# KETTLER

# Computer- und Trainingsanleitung
# ST 2529-64

GB

## Inhaltsverzeichnis

G

This character provides a reference to either the general instructions or the glossary in the introduction. The corresponding term is explained in the glossary.

# Safety instructions

**In the interests of your personal safety, please comply with the following points:**
- The training equipment has to be set up on a solid base which fits its purpose.
- The connections and joints should be checked prior to the initial start-up and also after approx. 6 days of operation.
- To prevent injuries due to improper strain or overload, the training equipment must only be used according to the instructions.
- Setting up this equipment in damp indoor areas is not recommended over the long term due to the risk of rusting.
- Check and ensure that the training equipment is free of damage and functioning correctly on a regular basis.
- The safety checks form part of the operator's obligations and must be carried out correctly on a regular basis.
- Defective or damaged components are to be exchanged straight away. Please use original KETTLER spare parts only.
- This equipment should not be used until the maintenance is complete.
- The safety level of the equipment can only be guaranteed on condition that it is checked for damage and wear and tear on a regular basis.

**In the interests of your personal safety:**
- **Before starting training, please consult your doctor to make sure that you are physically able to use this equipment. Your doctor's report should also form the basis for the development of your training programme. Incorrect or excessive training can cause injury and/or health problems.**

# Brief description

The electronics unit is comprised of a functional area with keys and a display area (display) with symbols and graphics that can be changed.



**Display area**

*Display*

**Functional area**

*Keys*
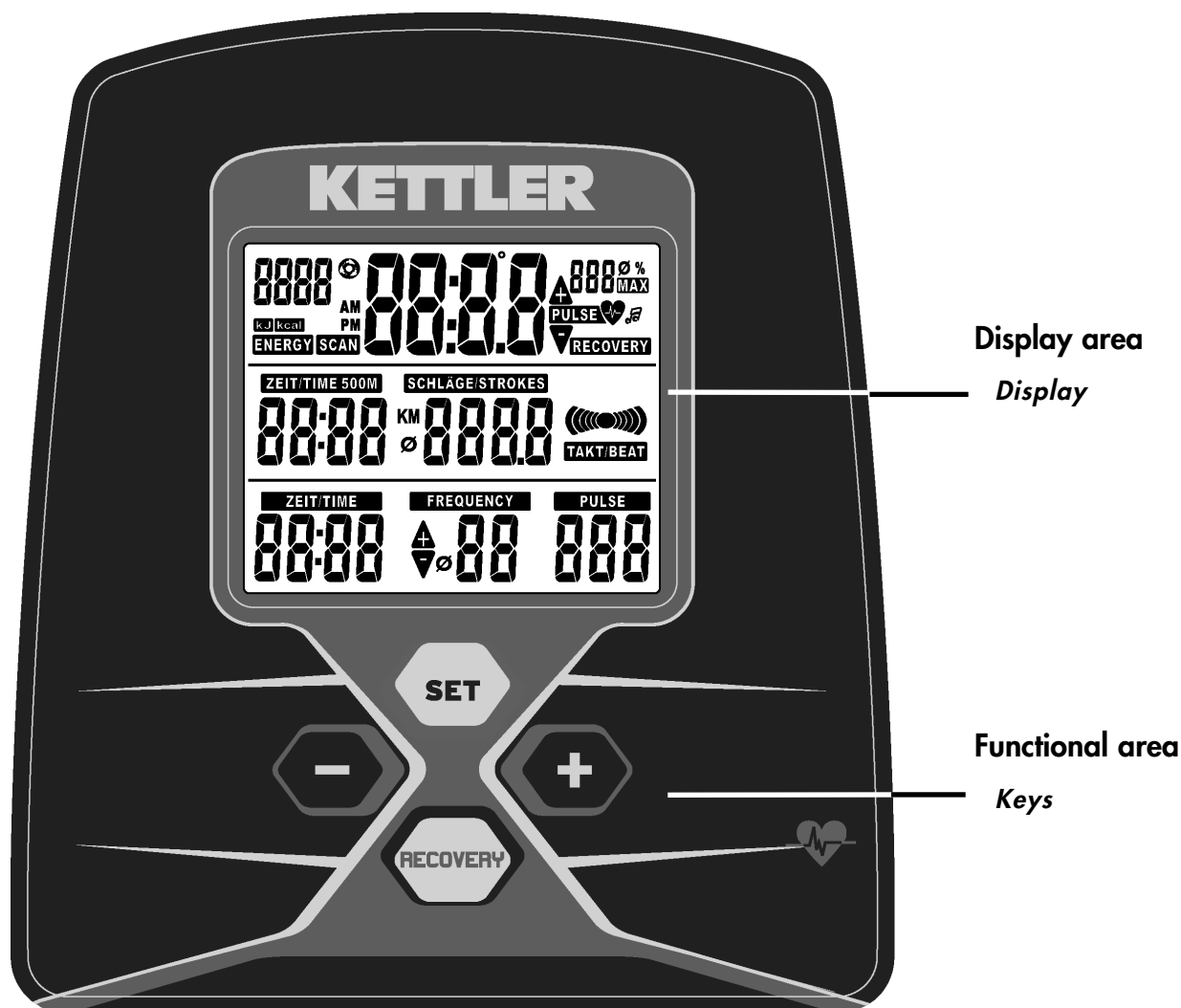
### The electronics include the following functions:

- Training settings
  Target pulse, times, strokes, energy consumption
- Monitoring with visual and acoustic cues
  Age-based maximum pulse rate, target pulse rate and number of strokes
- Displaying a fitness level from 1-6, calculated on the basis of the recovery pulse value after 1 minute
- Displaying the 500m time
- Displaying the last training unit with average values
- Choice of display for energy consumption [K-joules or K-cals]
- Display-change of the values in the large upper display (adjustable)
- Includes pulse receiver and chest strap
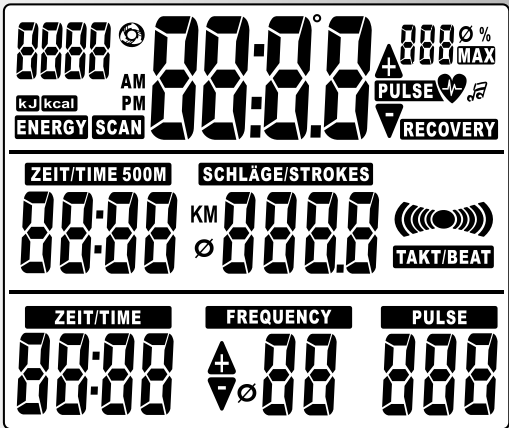
## Functional area

The four keys are described in brief below.

The exact use is explained in the individual chapters. The names of the function keys are used in these descriptions.

## SET (press briefly)

Inputs are activated.
The data that is set is saved and applied.

## Reset (press SET for longer)

The current display is deleted prior to a restart.

## Minus – / Plus + keys

With these functional keys, the values in the different menus are changed prior to the training and the load in the training is adjusted.

- proceed with **"+"**
- or go back with **"–"**
- pressing down for longer > a quick change
- **"+"** and **"–"** pressed down at the same time:
- value input switches over to 'Off'

## RECOVERY

With this functional key, the recovery pulse function is initialised.

### Note:

Additional functions of the keys are explained at a suitable points in the instructions manual.

### Pulse measurement

The pulse measurement takes place in the chest strap.

## Display area / display

The display area provides information about the different functions and the settings that have been selected

**ENERGY** *(energy consumption)*

Value 0 – 9999

Dimensions can be set

kJ kcal
ENERGY
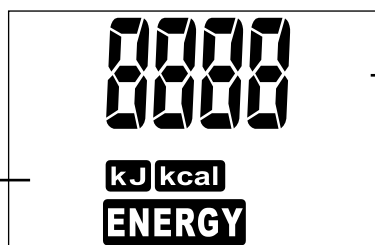
**SCAN** *(variable display)*

Display in alternating operation

Display in alternating operation

AM
PM
SCAN
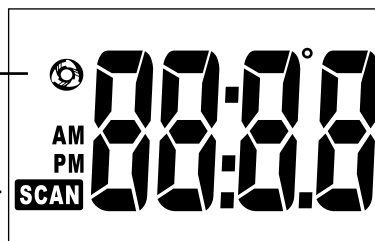
Large scale display of the values, which are shown with flashing designation.

**PULSE** *(pulse events)*

Percentage value
Current pulse / max. pulse

arning (flashes) max. pulse + 1
Target pulse exceeded + 11

Target pulse not reached -11

Ø %
MAX
+
PULSE
-
RECOVERY
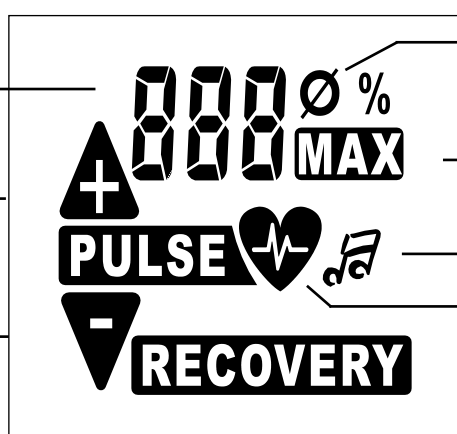
Average value

Maximum pulse exceeded + 1

Warning tone ON/OFF
Heart symbol (flashes)
RECOVERY function active

**TIME 500m**

Calculated 500 m time

ZEIT/TIME 500M
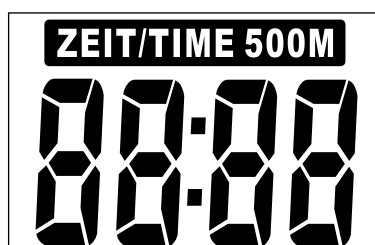
**BEAT** *(beat generator)*

Beat generator ON/OFF
(acoustic/visual)

TAKT/BEAT

**TIME** *(training time)*

ZEIT/TIME

Value 0 – 99:59

**STROKES** *(rowing strokes)*

Dimensions ———————— KM

Average value ———————— Ø

**SCHLÄGE/STROKES**

value 0 – 9999

---

**FREQUENCY** *(stroke frequency)*

Reference (flashes)
Target frequency exceeded +1 ————

Reference (flashes)
Target frequency not reached +1 ————

Average value ————————

**FREQUENCY**

Value 6 – 99
Flashes on setting

---
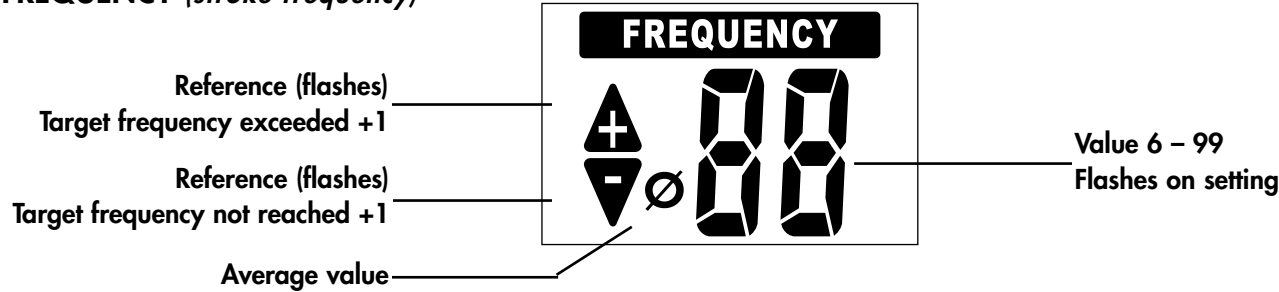
**PULSE** *(heart frequency)*

**PULSE**

value 40 – 199
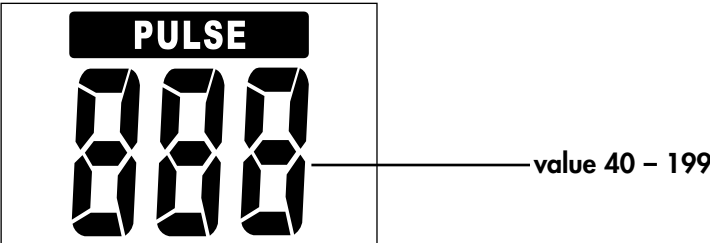
# Settings

## Time
- Install battery
  Set hours (12 hour display AM/PM)

or

- **Press recovery**
  Set hours (24 hour display)

- **Press Minus – / Plus +**
  Change the hours

- Press **Set**
  Set minutes

- Press Minus – / Plus +
  Change minutes

- Press **Set**
  Display of the total kilometres display with 'odo'

- Press **Set**
  'Ready for training' display

17:32

odo ᴷᴹ 104

SET
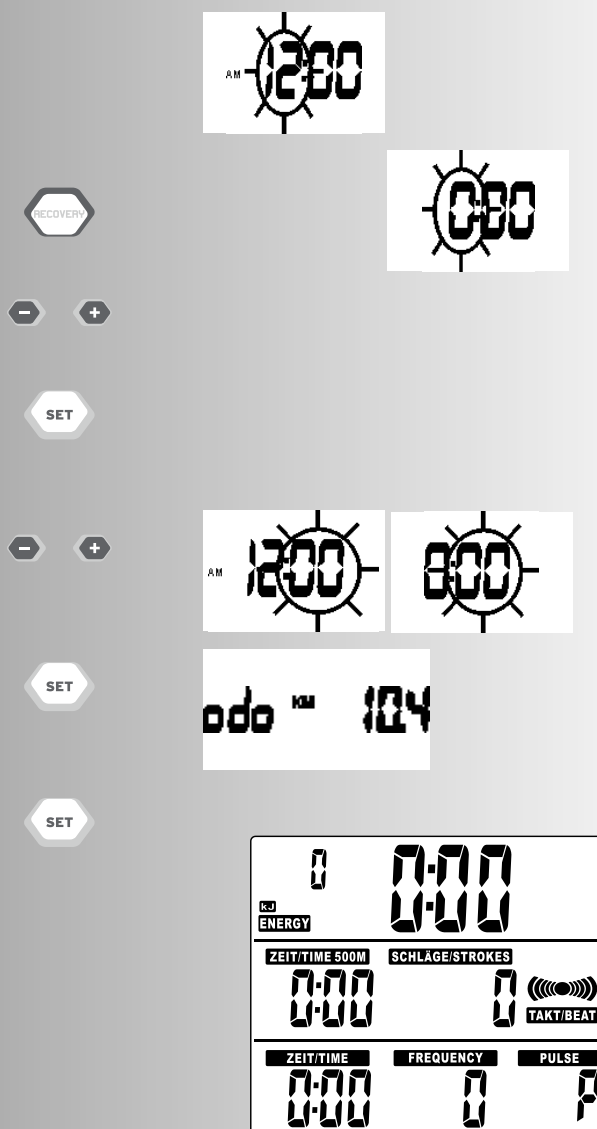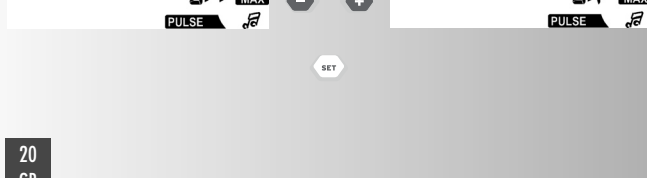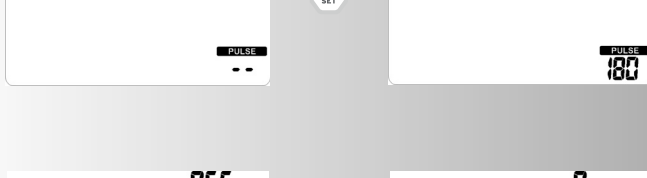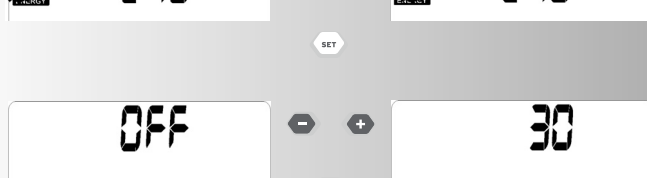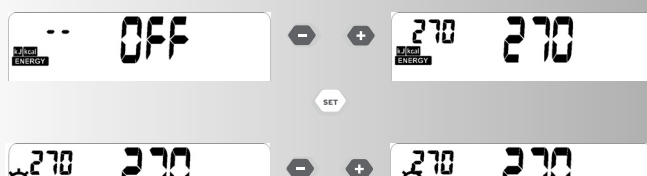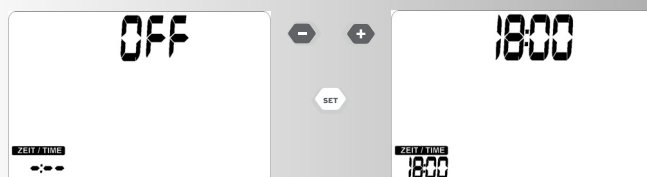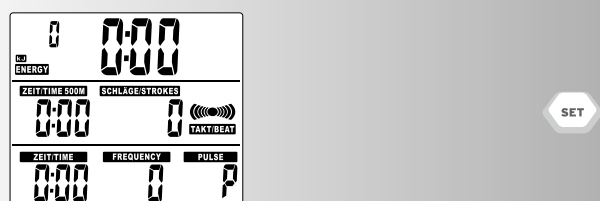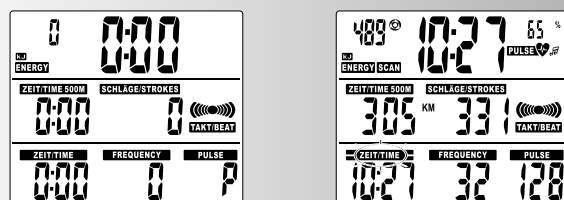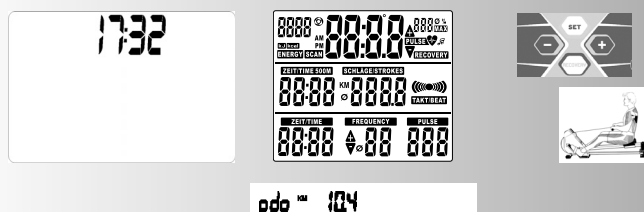
# Training

## 1. Training without settings

- Press a key
  All segments are displayed
  The total kilometres **odo** is displayed briefly
  The 'ready for training' status is displayed with the
  zero values, the current braking level and the pulse
  values (if pulse measurement is active).

- Rowing
  The training time and the following values are display-
  ed in incremental form.
  The **SCAN** display changeover is active

## 2. Training with settings

*Display:* 'Ready for training'

- Press "SET": Settings area

### Setting the time (ZEIT/TIME)
- Enter values using **"+"** or **"−"** (e.g. 18:00)
  Confirm with 'SET'.

*Display:* next menu 'SCHLÄGE/STROKES'

### Setting the rowing strokes (SCHLÄGE/STROKES)
- Enter values using **"+"** or **"−"** (e.g. 540)
  Confirm with 'SET'.

*Display:* next menu: "ENERGIE"

### Energy settings (ENERGY / k-joules / kcal)
- Enter values using **"+"** or **"−"** (e.g. 270)
  Confirm with 'SET'.
- Select the unit k-joule or kcal with **"+"** or **"−"**.
  Confirm with 'SET'.

*Display:* next menu: "FREQUENCY"

### Stroke frequency setting (FREQUENCY)
- Enter values using **"+"** or **"−"** (e.g. 30)Confirm with
  'SET'.

*Display:* next menu: "AGE"

### Inputting of age (AGE)
Inputting your age assists with ascertaining and monitoring
the maximum pulse rate (HI symbol, warning tone, if activa-
ted).

- Enter the values using **"+"** or **"−"** (e.g. 40).
  This results in the calculation of the maximum pulse rate
  at 180 (220 - age).
  Confirm with 'SET'.

*Display:* next menu: "alarm tone"

### Alarm tone on exceeding the maximum pulse rate
- Select On/OFF using the **"+"** or **"−"** function.
  Confirm with 'SET'.

*Display :* next menu target pulse selection 'FA 65%'

## Target pulse monitoring FA 65%FI75%

- Make your selection using "**+**" or "**–**"
- Fat burning 65%, fitness 75% of maximum pulse
  Confirm with 'SET' (setting mode finished)

*Display :* Ready for training with the settings

**or**

Target pulse setting
Input 40 - 199 is to determine and monitor a training pulse rate irrelevant of age ("**+**" symbol, warning tone if activated, no maximum pulse monitoring). To this end, the age input has to be on 'OFF'.

- Switch off the maximum pulse monitoring with "**+**" and "**–**".

*Display :* "AGE OFF"
  Confirm with 'SET'.

*Display :* nächste Vorgabe "Zielpuls" (Pulse)

- Next setting 'target pulse' (Pulse)
- Enter value using "**+**" or "**–**" (e.g. 130)
  Confirm with 'SET' (setting mode finished)

*Display :* Ready for training with the settings

# Start of training

## • Rowing

- The set values are displayed counting down.
- The SCAN display changeover is active
- The brake resistance level is decreased by turning to the left and increased by turning to the right.
- The system bleeps in time with the rowing strokes.
- The -/+ arrows flash in the event of a stroke deviating from the set frequency (if stated) in order to help with keeping to the stroke frequency.

### Note:

The bleeping tone, in time with the rowing stroke, can be stopped by pressing on the **–/+** key at the same time.

The SCAN operation can be stopped by pressing the SET key in the training mode. It is reactivated by re-pressing it.

You can switch over to the next area with the **–/+** key.The settings are deleted in the event of a 'Reset'.

## Interruption / ending of training / Standby

With less than 5 strokes / min or by pressing the 'RECOVERY' key, the electronics recognises an interruption to the training. The training data attained are displayed. The pulse, brake resistance and stroke frequency are displayed as average values with the Ø symbol.

You can change to the current display with "**+**" or "**–**". The training data are displayed for 4 minutes. If you do not press any keys during this time and you do not train, the electronics unit switches into the standby mode.nicht, schaltet die Elektronik in den Standby Modus.

This mode displays time and room temperature alternately.

## Resumption of training

On continuing your training within 4 minutes, the most recent values are kept and/or counted down.

The **SCAN** display changeover is active

**Pulse value at
RECOVERY start**

99  **1:00** PULSE ♥
RECOVERY

--

PULSE
--  99

G

**Fitness level**

99  F  **1.0** PULSE ♥
RECOVERY

**Pulse value after
RECOVERY end**

60

PULSE
39  60

**Difference
(RECOVERY start -
RECOVERY end)**

E
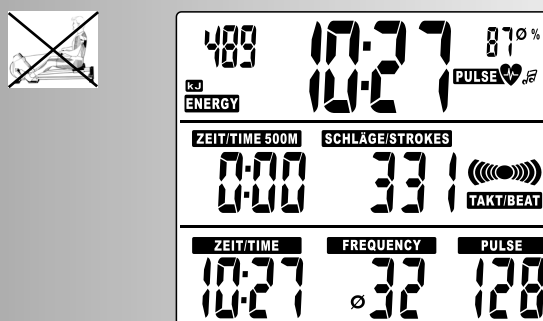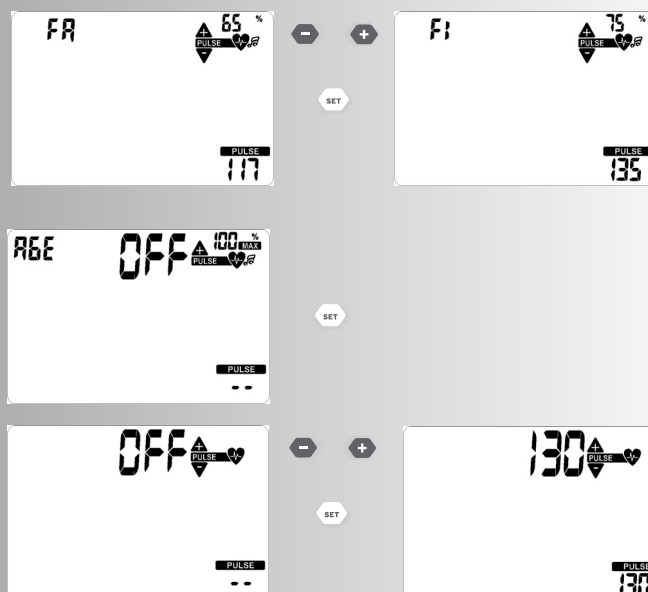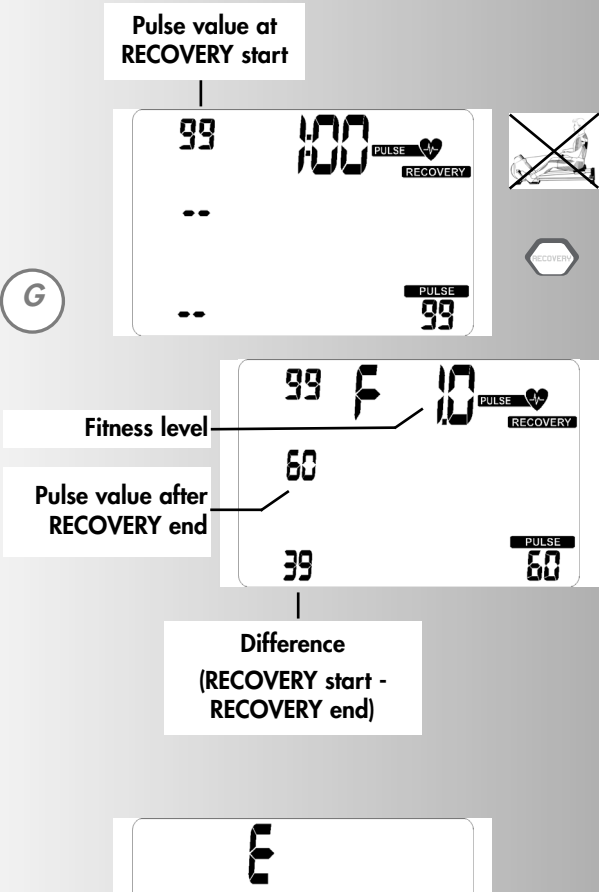
# RECOVERY – function

### Measurement of recovery pulse rate
The electronics unit measures your pulse for 60 seconds
and calculates your fitness level. Press 'RECOVERY' on finis-
hing your training. Your current pulse value is saved (in the
image: '99').

After 60 seconds, your pulse value is saved again (in the
image: '60'). The difference between the values is then dis-
played (in the image: '39'). Your fitness level is then calcu-
lated (in the image: 'F 1.0'). The display finishes after 10
seconds. 'RECOVERY' or 'RESET' interrupts this function.

If no pulse is measured at the start or the end of the time
countdown period, an error message appears.

# General instructions

## System tones

### Switch on
On switching on, a tone will sound during the segment test

### Exceeding the maximum pulse
If the preset maximum pulse is exceeded by one pulse beat then 2 brief tones will sound at this time.

### Settings
On attaining the time, distance and k-joule/kcal settings, the corresponding value will flash.

## Recovery
Calculation of your fitness level (F):

$$\text{level (F)} = 6.0 - \left( \frac{10 \times (P1 - P2)}{P1} \right)^2$$

| P1 training pulse rate | P2 = recovery pulse rate |
|---|---|
| F1.0 = very good | F6.0 = unsatisfactory |

The following case differentiations have to be carried out to determine the fitness level:

1. P1 is smaller than P2 (P1 - P2 = negative)
   The fitness level 6.0 is stated and the pulse difference is displayed = 0
2. The value in the brackets is greater than 5.0. The fitness level 1.0 is stated.
3. P1 is greater than P2, and the value in the brackets is in the range of 0 to 5.0.

## Average value calculation
The average value calculations refer to prior training units subsequent to a reset or the standby mode.

## Pulse measurement information
This training computer calculates your pulse via the chest strap. The receiver is located in the device. The pulse calculation starts when the heart-symbol flashes in time with your pulse rate on the display.

### Chest strap
Please follow the appropriate instructions.

## Battery change / faults with the training computer
Record the number of kilometres. If the display becomes dim, pulse problems are experienced, or the training computer functions erratically, replace the batteries.

The training kilometres will in this case be lost. The time of day will have to be reset.

## Glossary

### Age
Enter your age to calculate your maximum pulse rate.

### Dimensions
Units for displaying km/h or mi/h, k-joule or kcal.

### Fat burning pulse rate
Calculated value of: 65% of MaxPulse

### Fitness pulse
Calculated value of: 75% of MaxPulse

### Glossary
A collection of attempted explanations

### HI-Symbol (arrow points upwards)
If 'HI' appears, a target pulse is too high by 11 beats. If HI flashes, the maximum pulse is exceeded. The 'HI' monitoring is always initialised.

### LO-Symbol (arrow points downwards)
If 'LO' appears, a target pulse rate is too low by 11 beats. The 'LO' monitoring is activated if the target pulse is achieved during the training.

### MaxPulse
Calculated value: 200 minus your current age

### Menu
The display, in which values are either entered or selected.

### Pulse
Calculation of heart beats per minute

### Recovery
Measurement of your recovery pulse rate at end of training. The difference between the pulse rate at the very end of the training and one minute after the end of the training is calculated, and the fitness level is then ascertained. Improving this result is a yardstick for improving your fitness level during training.

### Reset
Deleting the display and restarting the display.

### Target pulse
By entering a certain pulse value which is to be monitored.

# Exercising with the KETTLER STROKER

The KETTLER STROKER rowing machine provides all of the advantages of "real life" rowing without the trouble or expense of "taking to the water". Rowing is a sport that improves not only the performance of the cardio-vascular system, but also improves stamina and endurance. The following points should be observed before commencing a course of training:

## Important

Before commencing a course of training, have your family doctor check that you are fit enough to exercise with the KETTLER STROKER. The result of the medical check-up should be used as a basis for planning the exercise programme. **The following directions are only to be recommended to healthy persons.**

## The advantages of rowing

As mentioned above, rowing is an excellent way to increase the efficiency of the cardio-vascular system. It also improves the ability to absorb oxygen. In addition, rowing is also suitable for "burning off" fat by calling up the fat reserves (in the form of fatty acids) to be transformed into energy.

Another important advantage of rowing lies in the strengthening of all of the body's important muscle groups, whereby the strengthening of the back and shoulder muscles can be considered especially beneficial from the orthopaedic point of view. The strengthening of the back muscles can help prevent such orthopaedic problems as are encountered all too often nowadays. Exercising with the KETTLER STROKER is therefore a comprehensive way to exercise. It improves endurance and strength while at the same time not putting the joints under stress.

## Which muscles are called on

he movements in the rowing exercise call on all of the body's musclegroups. Although some are concentrated upon more than others. These groups are shown in the lower illustration.
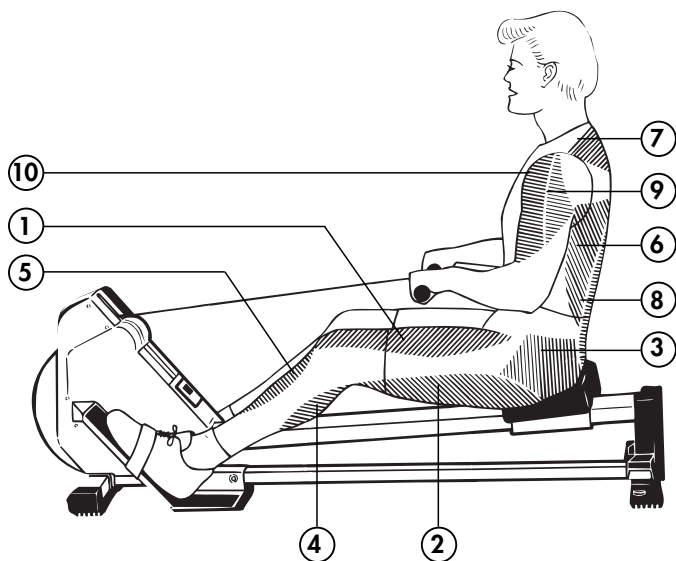


As can be seen in the illustration, rowing activates the upper and lower body to the same extent. In the legs, rowing exercises the extensors (1), the flexors (2) and the shin and calf muscles (5, 4). The movement of the hips also calls on the seat (gluteus) muscles (3).

In the torso region, rowing calls primarily upon the latissimus (6) and the erectors (8), but also on the trapezius (7), the deltoid (9) and the arm extensor muscles (10).

The KETTLER STROKER can also be used for other special exercises to concentrate on further muscles groups. These are described in one of the following sections.

## Planning and controlling your rowing

The basis for planning your course of exercise should be your actual state of fitness. Your family doctor can put you through an endurance test to determine your physical performance. The results of the test should be used to plan your exercise programme. If you do not go through an endurance test, you should avoid excessive exercising stresses at all costs. The following principle should be follow in your planning; endurance training can be controlled as much by the extent of effort as by the level of effort and the intensity.

## Exercise intensity

The effort intensity when rowing can be determined by checking the pulse. The intensity of the rowing exercises can be varied on the one hand by altering the number of strokes per minute, and on the other by altering the resistance of the tension device. The intensity increases both when the stroke rate is increased, and when the resistance in the tension device is increased.

Beginners should therefore avoid exercising at high stroke rates or at high resistance levels. The optimum stroke rate and level of resistance should be determined using **the recommended pulse** rate (see Pulse diagram), which should be checked three times during each session. Before starting, check the resting pulse, about 10 minutes into the session check the effort pulse (which should be in the region of the recommended level), and after finishing exercising, check the recovery pulse.

Regular exercising will soon show a reduction in both the rest and the effort pulse rates. This can be taken as a sign for the positive effects of the endurance training. The heart is beating more slowly and more time is available for the heart to take in blood and for the blood to circulate through the heart's own muscles.



Pulsediagramm
Fitness and Fat Burner
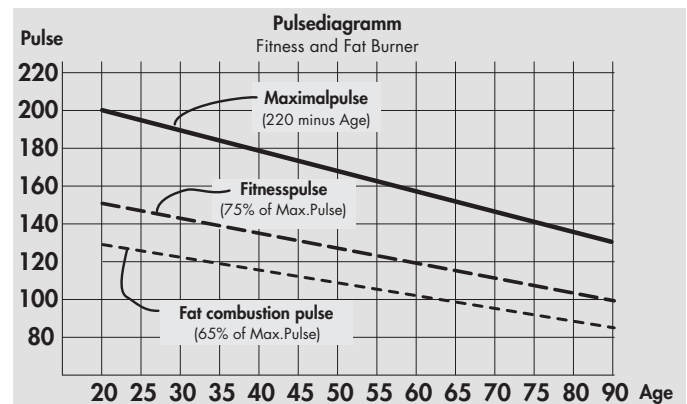
## Extent of exercise

By extent of exercise, we refer to the length of the exercise sessions and their frequency per week. Experts consider the following extent of exercise to be especially effective:

| Training frequency | Duration of training |
|---|---|
| daily | 10 minutes |
| 2–3 times a week | 20–30 minutes |
| 1–2 times a week | 30–60 minutes |

Exercise sessions of 20-30minutes/30-60 minutes are not suitable for the beginner. The beginner should increase his/her extent of exercising only gradually, with the first blocks being kept relatively short. Block exercising can be looked upon as a good variation at the beginning.

A typical beginner's programme for the first 4 weeks could be something like the following:

| | Length of exercise blocks |
|---|---|
| **1st/2nd week** | |
| Sessions per week three | 3 minutes rowing |
| | 1 minute break |
| | 3 minutes rowing |
| | 1 minute break |
| | 3 minutes rowing |
| **3rd/4th week** | |
| Sessions per week four | 5 minutes rowing |
| | 1 minute break |
| | 5 minutes rowing |

Following these 4 weeks of beginner's exercising, the blocks can be extended to 10 minutes of continuous rowing without a break. If 3 weekly sessions of 20-30 minutes are preferred (at later stages), a free day should be planned between each two days with exercise.

### Accompanying gymnastic exercises

Gymnastik exercises are an ideal complement to rowing. Always do warming-up exercises before starting rowing. Activate the circulation with a few minutes of easy rowing (10-15 strokes per minute). Stretching exercises should then be carried out before the real rowing exercise is started. Easy rowing should also be done at the end of the session, with further stretching exercises during the cooling-down period.

### Instructions for exercising with the KETTLER STROKER

Besides rowing, the KETTLER STROKER is also suitable for exercises designed to increase general fitness, but with special emphasis on muscle-building. In order to achieve maximum benefit from the KETTLER STROKER, the following points should be noted:

1. beginners should avoid exercising with high resistances;
2. use only resistances which do not cause strained breathing;
3. carry out all movements smoothly and regularly - not in sudden jerks;
4. do not exercise with the back curved upwards or with rounded shoulders;
5. always remember, that muscles and strength increase relatively quickly, i.e. at a pace which tendons, ligaments and joints cannot always follow.

**In brief:** Increase resistance only gradually in the course of regular training.

### Some methods of exercising

For general fitness, a method of exercising which emphasizes both strength and stamina is recommended. This means that exercises at low resistance levels (approx. 40-50% of personal maximum strength"*) should be repeated 15-20 times.

(*Here, the term "maximum strength"*) means the maximum strength which a person has to concentrate in order to raise a heavy weight once.

### Example of a training schedule

| Exercise | 1.-2. Week | | 3.-4. Week | | 5.-6. Week | |
|---|---|---|---|---|---|---|
| | S* | Repeat | S* | Repeat | S* | Repeat |
| 1 | 1-2 | individ. | 2 | individ. | 3 | individ. |
| 4 | 1-2 | 12-15 | 2 | 15-20 | 3 | 15-20 |
| 7 | 1-2 | 12-15 | 2 | 15-20 | 3 | 15-20 |
| 9 | 1-2 | 12-15 | 2 | 15-20 | 3 | 15-20 |
| 13 | 1-2 | 12-15 | 2 | 15-20 | 3 | 15-20 |
| 14 | 1-2 | 12-15 | 2 | 15-20 | 3 | 15-20 |
| 17 | 1-2 | 12-15 | 2 | 15-20 | 3 | 15-20 |

S.* = Serie

Always warm up before exercising. Rest for approx. 60seconds after each series of repeats, and use these intervals for loosening and stretching exercises.

Exercise 2-3 times per week with your KETTLER STROKER and make use of every opportunity for alternative forms of exercise such as walking, cycling, swimming etc. You will then find that regular exercising increases your physical fitness and your general sense ot wellbeing.

### Caution!

You are using a machine that has been designed and built to the latest safety standards. Any possible sources of danger that could lead to injury have been extensively eliminated and guarded against. Moreover, the machine is intended only for the use of adults.

Wrong or excessive training can damage your health. Before commencing a course of fitness training, arrange for a medical check-up to see if you are in a state of health suited to training on the machine. The result of the check-up should be used as a basis for your training programme.

The machine is never to be looked upon as a toy. Please remember that the nature of children who are using the machine can lead to unforeseen situations and hazards for which the manufacturer cannot be held liable. If children are allowed to use the machine, they should be instructed on its correct use and dangerous situations explained to them.

The machine must be carfully assembled by an adult. It must be ensured that the machine is not used until it has been fully assembled.

When used for regular training, we recommend checking all parts of the Machine (especially screws, nuts and bolts) every 1 to 2 months. So that the intended level of safety is maintened, the machine is to be taken out of use if any parts are worn. The worn parts are to be exchanged immediately.

| | | | | | | |
|---|---|---|---|---|---|---|
| **D** Leistungstabelle • **GB** Performance record • **F** Tableau de performance • **NL** Prestatietabel • **E** Tabella del rendimento | | | | | | |
| **IT** Cuadro de rendimientos • **PL** Tabela wyników • **P** Tabela de resultados • **DK** Træningsskema • **CZ** Výkonová tabuľka | | | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| **D** | Datum | Ruhepuls | Belastungspuls | Zeit (min.) | Entfernung (km) | Energie-verbrauch |
| **GB** | Date | Restpulse | Stress pulse | Time (min) | Distance (km) | Energy-consumption |
| **F** | Date | Pouls au repos | Pouls en charge | Temps (min.) | Distance (km) | Dépense d'énergie |
| **NL** | Datum | Rustpols | Belastings-pols | Tijd (min.) (min.) | Afstand (km) | Calorieen-verbruik |
| **E** | Fecha | Pulso en reposo | Pulso bajo esfuerzo | Tiempo (min.) | Distancìa (km) | Consumo de energía |
| **I** | Data | Polso riposo | Polso affaticamento | Tempo (min.) | Percorso (km) | Consumo energetico |
| **PL** | Data | tętno spoczynkowe | tętno przy obciążeniu | Czas (min.) | odległość (km) | Zużycie energii |
| **P** | Data | Pulso em repaso | pulsação em esforço | Tempo (min.) | Rota (km) | Consumo de Energi |
| **DK** | Dato | rustpuls | belastnings-puls | Tid (min.) | Rute (km) | Energie forbrug |
| **CZ** | Datum | Klidový puls | Puls po zátěži | Čas (min.) | Vzdálenost (km) | Spotřeba-energie |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

**D** Leistungstabelle ● **GB** Performance record ● **F** Tableau de performance ● **NL** Prestatietabel ● **E** Tabella del rendimento
**IT** Cuadro de rendimientos ● **PL** Tabela wyników ● **P** Tabela de resultados ● **DK** Træningsskema ● **CZ** Výkonová tabuľka

| | | | | | | |
|---|---|---|---|---|---|---|
| **D** | Datum | Ruhepuls | Belastungspuls | Zeit (min.) | Entfernung (km) | Energie-verbrauch |
| **GB** | Date | Restpulse | Stress pulse | Time (min) | Distance (km) | Energy-consumption |
| **F** | Date | Pouls au repos | Pouls en charge | Temps (min.) | Distance (km) | Dépense d'énergie |
| **NL** | Datum | Rustpols | Belastings-pols | Tijd (min.) (min.) | Afstand (km) | Calorieen-verbruik |
| **E** | Fecha | Pulso en reposo | Pulso bajo esfuerzo | Tiempo (min.) | Distancìa (km) | Consumo de energía |
| **I** | Data | Polso riposo | Polso affaticamento | Tempo (min.) | Percorso (km) | Consumo energetico |
| **PL** | Data | tętno spoczynkowe | tętno przy obciążeniu | Czas (min.) | odległość (km) | Zużycie energii |
| **P** | Data | Pulso em repaso | pulsação em esforço | Tempo (min.) | Rota (km) | Consumo de Energi |
| **DK** | Dato | rustpuls | belastnings-puls | Tid (min.) | Rute (km) | Energie forbrug |
| **CZ** | Datum | Klidový puls | Puls po zátěži | Čas (min.) | Vzdálenost (km) | Spotřeba-energie |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

# KETTLER