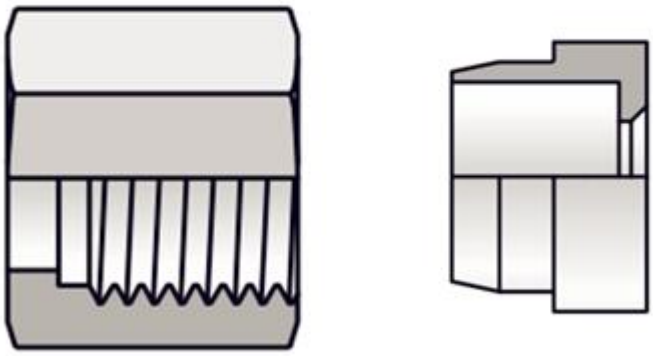
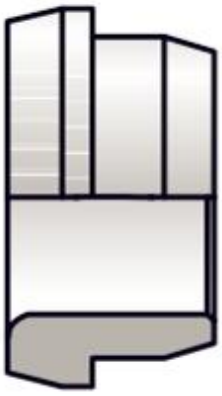
ORFS Tube Nut and Sleeve



Parflange ORFS Tube Sleeve	Industry Standard: SAE J1453 / ISO 8434-3 Design Type: Metric Tube Nuts SAE 52M0110 Inch Tube Nuts SAE 5200110 Inch Braze Sleeve SAE 520115 Metric Braze Sleeve SAE 52M0115 Material: Carbon Steel/Stainless Steel Finish: Zinc Plated/Zn-Ni Alloy Plated



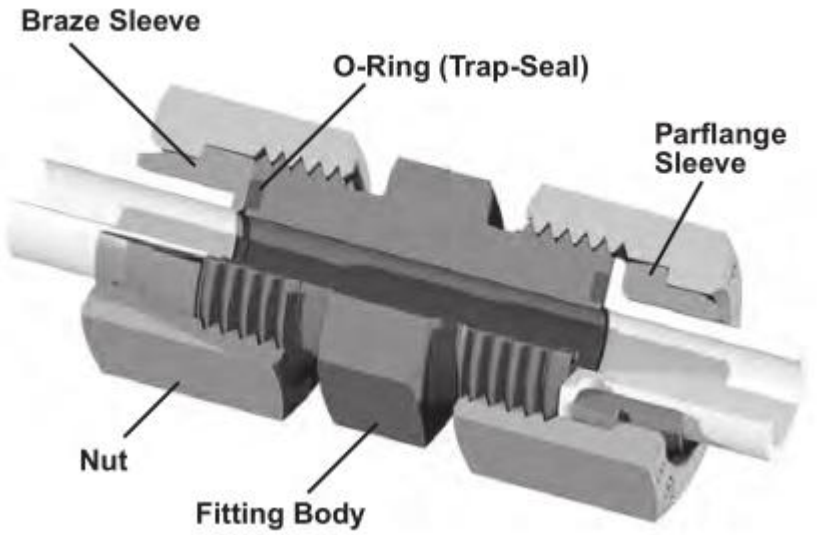
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Introduction Of ORFS Tube Nut and Sleeves

ORFS Tube nuts is used for sleeve clamping the flare tube between the body nose(seat) producing a free-leak tight metal to o-ring and metal face seal connection, connecting the ORFS fittings. It has different symbols of nuts ISO “NA/NB”, Parker “BL/BML”, Winner“NB200-F” , Parker“TPL/TPLS”, Winner“NB500-F/NB300-F” etc. ORFS nut and sleeves meet the strict requirement of SAE J1453 and ISO 8434-3 Industry standards.

Assembly Of ORFS Tube Nut and Sleeves

The fitting consists of three pieces: the body, sleeve(Braze/Parflange) and nut. The tube is flat face flange or braze sleeves and held between the orfs fitting and the Parflange sleeve (support) with the nut as shown in Figure, providing a very effective seal.



Standards Of ORFS Tube Nuts and Sleeves

ORFS Tube Nuts meet standard of SAE J1453 SAE 52M0110 SAE 5200110 and ISO 8434-2 NA/NB.

ORFS Tube Sleeves meet standard of SAE J1453 SAE 520115 SAE 52M0115

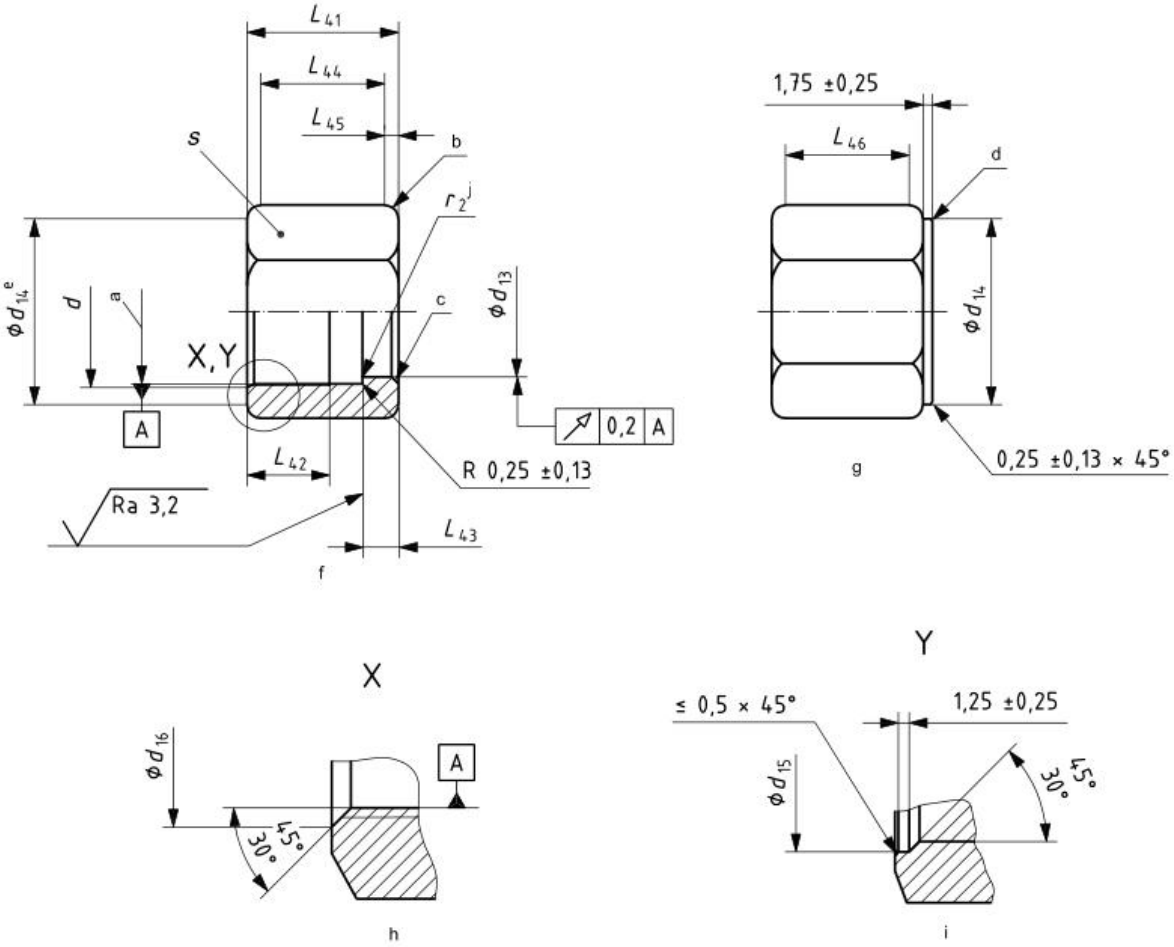
Finish is 72 hours without surface coating corrosion acc.to ISO 9227 Fe/Zn8/Cn/T0(T2).

Raw Material types of ORFS Tube Nuts and Sleeves

They are made of carbon steel SAE 1010 to 1215, stainless steel AISI 304 or 316L and cooper C36000(CA360) bar stock or C37700(CA377) forging, types of material is cold formed, hot formed or machined from cold drawn bar, it is based on different size for right material shapes.

Dimensions of ORFS tube nuts from ISO 8434-3 NA NB /SAE J1453

ISO 8434-3 Standard ORFS tube nut (NA) and high-strength tube nut (NB)



Dimensions of ORFS tube nuts

Tube outside diameter and ordering size code	d Thread [a]	Thread minor diameter [b]		d_{13}	d_{14}	d_{15}	d_{16}
		min.	max.	± 0,1	± 0,3	± 0,3	± 0,2
6	9/16-18 UNF	12,9	13,1	10,5	16	—	14,7
8	5/8-18 UNF	14,5	14,7	12	18	—	16,3
10	11/16-16 UN	15,9	16,1	13,55	21	—	17,8
12	13/16-16 UN	19,1	19,3	16,6	23	—	21
16	1-14 UNS	23,6	23,8	21,1	29	26	—
20	1 3/16-12 UN	28,0	28,3	24,15	34,5	31	—
22	1 5/16-12 UN	31,2	31,5	27,3	39,5	34	—
25	1 7/16-12 UN	34,4	34,7	29,1	39,5	37	—
30	1 11/16-12 UN	40,7	41,0	36	48,5	43,5	—
38	2-12 UN	48,7	49,0	44	58	51,5	—

Dimensions of ORFS tube nuts Continue

Tube outside diameter and ordering size code	d Thread [a]	L_{41} ± 0,5	L_{42} min.	L_{43} ± 0,25	L_{44} min.	L_{45} min.	L_{46} min.	r_2 0 − 0,15	S [c]
6	9/16-18 UNF	15	9	3	10,5	0,4	8,5	0,15	17
8	5/8-18 UNF	16	9	4	11	0,4	9	0,15	19
10	11/16-16 UN	17	9,5	4	12	0,4	10	0,15	22
12	13/16-16 UN	20	11,5	5	14	0,5	12	0,15	24
16	1-14 UNS	24	13,5	5,5	17	0,5	15	0,25	30
20	1 3/16-12 UN	26,5	14,5	6,5	18,5	0,7	16,5	0,25	36
22	1 5/16-12 UN	26,5	14,5	6,5	18	0,7	16	0,25	41
25	1 7/16-12 UN	27,5	14,5	7	18,5	0,7	16,5	0,4	41
30	1 11/16-12 UN	27,5	14,5	7	17	0,9	15	0,4	50
38	2-12 UN	27,5	14,5	7	15,5	0,9	13,5	0,4	60

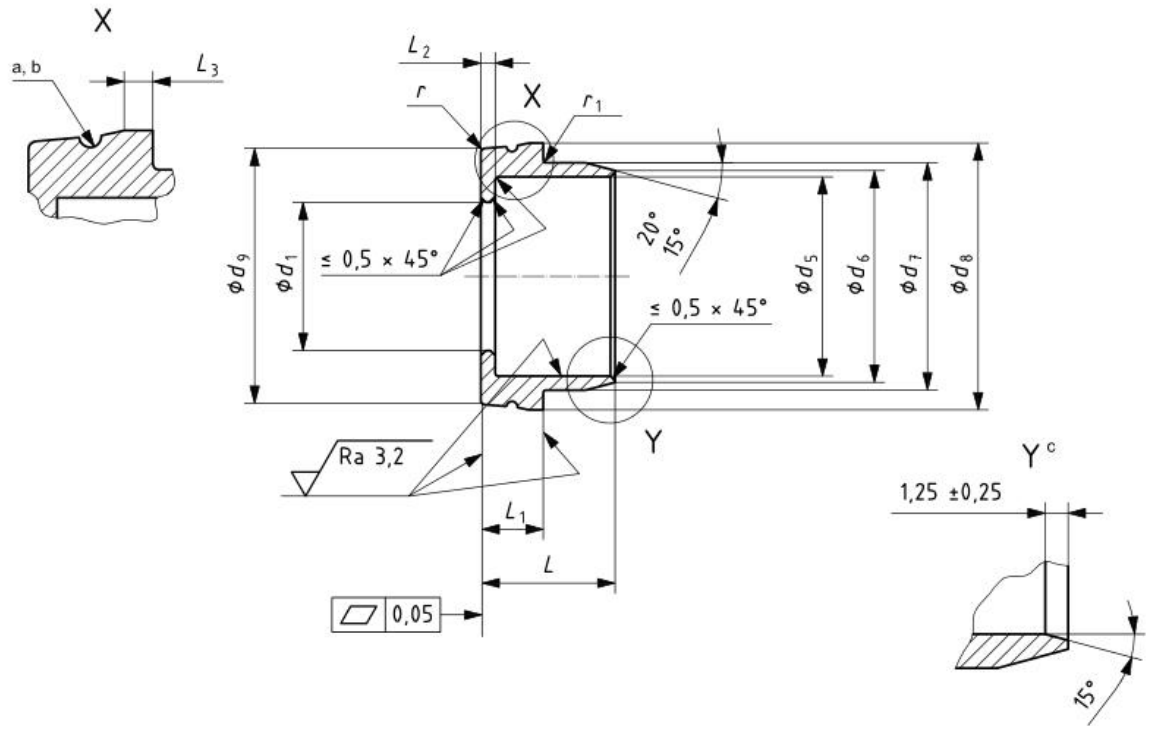
[a] In accordance with ISO 68-2 and ISO 5864:1993, Class 2B, and Annex A, except for 1-14 UNS. See Annex A for 1-14 UNS thread dimensions.

[b] Modified diameter, shifted to the high side of the tolerance band in ISO 5864.

[c] In accordance with ISO 4759-1:2000, Grade C.

Dimensions of ORFS tube braze sleeves from ISO 8434-2/SAE J1453 Inch Sleeve SAE 520115A SAE 520115B SAE 520115A SAE 520115B

ORFS Tube Braze sleeve[BRSL-A (standard) and BRSL-B (option)

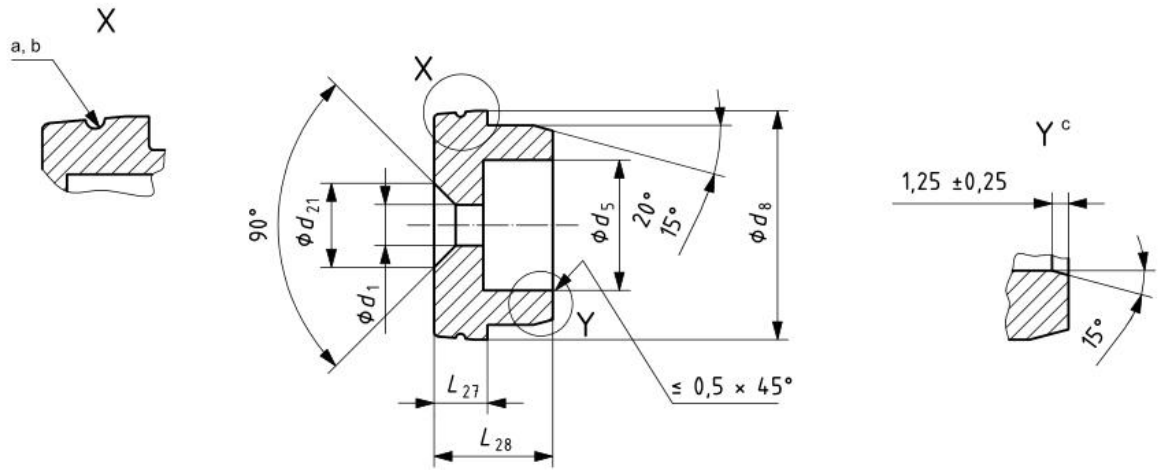


Metric tubing [a]			Inch tubing				d_1	d_6	d_7	d_8	d_9	L	L_1	L_2	L_3	r	r_1
Ordering size code	Tube outside diameter	d_5 [b]	Ordering size code	Tube inside diameter		d_5 [b]											
Face seal side × tube side		± 0,05	Face seal side × tube side	in	mm [c]	± 0,05	ref.	0 −0,3	± 0,1	0 −0,15	± 0,15	± 0,3	± 0,15	± 0,15	± 0,5	max.	+ 0,15 0
6 × 6	6	6,15	6 × 6,35	1/4	6,35	6,5	4,5	9	10,2	12,75	—	9,5	4	1	—	0,25	0,15
8 × 8	8	8,15	8 × 7,94	5/16	7,94	8,09	5,5	10,5	11,7	14,35	—	9,5	4	1	—	0,25	0,15
10 × 10	10	10,15	10 × 9,52	3/8	9,52	9,68	6,5	11,8	13,25	15,75	—	9,5	4,5	1	—	0,25	0,15
12 × 12	12	12,15	12 × 12,7	1/2	12,7	12,85	9,5	15,1	16,3	18,9	—	9,5	5	1	—	0,25	0,15
16 × 16	16	16,15	16 × 15,88	5/8	15,88	16,03	12,5	19,2	20,75	23,45	22,6	10,5	6	1,5	1,3	0,25	0,25
20 × 20	20	20,18	20 × 19,05	3/4	19,05	19,23	15,5	22,1	23,75	27,85	27	14	6,5	1,5	1,3	0,4	0,25
22 × 22	22	22,18	22 × 22,23	7/8	22,23	22,41	18	25,3	26,9	31	30,15	14	6,5	1,5	1,3	0,4	0,25
25 × 25	25	25,18	25 × 25,4	1	25,4	25,58	20,5	28,1	28,7	34,2	33,35	15,5	7	1,5	1,3	0,4	0,4
30 × 30	30	30,2	30 × 31,75	1 1/4	31,75	31,95	26	34	35,6	40,55	39,7	15,5	7	1,5	1,3	0,4	0,4
38 × 38	38	38,2	38 × 38,1	1 1/2	38,1	38,3	32	42	43,55	48,5	47,65	15,5	7	1,5	1,3	0,4	0,4

[a] Metric tubing shall be preferred.
[b] Actual bore size and depth depend upon joining process. Dimensions given are for silver braze.
[c] Equivalent dimensions in millimetres.

Dimensions of ORFS Tube braze sleeves for metric and inch tubing

ORFS Tube Braze-on reducing sleeve (BRRDSLA [standard] and BRRDSLB [optional])



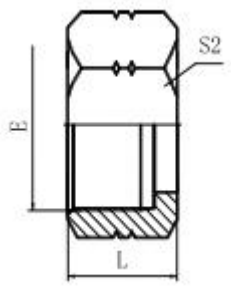
Metric nominal tube reduction		Inch nominal tube reduction						
Ordering size code	d_5[a]	Ordering size code	d_5[a]	d_1	d_8	d_{21}	L_{27}	L_{28}
Face seal × tube side	ref.	Face seal × tube side	ref.	ref.	ref.	0 − 0,5	± 0,15	± 0,3
8 × 6	6,15	8 × 6,35	6,5	4,5	14,35	5,5	2	10,5
10 × 6	6,15	10 × 6,35	6,5	4,5	15,75	6,5	2	10,5
10 × 8	8,15	10 × 7,94	8,09	5,5	15,75	6,5	2	10,5
12 × 6	6,15	12 × 6,35	6,5	4,5	18,9	9,5	3,5	12
12 × 8	8,15	12 × 7,94	8,09	5,5	18,9	9,5	3,5	12
12 × 10	10,15	12 × 9,52	9,68	6,5	18,9	9,5	3,5	12
16 × 6	6,15	16 × 6,35	6,5	4,5	23,45	12,5	5	13,5
16 × 8	8,15	16 × 7,94	8,09	5,5	23,45	12,5	5	13,5
16 × 10	10,15	16 × 9,52	9,68	6,5	23,45	12,5	5	13,5
16 × 12	12,15	16 × 12,7	12,85	9,5	23,45	12,5	5	13,5
20 × 6	6,15	20 × 6,35	6,5	4,5	27,85	15,5	6	14,5
20 × 8	8,15	20 × 7,94	8,09	5,5	27,85	15,5	6	14,5
20 × 10	10,15	20 × 9,52	9,68	6,5	27,85	15,5	6	14,5
20 × 12	12,15	20 × 12,7	12,85	9,5	27,85	15,5	6	14,5
20 × 16	16,15	20 × 15,88	16,03	12,5	27,85	15,5	6,5	14,5
22 × 8	8,15	22 × 7,94	8,09	5,5	31	18	6	14,5
22 × 10	10,15	22 × 9,52	9,68	6,5	31	18	6	14,5
22 × 12	12,15	22 × 12,7	12,85	9,5	31	18	6	14,5
22 × 16	16,15	22 × 15,88	16,03	12,5	31	18	5,5	14,5
22 × 20	20,18	22 × 19,05	19,23	15,5	31	18	3	15,5
25 × 12	12,15	25 × 12,7	12,85	9,5	34,2	20,5	6,5	15,5
25 × 16	16,15	25 × 15,88	16,03	12,5	34,2	20,5	7	15,5
25 × 20	20,18	25 × 19,05	19,23	15,5	34,2	20,5	7	17
25 × 22	22,18	25 × 22,22	22,4	18	34,2	20,5	7	17

[a] Actual bore size and depth depends on joining process. Dimensions shown are for silver braze.

Dimensions of ORFS braze-on reducing sleeves

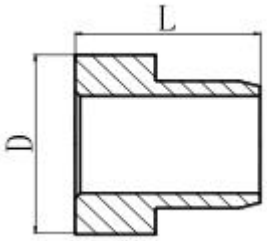
Part No. **NB200-F/BL BML** Of ORFS Tube Nut

Tube Nut/Union Nut REF: ISO 8434-3 NA NB/ SAE J1453 SAE 52M0110 SAE 5200110



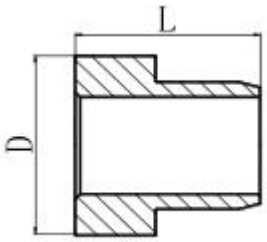
PART NO.	E	INCH SLEEVE		METRIC SLEEVE		DIMENSIONS	
	THREAD	TUBE O.D.	SLEEVE NO.	TUBE O.D.	SLEEVE NO.	L	S2
NB200-04FZ	9/16"X18	1/4"	NB300-04FZ	6	NB500-06FZ	14.7	19
NB200-06FZ	11/16"X16	3/8"	NB300-06FZ	10	NB500-10FZ	17	22
NB200-08FZ	13/16"X16	1/2"	NB300-08FZ	12	NB500-12FZ	21	24
NB200-10FZ	1"X14	5/8"	NB300-10FZ	16	NB500-16FZ	23.5	30
NB200-12FZ	1.3/16"X12	3/4"	NB300-12FZ	20	NB500-20FZ	26	36
NB200-16FZ	1.7/16"X12	1"	NB300-16FZ	25	NB500-25FZ	27.8	41
NB200-20FZ	1.11/16"X12	1.1/4"	NB300-20FZ	30	NB500-30FZ	27.8	50
NB200-24FZ	2"X12	1.1/2"	NB300-24FZ	38	NB500-38FZ	27.8	60

Part No.**NB300-F** Of ORFS Inch Tube Sleeve
REF: ISO 8434-3 / SAE J1453



PART NO.	THREAD	TUBE O.D.	DIMENSIONS	
		in	D	L
NB300-04FZ	9/16"X18	1/4"	12.8	8.5
NB300-06FZ	11/16"X16	3/8"	15.8	8.5
NB300-08FZ	13/16"X16	1/2"	18.9	9.5
NB300-10FZ	1"X14	5/8"	23.4	9.5
NB300-12FZ	1.3/16"X12	3/4"	27.9	12.5
NB300-16FZ	1.7/16"X12	1"	34.2	14
NB300-20FZ	1.11/16"X12	1.1/4"	40.6	14
NB300-24FZ	2"X12	1.1/2"	48.5	14

Part No.**NB500-F** Of ORFS Metric Tube Sleeve
REF: ISO 8434-3 / SAE J1453



PART NO.	THREAD	TUBE O.D.	DIMENSIONS	
		MM	D	L
NB500-06FZ	9/16"X18	6	12.8	8.5
NB500-10FZ	11/16"X16	10	15.8	8.5
NB500-12FZ	13/16"X16	12	18.9	9.5
NB500-16FZ	1"X14	16	23.4	9.5
NB500-20FZ	1.3/16"X12	20	27.9	12.5
NB500-25FZ	1.7/16"X12	25	34.2	14
NB500-30FZ	1.11/16"X12	30	40.6	14
NB500-38FZ	2"X12	38	48.5	14