ROBOTIQ

ROBOTIQ SCREWDRIVING *SOLUTION*

Elevate your workforce

- Consistent screwdriving around the clock.
- 5-min production changeovers.
- Complete solution designed for flexible automation of your screwdriving tasks.

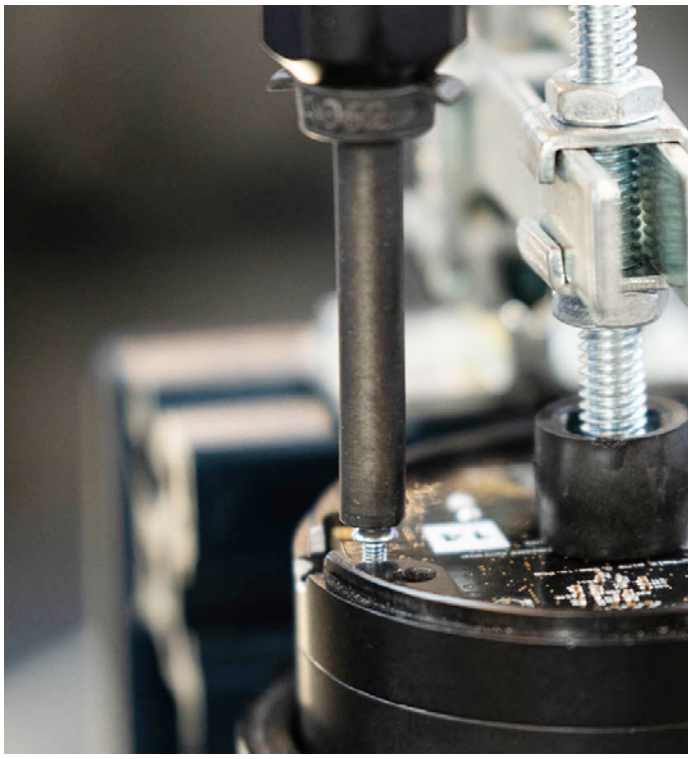
START PRODUCTION FASTER

Fewer injuries and a happier workforce

When you automate a screwdriving task, you keep employees from harm and can redirect them to value-added tasks. Elevate your workforce with a simple and easy-to-use automation solution.

CONSISTENT SCREWDRIVING **AROUND THE CLOCK**

- Free workers for higher-value tasks
- Reduce repetitive strain injuries
- Improve product quality
- Solve labor shortages



A single fastening solution to handle production changeovers **in small-screw assembly**

Deploy and master your robotic screwdriving application by adding Robotiq Screwdriving Solution to a UR cobot. So intuitive, no robotics experience is required.

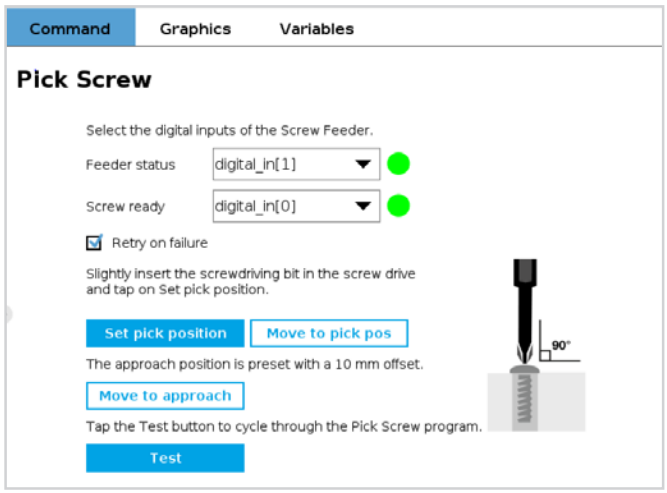
Get a simple, cost-effective automation solution, and say hello to consistent screwdriving around the clock.

Designed for **flexible automation**

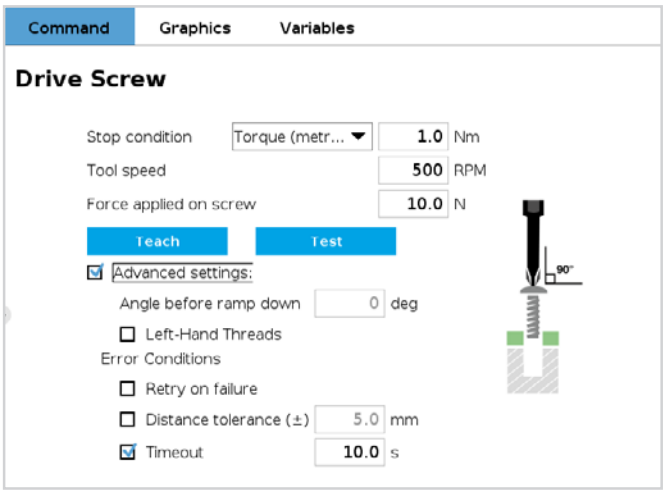
- Automate easily, without massive investment
- Intuitive to deploy and duplicate
- 5-min production changeovers

PROGRAM YOUR APPLICATION
IN 2 EASY STEPS

1 PICK SCREW COMMAND



2 DRIVE SCREW COMMAND



Control the screwdriver directly from the UR Toolbar to use, test or set it.

Seamlessly integrate the force sensing, vacuum, cobot, screwdriver, and screw feeder.

Automatically apply error-proofing functions to improve productivity and quality.

SCREWDRIVER

No external controller

Compact and lightweight

Robust vacuum system transports screws of any material

Off-the-shelf compliant vacuum sleeves accommodate your part tolerances

3.5-inch bits and vacuum sleeves for hard-to-reach locations

SCREW FEEDER

No additional parts needed to adapt to various screw sizes

300-cc screw chamber volume

Dual sensor indicates ***screw ready*** and ***screw cleared from workspace***

Mounting bracket included

Robust industrial exterior finish

Intuitive adjustment with real-time confirmation

SPECIFICATIONS

Screwdriver SD-100	Min	Typical	Max
Torque range	1 Nm *9 in-lbs*	-	4 Nm *35 in-lbs*
Torque precision	-	±10%[1]	-
Screw diameter	M2.5 #3	-	M5 #10
Speed	1 RPM	-	500 RPM
Air consumption	-	80 L/min	-
Weight		1.5 kg *3.3 lb*	
Dimensions		280 mm x 152 mm x 57 mm *11 x 6 x 2 1/4 in*	
Warranty		2M cycles under normal operation	
ESD-safe		Yes	

1. Value at initial factory calibration. Accuracy typically increase when calibrated in operating conditions, depending on joint materials.

Screw Feeder SF-300	Min	Max
Screw diameter	M2.5 #3	M5 #10
Screw length	6 mm[1] *1/4 in*	25 mm *1 in*
Screw head height	-	5 mm *3/16 in*
Typical feed rate	-	3 s per screw
Screw chamber volume	300 cc	
Dimensions (W x D x H)	157 mm x 286 mm x 171 mm *6.18 x 11.25 x 6.73 in*	
Power supply	120/220V AC to 24V DC	
Weight	5.2 kg *11.4 lb*	
Warranty	2M cycles under normal operation	
ESD-safe	Yes	

1. For socket head screws, the minimum screw length is 10mm. Please validate with your Robotiq representative for shorter screws.

OVERVIEW

Feature	What is it?	Advantage
Error-proofing	Pre-programmed error-detection and recovery functions: • Screw presence detection. • Torque and screw position control. • OK/Not OK confirmation.	• Ensures correct torque is applied. • Eliminates risk in the process. • Prevents fastening failures. • Saves programming time.
Vacuum transportation system	Integrated vacuum system that allows for reliable screw transport while ensuring maximal slender reach.	• Allows the robot to validate screw presence at all times. • Allows the system to transport screws of any material. • Requires no customization. • Enables maximal reach into tight spaces.
One-SKU solution	With one SKU, you get the screwdriver, screw feeder, screwdriver bits and vacuum sleeves, screwdriving URCap, and the latest force-sensing technology.	• Simplified ordering. • Simplified tracking. • Simplified management of spare parts. • No need to purchase additional parts.
Dual sensors in screw feeder	Dual sensor indicates both screw ready and screw cleared from workspace.	• Prevent pick command from activating if a screw is not ready. • Avoid collisions. • Coordinate robot and screw feeder movements.
Automated communication between every components	Getting separate components (screw feeder, screwdriver, robot, and more) to communicate has never been easier.	• Simple programming to help you master your processes. • Decrease deployment time.
Designed to reach tight spaces	We've designed a compact and lightweight screwdriver with flexible vacuum sleeves for optimum screwdriving.	• Allows screwdriving in chamber holes. • Allows screwdriving in tight spaces.
Open program tree	Robotiq Screwdriving URCap integrates the force sensing and force control functions to automatically program a pick and a screw, but the program tree is open for you to develop any advanced programming sequence.	• Adapt the solution to fit your unique application.

SERVICES

At Robotiq, we strive to free more human hands from repetitive tasks. To do so, we offer tools and services to empower you to deploy your project on your own and master your processes.

SCREWDRIVING **PROOF OF CONCEPT**

Our team of coaches is here to help you prove that our solution can work for your application, as well as avoid technical issues and simplify your introduction to the robot world.

Examples services:

- Demonstrate application fit
- Validate cycle time
- Demonstrate repeatability

REMOTE AND ONSITE TRAININGS FOR ROBOTIQ SCREWDRIVING SOLUTION

Our training aims to fast-track your introduction to the ever-growing collaborative robot industry.

- Intro to cobots
- Solution installation
- Solution operation
- Troubleshooting and maintenance
- Calibration
- Force Copilot for Assembly

START PRODUCTION FASTER

WHAT'S NEXT?

Get access to the Screwdriving Solution eLearning module at **elearning.robotiq.com**

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