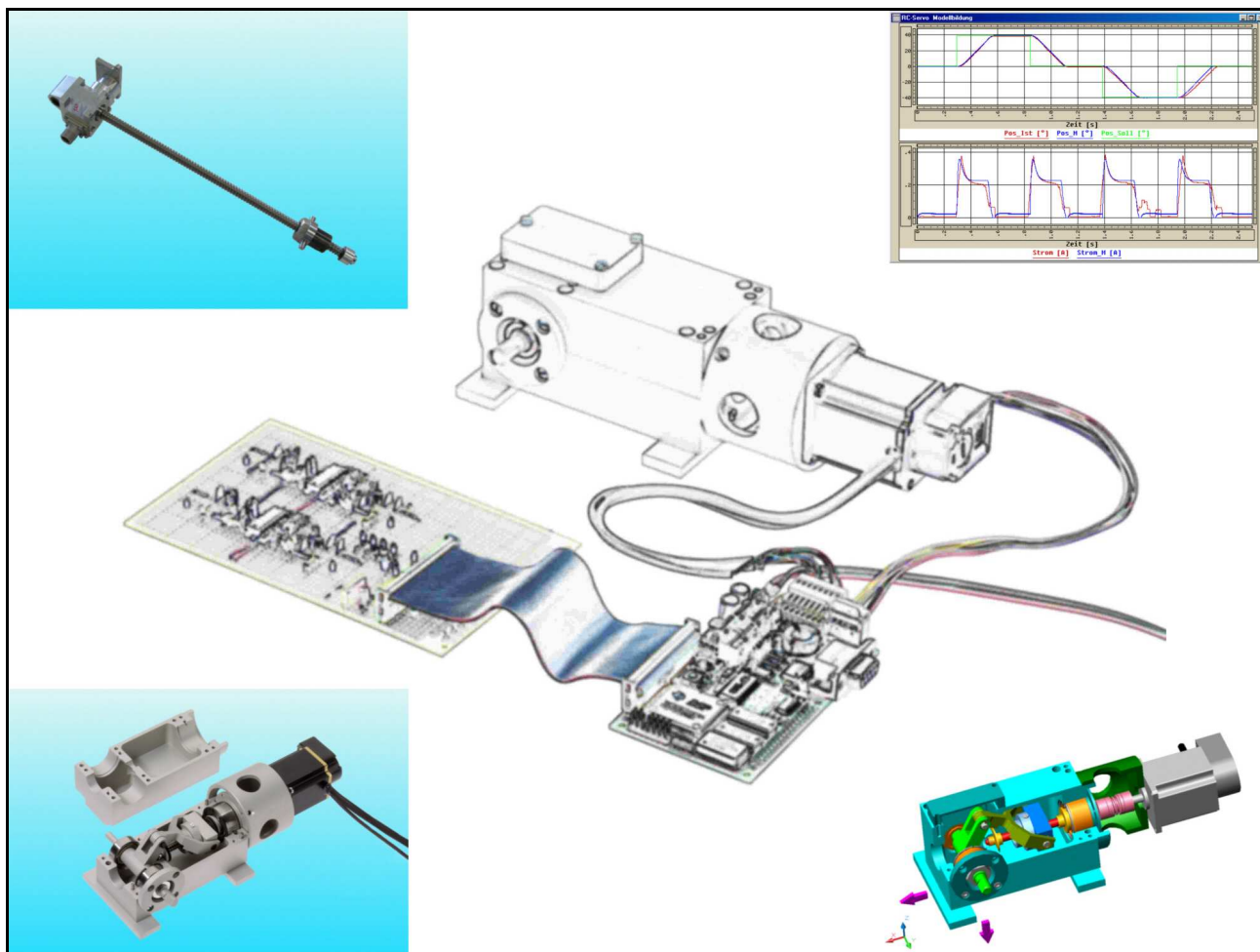


supplier of customised actuation systems

ROSNER-TDL

Electro-mechanical Actuation Systems

concepts – prototypes – series



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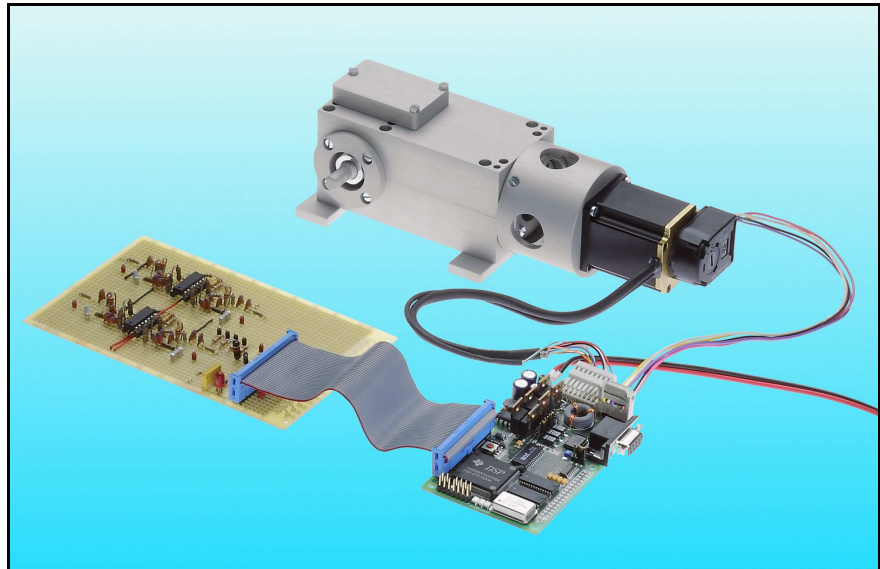
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supplier of customised actuation systems

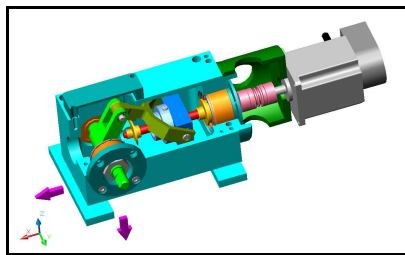
ROSNER-TDL

We are a company specialised on the development, evaluation and series production of compact electro-mechanical actuation systems.

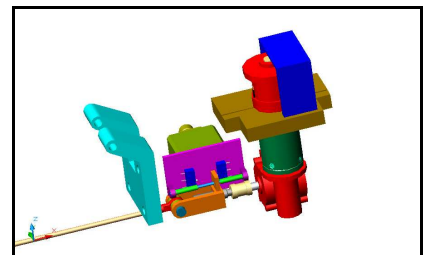
The performance range of our actuators is (depending on the output type) for rotary output between 0.01 and 100 Nm (1 in-oz to 1000 in-lb) torque and for linear output between 1 N and 10 kN (3 oz to 1 ton) force.



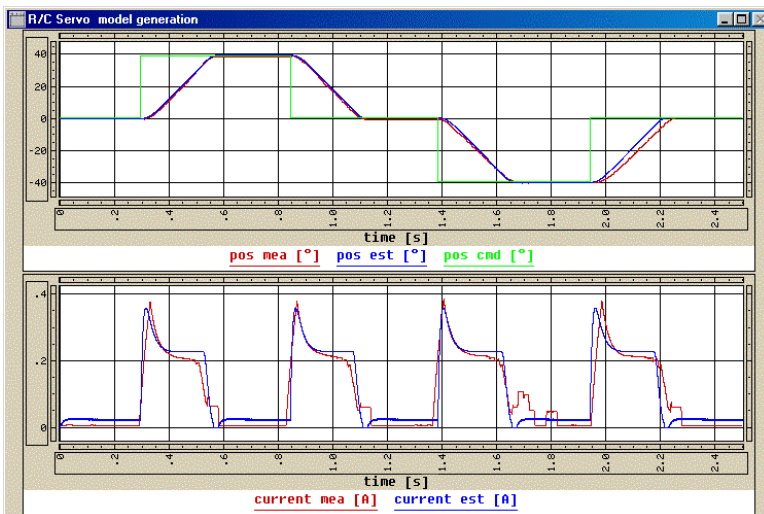
Actuation system (peak torque 20 Nm, 175 in-lb) with DSP electronic



CAD model of a rotary actuator



CAD model of a variable-pitch propeller actuator



Laboratory test with theoretical model comparison: the upper diagram illustrates the motion (green: command, red: measured, blue, theoretical model); the lower diagram shows the motor current (red: measured, blue, theoretical model).

As an independent supplier we order (according to our specification) the key components (motors, gears, sensors, electronics) from various international manufacturers. The same is true for the machined parts.

We test and assemble any components and after a final inspection the actuation system is ready for delivery.

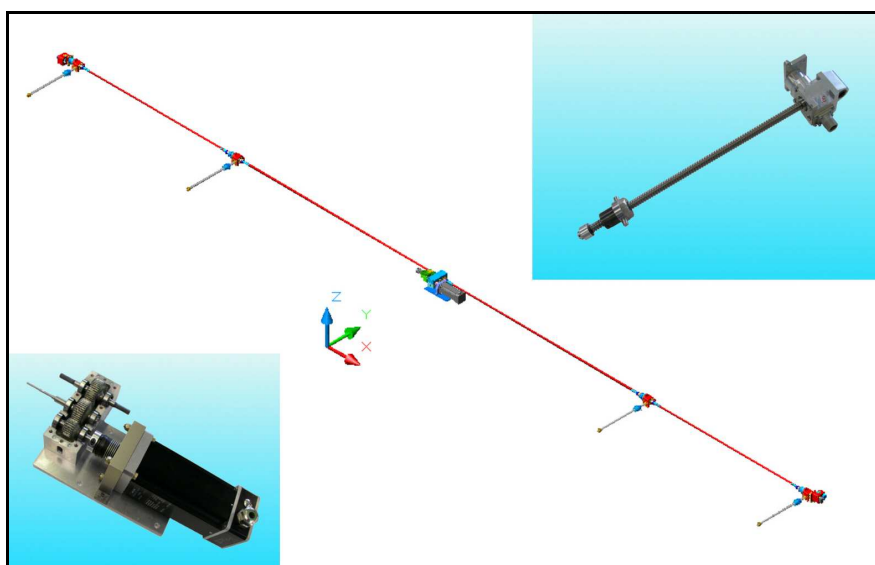
ROSNER-TDL

An important field of our products is aviation. Our products are designed for aircraft from ultralight to business aircraft. Our actuation systems move and control control surfaces, landing flaps, throttle control for combustion engines (fly-by-wire), variable pitch propellers. The picture illustrates a landing flap actuation system, which we developed for a business aircraft. It consists of:

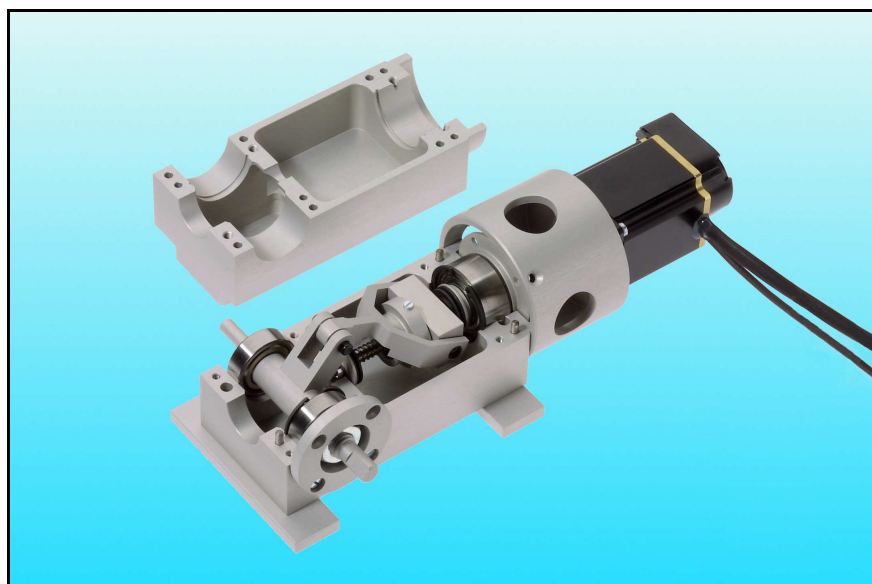
- motor with the central reduction gear
- four actuators with worm gear and ball screw spindles
- flexible shafts between the components
- switches, brakes, sensors

Technical data:

- force: 4 kN (900 lbf)
- stroke: 400 mm (16 in)
- time: 30 s



Landing flap actuation system for a business aircraft: The motor (lower left photo) and the main gear drive four actuators (upper right photo) by flexible shafts. The actuators produce a stroke of 400 mm (16 in) and a peak force of 4kN (900 lbf). The actuation time is 30 sec.



View on a modular actuator (peak torque 20 Nm, 175 in-lb)

The photo shows another example of our aviation actuators.

The modular use of standard components allows us to create various combinations and thus covers a broad spectrum of requirements.

supplier of customised actuation systems

ROSNER-TDL

We support you (manufacturer-independent) in the selection of:

- concepts of actuation systems
- motors (brush motors, brushless motors, stepper motors)
- sensors (potentiometer, encoder, current sensors)
- control electronic
- mechanical components (gears, spindles, housings)

We supply a „turn key“ solution:

- customised concepts and development
- mathematical models for design and simulation
- qualified prototype to operate with your process or system
- series production optimised to total costs

Typical areas of application are:

- positioning of loads (robotics)
- artificial loads in test equipment (force-feedback)
- automatic test environments
- replacement of pneumatic or hydraulic actuation systems

We also cover aviation application with actuation systems for:

- control surfaces (from ultralight to business aircraft)
- throttle control of combustion engines (fly-by-wire)
- variable-pitch propeller

We are members of the Hanse-Aerospace e.V., the organisation of small and medium companies in the aerospace business in northern Germany.



You can find more information (examples, technical reports) in the Internet at:

<http://www.rosner-tdl.de>

If you need a customised actuation system, don't hesitate! Please make a compilation of your most important data (performance data, available space) and send it to us. You will get a prompt comment.