

## Technical data sheet – SPATZ 04

### General

Working principle	Pick&Place screwdriving system with automatic tool change and supply of the fasteners
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; supplying of screws by feed unit's with internal or external supply unit's; further tools, e.g. gripper adaptable
Adaptability (robot connection, number of lines)	ready to use on all established robots or axis systems (force mode in the screwdriving direction is required for the screwing process); 1 x Vacuum; 1 x Drive
possible kind of output drive,	any kind of output drive, e.g. 4 mm WS -HM, or 1/4" hex.
Requirements to the robot / axis system	- positioning accuracy min. $\pm 0,2$ mm - force mode in the screwdriving direction, to follow the fastener on the screwing process

### Screwdriving unit incl. tool

Dimensions screwdriving unit [W x H x L]	- 64 x 64 x 82 [mm]; plus drive - 64 x 64 x 380 [mm]; with Desoutter ERXS 80
Follow the screw force	up to 100 N
Pressure range compressed air	5 - 6 bar (unoiled air)
Quality of compressed air	ISO 8573-1:2010 [7:4:4] - [Particles:Water:Oil]
Torque	up to 30 Nm (standard) higher torque on demand
Total weight of screwdriving unit	approx. 0,93 - 1,40 [kg] (depending on tool in use and drive)
Outreach flange screwdriving axle	45 mm
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 [W x H x L]	32 x 32 x 132 [mm]
Total weight	approx. 0,2 kg
max. screw head diameter	up to 8,5 [mm]

tool – vacuum gripper pneumatic	
Dimensions tool [W x H x L]	32 x 32 x 122 mm – length customizable
Total weight	ca. 0,2 kg
vacuum level	-0,4 bar
load	1 N/cm <sup>2</sup> - depends on the component surface

tool – parallel gripper mechanisch	
Dimensions tool [W x H x L]	32 x 32 x 132 mm – length customizable
Total weight	ca. 0,25 kg
Total stroke gripper	10 mm
closing force	up to 250 N
clamping direction	inside or outside possible
gripper jaw	individual adapted

Encoder	
Dimensions [W x H x L]	43 x 75 x 65 [mm]
Total weight	approx. 0,3 kg
Scanning distance	approx. 40 mm
Communication	Ethernet
installation space wire	
- Length connector	48 mm
- Bending radius	min. 81 mm

Tool station	
Dimensions [W x H x L]	55 x 100 x 92 [mm]
Total weight	from 0,56 kg

Feed unit with internal supply unit	
Feed unit	See data sheet ZSE, STF, SGF

Feed unit with external supply unit	
Feed unit	See data sheet ZSE, STF, SGF

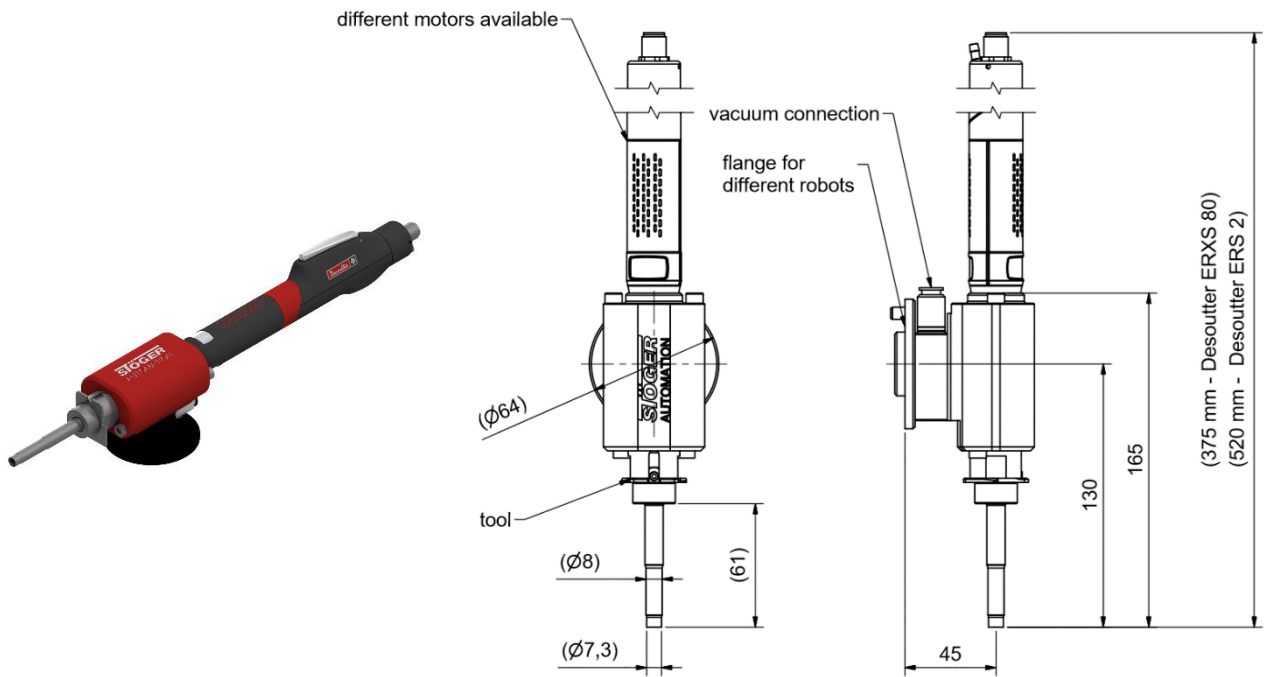
external supply unit	
Dimensions [W x H x L]	35 x 212 x 75 [mm] (without feed tube))
weight external supply unit	approx. 1,54 kg
energy consumption	
- Compressed air	0,1 NL/cycle



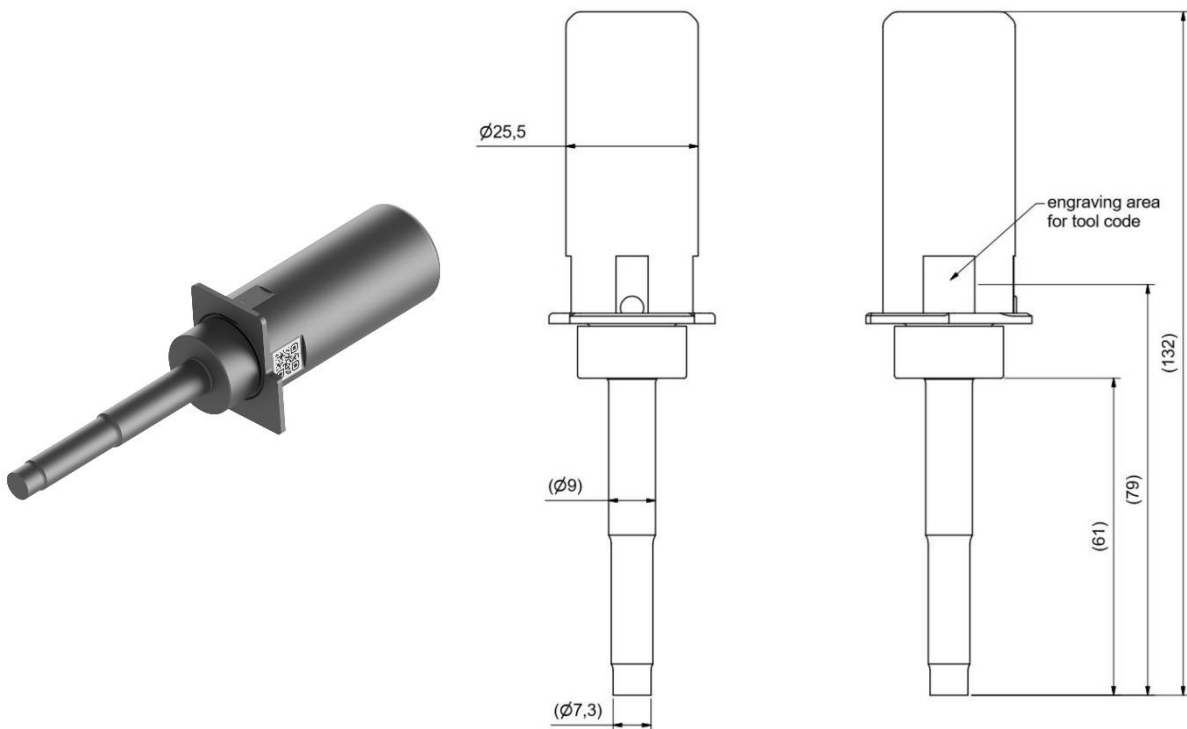
**Controller**

Measurable values	Depth, position, down force of bit, torque, rotation angle, time
Measuring precision	Torque: $\pm 10\%$ 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 UR3e, UR5e, UR10e, UR16e

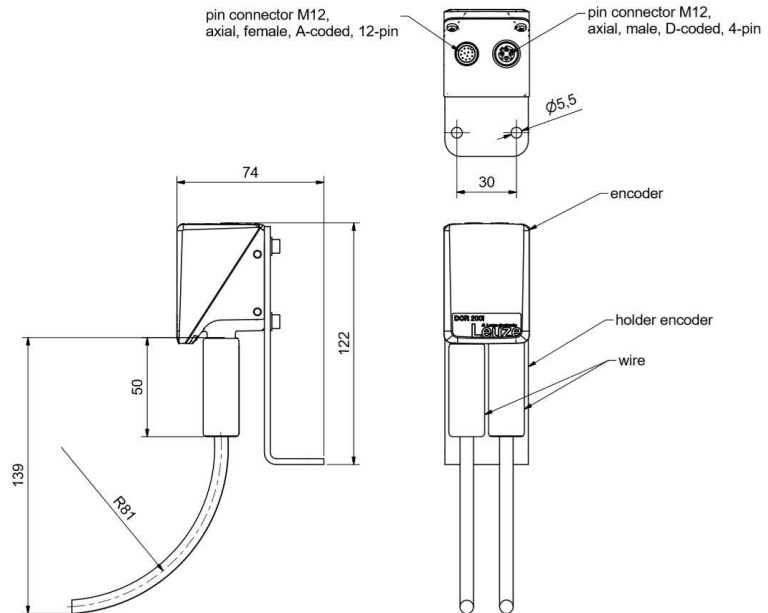
Screwdriving unit with tool



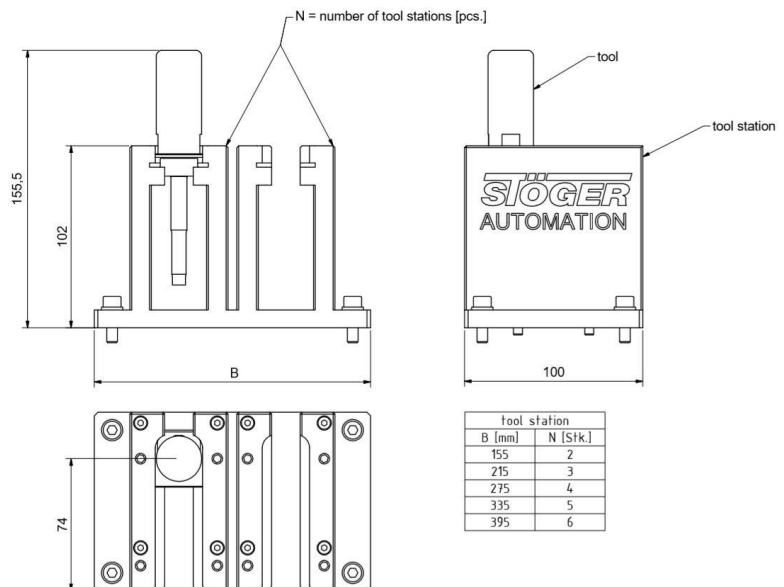
Tool



## Encoder



## Toolstation with tool



**Feed unit with internal supply unit**  
See technical data sheet ZSE, STF, SGF

**Feed unit with external supply unit**  
See technical data sheet ZSE, STF, SGF

**External supply unit**

