	M24×1,5	43	24	30	Steel, galvanized	630	*9 140*	404	*0.89*
223-13761-7	TB.STUD ST EL 20-S CF	S	20	M30×2	48	27	36	Steel, galvanized	420	*6 090*	601	*1.33*
Stainless steel												
223-14244-8	TB.STUD VA EL 10-L	L	10	M16×1,5	30	14	19	Stainless steel	315	*4 570*	110	*0.24*
223-14244-6	TB.STUD VA EL 20-S	S	20	M30×2	48	27	36	Stainless steel	400	*5 800*	601	*1.33*

L-connectors EVL directionally adjustable

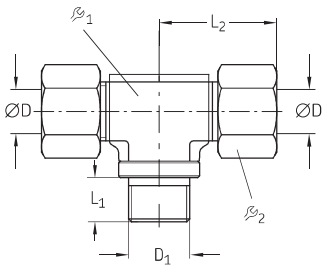


Order number	Designation	Series	Tube ØD	$ØD_1$	L	S_1	S_2	Material	Operating pressure max.		Weight	
			mm	in	mm	mm	mm		bar	*psi*	g	*lb*
Steel, galvanized												
443-410-211	TB.FITT.ST EVL 10-S G3/8A CF	S	10	G 3/8	34	17	22	Steel, galvanized	630	*9 140*	226	*0.50*
443-410-161	TB.FITT.ST EVL 10-L G1/4A CF	L	10	G 1/4	30	14	19	Steel, galvanized	250	*3 625*	132	*0.29*

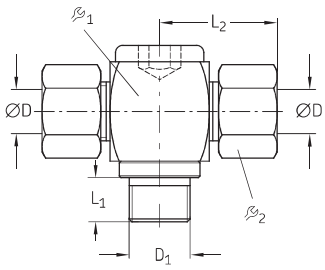
Double-edged cutting sleeve unions

Screw-in T-connectors TE, TH with metrical pipe thread

TE



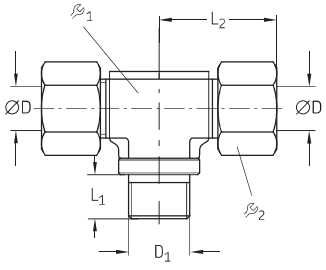
TH



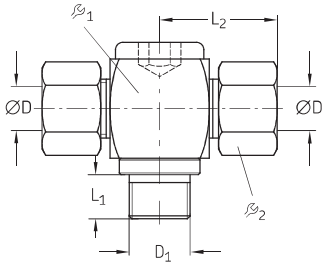
Order number	Designation	Series	Tube ØD	D_1	L_1	L_2	$\mathcal{S}_1$	$\mathcal{S}_2$	Material	Operating pressure max.		Weight	
			mm	mm	mm	mm	mm	mm		bar	*psi*	g	*lb*
96-6404-0058	TB.FITT.ST TE 4-LL M 8x1,0K CF	LL	4	M8×1 tap.	8	21	9	10	Steel, galvanized	100	*1 450*	19	*0.04*
96-6406-0058	TB.FITT.ST TE 6-LL M10x1,0K CF	LL	6	M10×1 tap.	8	21	11	12	Steel, galvanized	100	*1 450*	40	*0.09*
96-6408-0058	TB.FITT.ST TE 8-LL M10x1,0K CF	LL	8	M10×1 tap.	8	23	12	14	Steel, galvanized	100	*1 450*	30	*0.07*
96-0906-0058	TB.FITT.ST TE 6-L M10x1,0xK CF	L	6	M10×1 tap.	8	27	12	14	Steel, galvanized	250	*3 625*	50	*0.11*
445-910-551	TB.FITT.ST TE10-L M14x1,5K CF	L	10	M14×1,5 tap.	12	30	14	19	Steel, galvanized	250	*3 625*	100	*0.22*
96-1806-0058	TB.FITT.ST TE 6-S M12x1,5K CF	S	6	M12×1,5 tap.	12	31	14	17	Steel, galvanized	400	*5 800*	67	*0.15*
96-1808-0058	TB.FITT.ST TE 8-S M14x1,5K CF	S	8	M14×1,5 tap.	12	32	14	19	Steel, galvanized	400	*5 800*	100	*0.22*
445-735-101	TB.FITT.ST TH10-L M14x1,5K CF	L	10	M14×1,5	12	30	19	19	Steel, galvanized	315	*3 625*	154	*0.34*
445-739-151	TB.FITT.ST TH15-L M18x1,5K CF	L	15	M18×1,5	14	37	30	32	Steel, galvanized	250	*3 625*	352	*0.78*

Screw-in T-connectors TE, TH with Whitworth pipe thread

TE



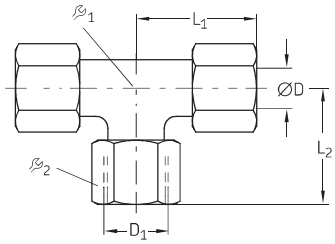
TH



Order number	Designation	Series	Tube ØD	D_1	L_1	L_2	$\mathcal{S}_1$	$\mathcal{S}_2$	Material	Operating pressure max.		Weight	
			mm	in	mm	mm	mm	mm		bar	*psi*	g	*lb*
96-6304-0058	TB.FITT.ST TE 4-LL R 1/8K CF	LL	4	R 1/8	8	21	10	11	Steel, galvanized	100	*1 450*	14	*0.03*
96-6306-0058	TB.FITT.ST TE 6-LL R 1/8K CF	LL	6	R 1/8	8	21	11	12	Steel, galvanized	100	*1 450*	26	*0.06*
96-6308-0058	TB.FITT.ST TE 8-LL R 1/8K CF	LL	8	R 1/8	8	23	12	14	Steel, galvanized	100	*1 450*	32	*0.07*
96-0806-0058	TB.FITT.ST TE 6-L R 1/8K CF	L	6	R 1/8	8	27	12	14	Steel, galvanized	250	*3 625*	38	*0.08*
96-0808-0058	TB.FITT.ST TE 8-L R 1/4K CF	L	8	R 1/4	12	29	14	17	Steel, galvanized	250	*3 625*	75	*0.17*
96-0810-0058	TB.FITT.ST TE 10-L R 1/4K CF	L	10	R 1/4	12	30	14	19	Steel, galvanized	250	*3 625*	100	*0.22*
96-0818-0058	TB.FITT.ST TE 18-L R 1/2K CF	L	18	R 1/2	14	40	24	32	Steel, galvanized	250	*3 625*	149	*0.33*
96-1706-0058	TB.FITT.ST TE 6-S R 1/4K CF	S	6	R 1/4	12	31	12	17	Steel, galvanized	400	*5 800*	100	*0.22*
445-721-121	TB.FITT.ST TH12-L G 3/8A CF	L	12	G 3/8A	12	33	24	22	Steel, galvanized	315	*4 570*	249	*0.55*
445-713-151	TB.FITT.ST TH 15-L G 1/2A CF	L	15	G 1/2A	14	37	30	27	Steel, galvanized	315	*4 570*	415	*0.92*
445-717-221	TB.FITT.ST TH 22-L G 3/4A CF	L	22	G 3/4A	16	44	36	36	Steel, galvanized	160	*2 320*	763	*1.68*

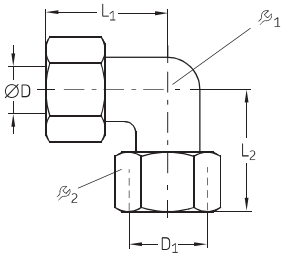
Double-edged cutting sleeve unions

Swivel nut branch ET



Order number	Designation	Series	Tube ØD	D_1	L_1	L_2	S_1	S_2	Material	Operating pressure max.		Weight	
			mm	mm	mm	mm	mm	mm		bar	*psi*	g	*lb*
223-14189-6	TB.STUD ST ET 6-L CF	L	6	M12×1,5	27	26	12	14	Steel, galvanized	500	*7 250*	68	*0.15*
223-13040-1	TB.STUD ST ET 8-L CF	L	8	M14×1,5	29	26,5	12	17	Steel, galvanized	500	*7 250*	87	*0.19*
223-14189-1	TB.STUD ST ET10-L CF	L	10	M16×1,5	30	29	14	19	Steel, galvanized	500	*7 250*	113	*0.25*
223-13785-8	TB.STUD ST ET12-L CF	L	12	M18×1,5	32	29,5	17	22	Steel, galvanized	400	*5 800*	153	*0.34*
223-14189-7	TB.STUD ST ET15-L CF	L	15	M22×1,5	36	32,5	19	27	Steel, galvanized	400	*5 800*	253	*0.56*
96-3118-0060	TB.STUD ST ET18-L CF	L	18	M26×1,5	40	35,5	24	32	Steel, galvanized	400	*5 800*	375	*0.83*
96-3122-0060	TB.STUD ST ET22-L CF	L	22	M30×1,5	44	38,5	27	36	Steel, galvanized	250	*3 625*	486	*1.07*
445-806-351	TB.STUD ST ET 6-S CF	S	6	M14×1,5	31	27	12	17	Steel, galvanized	800	*11 600*	101	*0.22*
223-10374-3	TB.STUD ST ET 8-S CF	S	8	M16×1,5	32	27,5	14	19	Steel, galvanized	800	*11 600*	135	*0.30*
223-14189-5	TB.STUD ST ET10-S CF	S	10	M18×1,5	34	30	17	22	Steel, galvanized	800	*11 600*	181	*0.40*
223-14189-9	TB.STUD ST ET12-S CF	S	12	M20×1,5	38	31	17	24	Steel, galvanized	630	*9 140*	212	*0.47*
223-14189-2	TB.STUD ST ET16-S CF	S	16	M24×1,5	43	36,5	24	30	Steel, galvanized	630	*9 140*	383	*0.84*
223-14189-3	TB.STUD ST ET20-S CF	S	20	M30×1,5	48	44,5	27	36	Steel, galvanized	420	*6 090*	614	*1.35*

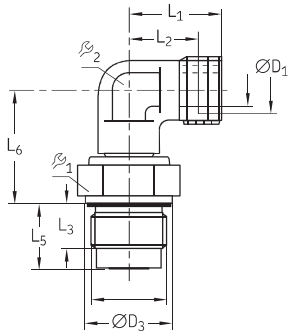
Swivel nut elbow EW



Order number	Designation	Series	Tube ØD	D_1	L_1	L_2	S_1	S_2	Material	Operating pressure max.		Weight	
			mm	mm	mm	mm	mm	mm		bar	*psi*	g	*lb*
223-14171-1	TB.STUD ST EW 6-L CF	L	6	M12×1,5	27	26	12	14	Steel, galvanized	500	*7 250*	46	*0.10*
223-14102-3	TB.STUD ST EW 8-L CF	L	8	M14×1,5	29	27,5	12	17	Steel, galvanized	500	*7 250*	59	*0.13*
443-306-343	TB.STUD ST EW 6-S CF	S	6	M14×1,5	31	27	12	17	Steel, galvanized	800	*11 600*	67	*0.15*
223-14171-8	TB.STUD ST EW10-S CF	S	10	M18×1,5	34	30	17	22	Steel, galvanized	800	*11 600*	126	*0.28*
223-14171-4	TB.STUD ST EW16-S CF	S	16	M24×1,5	43	36,5	24	30	Steel, galvanized	630	*9 140*	284	*0.63*
223-14171-5	TB.STUD ST EW20-S CF	S	20	M30×1,5	48	44,5	27	36	Steel, galvanized	420	*6 090*	422	*0.93*

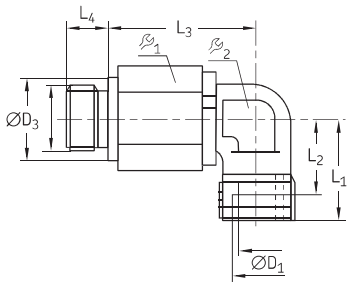
Double-edged cutting sleeve unions

Swivels DVWE



Order number	Designation	Tube Ø	Ø D_1	Series	Speed max.	Operation pressure max.		Material	Weight	
		mm	in		min^{-1}	bar	*psi*		g	*lb*
Steel galvanized										
223-13694-6	TB.FITT.ST DVWE10-L G 3/8A CF	10	G 3/8A	L	21	40	580	Steel galvanized	83	*0.18*
223-13694-1	TB.FITT.ST DVWE10-S G 3/8A CF	10	G 3/8A	S	9	100	1 450	Steel galvanized	103	*0.23*
Stainless steel										
223-13694-7	TB.FITT.VA DVWE10-L G 3/8A	10	G 3/8A	L	21	40	580	Stainless steel	83	*0.18*
223-13694-3	TB.FITT.VA DVWE10-S G 3/8A	10	G 3/8A	S	9	100	1 450	Stainless steel	103	*0.23*

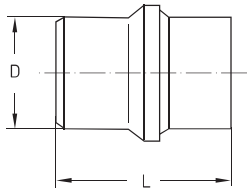
Swivels DG



Order number	Designation	Tube Ø	Ø D_1	Series	Speed max.	Operation pressure max.		Material	Weight	
		mm	in		min^{-1}	bar	*psi*		g	*lb*
223-13665-7	TB.FITT.ST DG104/ 6-S G 1/4A CF	6	G 1/4A	S	400	100	1 450	Steel galvanized	131	*0.29*
223-13665-8	TB.FITT.ST DG104/ 8-S G 1/4A CF	8	G 1/4A	S	400	100	1 450	Steel galvanized	135	*0.30*
223-13665-9	TB.FITT.ST DG104/12-S G 3/8A CF	12	G 3/8A	S	200	100	1 450	Steel galvanized	284	*0.62*

Double-edged cutting sleeve unions

Blanking plug for cones BUZ



Order number	Designation	Series	D	L	Material	Operating pressure max.		Weight	
			mm	mm		bar	*psi*	g	*lb*
Steel galvanized									
223-13640-1	PLUG ST BUZ 6-L/S CF	**L/S**	6	19,5	Steel, galvanized	*315*	4 570	*5*	*0.01*
223-13640-5	PLUG ST BUZ 8-L/S CF	**L/S**	8	19,5	Steel, galvanized	*315*	4 570	*8*	*0.02*
223-13640-3	PLUG ST BUZ10 -L/S CF	**L/S**	10	21,0	Steel, galvanized	*315*	4 570	*13*	*0.03*
223-13640-4	PLUG ST BUZ12 -L/S CF	**L/S**	12	21,8	Steel, galvanized	*315*	4 570	*20*	*0.04*
223-13640-9	PLUG ST BUZ18 -L CF	L/S	18	24,0	Steel, galvanized	*315*	4 570	*45*	*0.10*
223-13640-8	PLUG ST BUZ16 -S CF	S	16	25,5	Steel, galvanized	*400*	5 800	*39*	*0.09*
223-13640-2	PLUG ST BUZ20 -S CF	S	20	30,5	Steel, galvanized	*400*	5 800	*73*	*0.16*
Stainless steel									
223-14215-5	PLUG VA BUZ 6-L/S	**L/S**	6	19,5	Stainless steel	*315*	4 570	*5*	*0.01*
223-14215-3	PLUG VA BUZ10 -L/S	**L/S**	10	21,0	Stainless steel	*315*	4 570	*13*	*0.03*
223-14215-2	PLUG VA BUZ12 -L/S	**L/S**	12	21,8	Stainless steel	*315*	4 570	*20*	*0.04*
223-10638-3	PLUG VA BUZ16 -S	**S**	16	25,5	Stainless steel	*400*	5 800	*39*	*0.09*
223-14215-4	PLUG VA BUZ20 -S	**S**	20	30,5	Stainless steel	*400*	5 800	*73*	*0.16*