

# Screws and nuts

## Trapezoidal screws

Rolled trapezoidal screws TGS-R		
Type	Standard	Stainless steel design
<b>Thread</b>	Metric ISO trapezoidal thread according to DIN 103-7e	Metric ISO trapezoidal thread according to DIN 103-7e
<b>Diameter</b>	12 to 80 mm	12 to 50 mm
<b>Pitch</b>	3 to 16 mm	3 to 8 mm
<b>Number of starts</b>	single- or multi-start thread	single-start thread
<b>Thread direction</b>	right-handed thread	right-handed thread
<b>Material</b>	1.0501 (C35) or same or higher-value material	1.4305 (X8CrNiS18-9) or 1.4404 (X2CrNiMo17-13-2)
<b>Straightness</b>	0.3 to 0.5 mm/300 mm	0.5 to 0.8 mm/300 mm

Whirled trapezoidal screws TGS-W		
Type	Standard	Stainless steel design
<b>Thread</b>	Metric ISO trapezoidal thread according to DIN 103-7e	Metric ISO trapezoidal thread according to DIN 103-7e
<b>Diameter</b>	18 to 220 mm	18 to 190 mm
<b>Pitch</b>	4 to 24 mm	4 to 24 mm
<b>Number of starts</b>	single- or multi-start thread	single or multi-start thread
<b>Thread direction</b>	right-handed thread or left-handed thread	right-handed thread or left-handed thread
<b>Material</b>	1.0503 (C45)	1.4571 (X6CrNiMoTi17-12-2)
<b>Straightness*</b>	0.3 to 0.5 mm/300 mm	0.3 to 0.5 mm/300 mm

\* If a higher straightness is demanded, the spindles are straightened against a surcharge.

Trapezoidal nuts				
Type	TGM-LRM	TGM-EFM	TGM-LFM	TGM-LSF / LWZ
<b>Thread</b>	DIN 103-7e	DIN 103-7e	DIN 103-7e	DIN 103-7e
<b>Nominal diameter</b>	10 to 80 mm	12 to 60 mm	14 to 160 mm	18 to 60 mm
<b>Pitch</b>	2 to 18 mm	3 to 9 mm	4 to 20 mm	4 to 9 mm
<b>Number of starts n</b>	single- or multi-start thread	single- or multi-start thread	single- or multi-start thread	single- or multi-start thread
<b>Thread direction</b>	right-handed thread left-handed thread	right-handed thread left-handed thread	right-handed thread left-handed thread	right-handed thread left-handed thread
<b>Material</b>	21090 (G-CuSn7ZnPb) alternatively same or higher-value material	21090 (G-CuSn7ZnPb) alternatively same or higher-value material	2.0596 G-CuZn34AL2 alternatively same or higher-value material	2.0596 G-CuZn34AL2 alternatively same or higher-value material
<b>Suitable for</b>	Movement drives Low and medium speeds	Movement drives in permanent operation with particularly beneficial wear properties	Movement drives in permanent operation with particularly beneficial wear properties	Movement drives in permanent operation with particularly beneficial wear properties

# Screws and nuts

## Order code Trapezoidal screws



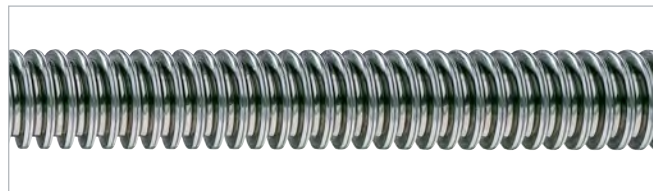
No	Explanation	
1	<b>Product abbreviation</b>	<b>TGS</b>
2	<b>Screw designs</b>	<b>R</b> = rolled screw <b>W</b> = whirled screw
3	<b>Size = Tr and nominal diameter of the thread in mm</b>	<b>Tr12 / Tr14 / Tr16 / Tr18 / Tr20 / Tr22 / Tr24 / Tr30 / Tr32 / Tr36 / Tr40 / Tr50 / Tr58 / Tr60 / Tr65 / Tr70 / Tr80 / Tr90 / Tr100 / Tr120 / Tr160 / Tr190</b>
4	<b>Pitch in mm</b> for multi- gear thread total pitch-P-single pitch	<b>3 / 4 / 5 / 6 / 6P3 / 7 / 8 / 8P4 / 9 / 10 / 10P5 / 12 / 12P6 / 14 / 14P7 / 16 / 16P8 / 18P9 / 20 / 24</b>
5	<b>Thread direction</b>	<b>RH</b> = right-handed thread <b>LH</b> = left-handed thread
6	<b>Screw ends</b> Since the screw ends can be coupled in any manner, the letters for the order code are assigned accordingly: 1. Screw end matching for fixed bearing = Order code –FL– 2. Screw end only chamfered on Order code –A0–: then FL–A0– is entered	<b>00</b> = ends only sawed or cut <b>A0</b> = faced with chamfer <b>FL</b> = end matching standard fixed bearing FL <b>LK</b> = end matching standard movable bearing LL-K <b>LN</b> = end matching standard movable bearing LL-N <b>LR</b> = end matching standard movable bearing LL-R <b>K</b> = end according to customer drawing or indication <b>M0</b> = metric threaded pin <b>ZA</b> = cylinder shaft with chamfer
7	<b>Total length</b>	<b>..... in mm</b>
8	<b>Special requirements</b>	<b>0</b> = none <b>1</b> = according to information, description or drawing
9	<b>Material</b>	<b>0</b> = C 35 (1.0501) alternatively same or higher-value material <b>1</b> = C 45 (1.0503) <b>2</b> = X2CrNiMo17-13-2 (1.4404) alternatively same or higher-value material <b>3</b> = X8CrNiS18-9 (1.4305) alternatively same or higher-value material <b>9</b> = Special material (please indicate in additional text)
10	<b>Accessories</b>	<b>0</b> = without accessories <b>1</b> = attached accessories <b>2</b> = loose supplied accessories <b>3</b> = attached and loose supplied accessories

# Screws and nuts

## Trapezoidal screw TGS-R

### Rolled version

- **Material:** C35 (1.0501) alternatively same or higher-value material
- **Thread form:** metric ISO trapezoidal thread to DIN 103-7e



Size TGS-R-								
Type	Dimensions in mm					Manufacture length max. Size L mm	Accuracy µm/300 mm	Weight kg/m
	d1	d2 min	d2 max	d3	H1			
Tr12x3-RH	12	10.191	10.415	7.84	1.5	3000	200	0.75
Tr12x3-LH	12	10.191	10.415	7.84	1.5	3000	200	0.75
Tr12x6-P3-RH	12	10.164	10.415	7.84	1.5	3000	300	0.75
Tr14x3-RH	14	12.191	12.415	9.84	1.5	3000	200	1.04
Tr14x3-LH	14	12.191	12.415	9.84	1.5	3000	200	1.04
Tr14x4-RH	14	11.640	11.905	8.80	2	3000	200	0.90
Tr14x4-LH	14	11.640	11.905	8.80	2	3000	200	0.90
Tr16x4-RH	16	13.640	13.905	10.80	2	3000	50	1.20
Tr16x4-LH	16	13.640	13.905	10.80	2	3000	50	1.20
Tr16x8-P4-RH	16	13.608	13.905	10.80	2	3000	100	1.20
Tr18x4-RH	18	15.640	15.905	12.80	2	3000	50	1.58
Tr18x4-LH	18	15.640	15.905	12.80	2	3000	50	1.58
Tr18x8-P4-RH	18	15.608	15.905	12.80	2	3000	100	1.58
Tr20x4-RH	20	17.640	17.905	14.80	2	3000	50	2.00
Tr20x4-LH	20	17.640	17.905	14.80	2	3000	50	2.00
Tr20x8-P4-RH	20	17.608	17.905	14.80	2	3000	100	2.00
Tr24x5-RH	24	21.094	21.394	17.50	2.5	3000	50	2.72
Tr24x5-LH	24	21.094	21.394	17.50	2.5	3000	50	2.72
Tr24x10-P5-RH	24	21.058	21.394	17.50	2.5	3000	200	2.72
Tr30x6-RH	30	26.547	26.882	21.90	3	5500	70	4.50
Tr30x6-LH	30	26.547	26.882	21.90	3	5500	70	4.50
Tr30x12-P6-RH	30	26.547	26.882	21.90	3	5500	200	4.50
Tr32x6-RH	32	28.547	28.882	23.90	3	5500	70	5.18
Tr32x6-LH	32	28.547	28.882	23.90	3	5500	70	5.18
Tr36x6-RH	36	32.547	32.882	27.90	3	5500	70	6.71
Tr36x6-LH	36	32.547	32.882	27.90	3	5500	70	6.71
Tr36x12-P6-RH	36	32.547	32.882	27.90	3	5500	200	6.71
Tr40x7-RH	40	36.020	36.375	30.50	3.5	5500	80	8.00
Tr40x7-LH	40	36.020	36.375	30.50	3.5	5500	80	8.00
Tr40x14-P7-RH	40	35.978	36.375	30.50	3.5	5500	200	8.00
Tr50x8-RH	50	45.468	45.868	39.30	4	5500	100	13.10
Tr60x9-RH	60	54.935	55.360	48.15	4.5	5500	100	18.00
Tr70x10-RH	70	64.425	64.850	57.00	5	5500	100	26.00
Tr80x10-RH	80	74.425	74.850	67.00	5	5500	100	34.70

Order designation: RH for right-handed thread; LH for left-handed thread

Ordering example: TGS-R-Tr30x6-RH-00-00-5500-0-0-0

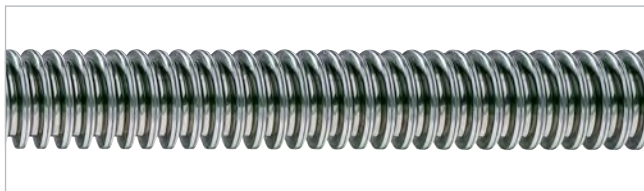
Dimensions see page 9.

# Screws and nuts

## Trapezoidal TGS-R stainless steel version

### Rolled stainless steel version

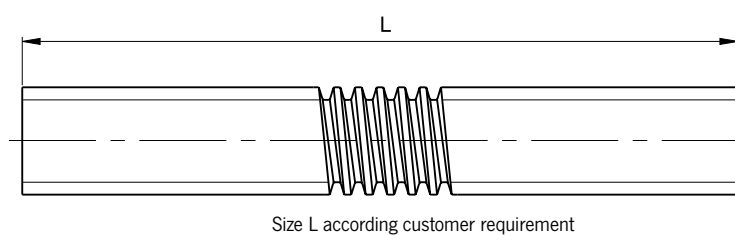
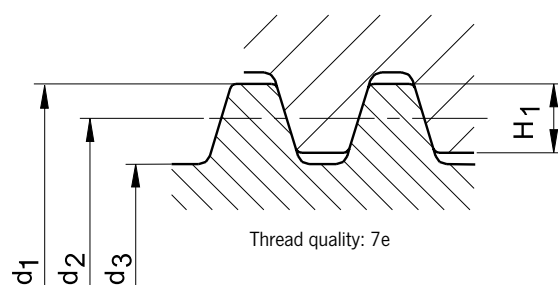
- **Material:** X2CrNiMo17-13-2 (1.4404) or X8CrNiS18-9 (1.4305)
- **Thread form:** metric ISO trapezoidal thread according to DIN 103-7e



Size TGS-R-								
Type	Dimensions in mm					Manufacture length max.	Accuracy	Weight
	d1	d2 min	d2 max	d3	H1	Size L mm	µm/300 mm	kg/m
Tr12x3-RH	12	10.191	10.415	7.84	1.5	3000	200	0.75
Tr16x4-RH	16	13.640	13.905	10.80	2	3000	50	1.20
Tr18x4-RH	18	15.640	15.905	12.80	2	3000	50	1.58
Tr20x4-RH	20	17.640	17.905	14.80	2	3000	50	2.00
Tr24x5-RH	24	21.094	21.394	17.50	2.5	3000	50	2.72
Tr30x6-RH	30	26.547	26.882	21.90	3	3000	50	4.50
Tr36x6-RH	36	32.547	32.882	27.90	3	3000	50	6.71
Tr40x7-RH	40	36.020	36.375	30.50	3.5	3000	80	8.00
Tr50x8-RH	50	45.468	45.868	39.30	4	3000	100	13.10

Order designation: RH for right-handed thread

Ordering example: TGS-R-Tr20x4-RH-00-00-3000-0-2-0

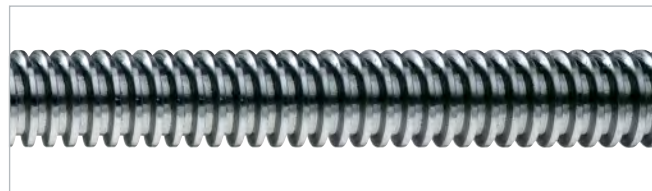


# Screws and nuts

## Trapezoidal screw TGS-W

### Whirled version

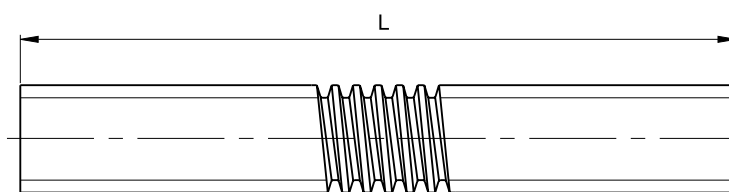
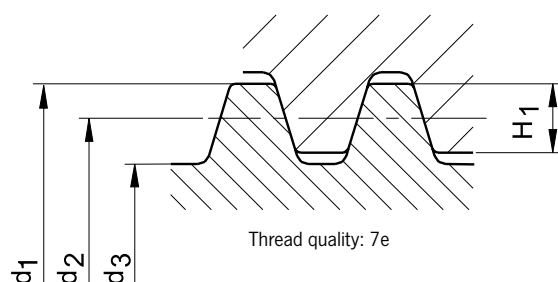
- **Material:** C45 (1.0503)
- **Thread form:** metric ISO trapezoidal thread according to DIN 103-7e
- **Options:**
  - Further, including rust-resistant materials, on request
  - Deviating diameters and pitches on request



Size TGS-W-									
Type	Dimensions in mm					H1	Manufacture length max. Size L mm	Accuracy µm/300 mm	Weight kg/m
	d1	d2 min	d2 max	d3					
Tr18x4-RH	18	15.640	15.905	13.50	2	6000	50	1.58	
Tr20x4-RH	20	17.640	17.905	15.50	2	6000	50	2.00	
Tr24x5-RH	24	21.094	21.394	18.50	2.5	6000	50	2.72	
Tr30x6-RH	30	26.547	26.882	23.00	3	6000	50	4.50	
Tr36x6-RH	36	32.547	32.882	29.00	3	6000	50	6.71	
Tr40x7-RH	40	36.020	36.375	32.00	3.5	6000	50	8.00	
Tr40x8-RH	40	35.368	35.868	31.00	4	6000	50	9.00	
Tr50x8-RH	50	45.468	45.868	41.00	4	6000	50	13.10	
Tr50x9-RH	50	44.935	45.360	40.00	4.5	6000	50	13.10	
Tr58x12-RH	58	51.355	51.830	45.00	6	6000	50	16.50	
Tr60x9-RH	60	54.935	55.360	50.00	4.5	6000	70	18.00	
Tr60x12-RH	60	53.355	53.830	47.00	6	6000	70	17.90	
Tr65x12-RH	65	58.355	58.830	52.00	6	6000	70	21.50	
Tr70x10-RH	70	64.425	64.850	59.00	5	6000	70	25.20	
Tr70x12-RH	70	63.355	63.830	57.00	6	6000	70	26.00	
Tr80x10-RH	80	74.425	74.850	69.00	5	6000	70	34.70	
Tr80x14-RH	80	72.320	72.820	64.00	7	6000	70	33.40	
Tr90x16-RH	90	81.280	81.810	72.00	8	6000	70	41.50	
Tr100x16-RH	100	91.280	91.810	82.00	8	6000	70	52.00	
Tr120x16-RH	120	111.280	111.810	102.00	8	6000	70	77.00	
Tr160x20-RH	160	149.188	149.788	138.00	10	6000	70	138.20	
Tr190x24-RH	190	177.094	177.764	164.00	12	6000	70	196.00	

Order designation: RH for right-handed; on request also LH for left-handed

Ordering example: TGS-W-Tr30x6-RH-00-00-2598-0-1-0



Size L according customer requirement

# Screws and nuts

## Order code Trapezoidal nut

T G M - [ ] [ ] [ ] - [ ] [ ] [ ] [ ] x [ ] [ ] [ ] [ ] - [ ] [ ] - [ ]

1 2 3 4 5 6

No	Explanation	
1	Product abbreviation	<b>TGM</b>
2	Nut designs	<b>LRM</b> = long red brass nut, cylindrical <b>EFM</b> = flange nut ready for installation <b>FMR</b> = flange nut blank <b>LSF</b> = travelling nut with flat surface <b>LWZ</b> = travelling nut with trunnion <b>SMK</b> = special nut according to customer requirement
3	Nominal diameter of the thread	e. g.: <b>Tr20</b>
4	Pitch	e. g.: <b>4</b>
5	Thread direction	<b>RH</b> = right-handed thread <b>LH</b> = left-handed thread
6	Accessories	<b>0</b> = without accessories <b>1</b> = attached accessories <b>2</b> = loose supplied accessories <b>3</b> = attached and loose supplied accessories
	Abbreviation accessories	<b>MAF</b> = nut adapter for flange nuts <b>KAR</b> = cardan adapter

# Screws and nuts

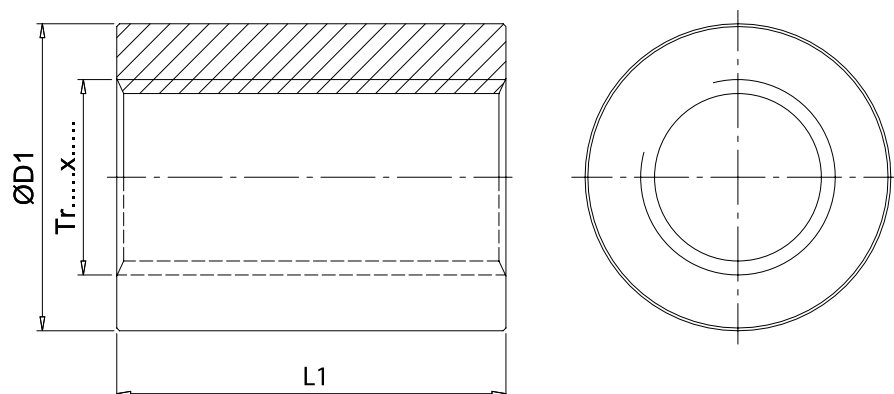
## Trapezoidal nut TGM-LRM

### Long red brass nut, cylindrical

- **Thread:** DIN 103-7e
- **Material:** G-CuSn7ZnPb (2.1090)



Size TGM-LRM-					
Type	Dimensions in mm		Weight kg	Item no. RH	Item no. LH
	ØD1	L1			
Tr12x3-	26	24	0.08	51003005	55003005
Tr12x6P3-	26	24	0.08	51003007	55003007
Tr14x3-	30	28	0.13	51003008	55003008
Tr14x4-	30	28	0.13	51003009	55003009
Tr16x4-	36	32	0.23	51003011	55003011
Tr16x8P4-	36	32	0.23	51003012	55003012
Tr18x4-	40	36	0.32	51003013	55003013
Tr20x4-	45	40	0.46	51003017	55003017
Tr22x5-	45	44	0.48	51003020	55003020
Tr24x5-	50	48	0.65	51003023	55003023
Tr28x5	60	56	1.10	51003028	55003028
Tr30x6-	60	60	1.14	51003033	55003033
Tr30x12P6-	60	60	1.14	51003034	55003034
Tr30x18P6-	60	60	1.14	60010826	60010825
Tr32x6-	60	64	1.18	51003037	55003037
Tr36x6-	75	72	2.19	51003041	55003041
Tr40x7-	80	80	2.73	51003047	55003047
Tr50x8-	100	90	4.01	51003055	55003055



# Screws and nuts

## Trapezoidal nut TGM-EFM

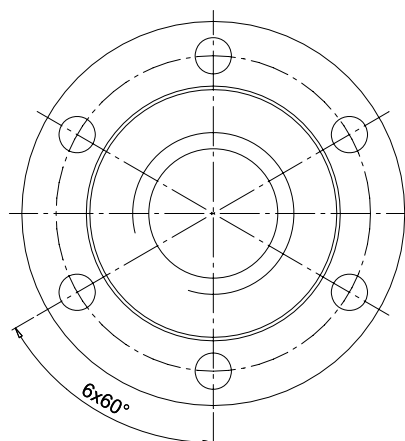
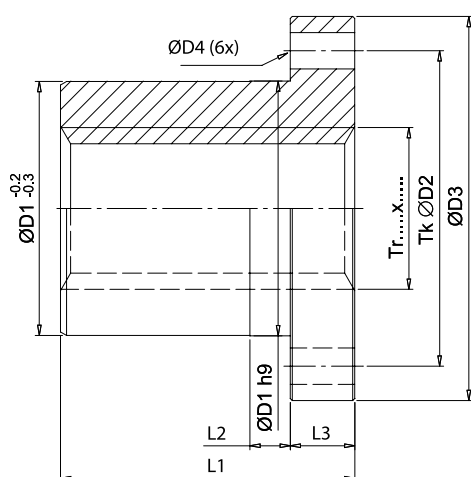
### Flange nut ready for installation

- **Thread:** DIN 103-7e
- **Material:** G-CuSn7ZnPb (2.1090)



### Size TGM-EFM-

Type	Dimensions in mm							Weight kg	Item no.	
	ØD1	Tk ØD2	ØD3	ØD4	L1	L2	L3		RH	LH
Tr14x3-	28	38	48	6	35	8	12	0.21	60001005	60002513
Tr14x4-	28	38	48	6	35	8	12	0.21	51005009	55005009
Tr16x4-	28	38	48	6	44	8	12	0.25	51005011	55005011
Tr18x4-	28	38	48	6	44	8	12	0.25	51005013	55005013
Tr20x4-	32	45	55	7	44	8	12	0.30	51005017	55005017
Tr22x5-	32	45	55	7	44	8	12	0.30	51005020	55005020
Tr24x5-	32	45	55	7	44	8	12	0.30	51005023	55005023
Tr30x6-	38	50	62	7	46	8	14	0.40	51005033	55005033
Tr32x6-	45	58	70	7	54	10	16	0.53	51005037	60009242
Tr36x6-	45	58	70	7	59	10	16	0.60	51005041	55005041
Tr40x7-	63	78	95	9	73	10	16	1.70	51005047	55005047
Tr50x8-	72	90	110	11	97	10	18	2.60	51005055	55005055
Tr55x9	72	90	110	11	97	10	18	2.50	51005062	55005062
Tr60x9-	85	105	125	11	99	10	20	3.70	51005066	55005066





# Screws and nuts

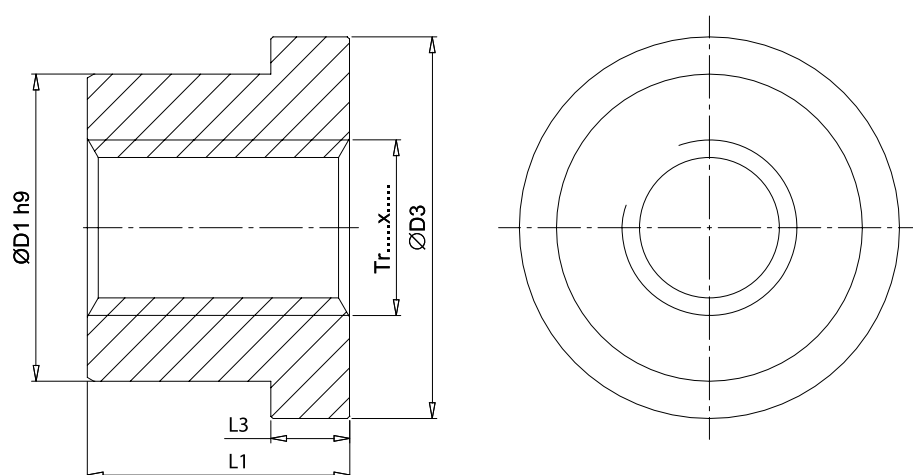
## Trapezoidal nut TGM-LFM

### Flange nut blank

- **Thread:** DIN 103-7e
- **Material:** G-CuZn34AL2 (2.0596)



Size TGM-LFM-							
Type	Dimensions in mm				Weight kg	Item no. RH	Item no. LH
	ØD1 h9	ØD3	L1	L3			
Tr14x4-	40	50	32	10	0.20	60006388	-
Tr18x4-	40	50	32	10	0.20	60004254	-
Tr18x6-	40	50	32	10	0.20	40011760	-
Tr20x4-	45	65	40	12	0.30	60006385	-
Tr22x5-	45	65	40	12	0.30	40029277	192009730
Tr30x6-	50	80	45	15	0.88	40020965	40061682
Tr40x7-	70	87	60	18	1.64	40020678	-
Tr60x9-	90	110	75	25	3.20	60004266	60008712
Tr60x12-	90	110	75	25	3.20	40020489	-
Tr70x12-	90	120	130	30	4.84	40033075	-
Tr80x10-	130	155	120	35	8.10	60004270	60008861



# Screws and nuts

## Trapezoidal nut TGM-LSF

### Travelling nut with flat surface

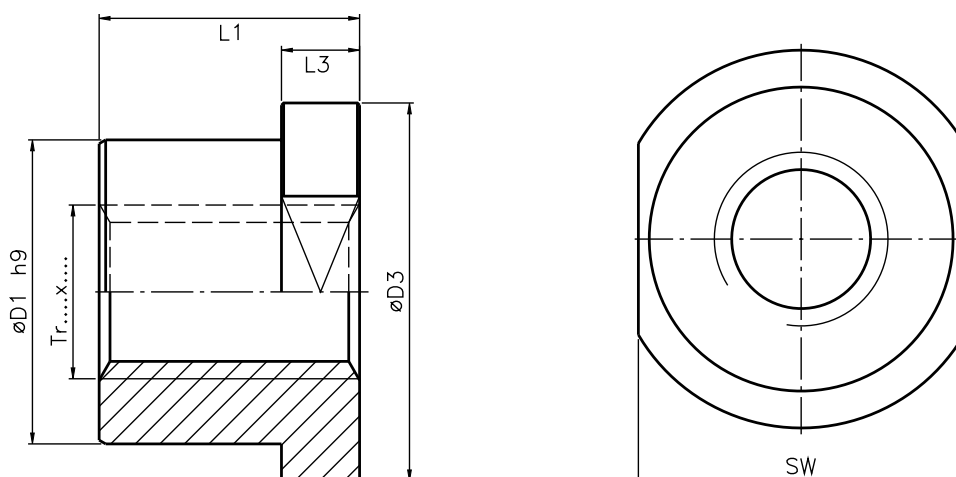
- **Thread:** DIN 103-7e
- **Material:** G-CuZn34AL2 (2.0596)



#### Size TGM-LSF-

Type	Dimensions in mm						Item no.
	ØD1 h9	ØD3	L1	L3	SW		
Tr24x5-RH	45	65	40	12	50	40029793	
Tr30x6-RH	50	80	45	15	62	40028328	
Tr40x7-RH	70	87	60	18	75	40026866	
Tr60x12-RH	90	110	75	25	95	40020493	
Tr70x12-RH	90	120	100	30	100	40033079	
Tr90x16-RH	130	155	120	35	155	40034001	
Tr100x16-RH	150	190	145	35	160	40035625	

Other sizes on request



# Screws and nuts

## Trapezoidal nut TGM-LWZ

### Travelling nut with trunnion

- **Thread:** DIN 103-7e
- **Material:** G-CuZn 34AL2 (2.0596)



Size TGM-LWZ-							
Type	Dimensions in mm						Item no.
	ØD1	ØD2 f7	L1	L2	L3		
Tr24x5-RH	60	18	50	10	40	40029795	
Tr30x6-RH	80	25	60	15	50	40028330	
Tr40x7-RH	95	35	70	16.5	62	40026869	
Tr60x12-RH	130	50	90	25	80	40020501	
Tr70x12-RH	150	65	120	29	92	40033081	
Tr90x16-RH	190	75	145	35	120	40034005	

Other sizes on request

