

EasyOne Pro LAB

The portable solution that offers the broadest spectrum of lung function testing in the GP's office, clinic and hospital



Spirometry Single Breath CO Diffusion Multiple Breath Nitrogen Washout for Lung Volumes and Ventilation Inhomogeneity

The proven ultrasound technology
NDD TrueFlow™
NDD TrueCheck™

no calibration, no warm-up
time, no moving parts

Automated user guidance throughout maneuvers based on
ATS/ERS standards 2019 and 2005

Z-score, LLN and %predicted for fast interpretation of results

Reproducible results ensure comparability in multicenter studies

Real-time curves and pediatric 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 and 1 gas for MBW testing, 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


TrueFlow
makes the difference

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 with the patient's flow. NDD TrueFlow™ is a hygienic and resistance-free solution.


TrueCheck
automated precision

TrueCheck™ – Always Safe & Ready to Test

TrueCheck™ takes care of the essential quality control for gas analysis testing. EasyOne Pro® is the only device proven to be accurate for a lifetime for DLCO measurements.

Standards & Recommendations

Quality, Medical Devices & Electrical ISO 13485, ISO 14971, IEC 62366, IEC 62304, ISO 26782, ISO 23747, IEC 60601-1, IEC 60601-2, ISO 10993-1

FDA 510(k) market clearance

MDD 93/42/EEC CE marked

Associations & Institutes ATS/ERS 2019 and 2005, NIOSH/OSHA, SSA Disability

Languages

Brazilian Portuguese, Chinese, Croatian, Danish, Dutch, English, Finnish, French, German, Italian, Japanese, Norwegian, Portuguese, Russian, Spanish, Swedish, Turkish, Vietnamese

Gas specification

DLCO

- 9% to 11% medical grade helium
- 0.27% to 0.33% medical grade carbon monoxide
- 18% to 25% medical grade oxygen, balance nitrogen
- The DLCO test requires a gas mixture within an accuracy range of <2%

MBW Oxygen for hospital use

Technical

Printing options PCL standard, direct to printer or over network

Data management EasyOne Connect (SQLite, MS SQL Server)

Export HL7, XML, GDT, via USB, LAN Network

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

No. of tests > 10⁶000 tests

Age range Spirometry > 4 years, DLCO > 6 years, MBW > 4 years or > 18kg

Dimensions 27 x 33.5 x 27 cm³ (H x W x D), 8 kg

Device classification Protection class I
Type BF applied part

Operating conditions Temp. 10 - 40°C / 50 - 104°F
Rel. Humidity 30 - 75%, non-condensing
Atmosph. Pressure 700 - 1060 hPa

Power Consumption Up to 80 VA

Parameters

FVC	ATI, BEV, EOTV, FEF10, FEF25, FEF 2575, FEF2575_6, FEF40, FEF50, FEF50/FVC, FEF50/VCmax, FEF60, FEF75, FEF75-85, FEF80, FET, FET25-75, FEV.25, FEV.5, FEV.5/FVC, FEV.75, FEV.75/FEV6, FEV.75/FVC, FEV.75/VCmax, FEV1, FEV1/FEV6, FEV1/FVC, FEV1/FVC6, FEV1/VC, FEV1/VCmax, FEV3/FVC, FEV3/VCmax, FEV3, FEV6, FVC, MEF20, MEF25, MEF40, MEF50, MEF60, MEF75, MEF90, MMEF, MTC1, MTC2, MTC3, MTCR, PEF, PEFT, t0, VCmax
FVL	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, FEV.25, FEV.5, FEV.5/FVC, FEV.75, FEV.75/FEV6, FEV.75/FVC, FEV.75/VCmax, FEV1, FEV1/FVC, FEV1/FIV1, FEV1/FIVC, FEV1/FVC, FEV1/VC, FEV1/VCmax, FEV3/FVC, FEV3/VCmax, FEV3, FEV6, FIF25, FIF2575, FIF50, FIF50/FEF50, FIF75, FIV.25, FIV.5, FIV1, FIVC, FVC, MEF20, MEF25, MEF40, MEF50, MEF60, MEF75, MEF90, MIF25, MIF50, MIF75, MMEF, MMIF, MTC1, MTC2, MTC3, MTCR, PEF, PEFT, PIF, t0, VCmax
SVC	ERV, IC, IRV, Rf, VC, VCex, VCin, VCmax, VT
MVV	MVV, MVV6, MVVtime, Rf, VCext, VT
DLCO	BHT, COHb, ColBarVol, CO Conc, HE Conc, O2 Conc, Anatomic Dead Space, System Dead Space, Discard Volume, DLadj, DLadj/VA, DLCO, DLCO/VA (KCO), ERV, FA CO, FA HE, FE CO, FEV1/FVC, FI CO, FI HE, FRC sb, FRC Cor, Hb, tl, Kroghs K, PaO2, RV sb, RV Cor, RV/TLC sb, RV/TLC Cor, TLC sb, TLC Cor, TLCO, VA sb, VA Cor, VCext, VCmax, Vd, VI, VT
MBW	CEV, CEV5, Anatomic Dead Space, Syst Dead Space, ERV, fN2 End, fN2 Start, FRC base, FRC extrapol, FRC mb, IC, IRV, LCI, LCI5, M0, MR1, MR2, Rf, RV mb, RV/TLC mb, TLC mb, VA mb, VC, VCex, VCin, Vd, VT, VT/FRC mb, VT/kg, Scond, Sacin

Predicted normal values Spirometry

GLI	Quanjer 2012, Stanojevic 2009
North America	Crapo 1981, Dockery (Harvard) 1993, Eigen 2001, Gutierrez (Canada) 2004, Hsu 1979, Knudson 1983, Knudson 1976, Morris 1971 & 1976, NHANES III (Hankinson) 1999, Polgar 1971
Latin America	Chile 2010, Chile (Pediatrics) 1997, Pereira 1992, Pereira 2006/2008, Pérez-Padilla (PLATINO) 2006, Pérez-Padilla (Mexico) 2001, Pérez-Padilla (Mexico, Pediatrics) 2003
Europe	ERS (ECCS, EGKS, Quanjer) 1993, Garcia-Rio (SEPAR) 2013, Falaschetti 2004, Forche (Austria) 1988 & 1994, Klement (Russia) 1986, Roca (Spain, SEPAR) 1982, Rosenthal 1993, Sapaldia (Switzerland) 1996, Vilozni 2005, Zapletal 1977, Zapletal 2003
Europe Scandinavia	Berglund Birath (Sweden) 1963, Finnish 1982 (1998), Gulsvik (Norway) 1985, Hedenström 1985 & 1986, Langhammer (Norway) 2001, Kainu (Finland), 2016, Nystad 2002
Australia	Gore Crockett 1995, Hibbert 1989
Asia	Chhabra (India) 2014, Dejsomritrutai (Thailand) 2000, Indonesia 1992, IP (China, HongKong) 2000 & 2006, JRS 2001 & 2014
Africa	Mengesha (Ethiopia), 1985

Gas-Sensor	CO	CO ₂
Type	Non-dispersive infrared	
Range	0 to 0.35%	0 to 10%
Resolution	0.0001% (1 ppm)	0.005 %
Accuracy	± 0.0015% (15 ppm)	0-1%: 0.05% CO ₂ 1-3%: 0.1% CO ₂ 3-6%: 0.15% CO ₂ 6-9%: 0.2% CO ₂ 9-10%: 0.3% CO ₂

Accessories and order numbers

Spirette	Box 50 pcs 2050-1	DLCO Barriette	Box of 50 pcs 3050-1	Stand for Sensor	3000-07.00
	Box 200 pcs 2050-5		Box of 100 pcs 3050-2	Annual replacement kit (filter pack, patient tube, one-way valve and overpressure valve)	3000-50.50SP
	Box 500 pcs 2050-10	FRC Barriette	Box of 40 pcs 3150-1		
			Box of 80 pcs 3150-2		

Predicted normal values DLCO

North America	Ayers 1975, Burrows 1961, Crapo 1981 & 1982, Knudson 1987, McGrath & Thompson 1959, Miller 1980, Gutierrez (Canada) 2004, NHANES (Neas) 1996, Polgar 1971
Latin America	Vazquez Garcia (ALAT) 2016, Gochicoa 2019
Europe	Stanojevic (GLI) 2017, ERS ECCS/EGKS 1993, Zapletal 1977, Roca 1990 & 1998, Hedenström 1985 & 1986, Gulsvik 1992, Klement (Russia) 1986
Other	Pereira 2008, Thompson 2008, Kim 2012, Chhabra (India) 2015, Ip (China, HongKong) 2007, JRS (Japan) 2001

Predicted normal values MBW

Europe	Verbanck 2012
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Flow/Volume Sensor

Type	Ultrasonic transit time
Flow Range	± 16 l/s
Flow Resolution	4 ml/s
Flow Accuracy (except PEF)	±2% or 0.02 l/s
Volume Resolution	1 ml
Volume Accuracy	±2% or 0.050 l
PEF Accuracy	± 5% or 0.200 l/s
MVV Accuracy	± 5% or 5 l/min
Resistance	~ 0.3 cm H ₂ O/l/s at 16 l/s
Sample Rate	400 Hz (converted and stored with 200 Hz)

Tracer Gas Sensor	Helium	N ₂
Type	Ultrasonic transit time	
Range	0 to 50%	0 to 100%
Resolution	0.02%	0.1%
Accuracy	0.05%	0.2%