

## VARIO CO<sub>2</sub> KIT

AXIAL EXTRACTOR FANS WITH CO<sub>2</sub> SENSOR FOR RESIDENTIAL, COMMERCIAL AND INDUSTRIAL ENVIRONMENTS.

# VARIO CO<sub>2</sub> KIT

**Axial extractor fans with CO<sub>2</sub> sensor for residential, commercial and industrial environments.**

VARIO-CO<sub>2</sub> KIT is a ventilation system that ensures the rapid exchange of ambient air in relation to the concentration of carbon dioxide (CO<sub>2</sub>) detected by a special sensor, thus ensuring adequate oxygenation rates, avoiding the accumulation of carbon dioxide and preventing the concentration of pathogens resulting from the metabolism of the occupants.

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## OPERATING PRINCIPLE

High rates of carbon dioxide (CO<sub>2</sub>) are known to cause loss of concentration, drowsiness, heaviness, and headaches. It is also known that CO<sub>2</sub> is the product of our metabolism: by breathing we take in oxygen and emit carbon dioxide. This aspect takes on particular importance in this period of pandemic linked to the spread of the SARS-CoV-2 virus that, beyond the consequences on the health of all of us, imposes limits on the normal activities and personal contacts.

An adequate ventilation rate, able to dilute the concentration of a possible viral load below the danger threshold, is, together with the use of appropriate personal protective equipment, the main and most effective means of reducing the spread of the epidemic, as evidenced, among others, by the study of the Working Group ISS Environment and Indoor Air Quality "Interim indications for the prevention and management of indoor environments in relation to the transmission of SARS-CoV-2 virus infection" of May 25, 2020.

**Each VARIO-CO<sub>2</sub> KIT consists of two axial extractor fans, installed at perimeter walls or windows of the room and controlled by a wired CO<sub>2</sub> sensor.**

The setting of the rotation direction, and therefore the direction of the induced flow, of each of the two fans is done at the time of installation and cannot be changed by the end user.

When the rate of carbon dioxide present in the environment, representative of its crowding index, exceeds the previously set limit, the sensor automatically activates the two fans to obtain the necessary air exchange.

In particular, the combined operation of the two extractor fans, which remove stale and potentially infected air, reintegrating it with external air, rich in oxygen and free of viral load, ensures adequate ventilation rates of the environment, while avoiding the risk of entry by depression from neighboring rooms of potentially infected air, possible in the presence of a single extractor fan.



## TECHNICAL CHARACTERISTICS

### Available models

- The VARIO-CO2 KIT consists of two extractor fans of the VARIO range in AR version, combined with the CO2 sensor called SCO2IAQ, available in three versions, different in size and with increasing performance.
- The VARIO 150/6" - CO2 KIT (code 90016) consisting of: 2 VARIO 150/6" AR + 1 SCO2IAQ.
- The VARIO 230/9" - CO2 KIT (code 90017) consisting of: 2 VARIO 230/9" AR + 1 SCO2IAQ.
- The VARIO 300/12" - CO2 KIT (code 90018) consisting of: 2 VARIO 300/9" AR + 1 SCO2IAQ.

### VARIO AR extractor fans

- Plastic resin casing (ABS), resistant to impact and aging when exposed to the sun ("UV resistant").
- Moulded resin axial impellers resistant to aggressive agents, optimised for clockwise and anti-clockwise operation and characterised by saber-shaped blades to combine high performance with low noise emissions.
- Motors, thermally protected, with shafts mounted on bushings with collar, self-centering and self-lubricating, to guarantee a silent operation over time.
- Automatically operated closing fins to prevent the entry of outside air and the spread of unpleasant odors when the conditions of the target environment make system operation unnecessary.
- Performance and safety certified by a third party (CE).
- Degree of protection against dust and water: IPX4 (suitable for Zone 1 installation).
- Electrical insulation class: II (grounding not required).

### SCO2IAQ CO<sub>2</sub> sensor

- CO<sub>2</sub> sensor with adjustable threshold and safety values in the 0 - 5,000 ppm range (exceeding the threshold value determines the switching on of the two fans, the decrease of the carbon dioxide concentration below the safety value leads to their switching off).
- Relative humidity sensor (enables the display of temperature and RH values in the room).
- Possibility of programming, on a weekly basis, the switching on and off of the fans (ideal, for example, in the case of use in classrooms, refectories, canteens, etc.).
- Possible integration into a *Building Management System (BMS)*, Modbus protocol, integrated RS485 port.
- Graphic display for immediate understanding of system status and representation of environmental parameters.



Low consumption.

Design: F. Trabucco & Ass.  
Awards: 2003 "Intel Design" mention.  
2003 "Design Index Adi" mention.



Wide range of possible installations thanks to the various accessory KITS common to the VARIO range,



01



02



03

- 01 Wall installation.
- 02 Glass installation with anti-glare screen.
- 03 Glass installation.



Quiet operation.

The graphic display of the SCO2IAQ CO<sub>2</sub> sensor allows for easy initial setting of CO<sub>2</sub> threshold levels and for continuous monitoring of CO<sub>2</sub> concentration in the environment.



Easy and intuitive to use

## VARIO CO<sub>2</sub> KIT

AXIAL EXTRACTOR FANS WITH CO<sub>2</sub> SENSOR FOR RESIDENTIAL, COMMERCIAL AND INDUSTRIAL ENVIRONMENTS.

The VARIO-CO<sub>2</sub> KIT consists of two extractor fans of the VARIO range in AR (Automatic and Reversible) version, combined with the CO<sub>2</sub> sensor, called SCO2IAQ, available in three versions, different in size and with increasing performance.

- **VARIO 150/6" - CO<sub>2</sub> KIT (code 90016)** consisting of: 2 VARIO 150/6" AR code 12612 + 1 SCO2IAQ code 20125.
- **VARIO 230/9" - CO<sub>2</sub> KIT (code 90017)** consisting of: 2 VARIO 230/9" AR code 12452 + 1 SCO2IAQ code 20125
- **VARIO 300/12" - CO<sub>2</sub> KIT (code 90018)** consisting of: 2 VARIO 300/9" AR code 12412 + 1 SCO2IAQ code 20125.

### Technical data

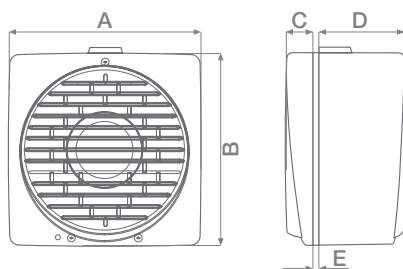
PRODUCT	CODE	V~50/60Hz	W max	A max	RPM max	MAX FLOW RATE m <sup>3</sup> /h	l/s	Lp dB (A) 3m max	°C max	WEIGHT Kg
VORTICE 150/6" AR	12612	220-240	25	0.11	1340 <sup>(1)</sup> 2040 <sup>(2)</sup>	235 <sup>(1)</sup> 150 <sup>(2)</sup>	65.3 <sup>(1)</sup> 41.7 <sup>(2)</sup>	37.5	50	2.07
VORTICE 230/9" AR	12452	220-240	26	0.13	790 <sup>(1)</sup> 1080 <sup>(2)</sup>	480 <sup>(1)</sup> 310 <sup>(2)</sup>	133 <sup>(1)</sup> 86 <sup>(2)</sup>	35.6	50	3.45
VORTICE 300/12" AR	12412	220-240	45	0.21	840 <sup>(1)</sup> 1085 <sup>(2)</sup>	1050 <sup>(1)</sup> 700 <sup>(2)</sup>	292 <sup>(1)</sup> 194.4 <sup>(2)</sup>	40.2	50 (50 HZ) 40 (60 HZ)	6.13

<sup>(1)</sup>Intake - <sup>(2)</sup>Ventilation.

\* Acoustic pressure calculated at 3 m in free field in compliance with ISO 3741.

\*\* Maximum continuous operating temperature of the product.

### Dimensions



PRODUCT	∅A	B	C	D	MIN/MAX	∅ HOLE GLASS/WALL
VORTICE 150/6"	215	218	31	97.5	2/38	185÷190
VORTICE 230/9"	294	297	31	130	2/38	257÷262
VORTICE 300/12"	390	393	31	147	2/38	324÷329

Dimensions in mm