



Welltech Instrument Co. Ltd

CO₂ - 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 <1000ppm.

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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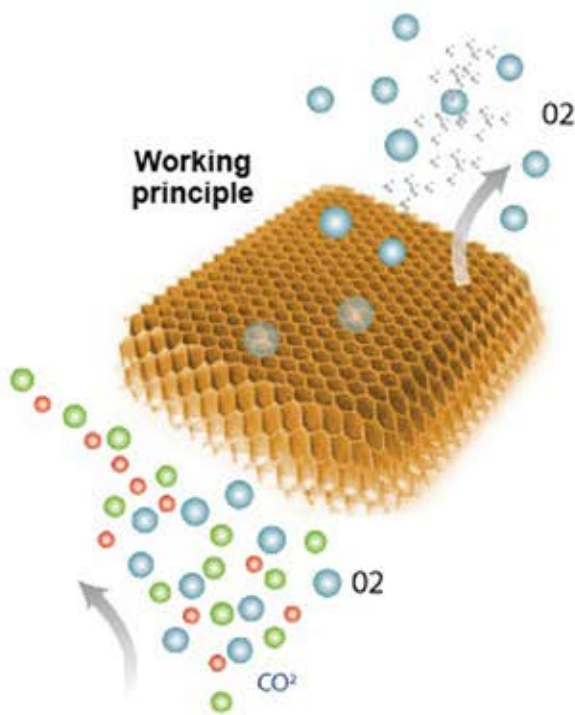
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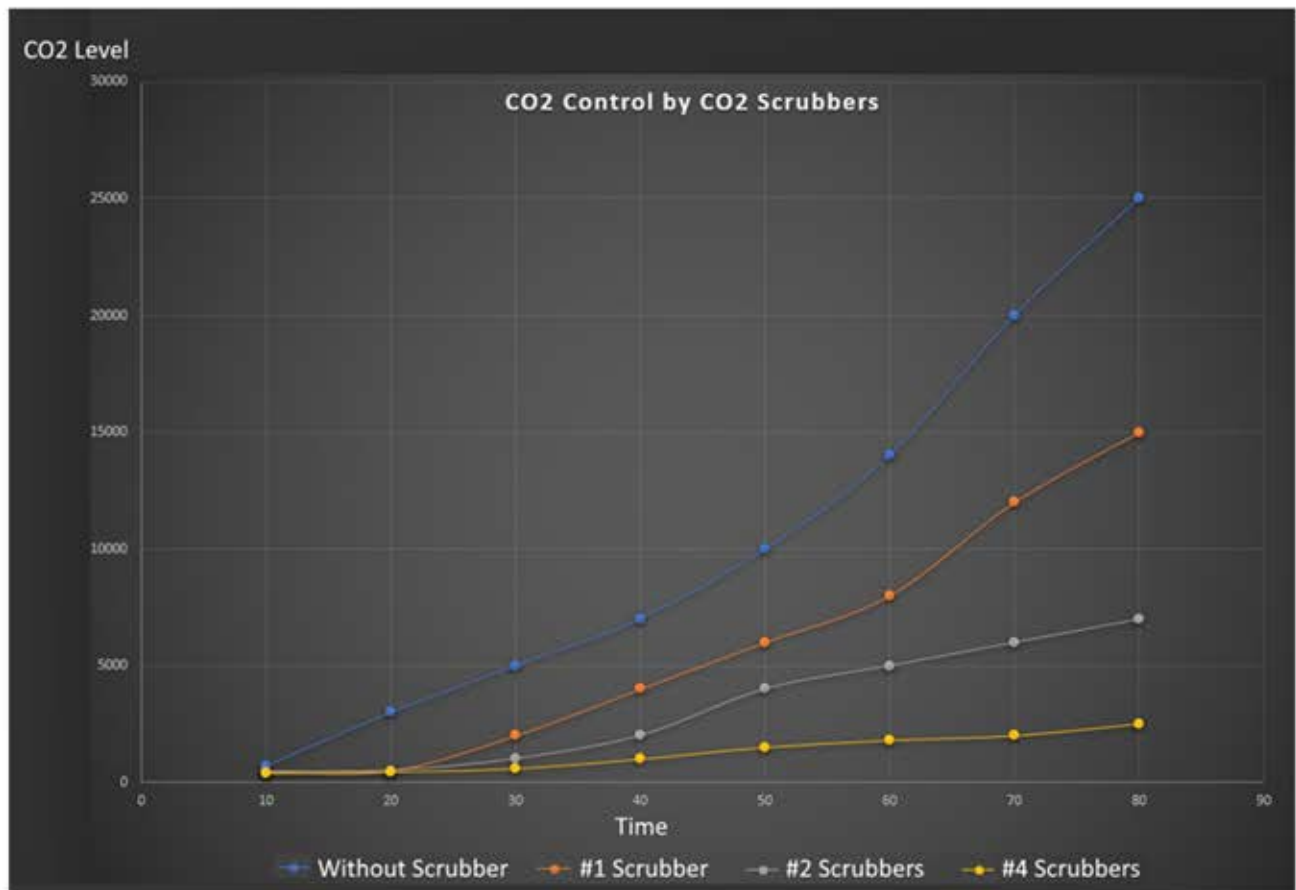


Filitering Ability



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

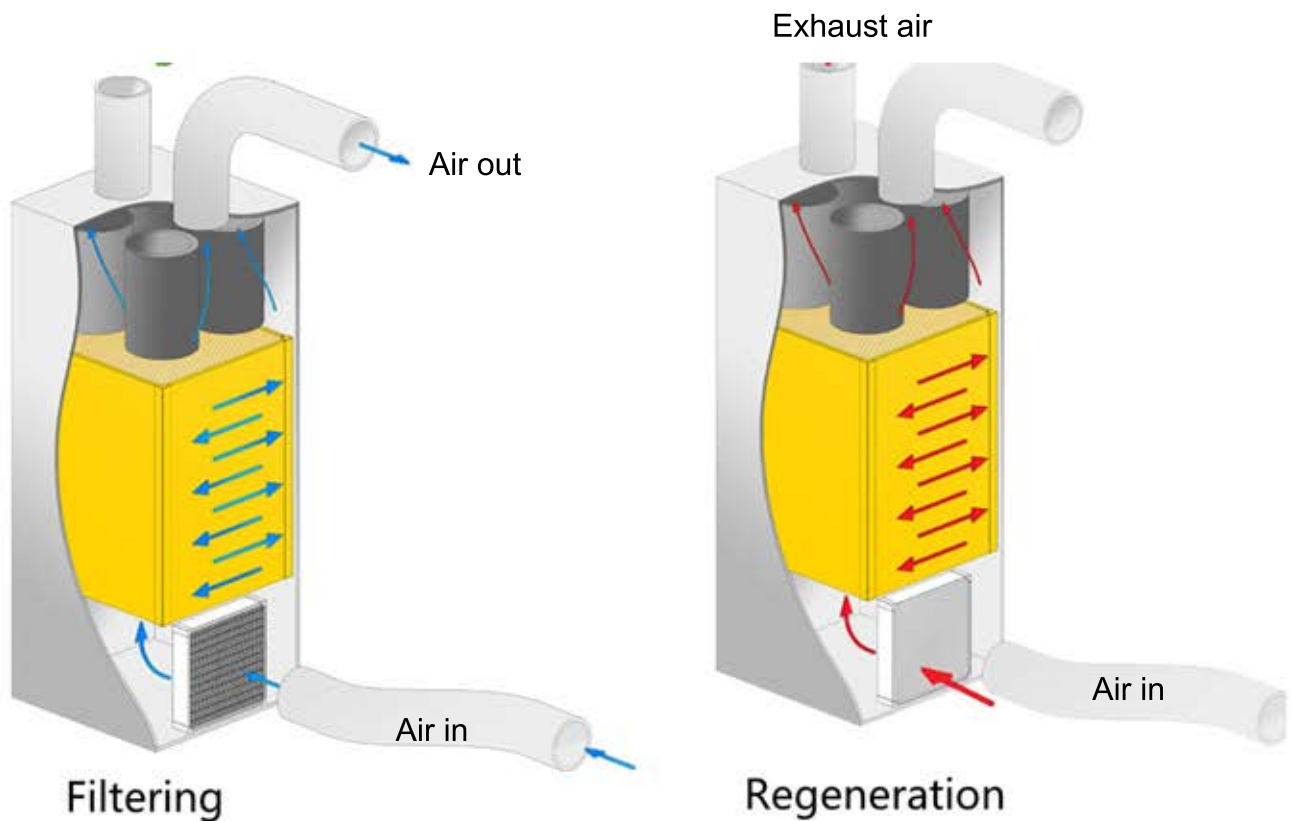


- Using more scrubbers, the lower CO2 level it can maintain

Working principle

During filtering, the scrubber absorbs the CO₂ from incoming air until the catalyst is saturated. After saturation, regeneration is required to exhaust out the high concentration of CO₂ before the next use.

Air flow Diagram



Installation

► Behind the chamber



Multi-Screen

CO2 Level: 400 ppm

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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

MODEL

Model	CS660	CS1000	CS1500	CS2000	CS4000
Filtering ability	Air inlet: 500ppm (CO ₂), Air outlet: 30ppm (CO ₂) Air inlet: 1000ppm (CO ₂), Air outlet: 300ppm (CO ₂) Air inlet: 1500ppm (CO ₂), Air outlet: 500ppm (CO ₂) Air inlet: 1800ppm (CO ₂), Air outlet: 700ppm (CO ₂) Air inlet: 20000ppm (CO ₂), Air outlet: 1500ppm (CO ₂)				
Catalyst rack weight	150kg	350kg	450kg	750kg	1200kg
Filtering flow rate	250 to 300CMM	400 to 700CMM	400 to 700CMM	800 to 1200CMM	800 to 2400CMM
Regeneration flow rate	200CMM	250CMM	250CMM	300CMM	500CMM
Power consumption (filtering)	3A	3A	3A	4A	4A
Air inlet size	100mm	100mm	100mm	100mm	100mm×2
Air outlet size (filtering)	50mm	50 or 100mm	50 or 100mm	100mm	100mm×2
Air outlet size (regeneration)	50mm	50mm	50mm	100mm	100mm
Regen temperature	Direct heating with 50 to 70C				
Regeneration time	4-6 hours				
CO ₂ Sensor	0-20000ppm, +/-10ppm				
Installation	Standalone with castors				
Power supply	1P 240Vac 10A				
Dimension(WxDxH)	600×600×1200mm	660×770×1800mm	custom size	custom size	custom size
Gross weight	220kg	430kg	520kg	650kg	1500kg

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