

FOR MEASURABLE SUCCESS

SOEHNLE
PROFESSIONAL

FITNESS SCALE 7850.02

EVALUATION OF READINGS



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ENGLISH

FITNESS SCALE 7850.02 – EVALUATION OF READINGS

The Fitness Scale 7850 calculates the actual state of your weight, body fat, fluids and muscle percentage from your personal data. Please remember that your muscles also contain body fluids that are already taken into account in the body fluid analysis. For this reason, the total calculation always includes a value over 100%.

■ Body weight

Body weight is printed in kg "with" and "without" clothing. Based on the body weight measured, the fitness scale calculates your personal BMI value. The Body-Mass-Index is a measuring indicator for the evaluation of the body weight of a human being. Since overweight represents an increasing problem worldwide, the body mass is particularly used to point towards an exposure. The BMI only indicates a gross guide value and is contentious since it does not take into consideration the stature of a person and the natural individual different composition of the body weight from fat and muscles. BMI (Body Mass Index) is a measure to assess a person's weight. You distinguish between the categories "underweight", "normal weight", "slightly overweight", "overweight" and "very overweight".

The BMI value is calculated as follows:

$$\text{BMI} = \frac{\text{body mass (kg)}}{\text{body size (m)} \times \text{body size (m)}}$$

The weight is the body weight in kilogram and the height is indicated in meter. Values of persons with a normal weight have a BMI between 18.50 kg/m² and 24.99 kg/m² according to the adiposity classification of the WHO. Starting from a BMI of 30 kg/m² and above refers to people with overweight that require treatment.

BMI-Index					
Age	BMI 1	BMI 2	BMI 3	BMI 4	BMI 5
18-24	< 19	19-24	24-29	29-39	< 39
25-34	< 20	20-25	25-30	30-40	< 40
35-44	< 21	21-26	26-31	31-41	< 41
45-54	< 22	22-27	27-32	32-42	< 42
55-64	< 23	23-28	28-33	33-43	< 43
65+	< 24	24-29	29-34	34-44	< 44

BMI 1: Underweight

BMI 2: Normal weight

BMI 3: Slightly overweight

BMI 4: Overweight

BMI 5: Very overweight

An above-average muscle mass is not considered in the BMI-index. Conditional on many trained muscles the normal weight can be higher.

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■ Body fat percentage

The body fat percentage is printed out in percent. Too much body fat is unhealthy and unsightly. What's more important is that an excessive body fat percentage is often linked to excessive blood lipid concentrations and an increased risk of various diseases such as diabetes, cardiac diseases, high blood pressure, etc.

A very low body fat percentage is also unhealthy. Besides subcutaneous fatty tissue, the body stores fat despositis to protect inner organs and to perform vital metabolic functions. Any reduction in these essential fat reserves may result in metabolic disturbances. For example, if a woman's body fat values drop below 10%, her menstruation stops. In addition, the risk of osteoporosis rises.

Normal body fat percentage is dependent on age and especially sex. As the body gets older, there is a gradual decline in muscle mass and an increase in body fat percentage.

Women naturally have a fat percentage that is about 10% higher than men. People who do regular sport are often disappointed when the scale only registers a slow decrease in weight. Only when you measure the body fat percentage do you discover that your efforts are definitely worthwhile. Although you are not shedding weight to the extent you expected, there is a distinct conversion of fat into muscle mass. Determining the two values is the best way to demonstrate that you're on the way to achieving a healthy body.

Women				
Age	Body fat in %			
	low	normal	high	very high
10-12	< 12	12-23	23-30	> 30
12-18	< 15	15-25	25-33	> 33
18-30	< 20	20-29	29-36	> 36
30-40	< 22	22-31	31-38	> 38
40-50	< 24	24-33	33-40	> 40
50-60	< 26	26-35	35-42	> 42
60 +	< 28	28-37	37-47	> 47

Men				
Age	Body fat in %			
	low	normal	high	very high
10-12	< 8	8-18	18-24	> 24
12-18	< 8	8-18	18-24	> 24
18-30	< 8	8-18	18-24	> 24
30-40	< 11	11-20	20-26	> 26
40-50	< 13	13-22	22-28	> 28
50-60	< 15	15-24	24-30	> 30
60 +	< 17	17-26	26-34	> 34

■ Body water percentage

The body water percentage is printed out in percent. The value shown in this analysis corresponds to "total body fluids".

The body of an adult person consists of about 60% of water. The water percentage is mainly dependent on age, sex, the amount of physical activity and the body's fat content.

The difference between men and women comes from the higher body fat mass of women.

Since the greater percentage of body fluids is contained in the fat-free mass (73%), and the water content in fatty tissue is naturally very low (approx. 10%), the body water percentage automatically falls as the body fat percentage rises.

Body fluids in %		
Age	Women	Men
	normal	normal
10-12	> 60	> 64
12-18	> 58.5	> 63.5
18-30	> 56	> 62.5
30-40	> 53	> 61
40-50	> 52	> 60
50-60	> 51	> 59
60 +	> 50	> 58

■ Muscles

Every person has over 600 voluntary muscles. They constitute about 40% of total body mass for a man and about 34% for a woman.

Muscularity generally depends on personal lifestyle. Checking muscle mass is vitally important for peoples with weight or fat problems.

As the body needs muscles to break down excess energy reserves or fat pads, reducing weight is only successful in the long term if muscles are trained at the same time.

■ Energy consumption

The metabolic rate is printed in kcal and is calculated from your personal data corrected by a factor for your personal mobility type and the measured body mass distribution.

**Metabolic rate =
basal metabolic rate + performance rate**

If you intake fewer kilocalories than your personal energy consumption, your body reacts by losing weight. Your weight will rise if you intake more kilocalories.

■ Activity index

The Fitness scale 7850 asks the user to enter an activity type («AC» in display). A value between **1** and **5** can be entered, which is orientated on the following scheme for activity behaviour.

Acti- vity index:	Activity behaviour	Factor
1	almost no physical activity (max. 2 hours a day)	1.2
2	light active, sitting and standing activity	1.3
3	House and garden work, mainly standing; only rarely sitting	1.5
4	Sportsmen and persons with a lot of activity	1.75
5	Heavy worker, competitive athlete	2.0

The entered value only influences the calorie consumption forecast to the total. The values of the body analysis are not influenced.

Deriving from the activity type, a factor is multiplied with the calory rest consumption (basic consumption) to determine the total consumption.

Basic consumption is the daily calorie requirement of the body at rest, so without any physical activity. Activity consumption is the used calorie requirement for physical activity. Both together result in the total consumption.

The basic consumption is dependent on age, sex, height as well as muscles. Please note that men have a slightly higher basic consumption than women, elderly people a lower than younger ones, muscular and active persons a higher one. The daily total energy consumption is dependent on the basic consumption as well as the activity consumption, which depends on the type and amount of physical activity.

Overweight is particularly a sign that the person overestimates the own energy consumption and underestimates the energy content, which is often listed on all food.

The Fitness Scale helps to better estimate these factors. The energy consumption can be even doubled through a lot of sport and physical activity.

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Soehnle Professional GmbH & Co. KG

Manfred-von-Ardenne-Allee 12
DE-71522 Backnang

Phone +49 (0) 71 92 / 93 19-220

Fax +49 (0) 71 92 / 93 19-211

info@soehnle-professional.com

www.soehnle-professional.com

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