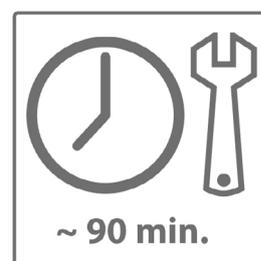
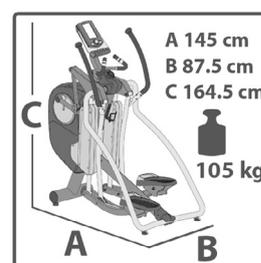


# cardiostrong

## Assembly and operating instructions



Art. No. CST-EX90-PLUS

Elliptical cross trainer EX90 Plus



**Dear Customer,**

Thank you for deciding for a high-quality training equipment of the brand cardiostrong, the brand that makes athlete's hearts beat faster. cardiostrong offers a wide range of home fitness equipment like elliptical cross trainers, ergometers, treadmills and rowing machines. cardiostrong equipment is the optimal equipment for all those who want to train at home independent of goals and fitness level. For further information please visit [www.sport-tiedje.com](http://www.sport-tiedje.com) or [www.cardiostrong.de](http://www.cardiostrong.de).



## **SAFETY INSTRUCTIONS**

Please read all of the instructions carefully before assembly and first use. These instructions are intended to ensure speedy assembly and explain safe usage. Make sure that all people exercising with the equipment (in particular children and persons with limited physical, sensory, mental or motor capabilities) are informed about these instructions and its content in advance. In case of doubt, a responsible person must supervise the use of the equipment.

This equipment has been manufactured according to the latest safety knowledge. As far as possible, potential safety hazards which could cause injury have been eliminated. Make sure to follow the instructions carefully and that all parts are securely in place. If required, read through the instructions again to correct any mistakes.

Please pay close attention to the safety and maintenance instructions given here. The contract partner cannot be held liable for damage to health, accidents or damage to the equipment when it is not used in accordance with these instructions.

The equipment is suitable for home use as well as semi-professional use (e. g., hospitals, clubs, hotels, schools, etc.). It is not suitable for commercial or professional use (e. g., commercial gyms).

Retain these instructions in a safe place for future reference, maintenance or when ordering replacement parts.

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## 1.1 Technical data

### LCD display of

- + speed in km/h
- + training time in min
- + training distance in km
- + cadence (rotations per minute)
- + calories burnt in kcal
- + heart rate (when using the hand sensors or a chest strap)
- + Watt
- + resistance level

Resistance system: electronic magnetic brake system  
Resistance level: 16  
Watt: 10 - 350 Watt (adjustable in 5-Watt increments)

User memory: 4  
Total number of training programs: 19  
Manual programs: 1  
Pre-set programs: 12  
Watt-controlled programs: 1  
Heart rate controlled programs: 4  
User defined programs: 1

Balance mass: 12 kg  
Stride length: 45 - 65 cm  
Step width: 11 cm

Electronic step length adjustment:  
45 cm (18"), 50 cm (20"), 55 cm (22"), 60 cm (24"), 65 cm (26")

### Weight and dimensions:

Article weight (gross, including packaging): 135.70 kg  
Article weight (net, without packaging): 104.7 kg  
Packaging dimensions (L x W x H): approximately 1410 mm x 1150 mm x 500 mm  
Set-up dimensions (L x W x H): approximately 1450 mm x 875 mm x 1645 mm  
Maximum user weight: 150 kg/330 lbs

## 1.2 Personal safety

- + Before you start using the equipment, you should consult your physician that this type of exercise is suitable for you from a health perspective. Particularly affected are persons who: have a hereditary disposition to high blood pressure or heart disease, are over the age of 45, smoke, have high cholesterol values, are overweight and/or have not exercised regularly in the past year.
- + Please note that working out excessively can seriously damage your health. Please also be aware that heart rate monitoring systems might be imprecise.
- + The equipment may only be used for its intended purpose; that means for whole body workouts for adults.
- + Any other usage is prohibited and potentially dangerous. The contract partner cannot be held liable for damage resulting from improper use.
- + The equipment is strictly for use by one person at a time.
- + Children should not be allowed unsupervised access to the equipment.
- + Before starting your training, make yourself familiar with all of the equipment's functions and setting options. Have an expert explain the correct usage of the product to you.
- + Make sure that nobody is in the range of motion of the equipment while exercising.
- + Keep your hands, feet and other body parts, hair, clothing, jewelry and other objects well clear of moving parts.
- + During use, wear suitable sports clothing rather than loose or baggy clothing. When selecting sports shoes, think about the suitability of the sole – preferably this should be made of rubber or other non-slip materials. Shoes with heels, leather soles, studs or spikes are not suitable. Never work out in bare feet.
- + It is also important to take note of the information given in the workout instructions for creating a workout plan.
- + At the first signs of weakness, nausea, dizziness, pain, difficulty in breathing or other abnormal symptoms, stop your workout immediately and, if necessary, consult your physician.
- + Without prior agreement from your authorized contract partner, opening the equipment is prohibited.

## 1.3 Electrical safety

- + The equipment requires a 220 - 230V / 50 Hertz mains power supply.
- + The equipment should be connected directly to a grounded plug socket only by means of the power cable supplied. The use of multi-socket adapters or similar is not recommended. Extension leads must comply with local electrical safety guidelines. Always fully unwind the power cable.
- + The outlet should be secured with a fuse with a minimum value of „16 amperes, slow“.
- + In order to reduce the risk of an electric shock, always unplug the equipment from the mains socket immediately after your workout, before assembly or dismantling, and before maintenance or cleaning. Do not pull on the cable.
- + When plugged in, do not leave the equipment unattended at any time. To avoid use by anyone unfamiliar with the operating instructions, the power cable should be removed when the equipment is not in use.
- + Keep the power cable away from heat, oil and sharp edges. Do not route the power cable underneath the equipment or under a carpet or rug, and do not place any objects on top of it.
- + Make no modifications to either the power cable or the mains plug.
- + If the power cable or the plug are damaged or defective, contact your authorized contract partner. Do not use the equipment in the meantime.
- + Do not keep electrical devices (e. g., mobile phones) in close proximity to the console or the control electronics, otherwise display values (e. g., pulse measuring) could be inaccurate.

## 1.4 Set-up place

- + The equipment should only be used indoors, in a sufficiently heated and dry area (ambient temperature between 10°C and 35°C). The equipment should not be used outdoors or in rooms with high humidity (over 70%) like swimming pools. The equipment should only be stored in surroundings with an ambient temperature between 5°C and 45°C.
- + The training room should be well ventilated during training and not be exposed to any draughts.
- + Choose a location in which to place the equipment such that there is enough free space/clearance to the front, the rear and to the sides of the equipment (at least 1.50 m). Furthermore, the equipment should not be set up in main entrances or on escape routes.
- + Always keep the power cable away from hot surfaces and grounds and make sure that the cable is not stuck somewhere or becomes a „trip hazard“.

- + No objects of any type should be inserted into the openings of the equipment.
- + The equipment should be placed on a level and solid surface, any unevenness in the floor should be leveled out.
- + A floor protective mat / equipment underlay can help to protect high-quality floor coverings (parquet, laminate, cork, carpets) from dents and sweat and can help to level out slight unevenness.

## 2 ASSEMBLY INSTRUCTIONS, MAINTENANCE AND CARE

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### 2.1 General instructions

- + Please check if all parts and tools belonging to the equipment are included in the delivery and if there is any transport damage. If there are any complaints, please contact your contract partner directly.
- + Some of the nuts and bolts to be used in assembly are already pre-mounted in order to make set-up as easy as possible.
- + The equipment must be assembled by adults. In case of doubt, ask for assistance from another person with technical skills.
- + Keep children away from the equipment during assembly, because small parts are included in the delivery and may be swallowed.
- + Make sure that you have enough space (at least 1.50 m) in every direction during assembly.
- + Do not leave any tools and packaging materials like plastic sheeting laying around to avoid danger of suffocation for children.
- + Assemble the equipment on an underlay mat or on the cardboard packaging in order to avoid damage to the equipment and to the floor (scratches).
- + Before starting assembly, all individual parts should be placed on the floor next to each other.
- + Read the assembly instructions carefully and assemble the equipment according to the illustrations. Proceed carefully and cautiously.
- + First loosen all parts and check for their correct fitting. Then tighten the screws using a tool.
- + Modifications to the design or improper repairs may pose a hazard to the user and should not be carried out. The product warranty may be void as a result.
- + Only authorized service technicians are permitted to carry out all servicing and/or repairs – it excludes maintenance and care.
- + Damaged or worn components may impair your safety and the lifespan of the equipment. You should therefore immediately replace damaged or worn components. Please contact your contract partner in such a case. The equipment should no longer be used until it has been repaired. When needed, only use original cardiostrong spare parts.

- + Check the tightness of all screw connections once a month.
- + In order to be able to guarantee the constructively defined safety level of this equipment, we recommend having the equipment regularly maintained (at least once a year) by specialists (service technicians of your contract partner).
- + The equipment may be cleaned of dust, dirt and sweat using a damp cloth. The use of solvents should be strictly avoided. Also, make sure that no liquids (e. g. sweat) get into the openings of the equipment (e. g. console).

## 2.2 Faults and Troubleshooting

The equipment runs through regular quality controls during production. Nevertheless, errors or malfunctions on the equipment may occur. Individual parts are often the cause of faults and replacement is usually sufficient. Please use the following overview to see the six most common errors and how to repair them. If the equipment still does not work properly, please contact your contract partner.

<b>Problem</b>	<b>Cause</b>	<b>Solution</b>
Drive discs wobble or make noises	Drive pulley is loose	Tighten nuts
Display does not work	No plug connection, power supply not plugged in	Check all plug connections and see if the power supply is plugged in
Footplates are creaking	Footplates are loose	Tighten up the footplate screws
Creaking noises	Screws are loose	Check screws are properly tightened
Guide rails are squeaking	Guide rails or rollers are dirty or the guide rails are dry	Clean the guide rails, then lubricate with a non greasy silicone

<b>Problem</b>	<b>Cause</b>	<b>Solution</b>
No pulse reading	<ul style="list-style-type: none"> <li>• Sources of interference in the room</li> <li>• Using a chest strap:               <ul style="list-style-type: none"> <li>- Unsuitable chest strap</li> <li>- Chest strap is incorrectly positioned</li> <li>- Batteries are discharged</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Eliminate sources of interference (e. g. mobile phone, loudspeaker, etc.)</li> <li>• Use a suitable chest strap (see recommended accessories)</li> <li>• Reposition the chest strap and/or moisten the electrodes</li> <li>• Change the batteries</li> </ul>

## 2.3 Maintenance and service calendar

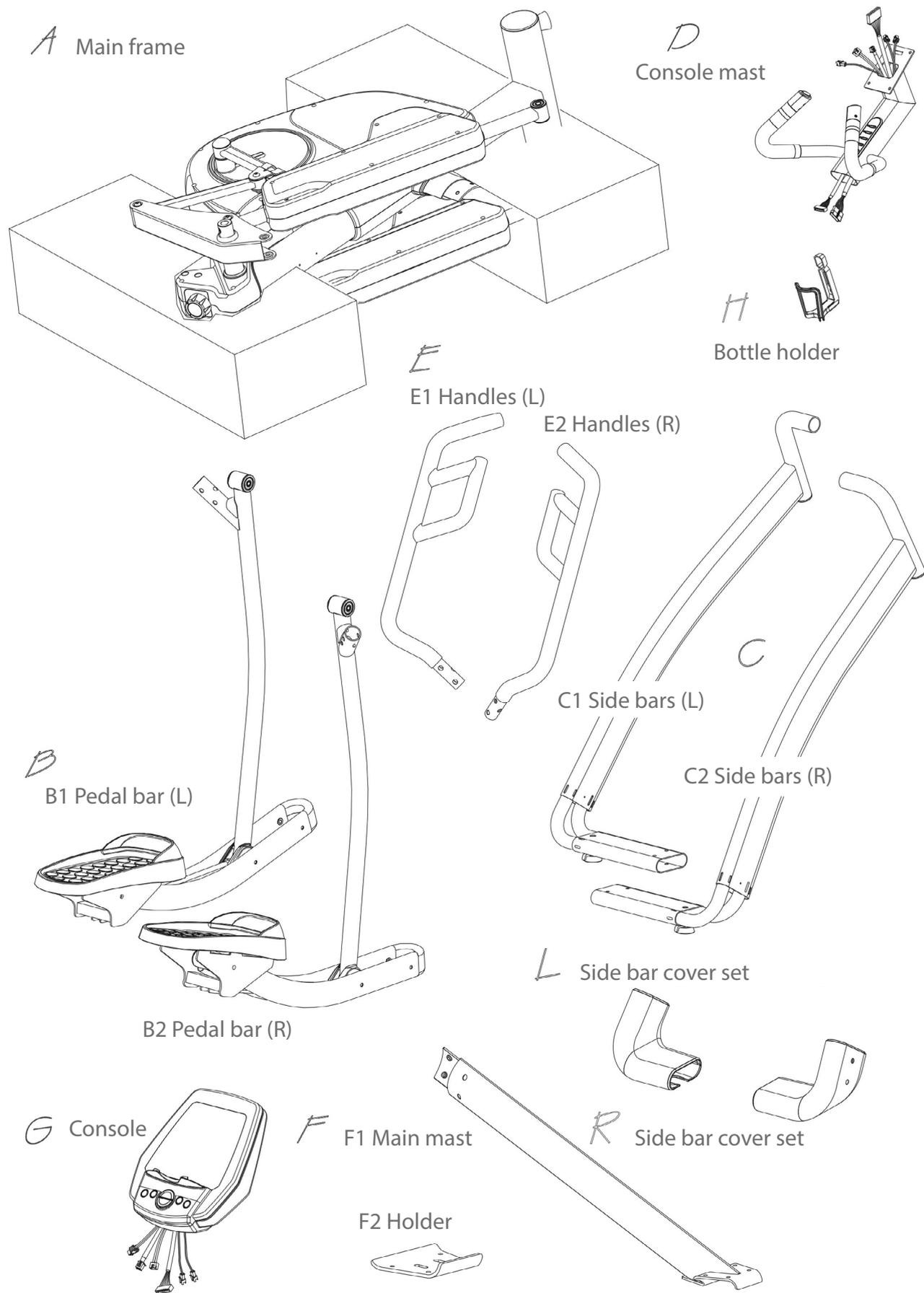
The following routine work must be done in the specified time intervals:

<b>Part</b>	<b>Weekly</b>	<b>Monthly</b>	<b>2x annually</b>	<b>Annually</b>
Display console	C	I		
Lubricate the moving parts			I	
Plastic cover	C	I		
Screws and cable connections		I		
Legends: C = cleaning; I = inspect				

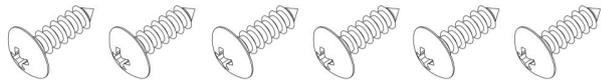
## 3 ASSEMBLY

### 3.1 Package contents

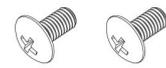
The package contains the parts represented in the illustration, including a power cable with mains plug. If one of the illustrated parts is missing, please contact your contract partner.



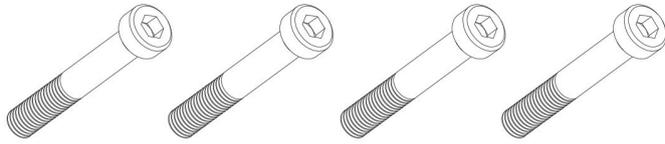
(J2) Screws M4x16



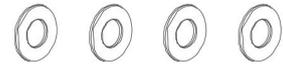
(J3) Screws M4x6



(J4) Screws M8x55



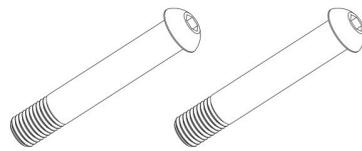
(J5) Washers M8



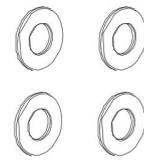
(J6) Screws M8x20



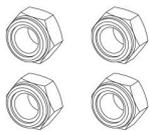
(J7) Screws M12x73



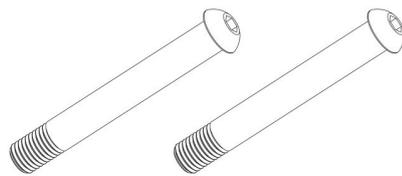
(J8) Washers M12



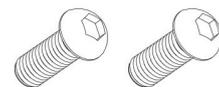
(J9) Nuts M12



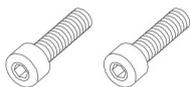
(J10) Screws M12x109



(J13) Screws M8x16



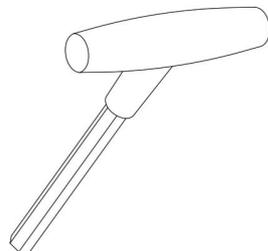
(J14) Screws M5



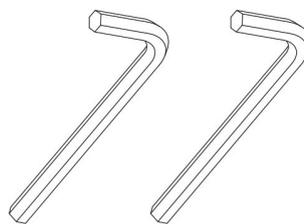
4m/m



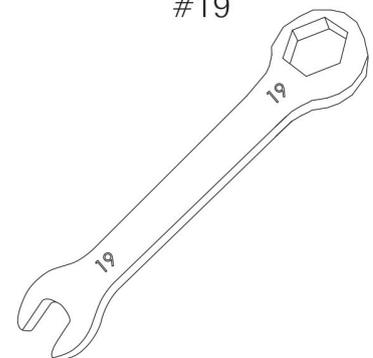
5m/m



6m/m\*2



#19



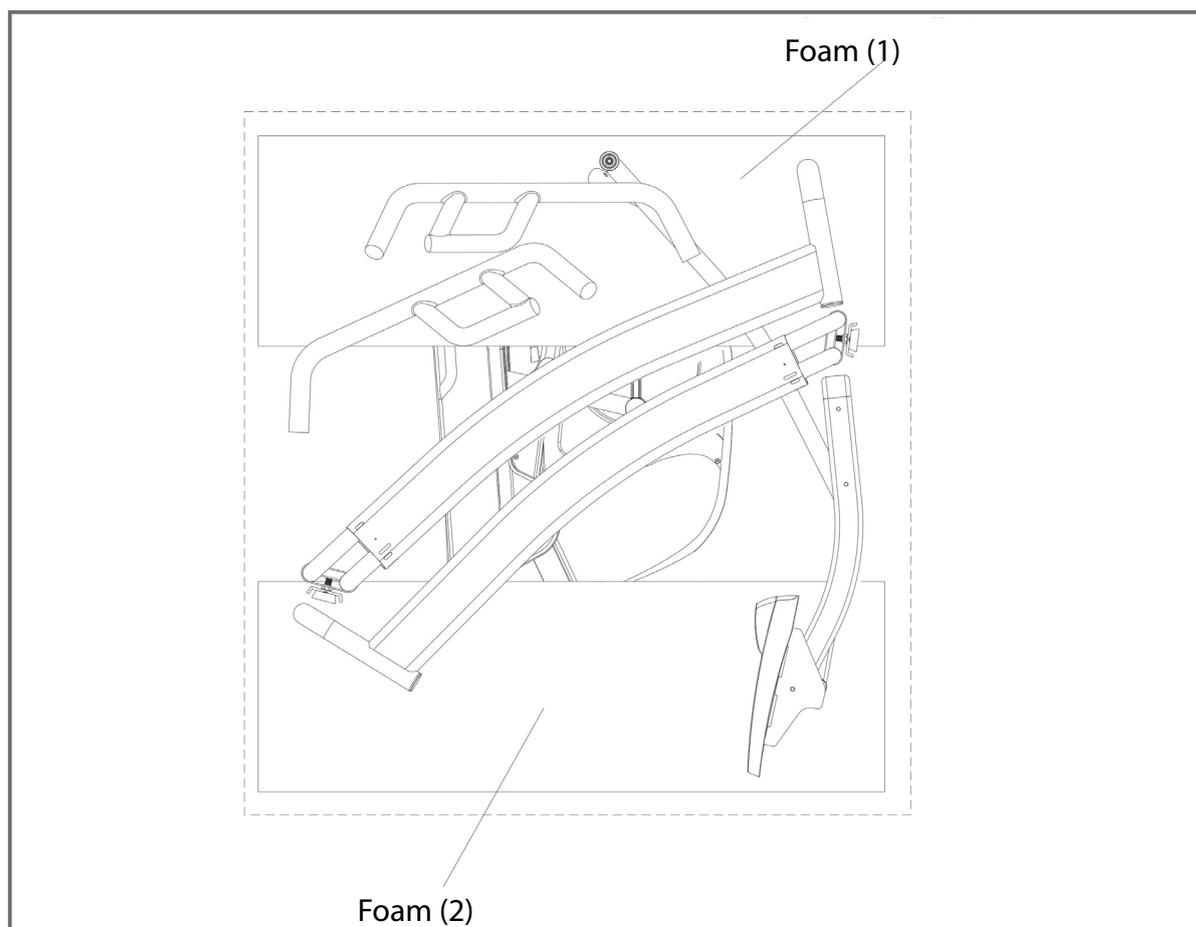
### 3.2 Assembly instructions

Before starting assembly, look carefully through the individual assembly steps shown and assemble the equipment in the order indicated.

#### Caution while unpacking:

Place box flat on the ground, remove cover. Unpack handles, side supporting bars, pedal bars and operating instructions. Remove the upper foam parts (1) and (2) and take out the console, console supporting tube, console mast, pedal supporting bars and hardware bag. First leave the main frame (A) and lower foam parts (3) and (4) in the box.

**Note:** For safety reasons, the pedal bars are just to be released with the respective control knob once you are asked to do so at the end of the instructions.



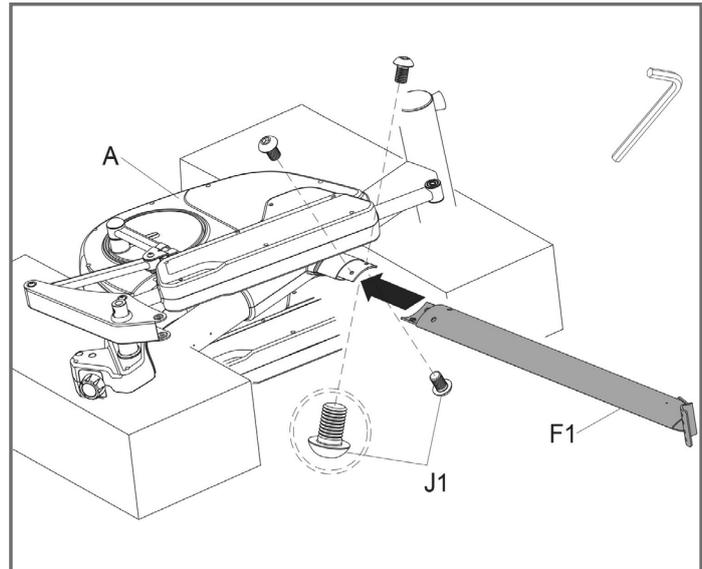
## Step 1: Assembly of the main mast (F1)

(1) Loosen two screws (F5) from the main frame (A) and two screws from the main mast (F1).

(2) Connect the main mast (F1) with the main frame (A) with the previously loosened four screws (J1).

**Note:** Before you continue with step 2 of the assembly, make sure that the four screws (J1) are tightened.

Tool: 6mm Allen key



## Step 2: Assembly of the side bar cover sets (L+R)

(1) Mount the right side bar cover (R1) with a screw (J2) on to the cover (R1).

(2) Follow steps 2-1 to 2-4 in order to tighten the side bar cover sets.

2-1. Connect the covers (R1 & R2) on the right connection bar (C2).

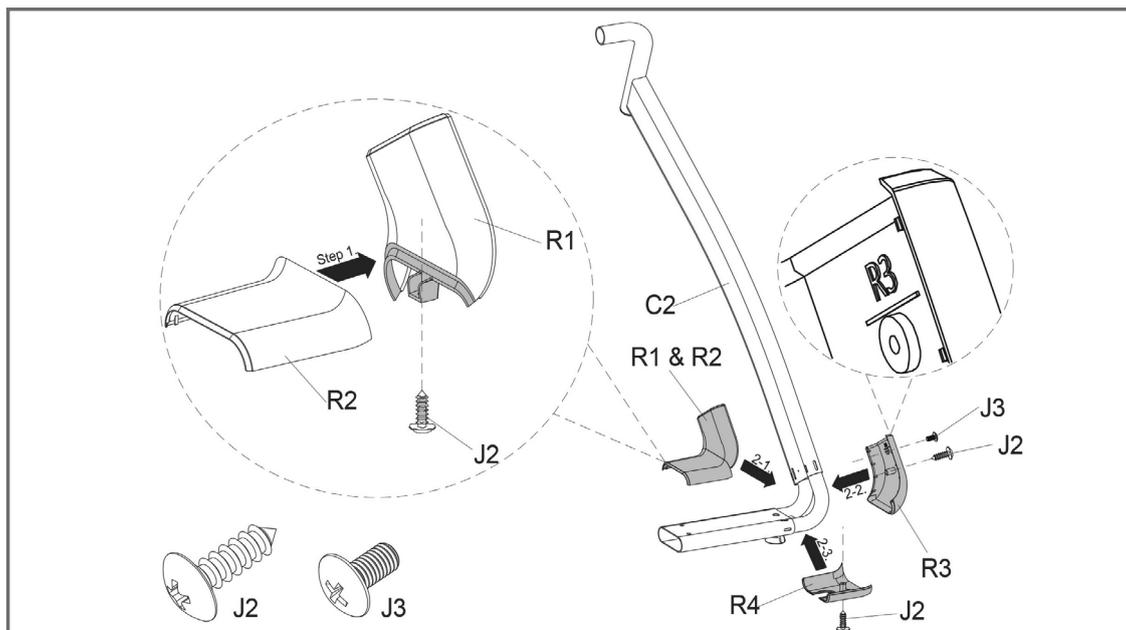
2-2. Connect the cover (R3) to the bar (C2).

2-3. Connect the cover (R4) to the bar (C2).

2-4. Secure the covers with the screw (J3) first and then with two screws (J2) as illustrated.

(3) Repeat the same steps as described before in order to assemble the left side bar cover set.

USE THE TOOL: 4mm (Phillips screwdriver)

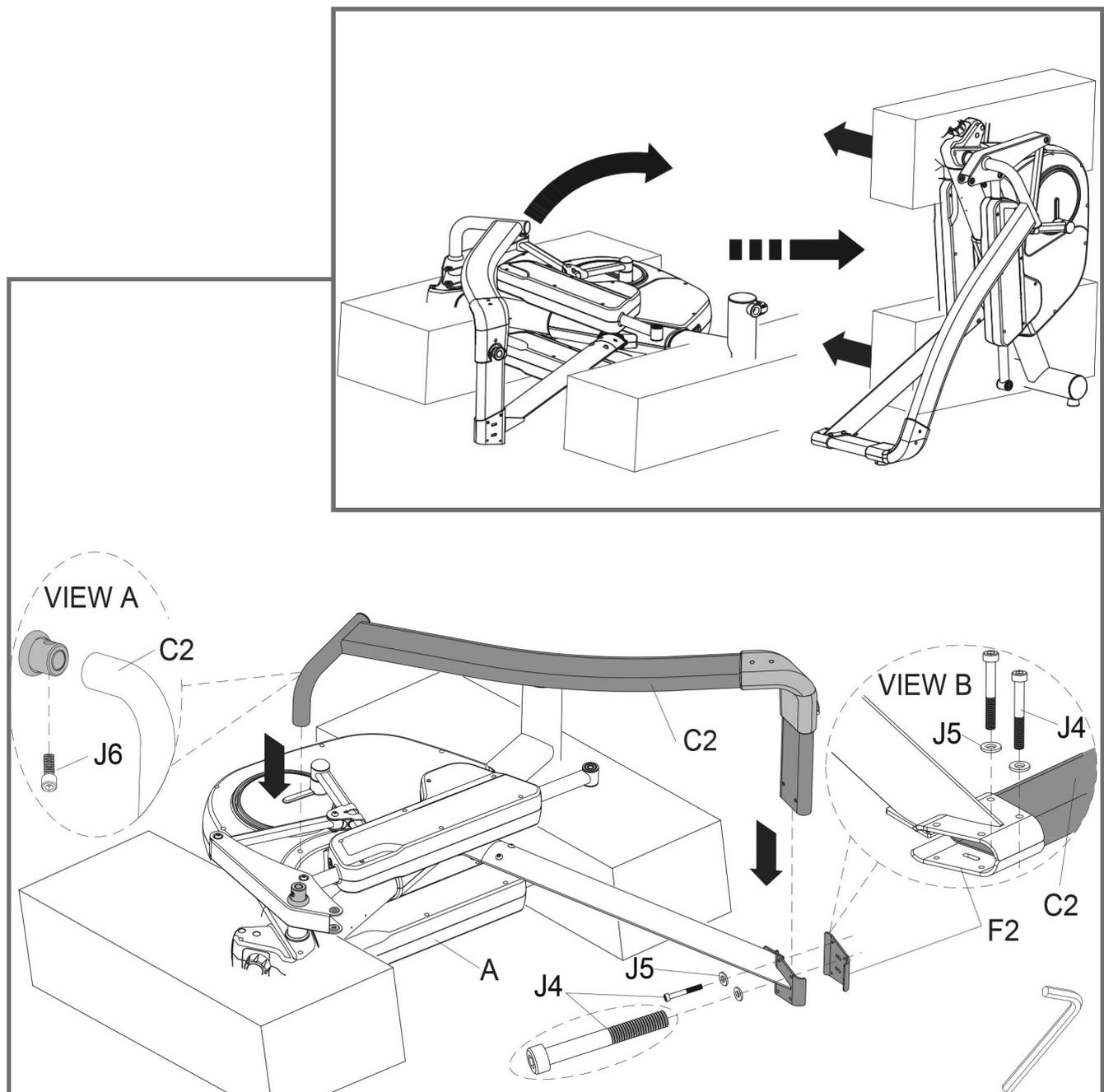


### Step 3: Assembly of the right side bar (C2)

(1) Mount the right side bar (C2) on the main frame (A) with a screw (J8) on top (figure A) and two screws (J5) including washers (J5) with the bracket (F2) on the bottom (figure B).

**Note:** Do not tighten the screws (J6 and J4) completely yet.

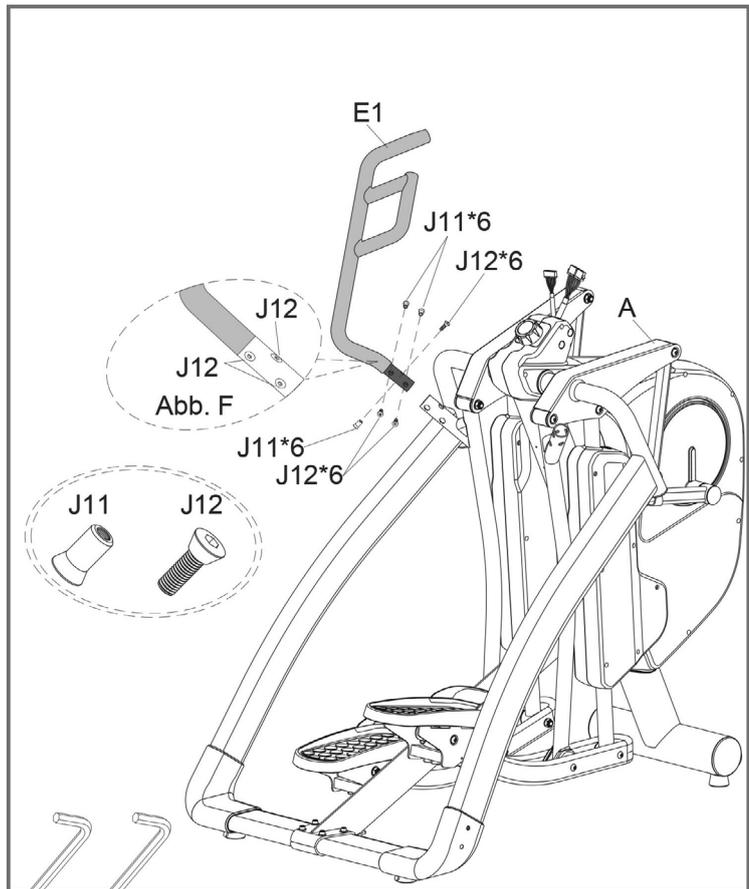
(2) Raise the main frame (A) with two people and remove the foam (see figure on the right).





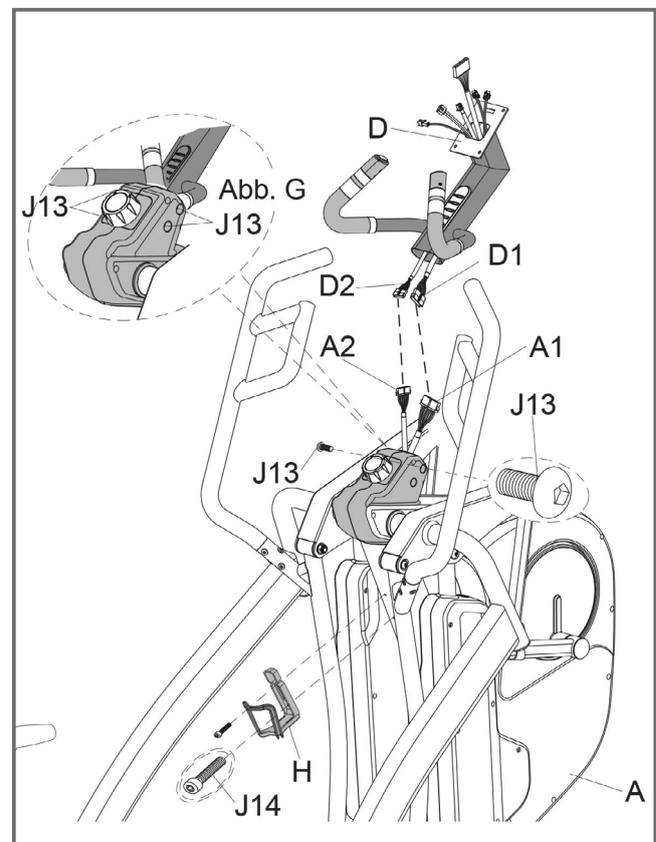
## Step 6: Assembly of the handles

- (1) Loosen the six pre-mounted screws (J12 and J11) from the left handle (E1).
- (2) Connect the left handle (E1) with the main frame (A) by tightening all screws (J12 and J11) with two 6mm Allen keys; see figure F.
- (3) Repeat the process for the right handle (E2).



## Step 7: Assembly of the console mast and the bottle holder

- (1) Connect the cable (D1 and D2) from the console mast (D) with the cables (A1 and A2) from the main frame (A).
- (2) Mount the console mast (D) on the main frame (A) with two screws (J3) and two pre-mounted screws (J13); see figure G.
- (3) Mount the bottle holder (H) on the main frame (A) with two screws (J14).



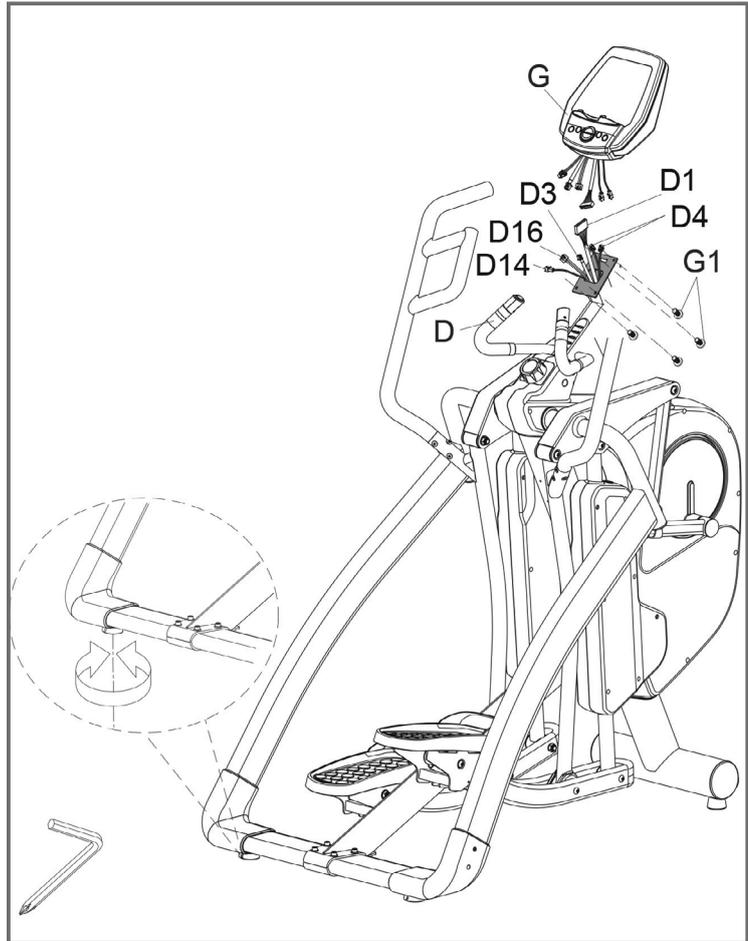
## Step 8: Assembly of the console and setting the supporting feet

- (1) Loosen the four pre-mounted screws (G1) from the console (G).
- (2) Connect the console cables (D1, D2, D14 & D16) and the heart rate cable (D4) from the console mast with the console.

**Note:** Make sure that the cables are properly connected with each other. Slide the excess cable into the casing and the console mast (D).

- (3) Mount the console (G) on the console mast (D) with the four screws (G1).

- (4) Use the adjusting screws under the side parts in order to level out any unevenness in the floor.

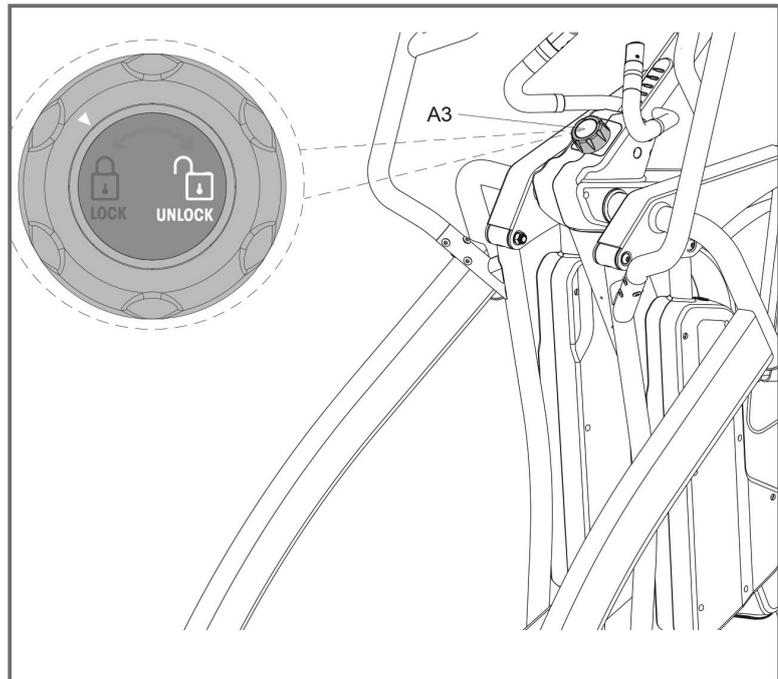


## Step 9: Locking the pedal bars (B1 and B2)

**The pedal bars should always be locked if the equipment is not being used.**

To do this, turn the knob (A3) to the "LOCK" position in order to lock the pedal bars (B1 and B2) and avoid possible injuries.

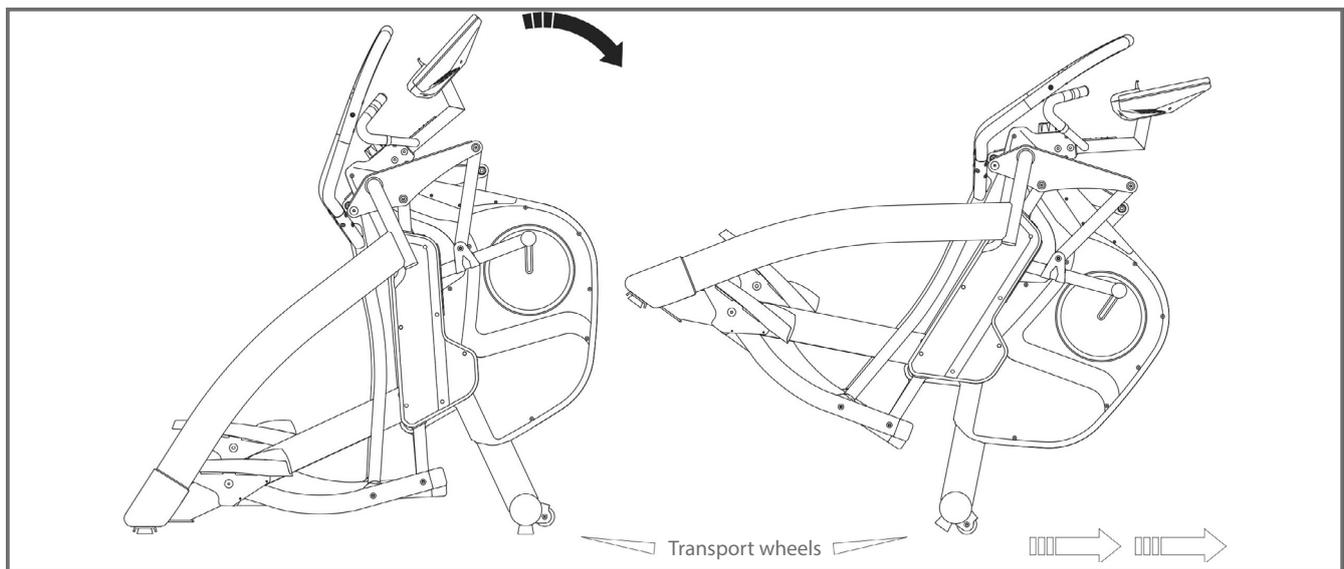
**Note:** Never lock the pedal bars if the equipment is still moving, but rather only when the equipment has come to a complete standstill.



## Step 10: Transport

**While transporting the equipment, make sure that the pedal bars are locked.**

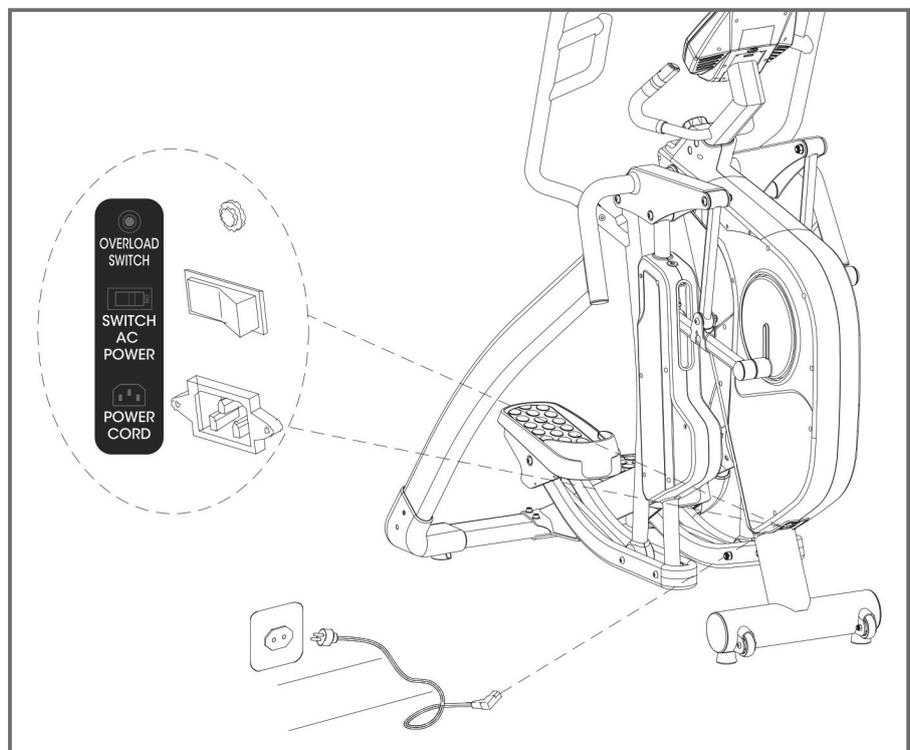
Then lift the equipment on the side bars until the transport wheels touch the ground. Now you can move the equipment to your desired place. Carefully lower the equipment again when you are done.



## Step 11: Connecting the power cable

(1) Connect the cable to the plug on the main frame, before you plug the other end in to the socket.

\*\*The overload switch protects from short circuits. The button jumps out in case of overload. Turn the power switch off and then on again to restart the equipment

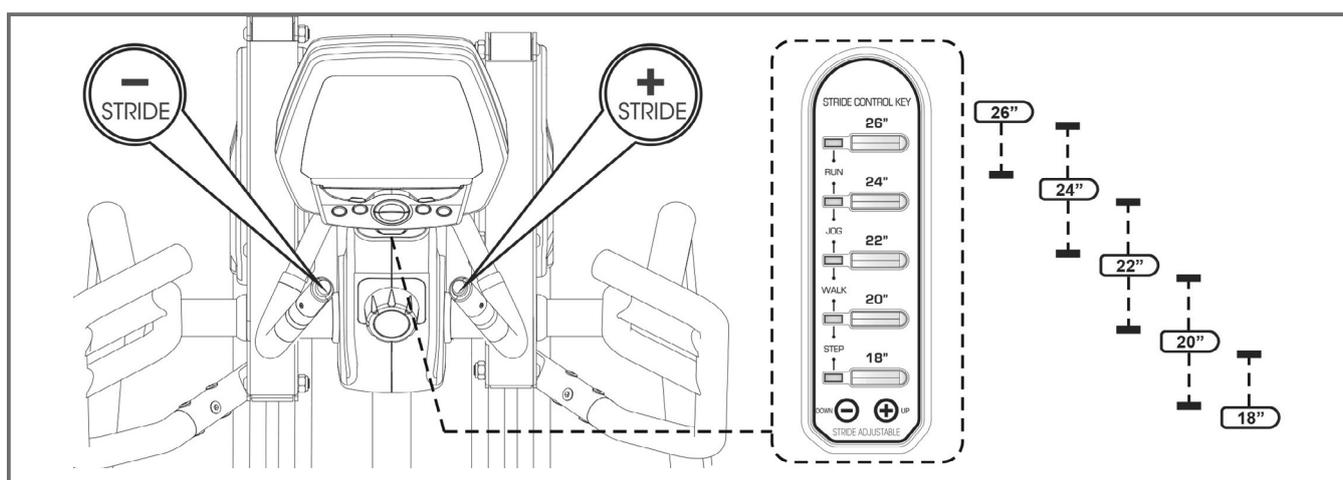


## Step 12: Function buttons to adjust the stride length:

- 1) There is a button on the left and right small handles of the console mast. The left button has the following function: The fine, infinitely variable reduction of the current stride length. The right button has the following function: The fine, infinitely variable increase of the current stride length.
- 2) If the stride length is reduced, the DOWN signal on the function button will light up in green.

If the stride length is increased, the UP signal on the function button will light up in red.

**The button for adjustments will not react as long as the stride length is being changed through the button and the LED light is blinking. The button only works if the LED light is illuminated. If there are disruptions while training, simply press any stride length adjustment button and the training can be continued.**



## Step 13: Setting the stride length via the incline motor

Corresponding to personal requirements, the stride length, as shown on the LED display, can be set or changed to 18", 20", 22", 24" or 26". There are five quick selection buttons to set the stride length. Press one of the 18" - 26" buttons to set the desired stride length. You can change the stride length at any time during training. The selected stride length is displayed through the blue LED light.

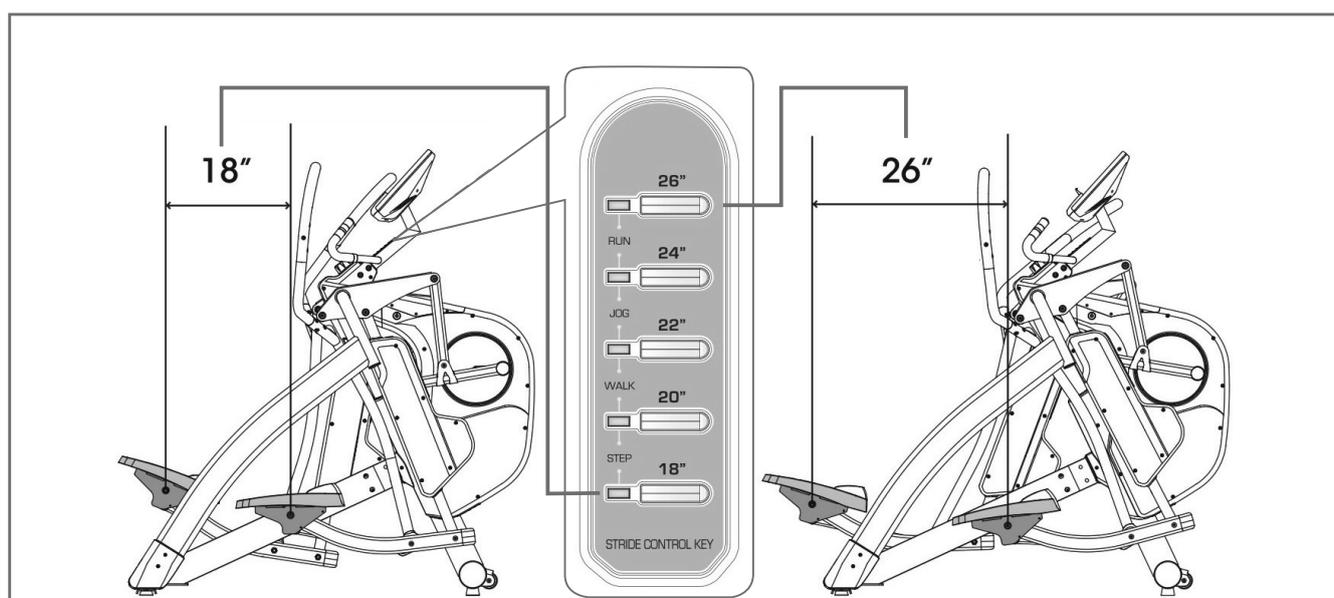
There are different reasons for a user wanting to change the stride length. First because of the height. A user who is smaller than 1.65m could feel more comfortable with a stride length of 18" (approx. 46 cm) to 22" (approx. 56 cm), while a user who is taller than 1.65 cm could feel more comfortable with a stride length of 22" (approx. 56 cm) to 26" (approx. 66 cm), because they can compensate for their stride length. Furthermore, a user must adjust the stride length with higher speeds in order to compensate for their normal stride length while jogging/running. Another reason why a user may want to change the stride length during training is so that different muscle groups can be worked; a short stride length is demanding for different muscles in the legs and body than a long stride length. A stride length of 18" (approx. 46 cm) can be compared with a shorter kick motion and a stride length of 26" (approx. 66 cm) with a lunge without high stress, which would cause the same movement on a flat surface.

During training, adjusting the resistance or doing squats while holding on to the handle bars helps to isolate these muscles.

**Note:** There is no right or wrong stride length for every usage. Select the stride length where you feel the most comfortable.

**Note:** Always contact a personal coach on-site for extensive training details.

**Note:** If the stride length motor is activated, you will hear how the motor unlocks and gets set. As soon as the motor has reached the desired stride length, you will hear a click and the motor will lock into the corresponding position.



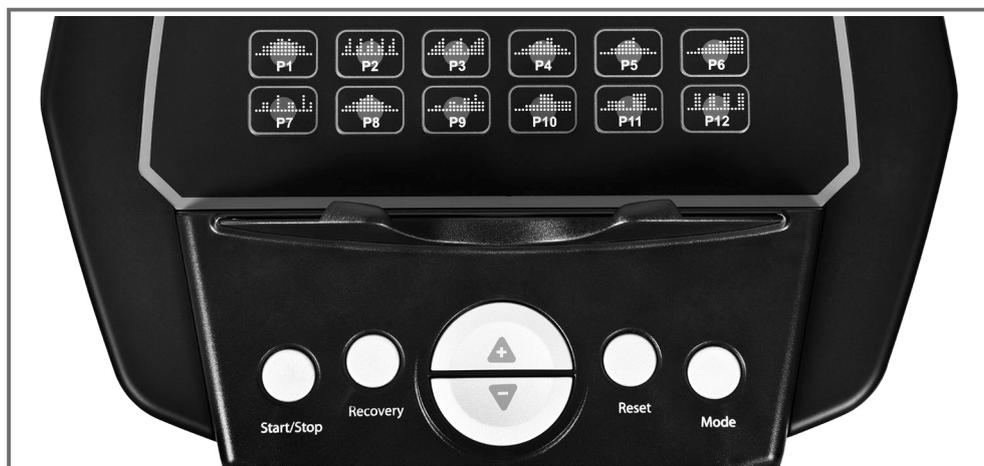
### 4.1 Console display



<b>Time</b>	0:00 - 99:00 minutes
<b>Speed</b>	0.0 - 99.9 km/h
<b>RPM (cadence; rotations per minute)</b>	0 - 999 RPM
<b>Distance</b>	0.0 - 99.9 km
<b>Calories</b>	0 - 990 Cal
<b>Gender</b>	Male (m) / Female (w)
<b>Pulse (heart rate; heartbeats per minute)</b>	30 - 230 BPM
<b>Heart rate symbol</b>	On/off - blinking
<b>Programs</b>	P1 - P12
<b>User data</b>	U1 - U4
<b>Watt/load (output/resistance)</b>	0 - 999 Watt; Watt control: 10 - 350 Watt
<b>Level</b>	1 - 16
<b>H.R.C. (heart rate control)</b>	55 / 75 / 90% of the max. heart rate; manual target rate (TAG)
<b>Age</b>	1 - 99 years
<b>Height</b>	100 - 250 cm
<b>Weight</b>	20 - 150 kg (44 – 330 lbs)

## 4.2 Button functions

MODE	Confirmation of all setting values.
RESET	Resetting all setting values. Press and hold for two seconds so that the motor returns to the turn-on mode.
START/STOP	Start or stop the training. Once the count-down has reached 0:00, the console will stop automatically and beep for eight seconds. The duration after this changes automatically to the previously set time. If the user ends the training, the console will display all setting values and will show a heart rate diagram.
UP	Increase the values.
DOWN	Decrease the values.
RECOVERY	In the stop or start mode; if the button is pressed, the measurement of the recovery pulse starts.
P1 - P12	Quick buttons for program profiles 1 - 12



## 4.3 Turning on and setting the equipment

1. Connect the power cable and the console will turn on with a long beep and all segments from the LCD display will light up for two seconds. (image A).
2. On the console the main menu (image B) appears.

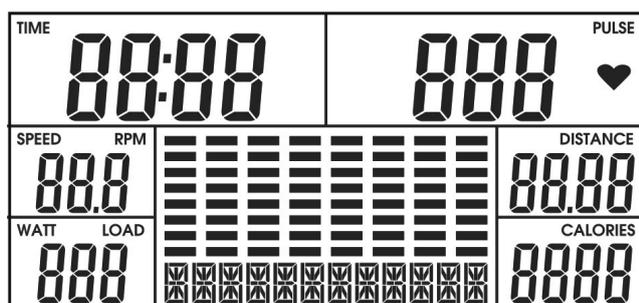


Image A

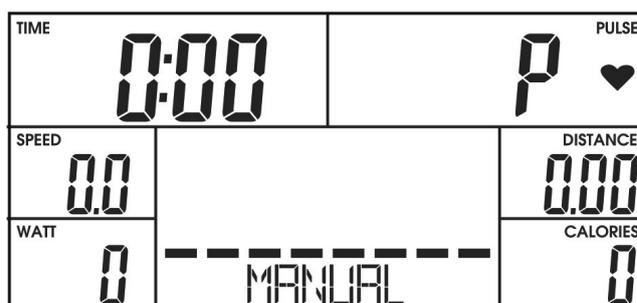


Image B

3. In the main menu, the first training program MANUAL lights up; the user can press UP and DOWN to select a program.



## 4.4 Programs

### 4.4.1 Quick start and manual:

Before training in the manual mode, the user can set the TIME, DISTANCE, CALORIES and PULSE target values. After turning on the equipment, the user can press START/STOP to train directly in the manual mode without any settings.

The level can be changed during training by pressing UP or DOWN.

#### 4.4.2 PROG - Pre-set programs:

In the stop mode, the user can press the P1-P12 buttons to get to the selected program quickly. Before training in the program mode, the user can set a target time (TIME). Press UP or DOWN in order to select a program profile and press ENTER/MODE to confirm.

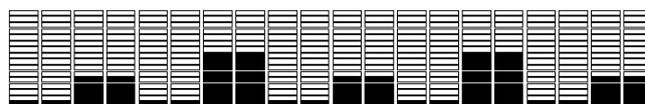
The level can be changed during training by pressing UP or DOWN.

#### Profiles from pre-set training programs:

P01



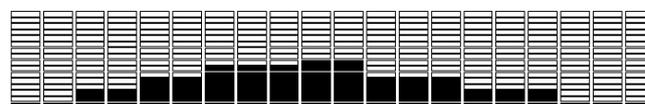
P07



P02



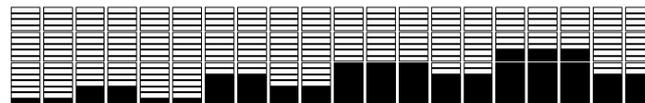
P08



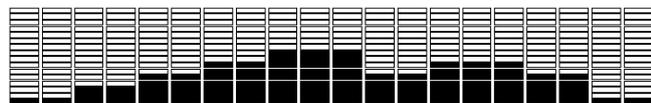
P03



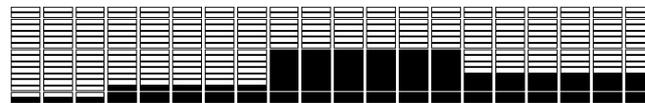
P09



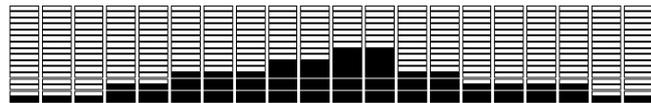
P04



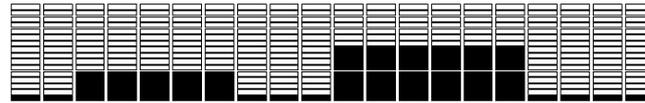
P10



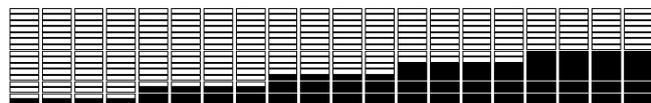
P05



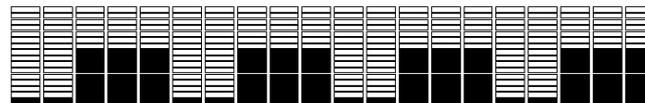
P11



P06



P12



#### 4.4.3 H.R.C. - Heart rate controlled programs

Before heart rate controlled training, the user can select 55%, 75% or 90% of the target heart rate.

The computer automatically calculates the user's age and the target heart rate.

The user can set the training duration and press START/STOP in order to begin the training.

#### 4.4.4 USER - User defined program

The user can press UP, DOWN and then MODE to create their own profile. (from row 1 to row 2) Press and hold the MODE button for two seconds to end the profile setting.

#### 4.4.5 WATT - Watt controlled program

The default Watt value is 120W; in order to change this value, the user can press UP/DOWN.

When beginning training, the console adjusts the resistance level corresponding to the training status of the user and their actual Watt value.

#### 4.4.6 RECOVERY - Fitness test

Press and hold the RECOVERY button after you have trained for some time.

All display functions are ended except for the TIME function; this starts a countdown of 00:60 to 0:00.

Then your pulse/heart rate recovery status will appear on the display from F1, F2 to F6. F1 is the best status, F6 is the worst. The user can continue to train in order to improve the pulse/heart rate recovery status.

Press RECOVERY button again in order to return to the main menu.

Result	Fitness level
F1	Very good
F2	Good
F3	Average
F4	Sufficient
F5	Poor
F6	Very poor

#### General note:

If the user stops pedaling for more than four minutes, the console will change into the energy saving mode.

All settings and training data will be saved until the next training is started.



**Note:**

If you have not been active in doing sports for a longer period of time, you should first go to your physician in order to discuss your training with them. You should also contact your physician in advance in the event of heart problems, high/low blood pressure and obesity.

**Training with heart rate orientation**

Heart rate orientation guarantees an extremely effective and healthy training. Through your age and the following table, you can quickly and easily read and determine the optimal pulse for your training. An acoustic alarm will sound if your heart rate exceeds the set target heart rate. Which target heart rate is important for which training goal can be found out in the following.

**Fat burning (weight management):** The main goal here is to burn deposits of fat. In order to achieve this training goal, a low training intensity (approximately 55% of the maximum heart rate) and a longer training period are required.

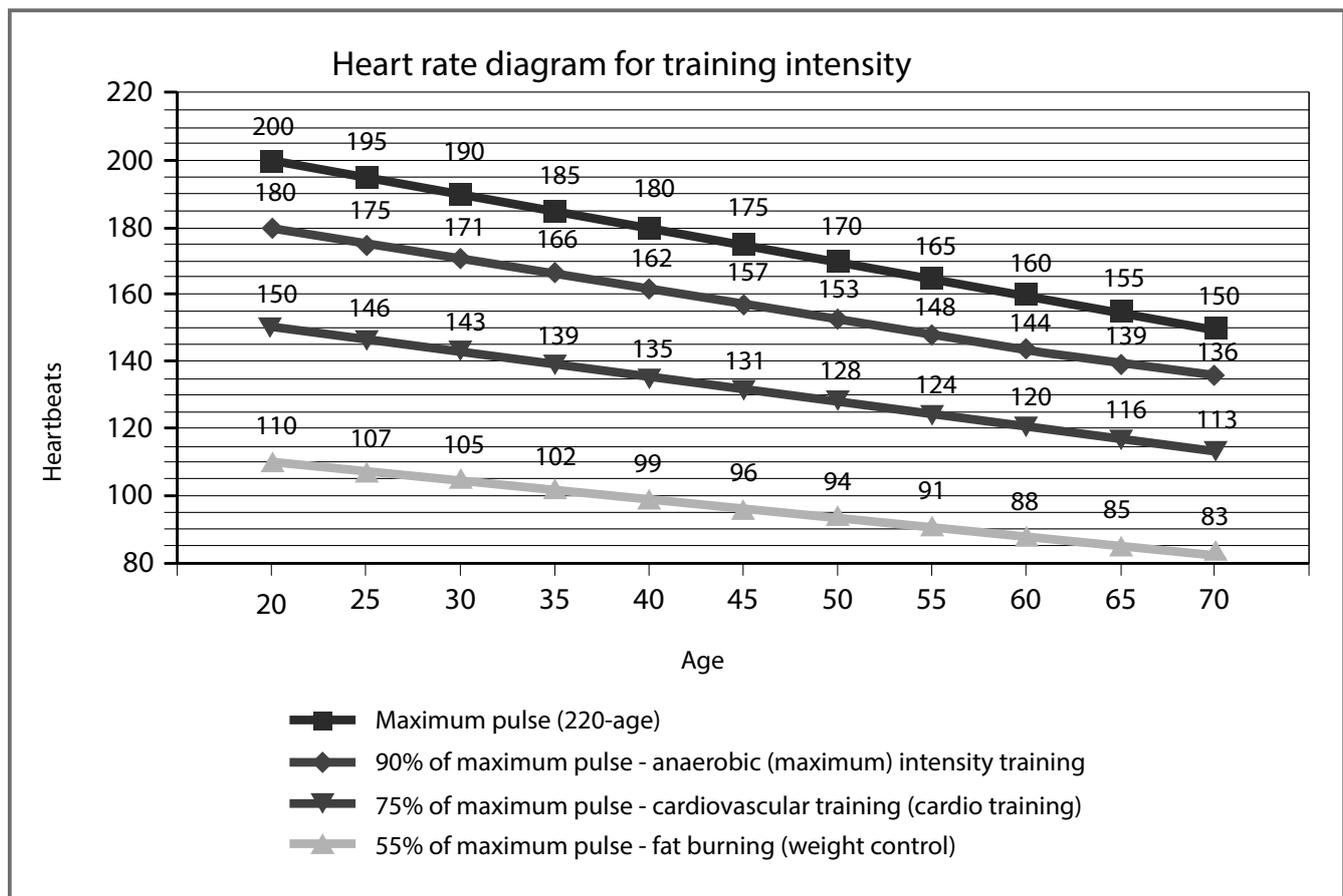
**Cardiovascular training (cardio training):** The primary goal is to increase stamina and fitness through an improved provision of oxygen through the cardiovascular system. In order to achieve this training goal, medium intensity (approximately 75% of the maximum heart rate) with a medium training period is required.

**Anaerobic (maximum) load training:** The main goal of maximum load training is to improve recovery after short, intense loads in order to be able to quickly return to the aerobic zone. In order to achieve this training goal, a high intensity (approximately 90% of the maximum heart rate) with short, intense load is required, which is followed by a recovery phase in order to prevent muscle fatigue.

**Example:**

For a 45-year-old man or woman, the maximum heart rate is 175 ( $220 - 45 = 175$ ).

- The fat burning target zone (55%) is at approximately 96 beats/min.  
=  $(220 - \text{age}) \times 0.55$ .
- The cardio target zone (75%) is at approximately 131 beats/min.  
=  $(220 - \text{age}) \times 0.75$ .
- The maximum heart rate for an anaerobic load training (90%) is at approximately 157 beats/min. =  $(220 - \text{age}) \times 0.9$ .



## 5.2 10 tips for effective elliptical cross training

### 1. Set goals

What would you like to achieve with your training? Weight regulation, improved stamina, prevent risk of disease, more mobility, cardiovascular training, etc. In order to achieve your long-term training goal, set individual partial goals, e. g., weekly or monthly goals.

### 2. Concentration on training

Try to only dedicate yourself to your training unit and do not be distracted.

### 3. Position yourself correctly while exercising

As you step, your upper body should be shifted slightly forward and your back held straight. Avoid side-to-side motion in the hips and back.

### 4. Correct breathing / appropriate resistance level

Do not overexert yourself physically and mentally by starting with resistance levels that are too high. Start slowly and increase the resistance steadily. Aim for regular and calm breathing.

### 5. Keep yourself properly hydrated

Drink, drink, drink! Have a drinking bottle close by during your workout.

### 6. Sufficient recovery periods

Allow your body and your muscles enough time to recover after your workout. Only a relaxed muscle will be fully operational again.

### 7. Choose a diversified program

Switch your focus between different muscle groups and different levels of intensity during your workout.

### 8. Creating the right workout

Every training session should have a warm-up phase, a cool-down phase and a targeted stretching. It increases physical and mental performance and prevents injuries and sore muscles.

### 9. Workout journal

Keep a record of your training sessions. Note the date, resting pulse, active pulse, recovery pulse, resistance level, time, distance, calories burnt and fitness level.

## 10. Reward yourself

Do something good for you and your body after training or after achieving a partial goal. Go to the sauna or a swimming pool. Mix a protein shake or enjoy a delicious salad.

## 5.3 Designing a workout

We recommend two or three workouts per week. Warm up for about five minutes before starting each workout. Finish the workout with a cool-down and targeted stretching.

**Warm-up** approx. five minutes Dynamic movement of large muscle groups at a low intensity. Core body temperature increases and the metabolic process is speeded up.

WEEK 1 + 2				
	Beginner		Advanced	
Days	Duration	Intensity	Duration	Intensity
Mon	20 min.	Slow speed, no resistance	30 min.	Moderate speed, keep resistance low
Wed	20 min.	Slow speed, no resistance	30 min.	Moderate speed, keep resistance low
Fri	20 min.	Slow speed, no resistance	30 min.	Moderate speed, keep resistance low
In the first week, increase the speed in between for two-minutes. Maintain heart rate.			In the second week, increase the speed for brief periods.	

WEEK 3 + 4				
	Beginner		Advanced	
Days	Duration	Intensity	Duration	Intensity
Mon	25 min.	Slow speed, no resistance	35 min.	Vary speed, keep resistance low
Wed	25 min.	Slow speed, no resistance	35 min.	Vary speed, keep resistance low

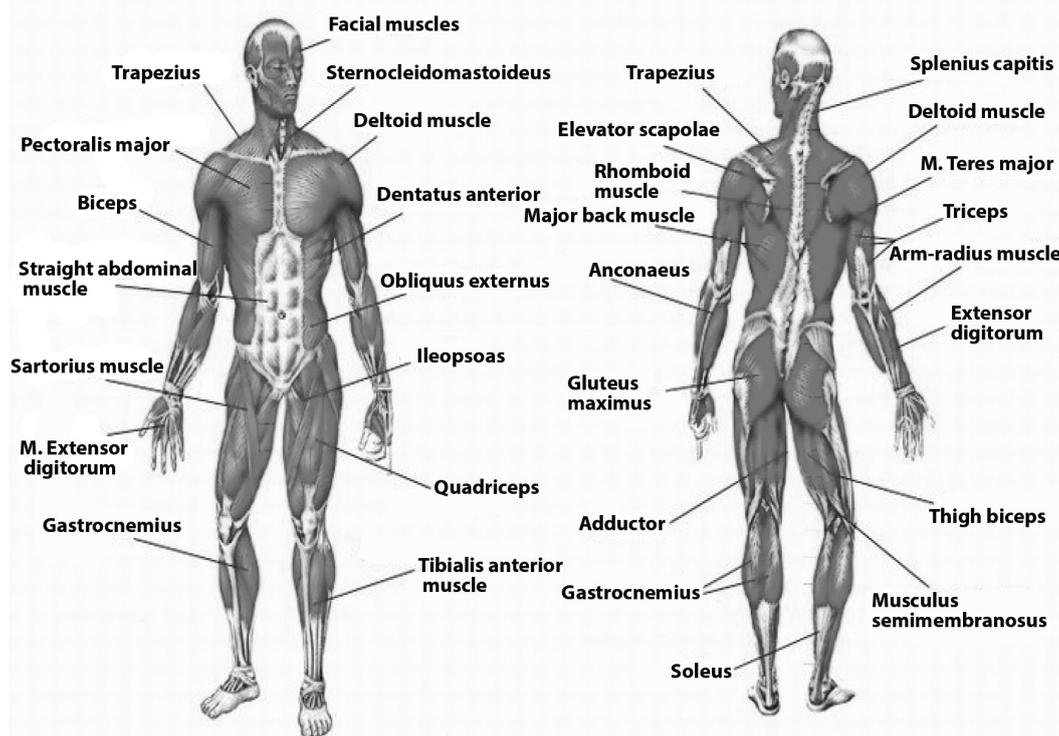
Fri	25 min.	Slow speed, no resistance	35 min.	Vary speed, keep resistance low
In the third week, increase the resistance slightly.			In the fourth week, combine forwards and backwards movements.	

WEEK 5 + 6				
Beginner			Advanced	
Days	Duration	Intensity	Duration	Intensity
Mon	30 min.	Moderate speed, keep resistance low	40 min.	Vary speed, keep resistance low
Wed	30 min.	Moderate speed, keep resistance low	40 min.	Vary speed, keep resistance low
Fri	30 min.	Moderate speed, keep resistance low	40 min.	Vary speed, keep resistance low
In the fifth week, increase the resistance slightly at moderate speed.			In the sixth week, alternate between forwards and backwards movements.	

WEEK 7 + 8				
Beginner			Advanced	
Days	Duration	Intensity	Duration	Intensity
Mon	35 min.	Vary speed, keep resistance low	45 min.	Vary speed, increase resistance
Wed	35 min.	Vary speed, keep resistance low	45 min.	Vary speed, increase resistance
Fri	35 min.	Vary speed, keep resistance low	45 min.	Vary speed, increase resistance
In the seventh week, include short sprints.			In the eighth week, alternate between forwards and backwards movements.	

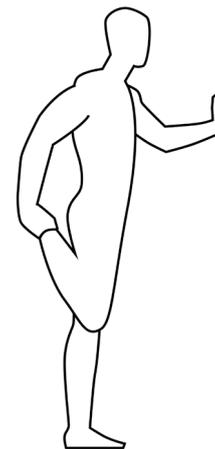
**Cool-down** approximately five minutes Finish your training at low resistance and at slow speed. Allow your body to gently slow back down.

## 5.4 Stretching exercises for leg & chest muscles



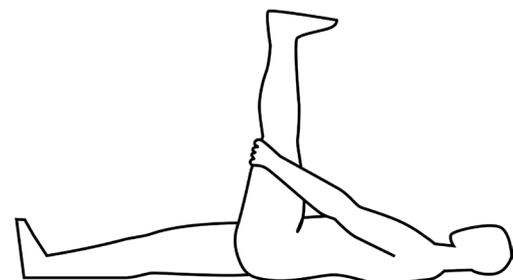
### 1. Exercise: Stretching of front thigh / leg extension (quadriceps)

- Stable position, grab arches of feet
- Pull heel towards buttocks, knee points downwards (no abduction)
- Straight upper body, avoid tilting the pelvic forward (hollow back) by tensing the abdominal muscles
- Change legs



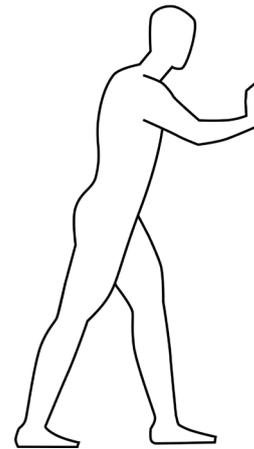
### 2. Exercise: Stretching the back thigh / leg curl (hamstring)

- Pull thigh towards upper body with both hands
- Stretch through increased stretching in the knee joint
- The lower leg maintains contact with the floor, keep hips bent
- Change legs



### 3. Exercise: Stretching the calf muscles (gastrocnemius)

- Place feet parallel to each other pointing forward, the heels touch the floor
- Support yourself on a chair coming from a lunge
- Move your body weight to the front leg, press your heel from the rear leg towards the floor and hold the contact
- Slowly stretch your knee of the rear leg until you feel the stretch in your calves
- Change legs



### 4. Exercise: Stretching the chest muscles (pectoralis major)

- Stand parallel to a wall
- Place your forearm at 90° to the wall with the elbow just above shoulder height
- Turn your head and upper body gradually to the opposite sides until you feel a stretch in the front chest, of the shoulder being leaned on
- Pay attention to tension in your abdominal and gluteal muscles
- Your weight is on your front leg
- Change legs



**All recommendations of these instructions apply solely to healthy persons and are not suitable for those with heart or cardiovascular problems. All of the tips are intended only as a guide to help you create a workout. Your physician can offer appropriate advice for particular, personal requirements.**

**We hope you enjoy your workout and have a lot of success!**



## 6 WARRANTY INFORMATION

cardiostrong's fitness equipment is subject to strict quality controls. However, if a fitness equipment purchased from us does not work perfectly, we take it very seriously and ask you to contact our customer service as indicated. We are happy to help you by phone via our service hotline.

### **Error descriptions**

Your fitness equipment is developed for long-term, high-quality training. However, should a problem arise, please first read the operating instructions. For further assistance, please contact your contract partner or call our service hotline. To ensure your problem is solved as quickly as possible, please describe the defect as exactly as possible.

In addition to the statutory warranty, we provide a warranty for every fitness equipment purchased from us according to the following provisions.

### **Your statutory rights are not affected.**

### **Warranty**

The warranty is the first/original buyer and/or any person who received a newly purchased product as a gift from the original buyer.

### **Warranty periods**

The following warranty periods begin on delivery of the fitness equipment.

<b>Model</b>	<b>Use</b>	<b>Full warranty</b>	<b>Frame</b>
EX90-PLUS	Home use	24 months	30 years
	Semi-professional	12 months	

### **Repair costs**

According to our choice, there will either be a repair, a replacement of individual damaged parts or a complete replacement. Spare parts, that have to be mounted while assembling the equipment, have to be replaced by the warranty personally and are not a part of repair. After the expiration of the warranty period for repair costs, a pure parts warranty applies, which does not include the repair, installation and

## **The terms of use are defined as follows:**

- Home use: solely for private use in private households up to 3 hours per day
- Semi-professional use: up to 6 hours per day (e. g. rehabilitation centers, hotels, clubs, company gyms)
- Professional use: more than 6 hours per day (e. g. commercial gyms)

## **Warranty service**

Within the warranty period, equipment which develops faults as a result of material or manufacturing defects, will be repaired or replaced at our discretion. Ownership of equipment or parts of equipment which have been replaced is transferred to us. The warranty period is not extended nor does a new warranty period begin following repair or replacement under the warranty.

## **Warranty conditions**

For the warranty to be valid, the following steps must be taken:

Please contact our customer service by email or phone. If the product under warranty has to be sent in for repair, the seller bears costs. After expiry of the warranty, the buyer bears the costs of transport and insurance. If the fault is covered by our warranty, you will receive a new or repaired equipment in return.

## **Warranty claims are invalid in case of damage resulting from:**

- misuse or improper handling
- environmental influences (moisture, heat, electrical surge, dust, etc.)
- failure to follow the current safety measures for the equipment
- failure to follow the operating instructions
- use of force (e. g. hitting, kicking, falling)
- interventions which were not carried out by one of our authorized service centers
- unauthorized repair attempts

## **Proof of purchase and serial number**

Please make sure that you are able to provide the appropriate receipt when claiming on your warranty. So that we can clearly identify the model of your equipment, and for the purposes of our quality control, you will need to give the serial number of your equipment, when contacting the service team. Where possible please have your serial number and your customer number ready when you call our service hotline. It will help us to deal with your request swiftly.

If you cannot find the serial number on your fitness equipment, our service team is at your disposal to offer further information.

### Service outside of the warranty period

We are also happy to issue an individual cost estimate if there is a problem with your fitness equipment after the warranty has expired, or in cases which do not fall under the terms of the warranty, e. g. normal wear and tear. Please contact our customer service team to find a quick and cost-effective solution to your problem. In such a case you will be responsible for the delivery costs.

### Communication

Many problems can be solved just by speaking to us as your contract partner. We know how important it is to you as a user of the fitness equipment to have problems solved quickly and simply, so you can enjoy working out with minimal interruption. For that reason, we also want to resolve your queries quickly and in a straightforward manner. Thus, please always keep your customer number and the serial number of the faulty equipment handy.

## 7 DISPOSAL

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At the end of its operational life, this equipment cannot be disposed of in normal household waste. Instead, it must be disposed of via an electricals recycling centre. Further information can be obtained from your local authority's recycling service.

The materials can be recycled as per their symbols. Through the reuse, recycling of materials or other forms of recovery of old equipment, you make an important contribution to the protection of the environment.

## 8 ORDERING ACCESSORIES

	<p>Sport-Tiedje floor mat, size XL</p> <p>Art. no. ST-FM-XL</p>
	<p>Sport-Tiedje comfort chest strap premium</p> <p>Art. no. ST1050</p>
	<p>Sport-Tiedje silicone spray</p> <p>Art. No. ST-1003</p>
	<p>Chest-strap contact gel 250ml</p> <p>Art. no. BK-250</p>
	<p>Fitness equipment care kit</p> <p>Art. no. HF-500</p>

## 9 ORDERING SPARE PARTS

### 9.1 Service hotline

So that we can give you the best possible service, please have your **model name, part number, serial number, exploded drawing and parts list** ready.

#### SERVICE-HOTLINE

DE

+49 4621 4210-0

+49 4621 4210-699

service@sport-tiedje.de

Mon - Fri 8:00 am - 6:00 pm

Sat 9:00 am - 6:00 pm

NL

+31 172 619961

info@fitshop.nl

Mon - Thu 9 am - 5 pm

Fri 9 am - 9 pm

Sat 10 am - 5 pm

UK

+44 141 876 3972

orders@powerhousefitness.co.uk

Mon - Fri 9 am - 5 pm

### 9.2 Serial number and model name

Before assembling your equipment, find the serial number on the white sticker and enter it in the appropriate space.

Serial number:

Brand / category:

cardiostrong elliptical cross trainer

Model name:

EX90-Plus

### 9.3 Parts list

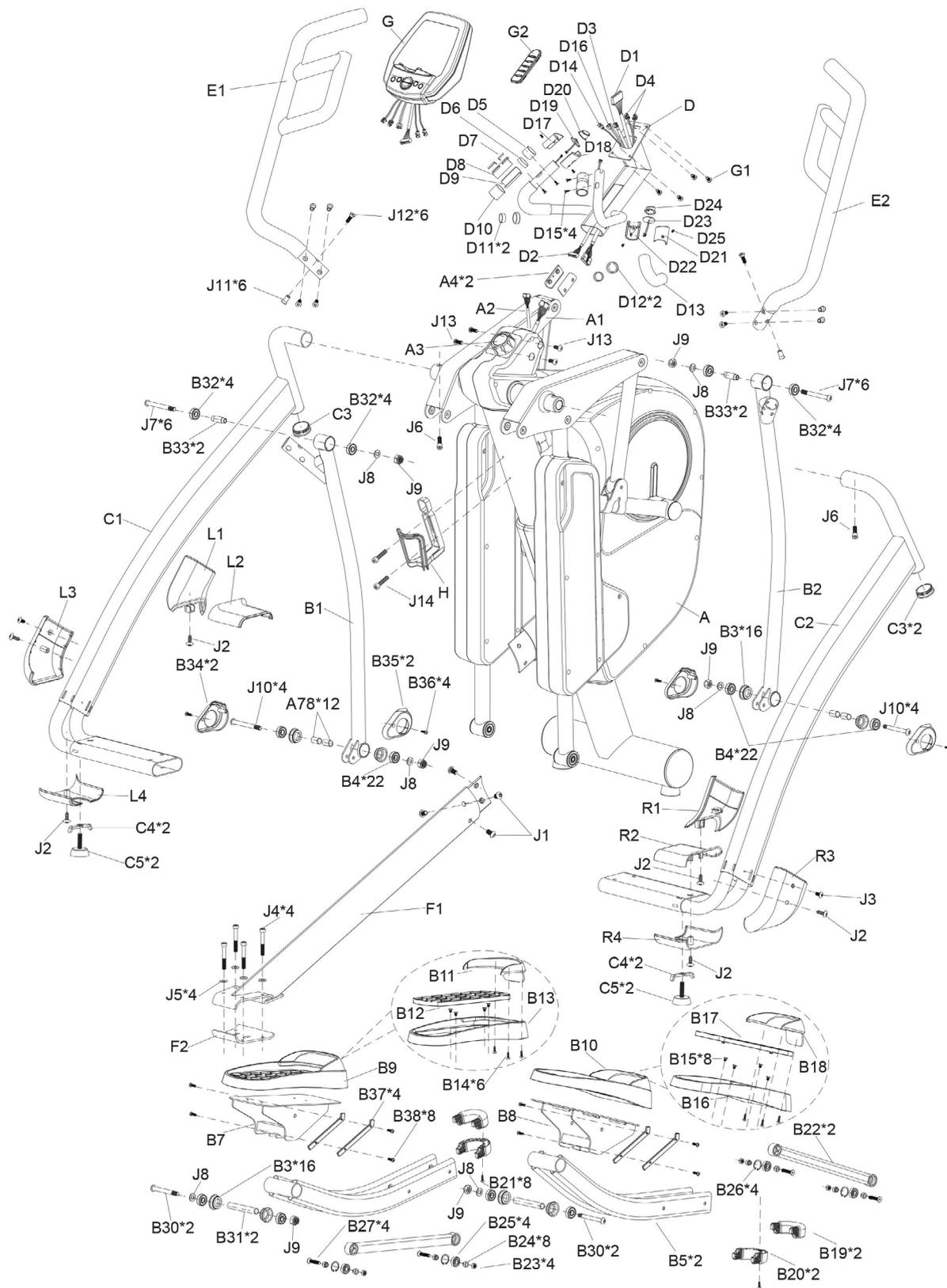
No.	Qty.	Description	No.	Qty.	Description
A	1	MAIN FRAME	A29	2	SCREW M8x10
A1	1	SENSOR WIRE 900mm	A30	2	TRANSPORTATION WHEEL
A2	1	CONTROLLER WIRE 500mm	A31	4	SCREW M12x53
A3	1	KONB	A32	1	PRESSING PIPE
A4	4	CONNECTION SLICE 40 (4T)	A33	2	WASHER $\Phi$ 10x $\Phi$ 23x2T
A5	2	INCLINE MOTOR SENSOR WIRE	A34	2	BEARING 6200 (MRB)
A8	1	INCLINE MOTOR CONTROL BOX	A35	1	SCREW M10x30
A9	2	SCREW M5x10	A36	1	JSHAPE SCREW M6
A10	1	ADAPTOR	A37	1	WIRE (AC POWER SWITCH TO POWER CORD)
A11	1	DC WIRE 600mm	A38	1	WASHER M6x $\Phi$ 16x $\Phi$ 29.2x2T
A12	2	SOCKET	A39	1	GROUND WIRE
A13	1	NUT	A40	1	POWER CORD
A14	4	SCREW M3x8	A41	1	TFLYWHEEL $\Phi$ 327
A15	1	SENSOR WIRE 100mm	A42	2	NUT3/8"
A15-1	1	SENSOR WIRE HOUSING	A43	1	TENSION CABLE 400MM
A15-2	1	SENSOR WIRE HOUSING SCREW	A44	4	SCREW M5x10
A16	1	MOTOR	A45	2	TURING PLATE
A17	1	WIRE (OVERLOAD SWITCH TO AC POWER SWITCH)	A46	2	CRANK
A18	2	BEARING 6005zz (TPX)	A47	1	BEARING NUT
A19	1	BRAKE DEVICE (3T)	A47-1	1	BUSH $\Phi$ 25.2x $\Phi$ 29.2x54.4mm
A20	1	SCREW M6x43	A47-2	1	BUSH $\Phi$ 25.2x $\Phi$ 29.2x5mm
A21	1	SCREW M8x16	A48	1	SCREW M8x25
A22	2	WASHER M10	A49	4	AXLE $\Phi$ 25x160MM
A23	1	OVERLOAD SWITCH	A50	2	MAGNETIC $\Phi$ 15x7
A24	1	WIRE (OVERLOAD SWITCH TO AC POWER SWITCH)	A51	1	BELT WHEEL $\Phi$ 360 (J10)
A25	1	POWER CONNECTION WIRE	A52	2	BELT 530 (1355MM)xJ8
A26	1	SWITCH AC POWER	A53	1	NUT M8
A27	1	POWER CORD SOCKET	A54	1	OSCILLATING AXLE BASE (R)
A28	2	SCREW M3x10	A55	2	OSCILLATING AXLE BASE (R)

No.	Qty.	Description	No.	Qty.	Description
A56	2	HANDLEBAR SUPPORTING COVER	A90	2	PUSH ROD BRACKET (FRONT)
A57	2	BEARING 6905 (TPX)	A91	1	END CAP
A58	2	END CAP $\Phi$ 4"	A92	2	SPACER SHIM
A59	2	END CAP $\Phi$ 4"	A93	2	PUSH ROD BRACKET (REAR)
A60	2	WASHER M6x2Tx $\Phi$ 19	A94	8	SCREW M8x20
A61	2	SCREW3/16"x5/8	A95	12	SCREW5/32"x3/4"(M4x19MM)
A62	2	FRONT CONNECTING SHAFT	A96	2	NUT M6
A63	1	END CAP	A97	2	SIDE DECORATION HOUSING SET (L)
A64	4	BUSH $\Phi$ 12.1x $\Phi$ 16x20	A98	2	SIDE DECORATION HOUSING SET(R)
A65	12	CLIP (36)	A99	2	FRONTSIDE DECORATION COVER
A66	2	BEARING 6004 (TPX)	A100	10	SCREW M4x20
A67	12	BEARING SLEEVE $\Phi$ 42x3T	A101	4	END CAP
A68	2	SCREW M8x45	A102	1	SMALL CHAIN COVER (L)
A69	10	NUT M4	A103	1	MAIN CHAIN COVER (L)
A71	2	CRANK CONNECTING SHAFT	A104	1	UPPER DECORATION HOUSING
A72	2	BEARING 2203 (MRB)	A105	1	SMALL CHAIN COVER (R)
A73	2	NUT M10	A106	1	MAIN CHAIN COVER (R)
A74	2	CLIP (R40)	A107	8	SCREW M4x12
A75	8	BUSH $\Phi$ 12.1x $\Phi$ 16x10.5mm	A108	2	MOTOR SENSOR WIRE HOUSING
A76	4	SCREW M4x38mm	A109	2	MOTOR SENSOR WIRE HOUSING SCREW
A77	2	FLAT KEY 7x7x20MM	A110	2	END CAP
A78	12	BUSH $\Phi$ 12.1x $\Phi$ 16x14.75MM	A111	2	CRANK HOUSING
A80	2	FRONT PEDAL SUPPORTING TUBE	A112	2	SCREW
A81	2	WASHER M10x $\Phi$ 27x2T	A113	4	SIDE DECORATION HOUSING SCREW
A82	2	SCREW M10x40MM	B1	1	PEDAL SUPPORTING TUBE (L)
A83	4	NUT	B2	1	PEDAL SUPPORTING TUBE (R)
A84	1	BRAKE	B3	16	BEARING SLEEVE
A85	1	SPRING	B4	22	BEARING 6201 (TPX)
A86	2	MOTOR PUSH ROD	B5	2	LOWER PEDAL SUPPORTING TUBE
A87	4	AXLE FOR MOTOR PUSH ROD	B7	1	PEDAL BRACKET (L)
A88	4	NUT	B8	1	PEDAL BRACKET (R)
A89	8	NYLON SLEEVE	B8	1	Pedal(r)

No.	Qty.	Description	No.	Qty.	Description
B9	1	PEDAL REST (L)	C3	2	END CAP
B10	1	PEDAL REST (R)	C4	2	ADJUSTED NUT
B11	1	FRONT COVER PEDAL (L)	C5	2	ADJUSTED END $\Phi$ 50
B12	1	CUSHION PAD (L)	D	1	CONSOLE SUPPORTING TUBE
B13	1	PEDAL (L)	D1	1	SENSOR WIRE 350mm
B14	6	SCREW 5/32"x5/8"(M4x15MM)	D2	1	SENSOR WIRE 200mm
B15	8	SCREW M6x10MM	D3	1	SENSOR WIRE 300mm
B16	1	PEDAL (R)	D4	2	HANDLE PULSE WIRE
B17	1	CUSHION PAD (R)	D5	2	HANDLE PULSE RING $\Phi$ 31.8x0.9Tx19.5mm
B18	1	FRONT COVER PEDAL(R)	D6	2	SPACER RING $\Phi$ 32x30.4
B19	2	UPPER CAP FOR PEDAL SUPPORTING 20x60	D7	4	HANDLE PULSE
B20	2	LOWER CAP FOR PEDAL SUPPORTING 20x60	D8	2	UPPER HANDLE PULSE HOUSING
B21	8	SCREWS 5/32"x1/2"	D9	2	LOWER HANDLE PULSE HOUSING
B22	2	MIDDLE PEDAL SUPPORTING ROD	D10	2	HANDLE PULSE RING $\Phi$ 31.8x0.9Tx30.5mm
B23	4	NUT M8	D11	2	PLASTIC PIPE
B24	1	BUSH $\Phi$ 8x( $\Phi$ 12+ $\Phi$ 15)	D12	2	FOAM SPACER RING $\Phi$ 32x $\Phi$ 25.8x10mm
B25	4	BEARING 6001(TPX)	D13	2	SPONG HDR $\Phi$ 23x3Tx150mm
B26	4	C-CLIP R28	D14	1	SENSOR WIRE
B27	4	SCREW M8x40	D15	4	SCREW M3x8
B30	2	SCREW M12x133	D16	1	SENSOR WIRE
B31	2	BUSH $\Phi$ 15x $\Phi$ 12.35x90mm	D17	1	TOGGLE COVER L1
B32	4	BEARING 6003zz	D18	1	TOGGLE COVER L2
B33	2	BUSH	D19	1	PC BOARD LOAD -
B34	2	PEDAL HOUSING (R)	D20	1	TOGGLE LOAD -
B35	2	PEDAL HOUSING (L)	D21	1	TOGGLE COVER R1
B36	4	SCREW	D22	1	TOGGLE COVER R2
B37	4	PEDAL REINFORCEMENT STRIP	D23	1	PC BOARD LOAD +
B38	8	SCREW	D24	1	TOGGLE LOAD +
C1	1	SIDE CONNECTING TUBE (L)	D25	4	SCREW
C2	1	SIDE CONNECTING TUBE (R)	J14	2	Pedal housing(l)

No.	Qty.	Description	No.	Qty.	Description
E1	1	HANDLE BAR (L)	J8	18	WASHER M12x20
E2	1	HANDLE BAR (R)	J9	18	NUT M12
F1	1	CENTRAL SUPPORTING TUBE	J10	4	SCREW M12x109
F2	1	IRON BRACKET	J11	6	HANDLE BAR SCREW
G	1	CONSOLE	J12	6	HANDLE BAR SCREW
G1	4	CONSOLE SCREW M5x10	J13	4	SCREW M8x16
G2	1	STRIDE LED SENSOR BOARD	J14	2	WATER BOTTLE HOLDER SCREW
H	1	WATER BOTTLE HOLDER	L1	1	SIDE TUBE COVER SET (L1)
J1	4	SCREW M10x16	L2	1	SIDE TUBE COVER SET (L2)
J2	6	SCREW M4x16	L3	1	SIDE TUBE COVER SET (L3)
J3	2	SCREW M4x6	L4	1	SIDE TUBE COVER SET (L4)
J4	4	SCREW M8x55	R1	1	SIDE TUBE COVER SET (R1)
J5	4	WASHER M8x18	R2	1	SIDE TUBE COVER SET (R2)
J6	2	SCREW M8x20	R3	1	SIDE TUBE COVER SET (R3)
J7	6	SCREW M12x73	R4	1	SIDE TUBE COVER SET (R4)

# 9.4 Exploded drawing





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Note





Elliptical cross trainer EX90 Plus