



Welltech Instrument Co. Ltd

# CO<sub>2</sub> - SCRUBBER

FOR SPORTS TRAINING



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# Direct CO2 absorption

Welltech CO2 scrubber is designed for human chamber to absorb the CO2 breath out from the athlete and keep the chamber CO2 in low level

During training exercise the CO2 breath out from the athletic is more than 5000ppm. Without the CO2 scrubber, the CO2 level in the chamber can go to 20000ppm in very short time. It is not healthy to athlete. Normal acceptance CO2 level during exercise is <2000ppm.

## CO2 Scrubber

- ▶ Direct CO2 absorption
- ▶ Fast absorption rate

## Application

- ▶ Athlete Training
- ▶ Research Analysis
- ▶ Rehabilitation Research
- ▶ Hypoxic Training
- ▶ Hypoxic Sleeping Room



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# CO2 Scrubber

- ▶ Controller                      Siemen PLC with LCD display
- ▶ Filtering                         Manual mode  
  Time mode  
  CO2 mode
- ▶ Regeneration                  Manual mode  
  Time mode



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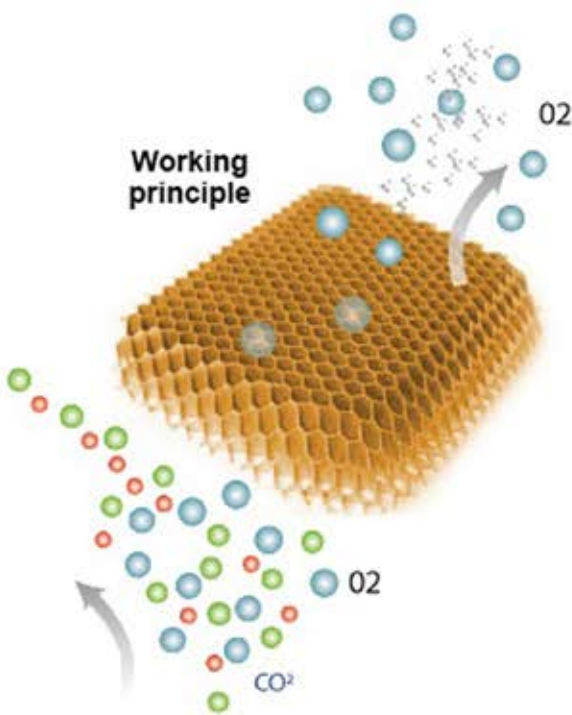
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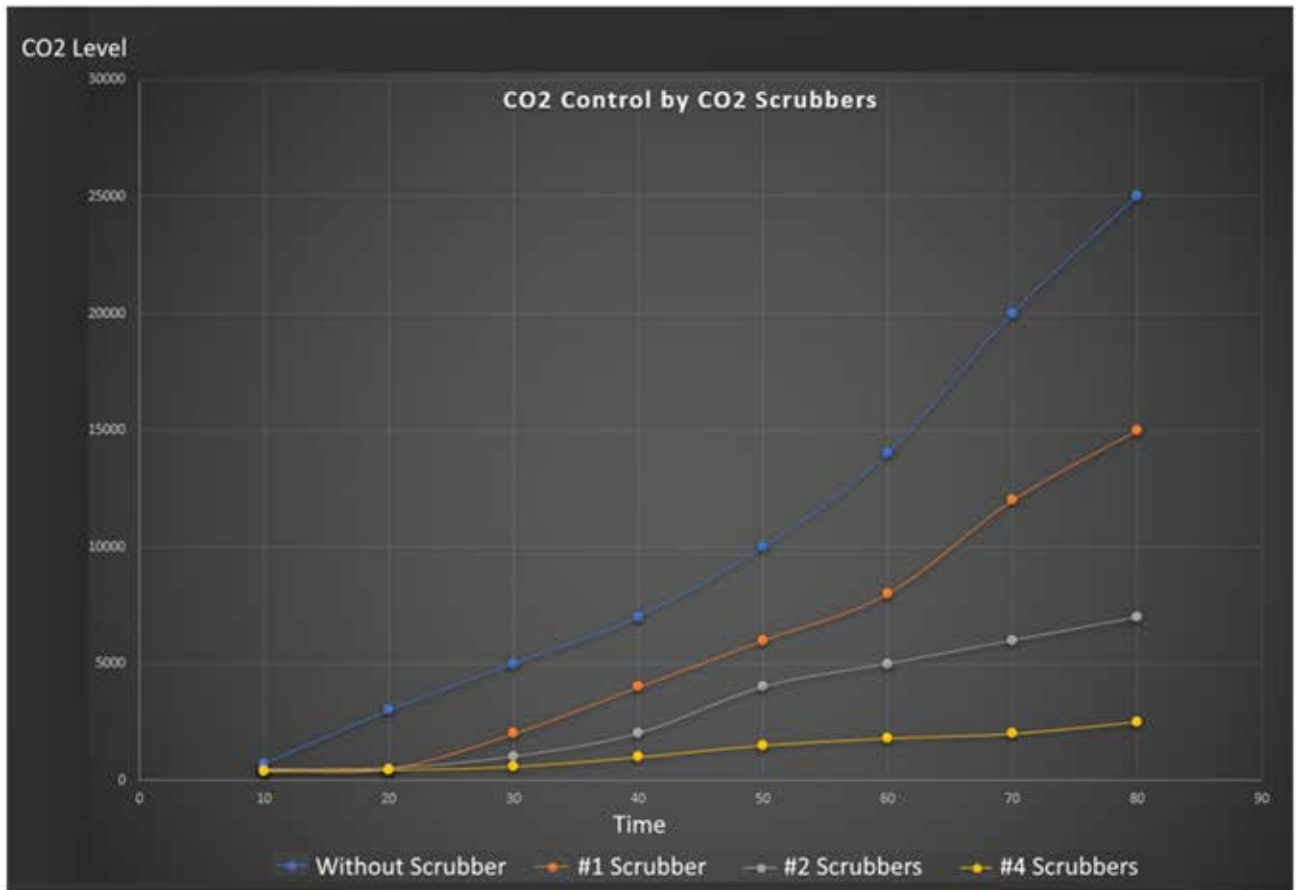


# Filitering Ability



Air Inlet (CO2 level)	Air Outlet (CO2 level)
500ppm	30ppm
1000ppm	300ppm
1500ppm	500ppm
1800ppm	700ppm
20000ppm	1500ppm

► Noted: During filtering, the air outlet ppm depends on the air inlet ppm concentration

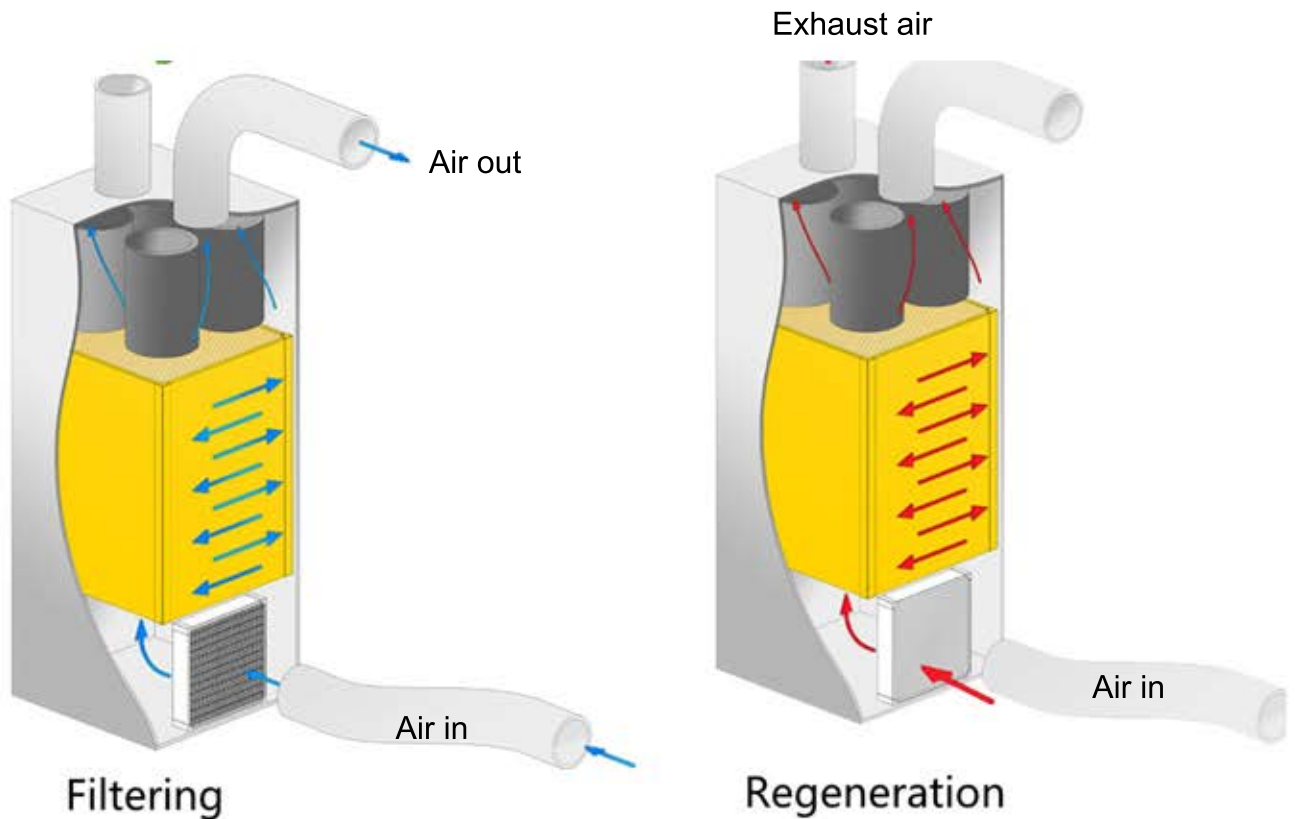


► Using more scrubbers, the lower CO2 level it can maintain

## Working principle

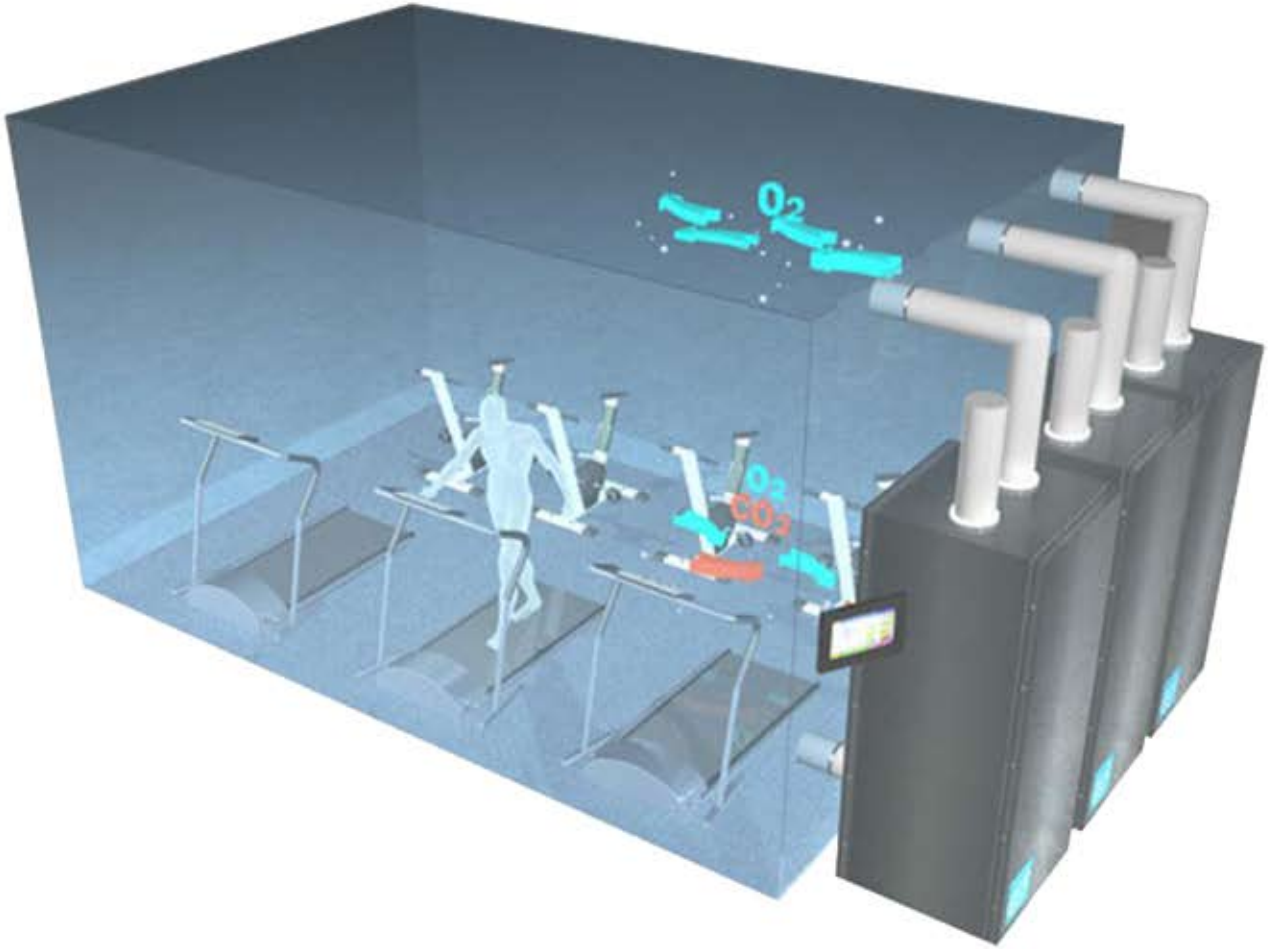
During filtering, the scrubber absorbs the CO<sub>2</sub> from incoming air until the catalyst is saturated. After saturation, regeneration is required to exhaust out the high concentration of CO<sub>2</sub> before the next use.

## Air flow Diagram



# Installation

## ► Behind the chamber



Multi-Screen  
Walltech  
CO2 Level: 400 ppm  
Counter

Scrubber	1	2	3	4	5	6
Run Time (Min)	0	5	17	17	16	16
Saturation Level	Low	Low	Low	Low	Low	Low
Regen Status	On	Off	Off	Off	Off	Off
Filter Status	Stop	Idling	On	On	On	On
	Set	Set	Set	Set	Set	Set

No. of scrubbers depends on chamber size and number of athletes training inside

# Specification

## LCD Touch Screen

- ▶ Two mode: manual or program
- ▶ 3 filtering mode: manual,time, CO2
- ▶ 2 regeneration mode: manual,time control

## Activated Carbon Filter

- ▶ Remove smell
- ▶ Regenable

## CO2 Sensor

- ▶ Range:0-20000ppm
- ▶ 24Vdc

## HEPA Filter

- ▶ HEPA filter  
Class of H14

## Casing

- ▶ 304 stainless steel or wooden casing  
or g.steel with coating

## CO2 Filter

- ▶ CO2 filter:, non-toxic
- ▶ Only remove CO2 gas
- ▶ Can work under high or low humidity
- ▶ Regenable

# MODEL

Model	CS660	CS1000	CS1500	CS2000	CS4000
CO2 absorbing Capacity before regen	1500m3	3500m3	5000m3	7000m3	14000m3
Air flow rate	150 to 400m3/h				
Power supply	240Vac single phase or 3 phase 400 Vac				
Regeneration time	2-4 hours				