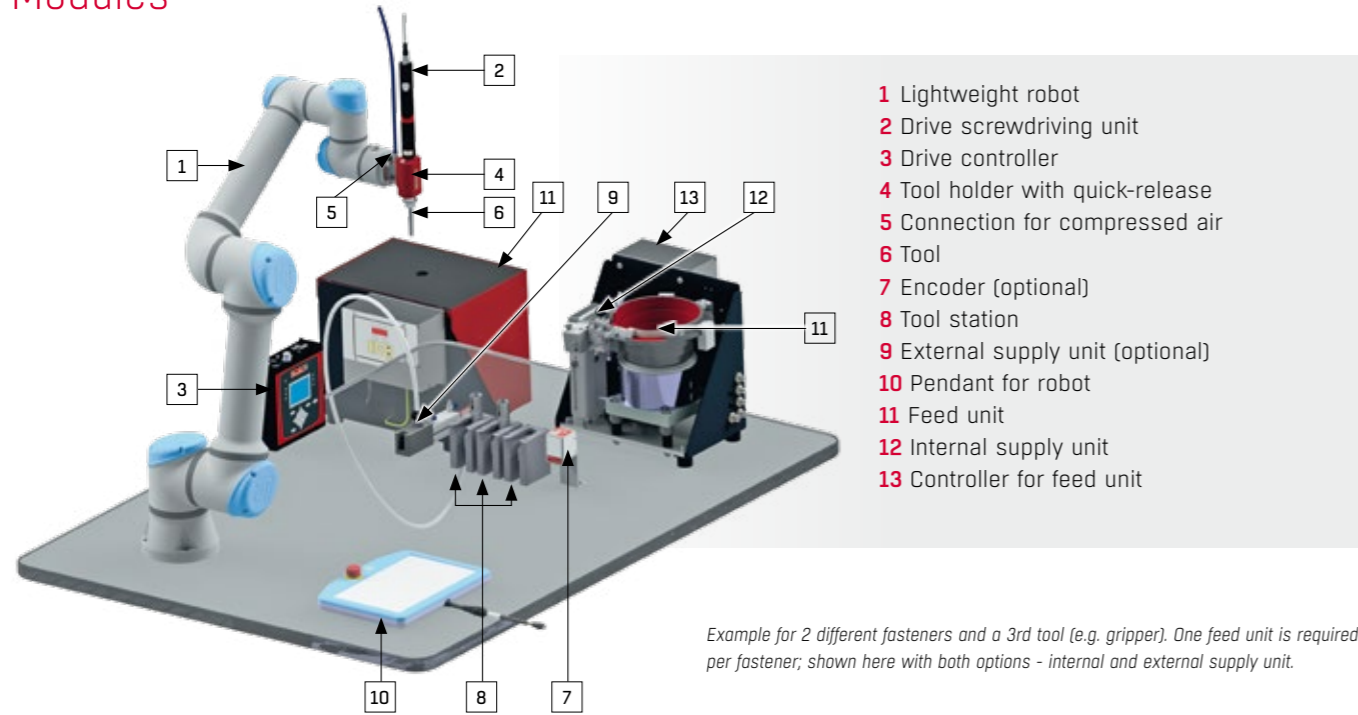


Modules

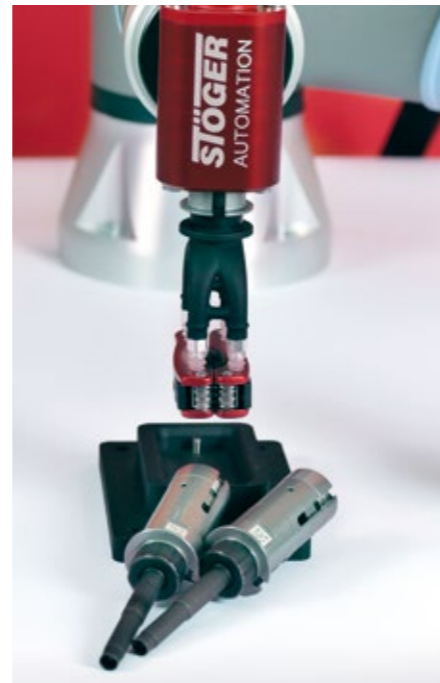


SPATZ

STÖGER Pick&Place
screwdriving robot with
automatic tool change
and feed unit for fasteners



From left to right: external supply unit, 3x tool station, encoder



Gripper and two screwing tools. Attached to the tools are the scan codes for the encoder.



CAD data available on www.stoeger.com/en/downloads.html
under file "automatic screwdrivers"

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The SPATZ (STÖGER Pick&Place screwdriving robot with automatic tool change and feed unit for fasteners) has all the features to revolutionize the system layout in automated production and offers high savings potential in the design of assembly and manufacturing systems.

The SPATZ consists of a drive, the tool holder with quick lock, the required screwdriving tools and the corresponding number of feed units. In the standard version, the SPATZ can handle up to 15 different screwdriving programmes. Due to the modular design, all conceivable screw sequences with different screw geometries and screw positions can be mapped and combined with each other.

The modular and flexible design opens up completely new and significantly more cost-effective concepts than before. Since only additional tools are required for different screw geometries instead of additional screwdriving units, the system price is significantly reduced. The more different fasteners are processed with the SPATZ, the higher the savings potential.

In addition to screwing, many other activities are possible. For example, grippers can also be integrated. Thus one robot can pick up a component, screw in different screws, set balls or pins, assemble components and much more. This opens up completely new possibilities for the system layout.

Software has been developed for the UR robots UR3e, UR5e, UR10e and UR16e of the e-Series, which enables users to store the associated screwdriving programmes and to determine in just a few steps all the positions that the robot has to move to. Extensions and changes to the system layout are also conveniently adapted via an intuitive user interface.

THE ADVANTAGES AT A GLANCE:

- + *Certified UR+ product*
- + *Modular system*
- + *Flexible system layout*
- + *Up to 15 screwdriving programmes possible at the same time*
- + *Various tools adaptable (nose pieces, grippers)*
- + *High savings potential*
- + *Multiple work steps can be carried out with one system*
- + *Simple system expansion*
- + *Encoder checks whether the correct tool is taken (optional)*
- + *Simple programme changes to the robot through certified software UR-Cap (when using an UR e-series robot)*
- + *Integrated automatic sequence control*
- + *Quality assurance through documentation of the screwdriving results*



Technical Data

General	
Concept	modular Pick&Place Screwdriving system; automatic tool change; design optimized for HRI; certified UR+ product
Versions	Free choice of drive; up to 15 screwdriving programs possible; provisioning of screws realised by a feed unit with internal or external supply unit; further tools, e.g. gripper adaptable

Screwdriving unit with tool	
Dimensions screwdriving unit [B x W x H]	64 x 64 x 380 mm with drive Desoutter ERXS 80 64 x 64 x 520 mm with drive Desoutter ERS 2
Follow the screw force	max. 100 N
Pressure range compressed air	5 - 6 bar unoilied air
Torque	up to 4 Nm
Total weight of screwdriving unit	approx. 0,93 - 1,40 kg (depending on tool in use and drive)
Environmental conditions	- Temperature: 0 - 40 °C - Air humidity: 0 - 90 % RH (not condensing)
Energy requirements	- Power supply voltage: 230 V - Electrical load: approx. 150 W (depending on drive) - Compressed air: up to 120 l/min

Tool	
Dimensions tool [Ø x L]	Ø 30 x 132 mm
Total weight	approx. 0.2 kg
Bit connecting thread	up to M5

Tool station	
Dimensions [B x W x H]	55 x 80 x 92 mm
Total weight	2.2 kg

Encoder	
Dimensions [B x W x H]	43 x 75 x 122 mm
Total weight	approx. 0.3 kg
Scanning distance	approx. 40 mm

Feed unit with internal / external supply unit	
Feed unit	see data sheet ZSE / STF / SGF
External supply unit	
Dimensions [B x W x H]	35 x 167 x 75 mm without feed hose
Total weight	approx. 1 kg
Compressed air	0.1 NL/cycle

Controller	
Measurable values	Depth, Position, Down force of bit, Torque, Rotation angle, Time
Measuring precision	± 10 % of the measuring range
Software	Simple programme changes to the robot and graphic user guidance by UR-certified software when using an UR e-series robot