

# PHILIPS

## ReActiv

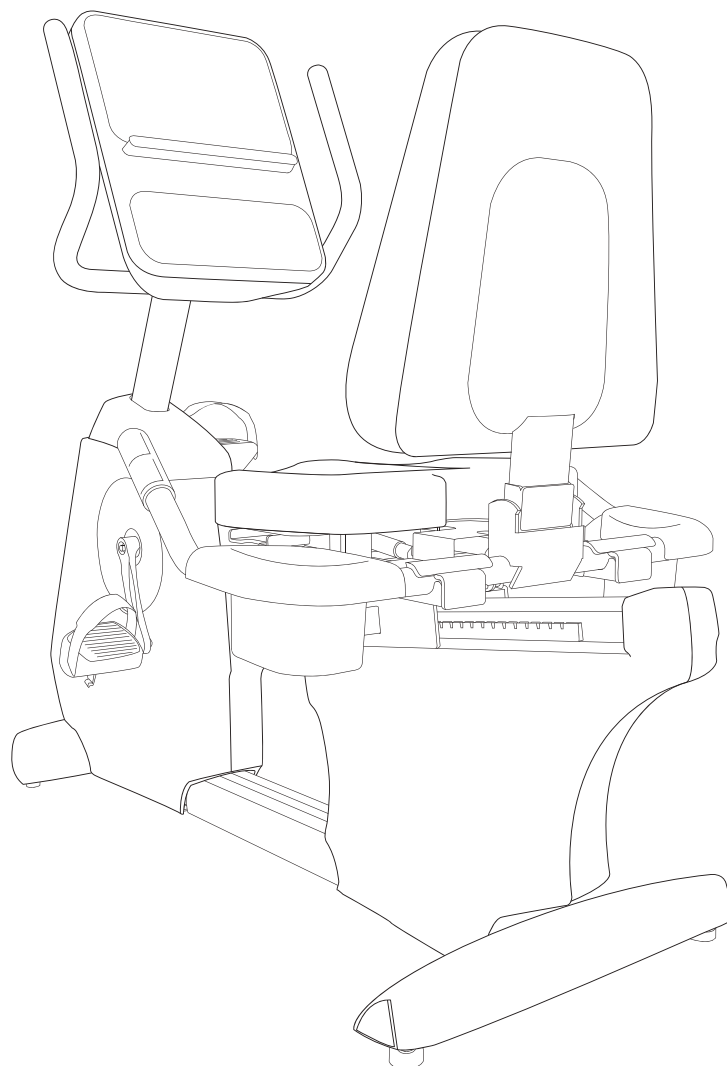
Recumbent bike

4.0 R

# User manual

Please read this entire manual carefully before operating your new recumbent bike and save it for future use.

## Physical therapy **solutions**



**PTE4000CR**

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Thank you for your recent purchase of the Philips physical rehabilitation recumbent bike 4.0 R.

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### **Philips therapy solutions**

Delivering better outcomes

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# Important safety instructions

## **Attention**

Read all instructions in this manual before using this device.

## **Warning**

- Before beginning exercise on this product, or any exercise program, consult a physician. This is especially important for persons over the age of 35 or persons with preexisting health conditions.
- There are obvious pinch points and other caution areas that can cause harm.
- Children under the age of 13 should be supervised to ensure that they do not play with the device.
- Keep hands away from all moving parts.
- Never drop or insert any object into any openings.
- Do not use outdoors.
- Do not operate this product on deeply padded, plush or shag carpet. Damage to both carpet and product may result.
- Do not attempt to use this product for any purpose other than for the purpose it is intended.
- The hand pulse sensors are not medical devices. Various factors, including the user's movement, may affect the accuracy of heart rate readings. The pulse sensors are intended only as an exercise aids in determining heart rate trends in general.

- Wear proper shoes. High heels, dress shoes, sandals or bare feet are not suitable for use on your bike. Quality athletic shoes are recommended to avoid leg fatigue.
- This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.
- Maximum User Weight: 450 lbs.
- Save these instructions - think safety!

# Important electrical information

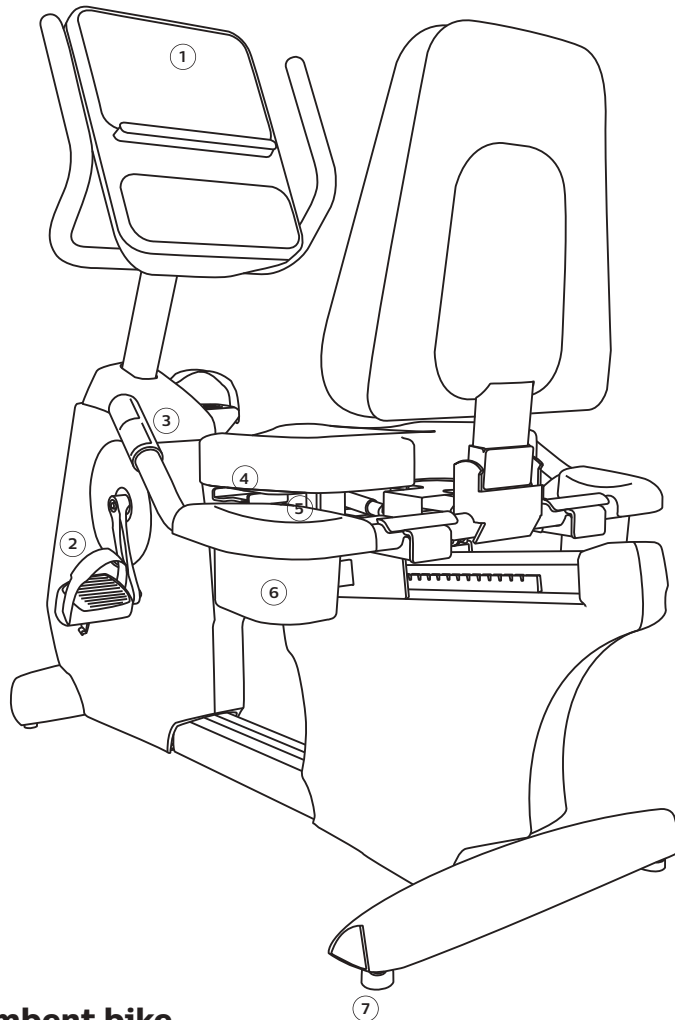
## **Warning**

- Be aware that the generator is producing A.C. power while the bike is being used. Do not service the bike while the generator is spinning; serious electric shock could occur.
- Never expose this product to rain or moisture. This product is not designed for use outdoors, near a pool or spa, or in any other high humidity environment. The operating temperature specification is 5 to 48 degrees Celsius (40 to 120 degrees Fahrenheit), and humidity is 95% non-condensing (no water drops forming on surfaces).

# Important operation instructions

- Never operate this product without reading and completely understanding the results of any operational change you request from the console.
- Understand that changes in resistance do not occur immediately. Set your desired resistance level on the console and release the adjustment key. The console will obey the command gradually.
- Use caution while participating in other activities while pedaling on your product; such as watching television, reading, etc. These distractions may cause you to lose balance which may result in serious injury.
- Do not use excessive pressure on console control keys. They are precision set to function properly with little finger pressure.

# Features



## **4.0 R-Recumbent bike**

### Parts and adjustments

1. Console
2. Pedal
3. Hand pulse sensors
4. Seat fore/aft adjustment
5. Seatback angle adjustment
6. Bottle holder
7. Leveling glide

### Optional parts (not shown)

- 2.1 Adjustable crank set



# Assembly instructions

## **Unpacking**

- Cut the straps, then along the dotted line on the bottom of the box; lift the box over the unit and unpack.
- Locate the hardware package. The hardware is separated into four steps. Remove the tools first. Remove the hardware for each step as needed to avoid confusion. The numbers in the instructions that are in parenthesis (#) are the item number from the assembly drawing for reference.

## **Tools included**

- 13/15mm wrench
- 12/14mm wrench
- Phillips screwdriver
- Combination m6 allen wrench & phillips head screw driver

## **Parts included**

- |                        |                            |
|------------------------|----------------------------|
| • 1 main frame         | • 1 front stabilizer cover |
| • 1 rear stabilizer    | • 1 rear stabilizer cover  |
| • 1 console mast       | • 1 console                |
| • 1 seat back frame    | • 2 drink bottle holder    |
| • 1 front handle bar   | • 2 pedals                 |
| • 1 handle bar         | • 1 hardware kit           |
| • 1 console mast cover |                            |

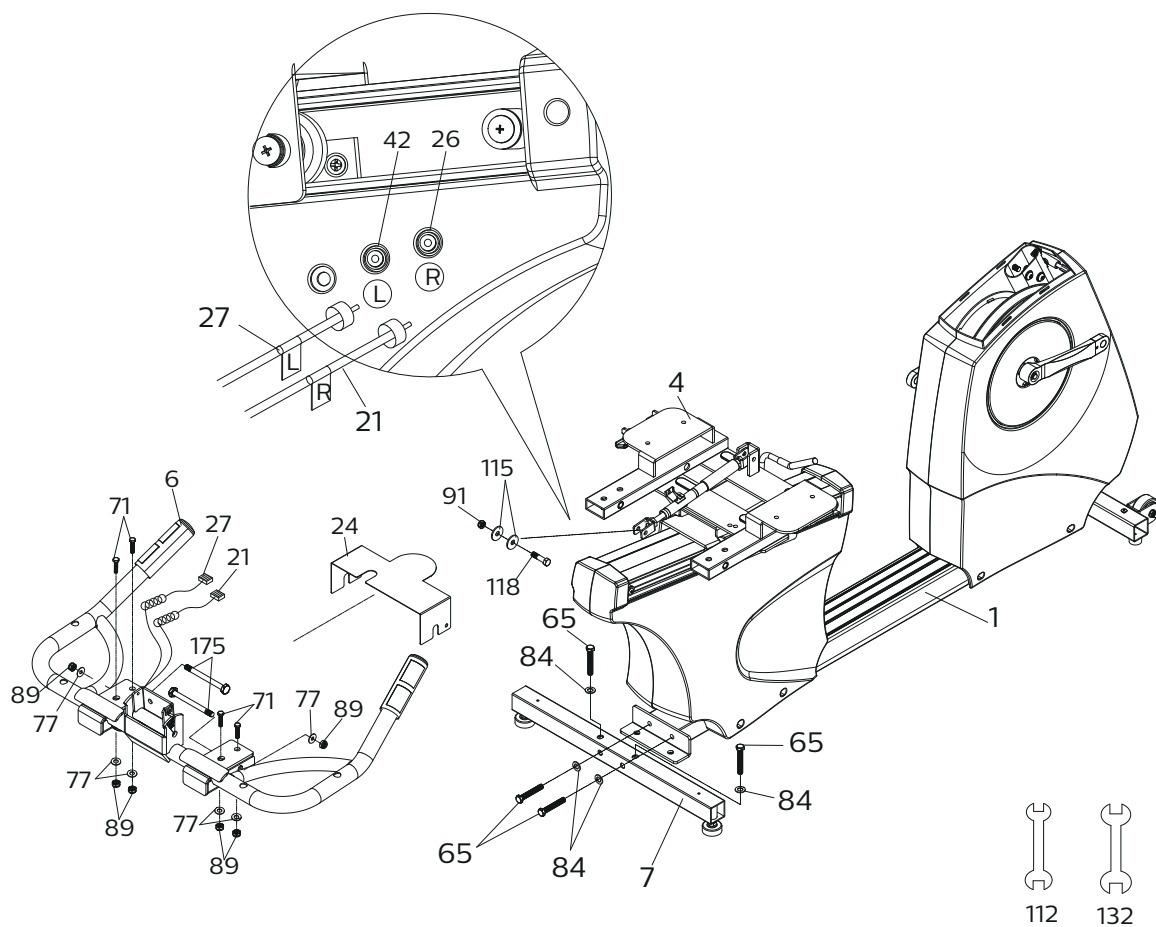
## Assembly

Read each step's instructions and study the drawing carefully to become familiar with all the parts and procedures before beginning each step.

### Step 1.

- Install the rear stabilizer (7) onto the main frame (1) with the four bolts (65) and four flat washers (84).
- Slide the handle bar assembly (6) onto the receiving tubes of the seat carriage (4). Secure the handle bar assembly starting with the two bolts (175) install from the inside hole of the receiving tube, and assemble the two flat washers (77) and two nuts (89). Secure the four bolts (71) from the top side of the tubes and assemble the four flat washers (77) and four nuts (89).
- Attach the end of the gas shock to the seat back angle adjustment bracket and secure with one bolt (118) and two flat washers (115). Attach the cover (24) located onto the bolt (175) with two nuts (91). Tighten all hardware securely.
- Connect the left hand pulse wire (27) into the corresponding left socket (42) located in the left plastic side case under the seat carriage, and the right hand pulse wire (21) into the right socket (26).

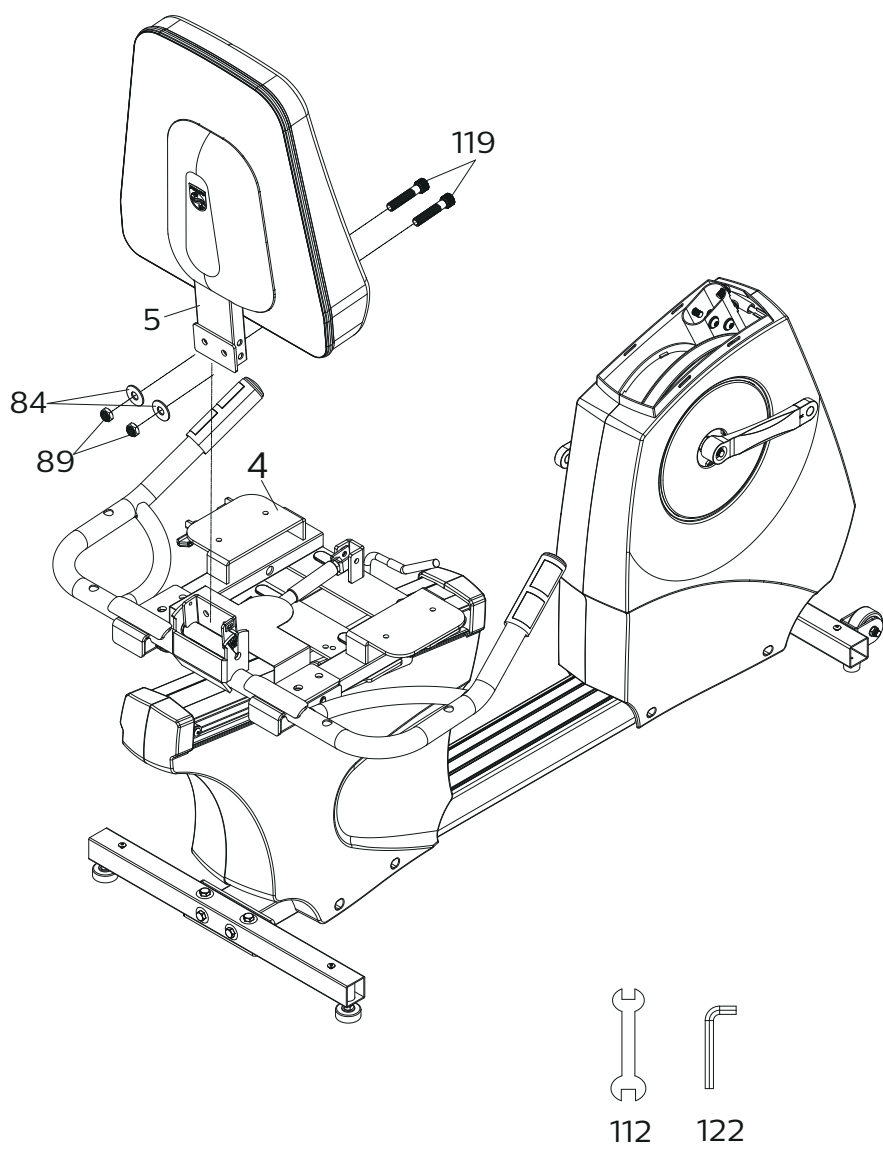
Hardware for step 1			
Part	Type	Description	Qty
65	Hex head bolt	3/8" × 2-1/4"	4
71	Hex head bolt	3/8" × 2"	4
77	Flat washer	Ø3/8"	6
84	Flat washer	Ø3/8"	4
89	Nyloc nut	3/8" × 7T	6
91	Nyloc nut	5/16" × 6T	1
115	Flat washer	Ø8.5	2
118	Hex head bolt	5/16" × 1-1/4"	1
175	Hex head bolt	3/8" × 2-3/4"	2



**Step 2.**

- Install seat back frame (5) onto the seat carriage (4) with two bolts (119), two flat washers (84) and two nuts (89).

Hardware for step 2			
Part	Type	Description	Qty
84	Flat washer	Ø3/8"	2
89	Nyloc nut	3/8" × 7T	2
119	Socket head cap bolt	3/8" × 1-3/4"	2

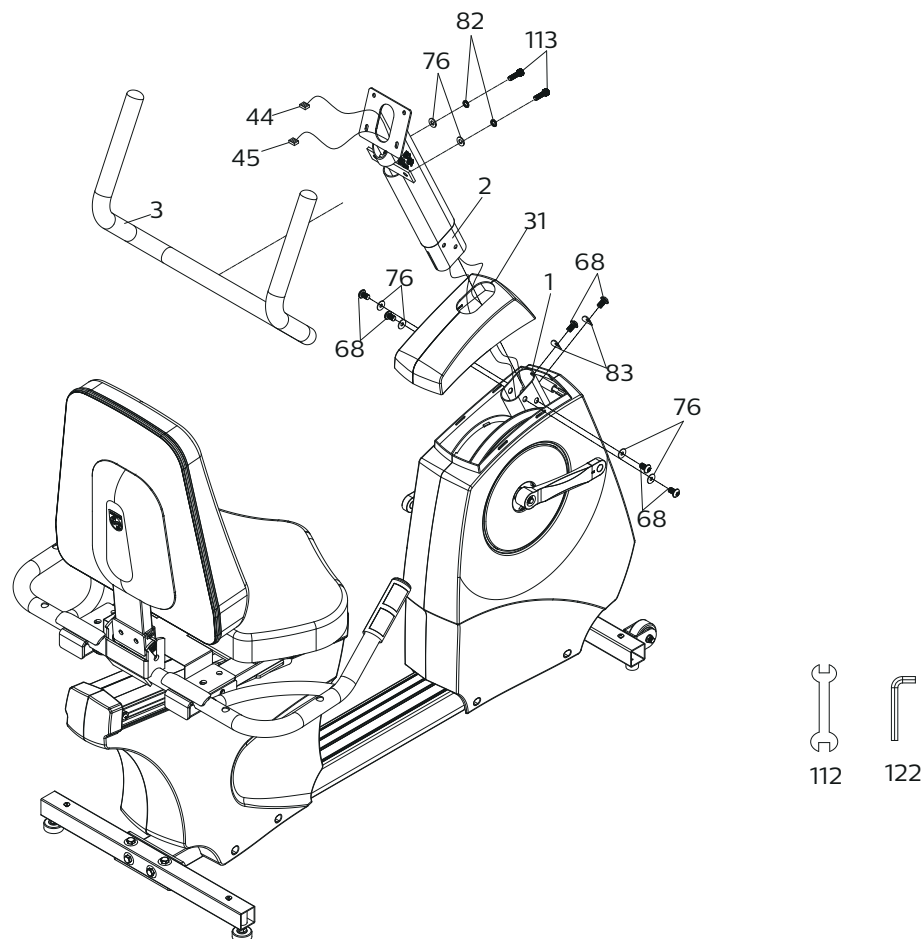


### Step 3.

- Install the console mast cover (31) onto the console mast (2) making sure it is facing the correct direction as in the picture below. Run the two wire harnesses (44 & 45) through the bottom of the console mast tube and out the top opening.
- Slide the console mast into the receiving tube (1) being careful and not pinch the wires. Fasten the console mast with six bolts (68) on each side, and four flat washers (76) on the side of tube and two curved washers (83) on the front of tube. Snap the console mast cover in place.
- Install the front handlebars (3) onto the console mast with two bolts (113), two split washers (82) and two flat washers (76).

Hardware for step 3

Part	Type	Description	Qty
68	Hex head bolt	5/16" × 5/8"	6
76	Flat washer	Ø5/16"	6
82	Split washer	Ø8 × 1.5T	2
83	Curved washer	Ø5/16"	2
113	Socket head cap bolt	M8 × 25m/m	2



## Step 4.

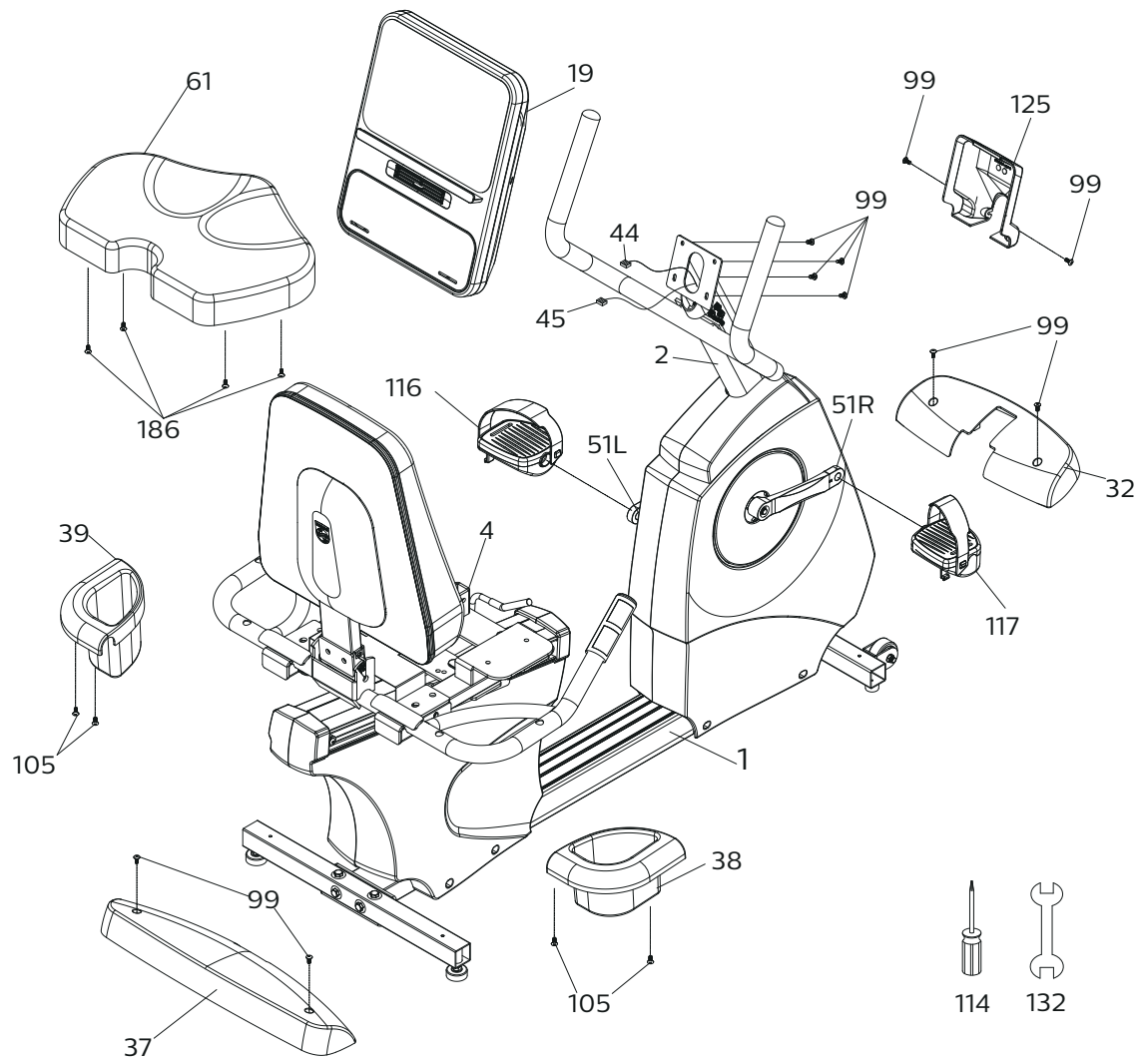
- Install the front and rear stabilizer covers (32 & 37) and secure to the frame with four screws (99).
- Install the left and right cup holders (39 & 38) to the rear handlebars with four screws (105).
- Install the bottom seat cushion (61) to the seat carriage (4) with four screws (186).
- Install the Pedals (116 L, 117 R) into the Crank arms (51L, 51R).

Remember that the left pedal has a reverse thread and will be screwed into the crank in the opposite rotation from normal threads. There is an “L” stamped into the end of the threaded post of the left pedal and an “R” in the right. Make sure to tighten the pedals as much as you possibly can. It may be necessary to re-tighten the pedals if you feel a thumping during pedaling the bike. A clicking noise, or thumping, sound during pedaling is usually caused by the pedals being too loose.

- Connect the two wire harnesses (44 & 45) to the corresponding connectors on the back of the console. Install the console onto the console mast and secure with four screws (99) being careful and not pinch the wires.
- Attach the console chin (125) cover on the console mast (2) with two screws (99).

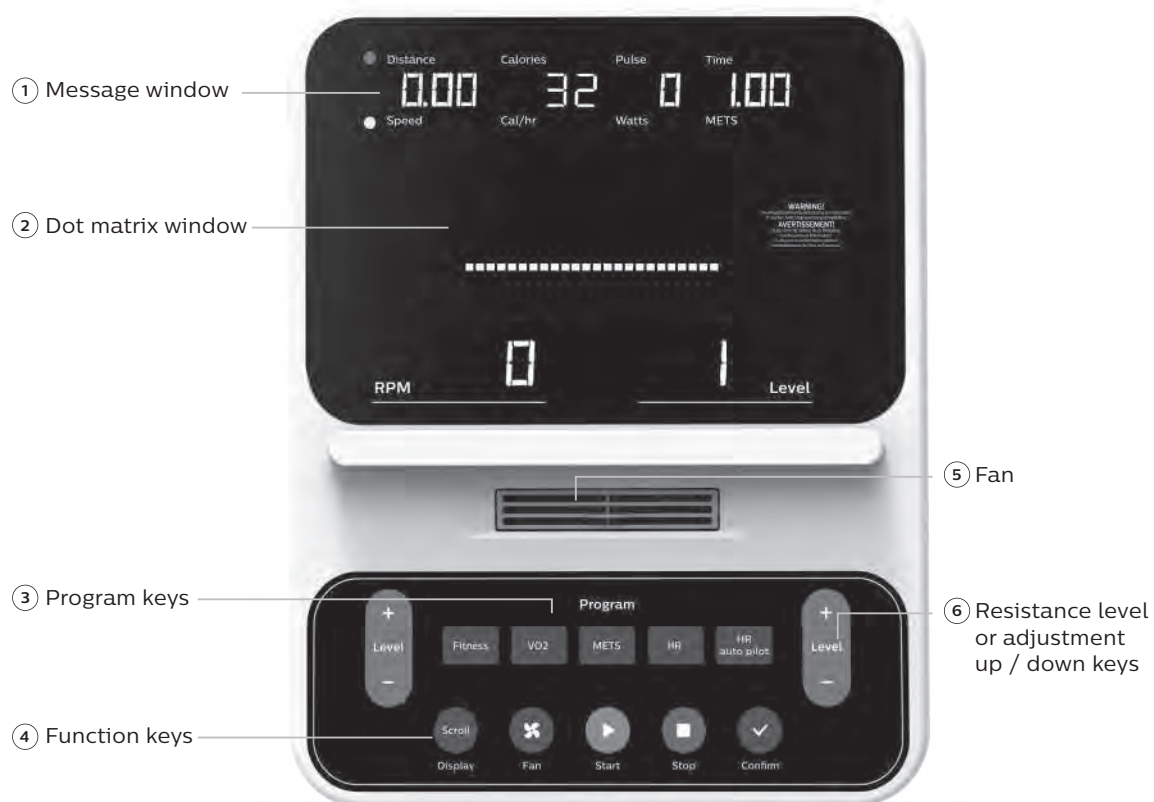
Hardware for step 4

Part	Type	Description	Qty
99	Phillips head screw	M5 × 12m/m	10
105	Sheet metal screw	4 × 16m/m	4
186	Phillips head screw	M6 × 18m/m	4



# Console operation

## 4.0 R Console



## Power on

The 4.0 R has a built-in generator for power and does not need to be plugged into an AC outlet. To power up the bike simply start to pedal, the console will turn on automatically.

The console will go to the start up display, also known as Idle mode. The message window will be scrolling the start up message. You may now begin to use the 4.0 R.



## **CSAFE feature**

Your console is equipped with a CSAFE feature. The power (POWER) port can be used for powering a remote controlled audio-visual system by connecting a cable from the remote to the power port at the back of the console. The Communication port (COMM) can be used to interact with software applications.

## **Quick start**

This is the quickest way to start a workout. After the console powers up you just press the start key to begin. This will initiate the quick start mode. In quick start, the time will count up from zero, all workout data will start to accrue and the workload may be adjusted manually by pressing the Plus and Minus keys. As you increase the workload more rows will light indicating a harder workout. The bike will get harder to pedal as the rows increase.

There are 40 levels of resistance available for plenty of variety. The first 10 levels are very easy workloads, and the changes between levels are set to a good progression for de-conditioned users. Levels 10-20 are more challenging but the increases from one level to the next remain small. Levels 20-30 start getting tough as the levels jump more dramatically. Levels 30-40 are extremely hard and are good for short interval peaks and higher performance training.

## **Basic information**

When you begin a program the dot matrix will display the workout profile.

The message window will initially be displaying distance, calories, pulse and time information. On the bottom left of the key pad is a key labeled display. Each time this display key is pressed the next set of information will appear. If the display key is pressed during the second set of information display the scan mode will come on and the message window will show each set of data for four seconds then switch to the next set of data in a continuous loop. Pressing the display button again will bring you back to the first set of information as beginning.

The product has a built in heart rate monitoring system. Simply grasping the hand pulse sensors, or wearing a heart rate chest belt transmitter will start the heart rate detection, The message window will display your heart rate, or pulse, in beats per minute (this may take a few seconds). NOTE: You must enter your correct age during program setup for heart rate control program to be accurate. Refer to using a heart rate transmitter section for details about these features and how they can help you work out more efficiently.

The stop key actually has several functions. Pressing the stop key once during a program will pause the program for 5 minutes. If you need to get a drink, answer the phone, or any of the many things that could interrupt your workout, this is a great feature. To resume your workout during pause just press the start key or start pedaling. If the stop key is pressed twice during a workout the program will end and a summary of information of the exercise session will be displayed, and then the console will return to the start up screen. If the stop key is held down for 3 seconds the console will perform a complete reset. During data entry for a program the stop key performs a previous screen function. This allows you to go back one step in the programming each time you press the stop key.

The program keys may be used to preview each program when in the idle mode. When you first turn the console on you may press each program key to preview what the program profile looks like. If you decide that you want to try a program, press the corresponding program key and then press the confirm key to select the program and enter into the data-setup mode.

The console includes a built-in fan to help keep you cool.

### **Programmable features**

Each of the programs can be customized with your personal information and changed to suit your needs. Some of the information asked for is necessary to ensure the readouts are correct. You will be asked for your age and weight. Entering your age ensures that the heart rate window shows the correct number. Your age is also necessary during the heart rate control program to ensure the correct settings are in the program for your age. Otherwise the work settings could be too high or low for you; entering your weight aides in calculating a more correct calorie reading. Although we cannot provide an exact calorie count we do want to be as close as possible.

Calorie note: Calorie readings on every piece of exercise equipment, whether it is in a facility or at home, are not accurate and tend to vary widely. They are meant only as a guide to monitor your progress from workout to workout. The only way to measure your calorie burn accurately is in a clinical setting connected to a host of machines. This is because every person is different and burns calories at a different rate. Some good news is that you will continue to burn calories at an accelerated rate for at least an hour after you have finished exercising!

## **Entering a program and changing settings**

When you enter a program (by pressing a program key, then confirm key) you have the option of modifying the settings. If you want to begin without entering new settings just press the start key. This will bypass the programming of data and take you directly to the start of the program. If you want to change the settings just follow the instructions in the message window. If you start a program without changing the settings the default or pre-saved setting will be used.

## **Manual**

The manual program works as the name implies, manually. This means that you control the workload yourself, not the computer. To start the manual program follow the instructions below or just press the manual key then the confirm key and follow the directions in the message window.

- Press the manual key then press the confirm key.
- The message window will ask you to enter your age. You may enter your age, using the Plus and Minus keys, then press the confirm button to accept the new number and proceed on to the next screen.
- You are now asked to enter your weight. You may adjust the weight number using the Plus and Minus keys, then press confirm to continue.
- The next setting is time. You may adjust the time and press confirm key to continue.
- Now you are finished editing the settings and can begin your workout by pressing the start key. You can also go back and modify your settings by pressing the confirm key.
- Note: At any time during the editing of data you can press the stop key to go back one level, or screen.
- The program automatically starts you at level one. This is the easiest level and it is a good idea to stay at level one for a while to warm up. If you want to increase the work load at any time press the Plus key; the Minus key will decrease the workload.
- During the manual program you will be able to scroll through the data in the message window by pressing the display key.
- When the program ends you may press start to begin the same program again or stop to exit the program.

## **Preset programs**

The bike has three different programs that have been designed for a variety of workout goals. These programs factory preset work level profiles for achieving different goals. The initial built-in level of difficulty for each program is set to a relatively easy level. You may adjust the level of difficulty (max level) for each program before beginning.

## **Programming preset programs**

- Select the desired program by pressing fitness key then press confirm key.
- The message window will ask you to enter your age. You may adjust the age setting, using the Plus and Minus keys, then press confirm key to accept the new number and proceed on to the next screen.
- You are now asked to enter your weight. You may adjust the weight number using the Plus and Minus keys, then press confirm to continue.
- Next is time. You may adjust the Time and press confirm to continue.
- Now you are asked to adjust the max level. This is the peak exertion level you will experience during the program (at the top of the hill). Adjust the level and then press confirm.
- Now you are finished editing the settings and can begin your workout by pressing the start button. You can also go back and modify your settings by pressing the stop key to go back one level, or screen.
- If you want to increase or decrease the workload at any time during the program press the Plus and Minus key. This will change the workload settings of the entire profile, although the profile picture on the screen will not change. The reason for this is so that you can see the entire profile at all times. If the profile picture is changed it will look distorted and not a true representation of the actual profile. When you make a change to the workload, the Message Window will show the current column, and program maximum, levels of work.
- During the program you will be able to scroll through the data in the message window by pressing the display key
- When the program ends the message window will show a summary of your workout. The summary will be displayed for a short time then the console will return to the start-up display.

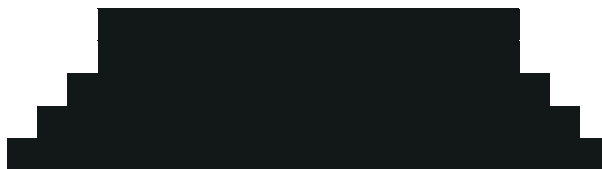
## Hill

The Hill program simulates going up and down a hill. The resistance in the pedals will steadily increase and then decrease during the program.



## Plateau

The Plateau program provides a steady state exercise with warm up and cool down periods.



## Interval

The Interval program takes you through high levels of intensity followed by periods of low intensity. This program increases your endurance by depleting your oxygen level followed by periods of recovery to replenish oxygen. Your cardio vascular system gets programmed to use oxygen more efficiently this way.



## Custom program

The custom program allows you to build and save a custom program. You can build your own custom program by following the instructions below. The custom program allows you to further personalize it by adding your facility name.

- Designing and saving a new program as a custom program. The message window will show a welcome message; if you had previously saved a program the message will contain the name you gave it. Then press the enter key to begin programming.
  - When you press confirm, the message window will show “name – a”, if there is no name saved. If the name “custom workout” had been previously saved the message window will show “name – custom workout” and the c in custom will be blinking. If there is a name saved you can change it or you may press the stop key to keep the name and continue to the next step. If you want to enter a name use the plus and/or the minus key to change the first letter then press confirm to save the first letter and continue to the next letter. When you have finished entering the name press the stop key to save the name and continue to the next step.
  - The message window will ask you to enter an age. You may enter an age, using the plus and minus keys, then press the confirm key to accept the new number and proceed on to the next screen.
  - You are now asked to enter a weight. You may adjust the weight number using the plus and minus keys and then press confirm to continue.
  - Next is time. You may adjust the time and press confirm to continue.
  - Now you are asked to adjust the max level. This is the peak exertion level you will experience during the program. Adjust the level and then press confirm.

- Now the first column will be blinking and you are asked to adjust the level for the first segment of the workout. When you finish adjusting the first segment, or if you don't want to change, then press confirm to continue to the next segment.
- The next segment will show the same level as the previously adjusted segment. Repeat the same process as the last segment then press confirm. Continue this process until all twenty four segments have been set.
- The message window will then tell you to press confirm to save the program. After saving the program the message window says "new program saved" then will give you the option to start or modify the program. Pressing stop will exit to the start up screen.
- During the custom program you will be able to scroll through the data in the message window by pressing the display key.
- Use the heart rate monitoring features and can switch to heart rate auto-pilot mode (see hr auto pilot section for details of this feature).
- Running a saved program – Enter the custom program then press confirm key.
  - Enter time and press confirm. Then press start to begin program.



## VO2 Test

The VO2 program is based on the YMCA protocol and is a sub-maximal test that uses pre-determined, fixed work levels that are determined based on the heart rate readings measured as the test progresses. The test will take anywhere between 6 to 15 minutes to complete, depending on the fitness level of the user. The test ends when the user's heart rate reaches 85% of maximum at any time during the test, or the heart rate is between 110 bpm and 85% at the end of two consecutive stages. At the end of the test a VO2max score will be displayed. VO2 stands for Volume of Oxygen uptake which is a measurement of how much oxygen you need to perform a known amount of work. The YMCA protocol employs two to four stages, lasting 3 minutes each, of continuous exercise (see charts below). You will be prompted to choose either, Male or Female at the beginning of the test. This choice determines which protocol will be used during the test as shown in the charts below. The only caveat is if you are a very de-conditioned male you may need to choose option Female. If you are a very conditioned female you may need to choose option Male.

### Workload chart for male or very fit female

1st Stage				50 – watts 300 kgm/min					
HR		< 90			90-105			> 105	
2nd Stage		150 – watts 900 kgm/min			125 – watts 750 kgm/min			100 – watts 600 kgm/min	
HR	HR <120	HR 120-135	HR >135	HR <120	HR 120-135	HR >135	HR <120	HR 120-135	HR >135
3rd stage	225 watts – 1350 kgm/min	200 watts – 1200 kgm/min	175 watts – 1050 kgm/min	200 watts – 1200 kgm/min	175 watts – 1050 kgm/min	150 – watts 900 kgm/min	175 watts – 1050 kgm/min	150 – watts 900 kgm/min	125 – watts 750 kgm/min

## Workload chart for female or de-conditioned male

		1st Stage	25W 150 kgm/min	
Heart Rate	HR<80	HR: 80-90	HR: 90-100	HR>100
2nd Stage	125W 750 kgm/min	100W 600 kgm/min	75W 450 kgm/min	50W 300 kgm/min
3rd Stage	150W 900 kgm/min	125W 750 kgm/min	100W 600 kgm/min	75W 450 kgm/min
4th Stage (if needed)	175W 1050 kgm/min	150W 900 kgm/min	117W 700 kgm/min	100W 600 kgm/min

## VO2 test programming

- Press the VO2 key and press confirm.
- The message window will prompt you to enter your Gender. Use the Plus and Minus keys to change and press the confirm key to accept and proceed on to the next screen.
- You are now prompted to enter your age. You may adjust the age using the Plus and Minus key then press confirm to continue.
- You are now prompted to enter your weight. You may adjust the weight using the Plus and Minus key then press enter to continue.
- •Now press start to begin the test.

## **Before the test**

- Make sure you are in good health; check with your physician before performing any exercise if you are over the age of 35 or persons with pre-existing health conditions.
- Adjust the seat to the proper position so that when your leg is extended during pedaling there is a slight bend at the knee of about 5 degrees.
- Make sure you have warmed up and stretched before taking the test.
- Do not take caffeine before the test.

## **During the test**

- The console must be receiving a steady heart rate for the test to begin. You may use the hand pulse sensors or wear a heart rate chest strap transmitter, although chest strap transmitter is recommended.
- The user must maintain a steady 50 RPM pedal speed. If the pedal speed drops below 48 RPM or goes above 52 RPM the console will emit a steady beeping sound and the RPM number will flash until the speed is within this range.
- You may scroll through the various data readings in the message window by pressing the display key.
- The message window will always display your pedal speed on the right side to help you maintain 50 RPM.
- The data shown during the test is
  - Work in KGM is actually an abbreviated form of kg-m/min. which is a work measurement of kilogram-force meter/minute
  - Work in Watts (1 watt is equal to 6.11829727787 kg-m/min.)
  - HR is your actual heart rate; TGT is the target heart rate to reach to end the test.
  - Time is the total elapsed time of the test.

## **After the test**

- Cool down for about one to three minutes.
- Take note of the score because the console will automatically return to the start-up mode after a few minutes.

## What the score means

### VO2max Chart for males and very fit females

	18-25 years old	26-35 years old	36-45 years old	46-55 years old	56-65 years old	65+ years old
excellent	>60	>56	>51	>45	>41	>37
good	52-60	49-56	43-51	39-45	36-41	33-37
above average	47-51	43-48	39-42	35-38	32-35	29-32
average	42-46	40-42	35-38	32-35	30-31	26-28
below average	37-41	35-39	31-34	29-31	26-29	22-25
poor	30-36	30-34	26-30	25-28	22-25	20-21
very poor	<30	<30	<26	<25	<22	<20

### VO2max Chart for females and de-conditioned males

	18-25 years old	26-35 years old	36-45 years old	46-55 years old	56-65 years old	65+ years old
excellent	56	52	45	40	37	32
good	47-56	45-52	38-45	34-40	32-37	28-32
above average	42-46	39-44	34-37	31-33	28-31	25-27
average	38-41	35-38	31-33	28-30	25-27	22-24
below average	33-37	31-34	27-30	25-27	22-24	19-22
poor	28-32	26-30	22-26	20-24	18-21	17-18
very poor	<28	<26	<22	<20	<18	<17

## METs program

METs stands for metabolic equivalent, which is one way that exercise physiologists estimate how many calories are burned during physical activity.

1 MET is essentially the amount of energy produced relative to body mass whilst at rest. As you sit here now reading you are expending 1 MET of energy.

Using 1 MET as the reference value, light activities burn up to 3 times as many calories as rest, moderate activities burn 3-6 times as many and vigorous exercise turns over more than 6 times as much energy as rest.

### **METs programming**

- Press the METs key and then press confirm.
- The message window will prompt you to enter your age. Use the Plus and Minus keys to change and press the confirm key to continue.
- You are now prompted to enter your weight. You may adjust the age using the Plus and Minus key then press confirm key to continue.
- You are now prompted to enter your workout time. You may adjust the time using the Plus and Minus key then press confirm to continue.
- You are now prompted to enter your target METs. You may adjust the target METs using the Plus and Minus keys then press confirm to continue.
- Now press start to begin the program.

## Metabolic rate activity chart

Physical activity	MET
<b>Light intensity activities</b>	<b>&lt;3</b>
sleeping	0.9
watching television	1.0
writing, desk work, typing	1.5
walking, 1.7mph (2.7 km/h), level ground, strolling, very slow	2.3
walking 2.5 mph (4 km/h)	2.9
<b>Moderate intensity activities</b>	<b>3 to 6</b>
bicycling, stationary, 50 watts, very light effort	3.0
walking 3.0 mph (4.8 km/h)	3.3
calisthenics, home exercise, light or moderate effort, general	3.5
walking 3.4 mph (5.5 km/h)	3.6
bicycling, <10 mph (16 km/h), leisure, to work or for pleasure	4.0
bicycling, stationary, 100 watts, light effort	5.5
sexual activity	5.8
<b>Vigorous intensity activities</b>	<b>&gt; 6</b>
jogging, general	7.0
calisthenics (e.g. pushups, situps, pullups, jumping jacks), heavy, Vigorous effort	8.0
running jogging, in place	8.0
jogging, 5.6 mph (9.0 km/h)	8.8
rope jumping (66/min)	9.8
rope jumping (70/min)	10.0
rope jumping (84/min)	10.5
rope jumping (100/min)	11.0
jogging, 6.8 mph (11.0 km/h)	11.2

## Heart rate program

The old motto; “no pain, no gain” is a myth that has been overpowered by the benefits of exercising comfortably. A great deal of this success has been promoted by the use of heart rate monitors. With the proper use of a heart rate monitor, many people find that their usual choice of exercise intensity was either too high or too low and exercise is much more enjoyable by maintaining their heart rate in the desired benefit range.

To determine the benefit range in which you wish to train, you must first determine your maximum heart rate. This can be accomplished by using the following formula: 220 minus your age. This will give you the maximum Heart rate (MHR) for someone of your age. To determine the effective heart rate range for specific goals you simply calculate a percentage of your MHR. Your Heart rate training zone is 50% to 90% of your maximum heart rate. 60% of your MHR is the recommended for burning fat while 80% is recommended for strengthening the cardio vascular system. This 60% to 80% is the zone to stay in for maximum benefit.

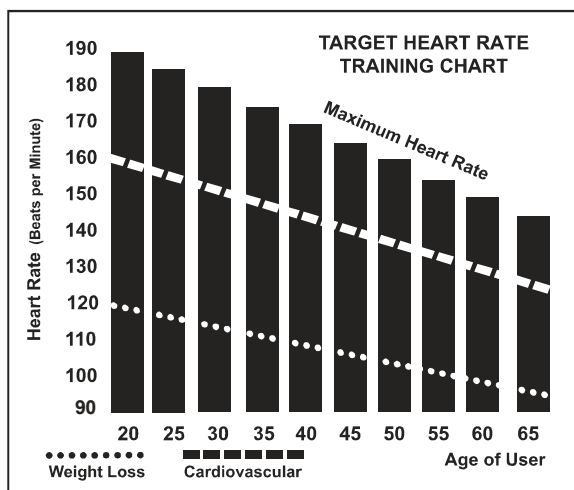
For someone who is 40 years old their target heart rate zone is calculated:

$$220 - 40 = 180 \text{ (maximum heart rate)}$$

$$180 \times .6 = 108 \text{ beats per minute (60\% of maximum)}$$

$$180 \times .8 = 144 \text{ beats per minute (80\% of maximum)}$$

So for a 40 year old the training zone would be 108 to 144 beats per minute.



If you enter your age during programming the console will perform this calculation automatically. Entering your age is used for the heart rate programs. After calculating your MHR you can decide upon which goal you would like to pursue.

The two most popular reasons for, or goals, of exercise are cardiovascular fitness (training for the heart and lungs) and weight control. The black columns on the chart above represent the MHR for a person whose age is listed at the bottom of each column. The training heart rate, for either cardiovascular fitness or weight loss, is represented by two different lines that cut diagonally through the chart. A definition of the lines' goal is in the bottom left-hand corner of the chart. If your goal is cardiovascular fitness or if it is weight loss, it can be achieved by training at 80% or 60%, respectively, of your MHR on a schedule approved by your physician. Consult your physician before participating in any exercise program.

With all heart rate programs you may use the heart rate monitor feature without using the Heart Rate program. This function can be used during manual mode or during any other different programs. The heart rate program automatically controls resistance at the pedals.

### **Rate of perceived exertion**

Heart rate is important but listening to your body also has a lot of advantages. There are more variables involved in how hard you should workout than just heart rate. Your stress level, physical health, emotional health, temperature, humidity, the time of day, the last time you ate and what you ate, all contribute to the intensity at which you should workout. If you listen to your body, it will tell you all of these things.



The rate of perceived exertion (RPE), also known as the Borg scale, was developed by Swedish physiologist G.A.V. Borg. This scale rates exercise intensity from 6 to 20 depending upon how you feel or the perception of your effort. The scale is as follows:

Rating perception of effort	
6	Minimal
7	Very, very light
8	Very, very light +
9	Very light
10	Very light +
11	Fairly light
12	Comfortable
13	Somewhat hard
14	Somewhat hard +
15	Hard
16	Hard +
17	Very hard
18	Very hard +
19	Very, very hard
20	Maximal

You can get an approximate heart rate level for each rating by simply adding a zero to each rating. For example a rating of 12 will result in an approximate heart rate of 120 beats per minute. Your RPE will vary depending upon the factors discussed earlier. That is the major benefit of this type of training. If your body is strong and rested, you will feel strong and your pace will feel easier. When your body is in this condition, you are able to train harder and the RPE will support this. If you are feeling tired and sluggish, it is because your body needs a break. In this condition, your pace will feel harder. Again, this will show up in your RPE and you will train at the proper level for that day.

## Heart rate program programing

To start the HR program follow the instructions below and follow the directions in the message window.

- Press the HR key to select the HR program (TA HR 65% / TA HR 80% / HR interval) and then press the confirm key to enter.
- The message window will ask you to enter your age. You may enter your age, using the plus and minus key, then press the confirm key to accept the new number and proceed on to the next screen.
- You are now asked to enter your weight. You may adjust the weight number using the plus and minus keys, then press confirm to continue.
- Next is time. You may adjust the time and press enter to continue.
- Now you are asked to adjust the target HR. This is the 65% / 80% heart rate level you will experience during the program. Adjust the target number and then press confirm.
- Now you are finished editing the settings and can begin your workout by pressing the start key. You can also go back and modify your settings by pressing the confirm key. NOTE: At any time during the editing of data you can press the Stop key to go back one level, or screen.
- If you want to increase or decrease the workload at any time during the program press the plus or minus keys. This will allow you to change your target heart rate at any time during the program.
- During the HR program you will be able to scroll through the data in the message window by pressing the display key.

When the program ends you may press start to begin the same program again or stop to exit the program.

## **Heart rate auto pilot mode**

The HR auto pilot mode only works in Fitness programs (manual / hill / plateau / interval / custom). When you are exercising in a fitness program and decide to just maintain the HR level you are at currently you can just press auto pilot and the console will automatically switch to HR control and will maintain your current HR. To start the HR auto pilot mode follow the instructions below and the directions in the message window.

- Press the HR auto pilot key during the fitness programs and it is necessary to wear HR strap to enter this mode, If a HR is not detected the message window shows NO HEART RATE.
- At the end of the HR auto pilot program a workout summary will be displayed in the message window.

# Using a heart rate transmitter

Note: The chest strap transmitter is not a standard part, but is a separate purchase. Most transmitters that operate at Bluetooth or ANT+ will also work.

## **How to wear your wireless chest strap transmitter?**

- Attach the transmitter to the elastic strap using the locking parts.
- Adjust the strap as tightly as possible as long as the strap is not too tight to remain comfortable.
- Position the transmitter with the logo centered in the middle of your body facing away from your chest (some people must position the transmitter slightly left of center). Attach the final end of the elastic strap by inserting the round end and, using the locking parts, secure the transmitter and strap around your chest.
- Position the transmitter immediately below the pectoral muscles.

- Sweat is the best conductor to measure very minute heart beat electrical signals. However, plain water can also be used to pre-wet the electrodes (2 black square areas on the reverse side of the belt and either side of transmitter). It's also recommended that you wear the transmitter strap a few minutes before your work out. Some users, because of body chemistry, have a more difficult time in achieving a strong, steady signal at the beginning. After "warming up", this problem lessens. As noted, wearing clothing over the transmitter/strap doesn't affect performance.
- Your workout must be within range - distance between transmitter / receiver - to achieve a strong steady signal. The length of range may vary somewhat but generally stay close enough to the console to maintain good, strong, reliable readings. Wearing the transmitter immediately against bare skin assures you of proper operation. If you wish, you may wear the transmitter over a shirt. To do so, moisten the areas of the shirt that the electrodes will rest upon.

Note: The transmitter is automatically activated when it detects activity from the user's heart. Additionally, it automatically deactivates when it does not receive any activity. Although the transmitter is water resistant, moisture can have the effect of creating false signals, so you should take precautions to completely dry the transmitter after use to prolong battery life. (estimated transmitter battery life is 2500 hours). If your chest strap has a replaceable battery the replacement battery is CR2032.

## **Erratic operation**

Caution! Do not use this product for heart rate control unless a steady, solid actual heart rate value is being displayed. High, wild, random numbers being displayed indicate a problem.

Areas to look at for interference, which may cause erratic heart rate

- Microwave ovens, TVs, small appliances, etc.
- Fluorescent lights.
- Some household security systems.
- Perimeter fence for a pet.
- Some people have problems with the transmitter picking up a signal from their skin. If you have problems try wearing the transmitter upside down. Normally the transmitter will be oriented so the logo is right side up.
- The antenna that picks up your heart rate is very sensitive. If there is an outside noise source, turning the whole machine 90 degrees may de-tune the interference.
- If there is another person wearing a chest strap within 1 meter, it will interfere.
- If you continue to experience problems contact your dealer.

# Maintenance

- Wipe down all areas in the sweat path with a damp cloth after each use to prevent rust.
- Check the pedal to make sure they are tight (monthly).
- If a squeak, thump, clicking or rough feeling develops the main cause is most likely one of two reasons:
  - The hardware was not sufficiently tightened during assembly. All bolts that were installed during assembly need to be tightened as much as possible. It may be necessary to use a larger wrench than the one provided if you cannot tighten the bolts sufficiently. I cannot stress this point enough; 90% of calls to the service department for noise issues can be traced to loose hardware.
  - The crank arm nut and/or the pedals need to be retightened.
- If squeaks or other noises persist, check that the unit is properly leveled. There are 2 leveling pads on the bottom of the rear stabilizer, use a ½" (14mm) wrench (or adjustable wrench) to adjust the levelers.

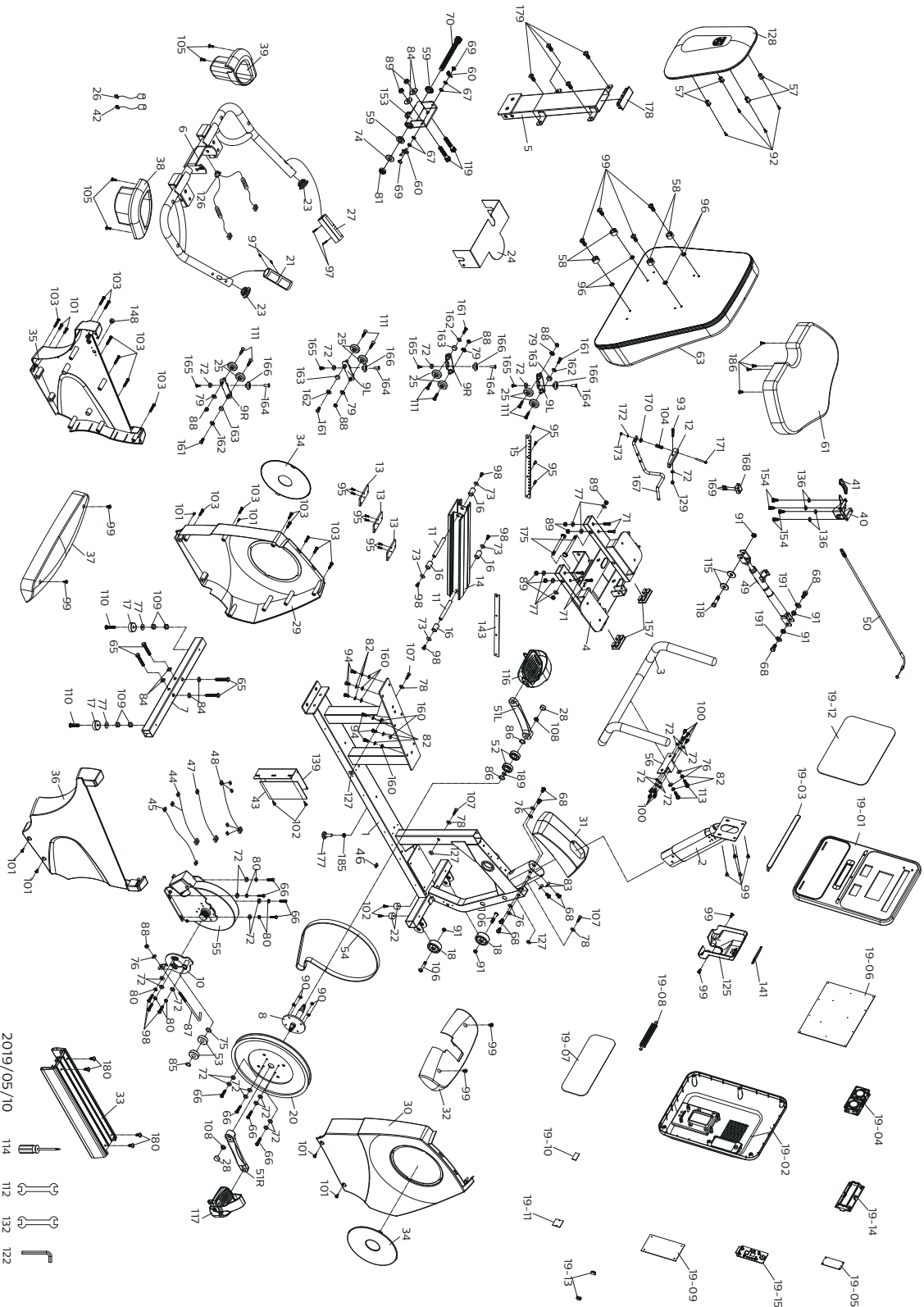
## **Maintenance mode in console software**

The console has built in maintenance/diagnostic software. The software will allow you to change the console settings from English to Metric and turn off the beeping of the speaker when a key is pressed for example. To enter the maintenance mode press and hold down the start, stop and confirm key. Keep holding the keys down for about 2 seconds and the message window will display "maintenance mode". Press the confirm key to access the menu below:

- Key test
  - Will allow you to test all the keys to make sure they are functioning. Press all the keys one at a time.
- Display test
  - Tests all the display functions by lighting each LED light sequentially.
- Functions (press confirm key to access menu)
  - Units
    - ① Set to English (imperial units) or metric display readings. The default is imperial, which means data such as bodyweight and height will be in pounds and inches.
  - Pause mode
    - ① Turn on allow 5 minutes of pause, turn off to have the console pause indefinitely.
  - Odometer reset
    - ① Resets the odometer to zero (Time and distance)
  - Beep sound
    - ① Turn on or off the speaker to silence beeping sound.
  - LED brightness
    - ① Adjust the LED brightness.
  - Model
    - ① Select the kind of device.
- Service
  - Brake test
    - ① Adjust PWM value.
  - CSAFE test
    - ① Test the CSAFE functions.
- ANT ID
  - Adjust the ANT ID.
- Update code
  - Switch bootloader on/off. The default is off.
- Exit
  - Press confirm key to leave maintenance mode and restart.



Exploded view drawing



## 4.0 R parts list

Item	Description	Qty
1	Main frame	1
2	Console mast	1
3	Handle bar	1
4	Seat carriage	1
5	Seat back frame	1
6	Seat handle bar	1
7	Rear stabilizer	1
8	Crank axle	1
9L	Seat wheel adjustment plate (l)	2
9R	Seat wheel adjustment plate (r)	2
10	Idler wheel assembly	1
11	Seat stop axle	2
12	Seat position latch	1
13	Backing plate	3
14	Aluminum track	1
15	Rack	1
16	Spacer for stopper axle	4
17	Rubber foot	2
18	Transportation wheel	2
19	Console assembly	1
19~01	Console top cover	1
19~02	Console bottom cover	1
19~03	Book rack	1
19~04	Fan assembly	1
19~05	Interface board	1
19~06	Console display board	1
19~07	Resistance button w/cable	1
19~08	Deflector fan grill	1
19~09	Bluetooth	1
19~10	Csafe w/board	1
19~11	Interface board	1
19~12	Faceplate label	1
19~13	Fan grill anchor	2

Item	Description	Qty
19~14	Wind duct	1
19~15	End cap	1
20	Drive pulley	1
21	950m/m_handpulse w/cable assembly (r)	1
22	Rubber foot pad	2
23	Handpulse button head plug	2
24	Cover	1
25	Seat track wheel	8
26	300m/m_handpulse wire	1
27	750m/m_handpulse w/cable assembly (l)	1
28	Crank arm end cap	2
29	Front shroud (l)	1
30	Front shroud (r)	1
31	Console mast cover	1
32	Front stabilizer cover	1
33	Step cover	1
34	Round disk	2
35	Rear shroud (l)	1
36	Rear shroud (r)	1
37	Rear stabilizer cover	1
38	Drink bottle holder (r)	1
39	Drink bottle holder (l)	1
40	Release lever	1
41	Nylon handgrip	1
42	300m/m_handpulse wire (white)	1
43	generator/brake controller	1
44	2100m/m_computer cable	1
45	2100m/m_hand pulse sensor assembly w/cable	1
46	1500m/m_sensor w/cable	1
47	850m/m_wire brake coil harness (red)	1
48	1100m/m_generator wire harness	1
49	Gas cylinder	1
50	Steel cable	1

Item	Description	Qty
51L	Crank arm (l)	1
51R	Crank arm (r)	1
52	6004_bearing	2
53	6203_bearing	2
54	Drive belt	1
55	Induction brake	1
56	Seat stop axle	1
57	Buckle	4
58	Snap seat	4
59	Podwer metallurgy sleeve	2
60	Scale arrowhead	2
61	Seat	1
63	Seat back	1
65	3/8" × 2-1/4"_hex head bolt	4
66	1/4" × unc20 × 3/4"_hex head bolt	8
67	Ø5 × Ø12 × 1t_flat washer	4
68	5/16" × unc18 × 5/8"_hex head bolt	8
69	M5 × 6L_phillips head screw	2
70	M12 × p1.75 × 120L_socket head cap bolt	1
71	3/8" × 2"_hex head bolt	4
72	Ø1/4" × 13 × 1.0t_flat washer	28
73	Ø1/4" × 19 × 1.5t_flat washer	4
74	Ø1/2" × Ø26 × 2.0t_flat washer	1
75	Ø17 × Ø23.5 × 1.0t_flat washer	1
76	Ø5/16" × Ø18 × 1.5t_flat washer	7
77	Ø3/8" × Ø19 × 1.5t_flat washer	8
78	Ø3/16" × Ø15 × 1.5t_flat washer	3
79	Ø8 × Ø18 × 3t_knurled lock washer	4
80	Ø1/4"_split washer	7
81	M12_nyloc nut	1
82	Ø8 × 1.5t_split washer	8
83	Ø5/16" × 19 × 1.5t_curved washer	2
84	Ø3/8" × Ø25 × 2.0t_flat washer	6

Item	Description	Qty
85	Ø17_c ring	1
86	Ø20_c ring	2
87	M8 × 170m/m_j bolt	1
88	M8 × 7t_nyloc nut	5
89	3/8" × 7t_nyloc nut	8
90	1/4" × 8t_nyloc nut	4
91	5/16" × 6t_nyloc nut	5
92	3.5 × 12m/m_sheet metal screw	4
93	M6 × 38m/m_socket head cap bolt (alloy steel)	1
94	5/16" × unc18 × 3/4"_hex head bolt	6
95	M5 × 12m/m_flat head socket screw	10
96	Ø5.5 × ø15 × 1t_flat washer	4
97	3 × 20m/m_tapping screw	4
98	M6 × 15m/m_phillips head screw	7
99	M5 × 12m/m_phillips head screw	14
100	M6 × p1.0 × 12l_socket head cap bolt	8
101	Ø5 × 16l_tapping screw	8
102	5 × 19m/m_tapping screw	4
103	3.5 × 16m/m_sheet metal screw	14
104	Spring	1
105	4 × 16m/m_sheet metal screw	4
106	5/16" × unc18 × 1-3/4"_button head socket bolt	2
107	3.5 × 20m/m_sheet metal screw	3
108	M10 × p1.25 × 10t_nut	2
109	3/8" × 7t_nut	4
110	3/8" × 2"_flat head socket bolt	2
111	M5 × p0.8 × 10l_flat phillips head screw	8
112	12/14m/m_wrench	1
113	M8 × 25m/m_socket head cap bolt	2
114	Phillips head screw driver	1
115	Ø8.5 × ø26 × 2t_flat washer	2
116	Pedal (l)	1
117	Pedal (r)	1

Item	Description	Qty
118	5/16" × unc18 × 1-1/4"_hex head bolt	1
119	3/8" × unc16 × 1-3/4"_socket head cap bolt	2
122	Combination m6 allen wrench & phillips head screw driver	1
125	Console chin cover	1
126	Hgp wire grommet	1
127	Ø5/16" × 16 × 1.0t_flat washer	3
128	Seat back cover	1
129	M6 × 6t_nyloc nut	1
132	14/15m/m_wrench	1
136	Ø6.6 × ø12 × 1.5t_flat washer	4
139	Fixing plate	1
141	End cap	1
143	Seat track fixing plate	1
148	Block	1
153	Seat back bracket	1
154	M6 × p1.0 × 12l_socket head cap bolt	4
157	25.4 × 50.5 × 14.3l_square end cap	2
160	Ø5/16" × 16 × 1.5t_flat washer	6
161	M6 × 10m/m_flat phillips head screw	4
162	Ø1/4" × ø16 × 1.0t_flat washer	4
163	Sleeve	4
164	M6 × 19l_nut	4
165	M6 × 10m/m_button head socket bolt	4
166	Pu wheel	4
167	Seat front/aft adjustment lever	1
168	Lever anchor	1
169	M5 × 25m/m_flat head socket screw	2
170	Ø15 × ø6 × 4t_nylon washer	1
171	M5 × p0.8 × 45l_socket head cap bolt	1
172	Ø5 × ø10 × 1.0t_flat washer	1
173	M5 × 5t_nyloc nut	1
175	3/8" × 2-3/4"_hex head bolt	2
177	Rubber foot pad	1

Item	Description	Qty
178	Square end cap	1
179	M8 × 15m/m_button head socket bolt	4
180	M5 × 30m/m_phillips head screw	4
185	3/8" × 4t_nut	1
186	M6 × 18m/m_phillips head screw	4
189	Rubber pad	1
191	Ø5/16" × ø18 × 1.5t_flat washer	2

## Product warranty

Dyaco Commercial & Medical North America LLC (hereinafter “Dyaco”), the manufacturer of the Philips Commercial Series Physical Therapy Products (hereinafter “Products”) warrants all of the Products and their components listed below for the periods of time set out on this page below from the date of sale, as determined by sale receipt, or in the absence of a sales receipt, eighteen (18) months from the original factory shipping date. During the applicable warranty periods, Dyaco’s responsibilities under these warranties include providing, at no charge, new or remanufactured parts, as determined by Dyaco at its sole and absolute discretion, and covering the cost of labor deemed necessary by Dyaco, at its sole and absolute discretion, to remedy faults giving rise to applicable warranty claims. The warranty periods set out below are subject to the performance of proper care and maintenance, as set out in this user manual, by the original purchaser of the equipment. Warranties are not transferable.

<b>Warranty</b>	<b>Frame</b>	<b>Magnetic resistance system</b>
Commercial	Lifetime	5 years
Residential	Lifetime	5 years

<b>Parts</b>	<b>Labor</b>	<b>Wear items</b>
5 years	2 years	6 months
3 years	2 years	6 months

\* Wear items are rubber hand grips, pedals, console overlay and drive belt

## Normal responsibilities of the facility

The facility is responsible for the items listed below

- The warranty registration must be completed online to validate the manufacturer’s limited warranty.
- Proper use of the fitness equipment in accordance with the instructions provided in this manual.
- Proper installation in accordance with instructions provided with the fitness equipment and with all local electric codes.



- Proper connection to a grounded power supply of sufficient voltage, replacement of blown fuses, repair of loose connections or defects in house or facility wiring.
- Expenses for making the fitness equipment accessible for servicing, including any item that was not part of the fitness equipment at the time it was shipped from the factory.
- Damages to the fitness equipment finish during shipping, installation or following installation.
- Routine maintenance of this unit as specified in this manual.

## **Exclusions**

This warranty does not cover the following:

- Consequential, collateral, or incidental damages such as property damage and incidental expenses resulting from any breach of this written or any implied warranty. Note: Some states do not allow the exclusion or limitation of incidental or consequential damages, so this limitation or exclusion may not apply to you.
- Service call reimbursement to the dealer that does not involve malfunction or defects in workmanship or material, for units that are beyond the warranty period, for units that are beyond the service call reimbursement period, or units not requiring component replacement.
- Damages caused by services performed by persons other than authorized Dyaco service companies, use of parts other than original Dyaco parts, or external causes such as alterations, modifications, abuse, misuse, accident, improper maintenance, inadequate power supply.
- Products with original serial numbers that have been removed or altered.
- Products that have been; sold, transferred, bartered, or given to a third party.
- Products that are used as store display models.
- Products that do not have a warranty registration on file at Dyaco. Dyaco reserves the right to request proof of purchase if no warranty record exists for the product.

- Manufacturer, distributor, or the Licensor shall not be responsible or liable of any direct, indirect, general, special, punitive, incidental or consequential damages; loss of or damage to property; claims of third parties; loss of life; personal injury (including further injury, or re-injury), and any other losses or damages of any kind or character, arising out of or in connection with the use of Biophysical Agents by the facilities or clinicians. The facilities or clinicians that select, prescribe, and implement the use of Biophysical Agents will assume the related responsibility.
- Definitions of “ Biophysical agents ” : Biophysical agents are a broad group of agents that use various forms of energy and are intended to assist muscle force generation and contraction; decrease unwanted muscular activity; maintain strength after injury or surgery; modulate or decrease pain; reduce or eliminate edema; improve circulation; decrease inflammation, connective tissue extensibility, or restriction associated with musculoskeletal injury or circulatory dysfunction; increase joint mobility, muscle performance, and neuromuscular performance.
- Physical therapists select, prescribe, and implement the use of biophysical agents when the examination findings, diagnosis, and prognosis indicate the use of these agents to reduce risk factors and complications; enhance health, wellness, or fitness; enhance or maintain physical performance; or prevent or remediate impairments in body functions and structures, activity limitations, or participation restrictions. The use of biophysical agents in the absence of other interventions should not be considered to be physical therapy unless there is documentation that justifies the necessity of their exclusive use.
- Use of the products in any way other than described within products’ operation manual, either intentionally or by error.
- Damages due to improper storage or transport or other causes not solely attributable to Manufacturer.
- The exact amount of indemnification or cost arising out of breach of this written or any implied warranty shall be fairly negotiated by both you and Manufacturer.
- This warranty is expressly in lieu of all other warranties expressed or implied, including the warranties of merchantability and/or fitness for a particular purpose.

## **Service**

Keep your bill of sale. Twenty four (24) months from the date on the bill of sale or eighteen (18) months from the date of factory shipping as determined by the serial number establishes the warranty period should service be required. If service is performed, it is in your best interest to obtain and keep all receipts. This written warranty gives you specific legal rights. You may also have other rights that vary from state to state. Service under this warranty must be obtained by following these steps, in order:

- Contact your selling authorized Dyaco dealer. OR
- Contact your local authorized Dyaco service organization.
- If there is a question as to where to obtain service, contact our service department at 1-866-869-4409.
- Dyaco's obligation under this warranty is limited to repairing or replacing, at Dyaco's option, the product through one of our authorized service centers. All repairs must be preauthorized by Dyaco. If the product is shipped to a service center freight charges to and from the service center will be the customer's responsibility.
- The owner is responsible for adequate packaging upon return to Dyaco. Dyaco is not responsible for damages in shipping. Make all freight damage claims with the appropriate freight carrier. Do not ship any unit to our factory without a return authorization number. All units arriving without a return authorization number will be refused.
- For any further information, or to contact our service department by email, or phone call, and also please refer to website for additional information:
  - Consumer care service email address: [philipssupport@dcmna.com](mailto:philipssupport@dcmna.com)
  - Consumer care service phone number: 1-886-869-4409

Product features or specifications as described or illustrated are subject to change without notice. All warranties are made by Dyaco Commercial & Medical North America LLC. This warranty applies only in the 48 contiguous United States.

