



## Dixon Automatic Tool, Inc.

### SPATZ

## Pick & Place Screwdriving Robot with Automatic Tool Change and Feed Unit for Fasteners

By: Stöger Automation

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USA, Canada and Mexico  
For 24 years*

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Software has been developed for the UR robots, UR3e, UR5e, RU10e, and UR16e of the e-Series, which enables users to store the associated screwdriving programs 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 SPATZ 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 programs. 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 driving, many other activities are possible. For example, grippers can also be integrated. Thus one robot can pick up a component, drive in different screws, set balls or pins, assemble components and much more. This opens up completely new possibilities for the system layout.

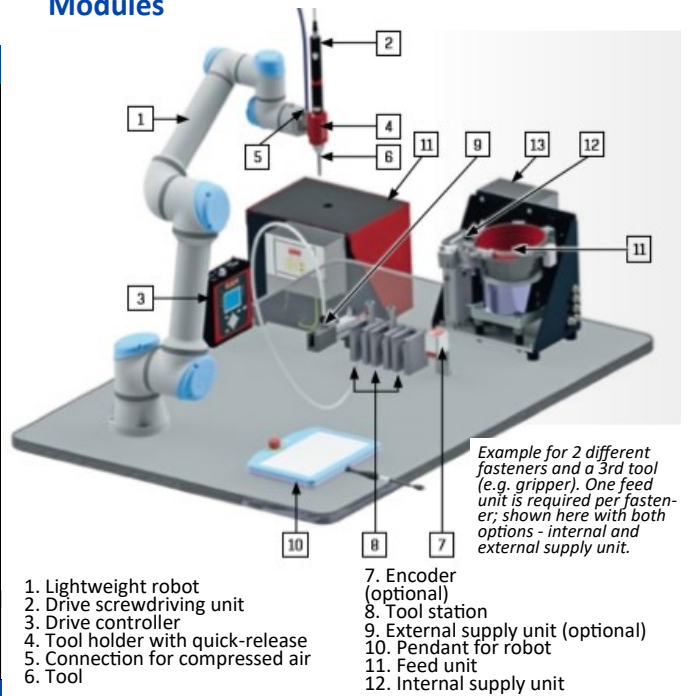
#### THE ADVANTAGES AT A GLANCE:

- ◆ *Certified UR+ product*
- ◆ *Modular system*
- ◆ *Flexible system layout*
- ◆ *Up to 15 screwdriving programs 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 tools is taken (optional)*
- ◆ *Simple program changes to the robot through certified software UR-Cap (when using on 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 realized by a feed unit with internal or external supply unit; further tools, e.g. gripper adaptable
Screwdriving Unit with tool	
Dimensions screwdriving unit (BxWxH)	64x64x380mm with drive Desoutter ERSX80 64x64x520mm with drive Desoutter ERS 2
Follow the screw force	max. 100 N
Pressure range compressed air	5 - 6 bar unooled 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, air humidity	0 - 40° C 0 - 90% RH (not condensing)
Energy requirements: power supply voltage, electrical load, compressed air	230 V approx. 150 W (depending on drive) up to 120 l/min.
Tool	
Dimensions tool (dia. x length)	dia. 30 x 132mm
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 122mm
Total weight	approx. 0.3 kg
Scanning distance	approx. 40mm
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 75mm 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 program changes to the robot and graphic user guidance by UR-certified software when using an UR e-series robot

## Modules



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



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



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