

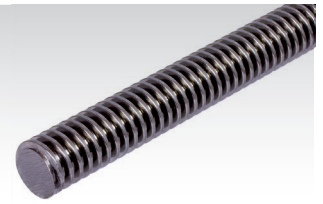
## Metric ISO-Trapezoidal-Threaded Spindles DIN 103, Single-Thread, Right Hand and Left Hand

Material: C15

Tolerance zone 7e, version rolled.

Nuts with trapezoidal thread made from plastic, steel, stainless steel, grey cast iron and red brass 313.

Ordering Details: e.g.: Product No. 640 010 00, Spindle Tr.10x3 Right Hand, 1000 mm



Product No. Single Thread Right Hand	Product No. Single Thread Left Hand	Trapez. Thread Outside Ø x Lead mm	Length mm	Flanks Ø min. mm	Flanks Ø max. mm	Core Ø min. mm	Weight kg
640 010 00	640 410 00	Tr. 10 x 3*	1000	8,191	8,415	5,84	0,6
640 110 00	640 510 00		1500				0,9
640 210 00	640 610 00		2000				1,2
640 310 00	640 810 00		3000				1,8
640 012 00	640 412 00	Tr. 12 x 3	1000	10,191	10,415	7,84	0,8
640 112 00	640 512 00		1500				1,2
640 212 00	640 612 00		2000				1,6
640 312 00	640 812 00		3000				2,4
640 014 00	640 414 00	Tr. 14 x 4*	1000	11,640	12,415	8,80	0,9
640 114 00	640 514 00		1500				1,35
640 214 00	640 614 00		2000				1,8
640 314 00	640 814 00		3000				2,7
640 016 00	640 416 00	Tr. 16 x 4	1000	13,640	13,905	10,80	1,4
640 116 00	640 516 00		1500				2,1
640 216 00	640 616 00		2000				2,8
640 316 00	640 816 00		3000				4,2
640 018 00	640 418 00	Tr. 18 x 4	1000	15,640	15,905	12,80	1,6
640 118 00	640 518 00		1500				2,4
640 218 00	640 618 00		2000				3,2
640 318 00	640 818 00		3000				4,8
640 020 00	640 420 00	Tr. 20 x 4	1000	17,640	17,905	14,80	2,1
640 120 00	640 520 00		1500				3,15
640 220 00	640 620 00		2000				4,2
640 320 00	640 820 00		3000				6,3
640 024 00	640 424 00	Tr. 24 x 5	1000	21,094	21,394	17,50	2,9
640 124 00	640 524 00		1500				4,35
640 224 00	640 624 00		2000				5,8
640 324 00	640 824 00		3000				8,7
640 028 00	640 428 00	Tr. 28 x 5	1000	25,049	25,390	21,50	3,9
640 128 00	640 528 00		1500				5,85
640 228 00	640 628 00		2000				7,8
640 328 00	640 828 00		3000				11,7
640 030 00	640 430 00	Tr. 30 x 6	1000	26,547	26,882	21,90	4,7
640 130 00	640 530 00		1500				7,05
640 230 00	640 630 00		2000				9,4
640 330 00	640 830 00		3000				14,1
640 032 00	640 432 00	Tr. 32 x 6	1000	28,547	28,882	23,90	5,1
640 132 00	640 532 00		1500				7,65
640 232 00	640 632 00		2000				10,2
640 332 00	640 832 00		3000				15,3
640 036 00	640 436 00	Tr. 36 x 6	1000	32,547	32,882	27,90	6,7
640 136 00	640 536 00		1500				10,05
640 236 00	640 636 00		2000				13,4
640 336 00	640 836 00		3000				20,1
640 040 00	640 440 00	Tr. 40 x 7	1000	36,020	36,375	30,50	9,4
640 140 00	640 540 00		1500				14,1
640 240 00	640 640 00		2000				18,8
640 340 00	640 840 00		3000				28,2
640 044 00	640 444 00	Tr. 44 x 7	1000	40,020	40,375	34,50	9,7
640 144 00	640 544 00		1500				14,55
640 244 00	640 644 00		2000				19,40
640 344 00	640 844 00		3000				29,1
640 048 00	640 448 00	Tr. 48 x 8	1000	43,468	43,868	37,80	11,7
640 148 00	640 548 00		1500				17,55
640 248 00	640 648 00		2000				23,4
640 348 00	640 848 00		3000				35,1
640 050 00	640 450 00	Tr. 50 x 8	1000	45,468	45,868	39,30	12,6
640 150 00	640 550 00		1500				18,9
640 250 00	640 650 00		2000				25,2
640 350 00	640 850 00		3000				37,8
640 052 00	640 452 00	Tr. 52 x 8	1000	47,468	47,868	41,17	14,4
640 152 00	640 552 00		1500				21,6
640 252 00	640 652 00		2000				28,8
640 352 00	640 852 00		3000				43,2
640 060 00	640 460 00	Tr. 60 x 9	1000	54,935	55,3000	48,15	18,9
640 160 00	640 560 00		1500				28,35
640 260 00	640 660 00		2000				37,8
640 360 00	640 860 00		3000				56,7
640 070 00	640 470 00	Tr. 70 x 10	1000	64,425	64,850	57,00	25,7
640 170 00	640 570 00		1500				38,55
640 270 00	640 670 00		2000				51,4
640 370 00	640 870 00		3000				77,1

### Rolled Spindles

High grade raw material C15, heat treated by the manufacturer and without exception delivered by German smelting works, and a complex machine and tool technology lead to our excellent quality in the spindle production.

The strong densification causes frictional heat which has to be dissipated using a re-cooling or filtering system. If the compressed oil is changed continuously, press-polished flanks without any leaf-shaped marks can be achieved.

To master the rolling process, in order to achieve exact leads and profiles up to  $\pm 0.03$  mm/300 mm (standard  $\pm 0.15/300$ , material  $1.4305 \pm 0.3/300$ ) and high surface quality, has only become possible by means of complex measuring and controlling systems in combination with a new generation of machines with swiveling toolholders.

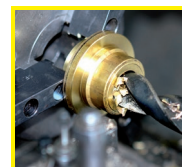
#### Straightness:

Trapezoid 10 - 24 mm max. 0.8 mm/m,  
Trapezoid 28 - 70 mm max. 1.2 mm/m

#### Straightness on request:

Up to size Tr. 16: 0.10 mm/m.  
From size Tr. 20: 0.05 mm/m.

\* Lead angle is not in accordance with DIN 103.



**Reworking within  
24h-service possible.  
Custom made parts  
on request.**

## Metric ISO-Trapezoidal-Threaded Spindles DIN 103, Stainless, Single-Thread, Right and Left Hand

Material: Stainless steel 1.4305.

Tolerance zone 7e. Version: up to Tr 40x7 rolled, above this size whirled.



Nuts with trapezoidal thread made from plastic, Steel, Stainless steel, grey cast iron and red brass page 313.

Ordering Details: e.g.: Product No. 640 990 10, Stainless Threaded Spindle, Tr. 10x3 Right Hand, 1000 mm

Product No. Single Thread Right Hand	Product No. Single Thread Left Hand	Trapez. Thread Outside Ø x Lead mm	Length mm	Flanks Ø min. mm	Flanks Ø max. mm	Core Ø min. mm	Weight kg
640 990 10	640 994 10	Tr. 10 x 3*	1000	8,191	8,415	5,84	0,6
640 991 10	640 995 10		1500				0,9
640 992 10	640 996 10		2000				1,2
640 993 10	640 998 10		3000				1,8
640 990 12	640 994 12	Tr. 12 x 3	1000	10,191	10,415	7,84	0,8
640 991 12	640 995 12		1500				1,2
640 992 12	640 996 12		2000				1,6
640 993 12	640 998 12		3000				2,4
640 990 14	640 994 14	Tr. 14 x 4*	1000	11,640	12,415	8,80	0,9
640 991 14	640 995 14		1500				1,35
640 992 14	640 996 14		2000				1,8
640 993 14	640 998 14		3000				2,7
640 990 16	640 994 16	Tr. 16 x 4	1000	13,640	13,905	10,80	1,4
640 991 16	640 995 16		1500				2,1
640 992 16	640 996 16		2000				2,8
640 993 16	640 998 16		3000				4,2
640 990 18	640 994 18	Tr. 18 x 4	1000	15,640	15,905	12,80	1,6
640 991 18	640 995 18		1500				2,4
640 992 18	640 996 18		2000				3,2
640 993 18	640 998 18		3000				4,8
640 990 20	640 994 20	Tr. 20 x 4	1000	17,640	17,905	14,80	2,1
640 991 20	640 995 20		1500				3,15
640 992 20	640 996 20		2000				4,2
640 993 20	640 998 20		3000				6,3
640 990 24	640 994 24	Tr. 24 x 5	1000	21,094	21,394	17,50	2,9
640 991 24	640 995 24		1500				4,35
640 992 24	640 996 24		2000				5,8
640 993 24	640 998 24		3000				8,7
640 990 28	640 994 28	Tr. 28 x 5	1000	25,049	25,390	21,50	3,9
640 991 28	640 995 28		1500				5,85
640 992 28	640 996 28		2000				7,8
640 993 28	640 998 28		3000				11,7
640 990 30	640 994 30	Tr. 30 x 6	1000	26,547	26,882	21,90	4,7
640 991 30	640 995 30		1500				7,05
640 992 30	640 996 30		2000				9,4
640 993 30	640 998 30		3000				14,1
640 990 36	640 994 36	Tr. 36 x 6	1000	32,547	32,882	27,90	6,7
640 991 36	640 995 36		1500				10,05
640 992 36	640 996 36		2000				13,4
640 993 36	640 998 36		3000				20,1
640 990 40	640 994 40	Tr. 40 x 7	1000	36,020	36,375	30,50	9,4
640 991 40	640 995 40		1500				14,1
640 992 40	640 996 40		2000				18,8
640 993 40	640 998 40		3000				28,2
640 990 50	640 994 50	Tr. 50 x 8	1000	45,468	45,868	40,37	12,6
640 991 50	640 995 50		1500				18,9
640 992 50	640 996 50		2000				25,2
640 993 50	640 998 50		3000				37,8

### Rolled Spindles (up to Tr. 40x7)

High grade raw material and complex machine and tool technology lead to our excellent quality in production of threaded spindles.

The strong densification causes frictional heat which has to be dissipated using a re-cooling or filtering system. If the compressed oil is changed continuously, press-polished flanks without any leaf-shaped marks can be achieved.

To master the rolling process, in order to achieve exact leads and profiles up to  $\pm 0.03$  mm/300 mm (standard  $\pm 0.15/300$ , material 1.4305  $\pm 0.3/300$ ) and high surface quality, has only become possible by means of complex measuring and controlling systems in combination with a new generation of machines with swiveling toolholders.

#### Straightness:

Trapezoid 10 - 24 mm max. 0.8 mm/m,  
Trapezoid 28 - 70 mm max. 1.2 mm/m

#### Straightness on request:

Up to size Tr. 16: 0.10 mm/m.  
From size Tr. 20: 0.05 mm/m.



\* Lead not in accordance with DIN 103.



Chain Tensioners page 322

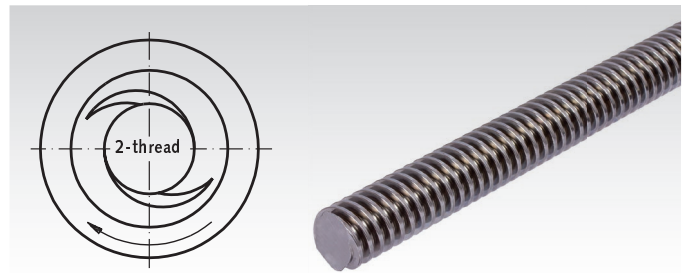
## Metric ISO-Trapezoidal-Thread Spindles DIN 103, Double-Thread, Right Hand

Material: C15.  
Stainless Steel 1.4305.



Tolerance zone 7 e. Right Hand.

Double-threaded nuts made from plastic, steel and red brass page 316.



Ordering Details: e.g.: Product No. 645 012 00, Threaded Spindle C15, Double-Thread, Right Hand, Tr. 12 x 6 P3 x 1000 mm

Product No. Steel C15	Product No. Stainles St. 1.4305	Trapezoidal Thread Outside Ø x Lead mm	Length mm	Flanks Ø min. mm	Flanks Ø max. mm	Core Ø min. mm	Weight kg
645 012 00	645 990 12	Tr. 12 x 6 P3	1000	10,191	10,415	7,84	0,8
645 112 00	645 991 12		1500				1,2
645 212 00	645 992 12		2000				1,6
645 312 00	645 993 12		3000				2,4
645 016 00	645 990 16	Tr. 16 x 8 P4	1000	13,640	13,905	10,80	1,4
645 116 00	645 991 16		1500				2,1
645 216 00	645 992 16		2000				2,8
645 316 00	645 993 16		3000				4,2
645 020 00	645 990 20	Tr. 20 x 8 P4	1000	17,640	17,905	14,80	2,1
645 120 00	645 991 20		1500				3,15
645 220 00	645 992 20		2000				4,2
645 320 00	645 993 20		3000				6,3
645 024 00	645 990 24	Tr. 24 x 10 P5	1000	21,094	21,394	17,50	2,9
645 124 00	645 991 24		1500				4,35
645 224 00	645 992 24		2000				5,8
645 324 00	645 993 24		3000				8,7
645 030 00	645 990 30	Tr. 30 x 12 P6	1000	26,547	26,882	21,90	4,7
645 130 00	645 991 30		1500				7,05
645 230 00	645 992 30		2000				9,4
645 330 00	645 993 30		3000				14,1
645 040 00	645 990 40	Tr. 40 x 14 P7	1000	36,020	36,375	30,50	9,4
645 140 00	645 991 40		1500				14,1
645 240 00	645 992 40		2000				18,8
645 340 00	645 993 40		3000				28,2

### Rolled Spindles

High grade raw material and complex machine and tool technology lead to our excellent quality in production of threaded spindles.

The strong densification causes frictional heat which has to be dissipated using a re-cooling or filtering system. If the compressed oil is changed continuously, press-polished flanks without any leaf-shaped marks can be achieved.

To master the rolling process, in order to achieve exact leads and profiles up to  $\pm 0.03$  mm/300 mm (standard  $\pm 0.15/300$ , material 1.4305  $\pm 0.3/300$ ) and high surface quality, has only become possible by means of complex measuring and controlling systems in combination with a new generation of machines with swiveling toolholders.

#### Straightness:

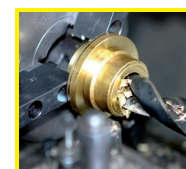
Trapezoid 10 - 24 mm max. 0.8 mm/m,  
Trapezoid 28 - 70 mm max. 1.2 mm/m

#### Straightness on request:

Up to size Tr. 16: 0.10 mm/m.  
From size Tr. 20: 0.05 mm/m.



Chain Tensioners page 322



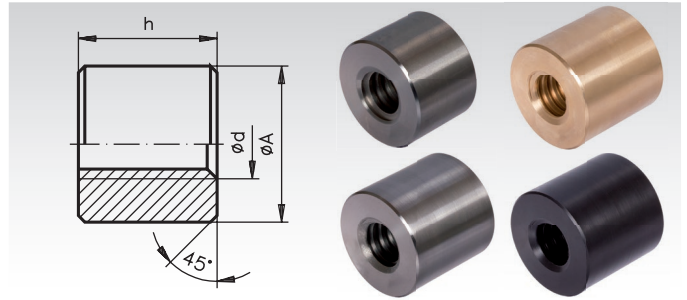
Reworking within  
24h-service possible.  
Custom made parts  
on request.

## Round Nuts with Metric ISO-Trapezoidal Thread DIN 103, Single-Thread

Material: Steel C35Pb.  
Stainless steel 1.4305.  
Red brass Rg7 (GC-CuSn7ZnPb).  
Plastic (PA6.6 with MoS2).



Tolerance zone 7H.



Ordering Details: e.g.: Product No. 643 010 00, Round Nut, Steel, Tr. 10 x 3, Single Thread Right Hand

### Single-Thread, Right Hand

Product No. Steel	Product No. Steel	Product No. Stainless Steel	Product No. Res Brass	Product No. Plastic	Trapezoidal Thread Ø d mm	DIN ISO 2768m h=1,5xd mm	DIN ISO 2768m h=2xd mm	DIN 668 ØA <sup>h11</sup> * mm	Weight Steel 1,5 x d kg	Weight Steel 2 x d kg	Weight Brass 2 x d kg	Weight Plastic 2 x d kg
h = 1,5 x d	h = 2 x d	h = 1,5 x d	h = 2 x d	h = 2 x d								
643 010 00	643 210 00	-	643 310 00	-	10 x 3**	15	20	22	0,04	0,06	0,06	-
643 012 00	643 212 00	643 990 12	643 312 00	643 412 00	12 x 3	18	24	26	0,06	0,08	0,1	0,02
643 014 00	643 214 00	-	643 314 00	-	14 x 4**	21	28	30	0,1	0,12	0,14	-
643 016 00	643 216 00	643 990 16	643 316 00	643 416 00	16 x 4	24	32	36	0,16	0,22	0,24	0,04
643 018 00	643 218 00	-	643 318 00	643 418 00	18 x 4	27	36	40	0,22	0,32	0,37	0,05
643 020 00	643 220 00	643 990 20	643 320 00	643 420 00	20 x 4	30	40	45	0,32	0,42	0,5	0,06
643 024 00	643 224 00	643 990 24	643 324 00	643 424 00	24 x 5	36	48	50	0,44	0,6	0,7	0,08
643 028 00	643 228 00	643 990 28	643 328 00	643 428 00	28 x 5	42	56	60	0,76	1,0	1,12	0,14
643 030 00	643 230 00	643 990 30	643 330 00	643 430 00	30 x 6	45	60	60	0,78	1,06	1,2	0,16
643 032 00	643 232 00	-	643 332 00	643 432 00	32 x 6	48	64	60	0,8	1,08	1,2	0,16
643 036 00	643 236 00	643 990 36	643 336 00	643 436 00	36 x 6	54	72	75	1,48	1,98	2,3	0,28
643 040 00	643 240 00	643 990 40	643 340 00	643 440 00	40 x 7	60	80	80	1,8	2,44	2,8	0,36
643 044 00	643 244 00	-	643 344 00	-	44 x 7	66	88	80	1,9	2,52	2,86	-
643 048 00	643 248 00	-	643 348 00	-	48 x 8	72	96	90	2,68	3,58	4,08	-
643 050 00	643 250 00	-	643 350 00	643 450 00	50 x 8	75	100	90	2,72	3,64	4,12	0,54
643 052 00	643 252 00	-	643 352 00	-	52 x 8	78	104	90	2,72	3,64	4,2	-
643 060 00	643 260 00	-	643 360 00	643 460 00	60 x 9	90	120	100	3,76	4,96	5,7	0,74
643 070 00	-	-	-	-	70 x 10	105	-	110	4,96	-	-	-

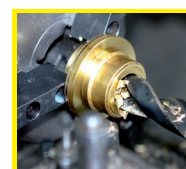
### Single-Thread, Left Hand

Product No. Steel	Product No. Steel	Product No. Stainless Steel	Product No. Res Brass	Product No. Plastic	Trapezoidal Thread Ø d mm	DIN ISO 2768m h=1,5xd mm	DIN ISO 2768m h=2xd mm	DIN 668 ØA <sup>h11</sup> * mm	Weight Steel 1,5 x d kg	Weight Steel 2 x d kg	Weight Brass 2 x d kg	Weight Plastic 2 x d kg
h = 1,5 x d	h = 2 x d	h = 1,5 x d	h = 2 x d	h = 2 x d								
643 510 00	643 710 00	-	643 810 00	-	10 x 3**	15	20	22	0,04	0,06	0,06	-
643 512 00	643 712 00	643 995 12	643 812 00	643 912 00	12 x 3	18	24	26	0,06	0,08	0,1	0,02
643 514 00	643 714 00	-	643 814 00	-	14 x 4**	21	28	30	0,1	0,12	0,14	-
643 516 00	643 716 00	643 995 16	643 816 00	643 916 00	16 x 4	24	32	36	0,16	0,22	0,24	0,04
643 518 00	643 718 00	-	643 818 00	643 918 00	18 x 4	27	36	40	0,24	0,32	0,37	0,05
643 520 00	643 720 00	643 995 20	643 820 00	643 920 00	20 x 4	30	40	45	0,32	0,42	0,5	0,06
643 524 00	643 724 00	643 995 24	643 824 00	643 924 00	24 x 5	36	48	50	0,44	0,6	0,7	0,08
643 528 00	643 728 00	-	643 828 00	643 928 00	28 x 5	42	56	60	0,76	1,0	1,12	0,14
643 530 00	643 730 00	643 995 30	643 830 00	643 930 00	30 x 6	45	60	60	0,78	1,06	1,2	0,16
643 532 00	643 732 00	-	643 832 00	643 932 00	32 x 6	48	64	60	0,8	1,08	1,2	0,16
643 536 00	643 736 00	-	643 836 00	643 936 00	36 x 6	54	72	75	1,48	1,98	2,3	0,28
643 540 00	643 740 00	643 995 40	643 840 00	643 940 00	40 x 7	60	80	80	1,8	2,44	2,8	0,36
643 544 00	643 744 00	-	643 844 00	-	44 x 7	66	88	80	1,9	2,52	2,86	-
643 548 00	643 748 00	-	643 848 00	-	48 x 8	72	96	90	2,68	3,58	4,08	-
643 550 00	643 750 00	-	643 850 00	643 950 00	50 x 8	75	100	90	2,72	3,64	4,12	0,54
643 552 00	643 752 00	-	643 852 00	-	52 x 8	78	104	90	2,72	3,64	4,2	-
643 560 00	643 760 00	-	643 860 00	643 960 00	60 x 9	90	120	100	3,76	4,96	5,7	0,74
643 570 00	-	-	-	-	70 x 10	105	-	110	4,96	-	-	-

Comparison of friction coefficients see page 309 bottom.

\* Tolerance h11 does not apply to plastic nuts.

\*\* Lead angle is not in accordance with DIN 103.

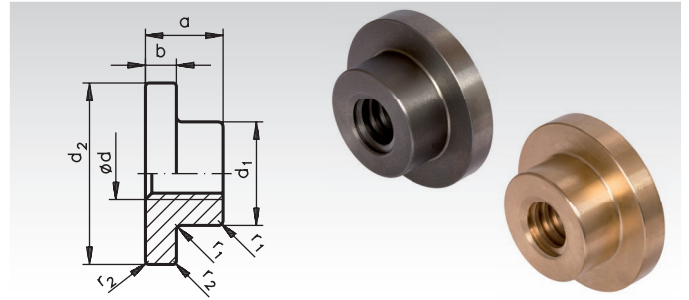


**Reworking within  
24h-service possible.  
Custom made parts  
on request.**

## Round Flange Nuts with Metric ISO-Trapezoidal Thread DIN 103, Single-Thread

Material: Grey cast iron GG25  
Red brass Rg7 (GC-CuSn 7ZnPb).

Tolerance zone 7H.



Ordering Details: e.g.: Product No. 644 010 00, round flange nut made from GG25, Tr. 10 x 3, single thread, right hand

### Single thread, right hand Single thread, left hand

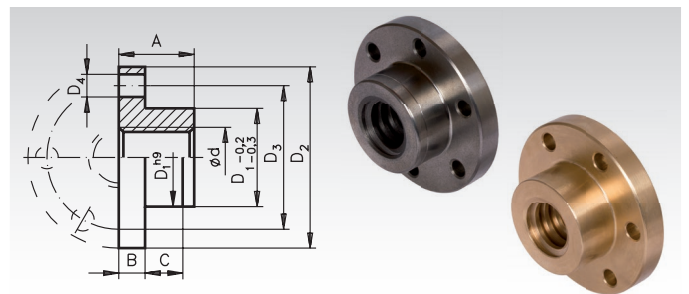
Single thread, right hand		Single thread, left hand		Trapez. thread Ø d mm	DIN ISO 2768 m		Ø <sup>h11</sup>		r <sub>1</sub> mm	r <sub>2</sub> mm	Weight	
Product No. Grey Cast Iron	Product No. Red Brass	Product No. Grey Cast Iron	Product No. Red Brass		a mm	b mm	d <sub>1</sub> mm	d <sub>2</sub> mm			Iron kg	Brass kg
644 010 00	644 110 00	644 310 00	644 410 00	10 x 3*	14	5	20	33	0,5	0,3	0,04	0,05
644 012 00	644 112 00	644 312 00	644 412 00	12 x 3	18	6	22	40	0,5	0,3	0,08	0,09
644 014 00	644 114 00	644 314 00	644 414 00	14 x 4*	22	10	30	50	1,0	0,5	0,19	0,23
644 016 00	644 116 00	644 316 00	644 416 00	16 x 4	22	10	30	50	1,0	0,5	0,18	0,22
-	644 118 00	-	644 418 00	18 x 4	24	10	36	60	1,0	0,5	-	0,30
644 020 00	644 120 00	644 320 00	644 420 00	20 x 4	24	10	36	60	1,0	0,5	0,26	0,32
644 024 00	644 124 00	644 324 00	644 424 00	24 x 5	30	11	45	70	1,0	0,5	0,45	0,54
644 028 00	644 128 00	644 328 00	644 428 00	28 x 5	47	14	58	88	1,0	0,5	1,06	1,29
644 030 00	644 130 00	644 330 00	644 430 00	30 x 6	47	14	58	88	1,0	0,5	1,04	1,26
644 032 00	644 132 00	644 332 00	644 432 00	32 x 6	47	14	58	88	1,0	0,5	1,00	1,20
644 036 00	644 136 00	644 336 00	644 436 00	36 x 6	58	18	80	112	2,0	1,0	2,35	2,84
644 040 00	644 140 00	644 340 00	644 440 00	40 x 7	63	18	80	137	2,0	1,0	3,04	3,67
644 044 00	644 144 00	644 344 00	644 444 00	44 x 7	63	18	80	137	2,0	1,0	2,93	3,53
644 048 00	644 148 00	644 348 00	644 448 00	48 x 8	68	18	90	167	2,0	1,0	4,35	5,25
644 050 00	644 150 00	644 350 00	644 450 00	50 x 8	68	18	90	167	2,0	1,0	4,22	5,10
644 052 00	644 152 00	644 352 00	644 452 00	52 x 8	68	18	90	167	2,0	1,0	4,22	5,10
644 060 00	644 160 00	644 360 00	644 460 00	60 x 9	68	18	90	167	2,0	1,0	3,85	4,65

\* Lead not according to DIN 103.

## Ready-to-Install Flange Nuts with Metric ISO-Trapezoidal Thread DIN 103, Single-Thread

Material: Grey cast iron GG25  
Red brass Rg7 (GC-CuSn7ZnPb).

Tolerance zone 7H.

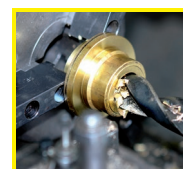


Ordering Details: e.g.: Product No. 644 770 16, flange nut made from GG25, Tr. 16 x 4, single thread, right hand

### Single thread, right hand Single thread, left hand

Artikel-No. single thread right hand		Artikel-No. single thread left hand		Thread Ød mm	DIN ISO 2768 m						Weight		
Grey Cast Iron	Red Brass	Grey Cast Iron	Red Brass		D <sub>1</sub> mm	D <sub>2</sub> mm	D <sub>3</sub> mm	6 x D <sub>4</sub> mm	A mm	B mm	C mm	Grey Cast kg	Rg kg
644 770 16	644 771 16	644 773 16	644 774 16	16 x 4	26	48	38	6	20	7	10	0,12	0,13
-	644 771 18	-	644 774 18	18 x 4	30	58	45	7	22	8	12	-	0,22
644 770 20	644 771 20	644 773 20	644 774 20	20 x 4	30	58	45	7	22	8	12	0,17	0,20
644 770 24	644 771 24	644 773 24	644 774 24	24 x 5	40	72	58	7	28	10	12	0,36	0,42
-	644 771 28	-	644 774 28	28 x 5	45	78	65	7	35	10	15	-	0,59
644 770 30	644 771 30	644 773 30	644 774 30	30 x 6	50	82	68	7	44	12	15	0,85	0,95
644 770 36	644 771 36	644 773 36	644 774 36	36 x 6	55	110	85	7	55	15	15	1,45	1,60
644 770 40	644 771 40	644 773 40	644 774 40	40 x 7	60	130	95	9	60	15	20	2,00	2,18
644 770 50	644 771 50	644 773 50	644 774 50	50 x 8	80	160	120	11	65	15	20	3,25	3,68
644 770 60	644 771 60	644 773 60	644 774 60	60 x 9	80	160	120	11	65	15	20	2,95	3,26

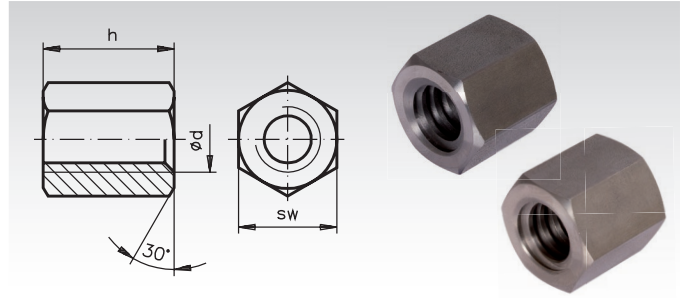
Comparison of friction coefficients see page 309.



**Reworking within  
24h-service possible.  
Custom made parts  
on request.**

## Hexagonal Nuts with Metric ISO-Trapezoidal Thread DIN 103, Single-Thread

Material: Steel C35Pb.  
Stainless steel 1.4305, Stainless.  
Tolerance zone 7H.



Ordering Details: e.g.: Product No. 643 110 00, Hexagonal Nut, Steel, Tr. 10 x 3, Single-Thread, Right Hand

### Single-Thread, Right Hand

Product No. Steel	Product No. Stainless Steel	Trapezoidal Thread Ø d mm	DIN ISO 2768 m h = 1,5 x d mm	DIN 176 sw mm	Weight kg
643 110 00	-	10 x 3*	15	17	0,02
643 112 00	643 991 12	12 x 3	18	19	0,03
643 114 00	-	14 x 4*	21	22	0,04
643 116 00	643 991 16	16 x 4	24	27	0,08
643 118 00	-	18 x 4	27	27	0,10
643 120 00	643 991 20	20 x 4	30	30	0,12
643 124 00	643 991 24	24 x 5	36	36	0,20
643 128 00	643 991 28	28 x 5	42	46	0,42
643 130 00	643 991 30	30 x 6	45	46	0,42
643 132 00	-	32 x 6	48	46	0,42
643 136 00	643 991 36	36 x 6	54	55	0,72
643 140 00	643 991 40	40 x 7	60	65	1,20
643 144 00	-	44 x 7	66	65	1,18
643 148 00	-	48 x 8	72	75	1,82
643 150 00	-	50 x 8	75	75	1,80
643 152 00	-	52 x 8	78	75	1,80
643 160 00	-	60 x 9	90	90	3,18
643 170 00	-	70 x 10	105	90	2,86

### Single-Thread, Left Hand

Product No. Steel	Product No. Stainless Steel	Trapezoidal Thread Ø d mm	DIN ISO 2768 m h = 1,5 x d mm	DIN 176 sw mm	Weight kg
643 610 00	-	10 x 3*	15	17	0,02
643 612 00	643 996 12	12 x 3	18	19	0,03
643 614 00	-	14 x 4*	21	22	0,04
643 616 00	643 996 16	16 x 4	24	27	0,08
643 618 00	-	18 x 4	27	27	0,10
643 620 00	643 996 20	20 x 4	30	30	0,12
643 624 00	643 996 24	24 x 5	36	36	0,20
643 628 00	-	28 x 5	42	46	0,42
643 630 00	-	30 x 6	45	46	0,42
643 632 00	-	32 x 6	48	46	0,42
643 636 00	-	36 x 6	54	55	0,72
643 640 00	-	40 x 7	60	65	1,20
643 644 00	-	44 x 7	66	65	1,18
643 648 00	-	48 x 8	72	75	1,82
643 650 00	-	50 x 8	75	75	1,80
643 652 00	-	52 x 8	78	75	1,80
643 660 00	-	60 x 9	90	90	3,18
643 670 00	-	70 x 10	105	90	2,86

Comparison of friction coefficients see page 309 bottom.

\* Lead angle is not in accordance with DIN 103.

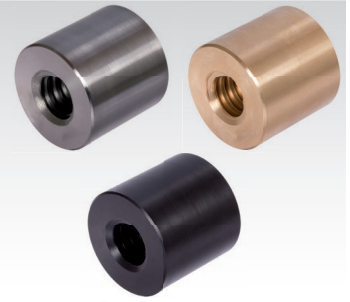
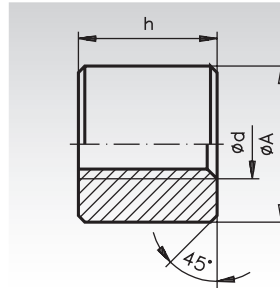
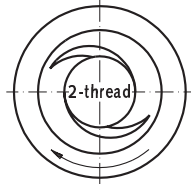


Reworking within  
24h-service possible.  
Custom made parts  
on request.

## Round Nuts with Metric ISO-Trapezoidal Thread DIN 103, Double-Thread

Material: Steel C35Pb.  
Red brass Rg7 (GC-CuSn7ZnPb).  
Plastic (PA6.6 with MoS2).

Tolerance zone 7H.



Ordering Details: e.g.: Product No. 645 612 00, Round Nut, Steel, Tr. 12 x 6 P3

### Double-thread, Right Hand

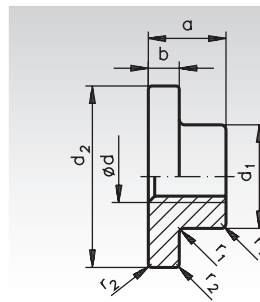
Product No. Steel h = 1,5 x d	Product No. Red Brass h = 2 x d	Product No. Plastic h = 2 x d	Trapez. Thread Ø d mm	DIN ISO 2768m h=1,5xd mm	DIN ISO 2768m h=2xd mm	DIN 668 ØAh <sup>11</sup> * mm	Weight Steel kg	Weight Red Brass kg	Weight Plastic kg
645 612 00	645 812 00	645 912 00	12 x 6 P3	18	24	26	0,06	0,1	0,02
645 616 00	645 816 00	645 916 00	16 x 8 P4	24	32	36	0,16	0,24	0,04
645 620 00	645 820 00	645 920 00	20 x 8 P4	30	40	45	0,3	0,5	0,06
645 624 00	645 824 00	645 924 00	24 x 10 P5	36	48	50	0,44	0,7	0,08
645 630 00	645 830 00	645 930 00	30 x 12 P6	45	60	60	0,8	1,2	0,16
645 640 00	645 840 00	645 940 00	40 x 14 P7	60	80	80	1,8	2,8	0,36

\* Tolerance h11 does not apply to plastic nuts.

## Round Flange Nuts with Metric ISO-Trapezoidal Thread DIN 103, Double-thread

Material: Grey cast iron GG25  
Red brass Rg7 (GC-CuSn 7ZnPb).

Tolerance zone 7H.



Ordering Details: e.g.: Product No. 645 440 12, round flange nut GG25, Tr. 12 x 6 P3

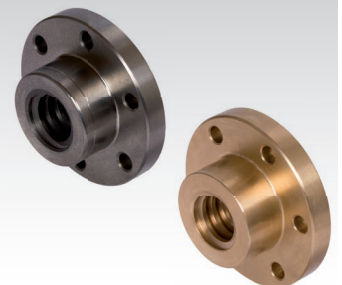
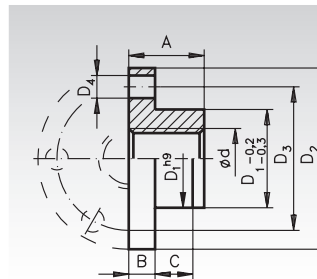
### Double-thread, Right Hand

Product No. Grey Cast Iron	Product No. Red Brass	Tr. Thread Ød mm	DIN ISO 2768m a mm	b mm	Øh <sup>11</sup> d <sub>1</sub> mm	d <sub>2</sub> mm	r <sub>1</sub> mm	r <sub>2</sub> mm	Weight Grey Cast Iron kg	Weight Red Brass kg
645 440 12	645 441 12	12 x 6 P3	18	6	22	40	0,5	0,3	0,08	0,09
645 440 16	645 441 16	16 x 8 P4	22	10	30	50	1,0	0,5	0,18	0,22
645 440 20	645 441 20	20 x 8 P4	24	10	36	60	1,0	0,5	0,26	0,32
645 440 24	645 441 24	24 x 10 P5	30	11	45	70	1,0	0,5	0,45	0,54
645 440 30	645 441 30	30 x 12 P6	47	14	58	88	1,0	0,5	1,04	1,26
645 440 40	645 441 40	40 x 14 P7	63	18	80	137	2,0	1,0	3,04	3,67

## Ready-to-Install Flange Nuts with Metric ISO-Trapezoidal Thread DIN 103, Double-thread

Material: Grey cast iron GG25  
Red brass Rg7 (GC-CuSn7ZnPb).

Tolerance zone 7H.



Ordering Details: e.g.: Product No. 645 770 16, flange nut GG25, Tr. 16 x 8 P4

### Double-thread, Right Hand

Product No. Grey Cast Iron	Product No. Red Brass	Tr. Thread Ød mm	D <sub>1</sub> mm	D <sub>2</sub> mm	D <sub>3</sub> mm	DIN ISO 2768 m 6 x D <sub>4</sub> mm	A mm	B mm	C mm	Weight Grey Cast kg	Weight Red Brass kg
645 770 16	645 771 16	16 x 8 P4	26	48	38	6	20	7	10	0,12	0,13
645 770 20	645 771 20	20 x 8 P4	30	58	45	7	22	8	12	0,17	0,20
645 770 24	645 771 24	24 x 10 P5	40	72	58	7	28	10	12	0,36	0,42
645 770 30	645 771 30	30 x 12 P6	50	82	68	7	44	12	15	0,85	0,95
645 770 40	645 771 40	40 x 14 P7	60	130	95	9	60	15	20	2,00	2,18

Comparison of friction coefficients see page 309.