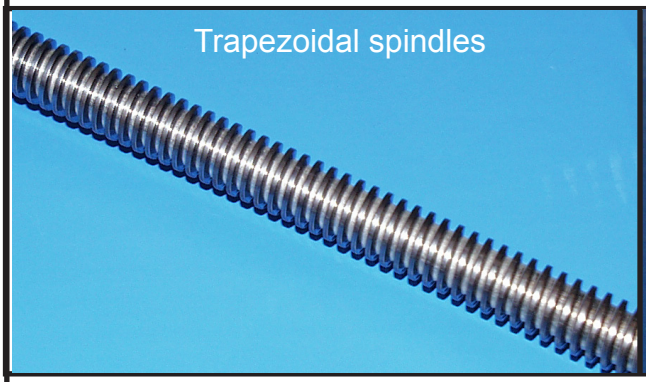
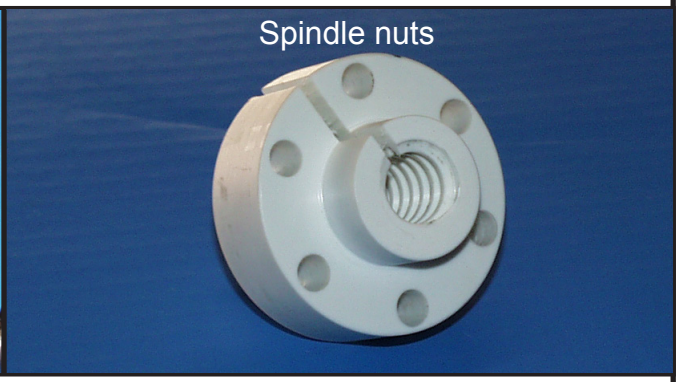
Wolf





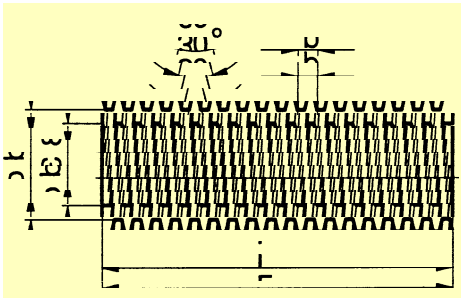
Maintenance-free, dry running

trapezoidal thread drives

Contents

Trapezoidal spindles, standard

Construction:
Thread: rolled, DIN 103, quality 7e,
Materials: steel St60, CK15, C35 or C45, bright
Lead tolerance for 300mm length ±0,2mm
Available lengths: 1000mm, 2000mm, 3000mm



standard trapezoidal spindle

d x p	Weight [kg/m]	Direction	Length 1000 mm	Length 2000 mm	Length 3000 mm
10 x 2	0,50	**right-handed**	SPT___K010021R	SPT___K010022R	SPT___K010023R
10 x 2	0,50	**left-handed**	SPT___K010021L	SPT___K010022L	SPT___K010023L
12 x 3	0,75	**right-handed**	SPT___K012031R	SPT___K012032R	SPT___K012033R
12 x 3	0,75	**left-handed**	SPT___K012031L	SPT___K012032L	SPT___K012033L
14 x 4	1,05	**right-handed**	SPT___K014041R	SPT___K014042R	SPT___K014043R
14 x 4	1,05	**left-handed**	SPT___K014041L	SPT___K014042L	SPT___K014043L
16 x 4	1,21	**right-handed**	SPT___K016041R	SPT___K016042R	SPT___K016043R
16 x 4	1,21	**left-handed**	SPT___K016041L	SPT___K016042L	SPT___K016043L
18 x 4	1,58	**right-handed**	SPT___K018041R	SPT___K018042R	SPT___K018043R
18 x 4	1,58	**left-handed**	SPT___K018041L	SPT___K018042L	SPT___K018043L
20 x 4	2,00	**right-handed**	SPT___K020041R	SPT___K020042R	SPT___K020043R
20 x 4	2,00	**left-handed**	SPT___K020041L	SPT___K020042L	SPT___K020043L
22 x 5	2,23	**right-handed**	SPT___K022051R	SPT___K022052R	SPT___K022053R
22 x 5	2,23	**left-handed**	SPT___K022051L	SPT___K022052L	SPT___K022053L
24 x 5	2,72	**right-handed**	SPT___K024051R	SPT___K024052R	SPT___K024053R
24 x 5	2,72	**left-handed**	SPT___K024051L	SPT___K024052L	SPT___K024053L
26 x 5	3,26	**right-handed**	SPT___K026051R	SPT___K026052R	SPT___K026053R
26 x 5	3,26	**left-handed**	SPT___K026051L	SPT___K026052L	SPT___K026053L
28 x 5	3,85	**right-handed**	SPT___K028051R	SPT___K028052R	SPT___K028053R
28 x 5	3,85	**left-handed**	SPT___K028051L	SPT___K028052L	SPT___K028053L
30 x 6	4,50	**right-handed**	SPT___K030061R	SPT___K030062R	SPT___K030063R
30 x 6	4,50	**left-handed**	SPT___K030061L	SPT___K030062L	SPT___K030063L
32 x 6	5,18	**right-handed**	SPT___K032061R	SPT___K032062R	SPT___K032063R
32 x 6	5,18	**left-handed**	SPT___K032061L	SPT___K032062L	SPT___K032063L
36 x 6	6,71	**right-handed**	SPT___K036061R	SPT___K036062R	SPT___K036063R
36 x 6	6,71	**left-handed**	SPT___K036061L	SPT___K036062L	SPT___K036063L
40 x 7	8,00	**right-handed**	SPT___K040071R	SPT___K040072R	SPT___K040073R
40 x 7	8,00	**left-handed**	SPT___K040071L	SPT___K040072L	SPT___K040073L

Please fill in the grammalogue of the requested material into the empty space of the article number.

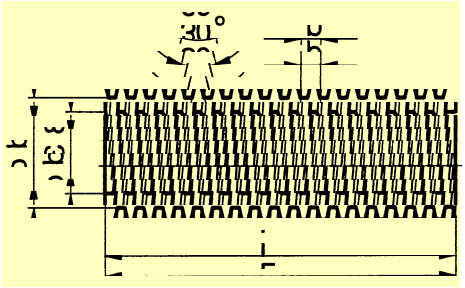
St60: **Z1A**
CK15: **Z1B**
C35: **Z1C**
C45: **Z1D**

Example:
standard trapezoidal spindle 10x2 according to DIN 103, right-handed, 1000mm length, St60: SPT**Z1A**K010021R

We also produce spindles either rolled or whirled according to your drawing, if requested.

Trapezoidal spindles, stainless

Construction:
Thread: rolled or cutted, DIN 103, quality 7e
Material: INOX 1.4021, 1.4104, 1.4305, 1.4306
Lead tolerance for 300mm length ±0,2mm
Available lengths: 1000mm, 2000mm, 3000mm



stainless trapezoidal spindle

d x p	Weight [kg/m]	Direction	Length 1000 mm	Length 2000 mm	Length 3000 mm
12 x 3	0,70	**right-handed**	SPTZ1_K012031R	SPT___K012032R	SPT___K012033R
12 x 3	0,70	**left-handed**	SPT___K012031L	SPT___K012032L	SPT___K012033L
16 x 4	1,25	**right-handed**	SPT___K016041R	SPT___K016042R	SPT___K016043R
16 x 4	1,25	**left-handed**	SPT___K016041L	SPT___K016042L	SPT___K016043L
20 x 4	2,05	**right-handed**	SPT___K020041R	SPT___K020042R	SPT___K020043R
20 x 4	2,05	**left-handed**	SPT___K020041L	SPT___K020042L	SPT___K020043L
24 x 5	3,00	**right-handed**	SPT___K024051R	SPT___K024052R	SPT___K024053R
24 x 5	3,00	**left-handed**	SPT___K024051L	SPT___K024052L	SPT___K024053L
30 x 6	4,70	**right-handed**	SPT___K030061R	SPT___K030062R	SPT___K030063R
30 x 6	4,70	**left-handed**	SPT___K030061L	SPT___K030062L	SPT___K030063L
36 x 6	6,95	**right-handed**	SPT___K036061R	SPT___K036062R	SPT___K036063R
36 x 6	6,95	**left-handed**	SPT___K036061L	SPT___K036062L	SPT___K036063L
40 x 7	8,20	**right-handed**	SPT___K040071R	SPT___K040072R	SPT___K040073R
40 x 7	8,20	**left-handed**	SPT___K040071L	SPT___K040072L	SPT___K040073L

Please fill in the grammalogue of the requested material into the empty space of the article number.

INOX 1.4021: **Z1E**
INOX 1.4104: **Z1H**
INOX 1.4305: **Z1I**
INOX 1.4306: **Z1K**

Example:
stainless trapezoidal spindle 12x3 according to DIN 103,right-handed, 1000mm length, INOX 1.4021: SPT**Z1E**K012031R

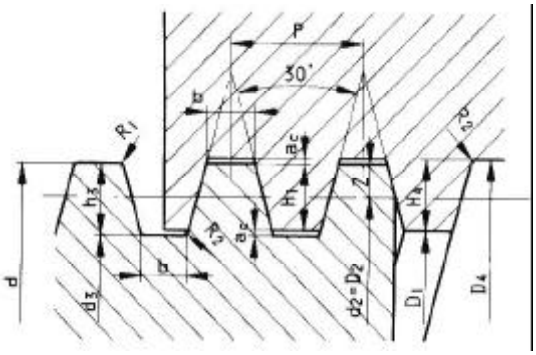
We also produce spindles either rolled or whirled according to your drawing, if requested.

Trapezoidal spindles

Technology of the trapezoidal thread drives
Metric ISO-trapezoidal thread according to DIN 103

nominal diameter	d
lead achieved with single threads and	P
pitch achieved with multiple threads	Pg
lead achieved with multiple threads	Ph
number of flights	n = Ph/P
root diameter of the screw thread	d3= d-(P+2ac)
major diameter of the nut thread	D4=d+2ac
root diameter of the nut thread	D1=d-P
flank diameter of the thread	d2=D2=d-0,5P
depth of the screw thread and the nut thread	h3=H4=0,5P+ac
flank overlap	H1=0,5P
tooth face height	z=0,25P
crest clearance	ac
radius	R1 und R2
turning tool width	b=0,366P-0,54ac
flank angle	a=30°

Nut thread



Screw thread

Measure	1	2...5	6...12	14...44
ac	0.15	0.25	0.5	1
R1	0.075	0.125	0.25	0.5
R2	0.15	0.25	0.5	1

Driving moment and driving power

A torque can be converted into a longitudinal force as follows:

$$M_a = \frac{F \times P}{2000 \times \pi \times \eta}$$

F = force [N]
M_a = driving moment [Nm]
n = screw speed [min^{-1}]
P = lead [mm]
Pa = power [kW]
η = efficiency [-]

The driving power is calculated as follows:

$$P_a = \frac{M_a \times n}{9550}$$

Thread measures in mm

Thread description d x p	Flank diameter d2 = D2	bolt d3	Root diameter nut D1	Major diameter D4	Thread depth h3 = H4	Turning tool width b
Tr 8 x 1,5	7.25	6.20	6.5	8.3	0.90	0.468
Tr 9 x 2	8.00	6.50	7	9.5	1.25	0.597
Tr 10 x 2	9.00	7.50	8	10.5	1.25	0.597
Tr 12 x 3	10.50	8.50	9	12.5	1.75	0.963
Tr 14 x 3	12.50	10.50	11	14.5	1.75	0.963
Tr 16 x 4	14.00	11.50	12	16.5	2.25	1.329
Tr 18 x 4	16.00	13.50	14	18.5	2.25	1.329
Tr 20 x 4	18.00	15.50	16	20.5	2.25	1.329
Tr 22 x 5	19.50	16.50	17	22.5	2.75	1.695
Tr 24 x 5	21.50	18.50	19	24.5	2.75	1.695
Tr 28 x 5	25.50	22.50	23	28.5	2.75	1.695
Tr 30 x 6	27.00	23.00	24	31	3.50	1.926
Tr 32 x 6	29.00	25.00	26	33	3.50	1.926
Tr 36 x 6	33.00	29.00	30	37	3.50	1.926
Tr 40 x 7	36.50	32.00	33	41	4.00	2.292
Tr 44 x 7	40.50	36.00	37	45	4.00	2.292
Tr 48 x 8	44.00	39.00	40	49	4.50	2.658
Tr 52 x 8	48.00	43.00	44	53	4.50	2.658
Tr 60 x 9	55.50	50.00	51	61	5.00	3.024
Tr 70 x 10	65.00	59.00	60	71	5.50	3.39
Tr 80 x 10	75.00	69.00	70	81	5.50	3.39
Tr 90 x 12	84.00	77.00	78	91	6.50	4.122
Tr 100 x 12	94.00	87.00	88	101	6.50	4.122
Tr 120 x 14	113.00	104.00	106	122	8.00	4.584
Tr 140 x 14	132.50	124.00	126	142	8.00	4.584
Tr 160 x 16	151.50	142.00	144	162	9.00	5.316

Diagram - critical bending screw speed

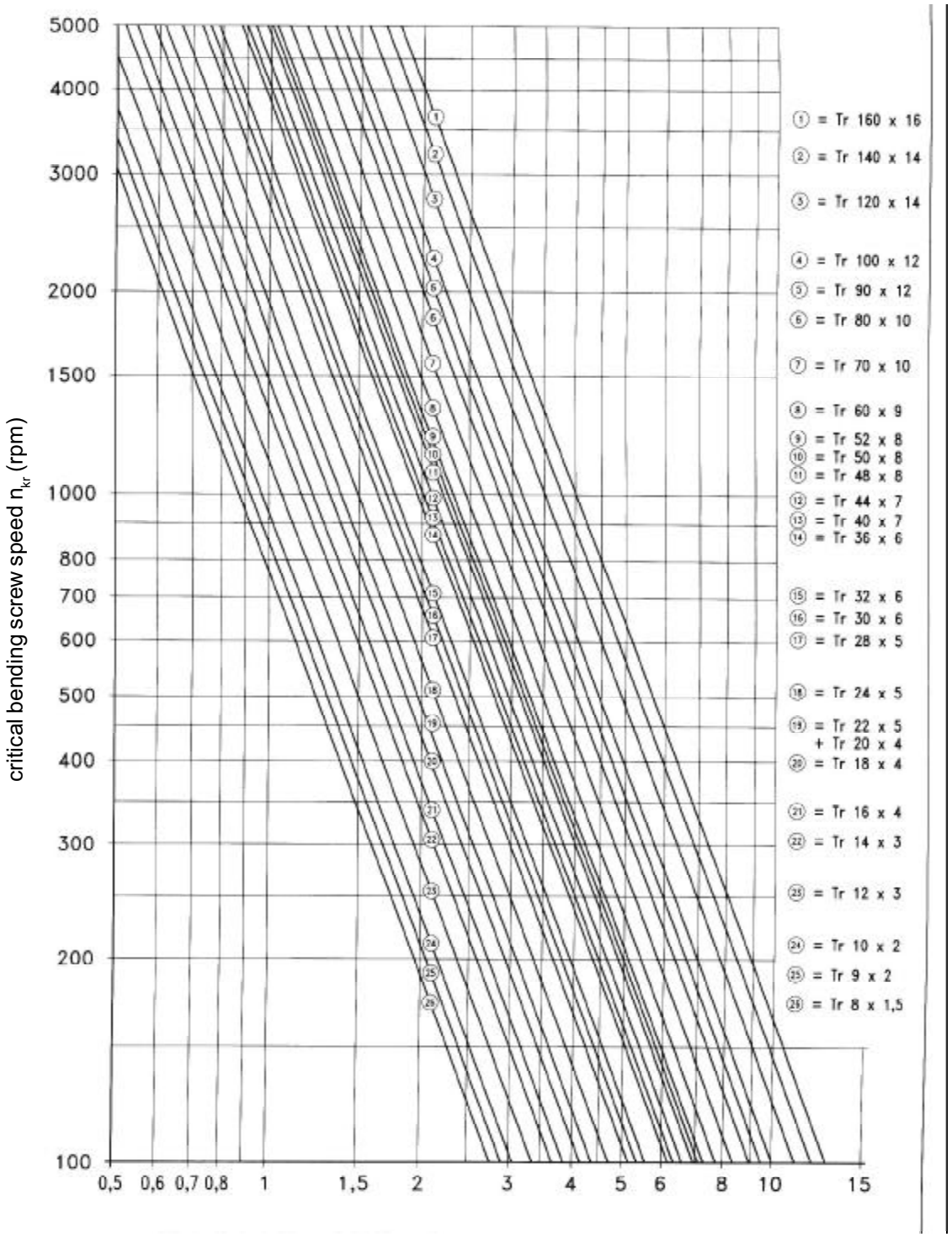
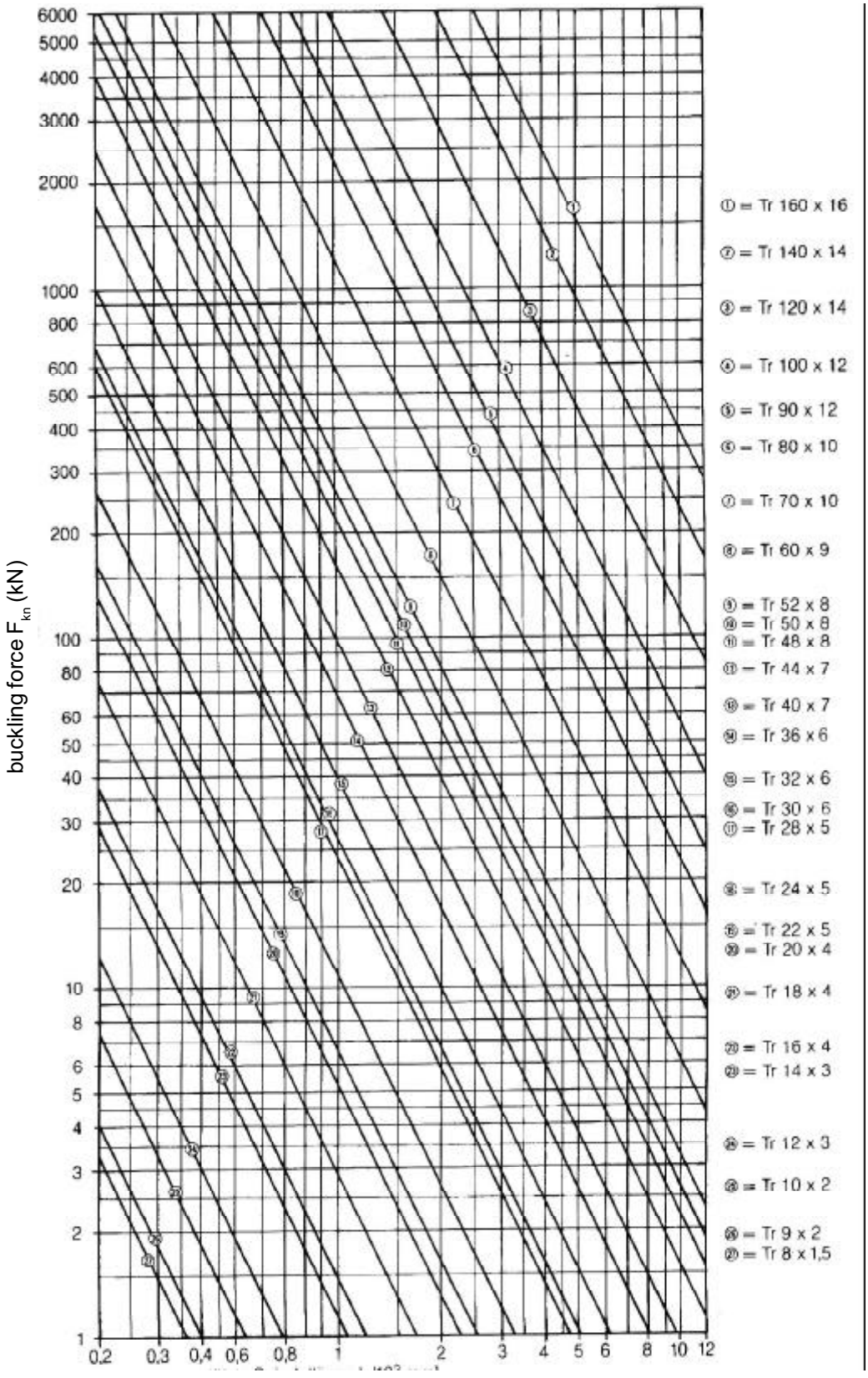
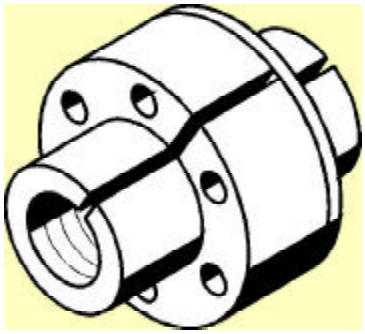


Diagram - buckling



Spindle nuts with plastic trapezoidal thread

Construction:
machined; 1 turn - right-handed, splitted on one side
2 flanges for bellows connector in **dry runs**
thread constructed according to DIN 103
quality: 7e according to DIN 103



Thread: TR 18 x 4

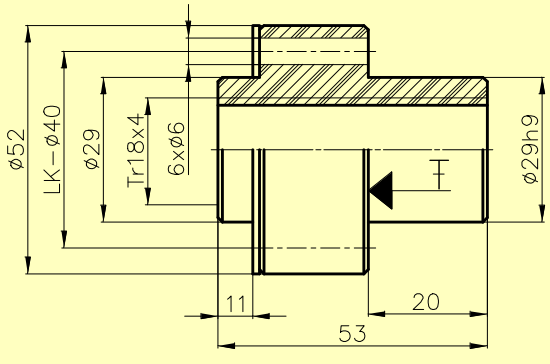
Materials:

The spindle nuts are available in three types of material. An appropriate material has to be chosen depending on the load exerted on the spindle nut.

Mounting and installation:

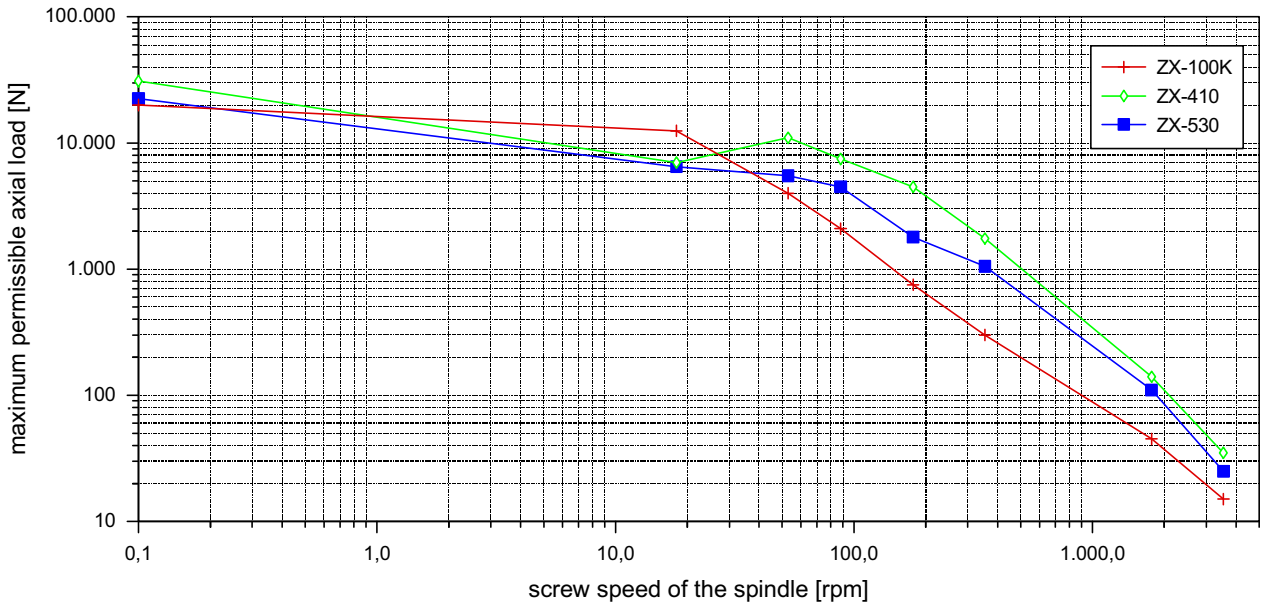
The spindle nuts have 6 volume boreholes of a diameter of 6 mm for screws M5.
We achieve a regular power distribution by means of a reinforcement with a 2mm thick stainless sheet steel flange. The diameters and lengths of the nut must show a clearance of 0.1mm towards the connecting parts when installed, in order to ensure a maximum load without hindering a thermal expansion.

Dimensions:



Applications of stress:

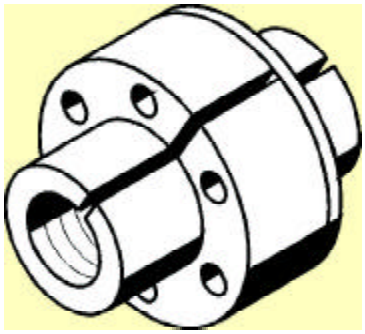
The load values apply to an ambient temperature of 20°C and an operating period of 100% in **dry runs**. When lubricating with oil or grease or when reducing the operating period, the load can considerably increase, especially in the upper screw speed range. In such cases please ask for the permissible axial loads at our application development department. The values ascertained have been determined with spindles made from the following material:
Spindle material: Ck15 (1.1141);hardness:150HB; surface roughness: Rz 6,3µm; quality: 7e according to DIN 103



Material:	Article no.:
ZEDEX-100K	SPMA1KE018041GR
ZEDEX-410	SPMA4AE018041GR
ZEDEX-530	SPMA5DE018041GR

Spindle nuts with plastic trapezoidal thread

Construction:
machined; 1 turn - right-handed, splitted on one side
2 flanges for bellows connector in **dry runs**
thread constructed according to DIN 103
quality: 7e according to DIN 103



Thread: TR 20 x 4

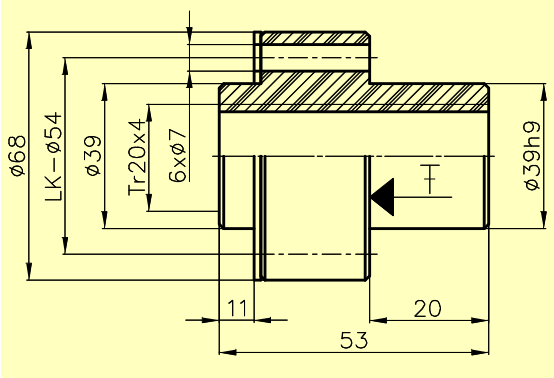
Materials:

The spindle nuts are available in three types of material. An appropriate material has to be chosen depending on the load exerted on the spindle nut.

Mounting and installation:

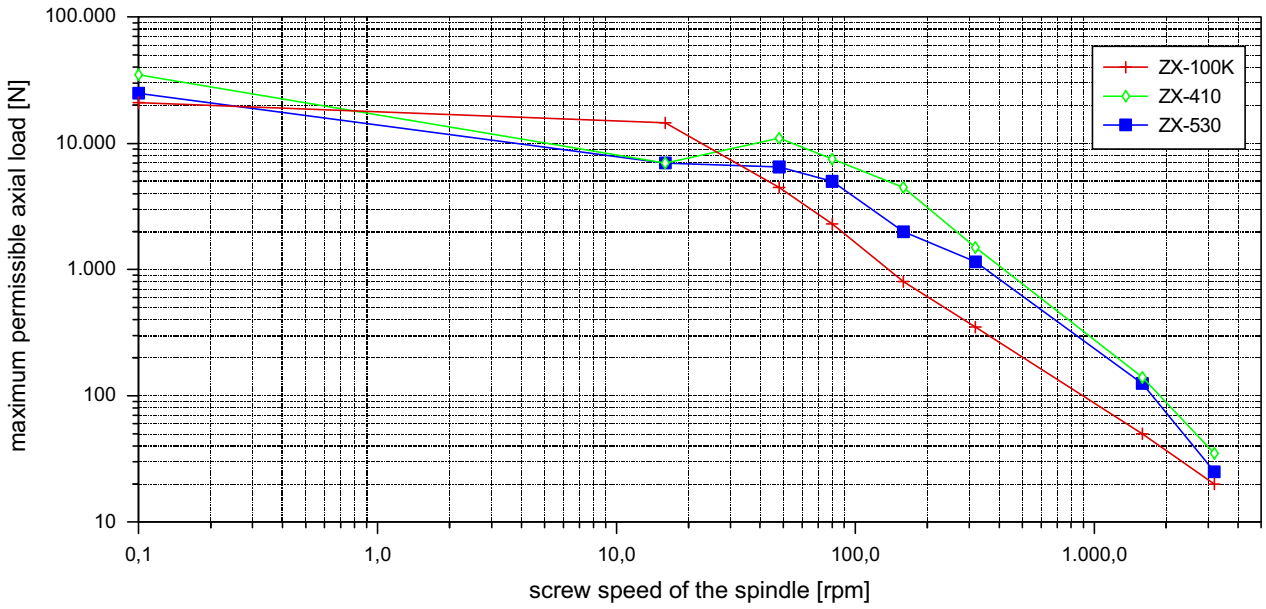
The spindle nuts have 6 volume boreholes of a diameter of 7 mm for screws M6.
We achieve a regular power distribution by means of a reinforcement with a 2mm thick stainless sheet steel flange. The diameters and lengths of the nut must show a clearance of 0.1mm towards the connecting parts when installed, in order to ensure a maximum load without hindering a thermal expansion.

Dimensions:



Applications of stress:

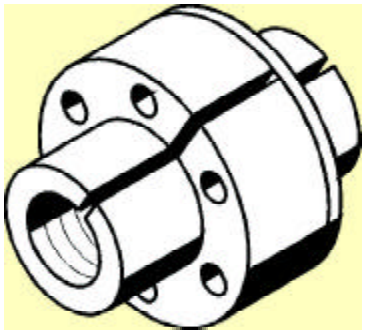
The load values apply to an ambient temperature of 20°C and an operating period of 100% in **dry runs**. When lubricating with oil or grease or when reducing the operating period, the load can considerably increase, especially in the upper screw speed range. In such cases please ask for the permissible axial loads at our application development department. The values ascertained have been determined with spindles made from the following material:
Spindle material: Ck15 (1.1141);hardness:150HB; surface roughness: Rz 6,3µm; quality: 7e according to DIN 103



Material:	Article no.:
ZEDEX-100K	SPMA1KE020041GR
ZEDEX-410	SPMA4AE020041GR
ZEDEX-530	SPMA5DE020041GR

Spindle nuts with plastic trapezoidal thread

Construction:
machined; 1 turn - right-handed, splitted on one side
2 flanges for bellows connector in **dry runs**
thread constructed according to DIN 103
quality: 7e according to DIN 103



Thread: TR 30 x 6

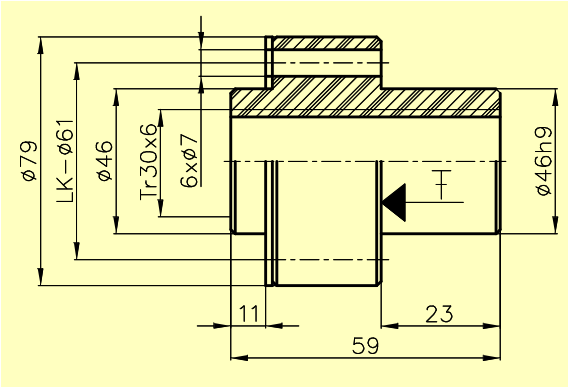
Materials:

The spindle nuts are available in three types of material. An appropriate material has to be chosen depending on the load exerted on the spindle nut.

Mounting and installation:

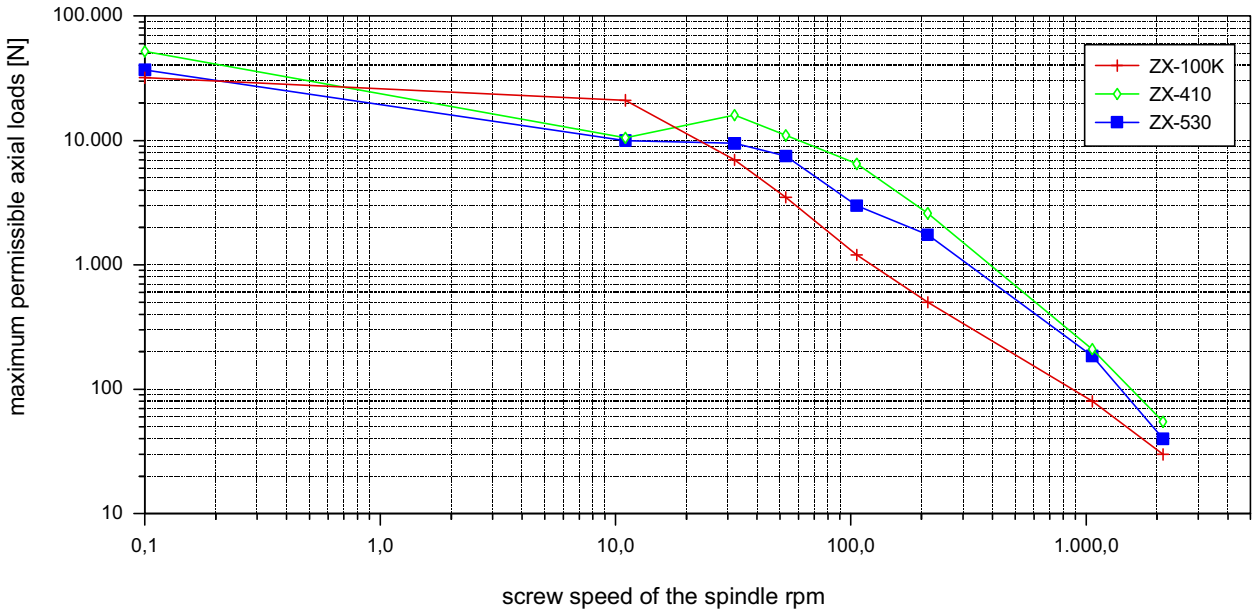
The spindle nuts have 6 volume boreholes of a diameter of 7 mm for screws M6.
We achieve a regular power distribution by means of a reinforcement with a 2mm thick stainless sheet steel flange. The diameters and lengths of the nut must show a clearance of 0.1mm towards the connecting parts when installed, in order to ensure a maximum load without hindering a thermal expansion.

Dimensions:



Applications of stress:

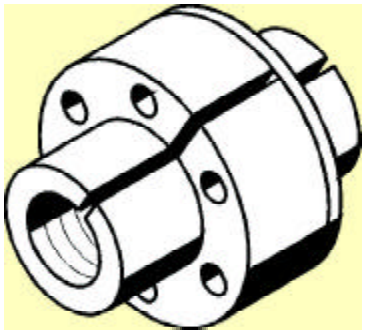
The load values apply to an ambient temperature of 20°C and an operating period of 100% in **dry runs**. When lubricating with oil or grease or when reducing the operating period, the load can considerably increase, especially in the upper screw speed range. In such cases please ask for the permissible axial loads at our application development department. The values ascertained have been determined with spindles made from the following material:
Spindle material: Ck15 (1.1141);hardness:150HB; surface roughness: Rz 6,3µm; quality: 7e according to DIN 103



Material:	Article no.:
ZEDEX-100K	SPMA1KE030061GR
ZEDEX-410	SPMA4AE030061GR
ZEDEX-530	SPMA5DE030061GR

Spindle nuts with plastic trapezoidal thread

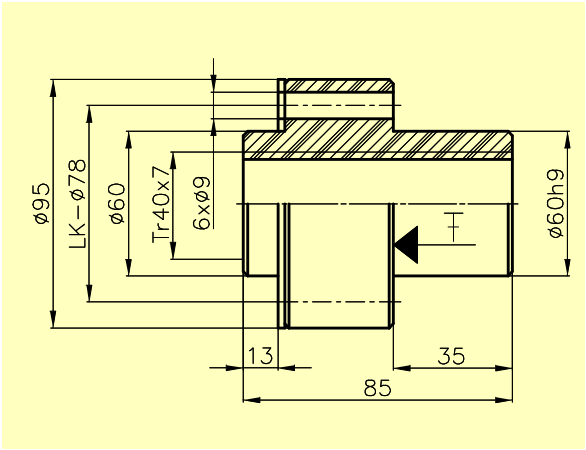
Construction:
machined; 1 turn - right-handed, splitted on one side
2 flanges for bellows connector in **dry runs**
thread constructed according to DIN 103
quality: 7e according to DIN 103



Thread: TR 40 x 7

Materials:

The spindle nuts are available in three types of material. An appropriate material has to be chosen depending on the load exerted on the spindle nut.

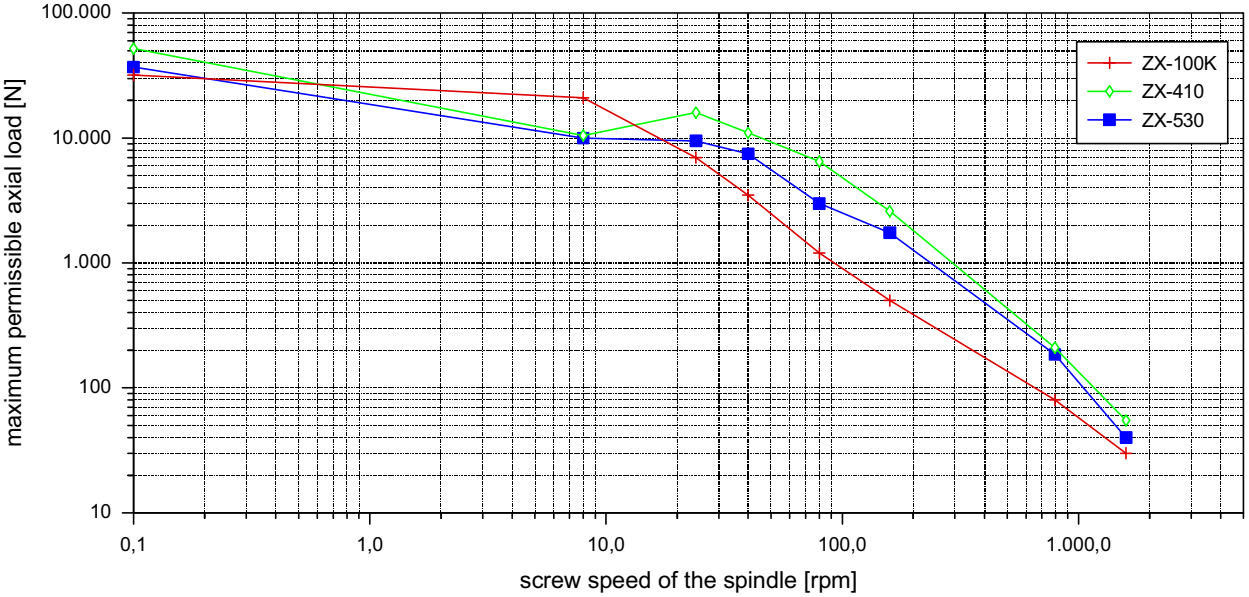


Mounting and installation:

The spindle nuts have 6 volume boreholes of a diameter of 9 mm for screws M8.
We achieve a regular power distribution by means of a reinforcement with a 2mm thick stainless sheet steel flange. The diameters and lengths of the nut must show a clearance of 0.1mm towards the connecting parts when installed, in order to ensure a maximum load without hindering a thermal expansion.

Applications of stress:

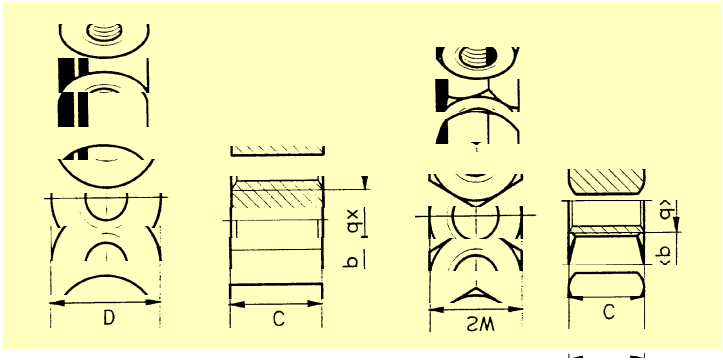
The load values apply to an ambient temperature of 20°C and an operating period of 100% in **dry runs**. When lubricating with oil or grease or when reducing the operating period, the load can considerably increase, especially in the upper screw speed range. In such cases please ask for the permissible axial loads at our application development department. The values ascertained have been determined with spindles made from the following material:
Spindle material: Ck15 (1.1141);hardness:150HB; surface roughness: Rz 6,3µm; quality: 7e according to DIN 103



Material:	Article no.:
ZEDEX-100K	SPMA1KE040071GR
ZEDEX-410	SPMA4AE040071GR
ZEDEX-530	SPMA5DE040071GR

Trapezoidal thread nuts made from ZX-100K

Construction:
Thread according to DIN 103, quality 7H
Maximum concentric error: 0,4mm
Material: ZX-100K



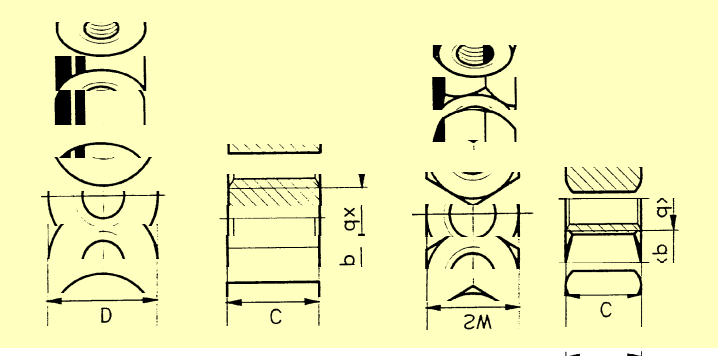
round nuts, hexagonal nuts

Thread		short round nut			long round nut			Hexagonal nut		
d x p	Direction	D	C	Article no.	D	C	Article no.	SW	C	Article no.
10 x 2	**right-handed**	22	15	SPTA1KE0100215R	22	20	SPTA1KE0100220R	17	15	SPTA1KE01002SKR
10 x 2	**left-handed**	22	15	SPTA1KE0100215L	22	20	SPTA1KE0100220L	17	15	SPTA1KE01002SKL
12 x 3	**right-handed**	26	18	SPTA1KE0120318R	26	24	SPTA1KE0120324R	19	18	SPTA1KE01203SKR
12 x 3	**left-handed**	26	18	SPTA1KE0120318L	26	24	SPTA1KE0120324L	19	18	SPTA1KE01203SKL
14 x 4	**right-handed**	30	21	SPTA1KE0140421R	30	28	SPTA1KE0140428R	22	21	SPTA1KE01404SKR
14 x 4	**left-handed**	30	21	SPTA1KE0140421L	30	28	SPTA1KE0140428L	22	21	SPTA1KE01404SKL
16 x 4	**right-handed**	36	24	SPTA1KE0160424R	36	32	SPTA1KE0160432R	24	24	SPTA1KE01604SKR
16 x 4	**left-handed**	36	24	SPTA1KE0160424L	36	32	SPTA1KE0160432L	24	24	SPTA1KE01604SKL
18 x 4	**right-handed**	40	27	SPTA1KE0180427R	40	36	SPTA1KE0180436R	27	27	SPTA1KE01804SKR
18 x 4	**left-handed**	40	27	SPTA1KE0180427L	40	36	SPTA1KE0180436L	27	27	SPTA1KE01804SKL
20 x 4	**right-handed**	45	30	SPTA1KE0200430R	45	40	SPTA1KE0200440R	30	30	SPTA1KE02004SKR
20 x 4	**left-handed**	45	30	SPTA1KE0200430L	45	40	SPTA1KE0200440L	30	30	SPTA1KE02004SKL
22 x 5	**right-handed**	45	33	SPTA1KE0220533R	45	44	SPTA1KE0220544R	30	33	SPTA1KE02205SKR
22 x 5	**left-handed**	45	33	SPTA1KE0220533L	45	44	SPTA1KE0220544L	30	33	SPTA1KE02205SKL
24 x 5	**right-handed**	50	36	SPTA1KE0240536R	50	48	SPTA1KE0240548R	36	36	SPTA1KE02405SKR
24 x 5	**left-handed**	50	36	SPTA1KE0240536L	50	48	SPTA1KE0240548L	36	36	SPTA1KE02405SKL
26 x 5	**right-handed**	50	39	SPTA1KE0260539R	50	52	SPTA1KE0260552R	36	39	SPTA1KE02605SKR
26 x 5	**left-handed**	50	39	SPTA1KE0260539L	50	52	SPTA1KE0260552L	36	39	SPTA1KE02605SKL
28 x 5	**right-handed**	60	42	SPTA1KE0280542R	60	56	SPTA1KE0280556R	41	42	SPTA1KE02805SKR
28 x 5	**left-handed**	60	42	SPTA1KE0280542L	60	56	SPTA1KE0280556L	41	42	SPTA1KE02805SKL
30 x 6	**right-handed**	60	45	SPTA1KE0300645R	60	60	SPTA1KE0300660R	46	45	SPTA1KE03006SKR
30 x 6	**left-handed**	60	45	SPTA1KE0300645L	60	60	SPTA1KE0300660L	46	45	SPTA1KE03006SKL
32 x 6	**right-handed**	60	48	SPTA1KE0320648R	60	64	SPTA1KE0320664R	50	48	SPTA1KE03206SKR
32 x 6	**left-handed**	60	48	SPTA1KE0320648L	60	64	SPTA1KE0320664L	50	48	SPTA1KE03206SKL
36 x 6	**right-handed**	75	54	SPTA1KE0360654R	75	72	SPTA1KE0360672R	55	54	SPTA1KE03606SKR
36 x 6	**left-handed**	75	54	SPTA1KE0360654L	75	72	SPTA1KE0360672L	55	54	SPTA1KE03606SKL
40 x 7	**right-handed**	80	60	SPTA1KE0400760R	80	80	SPTA1KE0400780R	60	60	SPTA1KE04007SKR
40 x 7	**left-handed**	80	60	SPTA1KE0400760L	80	80	SPTA1KE0400780L	60	60	SPTA1KE04007SKL

If requested, we also produce spindle nuts according to your drawing.

Trapezoidal thread nuts made from ZX-410

Construction:
Thread according to DIN 103, quality 7H
Maximum concentric error: 0,4mm
Material: ZX-410



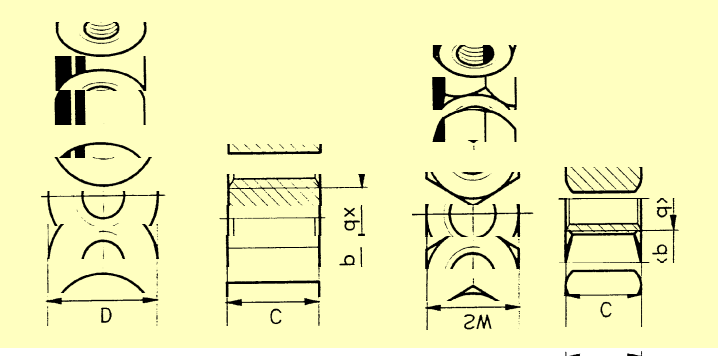
round nuts, hexagonal nuts

Thread	short round nut			long round nut			Hexagonal nut		
d x p Direction	D	C	Article no.	D	C	Article no.	SW	C	Article no.
10 x 2 right-handed	22	15	SPTA4AE0100215R	22	20	SPTA4AE0100220R	17	15	SPTA4AE01002SKR
10 x 2 left-handed	22	15	SPTA4AE0100215L	22	20	SPTA4AE0100220L	17	15	SPTA4AE01002SKL
12 x 3 right-handed	26	18	SPTA4AE0120318R	26	24	SPTA4AE0120324R	19	18	SPTA4AE01203SKR
12 x 3 left-handed	26	18	SPTA4AE0120318L	26	24	SPTA4AE0120324L	19	18	SPTA4AE01203SKL
14 x 4 right-handed	30	21	SPTA4AE0140421R	30	28	SPTA4AE0140428R	22	21	SPTA4AE01404SKR
14 x 4 left-handed	30	21	SPTA4AE0140421L	30	28	SPTA4AE0140428L	22	21	SPTA4AE01404SKL
16 x 4 right-handed	36	24	SPTA4AE0160424R	36	32	SPTA4AE0160432R	24	24	SPTA4AE01604SKR
16 x 4 left-handed	36	24	SPTA4AE0160424L	36	32	SPTA4AE0160432L	24	24	SPTA4AE01604SKL
18 x 4 right-handed	40	27	SPTA4AE0180427R	40	36	SPTA4AE0180436R	27	27	SPTA4AE01804SKR
18 x 4 left-handed	40	27	SPTA4AE0180427L	40	36	SPTA4AE0180436L	27	27	SPTA4AE01804SKL
20 x 4 right-handed	45	30	SPTA4AE0200430R	45	40	SPTA4AE0200440R	30	30	SPTA4AE02004SKR
20 x 4 left-handed	45	30	SPTA4AE0200430L	45	40	SPTA4AE0200440L	30	30	SPTA4AE02004SKL
22 x 5 right-handed	45	33	SPTA4AE0220533R	45	44	SPTA4AE0220544R	30	33	SPTA4AE02205SKR
22 x 5 left-handed	45	33	SPTA4AE0220533L	45	44	SPTA4AE0220544L	30	33	SPTA4AE02205SKL
24 x 5 right-handed	50	36	SPTA4AE0240536R	50	48	SPTA4AE0240548R	36	36	SPTA4AE02405SKR
24 x 5 left-handed	50	36	SPTA4AE0240536L	50	48	SPTA4AE0240548L	36	36	SPTA4AE02405SKL
26 x 5 right-handed	50	39	SPTA4AE0260539R	50	52	SPTA4AE0260552R	36	39	SPTA4AE02605SKR
26 x 5 left-handed	50	39	SPTA4AE0260539L	50	52	SPTA4AE0260552L	36	39	SPTA4AE02605SKL
28 x 5 right-handed	60	42	SPTA4AE0280542R	60	56	SPTA4AE0280556R	41	42	SPTA4AE02805SKR
28 x 5 left-handed	60	42	SPTA4AE0280542L	60	56	SPTA4AE0280556L	41	42	SPTA4AE02805SKL
30 x 6 right-handed	60	45	SPTA4AE0300645R	60	60	SPTA4AE0300660R	46	45	SPTA4AE03006SKR
30 x 6 left-handed	60	45	SPTA4AE0300645L	60	60	SPTA4AE0300660L	46	45	SPTA4AE03006SKL
32 x 6 right-handed	60	48	SPTA4AE0320648R	60	64	SPTA4AE0320664R	50	48	SPTA4AE03206SKR
32 x 6 left-handed	60	48	SPTA4AE0320648L	60	64	SPTA4AE0320664L	50	48	SPTA4AE03206SKL
36 x 6 right-handed	75	54	SPTA4AE0360654R	75	72	SPTA4AE0360672R	55	54	SPTA4AE03606SKR
36 x 6 left-handed	75	54	SPTA4AE0360654L	75	72	SPTA4AE0360672L	55	54	SPTA4AE03606SKL
40 x 7 right-handed	80	60	SPTA4AE0400760R	80	80	SPTA4AE0400780R	60	60	SPTA4AE04007SKR
40 x 7 left-handed	80	60	SPTA4AE0400760L	80	80	SPTA4AE0400780L	60	60	SPTA4AE04007SKL

If requested, we also produce spindle nuts according to your drawing.

Trapezoidal thread nuts made from ZX-530

Construction:
Thread according to DIN 103, quality 7H
Maximum concentric error: 0,4mm
Material: ZX-530



round nuts, hexagonal nuts

Thread			short round nut			long round nut			Hexagonal nut		
d x p	Direction		D	C	Article no.	D	C	Article no.	SW	C	Article no.
10 x 2	**right-handed**		22	15	SPTA5DE0100215R	22	20	SPTA5DE0100220R	17	15	SPTA5DE01002SKR
10 x 2	**left-handed**		22	15	SPTA5DE0100215L	22	20	SPTA5DE0100220L	17	15	SPTA5DE01002SKL
12 x 3	**right-handed**		26	18	SPTA5DE0120318R	26	24	SPTA5DE0120324R	19	18	SPTA5DE01203SKR
12 x 3	**left-handed**		26	18	SPTA1KE0120318L	26	24	SPTA5DE0120324L	19	18	SPTA5DE01203SKL
14 x 4	**right-handed**		30	21	SPTA5DE0140421R	30	28	SPTA5DE0140428R	22	21	SPTA5DE01404SKR
14 x 4	**left-handed**		30	21	SPTA5DE0140421L	30	28	SPTA5DE0140428L	22	21	SPTA5DE01404SKL
16 x 4	**right-handed**		36	24	SPTA5DE0160424R	36	32	SPTA5DE0160432R	24	24	SPTA5DE01604SKR
16 x 4	**left-handed**		36	24	SPTA5DE0160424L	36	32	SPTA5DE0160432L	24	24	SPTA5DE01604SKL
18 x 4	**right-handed**		40	27	SPTA5DE0180427R	40	36	SPTA5DE0180436R	27	27	SPTA5DE01804SKR
18 x 4	**left-handed**		40	27	SPTA5DE0180427L	40	36	SPTA5DE0180436L	27	27	SPTA5DE01804SKL
20 x 4	**right-handed**		45	30	SPTA5DE0200430R	45	40	SPTA5DE0200440R	30	30	SPTA5DE02004SKR
20 x 4	**left-handed**		45	30	SPTA5DE0200430L	45	40	SPTA5DE0200440L	30	30	SPTA5DE02004SKL
22 x 5	**right-handed**		45	33	SPTA5DE0220533R	45	44	SPTA5DE0220544R	30	33	SPTA5DE02205SKR
22 x 5	**left-handed**		45	33	SPTA5DE0220533L	45	44	SPTA5DE0220544L	30	33	SPTA5DE02205SKL
24 x 5	**right-handed**		50	36	SPTA5DE0240536R	50	48	SPTA5DE0240548R	36	36	SPTA5DE02405SKR
24 x 5	**left-handed**		50	36	SPTA5DE0240536L	50	48	SPTA5DE0240548L	36	36	SPTA5DE02405SKL
26 x 5	**right-handed**		50	39	SPTA5DE0260539R	50	52	SPTA5DE0260552R	36	39	SPTA5DE02605SKR
26 x 5	**left-handed**		50	39	SPTA5DE0260539L	50	52	SPTA5DE0260552L	36	39	SPTA5DE02605SKL
28 x 5	**right-handed**		60	42	SPTA5DE0280542R	60	56	SPTA5DE0280556R	41	42	SPTA5DE02805SKR
28 x 5	**left-handed**		60	42	SPTA5DE0280542L	60	56	SPTA5DE0280556L	41	42	SPTA5DE02805SKL
30 x 6	**right-handed**		60	45	SPTA5DE0300645R	60	60	SPTA5DE0300660R	46	45	SPTA5DE03006SKR
30 x 6	**left-handed**		60	45	SPTA5DE0300645L	60	60	SPTA5DE0300660L	46	45	SPTA5DE03006SKL
32 x 6	**right-handed**		60	48	SPTA5DE0320648R	60	64	SPTA5DE0320664R	50	48	SPTA5DE03206SKR
32 x 6	**left-handed**		60	48	SPTA5DE0320648L	60	64	SPTA5DE0320664L	50	48	SPTA5DE03206SKL
36 x 6	**right-handed**		75	54	SPTA5DE0360654R	75	72	SPTA5DE0360672R	55	54	SPTA5DE03606SKR
36 x 6	**left-handed**		75	54	SPTA5DE0360654L	75	72	SPTA5DE0360672L	55	54	SPTA5DE03606SKL
40 x 7	**right-handed**		80	60	SPTA5DE0400760R	80	80	SPTA5DE0400780R	60	60	SPTA5DE04007SKR
40 x 7	**left-handed**		80	60	SPTA5DE0400760L	80	80	SPTA5DE0400780L	60	60	SPTA5DE04007SKL

If requested, we also produce spindle nuts according to your drawing.

Application examples

Application: Trapezoidal spindle nut for presses

Material: ZX-100K

Description of the application:
Spindle drive for a corpus press of the wood-processing industry

Description of the mounting position:
Two trapezoidal spindle nuts are inserted outside the jector bar of the press.
They run on trapezoidal spindles made from the material 9SnPb36 and transfer the total compression power to the blank, that is to be pressed.

Applications of stress:
Cyclic traction / compression stress
Traction: up to 224,8 lbf / spindle nut
Compression: up to 4496,18 lbf / spindle nut
Screw speed: 233 rpm
Running time: 80 %

Special features:
A metric thread M59x1,5 outside the plastic spindle nut is important for its attachment.
By means of this thread the nut is screwed into a steel casing and sticked together with it.

Objective:
Freedom from maintenance, only single lubrication on installation.
Lifespan of 6 years, reduction of costs.

Solution-Description of the component part:
A spindle nut made from ZEDEX 100K with an acme thread TR40x12 and a length of 3,346 in is employed here.

Lifetime:
Since 1995 the spindle nut has been employed and since then no problems have arisen whilst in use.

Advantages:
Replacement of expensive bronze nuts.
Maintenance-free operation with one initial lubrication.

Referees:
Fa. Höfer, Taiskirchen, Austria

Further information:

Application examples

Application: Threaded nuts for positioning table

Material: ZX-100K

Description of the application:

Threaded nuts for positioning table

Description of the mounting position:

The threaded nut shows a process way of 0,984 in on its pole.
The threaded pole is ground and cured (60HRC) and is driven by a stepper motor.

Applications of stress:

F_a = 67,44 lbf
n = 790 rpm

Special features:

By means of a thin-wall zone, where the nut does not show a thread, the nut can easily be pre-stressed, so that an accurate positioning of 0,000039 in can be achieved.

Objective:

Dry run free from stick-slip, high-precision positioning.
High damping as the drive is effected by a stepper motor.

Solution-Description of the component part:

A threaded nut M8x0,5 made from ZEDEX 100K is now employed, which has considerably been shortened compared to the previously employed PTFE-nut.

Lifetime:

At least two years

Advantages:

In contrast to a ball circulation spindle, the combination trapezium threaded spindle / ZX-100K-nut shows an outstanding damping. Highest accuracy can be achieved. Thanks to the pre-stressing of the nut, the downtime can be reduced to 0. The material PTFE has been replaced with ZX-100K here.

Referees:

Further information:

Application examples

Application: Nuts for coordinate measuring instrument

Material: ZX-100K

Description of the application:
Coordinate measuring instrument

Description of the mounting position:

The threaded nuts are adapted to the positioning table.
They must be extremely easy-processing in order to obtain an efficiency as big as possible.
Counter-rotating material here is a spindle made from cut St50.

Applications of stress:
Thread M6x1,25
Length = 0,393 in
Stroke = 0,984 in
Fa = +/- 67,44 lbf
n = 300 rpm
Running time = 10 %
Lubricated with LM47.

Special features:
Accuracy: 0,000039 in

Objective:

The coefficient of friction must be below 0,03 in order to achieve a total efficiency of more than 75 %.

Solution-Description of the component part:

A nut without an intentional pitch fault, which is not pre-stressed and lubricated, enables the easy run.

Lifetime:

Advantages:
An expensive brass nut is replaced with a nut made from ZX-100K.
Higher efficiency, longer lifespan and price reduction are achieved.

Referees:
Zeiss industrial measuring technology

Further information:

Application examples

Application:	Spindle nut installed in machines of the furniture industry	Material:	ZX-100K

Description of the application:

Spindle nut for machines of the furniture industry

Description of the mounting position:

The spindle nut is responsible for the vertical adjustment of the work-table.
The housing consists of a milled steel pipe.
The spindle material is made from automatic machine steel with a surface roughness of R_a=0,8µm

Applications of stress:

The permanent axial load is 224 lbf with a spindle speed of n = 23 rpm.
An axial load of 450 lbf (total 674 lbf) has an effect in addition on the spindle nut
for the duration of 120sec. every 180sec.
After this exposure time the cycle starts from its original position.
The ambient temperature variates between -55°C and +40°C.

Special features:

Objective:

Freedom from maintenance
Reduction of costs

Solution-Description of the component part:

A spindle nut made from ZX-100K with an acme thread TR28x3 is employed here.
The nut is 0,9055 in long. The nut works in dry run and is therefore maintenance-free.

Lifetime:

This application has passed practical tests under excessive strain and with a switch-on duration of 100 %. These practical tests have revealed that the nut, in view of the required lifespan, neither shows wear nor plastic deformation in spite of this strain. The nut has been employed since 1996.

Advantages:

Freedom from maintenance
Reduction of costs

Referees:

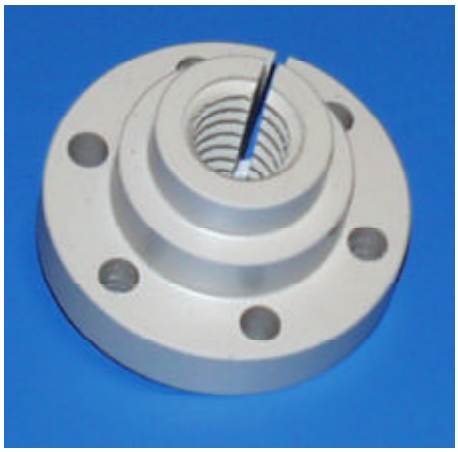
Karl Deinhammer - Ott-

Further information:

Application examples

Application: Nuts for paper cutting machine

Material: ZX-530



Description of the application:
Paper cutting machine

Description of the mounting position:
The nuts are used to drive the positioning of the pile of 1000 sheets of paper, that is to be cut.

Applications of stress:
Fa = 1798,47 lbf
n = 540 rpm
Stroke = 11,811 in
Running time = 20 %
Rolled spindle.

Special features:

Objective:
The previously employed spindle nuts made from bronze should be replaced with maintenance-free, dry running nuts.

Solution-Description of the component part:
A spindle nut with an acme thread TR40x9 and a length of 2,55 in is employed here.
The nut has a longitudinal slit in order to achieve a high efficiency also at high temperatures.

Lifetime:

Advantages:
Freedom from maintenance
Reduced current input

Referees:
Polar Mohr GmbH &Co KG; Hofheim

Further information:

Conditions of sale and supply

Price fixing: unpackaged ex works , plus VAT
Payment: 10 days 2% discount, or 30 days net
Delivery time: available ex works or at short notice

Wolf Kunststoff-Gleitlager GmbH
Heisenbergstr. 63-65
D-50169 Kerpen - Türnich
Telefon: +49 (0) 2237 / 97 49 - 0
Telefax: +49 (0) 2237 / 97 49 - 20
email: info@plasticbearings.com
http://www.plasticbearings.com

Conditions of sale and supply

GENERALITY

As far as no special arrangements have been made, exclusively our following conditions of sale are always valid. We are not committed to the conditions of purchase of the customer, even if we do not explicitly contradict there.

1. ORDER

We consider an order as accepted, not until we have confirmed it in writing. All verbal agreements or arrangements by telephone are not valid, as far as they have not been confirmed by us in writing. The volume of our delivery duties is exclusively subject to the details given in our written confirmation of order. Additional wishes on the part of the customer to make alterations are binding for us, not until we have confirmed them in writing;
at the same time we reserve the right to charge an extra price.

2. PRICES

Our prices are net and valid ex works, packing excluded, plus VAT. We reserve a price change in case of a wage rise and/or an increase of the cost of materials, occuring until the delivery date.

3. LEAD TIMES

The lead times indicated are to be considered rough and can be prolongated as a result of an act of God, a shortage of raw materials etc., as far as we are not to blame for. Fines or other claims for compensation in case of delays in delivery are impossible. The customer must immediately request delivery of goods, which have been announced ready for dispatch. Otherwise, we are fully entitled to store these goods on our own discretion at the expense and risk of the customer. In case of detaining or cancellation of an order for some reasons, the customer must pay the moldings, which are already circulating for production.

4. DEVIATIONS AND WEIGHTS

Dimensions, weights and illustrations quoted in offers and price lists are not binding for us and are not subject to the calculation. The weight we have ascertained is decisive for the calculation and the payment. The quality, dimensional accuracy as well as the shade of the goods are subject to usual deviations. Moreover, we allow deviations with regard to the order quantity up to + 5 % and concerning special models up to + 10 %.

5. PACKAGING

Special packings are charged at cost and are not taken back.

6. DISPATCH

If not agreed differently, the dispatch is effected on our own discretion in the best possible way. The customer bears all risks from the time when the goods have been dispatched ex works. At any rate, the customer must provide for the transport insurance.

7.A GUARANTEE

We guarantee for the products supplied, that faults in material or production, which could definitely be detected and which exclude the usability of these pieces, are either taken back at the price charged or replaced free with new pieces, which correspond to the original order
- depending on the delivery works. The unsuitable pieces are to be returned. We explicitly refuse any further commitments and possible claims for damages, including fines payable on arrears, wages, freight and packaging charges. Complaints with regard to the number of pieces, weight or quality of the goods can only be taken into account, after the customer has reported them in written within the legal period, however, not later than 2 months after receipt of the goods tainted with externally discernible faults. The claim will be in lapse not later than one month after we have rejected the point of criticism in written.

7.B LIABILITY ON THE PART OF THE PRODUCER

We accept responsibility for damages, which have detectably occured through the use of our products supplied, always up to a maximum of 15 % of our retail price. We refuse any further claims.

8. TERMS OF PAYMENT

These prices are net and payable as follows:
- if your order amounts up to a net value of 30.000 DM / 15.337,42 Euro, a cash discount of 2 % is allowed for settlement within 10 days from the date of the invoice or 30 days net.
- if your order exceeds a net value of 30.000 DM / 15.337,42 Euro, 1/3 is payable when placing the order, 1/3 when the goods are ready for dispatch,1/3 within 10 days granting a cash discount of 2 % or 30 days net. It is not permitted to withhold payments due to any counterclaims on the part of the customer, which we do not accept, just as little as the offsetting against such counterclaims. Cheques of bills are regarded as payment not until their cashing in.
The acceptance of bills is always subject to an agreement made with us. When we cash in bills, we charge the expenses of discount and collection,
which are normal banking practice. They are to be paid immediately and cash. In case of arrears we charge from the date of settlement interest at the rate of 4 % over the minimum lending rate passed forward by the Federal Bank of Germany.

9. RESERVATION OF PROPRIETARY RIGHTS

All goods supplied remain our property until the complete settlement of all claims and until the balancing of a possible indeptedness of the customers' current account. In this case, the goods must neither be mortgaged nor transferred as security. The seizure by third persons must immediately be reported to us. The reservation of proprietary rights also applies to products developped from processing, in this respect we regard the customer as safekeeper. Until the complete settlement, claims on the part of the customer ensued from the resale offinished and non-finished goods to third persons are regarded as transferred to us at the amount of our respectively still outstanding claims. The customer explicitly accepts this cession.

10. EMPLOYMENT OF THE GOODS

We accept not liability for a possible non-suitability of the goods for the customers' purpose. We do not refund damages emerging from further processing of the goods. Provided that we give technical advice or help with regard to the application of our products, this is subject to the respective state of technology. However, this does not bring about any entitlements to guarantee or compensation.

11. COURT OF JURISDICTION

Kerpen-Tuernich

12. PLACE OF PERFORMANCE

Kerpen-Tuernich