



SAH
Stahlwerk Annahütte

Katalog | *catalogue*

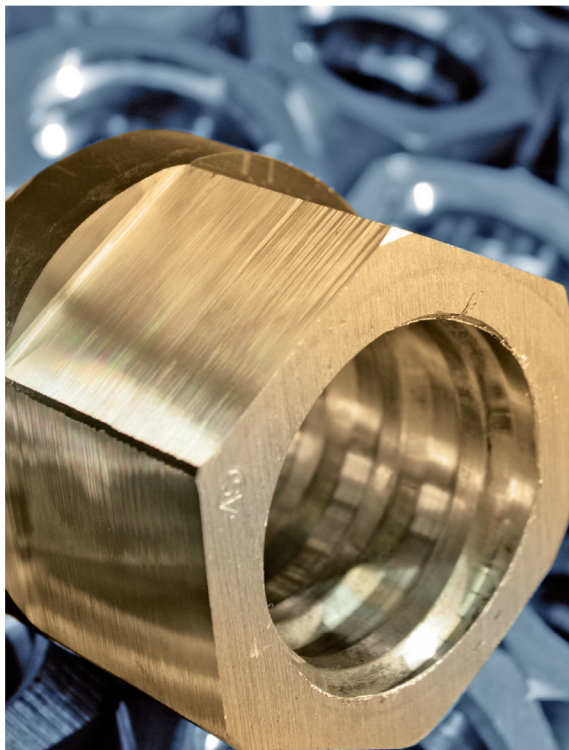
SAS 500 / 550 | SAS 550 / 620 | *grade 75*

SAS 555 / 700 | *grade 80*

SAS 670 / 800 | *grade 97*

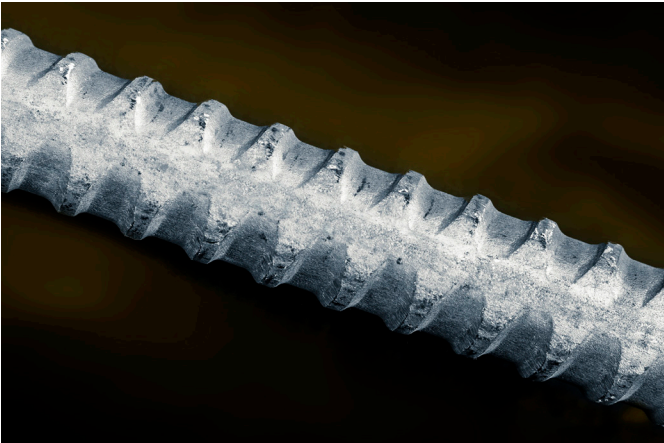
SAS 950 / 1050 | SAS 835 / 1035 | *grade 150 – acc. ASTM A722*

SAS SYSTEMS



MAX AICHER

SAS Gewindestäbe | SAS thread bars



SAS Gewindestab warmgewalzt, Rippenstahl - linksgängig | SAS thread bar hot rolled, ribbed - left hand thread

SAS 500 / 550 Ø 12 - 50 mm + 75 mm | grade 75

SAS 555 / 700 Ø 57,5 mm + 63,5 mm | grade 80

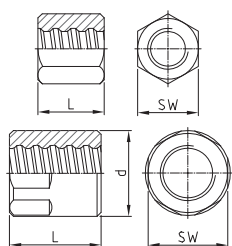
Ø _{NENN} / Ø _{NOM}	[mm]	12	14	16	20	25	28	32	36	40	43	50	57,5	63,5	75
max d _A	[mm]	14	16	19	23	29	32	36	41	45	48	56	63	70	82
c	[mm]	7	7,5	8	10	12,5	14	16	18	20	21,5	26	20	21	24
f _{yk} (f _{0,2k}) / f _{tk} / A _{gt} ¹⁾		500 N/mm² / 550 N/mm² / ≥ 6 %											555 N/mm² 700 N/mm² ≥ 5 %	500 N/mm² 550 N/mm² ≥ 5 %	
F _{yk} (F _{0,2k})	[kN]	57	77	100	160	245	310	405	510	630	726	980	1441	1760	2209
F _{tk}	[kN]	62	85	110	175	270	340	440	560	690	799	1080	1818	2215	2430
A	[mm²]	113	154	201	314	491	616	804	1020	1260	1452	1960	2597	3167	4418
G	[kg/m]	0,89	1,21	1,58	2,47	3,85	4,83	6,31	7,99	9,87	11,40	15,40	20,38	24,86	34,68

SAS 550 / 620 Ø 12 - 50 mm | grade 75

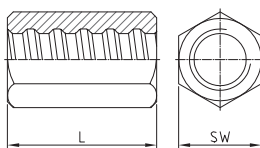
Ø _{NENN} / Ø _{NOM}	[mm]	12	14	16	20	25	26	28	30	32	36	40	43	50
max d _A	[mm]	14	16	19	23	29	30	32	34	36	41	45	48	56
c	[mm]	7	7,5	8	10	12,5	13	14	15	16	18	20	21,5	26
f _{yk} (f _{0,2k}) / A _{gt} ¹⁾		550 N/mm² / 620 N/mm² ≥ 6 %												
F _{yk} (F _{0,2k})	[kN]	62	85	110	175	270	290	340	390	440	560	690	799	1080
F _{tk} = 1,08 x F _{yk}	[kN]	67	92	119	189	292	313	367	421	475	605	745	862	1166
A	[mm²]	113	154	201	314	491	531	616	707	804	1020	1260	1452	1960
G	[kg/m]	0,89	1,21	1,58	2,47	3,85	4,17	4,83	5,55	6,31	7,99	9,87	11,40	15,40

¹⁾ Prozentuale Gesamtdehnung bei Höchstlast | Percentage total elongation at maximum force
Die Gewichtsangaben von Stab und Zubehör sind Mittelwerte. Die tatsächlichen Gewichte können aufgrund von Fertigungstoleranzen abweichen.
Weight specifications of bar and accessories are average values. The actual values may deviate due to fabrication tolerances.

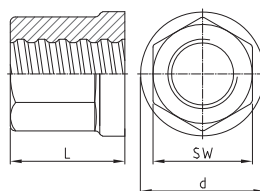
SAS SYSTEMS

Ankermutter
anchor nut

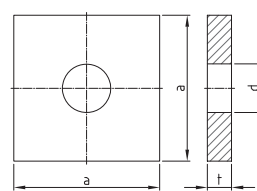
Ø [mm] SW x L x d [mm] [kg]

Ankermutter lang
anchor nut long

SW x L [mm] [kg]

Ankermutter mit Bund
anchor nut with flange

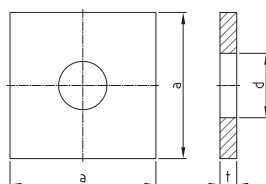
SW x L x d [mm] [kg]

Ankerplatte gerade
anchor plate flat

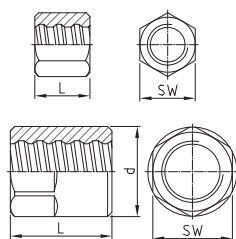
a x t x d [mm] [kg]

T 2002 - Ø			T 2024 - Ø		T 2163 - Ø		T 2139 - Ø **	
12	22 x 25	0,10	22 x 35	0,08	-	-	50 x 8 x 16	0,14
14	27 x 35	0,12	27 x 45	0,16	-	-	50 x 8 x 18	0,14
16	32 x 40	0,20	32 x 50	0,25	-	-	50 x 8 x 20	0,15
20	36 x 45	0,27	32 x 65	0,25	-	-	70 x 12 x 25	0,42
25	41 x 50	0,34	41 x 75	0,52	-	-	90 x 15 x 30	0,87
26	46 x 50	0,45	41 x 80	0,56	-	-	100 x 15 x 33	1,08
28	46 x 55	0,48	41 x 85	0,48	-	-	100 x 15 x 33	1,08
30	50 x 60	0,65	46 x 90	0,77	-	-	120 x 20 x 36	2,10
32	55 x 60	0,78	50 x 90	0,90	-	-	120 x 20 x 40	2,06
36	60 x 65	1,00	55 x 95	1,17	-	-	150 x 30 x 44	4,94
40	65 x 70	1,19	60 x 100	1,30	65 x 70 x 85	1,20	150 x 30 x 47	4,89
43	70 x 75	1,51	70 x 110	2,22	70 x 80 x 90	1,81	160 x 40 x 50	7,42
50	79 x 90	2,17	79 x 120	3,00	80 x 85 x 100	2,35	190 x 45 x 58	11,82
57,5	90 x 110 x 102	4,13	-	-	90 x 100 x 110	3,50	220 x 50 x 67	17,61
63,5	100 x 115 x 108	4,72	-	-	100 x 115 x 125	4,90	245 x 50 x 73	22,05
75	100 x 100 x 108	2,99	-	-	100 x 120 x 115	4,15	275 x 65 x 88	35,48

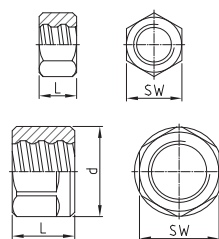
SAS SYSTEMS

Ankerplatte gerade klein
anchor plate flat small

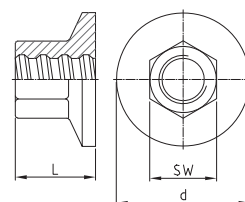
Ø [mm] a x t x d [mm] [kg]

Kontermutter lang
lock nut long

SW x L x d [mm] [kg]

Kontermutter kurz
lock nut short

SW x L x d [mm] [kg]

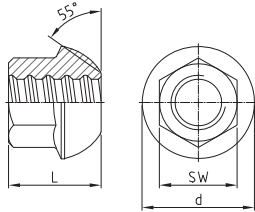
Ankerstück
anchor piece

SW x L x d [mm] [kg]

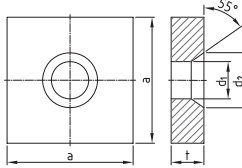
T 2008 - Ø **			T 2003 - Ø		T 2040 - Ø		T 2073 - Ø	
12	40 x 6 x 16	0,06	19 x 20	0,04	19 x 13	0,03	-	-
14	-	-	27 x 25	0,09	27 x 15	0,06	-	-
16	50 x 8 x 20	0,10	32 x 30	0,15	32 x 20	0,10	30 x 33 x 50	0,25
20	60 x 10 x 25	0,16	32 x 40	0,16	32 x 20	0,09	36 x 40 x 70	0,43
25	70 x 12 x 30	0,40	41 x 40	0,25	41 x 20	0,14	41 x 45 x 70	0,50
26	-	-	41 x 45	0,35	41 x 25	0,20	41 x 50 x 90	0,70
28	85 x 14 x 33	0,70	41 x 45	0,26	41 x 25	0,15	46 x 50 x 90	0,77
30	-	-	50 x 50	0,55	50 x 30	0,35	50 x 55 x 95	1,00
32	100 x 15 x 38	1,00	50 x 50	0,47	50 x 30	0,30	50 x 60 x 100	1,40
36	-	-	55 x 55	0,85	55 x 30	0,40	60 x 65 x 110	1,64
40	120 x 17 x 47	1,69	60 x 65	0,85	60 x 35	0,45	65 x 70 x 120	2,10
43	-	-	70 x 65	1,31	70 x 40	0,80	70 x 80 x 130	2,43
50	150 x 20 x 58	3,12	79 x 80	2,10	79 x 50	1,30	80 x 85 x 150	3,88
57,5	-	-	90 x 80 x 102	2,87	90 x 60 x 102	2,08	90 x 100 x 175	6,09
63,5	-	-	90 x 115 x 102	3,74	90 x 75 x 102	2,28	100 x 115 x 190	7,38
75	-	-	100 x 80 x 108	2,37	100 x 80 x 108	2,37	-	-

** Aufgrund von Lagerungs- und Transportbedingungen kann Rostbildung nicht ausgeschlossen werden
Rust formation cannot be ruled out due to storage and transport conditions

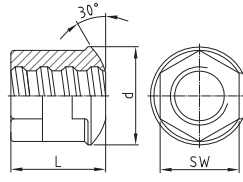
SAS SYSTEMS

Kugelbundmutter 55°
domed nut 55°


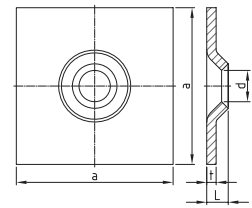
Ø [mm] SW x L x d [mm] [kg]

Ankerplatte Konus 55°
anchor plate cone 55°


a x t x d₁ x d₂ [mm] [kg]

Kalottenmutter 30°
dome nut 30°


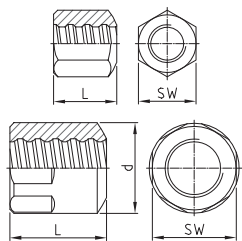
SW x L x d [mm] [kg]

Ankerplatte ballig 30°/55°
domed washer 30°/55°


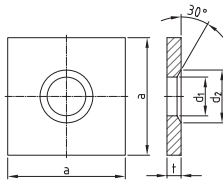
a x L x t x d [mm] [kg]

T 2044 - Ø			T 2011 - Ø **		T 2944 - Ø		T 2132 - Ø **	
12	-	-	-	-	-	-	-	-
14	-	-	-	-	-	-	-	-
16	27 x 33 x 35	0,11	60 x 10 x 25 x 33	0,24	-	-	150 x 25 x 10 x 22	1,77
20	36 x 42 x 49	0,30	70 x 12 x 30 x 44	0,37	36 x 40 x 51	0,30	150 x 25 x 10 x 26	1,76
25	41 x 45 x 55	0,35	90 x 15 x 35 x 49	0,81	41 x 45 x 54	0,32	150 x 25 x 10 x 34	1,74
26	-	-	-	-	-	-	-	-
28	41 x 54 x 62	0,45	100 x 15 x 40 x 54	0,99	41 x 50 x 58	0,38	200 x 25 x 10 x 34	3,11
30	-	-	-	-	-	-	-	-
32	46 x 57 x 70	0,60	120 x 20 x 52 x 60	1,91	50 x 60 x 62	0,70	200 x 27 x 12 x 40	3,70
36	-	-	-	-	-	-	-	-
40	60 x 70 x 88	1,50	150 x 30 x 65 x 76	4,48	65 x 70 x 85	1,79	200 x 42 x 20 x 53	5,90
43	70 x 80 x 100	2,12	160 x 40 x 75 x 93	6,54	-	-	-	-
50	80 x 85 x 107	2,57	190 x 45 x 83 x 96	10,78	80 x 85 x 100	2,96	-	-
57,5	90 x 100 x 120	3,79	220 x 50 x 92 x 110	16,25	-	-	-	-
63,5	100 x 115 x 144	5,51	245 x 50 x 104 x 121	20,09	-	-	-	-
75	100 x 120 x 160	6,62	275 x 65 x 118 x 145	32,60	-	-	-	-

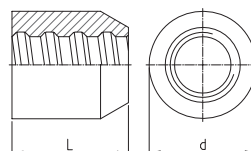
SAS SYSTEMS

Ankermutter ballig 30°
bull nose nut 30°


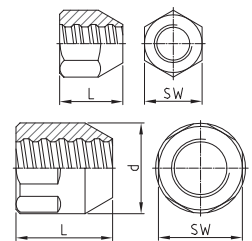
Ø [mm] SW x L x d [mm] [kg]

Ankerplatte Konus 30°
anchor plate cone 30°


a x t x d₁ x d₂ [mm] [kg]

Anschweißstück
welding bolt


d x L [mm] [kg]

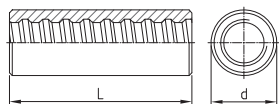
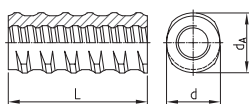
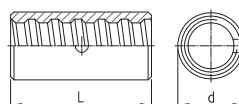
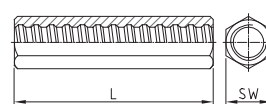
Anschweißstück SW
welding bolt hexagonal


SW x L x d [mm] [kg]

T 2963 - Ø			T 1928 - Ø **		T 3022 - Ø		T 3026 - Ø	
12	22 x 25	0,05	50 x 8 x 16 x 26	0,14	30 x 30	0,12	32 x 40	0,21
14	27 x 35	0,12	50 x 8 x 18 x 28	0,14	36 x 40	0,24	36 x 50	0,34
16	32 x 40	0,18	60 x 8 x 20 x 30	0,20	40 x 45	0,33	41 x 55	0,48
20	36 x 45	0,25	70 x 12 x 25 x 35	0,41	45 x 50	0,44	46 x 65	0,70
25	41 x 50	0,33	90 x 15 x 30 x 40	0,87	50 x 55	0,55	50 x 75	0,89
26	46 x 50	0,42	100 x 15 x 33 x 45	1,07	50 x 55	0,53	50 x 75	0,89
28	46 x 55	0,47	100 x 15 x 33 x 45	1,07	55 x 60	0,73	55 x 85	1,21
30	50 x 60	0,61	120 x 20 x 36 x 46	2,09	60 x 65	1,02	60 x 90	1,20
32	55 x 60	0,75	120 x 20 x 40 x 50	2,06	60 x 65	0,91	60 x 90	1,20
36	60 x 65	0,94	150 x 30 x 44 x 59	4,92	70 x 70	1,45	70 x 95	1,20
40	65 x 70	1,15	150 x 30 x 47 x 60	4,88	80 x 80	2,11	79 x 100	2,66
43	70 x 75	1,47	160 x 40 x 58 x 78	7,16	90 x 90	3,07	80 x 100 x 90	3,11
50	79 x 90	2,15	190 x 45 x 58 x 75	11,79	90 x 90	2,77	90 x 120 x 100	4,51
57,5	90 x 110 x 102	3,92	220 x 50 x 67 x 87	17,56	110 x 110	5,29	100 x 120 x 110	5,44
63,5	100 x 115 x 108	4,65	245 x 50 x 73 x 100	21,92	114 x 120	5,88	100 x 120 x 114	5,25
75	100 x 100 x 108	2,90	275 x 65 x 88 x 110	35,40	-	-	-	-

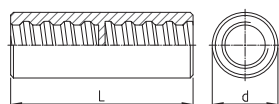
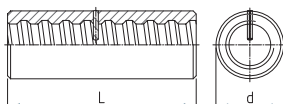
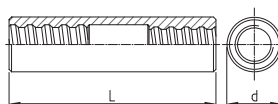
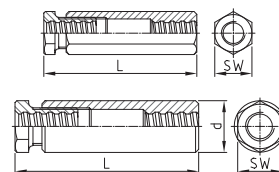
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SAS SYSTEMS

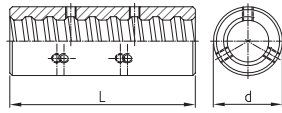
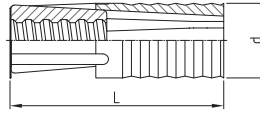
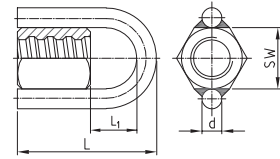
Muffe standard
coupler standard

Gewindemuffe
thread coupler

Kontaktmuffe
contact coupler

Sechskantmuffe lang
hexagonal coupler long


Ø [mm]	d x L [mm]	[kg]	d x d _A x L [mm]	[kg]	d x L [mm]	[kg]	SW x L [mm]	[kg]
T 3003 - Ø			T 3087 - Ø		T 3006 - Ø		T 3010 - Ø	
12	22 x 60	0,11	-	-	-	-	22 x 80	0,20
14	27 x 75	0,22	-	-	-	-	27 x 100	0,34
16	32 x 90	0,37	26,5 x 31 x 90	0,27	27 x 65	0,17	32 x 120	0,60
20	36 x 105	0,52	32 x 37 x 105	0,40	32 x 70	0,25	32 x 140	0,55
25	40 x 115	0,62	40 x 46 x 115	0,68	36 x 80	0,30	41 x 160	1,10
26	45 x 120	0,80	47 x 53 x 120	1,13	36 x 80	0,30	41 x 170	1,10
28	45 x 125	0,85	47 x 53 x 125	1,09	40 x 85	0,40	41 x 180	1,05
30	50 x 135	1,37	47 x 53 x 135	1,10	45 x 90	0,60	50 x 180	1,75
32	52 x 140	1,32	57 x 64 x 140	1,93	45 x 90	0,50	50 x 180	1,76
36	60 x 150	2,10	57 x 64 x 150	1,78	50 x 120	1,25	60 x 190	2,75
40	65 x 160	2,34	65 x 72 x 160	2,52	54 x 120	0,82	65 x 210	3,67
43	80 x 170	4,49	75 x 82 x 170	3,79	60 x 130	1,19	70 x 220	4,46
50	80 x 200	4,49	-	-	63 x 160	1,09	79 x 240	5,97
57,5	102 x 230	9,54	-	-	83 x 170	3,36	-	-
63,5	102 x 260	9,45	-	-	90 x 200	4,28	-	-
75	108 x 240	8,01	-	-	102 x 210	5,33	-	-

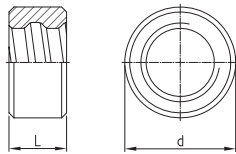
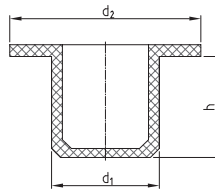
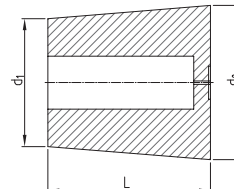
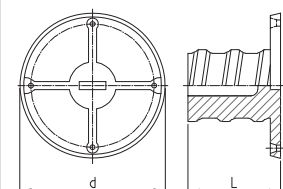
SAS SYSTEMS

Muffe standard mit Mittelstop
coupler standard with center stop

Muffe standard mit Kerbstift
coupler standard with grooved pin

Reduziermuffe
reducing coupler

Spannschloss
turnbuckle


Ø [mm]	d x L [mm]	[kg]	d x L [mm]	[kg]	Ø x d x L [mm]	[kg]	SW x L x d [mm]	[kg]
T 3002 - Ø			T 3043 - Ø		T 3102 - Ø		T 3105 - Ø	
12	22 x 60	0,12	-	-	-	-	32 x 126	0,65
14	27 x 75	0,23	-	-	-	-	32 x 138	0,66
16	32 x 90	0,38	32 x 90	0,40	16/14 x 32 x 120	0,55	36 x 150	0,92
20	36 x 105	0,54	36 x 105	0,53	20/16 x 36 x 130	0,65	41 x 175	1,28
25	40 x 115	0,65	40 x 115	0,62	25/20 x 40 x 150	0,84	46 x 190	1,64
26	45 x 120	0,83	45 x 120	0,91	26/20 x 40 x 155	0,88	50 x 205	2,17
28	45 x 125	0,89	45 x 125	0,86	28/26 x 45 x 170	1,20	50 x 205	2,04
30	50 x 135	1,41	50 x 135	1,21	30/28 x 50 x 180	1,62	60 x 225	3,58
32	52 x 140	1,37	52 x 140	1,32	32/30 x 52 x 185	1,72	60 x 225	3,41
36	-	-	60 x 150	1,96	36/32 x 60 x 205	2,61	70 x 250	5,39
40	-	-	65 x 160	2,38	40/36 x 65 x 215	3,26	79 x 270	7,31
43	-	-	80 x 170	4,49	43/40 x 80 x 225	5,93	90 x 290 x 105	13,46
50	-	-	80 x 200	4,55	50/40 x 80 x 240	6,00	100 x 310 x 115	16,89
57,5	-	-	102 x 230	9,54	57,5/50 x 90 x 280	7,99	100 x 340 x 125	20,37
63,5	-	-	102 x 260	9,45	63,5/57,5 x 102 x 310	11,56	100 x 395 x 130	24,11
75	-	-	108 x 240	8,08	75/63,5 x 110 x 290	11,63	110 x 370 x 130	19,67

Muffe mit Drehsicherung
coupler with set screws

Spreizdübel
expansion shell

Ringmutter
ring nut


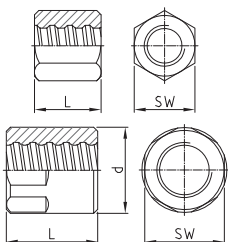
Ø [mm]	d x L [mm]	[kg]	d x L [mm]	[kg]	SW x L x L ₁ x d [mm]	[kg]
T 3020 - Ø			T 2136 - Ø *		T 2927 - Ø *	
12	-	-	-	-	-	-
14	-	-	-	-	32 x 110 x 54 x 16	0,58
16	-	-	32 x 92	0,22	32 x 110 x 54 x 16	0,57
20	-	-	39 x 109	0,44	36 x 120 x 59 x 16	0,67
25	-	-	49 x 121	0,60	41 x 135 x 69 x 16	0,78
26	-	-	-	-	-	-
28	45 x 125	0,82	49 x 121	0,60	46 x 145 x 74 x 16	0,97
30	-	-	-	-	-	-
32	52 x 140	1,35	59 x 149	1,00	55 x 165 x 89 x 16	1,34
36	60 x 150	1,94	-	-	-	-
40	65 x 160	2,35	-	-	65 x 193 x 103 x 20	2,10
43	80 x 170	4,41	-	-	70 x 200 x 105 x 20	2,56
50	80 x 200	4,50	-	-	79 x 220 x 110 x 20	3,33
57,5	102 x 230	9,45	-	-	90 x 270 x 140 x 20	5,57
63,5	102 x 260	9,41	-	-	100 x 279 x 144 x 20	6,07
75	108 x 240	8,02	-	-	100 x 279 x 159 x 20	4,43

Haltering
fix ring

Verschlussstöpsel
inner cap

Aussparungskegel
recess cone

Nagelplatte
nail plate


Ø [mm]	d x L [mm]	[kg]	d ₁ x d ₂ x h [mm]	[kg]	d ₁ x d ₂ x L [mm]	[kg]	d x L [mm]	[kg]
T 5003 - Ø			T 5025 - Ø		T 5050 - Ø		T 5979 - Ø	
12	-	-	12 x 19 x 7	0,01	36 x 42 x 40	0,02	36 x 20	0,01
14	-	-	14 x 19 x 7	0,01	41 x 49 x 49	0,03	42 x 20	0,01
16	-	-	16 x 25 x 9	0,01	48 x 58 x 64	0,05	48 x 25	0,01
20	-	-	20 x 25 x 9	0,01	50 x 62 x 74	0,07	48 x 30	0,01
25	-	-	25 x 30 x 9	0,01	63 x 76 x 78	0,10	58 x 35	0,02
26	-	-	26 x 31 x 9	0,01	-	-	58 x 35	0,02
28	-	-	28 x 35 x 9	0,01	74 x 89 x 89	0,14	58 x 40	0,02
30	-	-	30 x 35 x 9	0,01	-	-	68 x 45	0,03
32	-	-	32 x 37 x 9	0,01	77 x 93 x 98	0,14	68 x 45	0,03
36	50 x 25	0,15	36 x 42 x 9	0,01	-	-	-	-
40	55 x 25	0,18	40 x 48 x 10	0,01	-	-	-	-
43	65 x 25	0,33	46 x 53 x 9	0,01	-	-	-	-
50	65 x 30	0,25	50 x 58 x 10	0,01	-	-	-	-
57,5	81 x 35	0,60	-	-	-	-	-	-
63,5	89 x 40	0,85	64 x 74 x 10	0,01	-	-	-	-
75	102 x 40	1,01	-	-	-	-	-	-

* Bzgl. Traglast und Einbau bitte Datenblatt auf der Homepage beachten | with regard to load capacity and installation, please note data sheet available on the homepage

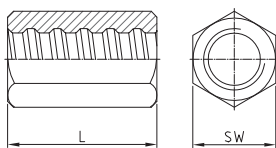
SAS SYSTEMS

Ankermutter EP gerade
anchor nut EP flat

Ø [mm]

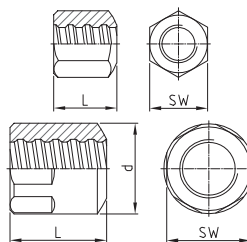
SW x L x d [mm]

[kg]

Ankermutter EP lang
anchor nut EP long

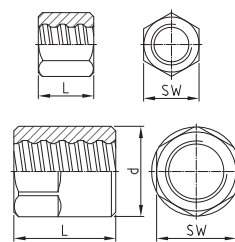
SW x L [mm]

[kg]

Ankermutter EP ballig 30°
bull nose nut EP 30°

SW x L x d [mm]

[kg]

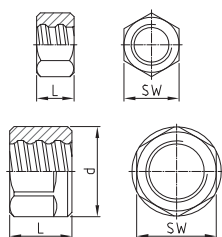
Kontermutter EP lang
lock nut EP long

SW x L x d [mm]

[kg]

T 2002 - Ø EP			T 2024 - Ø EP		T 2963 - Ø EP		T 2003 - Ø EP	
12	22 x 30	0,06	22 x 35	0,08	22 x 30	0,06	19 x 25	0,05
14	27 x 40	0,14	27 x 45	0,16	27 x 40	0,14	27 x 30	0,12
16	32 x 50	0,25	32 x 50	0,25	32 x 50	0,24	32 x 35	0,18
20	36 x 55	0,31	32 x 65	0,26	36 x 55	0,31	32 x 45	0,19
25	41 x 60	0,40	41 x 75	0,51	41 x 60	0,40	41 x 50	0,35
26	46 x 60	0,57	41 x 80	0,52	-	-	41 x 55	0,36
28	46 x 65	0,55	41 x 85	0,49	46 x 65	0,55	41 x 55	0,31
30	50 x 75	0,79	46 x 90	0,71	-	-	50 x 60	0,63
32	55 x 75	0,97	50 x 90	0,87	55 x 75	0,96	50 x 60	0,57
36	60 x 80	1,22	55 x 95	1,08	60 x 80	1,18	55 x 65	1,01
40	65 x 85	1,43	60 x 100	1,31	65 x 85	1,43	60 x 75	1,00
43	70 x 90	1,81	-	-	70 x 90	1,77	70 x 75	1,51
50	79 x 105	2,71	79 x 120	2,97	79 x 105	2,62	79 x 95	2,50
57,5	90 x 125 x 102	4,72	-	-	90 x 125 x 102	4,53	90 x 100 x 102	3,68
63,5	100 x 130 x 108	5,53	-	-	100 x 130 x 108	5,30	90 x 130 x 102	4,26
75	100 x 115 x 108	3,48	-	-	100 x 115 x 108	3,38	100 x 100 x 108	2,97

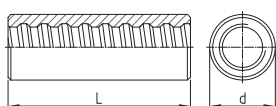
SAS SYSTEMS

Kontermutter EP kurz
lock nut EP short

Ø [mm]

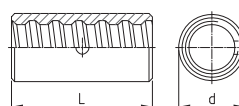
SW x L x d [mm]

[kg]

Muffe EP standard
coupler EP standard

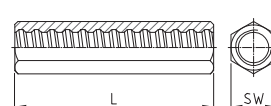
d x L [mm]

[kg]

Kontaktmuffe EP
contact coupler EP

d x L [mm]

[kg]

Sechskantmuffe EP lang
hexagonal coupler EP long

SW x L [mm]

[kg]

T 2040 - Ø EP			T 3003 - Ø EP		T 3006 - Ø EP		T 3010 - Ø EP	
12	19 x 20	0,03	22 x 75	0,15	-	-	22 x 80	0,17
14	27 x 25	0,09	27 x 90	0,32	-	-	27 x 100	0,34
16	32 x 30	0,15	32 x 105	0,46	-	-	32 x 120	0,60
20	32 x 40	0,17	36 x 120	0,59	32 x 70	0,25	32 x 140	0,56
25	41 x 40	0,28	40 x 135	0,71	36 x 80	0,30	41 x 160	1,10
26	41 x 45	0,29	45 x 140	1,06	36 x 80	0,24	41 x 170	1,11
28	41 x 45	0,41	45 x 145	0,97	40 x 85	0,40	41 x 200	1,22
30	50 x 50	0,52	50 x 155	1,38	45 x 90	0,53	50 x 180	1,89
32	50 x 50	0,50	52 x 160	1,49	45 x 90	0,50	50 x 180	1,75
36	55 x 55	0,73	60 x 170	2,30	50 x 120	0,74	60 x 190	2,90
40	60 x 65	0,85	65 x 190	3,07	54 x 120	0,90	65 x 210	3,66
43	70 x 65	1,30	80 x 200	5,28	60 x 130	1,18	70 x 220	4,44
50	79 x 80	2,10	80 x 235	5,60	64 x 160	1,35	79 x 240	5,95
57,5	90 x 80 x 102	2,85	102 x 260	10,75	80 x 170	2,90	-	-
63,5	90 x 85 x 102	2,62	102 x 300	10,87	90 x 200	4,25	-	-
75	100 x 80 x 108	2,36	108 x 270	9,00	102 x 210	5,30	-	-

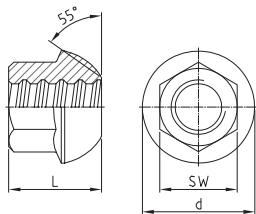


SAS Gewindestab warmgewalzt, Rippenstahl - rechtsgängig | SAS thread bar hot rolled, ribbed - right hand thread

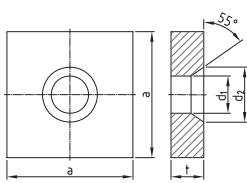
SAS 670 / 800 Ø 18 - 75mm | grade 97

Ø _{NENN} / Ø _{NOM}	[mm]	18	22	25	28	30	35	43	50	57,5	63,5	75
max d _A	[mm]	21	25	28	32	34	40	48	55	63	70	82
c	[mm]	8	8	10	11	11	14	17	18	20	21	24
f _{yk} (f _{0,2k}) / f _{tk} / A _{gt} ¹⁾		670 N/mm² / 800 N/mm² / ≥ 5 %										
F _{yk} (F _{0,2k})	[kN]	170	255	329	413	474	645	973	1315	1740	2122	2960
F _{tk}	[kN]	204	304	393	493	565	770	1162	1570	2077	2534	3535
A	[mm²]	254	380	491	616	707	962	1452	1963	2597	3167	4418
G	[kg/m]	2,00	2,98	3,85	4,83	5,55	7,55	11,40	15,40	20,38	24,86	34,68

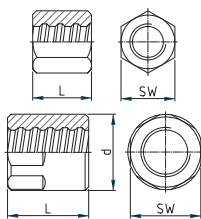
¹⁾ Prozentuale Gesamtdehnung bei Höchstlast | Percentage total elongation at maximum force
Die Gewichtsangaben sind Mittelwerte. Die tatsächlichen Gewichte können aufgrund von Fertigungstoleranzen abweichen.
Weight specifications are average values. The actual values may deviate due to fabrication tolerances.

SAS SYSTEMS Kugelbundmutter 55°
dome nut 55°

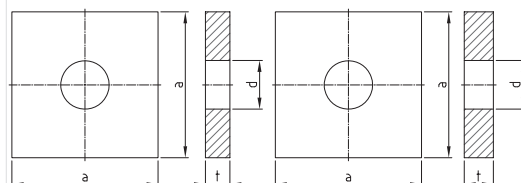
Ø [mm] SW x L x d [mm] [kg]

Ankerplatte Konus 55°
anchor plate cone 55°

a x t x d₁ x d₂ [mm] [kg]

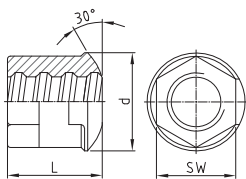
Ankermutter
anchor nut

SW x L x d [mm] [kg]

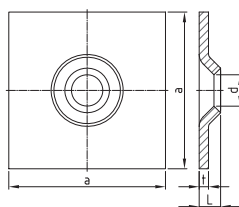
Ankerplatte gerade
anchor plate flat

a x t x d [mm] [kg] a x t x d [mm] [kg]

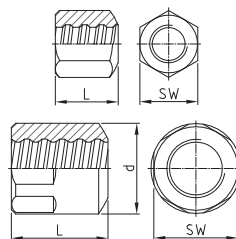
TR 2001 - Ø			TR 2011 - Ø **		TR 2002 - Ø		TR 2138 - Ø **		TR 2139 - Ø **	
18	32 x 35 x 43	0,18	100 x 25 x 27 x 39	1,83	36 x 45	0,29	100 x 20 x 23	1,51	100 x 25 x 23	1,88
22	36 x 45 x 53	0,27	110 x 30 x 32 x 47	2,62	41 x 50	0,39	110 x 25 x 27	2,26	110 x 30 x 27	2,72
25	41 x 50 x 60	0,47	125 x 30 x 35 x 53	3,40	46 x 55	0,53	110 x 25 x 30	2,20	115 x 30 x 30	2,95
28	46 x 55 x 67	0,62	135 x 35 x 40 x 59	4,59	50 x 60	0,67	115 x 30 x 34	2,90	120 x 30 x 34	3,18
30	50 x 60 x 71	0,66	145 x 35 x 40 x 63	5,32	55 x 65	0,90	130 x 30 x 36	3,74	130 x 35 x 36	4,36
35	60 x 70 x 83	1,40	170 x 40 x 47 x 73	8,36	65 x 70	1,41	150 x 35 x 42	5,80	150 x 40 x 42	6,63
43	70 x 85 x 102	2,22	210 x 50 x 58 x 90	15,96	79 x 90	2,62	185 x 45 x 50	11,40	185 x 55 x 50	13,93
50	80 x 100 x 116	3,44	240 x 55 x 70 x 110	22,59	79 x 100	2,53	215 x 50 x 60	17,03	215 x 60 x 60	20,44
57,5	90 x 115 x 137	5,69	275 x 60 x 75 x 119	32,77	90 x 120 x 102	4,53	250 x 55 x 67	25,46	245 x 65 x 67	28,83
63,5	100 x 125 x 151	7,52	300 x 65 x 82 x 131	42,19	100 x 145 x 114	6,97	265 x 60 x 74	31,05	270 x 70 x 74	37,70
75	120 x 150 x 178	12,94	325 x 70 x 100 x 159	51,89	100 x 130 x 108	3,86	320 x 70 x 86	53,10	325 x 70 x 86	54,85

SAS SYSTEMS**Kalottenmutter 30°**
dome nut 30°

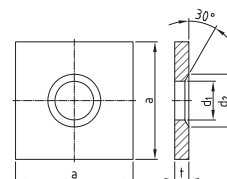
Ø [mm] SW x L x d [mm] [kg]

Ankerplatte ballig 30°
domed washer 30°

a x L x t x d [mm] [kg]

Ankermutter ballig 30°
bull nose nut 30°

SW x L x d [mm] [kg]

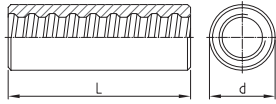
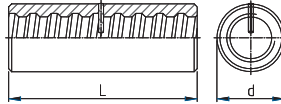
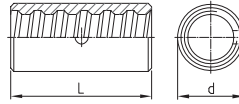
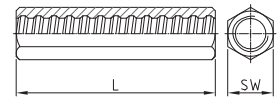
Ankerplatte Konus 30°
anchor plate cone 30°

a x t x d₁ x d₂ [mm] [kg]

TR 2944 - Ø			TR 2132 - Ø **		TR 2963 - Ø		TR 1928 - Ø **	
18	30 x 35 x 46	0,20	150 x 25 x 10 x 26	1,76	36 x 45	0,28	70 x 10 x 25 x 35	0,34
22	36 x 40 x 51	0,29	150 x 25 x 10 x 34	1,74	41 x 50	0,39	90 x 12 x 30 x 40	0,69
25	41 x 50 x 58	0,45	200 x 25 x 10 x 34	3,11	46 x 55	0,53	100 x 12 x 33 x 45	0,85
28	46 x 60 x 62	0,67	200 x 27 x 12 x 40	3,70	50 x 60	0,66	120 x 20 x 40 x 50	2,06
30	46 x 60 x 62	0,65	200 x 27 x 12 x 40	3,70	55 x 65	0,82	120 x 20 x 40 x 50	2,06
35	-	-	-	-	65 x 70	1,35	150 x 30 x 47 x 60	4,88
43	-	-	-	-	79 x 90	2,50	190 x 45 x 58 x 75	11,79
50	-	-	-	-	79 x 100	2,46	215 x 50 x 60 x 80	16,99
57,5	-	-	-	-	90 x 120 x 102	4,32	245 x 50 x 70 x 90	22,00
63,5	-	-	-	-	100 x 145 x 114	6,67	280 x 60 x 78 x 100	34,60
75	-	-	-	-	100 x 130 x 108	3,93	325 x 70 x 88 x 120	54,52

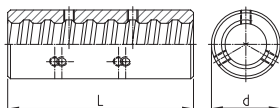
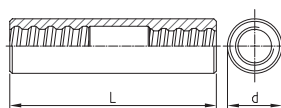
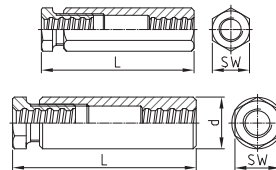
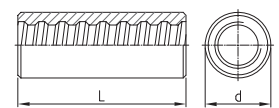
** Aufgrund von Lagerungs- und Transportbedingungen kann Rostbildung nicht ausgeschlossen werden
Rust formation cannot be ruled out due to storage and transport conditions

SAS SYSTEMS

Muffe standard
coupler standard

Muffe standard mit Kerbstift
coupler standard with grooved pin

Kontaktmuffe
contact coupler

Sechskantmuffe lang
hexagonal coupler long


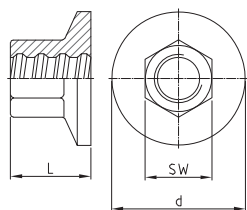
Ø [mm]	d x L [mm]	[kg]	d x L [mm]	[kg]	d x L [mm]	[kg]	SW x L [mm]	[kg]
TR 3003 - Ø			TR 3043 - Ø		TR 3006 - Ø		TR 3010 - Ø	
18	36 x 100	0,57	36 x 100	0,57	27 x 70	0,16	36 x 120	0,78
22	40 x 110	0,55	40 x 110	0,71	32 x 75	0,22	41 x 135	1,08
25	45 x 130	1,05	45 x 130	1,05	40 x 80	0,43	46 x 150	1,49
28	50 x 140	1,36	50 x 140	1,39	45 x 90	0,67	50 x 170	1,96
30	55 x 150	1,84	55 x 150	1,85	45 x 90	0,60	55 x 185	2,63
35	65 x 180	3,16	65 x 180	3,17	50 x 120	0,82	60 x 210	3,36
43	80 x 200	5,42	80 x 200	5,35	65 x 160	2,08	79 x 245	7,27
50	90 x 210	6,92	90 x 210	6,92	70 x 170	2,23	-	-
57,5	102 x 250	10,37	102 x 250	10,38	83 x 180	3,55	-	-
63,5	114 x 300	15,85	114 x 300	15,86	90 x 200	4,24	-	-
75	108 x 260	8,98	108 x 260	8,76	102 x 230	5,83	-	-

SAS SYSTEMS

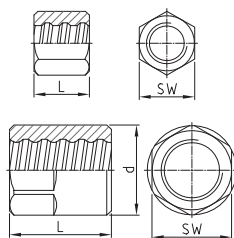
Muffe mit Drehsicherung
coupler with set screws

Reduziermuffe
reducing coupler

Spannschloss
turnbuckle

Muffe vergütet
coupler tempered


Ø [mm]	d x L [mm]	[kg]	Ø x d x L [mm]	[kg]	SW x L x d [mm]	[kg]	d x L [mm]	[kg]
TR 3020 - Ø			TR 3102 - Ø		TR 3105 - Ø		TR 3927 - Ø	
18	36 x 100	0,56	-	-	41 x 175	1,34	-	-
22	40 x 110	0,70	22/18 x 40 x 145	1,00	46 x 190	1,78	36 x 90	0,41
25	45 x 130	1,03	25/22 x 45 x 160	1,40	55 x 205	2,94	38 x 100	0,45
28	50 x 140	1,37	28/25 x 50 x 180	2,00	60 x 225	3,74	42 x 120	0,64
30	55 x 150	1,85	30/28 x 55 x 195	2,50	65 x 260	5,11	50 x 130	1,18
35	65 x 180	3,13	35/30 x 60 x 215	3,00	79 x 275	8,27	55 x 150	1,52
43	80 x 200	5,40	43/35 x 80 x 250	5,50	90 x 330 x 105	15,14	65 x 170	2,26
50	90 x 210	6,82	50/43 x 85 x 270	7,68	100 x 350 x 115	19,04	75 x 180	3,17
57,5	102 x 250	10,00	57,5/50 x 100 x 295	11,94	100 x 405 x 125	24,46	85 x 220	4,92
63,5	114 x 300	14,70	63,5/57,5 x 110 x 305	14,89	100 x 425 x 120	21,56	95 x 240	6,81
75	108 x 260	8,90	75/63,5 x 110 x 335	13,24	110 x 460 x 130	25,20	-	-

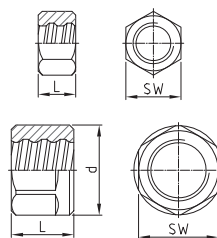
SAS SYSTEMS

Ankerstück
anchor piece


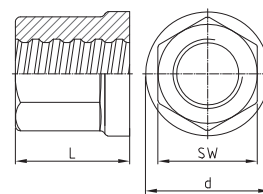
Ø [mm] SW x L x d [mm] [kg]

Kontermutter lang
lock nut long


SW x L x d [mm] [kg]

Kontermutter kurz
lock nut short


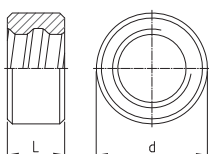
SW x L x d [mm] [kg]

Ankermutter mit Bund
anchornut with flange


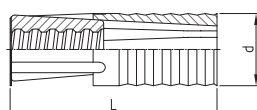
SW x L x d [mm] [kg]

TR 2073 - Ø			TR 2003 - Ø		TR 2040 - Ø		TR 2163 - Ø	
18	32 x 35 x 55	0,28	30 x 40	0,16	30 x 22	0,10	36 x 45 x 42	0,31
22	36 x 45 x 65	0,43	36 x 45	0,25	36 x 22	0,12	41 x 50 x 47	0,43
25	41 x 50 x 75	0,62	41 x 50	0,37	41 x 22	0,16	46 x 55 x 53	0,59
28	46 x 55 x 85	0,85	46 x 55	0,50	46 x 30	0,26	50 x 65 x 58	0,80
30	50 x 60 x 90	1,03	50 x 60	0,67	50 x 30	0,31	55 x 65 x 64	0,98
35	60 x 70 x 105	1,66	55 x 65	0,78	55 x 40	0,47	65 x 70 x 75	1,51
43	70 x 85 x 130	2,74	70 x 80	1,60	70 x 50	1,00	80 x 90 x 92	2,99
50	80 x 100 x 150	3,63	79 x 90	2,27	79 x 50	1,26	80 x 100 x 92	2,84
57,5	90 x 115 x 175	6,96	90 x 100 x 102	3,71	90 x 60 x 102	2,04	90 x 120 x 102	4,15
63,5	100 x 125 x 190	8,78	100 x 115 x 114	5,45	100 x 70 x 114	3,07	100 x 145 x 114	6,23
75	120 x 150 x 230	15,03	100 x 120 x 108	4,20	100 x 80 x 108	2,70	-	-

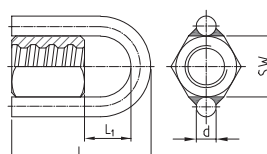
SAS SYSTEMS

Haltering
fix ring


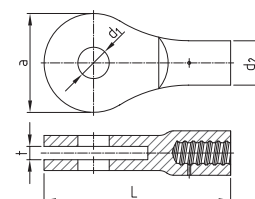
Ø [mm] d x L [mm] [kg]

Spreizdübel
expansion shell


d x L [mm] [kg]

Ringmutter
ring nut


SW x L x d x L₁ [mm] [kg]

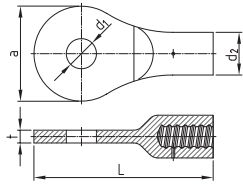
Gabelstück
fork piece


a x L x t x d₁ x d₂ [mm] [kg]

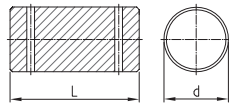
TR 5003 - Ø			TR 2136 - Ø *		TR 2927 - Ø *		TR 2090 - Ø EP	
18	-	-	39 x 109	0,44	36 x 120 x 16 x 59	0,68	-	-
22	31 x 20	0,06	49 x 121	0,60	41 x 135 x 16 x 69	0,83	-	-
25	-	-	49 x 121	0,60	46 x 145 x 16 x 74	1,02	-	-
28	45 x 20	0,14	59 x 149	1,00	50 x 155 x 16 x 79	1,19	-	-
30	45 x 20	0,06	59 x 149	1,00	55 x 165 x 16 x 84	1,46	-	-
35	50 x 20	0,13	-	-	65 x 193 x 20 x 103	2,42	167 x 315 x 27 x 53 x 75	7,40
43	65 x 25	0,33	-	-	79 x 220 x 20 x 110	3,78	197 x 384 x 29 x 63 x 92	12,80
50	70 x 30	0,39	-	-	79 x 220 x 20 x 100	3,69	221 x 406 x 35 x 75 x 94	14,75
57,5	81 x 35	0,60	-	-	90 x 270 x 20 x 130	5,97	248 x 454 x 42 x 88 x 96	20,40
63,5	89 x 40	0,85	-	-	100 x 305 x 20 x 140	8,60	298 x 553 x 42 x 98 x 114	34,50
75	102 x 40	1,01	-	-	100 x 279 x 20 x 129	5,30	328 x 627 x 54 x 108 x 116	44,40

* Bzgl. Traglast und Einbau bitte Datenblatt auf der Homepage beachten | with regard to load capacity and installation, please note data sheet available on the homepage

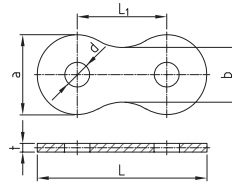
SAS SYSTEMS

Augenstück
eye piece


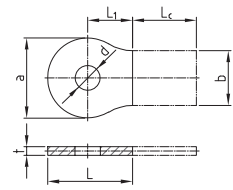
Ø [mm] a x L x t x d₁ x d₂ [mm] [kg]

Bolzen Augenstück
bolt eye piece


d x L [mm] [kg]

Verbindungslasche Augenstück
strap connection eye piece


a x L x t x d x L₁ x b [mm] [kg]

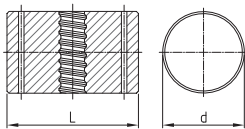
Anschweißlasche Augenstück
welding plate eye piece


a x L x L₁ x t x d x b [mm] [kg+Lc]

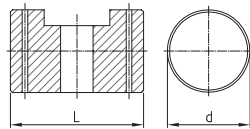
	TR 2080 - Ø EP **		TR 2081 - Ø		TR 3080 - Ø **		TR 3081 - Ø **	
18	-	-	-	-	-	-	-	-
22	-	-	-	-	-	-	-	-
25	-	-	-	-	-	-	-	-
28	-	-	-	-	-	-	-	-
30	-	-	-	-	-	-	-	-
35	167 x 315 x 23 x 53 x 75	7,18	50 x 100	1,52	167 x 354 x 18 x 53 x 187 x 114	7,00	167 x 177 x 94 x 18 x 53 x 114 x Lc	3,10 + Lc
43	197 x 384 x 25 x 63 x 92	12,54	60 x 110	2,40	197 x 414 x 20 x 63 x 217 x 134	9,60	197 x 207 x 109 x 20 x 63 x 134 x Lc	4,72 + Lc
50	221 x 406 x 31 x 75 x 92	17,99	72 x 105	3,31	221 x 467 x 25 x 75 x 246 x 160	14,91	221 x 224 x 114 x 25 x 75 x 160	7,15 + Lc
57,5	248 x 469 x 38 x 88 x 96	21,57	85 x 145	6,45	248 x 526 x 30 x 88 x 278 x 160	22,00	248 x 263 x 139 x 30 x 88 x 160 x Lc	10,95 + Lc
63,5	298 x 558 x 38 x 98 x 114	33,45	95 x 145	8,02	298 x 626 x 30 x 98 x 328 x 200	31,80	298 x 313 x 164 x 30 x 98 x 200 x Lc	17,95 + Lc
75	328 x 627 x 50 x 108 x 116	46,13	105 x 165	11,21	328 x 691 x 35 x 108 x 363 x 220	45,80	328 x 346 x 182 x 35 x 108 x 220 x Lc	22,75 + Lc

Lc nach Kundenwunsch / Lc on customer request

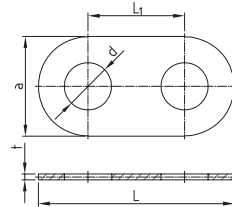
SAS SYSTEMS

Gelenkmutter
joint nut


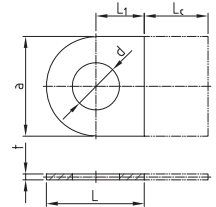
Ø [mm] d x L [mm] [kg]

Gelenkbolzen
joint bolt


d x L [mm] [kg]

Verbindungslasche Gelenkmutter
und Gelenkbolzen
strap connection joint bolt & nut


a x L x t x d x L₁ [mm] [kg]

Anschweißlasche Gelenkmutter
und Gelenkbolzen
welding plate joint bolt & nut


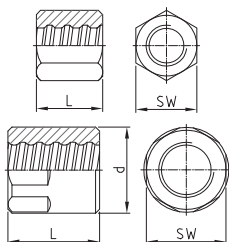
a x L x t x d x L₁ x Lc [mm] [kg+Lc]

	TR 2020 - Ø		TR 2021 - Ø		TR 2022 - Ø **		TR 2023 - Ø **	
18	-	-	-	-	-	-	-	-
22	-	-	-	-	-	-	-	-
25	-	-	-	-	-	-	-	-
28	-	-	-	-	-	-	-	-
30	-	-	-	-	-	-	-	-
35	120 x 193	16,00	120 x 193	14,60	260 x 512 x 15 x 123 x 252	11,00	260 x 256 x 15 x 123 x 126 x Lc	5,60 + Lc
43	140 x 212	23,80	140 x 212	21,20	320 x 626 x 15 x 145 x 306	16,60	320 x 313 x 15 x 145 x 153 x Lc	8,55 + Lc
50	150 x 222	24,39	150 x 212	21,20	355 x 680 x 20 x 155 x 325	27,73	355 x 340 x 20 x 155 x 163 x Lc	13,87 + Lc
57,5	150 x 222	27,00	150 x 222	24,53	420 x 780 x 20 x 155 x 360	40,20	420 x 390 x 20 x 155 x 180 x Lc	19,80 + Lc
63,5	190 x 265	53,40	190 x 265	51,06	460 x 894 x 25 x 195 x 434	59,60	460 x 447 x 25 x 195 x 217 x Lc	30,05 + Lc
75	190 x 279	55,00	190 x 279	52,00	470 x 912 x 35 x 195 x 442	88,40	470 x 456 x 35 x 195 x 221 x Lc	44,20 + Lc

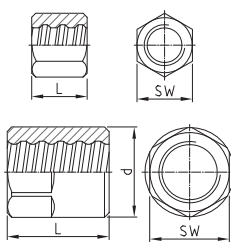
Lc nach Kundenwunsch / Lc on customer request

** Aufgrund von Lagerungs- und Transportbedingungen kann Rostbildung nicht ausgeschlossen werden
Rust formation cannot be ruled out due to storage and transport conditions

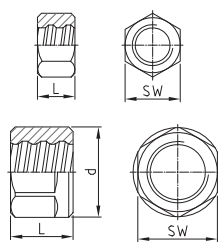
SAS SYSTEMS

Ankermutter EP gerade
anchor nut EP flat


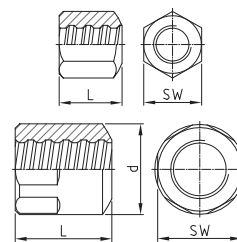
Ø [mm] SW x L x d [mm] [kg]

Kontermutter EP lang
lock nut EP long


SW x L x d [mm] [kg]

Kontermutter EP kurz
lock nut EP short


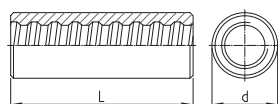
SW x L x d [mm] [kg]

Ankermutter EP ballig 30°
bull nose EP 30°


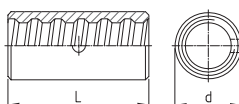
SW x L x d [mm] [kg]

TR 2002 - Ø EP			TR 2003 - Ø EP		TR 2040 - Ø EP		TR 2963 - Ø EP	
18	36 x 55	0,40	30 x 50	0,20	30 x 40	0,15	36 x 55	0,38
22	41 x 60	0,45	36 x 60	0,33	36 x 45	0,24	41 x 60	0,43
25	46 x 70	0,65	41 x 65	0,44	41 x 50	0,36	46 x 70	0,64
28	50 x 75	0,90	46 x 70	0,59	46 x 55	0,50	50 x 75	0,67
30	55 x 80	1,00	50 x 75	0,77	50 x 60	0,66	55 x 80	0,98
35	65 x 85	1,75	55 x 80	0,94	55 x 65	0,76	65 x 85	1,70
43	79 x 105	3,30	70 x 100	2,00	70 x 80	1,65	79 x 105	3,20
50	79 x 115	2,91	79 x 110	2,78	79 x 90	2,26	79 x 115	2,83
57,5	90 x 140 x 102	5,34	90 x 120 x 102	4,51	90 x 100 x 102	3,54	90 x 140 x 102	5,14
63,5	100 x 170 x 114	8,27	100 x 140 x 114	6,73	100 x 115 x 114	5,44	100 x 170 x 114	7,79
75	100 x 150 x 108	4,67	100 x 140 x 108	4,32	100 x 120 x 108	3,65	100 x 150 x 108	4,60

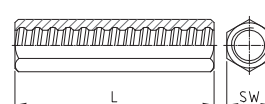
SAS SYSTEMS

Muffe EP standard
coupler EP standard


Ø [mm] d x L [mm] [kg]

Kontaktmuffe EP
contact coupler EP


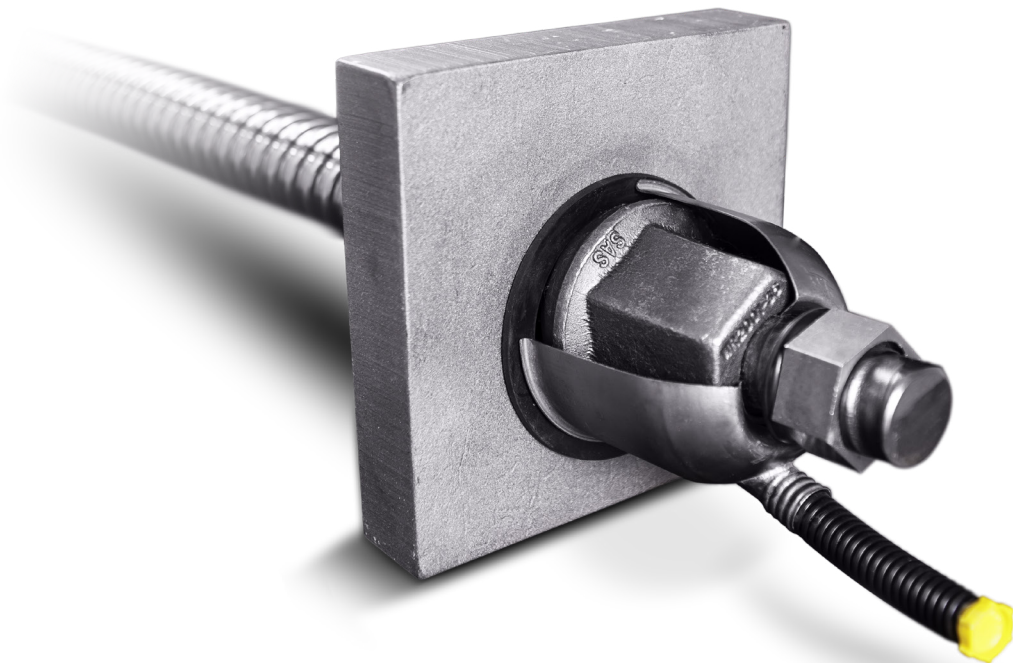
d x L [mm] [kg]

Sechskantmuffe EP lang
hexagonal coupler EP long


SW x L [mm] [kg]

TR 3003 - Ø EP			TR 3006 - Ø EP		TR 3010 - Ø EP	
18	36 x 120	0,69	27 x 70	0,16	36 x 120	0,77
22	40 x 125	0,81	32 x 75	0,25	41 x 135	1,08
25	45 x 150	1,24	40 x 80	0,47	46 x 150	1,49
28	50 x 160	1,56	45 x 90	0,67	50 x 170	1,94
30	55 x 165	2,02	45 x 90	0,60	55 x 185	2,62
35	65 x 190	3,30	50 x 120	0,82	60 x 210	3,34
43	80 x 225	6,10	65 x 160	2,08	79 x 245	7,24
50	90 x 235	7,72	70 x 170	2,21	-	-
57,5	102 x 275	11,36	83 x 180	3,53	-	-
63,5	108 x 285	12,71	90 x 200	4,24	-	-
75	108 x 290	9,70	102 x 230	5,79	-	-

SAS Spannstahlstäbe | SAS stress bars



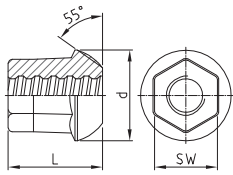
SAS Gewindestab warmgewalzt, Rippenstahl - rechtsgängig | SAS thread bar hot rolled, ribbed - right hand thread

SAS 950 / 1050 Ø 18 - 47 mm | SAS 835 / 1035 Ø 57 - 75 mm | grade150 acc. ASTM A722

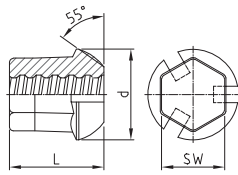
Ø_NENN / Ø_NOM	[mm]	18	26,5	32	36	40	47	57	65	75
max d_A	[mm]	21	31	37	42	46	53	64	72	82
c	[mm]	8	13	16	18	20	21	21	21	24
f _{p0,1k} /f _{pk} /A _{gt} ¹⁾		950 N/mm² / 1050 N/mm² / ≥ 5 %						835 N/mm² / 1035 N/mm² / ≥ 4 %		
F _{yk} (F _{p0,1k})	[kN]	230	525	760	960	1190	1650	2155	2780	3690
F _{pk}	[kN]	255	580	845	1070	1320	1820	2671	3447	4572
A	[mm²]	241	551	804	1020	1257	1735	2581	3331	4418
G	[kg/m]	1,96	4,48	6,53	8,27	10,21	14,10	20,95	27,10	35,90

¹⁾ Prozentuale Gesamtdehnung bei Höchstlast | Percentage total elongation at maximum force
Die Gewichtsangaben sind Mittelwerte. Die tatsächlichen Gewichte können aufgrund von Fertigungstoleranzen abweichen.
Weight specifications are average values. The actual values may deviate due to fabrication tolerances.

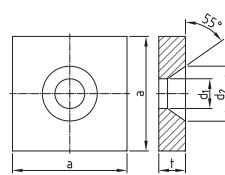
SAS SYSTEMS

Kugelbundmutter 55°
dome nut 55°


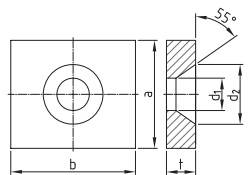
Ø [mm] SW x L x d [mm] [kg]

Kugelbundmutter 55°
mit Verpressnuten
domed nut 55° with grout slots


SW x L x d [mm] [kg]

Ankerplatte quadratisch 55°
anchor plate square 55°


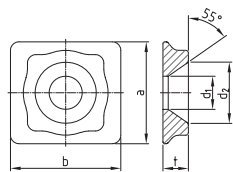
a x t x d₁ x d₂ [mm] [kg]

Ankerplatte rechteckig 55°
anchor plate rectangular 55°


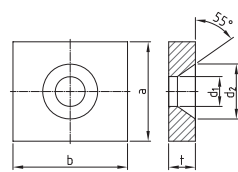
a x b x t x d₁ x d₂ [mm] [kg]

WR 2001 - Ø			WR 2099 - Ø		WR 2011 - Ø **		WR 2012 - Ø **	
18	36 x 55 x 50	0,43	36 x 55 x 50	0,40	110 x 30 x 28 x 45	2,66	100 x 130 x 30 x 28 x 45	2,39
26,5	50 x 75 x 72	1,09	50 x 75 x 72	1,02	150 x 35 x 39 x 72	5,61	130 x 150 x 35 x 39 x 72	4,50
32	60 x 90 x 80	1,70	60 x 90 x 80	1,65	180 x 40 x 45 x 82	9,33	140 x 180 x 40 x 45 x 82	7,07
36	65 x 100 x 90	2,24	65 x 100 x 90	2,13	200 x 45 x 49 x 92	12,95	150 x 220 x 50 x 49 x 92	11,70
40	70 x 115 x 100	2,91	70 x 115 x 100	2,71	220 x 45 x 54 x 100	15,64	160 x 250 x 60 x 54 x 100	17,10
47	80 x 135 x 110	4,09	80 x 135 x 110	3,79	260 x 50 x 64 x 110	24,49	200 x 280 x 60 x 64 x 110	24,12
57	-	-	-	-	-	-	-	-
65	-	-	-	-	-	-	-	-
75	-	-	-	-	-	-	-	-

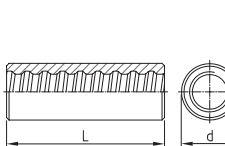
SAS SYSTEMS

QR Platte
QR plate


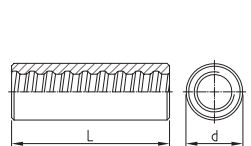
Ø [mm] b x a x t x d₁ x d₂ [mm] [kg]

Ankerplatte 55° rechteckig klein
anchor plate rectangular 55°, small


a x b x t x d₁ x d₂ [mm] [kg]

Muffe standard
coupler standard


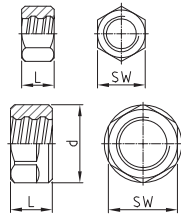
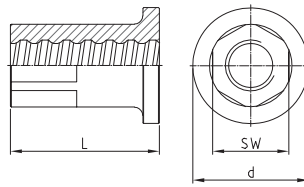
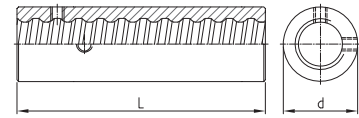
d x L [mm] [kg]

Muffe lang
coupler long


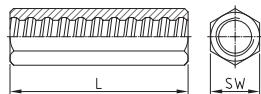
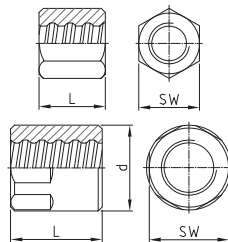
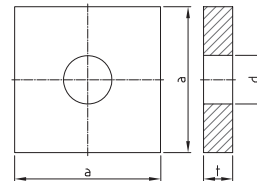
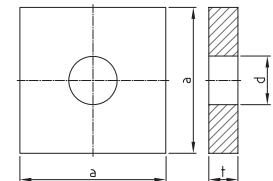
d x L [mm] [kg]

WR 2074 - Ø **			WR 2076 - Ø **		WR 3003 - Ø		WR 3303 - Ø	
18	-	-	80 x 90 x 25 x 28 x 45	1,25	36 x 100	0,56	36 x 115	0,64
26,5	130 x 120 x 30 x 39 x 72	2,00	120 x 130 x 30 x 39 x 72	3,15	50 x 170	1,73	50 x 195	2,00
32	165 x 140 x 35 x 45 x 82	3,30	140 x 165 x 35 x 45 x 82	5,57	60 x 200	2,91	60 x 230	3,40
36	180 x 160 x 40 x 49 x 93	4,90	160 x 180 x 40 x 49 x 92	7,94	68 x 210	3,98	68 x 245	4,68
40	195 x 180 x 45 x 54 x 100	7,20	180 x 195 x 45 x 54 x 100	10,95	70 x 245	4,59	70 x 285	5,38
47	-	-	210 x 235 x 55 x 64 x 110	19,20	83 x 270	7,23	-	-
57	-	-	-	-	95 x 240	7,75	-	-
65	-	-	-	-	106 x 260	10,37	-	-
75	-	-	-	-	114 x 290	12,14	-	-

** Aufgrund von Lagerungs- und Transportbedingungen kann Rostbildung nicht ausgeschlossen werden
Rust formation cannot be ruled out due to storage and transport conditions

Haltemutter
fix nut

Spannverankerung
stressing anchorage

Spannmuffe
stressing-coupler


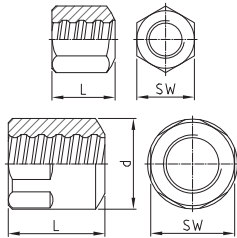
Ø [mm]	SW x L x d [mm]	[kg]	SW x L x d [mm]	[kg]	d x L [mm]	[kg]
WR 5005 - Ø			WR 8002 - Ø		WR 8003 - Ø	
18	30 x 22	0,08	41 x 70 x 65	0,82	45 x 100	1,00
26,5	36 x 22	0,08	46 x 90 x 70	1,03	45 x 150	1,17
32	41 x 22	0,09	50 x 110 x 70	1,30	55 x 180	2,02
36	46 x 25	0,12	55 x 120 x 80	1,78	60 x 200	2,55
40	50 x 25	0,13	55 x 130 x 80	1,90	65 x 220	3,44
47	60 x 30	0,24	65 x 140 x 90	2,81	75 x 240	4,87
57	85 x 40 x 90	1,02	90 x 160 x 110	7,28	95 x 270	9,40
65	90 x 40 x 102	1,15	100 x 180 x 120	9,66	110 x 290	13,13
75	105 x 50 x 114	1,90	105 x 200 x 135	12,85	120 x 320	15,45

Sechskantmuffe
hexagonal coupler

Ankermutter gerade
anchor nut flat

Ankerplatte gerade
anchor plate flat

Ankerplatte gerade
anchor plate flat


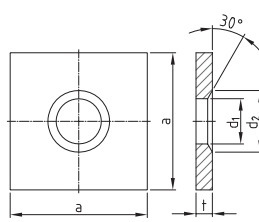
Ø [mm]	SW x L [mm]	[kg]	SW x L x d [mm]	[kg]	a x t x d [mm]	[kg]	a x t x d [mm]	[kg]
WR 3009 - Ø			WR 2002 - Ø		WR 2139 - Ø**		WR 2140 - Ø**	
18	36 x 100	0,67	41 x 60	0,55	120 x 20 x 25	2,20	-	-
26,5	50 x 170	2,09	46 x 80	0,73	150 x 35 x 32	5,90	-	-
32	60 x 200	3,54	55 x 90	1,18	180 x 40 x 38	9,82	-	-
36	70 x 210	5,01	60 x 110	1,63	200 x 45 x 45	13,57	-	-
40	70 x 245	5,61	70 x 120	2,63	220 x 45 x 50	16,40	-	-
47	79 x 270	7,49	79 x 140	3,72	240 x 55 x 58	23,73	-	-
57	-	-	90 x 120 x 95	3,79	285 x 65 x 70	39,48	220 x 50 x 70	17,49
65	-	-	100 x 130 x 106	4,99	325 x 70 x 78	55,42	245 x 60 x 78	26,02
75	-	-	105 x 145 x 114	5,68	370 x 80 x 88	82,15	275 x 70 x 88	38,21

** Aufgrund von Lagerungs- und Transportbedingungen kann Rostbildung nicht ausgeschlossen werden
Rust formation cannot be ruled out due to storage and transport conditions

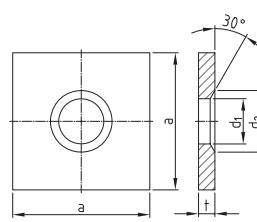
SAS SYSTEMS

Ankermutter ballig 30°
bull nose nut 30°


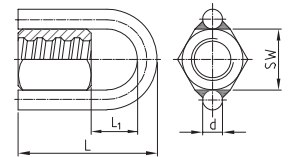
Ø [mm] SW x L x d [mm] [kg]

Ankerplatte Konus 30°
anchor plate cone 30°


a x t x d₁ x d₂ [mm] [kg]

Ankerplatte Konus 30°
anchor plate cone 30°


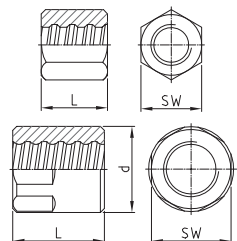
a x t x d₁ x d₂ [mm] [kg]

Ringmutter
(Gebrauchslast des Rings max. 60 kN)
ring nut
(working load of ring max. 60 kN)


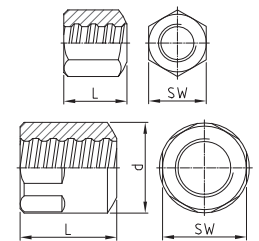
SW x L x L₁ x d [mm] [kg]

WR 2963 - Ø *			WR 1928 - Ø **		WR 1929 - Ø **		WR 2927- Ø	
18	41 x 60	0,52	120 x 20 x 25 x 35	2,18	-	-	41 x 135 x 59 x 16	0,99
26,5	46 x 80	0,71	150 x 35 x 32 x 45	5,95	-	-	46 x 165 x 69 x 16	1,28
32	55 x 90	1,14	180 x 40 x 38 x 50	9,81	-	-	55 x 190 x 84 x 16	1,81
36	60 x 110	1,57	200 x 45 x 45 x 60	13,55	-	-	60 x 219 x 89 x 20	2,78
40	70 x 120	2,53	220 x 45 x 50 x 70	16,36	-	-	70 x 244 x 104 x 20	3,87
47	79 x 140	3,60	240 x 55 x 58 x 80	23,50	-	-	79 x 274 x 114 x 20	5,10
57	90 x 120 x 95	3,67	285 x 65 x 70 x 90	39,30	220 x 50 x 70 x 90	17,43	90 x 255 x 115 x 20	5,08
65	100 x 130 x 106	4,90	325 x 70 x 78 x 110	55,50	245 x 60 x 78 x 110	25,86	100 x 280 x 130 x 20	6,48
75	105 x 145 x 114	5,51	370 x 80 x 88 x 120	82,00	275 x 70 x 88 x 120	38,03	105 x 305 x 140 x 20	7,31

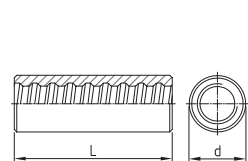
SAS SYSTEMS

Ankermutter EP gerade
anchor nut EP flat


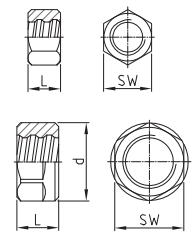
Ø [mm] SW x L x d [mm] [kg]

Ankermutter EP ballig 30°
bull nose nut EP 30°


SW x L x d [mm] [kg]

Muffe EP standard
coupler EP standard


d x L [mm] [kg]

Haltemutter EP
fix nut EP


SW x L x d [mm] [kg]

WR 2002 - Ø EP			WR 2963 - Ø EP		WR 3003 - Ø EP		WR 5005 - Ø EP	
18	41 x 70	0,62	41 x 70	0,60	36 x 120	0,69	30 x 22	0,08
26,5	46 x 90	0,81	46 x 90	0,79	50 x 185	1,94	36 x 22	0,08
32	55 x 100	1,30	55 x 100	1,27	60 x 220	3,33	41 x 22	0,09
36	60 x 120	1,75	60 x 120	1,71	68 x 240	4,72	46 x 25	0,11
40	70 x 130	2,77	70 x 130	2,70	70 x 270	5,26	50 x 25	0,12
47	79 x 150	3,92	79 x 150	3,81	83 x 310	8,65	60 x 30	0,23
57	90 x 145 x 95	4,59	90 x 145 x 95	4,46	95 x 270	9,32	85 x 40 x 90	1,01
65	100 x 155 x 106	5,82	100 x 155 x 106	5,66	106 x 290	12,01	90 x 40 x 102	1,13
75	105 x 180 x 114	7,60	105 x 180 x 114	6,96	114 x 320	14,15	105 x 50 x 114	1,92

* Bzgl. Traglast und Einbau bitte Datenblatt auf der Homepage beachten | with regard to load capacity and installation, please note data sheet available on the homepage

** Aufgrund von Lagerungs- und Transportbedingungen kann Rostbildung nicht ausgeschlossen werden
Rust formation cannot be ruled out due to storage and transport conditions

SAS Glattstahlstäbe | SAS smooth bar



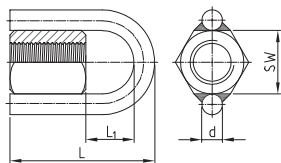
SAS Glattstahl mit kalt aufgerolltem Gewinde - rechtsgängig | SAS smooth bar with cold rolled thread - right hand thread

SAS 950 / 1050 Ø 32 - 36 mm | grade 150 | glatt | smooth acc. ASTM A722

Ø _{NENN} / Ø _{NOM}	[mm]	32	36
c	[mm]	3	3
f _{p0,1k} / f _{pk} / A _{gt}		950 N/mm² / 1050 N/mm² / ≥ 7 %	
F _{yk} (F _{p0,1k})	[kN]	760	960
F _{pk}	[kN]	845	1070
A	[mm²]	804	1018
G	[kg/m]	6,31	7,99

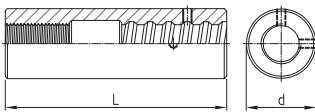
SAS SYSTEMS

Ringmutter (Gebrauchslast des Rings max. 60 kN)
ring nut (working load of ring max. 60 kN)



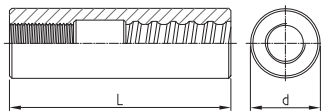
Ø [mm]	SW x L x L ₁ x d [mm]	[kg]
WS 2927 - Ø *		
32	55 x 125 x 59 x 16	1,22
36	60 x 149 x 64 x 20	1,86

Spannmuffe für WS
stressing coupler for WS



d x L [mm]	[kg]
WS 8004 - Ø	
60 x 190	2,74
65 x 230	3,80

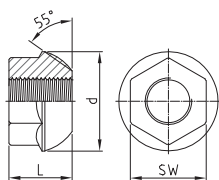
Übergangsmuffe
transition coupler



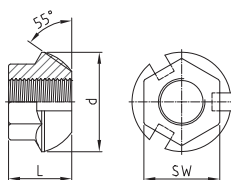
d x L [mm]	[kg]
WS 3004 - Ø	
60 x 200	2,94
68 x 235	4,47

* Bzgl. Traglast und Einbau bitte Datenblatt auf der Homepage beachten | with regard to load capacity and installation, please note data sheet available on the homepage

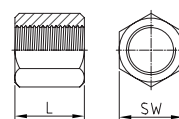
SAS SYSTEMS

Kugelbundmutter 55°
dome nut 55°


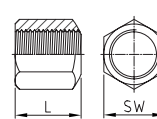
Ø [mm] SW x L x d [mm] [kg]

Kugelbundmutter 55°
mit Verpressnuten
domed nut 55° with grout slots


SW x L x d [mm] [kg]

Ankermutter gerade
anchor nut flat


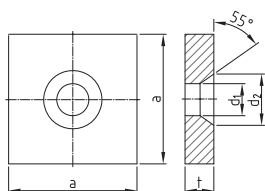
SW x L [mm] [kg]

Ankermutter ballig 30°
bull nose 30°


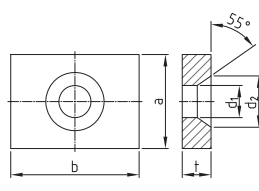
SW x L [mm] [kg]

	WS 2001 - Ø		WS 2099 - Ø		WS 2002 - Ø		WS 2963 - Ø	
32	55 x 46 x 72	0,78	55 x 46 x 72	0,74	55 x 50	0,79	55 x 50	0,68
36	65 x 60 x 90	1,55	65 x 60 x 90	1,41	60 x 65	1,06	60 x 65	1,03

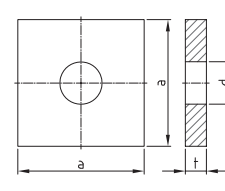
SAS SYSTEMS

Ankerplatte quadratisch 55°
anchor plate square 55°


Ø [mm] a x t x d₁ x d₂ [mm] [kg]

Ankerplatte rechteckig 55°
anchor plate rectangular 55°


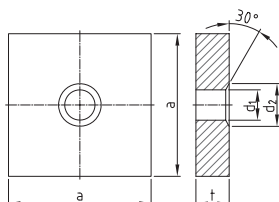
a x b x t x d₁ x d₂ [mm] [kg]

Ankerplatte gerade
anchor plate flat


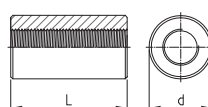
a x t x d [mm] [kg]

	WS 2011 - Ø **		WS 2012 - Ø **		WS 2139 - Ø **	
32	180 x 40 x 45 x 72	9,50	140 x 180 x 40 x 45 x 72	7,24	180 x 40 x 38	9,82
36	200 x 45 x 49 x 92	12,95	150 x 220 x 50 x 49 x 92	11,70	200 x 45 x 45	13,57

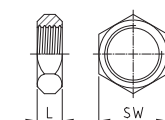
SAS SYSTEMS

Ankerplatte Konus 30°
anchor plate rectangular 30°


Ø [mm] a x t x d₁ x d₂ [mm] [kg]

Muffe standard
coupler standard


d x L [mm] [kg]

Haltemutter
fix nut


SW x L [mm] [kg]

	WS 1928 - Ø **		WS 3003 - Ø		WS 5005 - Ø	
32	180 x 40 x 38 x 50	9,81	60 x 110	1,74	41 x 15	0,08
36	200 x 45 x 45 x 60	13,55	68 x 160	3,25	46 x 15	0,09

SAS Gewindestäbe | SAS thread bar

Streckgrenze / Zugfestigkeit | yield stress / ultimate stress
Anwendungsbereiche | areas of application

Nenn- $\varnothing$
nom.- $\varnothing$

Strecklast
yield load

Bruchlast
ultimate load

Fläche
cross section area

Gewicht
weight

Dehnung
elongation

		[mm]	[kN]	[kN]	[mm²]	[m/to]	[kg/m]	A _{gt} [%]	A _{11,3} [%]	
SAS 500 / 550 – grade 75										
	Bewehrungstechnik <i>reinforcing systems</i>	12	57	62	113	1123,6	0,89	6	10	
		14	77	85	154	826,4	1,21			
		16	100	110	201	632,9	1,58			
		20	160	175	314	404,9	2,47			
		25	245	270	491	259,7	3,85			
	Geotechnik <i>geotechnical systems</i>	28	310	340	616	207,0	4,83			
		32	405	440	804	158,5	6,31			
		36	510	560	1020	125,2	7,99			
		40	630	690	1260	101,3	9,87			
		43	726	799	1452	87,7	11,40			
		50	980	1080	1960	64,9	15,40			
SAS 555 / 700 – grade 80		57,5	1441	1818	2597	49,1	20,38	5	---	
SAS 555 / 700 – grade 80		63,5	1760	2215	3167	40,2	24,86	5	---	
SAS 500 / 550 – grade 75		75	2209	2430	4418	28,8	34,68	5	---	
Alternativ SAS 550 / 620 erhältlich alternative SAS 550 / 620 available										
SAS 450 / 700 – grade 60										
	Bergbau <i>mining</i>	16	93	145	207	617,3	1,62		(A) 15	
		25	220	345	491	259,7	3,85		(A) 20	
SAS 650 / 800 – grade 90										
	Bergbau <i>mining</i>	22	247	304	380	335,6	2,98		(A) 18	
		25	319	393	491	259,7	3,85			
		28	400	493	616	207,0	4,83			
		30	460	565	707	180,2	5,55			
SAS 670 / 800 – grade 97										
	Geotechnik <i>geotechnical systems</i>	18	170	204	254	500,0	2,00	5	10	
		22	255	304	380	335,6	2,98			
		25	329	393	491	259,7	3,85			
		28	413	493	616	207,0	4,83			
	Ankerteknik <i>tunneling & mining</i>	30	474	565	707	180,2	5,55			
		35	645	770	962	132,5	7,55			
		43	973	1162	1452	87,7	11,40			
		50	1315	1570	1963	64,9	15,40			
	Hochfeste Bewehrung <i>high-strength reinforcement</i>	57,5	1740	2077	2597	49,1	20,38			---
		63,5	2122	2534	3167	40,2	24,86			---
		75	2960	3535	4418	28,8	34,68			---
SAS 950 / 1050 – grade 150										
	Spanntechnik <i>post-tensioning systems</i>	18	230	255	241	510,2	1,96	5	7	
		26,5	525	580	551	223,2	4,48			
		32	760	845	804	153,1	6,53			
		36	960	1070	1020	120,9	8,27			
	Geotechnik <i>geotechnical systems</i>	40	1190	1320	1257	97,9	10,21			
		47	1650	1820	1735	70,9	14,10			
SAS 835 / 1035 – grade 150										
	Geotechnik <i>geotechnical systems</i>	57	2131	2641	2552	48,2	20,73	4	---	
		65	2771	3434	3318	37,1	26,96		---	
		75	3689	4572	4418	27,9	35,90		---	
SAS 900 / 1100 FA – grade 160 FA										
	Schalungstechnik <i>formwork ties</i>	15	159	195	177	694,4	1,44	3	7	
		20	283	345	314	390,6	2,56			
		26,5	495	606	551	223,2	4,48	2		
SAS 900 / 1050 FC – grade 150 FC										
	Schalungstechnik <i>formwork ties</i>	15	159	186	177	694,4	1,44	3	7	
		20	283	330	314	390,6	2,56			
SAS 950 / 1050 E – grade 150		26,5	525	580	551	223,2	4,48	5	7	
SAS 750 / 875 FS – kaltgerollt <i>cold rolled – grade 120 FS</i>										
	Schalungstechnik <i>formwork ties</i>	12,5	90	120	132,5	961,5	1,04	2	5,5	
		15	142	165	189	675,7	1,48			
		20	245	285	326	390,6	2,56			

Zubehör für alle Abmessungen und Anwendungen lieferbar | accessories for all dimensions and applications available