

# SPIRO-SPECTRUM

High-accuracy PC-based Spirometer

- ✓ High accuracy for low flows
- ✓ 3-liter calibration syringe
- ✓ Easy-to-clean break-resistant flow converter
- ✓ Built-in sensors for automatic BTPS correction
- ✓ Conformance to ATS/ERS recommendations for accuracy and reproducibility
- ✓ Wide range of approved predicted value sets



Objective diagnostics of bronchopulmonary diseases is of high priority in clinical practice all over the world. Spirometry is a simple and effective technique that helps to detect and manage patients with lung disorders.



300 mln

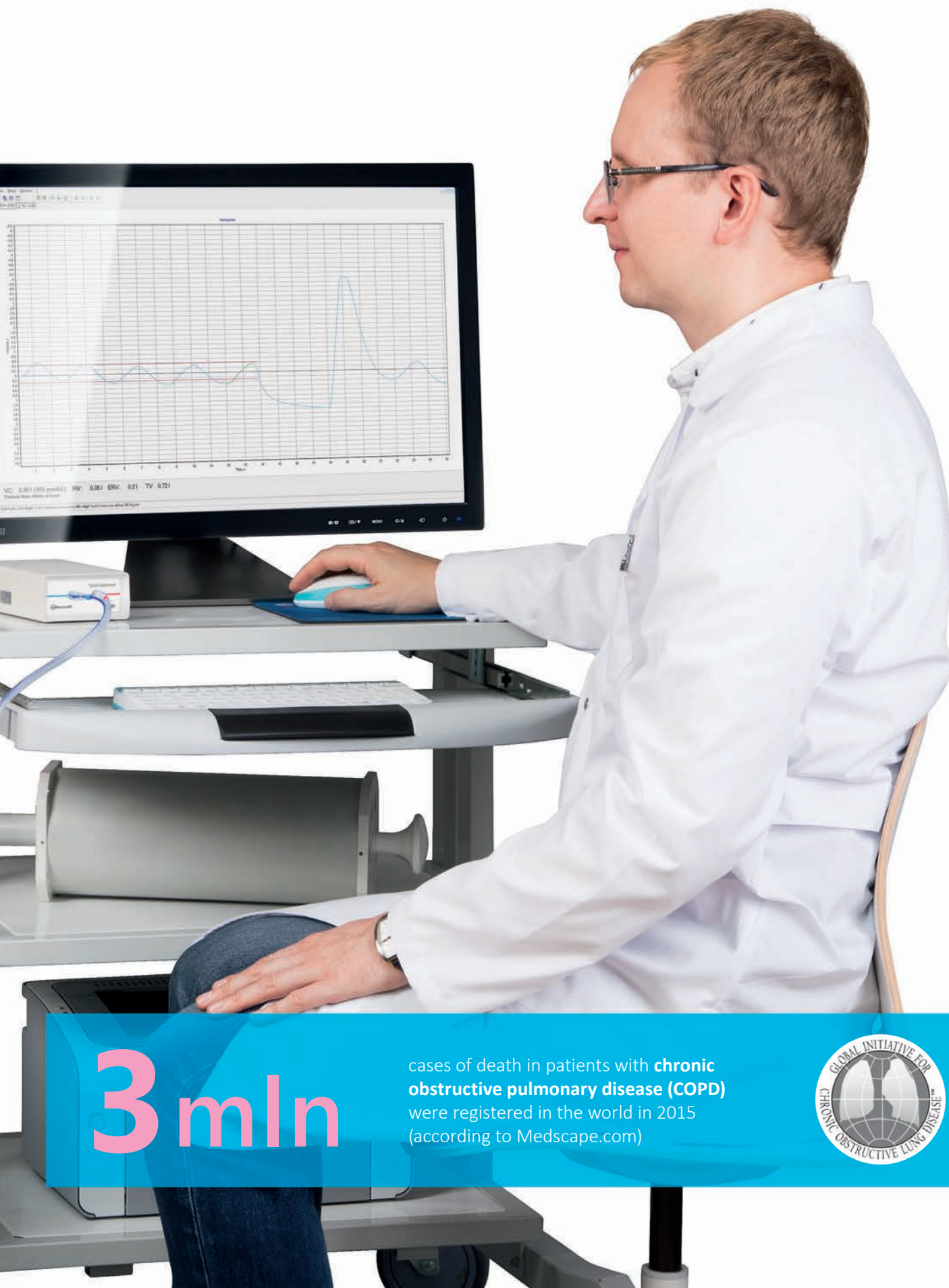
people worldwide  
are living with **asthma**  
(according to the WHO)



World Health  
Organization



Over 15 years the spirometers produced by Neurosoft Company are used successfully in Russia and abroad. It is a modern and reliable device that measures up to 43 spirometric parameters for accurate diagnosis of asthma, COPD and other respiratory diseases in children and adults.



3 mln

cases of death in patients with **chronic obstructive pulmonary disease (COPD)** were registered in the world in 2015 (according to Medscape.com)

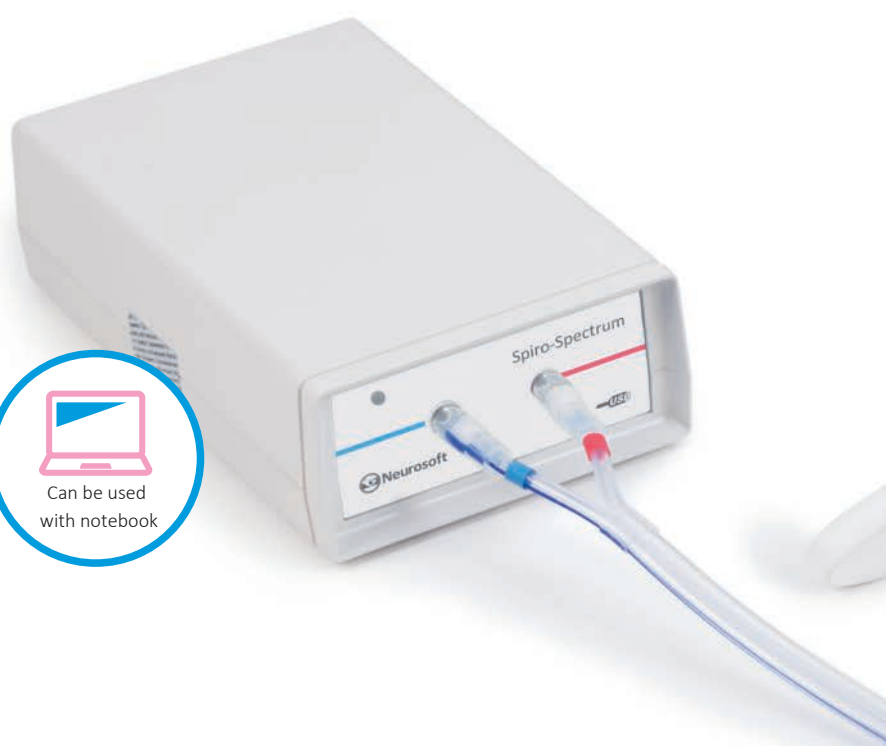
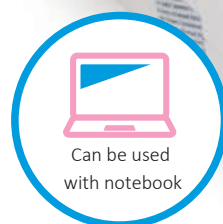


# HIGH-ACCURACY MEASUREMENT

Spiro-Spectrum is a modern, reliable device that ensures quick and high-accuracy measurement of spirometric parameters in adults and children from 5 years old. A specialist can easily perform the spirometry test using advanced user-friendly software and print the individual report generated automatically.

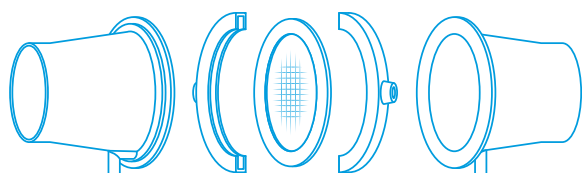
## HIGH ACCURACY

Only high-quality sensors and electronic components are used in the spirometer design. Each device is calibrated separately on a special stand. Moreover, the accuracy of this type of spirometer is ensured by the absence of turbine inertia contrary to the turbine spirometers.



## EASY-TO-CLEAN FLOW CONVERTER

The demountable break-resistant flow converter simplifies cleaning and disinfection of components contacting with patient's mucous membranes and airflow. The delivery set includes the sufficient quantity of replaceable flow converters to perform spirometry tests during one working day with no break for disinfection.



## BUILT-IN SENSORS

In Spiro-Spectrum the built-in temperature, atmospheric pressure and humidity sensors for automatic BTPS correction are used to provide high-accuracy flow volume measurements.



### 3-LITER CALIBRATION SYRINGE

The measurements from Spiro-Spectrum should be regularly checked with a precise 3-liter calibration syringe. The syringe volume approximately equals to the average vital lung capacity of a human. Syringes of lesser volume demonstrate predictably worse measurement accuracy.

### SPECIAL HOLDER FOR FLOW CONVERTER

A special holder for the flow converter ensures the user's comfort during pulmonary function test and the accuracy is not affected by the warmth of a hand. The holder is made from high-quality break-resistant plastic and it is easily attached to the converter without extra tools.

### CLINICAL USE

- Routine spirometry in children and adults
- Preventive physical examinations and screening tests
- Preoperative risk assessment
- Epidemiologic studies
- Selection of optimal therapy
- Monitoring of chronic diseases

# SPIROMETRY ACCORDING TO INTERNATIONAL STANDARDS

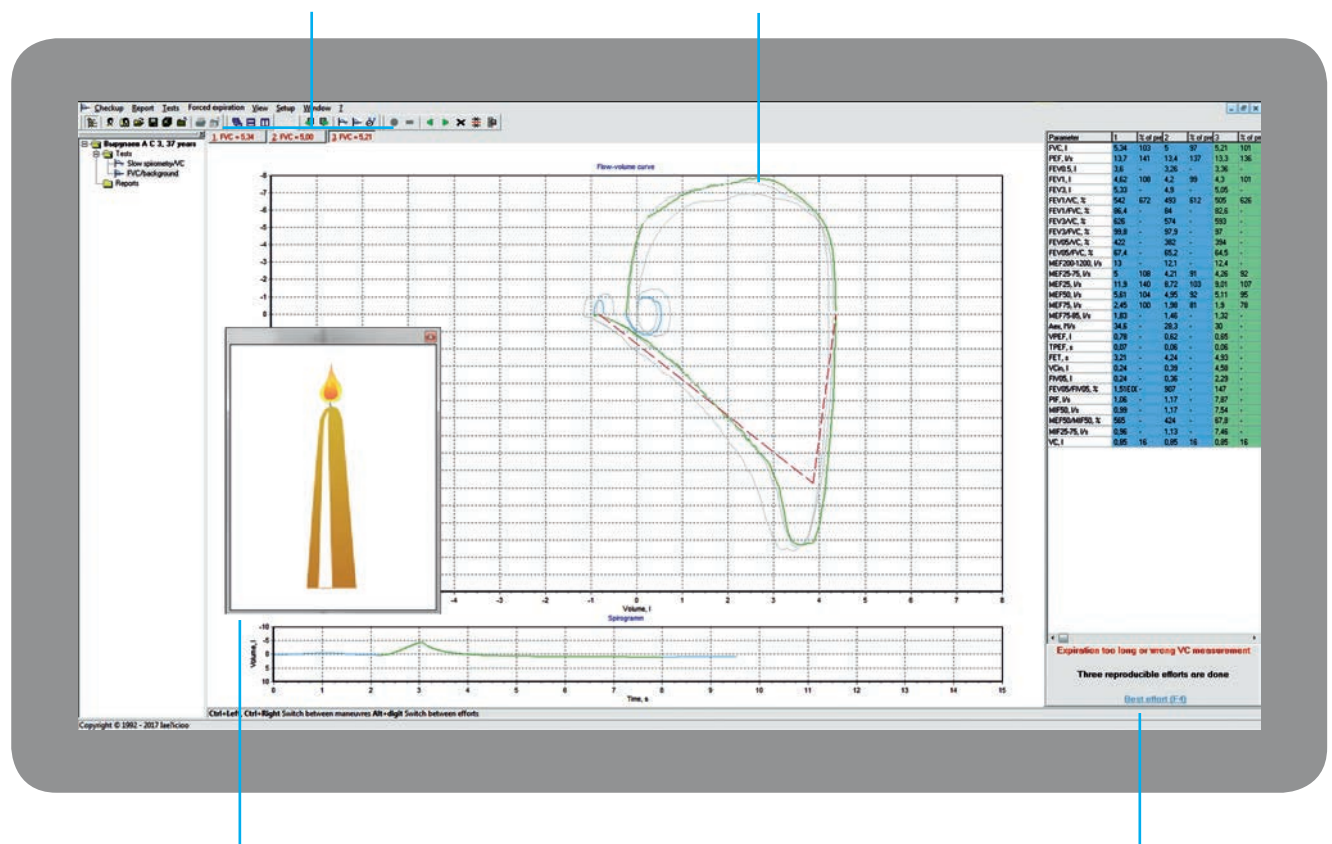
Spiro-Spectrum is delivered with advanced software to perform full spirometry testing and generate individually configurable test reports. Do the tests quickly and easily!

## PULMONARY FUNCTION TESTS

- Vital capacity (VC),
- Forced vital capacity (FVC),
- Maximal voluntary ventilation (MVV).

## VISUAL MONITORING OF BREATHING MANEUVER

The spirogram and flow-volume curve displayed in real time help to control the test performance more effectively.



## MOTIVATING ANIMATION GRAPHICS

The bright motivating animation is a perfect solution for pediatric tests that significantly improves the quality of testing. A simple game-like task encourages a little patient to perform diagnosis test correctly and easily.

## AUTOMATIC TEST QUALITY CONTROL

The automatic control of flow-volume curve quality and reproducibility significantly reduces the time of testing and guarantees the reliable results. The quality criteria for breathing maneuvers fully comply with the latest ATS/ERS recommendations.

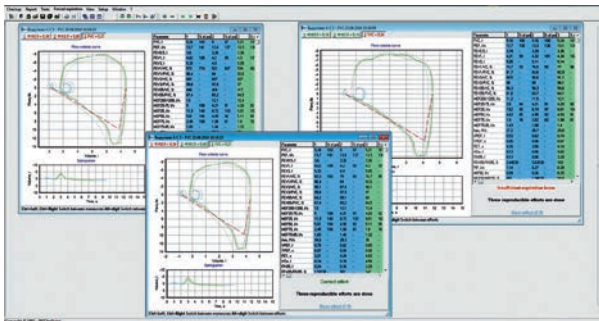


## BRONCHOPROVOCATIVE AND BRONCHODILATATION TESTS

Bronchoprovocative and bronchodilatation tests are performed for detailed study of the respiratory system reaction to specific medications (blocking agents or stimulants) as well as to physical activity and cold air exposure.

## TEST COMPARISON

The flexible tools of Spiro-Spectrum software ensure the effective follow-up of patient's pulmonary function for multiple parameters.

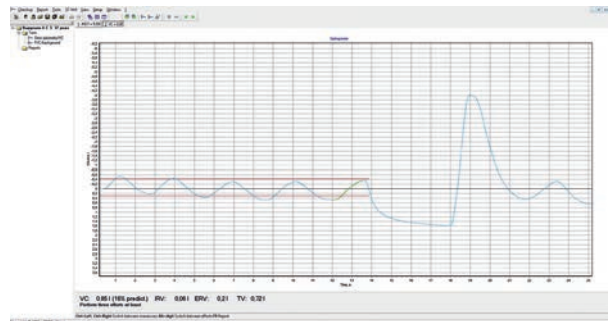


## WIDE RANGE OF APPROVED PREDICTED VALUE SETS

The software supports the following approved predicted value sets: Clement and others (1984), Clement and Zilber (1994), Knudson, ECCS, ITS, NHANES III and Pereira (1992). You can also create your own predicted values and edit the existing ones.

## EXPRESS TEST

A kind of forced expiration test developed particularly for screening. The specialized software allows you to shorten the testing time without loss of information.



## CONFIGURABLE TEST REPORT

The reports are individually configurable and can include patient information, graphs, tables and automatic interpretation. You can also use a number of templates to generate the report more quickly.

**Your Hospital**

Patient: John Doe, 37 years, Height: 182 cm, Weight: 129 kg, Sex: male, BMI: 38,9  
 Ethnicity: Not set  
 Air temperature: 26 °C Air pressure: 701 mmHg  
 Last calibration date/time 27.10.2017 16:32:33 ratio 1 / 1  
 Predicted values system: Clement  
 Diagnosis: —

**Vital capacity (VC) test**

Test date: 08.23.2016 15:57  
 3 effort(s), no reproducible efforts.

Parameter	Measured	Predicted value	% of predicted
VC.I	0.72	5.42	13
RV.I	0	-	-
ERV.I	0	-	-
RV/ERV	5.82	-	-
TV.I	0.69	-	-

**Forced expiration test**

59.3 effort(s), at least three of them are reproducible.

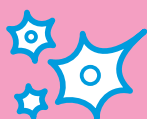
Measured	Predicted value	% of predicted
5.26	100	
9.73	114	
4.33	100	
79.7	761	
-	-	-
5	86	
8.89	99	
6.09	81	
2.75	72	
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
5.42	11	

5:59:09

disorder. No convincing data confirming airway conduction  
 litional examination of static lung volumes is recommended to

ctor: \_\_\_\_\_ John Doe

# COMPREHENSIVE ASSISTANCE AND TECHNICAL SUPPORT



Our customers can always count on Neurosoft team for extensive support.



Together with digital system you get the detailed technical and user manuals.



We guarantee 24-month warranty for electronic units and lifetime software update.



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## Neurosoft

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