



Welltech Instrument Co. Ltd

# HYPOXIC - SYSTEM



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# HYPOXIC - SYSTEM

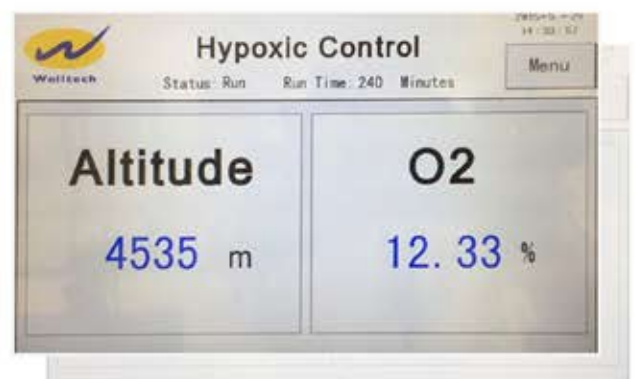


**Welltech's hypoxic system** can be intergrated with the environmental chamber, glass house, or sleeping room to simulate altitude control

It can simulate altitude up to max 9000m

## The hypoxic system consists of

- ◆ LCD touch screen controller
- ◆ Membrane system
- ◆ Air compressor
- ◆ Dryer
- ◆ Pressure vessel
- ◆ Filtering system
- ◆ Control valve
- ◆ Alarm and safety control



## Hypoxic system design



**Address:** Suite 2611, Office Tower Langham Place, 8 Argyle Street, Mongkok, Hong Kong

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## Model:HS-5000

- ♦ O<sub>2</sub> range:20.9% to 9.8% ± 0.1%(or +/- 40m)
- ♦ Altitude:up to 5000m (9000m as option)

## Includes

- ♦ Hypoxic system
- ♦ Hypoxic hollow fiber membrane system
- ♦ Four stage filters
- ♦ Control valve system
- ♦ Control panel
- ♦ Feedthrough
- ♦ Safety fresh air inlet

## Hypoxic system

- ♦ Rotary screw type compressor with,10 bar working pressure
- ♦ Refrigerated dryer
- ♦ Pressure vessel
- ♦ Sound reducing silencer

## Hypoxic hollow fiber membrane system

- ♦ Flow rate:-10m<sup>3</sup>/hr @ 10bar  
Material:ABS
- ♦ Inlet:3/8"thread with pressure gauge
- ♦ Outlet:3/8" thread
- ♦ High O<sub>2</sub> outlet:3/8" thread

## Four stage filters

- ♦ Ultra oil filter, air filter and water filter

## Control valve system

- ♦ SMC control valve module
- ♦ Maximum working pressure:20 bar
- ♦ Inlet:3/8" thread
- ♦ Outlet:3/8"thread

## LCD Touch screen controller

- ♦ PLC:Siemens
- ♦ With altitude(m) and O<sub>2</sub>(%) display
- ♦ Control setting:by meter or O<sub>2</sub>%
- ♦ Data storage:with data storage of time,O<sub>2</sub>,CO<sub>2</sub>, tempand humidity on USB memory flash
- ♦ 8 pieces bias calibration of each sensors
- ♦ With time reserve on/off function
- ♦ Can adjust to normal altitude in case of no training
- ♦ With user name and password access
- ♦ History record of any alarm
- ♦ Alarm system
- ♦ Emergency stop
- ♦ Material:304 s.s.

## Dual display

- ♦ With one more 10" display unit inside the room.

## Sensor Box

### O<sub>2</sub> sensor

- ♦ Non-drift oxygen sensor
- ♦ Range:0-25%
- ♦ Accuracy:+/-50ppm
- ♦ With 8-point piece bias calibration

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

- ♦ Range:0-20000ppm
- ♦ Accuracy:+/-10ppm
- ♦ With 8-point piece bias calibration

### Temperature sensor

- ♦ Range:-20 to 80C
- ♦ Accuracy:+/-0.1C

### Humidity sensor

- ♦ Range:0-100%RH
- ♦ Accuracy:+/-1%RH

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# Theory-how to generate the hypoxic air

## Hypoxic Modules

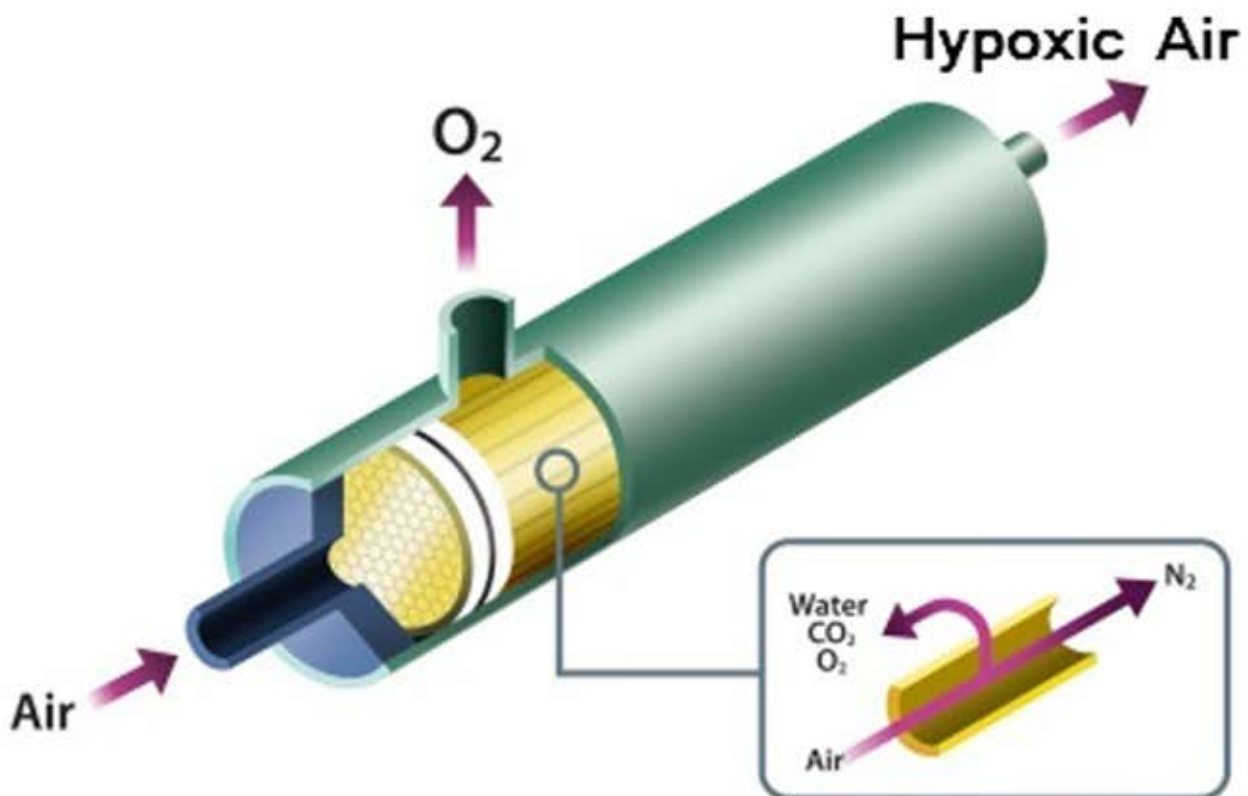
The environmental chamber can also integrate with the hypoxic unit to stimulate an altitude up to 9000m.

The hypoxic system comes with hypoxic module to reduce the fresh air (20.9%) into hypoxic condition (low oxygen level). It can reduce the oxygen up to 10.5% which is equal to altitude 5000m (9000m as option)

The hypoxic system consists of an air compressor, hypoxic module, control system and datalogging system.

Inside the hypoxic module, the high pressure air passing through the hollow fiber membrane so that the smaller oxygen molecules are separated and leaving a higher concentration of nitrogen (hypoxic air) out. The hypoxic air is purged into the chamber which is controlled by the non-drifted oxygen sensor.

The hypoxic environmental chamber is suitable for sports training, rehabilitation, body refreshment etc



The hypoxic air generated by the physical method which is safe for human use

