

**How can you fight it,**  
if you can't measure it?

Fat-free mass: 67.2 %  
Fat mass: 32.8 %  
Water: 56.3 %

lbs   %   

Insights from inside out.



## seca | mBCA

The beginning of a new era.

We have been developing and manufacturing the highest quality and the most precise measuring systems and scales since 1840. Today, seca is the global market leader in medical measuring systems and scales. Benchmarks are set when this experience and passion for precision meets body analysis. The result is the seca medical Body Composition Analyzer, or seca mBCA for short. It is the only body composition analyzer designed for medical use, and validated against the Four Compartment Model – the gold standard for fat mass estimation. The seca mBCA is reliable, economical, and simple to use. It offers a non-invasive analysis which allows you to work more efficiently and precisely, while providing more to your patients.

### The seca mBCA. Insights from inside out.

Robert M. Vogel  
CEO Marketing & Sales

Frederik Vogel  
CEO Development & Manufacturing

Thomas Wessels  
CEO Finance & Services

Your demands.

## Best time for a seca solution.

- Identify symptoms earlier.**  
It takes several appointments and examinations to receive accurate and valid body composition measurements. Therefore, an analyzer that delivers the exact results in seconds could save you and your patients a substantial amount of time which could be used to start the necessary treatment.
- Supports your diagnosis.**  
In addition to height and weight, additional parameters such as fat mass, body water, and muscle mass will assist your diagnosis or recommendation for therapy. A body composition analyzer that delivers precise results and infographics would be the perfect support.
- Respond to developments over the course of therapy.**  
Routine measurements are essential to respond to certain developments over the course of therapy. A body composition analyzer that delivers accurate and reproducible results in a clear overview will help you make precise adjustments over the course of therapy.
- Optimize recovery time.**  
During rehabilitation it is important to monitor the effectiveness of specified measures and adapt them if necessary. With a quick measurement time, precise measurement data, and a clear overview of the course of therapy you can create the appropriate therapy plan and reduce your patients recovery time.



# seca | mBCA

Developed for your daily work.



## Intuitive operation.

The seca mBCA is easy to operate via the ample 8.4" touchscreen display. You can turn the display around 360° to have the best view at all times.

## Short measurement time.

17 seconds – that's all the time that the seca mBCA needs. You can analyze and interpret the data immediately so you are not losing any time in diagnosing your patient.

## Unmatched precision.

Medical precision of all measurement results validated on various ethnicities, reviewed in a clinical trial\* using the respective gold standard method, and equipped with intelligent German measurement technology. When precision matters: seca mBCA.

## Reliable measurement.

The handrail of the seca mBCA acts as a standing aid and provides a secure grip for patients to hold onto while being measured. The unique grip electrodes check the contact for a reliable measurement and the hand position is predefined in order to obtain valid and reproducible results.



## Extreme durability.

The seca mBCA has an increased weight capacity of up to 660 lbs. The weighing platform is made of safety glass and the low-profile design makes it easy for the patient to step onto.

Body composition analysis using the seca mBCA.  
**Take a deeper look into your patients.**



An example from sports medicine:

### Monitor physical therapy.

A patient injures his achilles tendon and must refrain from all physical activities until his injury heals. As a result of his inactivity, his muscle mass decreases while his fat mass increases. Thus, changes such as these can be monitored by the seca mBCA.

An example from weight management:

### Evaluate weight loss.

An overweight patient loses a significant amount of weight in a short period. A measurement using the seca mBCA, however, shows that his fat mass has decreased only minimally, yet his muscle mass has decreased significantly. This indicates unhealthy weight loss and too little activity. Now you can actively counteract this and get your patients on track to healthy weight loss.

An example from nephrology:

### Monitor water distribution.

Chronic renal failure leads to water retention in the body. With the aid of the seca mBCA, you can accurately determine the patient's dry weight as well as compare the patients' hydration status before and after dialysis.

An example from nutritional medicine:

### Identify substance loss.

Cachexia, e.g. within the framework a tumor disease, manifests itself in a decrease of body cell mass. With the aid of the seca mBCA you can measure the cell mass at regular intervals in order to detect any decreases early and initiate any necessary nutritional therapies sooner.

\* Bosy-Westphal A, Schautz B, Later W, Kehayias JJ, Gallagher D. What makes a BIA equation unique? Validity of eight-electrode multifrequency BIA to estimate body Composition in a healthy adult population. Eur J Clin Nutr 2013; 67: 14-21; doi:10.1038/ejcn.2012.160

### Comfortable for everyone.

The ergonomic design of the seca mBCA benefits everyone. It helps you and your colleagues because you do not have to give time-consuming instructions to your patients. Patients benefit from not having to remove all of their clothing or having wires connected to their body since they can comfortably stand barefoot on the weighing platform. Patients will feel very secure as they step onto the seca mBCA because its low weighing platform is easily accessible and the hand rail provides for a firm and stable grip.

## Save time analyzing.

### Quick to use with rapid results.

Every day you make difficult decisions under stressful situations. That is why we have developed a body composition analyzer that helps solve your problems rather than create new ones. We have ingeniously combined simplicity and speed in a way that has never been done before.

#### Ready for immediate use.

Learning how to use the seca mBCA is quite simple. We have designed a body composition analyzer in a way that enables intuitive use with the help of user-friendly menus, simple navigation, and easy-to-read graphical presentation of data. Regardless of who is using the seca mBCA, its ease of use enables seamless integration into your daily workflow.

#### Rapid measurement time.

Patients typically have to undergo numerous time-consuming exams in order to provide you with clinically valid data. However, the seca mBCA can produce the same exact measurements within 17 seconds allowing you to immediately analyze the data for diagnosis and instantly start treatment.

#### Optimally adaptable.

The seca mBCA offers a high degree of compatibility so that it adapts perfectly to your work environment. Whether using a USB stick, cable, or wireless data transmission, you can save and transmit your measurement data directly into your Electronic Medical Record (EMR) system.

#### User-friendly and clearly displayed.

The user-friendly menus and graphical presentation of data are displayed clearly for review. The touchscreen display is simple and self-explanatory and gives you the option of printing out an easy-to-read one-page report for your patients.



Precision.

## Reliable for your practice.

In your daily routine you need real facts that you can rely on. You are dealing with human health, after all. That is why we have developed a medical body composition analyzer that delivers precise results for the most important measurement parameters: the seca mBCA.

### Clinically validated data.

The precision of the seca mBCA output parameters were validated across various ethnicities in a multicenter trial\* using the respective and most precise reference measurement method, also called the gold standard. This means you receive data that you can actually use and rely on.

### Study:



Generation of Prediction Equations to Analyze Body Composition of Adults Based on Bioelectrical Impedance Analysis (BIA).

*Prof. Dr. Manfred J. Müller, Head of the Department of Human Nutrition, Institute of Human Nutrition and Food Science, Kiel University, Kiel, Germany*



Application and Adaption of Device Specific Body Composition Formulas to Various Ethnic Groups.

*Prof. Dr. Dymna Gallagher, Head of the Department of Body Composition, New York Obesity Research Center, St. Luke's-Roosevelt Hospital, New York City, USA*

For more information on further studies, visit [www.seca.com/studies](http://www.seca.com/studies).  
Contact your local seca representative for more information **1-800-542-7322**.

\*Bosy-Westphal A, Schautz B, Later W, Kehayias JJ, Gallagher D. What makes a BIA equation unique? Validity of eight-electrode multifrequency BIA to estimate body composition in a healthy adult population. Eur J Clin Nutr 2013; 67: 14-21; doi:10.1038/ejcn.2012.160

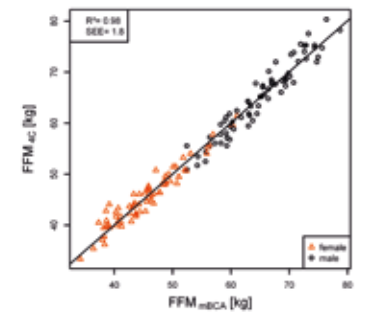
A study\* has provided impressive proof:

## The seca mBCA is comparable to the respective gold standards.

### Fat-free mass.

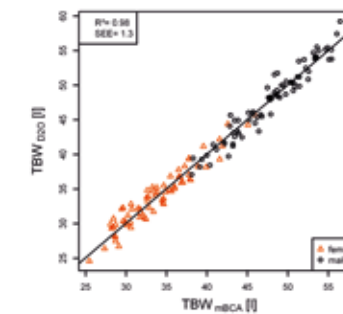
The fat-free mass (FFM) was validated using the 4-compartment model (4C model). Only the 4C model takes into account the biological variability of the water and mineral content. Other methods such as DEXA can only partly estimate this, which can lead to less precision – particularly among thin and athletic patients. The fat-free mass (FFM) correlates to over 98 % ( $R^2 = 0.98$ ) with the 4C model.

*Fat-free mass measurement comparison between the seca mBCA and the 4C model*

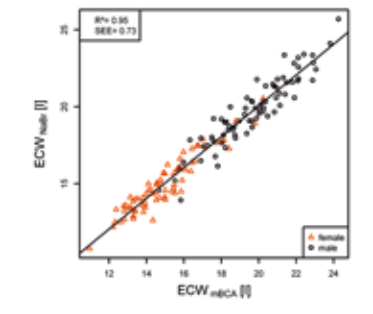


### Total body water.

In order to obtain a medically precise determination of body water it is necessary to make use of dilution methods that require time-consuming evaluation in the laboratory. The total body water (TBW) correlates to over 98 % ( $R^2 = 0.98$ ) with deuterium dilution ( $D_2O$  dilution) while the extracellular water (ECW) correlates to over 94 % ( $R^2 = 0.94$ ) with the sodium bromide dilution (NaBr dilution).



*Total body water measurement comparison between the seca mBCA and  $D_2O$  dilution*

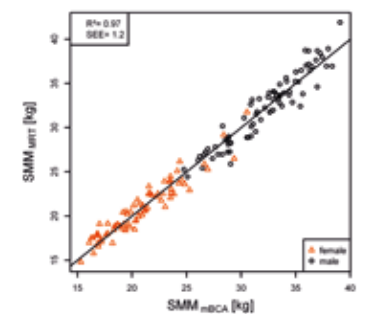


*Extracellular water measurement comparison between the seca mBCA and NaBr dilution*

### Muscle mass.

Over 250 full-body MRI scans are evaluated in total. It is a time-intensive yet very thorough approach that cannot be achieved with things such as DEXA technology (which merely shows pixels in 2D). The result is that the muscle mass correlates to over 97 % ( $R^2 = 0.97$ ) with magnetic resonance imaging (MRI).

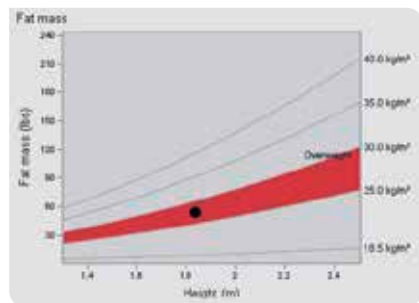
*Muscle mass measurement comparison between seca mBCA and MRI*



# The touchscreen display.

## Intuitive to use and easy to understand.

The seca mBCA can be operated effortlessly using the touchscreen display. The intuitive menus are designed in such a way that you and your colleagues do not require any time-consuming training. Simply turn on the body composition analyzer, turn the display to the desired position, and start the measurement. Then, you will receive a summary of the measurement results using the following body composition parameters:



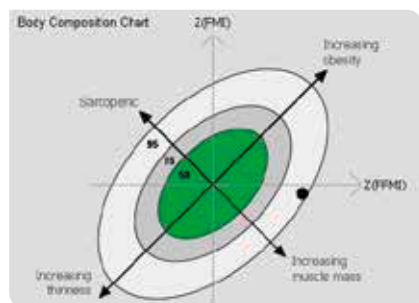
### FM Fat mass / fat-free mass

The medically precise distinction between fat mass and fat-free mass is important when weight changes occur. This is especially true for patients that are overweight, obese and malnourished.



### SMM Skeletal muscle mass

The development and retention of skeletal muscle mass plays an important role in malnourished patients, in the area of sports medicine, and in the reduction of body weight. The display shows the individual values for each of the patients' extremities as well as their torso.



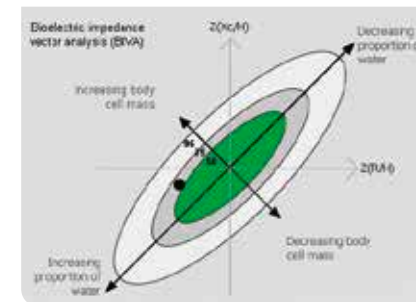
### BCC Body Composition Chart (BCC)

The BCC displays fat mass and fat-free mass in a graphic which enables you to interpret body composition at a glance. In addition, a series of measurements can be used to determine whether the fat mass or fat-free mass contributed to any weight change.

TBW	Total body water	58,2 l 58,5 %
ECW	Extracellular water	23,2 l 23,3 %
BVA	Bioelectrical impedance vector analysis	52,9 Ω 455,6 Ω

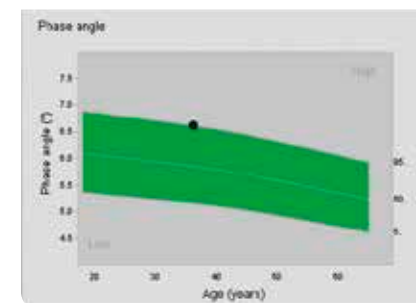
### Body water

Total body water, intracellular water, and extracellular water are identified separately. This supports the determination of dry weight, the detection of edemas, improved evaluation of weight loss, and the diagnosis of dehydration.



### BIVA Bioelectrical impedance vector analysis (BIVA)

Information on fluid status and body cell mass is graphically represented which gives you a better analysis of a patient's hydration status, nutritional status, and level of fitness. The BIVA is essential for nutrition counseling, sports medicine, and nephrology.



### Phase angle

The phase angle is correlated with the nutritional and metabolic status. Small irregularities in the somatic cells can be detected early and the severity of cancer, heart disease, and HIV can be verifiably determined. With the phase angle, signs of fatigue can be identified earlier and can assist physicians in the area of primary care and sports medicine.

Phase angle (50 kHz)	6,6 °
VAT	Visceral fat 2,7 l
BVA	Bioelectrical impedance vector analysis 52,9 Ω 455,6 Ω
FFMI	Fat-free mass index 13,0 lbs
FFM	Fat-free mass 49,8 lbs

### VAT Visceral fat

The higher the visceral fat value, the higher the risk of cardiometabolic illnesses. With the seca mBCA, negative trends can be detected early in order to initiate corresponding treatments and therapies.

seca analytics 115 PC software.

## Full performance, complete control.

The seca mBCA can do it all! Included with the body composition analyzer you will receive the seca analytics 115 PC software that offers you endless support. For it is the only with this comprehensive tool that you can follow the course of development of your patient's values across multiple measurement parameters.

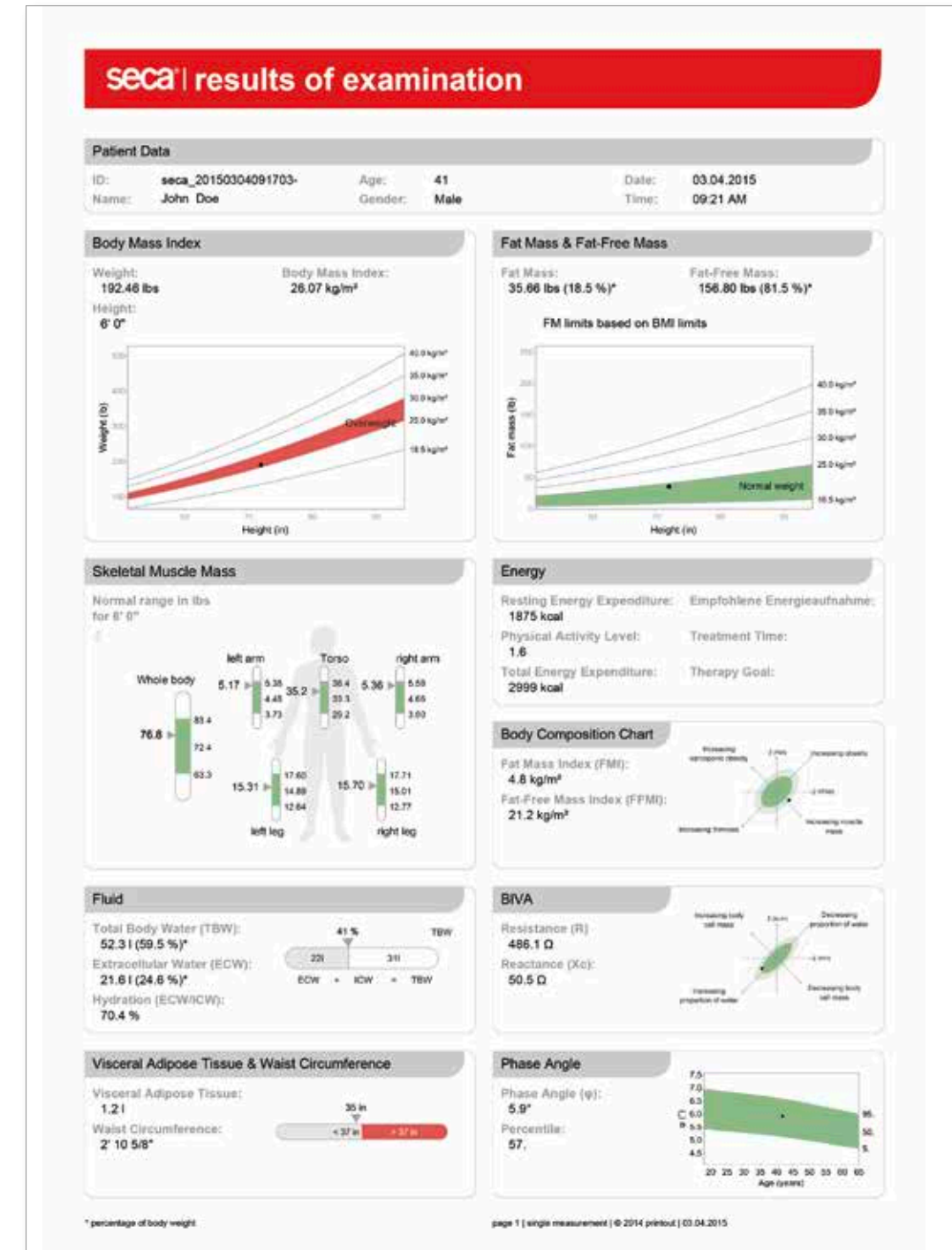
- Monitor and respond to the course of therapy.**  
Save the results of routine measurements and observe how certain measurement values of your patient develop over the course of time. This will enable you to monitor the success of therapy or respond to unexpected developments.
- Compatible with your health records system.**  
Transfer data smoothly to your EMR via CSV file, GDT, HL7, or XML format.
- Choose how you want to save the data.**  
Each workstation has its own requirements, therefore you can transfer data from your seca mBCA via USB stick, cable, or wireless data transmission.
- One seca mBCA for multiple workstations.**  
With additional software licenses you can access the measurement results of a single seca mBCA from multiple PCs.
- Quick access to patient data.**  
Quickly upload patient data to the seca mBCA – enter it directly using the touch-screen display, upload it from your PC or via a barcode scanner connected to the USB port.



A one-page summary of results.

## Easy to explain and even easier to understand.

With so much information, a clear and understandable overview helps. With the click of a button you can simplify your workload by printing an easy-to-read one-page summary of results for your patients.



seca solutions.

## Perfectly synchronized with one another.

### seca mBCA 514

Technical specifications

- Capacity: 660 lbs / 300 kg
- Division: 0.1 lbs < 330 lbs > 0.2 lbs / 50 g < 150 kg > 100 g
- Dimensions (WxHxD): 38.4 x 49.3 x 32.6" / 976 x 1,251 x 828 mm
- Power supply: Power adapter
- Display type: 8.4" touch-screen display, can be rotated 360°
- Interfaces: seca 360° wireless, USB 2.0, Ethernet
- Measurement method: 8-point Bioelectrical Impedance Analysis
- Measurement current: 100 µA
- Measurement time, normal mode: 17 seconds
- Frequencies: 19



### PC Software seca analytics 115

System requirements

- Supported operating systems: Windows® 8.1, Windows® 8, Windows® Server 2012 R2, Windows® Server 2012, Windows® 7 (SP1), Windows® Vista (SP1, SP2), Windows® Server 2008 R2 and Windows® Server 2008
- Ports: for usage in combination with seca medical devices USB port (2.0) or serial interface (RS232)
- Benötigter freier Festplattenspeicher: mindestens 1 GB
- Hard Disk Space: minimum 1 GB
- Display: 1024 x 768, High Colour (16-bit), 32-bit (recommended)
- Additional HW: DVD drive
- Processor: 1.2 GHz or higher



**1 exclusive location license included with the purchase of a seca mBCA 514**

Free product demonstration at your facility.

## Make your appointment today!

Let a seca product specialist personally demonstrate the seca mBCA for you at your facility. Familiarize yourself with the options and get answers to your questions. Contact seca today at **1 800 542 7322**, or complete the form below and email or fax in your demo request.

E-mail [info.us@seca.com](mailto:info.us@seca.com)

Fax **1 888 705 7397**

#### Free product demonstration

Yes, I would like a free demonstration at my facility.

#### Request a quote

Yes, I am interested in receiving a price quote on the seca mBCA.

#### Clinical Studies

Yes, please send me the mBCA validation studies.

#### Other

Yes, please contact me regarding \_\_\_\_\_.



.....  
Contact Name

.....  
Address

.....  
Practice / Institution

.....  
City, State, Zip Code

.....  
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Telephone Number

I prefer to be contacted:

by e-mail

by phone



# Medical Measuring Systems and Scales since 1840

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