



COVAL

vacuum managers

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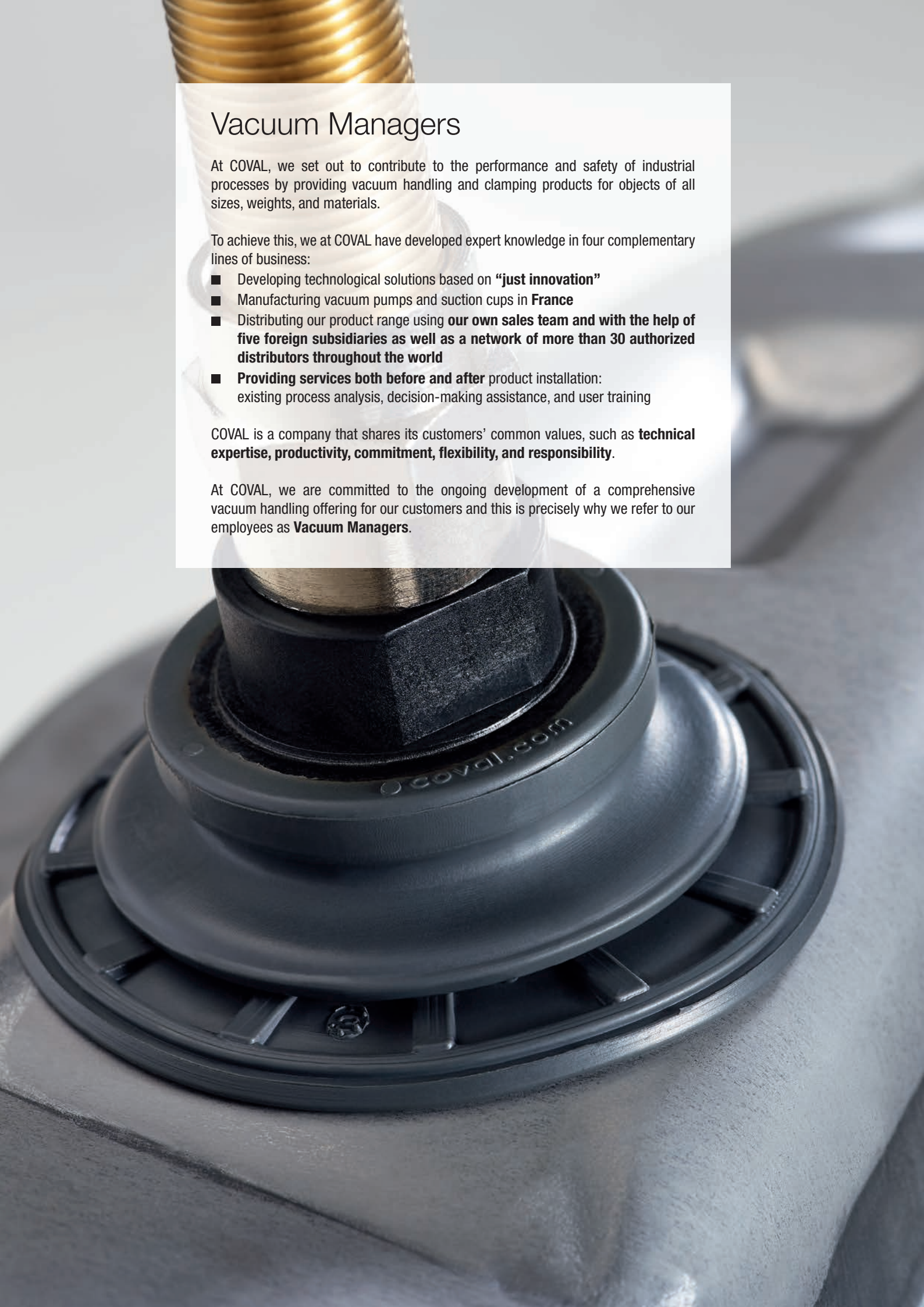
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VACUUM HANDLING SOLUTIONS FOR THE AUTOMOTIVE INDUSTRY



ADVANCED VACUUM SOLUTIONS



Vacuum Managers

At COVAL, we set out to contribute to the performance and safety of industrial processes by providing vacuum handling and clamping products for objects of all sizes, weights, and materials.

To achieve this, we at COVAL have developed expert knowledge in four complementary lines of business:

- Developing technological solutions based on **“just innovation”**
- Manufacturing vacuum pumps and suction cups in **France**
- Distributing our product range using **our own sales team and with the help of five foreign subsidiaries as well as a network of more than 30 authorized distributors throughout the world**
- **Providing services both before and after** product installation: existing process analysis, decision-making assistance, and user training

COVAL is a company that shares its customers' common values, such as **technical expertise, productivity, commitment, flexibility, and responsibility.**

At COVAL, we are committed to the ongoing development of a comprehensive vacuum handling offering for our customers and this is precisely why we refer to our employees as **Vacuum Managers.**

Faster & Safer

Automotive manufacturers are faced with fast and far-reaching changes. COVAL has been at their side providing support to keep pace with these developments for more than three decades.

Beyond mere products, COVAL delivers comprehensive solutions that measure up to these challenges. We take pride in our ability to analyze, propose, develop, produce, and support the most suitable solution.

*We are your **Vacuum Managers** in everything that we do every day.*

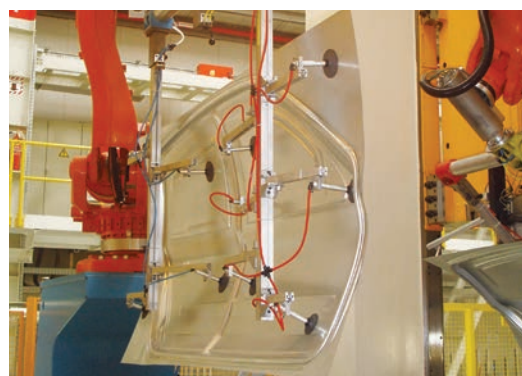
COVAL provides the various players in the automotive industry with an overall vacuum handling approach for all their lifting, moving, placing, and clamping needs for any parts of the car body, glazing, and accessories. COVAL solutions, such as vacuum pumps and suction cups, can be fitted on robots for presses, welding, assembly, and glass fitting.

The challenges that the automotive industry and its partners raise require technical expertise, know-how, innovation, and dedicated services.

To meet these challenges, COVAL relies on its strengths:

- A sound ability to innovate and deliver
- A team that is fully dedicated to the automotive industry
- A comprehensive range that includes both mechatronics and communication
- Compact vacuum solutions
- Compliance with the most stringent quality standards
- An international presence thanks to our subsidiaries located in all high-potential economic areas

- Solutions that enable great flexibility and modularity in production
- Higher performance characteristics combined with greater compactness
- Solutions that account for developments in materials and machines
- A single contact point for all vacuum handling solutions



We stand by your side
from idea to process

**AUDIT EXISTING
PROCESSES
MAKE RECOMMENDATIONS**



**DEVELOP SPECIFIC
SOLUTIONS**

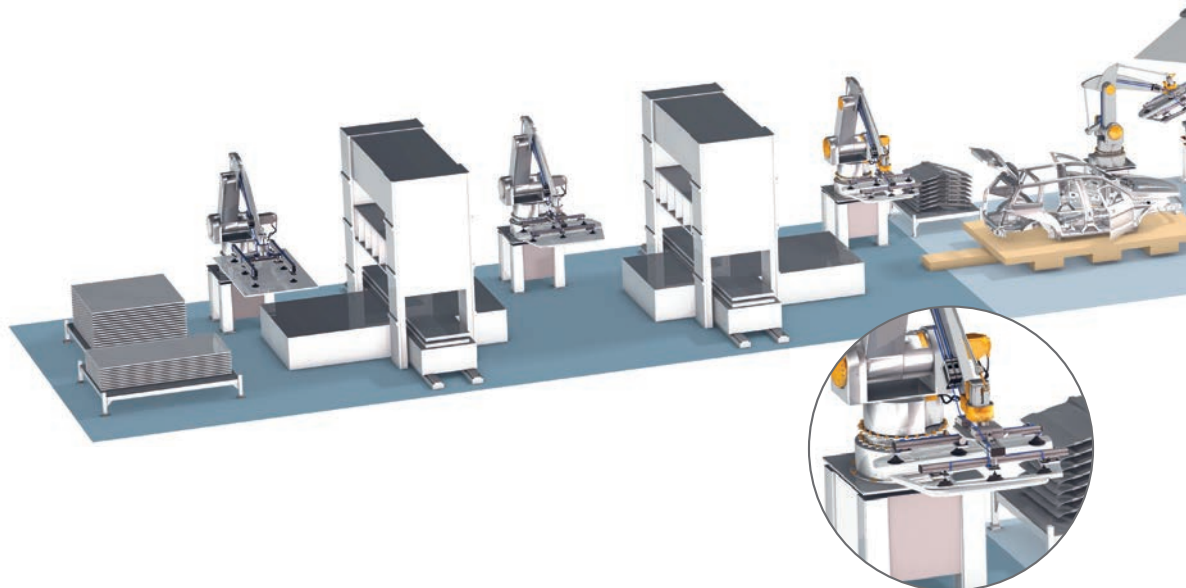


**MEASURE
EFFICIENCY**





Safety, Productivity, and



Materials we handle

- Metals
- Plastics
- Aluminum
- Cured and uncured composite materials
- Glass

Machines we fit

- Robot cells
- Floor-mounted equipment: crimping, clamping

Parts we handle

- Steel sheets
- Stamped parts
- Windshields/quarter panels
- Bumpers
- Doors and hatches
- Plastic parts

References

- Car manufacturers
- Equipment manufacturers
- Subcontractors
- Etc.

EQUIPMENT FOR STAMPING LINES



1 2 LEMAX+ vacuum pumps and C-series high-performance suction cups for handling stamped parts.

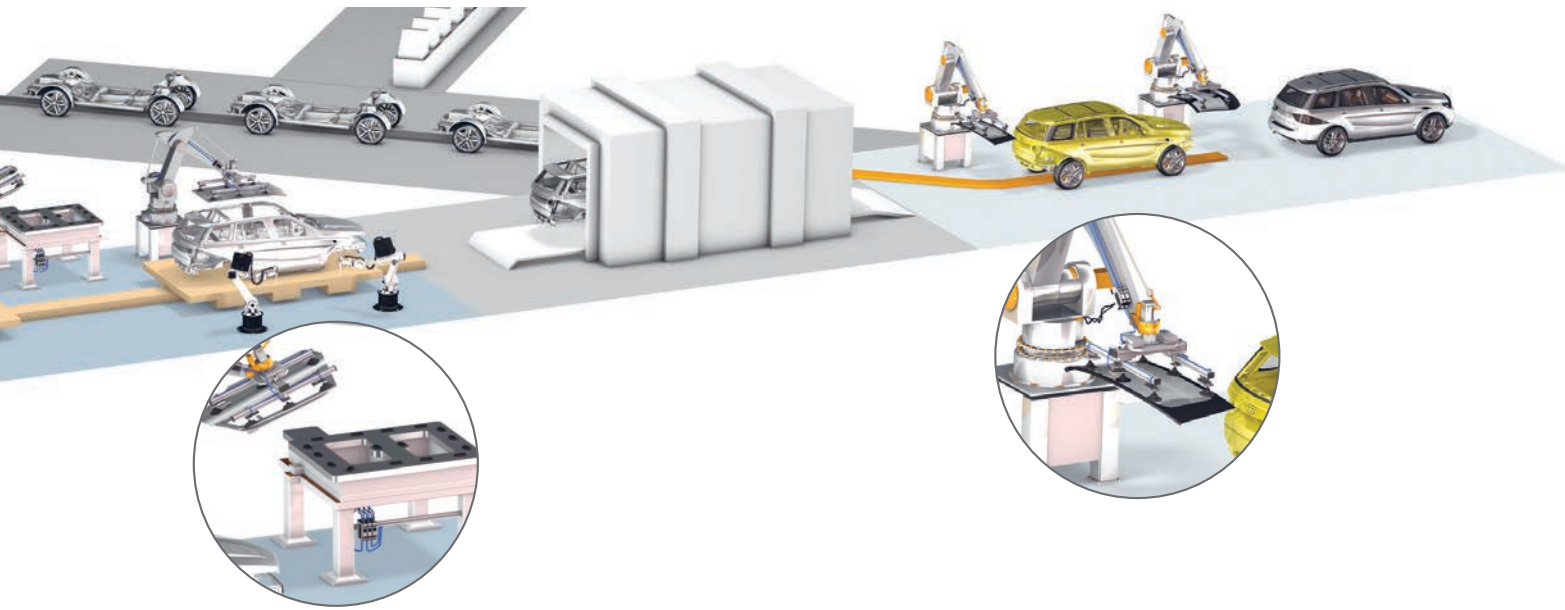
YOUR EXPECTATIONS:

Solutions that increase your productivity:

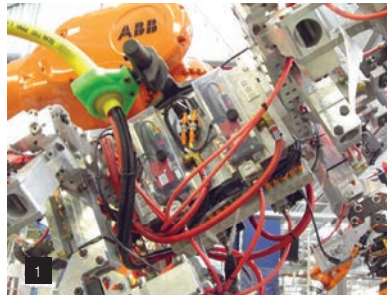
- Reduce cycle times
- Decrease energy costs
- Minimize maintenance
- Adapt quickly to changing workpieces
- Increase equipment lifetime
- Manage equipment from remote locations



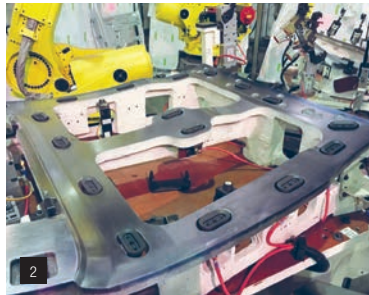
Flexibility at Every Step in Production



EQUIPMENT FOR BODY ASSEMBLY LINES

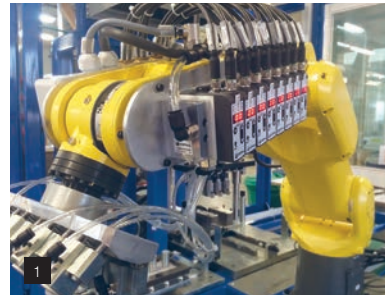


1 GVMAX vacuum pumps with protective cover on robot equipment



2 C-series high-performance suction cups on floor-mounted equipment (clamping)

EQUIPMENT FOR FINAL ASSEMBLY



1 LEMAX mini-vacuum pump island on high-speed robot



2 GVMAX vacuum pumps and VPYR ball joint suction cups for handling of glazed elements

OUR SOLUTIONS:

Compact and lightweight vacuum pumps:

- Compact and lightweight “all-in-one” solution with integrated control, vacuum regulation, blow-off air, and “part presence” detection functions
- Vacuum pumps that are able to communicate and fully integrate with the field network without requiring any gateways or other specific interfaces allow the configuration and vacuum control to be managed from a remote location
- **Air Saving Control (ASC)** technology allows for energy savings of up to 90%
- Because they are extremely compact, COVAL vacuum pumps can be installed right next to the suction cups, thus combining energy savings with short response times
- A clog-free open silencer ensures maximum operational capacity

High-speed structured suction cups:

- Handle thin metal sheets without deforming them
- Ideal for robotic applications
- Slip prevention stops ensure optimal placement of oiled metal sheets
- Broad range of suction cups in various shapes and sizes for a perfect fit with handled parts

Accessories and complementary products:

- COVAL has a wide range of accessories for vacuum networks: extensions, vacuum connections and feeders, vacuum switches, and more

A comprehensive range and closely focused on the Automotive

Suction Cups

C-series suction cups: CFC, CBC, COFC, COBC

- Structured suction cups for gripping thin-walled parts without deforming them
- Ideal for handling or holding in vertical position
- Slip prevention stops ensure optimal positioning and holding



Standard suction cups: VSA, VS, VPG, VPO

- Compatible with many materials
- Various standard materials available
- Large diameters: from 25 mm to 250 mm
- Round, oblong, and flat shapes with or without bellows



Ball joint suction cups: VPYR

- Flat suction cups with ball joint system
- 4 models available (50 to 100 mm in Ø)
- Materials: nitrile and silicone
- We recommend the ball joint suction cup range for gripping bulging products or rotating products that require a lot of physical and mechanical force



Vacuum Pumps and Alarm Cabinet

LEMAX and LEMAX+ series

Integrated mini-vacuum pumps with ASC:

- Ultra-compact and lightweight
- More than 90% energy savings
- Silent operation
- Auto-adjustment according to the material to handle

Usage

Handling of all airtight or slightly porous parts



LEMCOM series

Vacuum pump with fieldbus communication:

- 1 "master" module controls from 1 to 15 secondary modules
- The master module is a full-fledged pump
- Remote configuration, control, and diagnostics: integrated web server, configuration software, and more
- Additional communication port

NEW



Stand-alone master module
EtherNet/IP



Stand-alone master module
CANopen



Stand-alone secondary module

Coffralarme

Fully integrated and autonomous pneumatic alarm cabinet

- Pneumatic horn in the event of low or failing compressed air
- Critical threshold value triggering the alarm: 4.5 bar
- For use with pneumatic systems



unique technologies industry's needs



Our Technologies

■ Twintech™



All functions (control valve, pressure regulation, part presence detection thanks to vacuum switch) are integrated in a single compact and lightweight module. The vacuum generator can be placed closer to the suction cups thus reducing cycle times and limiting energy waste during handling.

■ ASR (Air Saving Regulator)



Regardless of the pressure supplied by the compressed air network (between 4.5 and 7 bar), the ASR automatically optimizes it at 3.5 bar and thus provides **energy savings of 40% on average**. Our ASR technology avoids the need for an added external pressure regulator and eliminates any risk of loss of adjustment or excessive consumption.

■ ASC (Air Saving Control)



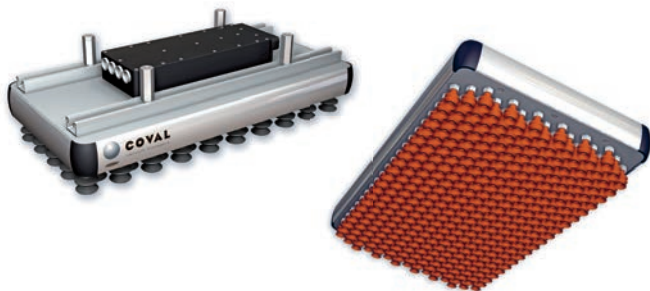
ASC is a control system that stops air consumption when the set vacuum level has been reached. It allows for **energy savings of up to 90%** and a significantly lower noise level.

Vacuum Grippers

MVG

Modular vacuum gripper

- Customized dimensions
- Selection of gripping areas
- Compact and lightweight



Accessories

Vacuum switches

Electronic, electric, or pneumatic
PSD, PSK, PSA100, PSE, PSP



L-series extensions

- Used to secure suction cups
- Enable adjustment of suction cups in relation to mechanical supports
- Threaded vacuum fittings with O-ring guarantee airtight assembly



Level compensators

Standard 1/8G – 1/4G – 3/8G
or anti-rotation TS – YS – TSOP – TSOG



Vacuum filters

1/8G – 1/4G – 3/8G – 3/4G – 2"
Filter cartridge:
paper, stainless steel, or polyamide
FVI – FVU – FVUM – FVG



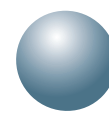
Mechanical sensors

Make suction cups on the same network independent from one another

- Vacuum is activated upon contact with the part
- Material used prevents any risk of marking
- Very low risk of marking highly fragile parts

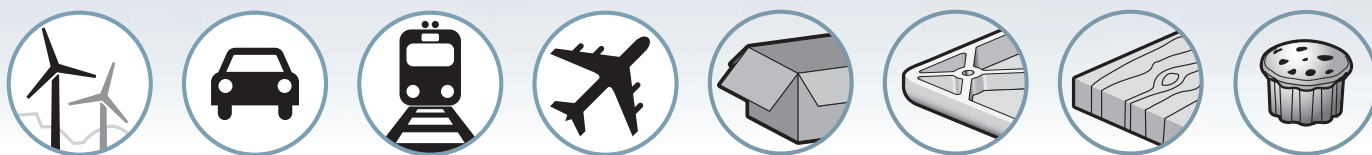


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