SCHUNK

SLD family
Linear direct axes

Dynamic. Robust. Reliable.

Hand in hand for tomorrow



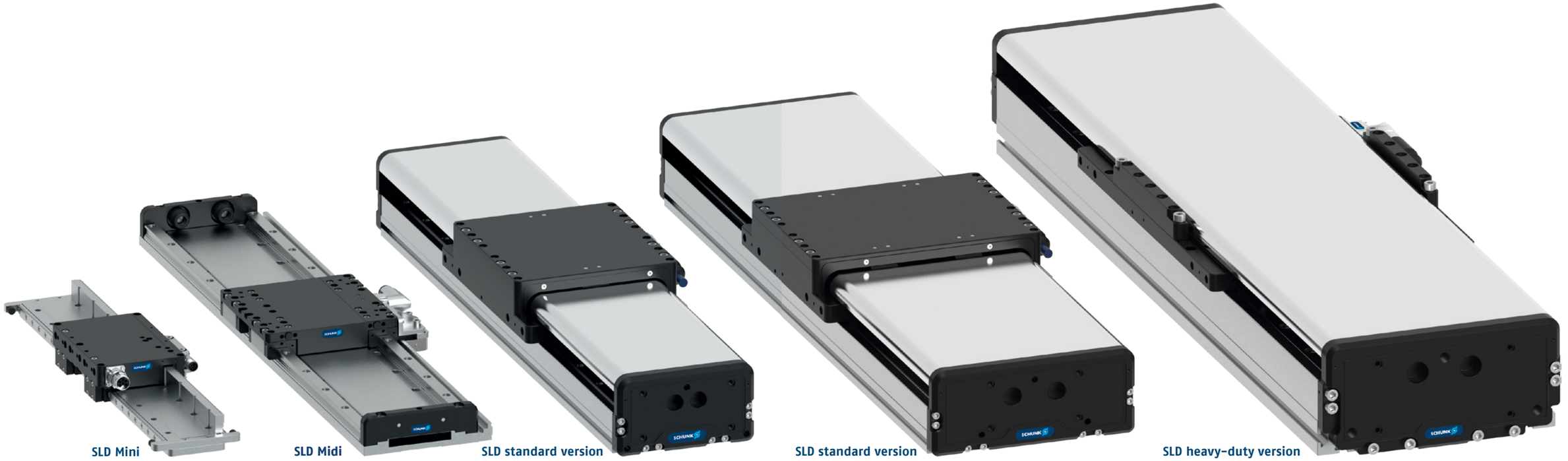
SLD family
Linear direct axes

SLD family at a glance

The SLD series is a new generation of SCHUNK linear direct axes. The dynamic, heavy-duty axes with electric linear direct drive ensure short cycle times and more productivity in high-speed assembly and handling processes.

Due to the high driving forces up to a maximum of 2.4 kN and the basic load rating of up to 276 kN with the heavy-duty version as well as the long service life, the axis is ideally suited for any industry – even for demanding cell production in the dry room.

- **Mini and Midi** – compact linear direct axes designed for assembly and high-performance automation
- **Standard version** – the dynamic all-rounder axis for assembly and handling tasks
- **Heavy-duty version** – for maximum load ratings and service life



SLD Mini

SLD Midi

SLD standard version
Size 1X

SLD standard version
Size 2X

SLD heavy-duty version

Application examples and industries

Automotive

Handling of automotive components and ADAS systems

E-Mobility

Assembly and handling of battery cells in electromobility

Electronics

Assembly of electronic components and small components in the electronics industry

Life Science and pharma

Assembly of lancing devices in the life-science industry and laboratory automation in the pharmaceutical industry

Consumer goods industry

Handling of contact lens trays in packaging in the consumer goods industry

Cross-industry

Cross-industry AOI and EOL inspections as well as processing operations (joining, cutting, engraving)

Other axes have to make compromises. Not these.

Precision despite high speed for noticeably greater efficiency.

Powerful in a small space: The complete integration of all drive elements in the motor slide eliminates additional components such as motors, gear units, or angle belt drives. This enables compact and flexible solutions, optionally also with multiple driven slides on one axis.

The virtually wear-free direct drive combines reliability and long service life with purity up to cleanroom class ISO 4. High dynamics, speeds up to 10 m/s, and precision in the micrometer range mean that it can be used in a wide variety of automation processes.

Axis lengths of more than 30 meters, high load capacities, and simple integration into existing electrical architectures open up diverse possibilities for demanding automation tasks.

Build smaller. Move more.

Independently controllable slides save space instead of extra axes.



It runs. And it runs. And it keeps running.

No belts, no spindle, no wear and tear to stop production.

Your unique requirement for an axis. Our everyday work.

Competence from the beginning prevents costly corrections during the project.

SLD family
Linear direct axes

Application example

Precision, reproducibility, and process reliability are crucial in life science. SCHUNK linear direct axes enable dynamic, precise movements and short cycle times for efficient automation processes.

Pharma: Highspeed handling of syringes for reliable blister packing processes

LabAutomation: Fast, reliable handling of laboratory samples

MedTech: Precise positioning and feeding in automated assembly processes



Systems that are ready for use and come from one source

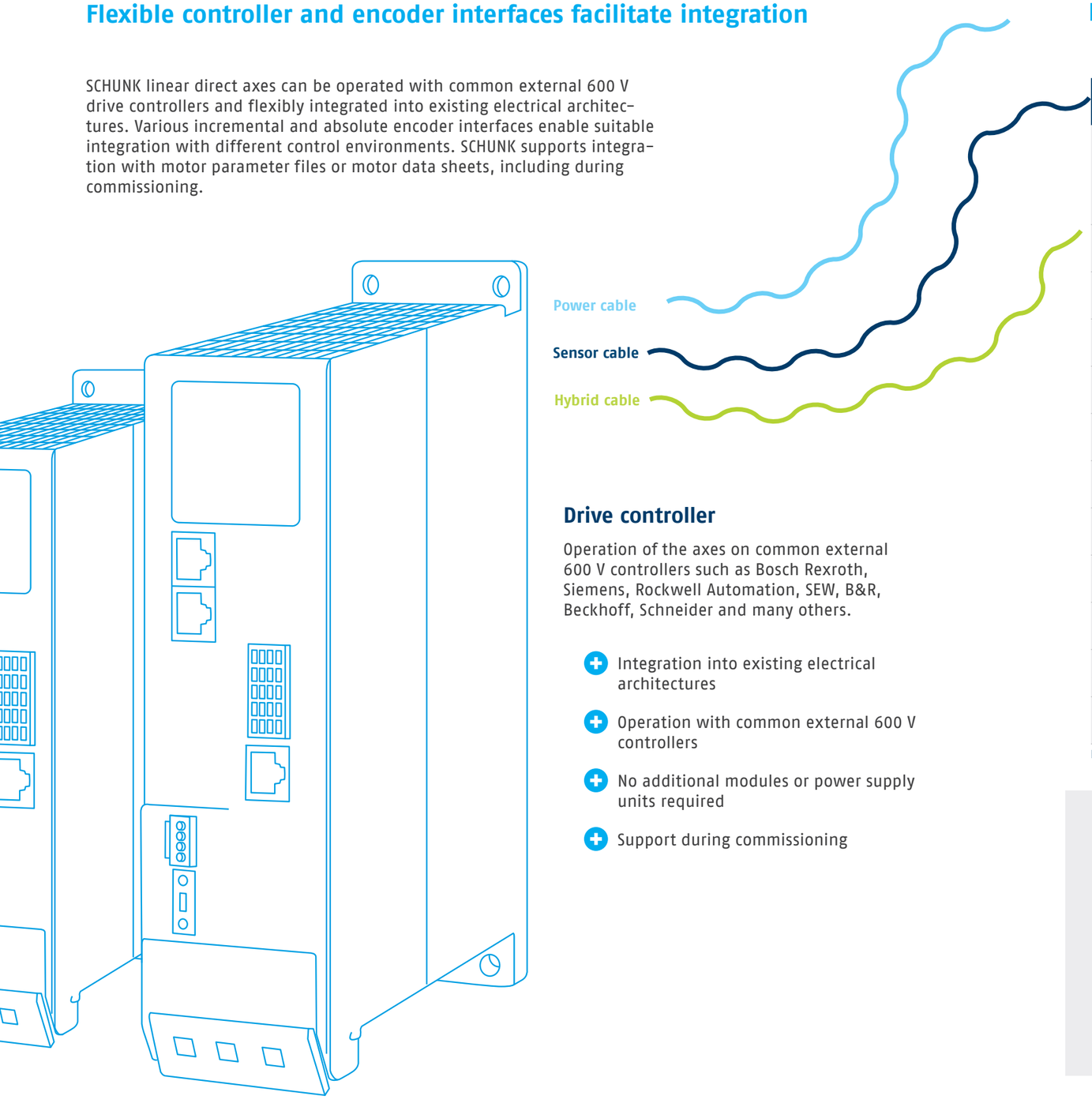
Upon request, we can supply fully integrated, complete solutions that are ready for use, including all necessary components and interfaces.

The result is easy-to-assemble, quickly integrated solutions with reduced effort for procurement, coordination and commissioning.

Fits into your electrical architecture

Flexible controller and encoder interfaces facilitate integration

SCHUNK linear direct axes can be operated with common external 600 V drive controllers and flexibly integrated into existing electrical architectures. Various incremental and absolute encoder interfaces enable suitable integration with different control environments. SCHUNK supports integration with motor parameter files or motor data sheets, including during commissioning.



Drive controller

Operation of the axes on common external 600 V controllers such as Bosch Rexroth, Siemens, Rockwell Automation, SEW, B&R, Beckhoff, Schneider and many others.

- Integration into existing electrical architectures
- Operation with common external 600 V controllers
- No additional modules or power supply units required
- Support during commissioning

Technical data

Integrate instead of supplementing.

Product	SLD Mini SLD 1x-S	SLD Midi SLD 1x-M	SLD standard version SLD 1x-N	SLD standard version SLD 2x-N	SLD heavy-duty version SLD 2x-H
					
Guides [mm]	Profiled rail guide 9	Profiled rail guide 15	Profiled rail guide 15	Profiled rail guide 20	Profiled rail guide 30
Stroke [mm]	up to 1000	up to 2500	up to ~5500	up to ~5500	up to ~5500
Driving force (max.) [N]	180 – 300	500	300 – 1200	600 – 2400	1200 – 2400
Rated force [N]	62 – 101	196	165 – 495	285 – 865	353 – 865
Repeat accuracy [mm]	±0.005	±0.005	±0.005	±0.005	±0.005
Holding brake	optional	optional	optional	optional	optional
Measuring Systems	Absolute I incremental	Absolute I incremental	Absolute I incremental	Absolute I incremental	Absolute I incremental
Voltage [V]	600	600	600	600	600
Speed [m/s]	3	5	5	5	up to 10 (Highspeed)
Acceleration [m/s²]	up to 100	up to 100	up to 100	up to 100	up to 100
Basic load rating dyn. [kN]	6	36	45 – 68	71 – 106	102 – 276

Fit-to-purpose: Special designs are possible, e.g., longer strokes, different measuring systems (more precise repeat accuracy) or guide systems.

Flexibility through and through

SCHUNK supports incremental and absolute encoder interfaces such as Hiperface, HiperfaceDSL, DriveCliq and EnDat 2.2. Selected variants offer functional safety up to SIL2 / PLd. Additional encoder interfaces on request.

Besides the diverse configuration options, the axes are optionally UL-certified or available with food-compliant lubrication (H1G). We would be happy to equip the axes and systems with suitable drag chains – please contact us.



SCHUNK Electronic Solutions

Competence center for direct drives

The St. Georgen site can look back on a long and successful history. Founded in 1984 as GAS-Automation, the company has developed into a recognized specialist for direct drive technology. Following a long and successful sales partnership, the site became part of the SCHUNK family in 2013 and has since been an integral part of the global network of expertise.

Today, innovative solutions for industrial automation are developed on a production area of more than 8,000 m². The focus is on the development and production of linear direct axes, torque motors and depaneling machines for the electronics industry. A significant milestone in the company's history was reached with the presentation of the first linear direct axis in 2000, which laid the foundation for today's technological leadership.

With the "Made in Germany" cachet, the site unites the entire value chain under one roof: from development and manufacturing of the motors and production of the drive components, right through to the fully assembled and comprehensively tested linear direct multi-axis system. In addition to single axes, complex multi-axis systems and customer-specific solutions for a wide variety of applications are also created here.

The high level of vertical integration offers customers numerous advantages. St. Georgen thus stands for precision, technological expertise, and collaborative partnership at the highest level.

Advantages at a glance:

- High quality through coordinated development and manufacturing processes
- Short response times through the pooling of key competencies
- Comprehensive expertise in direct drive technology
- High innovative strength through the close integration of development and production
- Reliable availability
- Service and support throughout the entire product life cycle



CLEAR THE QUESTIONS.

Minimize the risk.

Whatever is involved, from a single component or assembly through to a complete system of clamping, gripping, and automation technology – at the beginning there are open questions. SCHUNK Engineering clarifies them before the investment is made.

- Feasibility check – does the solution fit the component, machine and process?
- Design, calculate, simulate, and test the solution concept in the test center.
- Integration depth made to measure – from the component to the complete system
- Support up to commissioning and stable series operation

The result: clarified questions, secured processes, minimized risk.

Four steps to project success

1 Understanding challenges



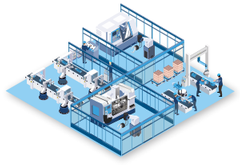
Together, we define your requirements and develop a concept with a reliable budget estimate.

2 Developing solutions



We work with you to develop tailor-made solutions so that you can concentrate on your core competencies.

3 Manufacturing and assembly



Our high level of manufacturing expertise and digital processes ensure efficiency and precision.

4 On-site support



As a reliable partner, we accompany and support you every step of the way.

Experience the SCHUNK effect

Your individual case. Resolved routinely.
In-depth portfolio knowledge of over 13,000 components – for the right solution, right from the start.

Faster to a robust concept.
Make quick decisions and validate results through shorter quotation and planning times.

The most favorable solution is the one that offers a convincing result right out of the box.
Competence from the outset prevents costly corrections during the project.

From the single axis to the engineering

One partner. One point of contact. One solution.

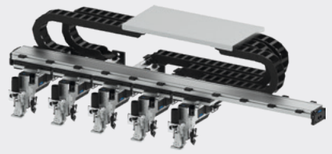
SCHUNK offers far more than just individual components. Based on the extensive product portfolio for gripping, changing, moving, clamping and automating, high-performance solutions are created for a wide variety of applications. The range of services extends from standard single axes to multi-axis systems in standard or special design, up to completely customer-specific individual and series solutions. Together with our customers, we develop tailor-made automation concepts that are precisely aligned with the respective requirements.



More possibilities.
Standard or customized – as pre-assembled systems for maximum precision and dynamics.



Proven quality.
Available immediately and ideal for various applications.



Individual solutions
Customized individual or series solutions – from conception to commissioning.

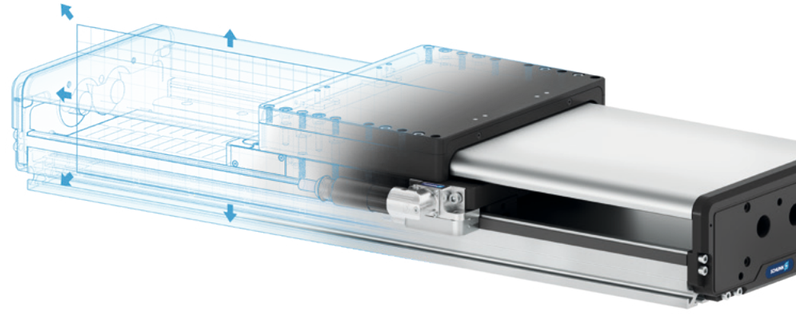
Product finder



Select the right product in just a few clicks
The SCHUNK product finder makes it easy to reliably select the right specific products from the portfolio for each application.

Configurators

With our configurable standard products, we reduce the complexity of system planning and offer numerous customization options.
Linear axes can be adapted to individual needs such as driving force, nominal stroke, length, plug outlet, measuring systems, brakes, lubrication adapters, covers, and accessories with just a few clicks.
In addition to our configurable standard products, we also offer customized solutions through SCHUNK Engineering – please contact us!



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