

Vacuum Steam Sweep Membrane Separation Performance Evaluation System (VSS1)



The VSS1 series evaluates membrane performance by passing humidity-controlled CO₂ gas through a separation membrane, reducing pressure, and supplying water vapor to the permeate side. Steam and humidity is controlled automatically, concentrating CO₂ from 13% to over 97% for over a month. This device is used for in-house CO₂ capture membrane performance evaluation and equipment design.

Features

- **Customizable pressure and humidity control** : Allows the setting of relative humidity, pressure, and steam supply on the permeation side for optimal CO₂ separation performance.
- **Adjustable supply gas parameters** : Temperature, humidity, gas amount, and CO₂ concentration can be set to simulate various exhaust gases for optimal separation conditions.
- **Measurement and recording** : Gas recovery, CO₂ concentration, temperature, humidity, and pressure can be measured and recorded.
- **Condensation prevention** : Unique pressure and humidity adjustment and drainage mechanism prevent condensation, with drainage capability if condensation occurs
- **Long-term durability** : Automatic calibration of CO₂ concentration meter and device control system support long-term tests.

Equipment Specifications

- Supply gas volume : 20 SLM
- Operating temperature : 40°C - 60°C
- Supply gas CO₂ concentration : 400 ppm - 50 %
- Supply gas pressure : atmospheric pressure
- Water vapor supply during recovery : 0 - 5 SLM
- Controllable pressure during recovery : 7 kPa - 20 kPa
- CO₂ concentration measurement : NDIR type

- Supply gas volume control : mass flow measurement method
- Recovered gas volume measurement : volume flow measurement method
- Water supply and drainage equipment : peristaltic pump
- Reduced pressure steam supply : reduced pressure boiler method
- Operation method : continuous operation with automatic calibration and control

- ❖ Please contact us for delivery date and price
- ❖ We also offer contracted evaluation tests, endurance tests, and acid gas endurance tests

JCCL, Inc.

Ito Lab Plus R&D Building (Rm. 215), 5-5, Kyudai Shinmachi,
Nishi-ku, Fukuoka City, Fukuoka Prefecture, 819-0388

TEL : 092-805-1566 / EMAIL : inquiry@jccl.co.jp

JCCL Website

