CVGC

Carbon Vacuum Grippers

CVGC_GO_ Version Without Vacuum Generator

EN

OPERATING INSTRUCTIONS

This manual is intended for users of **CVGC_GO_** series carbon vacuum grippers without vacuum generator.
It contains all the information you need to integrate the grippers, as well as the instructions for use and maintenance.

The operating instructions were originally drafted in French (original version).
They must be kept for any future use.
Subject to technical changes, mistakes or printing errors.

For any additional information, please contact COVAL:

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**PRIOR TO COMMISSIONING THIS PRODUCT,
PLEASE CAREFULLY READ THIS MANUAL AND FOLLOW THE INSTRUCTIONS.**

Retrouvez tous les documents en différentes langues sur le site COVAL : https://doc.coval.com/cvgc_g0/

All documents are available in multiple languages on the COVAL website: https://doc.coval.com/cvgc_g0/

Finden Sie alle Dokumente in verschiedenen Sprachen auf der COVAL-Homepage: https://doc.coval.com/cvgc_g0/

Tutti i documenti nelle differenti lingue sono presenti sul sito COVAL: https://doc.coval.com/cvgc_g0/

Podrá encontrar todos los documentos en diferentes idiomas en la página web de COVAL: https://doc.coval.com/cvgc_g0/

SUMMARY

NOTE:
This document provides detailed operating instructions for the ***standard models*** referenced in chapter 5. For ***custom models***, the information herein must be adapted to the specific features of the product. Custom versions are products that have been tailored to meet the constraints of a specific application. The following are examples of such custom models:
- Different product lengths
- Multi-zone
- Different suction cups
- Different accessories

1. IMPORTANT INFORMATION

This document contains important instructions and information regarding various stages in the life cycle of the product:
- Transportation, storage, commissioning, and decommissioning.
- Operation and service.

The operating instructions correspond to the product actually delivered.
This document is part of the product and the instructions below must be followed:
- Read this document carefully and observe the instructions to ensure safe installation, optimal operation of the product, and to avoid any malfunction.
- Keep this document within reach of the product so operators can easily access it.

- **Failure to observe the instructions specified in this document may lead to injury or even death!**
- **COVAL will not be held liable for any damage or breakdown resulting from failure to follow instructions.**

For any additional information, please contact COVAL:

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USA:
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2. SAFETY INSTRUCTIONS

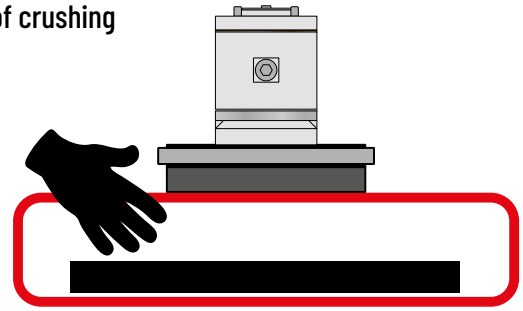
Only qualified personnel should be authorized to use the components. These individuals must be trained in the following areas:
- Installing pneumatic and electric equipment.
- Applicable safety rules and requirements for using components and installing them in devices, machines, and production lines.
- Appropriate handling of components and their respective products.
- Proper use of the operating materials and supplies.
- The latest applicable EC directives, legislations, decrees, and standards, as well as the current state of the technology for its intended use.
- Any special measures necessary to meet these requirements, as well as the current state of the technology.
- Installation in a secure environment.
- The device must be used exclusively with robotic systems that comply with DIN IST/TS 15066, DIN EN ISO 10218-1, and DIN EN ISO 10218-2 standards. For use in a collaborative environment, the entire system must comply with the current legal requirements for collaborative robots. The responsibility for compliance with these requirements lies with the system integrator. Methods to ensure this compliance include:
  - The use of redundant vacuum/compressed air generation systems.
  - The integration of battery-powered audio-visual alert devices to monitor input pressure and vacuum values.
  - The implementation of safety-focused vacuum generation and monitoring systems with an appropriate performance level.

The vacuum gripper is designed for use in collaborative robot applications.

The improper use of components, use of operating materials and supplies other than those defined, improper voltages, and/or other environmental conditions may lead to failure, damage, and/or injury.
This list must be considered as an overview and does not claim to be exhaustive. It can be further expanded by users according to their particular needs.

HAZARD AREAS

Area where there is a risk of crushing



Notes for the manufacturer of the final machinery and for the end user

- Standing or walking in the operating area of the vacuum gripper is strictly prohibited. In the event of a power or pneumatic supply failure, the load handled by the gripper will be released.
- Never look inside and/or introduce hands into cavities, holes, or openings (e.g. air exhausts, openings/holes under the suction cups, etc.).
- The vacuum gripper described in this manual is designed for implementation in industrial systems. In other words, It must not be used under any conditions other than those specified.
- Once the vacuum gripper is installed, the manufacturer of the final machinery is responsible for the final assessment of safety systems applied prior to putting the facility into operation. It is the responsibility of the manufacturer of the final machinery to specify the PPE required for operators standing in the vicinity as well as for those who have access to the operating area. Furthermore, the said manufacturer must certify final commissioning in accordance with applicable local rules and regulations.

3. INSTRUCTIONS FOR USE

3.1. Basic Installation

In order to ensure flawless installation and operation, the following rules must also be observed:

- Vacuum grippers must be carefully removed from their packaging.
- Vacuum grippers must be protected against any and all damage.
- During installation and maintenance work, the vacuum generator must be de-energized (air and power) and secured against any unauthorized activation.
- Any attempt to alter the vacuum gripper is strictly prohibited.
- The area surrounding the vacuum gripper and the location where it is used must be kept clean (no outdoor use).
- Only the fittings/connectors provided may be used.
- During installation, only flexible tubes and tubes that are suitable for the specific operating material may be used (Improper tubing and/or electrical lines are a major safety hazard- **including risk of death!**).
- Conductive and live cable lines must be insulated, of an adequate size, and properly installed.
- Pneumatic and electric lines must be connected to the component in a stable and safe manner.
- Ensure that any physical contact with electric parts is prevented (protect electrical contacts).
- Only available fastening means described in this document maybe used and tightening torques must be used accordingly.
- The possibility of power or pneumatic supply interruption must be taken into consideration to ensure people and systems are protected at all times.
- Emergency stops should be accounted for when designing the system.

3.2. Commissioning and Decommissioning

Commissioning:

- Ensure the air lines for compressed air and power supply are connected correctly using the appropriate connectors.

Decommissioning (prior to any disassembly or maintenance work):

- Ensure the gripper is not holding any objects (load may drop).

3.3. Operating the Vacuum Gripper

Intended use
The vacuum gripper is designed for use in collaborative robot applications.
Use cases depend on the gripping interfaces used → see chapter 13.

Unintended use
The vacuum gripper may not be used for the following:

- Manual applications.
- Uses other than those established by the manufacturer or specified in this manual.
- In direct contact with hazardous materials (molten masses, radioactive products), water, steam, or in environments where dripping or splashing water, oil, etc. may occur.
- In explosive, acidic, alkaline, or saline atmospheres.
- In environments subject to strong vibrations and/or shocks.

3.4. Transportation and Storage

When handling the vacuum gripper, only use equipment that is suitable for its dimensions and weight.
For proper storage of the system and its spare parts, we recommend the following:

- Do not store in outdoor areas or areas exposed to bad weather, excessive moisture, or direct sunlight
- In a reasonably clean environment, place the system in such a way that it rests on a stable support base, and ensure that the device cannot tip over.
- Store the gripper in a manner where the interface is uncompressed.

3.5. Maintenance

Maintenance must be performed in accordance with the instructions in this manual. Prior to performing any maintenance work, follow the instructions provided in section 3.2.

3.6. Disposal

When disposing of the system or any of its constituent parts that are no longer functional, follow the procedure below:
Waste electrical and electronic equipment (WEEE) must not be disposed of in urban waste collection bins but given to the appropriate recycling organization (see section RECYCLING).

- **Failure to observe the above safety instructions may lead to failure, damage, and injury—even risk of death.**
- **The components of the device that are no longer in working order must be recycled in an environmentally-friendly manner!**

4. NAMEPLATE

The nameplate is affixed to the vacuum gripper in such a way that it is legible at all times.
It includes the following information:

- Part number
- Serial number
- Weight
- CE marking

Sample nameplate

Always provide the part and serial numbers of the product when you contact COVAL.

5. IDENTIFYING YOUR MODEL

CVGC	240x120	D	VSA25JI	X	H	X	G0	R	VA		A50

DIMENSIONS L x W	
240 x 120 mm	**240x120**
320 x 160 mm	**320x160**
350 x 250 mm	**350x250**

VACUUM LEVEL DISPLAY	
Without	**V0**
Vacuum switch with electronic display	**VA**

ISO 9409-1 ROBOT MOUNTING INTERFACE	
ISO 9409-1-50-4-M6	**A50**
ISO 9409-1-63-4-M6	**A63**
ISO 9409-1-80-6-M8	**A80**

SUCTION CUP GRIPPING INTERFACES

CUP PATTERN LAYOUT			INTERFACES
Straight	**D**	**VSA25JI**	**"medium" type interface** 1.5 bellows suction cups Ø 25 mm in natural rubber with flow control nozzles.
Straight	**D**	**VSA33JK**	**"maxi" type interface** 1.5 bellows suction cups Ø 33 mm in natural rubber with flow control nozzles.

FOAM GRIPPING INTERFACES

HOLE PATTERN LAYOUT			INTERFACES
Staggered	**Q**	**F2S**	**Foam "mini" type interface** Holes Ø12 mm, EPDM (thickness 20 mm).
Straight	**D**	**F2L**	**Foam "maxi" type interface** Oblong holes 27x12 mm, EPDM (thickness 20 mm).

6. TECHNOLOGIES USED

6.1. Gripping Interface

The **CVGC** series offers an option between two gripping interface technologies for vacuum handling: foam or suction cups.

In order to optimize the performance of the **CVGC** series vacuum grippers for different applications, various spacings and diameters of the gripping points are available for each variant.
➔ A wide range of options to meet your application needs.

"FOAM" Interface

- Handling of rigid products.
- Gripping textured or uneven surfaces.
- Flow control nozzles.
- 2 standard hole diameters (Ø12 mm and oblong 27x12 mm).

CVGC__**F2S**_

CVGC__**F2L**_

"SUCTION CUP" Interface

- Handling of flexible products.
- Wide range of cup options.
- Flow control nozzles in multiple diameters.
- 2 types of standard suction cups (Ø25 and Ø33 mm).

CVGC__**VSA25JI**_

CVGC__**VSA33JK**_

Vacuum Gripping Force

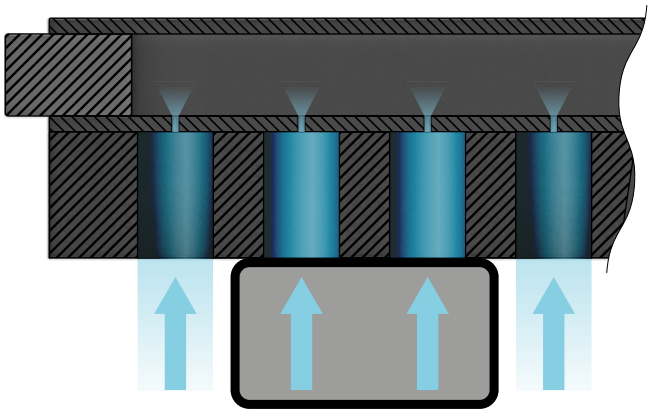
	Vacuum Level (%)	Gripping Force* (N)	(lbf)
CVGC240X120_	45	110	24.73
	75	180	40.47
CVGC320X160_	45	200	44.96
	75	330	74.19
CVGC350X250_	45	340	76.44
	75	565	127.02

** Indicative force for a gripper with gripping interface covered 100% by the load, including a safety factor of 2 for horizontal handling, on a rigid and airtight surface.*

6.2. Flow Control Technologies

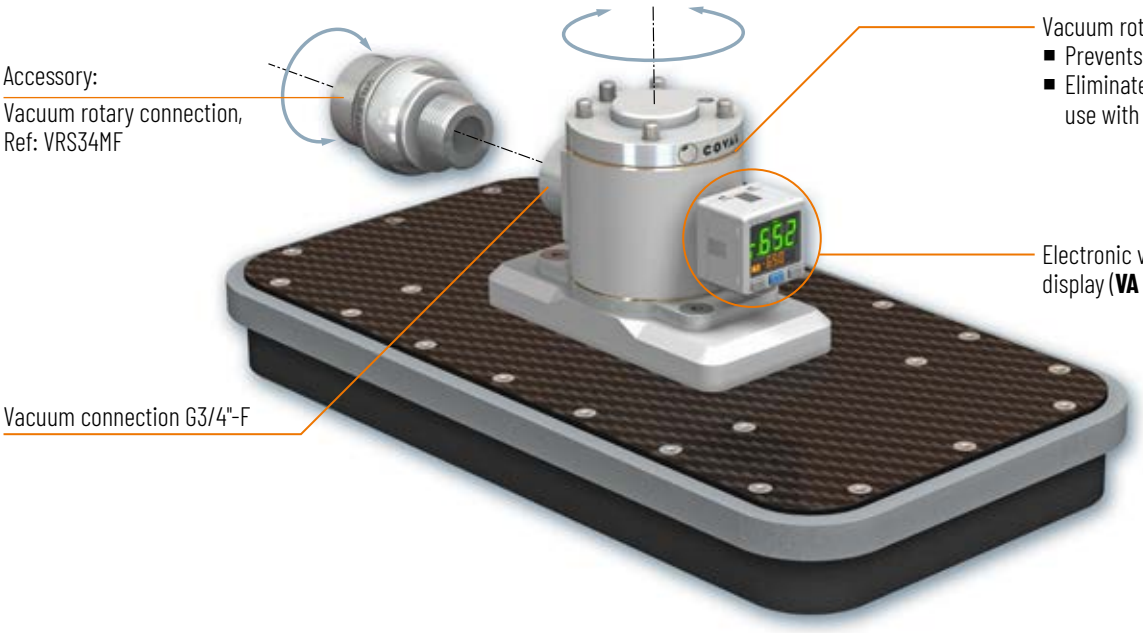
The **CVGC** carbon vacuum grippers use **flow control nozzles** to limit the leakage rate from uncovered areas. This technology yields several advantages:

- Economic solution.
- Customizable calibration.
- Horizontal and vertical handling.



7. OVERVIEW AND DIMENSIONS

7.1. Overview of Vacuum Grippers without Vacuum Generator: CVGC_GO_



Vacuum switch option (VA)

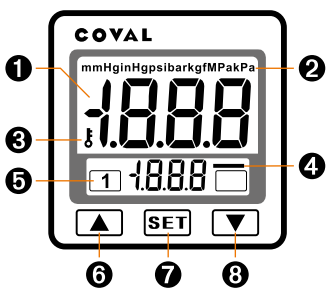
The vacuum grippers without a vacuum generator (CVGC_**GO**_ version) can be equipped with an electronic vacuum switch with display, ref. PSD100CPNP.

Main Characteristics

- Power supply voltage: 12 to 24 V DC ±10%.
- Current consumption: ≤ 40 mA (without load).
- 1 PNP digital output 24 V DC, NO or NC (125 mA max.).
- 1 analog output (1-5V).
- 3-color digital LCD display, easy readability.
- 6 pressure units available (kPa, bar, psi, inHg, mmHg, kgf/cm²).
- M8 Connector - 4-pin (cable length 150 mm)

Panel Description

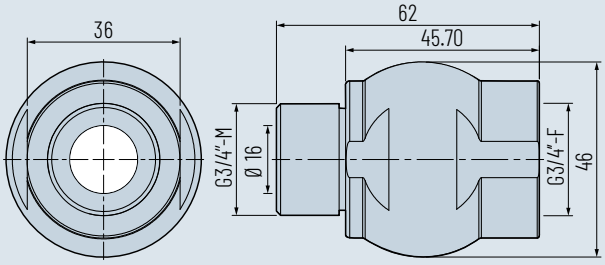
❶ 2-color main display
❷ Pressure unit display section
❸ Lock indicator
❹ Setting mode *(sub-display section)*
❺ Output 1 indicator
❻ Button ▲
❼ Setting button
❽ Button ▼



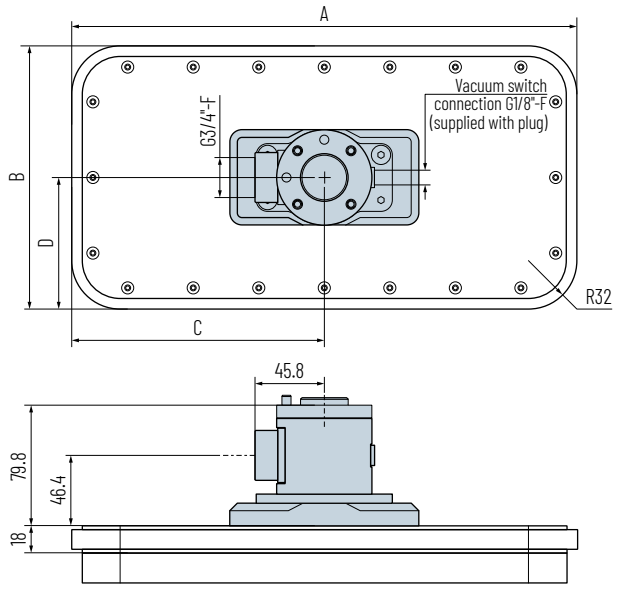
Accessory: Vacuum rotary connection, Ref: VRS34MF

The **VRS** Series Vacuum Rotary Connection, with its robust and lightweight design, provides an in line rotary connection for vacuum supplies. Its continuous rotation system avoids coiling of the hose and eliminates force constraints when used with collaborative robots.

- Flow Rate: 1500 Nl/min
- Through bore Ø: 16 mm
- Maximum speed: 40 tr/min
- Connection: G3/4"-M/F
- Weight: 135g
- Materials: Aluminum - NBR Nitrile - Steel
- Temperature range: from -10°C to +50°C (14°F to 122°F)



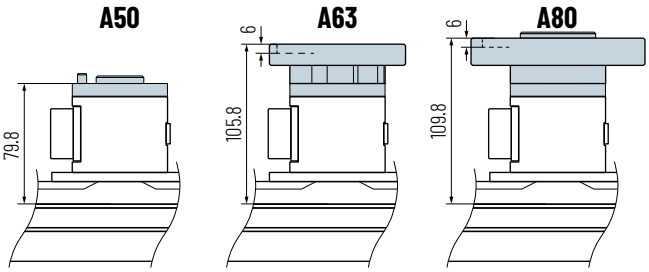
7.2. Dimensions



	A	B	C	D
CVGC240X120_	254	134	127	67
CVGC320X160_	334	174	167	87
CVGC350X250_	364	264	182	132

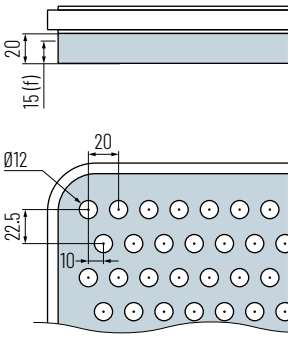
Note: all dimensions are in mm.

ISO 9409-1 Robot Mounting Interface

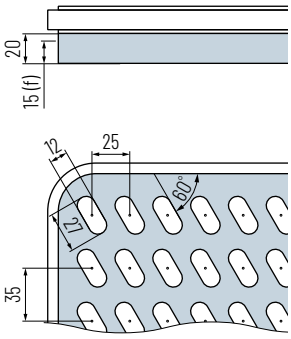


Gripping Interfaces

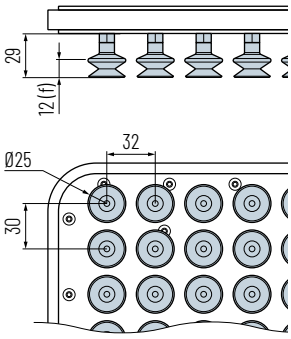
CVGC_X_**QF2S**____



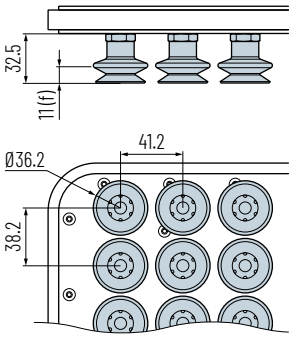
CVGC_X_**DF2L**____



CVGC_X_**DVSA25JI**____



CVGC_X_**DVSA33JK**____

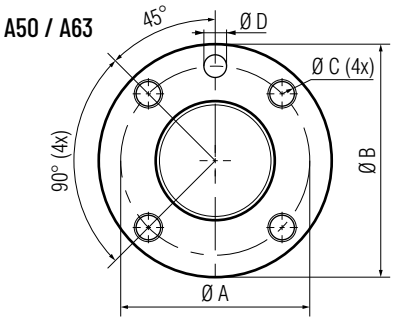


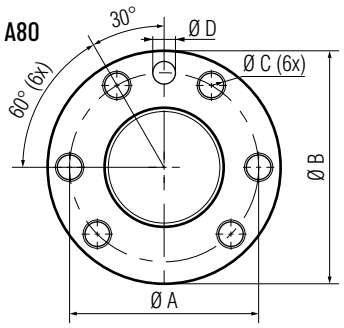
Number of holes/suction cups per interface type.

	F2S "mini" type interface	F2L "maxi" type interface	VSA25 "medium" type interface	VSA33 "maxi" type interface
CVGC240X120_	42	27	21	15
CVGC320X160_	87	48	45	28
CVGC350X250_	160	78	77	54

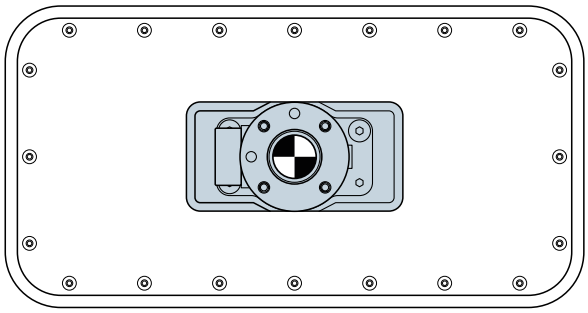
7.3. ISO 9409-1 Robot Mounting Interface

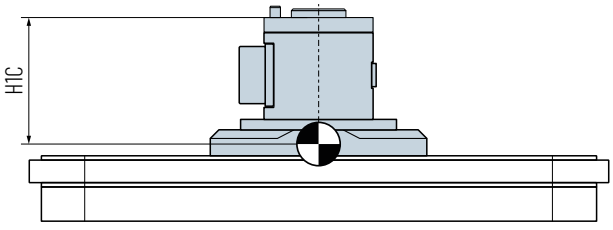
Version	Standard	Ø A (mm)	Ø B (mm)	Ø C (mm)	Ø D (mm)	
A50	ISO 9409-1-50-4-M6	50	63	M6 (x4)	6	UR: UR3(e), UR5(e), UR10(e), UR16(e) OMRON/TECHMAN: TM5, TM12, TM14, TM16, TM20 DOOSAN: A0509, A0509S, A0912, A0912S, M0609, M0617, M1013, M1509, H2017, H2515 FANUC: CRX-5iA, CRX-10iA, CRX-10iA/L, CRX-20iA/L, CRX-25iA, CRX-30iA YASKAWA: HC10DTP, HC20DTP, HC30PL KASSOW ROBOTS: KR0810, KR1018, KR1205, KR1410, KR1805 JAKA: Zu 3, 3s, 5, 5s, 7, 7s, 12, 12s, 18, 18s, Ai 3, 5, 7, 12, 18, Pro 5, 12, 16
A63	ISO 9409-1-63-4-M6	63	80	M6 (x4)	6	YASKAWA: HC10, HC10DT
A80	ISO 9409-1-80-6-M8	80	100	M8 (x6)	8	YASKAWA: HC20DT UR: UR20, UR30





7.4. Centers of Gravity





H1C Value

CVGC**240**X**120**___

Mounting Interface	Gripping Interfaces F2L	F2S	VSA25	VSA33
CVGC_____GO__**A50**	60.60	60.95	65.30	69.29
CVGC_____GO__**A63**	71.30	71.67	76.12	80.27
CVGC_____GO__**A80**	71.74	72.12	76.59	80.78

CVGC**320**X**160**___

Mounting Interface	Gripping Interfaces F2L	F2S	VSA25	VSA33
CVGC_____GO__**A50**	67.11	67.43	74.19	77.82
CVGC_____GO__**A63**	78.9	79.25	86.4	90.27
CVGC_____GO__**A80**	79.69	80.05	87.33	91.29

CVGC**350**X**250**___

Mounting Interface	Gripping Interfaces F2L	F2S	VSA25	VSA33
CVGC_____GO__**A50**	73.21	73.44	80.88	85.94
CVGC_____GO__**A63**	86.39	86.65	94.65	100.17
CVGC_____GO__**A80**	87.67	87.93	96.14	101.82

Note: all dimensions are in mm.

8. CHARACTERISTICS

General Characteristics

- Operating temperature: from 0°C to 50°C (32°F to 122°F)
- Materials:
  - Gripper: carbon, brass, stainless steel, high-density EPDM foam
  - Foam gripping interface: EPDM
  - Suction cup gripping interface: NR, aluminum, steel

Characteristics of grippers without vacuum generator, CVGC_GO_

- VRU34_ Rotary Union:
  - Flow Rate: 1500 Nl/min
  - Endless Rotation
  - Vacuum Connection: G3/4"-F
  - Vacuum switch connection: G1/8"-F (supplied with plug)
- Materials: Steel, aluminum, POM, brass, nitrile NBR

Option VA - electronic vacuum switch with 3-color display (PSD100CPNP): CVGC_____VA_

- Pressure rating range: 0 ~ -101.3 kPa
- Pressure setting range: 10 ~ -101.3 kPa
- Max. pressure: 300 kPa
- Fluid: Air, non-corrosive/non-flammable gas
- Hysteresis: adjustable
- Response time: ≤ 2.5ms, with anti-vibration function
- 7 segment LCD display: 2 color (red/green) main display, orange sub-display (refresh rate: 5 times/1 sec)
- Choice of pressure unit display: kPa, MPa, kgf/cm^2, bar, psi, inHg, mmHg
- Power supply voltage: 12 to 24 V DC ±10%
- Current consumption: ≤ 40 mA (without load)
- Repeatability (switch ouptut): ≤ ±0.2% F.S. ±1 digit
- Electrical connection: M8 - 4-pin (cable length 150 mm)
- Protection: IP40
- Ambient temperature range (operation): from 0°C to 50°C (32°F to 122°F)
- Material (enclosure): PA 6.6 20%GF

➔ See manual Vacuostat PSD100CPNP (Option VA): https://doc.coval.com/PSD

Values are representative of the average characteristics of our products.

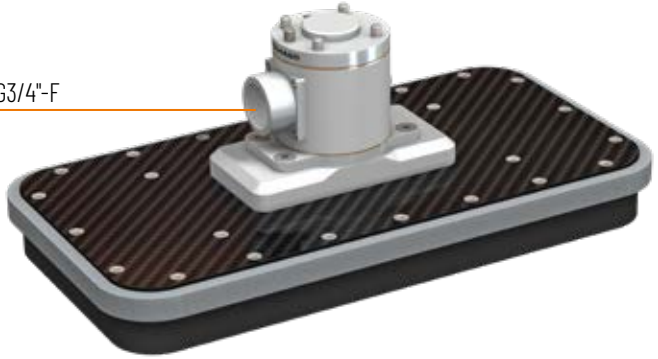
9. INSTALLING THE VACUUM GRIPPER

COMPRESSED AIR OR VACUUM NETWORKS:

- Wear safety goggles
- Make sure all fittings and tubes are tightened securely
- Air line ends must be fastened to avoid any risk of being pulled off in the event of accidental breakage

9.1. Vacuum Supply

Connect the vacuum supply hose to the G3/4"-F connection on the vacuum rotary union

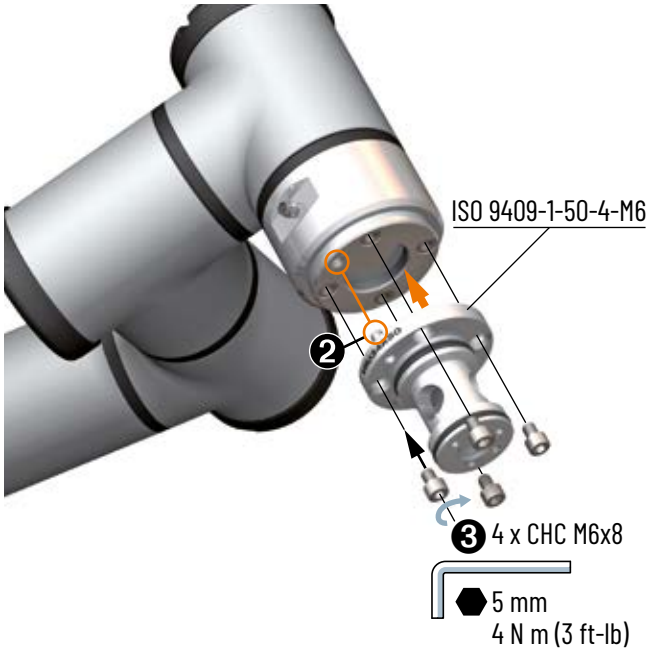


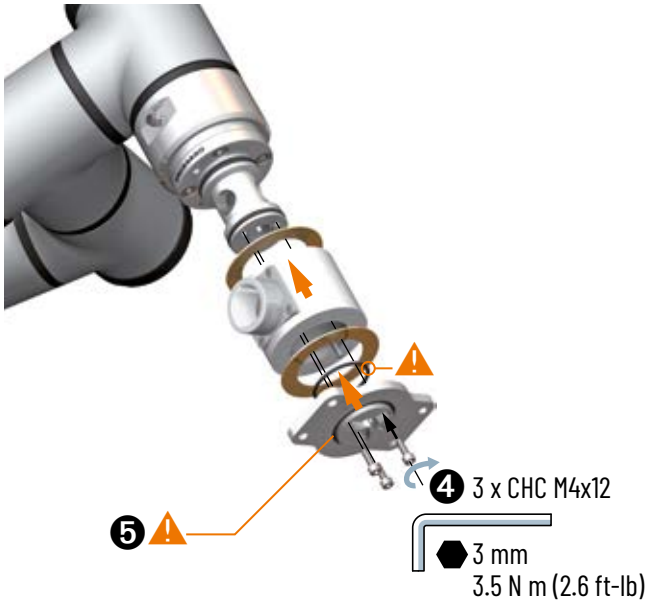
10. ASSEMBLY INSTRUCTIONS

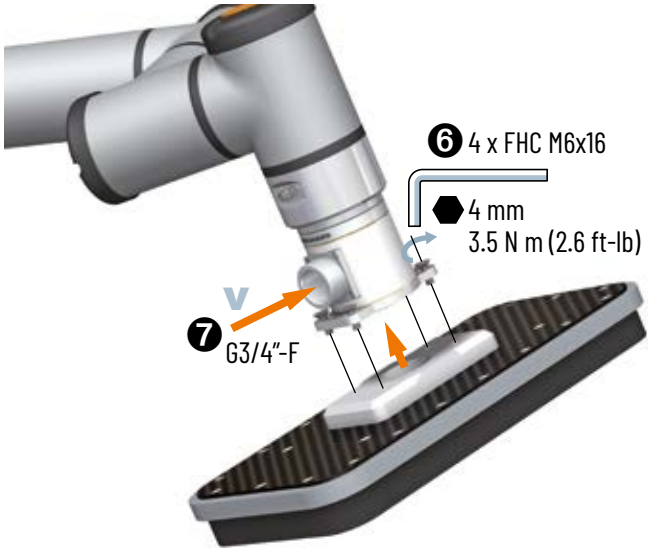
10.1. Assembly Instructions for CVGC_G0_A50

NOTE:

- Ø 6 mm indexing pin (❷) supplied for A50 version.

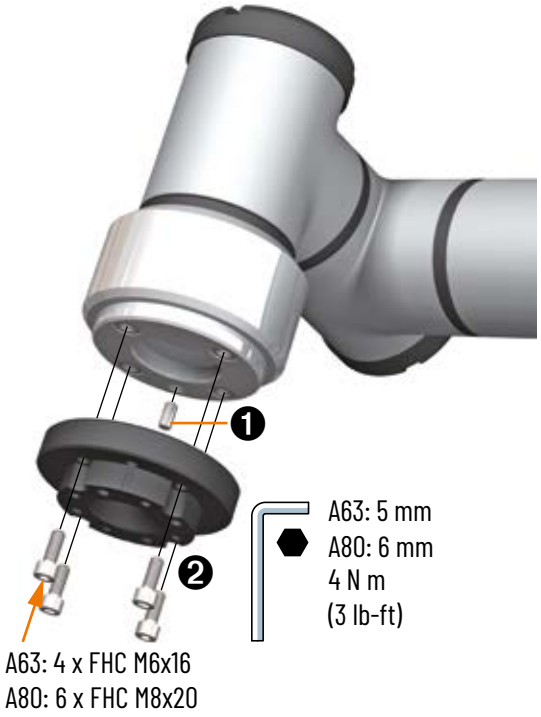


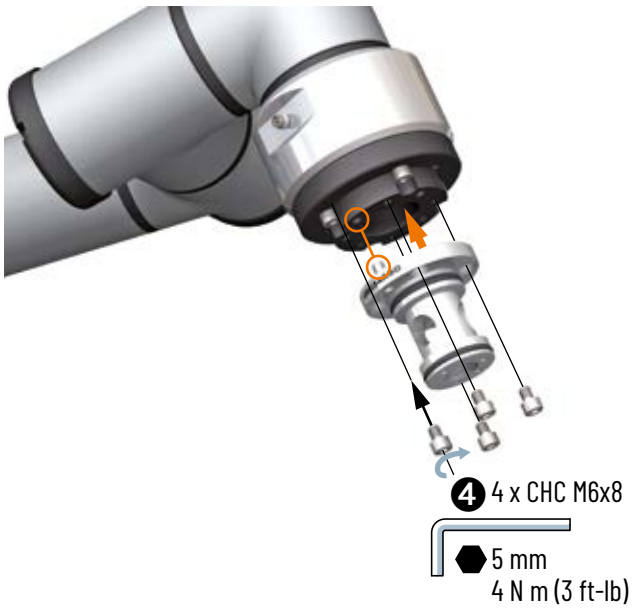


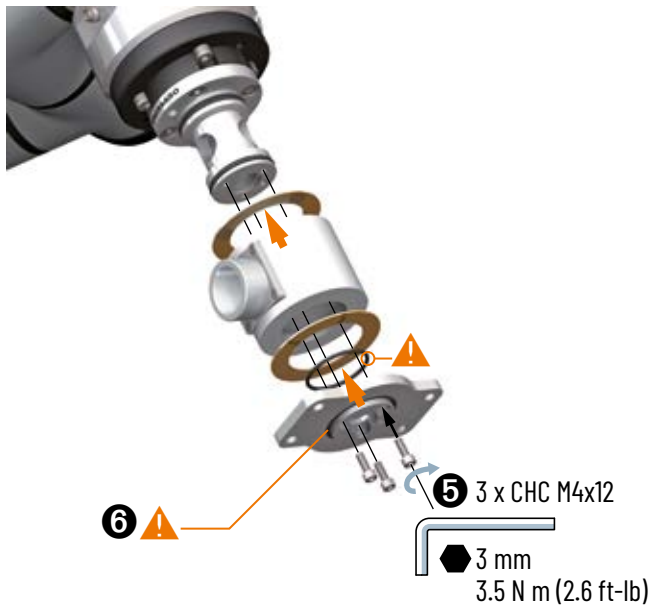


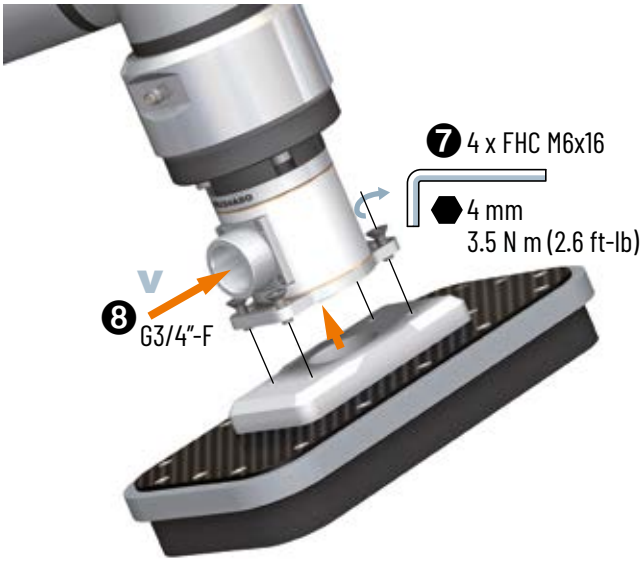
10.2. Assembly instructions for CVGC_GO_A63 and CVGC_GO_A80

NOTE:
- Ø 6 mm indexing pin (❶) supplied for A63 version.
- Ø 8 mm indexing pin (❶) supplied for A80 version.









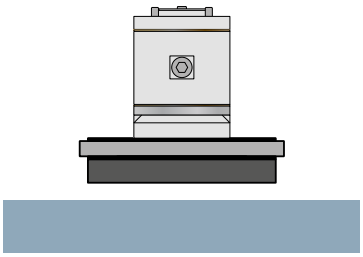
11. OPERATING THE VACUUM GRIPPER

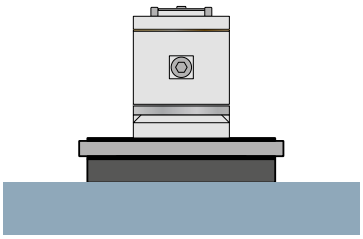
11.1. Version with Foam Gripping Interface (F2S and F2L)

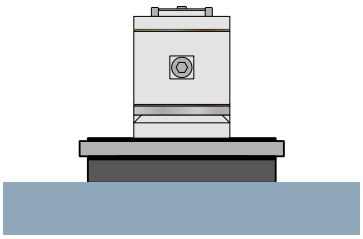
Recommendation:

- Operating temperature: from -40 to 120 °C (from -40 to 248 °F)
- Avoid protruding shapes
- Pay attention to the angle of approach and stroke of robot
- Cover 50% of the surface of the foam gripping interface
- Gripper position:
  - Always place the gripper in the center of the load to be handled
  - CVGC vacuum grippers are designed to handle loads in a horizontal position
- We advise against using the CVGC for vertical gripping as the foam could deteriorate quickly:
  - In rare cases of vertical use, tests should be performed prior to commercial use
  - COVAL will not be held liable for any premature foam degradation

A working cycle of a CVGC vacuum gripper includes the following steps:

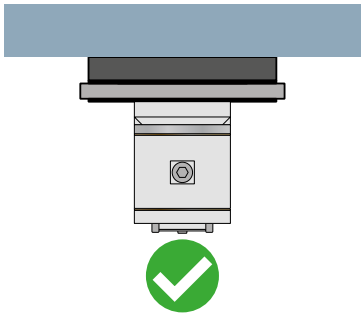


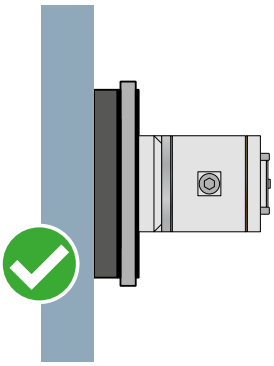


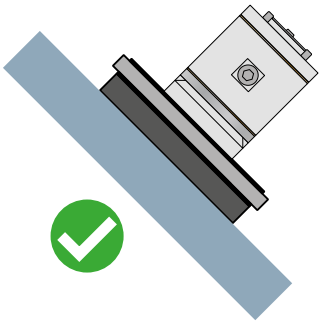


1. Place the vacuum gripper above the object to be handled with the foam grip interface parallel to the object's surface.
2. Bring the vacuum gripper into contact with the object and slightly compress the foam.
3. Activate the vacuum.
4. Handle the object.
5. Deposit the object by stopping the vacuum and blowing it off, if necessary.

Note: In this case, the vacuum can be activated either before or after contact with the object.







- Standing or walking in the working area of the empty gripper is strictly prohibited. In the event of a power or pneumatic supply failure, the load handled by the gripper will be released.
- With the flow control nozzle, the vacuum level measured by the vacuum switch in the gripper is the actual vacuum present at the object's surface. In this case, the vacuum switch can be used to check the grip on the object.
- Caution: Please note that the vacuum level is influenced by the degree of coverage of the vacuum gripper on the object, as well as the porosity of the object handled.

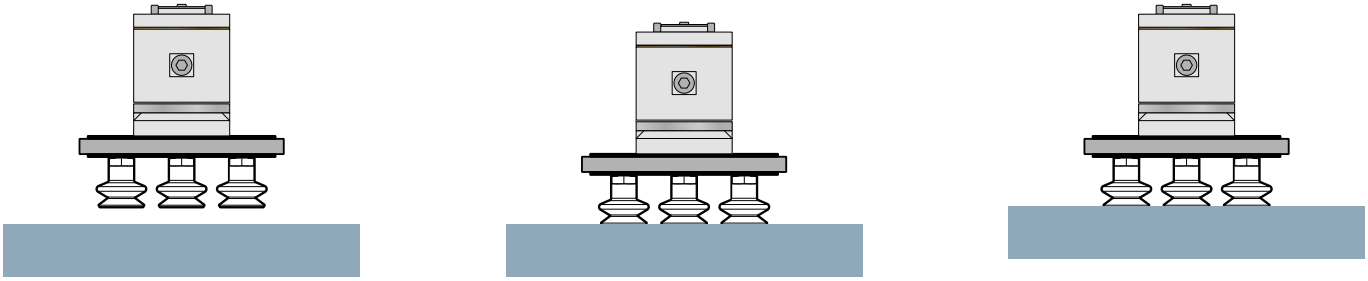
Note: Handling with the vacuum gripper in an upright position may subject the gripping foam to shearing stress. Depending on the load's weight and/or center of gravity, the foam may deteriorate quickly. We recommend always performing preliminary tests on actual samples of the objects to be handled.

Contact the COVAL team to perform validation tests if necessary.

11.2. Version with Suction Cup Gripping Interface (VSA25JI, VSA33JK)

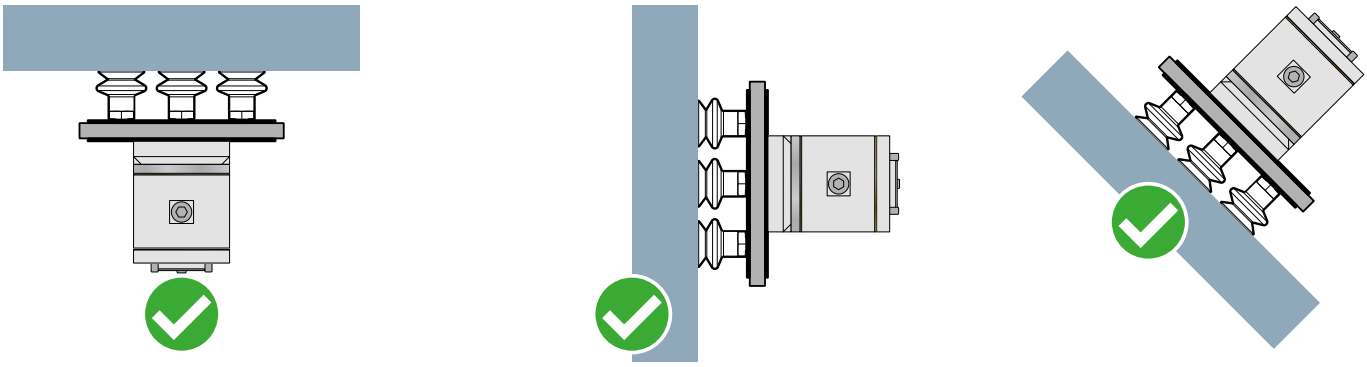
- Operating temperature: Dependent on the material of the suction cups used.
- Food compatibility: Dependent on the material of the suction cups used.
- Avoid protruding shapes.
- Pay attention to the approach angle and stroke of the robot.

A working cycle of a CVGC vacuum gripper includes the following steps:



1. Place the vacuum gripper above the object to be handled with the suction cups gripping interface parallel to the object's surface.
2. Bring the vacuum gripper into contact with the object.
3. Activate the vacuum.
4. Handle the object.
5. Deposit the object by stopping the vacuum and blowing it off, if necessary.

Note: In this case, the vacuum can be activated either before or after contact with the object.



- Standing or walking in the working area of the empty gripper is strictly prohibited. In the event of a power or pneumatic supply failure, the load handled by the gripper will be released.
- With the flow control nozzle, the vacuum level measured by the vacuum switch in the gripper is the actual vacuum present at the object's surface. In this case, the vacuum switch can be used to check the grip on the object.
- Caution: Please note that the vacuum level is influenced by the degree of coverage of the vacuum gripper on the object, as well as the porosity of the object handled.

Note: We recommend always performing preliminary tests on actual samples of the objects to be handled.

Contact the COVAL team to perform validation tests if necessary.

12. MAINTENANCE

12.1. Frequency

Determination of the maintenance frequency according to the rates, environment, and type of load:

➔ ***To be defined by the user according to gripping efficiency and visible wear of gripping interface.***

Maintenance plan

	Daily	Weekly	Monthly	Every 6 months	Every year
Check the maximum vacuum level		✕			
Check the tighteness of parts				✕	
Check the suction cups/foams	✕				
Check the electrical connections			✕		
Check the vacuum supply		✕			
Check the general condition					✕
Clean the outside of the gripper				✕	

Troubleshooting

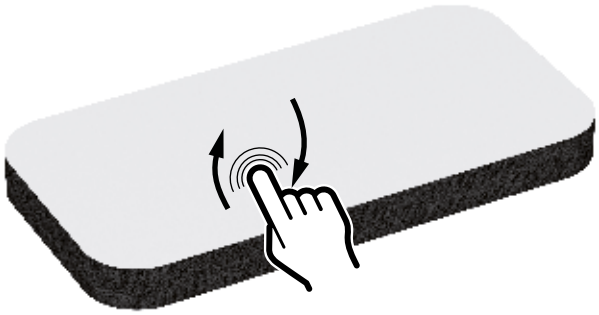
Failure	Possible cause	Remedy
Vacuum level too low or vacuum not reached fast enough	Gasket damaged	Check and replace as required
	Leakage in lines	Check tubes
	The foam or suction cups may be damaged	Replace any damaged suction cup or foam
Object not gripped	Low vacuum level	See above
	Insufficient suction flow rate	Increase the vacuum generator's suction flow rate
	Lifting speed is too fast	Reduce lifting speed, avoid acceleration peaks
	Suction cup inserts are clogged	Clean inserts
	Objects are not suitable for lifting with this system	Replace the gripping solution
Suction cups wear out very quickly	The vacuum gripper is not correctly placed on the object to be handled	The vacuum gripper must be parallel with the surface of the object
The vacuum level is not correct. The vacuum build-up is too slow.	A filter is clogged in the facility or network.	Clean or replace the filter screen of the vacuum connection.
	Suction cup leakage	Check the suction cup.
	Inner diameter of tubes too small	See recommendations for air line diameters.
Cannot hold the payload in place.	Suction cup too small or insufficient number of suction cups	Choose a larger suction cup and/or increase the number of suction cups.

12.2. Replacing the Gripping Foam

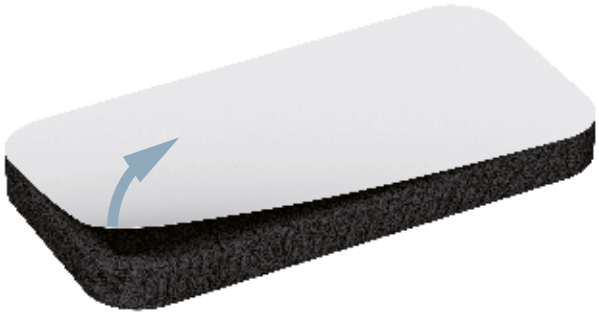
1. Manually remove the used foam interface.

2. Clean the plate with a chemical degreaser (e.g. acetone) to remove unwanted compounds (adhesive residue, grease, etc.).

3. On the replacement foam, rub the protective film on the adhesive side for a few seconds to activate the cells and promote bonding.



4. Remove the protective film.



5. Adhere foam to plate by aligning the holes.

6. Turn the gripper over and place it on a flat, smooth and clean surface. Press lightly on the gripper for 30 seconds so that the foam is uniformly adhered to the plate.

12.3. Replacing Suction Cups

The suction cups are mounted on barbed fittings. Simply pull the suction cup to remove it.

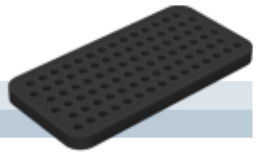
Tip for mounting the suction cups:

Soak the suction cup neck in lukewarm water to facilitate the mounting on the fitting.

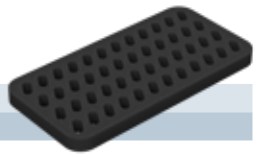
13. SPARE PARTS

13.1. Foam Gripping Interface

13.1.1. Spare foam bases



Foam bases for CVGC "**mini**" type foam (CVGC__**Q**F2**S** _)		
Part number	*For model*	*Description*
80009114	**CVGC240X120QF2SX**	Foam mini type, holes ø12 mm, thk 20 mm for CVGC 240x120 mm
80009116	**CVGC320X160QF2SX**	Foam mini type, holes ø12 mm, thk 20 mm for CVGC 320x160 mm
80009120	**CVGC350X250QF2SX**	Foam mini type, holes ø12 mm, thk 20 mm for CVGC 350x250 mm



Foam bases for CVGC "**maxi**" type foam (CVGC__**D**F2**L** _)		
Part number	*For model*	*Description*
80005297	**CVGC240X120DF2LX**	Foam maxi type, oblong holes 27x12 mm, thk 20 mm for CVGC 240x120 mm
80005298	**CVGC320X160DF2LX**	Foam maxi type, oblong holes 27x12 mm, thk 20 mm for CVGC 320x160 mm
80009119	**CVGC350X250DF2LX**	Foam maxi type, oblong holes 27x12 mm, thk 20 mm for CVGC 350x250 mm

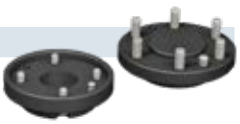
13.2. Suction Cup Gripping Interfaces

13.2.1. Spare suction cups

Part number	*Ø (mm)*	*Material*	*Description*
VSA25NR	Ø 25	Natural rubber	Natural rubber, 1.5 bellows suction cup Ø25 mm
VSA33NR	Ø 33	Natural rubber	Natural rubber, 1.5 bellows suction cup Ø33 mm

13.3. Mounting Interface

Part number	*Description*
80009125*	A63-ISO 9409-1-63-4-M6 mounting interface kit for CVGC-A50, 4 screws and 1 indexing pin
80009144*	A80-ISO 9409-1-80-6-M8 mounting interface kit for CVGC-A50, 6 screws and 1 indexing pin



** A63 or A80 section only (excluding A50)*

14. WARRANTY

We provide a warranty for this product and for any COVAL spare parts in accordance with our general terms of sale (GTS).
The exclusive use of COVAL spare parts is a condition required to ensure the product's flawless operation and we will not be held liable for any damage resulting from the use of spare parts or accessories that are not made by COVAL.
Wearing parts are excluded from the warranty.

15. RECYCLING

Waste from electrical and electronic equipment (WEEE) is a category of waste consisting of equipment at the end of its life cycle that uses electricity or electromagnetic fields to operate and designed to be used at a voltage that does not exceed 1000 volts for alternating current and 1500 volts for direct current.
CVGC vacuum grippers with solenoid pilots and vacuum switch are products that fall under this category of waste.

Waste from electrical and electronic equipment (WEEE) requires separately collection and recycling according to the European directive 2012/19/EU and to French legislation: decree no. 2014-928 from 19 August 2014.

COVAL is a member of ECOSYSTEM for the collection, decontamination and recycling of professional WEEE.
If you own any COVAL WEEE products, contact ECOSYSTEM who will collect and treat the products (Collection only applies to France):
https://www.ecosystem.eco/

16. EC DECLARATION

COVAL, the manufacturer, confirms that the product "CVGC Series vacuum grippers" described in this manual meets the following applicable EC directives:

- **2006/42/EC**, Machinery Directive, 17/05/2006.
- **2011/65/EC**, Restriction of the use of hazardous substances in electrical and electronic equipment (ROHS 2), 08/06/2011.
- **2014/30/EC**, Electromagnetic Compatibility (EMC)

The following harmonized standards have been applied:

- **NF EN 12100:2010**, Safety of machinery - General principles for design - Risk assessment and risk reduction, 12/2010.
- **NF EN 60204-1:2018**, Safety of machinery - Electrical equipment of machines - Part 1: General requirements.

17. CERTIFICATES / TESTS

EMC	CEI 61000-6-2 (2019) Electromagnetic compatibility (EMC). Generic standards. Immunity standard for industrial environments	NF EN 61000-4-2 (2009) Electrostatic discharges (ESD)
		NF EN 61000-4-3 (2020) Radiofrequency electromagnetic field amplitude modulated
		NF EN 61000-4-4 (2013) Fast transients (Burst)
		NF EN 61000-4-6 (2014) Radio-frequency common mode
		NF EN61000-4-8 (2010) Magnetic fields
	CEI 61000-6-4 (2019) Electromagnetic compatibility (EMC). Generic standards. Emission standard for industrial environments	NF EN 55032 (2020) Conducted Emissions.
		NF EN 55011 (2021) Radiated Emissions
	FCC 47 CFR part 15 B Emission standard for industrial environments	limits identical to the NF EN 55032 class B limits (2020) Conducted Emissions.
		FCC part 15B Radiated Emissions
Degrees of protection	NF EN 60529 (2014)	IP 40
	NF EN 62262 (2004) NF EN 60068-2-75 (2015)	IK 06
Temperature variations	IEC 60068-2-14 (2023)	0°C +50°C
Humidity	IEC 60068-2-30 (2006)	10% - 95%
Vibrations	NF EN 60068-2-6 (2008)	5 *g*
Shocks	NF EN 60068-2-6 (2008)	15 *g*

COVAL
vacuum managers

vacuum
components

A TECHNOLOGICAL PARTNER ON A GLOBAL SCALE

Located in the South of France, COVAL SAS designs, produces, and markets high-performance vacuum components and systems for industrial applications in all sectors worldwide.

An ISO 9001: V2015 certified company, COVAL innovates globally in vacuum handling. Our optimized components integrate intelligent and reliable functionalities, adapt to your industrial context, and safely improve your productivity.

With a strong spirit of innovation and technological advancements, the COVAL team is now recognized as an expert in developing reliable, economical, and productive custom solutions.

COVAL's references are found in major industrial sectors such as packaging, food processing, automotive, plastics, aerospace, and robotics, where vacuum handling is crucial for efficiency and productivity.

COVAL markets its products and services worldwide through its subsidiaries and authorized distributor network. Always attentive to its customers, COVAL supports the implementation of its solutions with a continuous and attentive relationship.

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