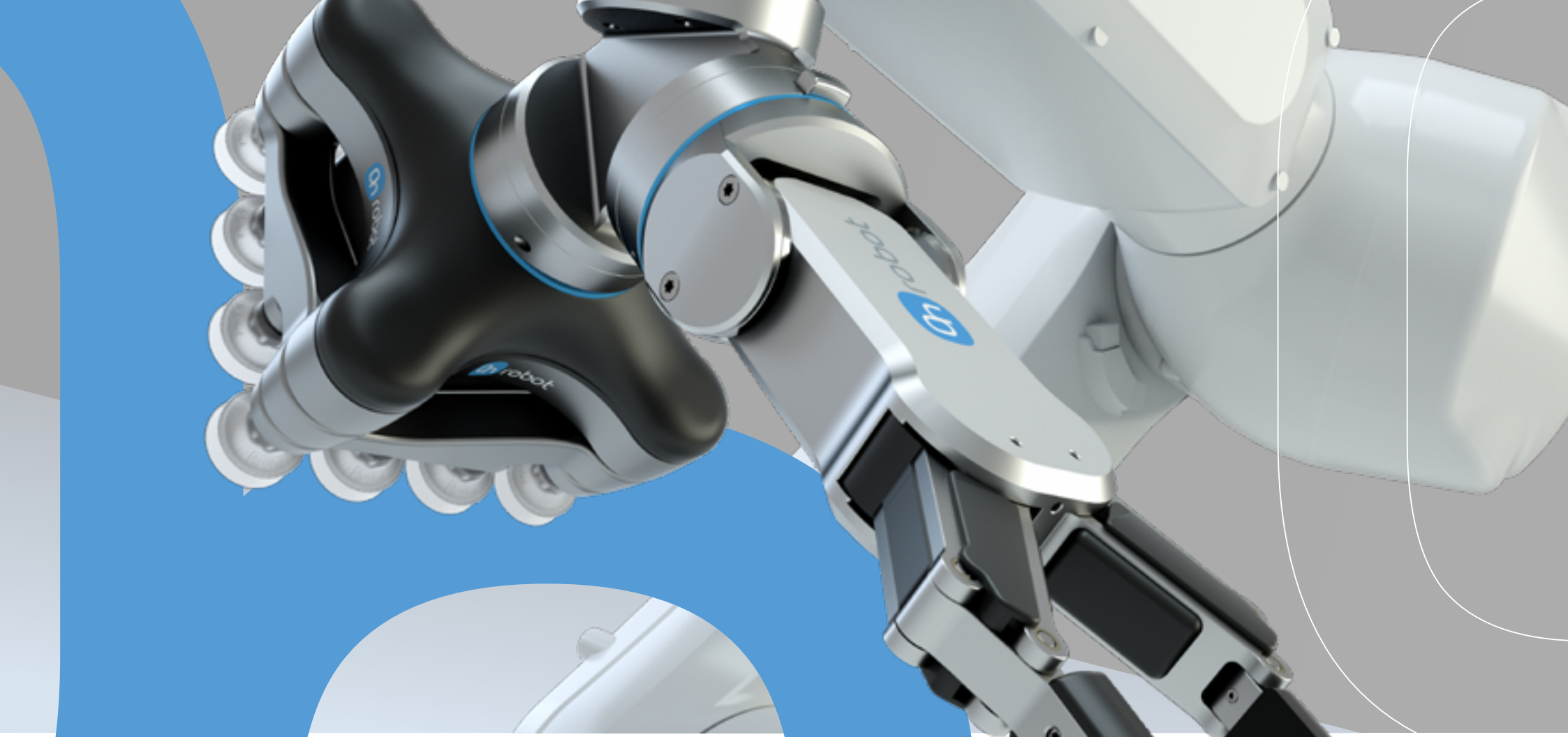


One Stop Shop for Collaborative Applications

All the tools you need at one place to automate more

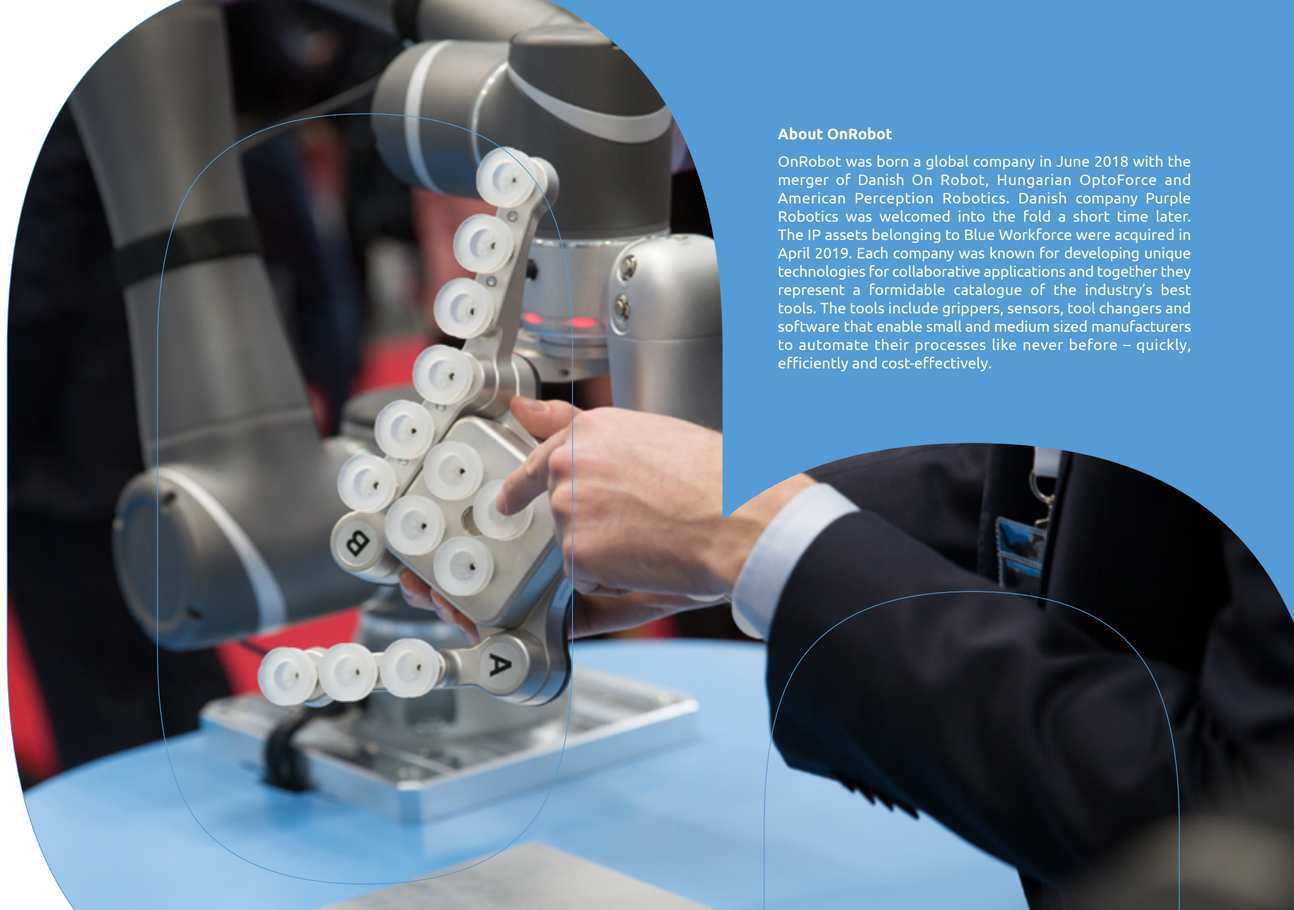
OnRobot

Collaborative applications are the future of automation, enabling rapid deployment, easy changeovers, and safe operation alongside human workers. Manufacturers gain true value from innovative collaborative applications that are enabled by a full range of Plug & Produce grippers, sensors, vision, and the software that drives them.

We offer the industry's broadest range of end-of-arm tooling and software solutions for collaborative applications, using a unified mechanical interface that helps manufacturers automate quickly and efficiently. Our innovative, manufacturer-focused approach saves you time and money so you can get on with the business of production.

We are excited to show you what you can accomplish with flexible, cost-effective collaborative applications.

Enrico Krog Iversen, CEO OnRobot

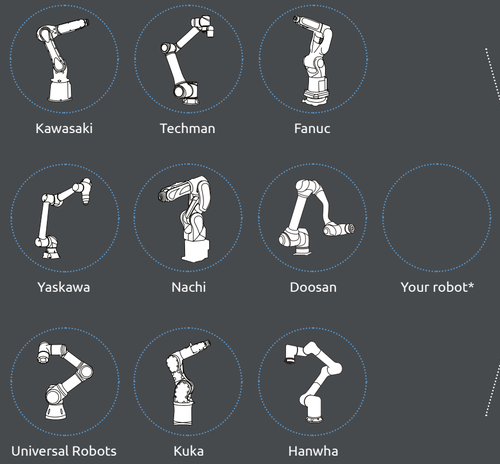


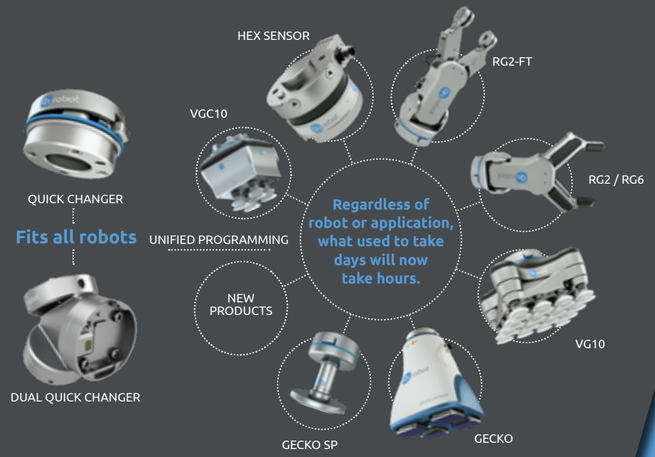
About OnRobot

OnRobot was born a global company in June 2018 with the merger of Danish On Robot, Hungarian OptoForce and American Perception Robotics. Danish company Purple Robotics was welcomed into the fold a short time later. The IP assets belonging to Blue Workforce were acquired in April 2019. Each company was known for developing unique technologies for collaborative applications and together they represent a formidable catalogue of the industry's best tools. The tools include grippers, sensors, tool changers and software that enable small and medium sized manufacturers to automate their processes like never before – quickly, efficiently and cost-effectively.

Any robot you choose. One **OnRobot** system.

Save integration time and simplify deployment with our complete solution.





*If your robot arm is not represented above, contact your local partner for information on compatibility on other robot brands.

ANY APPLICATION

– What do you want to automate?

Now you can automate processes that were previously too complicated

One **Simple OnRobot** System

One Interface · One Training · One Person to Call

- One Stop Shop for collaborative applications. We provide all the tools you need at one place so you can automate more.
- Multiple tools, robots and applications - for multiple returns. Save cost and increase productivity with flexible automation tools.
- One system, zero complexity. Save time and grow your business fast with unified programming and easy redeployment.

SAVES YOU TIME AND MONEY

Deployment | **Training** | **Flexibility**

RG2/RG6

Plug & Produce grippers for multiple purposes

RG2 TECHNICAL SPECIFICATIONS

General Properties	Minimum	Maximum	Unit
Payload Force Fit	- -	2 4.4	[kg] [lb]
Total stroke (adjustable)	0 0	110 4.33	[mm] [inch]
Gripping force (adjustable)	3	40	[N]
Gripping speed	38	127	[mm/s]
Gripping time	0.06	0.21	[s]
IP Classification	IP54		

RG6 TECHNICAL SPECIFICATIONS

General Properties	Minimum	Maximum	Unit
Payload Force Fit	- -	6 13,2	[kg] [lb]
Total stroke (adjustable)	0 -	160 6.3	[mm] [inch]
Gripping force (adjustable)	25	120	[N]
Gripping speed	51	160	[mm/s]
Gripping time	0.05	0.15	s
IP Classification	54		

POWER UP PRODUCTION

- Flexible grippers can be used for a **wide range of part sizes and shapes**.
- Plug & Produce design **reduces deployment time from a day to an hour.**
- Easy deployment with out-of-the box grippers **reduces programming time by 70%**

Applications:

Machine Tending | Packaging & Palletizing | Assembly | Pick & Place

Can be used with products of various sizes and materials, including:

Plastic | Metal | Cardboard | Glass

3FG15
Flexible, large-stroke 3-finger gripper

TECHNICAL SPECIFICATIONS

General Properties		Minimum	Typical	Maximum	Unit
Payload Force Fit		-	-	10 / 22	[kg] / [lb]
Payload Form Fit		-	-	15 / 33	[kg] / [lb]
Grip Diameter*	External	4 / 0.16	-	152 / 5.98	[mm] / [inch]
	Internal	35 / 1.38	-	181 / 7.12	[mm] / [inch]
Finger position resolution		-	0.1 / 0.004	-	[mm] / [inch]
Repetition accuracy		-	0.1 / 0.004	0.2 / 0.007	[mm] / [inch]
Gripping force		10	-	240	[N]
Gripping force (adjustable)		3	-	100	[%]
Gripping speed (diameter change)		-	-	125	[mm/s]
Gripping time (including brake activation)		-	500	-	[ms]
Hold workpiece if power loss?		Yes			
IP Classification		IP67			
Dimensions [L, W, Ø]		156 x 158 x 180 / 6.14 x 6.22 x 7.08			[mm] / [inch]
Weight		1.15 / 2.5			[kg] / [lb]

POWER UP PRODUCTION

- Flexible production - large-stroke **optimizes CNC lathe-tending for multiple part sizes** with a single 3-finger gripper
- Accurate centric positioning drives **higher quality, consistency, and output with minimal programming**
- Strong, stable grip and 3 contact points makes gripper **fast and easy to redeploy for multiple processes**
- Accomplish more with customizable fingertips to **flexibly grip a wide range of part sizes and shapes**

Applications:

Machine Tending

Packaging & Palletizing

Pick & Place

3FG15

Can be used with products of various sizes and materials, including:

Plastic

Metal

Cardboard

Wood

Soft Gripper

Explore new automation possibilities with certified food-grade soft gripper

TECHNICAL SPECIFICATIONS

General Properties	Minimum	Typical	Maximum	Unit
Material	Two-component silicone rubber			
Food approval	FDA 21 CFR 177.2600 & EC/EU - 1935/2004			
Operation cycles	2.000.000			[cycles]
Operation temperature	-20 / -4		80 / 176	[C] / [F]
SG-tool attachment mechanism	Quick-lock and Smart-lock			
Washable	Dishwasher safe			
SG-a-H / SG-a-S				
Max payload	-	-	2.2 / 1.5 4.85 / 3.3	[kg] [lb]
Work range, Grip dimensions (A)	11 / 0.43	-	75 / 2.95	[mm] / [inch]
Work range, Grip depth (B)	-	38 / 1.496	-	[mm] / [inch]
Soft part (SG-a-S) (C)	-	16 / 0.63	-	[mm] / [inch]
Dimensions (HxØmax)	76x112 / 3 x 4.4			[mm] / [inch]
Weight (smart lock included)	0.168 / 0.37			[kg] / [lb]
SG-b-H				
Max payload	-	-	1.1 / 2.42	[kg] / [lb]
Work range, Grip dimensions (A)	24 / 0.94	-	118 / 4.65	[mm] / [inch]
Work range, Grip depth (B)	-	40 / 1.57	-	[mm] / [inch]
Dimensions (HxØmax)	77x109 / 3.03 x 4.29			[mm] / [inch]
Weight (smart lock included)	0.172 / 0.379			[kg] / [lb]

POWER UP PRODUCTION

- Explore new possibilities for food and beverage automation with certified food-grade soft gripper
- Easily handle a wide array of irregular shapes and delicate objects with flexible silicon-molded gripper
- Safely handle fragile and delicate objects for higher production quality and reduced waste
- No external air supply means no dust, no noise, no complexity, and no additional costs

Applications:

Packaging & Palletizing

Pick & Place

Soft Gripper

Can be used with products of various sizes and materials, including:

Organic material

Plastic

Metal

Wood

Glass

OnRobot Eyes
Adding vision to robotic applications has never been easier

TECHNICAL SPECIFICATIONS

Camera Characteristics		
Interface	USB-C 3.x	
Output Resolution	1280 x 1080	
Working distance	400-1000 mm	
Operating Temperature	0 – 35 °C	
IP rating	IP 65	
Eyes Features		
Type of vision system	2.5 D	
Minimum part size	10x10 mm or 15 mm diameter	
Applications Supported	Detection, Sorting	
Mounting options supported	Robot and External	
Reconfigurability when Robot mounted	12 configurations (4 x 3)	
	Around robot's flange	Tilt orientations
	0 - 90 - 180 - 270 (degrees)	0 - 45 - 90 (degrees)
Detection processing time	Typ: 0.5 s	
Detection Repeatability	< 2 mm	
Detection Accuracy	External Mount	Robot Mount
	Typ: 2 mm	Typ: 2 mm
Application and set-up recommendations		
Light conditions	No drastic, instant change	
Reflections and focused light spots	Keep minimal	
Characteristics of objects	Different from background	
Camera with respect to workspace	Looking straight to it	

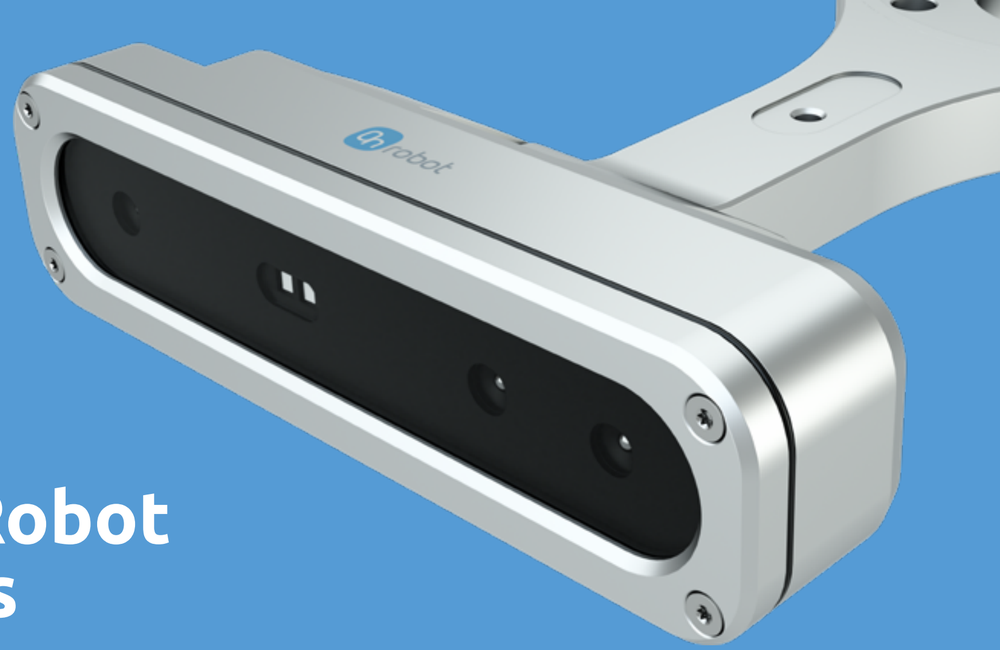
POWER UP PRODUCTION

- Quickly and easily add vision to robotic applications with one-picture calibration, fast programming and seamless gripper integration
- Affordable, efficient 2.5D vision offers depth perception for varying heights or stacked objects
- Flexible, adaptable vision system with on-robot or external mounting is ideal for almost any collaborative application
- Easily sort, pick and place unstructured applications with high reliability using any robot arm

Applications:

Pick & Place

Machine Tending



OnRobot Eyes

Can be used with products of various sizes and materials, including:

Plastic

Metal

Wood

Cardboard

Organic

Robot wrist mount

External mount

Grab & Go

– gentle but firm gripping inspired by nature

GECKO TECHNICAL SPECIFICATIONS

General Properties					
Workpiece Material	Polished Steel	Acrylic	Glass	Sheet Metal	
Maximum payload (x2 safety factor)	6.5kg 13.2 lb	6.5kg 13.2 lb	5.5kg 13.2 lb	5.5kg 8.8 lb	[kg] [lb]
Preload required for max adhesion	140				[N]
Detachment time	300 msec				[msec]
Holds workpiece on power loss?	yes				
Pads					
Pad Change-out interval	150 000 to 200 000 cycles for HIGH preload 200 000 to 250 000 cycles for LOW preload				[cycles]
Manual Cleaning	Isopropyl alcohol and lint free cloth				
Robotic cleaning system	Cleaning Station				
Sensors					
	Pre-load sensor		Ultrasonic Range sensor		
Range	40 N - 140N 9 lb - 31 lb		0	260 [mm] 10 [inch]	[N][mm] [lb][inch]
Error	7%		2%		
IP	42				

POWER UP PRODUCTION

- No compressed air requirement **saves maintenance costs and provides faster payback in as little as 5 months.**
- Precise, no-mark gripper technology **increases productivity in Pick & Place tasks.**
- Innovative gecko technology **enables gripping of flat, porous objects such as PCBs to extend automation capabilities.**
- No requirement for external air supply **reduces noise and dust.**

Applications:

Packaging & Palletizing

Pick & Place

Awards for the Gecko Gripper:

- IERA Award
- Hannover Messe 2019 Robotics Award
- Silver Edison Award for Innovation in Robotics
- Global Robotics Expo Innovation Award for Robotics

Gecko

Can be used with products of various sizes and materials, including:

Plastic

Metal

Glossy Packaging

Glass

SP1/SP3/SP5
Gecko Single Pad Gripper

TECHNICAL SPECIFICATIONS

General Properties			Unit
Maximum payload	SP1	1 / 2.2	[kg] / [lb]
	SP3	3 / 6.6	[kg] / [lb]
	SP5	5 / 11	[kg] / [lb]
Preload required	Minimum	SP1: 2.8 SP3: 8.2 SP5: 11.6	[N]
	Medium	SP1: 8.2 SP3: 23.4 SP5: 33	[N]
	Maximum	SP1: 13.3 SP3: 38.6 SP5: 54.4	[N]
Detachment time		100-1000 (dependent on robot speed)	[msec]
Holds workpiece on power loss?		Yes. How long? Potentially days if well centered and undisturbed	
IP Classification		IP42	
Dimensions (HxW)		69 x 71 / 2.7 x 2.8	[mm] / [inch]
Weight	SP1	0.267 / 0.587	[kg] / [lb]
	SP3	0.297 / 0.653	[kg] / [lb]
	SP5	0.318 / 0.7	[kg] / [lb]

Pads general properties		Unit
Material	Proprietary silicone blend	
Wear properties	Depends on surface roughness	
Change-out interval	~200.000	[cycles]
Cleaning systems	1) OnRobot cleaning station 2) Silicone roller 3) Isopropyl Alcohol and lint-free cloth	
Cleaning interval	variable	
Recovery	100%	

POWER UP PRODUCTION

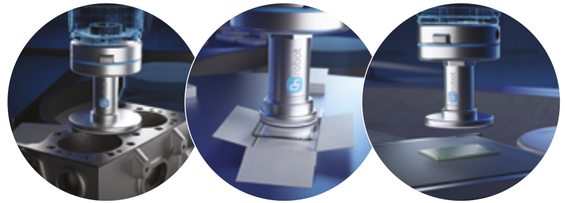
- Compact, lightweight Gecko Single Pad Gripper requires no cables, electricity, air, or programming for **cost-effective, plug-and-play performance**
- Innovative adhesive gripper for flat, smooth, or perforated objects **automates tasks that were previously not possible**
- No-mark gripping even for shiny surfaces means no cleaning step is required, **saving time** and **improving productivity**
- No requirement for external air supply **reduces noise and dust, lowers maintenance costs, and speeds deployment**

Applications:

Packaging & Palletizing

Pick & Place

Gecko Single Pad Gripper



Can be used with products of various sizes and materials, including:

Plastic

Metal

Glossy Packaging

Glass

Pick & Collaborate – helping hand with a sense of touch

The world's first gripper that can detect objects using built-in force/torque and proximity sensors.

RG2-FT TECHNICAL SPECIFICATIONS

General Properties	Minimum	Maximum	Unit
Payload Force Fit	- -	2 4.4	[kg] [lb]
Total stroke (adjustable)	0 0	100 3.93	[mm] [inch]
IP Classification	IP54		

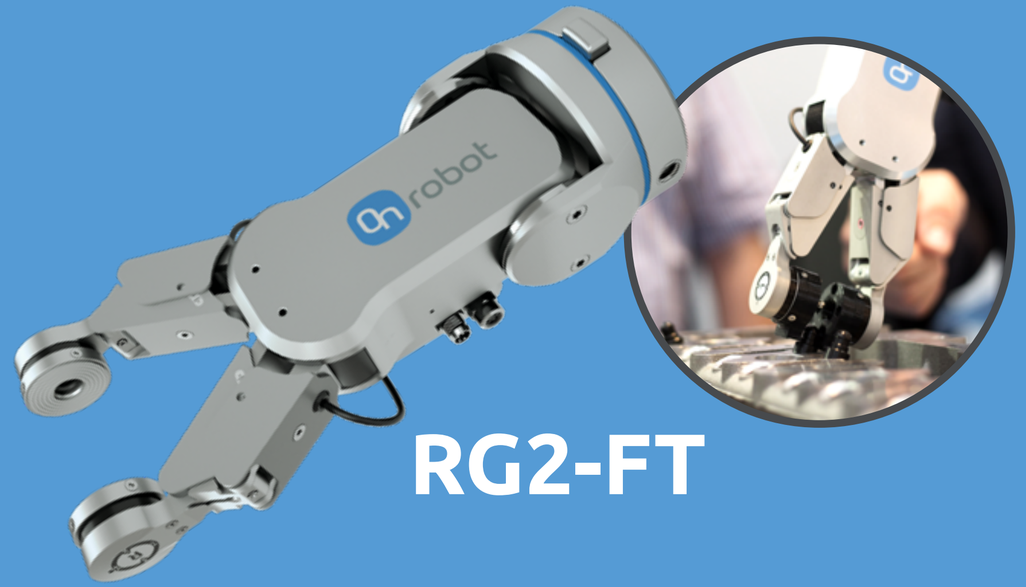
Force Sensor Properties	Fxy	Fz	Txy	Tz	Units
Nominal capacity (N.C.)	20	40	0.7	0.5	[N] [Nm]
Noise free resolution	0.1	0.4	0.008	0.005	[N] [Nm]

POWER UP PRODUCTION

- Accurate sensing improves production quality **by reducing defect rate as much as 60% in delicate Pick & Place processes.**
- Easy-to-program sensing **allows robot to act like an operator's third arm, with human-like part hand-offs.**
- Ability to automate insertion tasks **that weren't previously possible can reduce operation costs by 40%.**

Applications:

Machine Tending | Assembly | Pick & Place | Packaging & Palletizing | Quality Testing and Inspection



RG2-FT

Can be used with products of various sizes and materials, including:

Plastic | Metal | Cardboard | Wood | Glass

Grab & Go - flexible, adjustable electrical vacuum gripper

VG10 TECHNICAL SPECIFICATIONS

General Properties	Minimum	Maximum	Unit
Vacuum	5 % -0.05 1.5	80 % -0.810 24	[Vacuum] [Bar] [inHg]
Air flow	0	12	[Nl/min]
Payload	0 0	15 33	[kg] [lb]
Recommended workpiece size	10x10 0.5x0.5	500x500 20x20	[mm] [inch]
Vacuum cups	1	16	[pcs.]
Gripping time	-	0.35 -	[s]
Releasing time	-	0.20 -	[s]
Vacuum pump	Integrated, electric BLDC		
Arms	4, adjustable by hand, 2 vacuum channels		
IP Classification	IP54		
Dimensions (folded)	105 x 146 x 146 4.13 x 5.75 x 5.75		[mm] [inch]
Dimensions (unfolded)	105 x 390 x 390 4.13 x 15.35 x 15.35		[mm] [inch]
Weight	1.62 3.57		[kg] [lb]

POWER UP PRODUCTION

- Out-of-the-box deployment – **plug into the robot arm and configure the gripper to fit the product – provides fast productivity and ROI.**
- No external air supply required **reduces maintenance costs and speeds deployment.**
- Dual gripping functionality **enables shorter cycle time.**

Applications:

Packaging & Palletizing

Pick & Place

VG10

Can be used with products of various sizes and materials, including:

Plastic

Metal

Glossy Packaging

Glass

VGC10
Compact vacuum gripper for all your needs

VGC10 TECHNICAL SPECIFICATIONS

General Properties	Minimum	Typical	Maximum	Unit
Vacuum	5 % -0.05 1.5	- - -	80 % -0.810 24	[Vacuum] [Bar] [inHg]
Air flow	0		12	[Nl/min]
Payload	0	-	15 33	[kg] [lb]
Recommended workpiece size	Unlimited, depends on custom arms			
Vacuum cups	1	-	7	[pcs.]
Gripping time	-	0.35	-	[s]
Releasing time	-	0.20	-	[s]
Vacuum pump	Integrated, electric BLDC			
Arms	Replaceable, customizable			
Dust filters	Integrated 50µm, field replaceable			
IP Classification	IP54			
Dimensions (folded)	101 x 100 x 100 3.97 x 3.94 x 3.94			[mm] [inch]
Weight	0.814 1.79			[kg] [lb]

POWER UP PRODUCTION

- Flexible electric vacuum gripper with unlimited customization fits all your application needs
- Small, lightweight gripper is perfect for tight spaces but with plenty of power for objects up to 15kg
- No external air supply needed for reduced maintenance costs and faster deployment

Applications:

Packaging & Palletizing

Pick & Place

Machine Tending

VGC10

Can be used with products of various sizes and materials, including:

Plastic

Metal

Glossy Packaging

Glass

Touch & Go – automation made simple with a sense of touch

HEX-E QC TECHNICAL SPECIFICATIONS

General Properties	6-Axis Force/Torque Sensor		Unit		
	Fxy	Fz	Txy	Tz	
Nominal Capacity (N.C)	200	200	10	5.5	[N] [Nm]
Single axis deformation at N.C (typical)	± 1.7 ± 0.067	± 0.3 ± 0.011	± 2.5 ± 2.5	± 5 ± 5	[mm] [°] [inch] [°]
Resolution (Noise-free)	0.2	0.8	0.01	0.002	[N] [Nm]
IP Classification	67				
Dimensions	50 x 71 x 93 1.97 x 2.79 x 3.66				[mm] [inch]

HEX-H QC TECHNICAL SPECIFICATIONS

General Properties	6-Axis Force/Torque Sensor		Unit		
	Fxy	Fz	Txy	Tz	
Nominal Capacity (N.C)	200	200	20	13	[N] [Nm]
Single axis deformation at N.C (typical)	± 0.6 ± 0.023	± 0.25 ± 0.009	± 2 ± 2	± 3.5 ± 3.5	[mm] [°] [inch] [°]
Resolution (Noise-free)	0.5	1	0.036	0.008	[N] [Nm]
IP Classification	67				
Dimensions	50 x 71 x 93 1.97 x 2.79 x 3.66				[mm] [inch]

POWER UP PRODUCTION

- Flexible sensor extends automation **possibilities to processes that weren't previously possible.**
- Out-of-the-box integration **reduces deployment time for precise insertion tasks from months to days.**
- High-accuracy sensor technology **provides 95% better quality in insertion and assembly tasks.**
- Sensor-based applications speed cycle time **by up to 60% to produce more with the same number of employees.**
- Easy programming gets even **complex polishing tasks up and running in less than a day.**

Applications:

Surface Finishing

Pick & Place

Assembly

Quality Testing and Inspection

HEX Force/Torque SENSOR

Can be used with products of various sizes and materials, including:

Plastic

Metal

Wood

Glass

Quick Changer & Dual Quick Changer Bracket

With the Dual Quick Changer, you can now use two tools in one cycle, achieving higher utilization of your robots.

DUAL QUICK CHANGER

QUICK CHANGER

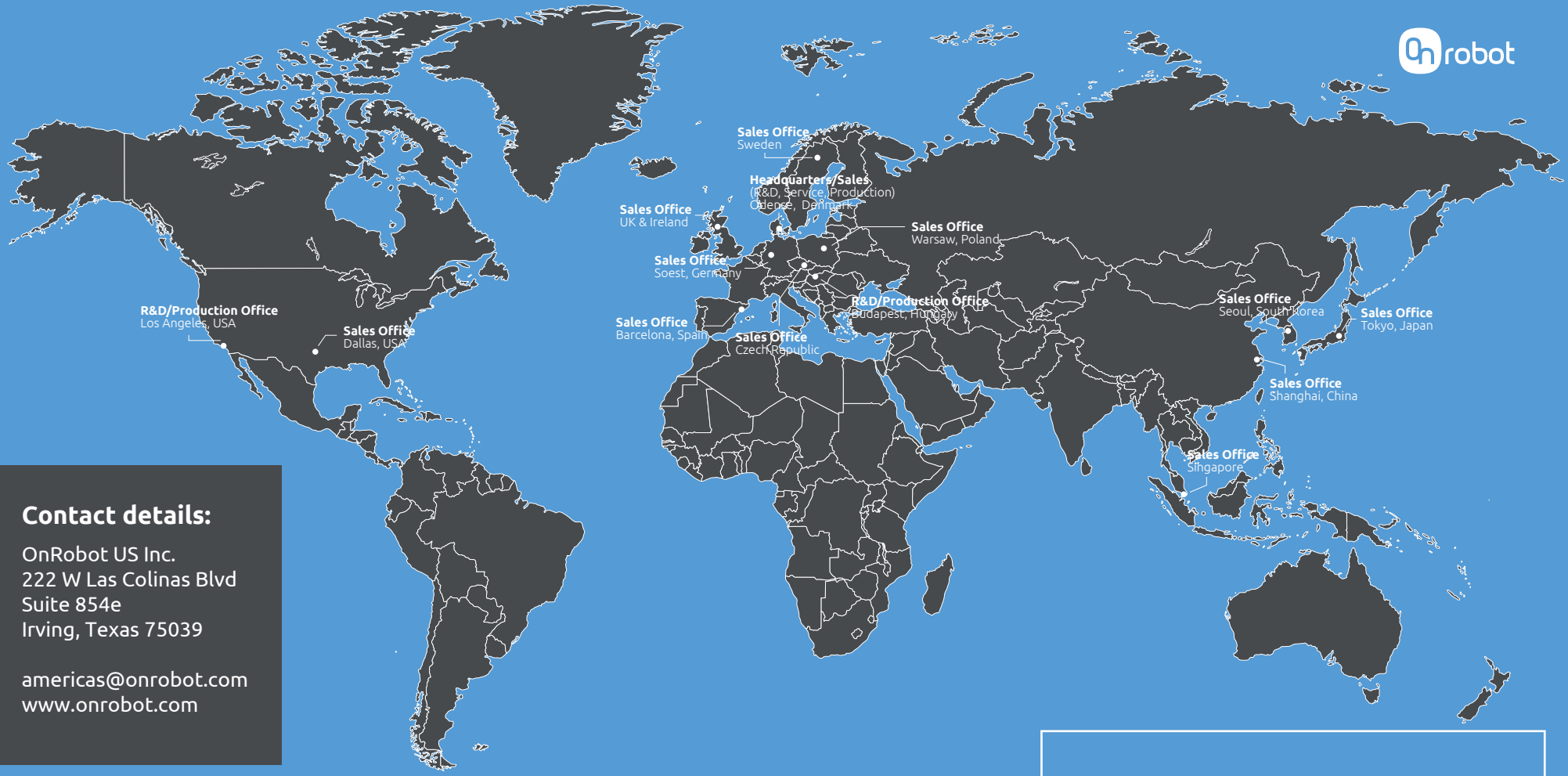
Quickly switch between tools to meet changing production needs.

Dual Gripper:

- Dual gripper speeds cycle time and can improve productivity by 50% or more.
- Increased productivity offers faster payback, with ROI in as little as 3 months.

One Stop Shop for Collaborative Applications

All the tools you need at one place to automate more



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Business Card