

COVAL

vacuum managers

CYCLONE

vacuum tube lifters



CYCLONE

COVAL is an ISO 9001: V2008 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.

Bolstered by this extensive experience, Coval is now able to offer a wide range of CYCLONE vacuum tube lifters.



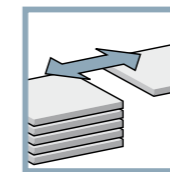
Use

COVAL's CYCLONE vacuum tube lifters use the same suction flow for taking the product, lifting and transferring the load, and constitute a reliable, robust system.

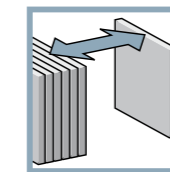
CYCLONE vacuum tube lifters are suitable for fast, repetitive handling operations for 20 to 300 kg loads carried out by a single operator:

- Palletising and depalletising.
- Supply for machinery.
- Unloading conveyors.

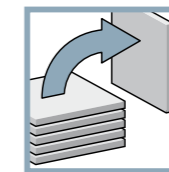
Type of handling



Horizontal



Vertical



90° rotation

Advantages

- Fast and precise handling.
- Reduction of musculo-skeletal disorders.
- Movement of loads without expending effort.
- Handling carried out by a single operator.
- Better working conditions.
- Quick return on investment.
- CE equipment.

Range

The CYCLONE vacuum tube lifters range is offered with 7 capacities:

CYCLONE reference	Standard Stroke (mm)	Load (kg)								
		25 kg	50 kg	75 kg	100 kg	125 kg	150 kg	200 kg	300 kg	
CYCLONE 35	1700/2100									
CYCLONE 60	1700/2100									
CYCLONE 80	1700/2100									
CYCLONE 100	1700/2100									
CYCLONE 150	1700/2100									
CYCLONE 250	1700/2100									
CYCLONE 300	1700/2100									

Safety and ergonomics

Using CYCLONE vacuum tube lifters makes it possible to improve working conditions whilst reducing operator fatigue and musculo-skeletal disorders, and to reduce accidents in relation to all handling operations involving 20 to 300 kg loads.

- In the event of an excess load, the device will not lift the product.
- The flexible rotating control handle for CYCLONE vacuum tube lifters has a maximum angle of 90° which will not "break" the handle and is suitable for the working heights involved.
- In the event of a power failure, a fall prevention valve puts a brake on the lowering movement and holds the load to the suction cup until it is placed on the ground.
- CYCLONE vacuum tube lifters are guaranteed and CE certified.



CYCLONE: vacuum handling for 20 to 300 kg loads



Operation

The motor-turbine unit ❶ creates a continuous suction linked to the device. A vacuum is created in the lifting tube ❷ when the suction cup ❸ is applied to the product to be handled.

Actuating the rotational control handle ❹ makes it possible to control the raising and lowering of the load by compressing the lifting tube, and ensures it is automatically kept at the desired height. It can also easily be moved and placed at will.

The control handles for Cyclone vacuum tube lifters are equipped with a quick decompression push-button ❺ that facilitates the release of the parts handled and secures the movement.

The device is equipped with a system involving a pivot on a bearing at the high hook-up point ❻ which enables infinite total 360° rotation of the assembly, and a fall-prevention valve which brakes the lowering of the load to the ground in the event of a power failure.

Suction unit

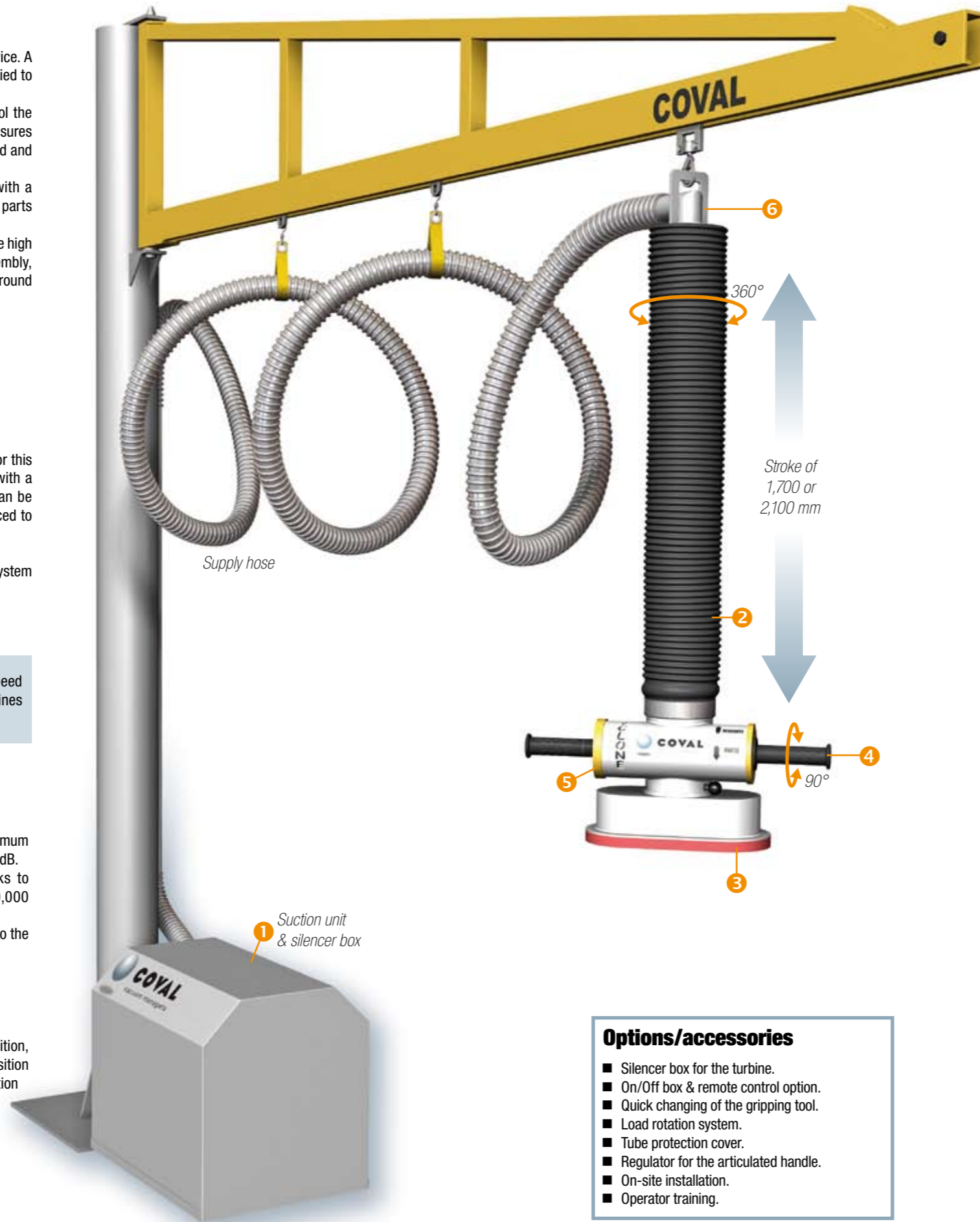
The mono-block suction unit consists of a turbine specially designed for this application and a motor with a power rating of 3 kW. It is equipped with a suction silencer and 2 exhaust silencers. As an optional feature, it can be equipped with a silencer box which enables the noise level to be reduced to 65 dB.

An air filter protects the turbine. Its body is equipped with an assembly system enabling the filter cartridge to be maintained and replaced quickly.

CYCLONE vacuum tube lifters rely on a new suction unit variable speed technology, managed electronically by a vacuum sensor that combines safety, ease of use and energy savings.

Advantages:

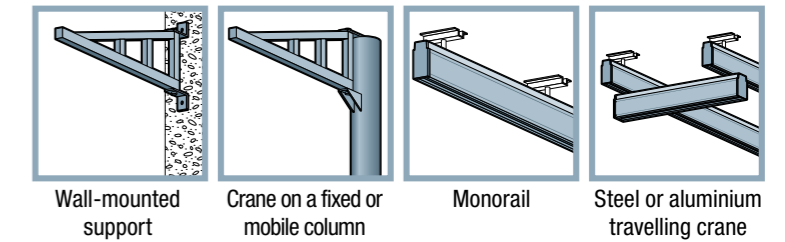
- Noise reduction thanks to the direct drive and optimisation of the maximum speed of the motor by the variable speed drive. Average noise level: 75 dB.
- Reduced maintenance and a better lifespan for the unit thanks to the absence of a belt. Cyclone suction units easily clock up 20,000 maintenance-free service hours.
- Possibility of reducing the rotation speed and therefore of adapting to the desired operating point. Speed range: 2,200 to 5,000 rpm.
- Handling that is more flexible to use.
- Reduced power consumption thanks to optimisation of the speed.
- Thermal protection of the motor and the variable speed drive.
- Protective fittings to prevent overvoltage and short-circuiting.
- Protection of the turbine: when the control handle is in closed position, the turbine slows down to a minimum in order to keep the load in position without overheating. Adjustment of the speed range and the reaction time using a PC interface either in the factory or at the customer's site if necessary.



- ### Options/accessories
- Silencer box for the turbine.
 - On/Off box & remote control option.
 - Quick changing of the gripping tool.
 - Load rotation system.
 - Tube protection cover.
 - Regulator for the articulated handle.
 - On-site installation.
 - Operator training.

Supports/structures

COVAL offers a range of supports and travelling cranes for CYCLONE vacuum tube lifters:



Lifting tubes

- Neoprene structure.
- UV resistant and bad weather.
- Fitted with a smooth handle on each end that facilitates maintenance.
- 2 standard strokes: 1,700 and 2,100 mm.
- Specific travel distances on request.

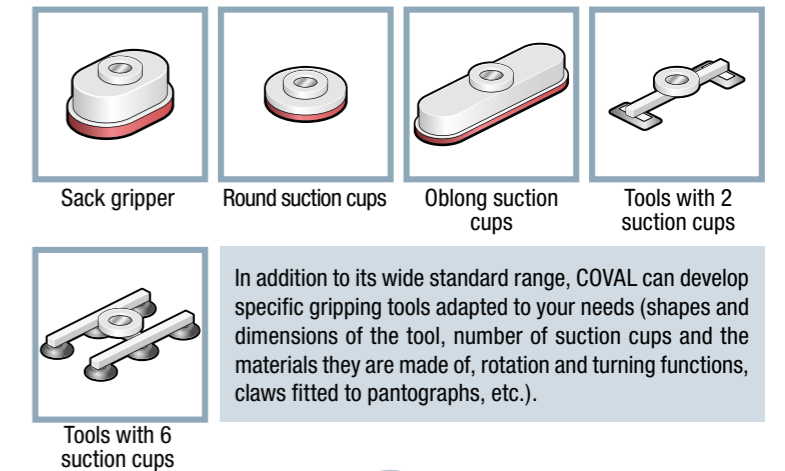
Control handles

CYCLONE vacuum tube lifters can be equipped with a wide range of standard control handles (or specific ones if necessary) so they can be adapted to all situations:



Gripping tools

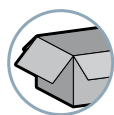
In order to respond fully to your application, COVAL has a varied range of gripping tools:



In addition to its wide standard range, COVAL can develop specific gripping tools adapted to your needs (shapes and dimensions of the tool, number of suction cups and the materials they are made of, rotation and turning functions, claws fitted to pantographs, etc.).

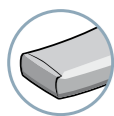
Solutions for individual lines of business

The very modular nature of Cyclone vacuum tube lifters makes it possible to provide very precise responses for your applications:



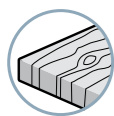
CARDBOARD

Handling cardboard boxes for palletising or depalletising. Design of the spreader type grab tool with dimensions suitable for the cardboard boxes to be handled, with several bellows suction cups.



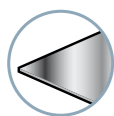
BAGS/SACKS

Handling plastic or paper bags with a gripping tool adapted to deal with bag deformation. For bags of sugar, cement, plaster, sand, compost, etc.



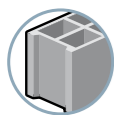
WOOD

Handling of studs, planks and beams coming off the cutting line, with a configuration of the device enabling the sides or ends of the pieces of wood to be worked. Handling of flat or vertical panels with the possibility of 90° rotation. Supply for flat or vertical saws.



METAL

Supply of sheet metal for machine tools (laser, plasma, guillotine, press brake, nibbler, etc.). Gripping the flat sheet metal or shaped elements using a vacuum lifter which can be fitted with suction cups made from oil-resistant nitrile. Handling of drums, housings, and finished products made from steel, stainless steel or aluminium sheeting.



CONCRETE/STONE

Gripping products made from concrete, blocks, stone slabs, and paving stones using adapted gripping tools (automatic claws, rotation for removal from moulds, a tool for laying edging or paving stones for mobile worksites, etc.).



GLASS

Handling glazing before and after it is framed.



PAPER

Handling of rolls, with effortless manual turning.



FOODSTUFFS

Handling cheeses, bottles, barrels, drums, cans, etc.

SPECIAL PROJECTS

The experience we have acquired over many years in terms of special developments enables us to design gripping tools adapted to your needs.



www.coval.com



► COVAL – SYSTEMS DEPARTMENT

COVAL SYSTEMS, which specialises in vacuum handling, has designed and manufactured a wide range of vacuum lifting devices, vacuum and tube lifters for over 25 years, making it possible to respond to the various handling applications whilst complying with the safety standards in force.

Our main advantages are the advice we provide, as well as the scope of the range available in our catalogue (and which can be adapted to meet all your needs), and our installation and commissioning service.

vacuum
systems



A TECHNOLOGICAL PARTNER ON A GLOBAL SCALE

COVAL, *vacuum managers* also has a Components Department which designs, manufactures and markets high-performance vacuum automation systems and components for industrial applications worldwide in relation to all business sectors. COVAL implements innovations globally in the field of handling using vacuum technology: its optimised components integrate smart, reliable functionalities that can be adapted to your industrial context and which are able to improve your productivity under completely safe conditions.

Bolstered by its spirit of innovation and its technological advances, the COVAL team's members are now recognised experts when it comes to developing personalised solutions that are reliable, economical and very productive.

COVAL markets its products and services throughout Europe and in North and Latin America via its subsidiaries and its network of authorised distributors. It is always attentive to its customers, and supports the implementation of its solutions with a sustained, attentive relationship.

vacuum
components



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