



# COVAL

vacuum managers

## C SERIES

high performance vacuum cups



# The COVAL C series high performance vacuum cups



The **COVAL C Series** high performance vacuum cups range has been designed to meet the automotive industry requirements. Improved specifications of C Series range enable customers to optimize production equipment in all branches.

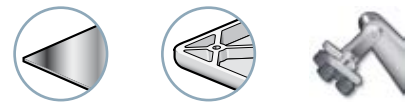
**COVAL is an ISO 9001: V2000 certified company** which offers innovative solutions integrating reliable and optimized components with intelligent functionalities. The focus is to provide the most personalized and economic solution to a given application while assuring a significant improvement in the productivity and the safety of the vacuum users around the world.



## Main advantages

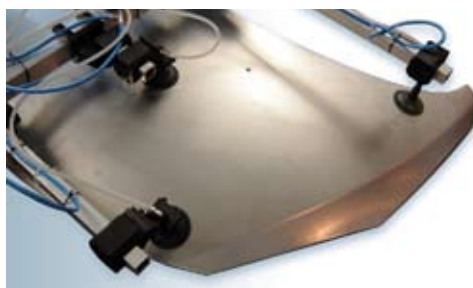
- High resistance to sliding and accelerations
- A complete range of shapes and diameters for an optimum matching to each application
- Anti-sliding blockers to guarantee a more secured position on oily sheet metal
- Specially adapted for Robot to Robot applications
- Thin-wall part handling with no deformation due to integrated central blockers
- Reduced weight for end of arm tooling due to integrated plastic mounting insert
- Sealing edges
- Mounting sealing guaranteed by :
  - sealing o-ring on cylindrical vacuum cups M 3/8G and 32 square
  - integrated sealing on oval vacuum cups M 3/8G
- Visual wear indicator
- Dual tightening: 2 wrenches at 22 mm and 1 hex key of 6 mm or 8 mm

## Application fields

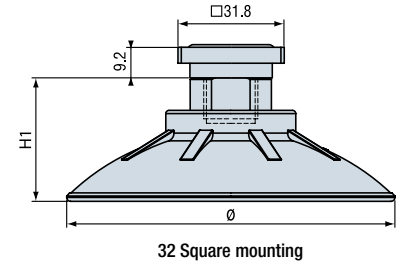
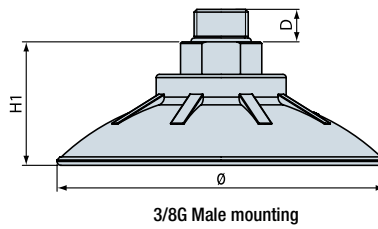
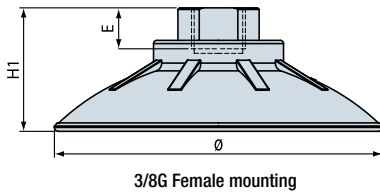
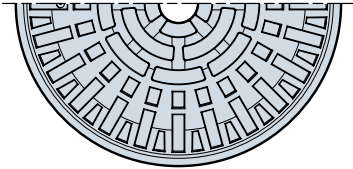
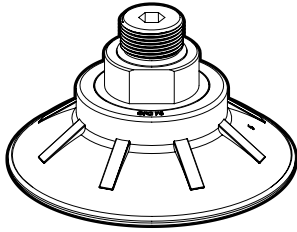


The COVAL C series vacuum cups are specially intended for high cycle time applications on robots thanks to their high resistance to sliding and accelerations as well as their reduced weight.

The C series vacuum cups are dedicated to sheet metal handling, glass handling and plastics handling in the branches such as Stamping, BIW, Glass and Assembly.



## Flat cup CFC

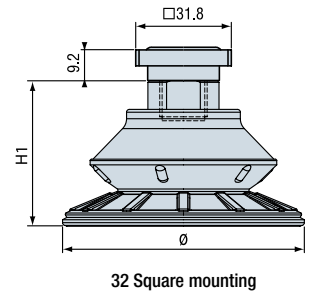
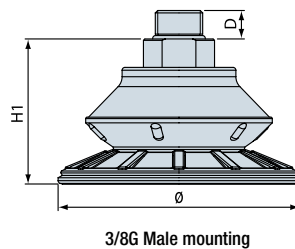
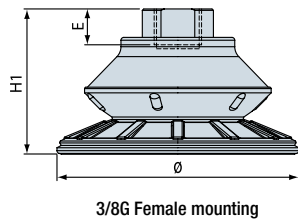
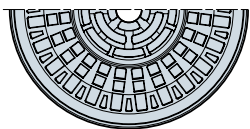
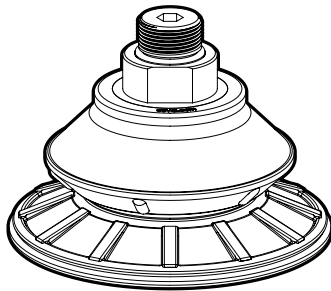


	Ø rest (mm)	Ø gripping (mm)	Volume (cm <sup>3</sup> )	Force (N) <sup>(1)</sup>	Force (N) <sup>(1)</sup>	R <sub>min</sub> (mm)	R <sub>min</sub> (mm)	Ø air flow (mm)	tool (mm)
CFC 35	37	38.5	2.46	50	50	58	50	6.3	wrench 22 + hex 6
CFC 50	51	54	8.37	100	100	66	52	6.3	wrench 22 + hex 6
CFC 75	76	80	25.03	200	170	100	58	6.3	wrench 22 + hex 6
CFC 100	101	105.7	57.61	350	270	120	90	6.3	wrench 22 + hex 6
CFC 125	127	132	119.7	550	480	160	115	6.3	wrench 22 + hex 8

	H1 (mm)	D (mm)	E (mm)	f <sup>(2)</sup> (mm)	Weight (g)		
CFC 35	25	10	12.6	3	14	18	36.2
CFC 50	30	10	12.6	5.5	25	29	47.2
CFC 75	33	10	12.6	8	40	45	62.2
CFC 100	38	10	12.6	10	67	72	89.2
CFC 125	44	10	12.6	14	119	124	141.2

(1) Force measured with a 65% vacuum on dry, smooth and flat metal sheet without safety factor.  
 (2) f: vacuum cup deflection

## 1.5 bellows cup CBC



	Ø rest (mm)	Ø gripping (mm)	Volume (cm <sup>3</sup> )	Force (N) <sup>(1)</sup>	Force (N) <sup>(1)</sup>	R <sub>min</sub> (mm)	R <sub>min</sub> (mm)	Ø air flow (mm)	tool (mm)
CBC 30 <sup>(3)</sup>	32	34	5	40	40	30	32	6.3	wrench 22 + hex 6
CBC 45	47	48.7	11.47	70	90	36	45	6.3	wrench 22 + hex 6
CBC 60	62	64.5	25.31	140	130	44	62	6.3	wrench 22 + hex 6
CBC 85	85	88	66.54	230	240	65	115	6.3	wrench 22 + hex 6
CBC 115	115	119	141.47	420	390	84	140	6.3	wrench 22 + hex 8

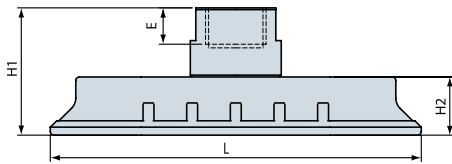
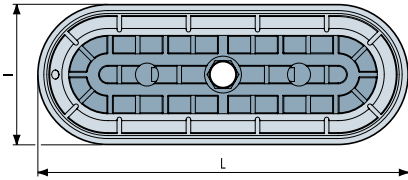
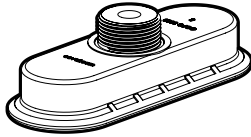
	H1 (mm)	D (mm)	E (mm)	f <sup>(2)</sup> (mm)	Weight (g)		
CBC 30 <sup>(3)</sup>	31	10	12.6	8	14	19	36.2
CBC 45	36	10	12.6	11	22	26	44.2
CBC 60	41	10	12.6	14	32	37	54.2
CBC 85	51	10	12.6	22	64	69	86.2
CBC 115	53	10	12.6	24	103	107	125.2

(1) Force measured with a 65% vacuum on dry, smooth and flat metal sheet without safety factor.  
 (2) f: suction cup deflection  
 (3) Specific model available with M3/8 mounting and air-flow Ø 9,5mm: **CBC30 M38G SP624**

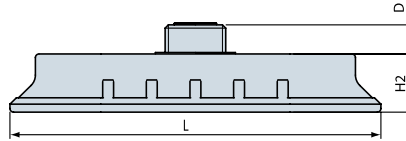


On our web site [www.coval.com](http://www.coval.com), you will find the 3D drawings of all our products in suitable formats to the main CAD software.

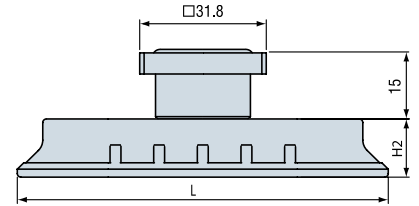
## Oval flat cup COFC



3/8G Female mounting



3/8G Male mounting



32 Square mounting

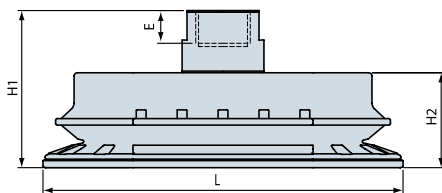
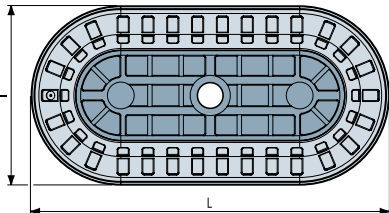
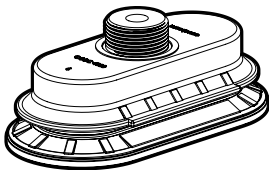
	Dim. rest (l x L mm)	Dim. gripping (l x L mm)	Volume (cm <sup>3</sup> )	(N) <sup>(1)</sup>	(N) <sup>(1)</sup>	R <sub>min</sub> (mm)	R <sub>min</sub> (mm)	Ø air flow (mm)	tool (mm)
COFC 2565	25x65	26.8x67	9.98	70	70	25	25	6	hex 6
COFC 3080	30x80	31.5x82	19.44	110	90	40	32	6	hex 6
COFC 4080	40x80	42x82	49.25	140	120	60	40	6	hex 6
COFC 50100	50x100	52.5x102.5	93.57	230	240	70	50	6	hex 6

	H1 (mm)	H2 (mm)	D (mm)	E (mm)	f <sup>(2)</sup> (mm)	Mounting (g)		
						F 3/8G	M 3/8G	C32
COFC 2565	31.5	12.5	8	10	3	24	17	35
COFC 3080	32	13	8	10	3	29	22	40
COFC 4080	34	15	8	10	4.5	30	23	41
COFC 50100	35	16	8	10	6	43	36	54

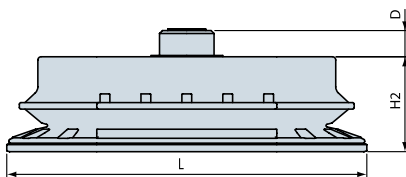
(1) Force measured with a 65% vacuum on dry, smooth and flat metal sheet without safety factor.

(2) f: vacuum cup deflection

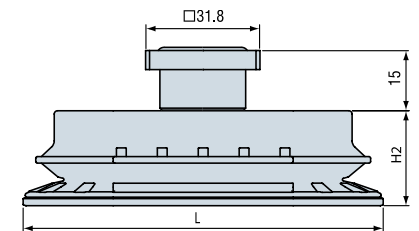
## 1.5 bellows oval cup COBC



3/8G Female mounting



3/8G Male mounting



32 Square mounting

	Dim. rest (l x L mm)	Dim. gripping (l x L mm)	Volume (cm <sup>3</sup> )	(N) <sup>(1)</sup>	(N) <sup>(1)</sup>	R <sub>min</sub> (mm)	R <sub>min</sub> (mm)	Ø air flow (mm)	tool (mm)
COBC 3065	31x65	32.3x67	3.78	60	60	25	30	6	hex 6
COBC 4080	40x80	41.5x82	6.08	110	120	38	37	6	hex 6
COBC 55110	55x110	57x112.5	11.03	170	190	58	57	6	hex 6
COBC 70140	70x140	72x143	22.25	300	300	72	68	6	hex 6

	H1 (mm)	H2 (mm)	D (mm)	E (mm)	f <sup>(2)</sup> (mm)	Mounting (g)		
						F 3/8G	M 3/8G	C32
COBC 3065	39	20	8	10	7	31	25	43
COBC 4080	41	22	8	10	9	37	31	49
COBC 55110	48	29	8	10	13	68	62	80
COBC 70140	49	30	8	10	16	103	97	115

(1) Force measured with a 65% vacuum on dry, smooth and flat metal sheet without safety factor.

(2) f: vacuum cup deflection

## To order

TYPE	DIMENSIONS	MOUNTING
<b>CBC</b>	<b>85</b>	<b>M38G</b>

CFC
CBC
COFC
COBC

Refer to the code in characteristic charts

M38G	3/8G Male mounting
F38G	3/8G Female mounting
C32	32 Square mounting

## EXAMPLE OF A STANDARD VACUUM CUP :

**CBC 85 M38G**

(C series vacuum cup 1.5 bellows, Ø 85mm, 3/8G Male mounting)



# Materials

The COVAL C series vacuum cups are made out of elastomer and plastic reinforced with glass fiber.

These materials guarantee the COVAL C series vacuum cups long life, high resistance to oils and heat resistance up to 100°C.

This allows avoiding all risks of damages on dies and improving vacuum cups recycling process.

- Vacuum cups: NBR nitrile 55 shores (high resistance to oils).
- Mounting insert: polyamide PA 6.6 ensuring a reduced weight (3/8G Male or Female mounting).
- Sealing o-ring: NBR blue nitrile.
- Square mounting: aluminium

# Range

The COVAL C Series high performance vacuum cups are available in a complete range of shapes, dimensions and couplings in order to meet all your needs in the most appropriate way.

## SHAPES

**CFC**  
flat cup



**CBC**  
1.5 bellows cup



**COFC**  
oval flat cup



**COBC**  
1.5 bellows oval cup



## COUPLINGS

**M38G**  
3/8G male coupling



**F38G**  
3/8G female coupling



**C32**  
32mm square coupling



### **CBC 30 M38G SP624**

In order to meet the specific needs of lifting devices users in Stamping facilities, COVAL has designed a suction cup Ø30 mm, with air-flow Ø 9.5mm allowing the suppression of pressure drops in the vacuum network on the lifting device supply port.



We can recognize this special version thanks to its black sealing o-ring.

# Advanced Vacuum Solutions

COVAL, as a vacuum manager, guarantees optimum performances by offering a complete range of innovative components integrating reliable and optimized solutions to a given application with intelligent functionalities

ensuring the tightness of the vacuum network.

You will find our whole product range in our general catalogue, on our web site or by contacting your COVAL reseller.

## VACUUM GENERATORS



Regulated vacuum generators:

- GVMAX SP345-01
- GVMAX SP345 V2

Energy-saving vacuum generators:

- GEM

## EXTENSIONS, SERIES L



Our extensions are available in different diameters, lengths and models, including the 3/8 G female version for the mounting of the C series high performance vacuum cups.

## VACUUM SCREWED FITTINGS, SERIES RDV/RCOV



Special vacuum fittings range, complete with a blue o-ring:

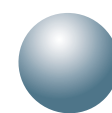
- 100% vacuum tight and better tightness in vacuum circuits,
- Easy disconnection and re-assembly without preparation of the tube,
- Swivel couplings for a better vacuum distribution.

## VACUUM FEEDERS, SERIES NV



Available in 2 versions:

- screwed fittings 4 or 8 outputs, series NVS
- aluminium body 4 outputs, series NVA





**COVAL**  
vacuum managers

**“THE RIGHT VACUUM  
THE PLACE YOU NEED IT  
THE TIME YOU NEED IT”**

Located in the southeast region of France, COVAL conceives, manufactures and globally distributes high performance advanced vacuum automation components and systems for industrial applications in all branches.

COVAL is an ISO 9001: V2000 certified company which offers innovative solutions integrating reliable and optimized components with intelligent functionalities. The focus is to provide the most personalized and economic solution to a given application while assuring a significant improvement in the productivity and the safety for the vacuum users around the world.

COVAL has an ambition for technical excellence and innovation. As a specialist in vacuum automation, COVAL is reputed for offering reliable, personalized, cost effective and productive solutions.

The references of COVAL can be found in several industrial sectors (Packaging, Automotive Industry, Plastic, Graphic, Aeronautic...) where vacuum handling is important for high efficiency and productivity.

COVAL markets its products and services all over Europe, in the United States and South America through its subsidiaries and authorized distribution network. COVAL strives to provide customer driven solutions and gives the best possible treatment to satisfy all its clients.

*For all enquiries from Australia, Africa and Asia kindly contact COVAL head office in France.*

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