New Scale Robotics

SMALL, PRECISE, SMART … IN MOTION

In-Position Technologies
www.iptech1.com

NSR-PG-10-20-UR

Precision Parallel Gripper
for Universal Robots (UR)

The smallest gripper for UR's smallest collaborative robots

Highest precision for intricate small **part handling, sorting and assembly**

Internal absolute position sensor for **precision measurement and gauging**

Smallest size and light weight for **fast, precise movements**

Teachable finger positions

Quick connect to UR tool I/O port
– no cables along the robot arm
– no external controller

Easy-to-use URCaps plugin included

Small and precise electric gripper for agile automation in small spaces

The NSR-PG Precision Parallel Gripper is ideal for the smallest collaborative robots such as the UR3 and UR3e.

Its small size lets you automate intricate part handling and assembly tasks in confined spaces. Grip force and speed are programmable to handle delicate or rigid parts.

With continuous absolute finger position sensing in the gripper, you can now use your robot to automate quality assurance tasks requiring precision gauging.

The gripper installs in minutes using only the UR robot output flange, tool I/O port and teach pendant. Your team can minimize set-up time and make quick changes on the floor.

The NSR-PG ships with factory fingers installed. You can easily install custom fingers using the standard flange interface.

It is compatible with both original and e-Series UR robots.

UNIVERSAL ROBOTS+ Certified

e-Series Compatible

For agile manufacturing with UR3, **UR3e,** UR5, **UR5e,** UR10, **UR10e** collaborative robots

Power and control with just one cable. Connect the gripper to UR Tool I/O port. No other cables or converters needed.

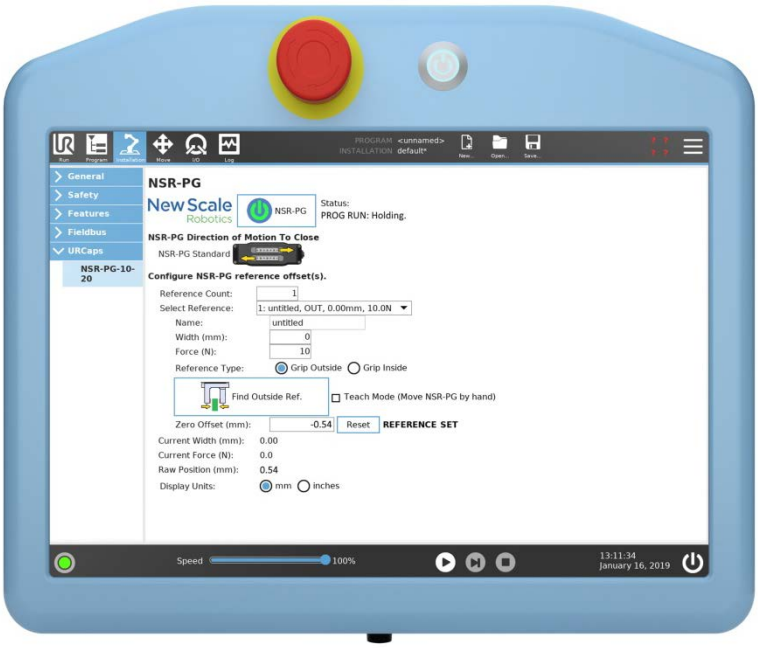
Fast setup, maximum flexibility

The NSR-PG is agile enough to handle many different tasks involving small part gripping, measurement, sorting and assembly.

It is an easy-to-use, plug-and-produce solution for collaborative robots. The URCaps plugin provides seamless integration with the Universal Robots teach pendant software.

To install the gripper, simply mount it to your UR robot tool flange and connect the single cable to the UR tool I/O port. Power and digital commands are received through the robot 8-pin tool I/O interface. No other cables or electronics are needed.

URCaps plugin included. Enables fast installation and set-up. Easily make changes on the factory floor, too.



Ships with factory fingers installed. Fingers are easily interchangeable.

Interchangeable fingers

The NSR-PG ships with factory fingers installed so you can get right to work. Fingers are easily interchanged using precision pin-located finger reference mounting surfaces. Design your own custom fingers using our downloadable drawings and CAD models as a reference design. Or contact us for custom fingers.

Teachable finger positions

Manually move fingers to the desired position and set them using the teach pendant. This process is familiar to anyone who has used a UR robot in teach mode.

Setting finger open and closed positions to match your workpiece means you can minimize the finger motion (stroke) for each operation, saving time and energy.

Finger positions are teachable using the UR teach pendant. Position is repeatable to 0.01 mm.

Position feedback for automated gauging

Use the NSR-PG for automated gauging and measurement of small parts. An internal high-resolution position sensor provides absolute position of the fingers with resolution of 10 µm. This position information is continuously available to the software, enabling decision-making in automation scripts.

Easy programming

Speed, force and other parameters are easily programmable using the graphical interface of the URCaps plugin. Choose speeds up to 30 mm/second and force up to 10 Newtons.

Engineered for precision

The NSR-PG is a compact electric gripper with a rugged, no-maintenance design. It features a brushless DC motor, internal position sensor, and a proprietary motion control system for fast and precise motion.

Intuitive graphical programming using the URCaps plugin. Set force, speed, target width and tolerances.

NSR-PG-10-20-UR Technical Specifications

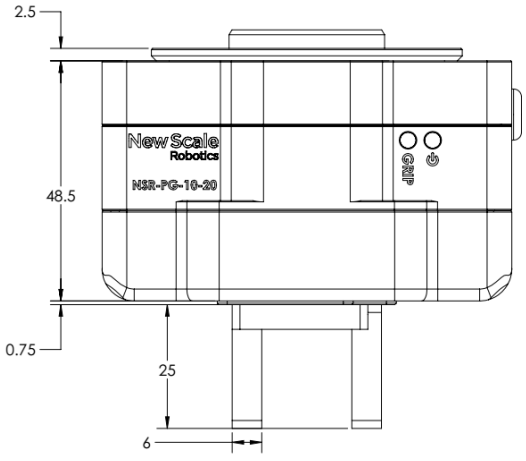
with factory fingers

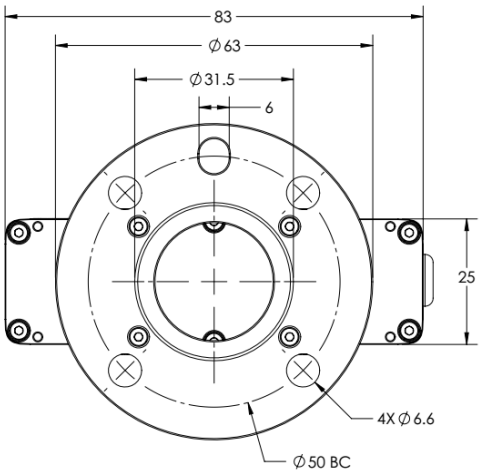
	Units	Minimum	Typical	Maximum
Motion and gripping precision				
Travel, gripper opening range	mm	0	-	20
Resolution, displayed	mm	-	0.01	-
Accuracy, linear	mm	-	0.02	0.05
Repeatability of position (for same grip force)	mm	-	0.01	0.03
Standard fingers adjustment range [1]	mm	0	-	50
Speed (programmable) [2]	mm/s	2	-	30
Force Control				
Gripping force (programmable, bi-directional) [3]	N	3	-	10
Gripping force resolution	N	-	-	0.5
Back drive force (no power)	N	1	2	3
Recommended workpiece mass[4]	grams	0	-	100
Lifetime	cycles	500 K	-	-
Duty cycle (operating at maximum grip force)	%	-	-	100
Mass (NSR-PG only)	grams		150	
Mass NSR-PG with UR+ mounting plate + hardware	grams		200	
Current draw at 24 Volt operation	Amps	0		0.25
Operating voltage	Volts	22	24	26
Temperature, operating	°C	0	-	50
Temperature, storage	°C	-30	-	60
Humidity, operating, non-condensing	%	5	-	95
IP Rating	IP	40	-	-
Agency approvals: CE, RoHS				
UR robot compatibility: UR3, UR5, UR10 and e-Series UR3e, UR5e, UR10e				

[1] Fingers can be repositioned by loosening two screws and using mounting pin locations. Custom fingers can be installed for wider adjustment range.
[2] Speed reduced by up to 15 mm/sec at lower force settings
[3] Gripping direction can be set inward (grip part between fingers) or outward (grip part by pressing fingers against the inner surface of a part cavity).
[4] Maximum may be increased depending on finger friction and force setting used.

NSR-PG-10-20-UR Dimensions

Visit the website to download solid models and detailed drawings with additional dimensions.





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