



DryLin[®] TR Lead Screw Drives



DryLin® TR Lead Screw Drives

Lead screw drives convert a rotary motion into a linear motion. DryLin® TR Lead Screw Drives are based on oil-free self lubricating plastic nuts offering long life. They are ideal for sensitive laboratory and hospital equipment as well as very dirty or corrosive environments.

Product Range

- 20 dimensions
- Up to 5 nut geometries

Special Features

Clean-room Cleanroom certified - IPA Fraunhofer

ESD ESD compatible (electrostatic discharge)

RoHS Free of toxins - RoHS 2002/95/EC

Technical Data

Nuts:

Maintenance-free polymer

Materials:

- iglide® L280
- iglide® J

Temperatures

-40°F to +194°F

(-40°C to +90 °C)

Optional Features

- Anti backlash
- Self-locking
- High speed pitch

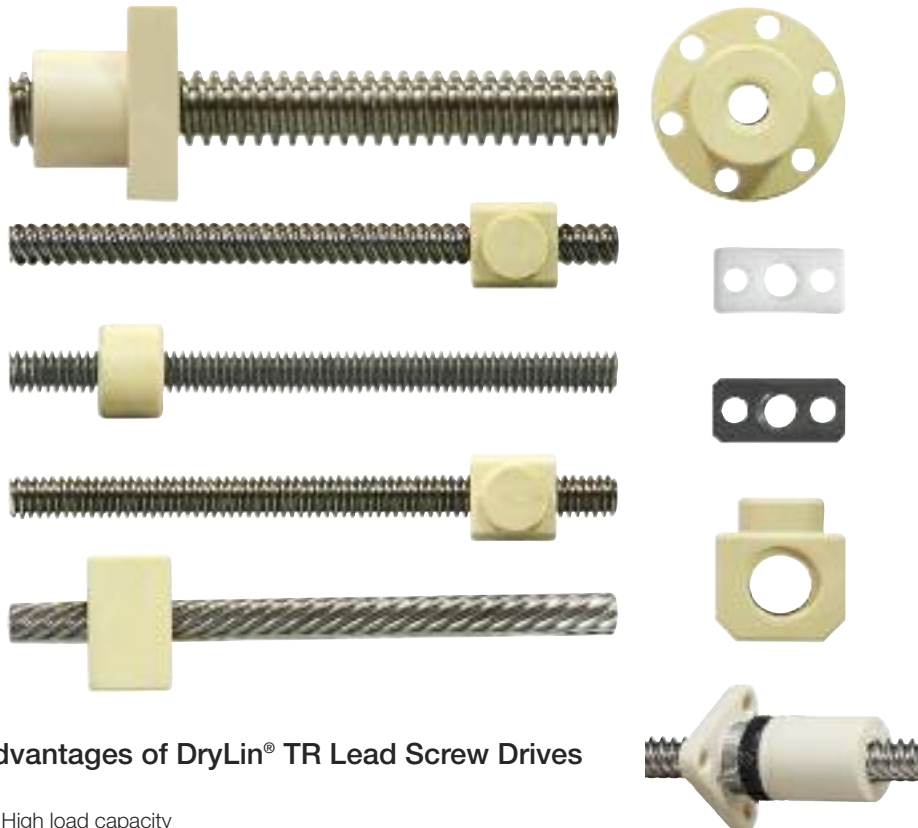
Usage Guidelines



- Dry-running, no lubrication is required
- When dirt/dust resistance is necessary
- If corrosion resistance is required

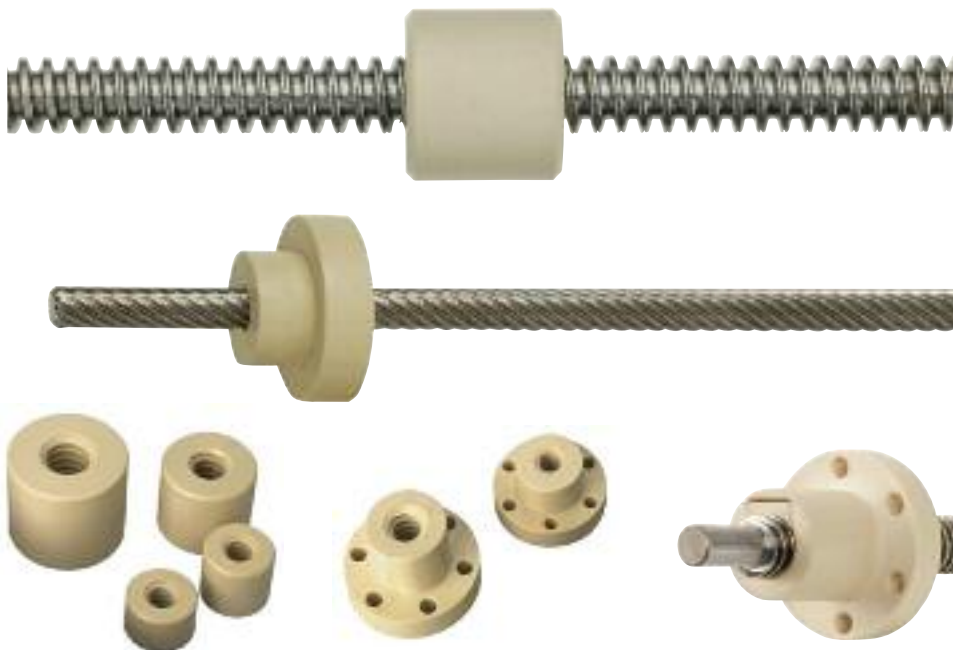


- If positioning accuracy below 10 µm (0.0004")
- For dynamic load applications
- For required efficiency higher than the 50%



Advantages of DryLin® TR Lead Screw Drives

- High load capacity
- Quiet operation
- Trapezoidal lead screws available in steel, stainless steel and anodized aluminum (on request)
- Left-handed lead screw nuts on request



Sleeve

Flange

Anti-backlash

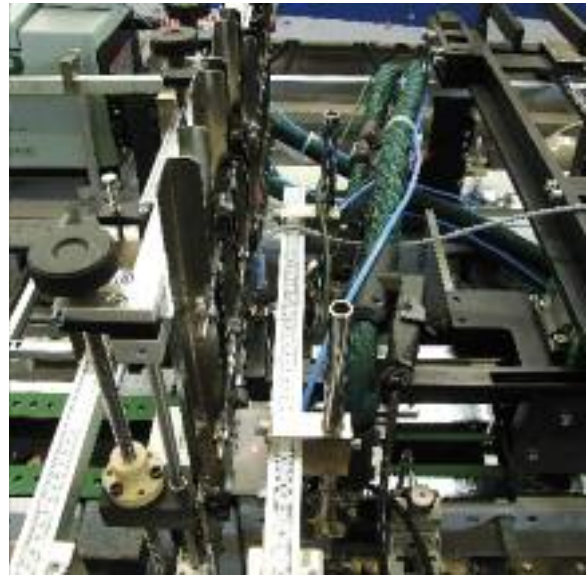


Typical industries and applications

- Lab/medical equipment
- Packaging
- Format adjustment
- Architectural
- Aircraft interiors
- Storage retrieval



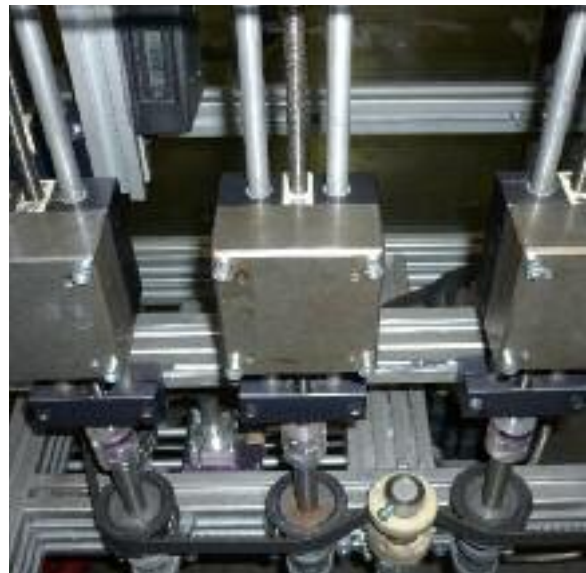
Two component mixing unit



Inspection machinery



Commercial can opener



Height adjustment



DryLin® TR Lead Screw Drives Technical Data

DryLin®
Lead Screw Drives

Telephone 1-800-521-2747
Fax 1-401-438-7270

Internet: <http://www.igus.com>
email: sales@igus.com
QuickSpec: <http://www.igus.com/drylin-quickspec>

DryLin® lead screw nuts outperform bronze and other polymer lead screw nuts in many applications, and do not require messy lubrication or continuous maintenance. This makes them particularly ideal for applications in sensitive lab, food, or electronics manufacturing, as well as resistant to dirty environments.

Wet environments

For highly humid applications we recommend nuts made from iglide® J material as it has a very low level of moisture absorption. For applications with extremely critical precision requirements in conjunction with very high heat or humidity please contact igus® for design guidance.

Specifications

DryLin® TR lead screw systems are made in accordance with DIN 103, and checked through the use of plug gauges.

Performance vs. Simple Plastics

igus® has developed plastic bearing compounds for over 50 years. These products have been created to replace metals as well as simple plastic parts. Solid polymer lubricants engineered into the base plastics embed themselves into the microfinish of the lead screw — resulting in a low-friction dry-running system. The over 5000 tests we perform each year results in lower wear and friction plastics.

HTS and SLW

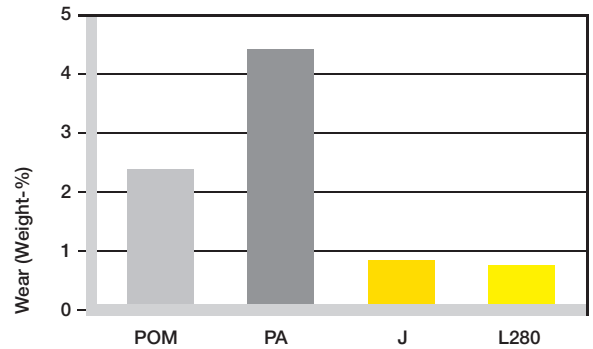
igus® also offers lead screw systems integrated into our HTS and SLW lead screw tables, pre-assembled and cut-to-length from stock. Please refer to Section 30 for more details.



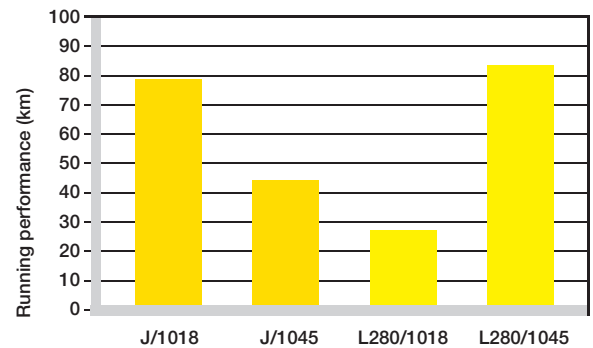
SLW
Page
30.10



HTS
Page
30.17



Wear test with 100N (45 lbf) axial load using a cold rolled screw



Wear test with 200N (90 lbf) axial load and 50% duty cycle



Base plastics without reinforcing materials with solid lubricants, magnified 200 times, dyed.



Base plastics with fibers and solid lubricants, magnified 200 times, dyed

DryLin® TR Lead Screw Drives Technical Data



Lead screw nut assembly for parts shown on page 51.23

DryLin® lead screw nuts must be secured against twisting.

Flanged lead screw nuts

The maximum tightening torque for the assembly of flanged lead screw nuts is 2.5 Nm. We recommend that assembly screws are secured with a third medium (e.g. liquid screw lock). Metal fasteners should be used for even higher tightening torques.

Sleeve-style lead screw nuts

The outside diameter of sleeve-style lead screw nuts is made to a tolerance of h9. We therefore recommend the use of a form fit as a locking feature, for instance by installing keyways. In practice, a screw mount has proven to be effective with low forces. Gluing lead screw nuts is principally not recommended and must be testing before using.

Assembly of zero backlash lead screw nuts

- ① Nut
- ② Adjusting ring with torsion spring
- ③ Friction disc
- ④ Counternut



Screw the adjusting ring with the spring ② approximately half-way onto the nut ① and fix the ends of the spring in the corresponding holes.



Continue to screw the adjusting ring onto the nut until the end to tension the torsion spring.



Slide the friction disc ③ and the counternut ④ over the adjusting ring. Please ensure that the adjusting ring does not rotate.



Press nut ① and counternut ④ over the adjusting ring. Please ensure that the adjusting ring maintains its preloaded position.



The adjusting ring can now be released. The nut will now assume a preloaded position on the lead screw.

Lead screw selection

The suitability and the operating behavior of the system largely depend on the lead screws as the counter partner. We principally recommend purchasing the nut and lead screw as a system from a single source. Lead screws are inspected with DIN 103 compliant rim gauges. In principle, DryLin® lead screw units can be used in combination with lead screws made from steel, stainless steel, or hard-anodized aluminum. "Split" lead screws (right and left-handed threads on one lead screw) are available in addition to right-handed and left-handed versions.

Custom lead screws

Take advantage of our machining service - we manufacture ready to install lead screws based on your needs. Please send us your drawing for a quotation.



Custom lead screw example

DryLin®
Lead Screw Drives

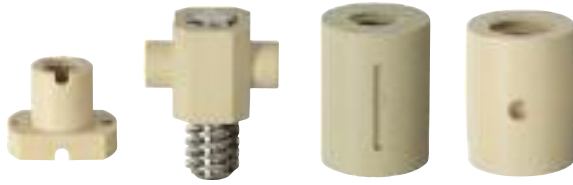
PDF: www.igus.com/drylin-pdfs
CAD: www.igus.com/drylin-CAD
RoHS info: www.igus.com/RoHS





Custom nuts

Take advantage of our machining service - we manufacture lead screw nuts based on your needs. Please send us your drawing.



Custom nut examples

Material selection

Standard DryLin® lead screw nuts are offered in 4 materials:

- iglide® J:** This material is characterized by the best friction values with the most counter partners and low moisture absorption.
- iglide® L280:** This material features high static strength
- iglide® A180:** This material meets the requirements of the FOOD AND DRUG ADMINISTRATION (FDA) and can therefore be used in direct contact with foods and pharmaceuticals. Please note that lead screw nuts from this material are made to order.
- iglide® J350:** This material features high resistance to temperatures. Lead screw nuts from iglide® J350 can be used up to 302°F. Please note that lead screw nuts from this material are made to order.

iglide® material	Max. Surface Pressure (psi)
iglide® J	580
iglide® L280	725
iglide® A180	507
iglide® J350	435

Permitted continuous surface pressure in the threads

Service life

DryLin® lead screw nuts are made from tribologically optimized materials. In order to make the most precise statements about service life and wear resistance, several hundred tests are conducted each year on the test stands at the igus® test lab in Cologne.

Formula Chart Legend

Faxial	Axial force	Mta	Drive torque [Nm] when converting a rotating motion into a linear motion
preal	Actual load based in nut dimensions	Mte	Drive torque [Nm] when converting a linear motion into a rotating motion
Pzul.	maximum permitted surface pressure	v	Surface speeds [m/s]
Ae real	Percentage of surface contact area of the selected lead screw nut	s	Feed [m/s]
p	Lead	n	RPMs [min-1]
pv-value	preal x v	η	Efficiency
d1	Diameter		

Trapezoidal thread calculation

The load capacity of igus lead screw nuts is dependent on the surface pressure, the surface speed and the resultant temperature. The temperature behavior is additionally influenced by the duty cycle, the lead screw length, as well as lead screw material and its heat conductivity.

iglide® material	Rotating, long-term fpm
iglide® J	295
iglide® L280	196
iglide® A180	157
iglide® J350	256

iglide® materials gliding speeds in m/s

Lead Screw Formula chart

Effective load carrying area:

$$A_e = \frac{F_{axial}}{p_{zul.} \text{ [mm}^2\text{]}}$$

Selection of the required thread size and determination of the actual surface pressure:

$$p_{real} = \frac{F_{axial}}{A_{e \text{ real}} \text{ [MPa]}}$$

pv value:

$$pv = p_{real} \cdot v$$

Surface speeds:

$$v = \frac{n \cdot d_1 \cdot \pi}{60,000} \text{ [m/s]}$$

RPMs:

$$n = \frac{v \cdot 1,000 \cdot 60}{\pi \cdot d_1} \text{ [1/min]}$$

Linear Feed rate:

$$s = \frac{n \cdot p}{60,000} \text{ [m/s]}$$

Drive torque:

$$M_{ta} = \frac{F_{axial} \cdot p}{2,000 \cdot \pi \cdot \eta}$$

$$M_{te} = \frac{F_{axial} \cdot p \cdot \eta}{2,000 \cdot \pi}$$



Maximum acceptable pv-value:

With the pv-value and the surface bearing length ratio specified in the dimension tables, the permissible surface speed and the linear feed rate can be determined for each thread size.

Duty cycle

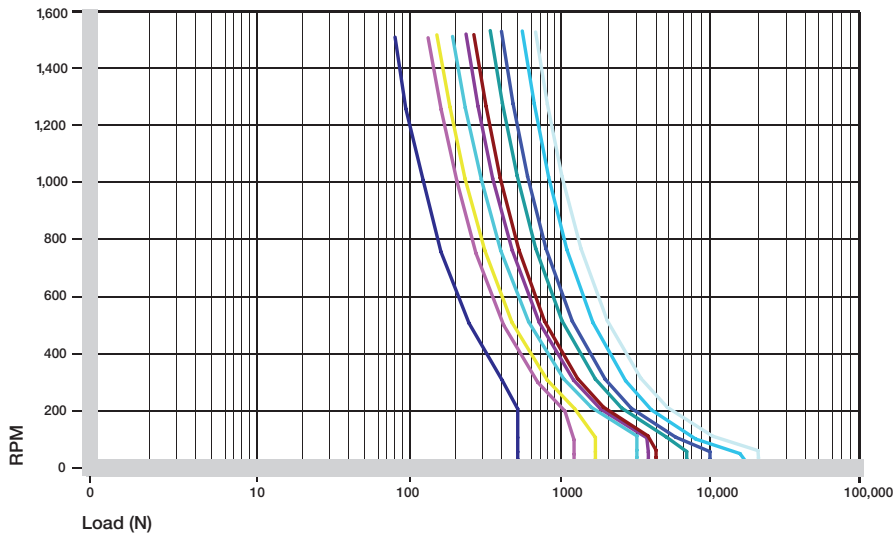
pv value_{max.}

(MPa • m/s)

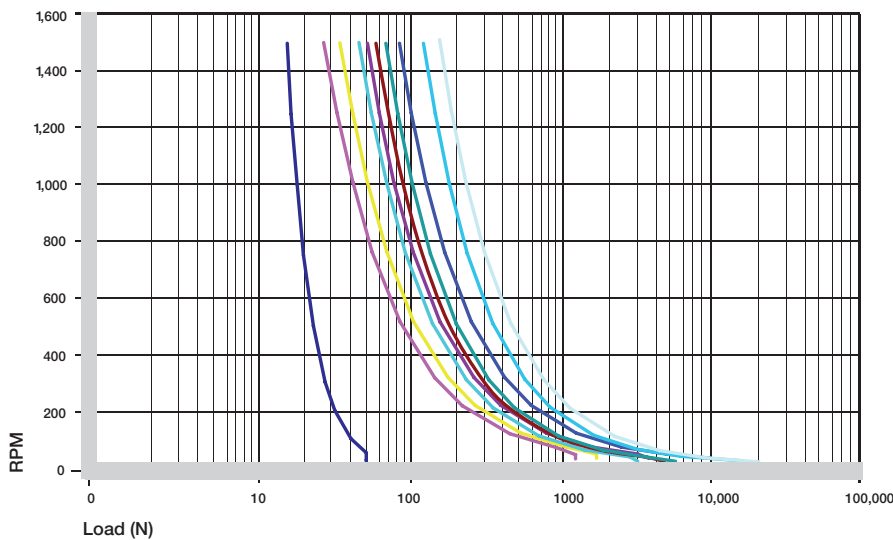
(Applies to iglide® J, L280, A180 and J350)

100%	0.08
50%	0.20
10%	0.40

Reference values when using drylin® plastic nuts without lubrication (with stroke 500 mm). A compensation factor must be used with very short or very long strokes.



Maximum dynamic load for leadscrew units with 10% duty cycle



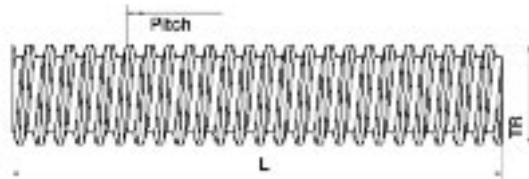
Maximum dynamic load for leadscrew units with 100% duty cycle

- TR8x1.5
- TR10x2
- TR12x3
- TR16x4
- TR18x4
- TR20x4
- TR24x5
- TR30x6
- TR40x7
- TR50x8



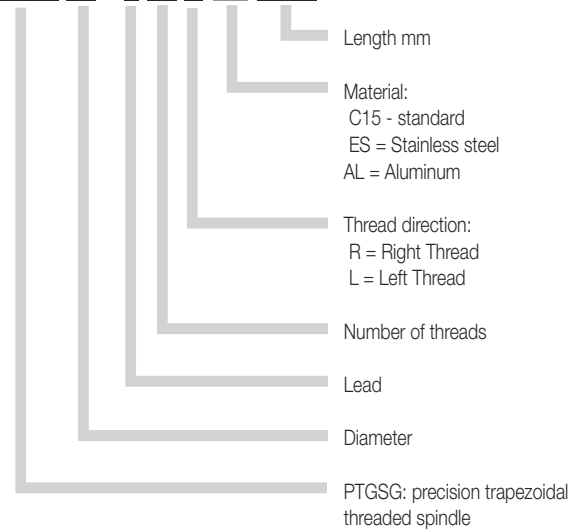


Trapezoidal Lead Screws



Part number structure

PTGSG 10 x 2 01 R-ES-1000



Dimensions (mm)

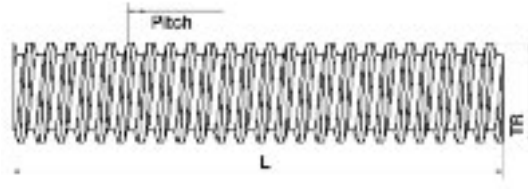
Part No.	Thread	Diameter	Lead	Max. Length (mm)
Single start				
PTGSG08x1.5R or L	TR8 x 1.5	8	1.5	1,000
PTGSG10x2R or L	TR10 x 2	10	2	1,000
PTGSG10x3R or L	TR10 x 3	10	3	1,000
PTGSG12x3R or L	TR12 x 3	12	3	2,000
PTGSG14x4R or L	TR14 x 4	14	4	3,000
PTGSG16x4R or L	TR16 x 4	16	4	3,000
PTGSG18x4R or L	TR18 x 4	18	4	3,000
PTGSG20x4R or L	TR20 x 4	20	4	3,000
PTGSG24x5R or L	TR24 x 5	24	5	3,000
PTGSG26x5R or L	TR26 x 5	26	5	3,000
PTGSG28x5R or L	TR28 x 5	28	5	3,000
PTGSG30x6R or L	TR30 x 6	30	6	3,000
PTGSG36x6R or L	TR36 x 6	36	6	3,000
PTGSG40x7R or L	TR40 x 7	40	7	3,000
PTGSG50x8R or L	TR50 x 8	50	8	3,000

Part No.	Thread	Diameter	Lead	Max. Length (mm)
Two start				
PTGSG12x6P3R or L	TR12x6P3	12	6	2,000
PTGSG16x8P4R or L	TR16x8P4	16	8	3,000
PTGSG18x8P4R or L	TR18x8P4	18	8	3,000
PTGSG20x8P4R or L	TR20x8P4	20	8	3,000

DryLin® precision spindles are available in 1018 cold-rolled or stainless steel
 Left-right and alternative thread shapes are available on request.
 Pitch deviation 0.1/300 mm, straightness 0.3/300 mm



Trapezoidal Lead Screws Anodized aluminum



Dimensions (mm)

Part No.	Thread	Diameter	Lead	Max. Length (mm)
PTGSG10x2R or L	TR10 x 2	10	2	1,000
PTGSG12x3R or L	TR12 x 3	12	3	1,000
PTGSG16x4R or L	TR16 x 4	16	4	1,000
PTGSG18x4R or L	TR18 x 4	18	4	2,000
PTGSG20x4R or L	TR20 x 4	20	4	2,000

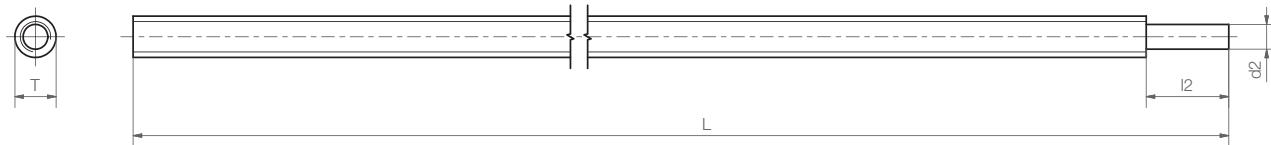
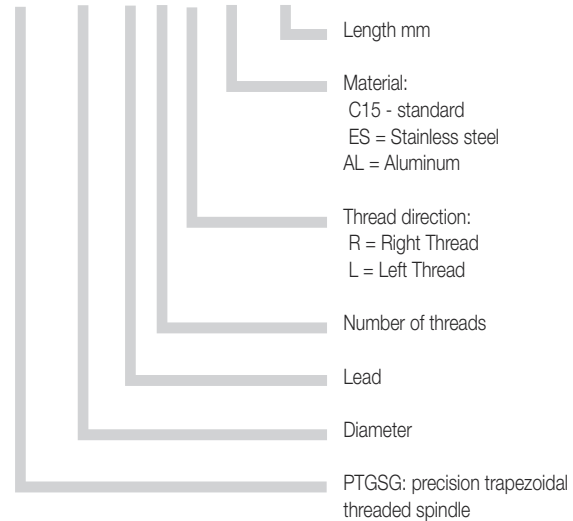
May not be anodized where machined or cut

Trapezoidal Lead Screws with journaling



Part number structure

PTGSG 10 x 2 01 R-ES-1000



Part No.	Thread	l2	d2 h9	Material	Max. Length (mm)
PTGSG10x2-01R or L-Z17	TR10 x 2	17	6	C15	1,000
PTGSG10x2-01R or L-Z17-ES	TR10 x 2	17	6	ES	1,000
PTGSG14x4-01R or L-Z17	TR14 x 4	20	8	C15	3,000
PTGSG14x4-01R or L-Z17-ES	TR14 x 4	20	8	ES	3,000
PTGSG18x4-01R or L-Z17	TR18 x 4	118	12	C15	3,000
PTGSG18x4-01R or L-Z17-ES	TR18 x 4	118	12	ES	3,000
PTGSG24x5-01R or L-Z17	TR24 x 5	144	14	C15	3,000
PTGSG24x5-01R or L-Z17-ES	TR24 x 5	144	14	ES	3,000





DryLin® TR Lead Screw Drives

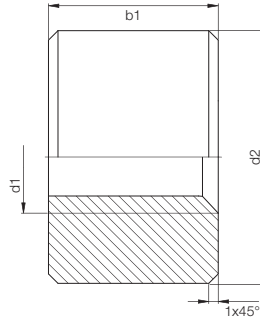
Trapezoidal Lead Screw - Sleeve - Right Thread

iglide® J Material

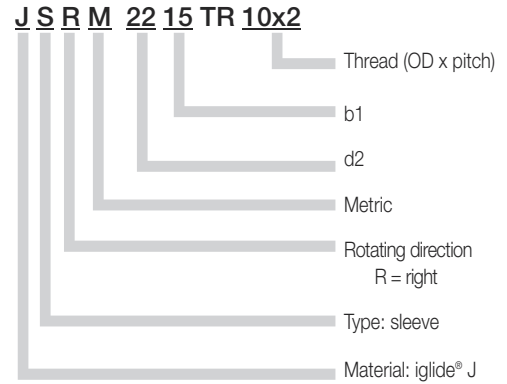
DryLin®
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email: sales@igus.com
QuickSpec: <http://www.igus.com/drylin-quickspec>



Part number structure



Dimensions (mm)

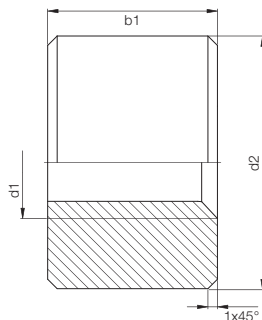
Part No.	Effective surface area (mm²)	d1	d2	b1	Thread d1 x Pitch	Max. static F axial (N)
JSRM1418TR8x1.5	205	8	14	18	TR8x1.5	500*
JSRM1812TR8x1.5	136	8	18	12	TR8x1.5	544
JSRM2215TR10x2	212	10	22	15	TR10x2	848
JSRM2220TR10x2	282	10	22	20	TR10x2	1128
JSRM2215TR10x3	200	10	22	15	TR10x3	800
JSRM2220TR10x3	266	10	22	20	TR10x3	1064
JSRM2618TR12x3	297	12	26	18	TR12x3	1188
JSRM2624TR12x3	394	12	26	24	TR12x3	1576
JSRM3021TR14x4	396	14	30	21	TR14x4	1584
JSRM3028TR14x3	550	14	30	24	TR14x3	2200
JSRM3028TR14x4	526	14	30	28	TR14x4	2104
JSRM3624TR16x2	564	16	36	24	TR16x2	2256
JSRM3632TR16x2	702	16	36	32	TR16x2	2808
JSRM3024TR16x4	527	16	30	24	TR16x4	2108
JSRM3624TR16x4	526	16	36	24	TR16x4	2104
JSRM3632TR16x4	752	16	36	32	TR16x4	3008
JSRM3027TR18x4	678	18	30	27	TR18x4	2362*
JSRM4027TR18x4	678	18	40	27	TR18x4	2712
JSRM4036TR18x4	904	18	40	36	TR18x4	3616
JSRM3025TR20x4	706	20	30	25	TR20x4	2060*
JSRM4530TR20x4	848	20	45	30	TR20x4	3392
JSRM4540TR20x4	1130	20	45	40	TR20x4	4520
JSRM5036TR24x5	1214	24	50	36	TR24x5	4856
JSRM5048TR24x5	1620	24	50	48	TR24x5	6480
JSRM5039TR26x5	1438	26	50	39	TR26x5	5752
JSRM5052TR26x5	1918	26	50	52	TR26x5	7672
JSRM6042TR28x5	1680	28	60	40	TR28x5	6720
JSRM6056TR28x5	2240	28	60	56	TR28x5	8960
JSRM6045TR30x6	1906	30	60	45	TR30x6	7624
JSRM6060TR30x6	2542	30	60	60	TR30x6	10168
JSRM6060TR32x6	2730	32	60	62	TR32x6	10920
JSRM7572TR36x6	3732	36	75	72	TR36x6	15274
JSRM7680TR40x7	2542	40	76	80	TR40x7	17837
JSRM90100TR50x8	7225	50	90	100	TR50x7	20400

*reduced axial load due to nut geometry

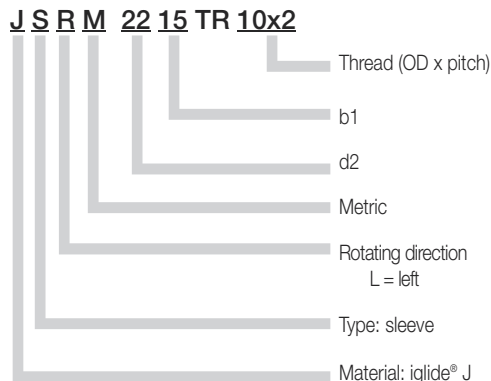
DryLin® TR Lead Screw Drives

Trapezoidal Lead Screw - Sleeve - Left Thread

iglide® J Material



Part number structure



Dimensions (mm)

Part No.	Effective surface area (mm²)	d1	d2	b1	Thread d1 x Pitch	Max. static F axial (N)
JSRM1418TR8x1.5	205	8	14	18	TR8x1.5	500*
JSRM1812TR8x1.5	136	8	18	12	TR8x1.5	544
JSRM2215TR10x2	212	10	22	15	TR10x2	848
JSRM2220TR10x2	282	10	22	20	TR10x2	1128
JSRM2215TR10x3	200	10	22	15	TR10x3	800
JSRM2220TR10x3	266	10	22	20	TR10x3	1064
JSRM2618TR12x3	297	12	26	18	TR12x3	1188
JSRM2624TR12x3	394	12	26	24	TR12x3	1576
JSRM3021TR14x4	396	14	30	21	TR14x4	1584
JSRM3028TR14x4	526	14	30	28	TR14x4	2104
JSRM3624TR16x2	564	16	36	24	TR16x2	2256
JSRM3632TR16x2	702	16	36	32	TR16x2	2808
JSRM3024TR16x4	527	16	30	24	TR16x4	2108
JSRM3624TR16x4	526	16	36	24	TR16x4	2104
JSRM3632TR16x4	752	16	36	32	TR16x4	3008
JSRM3027TR18x4	678	18	30	27	TR18x4	2362*
JSRM4027TR18x4	678	18	40	27	TR18x4	2712
JSRM4036TR18x4	904	18	40	36	TR18x4	3616
JSRM3025TR20x4	706	20	30	25	TR20x4	2060*
JSRM4530TR20x4	848	20	45	30	TR20x4	3392
JSRM4540TR20x4	1130	20	45	40	TR20x4	4520
JSRM5036TR24x5	1214	24	50	36	TR24x5	4856
JSRM5048TR24x5	1620	24	50	48	TR24x5	6480
JSRM5039TR26x5	1438	26	50	39	TR26x5	5752
JSRM5052TR26x5	1918	26	50	52	TR26x5	7672
JSRM6042TR28x5	1680	28	60	40	TR28x5	6720
JSRM6056TR28x5	2240	28	60	56	TR28x5	8960
JSRM6045TR30x6	1906	30	60	45	TR30x6	7624
JSRM6060TR30x6	2542	30	60	60	TR30x6	10168
JSRM6060TR32x6	2730	32	60	62	TR32x6	10920
JSRM7572TR36x6	3732	36	75	72	TR36x6	15274
JSRM7680TR40x7	2542	40	76	80	TR40x7	17837
JSRM90100TR50x8	7225	50	90	100	TR50x7	20400

*reduced axial load due to nut geometry

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CAD: www.igus.com/drylin-CAD
RoHS info: www.igus.com/RoHS





DryLin® TR Lead Screw Drives

Trapezoidal Lead Screw - Flange - Right Thread

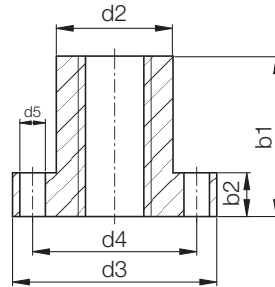
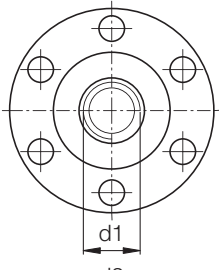
iglide® J Material

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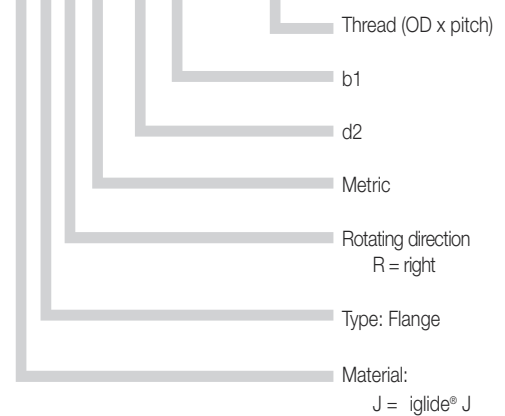
Internet: <http://www.igus.com>
email: sales@igus.com
QuickSpec: <http://www.igus.com/drylin-quickspec>

51.12



Part number structure

J F R M 25 25 TR 10x2



Dimensions (mm)

Part No.	Effective surface area (mm ²)	d1	d2	d3	d4	d5*	b1	b2	Thread d1 x Pitch	Max. static F axial (N)
JFRM2020TR8x1.5	225	8	20	36	28	4	20	8	TR8x1.5	900
JFRM2525TR10x2	352	10	25	42	34	5	25	10	TR10x2	1408
JFRM2835TR12x3	576	12	28	48	38	6	35	12	TR12x3	2304
JFRM2835TR14x3	687	14	28	48	38	6	35	12	TR14x3	2748
JFRM2835TR14x4	658	14	28	48	38	6	35	12	TR14x4	2632
JFRM2835TR16x4	768	16	28	48	38	6	35	12	TR16x4	3072
JFRM2835TR18x4	878	18	28	48	38	6	35	12	TR18x4	3512
JFRM3244TR20x4	1242	20	32	55	45	7	44	12	TR20x4	4968
JFRM3244TR24x5	1484	24	32	55	45	7	44	12	TR24x5	5936
JFRM3846TR26x5	1696	26	38	62	50	7	46	14	TR26x5	6320**
JFRM3846TR28x5	1840	28	38	62	50	7	46	14	TR28x5	4560**
JFRM3846TR30x6	1948	30	38	62	50	7	46	14	TR30x6	3576**
JFRM4546TR30x6	1948	30	45	70	58	7	46	16	TR30x6	9740

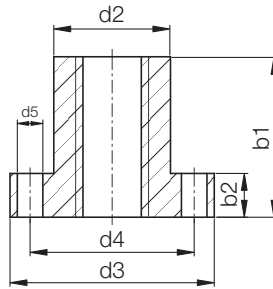
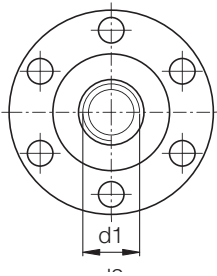
* For 2.5 Nm maximum torque for fasteners. Liquid adhesive for thread locknuts recommended for mounting bolts

**Reduced axial load through narrow flange shapes; special forms on request

DryLin® TR Lead Screw Drives

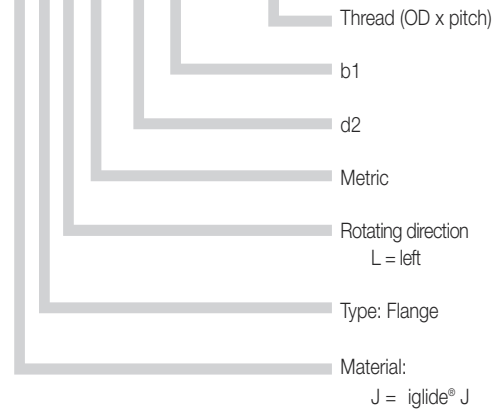
Trapezoidal Lead Screw - Flange - Left Thread

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Part number structure

J F L M 25 25 TR 10x2



Dimensions (mm)

Part No.	Effective surface area (mm ²)	d1	d2	d3	d4	d5*	b1	b2	Thread d1 x Pitch	Max. static F axial (N)
JFLM2020TR8x1.5	225	8	20	36	28	4	20	8	TR8x1.5	900
JFLM2525TR10x2	352	10	25	42	34	5	25	10	TR10x2	1408
JFLM2835TR12x3	576	12	28	48	38	6	35	12	TR12x3	2304
JFLM2835TR14x4	658	14	28	48	38	6	35	12	TR14x4	2632
JFLM2835TR16x4	768	16	28	48	38	6	35	12	TR16x4	3072
JFLM2835TR18x4	878	18	28	48	38	6	35	12	TR18x4	3512
JFLM3244TR20x4	1242	20	32	55	45	7	44	12	TR20x4	4968
JFLM3244TR24x5	1484	24	32	55	45	7	44	12	TR24x5	5936
JFLM3846TR26x5	1696	26	38	62	50	7	46	14	TR26x5	6320**
JFLM3846TR28x5	1840	28	38	62	50	7	46	14	TR28x5	4560**
JFLM3846TR30x6	1948	30	38	62	50	7	46	14	TR30x6	3576**
JFLM4546TR30x6	1948	30	45	70	58	7	46	16	TR30x6	9740

* For 2.5 Nm maximum torque for fasteners. Liquid adhesive for thread locknuts recommended for mounting bolts

**Reduced axial load through narrow flange shapes; special forms on request

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Anti-backlash thread nuts - Sleeve or Flange

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Backlash refers to the play at direction reversal, which is caused by the axial clearance between the nut and the screw. Anti-backlash nuts constantly reduce this clearance during the entire lifetime (within the permissible wear).

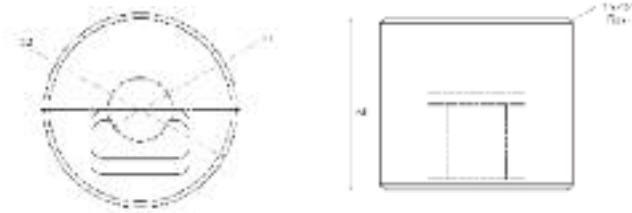
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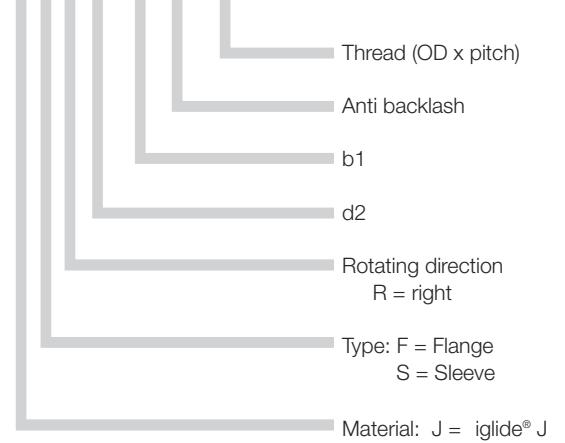


Flange model shown



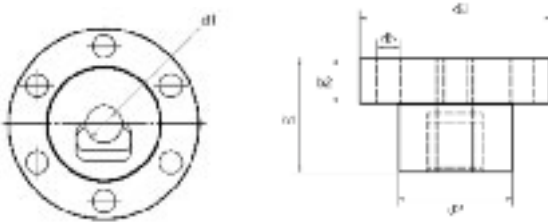
Part number structure

J S R 22 20 A 10x2



Dimensions (mm)

Part No.	d1	d2	b1	TR d1 x P	Max. static F axial (N)
Sleeve					
JSR2220A8x1.5	8	26	22	TR8x1.5	500
JSR2220A10x2	10	22	20	TR10x2	840
JSR2624A12x3	12	26	24	TR12x3	1185
JSR3632A16x4	16	32	32	TR16x4	2110
JSR4036A18x4	18	40	36	TR18x4	2700
JSR5048A24x5	14	50	48	TR24x5	4800



Dimensions (mm)

Part No.	d1	d2	d3	d4	d5	b1	b2	Thread	Max. static F axial (N)
Flange									
JFR2525A10x2	10	25	42	34	5	25	10	TR10x2	1160
JFR2835A16x4	16	28	48	38	6	35	12	TR16x4	2520
JFR2835A18x4	18	28	48	38	6	35	12	TR18x4	2890
JFR3244A20x4	20	32	55	45	7	44	12	TR20x4	4080
JFR3244A24x5	14	32	55	45	7	44	12	TR24x5	4890





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Trapezoidal Lead Screw - Sleeve - Right Thread

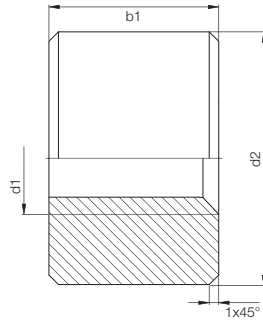
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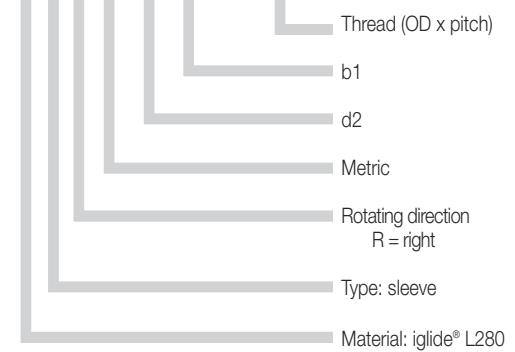
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51.16



Part number structure

W S R M 22 15 TR 10x2



Dimensions (mm)

Part No. Short Version	Effective surface area (mm ²)	d1	d2	b1	Thread d1 x Pitch	Max. static F axial (N)
WSRM2215TR10x2	212	10	22	15	TR 10 x 2	1060
WSRM2215TR10x3	200	10	22	15	TR 10 x 3	1000
WSRM2618TR12x3	296	12	26	18	TR 12 x 3	1480
WSRM3021TR14x4	396	14	30	21	TR 14 x 4	1980
WSRM3624TR16x2	564	16	36	24	TR 16 x 2	2820
WSRM3024TR16x4	526	16	30	24	TR 16 x 4	2630
WSRM3624TR16x4	526	16	36	24	TR 16 x 4	2830
WSRM3027TR18x4	678	18	30	27	TR 18 x 4	3390
WSRM4027TR18x4	678	18	40	27	TR 18 x 4	3390
WSRM3025TR20x4	706	20	30	25	TR 20 x 4	3530
WSRM4530TR20x4	848	20	45	30	TR 20 x 4	4240
WSRM5036TR24x5	1214	24	50	36	TR 24 x 5	6070
WSRM5039TR26x5	1438	26	50	39	TR 26 x 5	7190
WSRM6042TR28x5	1680	28	60	42	TR 28 x 5	8400
WSRM6045TR30x6	1906	30	60	45	TR 30 x 6	9530

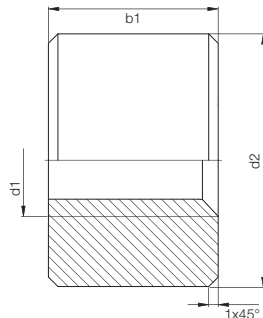
Long Version

WSRM2220TR10x2	282	10	22	20	TR 10 x 2	1410
WSRM2220TR10x3	266	10	22	20	TR 10 x 3	1330
WSRM2624TR12x3	394	12	26	24	TR 12 x 3	1970
WSRM3028TR14x4	526	14	30	28	TR 14 x 4	2630
WSRM3632TR16x2	702	16	36	32	TR 16 x 2	3510
WSRM3632TR16x4	752	16	36	32	TR 16 x 4	3760
WSRM4036TR18x4	904	18	40	36	TR 18 x 4	4520
WSRM4540TR20x4	1130	20	45	40	TR 20 x 4	5650
WSRM5048TR24x5	1620	24	50	48	TR 24 x 5	8100
WSRM5052TR26x5	1918	26	50	52	TR 26 x 5	9590
WSRM6056TR28x5	2240	28	60	56	TR 28 x 5	11200
WSRM6060TR30x6	2542	30	60	60	TR 30 x 6	12710

DryLin® TR Lead Screw Drives

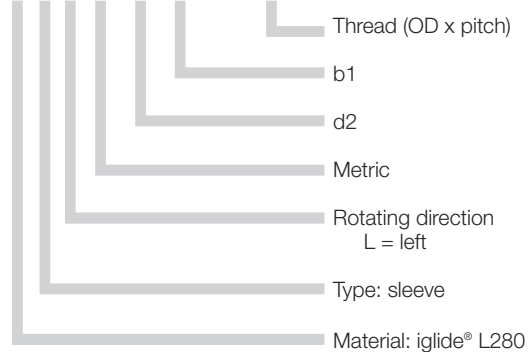
Trapezoidal Lead Screw - Sleeve - Left Thread

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Part number structure

W S L M 22 15 TR 10x2



Dimensions (mm)

Part No.	Effective surface area (mm ²)	d1	d2	b1	Thread d1 x Pitch	Max. static F axial (N)
WSRM2215TR10x2	212	10	22	15	TR 10 x 2	1060
WSRM2215TR10x3	200	10	22	15	TR 10 x 3	1000
WSRM2618TR12x3	296	12	26	18	TR 12 x 3	1480
WSRM3021TR14x4	396	14	30	21	TR 14 x 4	1980
WSRM3624TR16x2	564	16	36	24	TR 16 x 2	2820
WSRM3024TR16x4	526	16	30	24	TR 16 x 4	2630
WSRM3624TR16x4	526	16	36	24	TR 16 x 4	2830
WSRM3027TR18x4	678	18	30	27	TR 18 x 4	3390
WSRM4027TR18x4	678	18	40	27	TR 18 x 4	3390
WSRM3025TR20x4	706	20	30	25	TR 20 x 4	3530
WSRM4530TR20x4	848	20	45	30	TR 20 x 4	4240
WSRM5036TR24x5	1214	24	50	36	TR 24 x 5	6070
WSRM5039TR26x5	1438	26	50	39	TR 26 x 5	7190
WSRM6042TR28x5	1680	28	60	42	TR 28 x 5	8400
WSRM6045TR30x6	1906	30	60	45	TR 30 x 6	9530

Long Version

WSRM2220TR10x2	282	10	22	20	TR 10 x 2	1410
WSRM2220TR10x3	266	10	22	20	TR 10 x 3	1330
WSRM2624TR12x3	394	12	26	24	TR 12 x 3	1970
WSRM3028TR14x4	526	14	30	28	TR 14 x 4	2630
WSRM3632TR16x2	702	16	36	32	TR 16 x 2	3510
WSRM3632TR16x4	752	16	36	32	TR 16 x 4	3760
WSRM4036TR18x4	904	18	40	36	TR 18 x 4	4520
WSRM4540TR20x4	1130	20	45	40	TR 20 x 4	5650
WSRM5048TR24x5	1620	24	50	48	TR 24 x 5	8100
WSRM5052TR26x5	1918	26	50	52	TR 26 x 5	9590
WSRM6056TR28x5	2240	28	60	56	TR 28 x 5	11200
WSRM6060TR30x6	2542	30	60	60	TR 30 x 6	12710

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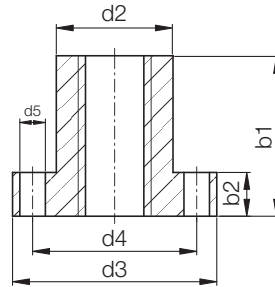
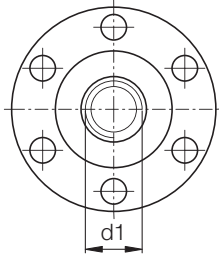
Trapezoidal Lead Screw - Flange - Right Thread

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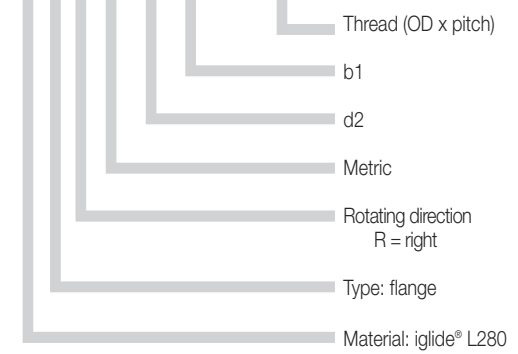
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Part number structure

W F R M 22 15 TR 10x2



Dimensions (mm)

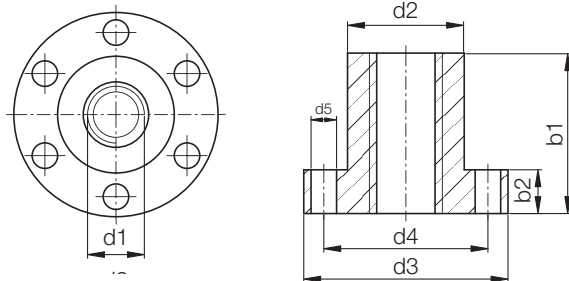
Part No.	Effective surface area (mm ²)	d1	d2	d3	d4	d5*	b1	b2	Thread d1 x Pitch	Max. static F axial (N)
WFRM2525TR10x2	352	10	25	42	34	5	25	10	TR10x2	1760
WFRM2835TR12x3	576	12	28	48	38	6	35	12	TR12x3	2880
WFRM2835TR14x4	658	14	28	48	38	6	35	12	TR14x4	3290
WFRM2835TR16x4	768	16	28	48	38	6	35	12	TR16x4	3840
WFRM2835TR18x4	878	18	28	48	38	6	35	12	TR18x4	4390
WFRM3244TR20x4	1242	20	32	55	45	7	44	12	TR20x4	6210
WFRM3244TR24x5	1484	24	32	55	45	7	44	12	TR24x5	7420
WFRM3846TR26x5	1696	26	38	62	50	7	46	14	TR26x5	7900*
WFRM3846TR28x5	1840	28	38	62	50	7	46	14	TR28x5	5900*
WFRM3846TR30x6	1948	30	38	62	50	7	46	14	TR30x6	4470*

*reduced axial load due to flange geometry

DryLin® TR Lead Screw Drives

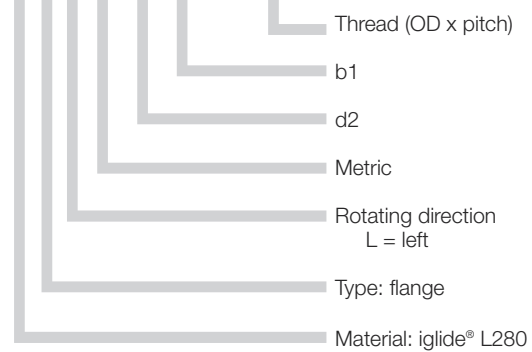
Trapezoidal Lead Screw - Flange - Left Thread

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Part number structure

W F L M 22 15 TR 10x2



Dimensions (mm)

Part No.	Effective surface area (mm ²)	d1	d2	d3	d4	d5*	b1	b2	Thread	Max. static F axial (N)
									d1 x Pitch	
WFLM2525TR10x2	352	10	25	42	34	5	25	10	TR10x2	1760
WFLM2835TR12x3	576	12	28	48	38	6	35	12	TR12x3	2880
WFLM2835TR14x4	658	14	28	48	38	6	35	12	TR14x4	3290
WFLM2835TR16x4	768	16	28	48	38	6	35	12	TR16x4	3840
WFLM2835TR18x4	878	18	28	48	38	6	35	12	TR18x4	4390
WFLM3244TR20x4	1242	20	32	55	45	7	44	12	TR20x4	6210
WFLM3244TR24x5	1484	24	32	55	45	7	44	12	TR24x5	7420
WFLM3846TR26x5	1696	26	38	62	50	7	46	14	TR26x5	7900*
WFLM3846TR28x5	1840	28	38	62	50	7	46	14	TR28x5	5900*
WFLM3846TR30x6	1948	30	38	62	50	7	46	14	TR30x6	4470*

*reduced axial load due to flange geometry

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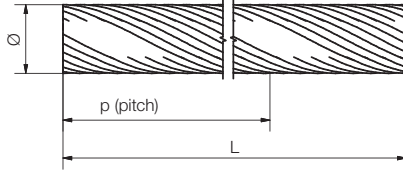
DryLin® TR Lead Screw Drives High Helix Lead Screws

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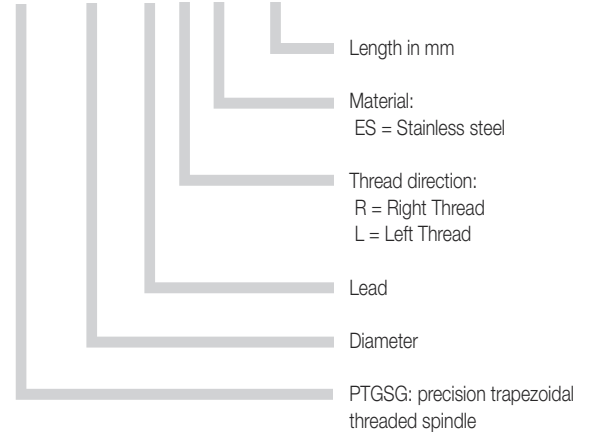
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QuickSpec: <http://www.igus.com/drylin-quickspec>

Stainless steel high helix lead screw



Part number structure

PTGSG-08 x 10-R ES-1000



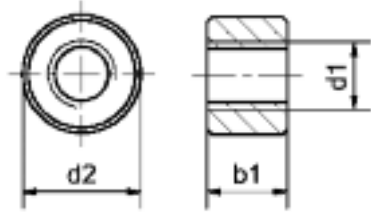
Dimensions (mm)

Part No.	Thread	Diameter	Pitch (mm)	Max. Length
PTGSG-08x10-RES-length in mm	SG08x10	8	10	2000
PTGSG-08x15-RES-length in mm	SG08x15	8	15	2000
PTGSG-10x12-RES-length in mm	SG10x12	10	12	2000
PTGSG-10x50-RES-length in mm	SG10x50	10	50	2000
PTGSG-18x100-RES-length in mm	SG18x100	18	100	2000

Dimensions (mm)

Part No.	Thread	Diameter	Pitch (mm)	Max. Length
PTGSG-08x10-LES-length in mm	SG08x10	8	10	2000
PTGSG-08x15-LES-length in mm	SG08x15	8	15	2000
PTGSG-10x12-LES-length in mm	SG10x12	10	12	2000
PTGSG-10x50-LES-length in mm	SG10x50	10	50	2000
PTGSG-18x100-LES-length in mm	SG18x100	18	100	2000

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 High Helix Lead Screw - Sleeve - Right Thread
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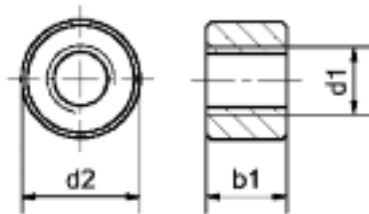
DryLin®
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Dimensions (mm)

Part No.	d1	d2 h9	b1	Thread d1 x Pitch
JSR1812T8x10	8	18	12	SG8x10
JSR1812T8x15	8	15	12	SG8X15
JSR2220T10X12	10	22	20	SG10x12
JSR2220T10X50	10	22	20	SG10x50
JSR2215T10X12	10	22	15	SG10x12
JSR2215T10X50	10	22	15	SG10x50
JSR3027T18X100	18	30	27	SG18x100
JSR4027T18X100	18	40	27	SG18x100
JSR4036T18x100	18	40	36	SG18x100

PDF: www.igus.com/drylin-pdfs
 CAD: www.igus.com/drylin-CAD
 RoHS info: www.igus.com/RoHS

High Helix Lead Screw - Sleeve - Left Thread
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Dimensions (mm)

Part No.	d1	d2 h9	b1	Thread d1 x Pitch
JSL1812T8x10	8	18	12	SG8x10
JSL1812T8x15	8	15	12	SG8X15
JSL2220T10X12	10	22	20	SG10x12
JSL2220T10X50	10	22	20	SG10x50
JSL2215T10X12	10	22	15	SG10x12
JSL2215T10X50	10	22	15	SG10x50
JSL3027T18X100	18	30	27	SG18x100
JSL4027T18X100	18	40	27	SG18x100
JSL4036T18x100	18	40	36	SG18x100





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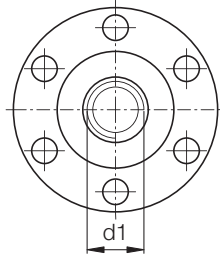
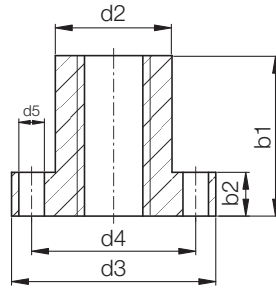
High Helix Lead Screw - Flange - Right Thread

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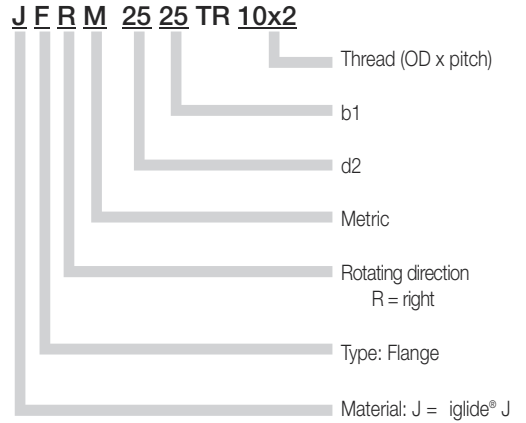
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QuickSpec: <http://www.igus.com/drylin-quickspec>

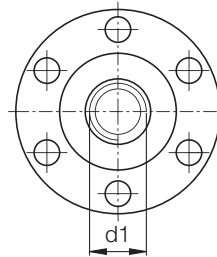
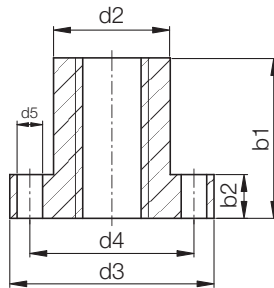


Part number structure



Dimensions (mm)

Part No.	d1	d2	d3	d4	d5	b1	b2	Thread d1 x Pitch
JFRM2020TR8x10	8	20	34	28	4	20	8	SG8x10
JFRM2020TR8x15	8	20	34	28	4	20	8	SG8x15
JFRM2525TR10x12	10	25	42	34	5	25	10	SG10x12
JFRM2525TR10x50	10	25	42	34	5	25	10	SG10x50
JFRM2835TR18x100	18	28	48	38	6	35	12	SG18x100



High Helix Lead Screw - Flange - Left Thread

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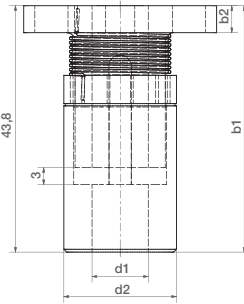
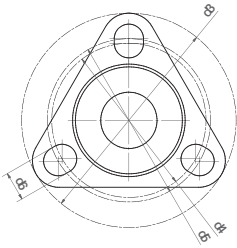
Dimensions (mm)

Part No.	d1	d2	d3	d4	d5	b1	b2	Thread d1 x Pitch
JFLM2020TR8x10	8	20	34	28	4	20	8	SG8x10
JFLM2020TR8x15	8	20	34	28	4	20	8	SG8x15
JFLM2525TR10x12	10	25	42	34	5	25	10	SG10x12
JFLM2525TR10x50	10	25	42	34	5	25	10	SG10x50
JFLM2835TR18x100	18	28	48	38	6	35	12	SG18x100

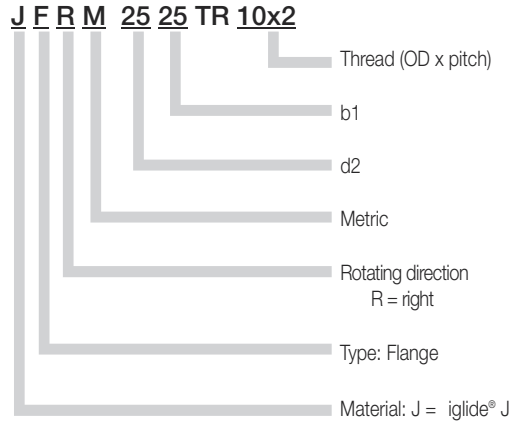
DryLin® TR Lead Screw Drives

Zero Backlash Lead Screw - Flange - Right Thread

iglide® J Material



Part number structure



Dimensions (mm)

Part No.	d1	d2	d3	d4	d5	b1	b2	Thread d1 x Pitch
JFRMZ1-8x10	8	20	38.1	28.3	5.2	41	4.8	SG8x10
JFRMZ1-8x15	8	20	38.1	28.3	5.2	41	4.8	SG8x15
JFRMZ1-10x12	10	20	38.1	28.3	5.2	41	4.8	SG10x12
JFRMZ1-10x50	10	20	38.1	28.3	5.2	41	4.8	SG10x50

Assembly of zero backlash lead screw nuts

- 1 Nut
- 2 Adjusting ring with torsion spring
- 3 Friction disc
- 4 Counternut



Screw the adjusting ring with the spring **2** approximately half-way onto the nut **1** and fix the ends of the spring in the corresponding holes.



Continue to screw the adjusting ring onto the nut until the end to tension the torsion spring.



Slide the friction disc **3** and the counternut **4** over the adjusting ring. Please ensure that the adjusting ring does not rotate.



Press nut **1** and counternut **4** over the adjusting ring. Please ensure that the adjusting ring maintains its preloaded position.



The adjusting ring can now be released. The nut will now assume a preloaded position on the lead screw.

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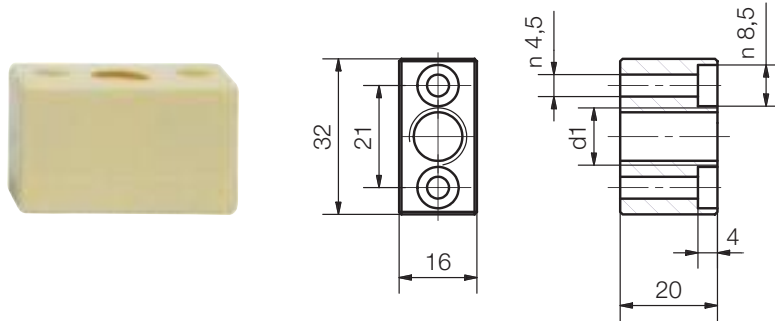
DryLin® TR Lead Screw Drives Lead Screw Nuts

Lead screw nuts are in use in our HTS and SLW linear modules

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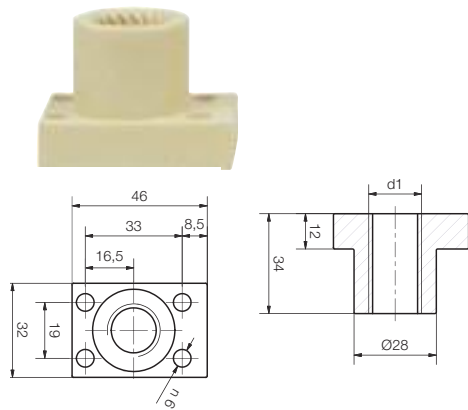
Square lead screw nuts



Dimensions (mm)

Part No.	Thread	Rotational Direction	from HTS linear table
HTS12TR10x2	TR10x2	right	HTS-12
HTS12TR10x2L	TR10x2	left	HTS-12
HTS12TR10x3	TR10x3	right	HTS-12
HTS12TR10x3L	TR10x3	left	HTS-12
HTS1210SM10x12	SG10x12	right	HTSS-12
HTS1210LM10x12	SG10x12	left	HTSS-12
HTS1210SM10x50	SG10x50	right	HTSS-12
HTS1210LM10x50	SG10x50	left	HTSS-12

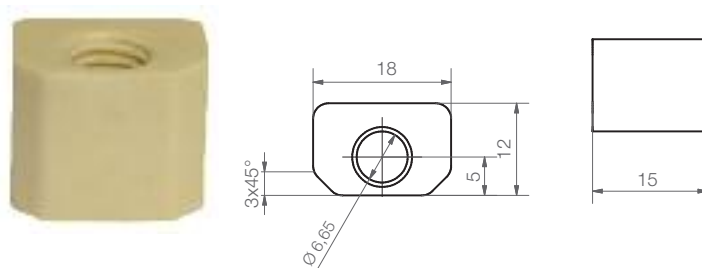
Lead screw nuts with flange from HTS linear modules



Dimensions (mm)

Part No.	Thread	Rotational Direction
HTS20TR18x4	TR18x4	right
HTS20TR18x4	TR18x4	left
HTS20TR18x8	TR18x8P4	right
HTS20LM18x8	TR18x8P4	left
HTS20SM18x100	SG18x100	right
HTS20LM18x100	SG18x100	left

Lead screw nuts from SLW linear modules



Dimensions (mm)

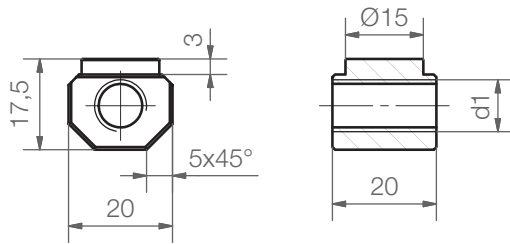
Part No.	Thread	Rotational Direction
SWZ-063001	M8x1	right
SWZ-063003	M8x1	left
SWZ-063009	TR8x1.5	right
SWZ-063010	TR8x1.5	left
SWZ-063007	SG8x10	right
SWZ-063008	SG8x10	left
SWZ-063004	SG8x15	right

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DryLin® TR Lead Screw Drives Lead Screw Nuts - Axial Locks

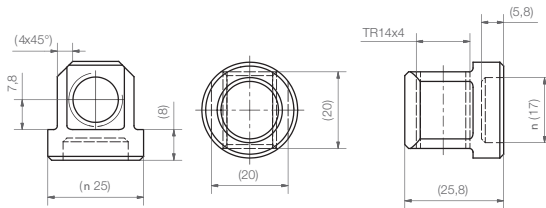


Lead screw nuts with axial locks

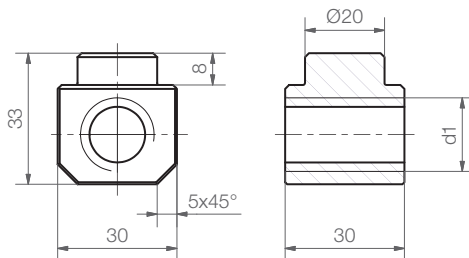


Dimensions (mm)

Part No.	Thread	Rotational Direction	from HTS linear axis
SWZ-W-104003	TR10x2	right	SLW-1040
SWZ-W-104004	TR10x2	left	SLW-1040
SWZ-W-104009	TR10x3	right	SLW-1040
SWZ-W-104015	TR10x3	left	SLW-1040
SWZ-W-104005	SG10x12	right	SLWS-1040
SWZ-W-104005-L	SG10x12	left	SLWS-1040
SWZ-W-104007	SG10x50	right	SLWS-1040
SWZ-W-104010	SG10x50	left	SLWS-1040



Part No.	Thread	Rotational Direction	from HTS linear axis
SWZ-W-166001	TR14x4	right	SLW-1660
SWZ-W-166003	TR14x4	left	SLW-1660



Dimensions (mm)

Part No.	Thread	Rotational Direction	from HTS linear axis
SWZ-W-208003	TR18x4	right	SLW-2080
SWZ-W-208004	TR18x4	left	SLW-2080
SWZ-W-208009	TR18x8P4	right	SLW-2080
SWZ-W-208015	TR18x8P4	left	SLW-2080
SWZ-W-208005	SG18x100	right	SLWS-2080
SWZ-W-208005-L	SG18x100	left	SLWS-2080

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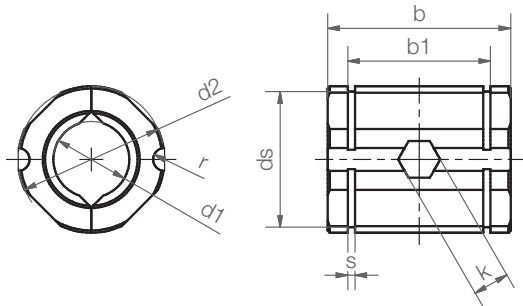
Split lead screw

iglide® J material

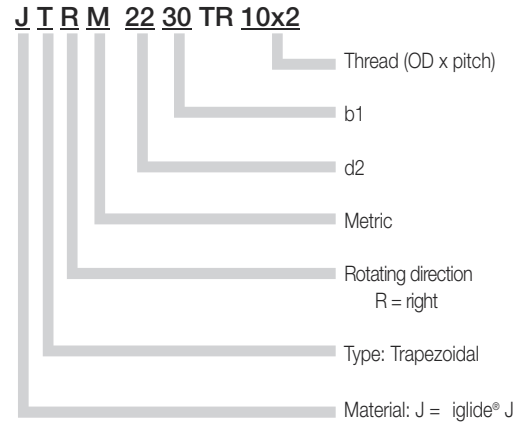
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Part number structure



Dimensions (mm)

Part No.	b	b1	d1	d2	ds	k	r	s
JTRM-2230TR10x2	30	22.6	TR10x2	22	20.5	7	1.5	1.3
JTRM-3240TR20x4	40	31.2	TR20x4	32	29.6	8	2.5	1.6
JTRM-3240TR20x8P4	40	31.2	TR20x8P4	32	29.6	8	2.5	1.6

Part No.	Maximum axial load	
	Static* (N)	Static** (N)
JTRM-2230TR10x2	300	500
JTRM-3240TR20x4	1000	1500
JTRM-3240TR20x8P4	1000	1500

*Secured in housing by radially inserted nut DIN934

**Secured in housing by circlips DIN 471

Combination lead screw nut with housing block



Part No.

RGAS-JTRM-20x8P4
RGAS-JTRM-20x4P4
RGAS-JTRM-10x2P4

Also available with housing block

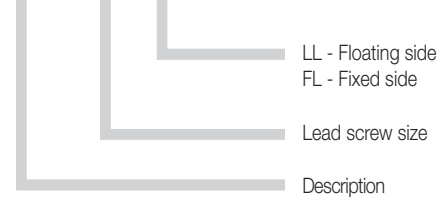
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Lead screw end blocks, fixed and floating

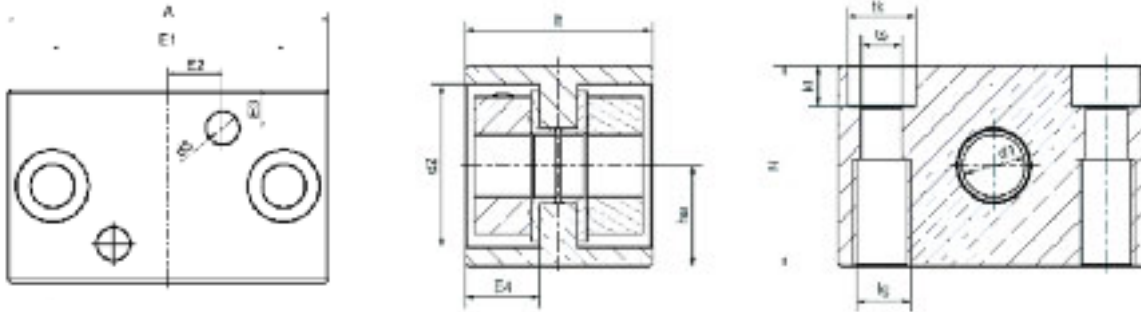


Part number structure

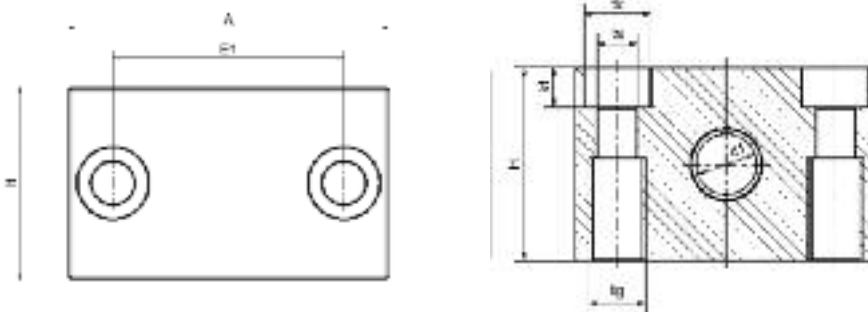
SLS-10x2-LL



(FL) Fixed Side offers axial fixation of screw, with use of locking collars (not included)



(LL) Floating Side



Technical Data

Part No.	Weight (g)	Maximum static Load Capacity (N)
SLS-10x2-LL	115	-
SLS-10x2-FL	88	700
SLS-18x4-LL	295	-
SLS-18x4-FL	205	1600
SLS-24x5-LL	725	-
SLS-24x5-FL	525	2500

Dimensions (mm)

Part number	A [mm]	H [mm]	E1 [mm]	E2 [mm]	E3 [mm]	E4 [mm]	lt [mm]	tk [mm]	ts [mm]	tg [mm]	kt [mm]	d1 [mm]	d2 [mm]	d3 [mm]	ha [mm]	Weight [g]
SLS-10x2-LL	50	32	36	-	-	-	30	11	6.6	M8	6.5	10	-	-	16	115
SLS-10x2-FL	50	32	36	8.5	6	12	30	11	6.6	M8	6.5	10	26	5	16	88
SLS-18x4-LL	72	46	54	-	-	-	36	15	9	M10	8.6	12	-	-	23	295
SLS-18x4-FL	72	46	54	13.5	8	15	36	15	9	M10	8.6	18	42	6.6	23	205
SLS-24x5-LL	94	64	70	-	-	-	50	20	13.5	M16	13	14	-	-	32	725
SLS-24x5-FL	94	64	70	17.5	7.5	17	50	20	13.5	M16	13	24	52	8	32	525

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DryLin® TR Lead Screw Drives

Quick-release nuts - fast forward

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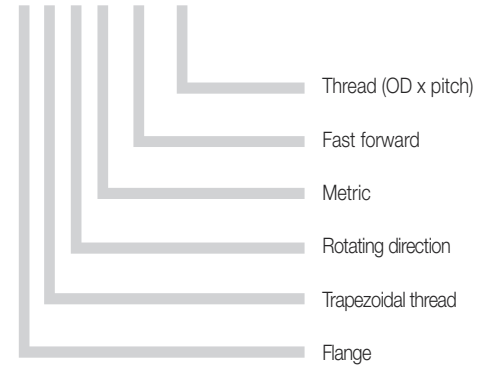
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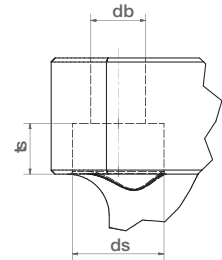
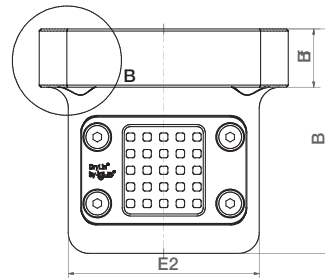
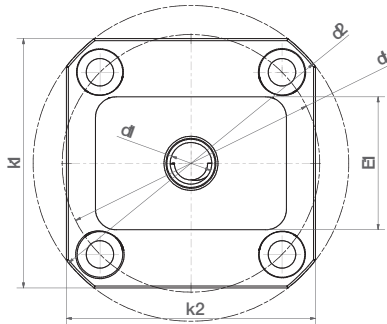
- For fast format adjustments
- Self braking design
- Lubrication-free
- Housing: AL anodized, iglide® J lead screw nut
- Robust and reliable
- Only recommended for horizontal applications
- Max. axial loads static: 200 N, dynamic: 50 N

Part number structure

F T R M-FF-10x2



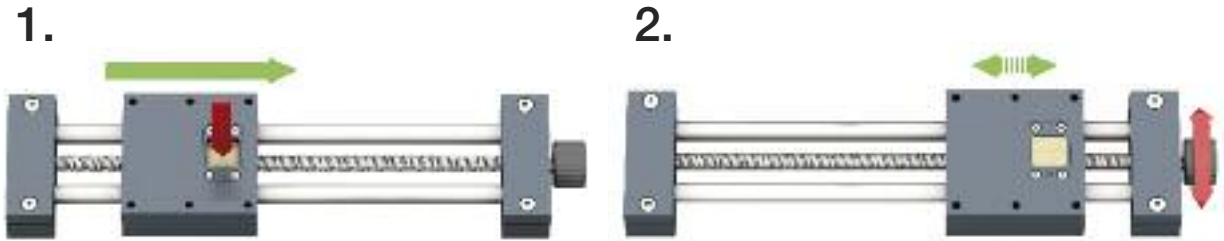
Quick release mechanism: A combination of accurate positioning and quick manual adjustment with trapezoidal lead screw nut. Simply press the square yellow section to release the nut from the thread, and move by hand to desired position.



Dimensions (mm)

Part number	d1	d2	dt	B	Bf	ts	db	ds	k1	k2	E1	E2
FTRM-FF-10x2	TR-10x2	76	62	54	14	6.1	6.6	11	60	60	32	46

(Assembled lead screw system HTS-FF shown for example, see page 30.20)



Press > disengage > move manually > click into place > fine-tune