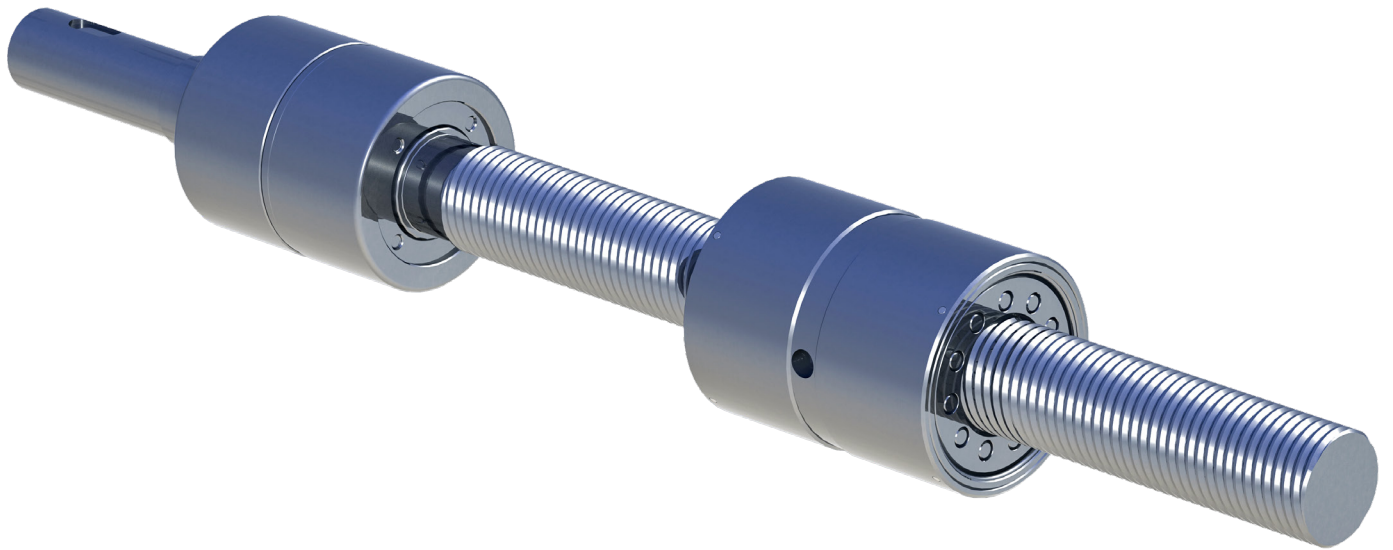


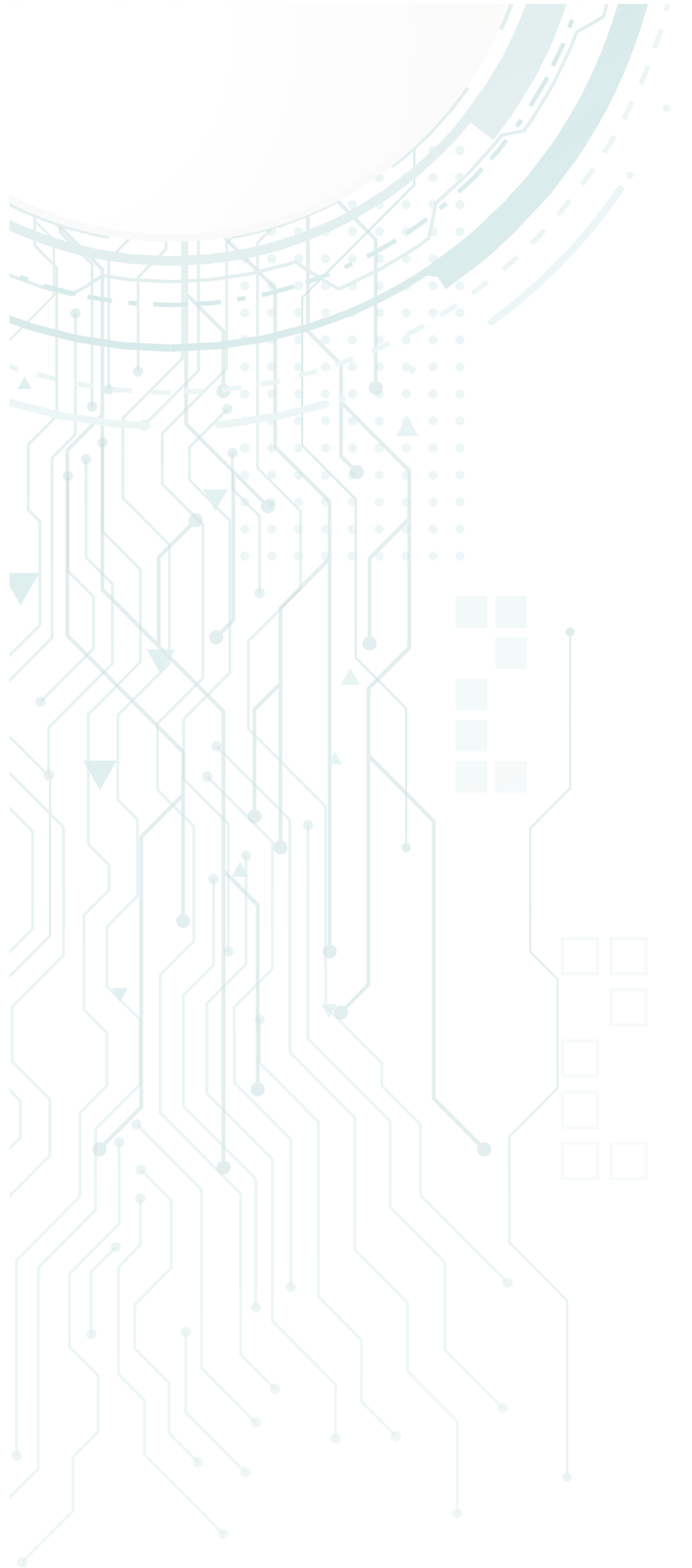
ROLLER SCREWS

BY ALT BEARINGS®



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ALT BEARINGS® - Global presence with local teams



Canada - USA - Mexico - United Kingdom - France - Germany - Switzerland - Italy - Ghana - India - China - South Korea - Japan



ALT ROLLER SCREWS®

by ALT BEARINGS®

ALT ROLLER SCREWS® is a registered trademark of **ALT BEARINGS®**. We specialize in the development, manufacture and supply of High-Performance Mechanical Components for Linear and Rotary Motion. Based in France and with a global presence our experienced team are available to work with customers to develop solutions in rolling and mechanical technology wherever they may be located.

ALT BEARINGS® is a company built on many years of experience in bearings and roller screw technology. We have an experienced team specialised in mechanics and tribology that have challenged traditional bearing and roller screws designs. This has resulted in the development of innovative solutions that are more reliable and out-perform existing products in the market.

Our R&D department team are taking the lead to support customers in many industries to develop innovative solutions. Applying many years of experience in research, development, testing and validation as well as understanding our customers. We offer unique solutions that could solve many challenges being faced today.

For example :

- Downsizing
- Weight reduction
- Faster operation
- Improved productivity
- Reduced maintenance
- Maximized uptime

ALT ROLLER SCREWS® solutions have been developed as a result of realising that most customer needs were not being satisfied with existing products. Many challenges were not being addressed with conventional designs.

Our solutions have been developed to combine simplicity, reliability, safety, and performance while permitting greater flexibility. Our team is dedicated to support our customers, to define solutions that meet their requirements without compromise and to the highest levels of quality.

ALT BEARINGS® is a global company. Support is close to you, wherever you may be. In addition, we have offices that are located to support dedicated discussions in real time. This enables excellent collaboration with our customers ensuring we achieve optimisation in design and the best possible service.

Our philosophy is one that creates an empowering and diverse environment. Bringing together wealth of experience, different backgrounds and expertise is one of our strengths.

We aim to foster a workplace where team members complement each other, creating a dynamic and open way of working. In this way we develop excellent teamwork which helps us to develop durable customer relationships.

Our goal is to have a positive impact on the environment and act with social responsibility, ensuring that our solutions also meet and exceed growing customer expectations on sustainability and work with them to meet their targets.

Pushing Performance Limits to the Next Level



You can reach us here



ALT ROLLER SCREWS®

+ 33 4 65 84 23 21

Headquarters in France

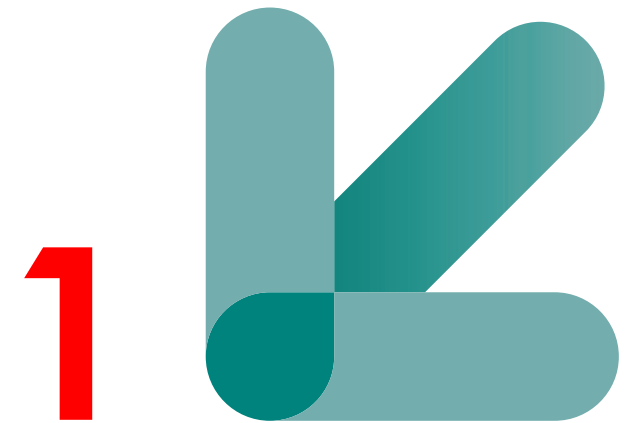
www.alt-rollerscrews.com





ALT Roller
Screws® are
breakthrough
products
that improve
durability, load
capacities and
performance.

ALT ROLLER SCREWS®



1.1 ALT ROLLER SCREWS®

Back in 1942, Swedish engineer, Carl Bruno Strandgren invented the non-recirculating planetary roller screw. Soon after, he filed a series of related patents. He also patented, in 1963 a different technology, the recirculating roller screw

The new technologies quickly demonstrated their tremendous capabilities when compared to the original ball screws. Roller screws proved to have superior rigidity, load capacity, lifetime, strength, reliability, and accuracy. They have proved to be the perfect solution where low torque and small leads are required while maintaining high loads and also working in adverse conditions.

Since its introduction in the early 1960's, with the exception of minor changes the design of the planetary roller screw has largely remained the same. However, thanks to the ALT ROLLER SCREWS® innovative design many limitations are now overcome, opening possibilities of solutions that could only be dreamed of before.

REVOLUTION IN ROLLER SCREW DESIGN TO BOOST YOUR APPLICATIONS

Our goal of ours is to provide all customers in any location, with the best planetary roller screws ever and offer pioneering linear motion solutions.



1.2 BREAKTHROUGH DESIGNS

ALT ROLLER SCREWS® has been founded by bearing and roller screw professionals with **decades of experience** in this field, the company is dedicated to maintaining the highest quality, design, engineering and manufacturing standards for customers.

Focusing on non-recirculating planetary roller screws, our engineering team, as well as being industry experts are highly qualified and have extensive experience in mechanics and tribology.

They have revisited the existing technology and have developed breakthrough solutions for extremely high-capacity roller screws. The ALT Roller Screw comes with the highest performance when compared to any other existing solution offered in the market.

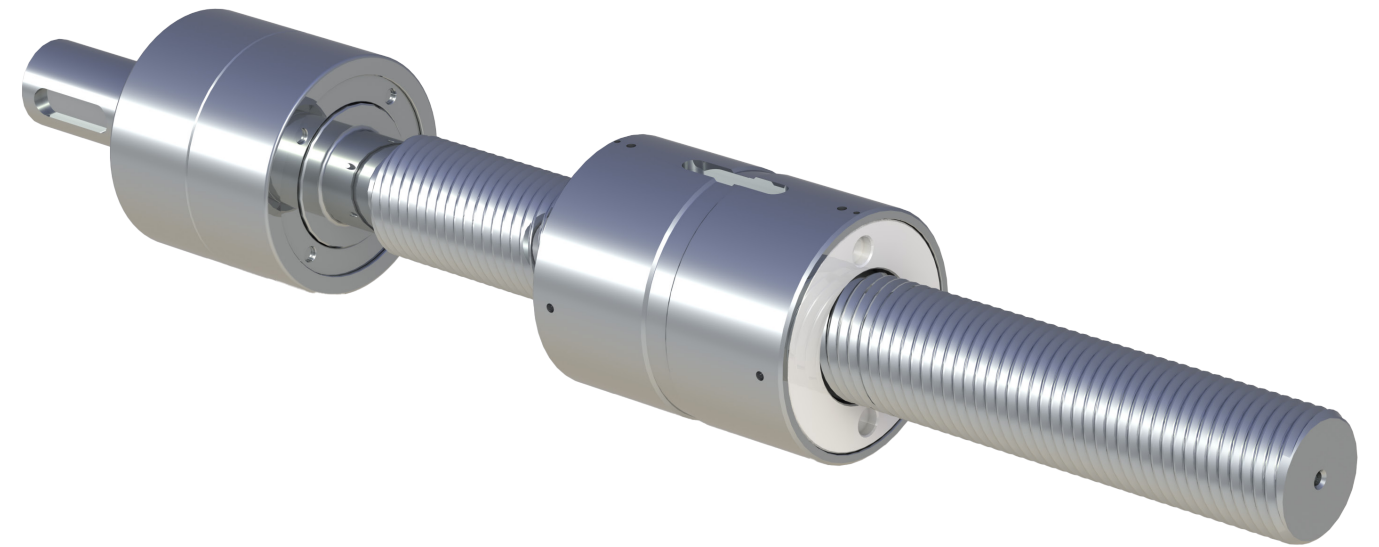


Fig. 1.1 : a typical ALT Roller screw design

As a result of our expertise and knowledge we have developed, through rigorous testing and validation the “High-Capacity **Roller Screw (HRS)**”. This unique solution provides the highest load density that cannot be matched with any existing and alternative product.

This unparalleled technology is offered as a drop-in. Replacement to any existing roller screw enabling much improved performance and optimisation in many applications. Our global team can support you wherever you are.

The **High-Capacity Roller Screw (HRS)** presented in this catalogue are available in three main types (fig 1.2):

- a) The **Standard Roller Screw (SRS)**
- b) The **Inverted Roller Screw (IRS)**
- c) The **Differential Roller Screw (DRS)**

ALT ROLLER SCREWS® also provides new products that combine HRB (Herringbone Roller Bearing) with a planetary roller screw (Fig. 1.1). More details are available in section 6.



Fig. 1.2 : main types of HRS

1.3 The Technology behind the ALT- High-Capacity Roller Screws

Customers may have noticed that lubricants applied in traditional roller screws often discolour after a few cycles or initial operation. Most will have been advised by the manufacturer that this is quite normal. It is caused by contamination of the lubricant by debris created within the roller screw itself and can result in reduced lifetime and premature failure due to accelerated wear. The traditional roller screw has a specific design and manufacture of the synchronisation gears and threads. Due to the sharp edges of the rollers they interfere with the threads. Due to this interference there are small particles that break away, contaminating the lubricant which then spreads onto the screw shaft which may generate heat, leading to wear and failure mentioned above.



Fig. 1.3: ALT Roller Screws®

This consequently reduces the lifetime of the mechanism in a significant way. This also increases relubrication frequency and makes maintenance more expensive. If the roller screw is equipped with wipers, the degradation process can even develop faster since contamination originates inside the nut and will be trapped in the assembly. Both lubricant and rolling surface are getting prematurely damaged. (Fig. 1.6).



Fig. 1.4: ALT gear profiles

VERY HIGH & RELIABLE CAPACITY RATINGS

Many planetary roller screws have been delivered with quality issues due the complex manufacturing of rollers and consequential thread or gear interference. Due to the design and manufacturing process the threads act as sharp blades that permanently scrape or rub the contacting surface. Due to this abrasion, there is rapid surface damage.

Moreover, the involute gear profiles used in all traditional roller screws are practically reducing the actual load capacities. This is an important consideration to take into account when sizing and designing an application. The screw load capacities are defined independently from the gear design whereas the gear directly influences the correct running and as described above could shorten life. Traditional involute gear design in roller screws is constrained by thread size to low modules. Traditional products do not consider the involute gear weaknesses when load capacities are defined. However, the intrinsic robustness of the roller screw gives a good overall performance in many situations but the industry trend is demanding greater reliability and durability (maximising uptime and reducing maintenance costs) as well as downsizing and more demanding applications. In this respect, it is of primary importance to understand the real safety factors on capacity ratings when selecting a roller screw and thus taking into account every interaction that exists in the assembly (see Fig 1.5).

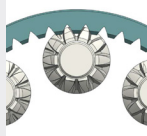
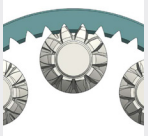
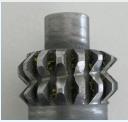
	ALT Roller Screw design	Historic design #1	Historic design #2
	ALT Profile 	Involute 	
Kinematics	⊕ ⊕ ⊕	⊕ ⊕	⊕ ⊕
Smooth meshing of gears eliminating contamination of lubricant	 Yes	 No	 No
Utilisation of roller length	✓ ✓ ✓	✓ ✓	✓ ✓
Durability & cleanliness	⊕ ⊕ ⊕	⊕ ⊕	⊕ ⊕
Capacity & life	✓ ✓ ✓	✓ ✓	✓ ✓

Fig. 1.5 : Comparison between ALT Roller Screws® and existing products



CLEANER LUBRICANT FOR LONGER LIFE

As mentioned, the current gear design causes defects to the mechanism resulting in shortened life and premature failure. To improve the overall robustness of the roller screw a new gear definition is required. This new gear definition should eliminate thread and tooth interference, eliminating any self-contamination inside the roller screw and the roller screw nut but also for higher capacity roller screws by fully separating the gear and thread design maximising useful roller thread length.

Moving on from legacy designs that have not addressed the issues explained above. With the growing markets requiring electromechanical solutions this needed to be addressed... **ALT ROLLER SCREWS®** have succeeded in finding answers to such complex issues and have developed solutions enabling and offering customers the highest load density roller ever. This is achieved by smart design and optimising arrangement. Advanced calculations and modelling have been developed to set a new standard in roller screw design. The **ALT ROLLER SCREWS®** solution is a combination of original and proven roller screw technology combined with break-through and innovative improvements in gearing, ring gears, roller profile, wipers and carriers.

NEW GEARS FOR UNPRECEDENTED PERFORMANCE

ALT Roller Screws® uses a new and unique gearing based on a special profile characterized by an excellent contact ratio allowing the mechanism to operate quietly and without vibration. This new gear geometry prevents indentation as the roller teeth contact the mating gear rings with. This new gear geometry prevents indentation as the roller

teeth contact the mating gear rings with full axial length that is not interrupted nor disrupted by any thread. Without this design there is disruption that generates significant mechanical noise and affects the synchronisation kinematics. Consequently, with the ALT Roller Screw solution the lubricant contamination is reduced, limiting oxidation and prolonging life. The lubricant (oil or grease) maintains full properties and performance as well as appearance and remains clean. The screw can reliably operate bringing peace of mind to the customer.

In addition, ALT Roller Screws® have also removed small roller ends enabling greater use of the useful thread by making it longer. Advanced load sharing calculations have been performed and a dedicated manufacturing process has been implemented to set the best load distribution. This customised and robust design is assembled with new open hole carriers that securely retain the rollers, even when the nut is removed from the shaft. This roller and carrier arrangement provides the greatest possible number of contacts per length. Thus, with this contact density optimisation ALT Roller Screws® has been able to increase load capacity as an average of 40% compared to existing planetary roller screws, while keeping external dimensions the same. This facilitates easy interchangeability with pre-existing products. Alongside the improved load capacity there are improvements in axial, radial and bending stiffness (see fig 1.6).



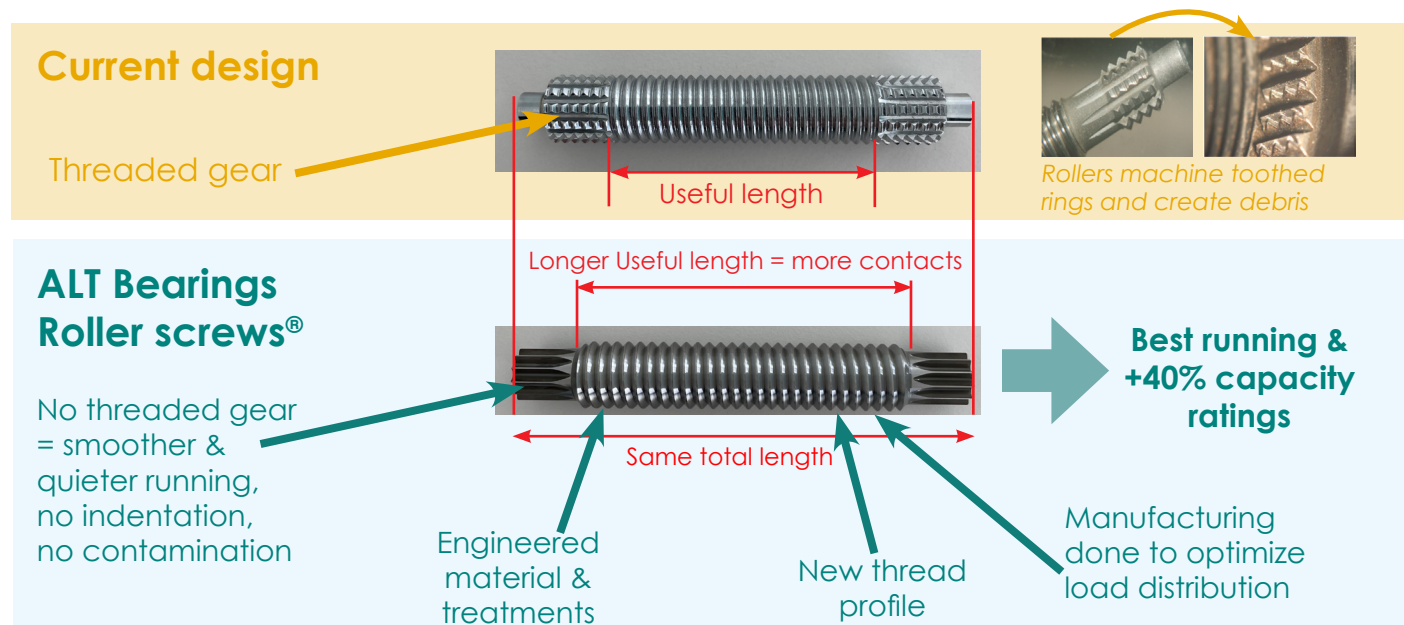


Fig. 1.6 : ALT planetary Roller Screws® design vs. example of current product

ADVANCED ROLLER SCREW MODELLING TO SPEED UP DEVELOPMENTS & SIMULATE PERFORMANCE

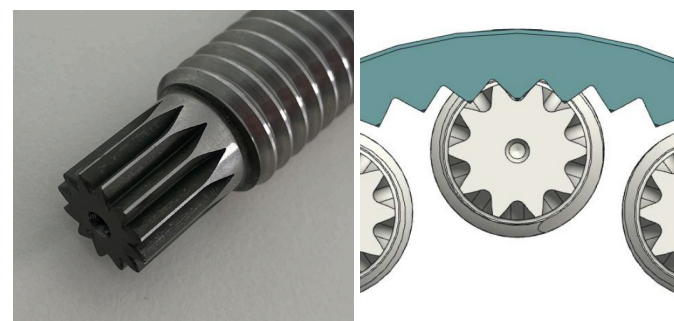


Fig 1.7 : gears profiles in ALT Roller Screws®

With the removal of the ends of the rollers we are able to extend the useful contact length and consequently extend the capacity of the screw by 40%. This means that ALT Roller Screws® can replace existing products providing extra assurance of reliable operation and maximizing uptime.

For comparable performance ALT Roller Screws® can be applied to support downsizing and weight

reduction. Exploiting the possibility to review surrounding components.

PUSHING CAPACITY LIMITS

Our goal is to extend the boundaries of capacity limits. With our expertise ALT Roller Screws® engineers have reviewed the entire design to develop the optimized solution. Unique advanced calculations and modelling have supported this process to raise the bar in terms of performance. This innovation and optimisation have also been applied to inverted roller screw designs.

ALT ROLLER SCREWS® has also designed wipers that are easier to install. Our wipers are also available with a lubricant filtering option. Please consult us to find out more.

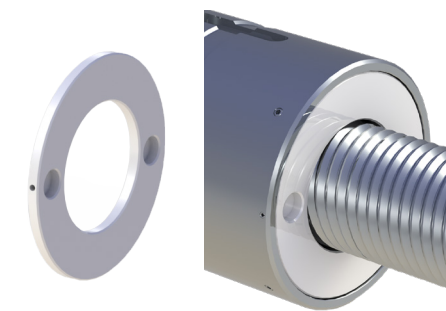


Fig. 1.8 : wiper in ALT Roller Screws®

1.6 Advantages of the High-Capacity Planetary Roller Screw

The High-Capacity Roller Screws® offer customers the following advantages compared to ball screws, or conventional roller screws.

- Higher load density
- Higher static and dynamic load capacities
- Extended lifetime
- No self-contamination
- Cleaner lubricant
- Lower wear rate
- Increased axial, radial and bending stiffnesses
- Reduced re-lubrication intervals
- Cheaper maintenance cost
- Easier condition monitoring
- Reduced TCO

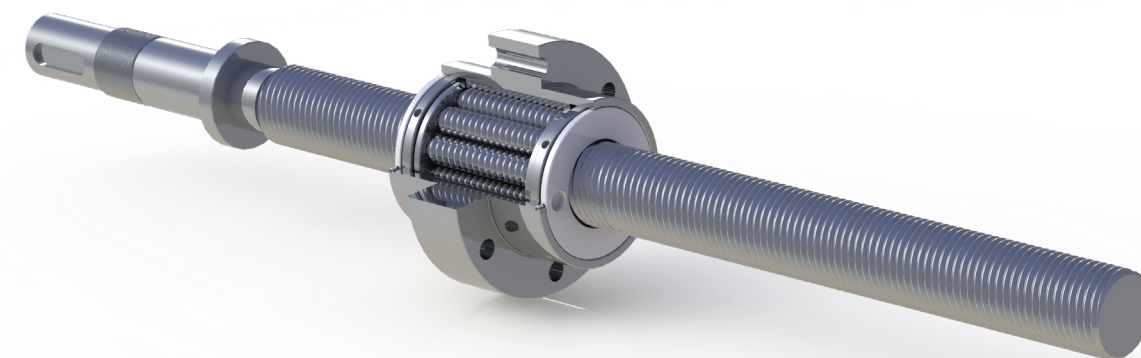


Fig. 1.9 : ALT planetary roller screw with flanged nut

1.7 Applications for ALT Roller Screws®

With ultimate driving performance, the High-Capacity Roller Screws can be used in many linear motion Applications, here are just a few examples:

- Presses for injection moulding and blow moulding
- Servo presses
- Broaching machines
- Large machine tools
- Electromechanical actuators
- Car assembly lines
- Factory automation
- Robots
- Off-highway vehicles
- And much more

1.8 Industries We Serve

ALT ROLLER SCREWS® are used in many industries and high-tech segments. We are experts in reviewing specific requirements and offer the right solution that will be a perfect fit and perform even in the most extreme conditions.

Whether it's a new project or an existing application we are here to help and support development. Contact us with your enquiry and let's discuss how ALT Bearings® can bring a competitive advantage to your solutions.



Aeronautics

Conditions in **Aircraft** are extreme and increasingly demanding. The ALT Roller Screw is the perfect solution that will help to optimize the space envelope and the weight without compromise on performance

and safety. Our solutions are available in stainless steel and with coatings. The customization and design of the interfaces will help to reach the best integration and compactness. The reduced number of parts takes reliability to the highest level.



Aerospace Industry

In **Space** applications such as shuttles, rockets and satellites, the major concern is the contamination of the device and the condensation of outgassing materials in the vacuum of space. As a result, roller screws applied in such a challenging environment must be ultraclean, ultra precise and ultra reliable. The ALT Roller Screw is the best reliable solution that will meet all of this for the variety of demanding applications in space.



Linear motion actuators

The requirements in **linear and actuation technology** are becoming even more challenging. With the growth in electrification and increasing demands in downsizing and weight reduction ALT Roller Screw solutions have been developed to meet these challenges. Having exceptional capacity we are able to help customers reduce size of their offers and enable applications to be optimised. Due to our unique designs and technology and torque reduction we see benefits the surrounding parts and drives such as electric motors.



Automation and Robotics

In advanced manufacturing industries, the need for **Automation and Robotics**, and robot end effectors is growing rapidly. This technology increases productivity, reduces costs which contributes to a better efficiency and competitiveness. Specifications in this sector include more demanding requirements for example endurance, speed, precision and protection from contamination. The ALT Roller screw is an excellent solution which helps to optimize production and uptime. High volume manufacturing is becoming increasingly dependent on automation for example, spot welding, clinching, riveting, gluing, tapping, form & piercing...



Construction machinery

Harsh environments and the need to lengthen service life. **The Construction Machinery** segment operates under extreme conditions such as dust, soil, high loads, tough weather and extreme temperatures. ALT Roller Screws® can be the ideal solution, replacing high maintenance systems such as hydraulics. The use of ALT Roller Screw technology, by replacing hydraulics helps owners become more environmentally friendly and is a perfect solution to meet the demands of today and tomorrow



O&G (Oil & Gas) platform

Oil and Gas operations are becoming more challenging as the demand for energy grows around the world. New challenges both on and offshore develop quickly with greater depths, pressures, and temperatures. Equipment is constantly threatened by conditions like stress, shocks, heat and contamination. In this environment, safety is paramount and downtime not an option. The ALT Roller Screw offers high level of reliability, performance and durability keeping operations running. ALT Roller Screws® provide longer service life, reduced or zero maintenance and greaseless operation in many applications.



Robots

Robots are increasingly being adopted in many different industries. Being common to automotive they are being applied in defense, & security, healthcare, aerospace, food & beverage, education and being developed and applied in the domestic arena. The demands of roller screws, the various applications for robots may vary and will require for example, optimized size (in a compact envelop), power density, smooth and quiet running, minimum maintenance, high degree of accuracy and much more. ALT Roller Screws® are a perfect fit.



Injection molding machines

High output and efficiency are key to the **injection molding** market. With electrification, high maintenance and environmental factors are forcing machine makers to adopt new technologies. Coupled with the high power density, reliable operation. In addition due to ALT Roller Screws® unique design we can make injection molding machines even more efficient. Providing our solutions with faster operation with longer leads due to our unique technology.



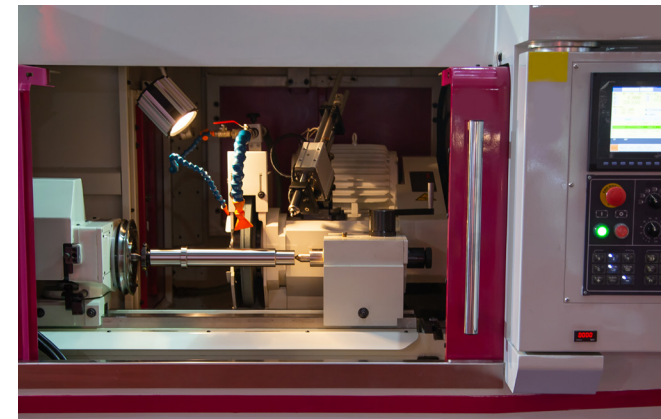
Medical applications

The **Medical** sector are challenging applications that require special attention that not only combine compactness and reliability but also minimize noise levels and drive torque. In the ALT Roller Screw, the only source of negligible noise originates from contact between roller ends and guides. In addition, when the environment requires the ALT Roller Screw is offered in specific materials (for instance non-magnetic or stainless). ALT Roller Screws® can be fully customized for special operating conditions.



Racing, Sports & Competition

Most of the key success factors in racing are to be quicker, more agile and have reliable operation. Failure and losing is not an option! Knowing, in competition you can push to extreme limits and you have that competitive advantage, the confidence to win. ALT Roller Screws® are compact in design, enabling excellent opportunities to reduce weight, not just in our solution but with surrounding components. Whether it is land, water or air our robust designs combine weight reduction with robustness and reliability beyond any solution being offered today!



Precision Machines

Machine tools require higher speed and stiffness to combine precision and productivity. They need to deliver more and maintain production to meet customer demands. Our solutions provide reliable operation, reduced maintenance and maximum uptime. Our lead technology can permit even greater efficiency and production, making our roller screws the most efficient in the market. Increasing the productivity for the customer. A perfect solution for broaching, grinding, polishing, as well as metal forming machines such as wire and tube



Military & Defense

In any application failure is not an option and least of all in **Military and Defense** segments. Reliability, accuracy, durability and precision is key and our high-capacity ALT Roller Screws® plays an integral part in solutions demanding more.



Roller screw designation

SRS - 030 x10 R - C(+) 360/420 - G5 - L - Z - H - G

TRS Type

- SRS Standard Roller Screw
- URS Ultra-Capacitive Roller Screw
- IRS Inverted Roller Screw
- DRS Differential Roller Screw
- RRS Recirculating Roller Screw

Nominal diameter x lead (mm)

Hand

- R Right
- L Left (on request)

Nut type

- C Cylindrical
- F Centered flange
- P Off-centered flange

Constraints

- + with backlash
- 0 Zero backlash
- with preload

Threaded length/Total length [mm]

Lead Precision [mm]

- G5 Standard lead precision
- G3 Lead precision on request
- G1 Lead precision on request

Flanged nut orientation

- S Nut ground outer diameter D (g6) oriented towards shorter machined end of shaft
- L Nut ground outer diameter D (g6) oriented towards longer machined end of shaft
- In case of identical machined ends, and for cylindrical nuts

Shaft machined end

- Z According to customer drawing

Wipers

- H With wipers
- T Without wipers
- X Nut design without wipers recesses (for special SRS nut types only)

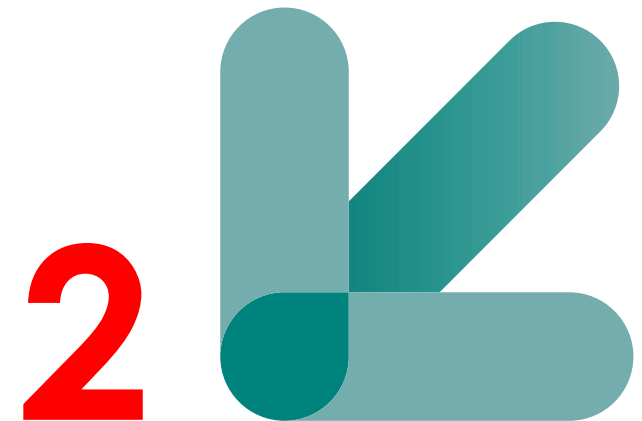
Lubricant

- G Grease
- O Oil
- D Dry





ALT Roller Screws® are products designed and manufactured to suit to critical space constraints with extreme reliability and high of performance.



SRS Standard Roller Screws



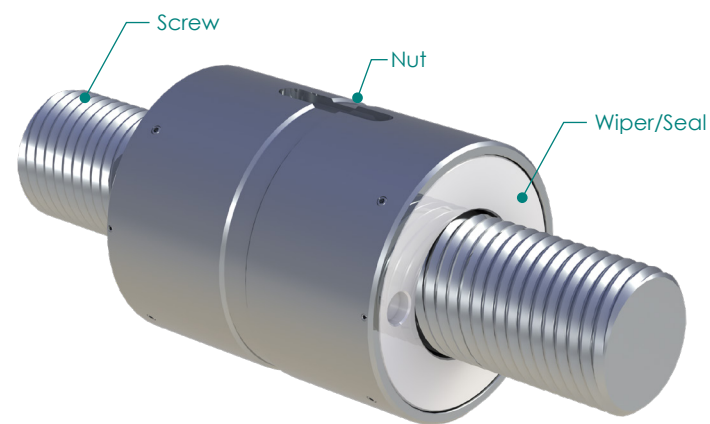


Fig. 2.1 : a typical Standard Roller Screw (SRS)

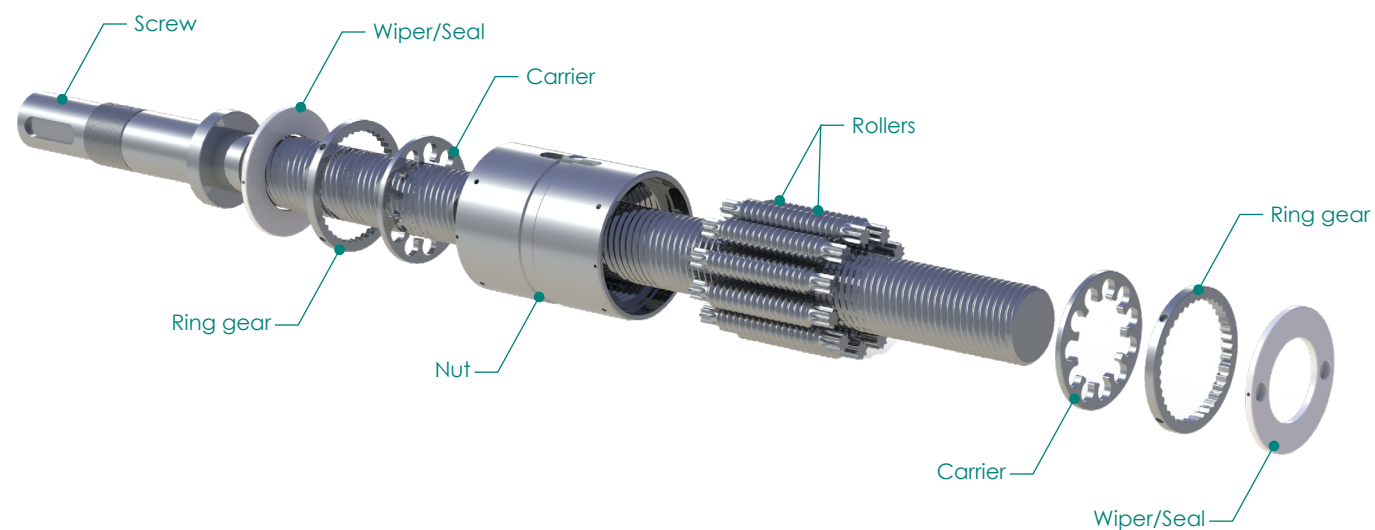


Fig. 2.2 : a split Standard Roller Screw (SRS)

The **Standard Roller Screw (SRS)** is the most common type of roller screw. With an assortment close to existing nut-screw mechanisms such as lead and ball screws when viewed. Also, it is the type of roller screw that is most subjected to standardization compared to others. In the SRS, the nut with rollers translates axially along the rotating screw.

It is available in all sizes possible with different nut features such as cylindrical flanged and can be customized to fit the customer need. The SRS can be provided with or without axial or radial play or backlash by adjusting at least one threaded component. It can

also be preloaded to increase the axial stiffness with spring ring and split nuts or through rollers.

The **SRS** is offered also in bigger sizes range and with larger lengths of the nut, named as the **Ultra-High-Capacity Standard Roller Screw (URS)** version. The URS is designed for demanding applications

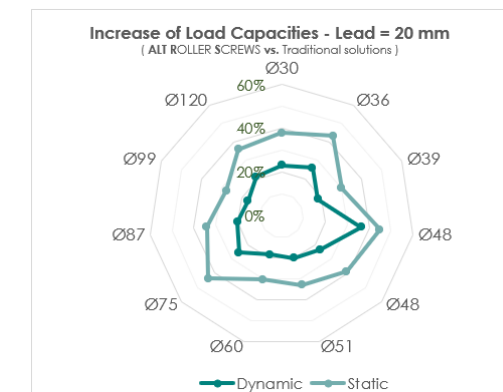
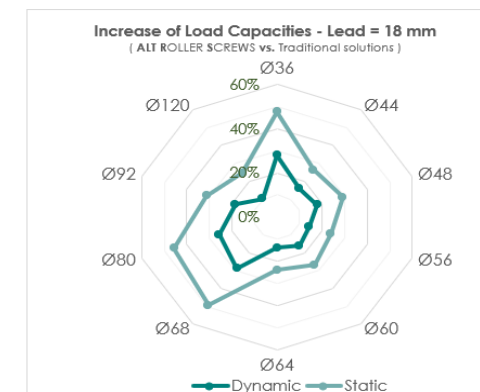
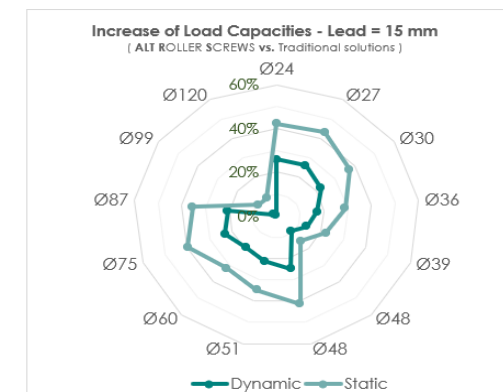
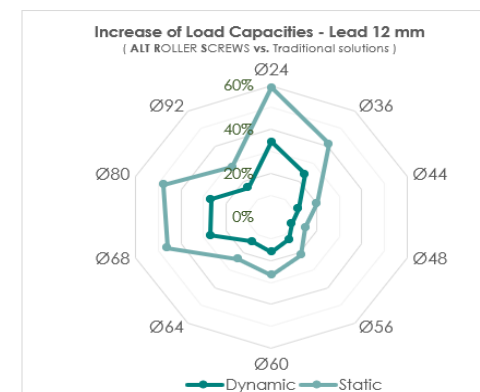
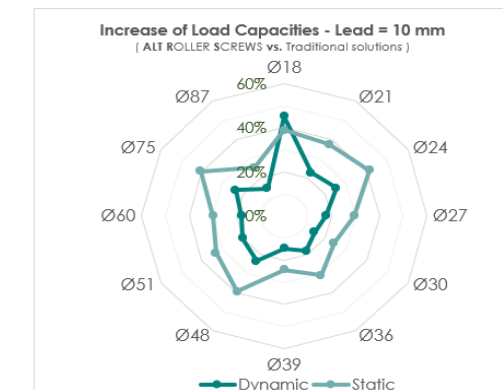
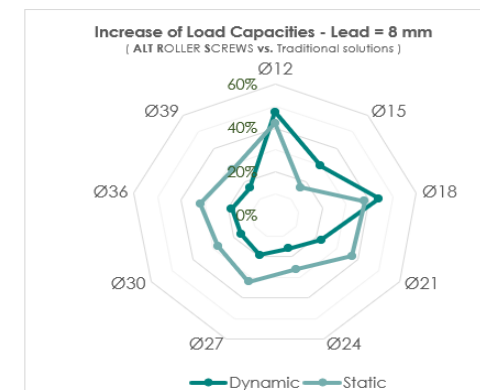
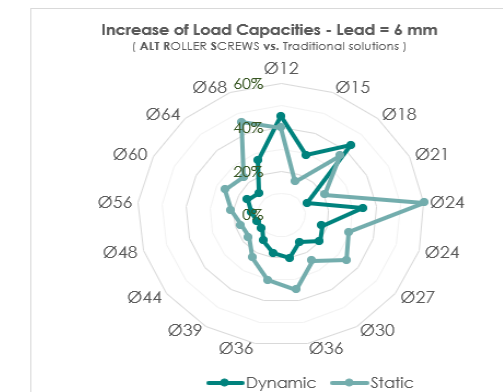
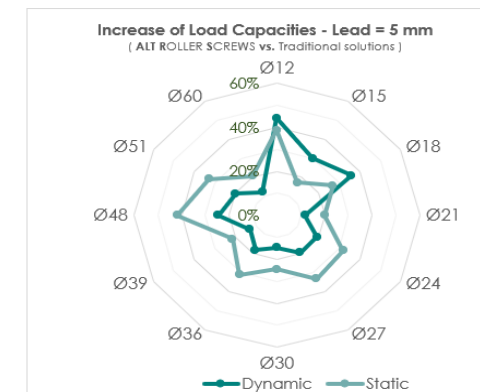


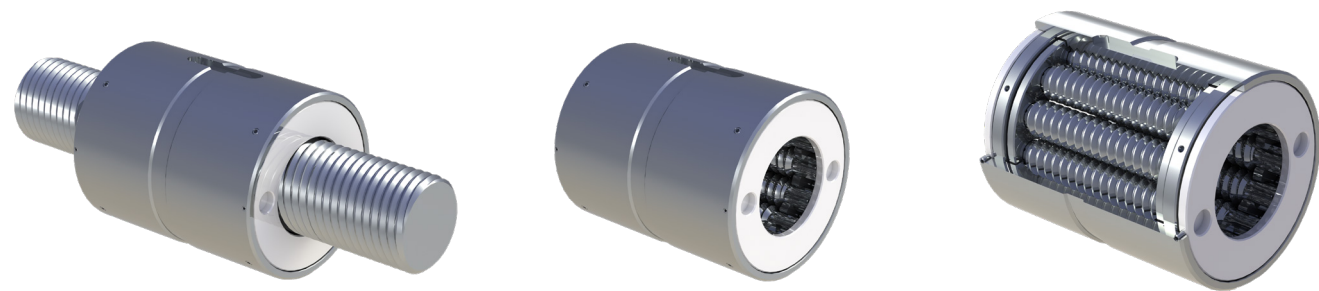
Fig. 2.3 : plots of load improvements of the **SRS** solutions for some key leads

Table 1: Diameter x Lead summarizing the available SRS with Ca (kN)

Standard Roller Screws (SRS) : dynamic load carrying capacity Ca [kN]											Standard Roller Screws (SRS) : dynamic load carrying capacity Ca [kN]									
Nominal diameter	Lead										Nominal diameter	Lead								
d0	1	2	3	4	5	6	8	9	10	12	d0	15	18	20	24	25	30	35	36	42
mm	kN										mm	kN								
4*	7	8	9								4*									
8	14	17	18	19							8									
12		21	19	20	22	22	23				12									
15		30	33	36	38	39	41				15									
18		43	47	50	53	55	58		62		18									
21		54	59	64	66	70	75		78		21									
24			56			66				77	24									
24		66		91	97	99	105		112		24	120								
27		85		101	106	106	106		110		27	118								
30		98		116	123	127	137		145		30	156		193						
36						122		133		142	36		152		195					
36		128		151	160	165	177		189		36	202		261						
39		145		172	180	189	204		213		39	228		277		279				
44						160				189	44		204		254		261			
48						198				230	48	241	256	302	320					
48					272				319		48	355		445		412	413			
51					315				370		51	411		512		518				
56						247				289	56		318		393		402		416	
60						287		315		336	60		367		469		465		460	382
60					449				494		60	593		610		607		562		
64						290				345	64		379		479		499		479	
68						406				485	68		542		672		691		683	
75									616		75	677		802		803	810			
80										488	80		538		655		657		658	
87									735		87	792		922		938	932			
92										621	92		690		823		822		840	
99											99	1059		1239		1251	1268	1283		
120											120		1173		1356		1379		1387	
120											120	1260		1470		1484	1495	1529		

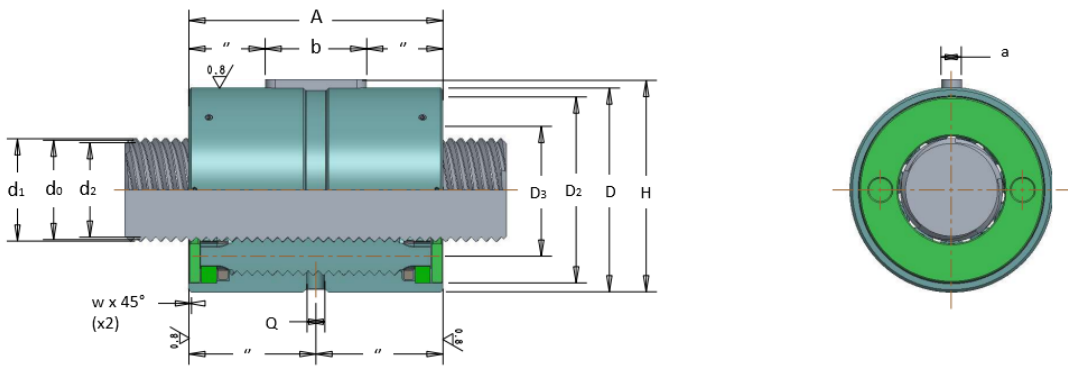
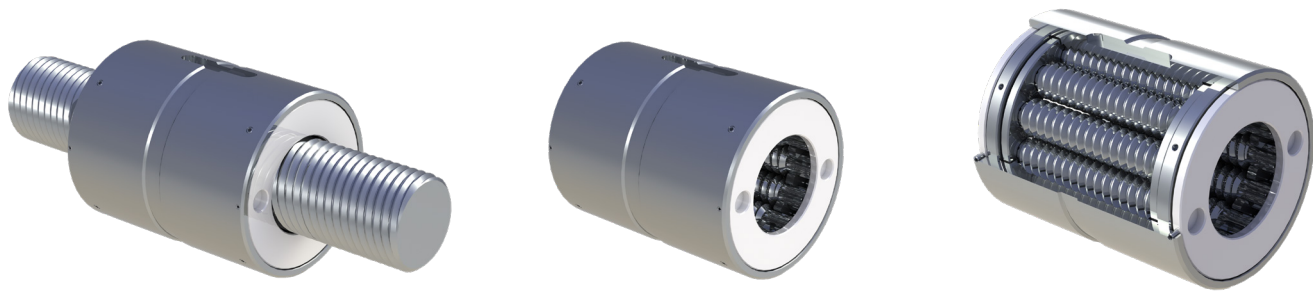


d0 **4 – 18** mm

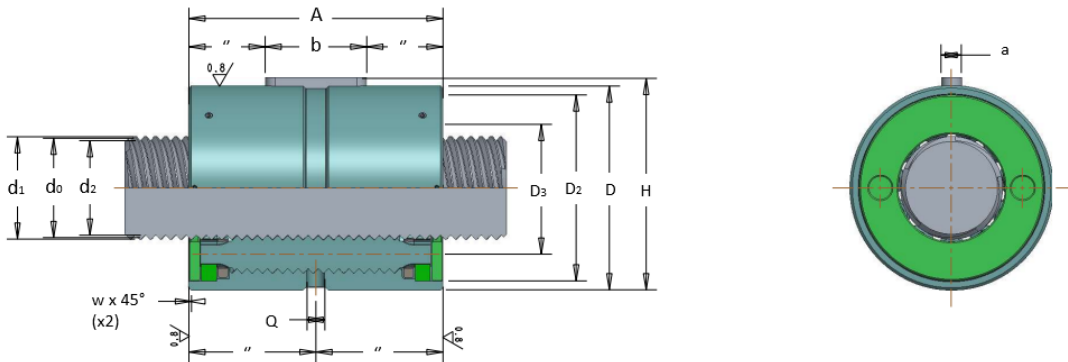
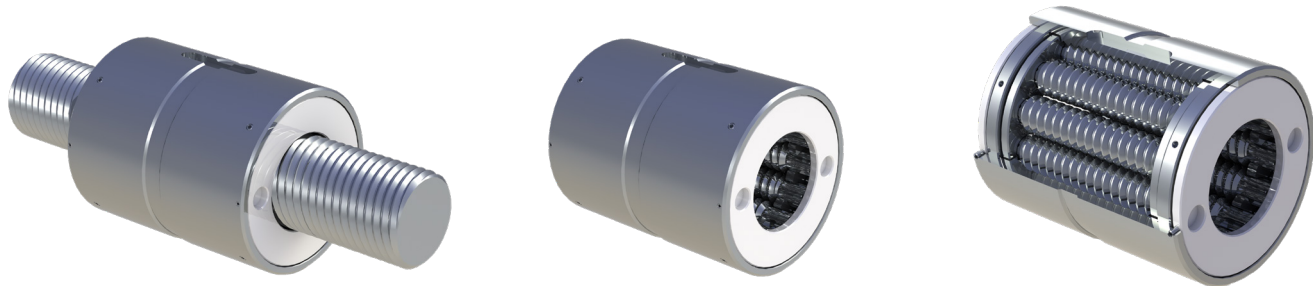


Technical drawing of a roller bearing assembly. The left view is a side cross-section showing the bearing housing (grey), the bearing (green), and the shaft (blue). Dimensions include: d_1 , d_0 , d_2 (shaft diameters); A (bearing width); b (housing bore diameter); D_3 , D_2 , D , H (housing diameters); $w \times 45^\circ (x2)$ (housing bore chamfer); Q (housing bore diameter); $\frac{0.8}{\sqrt{R}}$ (housing bore chamfer radius). The right view is a top-down cross-section showing the bearing housing (grey) and the bearing (green). Dimensions include: a (bearing housing bore diameter).

Principal and technical characteristics																Designations	Dimensions										
d0	Ph	N	Ca	Ca0	η	η'	So	To	mn	ms	ls	lnn	lns	Zn	Zs	Standard Roller Screws	d1	d2	D g6/H7	A h12	w	a hy	b	H	Q	D2	D3
mm		-	kN		-	-		Nm	kg	kg/m	kgmm2/m	kgmm2		mL	mL/m	-	mm										
4	1	3	7	12	0.89	0.87	0.02	0.01	0.1	0.1	0.20	2.96	0.03	0.7	0.2	SRS 4 x 1 R - C	4.1	3.8	19	40	0.5	3	10	20.3	3	16	8
	2	3	8	12	0.89	0.87	0.02	0.01	0.1	0.1	0.20	2.96	0.03	0.7	0.2	SRS 4 x 2 R - C	4.2	3.7	19	40	0.5	3	10	20.3	3	16	8
	3	3	9	12	0.88	0.87	0.02	0.01	0.1	0.1	0.20	2.96	0.03	0.7	0.3	SRS 4 x 3 R - C	4.3	3.5	19	40	0.5	3	10	20.3	3	16	8
8	1	4	14	26	0.83	0.82	0.02	0.02	0.1	0.4	3.14	9.9	0.2	1.1	0.3	SRS 8 x 1 R - C	8.1	7.9	25	44	0.5	4	12	26.5	5	21	12
	2	4	17	27	0.83	0.82	0.02	0.02	0.1	0.4	3.14	9.9	0.2	1.2	0.4	SRS 8 x 2 R - C	8.2	7.8	25	44	0.5	4	12	26.5	5	21	12
	3	4	18	27	0.83	0.82	0.02	0.03	0.1	0.4	3.14	9.9	0.2	1.2	0.5	SRS 8 x 3 R - C	8.2	7.6	25	44	0.5	4	12	26.5	5	21	12
8	4	4	19	27	0.83	0.82	0.02	0.04	0.1	0.4	3.14	9.9	0.2	1.2	0.7	SRS 8 x 4 R - C	8.3	7.5	25	44	0.5	4	12	26.5	5	21	12
12	2	5	21	38	0.80	0.79	0.02	0.05	0.2	0.9	15.9	20.2	0.5	1.6	0.5	SRS 12 x 2 R - C	12.1	11.8	30	44	0.5	4	12	31.5	5	25	16
	3	5	23	37	0.80	0.79	0.02	0.06	0.2	0.9	15.9	20.2	0.5	1.6	0.7	SRS 12 x 3 R - C	12.2	11.7	30	44	0.5	4	12	31.5	5	25	16
	4	5	24	37	0.80	0.79	0.02	0.07	0.2	0.9	15.9	20.2	0.5	1.6	0.8	SRS 12 x 4 R - C	12.3	11.6	30	44	0.5	4	12	31.5	5	25	16
12	5	5	26	38	0.79	0.79	0.02	0.09	0.2	0.9	15.9	20.2	0.5	1.6	1.0	SRS 12 x 5 R - C	12.3	11.5	30	44	0.5	4	12	31.5	5	25	16
12	6	5	27	37	0.79	0.79	0.02	0.10	0.2	0.9	15.9	20.2	0.5	1.6	1.2	SRS 12 x 6 R - C	12.4	11.4	30	44	0.5	4	12	31.5	5	25	16
12	8	5	27	35	0.79	0.79	0.02	0.14	0.2	0.9	15.9	20.2	0.5	1.6	1.5	SRS 12 x 8 R - C	12.4	11.1	30	44	0.5	4	12	31.5	5	25	16
15	2	5	30	60	0.80	0.79	0.02	0.06	0.2	1.4	38.8	39.8	1.4	2.0	0.6	SRS 15 x 2 R - C	15.1	14.8	35	50	0.5	4	16	36.5	5	30	20
	3	5	33	59	0.80	0.79	0.02	0.07	0.2	1.4	38.8	39.8	1.4	2.0	0.9	SRS 15 x 3 R - C	15.2	14.7	35	50	0.5	4	16	36.5	5	30	20
	4	5	36	60	0.80	0.79	0.02	0.09	0.2	1.4	38.8	39.8	1.4	2.1	1.1	SRS 15 x 4 R - C	15.3	14.6	35	50	0.5	4	16	36.5	5	30	20
15	5	5	38	60	0.80	0.79	0.02	0.10	0.2	1.4	38.8	39.8	1.4	2.1	1.3	SRS 15 x 5 R - C	15.3	14.5	35	50	0.5	4	16	36.5	5	30	20
15	6	5	39	59	0.79	0.79	0.02	0.12	0.2	1.4	38.8	39.8	1.4	2.1	1.5	SRS 15 x 6 R - C	15.4	14.4	35	50	0.5	4	16	36.5	5	30	20
15	8	5	41	59	0.79	0.79	0.02	0.15	0.2	1.4	38.8	39.8	1.4	2.1	1.9	SRS 15 x 8 R - C	15.5	14.2	35	50	0.5	4	16	36.5	5	30	20
18	2	5	43	95	0.80	0.79	0.02	0.07	0.3	2.0	80.4	74.3	3	2.6	0.8	SRS 18 x 2 R - C	18.1	17.8	40	58	0.5	5	18	42	5	35	24
	3	5	47	95	0.80	0.79	0.02	0.08	0.3	2.0	80.4	74.3	3	2.6	1.0	SRS 18 x 3 R - C	18.2	17.7	40	58	0.5	5	18	42	5	35	24
	4	5	50	95	0.80	0.79	0.02	0.10	0.3	2.0	80.4	74.3	3	2.6	1.3	SRS 18 x 4 R - C	18.3	17.6	40	58	0.5	5	18	42	5	35	24
18	5	5	53	95	0.80	0.79	0.02	0.11	0.3	2.0	80.4	74.3	3	2.7	1.5	SRS 18 x 5 R - C	18.3	17.5	40	58	0.5	5	18	42	5	35	24
18	6	5	55	95	0.80	0.79	0.02	0.13	0.3	2.0	80.4	74.3	3	2.7	1.8	SRS 18 x 6 R - C	18.4	17.4	40	58	0.5	5	18	42	5	35	24
18	8	5	58	93	0.79	0.79	0.02	0.16	0.3	2.0	80.4	74.3	3	2.7	2.3	SRS 18 x 8 R - C	18.5	17.2	40	58	0.5	5	18	42	5	35	24
18	10	5	62	96	0.79	0.79	0.04	0.20	0.3	2.0	80.4	74.3	3	2.9	3.1	SRS 18 x 10 R - C	18.6	17.0	40	58	0.5	5	18	42	5	35	24

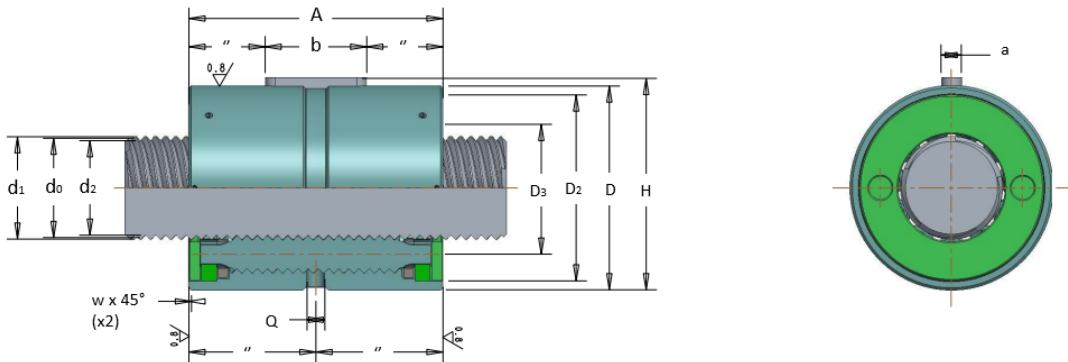
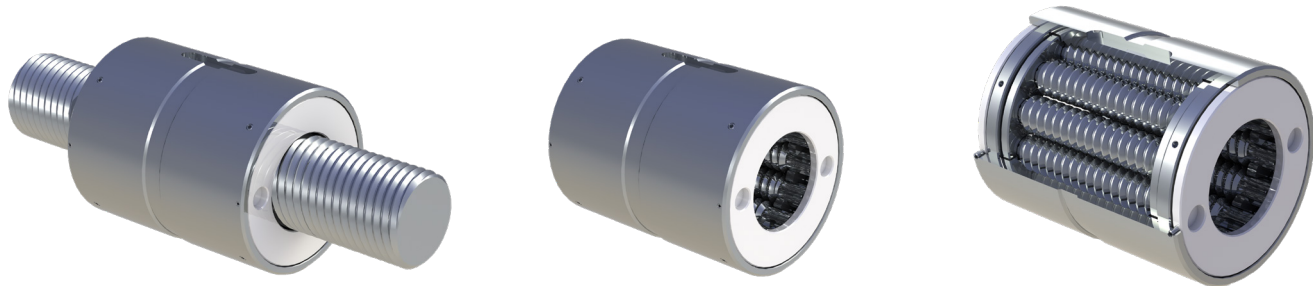


Principal and technical characteristics																Designations	Dimensions											
d0	Ph	N	Ca	Ca0	η	η'	S0	T0	m _n	m _s	l _s	l _{nn}	l _{ns}	Z _n	Z _s	Standard Roller Screws	d1	d2	D g6/H7	A h12	w	a h9	b	H	Q	D2	D3	
mm	-	-	kN	-	-	-	-	Nm	kg	kg/m	kgmm2/m	kgmm2	-	-	-	-	-	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
21	2	5	54	127	0.80	0.79	0.02	0.09	0.5	2.7	149	123	7	3.4	0.9	SRS 21 x 2 R - C	21.1	20.8	45	64	0.5	5	20	47	5	40	28	
	3	5	59	127	0.80	0.79	0.02	0.11	0.5	2.7	149	123	7	3.4	1.2	SRS 21 x 3 R - C	21.2	20.7	45	64	0.5	5	20	47	5	40	28	
	4	5	64	127	0.80	0.79	0.02	0.13	0.5	2.7	149	123	7	3.4	1.5	SRS 21 x 4 R - C	21.3	20.6	45	64	0.5	5	20	47	5	40	28	
	5	5	66	126	0.80	0.79	0.02	0.15	0.5	2.7	149	123	7	3.5	1.8	SRS 21 x 5 R - C	21.3	20.5	45	64	0.5	5	20	47	5	40	28	
21	6	5	70	128	0.80	0.79	0.02	0.17	0.5	2.7	149	123	7	3.5	2.1	SRS 21 x 6 R - C	21.4	20.4	45	64	0.5	5	20	47	5	40	28	
21	8	5	75	128	0.79	0.79	0.02	0.21	0.5	2.7	149	123	7	3.6	2.6	SRS 21 x 8 R - C	21.5	20.2	45	64	0.5	5	20	47	5	40	28	
21	10	5	78	127	0.79	0.79	0.04	0.25	0.5	2.7	149	123	7	3.8	3.6	SRS 21 x 10 R - C	21.6	20.0	45	64	0.5	5	20	47	5	40	28	
24	3	6	56	130	0.77	0.77	0.02	0.13	0.5	3.5	254	155	8	3.3	1.2	SRS 24 x 3 R - C	24.2	23.8	48	58	0.5	5	20	50	5	42	30	
	6	6	66	131	0.77	0.77	0.02	0.20	0.5	3.5	254	155	8	3.4	2.0	SRS 24 x 6 R - C	24.3	23.5	48	58	0.5	5	20	50	5	42	30	
	12	6	77	132	0.77	0.77	0.04	0.34	0.5	3.5	254	155	8	3.7	4.1	SRS 24 x 12 R - C	24.6	23.0	48	58	0.5	5	20	50	5	42	30	
24	2	5	77	210	0.80	0.79	0.02	0.09	0.8	3.5	254	313	15	4.5	1.0	SRS 24 x 2 R - C	24.1	23.8	53	78	0.5	6	25	55.5	5	46	32	
	4	5	91	208	0.80	0.79	0.02	0.13	0.8	3.5	254	313	15	4.6	1.7	SRS 24 x 4 R - C	24.3	23.6	53	78	0.5	6	25	55.5	5	46	32	
	5	5	97	214	0.80	0.79	0.02	0.15	0.8	3.5	254	313	16	4.7	2.0	SRS 24 x 5 R - C	24.3	23.5	53	78	0.5	6	25	55.5	5	46	32	
	6	5	99	206	0.80	0.79	0.02	0.17	0.8	3.5	254	313	15	4.8	2.3	SRS 24 x 6 R - C	24.4	23.4	53	78	0.5	6	25	55.5	5	46	32	
	8	5	105	205	0.80	0.79	0.02	0.22	0.8	3.5	254	313	15	4.9	3.0	SRS 24 x 8 R - C	24.5	23.2	53	78	0.5	6	25	55.5	5	46	32	
	10	5	112	210	0.79	0.79	0.04	0.25	0.8	3.5	254	313	15	5.2	4.1	SRS 24 x 10 R - C	24.6	23.0	53	78	0.5	6	25	55.5	5	46	32	
	15	5	120	205	0.79	0.79	0.07	0.37	0.8	3.5	254	313	15	5.9	6.4	SRS 24 x 15 R - C	24.8	22.4	53	78	0.5	6	25	55.5	5	46	32	
	27	2	5	85	234	0.80	0.79	0.02	0.11	1.0	4.5	407	432	25	5.3	1.2	SRS 27 x 2 R - C	27.1	26.8	58	79	0.5	6	25	60	5	51	36
27	4	5	101	235	0.80	0.79	0.02	0.16	1.0	4.5	407	432	25	5.4	1.9	SRS 27 x 4 R - C	27.3	26.6	58	79	0.5	6	25	60	5	51	36	
	5	5	106	231	0.80	0.79	0.02	0.18	1.0	4.5	407	432	25	5.5	2.3	SRS 27 x 5 R - C	27.3	26.5	58	79	0.5	6	25	60	5	51	36	
	6	5	110	230	0.80	0.79	0.02	0.20	1.0	4.5	407	432	25	5.6	2.6	SRS 27 x 6 R - C	27.4	26.4	58	79	0.5	6	25	60	5	51	36	
27	8	5	118	231	0.80	0.79	0.02	0.25	1.0	4.5	407	432	25	5.7	3.4	SRS 27 x 8 R - C	27.5	26.2	58	79	0.5	6	25	60	5	51	36	
27	10	5	122	227	0.79	0.79	0.04	0.29	1.0	4.5	407	432	25	6.1	4.6	SRS 27 x 10 R - C	27.6	26.0	58	79	0.5	6	25	60	5	51	36	
27	15	5	131	223	0.79	0.79	0.07	0.41	1.0	4.5	407	432	25	6.8	7.1	SRS 27 x 15 R - C	27.9	25.4	58	79	0.5	6	25	60	5	51	36	

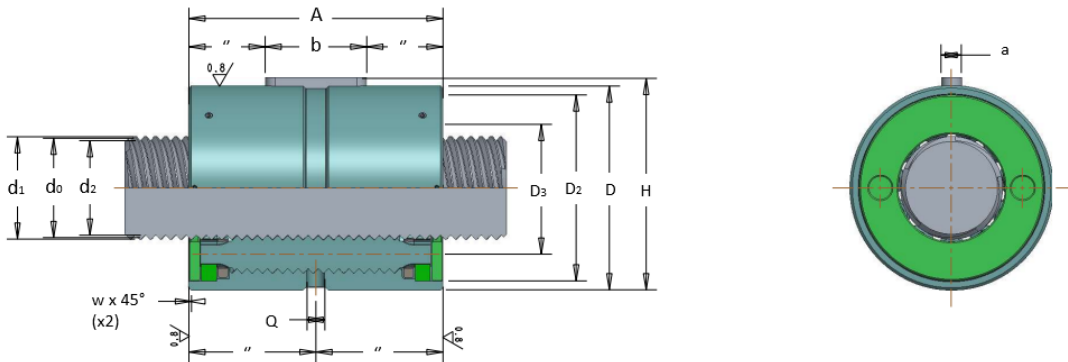
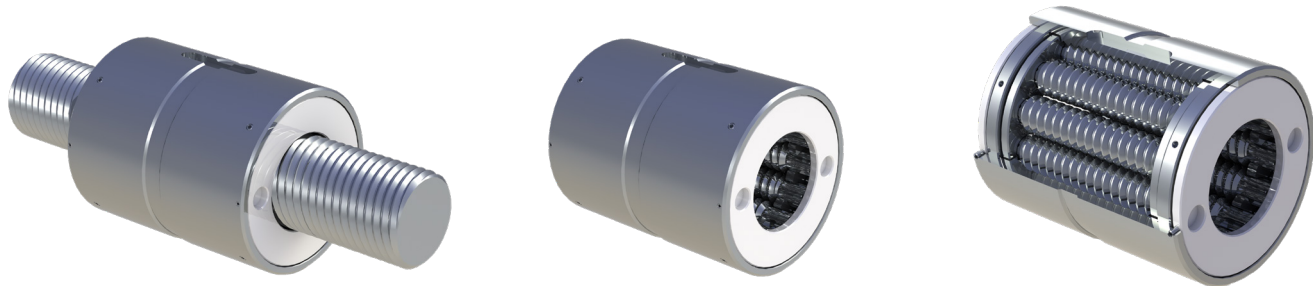


Principal and technical characteristics

d0	Ph	N	Ca	Ca0	η	η'	S0	T0	m _n	m _s	l _s	l _{nn}	l _{ns}	Z _n	Z _s	Standard Roller Screws	d1	d2	D g6/H7	A h12	w	a h9	b	H	Q	D2	D3
mm	-	-	kN	-	-	-	-	Nm	kg	kg/m	kgmm2/m	kgmm2	-	mL	mL/m	-	mm	-	-	-	-	-	-	-	-	-	-
30	2	5	98	279	0.80	0.79	0.02	0.12	1.3	5.5	620	667	42	7.0	1.3	SRS 30 x 2 R - C	30.1	29.8	64	85	0.5	6	32	66.5	5	58	40
	4	5	116	277	0.80	0.79	0.02	0.18	1.3	5.5	620	667	42	7.1	2.1	SRS 30 x 4 R - C	30.3	29.6	64	85	0.5	6	32	66.5	5	58	40
	5	5	123	280	0.80	0.79	0.02	0.20	1.3	5.5	620	667	42	7.2	2.5	SRS 30 x 5 R - C	30.3	29.5	64	85	0.5	6	32	66.5	5	58	40
	6	5	127	277	0.80	0.79	0.02	0.22	1.3	5.5	620	667	42	7.3	2.9	SRS 30 x 6 R - C	30.4	29.4	64	85	0.5	6	32	66.5	5	58	40
	8	5	137	278	0.80	0.79	0.02	0.27	1.3	5.5	620	667	42	7.4	3.8	SRS 30 x 8 R - C	30.5	29.2	64	85	0.5	6	32	66.5	5	58	40
	10	5	145	281	0.80	0.79	0.04	0.32	1.3	5.5	620	667	42	7.9	5.1	SRS 30 x 10 R - C	30.6	29.0	64	85	0.5	6	32	66.5	5	58	40
	15	5	156	276	0.79	0.79	0.07	0.44	1.3	5.5	620	667	42	8.8	7.9	SRS 30 x 15 R - C	30.9	28.4	64	85	0.5	6	32	66.5	5	58	40
	20	5	193	317	0.79	0.79	0.07	0.62	1.3	5.5	620	667	42	9.3	10.1	SRS 30 x 20 R - C	31.1	27.9	64	85	0.5	6	32	66.5	5	58	40
36	6	6	122	287	0.77	0.77	0.02	0.28	1.2	7.9	1286	770	55	7.6	3.0	SRS 36 x 6 R - C	36.3	35.5	68	80	0.5	5	25	70	5	62	45
	9	6	133	284	0.77	0.77	0.02	0.37	1.2	7.9	1286	770	55	7.8	4.3	SRS 36 x 9 R - C	36.5	35.3	68	80	0.5	5	25	70	5	62	45
	12	6	142	281	0.77	0.77	0.04	0.46	1.2	7.9	1286	770	55	8.2	6.1	SRS 36 x 12 R - C	36.6	35.0	68	80	0.5	5	25	70	5	62	45
	18	6	152	276	0.77	0.77	0.07	0.65	1.2	7.9	1286	770	55	9.1	9.5	SRS 36 x 18 R - C	36.9	34.4	68	80	0.5	5	25	70	5	62	45
	24	6	195	332	0.77	0.77	0.07	0.91	1.2	7.9	1286	770	55	9.6	12.1	SRS 36 x 24 R - C	37.1	33.8	68	80	0.5	5	25	70	5	62	45
36	2	5	128	389	0.80	0.79	0.02	0.15	1.8	7.9	1286	1252	98	9.0	1.5	SRS 36 x 2 R - C	36.1	35.8	74	96	0.5	6	28	76.7	5	68	48
	4	5	151	390	0.80	0.79	0.02	0.21	1.8	7.9	1286	1252	98	9.2	2.5	SRS 36 x 4 R - C	36.3	35.6	74	96	0.5	6	28	76.7	5	68	48
	5	5	160	390	0.80	0.79	0.02	0.24	1.8	7.9	1286	1252	98	9.3	3.0	SRS 36 x 5 R - C	36.4	35.5	74	96	0.5	6	28	76.7	5	68	48
	6	5	165	384	0.80	0.79	0.02	0.27	1.8	7.9	1286	1252	98	9.4	3.5	SRS 36 x 6 R - C	36.4	35.4	74	96	0.5	6	28	76.7	5	68	48
	8	5	177	385	0.80	0.79	0.02	0.32	1.8	7.9	1286	1252	98	9.7	4.5	SRS 36 x 8 R - C	36.5	35.2	74	96	0.5	6	28	76.7	5	68	48
	10	5	189	392	0.80	0.79	0.04	0.37	1.8	7.9	1286	1252	98	10.3	6.1	SRS 36 x 10 R - C	36.7	35.0	74	96	0.5	6	28	76.7	5	68	48
	15	5	202	379	0.79	0.79	0.07	0.51	1.8	7.9	1286	1252	98	11.6	9.4	SRS 36 x 15 R - C	36.9	34.5	74	96	0.5	6	28	76.7	5	68	48
	20	5	261	462	0.79	0.79	0.07	0.68	1.8	7.9	1286	1252	98	12.3	12.0	SRS 36 x 20 R - C	37.2	33.9	74	96	0.5	6	28	76.7	5	68	48

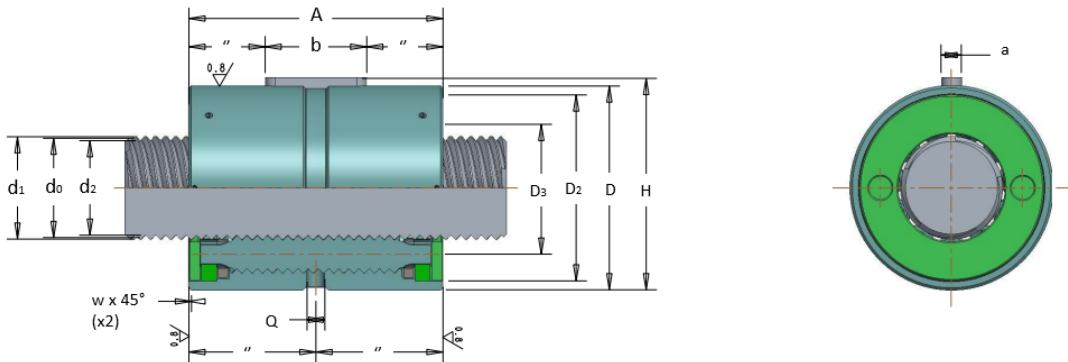
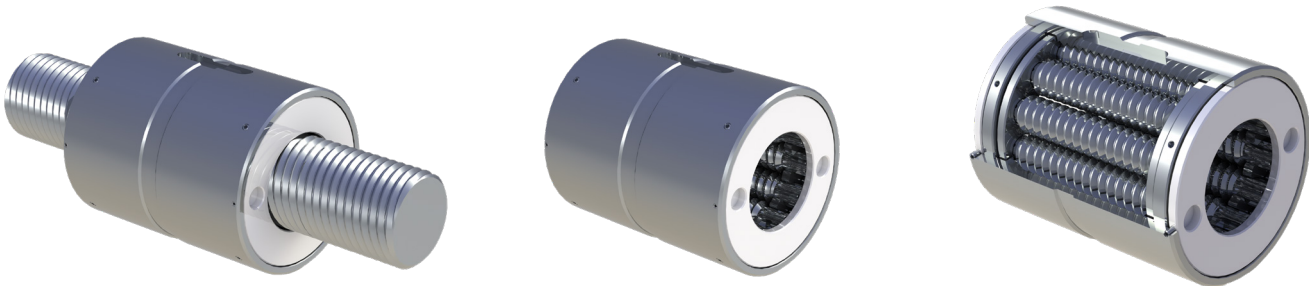


Principal and technical characteristics																Designations	Dimensions										
d0	Ph	N	Ca	Ca0	η	η'	S0	T0	m _n	m _s	l _s	l _{nn}	l _{ns}	Z _n	Z _s	Standard Roller Screws	d1	d2	D g6/H7	A h12	w	a h9	b	H	Q	D2	D3
mm	-	-	kN	-	-	-	-	Nm	kg	kg/m	kgmm2/m	kgmm2	-	mL	mL/m	-	mm	-	-	-	-	-	-	-	-	-	-
39	2	5	145	458	0.80	0.79	0.02	0.18	2.3	9.3	1772	1797	147	11.8	1.7	SRS 39 x 2 R - C	39.1	38.8	80	100	1	8	40	83	7	72	52
	4	5	172	459	0.80	0.79	0.02	0.26	2.3	9.3	1772	1797	147	12.0	2.7	SRS 39 x 4 R - C	39.3	38.6	80	100	1	8	40	83	7	72	52
	5	5	180	452	0.80	0.79	0.02	0.29	2.3	9.3	1772	1797	147	12.2	3.3	SRS 39 x 5 R - C	39.4	38.5	80	100	1	8	40	83	7	72	52
	6	5	189	456	0.80	0.79	0.02	0.33	2.3	9.3	1772	1797	147	12.3	3.8	SRS 39 x 6 R - C	39.4	38.4	80	100	1	8	40	83	7	72	52
	8	5	204	461	0.80	0.79	0.02	0.39	2.3	9.3	1772	1797	147	12.6	4.9	SRS 39 x 8 R - C	39.5	38.2	80	100	1	8	40	83	7	72	52
	10	5	213	454	0.80	0.79	0.04	0.45	2.3	9.3	1772	1797	147	13.4	6.6	SRS 39 x 10 R - C	39.7	38.0	80	100	1	8	40	83	7	72	52
	15	5	228	439	0.79	0.79	0.07	0.61	2.3	9.3	1772	1797	147	14.8	10.2	SRS 39 x 15 R - C	39.9	37.5	80	100	1	8	40	83	7	72	52
	20	5	277	487	0.79	0.79	0.07	0.74	2.2	9.3	1772	1786	136	15.2	13.0	SRS 39 x 20 R - C	40.2	36.9	80	100	1	8	40	83	7	72	52
	25	5	279	461	0.79	0.79	0.07	0.95	2.2	9.3	1772	1786	136	16.0	15.8	SRS 39 x 25 R - C	40.4	36.3	80	100	1	8	40	83	7	72	52
44	6	6	160	400	0.77	0.77	0.02	0.39	1.8	11.9	2870	1531	141	10.9	3.7	SRS 44 x 6 R - C	44.4	43.5	80	90	0.5	6	32	82.5	7	73	55
	12	6	189	402	0.77	0.77	0.04	0.61	1.8	11.9	2870	1531	141	11.8	7.4	SRS 44 x 12 R - C	44.7	43.0	80	90	0.5	6	32	82.5	7	73	55
	18	6	204	395	0.77	0.77	0.07	0.84	1.8	11.9	2870	1531	141	13.0	11.5	SRS 44 x 18 R - C	44.9	42.5	80	90	0.5	6	32	82.5	7	73	55
	24	6	254	453	0.77	0.77	0.07	1.16	1.8	11.9	2870	1531	141	13.7	14.6	SRS 44 x 24 R - C	45.1	41.9	80	90	0.5	6	32	82.5	7	73	55
	30	6	261	445	0.77	0.77	0.07	1.47	1.8	11.9	2870	1531	141	14.4	17.8	SRS 44 x 30 R - C	45.3	41.3	80	90	0.5	6	32	82.5	7	73	55
48	6	6	198	534	0.77	0.77	0.02	0.41	2.3	14.1	4065	2151	226	12.9	4.0	SRS 48 x 6 R - C	48.4	47.5	86	99	1	6	45	88.7	7	80	60
	12	6	230	526	0.77	0.77	0.04	0.63	2.3	14.1	4065	2151	226	14.2	8.1	SRS 48 x 12 R - C	48.7	47.0	86	99	1	6	45	88.7	7	80	60
	15	6	241	522	0.77	0.77	0.07	0.74	2.3	14.1	4065	2151	226	15.3	10.9	SRS 48 x 15 R - C	48.8	46.8	86	99	1	6	45	88.7	7	80	60
	18	6	256	539	0.77	0.77	0.07	0.85	2.3	14.1	4065	2151	226	15.8	12.5	SRS 48 x 18 R - C	48.9	46.5	86	99	1	6	45	88.7	7	80	60
	20	6	302	602	0.77	0.77	0.07	0.98	2.3	14.1	4065	2151	226	16.0	13.7	SRS 48 x 20 R - C	49.0	46.3	86	99	1	6	45	88.7	7	80	60
	24	6	320	620	0.77	0.77	0.07	1.15	2.3	14.1	4065	2151	226	16.6	15.9	SRS 48 x 24 R - C	49.2	45.9	86	99	1	6	45	88.7	7	80	60
48	5	5	272	788	0.80	0.79	0.02	0.34	4.7	14.1	4065	5835	443	18.6	4.0	SRS 48 x 5 R - C	48.4	47.5	100	127	1	8	45	103	7	90	64
	10	5	319	780	0.80	0.79	0.04	0.51	4.7	14.1	4065	5835	443	20.6	8.1	SRS 48 x 10 R - C	48.7	47.0	100	127	1	8	45	103	7	90	64
	15	5	355	794	0.80	0.79	0.07	0.67	4.7	14.1	4065	5835	443	23.1	12.5	SRS 48 x 15 R - C	49.0	46.5	100	127	1	8	45	103	7	90	64
	20	5	445	916	0.79	0.79	0.07	0.88	4.7	14.1	4065	5835	443	24.4	15.9	SRS 48 x 20 R - C	49.2	46.0	100	127	1	8	45	103	7	90	64
	25	5	412	812	0.79	0.79	0.07	0.98	4.6	14.1	4065	5801	409	25.2	19.3	SRS 48 x 25 R - C	49.5	45.4	100	127	1	8	45	103	7	90	64
	30	5	413	815	0.79	0.79	0.07	1.17	4.6	14.1	4065	5801	409	26.5	22.7	SRS 48 x 30 R - C	49.7	44.8	100	127	1	8	45	103	7	90	64



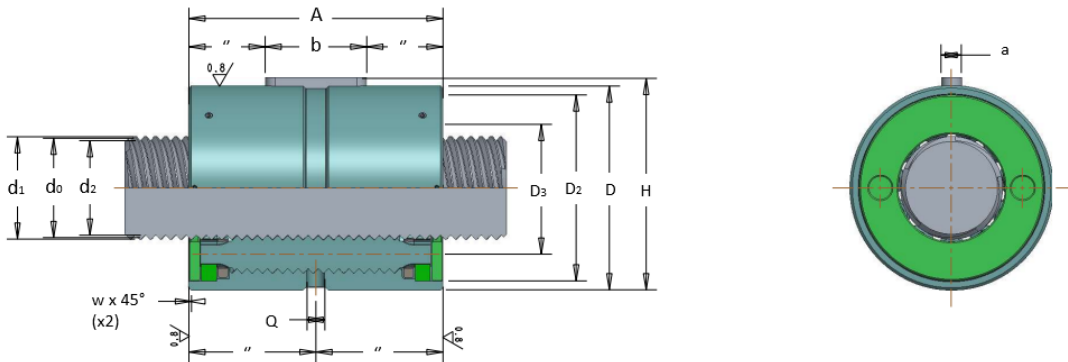
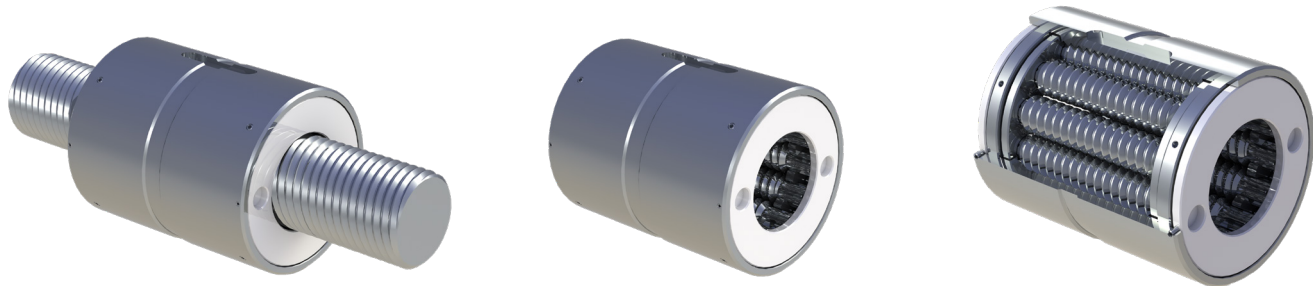
Principal and technical characteristics

d0	Ph	N	Ca	Ca0	η	η'	S0	T0	m _n	m _s	l _s	l _{nn}	l _{ns}	Z _n	Z _s	Standard Roller Screws	d1	d2	D g6/H7	A h12	w	a h9	b	H	Q	D2	D3	
mm	-	-	kN	-	-	-	-	Nm	kg	kg/m	kgmm2/m	kgmm2	-	-	mL	mL/m	-	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
51	5	5	315	964	0.80	0.79	0.02	0.35	5.1	15.9	5181	6239	619	19.1	4.3	SRS 51 x 5 R - C	51.4	50.5	102	139	1	8	50	105	7	94	68	
	10	5	370	955	0.80	0.79	0.07	0.52	5.1	15.9	5181	6239	619	23.0	9.8	SRS 51 x 10 R - C	51.7	50.0	102	139	1	8	50	105	7	94	68	
	15	5	411	970	0.80	0.79	0.07	0.68	5.1	15.9	5181	6239	619	24.6	13.3	SRS 51 x 15 R - C	52.0	49.5	102	139	1	8	50	105	7	94	68	
	20	5	512	1121	0.79	0.79	0.07	0.89	5.1	15.9	5181	6239	619	26.3	16.8	SRS 51 x 20 R - C	52.3	49.0	102	139	1	8	50	105	7	94	68	
	25	5	518	1139	0.79	0.79	0.07	1.07	5.1	15.9	5181	6239	619	28.1	20.4	SRS 51 x 25 R - C	52.5	48.4	102	139	1	8	50	105	7	94	68	
56	6	6	247	708	0.77	0.77	0.02	0.47	3.5	19.2	7531	4474	472	17.9	4.7	SRS 56 x 6 R - C	56.4	55.5	100	112	1	8	40	103	7	92	70	
	12	6	289	699	0.77	0.77	0.04	0.72	3.5	19.2	7531	4474	472	19.7	9.4	SRS 56 x 12 R - C	56.7	55.0	100	112	1	8	40	103	7	92	70	
	18	6	318	702	0.77	0.77	0.07	0.96	3.5	19.2	7531	4474	472	21.8	14.6	SRS 56 x 18 R - C	57.0	54.5	100	112	1	8	40	103	7	92	70	
	24	6	393	795	0.77	0.77	0.07	1.29	3.5	19.2	7531	4474	472	22.9	18.5	SRS 56 x 24 R - C	57.2	54.0	100	112	1	8	40	103	7	92	70	
	30	6	402	785	0.77	0.77	0.07	1.59	3.5	19.2	7531	4474	472	24.1	22.5	SRS 56 x 30 R - C	57.4	53.4	100	112	1	8	40	103	7	92	70	
	36	6	416	830	0.77	0.77	0.07	1.87	3.5	19.2	7531	4474	472	25.3	26.5	SRS 56 x 36 R - C	57.6	52.8	100	112	1	8	40	103	7	92	70	
60	6	6	287	869	0.77	0.77	0.02	0.49	5.0	22.1	9924	7875	699	23.5	5.0	SRS 60 x 6 R - C	60.4	59.5	110	124	1	8	40	113.2	10.5	100	75	
	9	6	315	864	0.77	0.77	0.02	0.62	5.0	22.1	9924	7875	699	24.2	7.1	SRS 60 x 9 R - C	60.5	59.3	110	124	1	8	40	113.2	10.5	100	75	
	12	6	336	860	0.77	0.77	0.04	0.75	5.0	22.1	9924	7875	699	25.6	10.1	SRS 60 x 12 R - C	60.7	59.0	110	124	1	8	40	113.2	10.5	100	75	
	18	6	367	850	0.77	0.77	0.07	0.99	5.0	22.1	9924	7875	699	28.2	15.6	SRS 60 x 18 R - C	61.0	58.5	110	124	1	8	40	113.2	10.5	100	75	
	24	6	469	1010	0.77	0.77	0.07	1.29	5.0	22.1	9924	7875	699	29.5	19.8	SRS 60 x 24 R - C	61.2	58.0	110	124	1	8	40	113.2	10.5	100	75	
	30	6	465	969	0.77	0.77	0.07	1.61	5.0	22.1	9924	7875	699	31.0	24.1	SRS 60 x 30 R - C	61.5	57.4	110	124	1	8	40	113.2	10.5	100	75	
	42	6	460	961	0.77	0.77	0.07	2.27	5.0	22.1	9924	7875	699	34.0	32.7	SRS 60 x 42 R - C	61.8	56.2	110	124	1	8	40	113.2	10.5	100	75	
60	5	5	382	1213	0.80	0.79	0.02	0.43	8.3	22.1	9924	14797	1298	28.7	5.0	SRS 60 x 5 R - C	60.4	59.5	122	152	1	10	45	125	10.5	110	80	
	10	5	449	1202	0.80	0.79	0.04	0.63	8.3	22.1	9924	14797	1298	31.9	10.1	SRS 60 x 10 R - C	60.7	59.1	122	152	1	10	45	125	10.5	110	80	
	15	5	494	1206	0.80	0.79	0.07	0.81	8.3	22.1	9924	14797	1298	35.8	15.6	SRS 60 x 15 R - C	61.0	58.5	122	152	1	10	45	125	10.5	110	80	
	20	5	593	1378	0.80	0.79	0.07	1.04	8.3	22.1	9924	14797	1298	37.9	19.8	SRS 60 x 20 R - C	61.3	58.0	122	152	1	10	45	125	10.5	110	80	
	25	5	610	1431	0.79	0.79	0.07	1.23	8.3	22.1	9924	14797	1298	40.1	24.0	SRS 60 x 25 R - C	61.5	57.5	122	152	1	10	45	125	10.5	110	80	
	30	5	607	1419	0.79	0.79	0.07	1.45	8.3	22.1	9924	14797	1298	42.3	28.2	SRS 60 x 30 R - C	61.8	56.9	122	152	1	10	45	125	10.5	110	80	
	35	5	562	1264	0.79	0.79	0.07	1.53	8.0	22.1	9924	14687	1198	43.3	32.5	SRS 60 x 35 R - C	62.0	56.3	122	152	1	10	45	125	10.5	110	80	

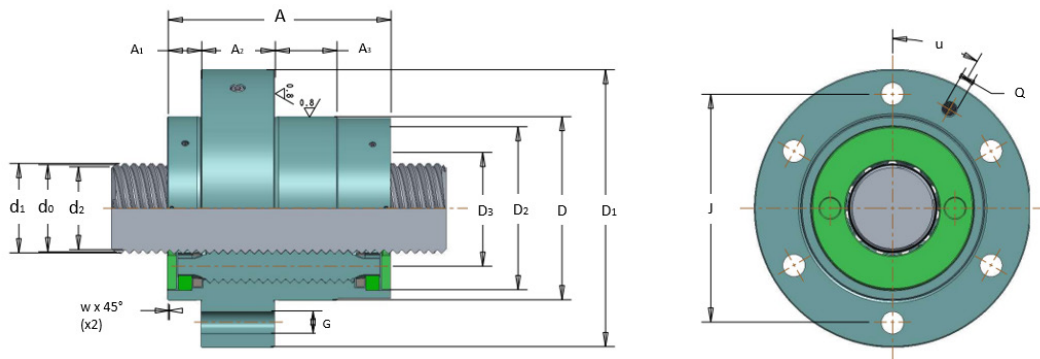
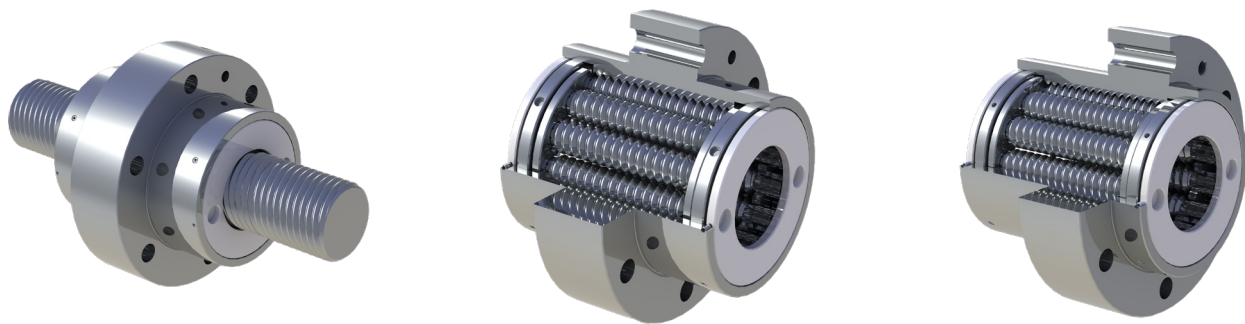


Principal and technical characteristics

d0	Ph	N	Ca	Ca0	η	η'	So	To	mn	ms	ls	l _{nn}	l _{ns}	Zn	Zs	Standard Roller Screws	d1	d2	D g6/H7	A h12	w	a h9	b	H	Q	D2	D3
mm	-	-	kN	-	-	-	-	Nm	kg	kg/m	kgmm2/m	kgmm2	-	mL	mL/m	-	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
64	6	6	290	990	0.77	0.77	0.02	0.53	5.5	25.1	12847	9248	947	22.7	5.4	SRS 64 x 6 R - C	64.4	63.5	115	129	1	8	45	118	7	106	80
	12	6	345	979	0.77	0.77	0.04	0.79	5.5	25.1	12847	9248	947	25.1	10.8	SRS 64 x 12 R - C	64.7	63.0	115	129	1	8	45	118	7	106	80
	18	6	379	969	0.77	0.77	0.07	1.04	5.5	25.1	12847	9248	947	28.1	16.7	SRS 64 x 18 R - C	65.0	62.5	115	129	1	8	45	118	7	106	80
	24	6	479	1118	0.77	0.77	0.07	1.36	5.5	25.1	12847	9248	947	29.7	21.1	SRS 64 x 24 R - C	65.3	62.0	115	129	1	8	45	118	7	106	80
	30	6	499	1170	0.77	0.77	0.07	1.63	5.5	25.1	12847	9248	947	31.3	25.6	SRS 64 x 30 R - C	65.5	61.4	115	129	1	8	45	118	7	106	80
	36	6	479	1094	0.77	0.77	0.07	1.99	5.5	25.1	12847	9248	947	33.1	30.2	SRS 64 x 36 R - C	65.7	60.8	115	129	1	8	45	118	7	106	80
68	6	6	406	1630	0.77	0.77	0.02	0.48	10.3	28.3	16373	23768	1633	28.5	5.7	SRS 68 x 6 R - C	68.4	67.5	130	170	1	10	50	133.7	9	115	85
	12	6	485	1618	0.77	0.77	0.04	0.72	10.3	28.3	16373	23768	1633	32.4	11.4	SRS 68 x 12 R - C	68.7	67.1	130	170	1	10	50	133.7	9	115	85
	18	6	542	1637	0.77	0.77	0.07	0.93	10.3	28.3	16373	23768	1633	37.0	17.7	SRS 68 x 18 R - C	69.0	66.5	130	170	1	10	50	133.7	9	115	85
	24	6	672	1860	0.77	0.77	0.07	1.22	10.3	28.3	16373	23768	1633	39.6	22.4	SRS 68 x 24 R - C	69.3	66.0	130	170	1	10	50	133.7	9	115	85
	30	6	691	1917	0.77	0.77	0.07	1.46	10.3	28.3	16373	23768	1633	42.2	27.2	SRS 68 x 30 R - C	69.5	65.4	130	170	1	10	50	133.7	9	115	85
	36	6	683	1867	0.77	0.77	0.07	1.75	10.3	28.3	16373	23768	1633	44.9	32.0	SRS 68 x 36 R - C	69.7	64.9	130	170	1	10	50	133.7	9	115	85
75	10	5	616	2045	0.80	0.79	0.04	0.74	15.5	34.5	24229	40776	4062	45.7	12.6	SRS 75 x 10 R - C	75.7	74.1	150	191	1	10	63	153	10.5	138	100
	15	5	677	2014	0.80	0.79	0.07	0.95	15.5	34.5	24229	40776	4062	52.2	19.5	SRS 75 x 15 R - C	76.0	73.6	150	191	1	10	63	153	10.5	138	100
	20	5	802	2396	0.80	0.79	0.07	1.18	15.5	34.5	24229	40776	4062	55.8	24.7	SRS 75 x 20 R - C	76.3	73.1	150	191	1	10	63	153	10.5	138	100
	25	5	803	2359	0.80	0.79	0.07	1.40	15.5	34.5	24229	40776	4062	59.6	29.9	SRS 75 x 25 R - C	76.6	72.5	150	191	1	10	63	153	10.5	138	100
	30	5	810	2364	0.79	0.79	0.07	1.62	15.5	34.5	24229	40776	4062	63.3	35.1	SRS 75 x 30 R - C	76.9	72.0	150	191	1	10	63	153	10.5	138	100
80	12	6	488	1537	0.77	0.77	0.04	0.96	9.5	39.2	31366	22869	2778	37.5	13.4	SRS 80 x 12 R - C	80.7	79.1	140	158	1	10	63	143	10.5	130	100
	18	6	538	1524	0.77	0.77	0.07	1.24	9.5	39.2	31366	22869	2778	42.1	20.8	SRS 80 x 18 R - C	81.0	78.6	140	158	1	10	63	143	10.5	130	100
	24	6	655	1762	0.77	0.77	0.07	1.58	9.5	39.2	31366	22869	2778	44.7	26.3	SRS 80 x 24 R - C	81.3	78.0	140	158	1	10	63	143	10.5	130	100
	30	6	657	1747	0.77	0.77	0.07	1.90	9.5	39.2	31366	22869	2778	47.3	31.9	SRS 80 x 30 R - C	81.6	77.5	140	158	1	10	63	143	10.5	130	100
	36	6	658	1732	0.77	0.77	0.07	2.24	9.5	39.2	31366	22869	2778	50.0	37.5	SRS 80 x 36 R - C	81.8	76.9	140	158	1	10	63	143	10.5	130	100
87	10	5	735	2538	0.80	0.79	0.04	0.88	23.8	46.4	43870	84778	8363	62.5	14.6	SRS 87 x 10 R - C	87.7	86.1	175	215	1	10	63	178	10.5	162	116
	15	5	792	2523	0.80	0.79	0.07	1.12	23.8	46.4	43870	84778	8363	70.6	22.6	SRS 87 x 15 R - C	88.0	85.6	175	215	1	10	63	178	10.5	162	116
	20	5	922	2925	0.80	0.79	0.07	1.38	23.8	46.4	43870	84778	8363	75.0	28.6	SRS 87 x 20 R - C	88.4	85.1	175	215	1	10	63	178	10.5	162	116
	25	5	938	2955	0.80	0.79	0.07	1.61	23.8	46.4	43870	84778	8363	79.6	34.6	SRS 87 x 25 R - C	88.6	84.6	175	215	1	10	63	178	10.5	162	116
	30	5	932	2890	0.80	0.79	0.07	1.87	23.8	46.4	43870	84778	8363	84.2	40.6	SRS 87 x 30 R - C	88.9	84.0	175	215	1	10	63	178	10.5	162	116

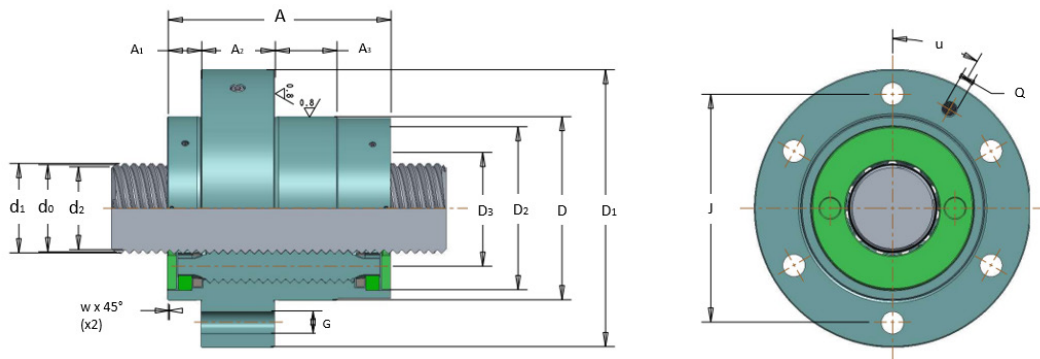
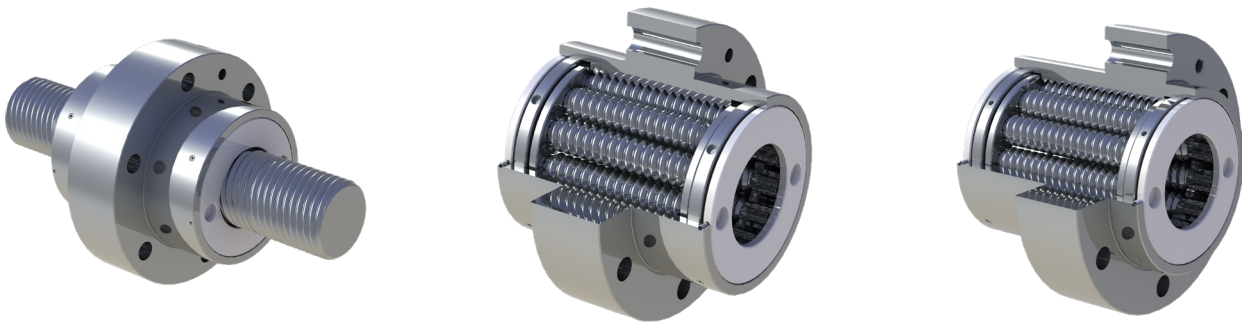


Principal and technical characteristics																Designations	Dimensions										
d0	Ph	N	Ca	Ca0	η	η'	S0	T0	m _n	m _s	l _s	l _{nn}	l _{ns}	Z _n	Z _s	Standard Roller Screws	d1	d2	D g6/H7	A h12	w	a h9	b	H	Q	D2	D3
mm		-	kN		-	-		Nm	kg	kg/m	kgmm2/m	kgmm2		mL	mL/m	-	mm										
92	12	6	621	2108	0.77	0.77	0.04	1.19	14.5	51.9	54859	43415	6004	49.9	15.4	SRS 92 x 12 R - C	92.7	91.1	160	179	1	10	63	163	10.5	150	115
	18	6	690	2113	0.77	0.77	0.07	1.52	14.5	51.9	54859	43415	6004	56.2	23.9	SRS 92 x 18 R - C	93.0	90.6	160	179	1	10	63	163	10.5	150	115
	24	6	823	2472	0.77	0.77	0.07	1.90	14.5	51.9	54859	43415	6004	59.6	30.2	SRS 92 x 24 R - C	93.3	90.1	160	179	1	10	63	163	10.5	150	115
	30	6	822	2428	0.77	0.77	0.07	2.28	14.5	51.9	54859	43415	6004	63.1	36.6	SRS 92 x 30 R - C	93.6	89.5	160	179	1	10	63	163	10.5	150	115
	36	6	840	2484	0.77	0.77	0.07	2.62	14.5	51.9	54859	43415	6004	66.7	43.0	SRS 92 x 36 R - C	93.9	89.0	160	179	1	10	63	163	10.5	150	115
99	15	5	1059	3928	0.80	0.79	0.07	1.17	39.9	60.0	73559	188263	17722	103.8	25.7	SRS 99 x 15 R - C	100.1	97.6	200	271	1.5	16	100	204	15	182	132
	20	5	1239	4589	0.80	0.79	0.07	1.42	39.9	60.0	73559	188263	17722	110.6	32.5	SRS 99 x 20 R - C	100.4	97.1	200	271	1.5	16	100	204	15	182	132
	25	5	1251	4568	0.80	0.79	0.07	1.66	39.9	60.0	73559	188263	17722	117.4	39.3	SRS 99 x 25 R - C	100.7	96.6	200	271	1.5	16	100	204	15	182	132
	30	5	1268	4602	0.80	0.79	0.07	1.89	39.9	60.0	73559	188263	17722	124.3	46.2	SRS 99 x 30 R - C	101.0	96.1	200	271	1.5	16	100	204	15	182	132
	35	5	1283	4636	0.80	0.79	0.07	2.13	39.9	60.0	73559	188263	17722	131.3	53.0	SRS 99 x 35 R - C	101.2	95.5	200	271	1.5	16	100	204	15	182	132
120	18	6	1173	4572	0.77	0.77	0.07	1.75	44.1	88.2	158789	271873	26318	111.9	31.2	SRS 120 x 18 R - C	121.0	118.6	220	260	1.5	10	100	223	15	200	150
	24	6	1356	5242	0.77	0.77	0.07	4.77	44.1	88.2	158789	271873	26318	119.2	39.4	SRS 120 x 24 R - C	121.4	118.1	220	260	1.5	10	100	223	15	200	150
	30	6	1379	5283	0.77	0.77	0.07	2.52	44.1	88.2	158789	271873	26318	126.6	47.7	SRS 120 x 30 R - C	121.7	117.6	220	260	1.5	10	100	223	15	200	150
	36	6	1387	5257	0.77	0.77	0.07	2.89	44.1	88.2	158789	271873	26318	134.0	55.9	SRS 120 x 36 R - C	121.9	117.0	220	260	1.5	10	100	223	15	200	150
120	15	5	1260	5057	0.80	0.79	0.07	1.47	62.9	88.2	158789	420854	42375	141.6	31.2	SRS 120 x 15 R - C	121.1	118.6	240	300	1.5	16	100	244	15	220	160
	20	5	1470	5875	0.80	0.79	0.07	1.77	62.9	88.2	158789	420854	42375	150.7	39.4	SRS 120 x 20 R - C	121.4	118.1	240	300	1.5	16	100	244	15	220	160
	25	5	1484	5850	0.80	0.79	0.07	2.05	62.9	88.2	158789	420854	42375	159.8	47.6	SRS 120 x 25 R - C	121.7	117.6	240	300	1.5	16	100	244	15	220	160
	30	5	1495	5826	0.80	0.79	0.07	2.32	62.9	88.2	158789	420854	42375	169.0	55.9	SRS 120 x 30 R - C	122.0	117.1	240	300	1.5	16	100	244	15	220	160
	35	5	1529	5966	0.80	0.79	0.07	2.58	62.9	88.2	158789	420854	42375	178.2	64.1	SRS 120 x 35 R - C	122.3	116.6	240	300	1.5	16	100	244	15	220	160



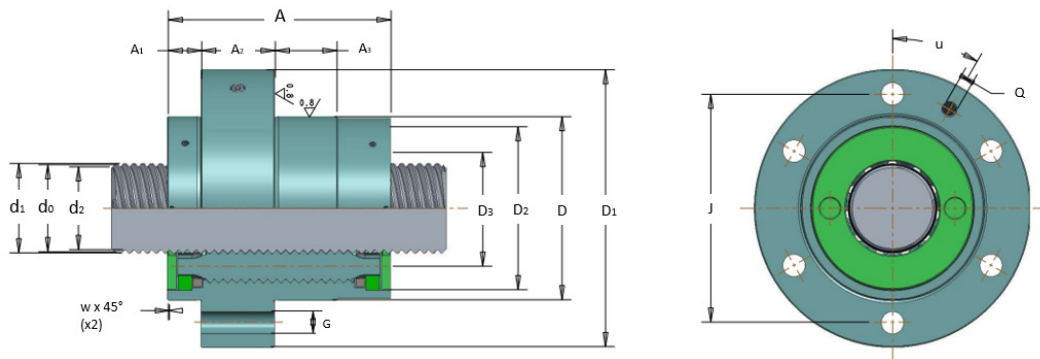
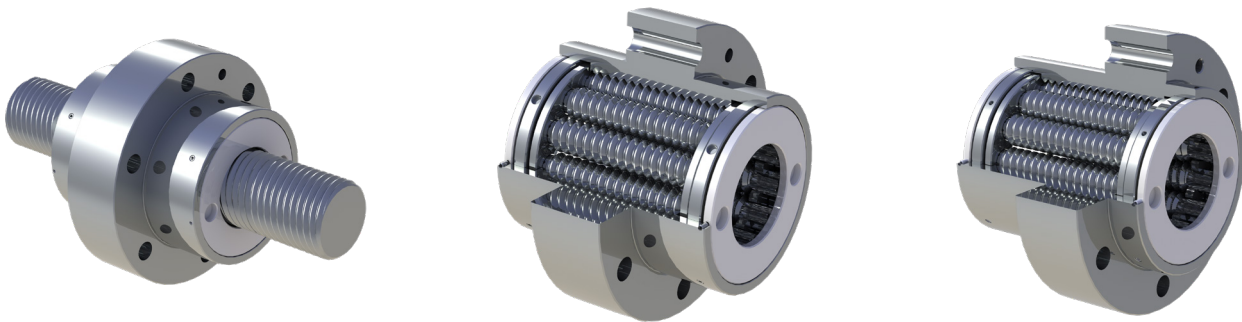
Principal and technical characteristics

d0	Ph	N	Ca	Ca0	η	η'	S0	T0	mn	ms	ls	lnn	lns	Zn	Zs	Standard Roller Screws	d1	d2	D	D1	A	A1	A1	A2	A3	J	G	w	Q	D2	D3	u
mm	-	-	kN	-	-	-	Nm	kg	kg/m	kgmm2/m	kgmm2	mL	mL/m	-	-	-	mm	mm	g6/H7	h12	F	P	-	-	-	-	-	-	-	-	-	-
4	1	3	7	12	0.89	0.87	0.02	0.01	0.1	0.1	0.20	20.62	0.0	0.6	0.2	SRS 4 x 1 R3 F/P	4.1	3.8	19	39	40	14	-	12	14	29	6 x Ø4.5	0.5	M6	16	8	30
	2	3	8	12	0.89	0.87	0.02	0.01	0.1	0.1	0.20	20.62	0.0	0.6	0.2	SRS 4 x 2 R3 F/P	4.2	3.7	19	39	40	14	-	12	14	29	6 x Ø4.5	0.5	M6	16	8	30
	3	3	9	12	0.88	0.87	0.02	0.01	0.1	0.1	0.20	20.62	0.0	0.6	0.3	SRS 4 x 3 R3 F/P	4.3	3.5	19	39	40	14	-	12	14	29	6 x Ø4.5	0.5	M6	16	8	30
8	1	4	14	26	0.83	0.82	0.02	0.02	0.2	0.4	3.14	55.3	0.2	1.0	0.3	SRS 8 x 1 R4 F/P	8.1	7.9	25	46	44	14	-	16	14	36	6 x Ø4.5	0.5	M6	21	12	30
	2	4	17	27	0.83	0.82	0.02	0.02	0.2	0.4	3.14	55.3	0.2	1.0	0.4	SRS 8 x 2 R4 F/P	8.2	7.8	25	46	44	14	-	16	14	36	6 x Ø4.5	0.5	M6	21	12	30
	3	4	18	27	0.83	0.82	0.02	0.03	0.2	0.4	3.14	55.3	0.2	1.0	0.5	SRS 8 x 3 R4 F/P	8.2	7.6	25	46	44	14	-	16	14	36	6 x Ø4.5	0.5	M6	21	12	30
12	4	4	19	27	0.83	0.82	0.02	0.04	0.2	0.4	3.14	55.3	0.2	1.0	0.7	SRS 8 x 4 R4 F/P	8.3	7.5	25	46	44	14	-	16	14	36	6 x Ø4.5	0.5	M6	21	12	30
	2	5	21	38	0.80	0.79	0.02	0.05	0.3	0.9	15.9	87.1	0.5	1.4	0.5	SRS 12 x 2 R5 F/P	12.1	11.8	30	51	44	14	-	16	14	41	6 x Ø4.5	0.5	M6	25	16	30
	3	5	23	37	0.80	0.79	0.02	0.06	0.3	0.9	15.9	87.1	0.5	1.4	0.7	SRS 12 x 3 R5 F/P	12.2	11.7	30	51	44	14	-	16	14	41	6 x Ø4.5	0.5	M6	25	16	30
	4	5	24	37	0.80	0.79	0.02	0.07	0.3	0.9	15.9	87.1	0.5	1.4	0.8	SRS 12 x 4 R5 F/P	12.3	11.6	30	51	44	14	-	16	14	41	6 x Ø4.5	0.5	M6	25	16	30
	5	5	26	38	0.79	0.79	0.02	0.09	0.3	0.9	15.9	87.1	0.5	1.4	1.0	SRS 12 x 5 R5 F/P	12.3	11.5	30	51	44	14	-	16	14	41	6 x Ø4.5	0.5	M6	25	16	30
	6	5	27	37	0.79	0.79	0.02	0.10	0.3	0.9	15.9	87.1	0.5	1.4	1.2	SRS 12 x 6 R5 F/P	12.4	11.4	30	51	44	14	-	16	14	41	6 x Ø4.5	0.5	M6	25	16	30
15	8	5	26	32	0.79	0.79	0.02	0.14	0.3	0.9	15.9	86.7	0.5	1.4	1.5	SRS 12 x 8 R5 F/P	12.4	11.1	30	51	44	14	-	16	14	41	6 x Ø4.5	0.5	M6	25	16	30
	2	5	30	60	0.80	0.79	0.02	0.06	0.4	1.4	38.8	162	1.4	1.9	0.6	SRS 15 x 2 R5 F/P	15.1	14.8	35	58	50	16	-	18	16	46	6 x Ø6	0.5	M6	30	20	30
	3	5	33	59	0.80	0.79	0.02	0.07	0.4	1.4	38.8	162	1.4	1.9	0.9	SRS 15 x 3 R5 F/P	15.2	14.7	35	58	50	16	-	18	16	46	6 x Ø6	0.5	M6	30	20	30
	4	5	36	60	0.80	0.79	0.02	0.09	0.4	1.4	38.8	162	1.4	1.9	1.1	SRS 15 x 4 R5 F/P	15.3	14.6	35	58	50	16	-	18	16	46	6 x Ø6	0.5	M6	30	20	30
	5	5	38	60	0.80	0.79	0.02	0.10	0.4	1.4	38.8	162	1.4	1.9	1.3	SRS 15 x 5 R5 F/P	15.3	14.5	35	58	50	16	-	18	16	46	6 x Ø6	0.5	M6	30	20	30
18	6	5	39	59	0.79	0.79	0.02	0.12	0.4	1.4	38.8	162	1.4	1.9	1.5	SRS 15 x 6 R5 F/P	15.4	14.4	35	58	50	16	-	18	16	46	6 x Ø6	0.5	M6	30	20	30
	8	5	41	59	0.79	0.79	0.02	0.15	0.4	1.4	38.8	162	1.4	2.0	1.9	SRS 15 x 8 R5 F/P	15.5	14.2	35	58	50	16	-	18	16	46	6 x Ø6	0.5	M6	30	20	30
	2	5	43	95	0.80	0.79	0.02	0.07	0.6	2.0	80.4	240	3	2.4	0.8	SRS 18 x 2 R5 F/P	18.1	17.8	40	63	58	20	-	18	20	51	6 x Ø6	0.5	M6	35	24	30
	3	5	47	95	0.80	0.79	0.02	0.08	0.6	2.0	80.4	240	3	2.4	1.0	SRS 18 x 3 R5 F/P	18.2	17.7	40	63	58	20	-	18	20	51	6 x Ø6	0.5	M6	35	24	30
	4	5	50	95	0.80	0.79	0.02	0.10	0.6	2.0	80.4	240	3	2.4	1.3	SRS 18 x 4 R5 F/P	18.3	17.6	40	63	58	20	-	18	20	51	6 x Ø6	0.5	M6	35	24	30
	5	5	53	95	0.80	0.79	0.02	0.11	0.6	2.0	80.4	240	3	2.5	1.5	SRS 18 x 5 R5 F/P	18.3	17.5	40	63	58	20	-	18	20	51	6 x Ø6	0.5	M6	35	24	30
	6	5	55	95	0.80	0.79	0.02	0.13	0.6	2.0	80.4	240	3	2.5	1.8	SRS 18 x 6 R5 F/P	18.4	17.4	40	63	58	20	-	18	20	51	6 x Ø6	0.5	M6	35	24	30
	8	5	58	93	0.79	0.79	0.02	0.16	0.6	2.0	80.4	240	3	2.6	2.3	SRS 18 x 8 R5 F/P	18.5	17.2	40	63	58	20	-	18	20	51	6 x Ø6	0.5	M6	35	24	30
	10	5	62	96	0.79	0.79	0.04	0.20	0.6	2.0	80.4	240	3	2.7	3.1	SRS 18 x 10 R5 F/P	18.6	17.0	40	63	58	20	-	18	20	51	6 x Ø6	0.5	M6	35	24	30



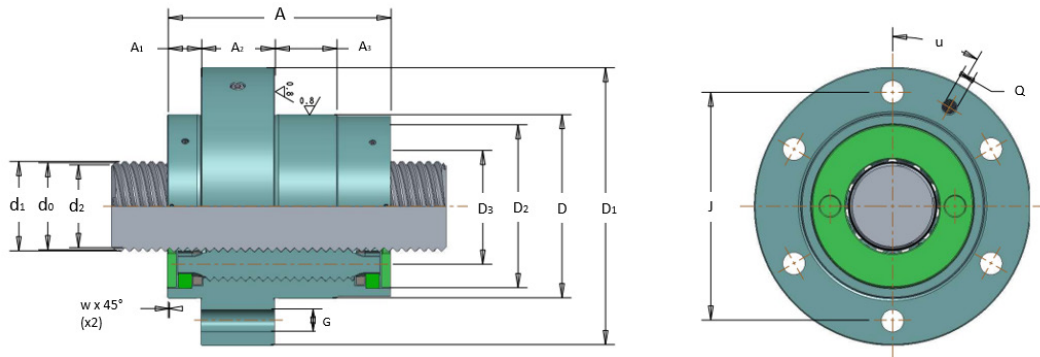
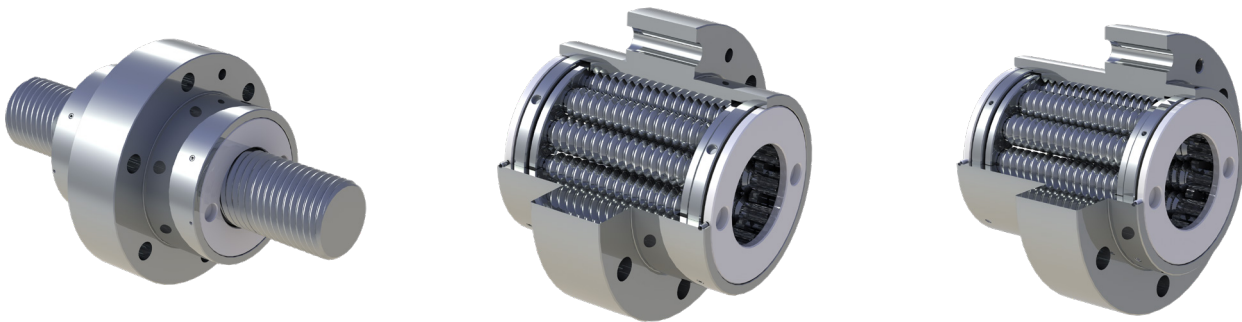
Principal and technical characteristics

d0	Ph	N	Ca	Ca0	η	η'	S0	T0	m _n	m _s	l _s	l _{nn}	l _{ns}	Z _n	Z _s	Standard Roller Screws	d1	d2	D	D1	A	A1	A1	A2	A3	J	G	w	Q	D2	D3	u	
mm	-	-	kN	-	-	-	-	Nm	kg	kg/m	kgmm2/m	kgmm2	-	mL	mL/m	-	mm	mm	g6/H7	mm	h12	F	P	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
21	2	5	56	134	0.80	0.79	0.02	0.09	0.7	2.7	149	344	7	3.0	0.9	SRS 21 x 2 R5 F/P	21.1	20.8	45	68	64	23	10	18	10	56	6 x Ø6	0.5	M6	40	28	30	
	3	5	61	132	0.80	0.79	0.02	0.11	0.7	2.7	149	344	7	3.0	1.2	SRS 21 x 3 R5 F/P	21.2	20.7	45	68	64	23	10	18	10	56	6 x Ø6	0.5	M6	40	28	30	
	4	5	66	134	0.80	0.79	0.02	0.13	0.7	2.7	149	344	7	3.0	1.5	SRS 21 x 4 R5 F/P	21.3	20.6	45	68	64	23	10	18	10	56	6 x Ø6	0.5	M6	40	28	30	
	5	5	69	135	0.80	0.79	0.02	0.15	0.7	2.7	149	344	7	3.1	1.8	SRS 21 x 5 R5 F/P	21.3	20.5	45	68	64	23	10	18	10	56	6 x Ø6	0.5	M6	40	28	30	
	6	5	72	133	0.80	0.79	0.02	0.17	0.7	2.7	149	344	7	3.1	2.1	SRS 21 x 6 R5 F/P	21.4	20.4	45	68	64	23	10	18	10	56	6 x Ø6	0.5	M6	40	28	30	
	8	5	77	135	0.79	0.79	0.02	0.21	0.7	2.7	149	344	7	3.2	2.6	SRS 21 x 8 R5 F/P	21.5	20.2	45	68	64	23	10	18	10	56	6 x Ø6	0.5	M6	40	28	30	
	10	5	81	136	0.79	0.79	0.04	0.25	0.7	2.7	149	344	7	3.4	3.6	SRS 21 x 10 R5 F/P	21.6	20.0	45	68	64	23	10	18	10	56	6 x Ø6	0.5	M6	40	28	30	
24	3	6	56	130	0.77	0.77	0.02	0.13	0.7	3.5	254	402	8	3.1	1.2	SRS 24 x 3 R6 F/P	24.2	23.8	48	71	58	20	10	18	10	59	6 x Ø6	0.5	M6	42	30	30	
	6	6	66	131	0.77	0.77	0.02	0.20	0.7	3.5	254	402	8	3.2	2.0	SRS 24 x 6 R6 F/P	24.3	23.5	48	71	58	20	10	18	10	59	6 x Ø6	0.5	M6	42	30	30	
	12	6	77	132	0.77	0.77	0.04	0.34	0.7	3.5	254	402	8	3.5	4.1	SRS 24 x 12 R6 F/P	24.6	23.0	48	71	58	20	10	18	10	59	6 x Ø6	0.5	M6	42	30	30	
24	2	5	77	210	0.80	0.79	0.02	0.09	1.3	3.5	254	910	15	4.3	1.0	SRS 24 x 2 R5 F/P	24.1	23.8	53	84	78	29	10	20	10	70	6 x Ø7	0.5	M6	46	32	30	
	4	5	91	208	0.80	0.79	0.02	0.13	1.3	3.5	254	910	15	4.4	1.7	SRS 24 x 4 R5 F/P	24.3	23.6	53	84	78	29	10	20	10	70	6 x Ø7	0.5	M6	46	32	30	
	5	5	97	214	0.80	0.79	0.02	0.15	1.3	3.5	254	909	16	4.5	2.0	SRS 24 x 5 R5 F/P	24.3	23.5	53	84	78	29	10	20	10	70	6 x Ø7	0.5	M6	46	32	30	
	6	5	99	206	0.80	0.79	0.02	0.17	1.3	3.5	254	910	15	4.6	2.3	SRS 24 x 6 R5 F/P	24.4	23.4	53	84	78	29	10	20	10	70	6 x Ø7	0.5	M6	46	32	30	
	8	5	105	205	0.80	0.79	0.02	0.22	1.3	3.5	254	910	15	4.7	3.0	SRS 24 x 8 R5 F/P	24.5	23.2	53	84	78	29	10	20	10	70	6 x Ø7	0.5	M6	46	32	30	
	10	5	112	210	0.79	0.79	0.04	0.25	1.3	3.5	254	910	15	5.0	4.1	SRS 24 x 10 R5 F/P	24.6	23.0	53	84	78	29	10	20	10	70	6 x Ø7	0.5	M6	46	32	30	
	15	5	120	205	0.79	0.79	0.07	0.37	1.3	3.5	254	910	15	5.7	6.4	SRS 24 x 15 R5 F/P	24.8	22.4	53	84	78	29	10	20	10	70	6 x Ø7	0.5	M6	46	32	30	
27	2	5	85	234	0.80	0.79	0.02	0.11	1.4	4.5	407	990	25	5.1	1.2	SRS 27 x 2 R5 F/P	27.1	26.8	58	83	79	22	10	22	10	68	6 x Ø7	0.5	M6	51	36	30	
	4	5	101	235	0.80	0.79	0.02	0.16	1.4	4.5	407	990	25	5.2	1.9	SRS 27 x 4 R5 F/P	27.3	26.6	58	83	79	22	10	22	10	68	6 x Ø7	0.5	M6	51	36	30	
	5	5	106	231	0.80	0.79	0.02	0.18	1.4	4.5	407	990	25	5.3	2.3	SRS 27 x 5 R5 F/P	27.3	26.5	58	83	79	22	10	22	10	68	6 x Ø7	0.5	M6	51	36	30	
	6	5	110	230	0.80	0.79	0.02	0.20	1.4	4.5	407	990	25	5.3	2.6	SRS 27 x 6 R5 F/P	27.4	26.4	58	83	79	22	10	22	10	68	6 x Ø7	0.5	M6	51	36	30	
	8	5	118	231	0.80	0.79	0.02	0.25	1.4	4.5	407	990	25	5.5	3.4	SRS 27 x 8 R5 F/P	27.5	26.2	58	83	79	22	10	22	10	68	6 x Ø7	0.5	M6	51	36	30	
	10	5	122	227	0.79	0.79	0.04	0.29	1.4	4.5	407	990	25	5.9	4.6	SRS 27 x 10 R5 F/P	27.6	26.0	58	83	79	22	10	22	10	68	6 x Ø7	0.5	M6	51	36	30	
	15	5	131	223	0.79	0.79	0.07	0.41	1.4	4.5	407	990	25	6.6	7.1	SRS 27 x 15 R5 F/P	27.9	25.4	58	83	79	22	10	22	10	68	6 x Ø7	0.5	M6	51	36	30	



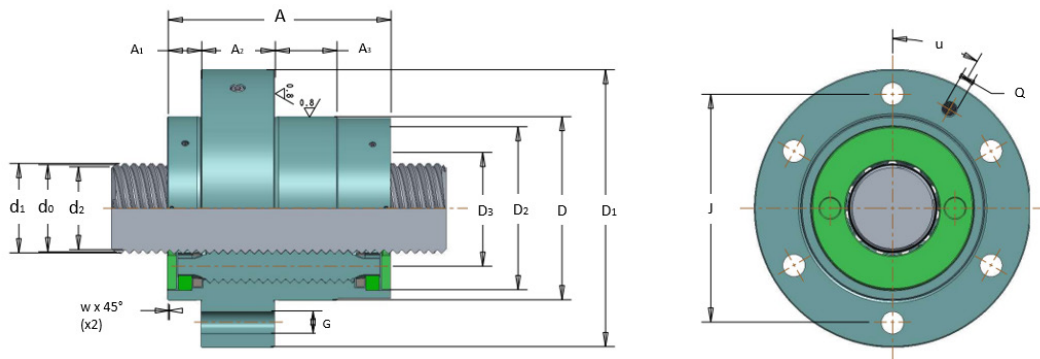
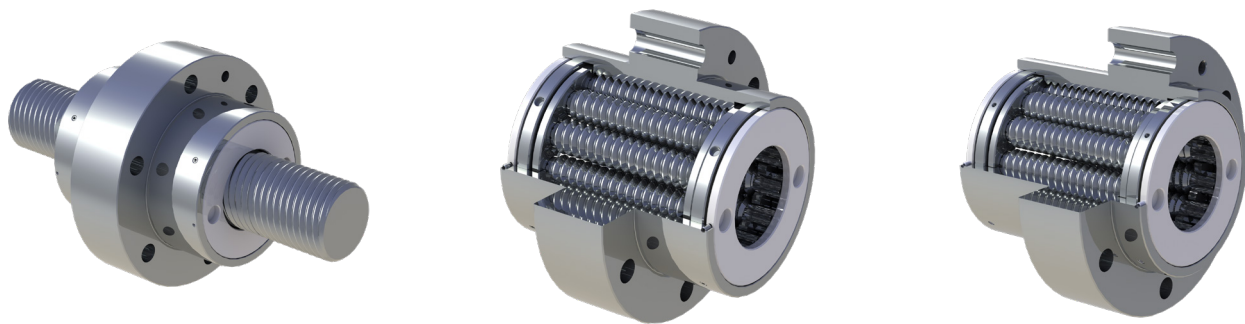
Principal and technical characteristics

d0	Ph	N	Ca	Ca0	η	η'	S0	T0	mn	ms	ls	l _{nn}	l _{ns}	Zn	Zs	Standard Roller Screws	d1	d2	D	D1	A	A1	A1	A2	A3	J	G	w	Q	D2	D3	u
mm	-	-	kN	-	-	-	-	Nm	kg	kg/m	kgmm2/m	kgmm2	-	mL	mL/m	-	mm	mm	g6/H7	h12	F	P	-	-	-	-	-	-	-	-	-	-
30	2	5	96	271	0.80	0.79	0.02	0.12	2.1	5.5	620	2015	42	7.0	1.3	SRS 30 x 2 R5 F/P	30.1	29.8	64	97	85	29	12	27	15	81	6 x Ø9	0.5	M6	58	40	30
	4	5	114	272	0.80	0.79	0.02	0.18	2.1	5.5	620	2015	42	7.2	2.1	SRS 30 x 4 R5 F/P	30.3	29.6	64	97	85	29	12	27	15	81	6 x Ø9	0.5	M6	58	40	30
	5	5	121	273	0.80	0.79	0.02	0.20	2.1	5.5	620	2015	42	7.2	2.5	SRS 30 x 5 R5 F/P	30.3	29.5	64	97	85	29	12	27	15	81	6 x Ø9	0.5	M6	58	40	30
	6	5	125	270	0.80	0.79	0.02	0.23	2.1	5.5	620	2015	42	7.3	2.9	SRS 30 x 6 R5 F/P	30.4	29.4	64	97	85	29	12	27	15	81	6 x Ø9	0.5	M6	58	40	30
	8	5	133	268	0.80	0.79	0.02	0.27	2.1	5.5	620	2015	42	7.5	3.8	SRS 30 x 8 R5 F/P	30.5	29.2	64	97	85	29	12	27	15	81	6 x Ø9	0.5	M6	58	40	30
	10	5	140	268	0.80	0.79	0.04	0.32	2.1	5.5	620	2015	42	7.9	5.1	SRS 30 x 10 R5 F/P	30.6	29.0	64	97	85	29	12	27	15	81	6 x Ø9	0.5	M6	58	40	30
	15	5	156	276	0.79	0.79	0.07	0.44	2.1	5.5	620	2015	42	8.8	7.9	SRS 30 x 15 R5 F/P	30.9	28.4	64	97	85	29	12	27	15	81	6 x Ø9	0.5	M6	58	40	30
	20	5	193	317	0.79	0.79	0.07	0.62	2.1	5.5	620	2015	42	9.3	10.1	SRS 30 x 20 R5 F/P	31.1	27.9	64	97	85	29	12	27	15	81	6 x Ø9	0.5	M6	58	40	30
36	6	6	122	287	0.77	0.77	0.02	0.28	2.1	7.9	1286	2383	55	7.6	3.0	SRS 36 x 6 R6 F/P	36.3	35.5	68	102	80	26.5	12	27	15	85	6 x Ø9	0.5	M6	62	45	30
	9	6	133	284	0.77	0.77	0.02	0.37	2.1	7.9	1286	2383	55	7.8	4.3	SRS 36 x 9 R6 F/P	36.5	35.3	68	102	80	26.5	12	27	15	85	6 x Ø9	0.5	M6	62	45	30
	12	6	142	281	0.77	0.77	0.04	0.46	2.1	7.9	1286	2383	55	8.3	6.1	SRS 36 x 12 R6 F/P	36.6	35.0	68	102	80	26.5	12	27	15	85	6 x Ø9	0.5	M6	62	45	30
	18	6	152	276	0.77	0.77	0.07	0.65	2.1	7.9	1286	2383	55	9.1	9.5	SRS 36 x 18 R6 F/P	36.9	34.4	68	102	80	26.5	12	27	15	85	6 x Ø9	0.5	M6	62	45	30
	24	6	195	332	0.77	0.77	0.07	0.91	2.1	7.9	1286	2383	55	9.6	12.1	SRS 36 x 24 R6 F/P	37.1	33.8	68	102	80	26.5	12	27	15	85	6 x Ø9	0.5	M6	62	45	30
36	2	5	128	389	0.80	0.79	0.02	0.15	2.8	7.9	1286	3316	98	8.9	1.5	SRS 36 x 2 R5 F/P	36.1	35.8	74	110	96	35.5	13	25	18	92	6 x Ø9	0.5	M6	68	48	30
	4	5	151	390	0.80	0.79	0.02	0.21	2.8	7.9	1286	3316	98	9.1	2.5	SRS 36 x 4 R5 F/P	36.3	35.6	74	110	96	35.5	13	25	18	92	6 x Ø9	0.5	M6	68	48	30
	5	5	160	390	0.80	0.79	0.02	0.24	2.8	7.9	1286	3316	98	9.2	3.0	SRS 36 x 5 R5 F/P	36.4	35.5	74	110	96	35.5	13	25	18	92	6 x Ø9	0.5	M6	68	48	30
	6	5	165	384	0.80	0.79	0.02	0.27	2.8	7.9	1286	3316	98	9.4	3.5	SRS 36 x 6 R5 F/P	36.4	35.4	74	110	96	35.5	13	25	18	92	6 x Ø9	0.5	M6	68	48	30
	8	5	177	385	0.80	0.79	0.02	0.32	2.8	7.9	1286	3316	98	9.6	4.5	SRS 36 x 8 R5 F/P	36.5	35.2	74	110	96	35.5	13	25	18	92	6 x Ø9	0.5	M6	68	48	30
	10	5	189	392	0.80	0.79	0.04	0.37	2.8	7.9	1286	3316	98	10.3	6.1	SRS 36 x 10 R5 F/P	36.7	35.0	74	110	96	35.5	13	25	18	92	6 x Ø9	0.5	M6	68	48	30
	15	5	202	379	0.79	0.79	0.07	0.51	2.8	7.9	1286	3316	98	11.5	9.4	SRS 36 x 15 R5 F/P	36.9	34.5	74	110	96	35.5	13	25	18	92	6 x Ø9	0.5	M6	68	48	30
	20	5	261	462	0.79	0.79	0.07	0.68	2.8	7.9	1286	3316	98	12.2	12.0	SRS 36 x 20 R5 F/P	37.2	33.9	74	110	96	35.5	13	25	18	92	6 x Ø9	0.5	M6	68	48	30



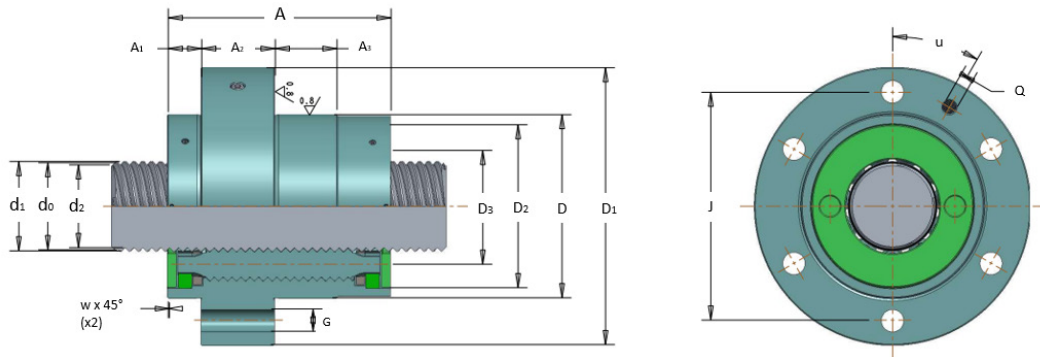
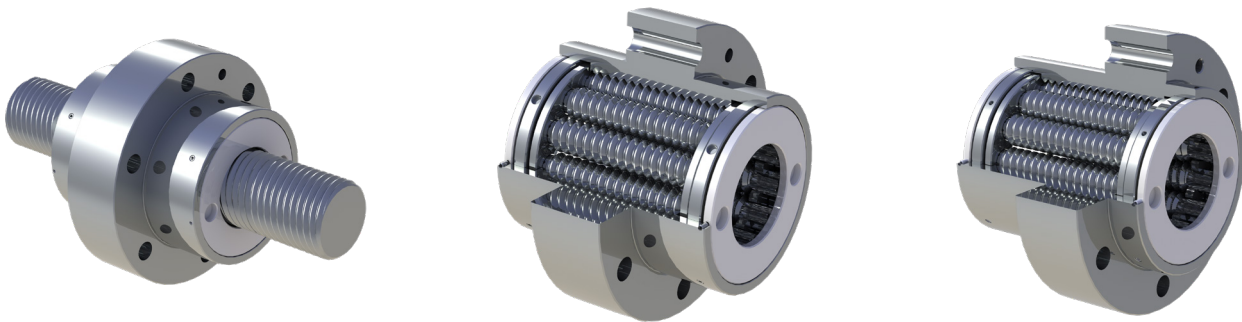
Principal and technical characteristics

d ₀	Ph	N	Ca	Ca0	η	η'	S ₀	T ₀	m _n	m _s	l _s	l _{nn}	l _{ns}	Z _n	Z _s	Standard Roller Screws	d1	d2	D g6/H7	D1	A h12	A1 F	A1 P	A2	A3	J	G	w	Q	D2	D3	u	
mm	-	-	kN	-	-	-	Nm	kg	kg/m	kgmm2/m	kgmm2	-	-	mL	mL/m	-	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
39	2	5	148	469	0.80	0.79	0.02	0.18	4.0	9.3	1772	6339	148	10.4	1.7	SRS 39 x 2 R5 F/P	39.1	38.8	82	124	100	33.5	13	33	18	102	6 x Ø11	1	M6	72	52	30	
	4	5	174	466	0.80	0.79	0.02	0.26	4.0	9.3	1772	6339	148	10.7	2.7	SRS 39 x 4 R5 F/P	39.3	38.6	82	124	100	33.5	13	33	18	102	6 x Ø11	1	M6	72	52	30	
	5	5	185	470	0.80	0.79	0.02	0.29	4.0	9.3	1772	6339	148	10.9	3.3	SRS 39 x 5 R5 F/P	39.4	38.5	82	124	100	33.5	13	33	18	102	6 x Ø11	1	M6	72	52	30	
	6	5	192	467	0.80	0.79	0.02	0.32	4.0	9.3	1772	6339	148	11.0	3.8	SRS 39 x 6 R5 F/P	39.4	38.4	82	124	100	33.5	13	33	18	102	6 x Ø11	1	M6	72	52	30	
	8	5	204	461	0.80	0.79	0.02	0.39	4.0	9.3	1772	6339	148	11.3	4.9	SRS 39 x 8 R5 F/P	39.5	38.2	82	124	100	33.5	13	33	18	102	6 x Ø11	1	M6	72	52	30	
	10	5	218	472	0.80	0.79	0.04	0.44	4.0	9.3	1772	6339	148	12.1	6.6	SRS 39 x 10 R5 F/P	39.7	38.0	82	124	100	33.5	13	33	18	102	6 x Ø11	1	M6	72	52	30	
	15	5	237	466	0.79	0.79	0.07	0.60	4.0	9.3	1772	6339	148	13.6	10.2	SRS 39 x 15 R5 F/P	39.9	37.5	82	124	100	33.5	13	33	18	102	6 x Ø11	1	M6	72	52	30	
	20	5	277	487	0.79	0.79	0.07	0.74	3.9	9.3	1772	6328	137	14.0	13.0	SRS 39 x 20 R5 F/P	40.2	36.9	82	124	100	33.5	13	33	18	102	6 x Ø11	1	M6	72	52	30	
	25	5	297	508	0.79	0.79	0.07	0.92	3.9	9.3	1772	6328	137	14.8	15.8	SRS 39 x 25 R5 F/P	40.4	36.3	82	124	100	33.5	13	33	18	102	6 x Ø11	1	M6	72	52	30	
44	6	6	160	400	0.77	0.77	0.02	0.39	3.5	11.9	2870	6068	141	11.0	3.7	SRS 44 x 6 R6 F/P	44.4	43.5	82	124	90	28.5	12	33	18	102	6 x Ø11	0.5	M6	73	55	30	
	12	6	189	402	0.77	0.77	0.04	0.61	3.5	11.9	2870	6068	141	12.0	7.4	SRS 44 x 12 R6 F/P	44.7	43.0	82	124	90	28.5	12	33	18	102	6 x Ø11	0.5	M6	73	55	30	
	18	6	204	395	0.77	0.77	0.07	0.84	3.5	11.9	2870	6068	141	13.2	11.5	SRS 44 x 18 R6 F/P	44.9	42.5	82	124	90	28.5	12	33	18	102	6 x Ø11	0.5	M6	73	55	30	
	24	6	254	453	0.77	0.77	0.07	1.16	3.5	11.9	2870	6068	141	13.8	14.6	SRS 44 x 24 R6 F/P	45.1	41.9	82	124	90	28.5	12	33	18	102	6 x Ø11	0.5	M6	73	55	30	
	30	6	261	445	0.77	0.77	0.07	1.47	3.5	11.9	2870	6068	141	14.5	17.8	SRS 44 x 30 R6 F/P	45.3	41.3	82	124	90	28.5	12	33	18	102	6 x Ø11	0.5	M6	73	55	30	
48	6	6	198	534	0.77	0.77	0.02	0.41	3.8	14.1	4065	6186	226	12.6	4.0	SRS 48 x 6 R6 F/P	48.4	47.5	86	122	99	32	12	35	18	104	6 x Ø11	1	M8 x 1	80	60	30	
	12	6	230	526	0.77	0.77	0.04	0.63	3.8	14.1	4065	6186	226	13.9	8.1	SRS 48 x 12 R6 F/P	48.7	47.0	86	122	99	32	12	35	18	104	6 x Ø11	1	M8 x 1	80	60	30	
	15	6	241	522	0.77	0.77	0.07	0.74	3.8	14.1	4065	6186	226	15.0	10.9	SRS 48 x 15 R6 F/P	48.8	46.8	86	122	99	32	12	35	18	104	6 x Ø11	1	M8 x 1	80	60	30	
	18	6	256	539	0.77	0.77	0.07	0.85	3.8	14.1	4065	6186	226	15.4	12.5	SRS 48 x 18 R6 F/P	48.9	46.5	86	122	99	32	12	35	18	104	6 x Ø11	1	M8 x 1	80	60	30	
	20	6	302	602	0.77	0.77	0.07	0.98	3.8	14.1	4065	6186	226	15.7	13.7	SRS 48 x 20 R6 F/P	49.0	46.3	86	122	99	32	12	35	18	104	6 x Ø11	1	M8 x 1	80	60	30	
	24	6	320	620	0.77	0.77	0.07	1.15	3.8	14.1	4065	6186	226	16.3	15.9	SRS 48 x 24 R6 F/P	49.2	45.9	86	122	99	32	12	35	18	104	6 x Ø11	1	M8 x 1	80	60	30	
48	5	5	272	788	0.80	0.79	0.02	0.34	7.3	14.1	4065	16332	443	18.1	4.0	SRS 48 x 5 R5 F/P	48.4	47.5	105	150	127	45	15	37	20	127	6 x Ø13.5	1	M8 x 1	90	64	30	
	10	5	319	780	0.80	0.79	0.04	0.51	7.3	14.1	4065	16332	443	20.1	8.1	SRS 48 x 10 R5 F/P	48.7	47.0	105	150	127	45	15	37	20	127	6 x Ø13.5	1	M8 x 1	90	64	30	
	15	5	355	794	0.80	0.79	0.07	0.67	7.3	14.1	4065	16332	443	22.6	12.5	SRS 48 x 15 R5 F/P	49.0	46.5	105	150	127	45	15	37	20	127	6 x Ø13.5	1	M8 x 1	90	64	30	
	20	5	445	916	0.79	0.79	0.07	0.88	7.3	14.1	4065	16332	443	23.9	15.9	SRS 48 x 20 R5 F/P	49.2	46.0	105	150	127	45	15	37	20	127	6 x Ø13.5	1	M8 x 1	90	64	30	
	25	5	412	812	0.79	0.79	0.07	0.98	7.1	14.1	4065	16298	409	24.7	19.3	SRS 48 x 25 R5 F/P	49.5	45.4	105	150	127	45	15	37	20	127	6 x Ø13.5	1	M8 x 1	90	64	30	
	30	5	413	815	0.79	0.79	0.07	1.17	7.1	14.1	4065	16298	409	26.0	22.7	SRS 48 x 30 R5 F/P	49.7	44.8	105	150	127	45	15	37	20	127	6 x Ø13.5	1	M8 x 1	90	64	30	



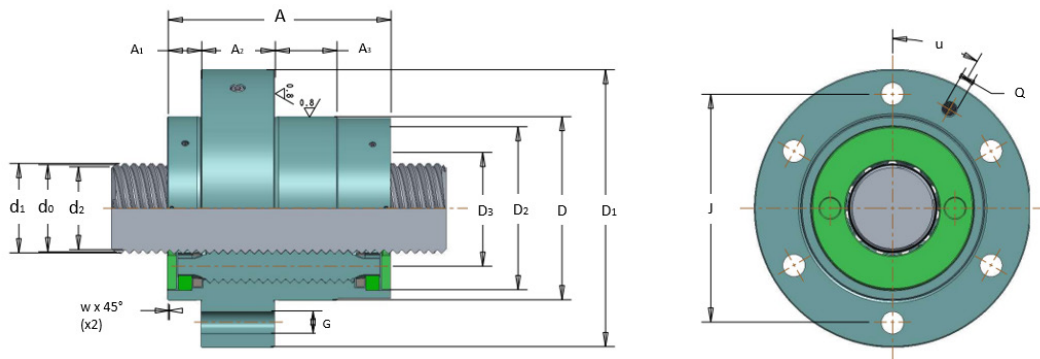
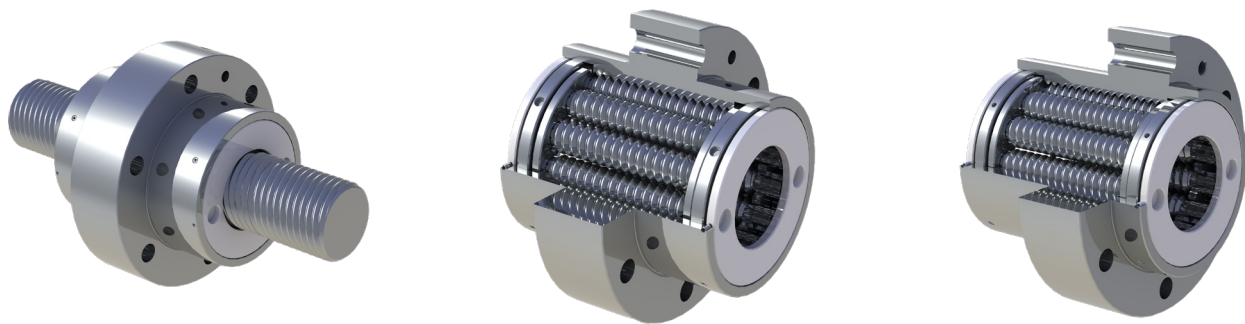
Principal and technical characteristics

d0	Ph	N	Ca	Ca0	η	η'	S0	T0	mn	ms	Is	Inn	Ins	Zn	Zs	Standard Roller Screws	d1	d2	D	D1	A	A1	A1	A2	A3	J	G	w	Q	D2	D3	u
mm		-	kN		-	-		Nm	kg	kg/m	kgmm2/m	kgmm2		mL	mL/m	-	mm		g6/H7		h12	F	P									
51	5	5	315	964	0.80	0.79	0.02	0.35	7.3	15.9	5181	14909	619	18.4	4.3	SRS 51 x 5 R5 F/P	51.4	50.5	102	147	139	52	15	35	20	124	6 x Ø13.5	1	M8 x 1	94	68	30
	10	5	370	955	0.80	0.79	0.07	0.52	7.3	15.9	5181	14909	619	22.3	9.8	SRS 51 x 10 R5 F/P	51.7	50.0	102	147	139	52	15	35	20	124	6 x Ø13.5	1	M8 x 1	94	68	30
	15	5	411	970	0.80	0.79	0.07	0.68	7.3	15.9	5181	14909	619	24.0	13.3	SRS 51 x 15 R5 F/P	52.0	49.5	102	147	139	52	15	35	20	124	6 x Ø13.5	1	M8 x 1	94	68	30
	20	5	512	1121	0.79	0.79	0.07	0.89	7.3	15.9	5181	14909	619	25.7	16.8	SRS 51 x 20 R5 F/P	52.3	49.0	102	147	139	52	15	35	20	124	6 x Ø13.5	1	M8 x 1	94	68	30
	25	5	518	1139	0.79	0.79	0.07	1.07	7.3	15.9	5181	14909	619	27.4	20.4	SRS 51 x 25 R5 F/P	52.5	48.4	102	147	139	52	15	35	20	124	6 x Ø13.5	1	M8 x 1	94	68	30
56	6	6	247	708	0.77	0.77	0.02	0.47	6.1	19.2	7531	14972	472	17.4	4.7	SRS 56 x 6 R6 F/P	56.4	55.5	105	150	112	37.5	15	37	20	127	6 x Ø13.5	1	M8 x 1	92	70	30
	12	6	289	699	0.77	0.77	0.04	0.72	6.1	19.2	7531	14972	472	19.2	9.4	SRS 56 x 12 R6 F/P	56.7	55.0	105	150	112	37.5	15	37	20	127	6 x Ø13.5	1	M8 x 1	92	70	30
	18	6	318	702	0.77	0.77	0.07	0.96	6.1	19.2	7531	14972	472	21.3	14.6	SRS 56 x 18 R6 F/P	57.0	54.5	105	150	112	37.5	15	37	20	127	6 x Ø13.5	1	M8 x 1	92	70	30
	24	6	393	795	0.77	0.77	0.07	1.29	6.1	19.2	7531	14972	472	22.4	18.5	SRS 56 x 24 R6 F/P	57.2	54.0	105	150	112	37.5	15	37	20	127	6 x Ø13.5	1	M8 x 1	92	70	30
	30	6	402	785	0.77	0.77	0.07	1.59	6.1	19.2	7531	14972	472	23.6	22.5	SRS 56 x 30 R6 F/P	57.4	53.4	105	150	112	37.5	15	37	20	127	6 x Ø13.5	1	M8 x 1	92	70	30
	36	6	416	830	0.77	0.77	0.07	1.87	6.1	19.2	7531	14972	472	24.8	26.5	SRS 56 x 36 R6 F/P	57.6	52.8	105	150	112	37.5	15	37	20	127	6 x Ø13.5	1	M8 x 1	92	70	30
60	6	6	287	869	0.77	0.77	0.02	0.49	7.3	22.1	9924	17721	699	22.9	5.0	SRS 60 x 6 R6 F/P	60.4	59.5	110	150	124	42	15	40	20	130	6 x Ø13.5	1	M8 x 1	100	75	30
	9	6	315	864	0.77	0.77	0.02	0.62	7.3	22.1	9924	17721	699	23.5	7.1	SRS 60 x 9 R6 F/P	60.5	59.3	110	150	124	42	15	40	20	130	6 x Ø13.5	1	M8 x 1	100	75	30
	12	6	336	860	0.77	0.77	0.04	0.75	7.3	22.1	9924	17721	699	25.0	10.1	SRS 60 x 12 R6 F/P	60.7	59.0	110	150	124	42	15	40	20	130	6 x Ø13.5	1	M8 x 1	100	75	30
	18	6	367	850	0.77	0.77	0.07	0.99	7.3	22.1	9924	17721	699	27.5	15.6	SRS 60 x 18 R6 F/P	61.0	58.5	110	150	124	42	15	40	20	130	6 x Ø13.5	1	M8 x 1	100	75	30
	24	6	469	1010	0.77	0.77	0.07	1.29	7.3	22.1	9924	17721	699	28.9	19.8	SRS 60 x 24 R6 F/P	61.2	58.0	110	150	124	42	15	40	20	130	6 x Ø13.5	1	M8 x 1	100	75	30
	30	6	465	969	0.77	0.77	0.07	1.61	7.3	22.1	9924	17721	699	30.3	24.1	SRS 60 x 30 R6 F/P	61.5	57.4	110	150	124	42	15	40	20	130	6 x Ø13.5	1	M8 x 1	100	75	30
	42	6	460	961	0.77	0.77	0.07	2.27	7.3	22.1	9924	17721	699	33.3	32.7	SRS 60 x 42 R6 F/P	61.8	56.2	110	150	124	42	15	40	20	130	6 x Ø13.5	1	M8 x 1	100	75	30
60	5	5	382	1213	0.80	0.79	0.02	0.43	12.6	22.1	9924	40320	1298	28.2	5.0	SRS 60 x 5 R5 F/P	60.4	59.5	122	180	152	53.5	17	45	25	150	6 x Ø17.5	1	M8 x 1	110	80	30
	10	5	449	1202	0.80	0.79	0.04	0.63	12.6	22.1	9924	40320	1298	31.4	10.1	SRS 60 x 10 R5 F/P	60.7	59.1	122	180	152	53.5	17	45	25	150	6 x Ø17.5	1	M8 x 1	110	80	30
	15	5	494	1206	0.80	0.79	0.07	0.81	12.6	22.1	9924	40320	1298	35.2	15.6	SRS 60 x 15 R5 F/P	61.0	58.5	122	180	152	53.5	17	45	25	150	6 x Ø17.5	1	M8 x 1	110	80	30
	20	5	593	1378	0.80	0.79	0.07	1.04	12.6	22.1	9924	40320	1298	37.3	19.8	SRS 60 x 20 R5 F/P	61.3	58.0	122	180	152	53.5	17	45	25	150	6 x Ø17.5	1	M8 x 1	110	80	30
	25	5	610	1431	0.79	0.79	0.07	1.23	12.6	22.1	9924	40320	1298	39.5	24.0	SRS 60 x 25 R5 F/P	61.5	57.5	122	180	152	53.5	17	45	25	150	6 x Ø17.5	1	M8 x 1	110	80	30
	30	5	607	1419	0.79	0.79	0.07	1.45	12.6	22.1	9924	40320	1298	41.7	28.2	SRS 60 x 30 R5 F/P	61.8	56.9	122	180	152	53.5	17	45	25	150	6 x Ø17.5	1	M8 x 1	110	80	30
	35	5	562	1264	0.79	0.79	0.07	1.53	12.3	22.1	9924	40210	1198	42.8	32.5	SRS 60 x 35 R5 F/P	62.0	56.3	122	180	152	53.5	17	45	25	150	6 x Ø17.5	1	M8 x 1	110	80	30



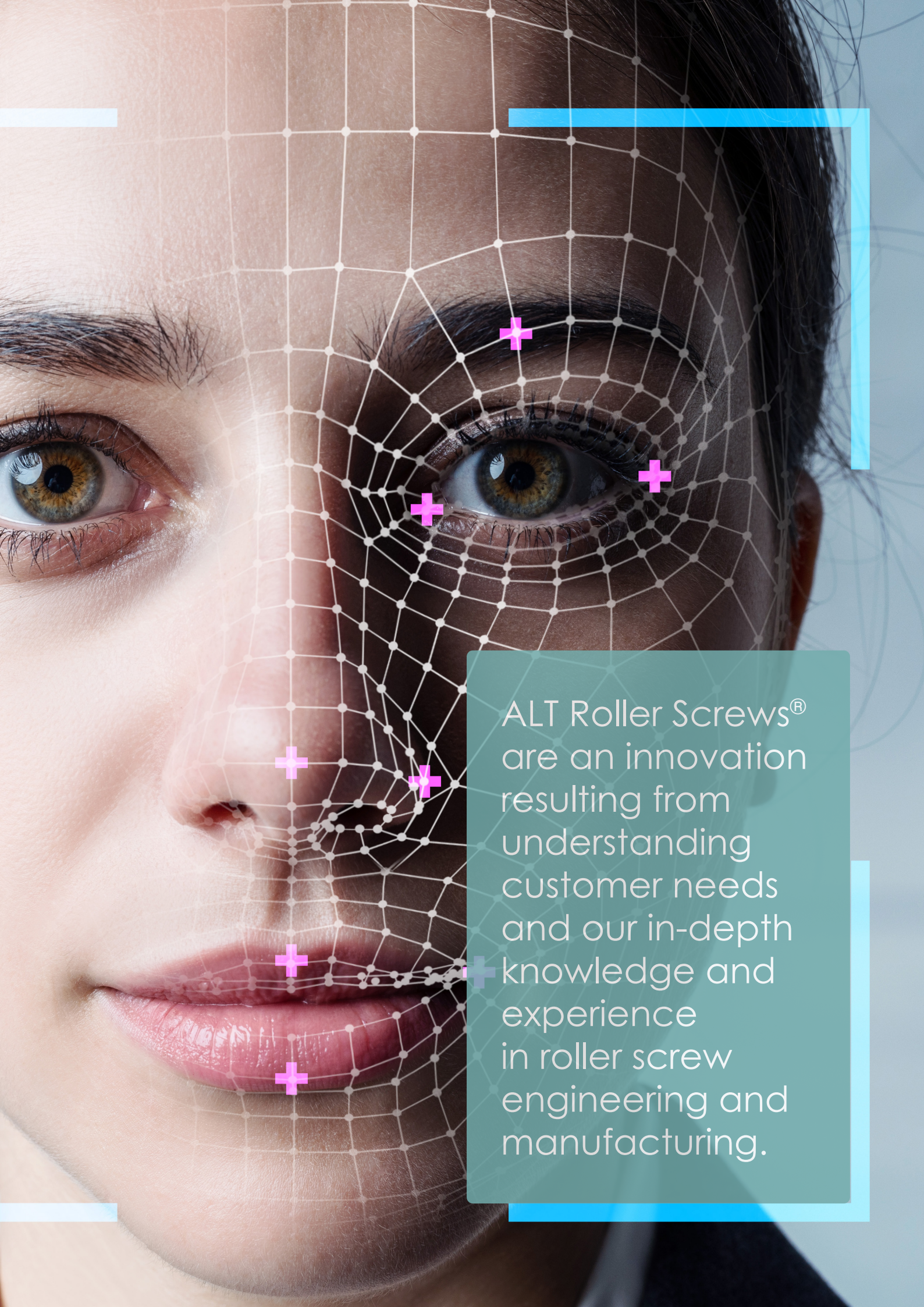
Principal and technical characteristics

d0	Ph	N	Ca	Ca0	η	η'	S0	T0	mn	ms	ls	lnn	lns	Zn	Zs	Standard Roller Screws	d1	d2	D	D1	A	A1	A1	A2	A3	J	G	w	Q	D2	D3	u
mm	-	-	kN	-	-	-	-	Nm	kg	kg/m	kgmm2/m	kgmm2	-	mL	mL/m	-	mm	-	g6/H7	-	h12	F	P	-	-	-	-	-	-	-	-	-
64	6	6	290	990	0.77	0.77	0.02	0.53	10.3	25.1	12847	36498	947	24.0	5.4	SRS 64 x 6 R6 F/P	64.4	63.5	120	180	129	42	17	45	25	150	6 x Ø17.5	1	M8 x 1	106	80	30
	12	6	345	979	0.77	0.77	0.04	0.79	10.3	25.1	12847	36498	947	26.4	10.8	SRS 64 x 12 R6 F/P	64.7	63.0	120	180	129	42	17	45	25	150	6 x Ø17.5	1	M8 x 1	106	80	30
	18	6	379	969	0.77	0.77	0.07	1.04	10.3	25.1	12847	36498	947	29.4	16.7	SRS 64 x 18 R6 F/P	65.0	62.5	120	180	129	42	17	45	25	150	6 x Ø17.5	1	M8 x 1	106	80	30
	24	6	479	1118	0.77	0.77	0.07	1.36	10.3	25.1	12847	36498	947	31.0	21.1	SRS 64 x 24 R6 F/P	65.3	62.0	120	180	129	42	17	45	25	150	6 x Ø17.5	1	M8 x 1	106	80	30
	30	6	499	1170	0.77	0.77	0.07	1.63	10.3	25.1	12847	36498	947	32.6	25.6	SRS 64 x 30 R6 F/P	65.5	61.4	120	180	129	42	17	45	25	150	6 x Ø17.5	1	M8 x 1	106	80	30
	36	6	479	1094	0.77	0.77	0.07	1.99	10.3	25.1	12847	36498	947	34.3	30.2	SRS 64 x 36 R6 F/P	65.7	60.8	120	180	129	42	17	45	25	150	6 x Ø17.5	1	M8 x 1	106	80	30
68	6	6	406	1630	0.77	0.77	0.02	0.48	13.5	28.3	16373	42310	1633	28.5	5.7	SRS 68 x 6 R6 F/P	68.4	67.5	130	172	170	62.5	17	45	25	152	6 x Ø17.5	1	M8 x 1	115	85	30
	12	6	485	1618	0.77	0.77	0.04	0.72	13.5	28.3	16373	42310	1633	32.3	11.4	SRS 68 x 12 R6 F/P	68.7	67.1	130	172	170	62.5	17	45	25	152	6 x Ø17.5	1	M8 x 1	115	85	30
	18	6	542	1637	0.77	0.77	0.07	0.93	13.5	28.3	16373	42310	1633	36.9	17.7	SRS 68 x 18 R6 F/P	69.0	66.5	130	172	170	62.5	17	45	25	152	6 x Ø17.5	1	M8 x 1	115	85	30
	24	6	672	1860	0.77	0.77	0.07	1.22	13.5	28.3	16373	42310	1633	39.5	22.4	SRS 68 x 24 R6 F/P	69.3	66.0	130	172	170	62.5	17	45	25	152	6 x Ø17.5	1	M8 x 1	115	85	30
	30	6	691	1917	0.77	0.77	0.07	1.46	13.5	28.3	16373	42310	1633	42.2	27.2	SRS 68 x 30 R6 F/P	69.5	65.4	130	172	170	62.5	17	45	25	152	6 x Ø17.5	1	M8 x 1	115	85	30
	36	6	683	1867	0.77	0.77	0.07	1.75	13.5	28.3	16373	42310	1633	44.9	32.0	SRS 68 x 36 R6 F/P	69.7	64.9	130	172	170	62.5	17	45	25	152	6 x Ø17.5	1	M8 x 1	115	85	30
75	10	5	616	2045	0.80	0.79	0.04	0.74	20.8	34.5	24229	84685	4062	44.2	12.6	SRS 75 x 10 R5 F/P	75.7	74.1	150	210	191	73	21	45	35	180	8 x Ø17.5	1	M8 x 1	138	100	22.5
	15	5	677	2014	0.80	0.79	0.07	0.95	20.8	34.5	24229	84685	4062	50.7	19.5	SRS 75 x 15 R5 F/P	76.0	73.6	150	210	191	73	21	45	35	180	8 x Ø17.5	1	M8 x 1	138	100	22.5
	20	5	802	2396	0.80	0.79	0.07	1.18	20.8	34.5	24229	84685	4062	54.4	24.7	SRS 75 x 20 R5 F/P	76.3	73.1	150	210	191	73	21	45	35	180	8 x Ø17.5	1	M8 x 1	138	100	22.5
	25	5	803	2359	0.80	0.79	0.07	1.40	20.8	34.5	24229	84685	4062	58.1	29.9	SRS 75 x 25 R5 F/P	76.6	72.5	150	210	191	73	21	45	35	180	8 x Ø17.5	1	M8 x 1	138	100	22.5
	30	5	810	2364	0.79	0.79	0.07	1.62	20.8	34.5	24229	84685	4062	61.8	35.1	SRS 75 x 30 R5 F/P	76.9	72.0	150	210	191	73	21	45	35	180	8 x Ø17.5	1	M8 x 1	138	100	22.5
80	12	6	488	1537	0.77	0.77	0.04	0.96	15.8	39.2	31366	73419	2778	36.3	13.4	SRS 80 x 12 R6 F/P	80.7	79.1	150	210	158	55.5	19	45	35	180	8 x Ø17.5	1	M8 x 1	130	100	22.5
	18	6	538	1524	0.77	0.77	0.07	1.24	15.8	39.2	31366	73419	2778	41.0	20.8	SRS 80 x 18 R6 F/P	81.0	78.6	150	210	158	55.5	19	45	35	180	8 x Ø17.5	1	M8 x 1	130	100	22.5
	24	6	655	1762	0.77	0.77	0.07	1.58	15.8	39.2	31366	73419	2778	43.5	26.3	SRS 80 x 24 R6 F/P	81.3	78.0	150	210	158	55.5	19	45	35	180	8 x Ø17.5	1	M8 x 1	130	100	22.5
	30	6	657	1747	0.77	0.77	0.07	1.90	15.8	39.2	31366	73419	2778	46.2	31.9	SRS 80 x 30 R6 F/P	81.6	77.5	150	210	158	55.5	19	45	35	180	8 x Ø17.5	1	M8 x 1	130	100	22.5
	36	6	658	1732	0.77	0.77	0.07	2.24	15.8	39.2	31366	73419	2778	48.8	37.5	SRS 80 x 36 R6 F/P	81.8	76.9	150	210	158	55.5	19	45	35	180	8 x Ø17.5	1	M8 x 1	130	100	22.5
87	10	5	735	2538	0.80	0.79	0.04	0.88	29.9	46.4	43870	150239	8363	60.1	14.6	SRS 87 x 10 R5 F/P	87.7	86.1	175	235	215	85	23	45	40	200	8 x Ø17.5	1	M8 x 1	162	116	22.5
	15	5	792	2523	0.80	0.79	0.07	1.12	29.9	46.4	43870	150239	8363	68.3	22.6	SRS 87 x 15 R5 F/P	88.0	85.6	175	235	215	85	23	45	40	200	8 x Ø17.5	1	M8 x 1	162	116	22.5
	20	5	922	2925	0.80	0.79	0.07	1.38	29.9	46.4	43870	150239	8363	72.7	28.6	SRS 87 x 20 R5 F/P	88.4	85.1	175	235	215	85	23	45	40	200	8 x Ø17.5	1	M8 x 1	162	116	22.5
	25	5	938	2955	0.80	0.79	0.07	1.61	29.9	46.4	43870	150239	8363	77.3	34.6	SRS 87 x 25 R5 F/P	88.6	84.6	175	235	215	85	23	45	40	200	8 x Ø17.5	1	M8 x 1	162	116	22.5
	30	5	932	2890	0.80	0.79	0.07	1.87	29.9	46.4	43870	150239	8363	81.9	40.6	SRS 87 x 30 R5 F/P	88.9	84.0	175	235	215	85	23	45	40	200	8 x Ø17.5	1	M8 x 1	162	116	22.5



Principal and technical characteristics

d0	Ph	N	Ca	Ca0	η	η'	S0	T0	mn	ms	Is	Inn	Ins	Zn	Zs	Standard Roller Screws	d1	d2	D	D1	A	A1	A1	A2	A3	J	G	w	Q	D2	D3	u
mm		-	kN		-	-		Nm	kg	kg/m	kgmm2/m	kgmm2		mL	mL/m	-	mm		g6/H7		h12	F	P									
92	12	6	621	2108	0.77	0.77	0.04	1.19	20.1	51.9	54859	95265	6004	48.1	15.4	SRS 92 x 12 R6 F/P	92.7	91.1	160	220	179	67	21	45	40	190	8 x Ø17.5	1	M8 x 1	150	115	22.5
	18	6	690	2113	0.77	0.77	0.07	1.52	20.1	51.9	54859	95265	6004	54.4	23.9	SRS 92 x 18 R6 F/P	93.0	90.6	160	220	179	67	21	45	40	190	8 x Ø17.5	1	M8 x 1	150	115	22.5
	24	6	823	2472	0.77	0.77	0.07	1.90	20.1	51.9	54859	95265	6004	57.8	30.2	SRS 92 x 24 R6 F/P	93.3	90.1	160	220	179	67	21	45	40	190	8 x Ø17.5	1	M8 x 1	150	115	22.5
	30	6	822	2428	0.77	0.77	0.07	2.28	20.1	51.9	54859	95265	6004	61.3	36.6	SRS 92 x 30 R6 F/P	93.6	89.5	160	220	179	67	21	45	40	190	8 x Ø17.5	1	M8 x 1	150	115	22.5
	36	6	840	2484	0.77	0.77	0.07	2.62	20.1	51.9	54859	95265	6004	64.9	43.0	SRS 92 x 36 R6 F/P	93.9	89.0	160	220	179	67	21	45	40	190	8 x Ø17.5	1	M8 x 1	150	115	22.5
99	15	5	1059	3928	0.80	0.79	0.07	1.17	50.6	60.0	73559	343650	17722	93.7	25.7	SRS 99 x 15 R5 F/P	100.1	97.6	200	275	271	102.5	26	55	40	245	12 x Ø17.5	1.5	M8 x 1	182	132	15
	20	5	1239	4589	0.80	0.79	0.07	1.42	50.6	60.0	73559	343650	17722	100.5	32.5	SRS 99 x 20 R5 F/P	100.4	97.1	200	275	271	102.5	26	55	40	245	12 x Ø17.5	1.5	M8 x 1	182	132	15
	25	5	1251	4568	0.80	0.79	0.07	1.66	50.6	60.0	73559	343650	17722	107.3	39.3	SRS 99 x 25 R5 F/P	100.7	96.6	200	275	271	102.5	26	55	40	245	12 x Ø17.5	1.5	M8 x 1	182	132	15
	30	5	1268	4602	0.80	0.79	0.07	1.89	50.6	60.0	73559	343650	17722	114.2	46.2	SRS 99 x 30 R5 F/P	101.0	96.1	200	275	271	102.5	26	55	40	245	12 x Ø17.5	1.5	M8 x 1	182	132	15
	35	5	1283	4636	0.80	0.79	0.07	2.13	50.6	60.0	73559	343650	17722	121.2	53.0	SRS 99 x 35 R5 F/P	101.2	95.5	200	275	271	102.5	26	55	40	245	12 x Ø17.5	1.5	M8 x 1	182	132	15
120	18	6	1173	4572	0.77	0.77	0.07	1.75	55.7	88.2	158789	472562	26318	99.9	31.2	SRS 120 x 18 R6 F/P	121.0	118.6	220	300	260	105	26	50	40	240	12 x Ø17.5	1.5	M10 x 1.5	200	150	15
	24	6	1356	5242	0.77	0.77	0.07	4.77	55.7	88.2	158789	472562	26318	107.2	39.4	SRS 120 x 24 R6 F/P	121.4	118.1	220	300	260	105	26	50	40	240	12 x Ø17.5	1.5	M10 x 1.5	200	150	15
	30	6	1379	5283	0.77	0.77	0.07	2.52	55.7	88.2	158789	472562	26318	114.6	47.7	SRS 120 x 30 R6 F/P	121.7	117.6	220	300	260	105	26	50	40	240	12 x Ø17.5	1.5	M10 x 1.5	200	150	15
	36	6	1387	5257	0.77	0.77	0.07	2.89	55.7	88.2	158789	472562	26318	122.0	55.9	SRS 120 x 36 R6 F/P	121.9	117.0	220	300	260	105	26	50	40	240	12 x Ø17.5	1.5	M10 x 1.5	200	150	15
120	15	5	1260	5057	0.80	0.79	0.07	1.47	81.2	88.2	158789	816800	42375	128.7	31.2	SRS 120 x 15 R5 F/P	121.1	118.6	260	340	300	112.5	27	55	60	305	12 x Ø17.5	1.5	M10 x 1.5	220	160	15
	20	5	1470	5875	0.80	0.79	0.07	1.77	81.2	88.2	158789	816800	42375	137.7	39.4	SRS 120 x 20 R5 F/P	121.4	118.1	260	340	300	112.5	27	55	60	305	12 x Ø17.5	1.5	M10 x 1.5	220	160	15
	25	5	1484	5850	0.80	0.79	0.07	2.05	81.2	88.2	158789	816800	42375	146.8	47.6	SRS 120 x 25 R5 F/P	121.7	117.6	260	340	300	112.5	27	55	60	305	12 x Ø17.5	1.5	M10 x 1.5	220	160	15
	30	5	1495	5826	0.80	0.79	0.07	2.32	81.2	88.2	158789	816800	42375	156.0	55.9	SRS 120 x 30 R5 F/P	122.0	117.1	260	340	300	112.5	27	55	60	305	12 x Ø17.5	1.5	M10 x 1.5	220	160	15
	35	5	1529	5966	0.80	0.79	0.07	2.58	81.2	88.2	158789	816800	42375	165.3	64.1	SRS 120 x 35 R5 F/P	122.3	116.6	260	340	300	112.5	27	55	60	305	12 x Ø17.5	1.5	M10 x 1.5	220	160	15



ALT Roller Screws® are an innovation resulting from understanding customer needs and our in-depth knowledge and experience in roller screw engineering and manufacturing.



URS Ultra-High- Capacity Roller Screws



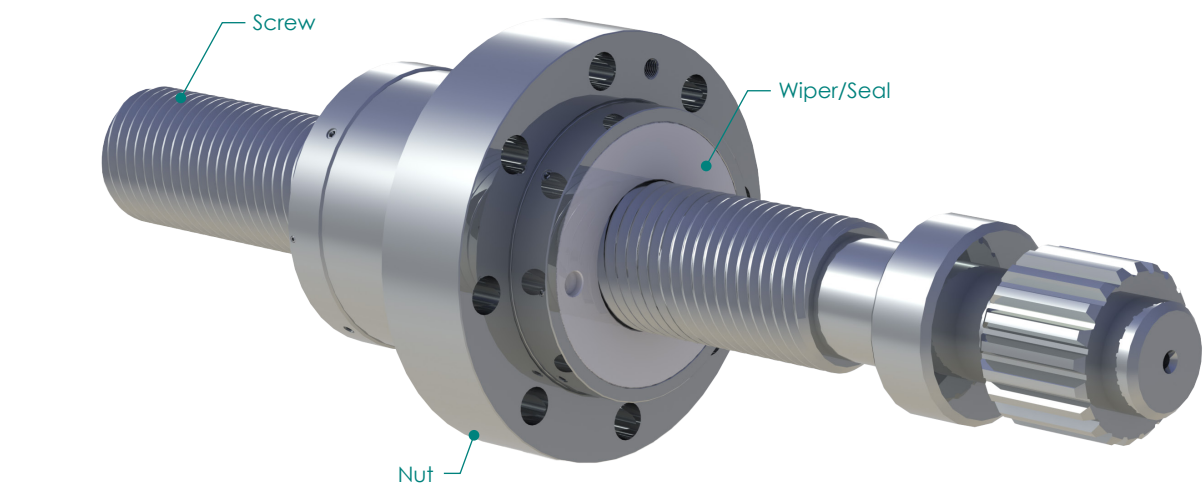


Fig. 3.1: a typical Ultra-High-Capacity Roller Screw (URS)

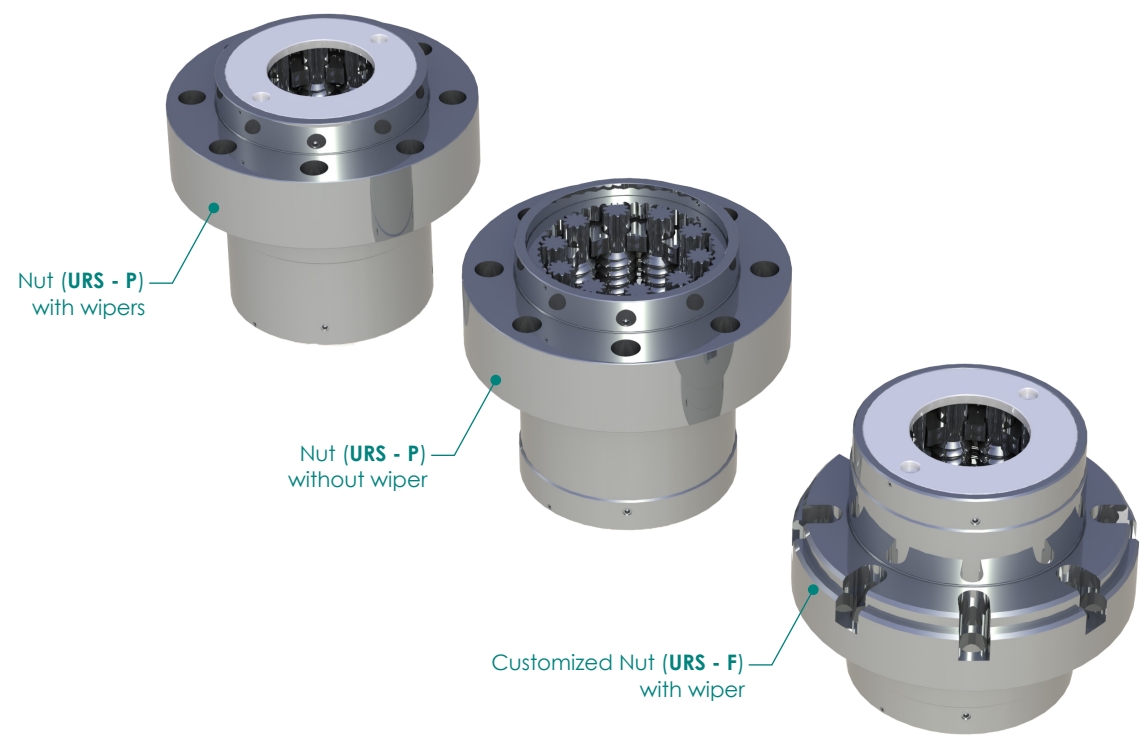


Fig. 3.2: some nut-assemblies of different types of URS

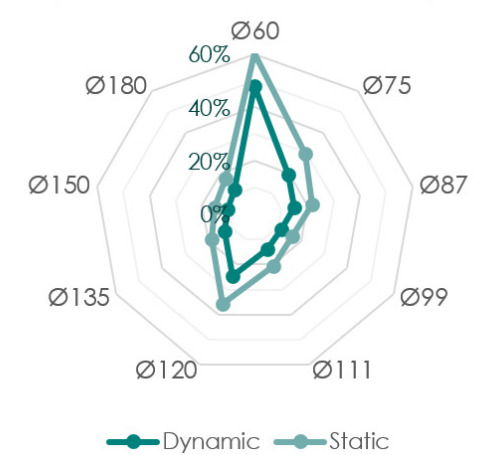
Ultra-High-Capacity Roller Screws (URS) are a variant of SRS designs offered in larger sizes range and with larger lengths of the nut, named as the Ultra-High-Capacity Standard Roller Screws. The URS is designed for demanding applications with heavy loads and long service needs. By optimizing the assembly, the number of contacts and the threads, this design is provided with loads ratings up to 65% over the SRS range.

The URS is available from range Ø60 mm to Ø210 mm for the screw with various leads and nut types with flange options and are not available with preload. This solution offers best power density with its larger and robust design and is ideal when you have to manage heavy loads or severe duty cycles.

Table 2: Diameter x Lead summarizing the available URS with Ca (kN)

Ultra-Capacity Roller Screw (URS) : dynamic load carrying capacity Ca [kN]							
Nominal diameter	Lead						
d0	15	20	25	30	35	40	50
mm	kN						
60	766	763	725	733			
75	997	1009	1026	1019			
87	1204	1219	1246	1235			
99	1436	1462	1475	1496	1513		
111	1609	1620	1653	1658	1690		
120	1924	1953	1967	1988	2024	2031	
135	2059	2096	2119	2148	2148	2157	2168
150	2424	2475	2503	2511	2554	2553	2569
180		3497		3572		3620	3710
210				4218		4218	4243

Increase of Load Capacities - Lead = 20 mm
(ALT ROLLER SCREWS vs. Traditional solutions)



Increase of Load Capacities - Lead = 30 mm
(ALT ROLLER SCREWS vs. Traditional solutions)

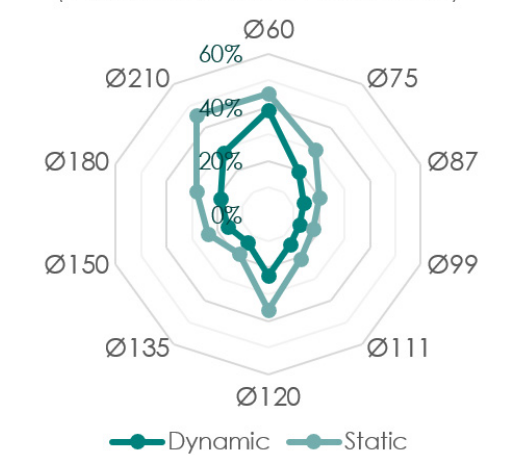
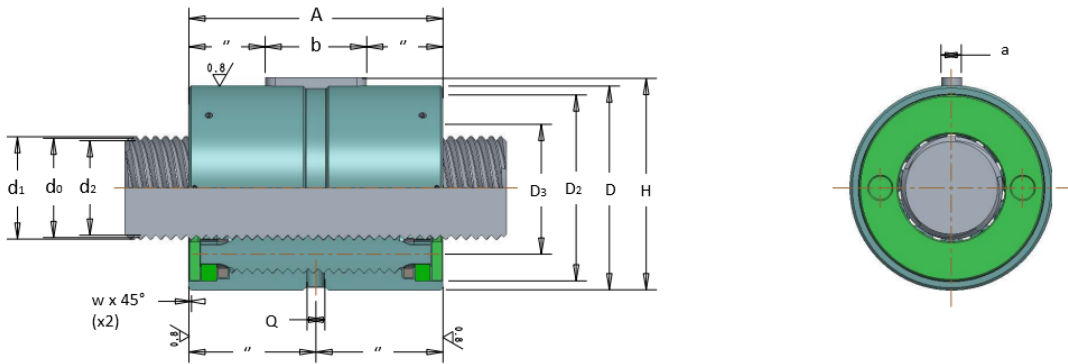
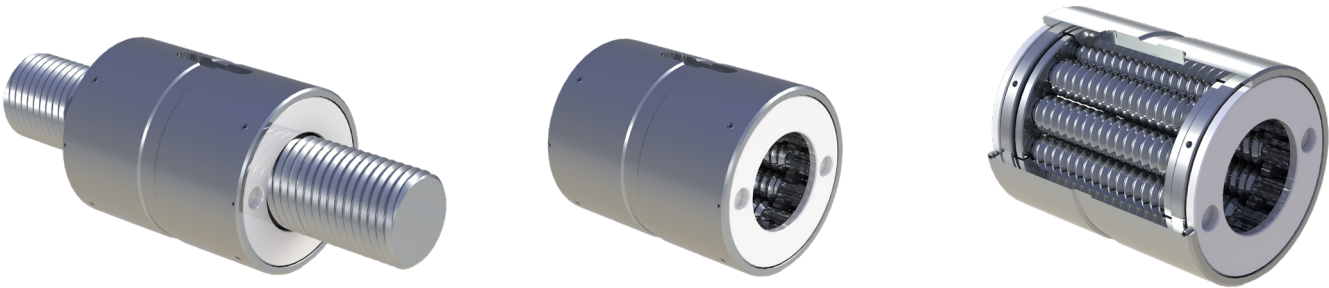


Fig. 3.3: plots of load improvements of the URS solutions for some key leads



Principal and technical characteristics

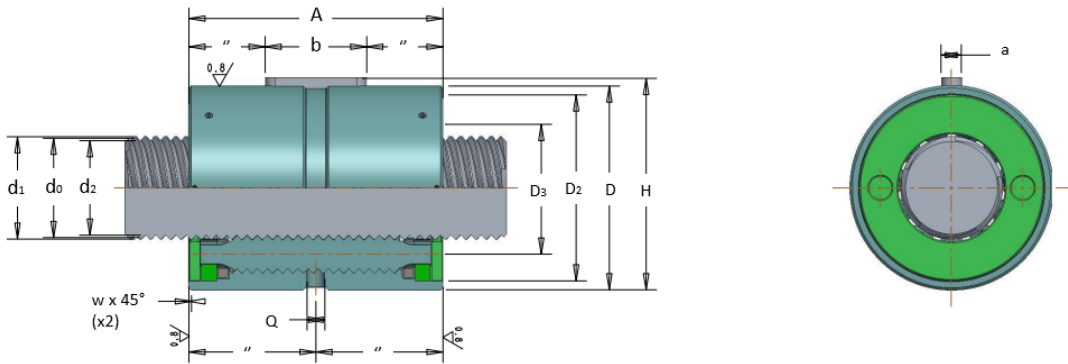
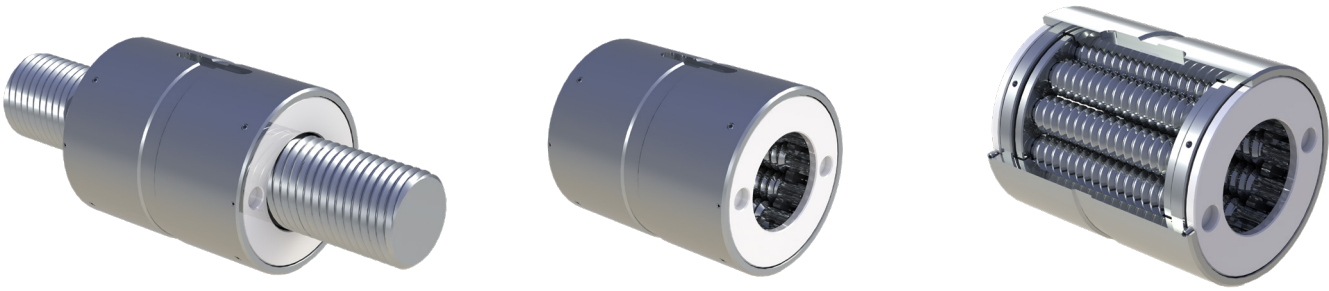
d0	Ph	N	Ca	Ca0	η	η'	S0	mn	ms	ls	l _{nn}	l _{ns}	Zn	Zs
mm		-	kN		-	-		kg	kg/m	kgmm2/m	kgmm2		mL	mL/m
60	15	5	766	1927	0.80	0.79	0.07	9	22	9924	16717	1458	37	16
	20	5	763	1892	0.80	0.79	0.07	9	22	9924	16717	1458	40	20
	25	5	725	1742	0.79	0.79	0.07	9	22	9924	16602	1342	41	24
	30	5	733	1764	0.79	0.79	0.07	9	22	9924	16602	1342	43	28
75	15	5	997	3195	0.80	0.79	0.07	17	34	24229	45593	4538	55	20
	20	5	1009	3176	0.80	0.79	0.07	17	34	24229	45593	4538	59	25
	25	5	1026	3207	0.80	0.79	0.07	17	34	24229	45593	4538	63	30
	30	5	1019	3137	0.79	0.79	0.07	17	34	24229	45593	4538	67	35
87	15	5	1204	4226	0.80	0.79	0.07	27	46	43870	97340	9540	78	23
	20	5	1219	4203	0.80	0.79	0.07	27	46	43870	97340	9540	83	29
	25	5	1246	4268	0.80	0.79	0.07	27	46	43870	97340	9540	89	35
	30	5	1235	4159	0.80	0.79	0.07	27	46	43870	97340	9540	94	41
99	15	5	1436	5499	0.80	0.79	0.07	41	60	73559	195025	18192	102	26
	20	5	1462	5507	0.80	0.79	0.07	41	60	73559	195025	18192	109	33
	25	5	1475	5482	0.80	0.79	0.07	41	60	73559	195025	18192	116	39
	30	5	1496	5523	0.80	0.79	0.07	41	60	73559	195025	18192	123	46
	35	5	1513	5564	0.80	0.79	0.07	41	60	73559	195025	18192	130	53
111	15	5	1609	6494	0.80	0.79	0.07	60	75	116248	388513	31164	127	29
	20	5	1620	6392	0.80	0.79	0.07	60	75	116248	388513	31164	135	36
	25	5	1653	6475	0.80	0.79	0.07	60	75	116248	388513	31164	143	44
	30	5	1658	6410	0.80	0.79	0.07	60	75	116248	388513	31164	152	52
	35	5	1690	6530	0.80	0.79	0.07	60	75	116248	388513	31164	160	59
120	15	5	1924	8526	0.80	0.79	0.07	73	88	158789	488658	48719	147	31
	20	5	1953	8495	0.80	0.79	0.07	73	88	158789	488658	48719	158	39
	25	5	1967	8423	0.80	0.79	0.07	73	88	158789	488658	48719	168	48
	30	5	1988	8433	0.80	0.79	0.07	73	88	158789	488658	48719	179	56
	35	5	2024	8564	0.80	0.79	0.07	73	88	158789	488658	48719	190	64
	40	5	2031	8532	0.80	0.79	0.10	73	88	158789	488658	48719	209	75

Designations
Ultra-Capacitive
Roller Screws

Dimensions

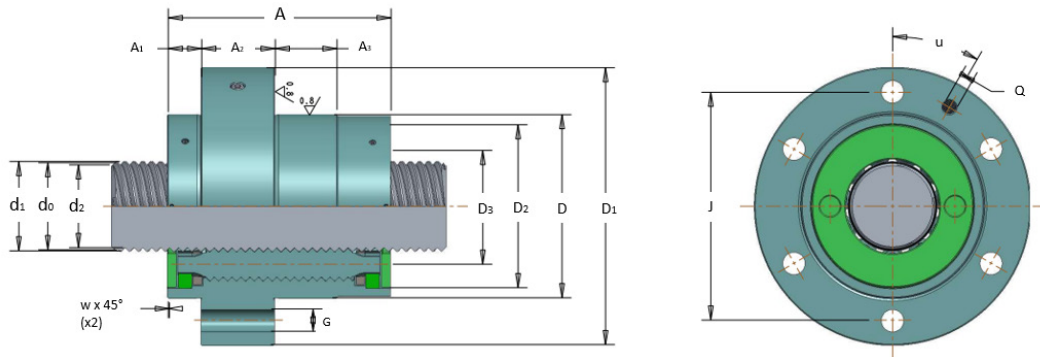
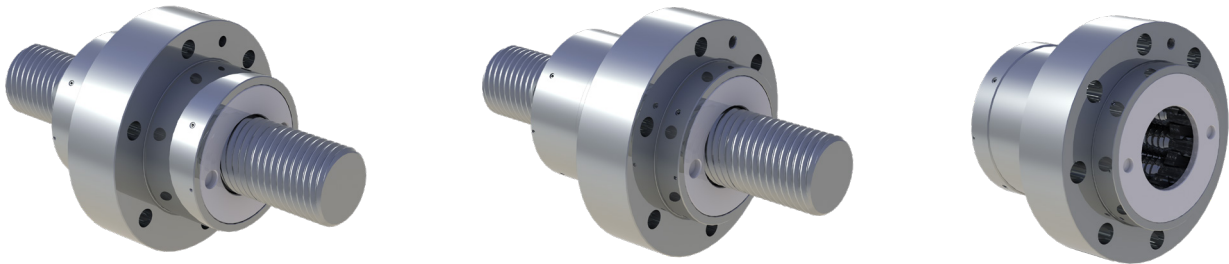
d1	d2	D	A	w	a	b	H	Q	D2	D3
		g6/h7	h12		h9					
mm	mm									
URS 60 x 15 R - C	61.0	58.5	122	171	1	10	56	125	11	80
URS 60 x 20 R - C	61.3	58.0	122	171	1	10	56	125	11	80
URS 60 x 25 R - C	61.5	57.5	122	171	1	10	56	125	11	80
URS 60 x 30 R - C	61.8	56.9	122	171	1	10	56	125	11	80
URS 75 x 15 R - C	76.0	73.6	150	213	1	10	63	153	11	100
URS 75 x 20 R - C	76.3	73.1	150	213	1	10	63	153	11	100
URS 75 x 25 R - C	76.6	72.5	150	213	1	10	63	153	11	100
URS 75 x 30 R - C	76.9	72.0	150	213	1	10	63	153	11	100
URS 87 x 15 R - C	88.0	85.6	175	245	1.5	12	100	178	12	116
URS 87 x 20 R - C	88.4	85.1	175	245	1.5	12	100	178	12	116
URS 87 x 25 R - C	88.6	84.6	175	245	1.5	12	100	178	12	116
URS 87 x 30 R - C	88.9	84.0	175	245	1.5	12	100	178	12	116
URS 99 x 15 R - C	100.1	97.6	200	280	1.5	16	100	204	15	132
URS 99 x 20 R - C	100.4	97.1	200	280	1.5	16	100	204	15	132
URS 99 x 25 R - C	100.7	96.6	200	280	1.5	16	100	204	15	132
URS 99 x 30 R - C	101.0	96.1	200	280	1.5	16	100	204	15	132
URS 99 x 35 R - C	101.2	95.5	200	280	1.5	16	100	204	15	132
URS 111 x 15 R - C	112.1	109.6	230	300	1.5	16	100	234	15	148
URS 111 x 20 R - C	112.4	109.1	230	300	1.5	16	100	234	15	148
URS 111 x 25 R - C	112.7	108.6	230	300	1.5	16	100	234	15	148
URS 111 x 30 R - C	113.0	108.1	230	300	1.5	16	100	234	15	148
URS 111 x 35 R - C	113.3	107.6	230	300	1.5	16	100	234	15	148
URS 120 x 15 R - C	121.1	118.6	240	346	1.5	16	100	244	15	160
URS 120 x 20 R - C	121.4	118.1	240	346	1.5	16	100	244	15	160
URS 120 x 25 R - C	121.7	117.6	240	346	1.5	16	100	244	15	160
URS 120 x 30 R - C	122.0	117.1	240	346	1.5	16	100	244	15	160
URS 120 x 35 R - C	122.3	116.6	240	346	1.5	16	100	244	15	160
URS 120 x 40 R - C	122.6	116.0	240	346	1.5	16	100	244	15	160





Principal and technical characteristics

d0	Ph	N	Ca	Ca0	η	η'	So	mn	ms	ls	l _{nn}	l _{ns}	Zn	Zs	Ultra-Capacitive												
															Roller Screws	d1	d2	D g6/H7	A h12	w	a h9	b	H	Q	D2	D3	
mm	-	-	kN	-	-	-	-	kg	kg/m	kgmm2/m	kgmm2	-	-	-	-	mm	-	-	-	-	-	-	-	-	-	-	-
135	15	5	2059	9377	0.80	0.79	0.07	110	112	254349	1058803	82646	194	35	URS 135 x 15 R - C	136.1	133.6	280	370	2	28	120	286	15	254	180	
	20	5	2096	9388	0.80	0.79	0.07	110	112	254349	1058803	82646	206	44	URS 135 x 20 R - C	136.4	133.1	280	370	2	28	120	286	15	254	180	
	25	5	2119	9354	0.80	0.79	0.07	110	112	254349	1058803	82646	218	54	URS 135 x 25 R - C	136.7	132.6	280	370	2	28	120	286	15	254	180	
	30	5	2148	9409	0.80	0.79	0.07	110	112	254349	1058803	82646	231	63	URS 135 x 30 R - C	137.0	132.1	280	370	2	28	120	286	15	254	180	
	35	5	2148	9286	0.80	0.79	0.07	110	112	254349	1058803	82646	243	72	URS 135 x 35 R - C	137.3	131.6	280	370	2	28	120	286	15	254	180	
	40	5	2157	9252	0.80	0.79	0.10	110	112	254349	1058803	82646	265	85	URS 135 x 40 R - C	137.6	131.1	280	370	2	28	120	286	15	254	180	
	50	5	2168	9184	0.79	0.79	0.10	110	112	254349	1058803	82646	289	103	URS 135 x 50 R - C	138.2	130.0	280	370	2	28	120	286	15	254	180	
150	15	5	2424	11989	0.80	0.79	0.07	166	138	387668	2162323	140806	248	39	URS 150 x 15 R - C	151.1	148.6	320	412	3	32	160	327	15	280	200	
	20	5	2475	12051	0.80	0.79	0.07	166	138	387668	2162323	140806	264	49	URS 150 x 20 R - C	151.4	148.1	320	412	3	32	160	327	15	280	200	
	25	5	2503	12013	0.80	0.79	0.07	166	138	387668	2162323	140806	279	59	URS 150 x 25 R - C	151.7	147.6	320	412	3	32	160	327	15	280	200	
	30	5	2511	11875	0.80	0.79	0.07	166	138	387668	2162323	140806	295	70	URS 150 x 30 R - C	152.1	147.1	320	412	3	32	160	327	15	280	200	
	35	5	2554	12037	0.80	0.79	0.07	166	138	387668	2162323	140806	311	80	URS 150 x 35 R - C	152.4	146.6	320	412	3	32	160	327	15	280	200	
	40	5	2553	11899	0.80	0.79	0.10	166	138	387668	2162322	140806	338	94	URS 150 x 40 R - C	152.7	146.1	320	412	3	32	160	327	15	280	200	
	50	5	2569	11823	0.80	0.79	0.10	166	138	387668	2162322	140806	370	115	URS 150 x 50 R - C	153.2	145.0	320	412	3	32	160	327	15	280	200	
180	20	5	3497	20308	0.80	0.79	0.07	323	198	803868	6291319	384142	417	59	URS 180 x 20 R - C	181.4	178.2	390	528	3	32	160	397	20	345	240	
	30	5	3572	20213	0.80	0.79	0.07	323	198	803868	6291319	384142	469	84	URS 180 x 30 R - C	182.1	177.2	390	528	3	32	160	397	20	345	240	
	40	5	3620	20118	0.80	0.79	0.10	323	198	803868	6291319	384142	540	113	URS 180 x 40 R - C	182.7	176.2	390	528	3	32	160	397	20	345	240	
	50	5	3710	20512	0.80	0.79	0.10	323	198	803868	6291319	384142	592	137	URS 180 x 50 R - C	183.3	175.1	390	528	3	32	160	397	20	345	240	
210	30	5	4174	25433	0.80	0.79	0.07	428	270	1489264	10292311	768311	586	98	URS 210 x 30 R - C	212.1	207.2	440	570	3	40	200	450	20	398	280	
	40	5	4218	25183	0.80	0.79	0.10	428	270	1489264	10292310	768311	677	131	URS 210 x 40 R - C	212.8	206.2	440	570	3	40	200	450	20	398	280	
	50	5	4243	24933	0.80	0.79	0.10	428	270	1489264	10292310	768311	744	160	URS 210 x 50 R - C	213.4	205.2	440	570	3	40	200	450	20	398	280	



Principal and technical characteristics

d0	Ph	N	Ca	Ca0	η	η'	So	mn	ms	ls	l _{nn}	l _{ns}	Z _n	Z _s
mm		-	kN		-	-		kg	kg/m	kgmm ² /m	kgmm ²		mL	mL/m
60	15	5	766	1927	0.80	0.79	0.07	11	22	9924	26684	1458	34	16
	20	5	763	1892	0.80	0.79	0.07	11	22	9924	26684	1458	37	20
	25	5	725	1742	0.79	0.79	0.07	11	22	9924	26607	1382	38	24
	30	5	733	1764	0.79	0.79	0.07	11	22	9924	26607	1382	40	28
75	15	5	997	3195	0.80	0.79	0.07	20	34	24229	64816	4538	51	20
	20	5	1009	3176	0.80	0.79	0.07	20	34	24229	64816	4538	55	25
	25	5	1026	3207	0.80	0.79	0.07	20	34	24229	64816	4538	59	30
	30	5	1019	3137	0.79	0.79	0.07	20	34	24229	64816	4538	63	35
87	15	5	1204	4226	0.80	0.79	0.07	29	46	43870	109670	9540	70	23
	20	5	1219	4203	0.80	0.79	0.07	29	46	43870	109670	9540	75	29
	25	5	1246	4268	0.80	0.79	0.07	29	46	43870	109670	9540	80	35
	30	5	1235	4159	0.80	0.79	0.07	29	46	43870	109670	9540	86	41
99	15	5	1436	5499	0.80	0.79	0.07	46	60	73559	257641	18192	91	26
	20	5	1462	5507	0.80	0.79	0.07	46	60	73559	257641	18192	98	33
	25	5	1475	5482	0.80	0.79	0.07	46	60	73559	257641	18192	104	39
	30	5	1496	5523	0.80	0.79	0.07	46	60	73559	257641	18192	111	46
	35	5	1513	5564	0.80	0.79	0.07	46	60	73559	257641	18192	118	53
111	15	5	1609	6494	0.80	0.79	0.07	68	75	116248	518585	31164	114	29
	20	5	1620	6392	0.80	0.79	0.07	68	75	116248	518585	31164	122	36
	25	5	1653	6475	0.80	0.79	0.07	68	75	116248	518585	31164	130	44
	30	5	1658	6410	0.80	0.79	0.07	68	75	116248	518585	31164	139	52
	35	5	1690	6530	0.80	0.79	0.07	68	75	116248	518585	31164	147	59
120	15	5	1924	8526	0.80	0.79	0.07	82	88	158789	649761	48719	133	31
	20	5	1953	8495	0.80	0.79	0.07	82	88	158789	649761	48719	144	39
	25	5	1967	8423	0.80	0.79	0.07	82	88	158789	649761	48719	155	48
	30	5	1988	8433	0.80	0.79	0.07	82	88	158789	649761	48719	166	56
	35	5	2024	8564	0.80	0.79	0.07	82	88	158789	649761	48719	176	64
	40	5	2031	8532	0.80	0.79	0.10	82	88	158789	649761	48719	196	75

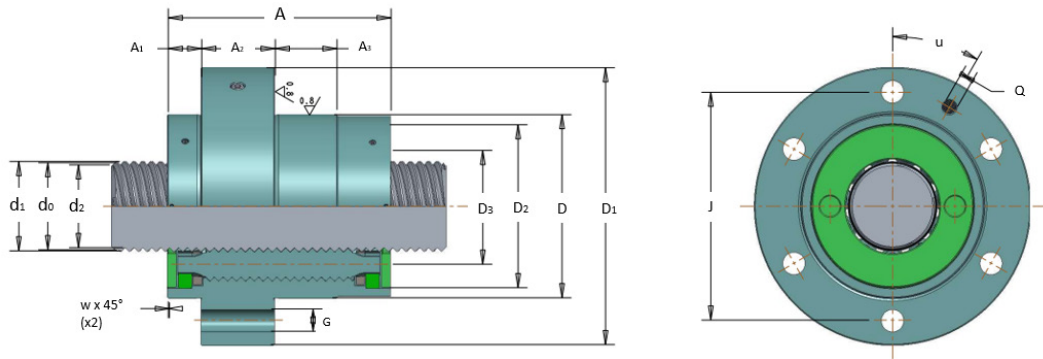
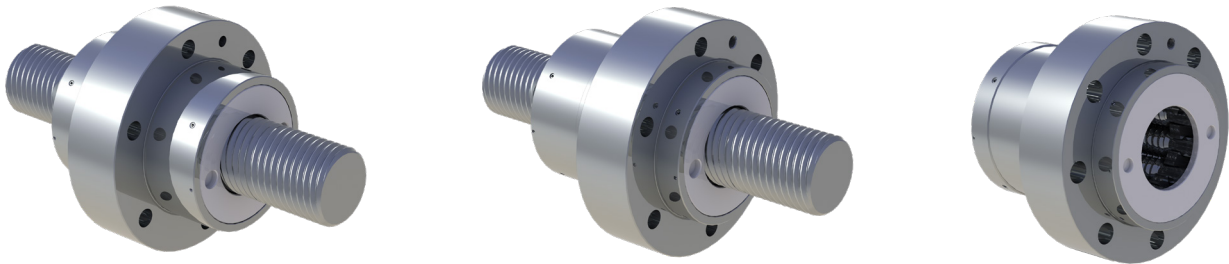
Designations

Ultra-Capacitive

Roller Screws

Dimensions

Roller Screws	d1	d2	D	D1	A	A1	A1	A2	A3	J	G	w	Q	D2	D3	u
			g6/H7		h12		P									
-	mm									js12						°
URS 60 x 15 R - F/P	61.0	58.5	122	166	171	70.5	25	30	40	146	8 x Ø13.5	1	M8 x 1	110	80	22.5
URS 60 x 20 R - F/P	61.3	58.0	122	166	171	70.5	25	30	40	146	8 x Ø13.5	1	M8 x 1	110	80	22.5
URS 60 x 25 R - F/P	61.5	57.5	122	166	171	70.5	25	30	40	146	8 x Ø13.5	1	M8 x 1	110	80	22.5
URS 60 x 30 R - F/P	61.8	56.9	122	166	171	70.5	25	30	40	146	8 x Ø13.5	1	M8 x 1	110	80	22.5
URS 75 x 15 R - F/P	76.0	73.6	150	195	213	89	30	35	40	174	12 x Ø13.5	1	M8 x 1	138	100	15
URS 75 x 20 R - F/P	76.3	73.1	150	195	213	89	30	35	40	174	12 x Ø13.5	1	M8 x 1	138	100	15
URS 75 x 25 R - F/P	76.6	72.5	150	195	213	89	30	35	40	174	12 x Ø13.5	1	M8 x 1	138	100	15
URS 75 x 30 R - F/P	76.9	72.0	150	195	213	89	30	35	40	174	12 x Ø13.5	1	M8 x 1	138	100	15
URS 87 x 15 R - F/P	88.0	85.6	175	200	245	102.5	35	40	40	200	12 x Ø13.5	1.5	M8 x 1	162	116	15
URS 87 x 20 R - F/P	88.4	85.1	175	200	245	102.5	35	40	40	200	12 x Ø13.5	1.5	M8 x 1	162	116	15
URS 87 x 25 R - F/P	88.6	84.6	175	200	245	102.5	35	40	40	200	12 x Ø13.5	1.5	M8 x 1	162	116	15
URS 87 x 30 R - F/P	88.9	84.0	175	200	245	102.5	35	40	40	200	12 x Ø13.5	1.5	M8 x 1	162	116	15
URS 99 x 15 R - F/P	100.1	97.6	200	245	280	115	40	50	40	224	12 x Ø13.5	1.5	M8 x 1	182	132	15
URS 99 x 20 R - F/P	100.4	97.1	200	245	280	115	40	50	40	224	12 x Ø13.5	1.5	M8 x 1	182	132	15
URS 99 x 25 R - F/P	100.7	96.6	200	245	280	115	40	50	40	224	12 x Ø13.5	1.5	M8 x 1	182	132	15
URS 99 x 30 R - F/P	101.0	96.1	200	245	280	115	40	50	40	224	12 x Ø13.5	1.5	M8 x 1	182	132	15
URS 99 x 35 R - F/P	101.2	95.5	200	245	280	115	40	50	40	224	12 x Ø13.5	1.5	M8 x 1	182	132	15
URS 111 x 15 R - F/P	112.1	109.6	230	286	300	125	50	50	40	260	12 x Ø17.5	1.5	M12 x 1.75	210	148	15
URS 111 x 20 R - F/P	112.4	109.1	230	286	300	125	50	50	40	260	12 x Ø17.5	1.5	M12 x 1.75	210	148	15
URS 111 x 25 R - F/P	112.7	108.6	230	286	300	125	50	50	40	260	12 x Ø17.5	1.5	M12 x 1.75	210	148	15
URS 111 x 30 R - F/P	113.0	108.1	230	286	300	125	50	50	40	260	12 x Ø17.5	1.5	M12 x 1.75	210	148	15
URS 111 x 35 R - F/P	113.3	107.6	230	286	300	125	50	50	40	260	12 x Ø17.5	1.5	M12 x 1.75	210	148	15
URS 120 x 15 R - F/P	121.1	118.6	240	296	346	137.5	50	55	60	270	12 x Ø17.5	1.5	M12 x 1.75	220	160	15
URS 120 x 20 R - F/P	121.4	118.1	240	296	346	137.5	50	55	60	270	12 x Ø17.5	1.5	M12 x 1.75	220	160	15
URS 120 x 25 R - F/P	121.7	117.6	240	296	346	137.5	50	55	60	270	12 x Ø17.5	1.5	M12 x 1.75	220	160	15
URS 120 x 30 R - F/P	122.0	117.1	240	296	346	137.5	50	55	60	270	12 x Ø17.5	1.5	M12 x 1.75	220	160	15
URS 120 x 35 R - F/P	122.3	116.6	240	296	346	137.5	50	55	60	270	12 x Ø17.5	1.5	M12 x 1.75	220	160	15
URS 120 x 40 R - F/P	122.6	116.0	240	296	346	137.5	50	55	60	270	12 x Ø17.5	1.5	M12 x 1.75	220	160	15



Principal and technical characteristics

d0	Ph	N	Ca	Ca0	η	η'	So	mn	ms	ls	l _{nn}	l _{ns}	Z _n	Z _s
mm	-	-	kN	-	-	-	-	kg	kg/m	kgmm ² /m	kgmm ²	-	mL	mL/m
135	15	5	2059	9377	0.80	0.79	0.07	123	112	254349	1383766	82646	173	35
	20	5	2096	9388	0.80	0.79	0.07	123	112	254349	1383766	82646	185	44
	25	5	2119	9354	0.80	0.79	0.07	123	112	254349	1383766	82646	197	54
	30	5	2148	9409	0.80	0.79	0.07	123	112	254349	1383766	82646	209	63
	35	5	2148	9286	0.80	0.79	0.07	123	112	254349	1383766	82646	221	72
	40	5	2157	9252	0.80	0.79	0.10	123	112	254349	1383766	82646	243	85
	50	5	2168	9184	0.79	0.79	0.10	123	112	254349	1383766	82646	268	103
150	15	5	2424	11989	0.80	0.79	0.07	183	138	387668	2713467	140806	210	39
	20	5	2475	12051	0.80	0.79	0.07	183	138	387668	2713467	140806	225	49
	25	5	2503	12013	0.80	0.79	0.07	183	138	387668	2713467	140806	241	59
	30	5	2511	11875	0.80	0.79	0.07	183	138	387668	2713467	140806	256	70
	35	5	2554	12037	0.80	0.79	0.07	183	138	387668	2713467	140806	272	80
	40	5	2553	11899	0.80	0.79	0.10	183	138	387668	2713467	140806	300	94
	50	5	2569	11823	0.80	0.79	0.10	183	138	387668	2713467	140806	331	115
180	20	5	3497	20308	0.80	0.79	0.07	357	198	803868	7762604	264492	355	59
	30	5	3572	20213	0.80	0.79	0.07	357	198	803868	7762604	264492	406	84
	40	5	3620	20118	0.80	0.79	0.10	357	198	803868	7762604	264492	477	113
	50	5	3710	20512	0.80	0.79	0.10	357	198	803868	7762604	264492	530	137
210	30	5	4174	25433	0.80	0.79	0.07	477	270	1489264	12927862	526529	514	98
	40	5	4218	25183	0.80	0.79	0.10	477	270	1489264	12927861	526529	605	131
	50	5	4243	24933	0.80	0.79	0.10	477	270	1489264	12927861	526529	672	160

Designations

Ultra-Capacitive

Roller Screws

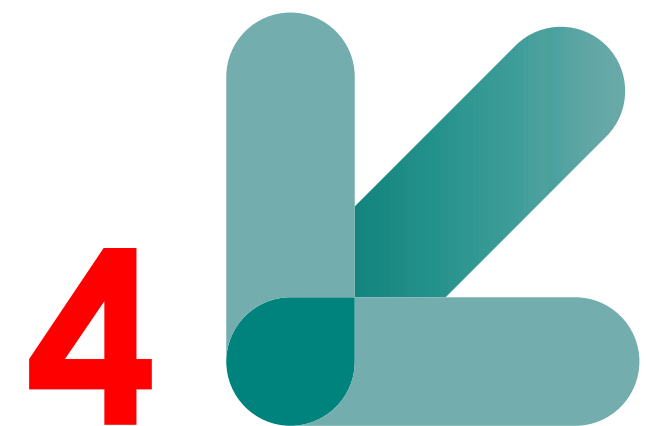
Dimensions

d1	d2	D	D1	A	A1	A1	A2	A3	J	G	w	Q	D2	D3	u
g6/H7				h12		P			js12						°
mm															
URS 135 x 15 R - F/P	136.1	133.6	280	345	370	155	60	60	80	315	12 x Ø20	2	M12 x 1.75	254	180 15
URS 135 x 20 R - F/P	136.4	133.1	280	345	370	155	60	60	80	315	12 x Ø20	2	M12 x 1.75	254	180 15
URS 135 x 25 R - F/P	136.7	132.6	280	345	370	155	60	60	80	315	12 x Ø20	2	M12 x 1.75	254	180 15
URS 135 x 30 R - F/P	137.0	132.1	280	345	370	155	60	60	80	315	12 x Ø20	2	M12 x 1.75	254	180 15
URS 135 x 35 R - F/P	137.3	131.6	280	345	370	155	60	60	80	315	12 x Ø20	2	M12 x 1.75	254	180 15
URS 135 x 40 R - F/P	137.6	131.1	280	345	370	155	60	60	80	315	12 x Ø20	2	M12 x 1.75	254	180 15
URS 135 x 50 R - F/P	138.2	130.0	280	345	370	155	60	60	80	315	12 x Ø20	2	M12 x 1.75	254	180 15
URS 150 x 15 R - F/P	151.1	148.6	320	385	412	171	65	70	80	355	12 x Ø20	3	M12 x 1.75	280	200 15
URS 150 x 20 R - F/P	151.4	148.1	320	385	412	171	65	70	80	355	12 x Ø20	3	M12 x 1.75	280	200 15
URS 150 x 25 R - F/P	151.7	147.6	320	385	412	171	65	70	80	355	12 x Ø20	3	M12 x 1.75	280	200 15
URS 150 x 30 R - F/P	152.1	147.1	320	385	412	171	65	70	80	355	12 x Ø20	3	M12 x 1.75	280	200 15
URS 150 x 35 R - F/P	152.4	146.6	320	385	412	171	65	70	80	355	12 x Ø20	3	M12 x 1.75	280	200 15
URS 150 x 40 R - F/P	152.7	146.1	320	385	412	171	65	70	80	355	12 x Ø20	3	M12 x 1.75	280	200 15
URS 150 x 50 R - F/P	153.2	145.0	320	385	412	171	65	70	80	355	12 x Ø20	3	M12 x 1.75	280	200 15
URS 180 x 20 R - F/P	181.4	178.2	390	470	528	219	96	90	100	433	12 x Ø24	3	M12 x 1.75	345	240 15
URS 180 x 30 R - F/P	182.1	177.2	390	470	528	219	96	90	100	433	12 x Ø24	3	M12 x 1.75	345	240 15
URS 180 x 40 R - F/P	182.7	176.2	390	470	528	219	96	90	100	433	12 x Ø24	3	M12 x 1.75	345	240 15
URS 180 x 50 R - F/P	183.3	175.1	390	470	528	219	96	90	100	433	12 x Ø24	3	M12 x 1.75	345	240 15
URS 210 x 30 R - F/P	212.1	207.2	440	530	570	235	100	100	100	490	12 x Ø26	3	M12 x 1.75	398	280 15
URS 210 x 40 R - F/P	212.8	206.2	440	530	570	235	100	100	100	490	12 x Ø26	3	M12 x 1.75	398	280 15
URS 210 x 50 R - F/P	213.4	205.2	440	530	570	235	100	100	100	490	12 x Ø26	3	M12 x 1.75	398	280 15

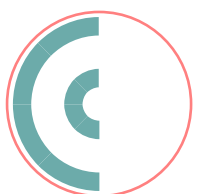




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IRS Inverted Roller Screws



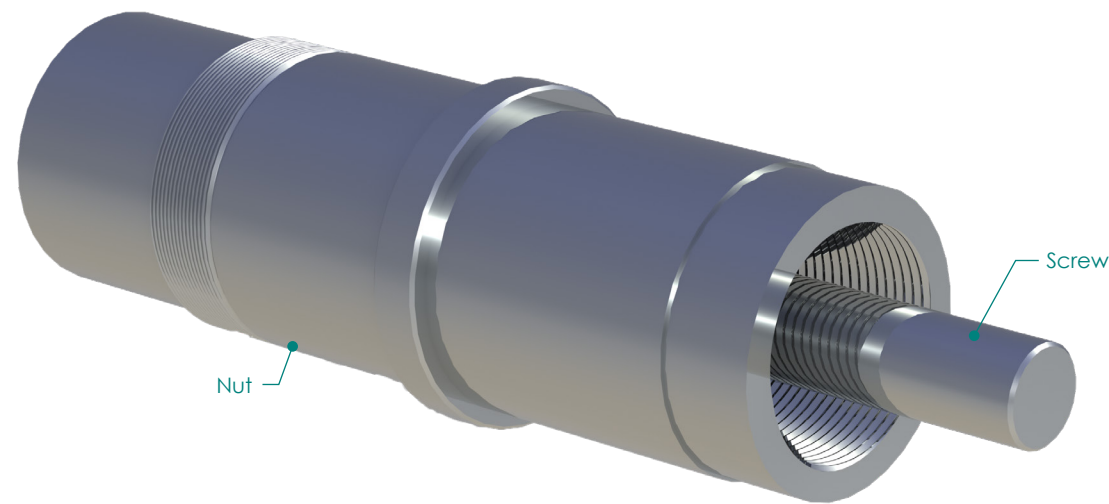


Fig. 4.1: a typical Inverted Roller Screw (IRS)

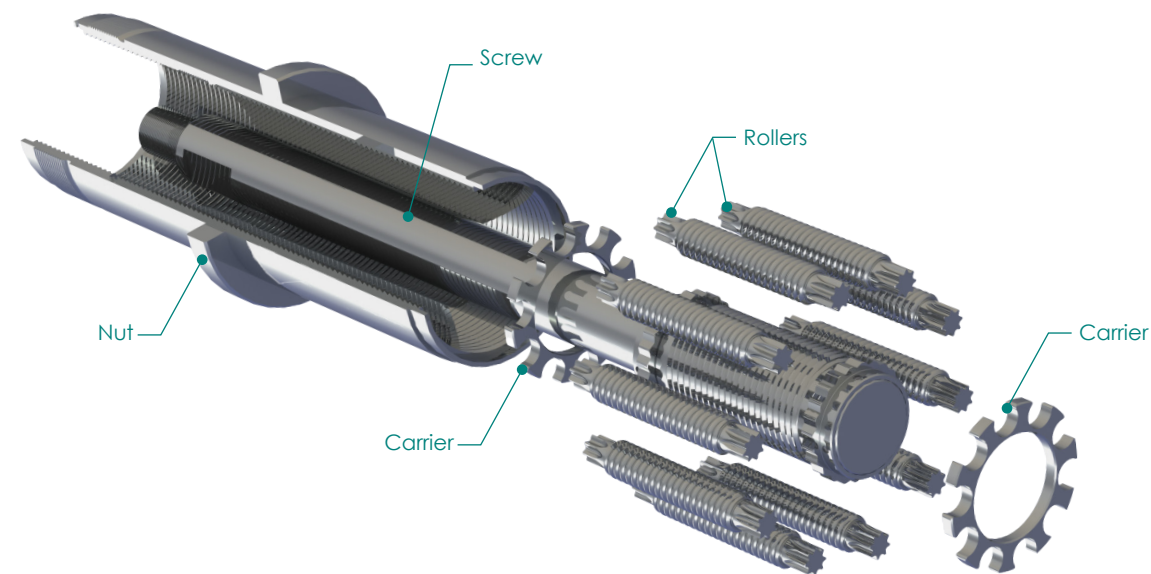


Fig. 4.2: a split Inverted Roller Screw (IRS)

The Inverted Roller Screw (IRS) is the exact inverse of the standard roller screw (SRS). The screw shaft together with the rollers translates internally along the nut. It exhibits higher load capacities in the same envelop thanks to its geometric settings.

This type of planetary roller screw can only be preloaded using rollers as for backlash elimination with rollers. Normally the nut and the screw are customized to fit application needs.

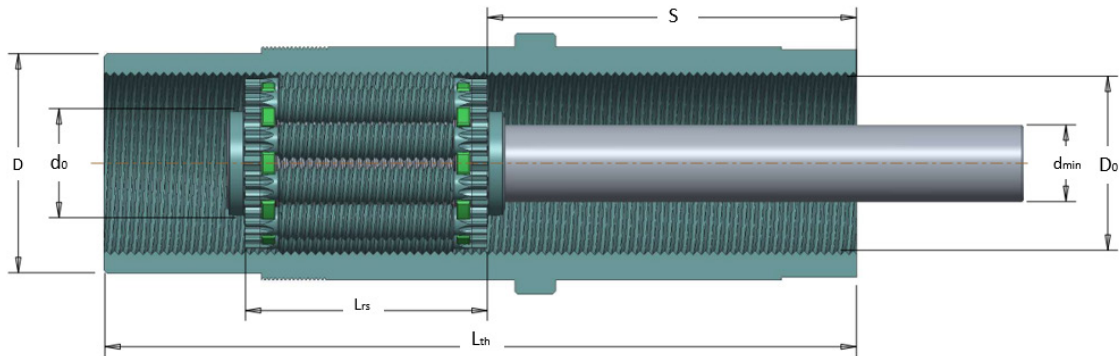


Fig. 4.3: plots of load improvements of the IRS solutions for some key leads

Table 3: Diameter x Lead summarizing the available IRS with Ca (kN)

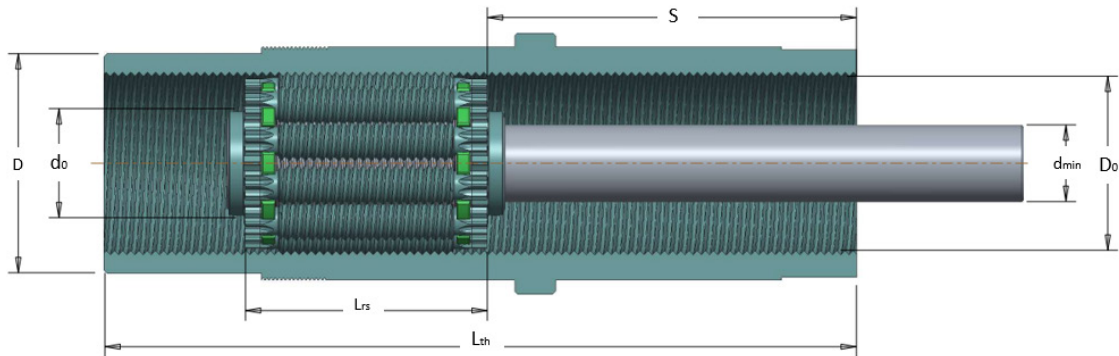
Inverted Roller Screw (IRS) : dynamic load carrying capacity Ca [kN]									Standard Roller Screws (SRS) : dynamic load carrying capacity Ca [kN]							
Nominal diameter	Lead								Nominal diameter	Lead						
d0	1	2	2,4	3	4	5	6	7	d0	8	9	10	12	14	15	16
mm	kN								mm	kN						
9	14								9							
12	16	18							12							
14	16	19							14							
15	27	32		33					15							
18	42	49	51	54					18							
21		63	66	70	75				21							
24		82	86	91	96	102			24							
27		90		100	106	111			27							
28		66		72	78	80	86		28							
30		120	125	133	142	149	155		30							
36		103		113	122	127	130	136	36							
39			176	185	200	209	219	227	39	232						
44				155	166	176	183	187	44	193	200					
48			256	270	290	305	320	329	48	339	346	355				
51				300	321	338	352	366	51	380	392	394				
56					248	262	274	285	56	291	300	310	324			
60					278	295	307	317	60	326	339	344	363			
64					297	313	329	341	64	356	361	371	389	409		
70							274		70	294		314	324	342	346	
75							306		75	330		344	367	381	387	
80							421		80	454		483	505	505	524	609





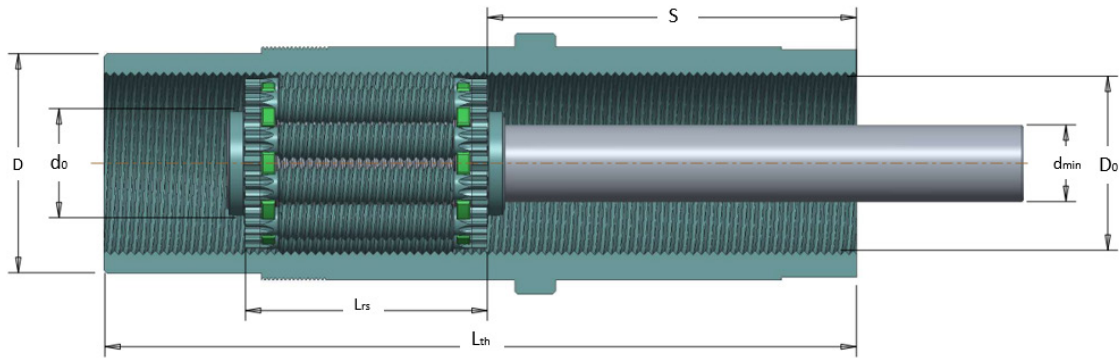
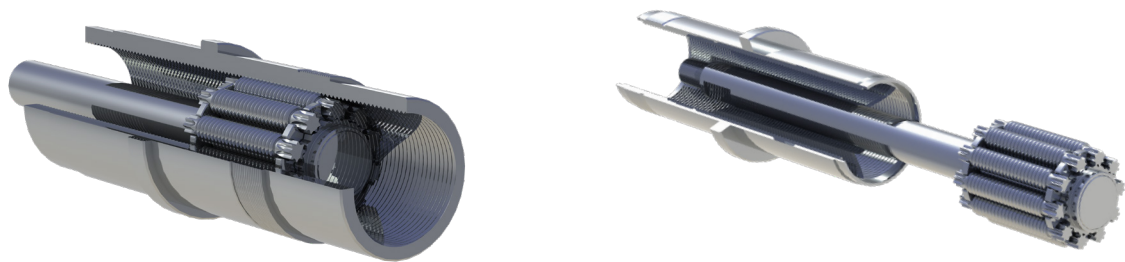
Principal and technical characteristics										Designations	Maximum	Minimum push	Recommended minimum	Threaded length	Standard	Length of
d0	D0	Ph	N	Ca	Ca0	η	h'	Zn	Zs	Inverted	axial play	tube outer	nut outer diameter	of the nut	stroke	roller set
mm			-	kN		-	-	mL/m	mL	Roller Screws	S0	dmin	D	Lth	S	Lrs
												g6/H7				max
10.5	18	2	3	14	18	0.79	0.80	1.1	0.4	IRS 10.5 x 2 R	0.02	8	24	87	61	26
12	20	1	3	16	24	0.78	0.78	0.8	0.5	IRS 12 x 1 R	0.02	10	26	99	70	29
	20	2	3	18	24	0.79	0.78	1.2	0.5	IRS 12 x 2 R	0.02	10	26	99	70	29
13.5	23	1	3	16	24	0.78	0.78	0.9	0.6	IRS 13.5 x 1 R	0.02	12	30	112	84	28
	23	2	3	19	24	0.78	0.78	1.4	0.6	IRS 13.5 x 2 R	0.02	12	30	112	84	28
15	25	1	3	27	54	0.78	0.78	1.0	0.7	IRS 15 x 1 R	0.02	12	32	124	86	38
	25	2	3	32	54	0.78	0.78	1.5	0.7	IRS 15 x 2 R	0.02	12	32	111	86	38
	25	3	3	33	48	0.79	0.78	2.1	0.9	IRS 15 x 3 R	0.02	12	32	124	86	38
18	30	1	3	42	97	0.78	0.77	1.2	1.2	IRS 18 x 1 R	0.02	16	38	149	99	50
	30	2	3	49	98	0.78	0.78	1.8	1.2	IRS 18 x 2 R	0.02	16	38	149	99	50
	30	2.4	3	51	96	0.78	0.78	2.1	1.2	IRS 18 x 2.4 R	0.02	16	38	149	99	50
	30	3	3	54	98	0.79	0.78	2.5	1.3	IRS 18 x 3 R	0.02	16	38	149	99	50
	30	4	3	57	96	0.79	0.79	3.2	1.3	IRS 18 x 4 R	0.02	16	38	149	99	50
	30	5	3	60	96	0.79	0.79	4.4	1.4	IRS 18 x 5 R	0.04	16	38	149	99	50
	30	6	3	64	99	0.80	0.79	5.2	1.5	IRS 18 x 6 R	0.04	16	38	149	99	50
21	35	2	3	63	134	0.78	0.78	2.1	1.5	IRS 21 x 2 R	0.02	18	45	174	118	56
	35	2.4	3	66	134	0.78	0.78	2.5	1.6	IRS 21 x 2.4 R	0.02	18	45	174	118	56
	35	3	3	70	135	0.78	0.78	2.9	1.6	IRS 21 x 3 R	0.02	18	45	174	118	56
	35	4	3	75	135	0.79	0.78	3.7	1.7	IRS 21 x 4 R	0.02	18	45	174	118	56
	35	5	3	79	135	0.79	0.79	5.1	1.9	IRS 21 x 5 R	0.04	18	45	174	118	56
	35	6	3	82	136	0.79	0.79	5.9	2.0	IRS 21 x 6 R	0.04	18	45	174	118	56
24	40	2	3	82	191	0.78	0.78	2.4	1.9	IRS 24 x 2 R	0.02	21	50	199	134	65
	40	2.4	3	86	191	0.78	0.78	2.8	2.0	IRS 24 x 2.4 R	0.02	21	50	199	134	65
	40	3	3	91	193	0.78	0.78	3.4	2.1	IRS 24 x 3 R	0.02	21	50	199	134	65
	40	4	3	96	188	0.79	0.78	4.3	2.2	IRS 24 x 4 R	0.02	21	50	199	134	65
	40	5	3	102	190	0.79	0.78	5.8	2.4	IRS 24 x 5 R	0.04	21	50	199	134	65
	40	6	3	106	189	0.79	0.79	6.7	2.6	IRS 24 x 6 R	0.04	21	50	199	134	65





Principal and technical characteristics

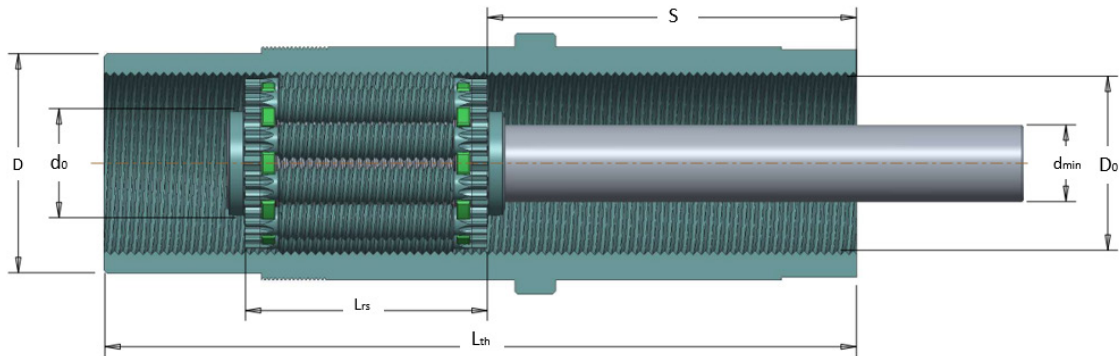
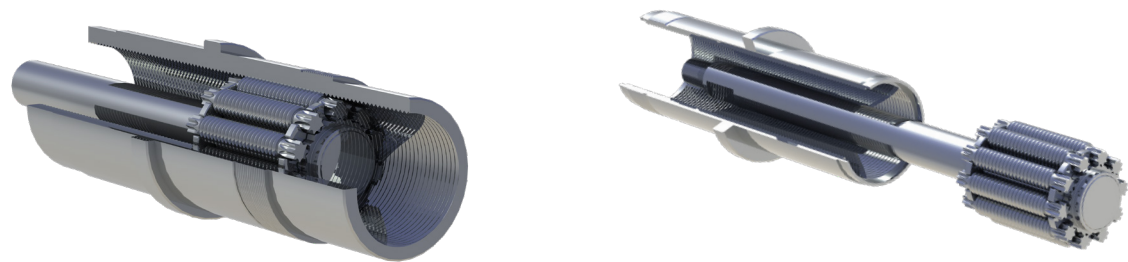
d0	D0	Ph	N	Ca	Ca0	η	h'	Zn	Zs	Designations Inverted Roller Screws	Maximum axial play S0	Minimum push tube outer diameter dmin	Recommended minimum nut outer diameter D	Threaded length of the nut Lth	Standard stroke S	Length of roller set Lrs
mm			-	kN		-	-	mL/m	mL				g6/H7		max	
27	45	2	3	90	210	0.78	0.78	2.8	2.3	IRS 27 x 2 R	0.02	24	55	224	162	62
	45	3	3	100	210	0.78	0.78	3.8	2.4	IRS 27 x 3 R	0.02	24	55	224	162	62
	45	4	3	106	207	0.78	0.78	4.8	2.5	IRS 27 x 4 R	0.02	24	55	224	162	62
	45	5	3	111	205	0.79	0.78	6.5	2.9	IRS 27 x 5 R	0.04	24	55	224	162	62
28	42	2	4	66	156	0.84	0.83	2.1	1.9	IRS 28 x 2 R	0.02	25	52	209	157	52
	42	3	4	72	157	0.84	0.83	2.8	1.9	IRS 28 x 3 R	0.02	25	52	209	157	52
	42	4	4	78	157	0.84	0.83	3.5	2.0	IRS 28 x 4 R	0.02	25	52	209	157	52
	42	5	4	80	152	0.84	0.83	4.9	2.2	IRS 28 x 5 R	0.04	25	52	209	157	52
	42	6	4	86	158	0.85	0.83	5.0	2.1	IRS 28 x 6 R	0.02	27	52	209	157	52
30	50	2	3	120	312	0.78	0.78	3.1	2.9	IRS 30 x 2 R	0.02	27	60	249	174	75
	50	2.4	3	125	310	0.78	0.78	3.5	2.9	IRS 30 x 2.4 R	0.02	27	60	249	174	75
	50	3	3	133	315	0.78	0.78	4.2	3.0	IRS 30 x 3 R	0.02	27	60	249	174	75
	50	4	3	142	313	0.78	0.78	5.3	3.2	IRS 30 x 4 R	0.02	27	60	249	174	75
	50	5	3	149	311	0.79	0.78	7.3	3.7	IRS 30 x 5 R	0.04	27	60	249	174	75
	50	6	3	155	309	0.79	0.78	8.4	3.9	IRS 30 x 6 R	0.04	27	60	249	174	75
36	54	2	4	103	284	0.82	0.81	2.7	2.8	IRS 36 x 2 R	0.02	33	64	269	206	63
	54	3	4	113	280	0.82	0.81	3.6	2.9	IRS 36 x 3 R	0.02	33	64	269	206	63
	54	4	4	122	285	0.83	0.81	4.5	3.0	IRS 36 x 4 R	0.02	33	64	269	206	63
	54	5	4	127	279	0.83	0.82	6.3	3.4	IRS 36 x 5 R	0.04	33	64	269	206	63
	54	6	4	130	270	0.83	0.82	6.4	3.4	IRS 36 x 6 R	0.02	33	64	269	206	63
	54	7	4	136	274	0.83	0.82	8.2	3.8	IRS 36 x 7 R	0.04	33	64	269	206	63
39	65	2.4	3	176	473	0.76	0.76	4.6	5.1	IRS 39 x 2.4 R	0.02	36	75	324	234	90
	65	3	3	185	470	0.76	0.76	5.5	5.3	IRS 39 x 3 R	0.02	36	75	324	234	90
	65	4	3	200	477	0.76	0.76	6.9	5.6	IRS 39 x 4 R	0.02	36	75	324	234	90
	65	5	3	209	472	0.76	0.76	9.4	6.3	IRS 39 x 5 R	0.04	36	75	324	234	90
	65	6	3	219	472	0.77	0.77	10.9	6.6	IRS 39 x 6 R	0.04	36	75	324	234	90
	65	7	3	227	473	0.77	0.77	12.4	6.9	IRS 39 x 7 R	0.04	36	75	324	234	90
	65	8	3	232	468	0.77	0.77	13.9	7.1	IRS 39 x 8 R	0.04	36	75	324	234	90



Principal and technical characteristics

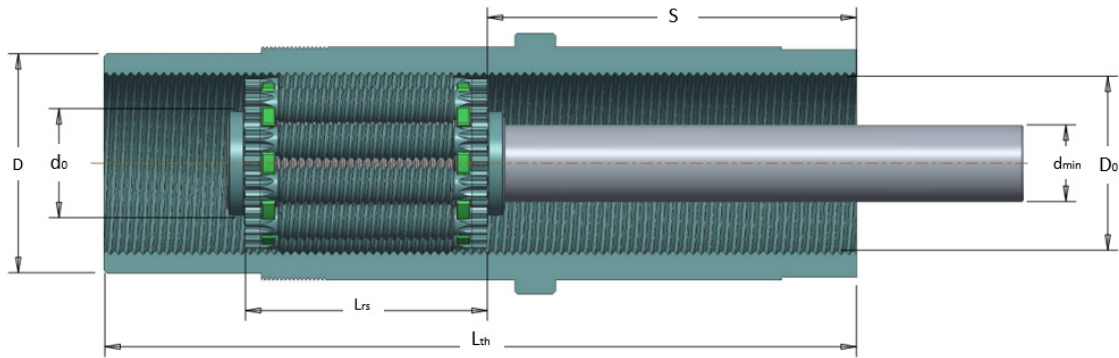
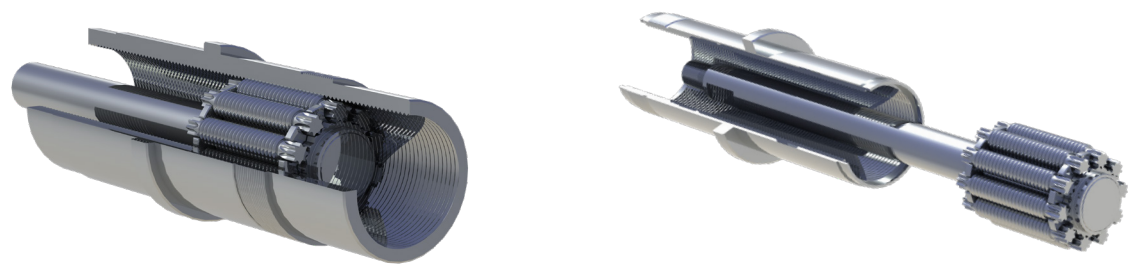
d0	D0	Ph	N	Ca	Ca0	η	h'	Zn	Zs	Designations Inverted Roller Screws	Maximum axial play S0	Minimum push tube outer diameter dmin	Recommended minimum nut outer diameter D	Threaded length of the nut Lth	Standard stroke S	Length of roller set Lrs
mm			-	kN		-	-	mL/m	mL				g6/H7		max	
44	66	3	4	155	420	0.82	0.81	4.4	4.8	IRS 44 x 3 R	0.02	40	76	329	253	76
	66	4	4	166	420	0.82	0.81	5.5	5.0	IRS 44 x 4 R	0.02	40	76	329	253	76
	66	5	4	176	426	0.83	0.81	7.7	5.6	IRS 44 x 5 R	0.04	40	76	329	253	76
	66	6	4	183	422	0.83	0.82	8.8	5.7	IRS 44 x 6 R	0.04	40	76	329	253	76
	66	7	4	187	412	0.83	0.82	10.0	5.9	IRS 44 x 7 R	0.04	40	76	329	253	76
	66	8	4	193	413	0.83	0.82	11.1	6.0	IRS 44 x 8 R	0.04	40	76	329	253	76
	66	9	4	200	416	0.83	0.82	12.2	6.2	IRS 44 x 9 R	0.04	40	76	329	253	76
48	80	2.4	3	256	776	0.78	0.77	5.6	8.1	IRS 48 x 2.4 R	0.02	44	90	399	285	114
	80	3	3	270	777	0.78	0.77	6.7	8.4	IRS 48 x 3 R	0.02	44	90	399	285	114
	80	4	3	290	778	0.78	0.78	8.5	8.8	IRS 48 x 4 R	0.02	44	90	399	285	114
	80	5	3	305	775	0.78	0.78	10.4	9.3	IRS 48 x 5 R	0.02	44	90	399	285	114
	80	6	3	320	780	0.78	0.78	13.4	10.5	IRS 48 x 6 R	0.04	44	90	399	285	114
	80	7	3	329	769	0.78	0.78	15.3	10.9	IRS 48 x 7 R	0.04	44	90	399	285	114
	80	8	3	339	767	0.79	0.78	17.1	11.4	IRS 48 x 8 R	0.04	44	90	399	285	114
	80	9	3	346	760	0.79	0.78	18.9	11.8	IRS 48 x 9 R	0.04	44	90	399	285	114
	80	10	3	355	761	0.79	0.78	20.7	12.3	IRS 48 x 10 R	0.04	44	90	399	285	114
51	85	3	3	300	892	0.78	0.77	7.1	9.3	IRS 51 x 3 R	0.02	47	99	424	303	121
	85	4	3	321	889	0.78	0.78	9.1	9.8	IRS 51 x 4 R	0.02	47	99	424	303	121
	85	5	3	338	886	0.78	0.78	12.3	11.2	IRS 51 x 5 R	0.04	47	99	424	303	121
	85	6	3	352	883	0.78	0.78	14.3	11.7	IRS 51 x 6 R	0.04	47	99	424	303	121
	85	7	3	366	884	0.78	0.78	16.2	12.2	IRS 51 x 7 R	0.04	47	99	424	303	121
	85	8	3	380	893	0.78	0.78	18.1	12.7	IRS 51 x 8 R	0.04	47	99	424	303	121
	85	9	3	392	898	0.79	0.78	20.1	13.3	IRS 51 x 9 R	0.04	47	99	424	303	121
	85	10	3	394	871	0.79	0.78	22.0	13.8	IRS 51 x 10 R	0.04	47	99	424	303	121





Principal and technical characteristics

d0	D0	Ph	N	Ca	Ca0	η	h'	Zn	Zs	Designations Inverted Roller Screws	Maximum axial play S0	Minimum push tube outer diameter dmin	Recommended minimum nut outer diameter D	Threaded length of the nut Lth	Standard stroke S	Length of roller set Lrs
mm			-	kN		-	-	mL/m	mL				g6/H7		max	
56	84	4	4	248	711	0.82	0.81	7.0	7.5	IRS 56 x 4 R	0.02	52	98	419	323	96
	84	5	4	262	712	0.82	0.81	9.8	8.5	IRS 56 x 5 R	0.04	52	98	419	323	96
	84	6	4	274	713	0.82	0.81	11.2	8.8	IRS 56 x 6 R	0.04	52	98	419	323	96
	84	7	4	285	717	0.83	0.82	12.7	9.1	IRS 56 x 7 R	0.04	52	98	419	323	96
	84	8	4	291	702	0.83	0.82	14.1	9.4	IRS 56 x 8 R	0.04	52	98	419	323	96
	84	9	4	300	706	0.83	0.82	15.5	9.7	IRS 56 x 9 R	0.04	52	98	419	323	96
	84	10	4	310	716	0.83	0.82	17.0	9.9	IRS 56 x 10 R	0.04	52	98	419	323	96
	84	12	4	324	718	0.83	0.82	19.9	10.5	IRS 56 x 12 R	0.04	52	98	419	323	96
60	90	4	4	278	825	0.82	0.81	7.6	8.5	IRS 60 x 4 R	0.02	56	108	449	347	102
	90	5	4	295	829	0.82	0.81	10.5	9.6	IRS 60 x 5 R	0.04	56	108	449	347	102
	90	6	4	307	827	0.82	0.81	12.0	9.9	IRS 60 x 6 R	0.04	56	108	449	347	102
	90	7	4	317	821	0.83	0.82	13.6	10.3	IRS 60 x 7 R	0.04	56	108	449	347	102
	90	8	4	326	815	0.83	0.82	15.1	10.6	IRS 60 x 8 R	0.04	56	108	449	347	102
	90	9	4	339	830	0.83	0.82	16.7	11.0	IRS 60 x 9 R	0.04	56	108	449	347	102
	90	10	4	344	817	0.83	0.82	18.2	11.3	IRS 60 x 10 R	0.04	56	108	449	347	102
	90	12	4	363	832	0.83	0.82	21.3	12.0	IRS 60 x 12 R	0.04	56	108	449	347	102
64	96	4	4	297	1021	0.82	0.81	8.1	10.5	IRS 64 x 4 R	0.02	60	114	479	365	114
	96	5	4	313	1011	0.82	0.81	11.2	11.8	IRS 64 x 5 R	0.04	60	114	479	365	114
	96	6	4	329	1016	0.82	0.81	12.8	12.2	IRS 64 x 6 R	0.04	60	114	479	365	114
	96	7	4	341	1009	0.82	0.81	14.5	12.7	IRS 64 x 7 R	0.04	60	114	479	365	114
	96	8	4	356	1025	0.83	0.82	16.1	13.1	IRS 64 x 8 R	0.04	60	114	479	365	114
	96	9	4	361	996	0.83	0.82	17.8	13.5	IRS 64 x 9 R	0.04	60	114	479	365	114
	96	10	4	371	997	0.83	0.82	19.4	13.9	IRS 64 x 10 R	0.04	60	114	479	365	114
	96	12	4	389	999	0.83	0.82	22.7	14.7	IRS 64 x 12 R	0.04	60	114	479	365	114
	96	14	4	409	1016	0.83	0.82	28.3	16.9	IRS 64 x 14 R	0.07	60	114	479	365	114



Principal and technical characteristics

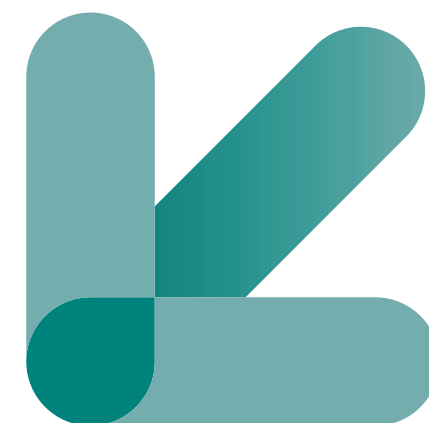
d0	D0	Ph	N	Ca	Ca0	η	h'	Zn	Zs	Designations Inverted Roller Screws	Maximum axial play S0	Minimum push tube outer diameter dmin	Recommended minimum nut outer diameter D	Threaded length of the nut Lth	Standard stroke S	Length of roller set Lrs
mm			-	kN		-	-	mL/m	mL				g6/H7		max	
70	98	6	5	274	892	0.89	0.87	11.1	10.2	IRS 70 x 6 R	0.04	66	120	489	393	96
	98	8	5	294	887	0.89	0.88	13.8	10.7	IRS 70 x 8 R	0.04	66	120	489	393	96
	98	10	5	314	902	0.89	0.88	16.5	11.3	IRS 70 x 10 R	0.04	66	120	489	393	96
	98	12	5	324	878	0.89	0.88	19.1	11.8	IRS 70 x 12 R	0.04	66	120	489	393	96
	98	14	5	342	898	0.89	0.88	24.1	13.6	IRS 70 x 14 R	0.07	66	120	489	393	96
	98	15	5	346	890	0.89	0.88	25.5	13.9	IRS 70 x 15 R	0.07	66	120	489	393	96
75	105	6	5	306	1034	0.89	0.87	11.9	11.4	IRS 75 x 6 R	0.04	70	127	524	422	102
	105	8	5	330	1036	0.89	0.87	14.8	12.1	IRS 75 x 8 R	0.04	70	127	524	422	102
	105	10	5	344	1010	0.89	0.88	17.6	12.7	IRS 75 x 10 R	0.04	70	127	524	422	102
	105	12	5	367	1039	0.89	0.88	20.5	13.4	IRS 75 x 12 R	0.04	70	127	524	422	102
	105	14	5	381	1034	0.89	0.88	25.9	15.4	IRS 75 x 14 R	0.07	70	127	524	422	102
	105	15	5	387	1031	0.89	0.88	27.3	15.8	IRS 75 x 15 R	0.07	70	127	524	422	102
80	120	6	4	421	1358	0.82	0.81	16.0	17.3	IRS 80 x 6 R	0.04	75	142	599	473	126
	120	8	4	454	1361	0.82	0.81	20.1	18.5	IRS 80 x 8 R	0.04	75	142	599	473	126
	120	10	4	483	1372	0.83	0.82	24.2	19.7	IRS 80 x 10 R	0.04	75	142	599	473	126
	120	12	4	505	1365	0.83	0.82	28.3	20.8	IRS 80 x 12 R	0.04	75	142	599	473	126
	120	14	4	524	1359	0.83	0.82	35.3	24.0	IRS 80 x 14 R	0.07	75	142	599	473	126
	120	16	4	609	1556	0.83	0.82	39.4	25.2	IRS 80 x 16 R	0.07	75	142	599	473	126





ALT Bearings® has worked closely with machine suppliers to develop the ALT Roller screw range with the latest manufacturing technology, improved lead times, optimized cost and improved quality for our customers.

5



DRS Differential Roller Screws



Table 4: Diameter x Lead summarizing the available **DRS** with Ca (kN) - standard range

Differential Roller Screw (DRS) : dynamic load carrying capacity Ca [kN]			
Nominal diameter	Lead		
d0	0.2	0.4	0.6
mm	kN		
16	17	20	23
20	33	39	45
24	47	55	63
28	53	63	72
32	56	66	76
36	61	72	82
40	92	108	124
44	103	122	140

Possible leads can be extremely small, reaching a few hundredths of mm if needed. This design is perfect if you need extreme resolution and positioning accuracy on a short stroke.

Our innovative design has been optimized to a higher level with a fewer components and lower weight while keeping high load and speed capabilities.

As always material, coatings and interface dimensions will be fully adapted to meet application needs. Please consult our Engineering team for further details.

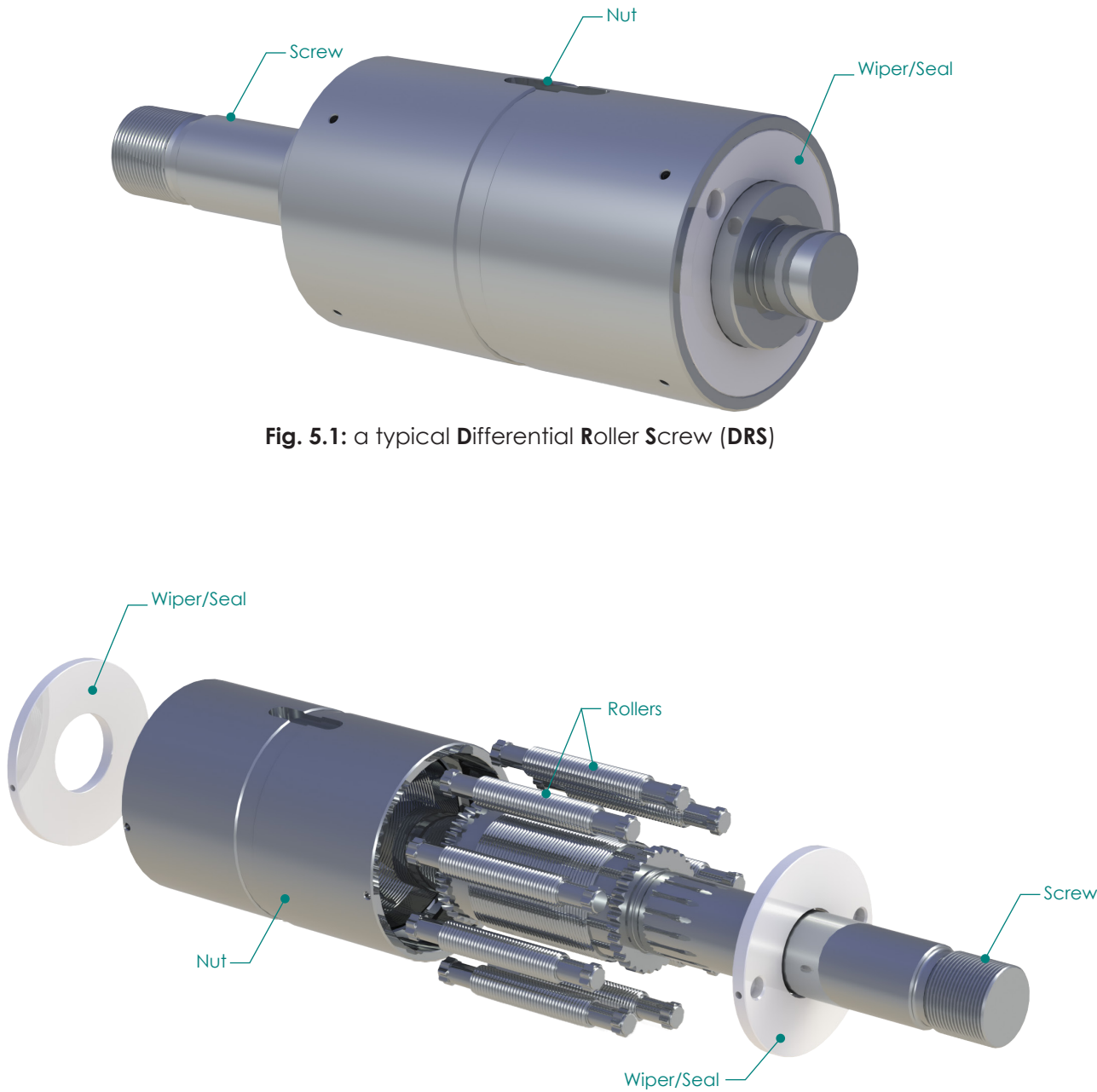
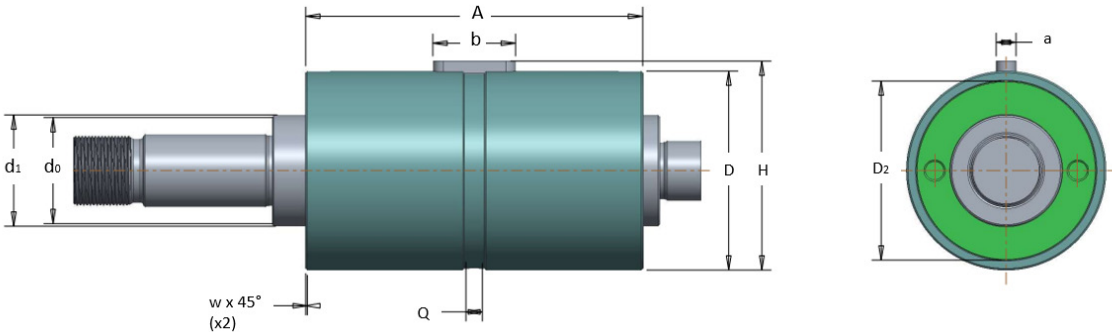
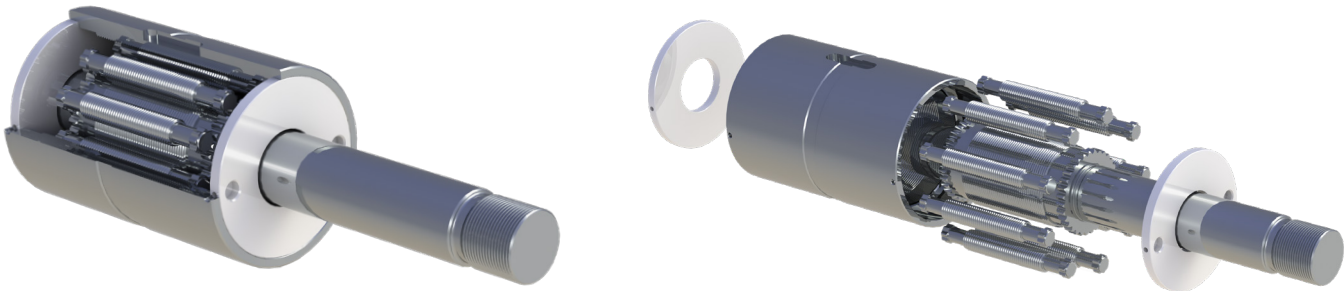


Fig. 5.1: a typical **Differential Roller Screw (DRS)**

Fig. 5.2: a split **Differential Roller Screw (DRS)**

The **DRS** is designed when extreme positioning accuracy and resolution is required for instance in laboratory, space, telescope, medical applications. The lead can be from hundredth of mm up to few tenth or mm. The resulting lead is achieved with a differential motion between the shaft nut and rollers

which are actually designed with a larger pitch to keep a very high load capacity.

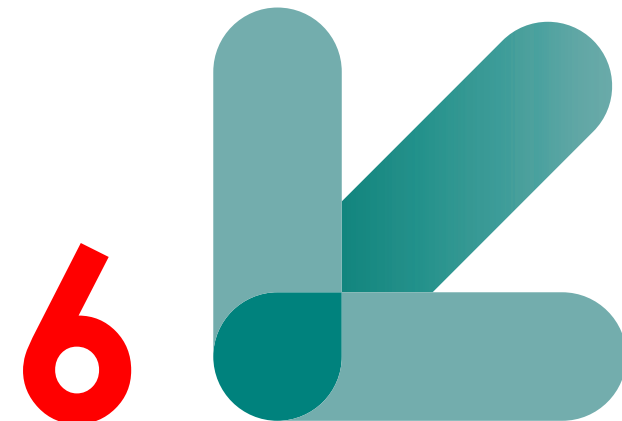


Principal and technical characteristics													Designations	Dimensions								
d0	Ph	Ca	Ca0	η	ηa	ST	mn	ms	ls	l _{nn}	l _{ns}	Zns	Differential	d1	D	A	w	a	b	H	Q	D2
													Roller Screws									
mm		kN		-	-	mm	kg	kg/m	kgmm2/m	kgmm2		mL	-	mm								
16	0.20	17	21	0.79	0.78	5	0.2	1.6	50	62	29.7	5	DRS 16 x 0.2 R	16.5	32	63	0.5	4	12	33.5	5	27
	0.40	20	28	0.81	0.80	5	0.2	1.6	50	71	38	5	DRS 16 x 0.4 R	16.5	32	63	0.5	4	12	33.5	5	27
	0.60	23	34	0.80	0.79	5	0.2	1.6	50	79	47	5	DRS 16 x 0.6 R	16.5	32	63	0.5	4	12	33.5	5	27
20	0.20	33	56	0.79	0.78	5	0.3	2.5	123	161	93.3	7.6	DRS 20 x 0.2 R	20.5	38	77	0.5	5	18	40	5	35
	0.40	39	71	0.81	0.80	5	0.4	2.5	123	188	120.0	7.6	DRS 20 x 0.4 R	20.5	38	77	0.5	5	18	40	5	35
	0.60	45	87	0.80	0.79	5	0.4	2.5	123	215	146.7	7.7	DRS 20 x 0.6 R	20.5	38	77	0.5	5	18	40	5	35
24	0.20	47	88	0.79	0.78	5	0.5	3.5	254	344	193.9	11	DRS 24 x 0.2 R	24.5	45	86	0.5	5	20	47	5	40
	0.40	55	113	0.81	0.80	5	0.6	3.5	254	400	249	11	DRS 24 x 0.4 R	24.5	45	86	0.5	5	20	47	5	40
	0.60	63	138	0.80	0.79	5	0.6	3.5	254	455	305	11	DRS 24 x 0.6 R	24.5	45	86	0.5	5	20	47	5	40
28	0.20	53	101	0.79	0.78	5	0.6	4.8	471	482	283	15	DRS 28 x 0.2 R	28.5	50	87	0.5	5	20	52	5	45
	0.40	63	129	0.81	0.80	5	0.7	4.8	471	563	364	15	DRS 28 x 0.4 R	28.5	50	87	0.5	5	20	52	5	45
	0.60	72	158	0.80	0.79	5	0.7	4.8	471	644	445	15	DRS 28 x 0.6 R	28.5	50	87	0.5	5	20	52	5	45
32	0.20	56	103	0.79	0.78	5	0.8	6.3	803	723	358.5	19	DRS 32 x 0.2 R	32.5	58	85	0.5	6	25	60	5	53
	0.40	66	132	0.81	0.80	5	0.9	6.3	803	826	461	19	DRS 32 x 0.4 R	32.5	58	85	0.5	6	25	60	5	53
	0.60	76	161	0.80	0.79	5	1.0	6.3	803	928	563	19	DRS 32 x 0.6 R	32.5	58	85	0.5	6	25	60	5	53
36	0.20	61	110	0.79	0.78	5	1.0	7.9	1286	978	468	24	DRS 36 x 0.2 R	36.5	64	85	0.5	6	32	66.5	5	58
	0.40	72	142	0.81	0.80	5	1.1	7.9	1286	1111	602	25	DRS 36 x 0.4 R	36.5	64	85	0.5	6	32	66.5	5	58
	0.60	82	173	0.80	0.79	5	1.2	7.9	1286	1245	735	25	DRS 36 x 0.6 R	36.5	64	85	0.5	6	32	66.5	5	58
40	0.20	92	202	0.79	0.78	5	1.2	9.8	1960	1652	1010	31	DRS 40 x 0.2 R	40.5	68	104	1	6	32	70	7	63
	0.40	108	260	0.81	0.80	5	1.3	9.8	1960	1941	1299	31	DRS 40 x 0.4 R	40.5	68	104	1	6	32	70	7	63
	0.60	124	318	0.80	0.79	5	1.5	9.8	1960	2229	1587	31	DRS 40 x 0.6 R	40.5	68	104	1	6	32	70	7	63
44	0.20	103	235	0.79	0.78	5	1.4	11.9	2870	2235	1376	37	DRS 44 x 0.2 R	44.5	74	108	1	6	32	76.7	7	70
	0.40	122	303	0.81	0.80	5	1.6	11.9	2870	2628	1769	37	DRS 44 x 0.4 R	44.5	74	108	1	6	32	76.7	7	70
	0.60	140	370	0.80	0.79	5	1.80	11.9	2870	3021	2162	37	DRS 44 x 0.6 R	45	74	108	1	6	32	76.7	7	70



Innovative processes, high strength materials, reliable equipment, skilled employees are among ALT ROLLER SCREWS® assets to support customer projects.

HRA Roller Screws with HRB



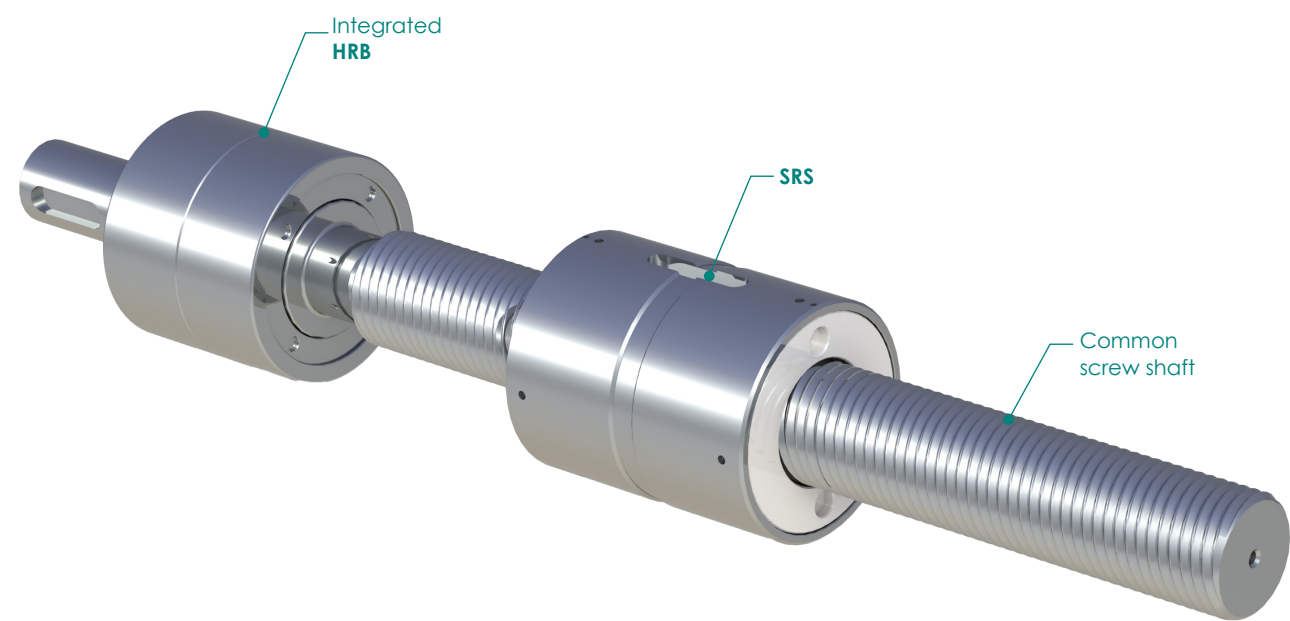


Fig. 6.1: a typical Roller Screw with integrated HRB on the shaft (HRA - s)

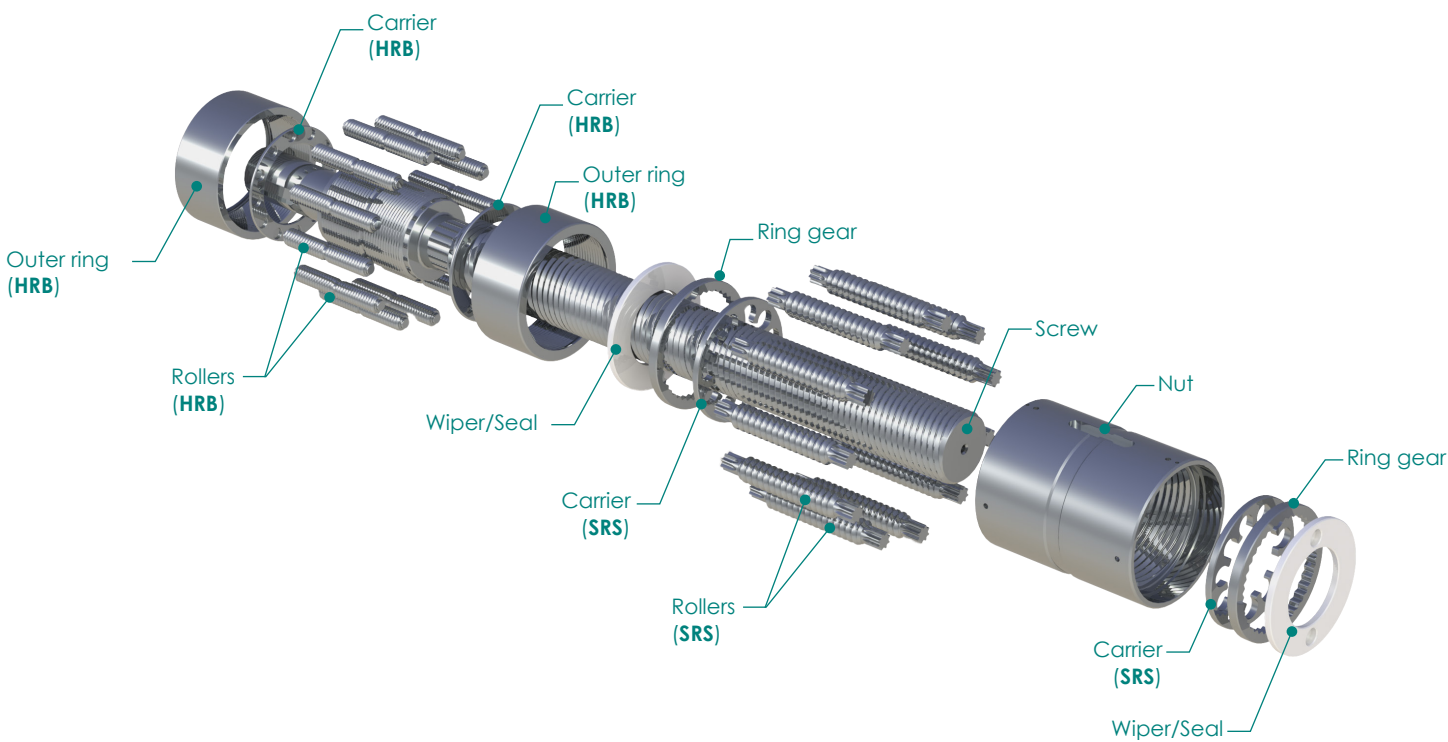


Fig. 6.2: a split Roller Screw with integrated HRB on the shaft (HRA - s)

According to customer requirements ALT Roller Screws® can be designed and supplied with customized HRS solutions with integrated Herringbone Roller Bearings (HRBs). The main advantage of this compact solution that combines bearing and roller screw on the same shaft is to optimize the available space, reduce mass and the cost of HRS and surrounding parts. Named as the HRA, this mechanism exists in standard with IT or HT bearing nut assemblies to align HRS and HRB capacities. The nut of the HRS can have any shape to fit customer requirements.

Table 5 helps select the right bearing nut that can equip the HRS in a standard HRA configuration Adjustment can be made depending on the application shaft is to optimize the whole available space, reduce masses and the cost of HRS and surrounding parts. Named as the HRA, this mechanism exists in standard with IT or HT bearing nut assemblies to align HRS and Adjustment can be made depending on the application requirements. So, ALT Roller Screws® can advise in selecting the right HRA

Table 5: Recommended sizes of integrated HRB for HRA-s equipped with an URS

URS combined with HRB							
HRA	Lead						
d0	15	20	25	30	35	40	50
URS	HRB						
60	HHT-060	HHT-060	HHT-060	HHT-060			
75	HHT-075	HHT-075	HHT-075	HHT-075			
87	HHT-080	HHT-080	HHT-080	HHT-080			
99	HHT-090	HHT-090	HHT-090	HHT-090	HHT-090		
111	HHT-095	HHT-095	HHT-095	HHT-095	HHT-095		
120	HHT-110	HHT-110	HHT-110	HHT-110	HHT-120	HHT-120	
135	HHT-120	HHT-120	HHT-120	HHT-120	HHT-120	HHT-120	HHT-120
150	HHT-130	HHT-130	HHT-130	HHT-130	HHT-130	HHT-130	HHT-130

Table 6: Recommended sizes for integrated HRB for HRA-s

SRS combined with HRB												SRS combined with HRB									
HRA	Lead											HRA	Lead								
d0	1	2	3	4	5	6	8	9	10	12		d0	15	18	20	24	25	30	35	36	42
SRS	HRB											SRS	HRB								
4	HIS-010	HIS-010	HIS-010									4									
8	HIS-012	HIS-012	HIS-012	HIS-012								8									
12		HIS-012	HIS-012	HHS-012	HHS-012	HHS-012	HHS-012					12									
15		HIT-012	HIT-012	HIT-012	HIT-012	HIT-012	HIT-012					15									
18		HIT-015	HIT-015	HIT-015	HIT-015	HIT-015	HIT-015		HIT-015			18									
21			HIT-017	HIT-017	HIT-017	HIT-017	HHT-017		HHT-017			21									
24			HIT-020			HIT-020			HIT-020			24									
24		HIT-020		HIT-020	HIT-020	HIT-020	HIT-020		HIT-020			24	HIT-020								
27		HIT-025		HIT-025	HIT-025	HIT-025	HIT-025		HIT-025			27	HIT-025								
30		HIT-025		HIT-025	HIT-025	HIT-025	HIT-025		HIT-025			30	HIT-025		HIT-030						
36						HHT-030		HIT-025	HHT-030			36		HHT-030							
36		HHT-030		HHT-030	HHT-030	HHT-030	HHT-030		HHT-030			36	HHT-030		HHT-030						
39		HHT-030		HHT-030	HHT-030	HHT-030	HHT-030		HHT-030			39	HHT-030		HHT-030		HHT-030				
44						HHT-035			HHT-035			44		HHT-035		HHT-035		HHT-035			
48						HHT-040			HHT-040			48		HHT-040	HHT-040	HHT-040					
48					HHT-040				HHT-040			48	HHT-040		HHT-040		HHT-040				
51					HHT-040				HHT-040			51	HHT-045		HHT-050		HHT-050				
56						HHT-045			HHT-045			56		HHT-045		HHT-045		HHT-045		HHT-045	
60						HIT-055		HIT-050	HIT-055			60		HIT-055		HIT-055		HIT-055		HIT-055	HIT-055
60					HIT-055				HHT-050			60	HHT-050		HHT-050		HHT-050	HHT-050	HHT-050		
64						HIT-060			HIT-060			64		HIT-060		HIT-060		HIT-060		HIT-060	
68						HHT-055			HHT-055			68		HHT-055		HHT-055		HHT-055		HHT-055	
75									HHT-060			75	HHT-060		HHT-065		HHT-065	HHT-065			
80									HIT-075			80		HIT-075		HIT-075		HIT-075		HIT-075	
87									HIT-080			87	HIT-080		HHT-070		HHT-070	HHT-070			
92									HIT-085			92		HIT-085		HIT-085		HIT-085		HIT-085	
99												99	HHT-080		HHT-085		HHT-085	HHT-085	HHT-085		
120												120		HIT-110		HIT-110		HIT-110		HIT-110	
120												120	HHT-100		HHT-100		HHT-100	HHT-100	HHT-100		



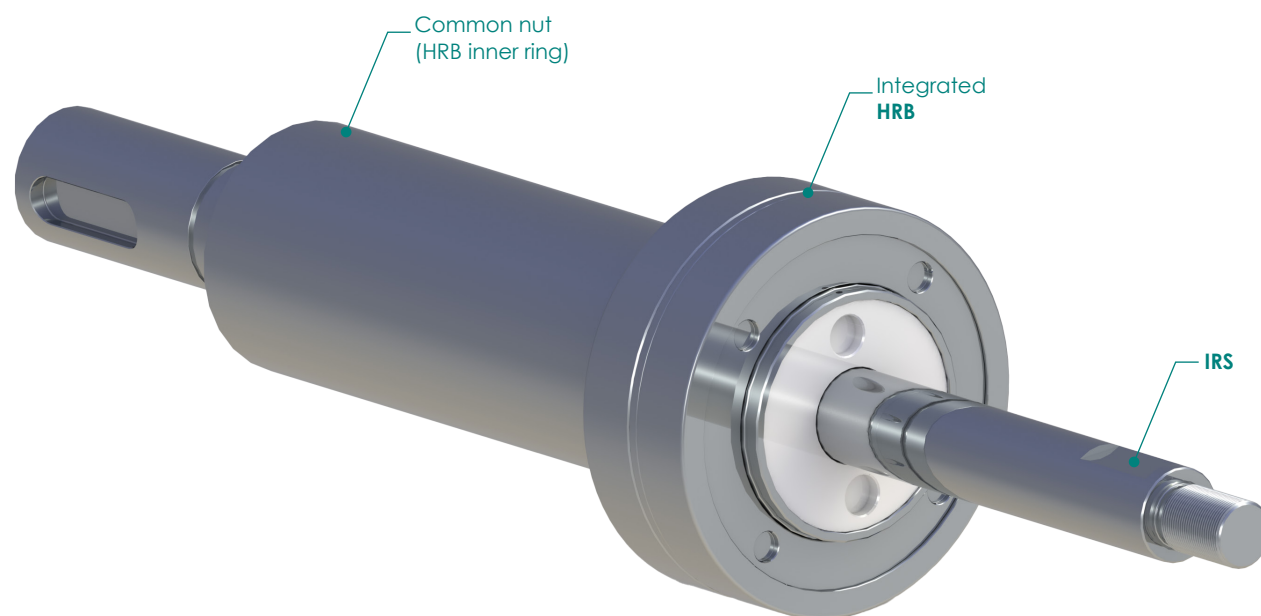


Fig. 6.3: a typical **Roller Screw** with integrated HRB on the nut (**HRA - i**)

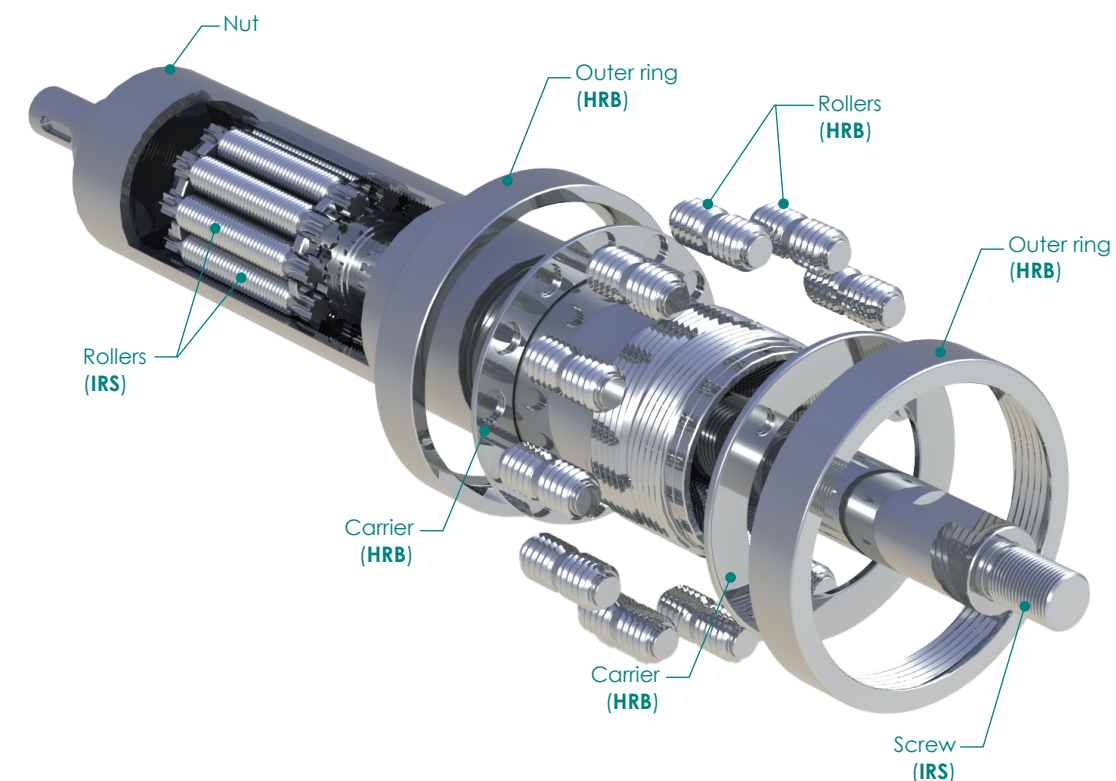


Fig. 6.4: a split **Roller Screw** with integrated HRB on the nut (**HRA - i**)

The **HRA-i** is a design where the inner ring of a HRB is fully integrated on the nut of an inverted roller screw (Fig. 6.3 and Fig. 6.4). The HRA-i eliminates the need for a locknut and flange on the nut of an Inverted Roller Screw (IRS).

The main advantage of this compact solution that combines bearing and roller screw through a common component is to align the load capacities of both mechanisms and to optimize the entire available space, reduce masses and the cost of HRS as well as permitting improved design of parts. This is not possible with any traditional, existing bearings in such envelopes.

By maximizing capacity and reliability, the HRA-i also offers unprecedented power density with a custom mechanical package ready for the next generation of **compact** electric linear actuators.

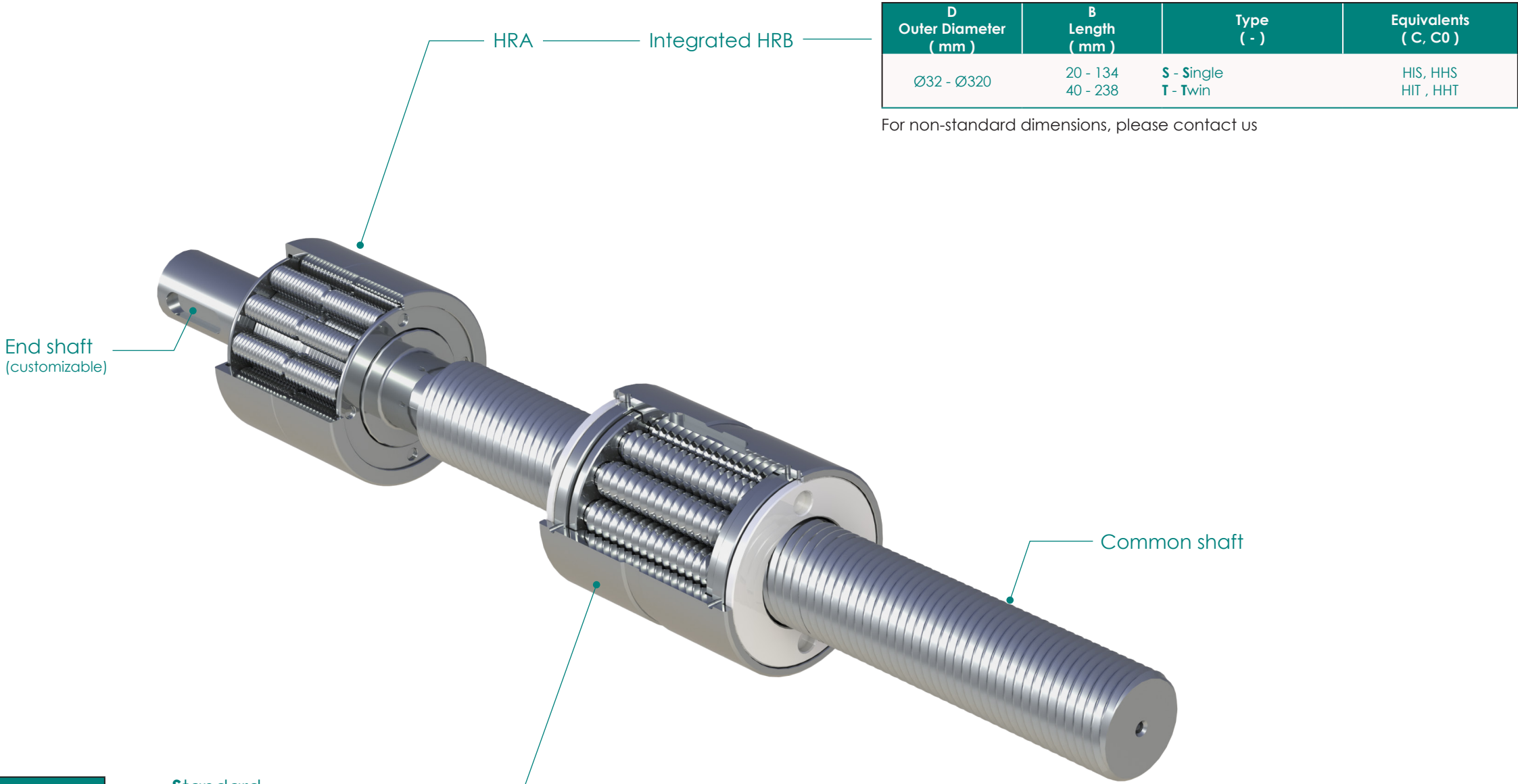
The ALT designation system is not limited to HRA solutions. Contact our engineering team who can help to optimize your solution using the HRA design.

Table 7: Recommended sizes of integrated HRB for HRA-i

IRS combined with HRB									IRS combined with HRB									
HRA	Lead								HRA	Lead								
d0	1	2	2,4	3	4	5	6	7	d0	8	9	10	12	14	15	16	36	42
IRS	HRB								IRS	HRB								
9	HIS - 020								9									
12	HIS-020	HIS-020							12									
14	HHS-020	HIS-025							14									
15	HIS-030	HIS-030	HIS-030						15									
18	HHS-030	HHS-030	HHS-030	HHS-030	HHS-030	HHS-030	HHS-030		18									
21		HIS-040	HIS-040	HIS-040	HIS-040	HIS-040	HIS-040		21									
24		HHS-040	HHS-040	HHS-040	HHS-040	HHS-040	HHS-040		24									
27		HHS-045		HHS-045	HHS-045	HHS-045			27									
28				HIS-045	HIS-045	HIS-045	HIS-045		28									
30		HHS-050	HHS-050	HHS-050	HHS-050	HHS-050	HHS-050		30									
36		HHS-050		HHS-050	HHS-050	HHS-050	HHS-050	HHS-050	36									
39		HHT-030		HHT-030	HHT-030	HHT-030	HHT-030	HHT-030	39		HHT-030		HHT-030					
44		HHT-030		HHT-030	HHT-030	HHT-030	HHT-030	HHT-030	44		HHT-030		HHT-030		HHT-030			
48						HHT-035			48	HHT-035		HHT-035		HHT-035		HHT-035		
51						HHT-040			51	HHT-040		HHT-040	HHT-040	HHT-040				
56					HHT-040			HHT-040	56		HHT-040		HHT-040		HHT-040			
60					HHT-040			HHT-040	60		HHT-045		HHT-050		HHT-050			
64						HHT-045			64	HHT-045		HHT-045		HHT-045		HHT-045	HHT-045	
70						HIT-055			70	HIT-055		HIT-055		HIT-055		HIT-055	HIT-055	HIT-055
75					HIT-055			HHT-050	75		HHT-050		HHT-050		HHT-050	HHT-050		
80						HIT-060			80	HIT-060		HIT-060		HIT-060		HIT-060	HIT-060	



HRA s – Standard Roller Screws with HRB
 d0 15 – 60 mm



D Outer Diameter (mm)	B Length (mm)	Type (-)	Equivalents (C, C0)
Ø32 - Ø320	20 - 134 40 - 238	S - Single T - Twin	HIS, HHS HIT , HHT

For non-standard dimensions, please contact us

d0 - Screw Pitch Diameter (mm)	Lead Min - Max (mm)	Nut Type	Backlash (µm)
15	2 - 8	C - Cylindrical F - Flanged	0 - 20
21	2 - 10		
25			
30	5 - 15		0 - 40
39			0 - 70
48	5 - 20		
60	10 - 20		

For non-standard dimensions, please contact us



HRA i – Inverted Roller Screw with HRB

d0 15 – 39 mm

End nut (customizable)

HRA — Integrated HRB

Screw shaft

Inverted — IRS

D Outer Diameter (mm)	B Length (mm)	Type (-)	Equivalents (C, C0)
Ø62 - Ø110	32 - 76	S - Single T - Twin	HIS, HHS HIT , HHT

For non-standard dimensions, please contact us

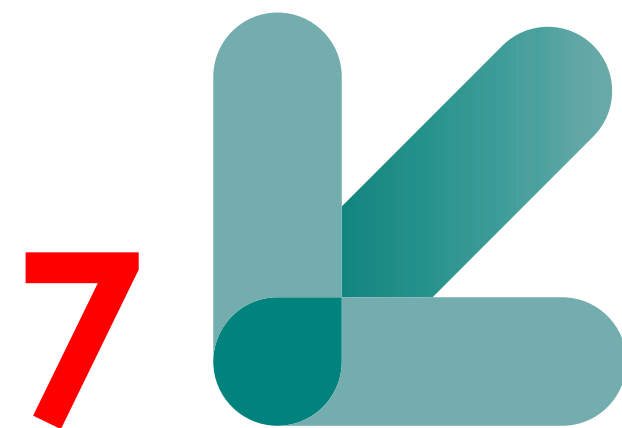
d0 - Screw Pitch Diameter (mm)	Lead Min - Max (mm)	D - Nut Outer Diameter (mm)	Backlash (µm)
15	1 - 3	32	0 - 20
21	2 - 6	45	
27		55	
30		60	
36	2 - 7	64	0 - 40
39	3 - 8	75	

For non-standard dimensions, please contact us



CONNECTION
ANALYSIS
DATA
SEARCHING
VERIFICATION
CODING
SENDING

ALT BEARINGS® continually develop advanced calculation tools and simulations to improve solutions to support customers. ALT ROLLER SCREWS® have been developed with these powerful software programs.



RRS Recirculating Roller Screws



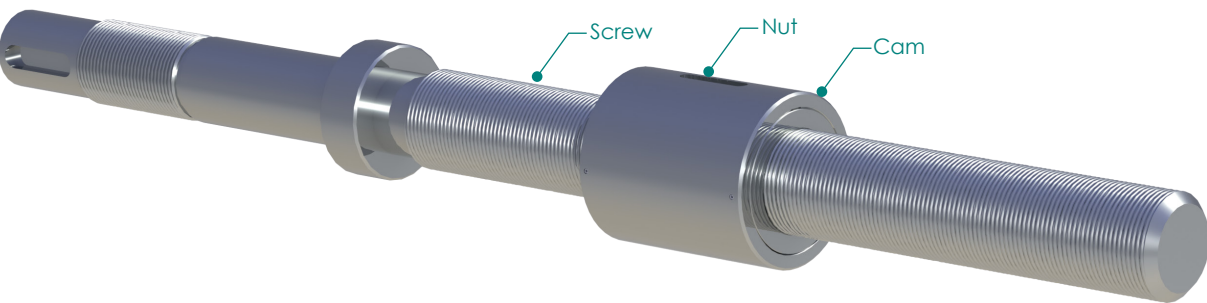


Fig. 7.1: a Recirculating Roller Screw (RRS)

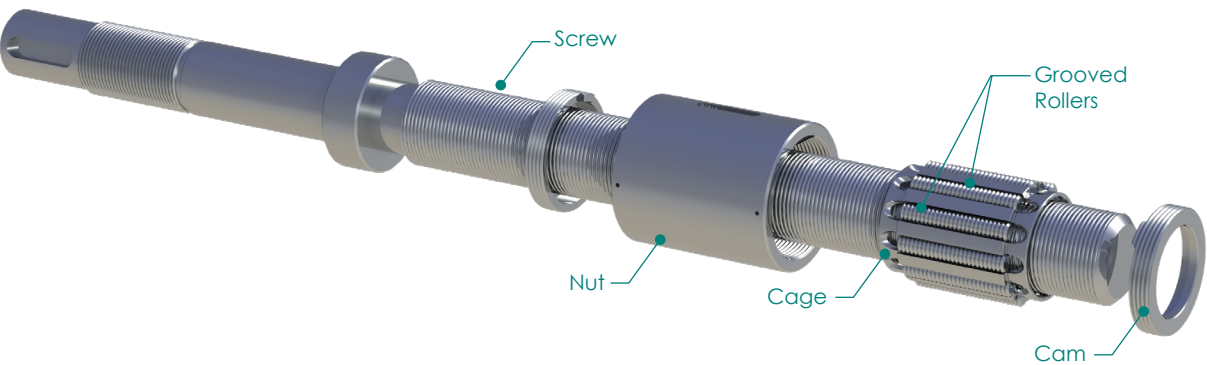


Fig. 7.2: a Recirculating Roller Screw (RRS)

Table 8: Diameter x Lead summarizing the available **RRS** with Ca (kN)

Recirculating Roller Screw (DRS) : dynamic load carrying capacity Ca [kN]					
Nominal diameter	Lead				
d1	1	2	3	4	5
mm	kN				
8	11.8	11.8			
10	14.1	14.1			
12	16.1	16.1			
16	19.4	19.4			
20	27.1	27.1			
25	39.7	39.7			
32	60.8	60.8	73.5		
36	73.8	73.8			
40	79.8	79.8		97.3	
50	134.1	139.9	160.0	168.2	
63		219.6	241.4	219.6	
80		374.6	414.2	440.6	
100			512.0	523.3	527.5
125					986.0

The ALT **Recirculating Roller Screw** completes our range of ALT Roller Screws®. They can have very fine leads for applications that require positioning with high resolution.

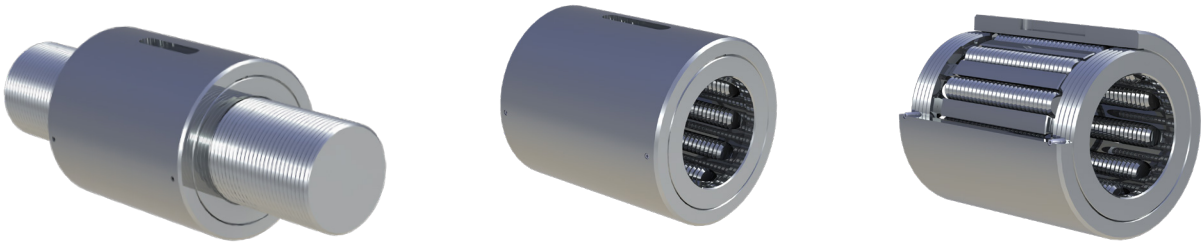
A step up from ball screws, the ALT **Recirculating Roller Screw** has many more contact points and offer higher load capacity and better rigidity.

Unlike planetary roller screws, the **Recirculating Roller Screw** allow rollers guides within a cage to recirculate inside the nut assembly thanks to cams.

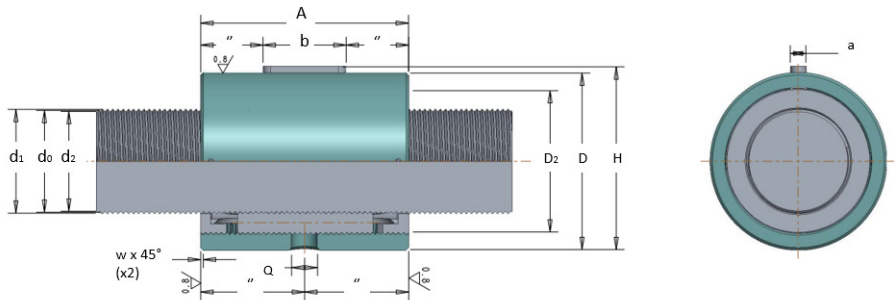
This design is ideal for applications where long strokes with smaller leads are needed with high capacity in reduced envelopes. It is available with a cylindrical or flanged nut.

RRS – C – Recirculating Roller Screws with Cylindrical nut

d0 8 – 125 mm



RRS - C – Standard dimensions

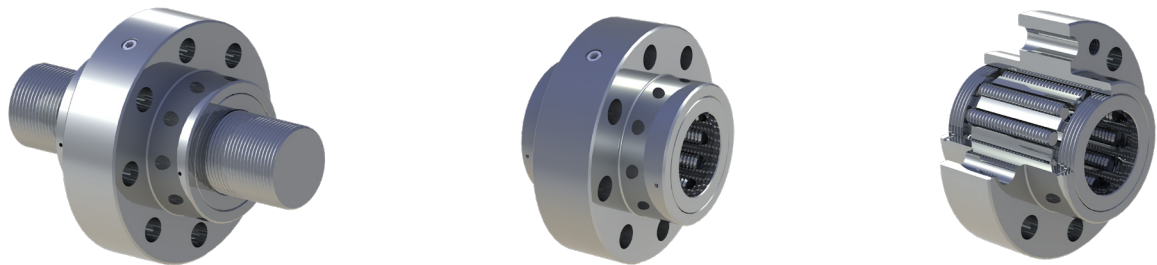


Principal and technical characteristics																Designations	Dimensions											
d0	Ph	N	Ca	Ca0	η	η'	S0	T0	mn	ms	ls	lnn	lns	Zn	Zs	Recirculating	d0	d2	D	A with wiper recesses	A without wiper recesses	w	a	b	H	Q	D2	
																Roller Screws												
mm	-	-	kN	-	-	-	-	Nm	kg	kg/m	kgmm2/m	kgmm2	-	-	-	-	-	-	-	g6/H7	h12	-	h12	-	-	-	-	h9
8	1	1	11.8	14.3	0.80	0.75	0.02	0.02	0.1	0.36	2.6	3.6	0.1	1.1	0.7	RRS 8 x 1 R - C	7.7	7.1	20	40	31	0.2	2	12	20.8	5	16.5	
	2	2	11.8	14.3	0.79	0.73	0.02	0.03	0.1	0.36	2.6	3.6	0.1	1.2	0.7	RRS 8 x 2 R - C	7.7	7.1	20	40	31	0.2	2	12	20.8	5	16.5	
10	1	1	14.1	17.8	0.80	0.75	0.02	0.03	0.1	0.57	6.7	5	0.1	1.3	0.8	RRS 10 x 1 R - C	9.7	9.1	22	40	31	0.2	2	12	22.8	5	18.5	
	2	2	14.1	17.8	0.79	0.73	0.02	0.04	0.1	0.57	6.7	5	0.1	1.4	0.8	RRS 10 x 2 R - C	9.7	9.1	22	40	31	0.2	2	12	22.8	5	18.5	
12	1	1	16.1	21.3	0.80	0.75	0.02	0.05	0.1	0.84	14.2	6.7	0.1	1.6	1.0	RRS 12 x 1 R - C	11.7	11.1	24	40	31	0.2	2	12	24.8	5	20.5	
	2	2	16.1	21.3	0.79	0.73	0.02	0.06	0.1	0.84	14.2	6.7	0.1	1.7	1.0	RRS 12 x 2 R - C	11.7	11.1	24	40	31	0.2	2	12	24.8	5	20.5	
16	1	1	19.4	28.2	0.80	0.75	0.02	0.06	0.1	1.51	46.2	14	0.3	2.0	1.3	RRS 16 x 1 R - C	15.7	15.1	29	40	31	0.5	3	12	30.2	5	25	
	2	2	19.4	28.2	0.79	0.73	0.02	0.07	0.1	1.51	46.2	14	0.3	2.1	1.3	RRS 16 x 2 R - C	15.7	15.1	29	40	31	0.5	3	12	30.2	5	25	
20	1	1	27.1	49.7	0.80	0.75	0.02	0.07	0.2	2.38	115	29.8	0.8	3.1	1.7	RRS 20 x 1 R - C	19.7	19.1	34	45	37	0.5	3	16	35.2	5	28.5	
	2	2	27.1	49.7	0.79	0.73	0.02	0.08	0.2	2.38	115	29.8	0.8	3.2	1.7	RRS 20 x 2 R - C	19.7	19.1	34	45	37	0.5	3	16	35.2	5	28.5	
25	1	1	39.7	85.2	0.80	0.75	0.02	0.09	0.3	3.75	285	79.3	2.5	3.3	2.1	RRS 25 x 1 R - C	24.7	24.1	42	54	44	0.5	4	20	43.5	5	36	
	2	2	39.7	85.2	0.79	0.73	0.02	0.1	0.3	3.75	285	79.3	2.5	3.4	2.1	RRS 25 x 2 R - C	24.7	24.1	42	54	44	0.5	4	20	43.5	5	36	
32	1	1	60.8	149	0.80	0.75	0.02	0.12	0.6	6.18	773	280	9.1	7.0	2.7	RRS 32 x 1 R - C	31.7	31.1	54	67	57	1	4	25	55.5	5	45	
	2	2	60.8	149	0.79	0.73	0.02	0.13	0.6	6.18	773	280	9.1	7.1	2.7	RRS 32 x 2 R - C	31.7	31.1	54	67	57	1	4	25	55.5	5	45	
	3	2	73.5	145	0.79	0.73	0.02	0.14	0.6	6.18	773	280	9.1	7.3	3.8	RRS 32 x 3 R - C	31.7	30.5	54	67	57	1	4	25	55.5	5	45	
36	1	1	73.8	181	0.80	0.75	0.02	0.15	1.1	7.90	1286	395	13.5	7.6	3.0	RRS 36 x 1 R - C	35.7	35.1	61	75	62	1	6	28	63.5	5	53	
	2	2	73.8	172	0.79	0.73	0.02	0.16	1.1	7.90	1286	395	13.5	7.7	3.0	RRS 36 x 2 R - C	35.7	35.1	61	75	62	1	6	28	63.5	5	53	
40	1	1	79.8	207	0.80	0.75	0.02	0.17	1.2	9.69	1900	879	18.8	11.5	3.4	RRS 40 x 1 R - C	39.7	39.1	68	75	63	1	5	32	70	5	57	
	2	2	79.8	207	0.79	0.73	0.02	0.18	1.2	9.69	1900	879	18.8	11.7	3.4	RRS 40 x 2 R - C	39.7	39.1	68	75	63	1	5	32	70	5	57	
	4	2	97.3	199	0.78	0.72	0.04	0.19	1.2	9.69	1900	879	18.8	11.9	6.7	RRS 40 x 4 R - C	39.3	38.8	68	75	63	1	5	32	70	5	57	
50	1	1	134	410	0.80	0.75	0.02	0.35	2	15.0	4550	2190	76	19.1	4.2	RRS 50 x 1 R - C	49.7	49.1	82	101	85	1	6	32	84.5	8	70	
	2	2	140	424	0.79	0.73	0.04	0.36	2	15.0	4550	2190	76	19.2	5.0	RRS 50 x 2 R - C	49.5	48.7	82	101	85	1	6	32	84.5	8	70	
	3	2	160	429	0.79	0.73	0.04	0.37	2	15.0	4550	2190	76	19.4	6.7	RRS 50 x 3 R - C	49.3	48.6	82	101	85	1	6	32	84.5	8	70	
	4	2	168	408	0.78	0.72	0.04	0.38	2	15.0	4550	2190	76	19.6	8.4	RRS 50 x 4 R - C	49.3	48.2	82	101	85	1	6	32	84.5	8	70	
63	2	2	220	563	0.79	0.73	0.04	0.53	3.8	23.9	11 600	6460	230	22.5	6.3	RRS 63 x 2 R - C	62.4	61.2	103	120	104	1	6	40	105.5	8	94	
	3	2	241	534	0.78	0.72	0.04	0.54	3.8	23.9	11 600	6460	230	22.7	8.4	RRS 63 x 3 R - C	62.3	61.2	103	120	104	1	6	40	105.5	8	94	
	4	2	220	563	0.79	0.73	0.04	0.55	3.8	23.9	11 600	6460	230	22.8	10.6	RRS 63 x 4 R - C	62.3	61.1	103	120	104	1	6	40	105.5	8	94	
80	2	2	375	1393	0.79	0.73	0.07	0.96	12.5	38.1	29 400	38 900	1 290	36.5	9.9	RRS 80 x 2 R - C	78.7	76.6	141	197	175	1	8	63	144	10	120	
	3	2	414	1361	0.78	0.72	0.07	0.97	12.5	38.1	29 400	38 900	1 290	36.6	12.6	RRS 80 x 3 R - C	78.6	76.6	141	197	175	1	8	63	144	10	120	
	4	2	441	1326	0.79	0.73	0.07	0.98	12.5	38.1	29 400	38 900	1 290	36.8	15.3	RRS 80 x 4 R - C	78.6	76.4	141	197	175	1	8	63	144	10	120	
100	3	2	512	1577	0.78	0.72	0.07	1.17	22.8	59.5	71 800	108 000	4 000	103.2	15.7	RRS 100 x 3 R - C	98.6	95.7	175	237	205	2	10	80	178	10	150	
	4	2	523	1548	0.78	0.72	0.07	1.18	22.8	59.5	71 800	108 000	4 000	103.4	19.1	RRS 100 x 4 R - C	98.3	95.6	175	237	205	2	10	80	178	10	150	
	5	2	528	1520	0.77	0.70	0.07	1.19	22.8	59.5	71 800	108 000	4 000	103.6	22.5	RRS 100 x 5 R - C	98.3	95.5	175	237	205	2	10	80	178	10	150	
125	5	2	986	3973	0.77	0.70	0.07	1.75	46.10	93.6	178 000	342 000	11 800	141.6	28.2	RRS 125 x 5 R - C	123.3	120.5	220	282	250	3	12	100	223	12	185	

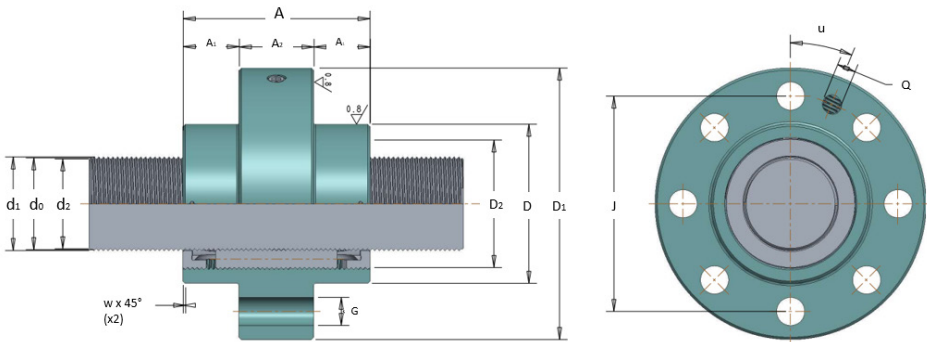


RRS – F – Recirculating Roller Screws with Flanged nut

d0 8 – 125 mm



RRS - F – Standard dimensions



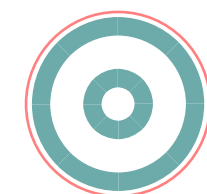
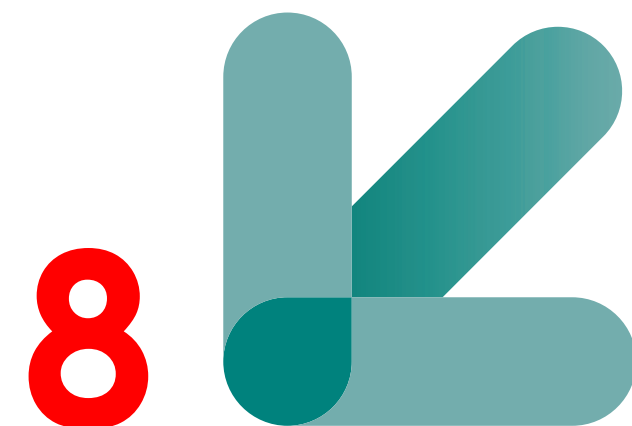
Principal and technical characteristics																Designations	Dimensions												
d0	Ph	N	Ca	Ca0	η	η'	So	To	mn	ms	ls	lnn	lns	Zn	Zs	Recirculating	d0	d2	D	A without wiper recesses	A1	A2	D1	w	J	G	Q	D2	u
																Roller Screws													
mm	-	-	kN	-	-	-	-	Nm	kg	kg/m	kgmm2/m	kgmm2	-	-	-	-	mm	-	-	-	-	-	-	-	-	-	-	-	-
8	1	1	11.8	14.3	0.80	0.75	0.02	0.02	0.2	0.36	2.6	3.6	0.1	1.1	0.7	RRS 8 x 1 R - F	7.7	7.1	20	31	7.5	16	43	0.2	33	6 x Ø4.5	M6	16.5	30
	2	2	11.8	14.3	0.79	0.73	0.02	0.03	0.2	0.36	2.6	3.6	0.1	1.2	0.7	RRS 8 x 2 R - F	7.7	7.1	20	31	7.5	16	43	0.2	33	6 x Ø4.5	M6	16.5	30
10	1	1	14.1	17.8	0.80	0.75	0.02	0.03	0.2	0.57	6.7	5	0.1	1.3	0.8	RRS 10 x 1 R - F	9.7	9.1	22	31	7.5	16	43	0.2	33	6 x Ø4.5	M6	18.5	30
	2	2	14.1	17.8	0.79	0.73	0.02	0.04	0.2	0.57	6.7	5	0.1	1.4	0.8	RRS 10 x 2 R - F	9.7	9.1	22	31	7.5	16	43	0.2	33	6 x Ø4.5	M6	18.5	30
12	1	1	16.1	21.3	0.80	0.75	0.02	0.05	0.2	0.84	14.2	6.7	0.1	1.6	1.0	RRS 12 x 1 R - F	11.7	11.1	24	31	7.5	16	46	0.2	36	6 x Ø4.5	M6	20.5	30
	2	2	16.1	21.3	0.79	0.73	0.02	0.06	0.2	0.84	14.2	6.7	0.1	1.7	1.0	RRS 12 x 2 R - F	11.7	11.1	24	31	7.5	16	46	0.2	36	6 x Ø4.5	M6	20.5	30
16	1	1	19.4	28.2	0.80	0.75	0.02	0.06	0.3	1.51	46.2	14	0.3	2.0	1.3	RRS 16 x 1 R - F	15.7	15.1	29	31	7.5	16	51	0.5	41	6 x Ø4.5	M6	25	30
	2	2	19.4	28.2	0.79	0.73	0.02	0.07	0.3	1.51	46.2	14	0.3	2.1	1.3	RRS 16 x 2 R - F	15.7	15.1	29	31	7.5	16	51	0.5	41	6 x Ø4.5	M6	25	30
20	1	1	27.1	49.7	0.80	0.75	0.02	0.07	0.4	2.38	115	29.8	0.8	3.1	1.7	RRS 20 x 1 R - F	19.7	19.1	34	37	9.5	18	58	0.5	46	6 x Ø6	M6	28.5	30
	2	2	27.1	49.7	0.79	0.73	0.02	0.08	0.4	2.38	115	29.8	0.8	3.2	1.7	RRS 20 x 2 R - F	19.7	19.1	34	37	9.5	18	58	0.5	46	6 x Ø6	M6	28.5	30
25	1	1	39.7	85.2	0.80	0.75	0.02	0.09	0.6	3.75	285	79.3	2.5	3.3	2.1	RRS 25 x 1 R - F	24.7	24.1	42	44	13	18	68	0.5	56	6 x Ø6	M6	36	30
	2	2	39.7	85.2	0.79	0.73	0.02	0.1	0.6	3.75	285	79.3	2.5	3.4	2.1	RRS 25 x 2 R - F	24.7	24.1	42	44	13	18	68	0.5	56	6 x Ø6	M6	36	30
32	1	1	60.8	149	0.80	0.75	0.02	0.12	1.2	6.18	773	280	9.1	7.0	2.7	RRS 32 x 1 R - F	31.7	31.1	54	57	18.5	20	84	1	70	6 x Ø7	M6	45	30
	2	2	60.8	149	0.79	0.73	0.02	0.13	1.2	6.18	773	280	9.1	7.1	2.7	RRS 32 x 2 R - F	31.7	31.1	54	57	18.5	20	84	1	70	6 x Ø7	M6	45	30
	3	2	73.5	145	0.79	0.73	0.02	0.14	1.2	6.18	773	280	9.1	7.3	3.8	RRS 32 x 3 R - F	31.7	30.5	54	57	18.5	20	84	1	70	6 x Ø7	M6	45	30
36	1	1	73.8	181	0.80	0.75	0.02	0.15	2.2	7.90	1286	682	13.5	7.6	3.0	RRS 36 x 1 R - F	35.7	35.1	61	62	22.5	17	90	1	75	6 x Ø7	M6	53	30
	2	2	73.8	172	0.79	0.73	0.02	0.16	2.2	7.90	1286	682	13.5	7.7	3.0	RRS 36 x 2 R - F	35.7	35.1	61	62	22.5	17	90	1	75	6 x Ø7	M6	53	30
40	1	1	79.8	207	0.80	0.75	0.02	0.17	2.1	9.69	1900	879	18.8	11.5	3.4	RRS 40 x 1 R - F	39.7	39.1	68	63	18	27	102	1	85	6 x Ø9	M6	57	30
	2	2	79.8	207	0.79	0.73	0.02	0.18	2.1	9.69	1900	879	18.8	11.7	3.4	RRS 40 x 2 R - F	39.7	39.1	68	63	18	27	102	1	85	6 x Ø9	M6	57	30
	4	2	97.3	199	0.78	0.72	0.04	0.19	2.1	9.69	1900	879	18.8	11.9	6.7	RRS 40 x 4 R - F	39.3	38.8	68	63	18	27	102	1	85	6 x Ø9	M6	57	30
50	1	1	134	410	0.80	0.75	0.02	0.35	3.7	15.0	4550	2190	76	19.1	4	RRS 50 x 1 R - F	49.7	49.1	82	85	26	33	124	1	102	6 x Ø11	M6	70	30
	2	2	140	424	0.79	0.73	0.04	0.36	3.7	15.0	4550	2190	76	19.2	5	RRS 50 x 2 R - F	49.5	48.7	82	85	26	33	124	1	102	6 x Ø11	M6	70	30
	3	2	160	429	0.79	0.73	0.04	0.37	3.7	15.0	4550	2190	76	19.4	7	RRS 50 x 3 R - F	49.3	48.6	82	85	26	33	124	1	102	6 x Ø11	M6	70	30
	4	2	168	408	0.78	0.72	0.04	0.38	3.7	15.0	4550	2190	76	19.6	8	RRS 50 x 4 R - F	49.3	48.2	82	85	26	33	124	1	102	6 x Ø11	M6	70	30
63	2	2	220	563	0.79	0.73	0.04	0.53	6.4	23.9	11 600	6460	230	22.5	6.3	RRS 63 x 2 R - F	62.4	61.2	103	104	35.5	33	150	1	127	6 x Ø13	M8x1	94	30
	3	2	241	534	0.78	0.72	0.04	0.54	6.4	23.9	11 600	6460	230	22.7	8.4	RRS 63 x 3 R - F	62.3	61.2	103	104	35.5	33	150	1	127	6 x Ø13	M8x1	94	30
	4	2	220	563	0.79	0.73	0.04	0.55	6.4	23.9	11 600	6460	230	22.8	10.6	RRS 63 x 4 R - F	62.3	61.1	103	104	35.5	33	150	1	127	6 x Ø13	M8x1	94	30
80	2	2	375	1393	0.79	0.73	0.07	0.96	17.8	38.1	29 400	38 900	1 290	36.5	9.9	RRS 80 x 2 R - F	78.7	76.6	141	175	65	45	200	1	170	8 x Ø17	M8x1	120	22.5
	3	2	414	1361	0.78	0.72	0.07	0.97	17.8	38.1	29 400	38 900	1 290	36.6	12.6	RRS 80 x 3 R - F	78.6	76.6	141	175	65	45	200	1	170	8 x Ø17	M8x1	120	22.5
	4	2	441	1326	0.79	0.73	0.07	0.98	17.8	38.1	29 400	38 900	1 290	36.8	15.3	RRS 80 x 4 R - F	78.6	76.4	141	175	65	45	200	1	170	8 x Ø17	M8x1	120	22.5
100	3	2	512	1577	0.78	0.72	0.07	1.17	33.1	59.5	71 800	108 000	4 000	103.2	15.7	RRS 100 x 3 R - F	98.6	95.7	175	205	77.5	50	240	2	210	12 x Ø17	M8x1	150	15
	4	2	523	1548	0.78	0.72	0.07	1.18	33.1	59.5	71 800	108 000	4 000	103.4	19.1	RRS 100 x 4 R - F	98.3	95.6	175	205	77.5	50	240	2	210	12 x Ø17	M8x1	150	15
	5	2	528	1520	0.77	0.70	0.07	1.19	33.1	59.5	71 800	108 000	4 000	103.6	22.5	RRS 100 x 5 R - F	98.3	95.5	175	205	77.5	50	240	2	210	12 x Ø17	M8x1	150	15
125	5	2	986	3973	0.77	0.70	0.07	1.75	62.3	93.6	178 000	342 000	11 800	141.6	28.2	RRS 125 x 5 R - F	123.3	120.5	220	250	98	55	310	3	270	12 x Ø19	M8x1	185	15





ALT ROLLER
SCREWS® are
continuously
improved with
advanced tools
used to analyze
in detail the
behaviour of its
products in your
applications with
high security
factors.

SBU & HHF BEARINGS UNITS



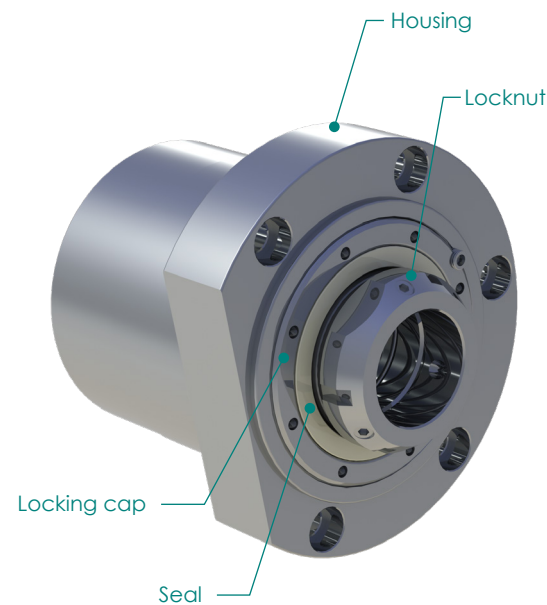


Fig. 8.1: a typical **Support Bearing Unit** with ACBBs (**SBU**)

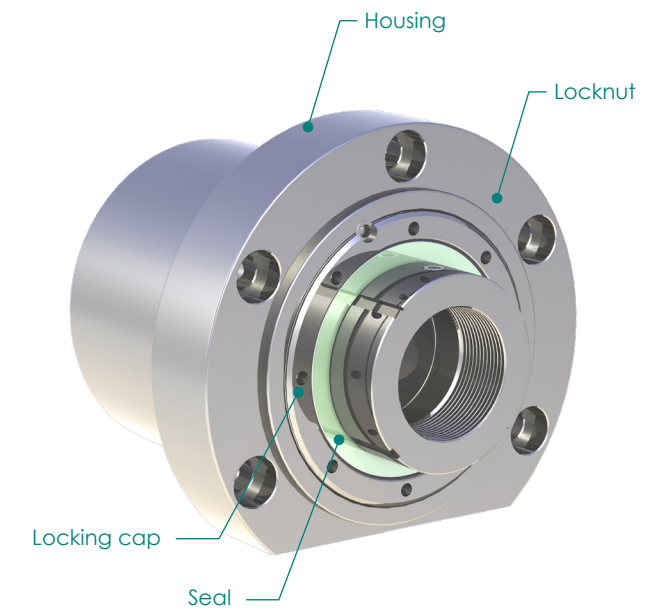


Fig. 8.3: a typical **Support Bearing Unit** with a HRB (**HHF**)

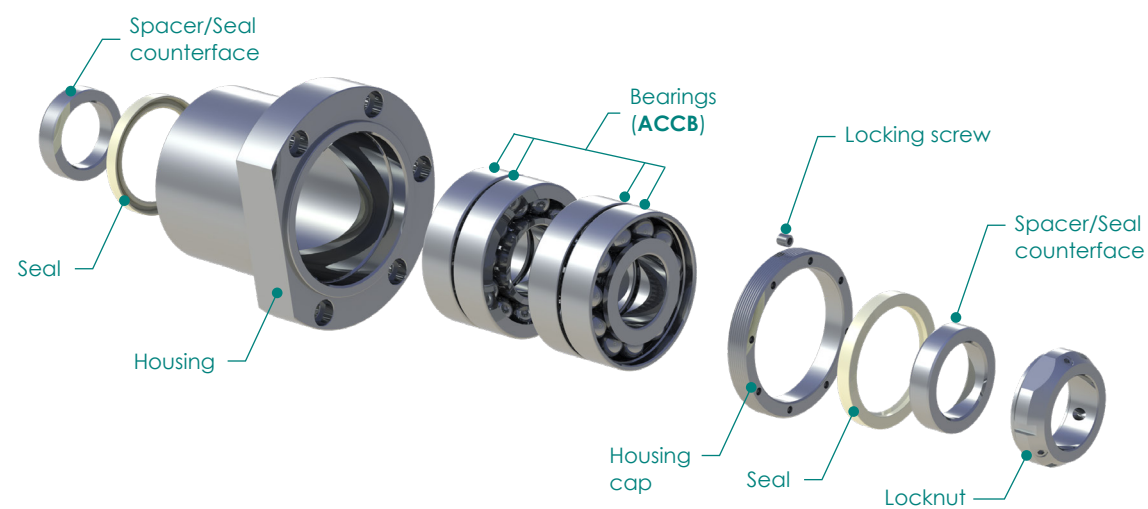


Fig. 8.2: a split **Support Bearing Unit** with ACBBs (**SBU**)

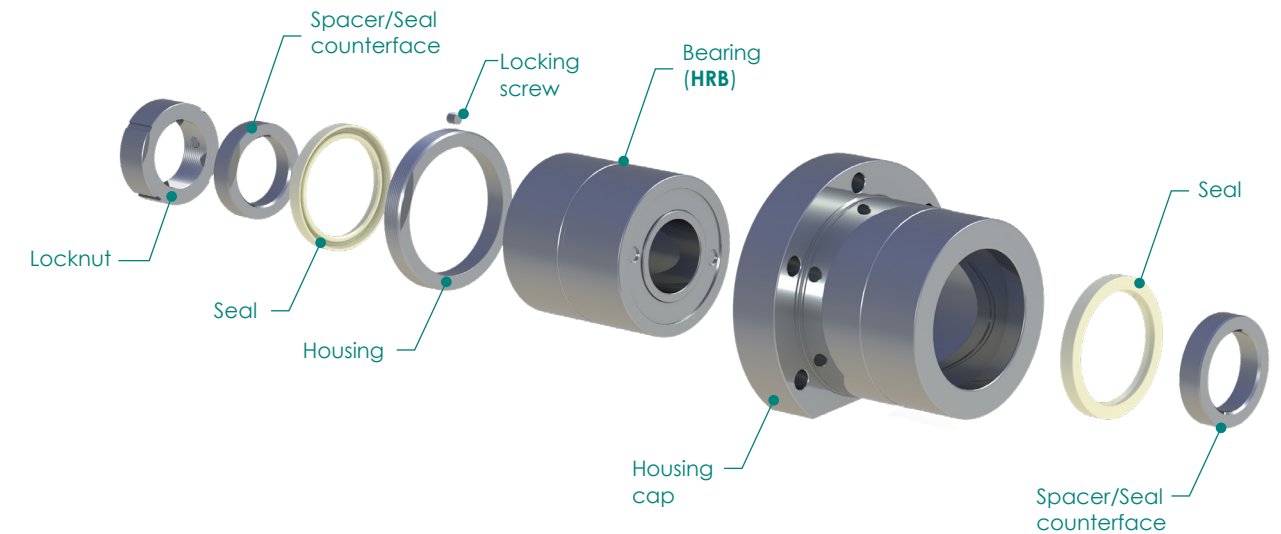


Fig. 8.4: a split **Support Bearing Unit** with a HRB (**HHF**)

ALT Roller Screws® can accommodate existing bearing designs. The Support Bearing Unit (SBU) can house existing bearing products such as stacked ACBBs (Angular Contact Ball Bearings) and other solutions as defined, including the Herringbone Roller Bearing (integrated into the housing HHF). Both solutions are sealed, lubricated and are designed for easy installation.

The SBU is designed for our planetary roller screws (SRS and URS) with nominal diameters between 8 mm and 80 mm as well as recirculating roller screws (RRS) between 8mm and 125 mm.

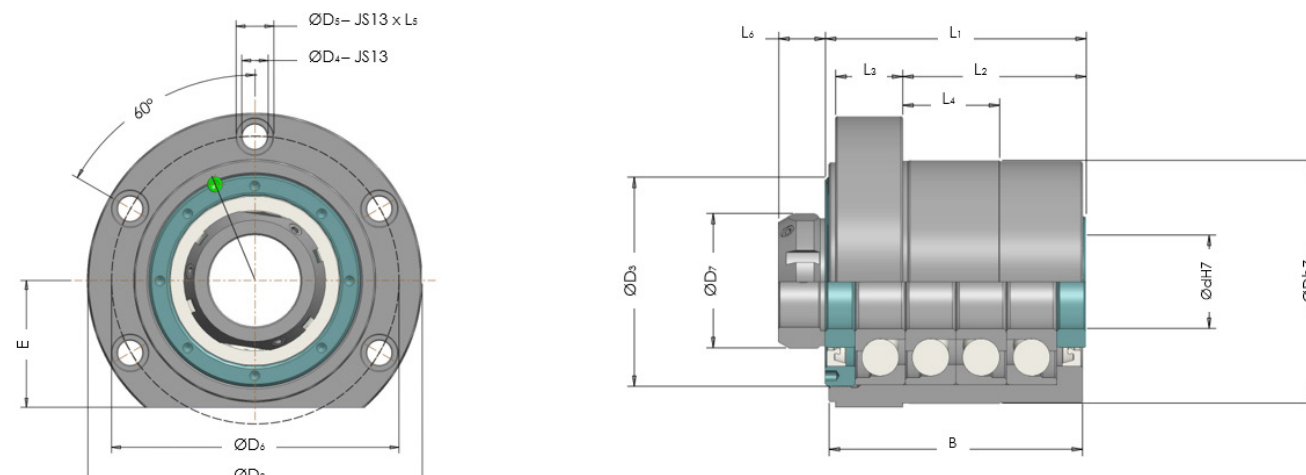
For greater capacity and stiffness, the HHF has been developed. Ideal for even more demanding and extreme conditions.

The HHF solution optimizes capacity and space with greater stiffness. Having the highest power density and longer lifetime than any bearing currently available. The HHF can also be customized easily to fit customer needs.

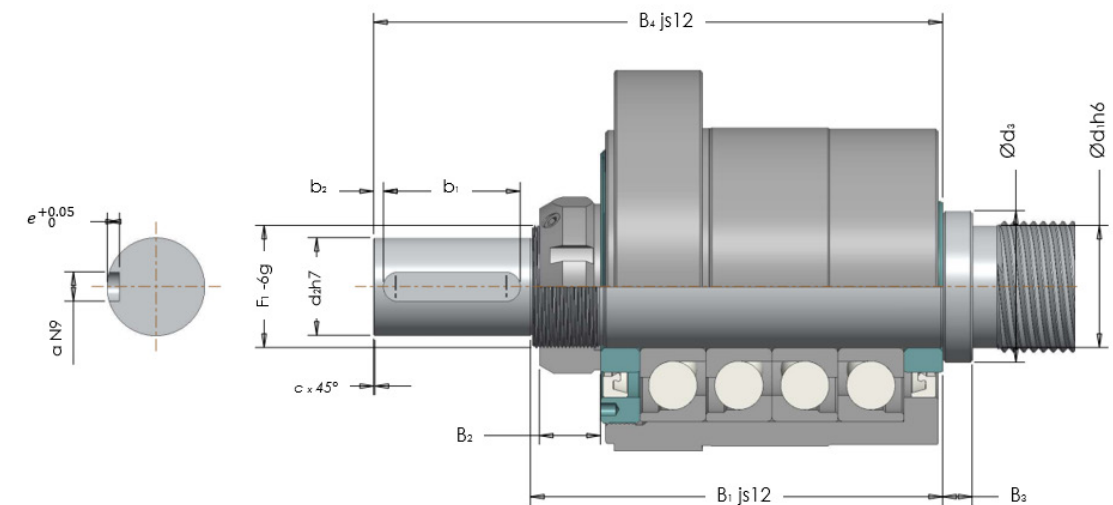
The HHF is designed and can be applied to Standard Roller Screws (SRS or URS) with nominal diameters between 8 to 80 mm and for Recirculating Roller Screws (RRS) with nominal diameters between 8 to 125 mm.

It is of primary importance that the capacity of the bearing unit exceeds the capacity of the roller screw to give the most robust design and reliable operation. The best compact bearing solution that can be assembled of your roller screw.

d **12 – 100** mm



Principal dimensions			Basic load ratings		Bearing	High precision KMT locknut			Mass
			dynamic	static	standard arrangement	designation	hook spanner	tightening torque	
d	D	B	Ca	C0a					
mm			kN		-	-	-	Nm	kg
12	47	40	13.3	14.7	1 + 1	KMT 1	HN 3	15	0.72
17	60	44	27.9	31.9	1 + 1	KMT 3	HN 4	22	1.16
20	60	74	40.1	63.8	2 + 2	KMT 4	HN 5	27	1.73
25	80	86	79.8	122	2 + 2	KMT 5	HN 5	38	3.71
35	100	106	123	212	2 + 2	KMT 7	HN 7	65	6.72
50	130	136	214	385	2 + 2	KMT 10	HN 10	110	13.62
65	170	175	314	631	2 + 2	KMT 14	HN 14	200	29.51
90	220	229	513	1192	2 + 2	KMT 18	HN 18	300	60.47
100	250	245	615	1600	2 + 2	KMT 20	HN 20	400	84.21

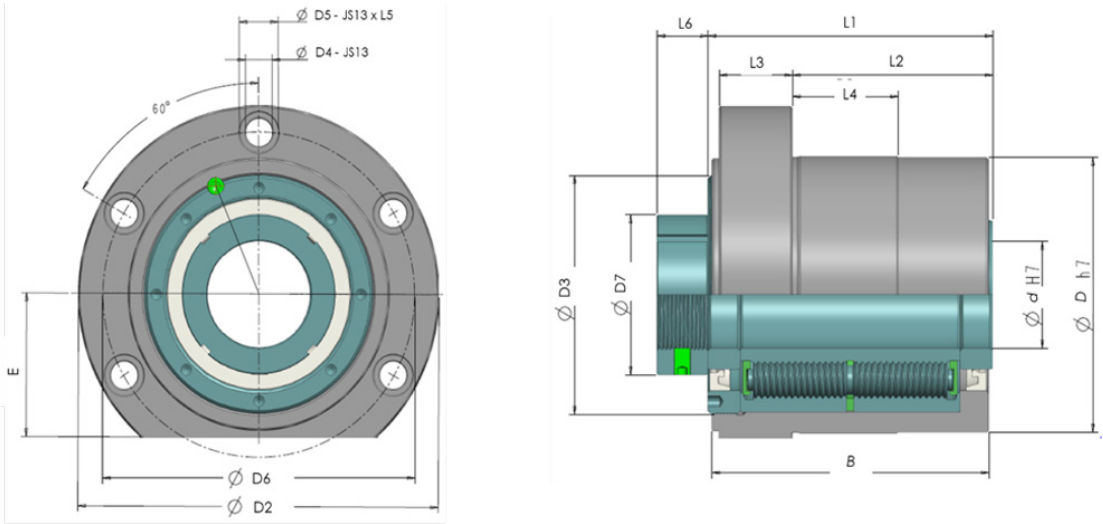


Designations Support Bearing Unit	Dimensions														
	d	D	D2	D3	D4	D5	D6	D7	L1	L2	L3	L4	L5	L6	E
-	mm														
SBU - 1	12	47	77	47	6.6	11	63	22	42	25	12	10	2	8	27
SBU - 2	17	60	92	57	6.6	11	76	28	46	32	12	15	2	10	32
SBU - 3	20	60	92	58	9	14	74	38	77	60	15	27	2	10	32
SBU - 4	25	80	122	74	11	17	100	45	89	68	19	33	3	20	44
SBU - 5	35	100	144	94	13	19	120	58	110	82	25	42	5	22	54
SBU - 6	50	130	177	128	13	19	152	75	140	98.5	36	52	11	25	67
SBU - 7	65	170	230	164	17	25	198	105	180	133.5	41	50	11	32	87
SBU - 8	90	220	292	215	22	32	252	130	235	179	48	94	13	38	115
SBU - 9	100	250	330	240	25	38	285	140	253	195	50	109	14	38	130

Designations Support Bearing Unit	End Shaft Dimensions												
	d1	d2	d3	B1	B2	B3	B4	f1	c	b1	b2	a	e
-	mm												
SBU - 1	12	10	17	51	10	5	71	M12 x 1.0	0.5	16	1.5	3	1.8
SBU - 2	17	15	23	66	21	5	96	M17 x 1.0	0.5	25	2.0	5	3.0
SBU - 3	20	17	27	98	22	7	138	M20 x 1.0	0.5	32	3.0	5	3.0
SBU - 4	25	20	34	111	24	7	156	M25 x 1.5	1.0	40	2.5	6	3.5
SBU - 5	35	30	45	134	26	10	189	M35 x 1.5	1.0	45	2.5	8	4.0
SBU - 6	50	40	62	168	30	12	233	M50 x 1.5	1.0	56	4.0	12	5.0
SBU - 7	65	60	78	215	37	18	315	M65 x 2.0	1.0	90	3.0	18	7.0
SBU - 8	90	85	108	275	43	25	395	M90 x 2.0	1.0	100	8.0	25	9.0
SBU - 9	100	95	120	293	43	25	433	M100 x 2.0	1.0	125	7.0	25	9.0

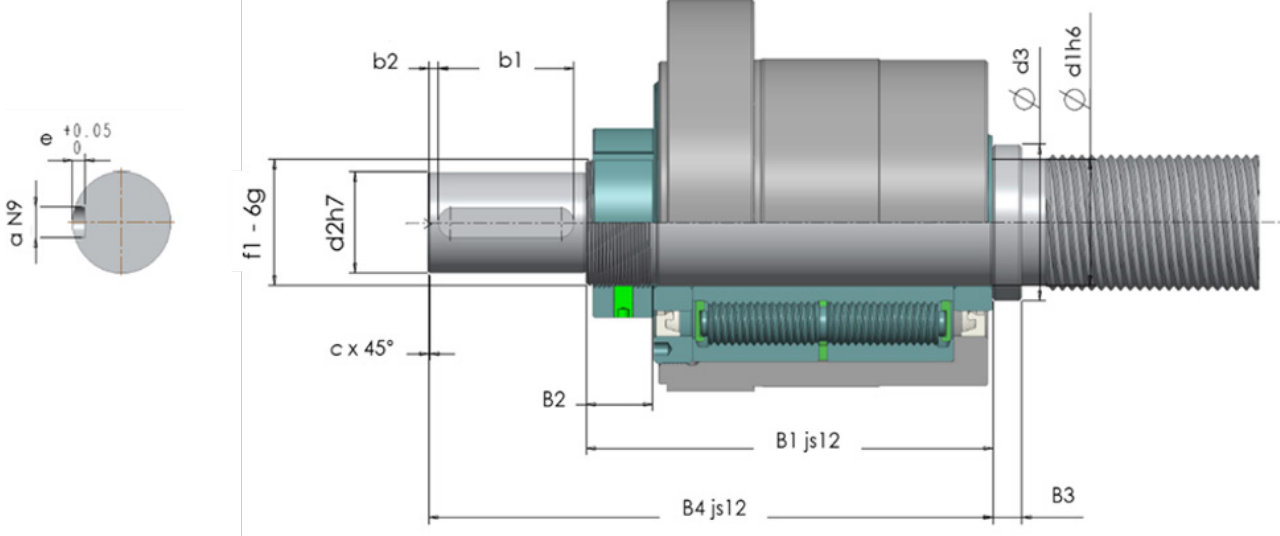
HHF – Support Bearings Units with HRB

d 12 – 100 mm



Principal dimensions			Basic load ratings		Lifetime	Speed ratings		Mass
d	D	B	dynamic Ca	static C0a	benefit	Reference speed	Limiting speed	
mm			kN			tr/min		kg
12	47	40	19	17	4x	25000	29100	0.72
17	60	44	42	53	4x	17600	20500	1.16
20	60	74	138	258	50x	15000	17500	1.73
25	80	86	206	430	26x	12000	14000	3.71
35	100	106	314	736	24x	8500	10000	6.72
50	130	136	640	1483	34x	6000	7000	13.62
65	170	175	885	2399	25x	4600	5300	29.51
90	220	229	1546	5087	45x	3300	3800	60.47
100	250	245	1783	6285	31x	3000	3500	84.21

HHF – Standard Machined ends



Designations	Dimensions														
Herringbone Roller Bearing	d	D	D2	D3	D4	D5	D6	D7	L1	L2	L3	L4	L5	L6	E
	mm														
HHF - 1	12	47	77	47	6.6	11	63	22	42	25	12	10	2	8	27
HHF - 2	17	60	92	57	6.6	11	76	28	46	32	12	15	2	10	32
HHF - 3	20	60	92	58	9	14	74	38	77	60	15	27	2	10	32
HHF - 4	25	80	122	74	11	17	100	45	89	68	19	33	3	20	44
HHF - 5	35	100	144	94	13	19	120	58	110	82	25	42	5	22	54
HHF - 6	50	130	177	128	13	19	152	75	140	98.5	36	52	11	25	67
HHF - 7	65	170	230	164	17	25	198	105	180	133.5	41	50	11	32	87
HHF - 8	90	220	292	215	22	32	252	130	235	179	48	94	13	38	115
HHF - 9	100	250	330	240	25	38	285	140	253	195	50	109	14	38	130

Designations	End Shaft Dimensions												
Herringbone Roller Bearing	d1	d2	d3	B1	B2	B3	B4	f1	c	b1	b2	a	e
	mm												
HHF - 1	12	10	17	51	10	5	71	M12 x 1.0	0.5	16	1.5	3	1.8
HHF - 2	17	15	23	66	21	5	96	M17 x 1.0	0.5	25	2.0	5	3.0
HHF - 3	20	17	27	98	22	7	138	M20 x 1.0	0.5	32	3.0	5	3.0
HHF - 4	25	20	34	111	24	7	156	M25 x 1.5	1.0	40	2.5	6	3.5
HHF - 5	35	30	45	134	26	10	189	M35 x 1.5	1.0	45	2.5	8	4.0
HHF - 6	50	40	62	168	30	12	233	M50 x 1.5	1.0	56	4.0	12	5.0
HHF - 7	65	60	78	215	37	18	315	M65 x 2.0	1.0	90	3.0	18	7.0
HHF - 8	90	85	108	275	43	25	395	M90 x 2.0	1.0	100	8.0	25	9.0
HHF - 9	100	95	120	293	43	25	433	M100 x 2.0	1.0	125	7.0	25	9.0



At ALT BEARINGS® we pride ourselves on providing our customers with the best possible service that goes beyond design and manufacturing. ALT ROLLER SCREWS® are a pinnacle of advanced technology and customer care.

Contact form

Date:

CUSTOMER INFORMATION

Company name:
Contact name:
Address:
Phone:
Email:

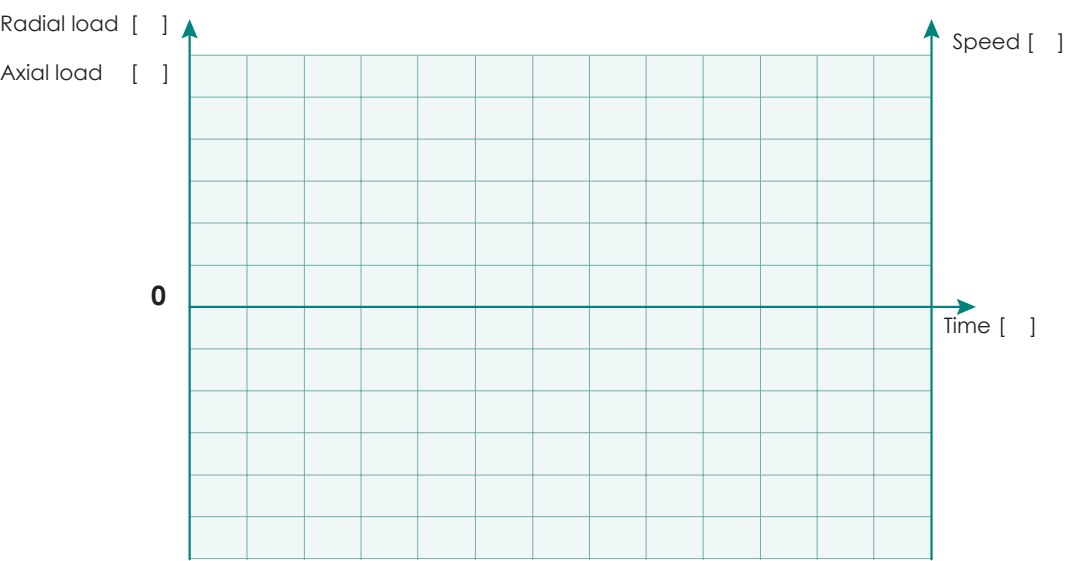
APPLICATION / INDUSTRY

New application: ☐ Yes ☐ No
☐ New Roller Screw (HRS)
☐ Replacement of existing roller screw
(Please specify size/ Ref.)

OPERATING CONDITIONS

Axial force ☐
Radial force ☐
Combined load ☐
Maximum load: Static: Dynamic:

Load chart



SPECIFIC DESIGN PARAMETERS OR REQUIREMENTS

Maximum stroke [mm]:
Threaded length [mm]:
Total screw shaft length [mm]:

Nut Shape (Cylindrical / Centered Flange / Off-centered Flange) :
Lead precision grade according to ISO 3408 :
Lubrication (Grease / Oil / Dry / None - please specify):

Alternatively, please fill-in the chart below and specify units:

	Axial load []	Radial load []	Speed []	Time []	Remarks
n° 1					
n° 2					
n° 3					
n° 4					
...					

Main load: ☐ Compression ☐ Tension
Rotation: ☐ Rotating screw shaft ☐ Rotating the nut
HRB's axis: ☐ Vertical ☐ Horizontal
Miscellaneous: ☐ Shocks ☐ Vibration

Total number of revolutions required:
Total time required (years or hours):
Number of cycles per day (1 cycle = 2 strokes):

ENVIRONMENT

☐ Indoor ☐ Outdoor
Exposure to Water / Fluid / Dust:
Temperature range [°C]:
Humidity [%]:

BONDARY CONDITIONS

☐ ●—— Fixed - free
☐ ●——● Fixed - Radio support
☐ ●——● Fixed - Fixed

CLEARANCE – PRELOAD - STIFFNESS

Axial backlash ☐ YES ☐ NO

Preload state: ☐ Standard (backlash elimination) ☐ Preload/Stiffness
Type of HRS: ☐ SRS ☐ URS ☐ IRS ☐ SBU
☐ DRS ☐ HRA ☐ RRS ☐ HHF

QUANTITIES FOR REQUEST

Notes / Remarks / Sketch:



www.setec-group.com



TORINO

Direzione Generale e Stabilimento di Produzione / Headquarter and Production Plant

Via Mappano, 17 - 10071 Borgaro T.se (TO)

T +39 011 451 8611 (r.a.) - F +39 011 470 4891

setec.to@setec-group.it

Filiali / Branches:

MILANO

Via Meccanica, 5

20026 Novate (MI) - Z. I. Vialba

T +39 02 356 0990 - 382 01 590 (r.a.)

F +39 02 356 0943

setec.mi@setec-group.it

BOLOGNA

Via Del Lavoro, 6/A

40051 Altedo (BO)

T +39 051 871 949 (3 linee r.a.)

F +39 051 870 329

setec.bo@setec-group.it

PADOVA

T +39 049 872 5983 -

F +39 049 856 0965

setec.pd@setec-group.it

FIRENZE

T +39 055 643 261 -

F +39 055 646 6614

setec.fi@setec-group.it

