

# Technical Specifications CO Diffusion



Complete system for recording pulmonary diffusing capacity on the basis of CO diffusion with simultaneous determination of alveolar volume and other absolute pulmonary volumes by analyzing the He wash-in curve.

## Flow/volume sensors

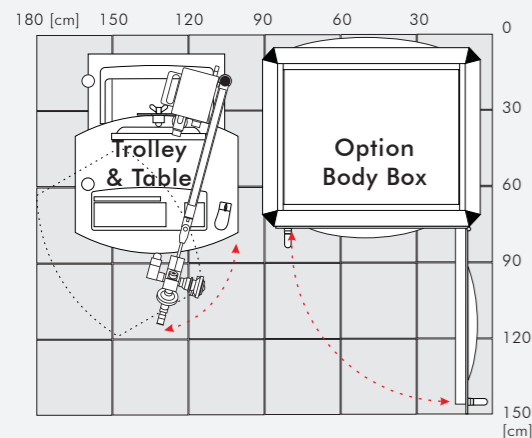
- Flow measurement: JAEGER pneumotach
  - Range: 0 - ±20 L/s
  - Accuracy: 0.2 - 12 L/s ±2 %
  - Resistance: <0.05 kPa/(L/s) at 10 L/s
- Volume determination: digital integration
  - Range: 0 - ±20 L
  - Accuracy: 5 mL
- Mouth pressure: piezo-resistive
  - Range: ±20 kPa
  - Accuracy: < ±2 %

## Gas analyzers

- CO analyzer: electrochemical cell
  - Range: 0 - 0.4 %
  - Accuracy: 0.0003 %
- He analyzer: thermal conductivity
  - Range: 0 - 9.5 %
  - Accuracy: 0.05 %
- Calibration: CAL-Pack, automatically

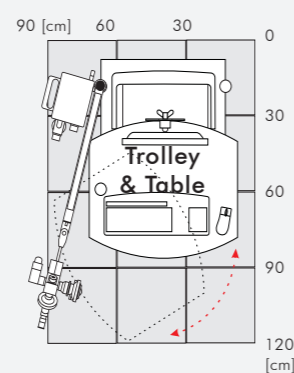
## MasterScreen™ Body/Diffusion

- Trolley with swivel-mounted desktop: 60 x 66 cm
- Required space: 180 x 150 cm



## MasterScreen™ Diffusion/PFT

- Trolley with swivel-mounted desktop: 60 x 66 cm
- Required space: 90 x 120 cm



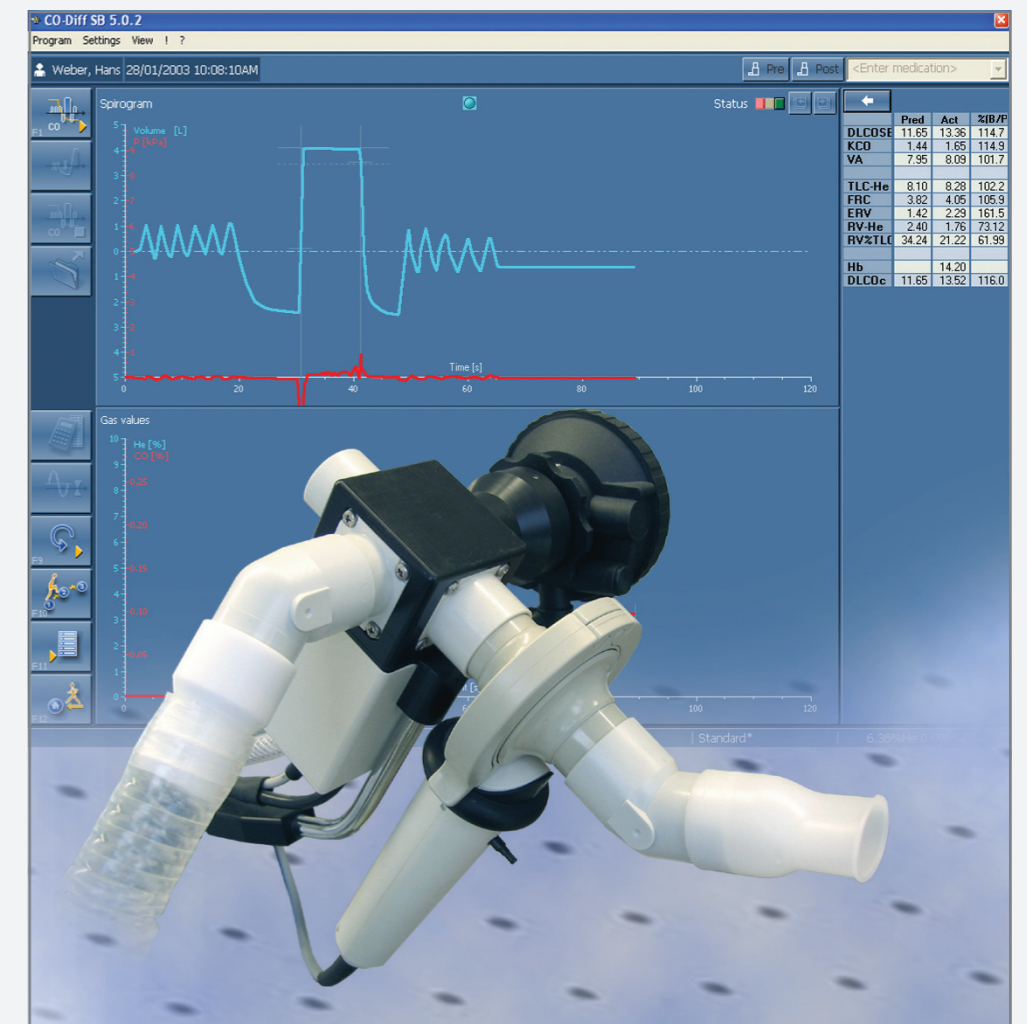
## Components

- Heated JAEGER™ pneumotach
- Computer, printer and monitor on an ergonomic trolley
- Quick and precise He and CO analyzers
- Assembled on an adjustable support arm
- Complete recording and analysis software including powerful data management features, calibration program and report system
- User interface available in blue or sand color
- Premixed gas Diff-SB, 0.28 % CO, 9.5 % He, ambient air

## Quality and Safety

- CareFusion is certified according to ISO 9001/IEC 13485.
- MasterScreen™ complies with the regulations of European (Medical Device Directive) and US (FDA) law.

# CO Diffusion Single Breath



- Precise diffusion testing
- Easy-to-operate software
- Attractive user interface
- Low operating costs
- Complies with ATS/ERS recommendations

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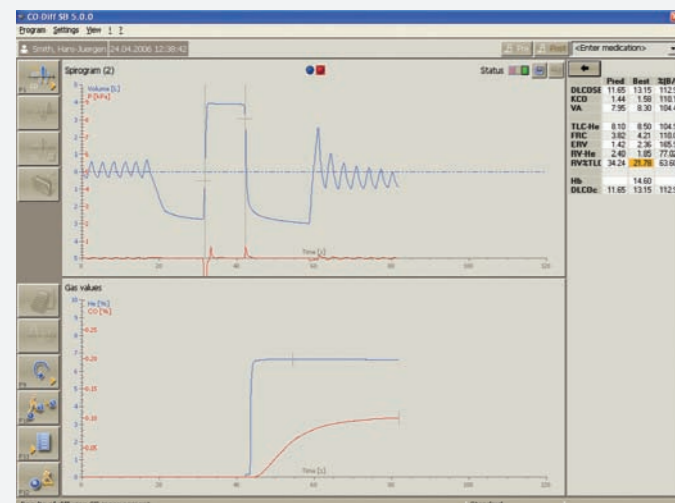
CareFusion  
Respiratory Care  
Your Partner:

Outpatient Monitoring	Lung Function Diagnostics	Cardiorespiratory Diagnostics
Sleep Diagnostics & Therapy	Point-of-Care Diagnostics	Ventilation

# Classic CO Diffusion Single Breath

A measuring program designed to meet every requirement

If you have so far been of the opinion that diffusion measurements are too expensive, the compact diffusion measuring head which allows favourably priced examinations will quickly reverse your view. The standard version allows you to perform the classic Single Breath Diffusing Capacity maneuver which is the "golden standard" in lung function testing.



■ Measuring application CO Diffusion Single Breath

The graphically oriented measuring program provides an easy, efficient and non-invasive determination of the single breath pulmonary diffusing capacity  $DL_{CO}$  on the basis of CO diffusion. Due to the simultaneous registration of the He wash-in curve the alveolar volume  $V_A$  and the absolute pulmonary volumes, Total Lung Capacity TLC-He, Functional Residual Capacity FRC-He as well as the Residual Volume RV-He are determined as well.

Diffusing capacity is a global measure for the effectivity of gas exchange. Therefore, measurements of diffusing capacity are indicated whenever the diffusion path or the diffusion area are suspected to be impaired, i.e. mainly in patients suffering from interstitial pulmonary diseases, ventilatory inhomogeneities as well as pulmonary fibrosis and emphysema, atelectasis and for chemotherapy control.

By combining this system with spirometry, indication and course of therapy can be easily optimized.

For issuing medical certificates the system offers a wide range of relevant functional parameters to consultants.

## Gas and analytics

### Harmonic interaction for absolute precision

The test gas is a standardized carbon monoxide and helium gas mixture which is tolerated by the patient very well and which is cheaper than special gases. A newly developed and breath-controlled demand valve assures that the patient breathes exactly the amount of gas required for the test. The stable, calibrated and linear gas analyzers provide quick and precise results.

### Performance Features:

#### Software

- Excellent operator guidance incl. quality control
- Time and pressure controlled TLC maneuver
- Large display of the breath-hold time
- Clearly arranged examination results
- Hb correction
- Training mode with ambient air
- Powerful Spirometry/Flow-Volume program

#### System concept

- No breathing bags required
- Use of disposable air filters possible
- Minimum gas consumption, cost-saving test gas
- Integration into any other pulmonary function testing system possible

#### Gas analyzers

- CO analyzer electrochemical cell
  - Range 0 - 0.4 %
  - Accuracy 0.0003 %
- He analyzer thermal conductivity
  - Range 0 - 9.5 %
  - Accuracy 0.05 %

#### Premixed gas

- Diffusion-SB 0.3 % CO, 9.5 % He, ambient air

#### Especially suited for

- ◆ Pulmonology
- ◆ Allergology
- ◆ Occupational medicine
- ◆ Oncology

# Technical Specifications CO Diffusion

for the systems: MasterScreen™ Diffusion, MasterScreen™ PFT, MasterScreen™ Body/Diff

Measurement Programs:	Diff	PFT	Body/Diff
Spirometry/Flow-Volume	●	●	●
Flow-Volume Animation	●	●	●
Body Plethysmography	○	○	●
Single Breath Diffusion	●	○	●
Airway Resistance Rocc	○	○	○
Resp. Drive, Resp. Muscle Strength	○	○	○
Tidal Breathing Analysis	○	○	○
Compliance	○	○	○
Impulse Oscillometry	○	○	○
Bronchial Test incl. APS pro	○	○	○
Rhinomanometry	○	○	○
FRC-He Rebreathing	-	●	-
DL <sub>CO</sub> -Rebreathing <sup>*1</sup>	-	○	-
12-lead PC-ECG	○	○	○
Ergospirometry	○	○	○
<b>Administrative programs:</b>			
Data Base	●	●	●
Data Base Tools	○	○	○
SQL Data Mirror	○	○	○
PDF and TIF Report	○	○	○
Screen and Printer Report	●	●	●
Interpretation	○	○	○
Off-line Input	○	○	○
On-line Data Transfer	○	○	○
ReportDesigner	●	●	●
Predicted Value Generation	●	●	●
LanguageMaker	●	●	●
User Parameters	○	○	○
User Predicted Values	●	●	●
Bronchial Test Generation	○	○	○
IntelliSupport	○	○	○
AMOS	○	○	○
Network Data Base	○	○	○
Practice Coupling	○	○	○
HL7 Interface	○	○	○

\*1 only available with the FRC-He Rebreathing option

● Standard ○ Option - not available

#### Performance Features of the MasterScreen® System

- Modern design
- Heated pneumotach for highest accuracy
- New, user-friendly interface
- Comprehensive standard equipment
- Modular design for easy upgrading



■ MasterScreen™ Diffusion with ergonomic trolley



■ MasterScreen™ PFT with ergonomic trolley



■ MasterScreen™ Body/Diffusion with ergonomic trolley