



# LDA

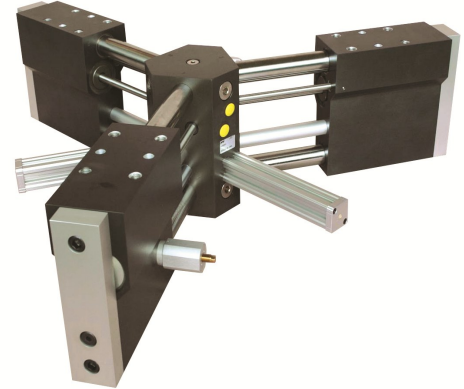
*Solutions for Life*

**End of arm tooling**



## 3-Jaw Heavy Duty Rim Gripper

- Handles 14-24" rims
- 300 mm diametral travel
- Rugged design withstands high impact and shock



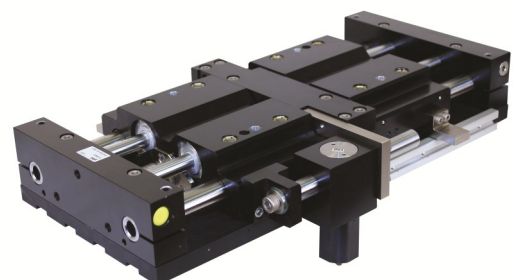
## Heavy Duty Long Jaw Travel Gripper

- Designed for gripping large, round parts that vary in size
- Incorporates direct mounting to a robot without transition plates
- Rugged jaw and body construction to withstand high impact and shock loads



## Low Profile Gripper

- Compact design
- High grip force and large moment capacities
- Rugged design withstands high impact and shock load



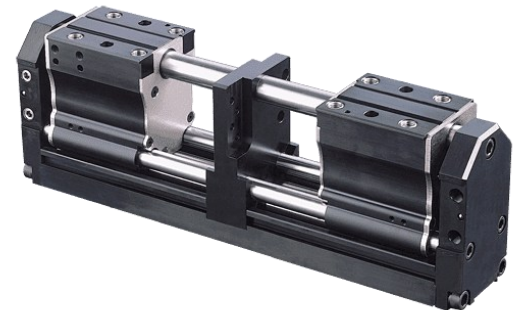
## FLEXION: Series FG Gripper

- Multiple joints perform as a human finger
- Operating pressure allows for a wide working range of usable force, providing industrial strength
- For demanding applications or a delicate touch for soft and sensitive product handling.



## Series GRR Guardian® High Capacity Parallel Gripper

- Robust design provides high grip force and large moment capacities
- Designed to withstand high impact and shock loads
- Double acting for internal and external gripping



## Series GRA Parallel Pneumatic Micro Grippers

- Four sizes in metric design
- Standard H7 tolerance dowel holes
- Switch ready for use with PHD single or two position teachable switches
- Optional manifold porting, mounting flange, and clean-room lubrication



## Series GRK Parallel Pneumatic Heavy Duty Grippers Multiple

- Available in 8 sizes, the compact, low profile, rugged design provides high grip force and moment capacities with low overall weight while providing a long operating life.
- True parallel jaw motion simplifies jaw tooling and is ideal for centering parts of various sizes.
- Ultra-rigid, wear-compensating jaw guide system eliminates jaw "free-play" and dramatically reduces jaw deflection when gripping or moving loads over life of unit.



## Series GRT Parallel Pneumatic 3-Jaw Grippers

- Three jaw design provides self-centering and maximum contact between part and jaw tooling.
- Available in eight sizes (imperial and metric), Series GRT offers a low profile to grip force and jaw travel ratios.
- Jaw motion is true parallel and synchronous for easy design of jaw tooling. Male and female keys are standard on jaws providing precision positioning of jaw tooling.



## Series GRV Parallel Pneumatic Micro Grippers

- Precision dowel pin holes ensure accurate alignment of tooling and gripper mounting.
- Standard internal speed control with no external flow control required.
- "Switch-ready" for easy integration of optional magnetic position sensing switches.
- A teachable two-position switch to allow multiple positions on small grippers within the profile of the gripper.



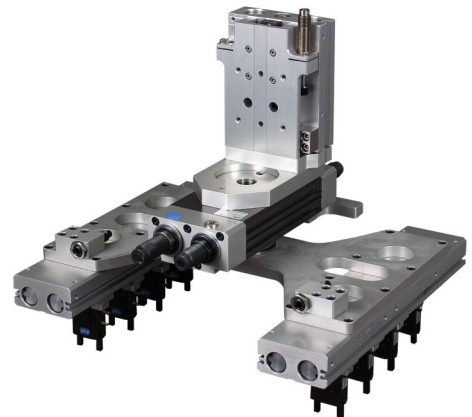
## Modular Device – ML309749

- Two grip and rotate devices incorporated into one assembly
- Mounting configuration designed to adapt direct to robot



## Modular Device – ML311181

- Unique mounting plate configuration mounts to other components
- Flexibility on changing part pick up points with precision



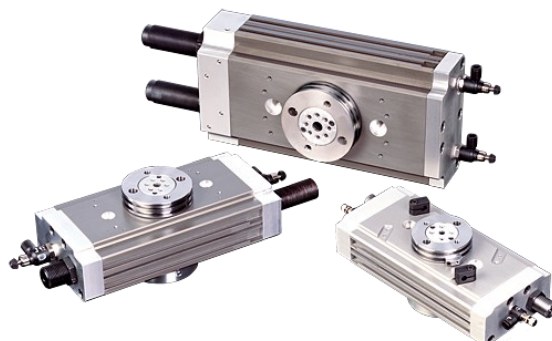
## Multiple Part Handling Actuator

- 75° jaw rotation
- Designed for end-of-arm robotic tooling
- Can mount 6-pick grippers
- Increased cycle speeds



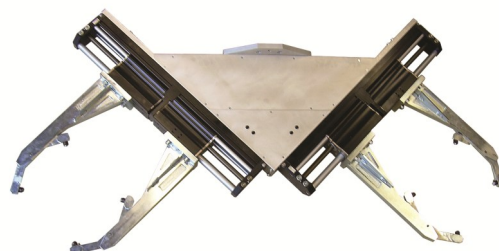
## Series RI High Force Pneumatic Rotary Actuator

- High torque
- High axial and radial bearing load
- Thru hole shaft for built-in air communication ports



## Unique Adaptors – ML308857

- Modular device consisting of two Series GRR grippers mounted to a bracket 90° from each other
- Bracket mounts directly to end of robot



## Series RA High Load Pneumatic Rotary Actuator

- High axial and radial bearing loads
- Zero backlash at ends of rotation
- Wide variety of options and accessories







# Pneu-connect



## Pneu-Connect

PHD Pneu-Connect® is a cost-effective system providing seamless pneumatic end-effector integration for Universal Robots.

Pneu-Connect® features embedded directional control valves for control of an end-effector through the robot's tool port. The system easily attaches to the robot arm and is intuitively operated from the Universal Robot interface via the Pneu-Connect® URCap software package.

Additionally, an analog sensor choice is now available for the Series GRH kits. The analog sensor provides jaw position feedback for increased programming functionality

**Series GRA-5-20x13-L11-UB99**



**Series GRL12-5-16x26-L11-UB99-GR9**



**Series GRL12-5-16x26-L11-UB99-GR9**



**Series GRL12-5-16x26-L11-UB99-GR9**



**Series GRV-5-20x40-L11-UB99-GR9**



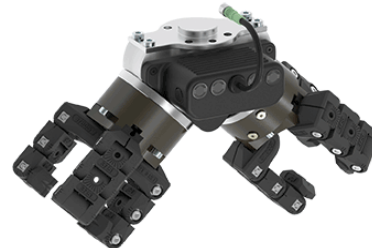
**Dual Series GRH Parallel Long Jaw**



**Series GRH Long Jaw Travel and a serie GRT 3-Jaw gripper**



**Dual Series GRT Parallel Pneumatic 3-Jaw Grippers**



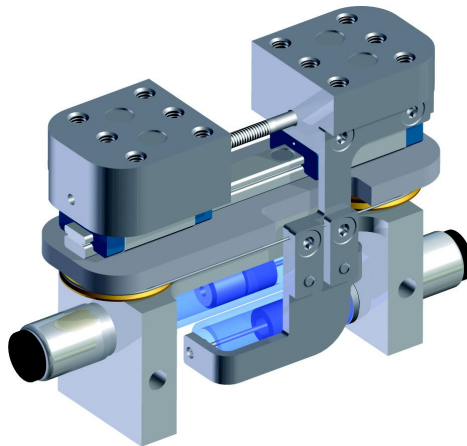
www.LDA.be - LDA@LDA.be  
+32(0)2- 266 13 13

# Airpot® Gramforce grippers



With the sleek, new GramForce gripper, you'll find all the features you'd expect to find in Airpot's family of Accurate Force Pneumatic products—and then some. At every turn, expect minute friction levels that assure uncompromising force accuracy. With wide operating temperature ranges. And repeatability you can depend on, time after time, for millions of cycles. Lubrication? Never! It's prelubricated for life, so it never needs maintenance.

The small size and a mere 205 grams total mass keep this gripper light on its feet. Its stainless steel mounting blocks accommodate finger lengths up to 75 mm. And combined with its synchronous and parallel design, it is counterbalanced to provide unchanging gripping force in any mounting orientation: It's a versatile gripper like no other. So, in short, we've gone to great lengths to design the GramForce gripper for your most exacting applications— powerfully tough on the inside, but with a grip as gentle as the flutter of a butterfly's wings.



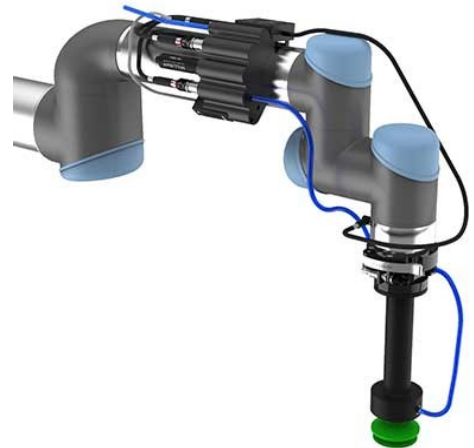
## What's it good for?

- **Precise Force Control:** Handles delicate components with forces from 0.25 N to 8.6 N.
- **Low Friction:** Ensures accuracy and repeatability with pneumatic Airpot actuators.
- **Compact & Lightweight:** Weighs ~205g, ideal for tight spaces.
- **Easy Mounting:** Stainless steel blocks support up to 75mm finger lengths.



## End of Arm Tooling

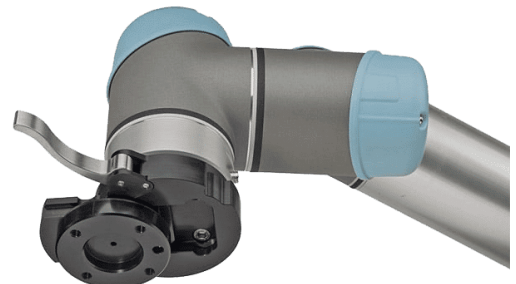
End of Arm Tooling, or, EOAT is also often referred to as robot end effectors. Millibar offers pre-engineered robot end effectors and custom designed end effectors to meet your material handling challenges. Their pre-engineered robot end effectors include a line of Arm Mounted Manifolds, Cable Harnesses, Wrist Extensions, and Suction Cup Mounts that are field proven and allow rapid robot deployment.



## Manual Tool Changers Fast and Easy

The Millibar Manual Tool Changer allows operators to effortlessly change tools for high mix, low volume production applications. Without any tools, quickly switch between adaptive grippers, vacuum grippers, camera calibration stylus, and more. Simply release the locking lever and slide a new tool into place.

Even if your facility has a variety of robot brands, the Millibar Manual Tool Changer ecosystem allows tools to be moved between robots.



### Utility series



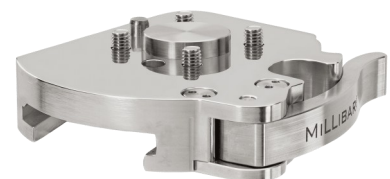
MTC-50  
MTC-40  
MTC-315  
MTC-M8  
MTC-M6  
MTC-FG  
MTC-BP  
MTC-Stylus-6

### Low-profile series



MTCAE-50  
MTCAE-40  
MTCAE-315  
MTCAE-M8  
MTCAE-M6  
MTCAE-FG  
MTCAE-BP

### Sanitary series



MTCFH-40  
MTCFH-315  
MTCFH-20  
MTCFH-M8  
MTCFH-M6  
MTCFH-BP

## TO-M6 tool organizer

- Securely stores end-of-arm tools using (2) M6 and (2) M8 socket head cap screws
- Mounts horizontally or vertically to accommodate different workspace setups
- Constructed from durable black acetal for long-lasting performance



## Wrist Extensions

- Extends robot reach for accessing deep containers like boxes or totes
- Available in multiple lengths (25mm to 150mm) and flange sizes: 31.5mm, 40mm, and 50mm
- Features matching flanges on both ends for easy tool attachment and seamless integration



## DGRM

- Directly mounts to robots with 31.5, 40 and 50mm ISO mounting patterns
- Select a tool mounting flange for each side from three common ISO mounting patterns: 31.5, 40 and 50mm plus blank
- Ideal for loading and unloading machine tools



## SCM-3456-D-U6F

- Designed to attach a suction cup to a robot
- Mounts to robot wrist patterns with 31.5, 40, 50 and 63 mm ISO patterns
- Suction port is a universal (G and NPT) 3/8" female thread
- Two vacuum supply ports, push to connect, accept 6 and 10 mm O.D. tubing.



## Suction Cups and Suction Pads

Millibar suction cups offer a cost-effective material handling solution. You may be interested in our suction cup mounts, which allow you to easily and quickly add suction cups to your robot wrist.

- Flat, cleated, single bellows and multi-bellows options
- Available in a wide array of materials and durometers
- Sizes from 1 to 600mm



**CBC Suction Cup**



**CFC Suction Cup**



**VPG Suction Cup**



**VSA Suction Cup**



**VSAG Suction Cup**



## RTA-A

- Allows attachment of End of Arm Tools (EOAT) with different mounting patterns than the robot flange
- Interfaces with four common bolt hole patterns: 31.5mm, 40mm, 50mm, and 63mm
- Select the adapter that matches the EOAT's bolt circle, with the other three patterns available for flexibility



## RPA-3456-A

- Designed to fit T-Slot aluminum extrusion accepts M6 or M8 SHCS
- Pre-engineered to mount to robots with 31.5, 40 and 50mm ISO patterns
- Ideal for DIY EOAT designers



## CHM8-8-VVS Cable Harness

- Provides seamless connection between solenoid valves, vacuum switch, and the 8-pin wrist connector on all UR robot models
- Enables easy control of solenoid valves for venturi vacuum pumps and pneumatic grippers
- Features an 8-pin 90° connector for UR robots, (2) 3-pin connectors for solenoid valves, and a 4-pin connector for a digital display vacuum switch with dual outputs



## LC60-8-G6F-HD

- Designed to fit T-Slot aluminum extrusion accepts 6mm and 8mm SHCS
- Distributes vacuum through 3, G3/8 female ports
- Configurable ports can "daisy chain" vacuum



## Venturi Vacuum Pumps

Millibar offers an extensive line of venturi vacuum pumps to cover a wide range of applications from handling small parts to large parts and evacuating small volumes to large volumes. Each Millibar pump has a removable vacuum cartridge that generates the vacuum. The cartridge is the central element of our dirt-tolerant, modular venturi vacuum pumps.

- Many pump body sizes with features including integral valves, switches, manifolds and blow off.
- Instant response using integral MAC™ Valve technology to generate vacuum in under 12 ms.
- Ideal applications include robotic gripping, material handling, conveying, packaging, palletizing and process control.

**P10 Series**



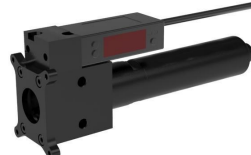
**P14 Series**



**P19 Series**



**P19SL Series**



**Teflon Series**



## Speedy Development

Starting with an inventory of pre-engineered end of arm components that fit together effortlessly gives us a big head start in custom design. Millibar has in-house manufacturing resources, wide variety of vacuum product design and production capabilities, they can develop and produce an energy efficient solution very quickly.

- Carbon Fiber 3D Printing
- Laser production equipment
- Multi-axis production equipment



## More custom EOAT examples



Custom vacuum gripper with manifold mounted venturi vacuum pump, .24 kg



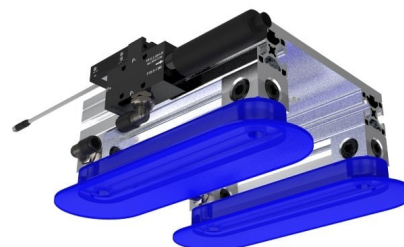
Handling packaged hypodermic needles for in-the-box packaging



Dual head vacuum gripper for grinding flash from molded silicone parts. Weight: .46 kg



Custom foam gripper for placing paper labels onto the inside curved surface of automotive body panels for identification.



Heavy duty end of arm tool for lifting cartons containing 1 gallon water bottles



## CDF: Adjustable Air Amplifier

- Versatile design with micrometer-like adjustable performance allows accurate and repeatable settings.
- High exhaust flows will cool and dry components using very little energy.
- Up to 40:1 amplification ratio's for high vacuum and exhaust flows.



## Venturi Vacuum Cartridges

- Integrate into custom manifolds, saving space, reducing components, and minimizing potential leaks.
- Threaded design means easy manifold machining and fast, no-tools-required assembly.
- Performance options with vacuum levels up to 28 "Hg (950 mbar) and vacuum flows up to 10 SCFM (280 lpm)



## Material Conveying Pumps

- Anodized aluminum construction standard, other materials quoted upon request
- Transfer speeds are controlled by input pressure.
- Sizes range from 6mm (.25") to 50mm (2") ID bores, larger ID's quoted upon request



## Variable Vacuum Pumps

- These venturis achieve a maximum vacuum level of 85% vacuum.
- Ideal for material handling applications of very dusty product such as construction materials including drywall, wood, concrete blocks, bricks, corrugated paper, etc.





## Stay in contact!

**Website:** [www.LDA.be](http://www.LDA.be)

**Email:** [LDA@LDA.be](mailto:LDA@LDA.be)

**tel:** +32(0)2– 266 13 13

**Follow us on LinkedIn:** LDA Belgium

## Find us!

Hoge Buizen 53  
1980 Eppegem  
België

