



A.V.Z. - KOVO s.r.o.

2024

VZDUCHOVÉ SPOJKY AIR COUPLINGS LUFTKUPLUNGEN

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About our company



We have been working in the field of sales of fair couplings for freight train transport since 2006. We started as a small, purely family business. Since 2017, our company has expanded and our own production has started. Today we employ 17 employees. Our goal is to provide quality products in a wide range of sizes and materials, to deliver them in short time intervals according to the customer's needs and for a favourable price. We are constantly expanding the range of goods in order to meet the broad demand in train transport. At the same time, we maintain a constant supply of the most frequently sold products in our warehouse, which enables us to cover unexpected changes in the production of our customers and meet their needs. We own the ČSN EN ISO 9001 certificate, which is the result of our genuine and continuous effort to constantly improve and work on ourselves.



We take part in two national competitions in 2023 – Czech Businesswomen Awards and Czech Exporters Awards. 165 purely Czech companies were registered for this year's 4th year of Czech Exporters Awards. The winners were selected by a jury from 118 finalists who met the competition criteria. In this competition, we won a beautiful 3rd place in the Small company category, where companies with an annual turnover of up to CZK 100 million competed. In the 16th year of the Czech Businesswomen Awards, 1,975 semi-finalists with the best economic results were selected from a total of 24,403 companies fully owned by a woman, and 106 finalists emerged from them. Here we managed to get a wonderful 2nd place in the Medium company category, which is a category for companies with an annual turnover of 30-80 million CZK.



OCENĚNÍ
ČESKÝCH
PODNIKATELŮ

2. místo STŘEDNÍ SPOLEČNOST 2023
A.V.Z. - KOVO s.r.o.



OCENĚNÍ
ČESKÝCH
EXPORTÉRŮ

3. místo MALÁ SPOLEČNOST 2023
A.V.Z. - KOVO s.r.o.

Directors of company

Vlastimil Kalčic



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Ing. Andrea Schwär



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Tomáš Horák



Production Manager

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ISO certificate





CERTIFICATE

The Certification body of the management systems No.: 3227
accredited by Český institut pro akreditaci, o.p.s. in accordance to ČSN EN ISO/IEC 17021-1:2016

QES Cert s.r.o.
declares that

A.V.Z. – KOVO s.r.o.
Čáslav – Nové Město, Zahradní 1377, PSČ 28601
Czech republic
ID: 274 11 516

has established and applies
the quality management system for following scope of business:

Metal fabrication.

According to the certification audit results has been confirmed
that following requirements of the standard are met

ISO 9001:2015

Certification valid until
Date of decision about certification
Date of issue of the certificate
Date of initial certification
Certificate registration No.:

26. 06. 2026
27. 06. 2023
27. 06. 2023
27. 06. 2023
23017/Q/01



Eliska Jiskrova
Eliska Jiskrová
Office manager

QES Cert s.r.o. • Jablonecká 322/72 • ISO 00 Praha 9 • Česká republika • info@qes-cert.cz • www.qes-cert.cz



REFERENCE LIST



TATRAVAGONKA BRATSTVO DOO, SERBIA

VTG 98m3, WASCOSA 98m3, Onrail 88m3, Slov-vagon 88m3

TATRAVAGONKA a.s. POPRAD, SLOVAKIA

Car transport: Laados, Laaeffrs 561, Hccrrs, Laes

Flat: Snps, Sagmms, Rens, Kgs, Saghmmns-ty, Snps, MTF 24, MTF 17, Samms, Laaprs, Smmnps-x, Smmnps, Samms KeZi 48.2, Rilnss, Sammnp, Renss

Hopper: Tadns, Tagnpps, Uagnpps, Falrrs, Uacns, Talns

Intermodal: Sdggmrss, Sggmrss, Sgmmns

Open high sided and covered wagons

Habbiins, Tamns, Fans, Eanoss

Tank: Za(c)ns, Zagns, Zaens, Zacens, Zags, Zans

Transportation of steel coils

Shimmnss, Shimmns, Sahlmmps-t



ASTRA RAIL INDUSTRIES SA, GREENBRIER Europe, ROMANIA

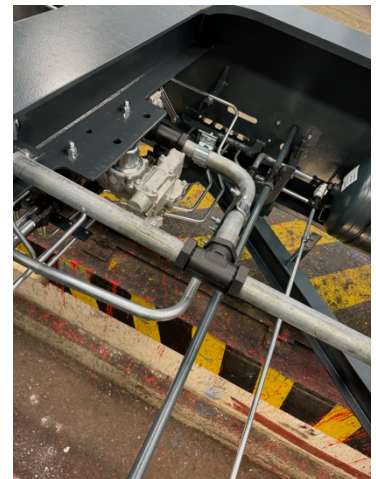
ARAD: Tank wagons - tank car 88 kbm - GBXLE / Tankmatch

Grain Hopper wagons - Grain Hopper TAGNPPS 95 kbm ATIR, Naviuland

DROBETA TURNU SEVERIN: Box wagons - Eanos, Eamnos

CARACAL: Grain Hopper wagons - Grain Hopper TAGNPPS 95 kbm ATIR, Naviuland

80' platforms



WAGONBAU NIESKY, GERMANY

InnoFreight freight wagons, Wagons for Eurotunnel

DURO DAKOVIĆ Specialna vozidla d.d., CROATIA

Shimmns, Shimmns Light, Tagnpps, Sgmmnss, Faccnpps 48 m3, Zacns 98 M3

TŽV GREDELJ d.o.o., CROATIA

Wagons for Eurotunnel



POLSKI TABOR SZYNOVY – WAGON SP z.o.o., OSTROW WIELKOPOLSKI, POLAND

WTG, TANOOSA

WAGONY SWIDNICA S.A., GREENBRIER Europe, POLAND

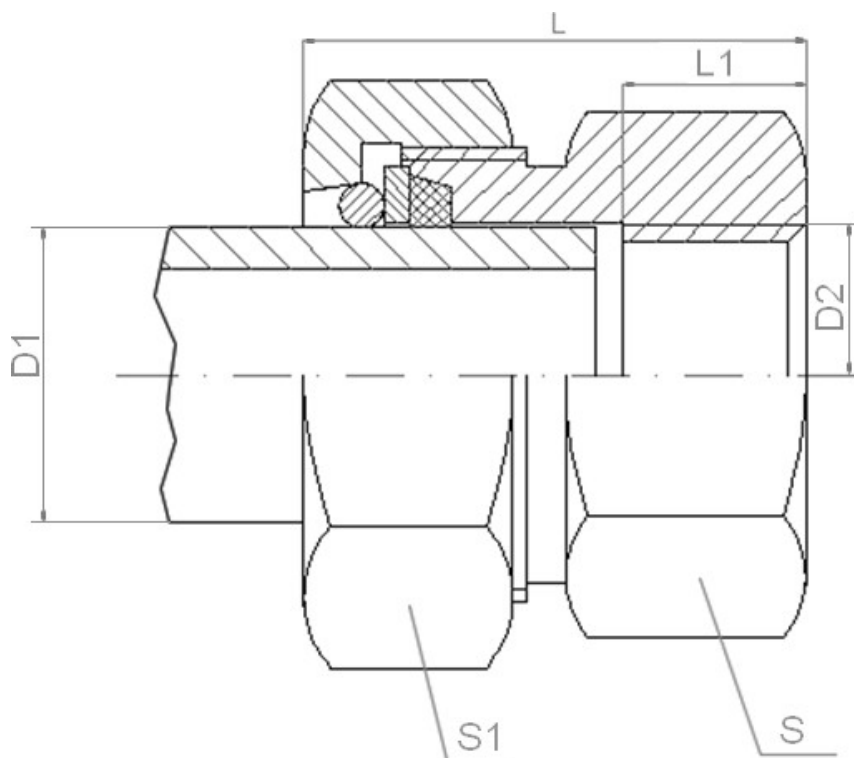
WS4034 Helrom

DAKO-CZ, a.s. brzdvé systémy, CZECH REPUBLIC

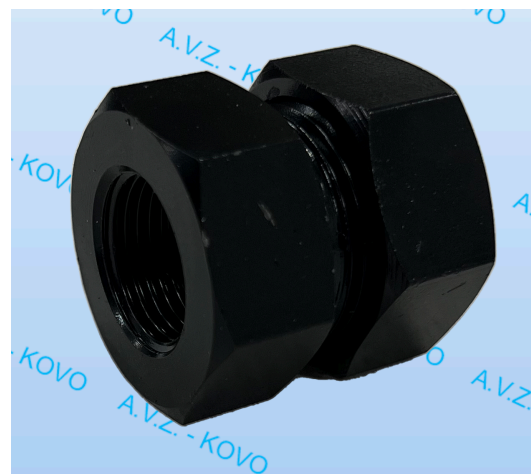
41 WASCOSA, KGS SBB, KNS SBB, METRANS SGGNSS 80, PKP 40" SGGMMNS, SGGMRS 90 DB CARGO, SGGMRSS 90 PKP CARGO, SGGNSS 80 EUROTRANS, SGGNSS 80 GATX, SGGNSS 80 SETG, SGGNSS 80 STEIERMARK, SGGNSS 80 XL, SGGNSS 80 XL CERP, SGGNSS 80 XL ITE, SGGNSS 80 XL METRANS, SGGNSS 80 XL RAILREL, SGGNSS 80 XL RHEIN C, SGGNSS 80 XL TESMEC, SGGRS 80 DB CARGO, SGGRS EUROWAGON, SGGRSS 80, SGGRSS 80 PKP, SGGMMNSS 41 WASCOSA, SGNSS 60 ČD CARGO, T 3000 RCW, T 3000DB, T 3000E, T 3000ED, T 3000ED-OOS, T 3000TXL, T3000E GATX

PVF Trade, a.r.o., CZECH REPUBLIC

SGNSS, SGGNSS

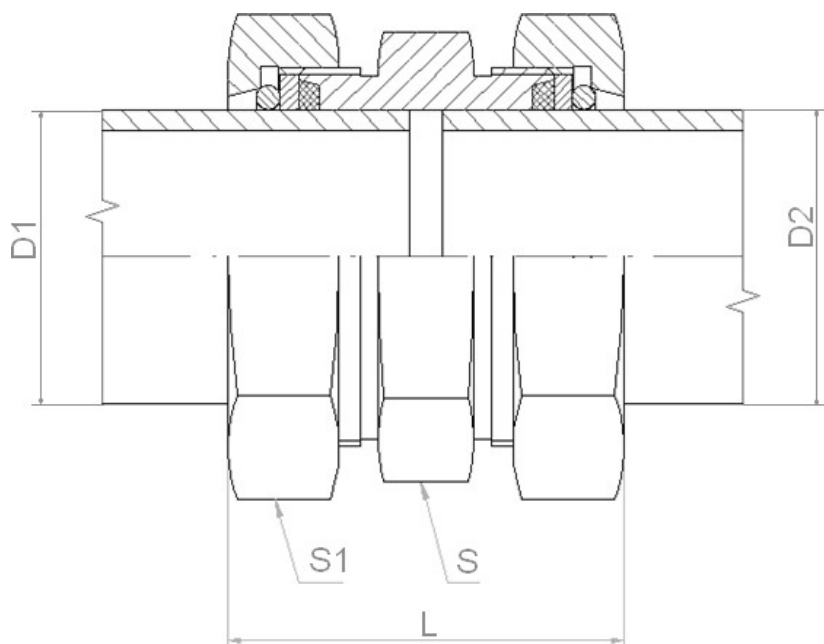


AUFA

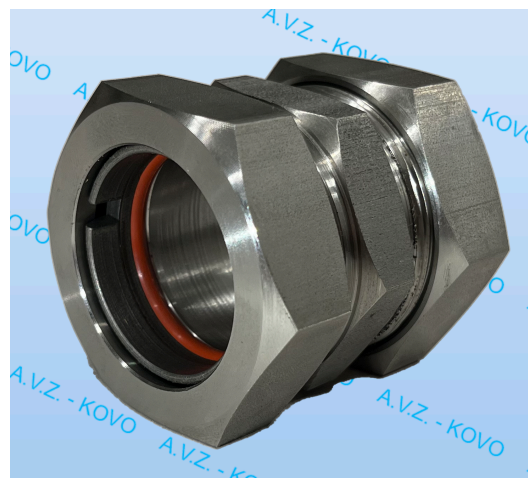


SIZE	S1	S	L	L1	MASS
<u>D1 (mm) – D2</u>					
6 – M10x100	17	14	23,5	8	30
8 – M12x100	19	17	23,5	8	40
10 – M14x150	22	19	28	10	50
12 – M16x150	24	22	28	10	65
14 – M18x150	27	24	30	12	60
15 – M18x150	27	24	31,5	12	65
16 – M20x150	30	27	32	12	95
18 – M22x150	30	30	34	13	100
20 – M24x150	32	32	34	13	100
22 – M24x150	36	36	35	13	125
25 – M30x150	41	41	37	15	200
28 – M33x200	46	41	39	16	230
30 – M33x200	46	46	41	16	230
35 – M39x200	50	46	45	17	295
38 – M42x200	55	50	44	17	350
40 – M45x200	60	55	49	17	425
44,5 – M48x200	65	65	51	17	500
<u>D1 (") – D2</u>					
1/8 – M14x150	22	19	28	10	50
¼ – M18x150	27	24	30	12	75
3/8 – M20x150	30	27	32	12	110
½ – M24x150	36	32	35	13	165
¾ – M30x150	46	41	37	15	195
1 – M39x200	50	46	42	17	315
1 ¼ – M45x200	65	6	45	17	890

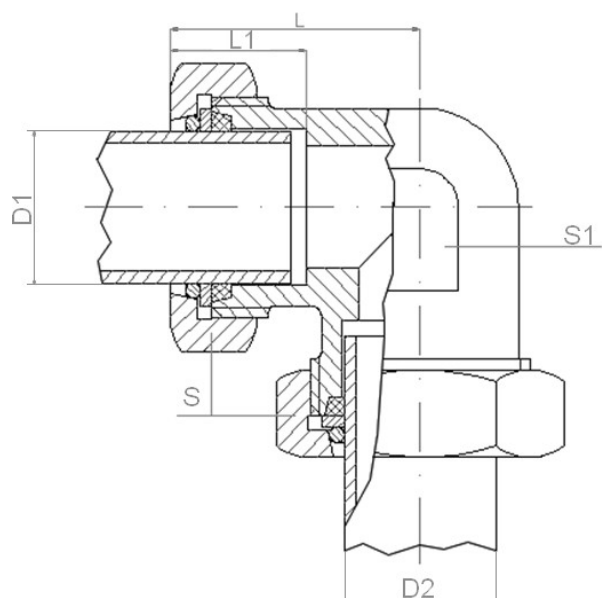
1 ½ – M48x200	70	65	47	15,5	710
2 – M60x200	85	80	55	15,5	930
<u>D1 (mm) – D2(")</u>					
6x1/8	17	14	24	8	30
8x1/4	19	19	26	10	40
10x1/4	22	19	28	10	50
12x3/8	24	22	30	12	65
14x3/8	27	24	30	12	60
15x3/8	27	24	33	12	65
16x3/8	30	27	32	12	95
18x1/2	30	27	35	13,5	100
20x1/2	32	30	36	12,5	100
22x1/2	36	36	36	12,5	125
25x3/4	41	36	37	14	200
28x1	46	41	41	18,5	230
30x1	46	46	44	18,5	230
32x1	50	46	43	22,0	280
35x1 ¼	50	50	48	20,5	320
38x1 ¼	55	50	48	20,5	350
40x1 ½	60	60	48	21,5	640
44,5x1 ½	65	65	51	21,5	652
51 x 1 ½	75	70	52	26,0	660
54 x 2	75	70	56	20,5	800
<u>D1 (") – D2(")</u>					
1/8x1/4	22	19	29	10	50
¼x1/4	27	24	28	10	75
3/8x3/8	30	27	32	12	110
½x1/2	36	32	35	12,5	165
¾x3/4	46	41	37	13,5	195
1x1	50	46	44	17	315
1 ¼x1 ¼	65	60	49	17,5	602
1 ½x1 ½	70	65	52	18,5	710
2x2	85	80	59	20	930



AUA



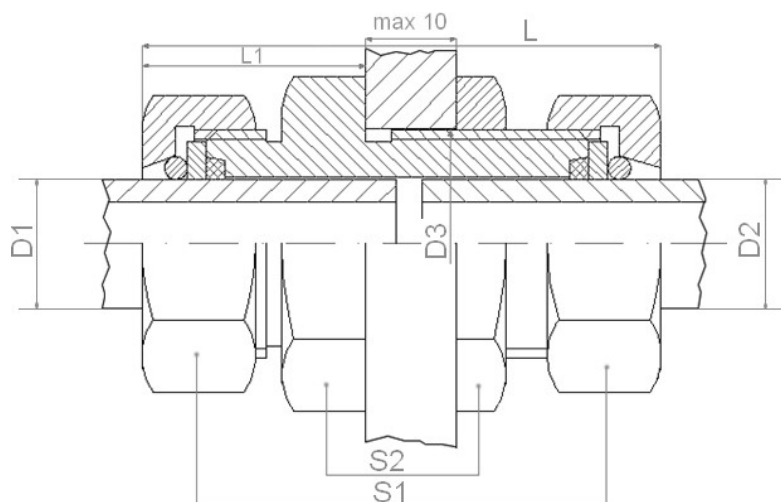
SIZE	S1	S	L	MASS
<u>D1 = D2 (mm)</u>				
6	17	14	33	41
8	19	17	33	41
10	22	19	35	67
12	24	22	38	73
14	27	24	38	98
15	27	24	42	115
16	30	27	42	128
18	30	27	44	112
20	32	30	47	128
22	36	36	48	176
25	41	36	47	226
28	46	41	48	305
30	46	46	55	390
35	50	46	58	350
38	55	50	58	410
40	60	55	56	515
44,5	65	65	65	715
<u>D1 = D2 (")</u>				
1/8	22	19	37	70
1/4	27	24	38	95
3/8	30	27	43	123
1/2	36	32	46	190
3/4	46	41	48	310
1	50	46	55	380
1 1/4	65	60	63	698
1 1/2	70	65	67	774
2	85	80	78	1332



AEA



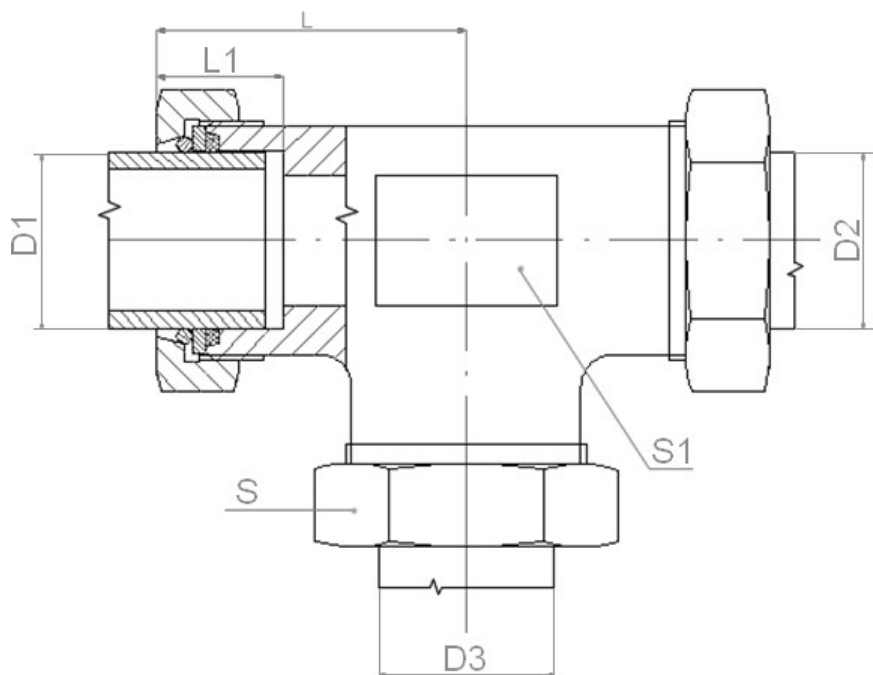
SIZE	S	S 1	L	L1	MASS
<u>D1 = D2 (mm)</u>					
6	17	17	28	21	40
8	19	17	28	20	60
10	22	17	29	19	80
12	24	19	34	23	95
14	27	19	34	23	100
15	27	24	34	23	125
16	30	24	37	24	160
18	30	24	38	25	176
20	32	30	44	28	195
22	36	30	44	26	235
25	41	36	47	27	320
28	46	36	47	26	447
30	46	41	52	30	510
35	50	46	57	31	519
38	55	50	61	36	847
40	60	50	60	29	860
44,5	65	60	69	36	886
<u>D1 = D2 (")</u>					
1/8	22	17	28	19	78
1/4	27	19	34	23	110
3/8	30	24	38	24	152
1/2	36	30	43	25	225
3/4	46	36	47	26	390
1	50	46	56	35	494
1 1/4	65	50	61	30	1002
1 1/2	70	60	69	36	1166
2	85	70	80	47	2494



APCA



SIZE	S1	S2	L	L1	D3	MASS
<u>D1 = D2 (mm)</u>						
6	17	19	47	19	15	68
8	19	22	48	20	17	83
10	22	24	52	22	19	108
12	24	27	53	22	22	121
14	27	30	55	24	24	161
15	27	30	60	27	25	182
16	30	32	60	26	26	203
18	30	32	62	27	28	104
20	32	36	63	28	30	222
22	36	41	66	30	32	313
25	41	41	65	29	37	333
28	46	46	67	30	39	447
30	46	50	73	34	43	609
35	50	55	76	36	47	540
38	55	60	79	39	50	728
40	60	60	77	38	53	815
44,5	65	70	82	40	51	1131
<u>D1 = D2 (")</u>						
1/8	22	24	52	22	19	106
1/4	27	30	55	24	24	170
3/8	30	32	61	27	27	207
1/2	36	41	64	29	33	312
3/4	46	46	66	30	39	449
1	50	55	73	34	47	580
1 1/4	65	65	80	39	59	1138
1 1/2	70	75	86	41	64	1112
2	85	85	100	49	77	1742

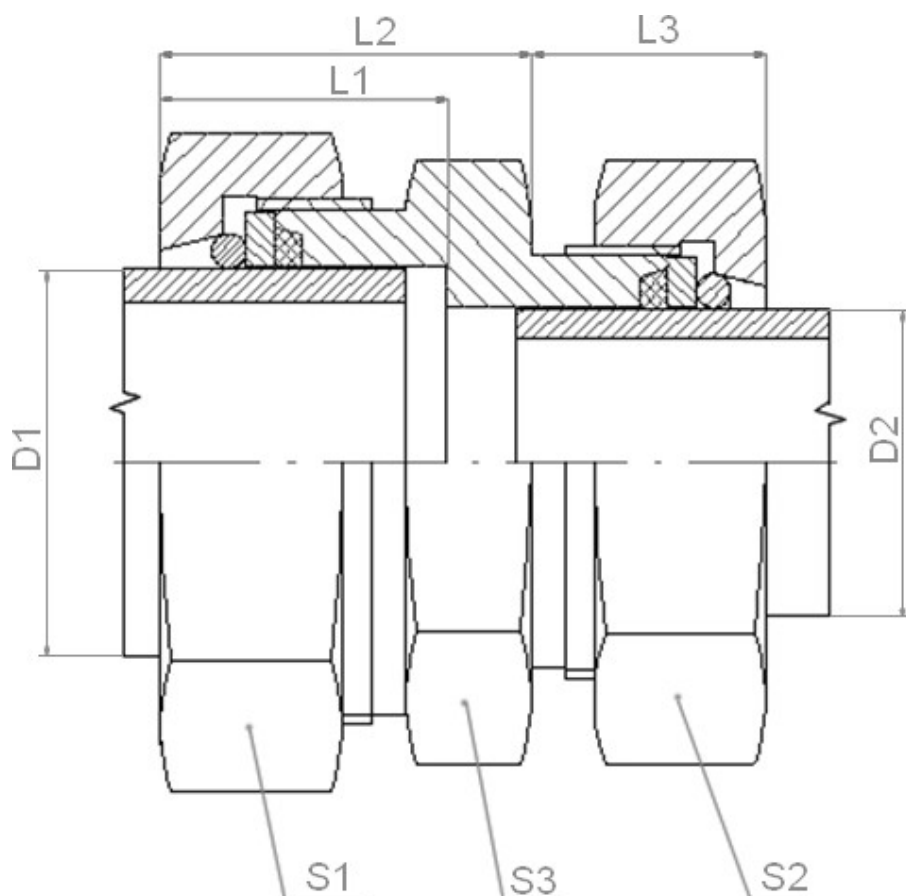


ATA



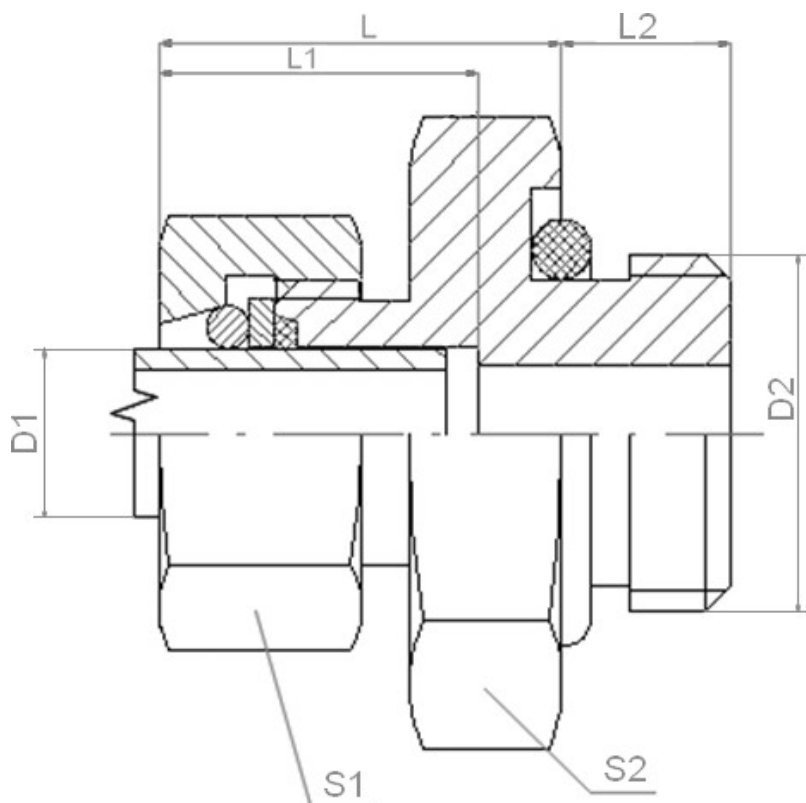
SIZE	S	S1	L	L1	MASS
<u>D1 = D2 = D3 (mm)</u>					
6	17	17	28	21	60
8	19	17	28	20	75
10	22	17	29	19	95
12	24	19	34	23	130
14	27	19	34	23	150
15	27	24	34	23	180
16	30	24	37	24	200
18	30	24	38	25	229
20	32	30	44	28	235
22	36	30	44	26	295
25	41	36	47	27	445
28	46	36	47	26	633
30	46	41	52	30	750
35	50	46	57	31	800
38	55	50	61	36	948
40	60	50	60	29	1050
44,5	65	60	69	36	1144
<u>D1 = D2 = D3 (")</u>					
1/8	22	17	28	19	93
1/4	27	19	34	23	160
3/8	30	24	38	24	211
1/2	36	30	43	25	302
3/4	46	36	47	26	550
1	50	46	56	35	663
1 1/4	65	50	61	30	1358
1 1/2	70	60	69	36	1474
2	85	70	80	47	2991

AURA



SIZE	S1	S2	S3	L2	L3	L1	MASS
<u>D1 (mm) x D2 (mm)</u>							
8x6	19	17	17	19	13,5	16	47
10x6	22	17	19	20	13,5	17	50
10x8	22	19	19	20	13,5	17	60
12x10	24	22	22	22	15	18	71
14x12	27	24	24	22	15	18	78
15x12	27	24	24	25	15	18	92
16x14	30	27	27	24	15	20	115
18x12	34	24	27	25	16	23	90
18x15	30	30	27	25	17	23	118
18x16	34	27	27	25	17,5	23	98
20x18	32	30	30	28	18	23	123
22x18	34	30	34	28	18	23	126
22x20	36	32	36	28	19	23	167
25x22	41	36	36	28	19	23	206
28x18	46	30	41	29	18	23	185
28x22	46	36	41	29	19	23	195
28x25	46	41	41	29	19	23	276
30x28	46	46	46	33	19	27	354
35x32	50	50	46	34	22	28	350
38x30	55	46	50	35	22	28	403
40x38	60	55	55	34	23	27	502
44,5x38	65	55	65	41	23	33	610

D1 (") x D2 (")							
¼ x 10	27	22	24	22	15	18	90
¼ x 1/8	27	22	24	22	15	18	73
3/8 x ¼	30	27	27	25	15	21	111
½ x 1/8	36	22	32	22	15	22	96
½ x ¼	36	27	32	27	15	22	96
½ x 3/8	36	30	32	27	18	22	165
¾ x ¼	46	27	41	29	15	23	134
¾ x 10	46	22	41	29	15	23	134
¾ x ½	46	36	41	29	18	23	269
1 x ¼	50	27	46	33	15	27	236
1 x ½	50	36	46	33	18	27	236
1 x ¾	50	46	46	33	19	27	318
1 ¼ x ¾	65	46	60	39	19	31	364
1 ¼ x 1	65	50	60	39	22	31	564
1 ½ x 1 ¼	70	65	65	41	23	33	741
2 x 1	85	50	80	49	22	38	1131
2 x 1 ½	85	70	80	49	25	38	1131

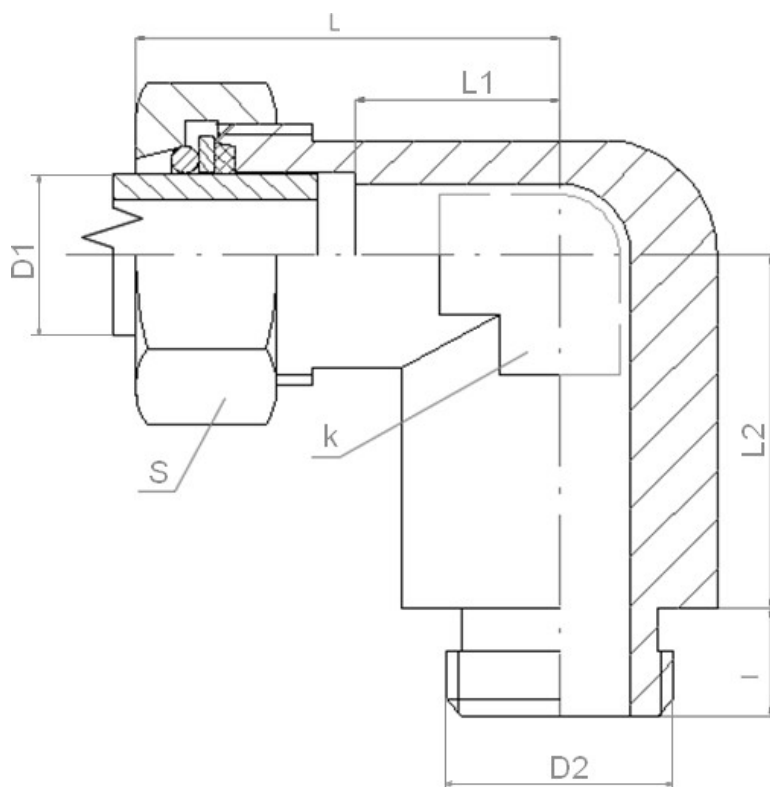


AUMA



SIZE	S1	S2	L2	L	L1	MASS
D1 (mm) – D2						
6 – M10x100	17	17	7	21	16	34
8 – M12x100	19	22	7	21	16	45
10 – M14x150	22	22	9	23	18	53
12 – M16x150	24	24	9	23	19	61
14 – M18x150	27	27	11	24	19	61
15 – M18x150	27	27	11	25	18	80
16 – M20x150	30	27	11	26	21	113
18 – M22x150	30	32	12	28	22	106
20 – M24x150	32	36	12	30	23	102
22 – M27x150	36	36	14	30	24	153
25 – M30x150	41	41	14	30	23	170
28 – M33x200	46	46	15	30	24	152
30 – M33x200	46	46	15	34	27	195
35 – M39x200	50	50	16	36	29	141
38 – M42x200	55	60	16	39	29	168
40 – M45x200	60	60	16	38	28	572
44,5 – M48x200	65	65	16	41	32	582
D1 (") – D2						
1/8 – M14x150	22	22	9	22	17	51
1/4 – M18x150	27	27	11	24	19	76
3/8 – M20x150	30	27	11	27	21	92
1/2 – M24x150	36	36	12	29	23	139
3/4 – M30x150	46	41	14	30	24	166
1 – M39x200	50	50	16	34	27	260

1 ¼ – M45x200	65	60	16	40	31	543
1 ½ – M48x200	70	65	16	42	33	677
2 – M60x200	85	80	18	51	39	1071
<u>D1 (mm) x D2 (")</u>						
6x1/8	17	17	6	21	16	34
8x1/4	19	22	8	21	16	45
10x1/4	22	22	8	23	18	53
12x3/8	24	24	8	24	19	61
14x3/8	27	24	8	24	19	61
15x3/8	27	24	8	25	18	70
16x3/8	30	27	8	26	21	113
18x1/2	30	32	10	28	22	106
20x1/2	32	32	10	30	23	102
22x1/2	36	36	10	30	24	153
25x3/4	41	36	14	30	23	170
28x1	46	46	14	30	24	252
30x1	46	46	14	34	27	295
35x1 ¼	50	60	16	40	29	441
38x1 ¼	55	60	16	39	29	468
40x1 ½	60	65	16	38	28	572
44,5x1 ½	65	65	16	41	32	582
<u>D1 (") x D2 (")</u>						
1/8x1/4	22	22	8	22	17	51
¼x1/4	27	24	8	24	19	76
3/8x3/8	30	27	8	26	21	92
½x1/2	36	32	10	29	23	139
¾x3/4	46	41	14	30	24	166
1x1	50	46	14	34	27	260
1 ¼x1 ¼	65	60	16	40	31	543
1 ½x1 ½	70	65	16	42	33	677
2x2	85	80	18	49	39	1071

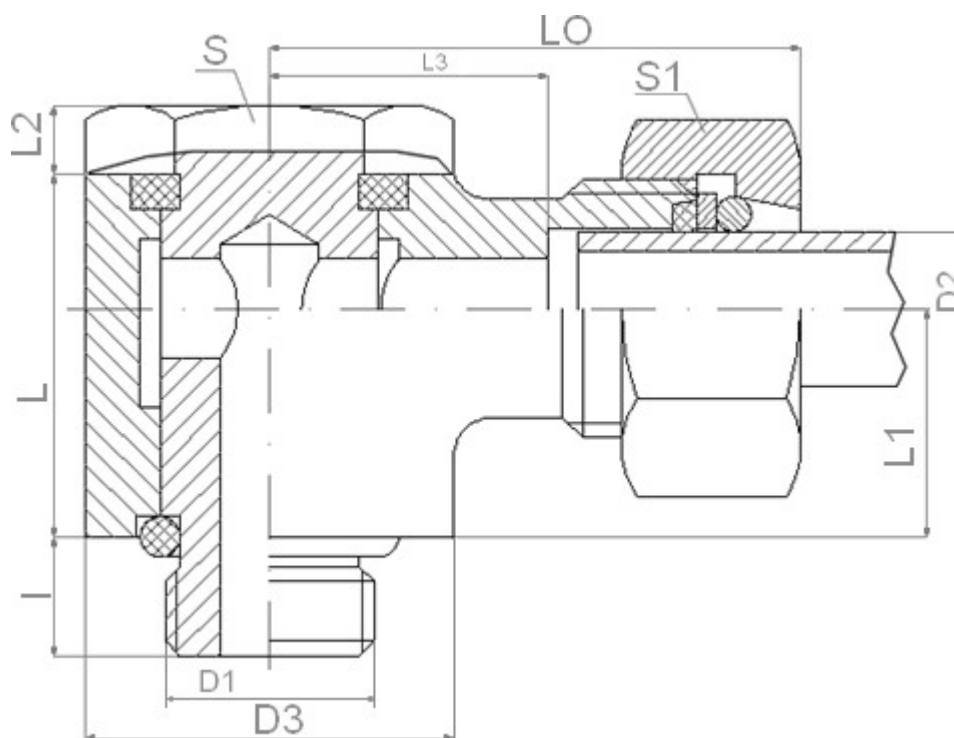


AEMA



SIZE	S	k	I	L2	L	L1	MASS
D1 (mm) – D2							
6 – M10x100	17	17	7	20	28	7	50
8 – M12x100	19	19	7	23	32	12	65
10 – M14x150	22	19	9	21	32	11,5	75
12 – M16x150	24	24	9	28	36	15,5	105
14 – M18x150	27	24	11	26	36	15	130
15 – M18x150	27	24	11	26	37	11	140
16 – M20x150	30	30	11	31,5	42	19	240
18 – M22x150	30	30	12	30,5	43	18,5	200
20 – M24x150	32	30	12	30,5	44	15	225
22 – M27x150	36	30	12	30,5	44	18	285
25 – M30x150	41	36	14	35	47	20	390
28 – M33x200	46	46	15	40	54	27,5	435
30 – M33x200	46	46	15	40	55	27	445
35 – M39x200	50	50	16	48	61	34	765
38 – M42x200	55	50	16	48	61	25	675
40 – M45x200	60	50	16	53	66	34	950
D1(") – D2							
1/8 – M14x150	22	19	9	21	32	11,5	75
1/4 – M18x150	27	24	11	26	36	15	145
3/8 – M20x150	30	30	11	31,5	42	19	155
1/2 – M24x150	36	30	12	30,5	43	18	225
3/4 – M30x150	46	36	14	35	47	21	370
1 – M39x200	50	50	16	48	59	29	795
1 1/4 – M45x200	65	60	16	53	67,5	31	1045

<u>D1 (mm) x D2 (")</u>							
6x1/8	17	17	6	21	28	7	50
8x1/4	19	19	8	22	32	12	75
10x1/4	22	19	8	22	32	11,5	80
12x3/8	24	24	8	29	36	15,5	115
14x3/8	27	24	8	29	36	15,5	120
15x3/8	27	24	8	29	37	11	166
16x3/8	30	24	8	29	36	13	120
18x1/2	30	30	10	32,5	43	18,5	170
20x1/2	32	30	10	32,5	44	15	195
22x1/2	36	30	10	32,5	44	18	205
25x3/4	41	36	14	35	47	20	320
28x1	46	46	14	41	54	27,5	460
30x1	46	46	14	41	55	27	455
35x1 ¼	50	50	16	48	61	34	750
38x1 ¼	55	50	16	48	61	25	720
40x1 ½	60	60	16	53	66	34	1040
<u>D1 (") x D2 (")</u>							
1/8x1/4	22	19	8	22	32	11,5	80
¼x1/4	27	19	8	22	34	11	80
3/8x3/8	30	24	8	29	38	14	125
½x1/2	36	30	10	32,5	43	18	205
¾x3/4	46	36	14	35	47	21	295
1x1	50	46	14	41	56	21	470
1 ¼x1 ¼	65	50	18	48	61	31	825

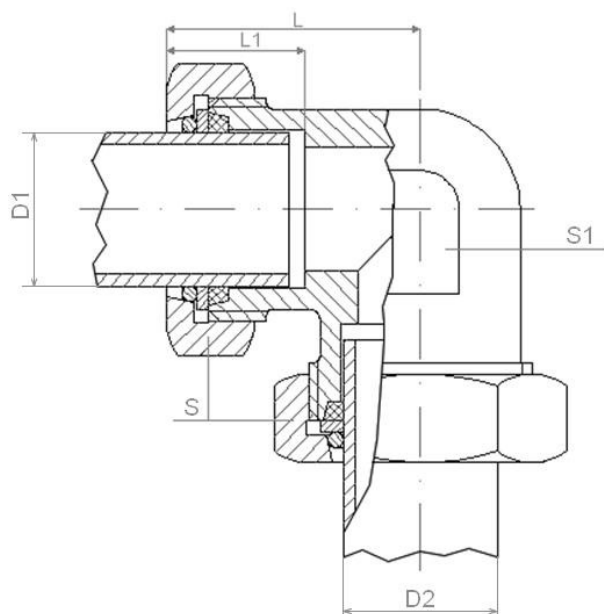


AORL



SIZE	I	D3	L	S	L2	L1	L3	LO	S1
D1 (mm) – D2									
6 – M10x100	6,9	27,5	20,5	17	5	13	21	36,5	17
8 – M12x100	6,3	27,5	22,5	19	5	16	20	36,5	19
10 – M14x150	8,8	27,5	25,5	22	6	16	20	37	22
12 – M16x150	8,8	30	29,5	24	6	18	14,5	36	24
14 – M18x150	10,8	30	29,5	27	6	18	18	36	27
16 – M20x150	10,1	38	37	30	7	22	19	42	30
18 – M22x150	10,1	38	37	32	7	22	17,5	42	30
20 – M24x150	11,1	38	37	32	8	22	18,5	43	32
22 – M24x150	11,1	38	37	32	8	22	18	44	36
25 – M30x150	13,6	50	43	41	9	25,5	27,5	50,5	41
28 – M33x200	14,6	50	51	41	9	30	25	50,5	46
30 – M33x200	14,6	50	51	41	9	30	27	51,5	46
D1 (") – D2									
1/8 – M14x150	8,8	27,5	25,5	22	6	16	20	37	22
1/4 – M18x150	10,8	30	29,5	27	6	18	18	36	27
3/8 – M20x150	10,1	38	37	30	7	22	19	42	30
1/2 – M24x150	11,1	38	37	32	8	22	18	43	36
3/4 – M30x150	13,6	50	43	41	9	37,5	27,5	50,5	46
D1 (mm) x D2 (")									
6x1/8	5,9	27,5	20,5	17	5	13	21	36,5	17
8x1/4	7,8	27,5	25,5	22	6	16	20	36,5	19
10x1/4	7,8	27,5	25,5	22	6	16	20	37	22
12x3/8	7,8	30	29,5	24	6	18	14,5	36	24
14x3/8	7,8	30	29,5	24	6	18	18	36	27

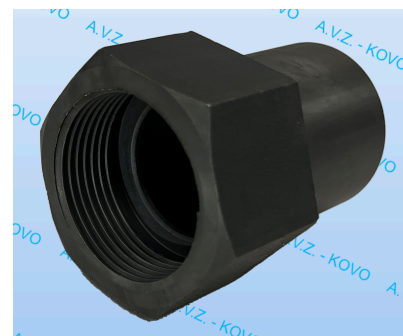
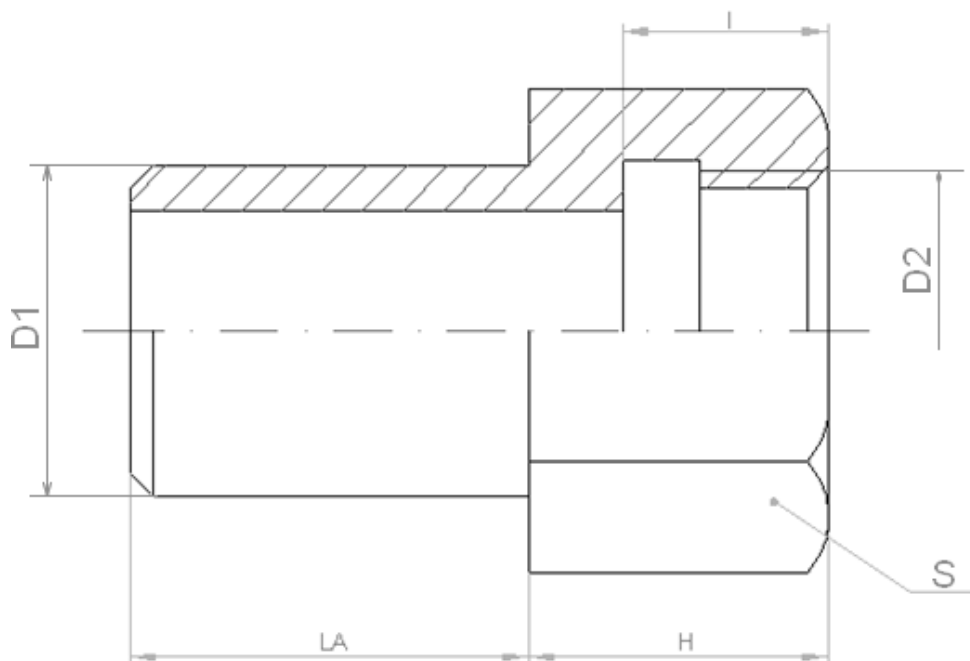
16x3/8	7,8	30	29,5	24	6	18	17	36,5	30
18x1/2	9,6	38	37	30	7	22	17,5	42	30
20x1/2	9,6	38	37	30	7	22	18,5	43	32
22x1/2	9,6	38	37	30	7	22	18	44	36
25x3/4	13,6	50	43	36	9	25,5	27,5	50,5	41
28x1	14,1	50	51	41	9	30	27,5	50,5	46
30x1	14,1	50	51	41	9	30	27,5	51,5	46
<u>D1 (") x D2 (")</u>									
1/8x1/4	7,8	27,5	25,5	22	6	16	18,5	37	22
¼x1/4	7,8	27,5	25,5	22	6	16	15,5	37,5	27
3/8x3/8	7,8	30	29,5	24	6	18	17	37	30
½x1/2	9,6	38	37	30	7	22	18	43	36
¾x3/4	13,6	50	43	36	9	25,5	27,5	50,5	46
1x1	14,1	50	51	41	9	30	21	51,5	50



AEA



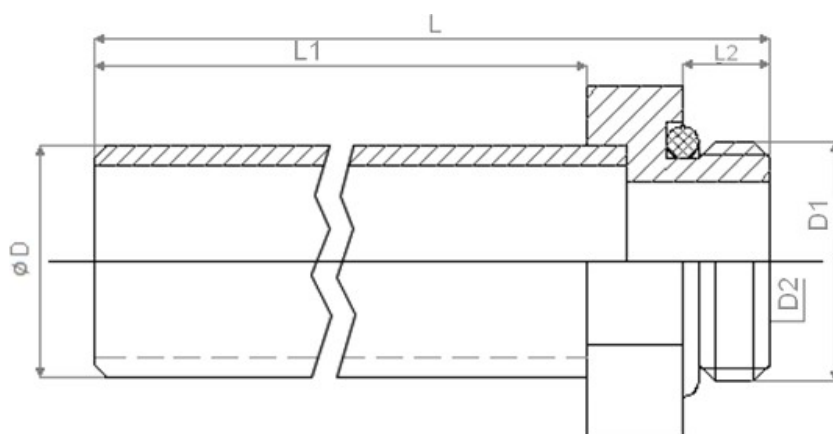
SIZE	S	S 1	L	L1	MASS
<u>D1 = D2 (mm)</u>					
6	17	17	28	21	40
8	19	17	28	20	60
10	22	17	29	19	80
12	24	19	34	23	95
14	27	19	34	23	100
15	27	24	34	23	125
16	30	24	37	24	160
18	30	24	38	25	176
20	32	30	44	28	195
22	36	30	44	26	235
25	41	36	47	27	320
28	46	36	47	26	447
30	46	41	52	30	510
35	50	46	57	31	519
38	55	50	61	36	847
40	60	50	60	29	860
44,5	65	60	69	36	886
<u>D1 = D2 (")</u>					
1/8	22	17	28	19	78
1/4	27	19	34	23	110
3/8	30	24	38	24	152
1/2	36	30	43	25	225
3/4	46	36	47	26	390
1	50	46	56	35	494
1 1/4	65	50	61	30	1002
1 1/2	70	60	69	36	1166
2	85	70	80	47	2494



SIZE	S	LA	H	I	MASS
<u>D1 (mm) – D2</u>					
6 – M10x100	14	16	12	8	15
8 – M12x100	17	18	12	8	20
10 – M14x150	19	18	15	10	30
12 – M16x150	22	20	15	10	40
14 – M18x150	24	20	17	12	50
15 – M18x150	24	22	17	12	60
16 – M20x150	27	22	18	12	70
18 – M22x150	30	24	19	13	85
20 – M24x150	32	26	19	13	95
22 – M24x150	32	28	19	13	130
25 – M30x150	41	30	21	15	190
28 – M33x200	41	30	23	16	175
30 – M33x200	41	32	23	16	175
35 – M39x200	46	34	25	17	230
38 – M42x200	50	36	26	17	275
40 – M45x200	55	36	26	17	340
44,5 – M48x200	60	40	27	17	545
<u>D1 (") – D2</u>					
1/8 – M14x150	19	18	15	10	29
¼ – M18x150	24	20	17	12	50
3/8 – M20x150	27	24	18	12	67
½ – M24x150	32	26	19	13	100
¾ – M30x150	41	30	21	14	185
1 – M39x200	46	34	25	17	230
1 ¼ – M45x200	55	40	26	17	350
1 ½ – M48x200	60	42	27	17	450
2 – M60x200	70	49	31	19	680

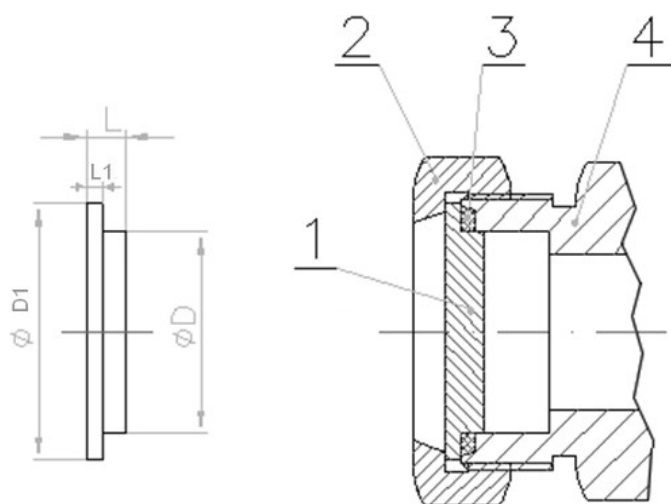
<u>D1 (mm) x D2 (")</u>					
6x1/8	14	16	13	8	15
8x1/4	19	18	15	10	35
10x1/4	19	18	15	10	30
12x3/8	22	20	17	12	50
14x3/8	22	20	17	12	50
15x3/8	22	22	17	12	60
16x3/8	22	22	17	12	65
18x1/2	27	24	19,5	13,5	75
20x1/2	27	26	19,5	13,5	80
22x1/2	27	28	19,5	13,5	85
25x3/4	32	30	21	15	95
28x1	41	30	25,5	18,5	225
30x1	41	32	25,5	18,5	200
35x1 ¼	50	34	29,5	20,5	300
38x1 ¼	50	36	29,5	20,5	305
40x1 ½	60	36	30,5	21,5	460
44,5x1 ½	60	40	30,5	21,5	540
<u>D1 (") x D2 (")</u>					
1/8x1/4	19	18	15	10	29
¼x1/4	19	20	15	10	35
3/8x3/8	22	24	17	12	55
½x1/2	27	26	19,5	13,5	75
¾x3/4	32	30	21	15	90
1x1	41	34	25,5	18,5	185
1 ¼x1 ¼	50	40	29,5	20,5	280
1 ½x1 ½	60	42	30,5	21,5	470
2x2	70	49	35,5	23,5	790

ADEA



SIZE	L	L1	L2	D 2	øD
<u>D (mm) x D1 (") x L (mm)</u>					
30 x 1 x 309	309	281	14	24	30
30 x 1 x 400	400	372	14	24	30
38 x 1 ¼ x 400	400	366	16	31	38
38 x 1 ¼ x 686	686	652	16	31	38
38 x 1 ¼ x 788	788	754	16	31	38
<u>D (") x D1 (") x L (mm)</u>					
½ x ½ x 222	222	198	10	13	½
¾ x ¾ x 297	298	270	14	18	¾
1 x 1 x 279	279	251	14	24	1
1 x 1 x 309	309	281	14	24	1
1 x 1 x 334	334	307	14	24	1
1 x 1 x 340	340	312	14	24	1
1 x 1 x 400	400	372	14	24	1
1 x 1 x 450	450	422	14	24	1
1 ¼ x 1 x 310	310	282	14	24	1 ¼
1 ¼ x 1 x 605	605	577	14	24	1 ¼
1 ¼ x 1 ¼ x 271	271	237	16	31	1 ¼
1 ¼ x 1 ¼ x 316	316	282	16	16	1 ¼
1 ¼ x 1 ¼ x 400	400	366	16	16	1 ¼
1 ¼ x 1 ¼ x 538	538	504	16	16	1 ¼
1 ¼ x 1 ¼ x 566	566	532	16	16	1 ¼
1 ¼ x 1 ¼ x 566	605	571	16	16	1 ¼
1 ¼ x 1 ¼ x 788	788	754	16	16	1 ¼
1 ¼ x 1 ¼ x 850	850	816	16	16	1 ¼

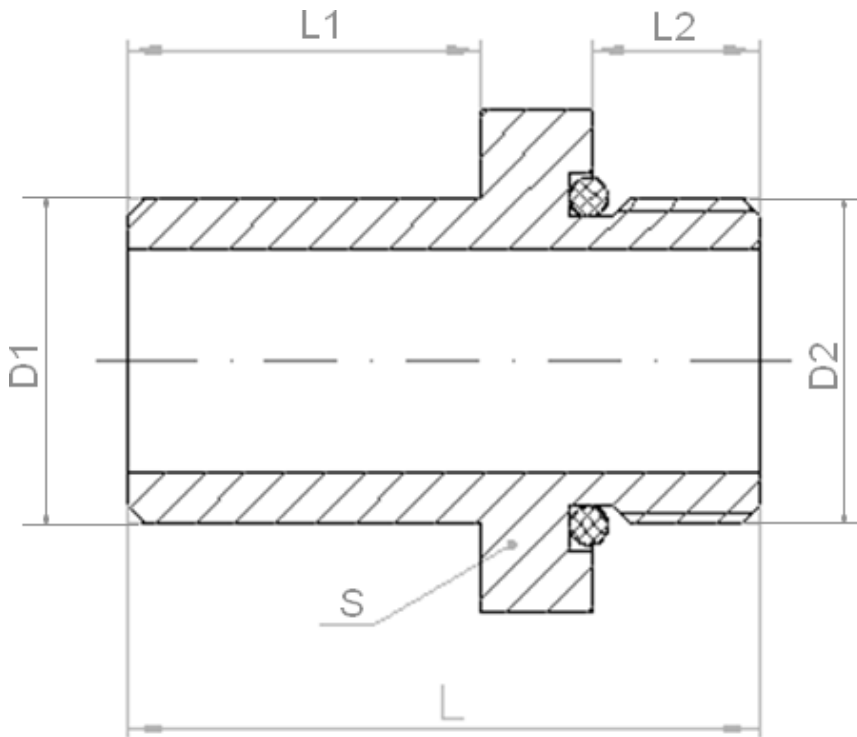
AOB



1. vzduchová spojka
2. matice
3. "O" kroužek
4. nátrubek (těleso)



SIZE	D1	D	L	L1
<u>D (mm)</u>				
6	12,6	6	3,5	1,5
8	14,6	8	3,5	1,5
10	16	10	3,5	1,5
12	18,9	12	4,5	1,5
14	20,9	14	4,5	1,5
15	21,9	15	4,5	1,5
16	22,9	16	5	2
18	24,8	18	5	2
20	26,8	20	5	2
22	30,8	22	6	2
25	33,8	25	6,5	2,5
28	35,7	28	6,5	2,5
30	39,7	30	6,5	2,5
35	43,7	35	6,5	2,5
38	46,7	38	6,5	2,5
40	49,7	40	7	3
44,5	57,6	44,5	9	3
<u>D (")</u>				
1/8	16	10,2	3,5	1,5
¼	20,9	13,5	4,5	1,5
3/8	23,9	17,2	5	2
½	29,8	21,3	6	2
¾	35,8	26,9	6,5	2,5
1	43,7	33,7	6,5	2,5
1 ¼	55,7	42,4	9	3
1 ½	60,6	48,3	9	3
2	73,6	60,3	9	3

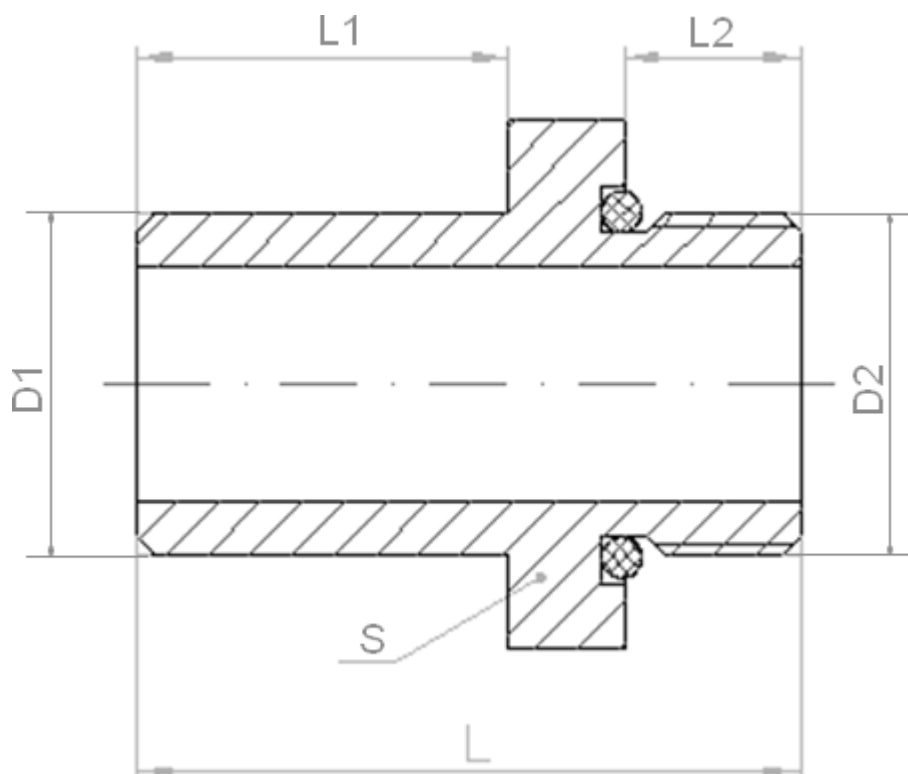


AAMA



SIZE	S	L1	L	L 2	MASS
<u>D1 (mm) – D2</u>					
6 – M10x100	17	16	29	7	15
8 – M12x100	22	18	32	7	20
10 – M14x150	22	18	34	9	20
12 – M16x150	24	20	36	9	25
14 – M18x150	27	20	38	11	25
15 – M18x150	27	22	40	11	35
16 – M20x150	27	22	41	11	45
18 – M22x150	32	24	45	12	65
20 – M24x150	36	26	47	12	95
22 – M27x150	36	28	51	14	100
25 – M30x150	41	30	54	14	140
28 – M33x200	46	30	56	15	150
30 – M33x200	46	32	58	15	160
35 – M39x200	50	34	62	16	202
38 – M42x200	60	36	68	16	370
40 – M45x200	60	36	68	16	370
44,5 – M48x200	65	40	72	16	450
<u>D1 (") – D2</u>					
1/8 – M14x150	22	18	32	9	18
¼ – M18x150	27	20	38	11	35
3/8 – M20x150	27	24	43	11	50
½ – M24x150	36	26	47	12	100
¾ – M30x150	41	30	54	14	140
1 – M39x200	50	34	62	16	205
1 ¼ – M45x200	60	40	72	16	470

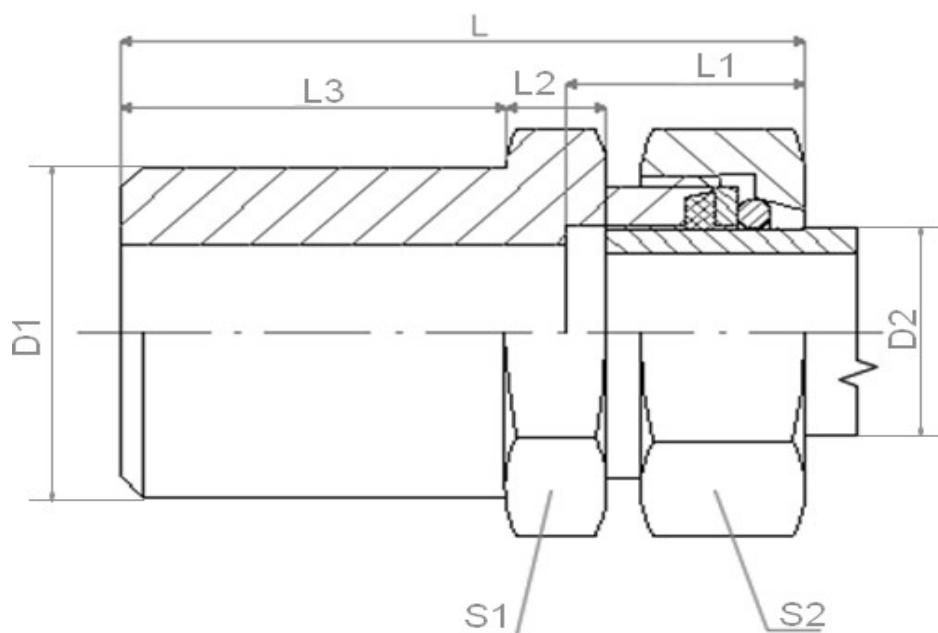
1 ½ – M48x200	65	42	74	16	475
2 – M60x200	80	49	83	20	745
D1 (mm) x D2 (")					
6x1/8	17	16	28	6	15
8x1/4	22	18	33	8	20
10x1/4	22	18	33	8	25
12x3/8	24	20	35	8	30
14x3/8	24	20	35	8	35
15x3/8	24	22	37	8	40
16x3/8	24	22	37	10	40
18x1/2	32	24	43	10	80
20x1/2	32	26	45	10	85
22x1/2	32	28	47	10	90
25x3/4	36	30	53	14	100
28x1	46	30	55	14	130
30x1	46	32	57	14	145
35x1 ¼	60	34	66	16	295
38x1 ¼	60	36	68	16	300
40x1 ½	65	36	68	16	430
44,5x1 ½	65	40	72	16	445
D1 (") – D2 (")					
1/8x1/4	22	18	33	8	25
¼x1/4	22	20	35	8	35
3/8x3/8	24	24	39	8	45
½x1/2	32	26	45	10	90
¾x3/4	36	30	53	14	120
1x1	46	34	59	14	170
1 ¼x1 ¼	60	40	72	16	423
1 ½x1 ½	65	42	74	16	475
2x2	75	49	83	18	715



AAMRA



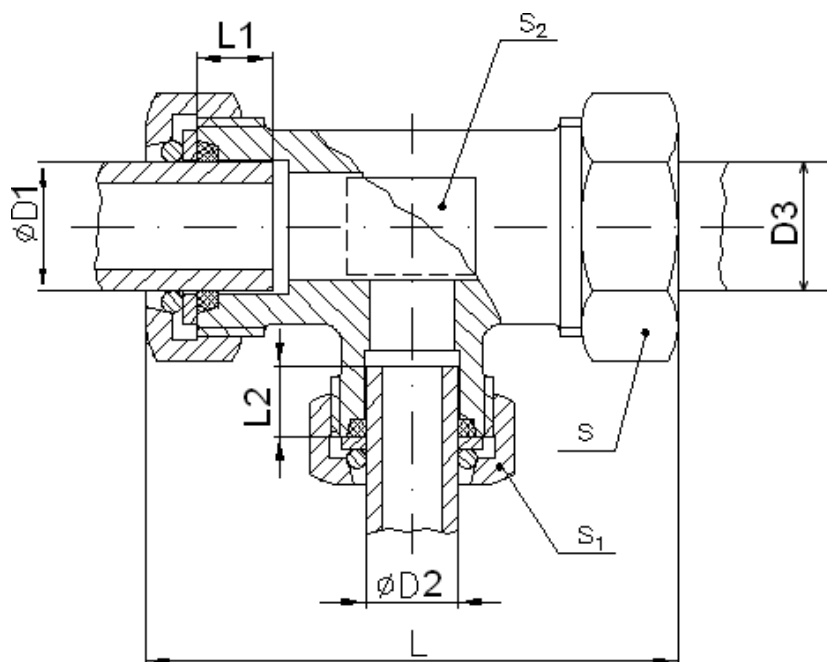
SIZE	S	L1	L	L 2	MASS
<u>D1 x D2(")</u>					
¼ x ½	32	20	39	10	55
¼ x ¾	36	20	33	14	68
½ x 3/8	32	26	41	8	58
½ x ¾	36	26	49	14	95
½ x 1	46	23	51	14	130
½ x 1 ¼	60	26	68	16	242
¾ x ½	32	30	46	10	100
¾ x 1	46	30	55	14	145
¾ x 1 ¼	60	30	64	16	251
¾ x 1 ½	65	30	64	16	430
¾ x 2	75	30	64	18	650
1 x 1 ¼	60	34	68	16	430
1 x 1 ½	65	34	68	16	460
1 x 2	75	34	68	18	658
1 ¼ x 1 ½	65	34	68	16	490
1 ¼ x 2	75	34	68	18	720



AAURA



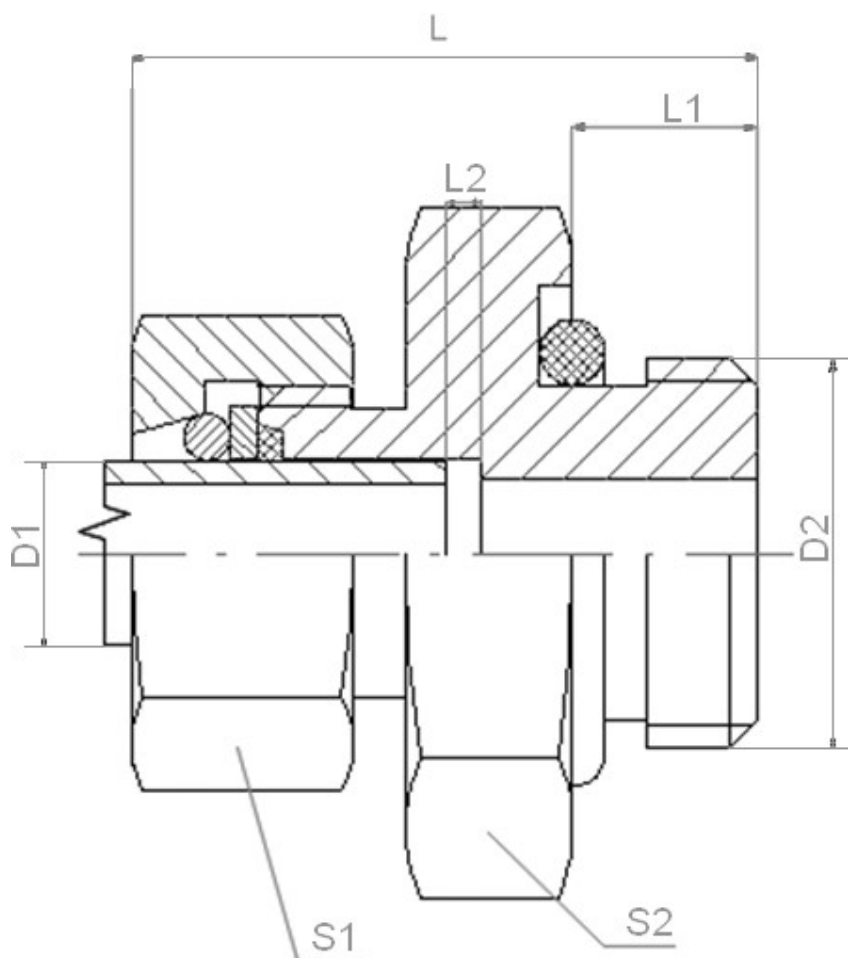
SIZE	S2	S1	L	L3	L2	L1	MASS
D1 x D2 (mm)							
8x6	17	14	37	18	5,5	16	28
10x8	19	17	37	18	5,5	16	32
12x10	22	19	41	20	5,5	18	48
14x12	24	22	43	20	7	19	58
15x12	24	22	46	22	7	19	66
16x14	27	24	44	22	7	19	104
18x16	30	27	48	24	7	21	120
20x18	30	27	52	26	7	22	110
22x20	32	30	56	28	9	23	141
25x22	36	36	59	30	9	24	197
28x25	41	36	58	30	9	23	188
30x28	46	41	61	32	10	24	272
35x32	50	46	67	34	11	27	340
38x30	46	46	69	36	11	27	361
44,5x38	55	50	75	40	12	29	437
D1 x D2 (")							
3/8 x 1/4	27	24	47	24	7	19	91
1/2 x 3/8	30	27	51	26	7	21	121
3/4 x 1/2	36	32	58	30	9	23	189
1 x 3/4	46	41	63	34	10	24	328
1 1/4 x 1	50	46	73	40	11	27	437
1 1/2 x 1 1/4	65	60	81	42	16	31	696
2 x 1 1/2	70	65	91	49	16	33	1063



ATRA



SIZE	L	D1	D2	s	s ₁	s ₂	L1	L2	MASS
<u>D1 x D2 x D3 (")</u>									
1 ¼ x ½ x 1 ¼	112,5	1 ¼"	½"	65	36	50	14,5	9,5	1,25
½ x ¼ x ½	79	½"	¼"	36	27	30	9,5	9,5	0,245
1 x ½ x 1	122,5	1"	½"	50	36	41	11,5	9,5	1,5
1 ¼ x 1 x 1 ¼	122,5	1 ¼"	1"	65	50	50	14,5	11,5	1,4
¾ x ½ x ¾	90	¾"	½"	46	36	36	11,5	9,5	0,6
¾ x ¼ x ¾	90	¾"	¼"	46	27	36	11,5	9,5	0,5
1 ¼ x ¼ x 1 ¼	112,5	1 ¼"	¼"	65	27	50	14,5	9,5	1,1
<u>D1 (") x D2 (mm) x D3 (")</u>									
¼ x 15 x ¼	62,5	¼"	15	27	27	19	9,5	9,5	0,19
½ x 15 x ½	80	½"	15	36	27	30	9,5	10	0,24
½ x 10 x ½	79	½"	10	36	22	30	9,5	10	0,2



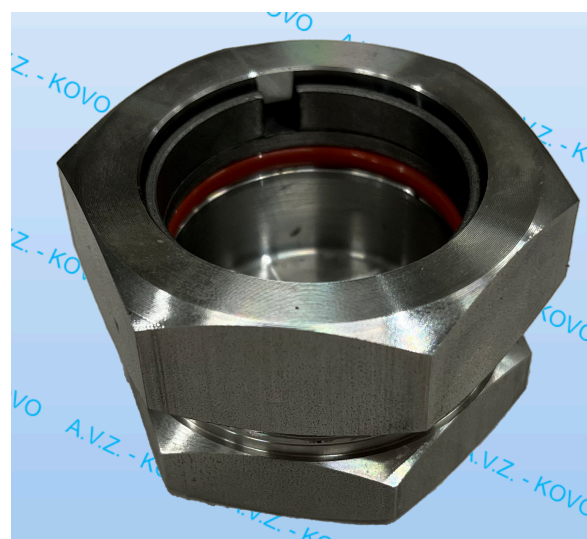
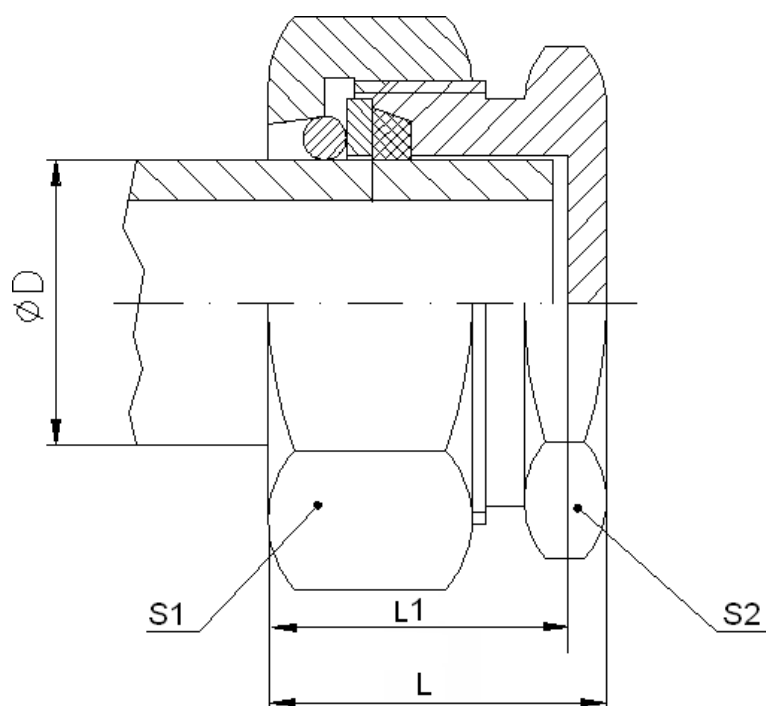
AUMRA



SIZE	S1	S2	L	L1	L2
<u>D1 (mm) – D2</u>					
6 – M14x150	17	22	30	9	15
8 – M16x150	19	24	30	9	15
10 – M18x150	22	27	33	11	16
12 – M20x150	24	27	35	11	17
14 – M22x150	27	32	37	12	18
15 – M24x150	27	36	38	12	19
16 – M27x150	30	36	41	14	20
18 – M30x150	30	41	43	14	21
20 – M33x200	32	46	45	15	22
22 – M33x200	36	46	46	15	23
25 – M39x200	41	50	47	16	23
28 – M39x200	46	50	48	16	24
30 – M42x200	46	60	54	16	27
35 – M48x200	50	65	57	16	28
<u>D1 (") – D2</u>					
1/8 – M18x150	22	27	35	11	17
1/4 – M20x150	27	27	35	11	17
3/8 – M27x150	30	36	41	14	20
1/2 – M33x200	36	46	45	15	22
3/4 – M39x200	46	50	47	16	23
1 – M45x200	50	60	54	16	27

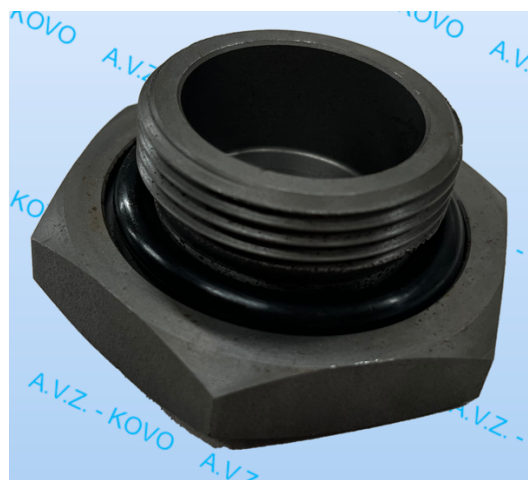
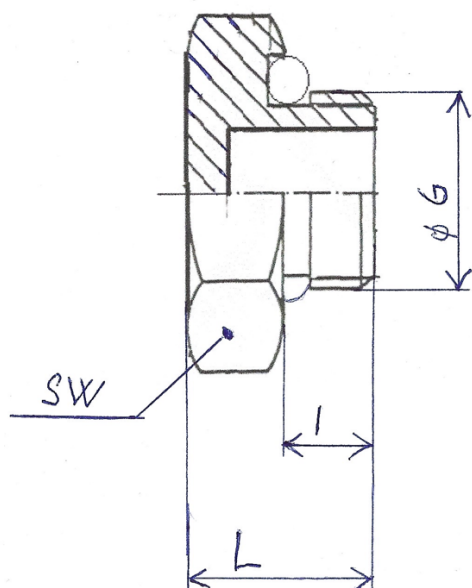
D1 (mm) x D2 (")					
6 x ¼	17	22	29	8	14
8 x 3/8	19	24	29	8	14
10 x 3/8	22	24	30	8	15
12 x ½	24	32	35	10	17
14 x ¾	27	36	39	14	19
15 x ¾	27	36	40	14	20
16 x ¾	30	36	41	14	20
18 x 1	30	46	44	14	22
20 x 1	32	46	44	14	22
22 x 1	36	46	45	14	22
25 x 1 ¼	41	60	51	16	25
26 x 1 ¼	46	60	51	16	25
30 x 1 ¼	46	60	54	16	27
35 x 1 ½	50	65	56	16	28
38 x 2	55	75	58	18	29
40 x 2	60	75	58	18	29
44,5 x 2	65	75	59	18	29
D1 x D2 (")					
1/8 x 3/8	22	24	32	8	16
¼ x ¾	27	36	39	14	19
3/8 x ¾	30	36	41	14	20
½ x 1	36	46	44	14	22
¾ x 1 ¼	46	60	51	16	25
1 x 1 ½	50	65	54	16	27
1 ¼ x 2	65	75	58	18	29
¼ x 1 ¼	27	60	35	16	
¼ x ½	27	32	30	14	
¼ x 1	27	46	30	14	
½ x ¼	32	32	30	8	
½ x ¾	32	36	27	14	
½ x 1 ¼	32	60	35	16	
¾ x ½	46	41	35	14	
¾ x 1	46	46	35	14	
¾ x 1 ¼	46	60	35	16	
1 x 1 ¼	50	60	35	16	
1 x ¼	50	46	35	8	
1 x ½	50	46	35	14	
1 x ¾	50	46	35	14	
1 ¼ x ¼	65	60	35	8	
1 ¼ x ½	65	60	35	14	
1 ¼ x ¾	65	60	35	14	
1 ¼ x 1	65	60	35	14	

ABOA



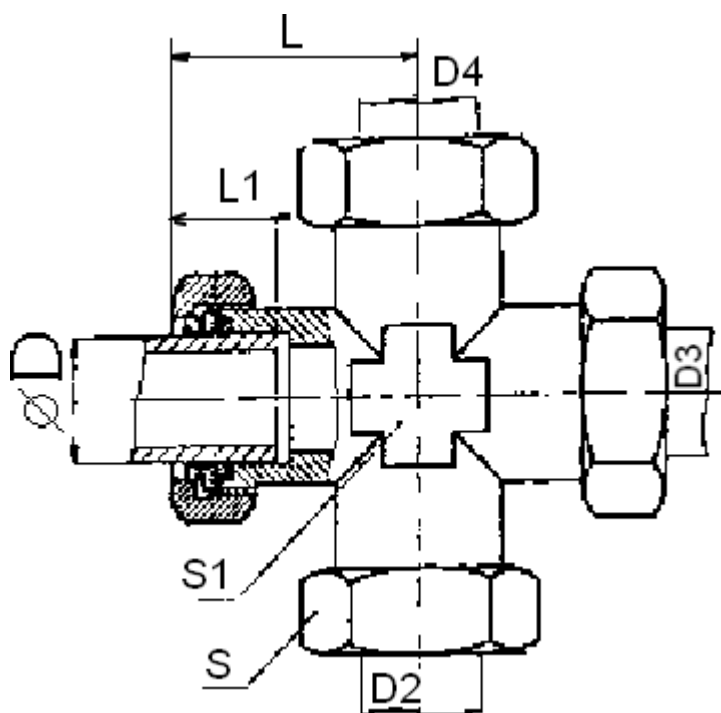
SIZE	S1	S2	L	L1	MASS
<u>D (mm)</u>					
6	17	14	17	14	22
8	19	17	17	14	28
10	22	19	19	17	38
12	24	22	20	17	43
14	27	24	21	18	54
15	27	24	22	19	63
16	30	27	23	20	78
18	30	27	24	21	70
20	32	30	24	21	79
22	36	36	26	22	116
25	41	36	25	21	131
28	46	41	25	22	174
30	46	46	28	24	229
35	50	46	31,5	27	205
38	55	50	33	28	280
40	60	55	32	26	361
44,5	65	65	35	28	428
<u>D (")</u>					
1/8	22	19	19	17	37
1/4	27	24	21	18	55
3/8	30	27	23	20	74
1/2	36	32	25	21	111
3/4	46	41	25	22	178
1	50	46	28	24	202
1 1/4	65	60	33	28	417
1 1/2	70	65	35	30	498
2	85	80	41	34	987

ABOM

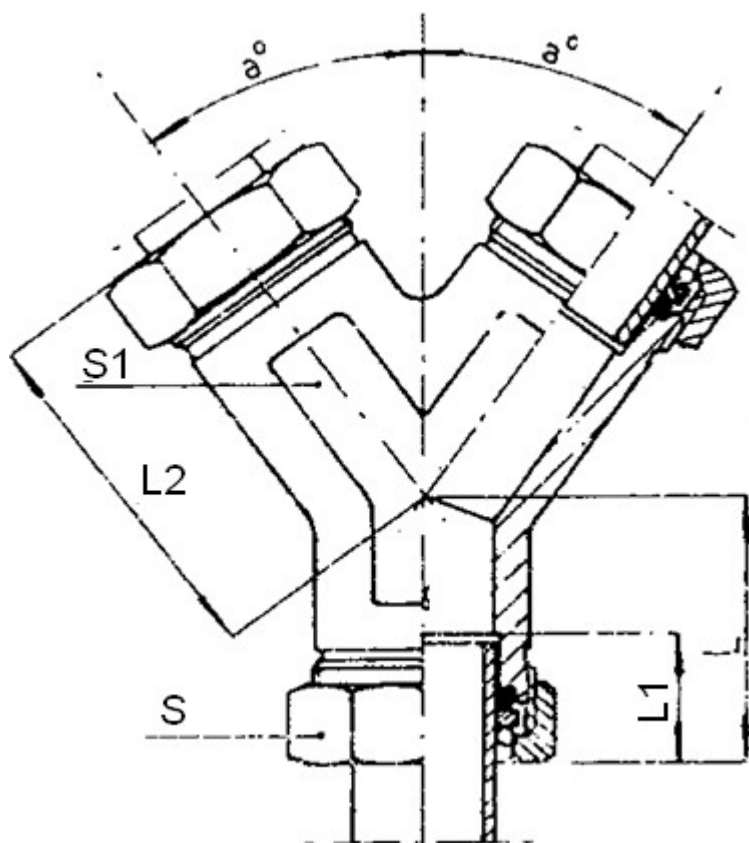


SIZE	SW	I	L		MASS
G (")					
1/8	17	8	14		
1/4	22	8	14		
3/8	24	8	14		
1/2	32	10	19		
3/4	36	14	23		
1	46	14	23		
1 1/4	60	16	28		
1 1/2	65	16	28		
2	75	18	32		
G					
M8x100	14	7	12		
M10x100	17	7	12		
M12x150	22	7	113		
M14x150	22	9	15		
M16x150	24	9	16		
M18x150	27	11	18		
M20x150	27	11	19		
M22x150	32	12	20		
M24x150	36	12	20		
M27x150	36	14	23		
M30x150	41	14	23		
M33x200	46	15	24		
M39x200	50	16	27		
M42x200	60	16	28		
M45x200	60	16	28		
M48x200	65	16	28		
M52x200	70	18	30		
M60x200	75	18	32		

ACA



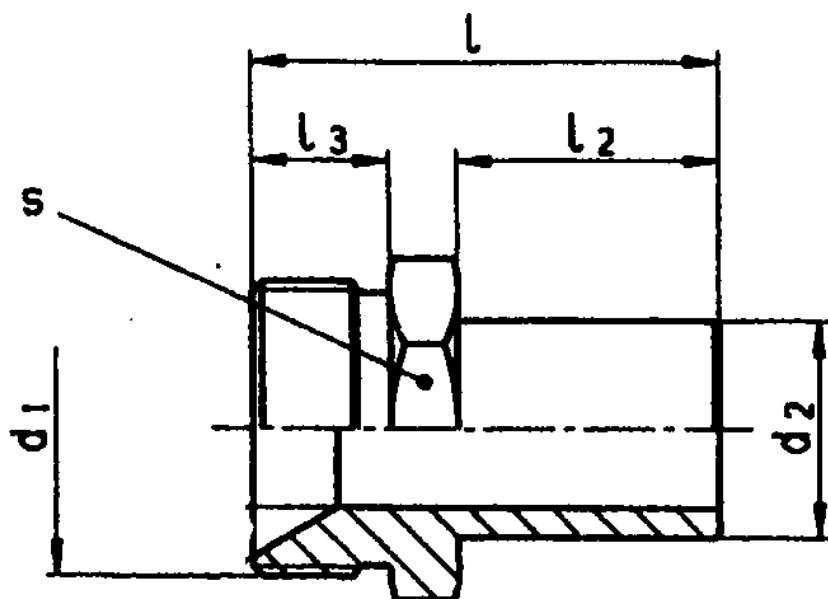
SIZE	S	S1	L	L1	MASS
D = D2 = D3 = D4 (mm)					
6	17	17	28	21	75
8	19	17	28	20	115
10	22	17	29	19	150
12	24	19	34	23	175
14	27	19	34	23	190
15	27	24	34	23	245
16	30	24	37	24	303
18	30	24	38	25	337
20	32	30	44	28	360
22	36	30	44	26	440
25	41	36	47	27	600
28	46	36	47	26	811
30	46	41	52	30	980
35	50	46	57	31	1220
38	55	50	61	36	1548
40	60	50	60	29	1660
44,5	65	60	69	36	1807
D x D2 x D3 x D4 (")					
1/8	22	17	28	19	147
1/4	27	19	34	23	200
3/8	30	24	38	24	302
1/2	36	30	43	25	430
3/4	46	36	47	26	755
1	50	46	56	35	940
1 1/4	65	50	61	30	1929
1 1/2	70	60	69	36	2232
2	85	70	80	47	4579



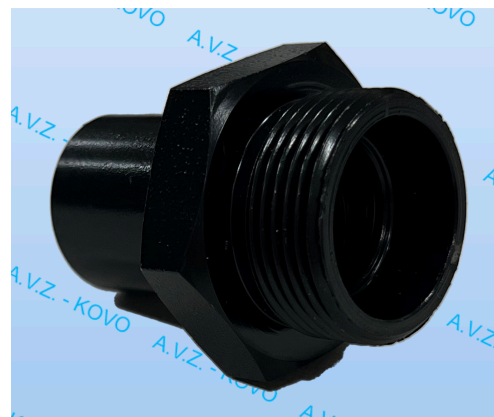
AYA



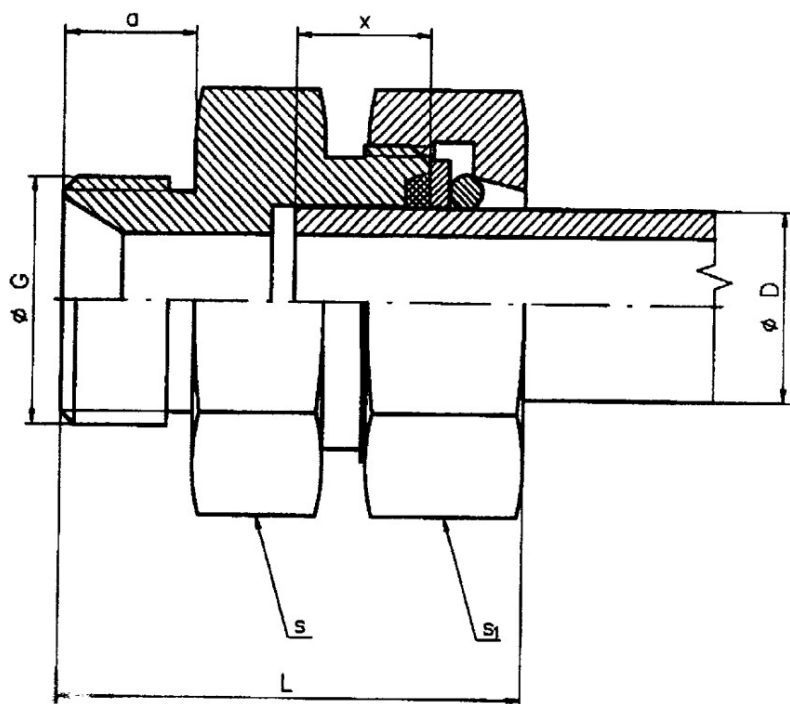
SIZE	S	S1	L	L1	a°	L2	MASS
Pipe diameter (mm)							
16	30	24	37	24	36	54	298
18	30	24	38	25	36	55	301
25	41	41	52	23	36	70	1000
28	46	41	52	24	36	70	1078
30	46	41	53	24,5	36	71	1013
38	55	45	36	25	30	89	1245
Pipe diameter (")							
3/8	30	24	38	24	36	54	292
3/4	46	41	52	24	36	70	1080
1	50	41	48	20	36	66	910
1 1/4	65	45	36	30	30	89	1286



AAMRA H60



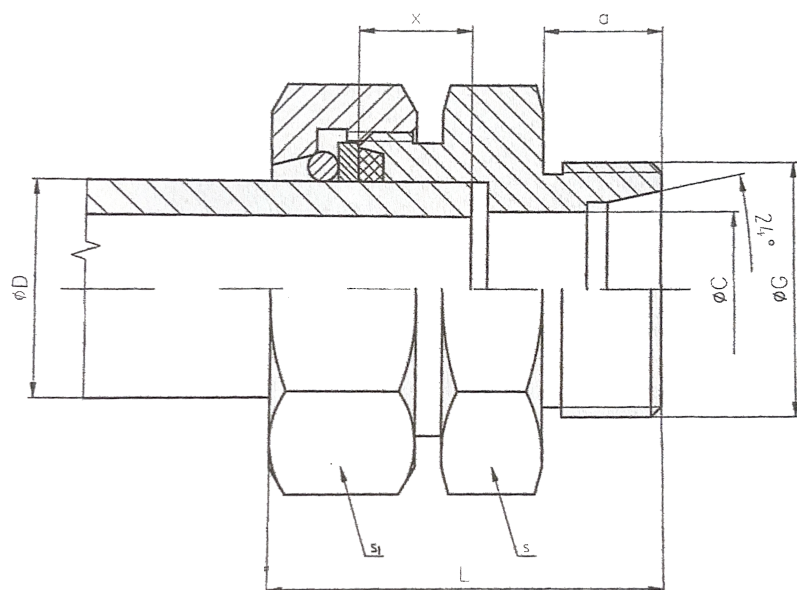
SIZE	L	L2	L3	S	d1	d2
D2 (") – D1						
¼ - 16x1,5	39	23	11	19	M16x1,5	¼
¼ - 18x1,5	39	23	11	22	M18x1,5	¼
3/8 - 18x1,5	47	30	11	22	M18x1,5	3/8
3/8 - 22x1,5	49	30	12	24	M22x1,5	3/8
½ - 22x1,5	49	30	12	24	M22x1,5	½
½ - 26x1,5	49	30	12	30	M26x1,5	½
¾ - 26x1,5	49	30	12	30	M26x1,5	¾
1 - 30x1,5	57	36	14	36	M30x1,5	1
1 ¼ - 38x1,5	62	40	14	46	M38x1,5	1 ¼



AVS H60



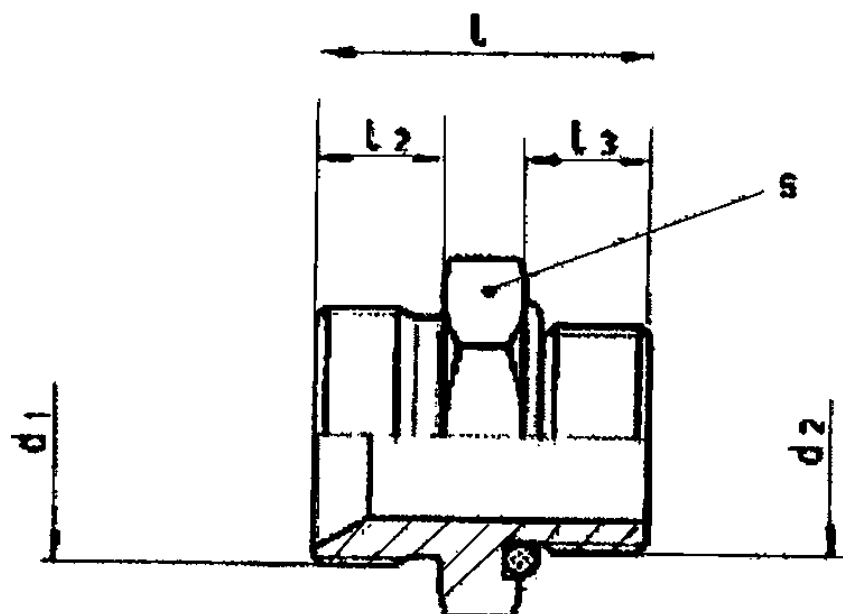
SIZE	L	s	s1	a	x
D (") - G					
¼ – M16x1,5	35	27	27	10	10
¼ – M18x1,5	35	27	27	10	10
3/8 – M18x1,5	38	30	30	10	11
3/8 – M22x1,5	42	30	30	12	11
½ – M22x1,5	41	36	32	12	11,5
½ – M26x1,5	41	36	32	12	11,5
¾ – M26x1,5	42	46	41	12	13
¾ – M30x1,5	45	46	41	14	13
1 – M30x1,5	48	50	46	14	13
1 ¼ – M38x1,5	53	65	60	14	18
1 ¼ – M45x1,5	54	65	60	16	18



AWS H24



SIZE	L	D	s	s1	C	G	a	x
D (") - G								
¼ – M16x1,5	37	¼	27	27	8	M16x1,5	12	10
¼ – M18x1,5	37	¼	27	27	10	M18x1,5	12	10
3/8 – M18x1,5	40	3/8	30	30	10	M18x1,5	12	11
3/8 – M22x1,5	44	3/8	30	30	14	M22x1,5	14	11
½ – M22x1,5	43	½	36	32	14	M22x1,5	14	11,5
½ – M26x1,5	43	½	36	32	18	M26x1,5	14	11,5
¾ – M26x1,5	44	¾	46	41	18	M26x1,5	14	13
¾ – M30x1,5	47	¾	46	41	22	M30x1,5	16	13
1 – M30x1,5	50	1	50	41	22	M30x1,5	16	13
1 ¼ – M38x1,5	55	1 ¼	65	60	30	M38x1,5	16	18
1 ¼ – M45x1,5	56	1 ¼	65	60	37	M45x1,5	18	18

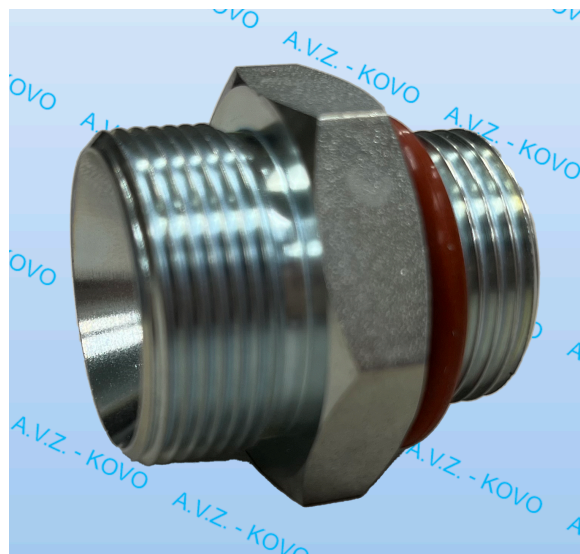
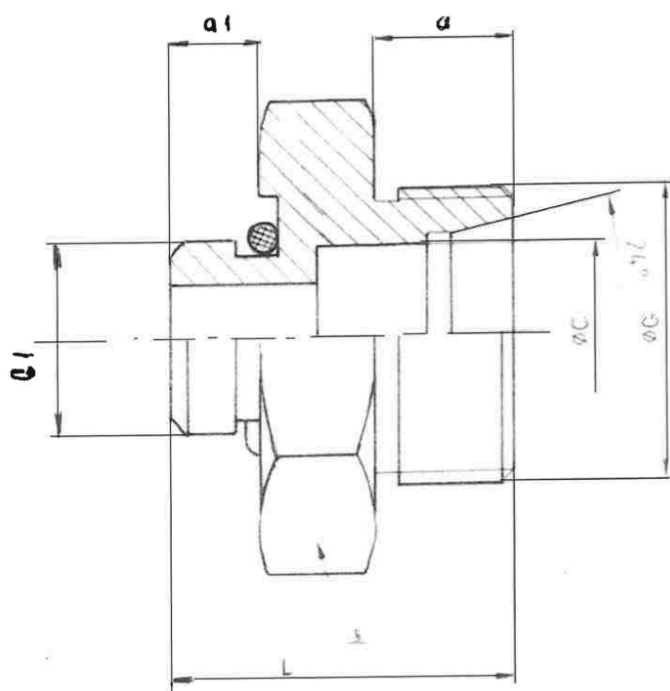


AUMRA H60



SIZE	L	L2	L3	S	d1	d2
D2 (") – D1						
¼ – M14x1,5	26	11	8	22	M14x1,5	¼
¼ – M16x1,5	26	11	8	22	M16x1,5	¼
3/8 – M18x1,5	26	11	8	24	M18x1,5	3/8
½ – M22x1,5	31	12	10	32	M22x1,5	½
½ – M26x1,5	31	12	10	32	M26x1,5	½
¾ – M30x1,5	37	14	14	36	M30x1,5	¾
1 – M38x1,5	39	14	14	46	M38x1,5	1

AUMRA H24



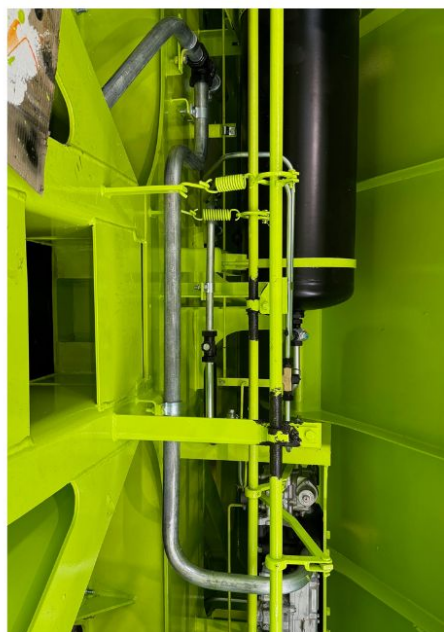
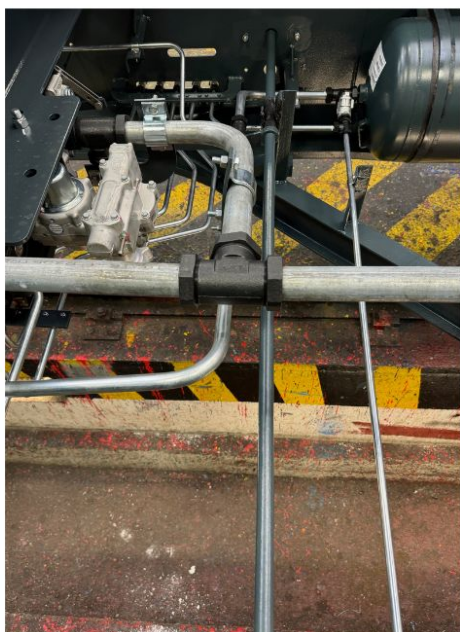
SIZE	L	a	a1	S	C	G	G1
G1 (") – G							
¼ – M18x1,5	30,5	27	12	8	10	M18 x 1,5	¼"
½ – M26x1,5	31,5	36	12	10	16	M26 x 1,5	½"



Použití našeho
šroubení
zákazníky

References from
our customers

Foto:
Tatravagonka Poprad a.s.



APPENDIX

Table 1

PRESSURE RING and washer	IDENTIFIER	MATERIALS OF TUBE
steel round spring ring	1*	carbon steel tube, standard range
steel conical split tapered ring	2*	thin carbon steel tube
steel conical split tapered ring with grooves	3*	steel tubes with high pressure
stainless steel round spring ring	4**	stainless steel tube
stainless steel conical split tapered ring	5**	stainless steel tube
stainless steel conical split tapered ring with grooves	6**	stainless tube with high pressure

* If not specified, the default surface treatment is phosphate

** no surface treatment needed

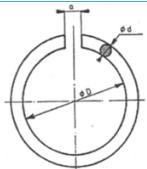
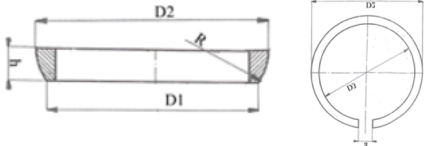
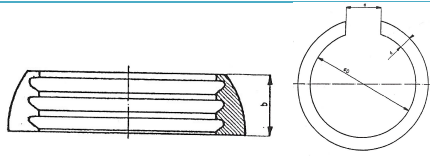
		
round spring ring	conical split tapered ring	conical split tapered ring with grooves

Table 2

SURFACING	zinc - chromate	zinc - chromate	zinc - chromate	cataphoresis*	phosphate	none
IDENTIFIER	Z	Z1	Z2	S	L	N
COLOR	white	yellow	olive	black	black	-
LAYER THICKNESS	8	8	8	15	10	-
SIGN	Fe/Zn	Fe/Zn	Fe/Zn			
NORM	EN 12329	EN 12329	EN 12329	NFF 19355		

* only for main housing and sliding nut of the fitting

Table 3

O-RING	NBR	EPDM	FPM	silicone	graphite
IDENTIFIER	A	C	D	E	F
PERMISSIBLE TOLERANCE (°C)	-30 – +120	-50 – +150	-20 – + 250	-50 – +200	-220 – +550
COMPRESSED AIR	✓	✓	✓	✓	✓
WATER 80°C	✓			✓	✓
WATER 150°C		✓			✓
HYDROCARBON	✓		✓		✓
BRAKE FLUID		✓			✓
OIL	✓		✓		✓
GAS / PROPANE-BUTANE	✓				✓
ROCK GAS			✓		✓
OZONE	✓	✓	✓	✓	✓

Table 4

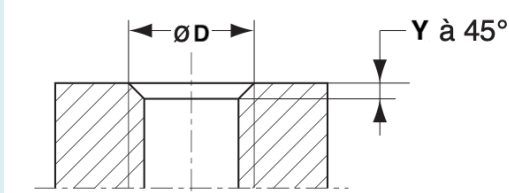
MATERIAL	carbon steel	stainless steel
IDENTIFIER	A	XL

This material is used for main housing and sliding nut of the fitting.

Table 5

Pipes of following standards can be only used.

PIPE STANDARDS	
Seamless and welded steel pipe	EN 10220, EN 10216-1, EN10217-1
Precise steel pipe – precisely cold drawn	EN 10305-1
Precise steel pipe – cold drawn	EN 10305-2
Precise steel pipe – cold drawn, seamless, for hydraulic and pneumatic pressure lines	EN 10305-4
Stainless steel pipe	ISO 1127
Aluminium pipe	EN 755-8 (non-annealed ad non-heat-treated pipes)
Copper pipe	EN 12449
Copper pipe	EN 1057



BEVELLING OF INSIDE THREADS			
ØD	Y	ØD	Y
M10 x 100 - M12 x 100	0,8	⅛	1
M14 x 150 - M30 x 150	1,1	¼ - ⅜	1,2
M33 x 200 - M48 x 200	1,3	½ - ¾	1,5
		1" - 2"	1,8

Table 6

THREAD STANDARDS				
	ISO	AFNOR	DIN	BS
Metric / ISO	ISO 68-1	NF ISO 68-1 NFE 03-001	DIN ISO 68-1	-
Withworth BSTT	ISO 228-10	NFE 03-005	DIN EN ISO 228-1	BS EN ISO 228-1

Table 7

MAXIMUM PERMISSIBLE TOLERANCE OF OUTER DIAMETER OF STEEL AND COPPER PIPE				
OUTER DIAMETER (mm)	MAX. TOLERANCE (mm)	OUTER DIAMETER (mm)	OUTER DIAMETER (palec/inch)	MAX. TOLERANCE (mm)
6	±0,120	10,2	1/8	±0,200
10	±0,120	13,5	1/4	±0,500
12	±0,160	17,2	3/8	±0,500
14	±0,160	21,3	1/2	±0,500
15	±0,160	26,9	3/4	±0,500
16	±0,160	33,7	1	±0,500
18	±0,160	42,4	1 1/4	±0,500
20	±0,160	48,3	1 1/2	±0,500
22	±0,240	60,3	2	±0,600
25	±0,240			
28	±0,240			
30	±0,240			
35	±0,300			

Table 8

Tightening torque (Nm)	Thickness of pipe wall										
Outer diameter (mm)	1	1,2	1,5	1,8	2	2,2	2,5	2,8	3	3,5	4
6	22	22	22	22	32						
8	40	40	40	40	40	40	40				
10	47	47	47	47	47	47	47	47	47		
12	50	50	50	50	50	50	50	50	50	50	50
14	60	60	60	60	60	60	60	60	60	60	60
15			50	50	70	70	70	70	70	70	70
16			50	50	70	70	70	70	70	70	70
18			80	80	95	95	95	95	95	95	95
20			80	80	95	95	95	95	95	95	95
22			85	85	100	100	100	100	100	100	100
25			90	90	125	125	125	125	125	125	125
28			105	105	140	140	140	140	140	140	140
30					160	160	160	160	160	160	160
35					180	180	180	180	180	180	180
38					220	220	220	220	220	220	220
40					230	230	230	230	230	230	230
44,5					270	270	270	270	270	270	270

Table 9

Tightening torque (Nm)		Thickness of pipe wall								
Outer diameter (mm)		1,6	1,8	2	2,3	2,6	2,9	3,2	3,6	4
10,2	⅛	47	47	47	47	47				
13,5	¼		60	60	60	60	60	60	60	
17,2	⅜		80	80	80	80	80	80	80	80
21,3	½			100	100	100	100	100	100	100
26,9	¾				140	140	140	140	140	140
33,7	1					140	140	140	140	140
42,4	1 ¼					250	250	250	250	250
48,3	1 ½					300	300	300	300	300
60,3	2						420	420	420	420

Tightening torques is valid for carbon steel, wall thicknesses of normed pipes when targeted pressure up to 20 bar.

Table 10

TIGHTENING TORQUE FOR COPPER AND ALUMINIUM PIPES, wall thickness > 2mm, operating pressure up to 20 bar																			
Diameter (mm)	6	8	10	12	14	15-16	18	20	22	25	28	30	38	42	48	54	60	66	72
Diameter (inch)			1/8	1/4	3/8	1/2	5/8	3/4	7/8	1	1 1/4	1 1/2	1 3/4	2	2 1/4	2 1/2	3	3 1/2	4
Copper	1,6	2	2,5	2,8	3,2	3,6	4	4,8	5	6,3	7	8	9	11	12,5	15	18	21	24
Aluminium	2	2,5	3	3,5	4	5	5,5	6	7	7,5	9	9,5	11	12,5	14	18	21	24	30

When attaching air coupling with internal thread, the part must be fastened until the joint is fully tightened.

- Conical split tapered ring
- Round spring ring
- Conical split tapered ring with grooves

For operating pressure higher than 10 bar we recommend to use of grooved conical split tapered ring.

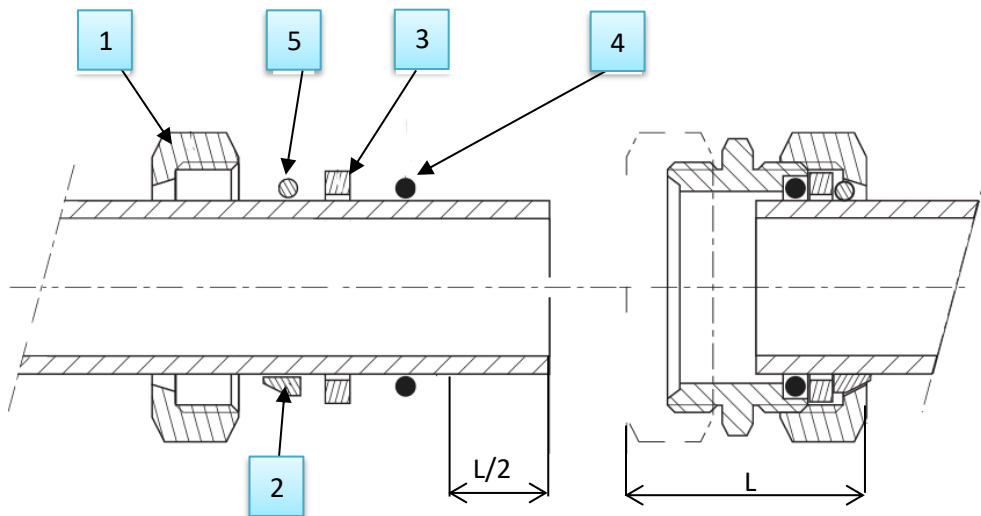
FITTINGS FEATURES

Our fittings are designed:

- To assemble plain end metal tubes from 1/8" (10,2mm O.D.) to 2" (60,3mm O.D.) or 6mm O.D. to 57mm O.D. only with two open end wrenches
- To avoid any operation on the tubes which are to be assembled: no thread, no solder, no open end tubes, no sealed ring.
- To stand, according to outside diameters, service pressures to 200bars (for 6mm O.D. tube) or to 40bars (for a 60,3mm O.D. tube)
- To be fully dismountable and recoverable fittings.
- To be easy to assemble so as to save on tools and work.
- To have excellent resistance to vibrations, pressures and temperatures and to have large tolerances on tube diameters and tube lengths
- To have axial misalignment for each tube $\geq 3^\circ$

Our fittings are manufactured under ISO 9001 procedures and are totally complying with UIC 803-35 OR.

INSTALLATION INSTRUCTION



- 1) Deburr the ends of the pipes, if necessary, remove grease, varnish, paint.
- 2) Assemble the individual parts in the following order:
 - a. Sliding nut (1)
 - b. Round spring ring (5), split tapered ring (2)
 - c. Washer (3)
 - d. O-ring (4)
- 3) Push the pipe into the fitting, the insertion length is slightly longer than $L/2$
- 4) Tighten the sliding nut to the corresponding tightening torque

ATTENTION!

The pipes must be fixed by appropriate means, the fitting does not accept any longitudinal load.

Maximal allowed axial misalignment for each tube is 3°.

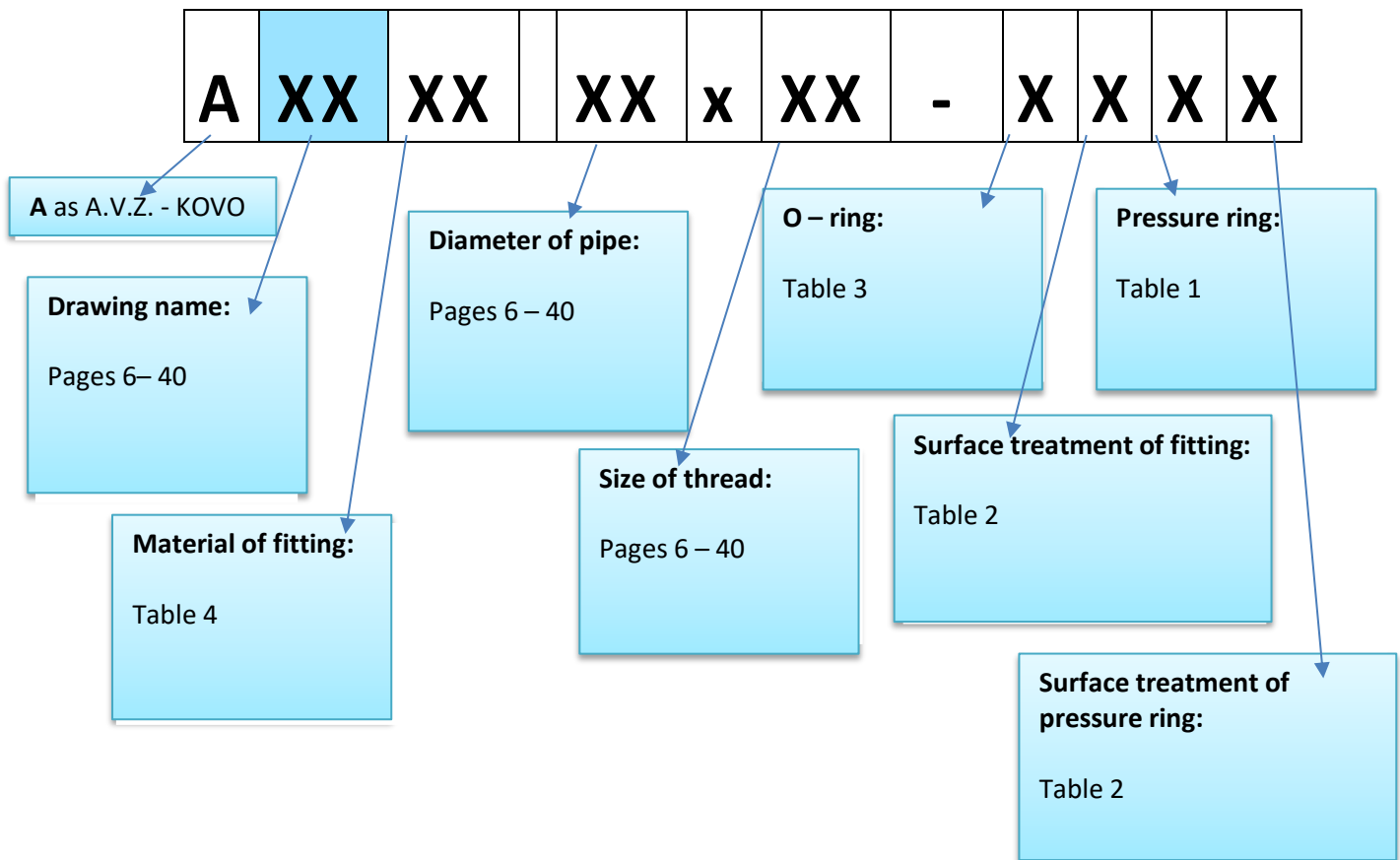
The pipes in the air couplings must be mounted to not touch each other.

When attaching an air fitting with the external thread, the part must be fastened until the joint is fully tightened.

Air couplings must be protected from damage when the sliding nut is fastened.

After fastening, make sure that there is an air gap between the ends of the round and the conical circlips. If not, check compatibility between the outsider diameter of the pipe and fitting dimensions or pipe tolerance.

HOW TO ORDER



Examples:

AUA 1 ¼ - AS1

Straight union U, size 1 ¼", carbon steel, NBR O-ring, cataphoresis, carbon steel spring ring and washer with phosphate

ATXL ½ x ¼ x ½ - EN5

Reduction adapter T, size ½ x ¼ x ½, stainless steel, no surface treatment, silicone O-ring, stainless steel split tapered ring and washer

AUMA ½ - AS3Z

Male connector UM, diameter of pipe ½", thread size 1", carbon steel, NBR O-ring, cataphoresis, steel split tapered ring with grooves and washer with white zinc surface

AUMRA H24 ¼ x M18x1,5 - AL1L

Male connector UM for reduction, diameter of pipe ½, thread size M18 x 1,5, NBR O-ring, phosphate, steel round spring ring with phosphate