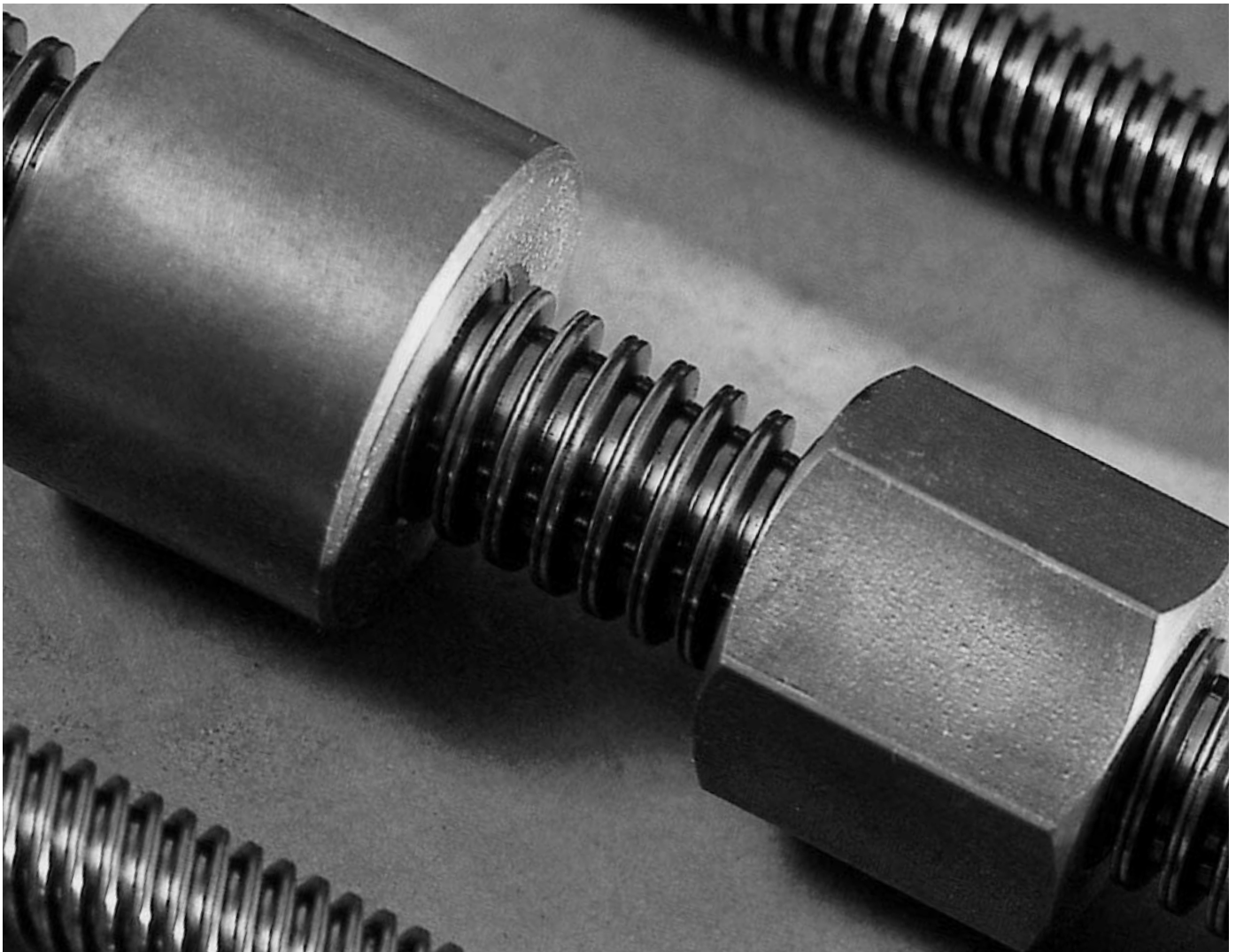




Robust and cost efficient

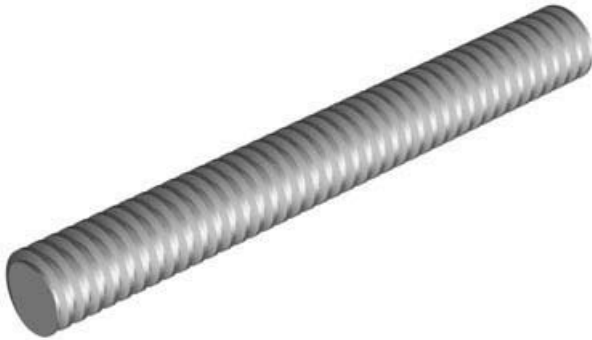
Trapezoidal screw drives offer a budget-priced solution for demands like clamping, positioning and feed movements.

The programme conforms to DIN 103, and offers a wide selection of nuts in different materials.



General technical data of trapezoidal screws

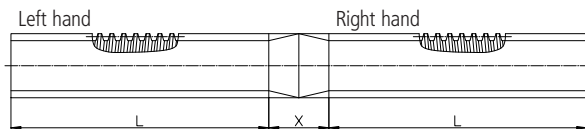
Precision trapezoidal screws RPTS



Technical data

- Thread: _____ Metric ISO trapezoidal thread to DIN 103, 7c
- Diameter: _____ 10 – 80 mm
- Lead: _____ 2 – 24 mm
- No. of starts: _____ Up to 6 starts
- Thread direction: _____ Right hand thread; single start also available
left hand thread, see table p. 35
- Length: _____ Up to 3000 mm for screws up to Tr 18 x 4
Up to 6000 mm for screws up to Tr 20 x 4
- Material: _____ 1.0401 (case hardened steel C15),
stress relief annealed, weldable
- Lead accuracy: _____ 50 to 300 µm/300 mm
- Straightness: _____ 0,1 to 0,5 mm/300 mm
- Left and right hand screw: _____ For thread leads of 2 – 10 mm
- End machining: _____ In accordance with customer's specs

Trapezoidal screws with right and left hand thread



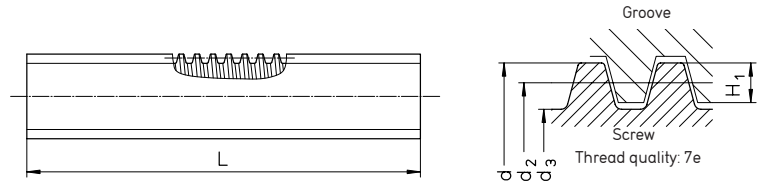
Technical data

- Diameter: _____ 10 – 80 mm
- Lead: _____ 2 – 10 mm
- No. of starts: _____ Single start
- Thread direction: _____ Right hand thread and left hand thread
- Length: _____ Max. 3000 mm, up to 6000 mm for screws
from Tr 20 x 4, on request.
- Material: _____ 1.0401 (C15)
- Lead accuracy: _____ 50 to 300 µm/300 mm
- Straightness: _____ 0,1 to 0,5 mm/300 mm
- Dimensions X: _____ 100 mm
Diameter in the area of dimension X
smaller than nominal diameter

Trapezoidal screws RPTS

Rolled precision trapezoidal screws RPTS

Material: 1.0401 (C15).



Type Outer diameter [mm] Lead [mm] Right/left hand thread	d	Dimensions [mm]				Accuracy [μm/ 300 mm]	Straight- ness [mm/ 300 mm]	$\alpha^{2)}$	$\eta^{3)}$	Weight [kg/m]	Planar moment of inertia [cm ⁴]	Moment of re- sistance ⁴⁾ [cm ³]	Mass moment of inertia [kg m ² /m]
		$d_{2 \min}$	$d_{2 \max}$	$d_3^{1)}$	H_1								
RPTS Tr 10x2 RPTS Tr 10x3	10	8.739 8.191	8.929 8.415	6.89 5.84	1 1.5	300 300	0.5 0.5	4° 2' 6° 24'	0.40 0.51	0.500 0.446	0.011 0.0057	0.032 0.020	0.51 · 10 ⁻⁵ 0.40 · 10 ⁻⁵
RPTS Tr 12x3 RPTS Tr 12x6 P3 ⁵⁾	12 12	10.191 10.165	10.415 10.415	7.84 7.84	1.5 1.5	300 300	0.5 0.5	5° 11' 10° 18'	0.46 0.62	0.68 0.68	0.019 0.019	0.047 0.047	0.94 · 10 ⁻⁵ 0.94 · 10 ⁻⁵
RPTS Tr 14x3 RPTS Tr 14x4	14	12.191 11.640	12.415 11.905	9.84 8.80	1.5 2	300 300	0.5 0.5	4° 22' 6° 3'	0.42 0.50	0.96 0.888	0.046 0.029	0.094 0.067	1.88 · 10 ⁻⁵ 1.60 · 10 ⁻⁵
RPTS Tr 16x2 RPTS Tr 16x4 RPTS Tr 16x8 P4 ⁵⁾	16 16 16	14.729 13.640 13.608	14.929 13.905 13.905	12.89 10.80 10.80	1 2 2	50 50 300	0.1 0.1 0.3	2° 36' 5° 11' 10° 18'	0.28 0.46 0.62	1.39 1.21 1.21	1.36 0.067 0.067	0.21 0.124 0.124	3.9 · 10 ⁻⁵ 2.96 · 10 ⁻⁵ 2.96 · 10 ⁻⁵
RPTS Tr 18x4	18	15.640	15.905	12.80	2	50	0.1	4° 32'	0.43	1.58	0.132	0.206	5.05 · 10 ⁻⁵
RPTS Tr 20x4 RPTS Tr 20x8 P4 ⁵⁾ RPTS Tr 20x16 P4 ⁵⁾	20	17.640 17.608 17.608	17.905 17.905 17.905	14.80 14.80 14.80	2 2 2	50 200 200	0.1 0.2 0.2	4° 2' 8° 3' 15° 47'	0.40 0.57 0.71	2.00 2.00 2.00	0.236 0.236 0.236	0.318 0.318 0.318	8.10 · 10 ⁻⁵ 8.10 · 10 ⁻⁵ 8.10 · 10 ⁻⁵
RPTS Tr 22x5 RPTS Tr 22x24 P4 S ⁵⁾⁶⁾	22	19.114 19.140	19.394 19.505	15.50 16.50	2.5 2.5	50 200	0.1 0.2	4° 39' 21° 34'	0.43 0.75	2.34 2.34	0.283 0.364	0.366 0.441	1.11 · 10 ⁻⁴ 1.11 · 10 ⁻⁴
RPTS Tr 24x5 RPTS Tr 24x10 P5 ⁵⁾	24	21.094 21.058	21.394 21.394	17.50 17.50	2.5 2.5	50 200	0.1 0.2	4° 14' 8° 25'	0.41 0.58	2.85 2.85	0.460 0.460	0.526 0.526	1.65 · 10 ⁻⁴ 1.65 · 10 ⁻⁴
RPTS Tr 26x5	26	23.094	23.394	19.50	2.5	50	0.1	3° 52'	0.39	3.40	0.710	0.728	2.35 · 10 ⁻⁴
RPTS Tr 28x5	28	25.094	25.394	21.50	2.5	50	0.1	3° 34'	0.37	4.01	1.050	0.976	3.26 · 10 ⁻⁴
RPTS Tr 30x6 RPTS Tr 30x12 P6 ⁵⁾	30	26.547 26.507	26.882 26.882	21.90 21.90	3 3	50 200	0.1 0.2	4° 2' 8° 3'	0.40 0.57	4.50 4.50	1.130 1.130	1.030 1.030	4.10 · 10 ⁻⁴ 4.10 · 10 ⁻⁴
RPTS Tr 32x6	32	28.547	28.882	23.90	3	50	0.1	3° 46'	0.38	5.19	1.600	1.340	5.45 · 10 ⁻⁴
RPTS Tr 36x6	36	32.547	32.882	27.90	3	50	0.1	3° 18'	0.35	6.71	2.970	2.130	9.10 · 10 ⁻⁴
RPTS Tr 40x7 RPTS Tr 40x14 P7 ⁵⁾	40	36.020 35.978	36.375 36.375	30.50 30.50	3.5 3.5	50 200	0.1 0.2	3° 29' 6° 57'	0.37 0.53	8.21 8.21	4.250 4.250	2.790 2.790	1.37 · 10 ⁻³ 1.37 · 10 ⁻³
RPTS Tr 44x7	44	40.020	40.275	34.50	3.5	50	0.1	3° 8'	0.34	10.10	6.950	4.030	2.10 · 10 ⁻³
RPTS Tr 48x8	48	43.468	43.868	37.80	4	100	0.1	3° 18'	0.35	12.00	10.000	5.300	2.90 · 10 ⁻³
RPTS Tr 50x8	50	45.468	45.868	39.30	4	100	0.1	3° 10'	0.34	13.10	11.700	5.960	3.40 · 10 ⁻³
RPTS Tr 60x9	60	54.935	55.360	48.15	4.5	200	0.3	2° 57'	0.33	19.00	26.400	11.000	7.30 · 10 ⁻³
RPTS Tr 70x10	70	64.425	64.850	57.00	5	200	0.3	2° 48'	0.32	26.00	51.800	18.200	1.40 · 10 ⁻²
RPTS Tr 80x10	80	74.425	74.850	67.00	5	200	0.3	2° 25'	0.29	34.70	98.900	29.500	2.40 · 10 ⁻²

¹⁾ For a wider filletting the core diameter is slightly smaller, deviating from DIN 103.

²⁾ Lead angle at the flank diameter; → see formula (XVI) p. 52.

³⁾ Theoretical efficiency for converting a rotary motion into a linear motion with a coefficient of friction $\mu = 0.1$.
Efficiency for other friction coefficients; → see formula (XVI) p. 52.

⁴⁾ The polar moment of inertia is double the moment of inertia.

⁵⁾ Only right hand thread.

⁶⁾ Special profile.