

The modular design system for flexible gripping

Product Catalog 2021

SoftGripping - Your Individual Gripper

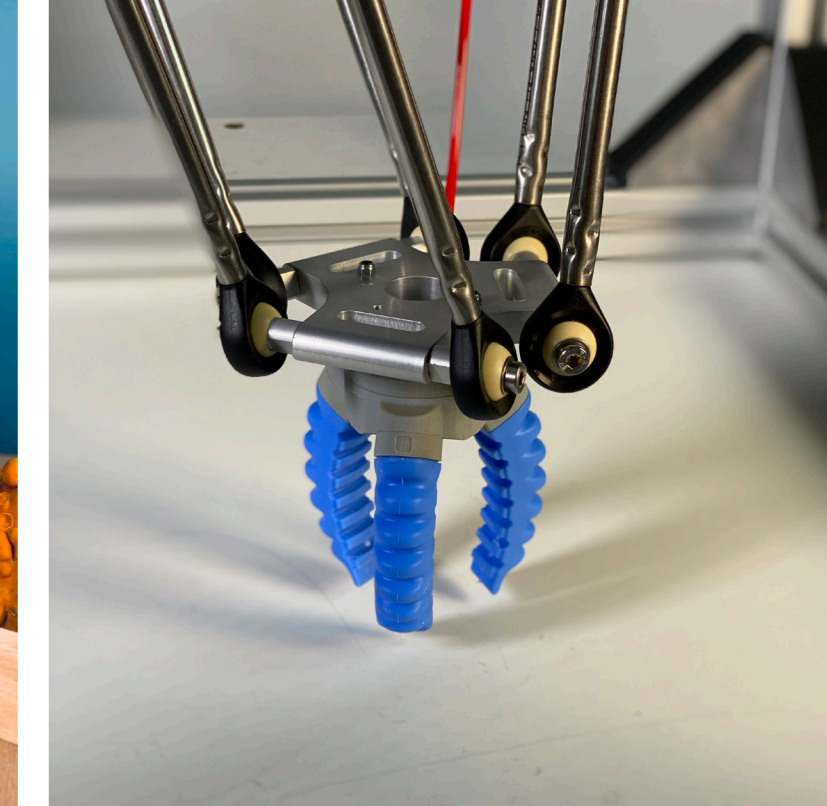
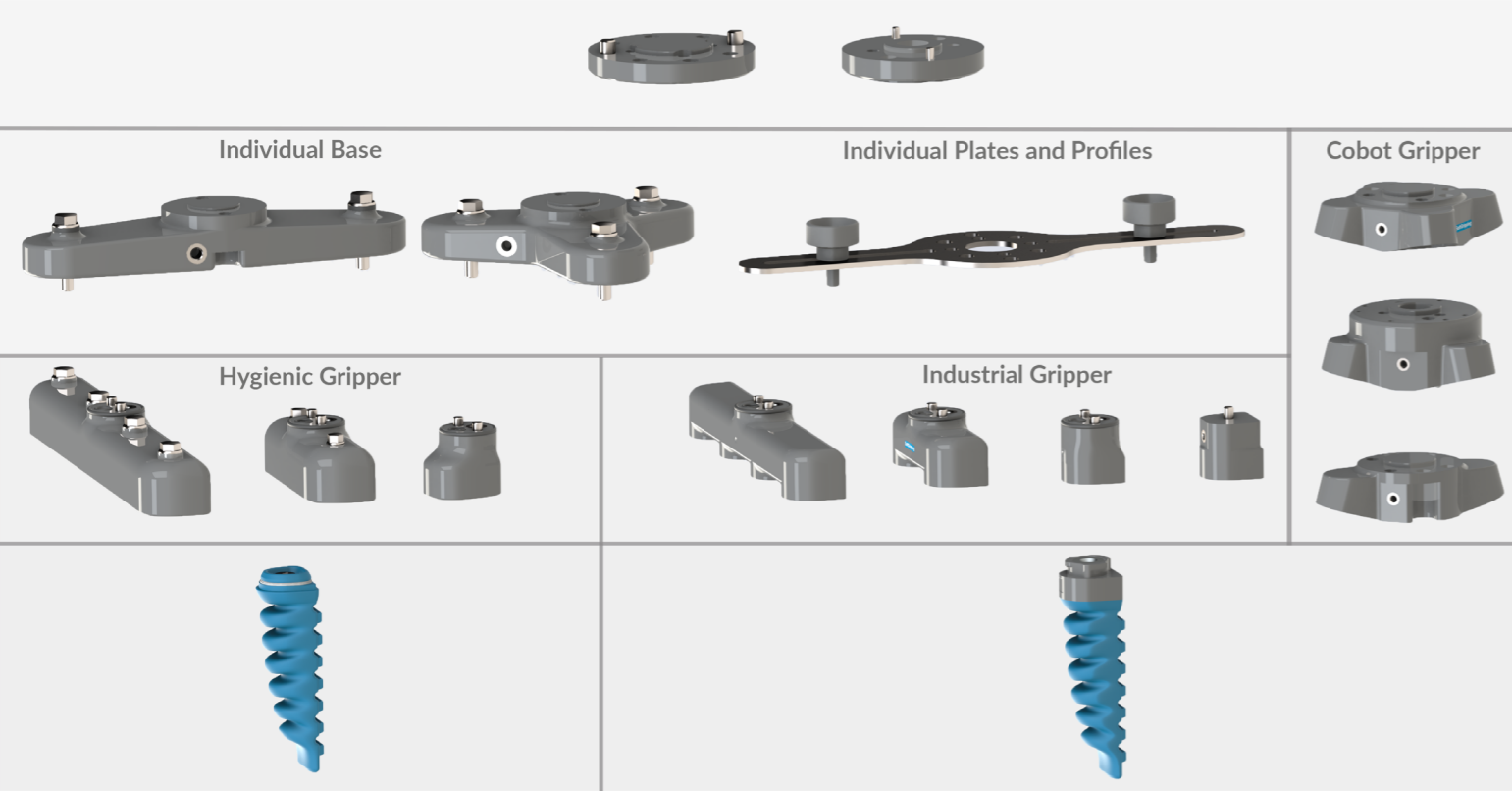
Configure your individual gripper within minutes with the modular system of SoftGripping. The pneumatically powered elastic gripper allow easy, robust and very light designs. The soft and adaptive surfaces ensure safe and careful gripping of different shaped products.

If your application needs a special design, we are happy to develop a customized gripping system for you and support you in the entire automatization process. The design and manufacturing method of SoftGripping allows a fast and cost-effective customization.

Let's find the perfect solution for your individual gripping needs.

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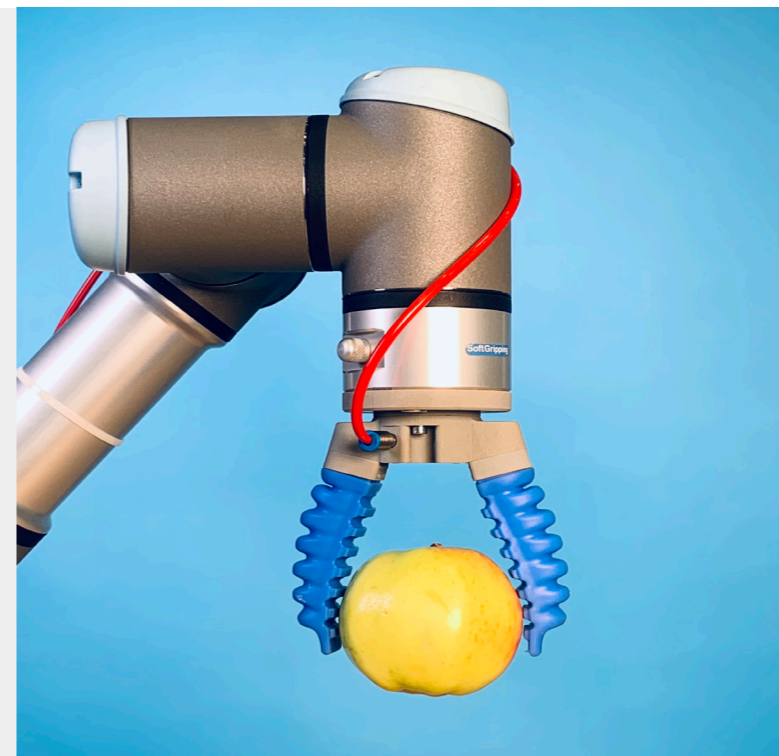
SoftGripping - Product Overview

The heart of the modular gripping system are the elastic fingers. The soft surfaces are ideal for universal gripping without the need of complex feedback systems. The elasticity ensures a safe and careful gripping of very different shaped products with one gripper. The fingers can be connected to different gripper arrays and bases to configure the gripping system, that fits to your application.

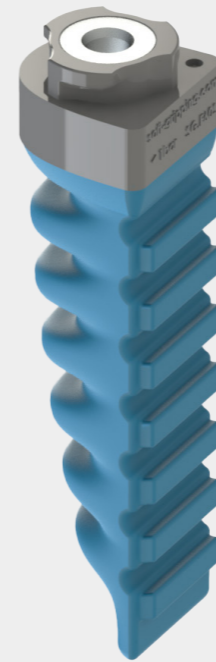
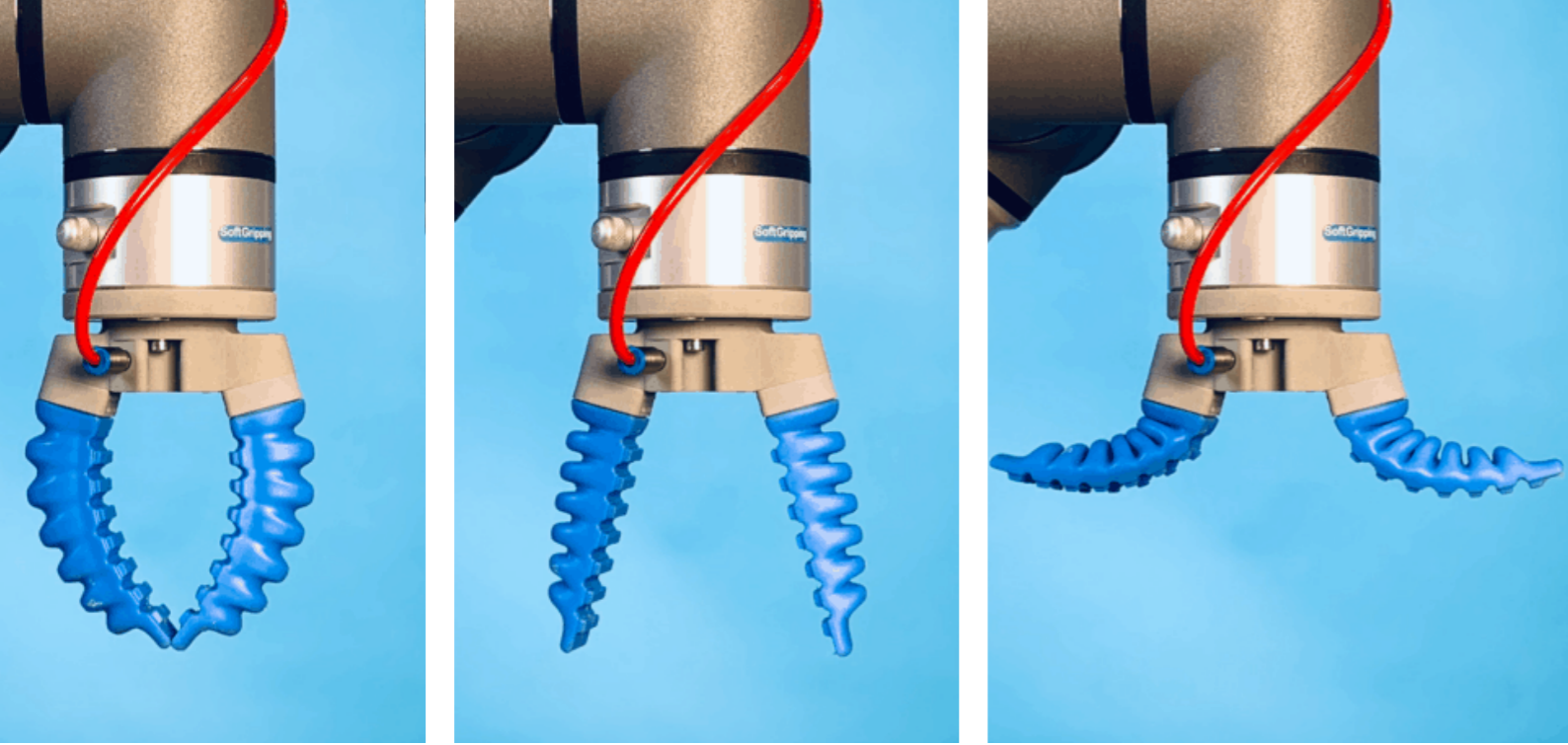
The Cobot Gripper are very light integrated and ensure a safe and easy collaboration with humans. You can choose from centric or parallel gripper with different number of fingers and orientation. Thanks to the bayonet joint, the fingers can be replaced without any tools in seconds.

The Hygienic and Industrial Gripper consist of gripper arrays with 1, 2 or 4 fingers that can be connected to gripper bases plates or profiles. You have a broad range of geometrical configurations to get the ideal gripper for your task. The optimized flow channels enable very high gripping speeds. The Hygienic Gripper are fully washable and meet all regulations to be used with food safely.

As every handling process is different we provide customized gripper configuration to meet all your requirements for a handling application. Thanks to the special design and manufacturing process you can get your fully customized gripper within 2 weeks.



	Industrial SoftGripper	Hygienic SoftGripper	Cobot SoftGripper
Bayonet joint	x		x
Individual gripper base	x	x	
Individual plates and profiles	x	x	
Integrated gripper base			x
FDA approved finger material	x	x	x
Hygienic design		x	
Gripping speed	<50 ms	<50 ms	<200 ms



Finger material	Silicone FDA
Mass	20 g
Pressure range	-0.5 - 1.2 bar
Gripping force	5 N
Durability @1.0 bar 0.5 Hz	>10 mio cycles
Gripping speed	<50 ms

Elastic Gripping Finger

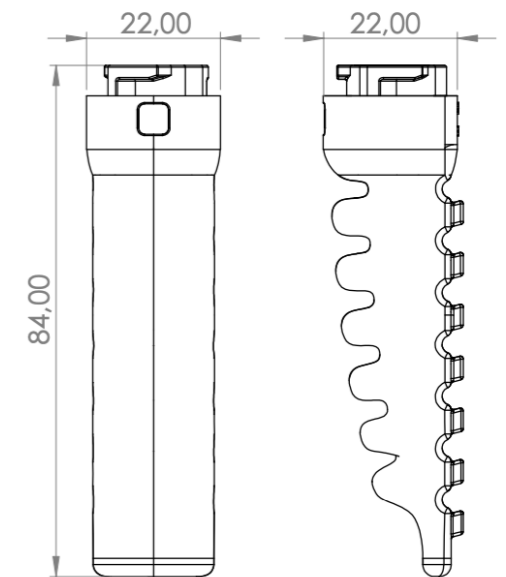
The gripping fingers consist of a specially shaped silicon shells, which grips in dependence to the air pressure inside. By applying pressure the fingers close and grip an object carefully. Using vacuum the gripper can be opened further.

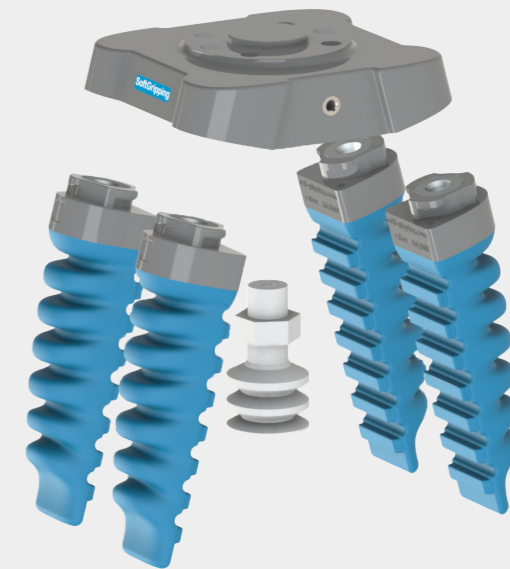
The size of the fingers is inspired by the human fingers not by accident. Most of the products we want to handle automatically are once designed to grip by humans hand - one of the most effective and flexible gripping tool.

Special emphasis in the development process was placed on the durability. Due to an optimized shape and a special developed material more then 10 mio. gripping cycles can be done.

The silicone finger is attached to a cap with a bayonet joint. This allows you to change the fingers in seconds without tools.

- Safe collaboration
- Change the fingers without any tools
- Fault tolerant gripping
- Optimized durability
- FDA conform material
- Optional: detectable material available
- Gripping differently shaped products with one gripper





Cobot SoftGripper

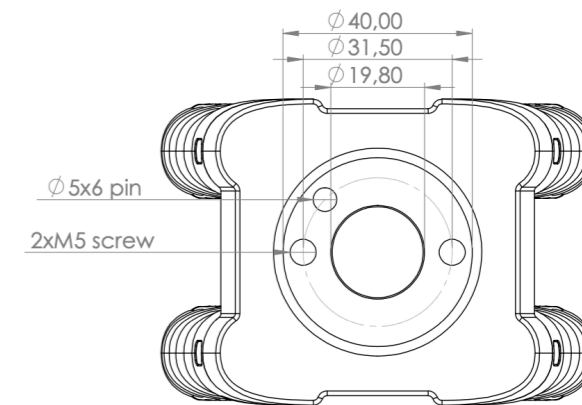
Cobot grippers must be lightweight, easy to operate and have no sharp edges. The flexible SoftGripping fingers in combination with the fully integrated SoftGripping Cobot Bases are ideal to meet all these requirements.

Depending on your gripping objects you can choose between centric or parallel SoftGripper. The number of fingers you need depends on the weight of your objects. Different sized objects can be covered by different cone angles of the fingers. You can choose between 60°, 75° and 90°.

You will be surprised how safe and easy one SoftGripper can handle a broad range of objects due to its flexibility. So there is no need of different gripper for different shaped object.

The fingers can be easily mounted at the gripper base with a bayonet joint. No tools are necessary. Additionally a vacuum suction cup can be mounted centrally.

- Integrated and very light design
- Ideal for gripping differently shaped objects
- Change the fingers without any tools
- Centric and parallel gripper available
- Connection for an optional suction cup
- Customized grippers available (number of fingers and finger orientation)



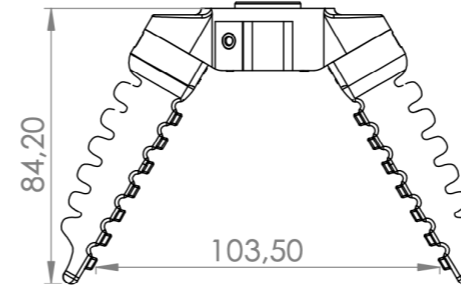
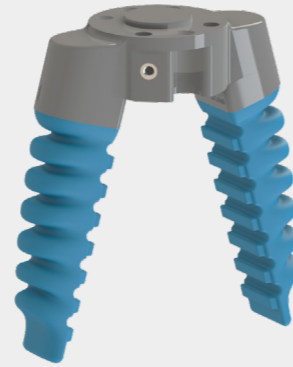
Connector ISO 9404-1-31.5-2-M5

2-Finger Parallel Cobot Gripper

Art.No. SG.2P.xx.D.31
 Mass 110 g

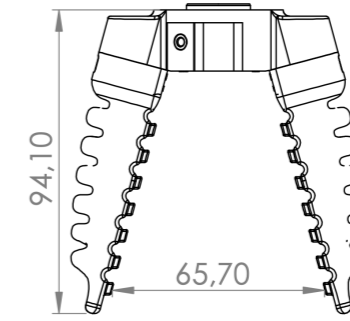
Typical Gripping Objects

Rectangular or cubic
 Feed size 5 mm - 120 mm
 Weight <200 g



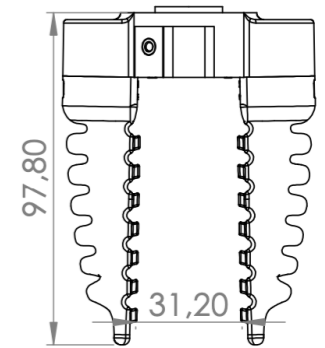
SG.2P.60D.31

60° Cone Angle



SG.2P.75D.31

75° Cone Angle



SG.2P.90D.31

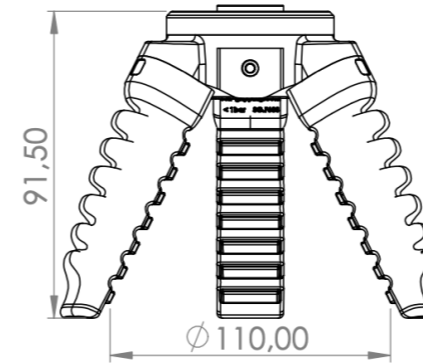
90° Cone Angle

3-Finger Centric Cobot Gripper

Art.No. SG.3C.xx.D.31
 Mass 190 g

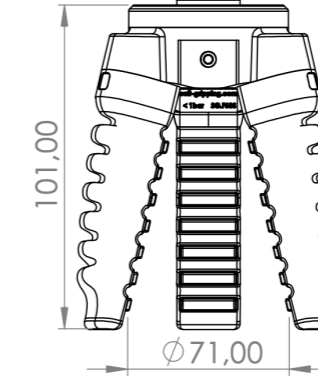
Typical Gripping Objects

Circular or cylindrical
 Feed size 5 mm - 120 mm
 Weight <300 g



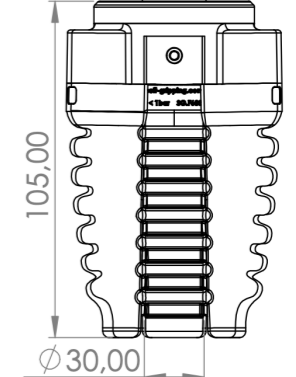
SG.3C.60D.31

60° Cone Angle



SG.3C.75D.31

75° Cone Angle



SG.3C.90D.31

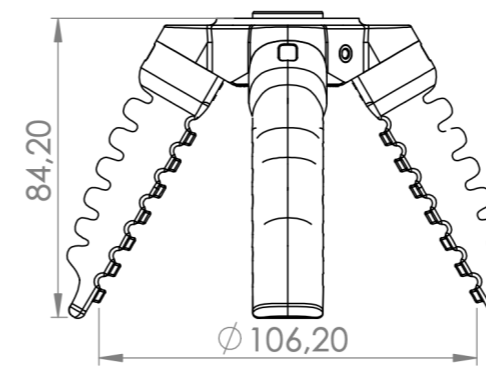
90° Cone Angle

4-Finger Centric Cobot Gripper

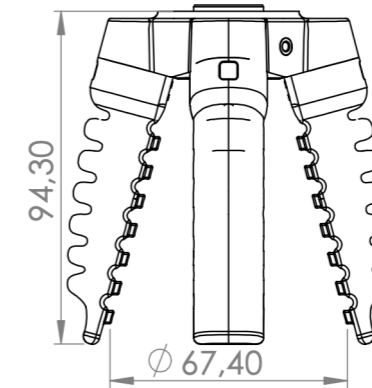
Art.No. SG.4C.xx.D.31
 Mass 200 g

Typical Gripping Objects

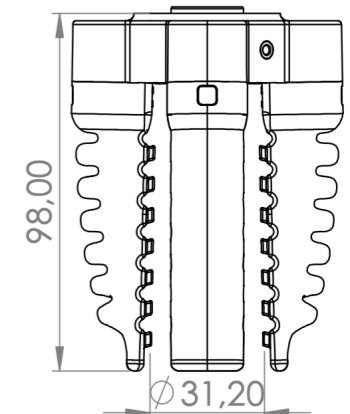
Circular or cylindrical
 Feed size 5 mm - 120 mm
 Weight <400 g



SG.4C.60D.31



SG.4C.75D.31



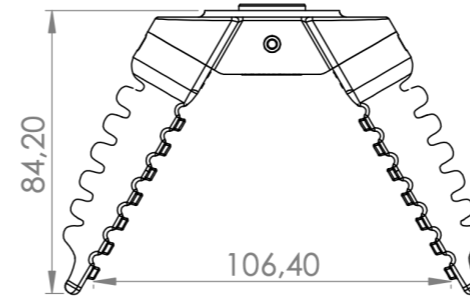
SG.4C.90D.31

4-Finger Parallel Cobot Gripper

Art.No. SG.4P.xx.D.31
Mass 220 g

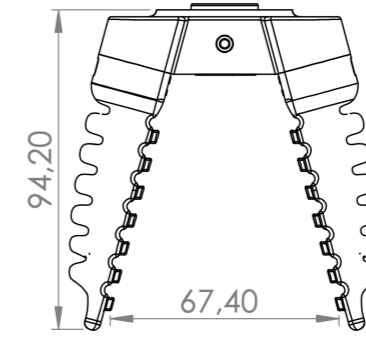
Typical Gripping Objects

Rectangular or cubic
Feed size 5 mm - 120 mm
Weight <400 g



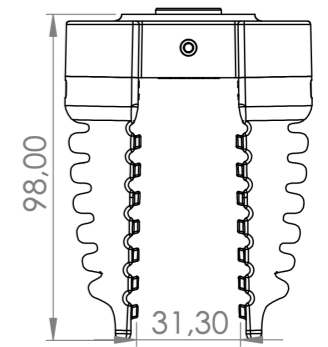
SG.4P.60D.31

60° Cone Angle



SG.4P.75D.31

75° Cone Angle



SG.4P.90D.31

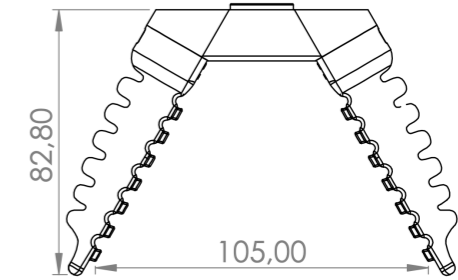
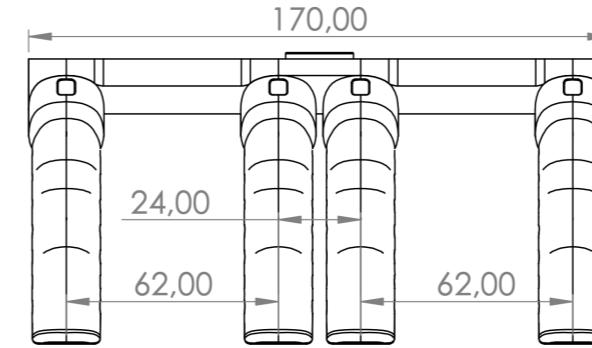
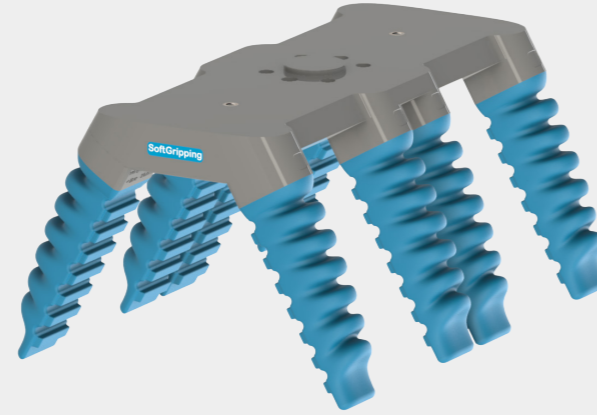
90° Cone Angle

3-Finger Centric Cobot Gripper

Art.No. SG.8P.60D.31
Mass 460 g

Typical Gripping Objects

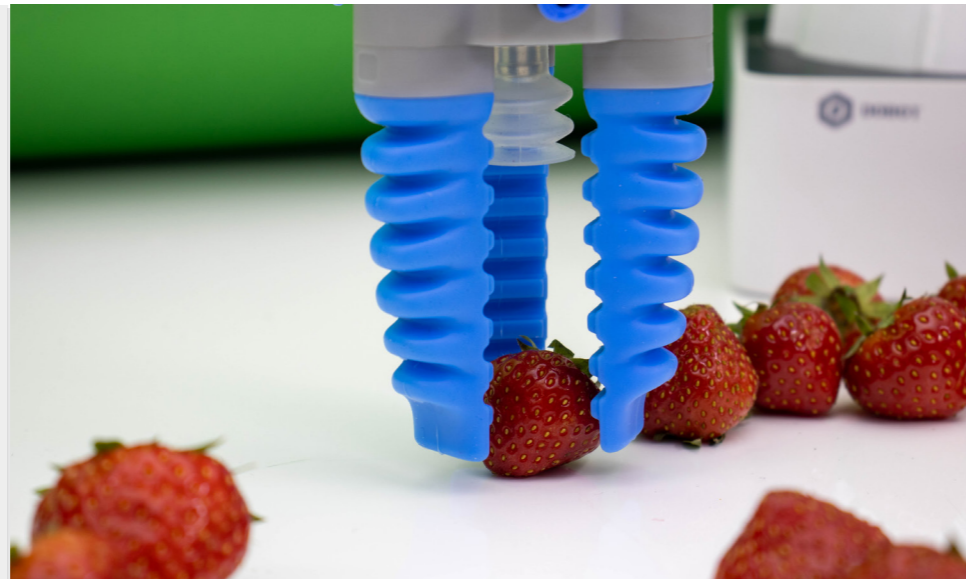
Rectangular or cubic
Feed size 40 mm - 120 mm
Weight <800 g

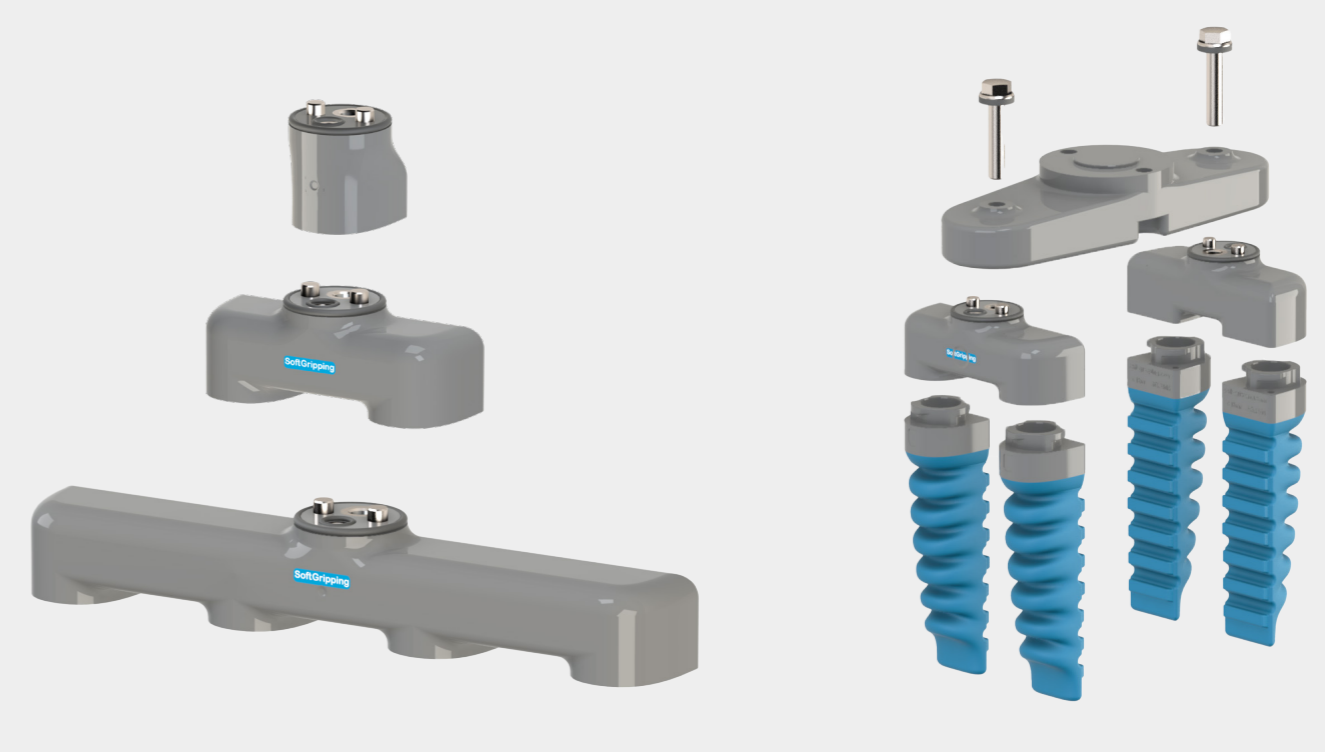
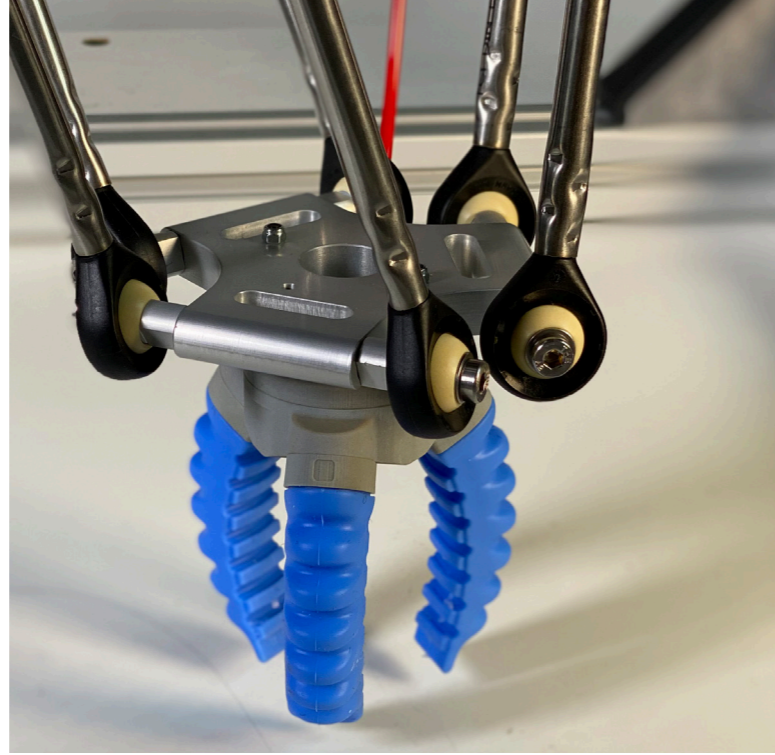
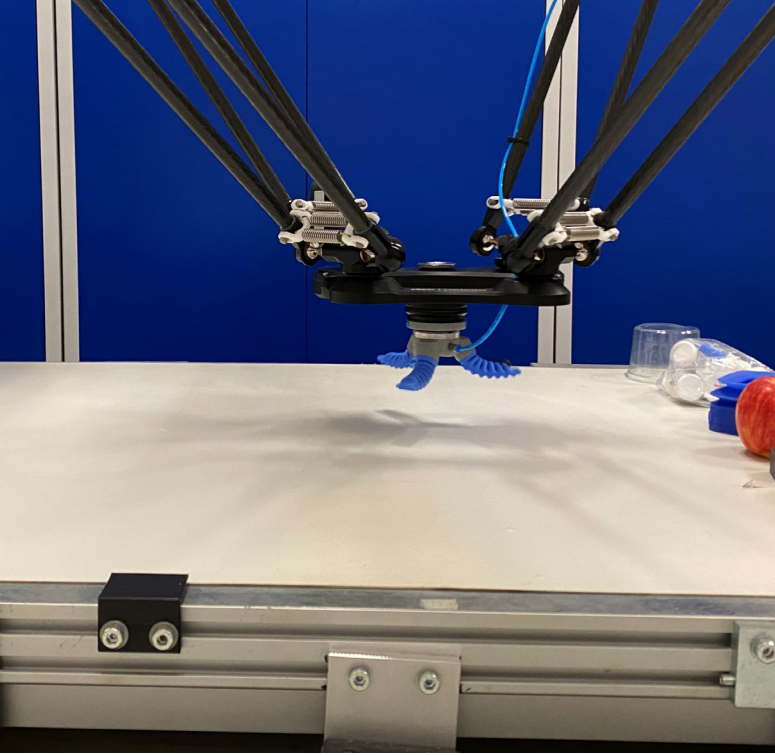


SG.4P.60D.31

You need a different finger configuration for your gripping task?

Let us design and produce your personal gripper within 2 weeks.





Industrial SoftGripper - Arrays

The modular Industrial SoftGripper consist of the fingers, different gripper arrays and bases. The fingers are connected to the arrays with the bayonet joint and can be changed quickly without any tools.

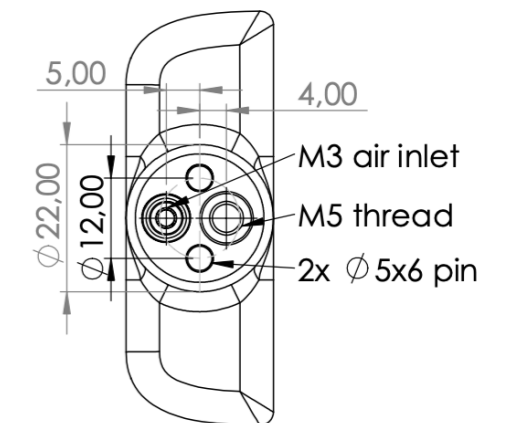
The arrays with 1, 2 or 4 fingers can be connected to any SoftGripper base. This enables a quick configuration to your needs or an easy exchangability for another handling application.

The large and flow optimized air channels allow high speed pick place applications with a gripping time less then 50 ms.

Additionally the arrays can be separately used with plates or profiles to get a very flexible handling system or an EOAT integration.

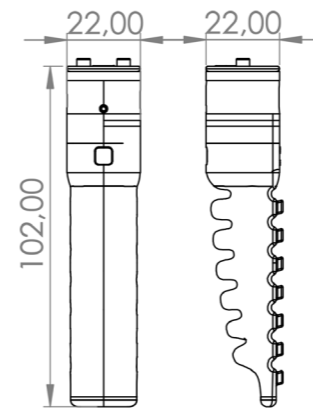
Besides these three standard arrays, also customized arrays with a different number of fingers or another distance between the fingers are available.

- Fits to all SoftGripping Bases, Plates and Profils
- Change the fingers without any tools
- High speed pick and place applications
- Custom arrays available (number of fingers and finger distance)



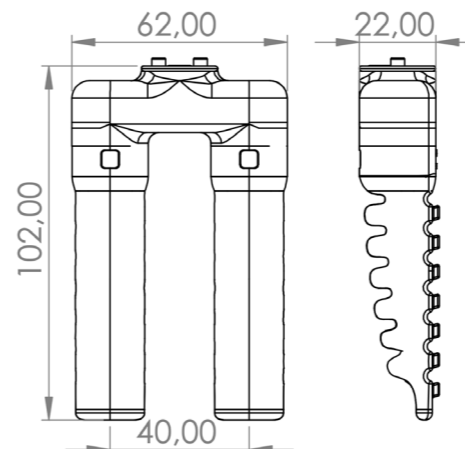
1-Finger Industrial Gripper Array

Art.No. SG.C.PR.F1.01
Mass 13 g
Width 22 mm



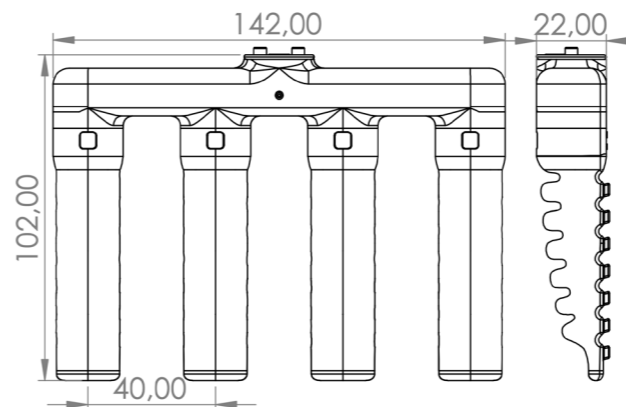
2-Finger Industrial Gripper Array

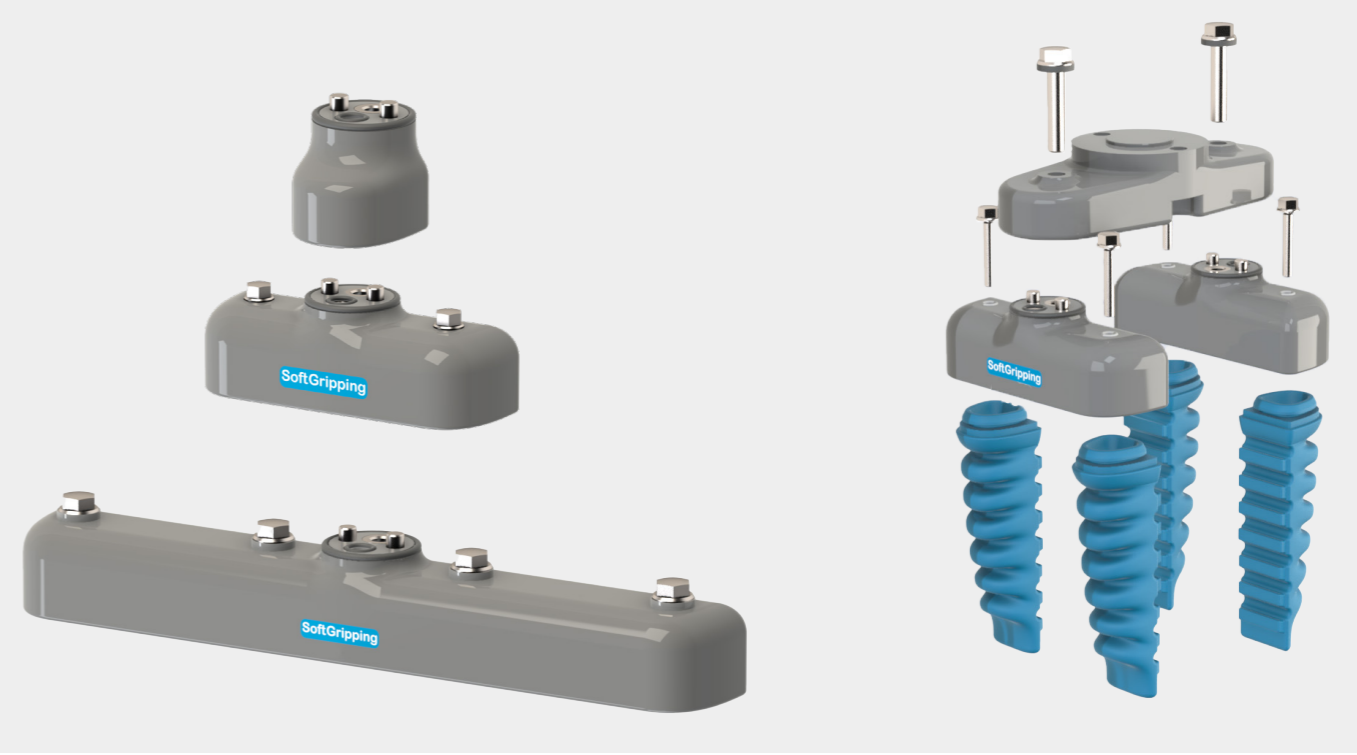
Art.No. SG.C.PR.F2.01
Mass 26 g
Width 62 mm



4-Finger Industrial Gripper Array

Art.No. SG.C.PR.F4.01
Mass 50 g
Width 142 mm





Hygienic SoftGripper - Arrays

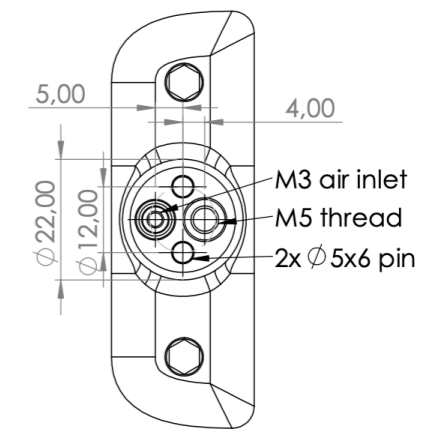
Combining hygienically designed bases and arrays you get a highly sophisticated but yet fully customizable solution for food automation processes. All gaps are sealed. The whole gripper and its components itself are washable.

The 1, 2 or 4 finger array can be mounted to any SoftGripper base to get a matching gripper for your application. The fingers can be easily changed with one screw.

Due to the large and flow optimized air channels, the gripper can be used for high speed pick and place applications.

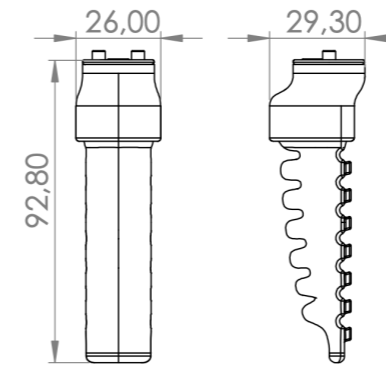
Besides the three standard arrays, we offer customized arrays with a different number of fingers or another distance between the fingers are available.

- Fits to all SoftGripping Bases, Plates and Profiles
- Fully Hygienic Design
- Easily change the finger with one screw
- High speed pick and place application
- Customized arrays available (number of fingers and finger distance)



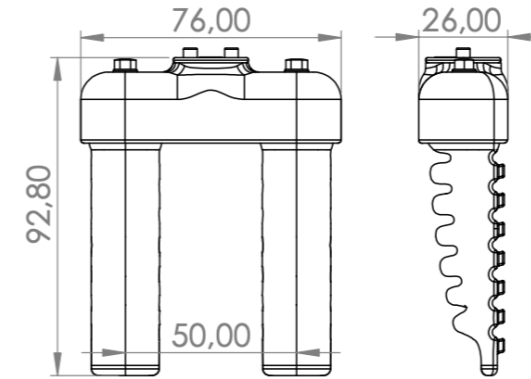
1-Finger Hygienic Gripper Array

Art.No. SG.C.HL.F1.01
Mass 15 g
Width 26 mm



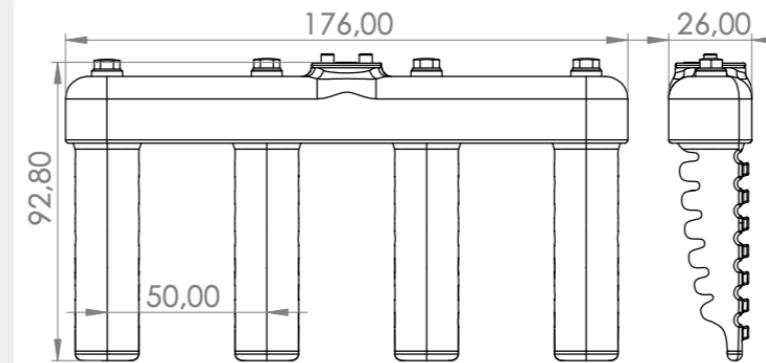
2-Finger Hygienic Gripper Array

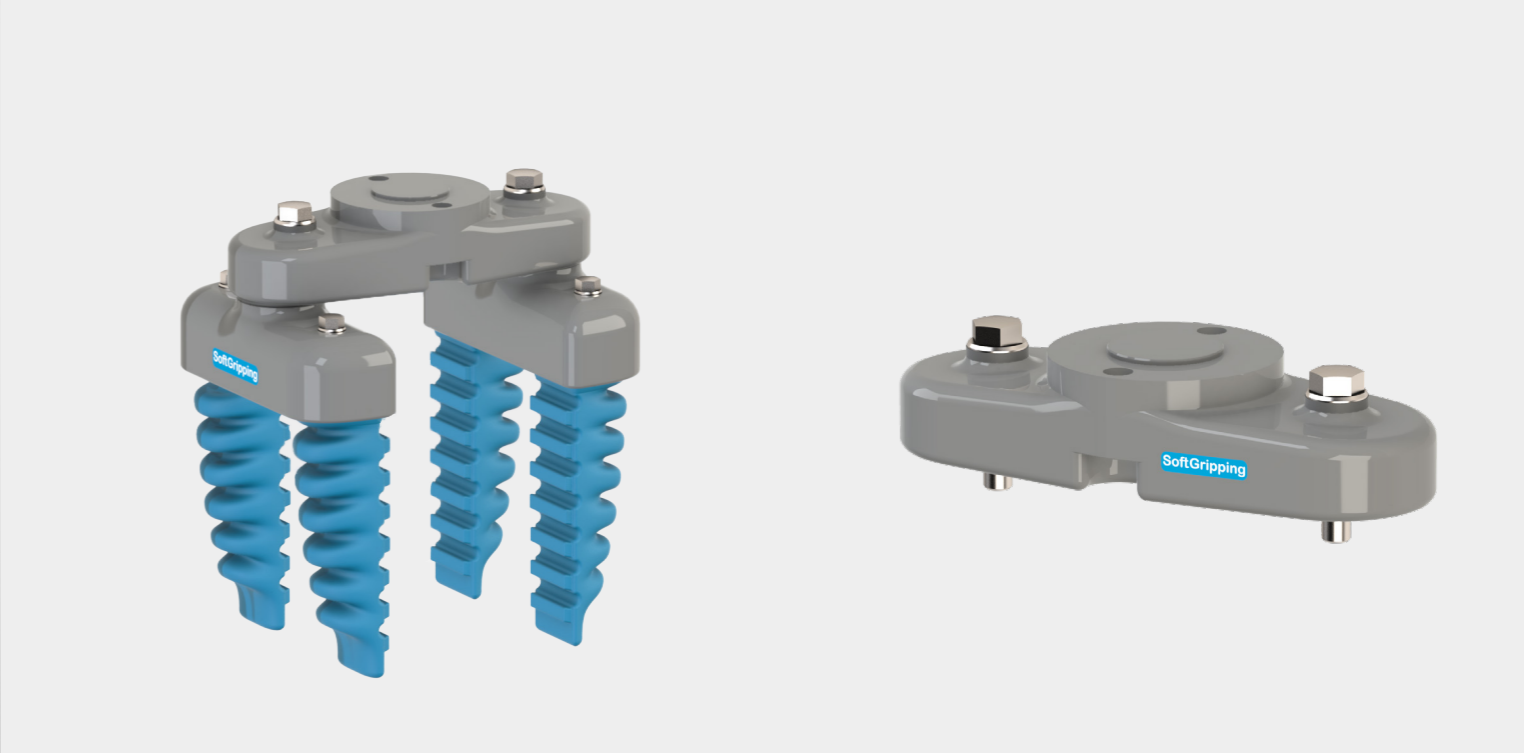
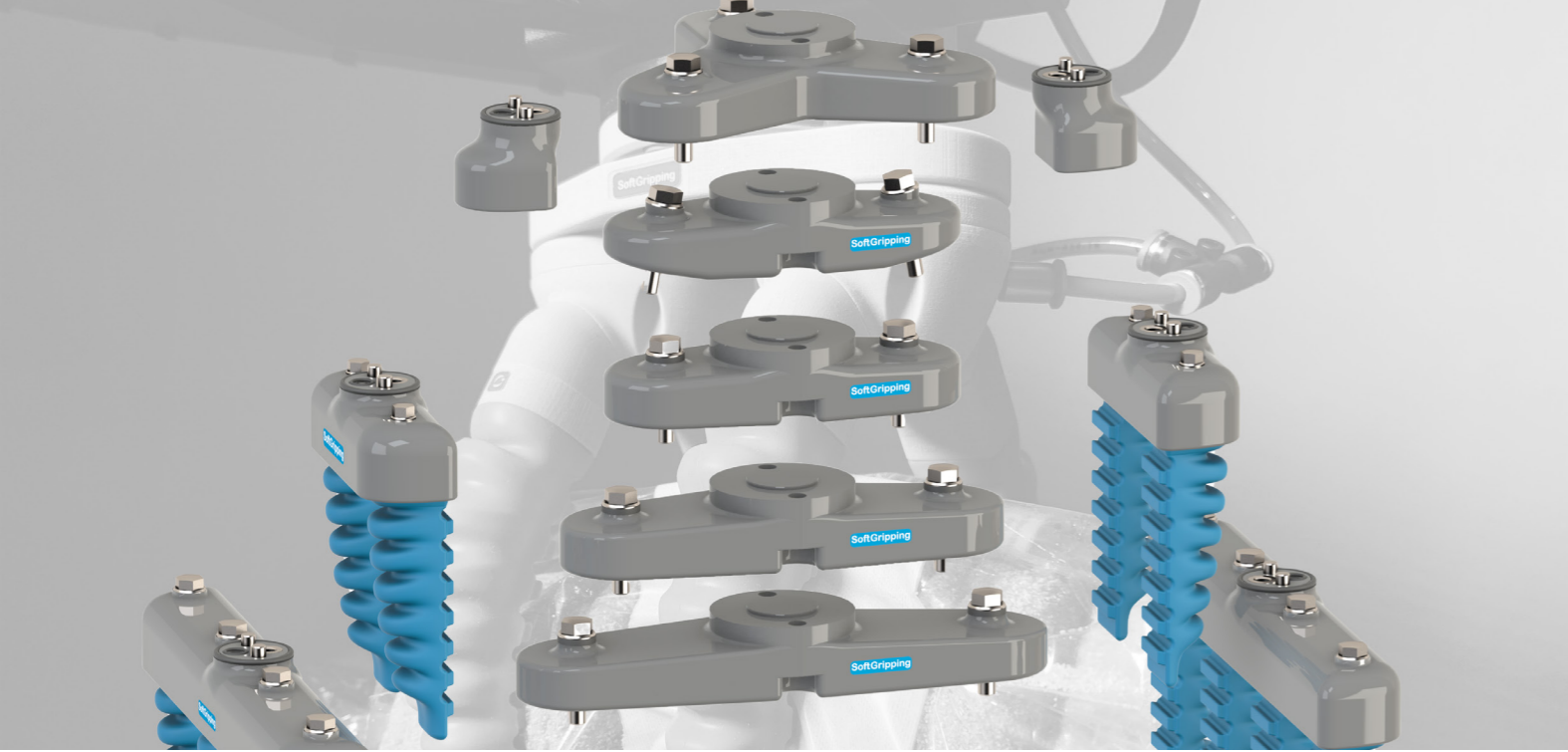
Art.No. SG.C.HL.F2.01
Mass 42 g
Width 76 mm



4-Finger Hygienic Gripper Array

Art.No. SG.C.HL.F4.01
Mass 87 g
Width 176 mm





Individual Base for Hygienic and Industrial SoftGripper Arrays

You need a special arrangement of the gripping fingers for you handling project?

This configurable gripper base can be adjusted to your needs. Due to the modularity you can assemble all gripper arrays on to this base. Freely choose your distance of the arrays and the gripping angle. You can select between a 2-arm, 3-arm or 4-arm version.

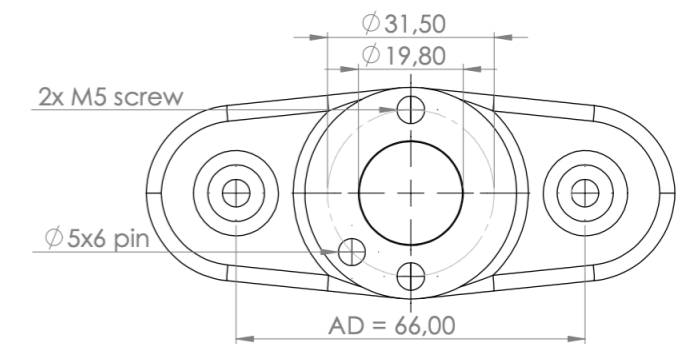
The air supply of the fingers is guided via an M5 connection at the base. The design and size of the air supply channels

enable very short gripping cycles - the right choice for high speed pick and place application

In the hygienic design version, all screws, seals materials are FDA approved.

If your gripping task has changed, you do not need to buy a complete new gripper. Simply change the gripper base or the arrays.

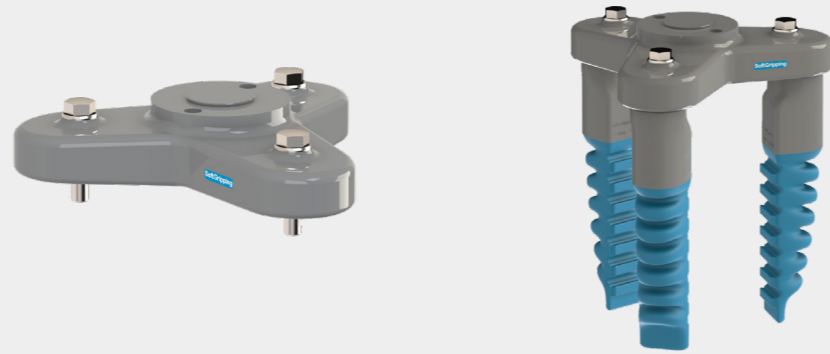
- Individual design in 2 weeks
- Free choice of the gripping angle
- Free choice of the arm displacement
- 2, 3 or 4-arm version
- M5 pneumatic connector
- Hygienic design version
- High speed pick and place



Connector ISO 9404-1-31.5-2-M5

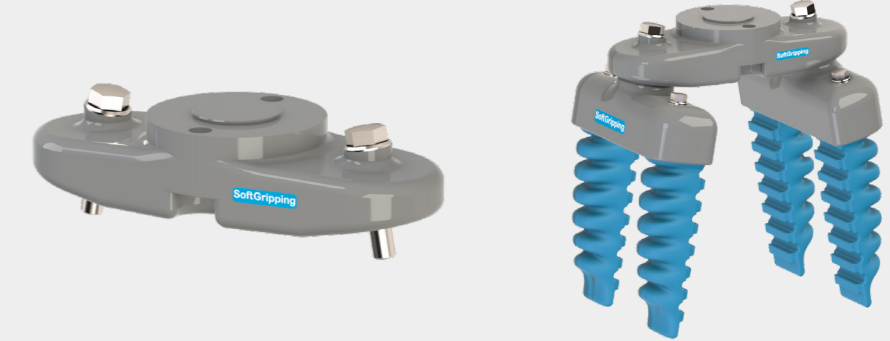
3-Array Base

Art.No. SG.C.3CR.31.75
Mass 235 g
Arm Displacement (AD) 80 mm
Cone Angle 90°



2-Array Base

Art.No. SG.C.2PR.31.50.D80
Mass 150 g
Arm Displacement (AD) 66 mm
Cone Angle 80°



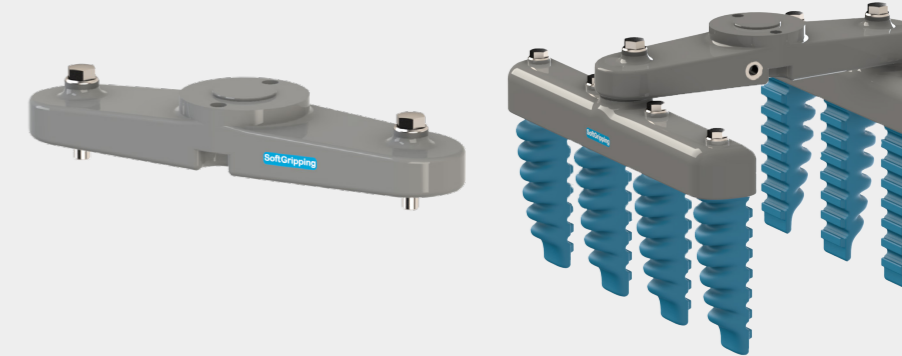
2-Array Base

Art.No. SG.C.2PR.31.50
Mass 160 g
Arm Displacement (AD) 66 mm
Cone Angle 90°



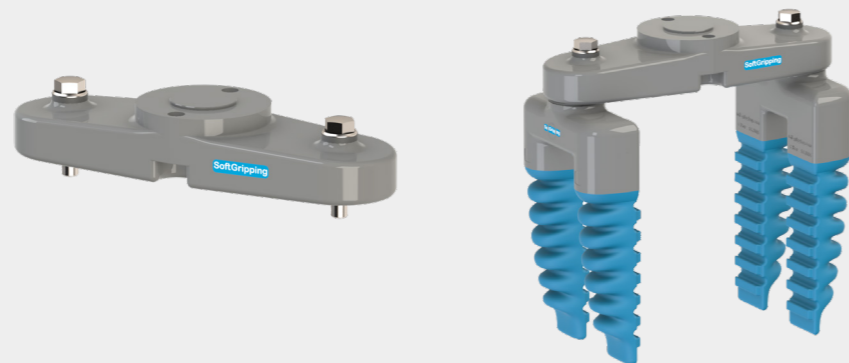
2-Array Base

Art.No. SG.C.2PR.31.100
Mass 220 g
Arm Displacement (AD) 116 mm
Cone Angle 90°



2-Array Base

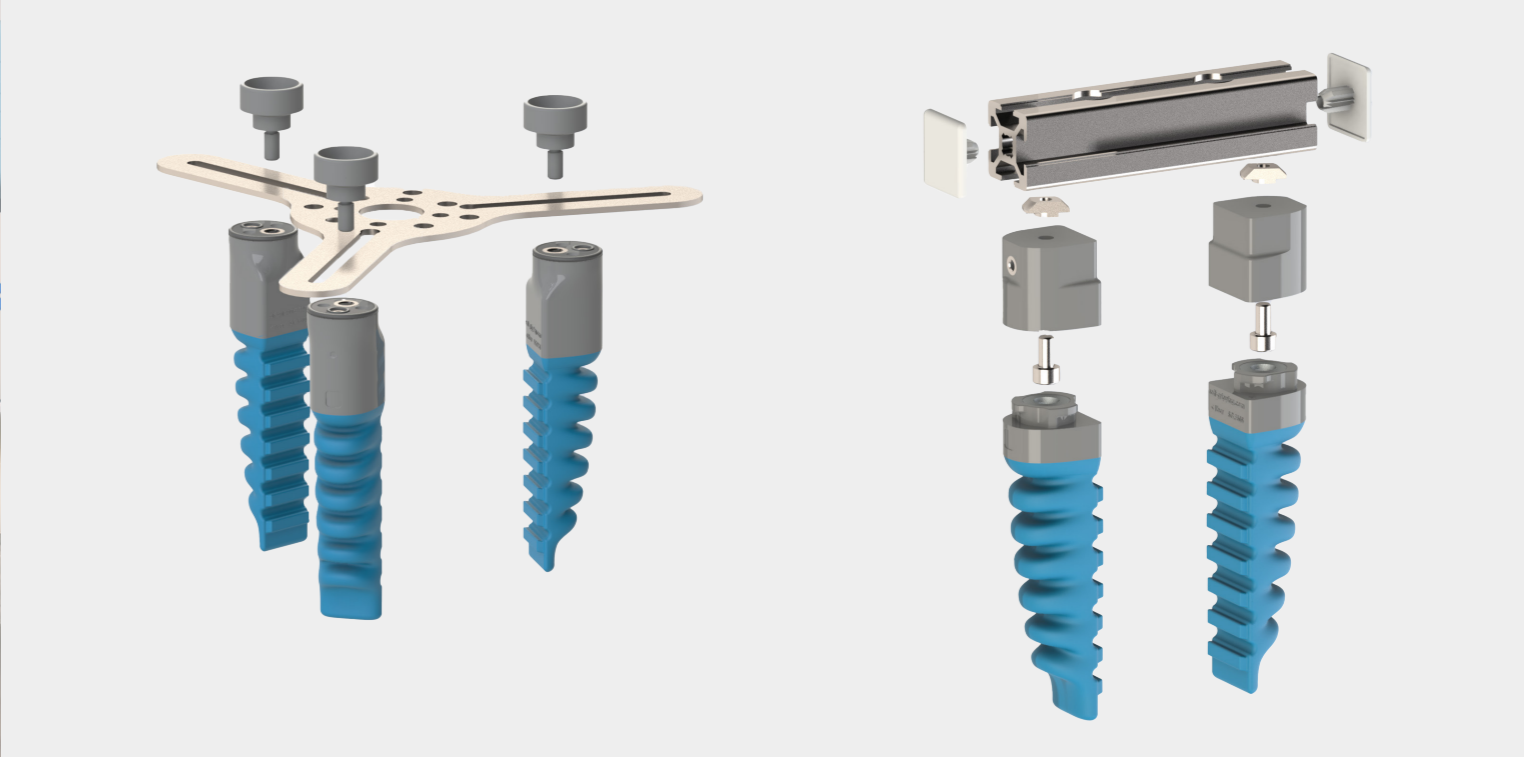
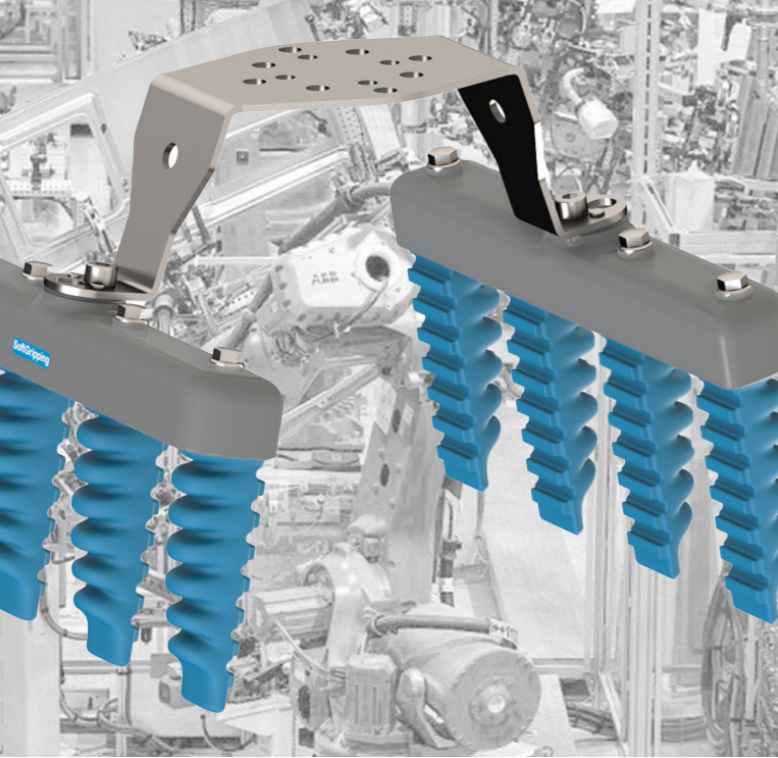
Art.No. SG.C.2PR.31.75
Mass 190 g
Arm Displacement (AD) 91 mm
Cone Angle 90°



You need a different finger configuration for your gripping task?

Let us design and produce your personal gripper within 2 weeks.





Individual Plates and Profiles for Hygienic and Industrial SoftGripper Arrays

You are not sure, which is the best gripper configuration? Or you need a gripping system, that you can easily adapt to different handling applications?

Then individual gripper plates or profiles are the right system for you. All SoftGripper Arrays can be used with this solution.

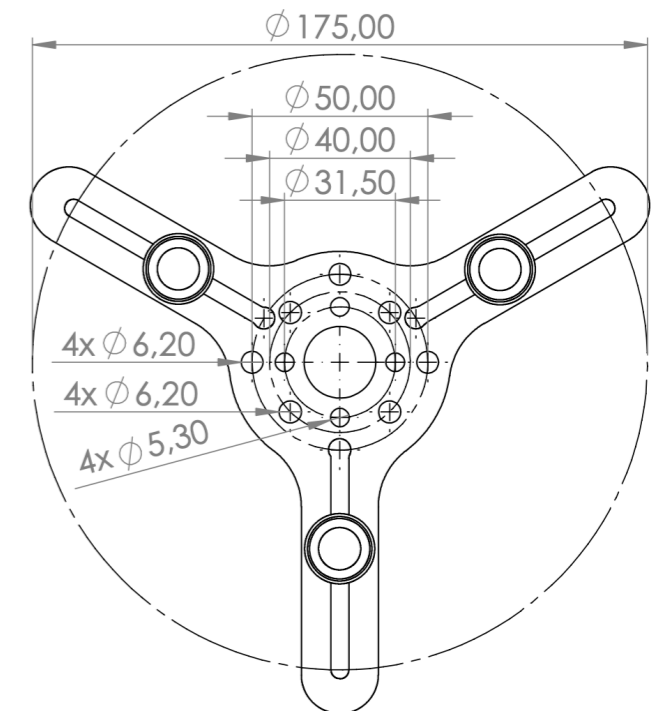
Choose between standard plates with 2, 3 or 4 arms. Here you can change the array displacement stepless and wit-

hout any tools. Or use a folded plate which also allows an adjustment of the cone angle.

If you need a different configuration, let us design and produce a special plate or profil system within two weeks.

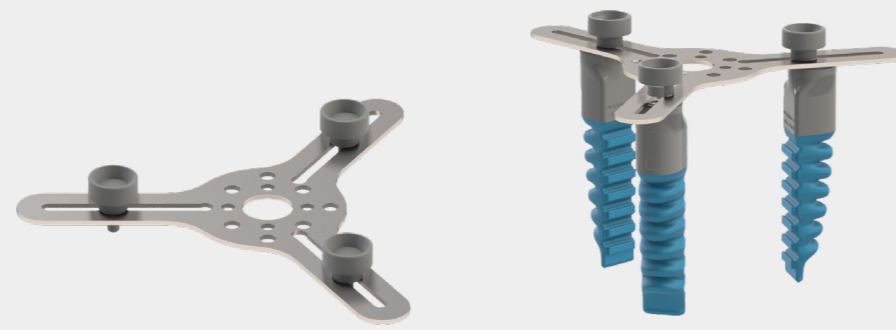
If you already use end of arm tooling systems (EOAT), you can expand it with the SoftGripping Fingers. Feel free to contact us if you need a special adapter.

- Individual design and manufacturing in 2 weeks
- Combinable with all SoftGripping arrays
- Free choice of the arm displacement
- 2, 3 or 4-arm version
- Folded plate version to adjust the cone angle
- Toolfree adjustment of the arrays
- Cost-effective



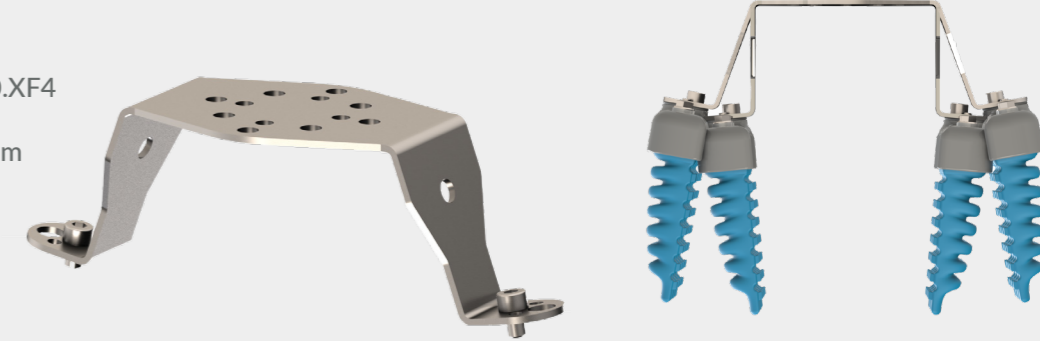
3-Array Plate

Art.No. SG.C.PL.50.3V1
Mass 115 g
Adjustment Range 50 - 175 mm
Cone Angle 90°



2-Array Folded Plate

Art.No. SG.C.PL.50.XF4
Mass 130 g
Adjustment Range 40 - 220 mm
Cone Angle 60°-120°



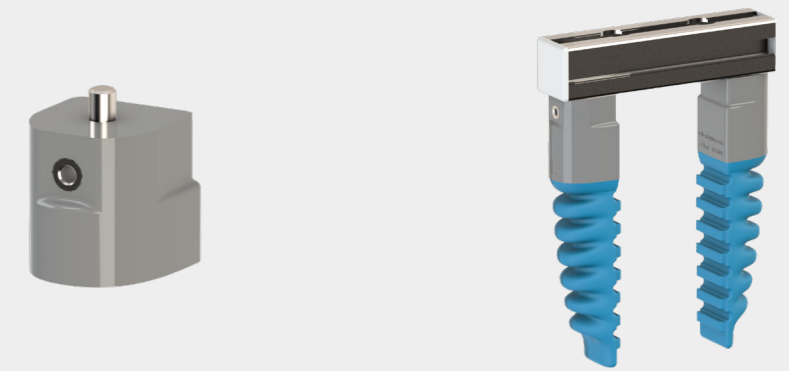
4-Array Plate

Art.No. SG.C.PL.50.4V1
Mass 142 g
Adjustment Range 50 - 175 mm
Cone Angle 90°



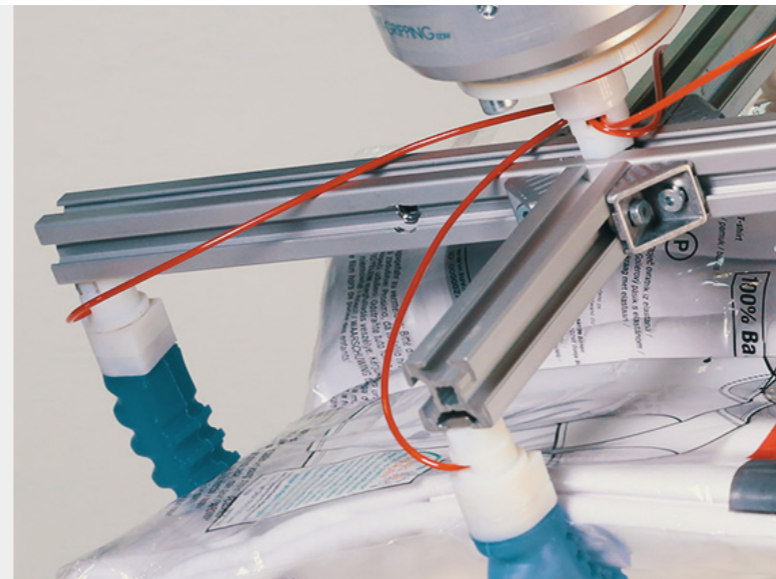
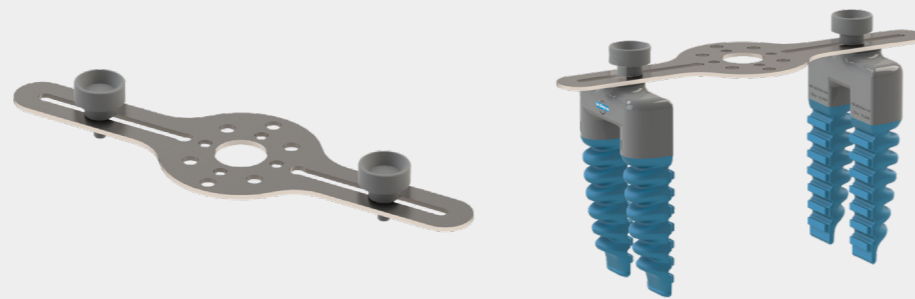
1-Finger Connector for Profiles

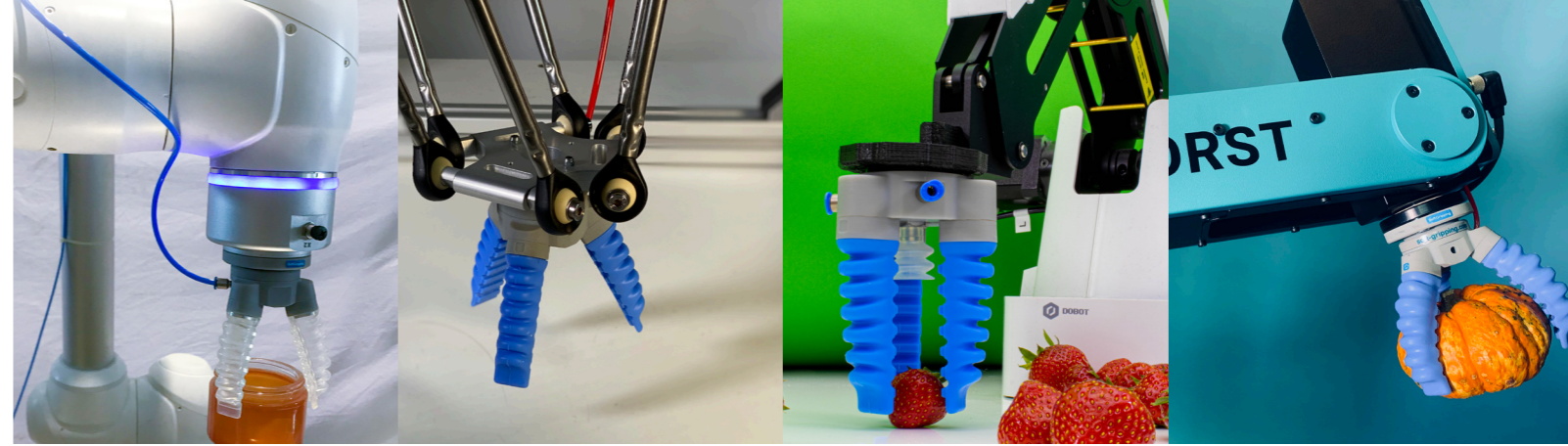
Art.No. SG.C.PR.20
Mass 10 g
Profile Type 20 mm



2-Array Plate

Art.No. SG.C.PL.50.2V1
Mass 90 g
Adjustment Range 50 - 175 mm
Cone Angle 90°





SoftGripping Controlbox

The Controlbox can be used to operate any SoftGripper. You can choose between two versions: To supply Cobot SoftGripper the box has two pressure outlets at the back panel. One for the vacuum suction cup and one for the fingers. The box for Hygienic and Industrial SoftGripper has one outlet for the fingers and high speed valves to reach gripping speed of less than 50 ms.

At the front panel, you can adjust the maximum output pressure according to your requirements and monitor the pressure output. With digital signals via the signal connector you can switch between three states for the Fingers: grip, release or relaxed. The suction cup can be switched between grip and release. You can use your own familiar automation setup with the Control Box or an UR-Cap we provide.

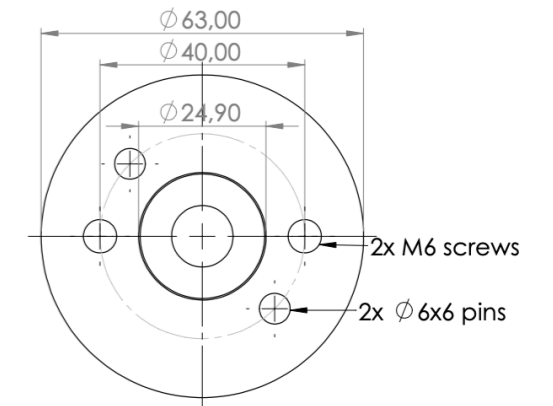
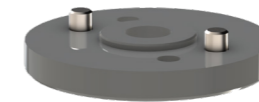
	Industrial VP	Cobot VP-V
Art.No.	SG.BP.1V.C2	SG.BP.2V.C1
Input Pressure	4-8 bar	4-8 bar
Output Pressure Finger	0-1,5 bar	0-1,5 bar
Output Pressure Vacuum Cup	-	-0,5 bar
Switching Speed	<50 ms	<200 ms
Input Pressure Tube	6 mm	6 mm
Output Pressure Tube	6 mm	2x 4 mm
Digital Input	2x 24 V DC	3x 24 V DC
Signal Connector	M12 IEC 61076-2-101	M12 IEC 61076-2-101

The Right Connector for Your Robot

Every SoftGripper has the standard connection ISO 9404-1-31.5-2-M5. You can choose from different connectors that covers the typical dimensions. Your robot has an other flange? No problem, we can deliver rapidly a customized adapter.

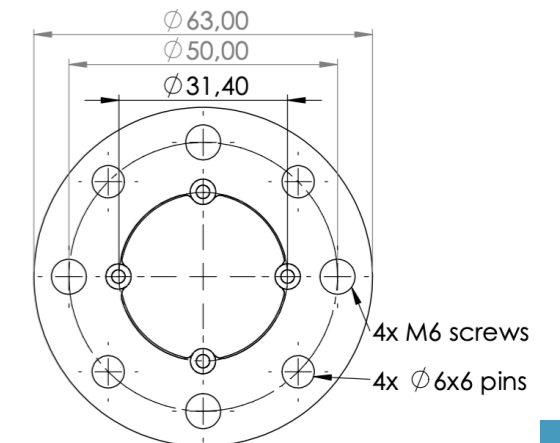
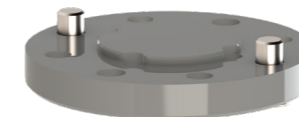
40 mm Connector

Art.No. SG.C.31.40
 Mass 75 g
 ISO 9409-1-40-4-M6



50 mm Connector

Art.No. SG.C.31.50
 Mass 75 g
 ISO 9409-1-50-4-M6





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