



Aerospace Ball Screws. Safety by Precision.



Steinmeyer Aerospace Ball Screws.

A Steinmeyer Group Product Line.



Steinmeyer is the leading manufacturer of ball screws for industrial, scientific and aerospace applications.





Aerospace Grade Ball Screw Solutions

As one of the prime ball screw manufacturers world-wide, Steinmeyer offers ball screw solutions for aerospace applications that are second to none. Micron-precision manufacturing in one of the largest ball screw factories, utilizing the latest state of the art equipment, combined with over 50 years of experience and a dedicated design and test facility for aerospace product, guarantees customers needing solutions for aircraft, spacecraft or defense applications, an organization that has it all: technology, production capacity, know-how and the willingness to perform to the most demanding expectations.

Our product range includes the smallest ball screw in the world with a nominal diameter of just 3 mm, and some of the largest screws available with a diameter of 160 mm – large enough to cover any conceivable aerospace application. Plus we offer a variety of ball return designs, some of which are unique in the market. And if the solution you are seeking doesn't exist yet, we will invent it!

Development, Testing and Production

We know that building a screw is not enough. We will develop solutions in accordance with your specifications, conduct the necessary verification tests, compile development documentation and demonstrate compliance with safety and reliability standards. Our ISO EN 9100 certified organization will work with you step by step to ensure that the outcome of the development process is not only free from defects, but also free from surprises. Whether it is analysis, simulation, or testing in our dedicated test lab, we will make sure your needs are met and the finished product perfectly fits the intended use.

We realize that our customers need a supplier that covers it all – from defining the initial concept, to developing the final architecture and detail design, to prototype build, test and qualification, to providing all the documentation. And on-time delivery of production quantities and spares throughout the life of the program. Whether you need all of this, or whether you have a legacy screw design that you want to be built to print – call us. You'll see we are the right people to talk to.

Aerospace Actuation Ball Screws.

Designed to your requirements. No compromises.

Utility Actuation Screw



Electric Brake Actuator Inversed Ball Screw



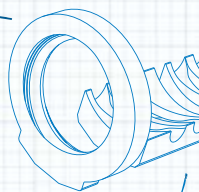
Ball screws for aerospace actuation are as diverse as their uses. Because they are designed to fit a certain purpose and envelope, they can look very different. Sometimes it is hard to tell if it is a ball screw at all. Space saving design, integration of additional functions such as drive interfaces via splines or gears, bearing surfaces, or provisions to seal the inside of a gear box from the environment, are options that we often build into our ball screw solutions. Plus, there are many ways balls can be recirculated for high load bearing capability with the optimum number of load balls, conventional or inversed design, and the largest possible ball diameter for any given pitch.

Pitch and diameter of the ball screw can be selected freely, giving our customers any possibility to optimize the drive train of the actuator for optimum efficiency and compactness.

No fasteners needed

Integrated secondary nut

Dual internal return pieces for redundancy / patented geometry for extra sturdiness



Flap Actuation Screw



Missile Fin Actuation Screw

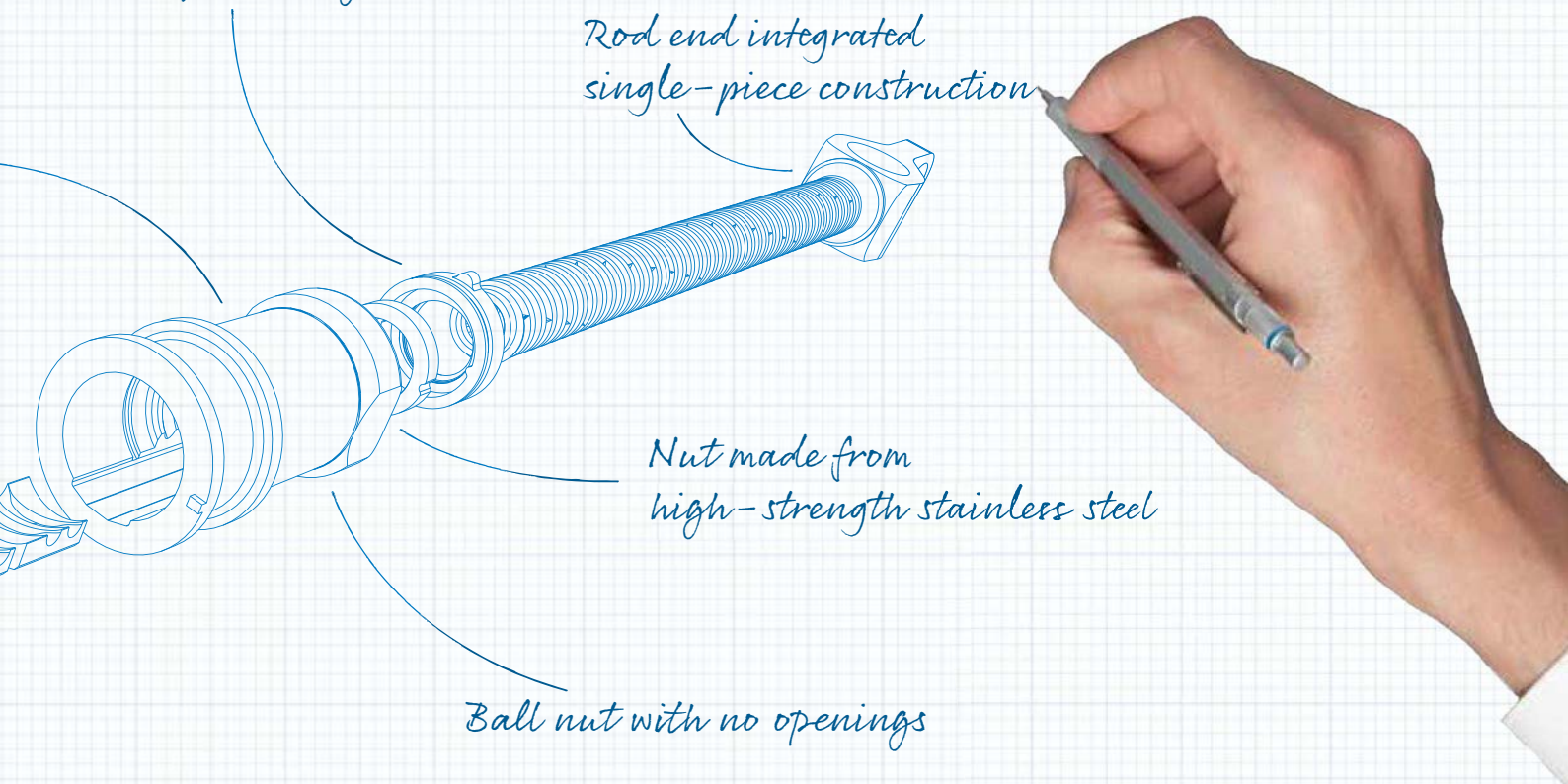


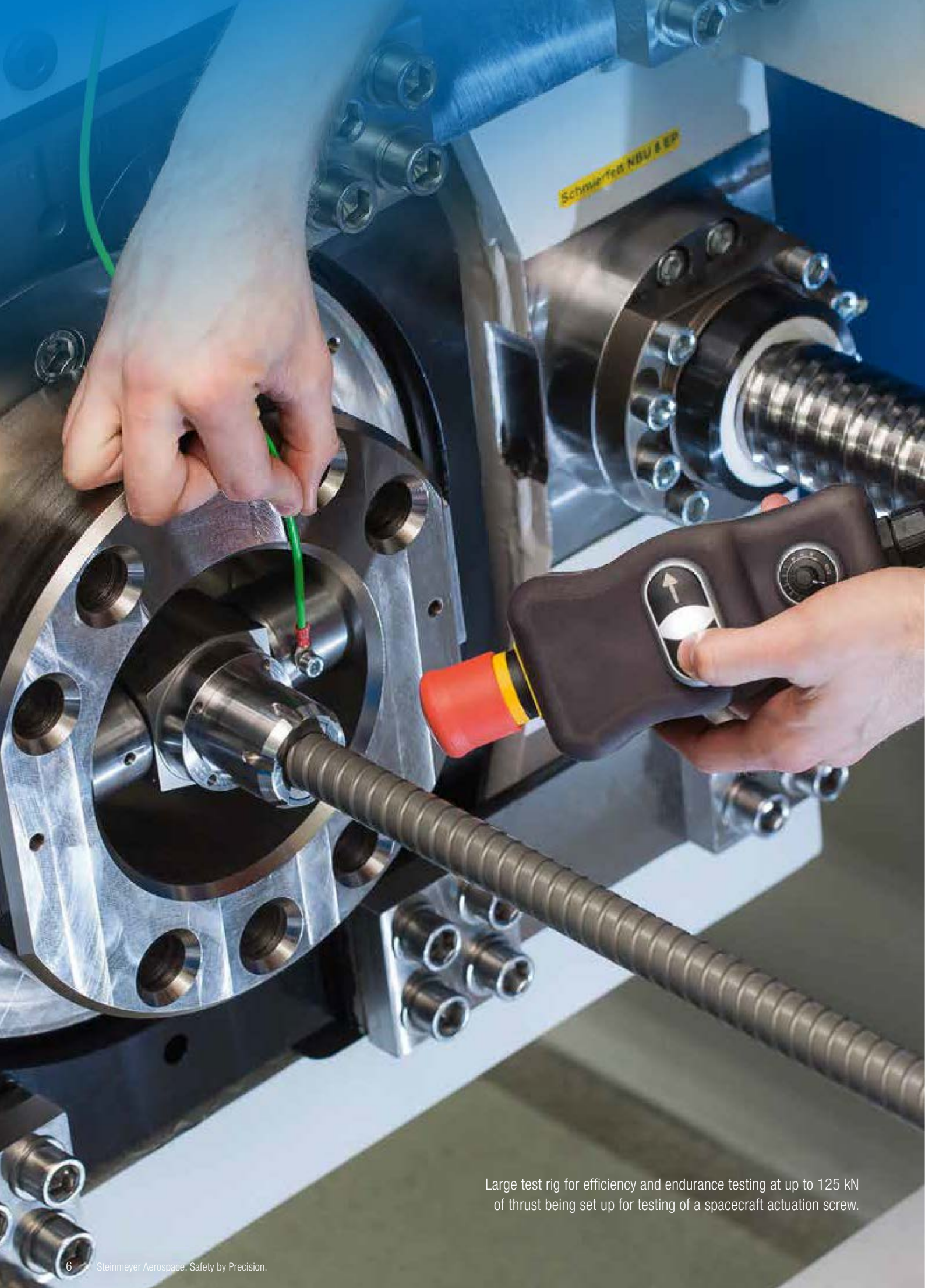
*Scraper and seal assembly
compact design*

*Rod end integrated
single-piece construction*

*Nut made from
high-strength stainless steel*

Ball nut with no openings





Large test rig for efficiency and endurance testing at up to 125 kN of thrust being set up for testing of a spacecraft actuation screw.

Analysis, Simulation, Test. Quality Assurance.

ISO/EN 9100 Certified.

Reliability counts. Proven Design elements. Mature manufacturing processes. Stringent testing.



Safety Counts

Aviation safety, or the challenges of a space mission, leave no room for trial and error. To ensure the flawless function of our components, we ensure that every requirement is flowed down and the resulting design is implemented and finally its proper function is verified. Analysis and simulation help to avoid surprises, and testing in our own test lab demonstrates that the development process has resulted in a product that is needed for safe and reliable operation.

Reliability is not a Coincidence

Only an experienced design organization can ensure that the product will meet all requirements. Analysis helps define the characteristics needed, and simulation then shows where adjustments are necessary long before the first metal is cut.

Steinmeyer employs computer aided design and numerical simulation throughout the development process. When the first hardware is finally put through the tests that were identified as necessary to ensure safety and reliability, our engineers remain confident. We don't expect surprises when the gauges of the test rig indicate full load.

Efficiency Testing

Our test lab is equipped with test benches for efficiency testing of screws in different sizes and configurations in a wide range of loads

up to 125 kN and strokes up to 2 meters. We also have special test benches for brake actuators as well as the testing of missile fin actuators and other very fast running screws.

Limit Load and Ultimate Load Testing

On test rigs, with up to 400 kN of force, we can demonstrate safety of our product in static and quasi-static load tests. If required, prototypes are put through endurance tests and subjected to adverse environmental conditions prior to or during the test.

Endurance Testing

Life testing is an important part of the development and qualification process. Our universal test bench is capable of testing screws of almost any size with a load routine to simulate the operation of the actuator long before the first actuator is built. We can even simulate the environmental conditions to which the screw will be subjected.

Test Planning and Documentation

Tests can be time consuming and expensive. Where simulation helps avoid any surprises, careful planning of tests ensures that everything can be completed on time. But the job is not complete until everything has been documented. Trust our experienced teams of engineers that the test documentation will satisfy the most demanding requirements.

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