

Piab Custom-Line



# Mini Cobot Gripper

## Overview

# Our featherweight! Probably the lightest cobot gripper in the world.

At only 270 grams [9 ounces] it lifts up to 5 kilograms [11 pounds] and can be flexibly equipped with various suction units. Its integrated COAX® vacuum ejector is extremely energy efficient, providing a safe and quick hold.

**In the automated** packaging of goods for example in e-commerce or when handling of goods in production in small and medium-sized businesses, the weight of the gripper is crucial. Because in addition to the objects to be moved, the weight of the gripper determines the size of the robot or cobot to be used.

**As a specialist** for lightweight, high-performance vacuum grippers, especially for the growing cobot market, Piab has now developed the lightest cobot gripper. With the Mini Cobot Gripper (MCG), customers can maximize the load capacity of even the smallest cobots, reducing investment costs.



Extremely light



Less energy  
usage



Quick-Click-  
Tool Changer



User friendly



Plug & Play

**This is made** possible by its components produced by high-quality, lightweight 3-D printing. The combination of pump unit with integrated COAX® vacuum ejector technology allows maximum flexibility.

**This is further** enhanced by the new Quick-Click Tool Changer (QCT), which allows customers to change from one gripper type to another in seconds without any tools.

**Thanks to its** round shape, the MCG is very safe.



**Get in touch!**

Send us an email and get to know more about product: [custom-line@piab.com](mailto:custom-line@piab.com)

### Vacuum flow (NI/s) [scfm]

Pump type	Feed pressure MPa [psi]	Air consumption NI/s [scfm]	Vacuum flow (NI/s) [scfm] at different vacuum levels (-kPa) [-inHg]								Max. vacuum -kPa [-inHg]
			0 [0]	10 [3]	20 [6]	30 [9]	40 [12]	50 [15]	60 [18]	70 [21]	
Xi 10-2	0.6 [87]	0.54 [1.14]	0.74 [1.57]	0.63 [1.33]	0.53 [1.12]	0.42 [0.89]	0.30 [0.64]	0.16 [0.34]	0.11 [0.23]	0.04 [0.17]	93 [27.5]
Si 08-2	0.6 [87]	0.44 [0.93]	0.77 [1.63]	0.67 [1.42]	0.51 [1.08]	0.33 [0.70]	0.23 [0.49]	0.16 [0.34]	0.12 [0.25]	0.08 [0.17]	75 [22.1]
Di 16-2	0.6 [87]	0.75 [1.59]	0.64 [1.36]	0.57 [1.21]	0.49 [1.04]	0.41 [0.87]	0.35 [0.74]	0.29 [0.61]	0.18 [0.38]	0.04 [0.08]	73 [21.6]

All values subject to change without prior notice.

The world's lightest vacuum cobot gripper is ready to Pick & Place any of your applications.



Starter-Kit



Pump unit with integrated ejector and vacuum blow-off valve

## The Starter Kit

To cater for any application, the MCG Starter-Kit consists of a pump unit, an adapter plate with 10 mm foam, an adapter plate with 13x BX10 suction cups, adapter plate 3/8" female as well as three different sized suction cups.

- **Extremely light** - full utilization of cobot capacity
- **Quick gripper change** with Quick-Click Tool Changer in Plug & Play design
- **Various gripper units** for every application



**“The MCG is the essence of modular, flexible, light weight design, with a strong yet energy efficient grip on any product.”**

Bernd Gries, Manager Global Strategic Accounts Head of Custom-Line-Products Vacuum Automation

# Specifications of MCG

**Blow-off**  
for optimal  
product release  
and fast processes

**ISO adapter**  
for quick connection  
to most robot types.  
Customized adapters  
upon request.

**Pump unit**  
with integrated, energy  
efficient COAX® ejector

**3D printed  
cobot gripper**

**Quick-Click-  
Tool Changer**

**Adapter plate**  
available with  
different suction cups  
and grippers for any  
application

The concept is rounded up by features like its powerful integrated air-driven COAX® vacuum ejector technology, control valve and vacuum sensors access options turning the MCG gripper into a Plug & Play system.

For easy connection to any type of cobot, customers can choose between a number of standard ISO adapters.



Blow-off for fast processes



Less energy usage



User friendly



Plug & Play

use reduces the cost of providing compressed air and thus the total cost of production.

\*Independent comparison tests at the Fraunhofer Institute for Machine Tools and Forming Technology IWU in Dresden have shown that the Piab ejectors require significantly lower compressed air to achieve the same output compared to ejectors from other manufacturers.

## High performance, low input

Because COAX® ejectors are up to twice as fast as other ejectors and deliver three times more flow than a conventional ejector with identical air consumption, the pump unit can deliver high performance even with low or fluctuating supply pressure.\* This makes them particularly energy efficient. Accordingly, their

## Further benefits

- Fast process possible by activating the integrated blow-off check valve
- Low energy usage due to integrated COAX® vacuum ejector
- Intuitive and user-friendly design



Adapter plate with 13x BX10 suction cups



Adapter plate with 10 or 20 mm foam



Adapter plate with 3/8" female

## Dimensions

Description	Unit	Value
Pump unit with integrated ejector, vacuum blow-off valve, QCT, incl. robot adapter		
Weight	g [lbs]	270 [0.60]
Height	mm [inch]	28 [1.02]
Diameter	mm [inch]	76 [2.99]
Adapter plate with 10mm foam and flow reduction	g [lbs]	35 [0.08]
Adapter plate with 20 mm foam and flow reduction	g [lbs]	50 [0.11]
Adapter plate with 3/8" female	g [lbs]	40 [0.09]
Adapter plate with 13x BX10 suction cups and flow reduction	g [lbs]	70 [0.15]
Adapter plate with 7x 1/8" female	g [lbs]	97 [0.21]

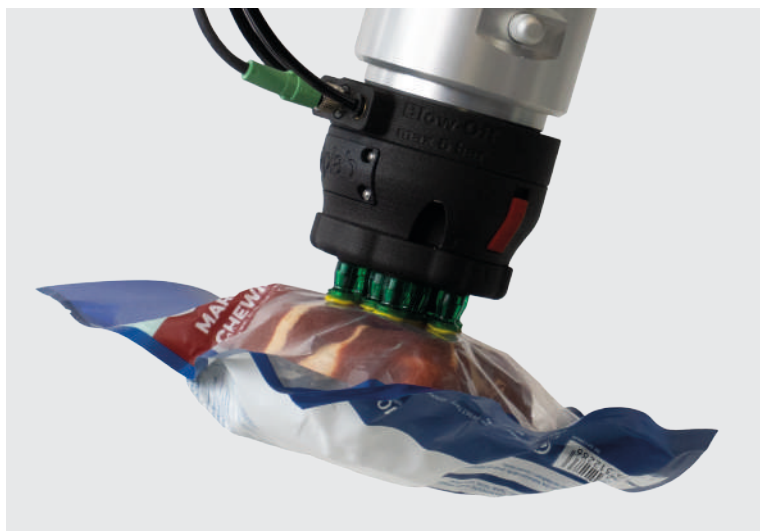
All values subject to change without prior notice.



## A selection of potential applications



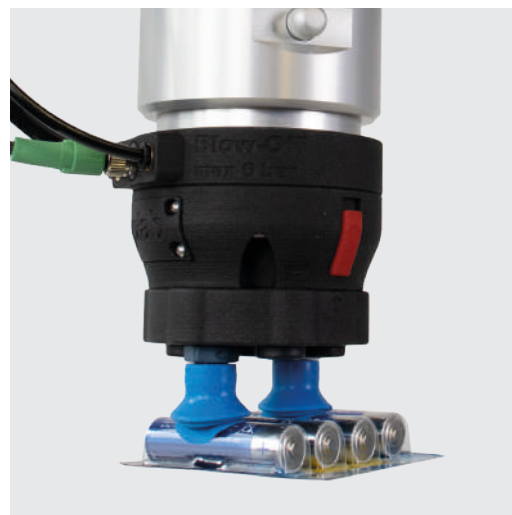
Adapter plate with 3/8" female and piSOFTGRIP® 30-3 handling fruits



Adapter plate with 13x BX10 suction cups handling a bag with pet food



Adapter plate with 3/8" female and MX cups handling a bag with soap



Adapter plate with F-BX20FCM cups handling a package with batteries

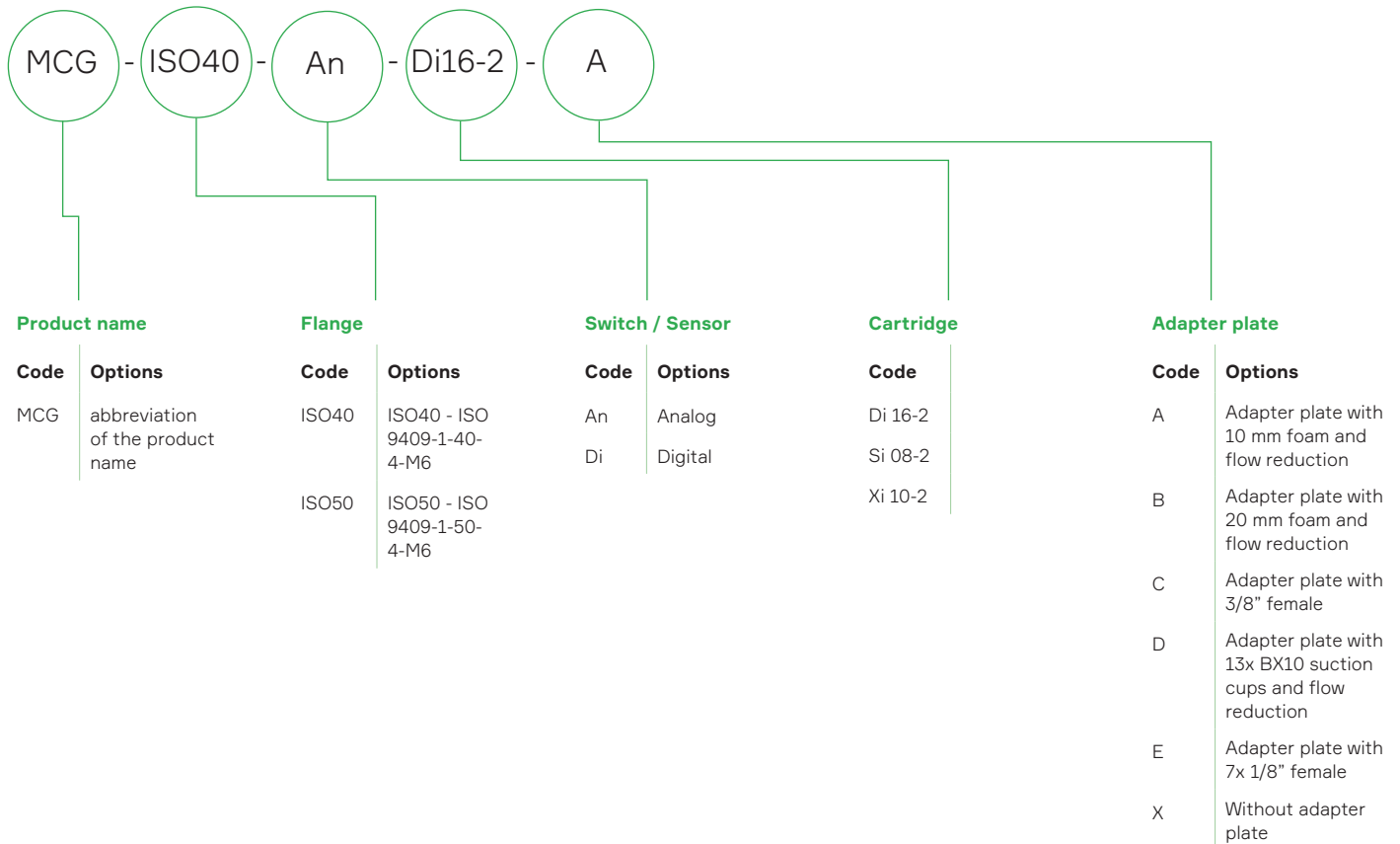


Adapter plate with 3/8" female, extantion and MX cup handling a bag with nuts



Adapter plate with 20 mm foam handling a tube with hand cream

## Product code



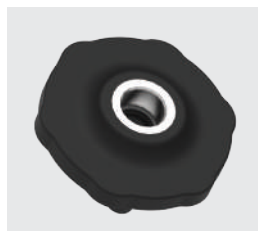
## Various adapter plates



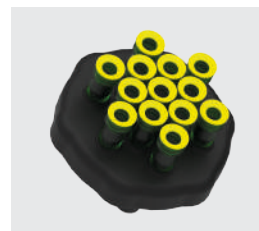
Adapter plate with 10 mm foam



Adapter plate with 20 mm foam



Adapter plate with 3/8" female



Adapter plate with 13x BX10 suction cups



Adapter plate with 7x 1/8" female

Different challenges?!  
We are happy to create  
your application specific  
adapter plate!



### Get in touch!

Send us an email and get to know more about product:  
[custom-line@piab.com](mailto:custom-line@piab.com)

# Evolving around the world

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