EasyOne Pro

Advanced lung function testing with DLCO in a portable solution

Spirometry (FVC, FVL, SVC & MVV)
Single Breath CO Diffusion (DLCO)

Standards & Recommendations

Quality, Medical Devices & Electrical
EN ISO 9001 , EN ISO 13485 , EN ISO 14971 , EN 62366 , EN 62304 , EN ISO 26782 , EN ISO 23747 , IEC 60601-1, IEC 60601-1-2

FDA
510(k) market clearance

MDD 93/42/EEC
CE marked

Associations & Institutes
ATS/ERS 2005, NIOSH/ OSHA, SSA Disability

Languages
English, Dutch, French, German, Italian, Portuguese, Brazilian Portuguese, Russian, Spanish, Swedish, Turkish, Vietnamese

Gas specification
DLCO
10% helium, ± 10%
0.3% carbon monoxide, ± 10%
18 to 25% oxygen (normally 21%)
balance nitrogen

Technical

Printing options
PCL standard, direct to printer or over network

Data management
EasyWare Pro (SQLite, MS SQL Server)

Export
HI7, XML, GDT, via USB, LAN Network

Data links
Ethernet port, USB, possibility to upgrade to WLAN

No. of tests
> 10,000 tests

Age range
Spirometry > 4 years, DLCO > 6 years

Dimensions
27 x 33.5 x 27 cm (H x W x D), 8 kg

Device classification
Protection class I
Type BF applied part

Operating conditions
Temp 5 - 40 °C/41 - 104 °F
Rel. Humidity 15 - 95 %,
no condensation
Atmosph. Pressure 700 - 1060 hPa

Power Consumption
50 VA

TrueFlow

The original ultrasonic flow measurement is highly accurate in all flow ranges, independent of gas composition, pressure, temperature and humidity and does not require calibration during its life-time. The sensor is never in direct contact of the patient’s flow. ndd TrueFlow is a hygienic and resistance-free solution.

MolMass

ndd’s molar mass measurement facilitates accurate gas analysis simultaneous with the precise ultrasonic flow measurement. This unique feature allows for a number of applications with new diagnostic possibilities.

The proven ultrasound technology
ndd TrueFlow
ndd MolMass

Automated user guidance throughout maneuvers based on current ATS/ERS standards
Z-score, LLN and %predicted for fast interpretation of results
Reproducible results ensure comparability in multicenter studies
Real-time curves and paediatric incentives
Immediate test quality feedback in accordance with ATS/ERS criteria
Export of pdf files and raw data
Flexible HL7 and XML interface for easy EMR integration
Only 1 gas for DLCO, no calibration gas required
Absolute hygienic solution with Spirette and Barriette consumables eliminates the risk of cross-contamination
Compact device with smooth surfaces for easy and thorough cleaning

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### Parameters

<table>
<thead>
<tr>
<th>Parameters</th>
<th>FVC</th>
<th>FVL</th>
<th>SVC</th>
<th>MVV</th>
<th>DLCO</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATI, BEV, EOTV, FEF10, FEF25, FEF2575, FEF2575_6, FEF40, FEF50, FEF50/FVC, FEF50/VCmax, FEF60, FEF75, FEF75-85, FEF80, FET, FET25-75, FEV25, FEV75, FEV75/FVC, FEV75/VCmax, FEV1, FEV1/FVC, FEV1/Vmax, FEV1/Vmex, FEV1/Vcext, FEV3/VFC, FEV1/Vcmax, FEV3, FEV6, FVC, FVC6, MEF20, MEF25, MEF50, MEF60, MEF75, MEF90, MMEF, MTC1, MTC2, MTC3, MTCR, PEF, PEFT, t0, VCext, VCmax</td>
<td>ATI, BEV, CVI, E50/150, EOTV, FEF10, FEF25, FEF2575, FEF2575_6, FEF40, FEF50, FEF50/FVC, FEF50/VCmax, FEF60, FEF75, FEF75-85, FEF80, FET, FET25-75, FEV25, FEV75, FEV75/FVC, FEV75/VCmax, FEV1, FEV1/FVC, FEV1/Vmax, FEV1/Vmex, FEV1/Vcext, FEV3/VFC, FEV1/Vcmax, FEV3, FEV6, FVC, FVC6, MEF20, MEF25, MEF50, MEF60, MEF75, MEF90, MMEF, MTC1, MMEF, MTC2, MTC3, MTCR, PEF, PEFT, t0, VCext, VCmax</td>
<td>ERV, IC, IRV, RI, VC, VCex, VCvex, VCin, VCmax, VT</td>
<td>MVV, MVV6, MVVtime, VT</td>
<td>BHT, COHb, ColBarVol, CO Conc, COHb, ConBarVol, ConO2 Conc, ConAnemic Dead Space, System Dead Space, Discard Volume, DLadj, DLadj/VA, DLCO, DLCO/VA (KCO), FA CO, FA HE, FE CO, FEV1/FVC, FI CO, FI HE, FRC sb, FRC Cor, Hb, tI, Kroghs K, PAO2, RV sb, RV Cor, RV/TLC, RV/TLC Cor, TLC sb, TLC Cor, TLCO, VA sb, VA Cor, VCext, VCmax, Vd, VI</td>
<td></td>
</tr>
</tbody>
</table>

### Predicted normal values Spirometry

<table>
<thead>
<tr>
<th>GLI</th>
<th>North America</th>
<th>Latin America</th>
<th>Europe</th>
<th>Europe Scandinavia</th>
<th>Australia</th>
<th>Asia</th>
<th>Africa</th>
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</thead>
</table>

### Predicted normal values DLCO

<table>
<thead>
<tr>
<th>North America</th>
<th>Latin America</th>
<th>Europe</th>
<th>Other</th>
</tr>
</thead>
</table>

### Flow/Volume Sensor

<table>
<thead>
<tr>
<th>Type</th>
<th>Ultrasonic transit time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flow Range</td>
<td>± 16 l/s</td>
</tr>
<tr>
<td>Flow Resolution</td>
<td>± 2 % or 0.02 l/s</td>
</tr>
<tr>
<td>Volume Resolution</td>
<td>1 ml</td>
</tr>
<tr>
<td>Volume Accuracy</td>
<td>± 2 % or 0.050 l</td>
</tr>
<tr>
<td>PEF Accuracy</td>
<td>± 5 % or 0.200 l/s</td>
</tr>
<tr>
<td>MVV Accuracy</td>
<td>± 5 % or 5 l/min</td>
</tr>
<tr>
<td>Resistance</td>
<td>~ 0.3 cm H2O/l/s at 16 l/s</td>
</tr>
<tr>
<td>Sample Rate</td>
<td>400 Hz</td>
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</tbody>
</table>

### Gas Sensor

<table>
<thead>
<tr>
<th>Type</th>
<th>Non-dispersive infrared</th>
</tr>
</thead>
<tbody>
<tr>
<td>Range</td>
<td>0 to 0.35%</td>
</tr>
<tr>
<td>Resolution</td>
<td>0.0001%</td>
</tr>
<tr>
<td>Accuracy</td>
<td>± 0.001%</td>
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</tbody>
</table>

### Tracer Gas Sensor

<table>
<thead>
<tr>
<th>Type</th>
<th>Ultrasonic transit time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Range</td>
<td>0 to 50%</td>
</tr>
<tr>
<td>Resolution</td>
<td>0.02%</td>
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<tr>
<td>Accuracy</td>
<td>0.05%</td>
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