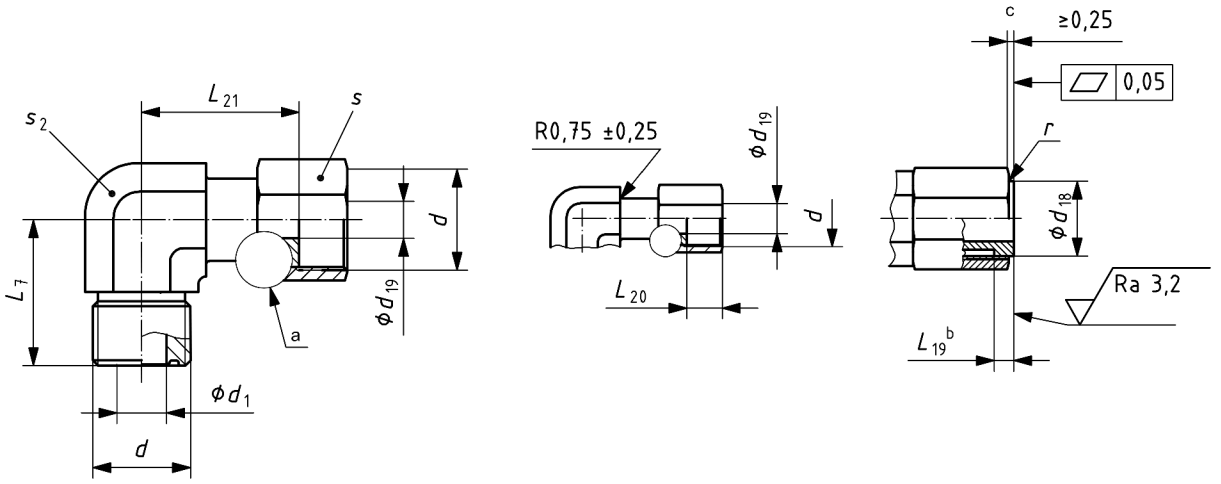
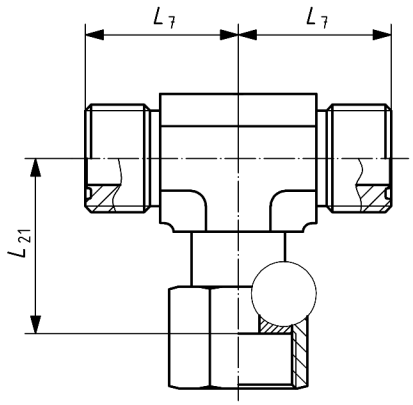
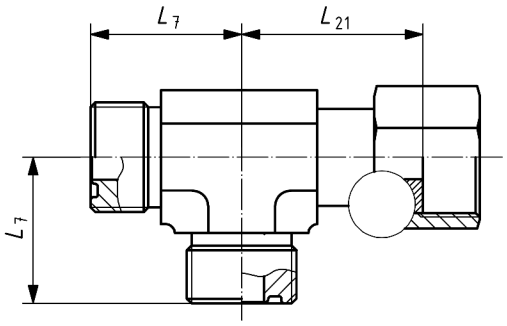
Dimensions in millimetres,
surface roughness in micrometres



a) Swivel elbow (SWE)



b) Swivel branch tee (SWBT)



c) Swivel run tee

a Method of attachment of swivel nut is as chosen by the manufacturer.

b Dimension L_{19} and the overall length of the nut are optional with the manufacturer as long as L_{20} is maintained and the connector's performance requirements are met.

c Nut shown in pulled back position. Pullback not required for hose fittings.

Figure 8 — Swivel connectors

Table 12 — Dimensions of swivel connectors

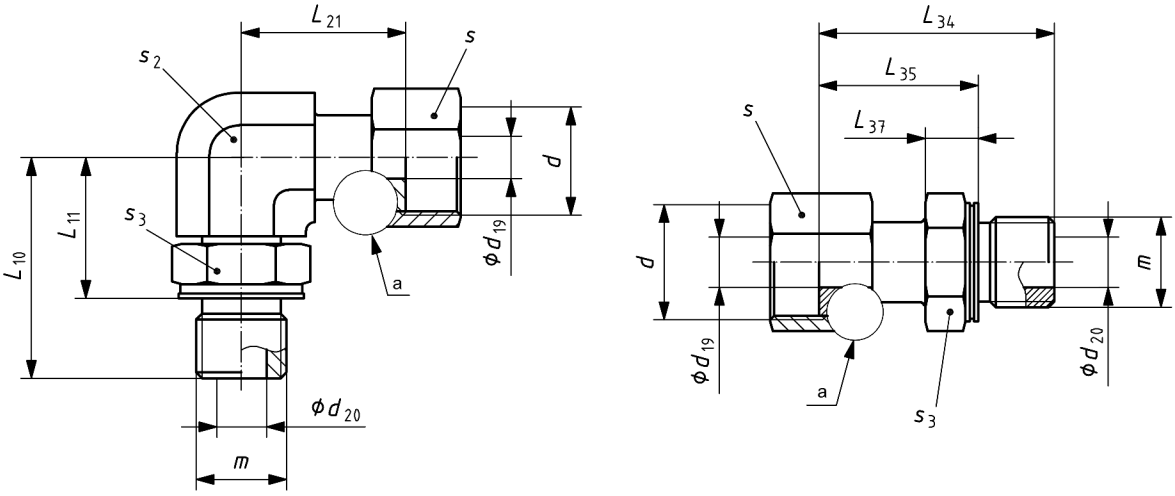
Dimensions in millimetres

Ordering size code [a]	**Tube outside diameter** [b]	d **Thread** [c]	d_1	d_{18}	d_{19}		L_7	L_{20}		L_{21}	r	s	s_2	
				Seal diameter									Forged connection	Connection. machined from barstock
			ref.	min.	nom.	tol.	± 1	min.	max.	± 1,5	max.		min.	max.
6 × 6	6	9/16-18 UNF	4,5	12,6	4	± 0,1	21,5	6,6	9	26,5	0,25	17	14	19
8 × 8	8	5/8-18 UNF	5,5	14,1	5,5	± 0,1	23,5	6,6	9	28	0,25	19	17	22
10 × 10	10	11/16-16 UN	6,5	15,6	6,5	± 0,2	25	7	9,5	29	0,25	22	17	27
12 × 12	12	13/16-16 UN	9,5	18,75	9	± 0,2	28	8,6	11,5	38	0,25	24	19	30
16 × 16	16	1-14 UNS	12,5	22,45	11,5	± 0,2	33,5	11,5	13,5	41	0,25	30	24	36
20 × 20	20	1 3/16-12 UN	15,5	26,85	14	± 0,2	37,5	12,6	14,5	46,5	0,4	36	27	41
22 × 22	22	1 5/16-12 UN	18	30	18	± 0,2	41,5	12,5	14,5	52,5	0,4	41	36	46
25 × 25	25	1 7/16-12 UN	20,5	33,2	20	± 0,2	41,5	12,5	14,5	53,5	0,4	41	36	50
30 × 30	30	1 11/16-12 UN	26	39,55	26	± 0,2	44,5	12,5	14,5	58	0,4	50	41	60
38 × 38	38	2-12 UN	32	47,5	32	± 0,3	49	12,5	14,5	61	0,4	60	50	65

[a] Code given is for elbows. Add the third end size for tees in accordance with 6.6.

[b] See Table 1 for corresponding inch tube sizes.

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



a) Swivel 90° adjustable stud elbow (SDSWE) [b] **b) Stud straight swivel (SDSWS)** [b]

For dimensions not shown, see ISO 6149-2 or Figure 8 and Table 12.

[a] Method of attachment of swivel nut is optional with the manufacturer.

[b] Face shall be flush or exposed when nut is fully retracted.

Figure 13 — Swivel stud connectors (SDSWE and SDSWS) with ISO 6149-2 stud ends

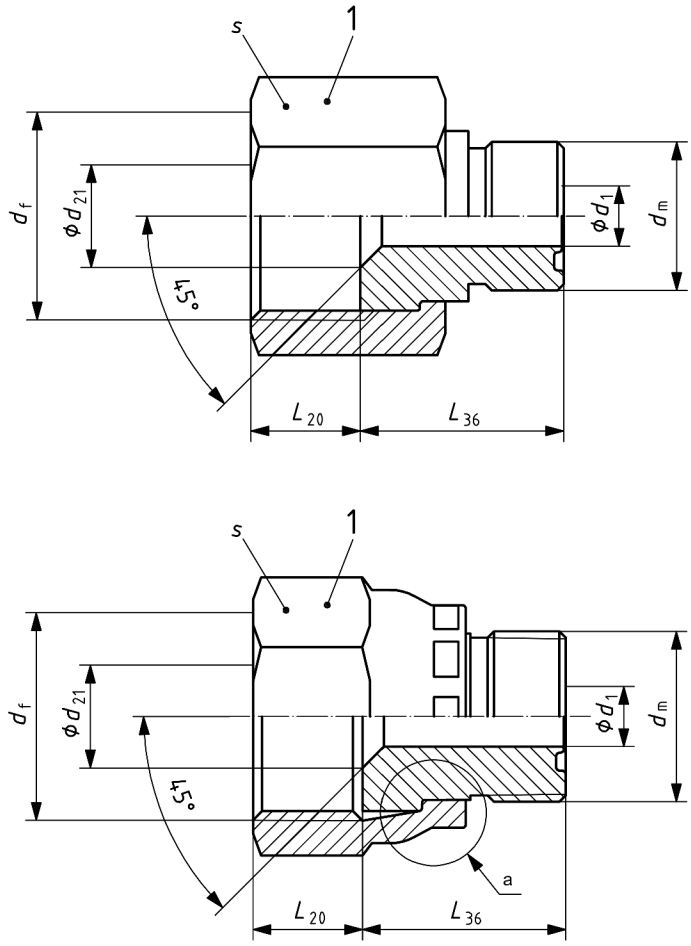
Table 17 — Dimensions of swivel stud connectors with ISO 6149-2 stud ends

Dimensions in millimetres

Ordering size code	Tube outside diameter	d Thread	m ISO 6149-2 stud end thread	d_{19} [a] ref.	d_{20} [b] ref.	L_{10} ref.	L_{11} ref.	L_{21} ref.	L_{34} ± 0,8	L_{35} ref.	L_{37} min.	s	s_2 Forged connection min.	s_2 Connection machined from barstock max.	s_3
6 × M12	6	9/16-18 UNF	M12 × 1,5	4	4	33	22	26,5	37	26	7,5	17	14	17	17
8 × M14	8	5/8-18 UNF	M14 × 1,5	5,5	6	35,5	24,5	28	38	27	8,5	19	17	22	19
10 × M16	10	11/16-16 UN	M16 × 1,5	6,5	7	37,5	25	29	40,5	28	9	22	17	27	22
12 × M18	12	13/16-12 UN	M18 × 1,5	9	9	41	27	38	49,5	35,5	11	24	19	30	24
16 × M22	16	1-14 UNS	M22 × 1,5	11,5	12	49	34	41	53	38	11,5	30	24	36	27
20 × M27	20	1 3/16-12 UN	M27 × 1,5	14	15	55,5	37	46,5	59,5	41	12	36	27	41	32
22 × M30	22	1 5/16-12 UN	M30 × 2	18	17	59,5	41	53,5	63	44,5	14	41	36	41	36
25 × M33	25	1 7/16-12 UN	M33 × 2	20	20	59,5	41	53,5	67,5	49	16	41	36	46	41
30 × M42	30	1 11/16-12 UN	M42 × 2	26	26	63	44	58	68	49	16	50	41	55	50
38 × M48	38	2-12 UN	M48 × 2	32	32	71,5	50	61	70,5	49	16	60	50	60	55

[a] For SDSWS connectors, the smaller of d_{19} and d_{20} may go all the way through the connector, or the connector may have a transition area approximately halfway through the hex.

[b] For tolerances, see ISO 6149-2:—, dimension d_3.



Key

1 tube nut

For dimensions not shown, see Figure 5 and Table 9.

[a] Crimp nut design optional.

Figure 14 — Reducer with nut (style A) (RDA)

Table 18 — Dimensions for reducers with nuts (style A)

Dimensions in millimetres

Ordering size code Female O-ring face seal × male O-ring face seal	d_f Female thread	d_m Male thread	d_1 ref.	d_{21} ref.	L_{20} ref.	L_{36} ± 0,8	s
8 × 6	5/8-18 UNF	9/16-18 UNF	4,5	6	7,8	17	19
10 × 6 [a]	11/16-16 UN	9/16-18 UNF	4,5	6,5	8,3	19,5	22
10 × 8[a]	11/16-16 UN	5/8-18 UNF	5,5	6,5	8,3	19,5	22
12 × 6	13/16-16 UN	9/16-18 UNF	4,5	9,5	10	22	24
12 × 8	13/16-16 UN	5/8-18 UNF	5,5	9,5	10	22	24
12 × 10 [a]	13/16-16 UN	11/16-16 UN	6,5	9,5	10	22,5	24
16 × 6	1-14 UNS	9/16-18 UNF	4,5	12,5	12,5	23	30
16 × 8	1-14 UNS	5/8-18 UNF	5,5	12,5	12,5	23	30
16 × 10	1-14 UNS	11/16-16 UN	6,5	12,5	12,5	24	30
16 × 12	1-14 UNS	13/16-16 UN	9,5	12,5	12,5	25,5	30
20 × 6	1 3/16-12 UN	9/16-18 UNF	4,5	15,5	13,6	25	36
20 × 8	1 3/16-12 UN	5/8-18 UNF	5,5	15,5	13,6	25	36
20 × 10	1 3/16-12 UN	11/16-16 UN	6,5	15,5	13,6	26	36
20 × 12	1 3/16-12 UN	13/16-16 UN	9,5	15,5	13,6	27,5	36
20 × 16 [a]	1 3/16-12 UN	1-14 UNS	12,5	15,5	13,6	29,5	36
22 × 8	1 5/16-12 UN	5/8-18 UNF	5,5	18	13,5	25	41
22 × 10	1 5/16-12 UN	11/16-16 UN	6,5	18	13,5	26	41
22 × 12	1 5/16-12 UN	13/16-16 UN	9,5	18	13,5	27,5	41
22 × 16	1 5/16-12 UN	1-14 UNS	12,5	18	13,5	29,5	41
22 × 20 [a]	1 5/16-12 UN	1 3/16-12 UN	15,5	18	13,5	32	41
25 × 12	1 7/16-12 UN	13/16-16 UN	9,5	20,5	13,5	29	41
25 × 16	1 7/16-12 UN	1-14 UNS	12,5	20,5	13,5	32	41
25 × 20 [a]	1 7/16-12 UN	1 3/16-12 UN	15,5	20,5	13,5	33	41
25 × 22 [a]	1 7/16-12 UN	1 5/16-12 UN	18	20,5	13,5	33,5	41
30 × 20	1 11/16-12 UN	1 3/16-12 UN	15,5	26	13,5	33,5	50
30 × 22	1 11/16-12 UN	1 5/16-12 UN	18	26	13,5	34	50
30 × 25 [a]	1 11/16-12 UN	1 7/16-12 UN	20,5	26	13,5	38,5	50
38 × 22	2-12 UN	1 5/16-12 UN	18	32	13,5	34	60
38 × 25	2-12 UN	1 7/16-12 UN	20,5	32	13,5	34	60
38 × 30	2-12 UN	1 11/16-12 UN	26	32	13,5	34	60

[a] Crimped nut design.