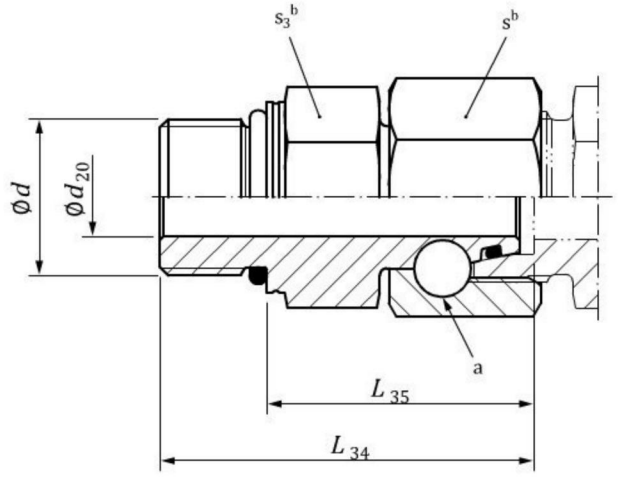


a Method of swivel nut attachment is at the option of the manufacturer.

b Width across flats.

Figure 22 — Swivel stud straight adapters with O-ring (SWOSDS) with stud end in accordance with ISO 6149-2 (S series) or ISO 6149-3 (L series)

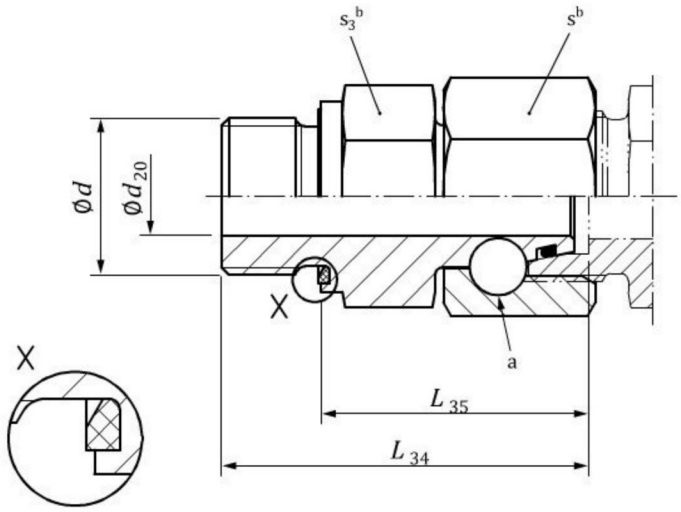
Table 18 — Dimensions of swivel stud straight adapters with O-ring (SWOSDS) with stud end in accordance with ISO 6149-2 (S series) or ISO 6149-3 (L series)

Dimensions in millimetres

Series	Tube OD	Thread d	d_{20} min.	L_{34} ±0,5	L_{35} ref.	s_3	s
L	6	M10 × 1	2,5	33	24,5	14	14
	8	M12 × 1,5	4	37,5	26,5	17	17
	10	M14 × 1,5	6	38,5	27,5	19	19
	12	M16 × 1,5	8	42	30,5	22	22
	15	M18 × 1,5	10	44	31,5	24	27
	18	M22 × 1,5	13	44,5	31,5	27	32
	22	M27 × 2	17	48,5	32,5	32	36
	28	M33 × 2	22	51	35	41	41[a]
	35	M42 × 2	28	58,5	42,5	50	50
	42	M48 × 2	34	64	46,5	55	60
S	6	M12 × 1,5	2,5	38	27	17	17
	8	M14 × 1,5	4	40,5	29,5	19	19
	10	M16 × 1,5	6	44,5	32	22	22
	12	M18 × 1,5	8	48	34	24	24
	16	M22 × 1,5	11	52	37	27	30
	20	M27 × 2	14	61,5	43	32	36
	25	M33 × 2	18	66,5	48	41	46
	30	M42 × 2	23	70	51	50	50
	38	M48 × 2	30	81,5	60	55	60

a Alternative hex size: 46 mm.

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Key

a Method of swivel nut attachment is at the option of the manufacturer.

b Width across flats.

Figure 23 — Swivel stud straight adapter with O-ring (SWODS) with stud end with profile seal in accordance with ISO 1179-2 or ISO 9974-2

Table 19 — Dimensions of swivel stud straight adapters with O-ring (SWODS) with stud end with profile seal in accordance with ISO 1179-2 or ISO 9974-2

Dimensions in millimetres

Series	Tube OD	s	ISO 1179-2[a]					ISO 9974-2[a]				
			Thread ISO 228-1 d	d_{20} min.	L_{34} ±0,5	L_{35} ref.	s_3	Thread ISO 724 d	d_{20} min.	L_{34} ±0,5	L_{35} ref.	s_3
L	6	14	G 1/8 A	2,5	32,5	24,5	14	M10 × 1	2,5	32,5	24,5	14
	8	17	G 1/4 A	4	41,5	29,5	19	M12 × 1,5	4	38,5	26,5	17
	10	19	G 1/4 A	6	39,5	27,5	19	M14 × 1,5	6	39,5	27,5	19
	12	22	G 3/8 A	8	46	34	22	M16 × 1,5	8	42,5	30,5	22
	15	27	G 1/2 A	10	46	32	27	M18 × 1,5	10	43,5	31,5	24
	18	32	G 1/2 A	13	45,5	31,5	27	M22 × 1,5	13	45,5	31,5	27
	22	36	G 3/4 A	17	48,5	32,5	32	M26 × 1,5	17	48,5	32,5	32
	28	41[b]	G 1 A	22	53	35	41	M33 × 2	22	53	35	41
	35	50	G 1 1/4 A	28	62,5	42,5	50	M42 × 2	28	62,5	42,5	50
	42	60	G 1 1/2 A	34	68,5	46,5	55	M48 × 2	34	68,5	46,5	55
S	6	17	G 1/4 A	2,5	39	27	19	M12 × 1,5	2,5	39	27	17
	8	19	G 1/4 A	4	41,5	29,5	19	M14 × 1,5	4	41,5	29,5	19
	10	22	G 3/8 A	6	44	32	22	M16 × 1,5	6	44	32	22
	12	24	G 3/8 A	8	46	34	22	M18 × 1,5	8	46	34	24
	12	24	G 1/2 A	8	48,5	34,5	27	—	—	—	—	—
	16	30	G 1/2 A	11	51	37	27	M22 × 1,5	11	51	37	27

[a] For general applications only. For new designs in hydraulic fluid power applications, stud end dimensions shall be in accordance with the relevant part of ISO 6149.

[b] Alternative hex size: 46 mm.

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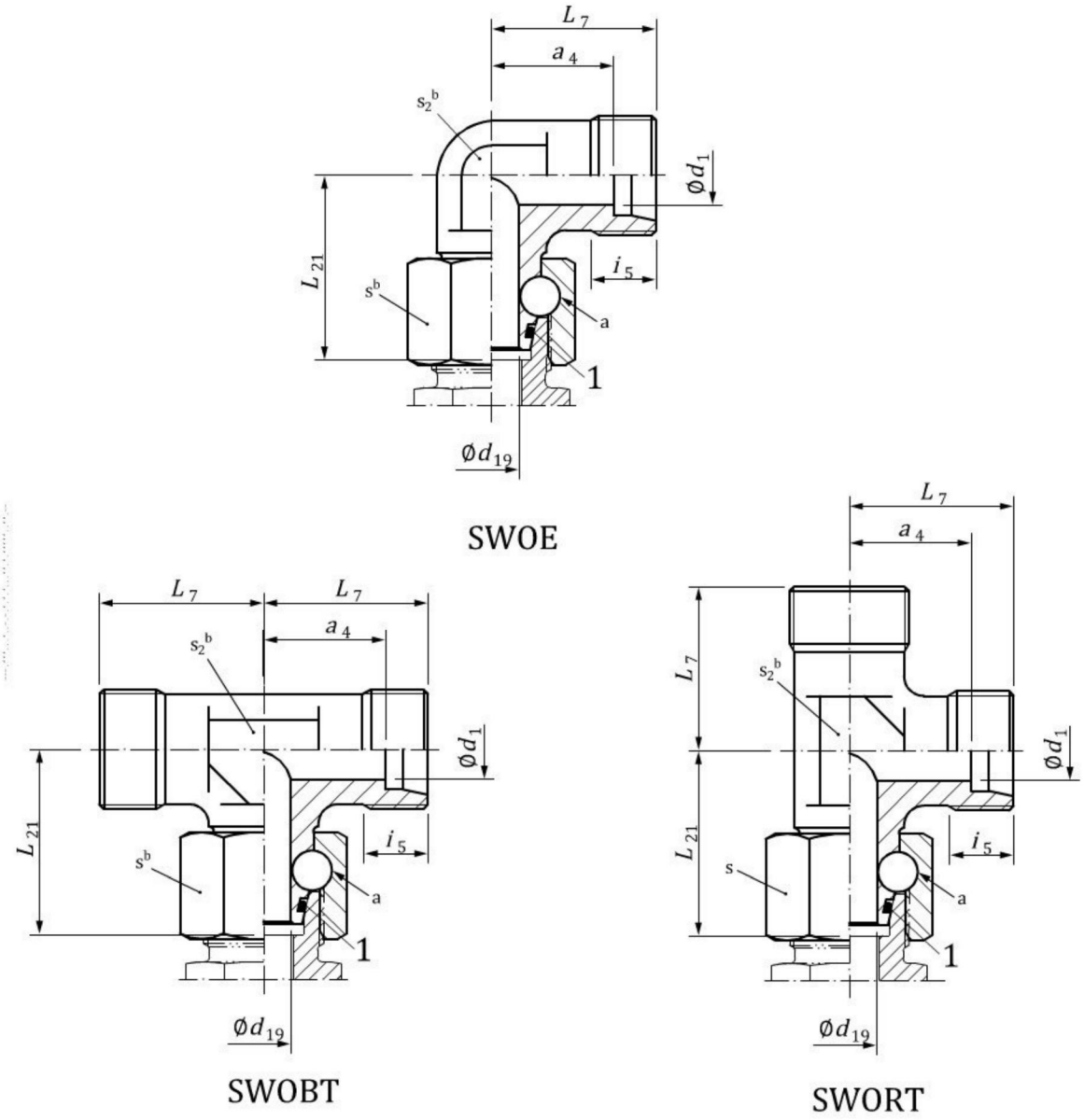
Table 19 *(continued)*

Series	Tube OD	s	ISO 1179-2[a]					ISO 9974-2[a]				
			Thread ISO 228-1 d	d_{20} min.	L_{34} ±0,5	L_{35} ref.	s_3	**Thread ISO 724** d	d_{20} min.	L_{34} ±0,5	L_{35} ref.	s_3
	16	30	G 3/4 A	11	55	39	32	—	—	—	—	—
	20	36	G 3/4 A	14	59	43	32	M27 × 2	14	59	43	32
	25	46	G 1 A	18	66	48	41	M33 × 2	18	66	48	41
	30	50	G 1 1/4 A	23	71	51	50	M42 × 2	23	71	51	50
	38	60	G 1 1/2 A	30	82	60	55	M48 × 2	30	82	60	55

[a] For general applications only. For new designs in hydraulic fluid power applications, stud end dimensions shall be in accordance with the relevant part of ISO 6149.

[b] Alternative hex size: 46 mm.

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Key

1 O-ring

a Method of swivel nut attachment is at the option of the manufacturer.

b Width across flats.

Figure 24 — Swivel elbow (SWOE), branch tee (SWOBT) and run tee (SWORT) with O-ring

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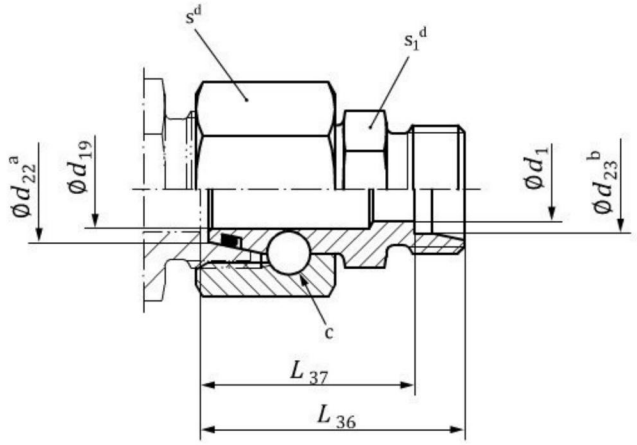
Table 20 — Dimensions of swivel elbows, swivel branch tees and swivel run tees with O-ring

Dimensions in millimetres

Series	Tube OD	d_1	d_{19}	L_{21}	L_7	a_4	i_5	s_2		s
								Forged connector	Connector machined from bar-stock	
		ref.	min.	±0,5	±0,3	ref.	min.	min.	max.	
L	6	4	2,5	26	19	12	7	12	—	14
	8	6	4	27,5	21	14	7	12	14	17
	10	8	6	29	22	15	8	14	17	19
	12	10	8	29,5	24	17	8	17	19	22
	15	12	10	32,5	28	21	9	19	—	27
	18	15	13	35,5	31	23,5	9	24	—	32
	22	19	17	38,5	35	27,5	10	27	—	36
	28	24	22	41,5	38	30,5	10	36	—	41[a]
	35	30	28	51	45	34,5	12	41	—	50
	42	36	34	56	51	40	12	50	—	60
S	6	4	2,5	27	23	16	9	12	14	17
	8	5	4	27,5	24	17	9	14	17	19
	10	7	6	30	25	17,5	9	17	19	22
	12	8	8	31	29	21,5	9	17	22	24
	16	12	11	36,5	33	24,5	11	24	—	30
	20	16	14	44,5	37	26,5	12	27	—	36
	25	20	18	50	42	30	14	36	—	46
	30	25	23	55	49	35,5	16	41	—	50
	38	32	30	63	57	41	18	50	—	60

[a] Alternative hex size: 46 mm.

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Key

a Tube OD (d_{22}).

b Tube OD (d_{23}).

c Method of swivel nut attachment is at the option of the manufacturer.

d Width across flats.

Figure 25 — Reducing swivel straight adapter with O-ring (RDSW)

Table 21 — Dimensions of reducing swivel straight adapters with O-ring

Dimensions in millimetres

Series	Tube OD		d_1	d_{19}	L_{36}	L_{37}	s_1	s
	d_{22} ref.	d_{23} ref.	ref.	min.	±0,5	ref.		
L	8	6	4	4	30,5	23,5	12	17
	10	6	4	6	32	25	14	19
		8	6	6	32	25		
	12	6	4	8	32	25	17	22
		8	6	8	32	25		
		10	8	8	33	26		
	15	10	8	10	36,5	29,5		27
		12	10	10	36,5	29,5		
	18	15	12	12	37	30	24	32
	22	15	12	17	41	34	27	36
		18	15	17	41	33,5		
	28	15	12	22	43	36		41 (46)
		18	15	22	43	35,5		
		22	19	22	45	37,5		
	35	15	12	28	46	39		50
		18	15	28	46	38,5		
		22	19	28	48	40,5		
		28	24	28	48	40,5		

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Table 21 *(continued)*

Series	Tube OD		d_1	d_{19}	L_{36}	L_{37}	s_1	s
	d_{22} ref.	d_{23} ref.	ref.	min.	±0,5	ref.		
	42	15	12	34	49,5	42,5	50	60
		18	15	34	49,5	42		
		22	19	34	51,5	44		
		28	24	34	51,5	44		
		35	30	34	53,5	43		
S	8	6	4	4	34	27	14	19
	10	6	4	6	34,5	27,5	17	22
		8	5	6	34,5	27,5		
	12	6	4	8	37	29	19	24
		8	5	8	37	29		
		10	7	8	37	29,5		
	16	6	4	11	39	32	22	30
		8	5	11	39	32		
		10	7	11	39	31,5		
		12	8	11	39	31,5		
	20	6	4	14	43	36	27	36
		8	5	14	43	36		
		10	7	14	43	35,5		
		12	8	14	43	35,5		
		16	12	14	45	36,5		
	25	6	4	18	45,5	38,5	46	
		8	5	18	45,5	38,5		
		10	7	18	45,5	38		
		12	8	18	45,5	38		
		16	12	18	47,5	39		
		20	16	18	49,5	39		
	30	6	4	23	51	44	41	50
		8	5	23	51	44		
		10	7	23	51	43,5		
		12	8	23	51	43,5		
		16	12	23	53	44,5		
		20	16	23	55	44,5		
		25	20	23	57	45		
	38	6	4	30	54,5	47,5	50	60
		8	5	30	54,5	47,5		
		10	7	30	54,5	47		
		12	8	30	54,5	47		
		16	12	30	56,5	48		
		20	16	30	58,5	48		
		25	20	30	60,5	48,5		
		30	25	30	62,5	49		

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