



# User Manual Valiant Ultra

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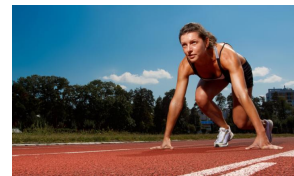
## Sports Medicine



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## 1 - Intended Use

This device is intended to be used as a stress test device in a medical environment. The main goal of the use of Lode devices is to create reproducible stress tests. With cycling ergometers typically workload (watt) is imposed. With treadmills typically speed (km/h) and inclination (% grade) are imposed. A Lode product is designed both for manual operation and for control by external ECG-, pulmonary equipment. Most likely this device will be used in conjunction with another medical device to obtain other important physiological data, allowing a physician to evaluate a test subjects physical status.

As such the intended use of the device solely cannot be defined specifically.

The device has to be operated under the supervision of well-trained medical specialists in the field of use. The ultimate judgment whether a test subject should undertake a stress test with the device must be made by the responsible medical specialist, based on the limitations of each individual, the medical history and all other applicable circumstances. Neither Lode BV nor its distributors assume any responsibility for the final use of its equipment.

## 2 - Precautions



Read the user guide and follow it carefully before using the device.



Replacement of parts can only be done by the manufacturer or designated service personnel.



Service of this device is restricted to factory trained personnel only.



Set up and operate the device on a solid level surface.



If this equipment is modified, appropriate inspection and testing must be conducted to ensure continued safe use of the equipment.



The operator should not touch accessible parts and the patient simultaneously.



The equipment has a safety earth (ground) connection and must be connected to a (grounded) wall socket with protective earth to avoid the risk of electric shock.



Inspect the device for worn or loose components prior to use. Tighten / replace any loose or worn components prior to use.



Replacement of the power supply cord should be installed by authorised service personnel, instructions for correct connection and anchoring must be ensured, securing that the requirements of clause 8.11.3 of IEC 60601 1:2005 are met.



The test subject shall wear clothes when using the harness or the lanyard belt to prevent skin irritation.



This device should only be sold by, or on the order of authorized persons.



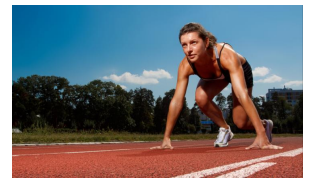
No modification of this equipment is allowed.



The physician should instruct the test subject prior to performing an exercise protocol. If, at any time during exercise, the test subject feels faint, dizzy, or experiences pain, stop the test and he or she should be consulted by the physician.



Not suitable for use in the presence of flammable anaesthetics.



The test subject should wear proper sports or running shoes (no spikes).



Do not jump onto the rotating belt. Do not jump off the rotating belt (not even to the front). Do not stop moving on the running belt. Do not turn around on the running belt. Do not move sideways or backwards. Do not make movement that could get you out of balance.



The test subject should not wear loose or dangling clothing while using the device.



Before each use, inspect the vest for damage. Do not use if the integrity is questionable.



Read all warnings posted on the device.



The test subject should always wear the belt of the lanyard safety belt.



The operator must keep away from the footrail while lowering.



Do not place any loose parts or objects on the device before and during use.



Heart rate monitoring systems may be inaccurate. Over-exercise may result in serious injury or death. If you feel faint stop exercising immediately.



Keep away from the rollers



Move the entrance plate away from the treadmill before switching on



When using a bike on the treadmill, the subject needs to be instructed never to use the brake. It is advised to disable brakes on the bike.



In the User Guide for your Ergometer Contraindications, Warnings and Cautions are stated. The user should have knowledge of this information.



When using skates or skelers, subjects must be instructed not to assume the braking position by place skates skelers angled to the rolling direction of the belt



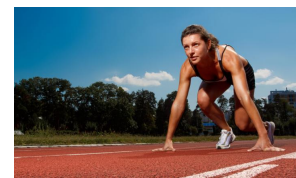
The test subject should wear proper sports clothing.



Make sure you always fix the handrails by tightening the spanners on the side handrails before anybody starts using the treadmill.

### 3 - Contra Indication

The device is to be operated by classified personnel only. As stated in the intended use, the device is intended to be used in a medical environment. During the intended use the test subject will deliver energy. Application of the wrong dosis of energy could lead to permanent damage of the test subject health. Only use this device under supervision of a medical physician.



## 4 - Validity

This manual covers all Valiant 2 Ultra versions starting with the following serial numbers:

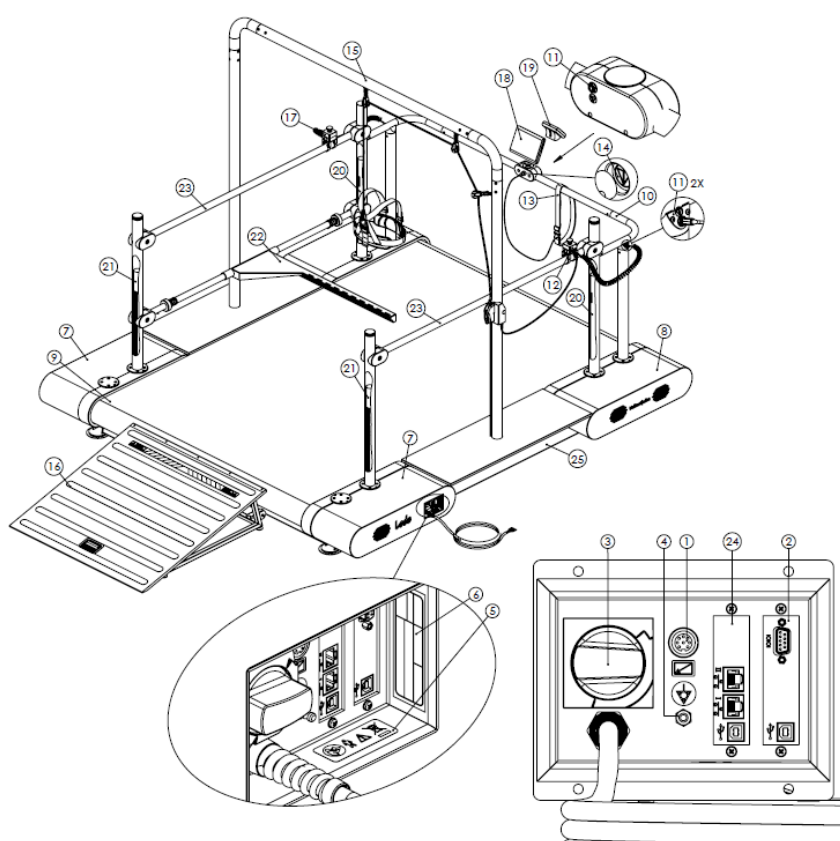
938925 Valiant Ultra: S/N 20150001 - ..

938930 Valiant Ultra: S/N 20150001 - ..

938945 Valiant Ultra: S/N 20150001 - ..

Date of issue: 2015-01-09

## 5 - Definition of parts



1. Service Connector
2. Communication Module
3. On/Off switch
4. Equipotential bonding plug
5. Safety symbols tag
6. Serial number tag
7. Motor compartment for height adjustment and drive
8. Motor compartment for height adjustment
9. Walking surface [APPLIED PART]
10. Front bar
11. Connector for external emergency stop
12. Emergency Stop
13. Lanyard [APPLIED PART]
14. Magnetic contact for lanyard
15. Fallstop with harness (optional for speed < 25 km/h) [APPLIED PART]
16. Entrance plate (optional) [APPLIED PART]
17. Extra external emergency stop (optional)
18. Control Unit (optional)
19. Colour Display 3.5" (optional)

20. Height adjustment positive +25% (optional)

21. Height adjustment negative -25% (optional)

22. Wheelchair guidance (optional)

23. Side bar (optional)

24. Network module (optional)

25. Floor protection frame (optional)

## 6 - Installation



Unpack the device while leaving the transport straps in place.  
Place the device in the location where it will be used.  
Remove transport straps and remaining packaging materials.  
Connect the power cord to the line output at the required voltage (see type plate).  
Remove all objects from the device  
Switch on the unit with the on/off button and wait until the self-test is carried out. The product is ready for use after you have heard a series of “beeps”.  
For more information and getting started with the device please consult the Manual on the CD rom.

## 7 - Control with an External Device

If your device is fitted with a communication card you can connect to many external devices.

1. Connect the device with the supplied cable to the external device. You can control the device with e.g. an exercise ECG device or Metabolic Card.
2. Download the interfacing instructions from the internet at [www.lode.nl](http://www.lode.nl) after you have registered your device.
3. If your device has a control unit, select “Terminal”- mode to allow external commands. When the device does not have a control unit the terminal mode is automatically selected. (See for detailed instructions the user manual of your external device).

## 8 - Control with Control Unit

You can operate the device as a stand-alone device with the (optional) control unit.

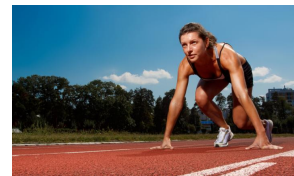
1. After switching on, follow the instructions on the screen for the settings
2. Consult the manual of the control unit for more information

## 9 - Control with the Lode Ergometry Manager (LEM)

1. If your treadmill ergometer has an RS232 or USB port connect it directly to the PC LEM is installed on. If your device has a RJ45 connector plug it with an UTP cable to the special interface connector that was delivered with your treadmill ergometer and to a USB port in your PC.
2. Start Lode Ergometry Manager on your PC
3. If your Katana has a control unit, select “Terminal”- mode to allow external command. If your Katana does not have a control unit the terminal mode is automatically selected. (See for detailed instructions the user manual of LEM).

## 10 - Maintenance





Maintenance should be carried out on a regular and planned basis. We recommend to check the unit annually. This may be done by your local dealer. It is also recommended that a record of the service history is kept for all activities relating to service and maintenance.

Maintenance and all repairs should only be carried out by an authorized agency. The manufacturer will not be held responsible for the results of maintenance or repairs by unauthorized persons. The check up and/or technical maintenance must be carried out conform the procedure described in the service manual of the unit.

Opening of the equipment by unauthorized agencies is not allowed and will terminate any claim to warranty.

Lode will make available on request circuit diagrams, component part lists, descriptions, calibration instructions, or other information that will assist authorized service personnel to repair those parts of the ergometer that are designated by Lode as repairable by authorized service personnel.




## 11 - Troubleshooting

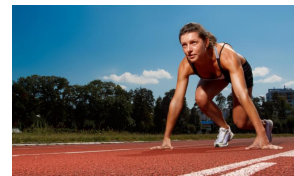
For a complete overview of possible error message and the solutions belonging to these messages, please consult the service manual of the ergometer.

## 12 - Cleaning

Before cleaning and other maintenance of any part of the device, first switch off the device and disconnect it from the mains. The control unit can be cleaned with a damp cloth and a liquid (non-abrasive) cleaning product.

## 13 - List of symbols used

-  Read manufacturer's guide, advises and instructions and manual
-  Emergency Stop
-  USB
-  RS232
-  Network (Proprietary Lode)
-  Potential Equalization Conductor
-  Symbol for collection, treatment, recycling and disposal of waste electrical and electronic equipment (WEEE) as set out in Directive 2002/96/EC of 27 January 2003 of the European Parliament and of the Council on waste electrical and electronic equipment are necessary to reduce the waste management problems linked to the heavy metals concerned and the flame retardants concerned



Class I MEDICAL EQUIPMENT Type B Electrical Safety IEC 60601-1



Trapping zone. Warning: do not jump onto the rotating belt. Do not jump off the rotating belt (not even to the front). Do not stop moving on the running belt. Do not turn around on the running belt. Do not move sideways or backwards. Do not make movement that could get you out of balance. Keep away from rollers. The operator must keep away from the footrail while lowering.



"OFF" position of on/off switch: IEC 60417-5008 "OFF" (power)

















External Control Connector



"ON" position of the on/off switch: IEC 60417-5007 "ON" (power);



## 14 - Accessories

<p><b>Ambient sensor pack</b></p> <p><b>Partnumber: 945826</b></p> <p>Check environmental conditions during test</p>  <p>Ambient sensor pack for treadmills</p>	<p><b>Autospeed</b></p> <p><b>Partnumber: 945840</b></p> <p>Flexibility in exercising</p>  <p>Autospeed</p>	<p><b>Blood Pressure Measurement with ECG trigger</b></p> <p><b>Partnumber: 945824</b></p> <p>with ECG trigger</p>  <p>Blood Pressure Measurement with ECG trigger</p>	<p><b>Bottle holder</b></p> <p><b>Partnumber: 401200</b></p> <p>Convenient beverage storage</p>  <p>Bottle holder</p>	<p><b>Colour Display 3.5" (2nd screen)</b></p> <p><b>Partnumber: 945819</b></p> <p>Multifunctionality</p>  <p>Colour Display 3.5" (2nd screen)</p>
<p><b>Emergency Stop Button</b></p> <p><b>Partnumber: 945804</b></p> <p>Ultimate safety</p>  <p>Emergency Stop Button</p>	<p><b>Extension for emergency lanyard</b></p> <p><b>Partnumber: 945931</b></p> <p>Original Accessory</p>  <p>Extension for emergency lanyard</p>	<p><b>Heart rate for treadmills</b></p> <p><b>Partnumber: 945820</b></p> <p>Heart rate in beats per minute</p>  <p>Heart rate for treadmills</p>	<p><b>Programmable Control Unit with 7" touch screen for..</b></p> <p><b>Partnumber: 945815</b></p> <p>Programmable</p>  <p>Programmable Control Unit</p>	<p><b>Reverse walking for Valiant Ultra</b></p> <p><b>Partnumber: 938843</b></p> <p>walking backwards</p>  <p>Reverse walking for Valiant Ultra</p>
<p><b>SpO2 for control unit with touch panel</b></p> <p><b>Partnumber: 945822</b></p> <p>Heart rate in beats per minute</p>  <p>SpO2 for control unit with touch panel</p>	<p><b>SpO2 for control unit with touch panel - ordered afterw..</b></p> <p><b>Partnumber: P945822</b></p> <p>Ordered afterwards</p>  <p>SpO2 for control unit with touch panel</p>	<p><b>Table foot for Control Unit with Touchscreen</b></p> <p><b>Partnumber: 945818</b></p> <p>Control from any desired place</p>  <p>Support for Control Unit with Touchscreen</p>	<p><b>Wheelchair support for Valiant Ultra 300</b></p> <p><b>Partnumber: 938871</b></p> <p>Versatile wheelchair testing</p>  <p>Wheelchair support for Valiant Ultra 300</p>	



## 15 - Specifications



Workload			Connectivity	
Maximum speed	40 km/h	24.9 mph	Lode 38K4 interface protocol	yes
Minimum operational speed	01 km/h	0.6 mph	Lode interface protocol	yes
Speed adjustment steps	0 km/h	0 mph	Lode WLP interface protocol	yes
Positive elevation	25 %		"HP Cosmos" interface protocol	yes
Negative elevation	-25 %		"Woodway" interface protocol	yes
<b>User Interface</b>			"Trackmaster" interface protocol	yes
Swedish user interface	yes		"GE" interface protocol	yes
English user interface	yes		USB connector	yes
Czech user interface	yes		Analog connector	yes
Danish user interface	yes		SpO2 connector	yes
Dutch user interface	yes		RS232 in connector	yes
Finnish user interface	yes		RS232 out connector	yes
French user interface	yes		<b>Dimensions</b>	
German user interface	yes		Walking surface length	300 cm 118.1 inch
Italian user interface	yes		Walking surface width	200 cm 78.7 inch
Japanese user interface	yes		Step up height	35 cm 13.8 inch
Korean user interface	yes		Product length (cm)	304 cm 119.7 inch
Polish user interface	yes		Product width (cm)	296 cm 116.5 inch
Portugese user interface	yes		Product height	130 cm 51.2 inch
Russian user interface	yes		Allowed user weight	225 kg 496 lbs
Spanish user interface	yes		<b>Power requirements</b>	
Turkish user interface	yes		Maximum rated power input	8000 VA
Ukrainian user interface	yes		3 x 400 V	yes
Readout Angle	yes		Maximum motor power	8 kW
Readout Target Angle	yes		<b>Standards &amp; Safety</b>	
Readout Distance	yes		ISO 9001:2008 compliant	yes
Readout Speed	yes		Integrated emergency stop	yes
Readout Energy	yes		Standard emergency lanyard	yes
Readout Time	yes			
Set Display	yes			
Customized Screenviews	yes			
Manual operation mode	yes			
Quick start operation mode	yes			
Touchscreen	yes			



**Environmental conditions**

Maximum operational temperature	40 °C
Minimum operational temperature	14 °C
Maximum operational air pressure	106 kPa
Minimum operational air pressure	70 kPa
Maximum operational non-condensing humidity	90 %
Minimum operational non-condensing humidity	30 %
Maximum storage & transport temperature	70 °C
Minimum storage & transport temperature	-25 °C
Maximum storage & transport air pressure	106 kPa
Minimum air pressure storage & transport	50 kPa
Max. humidity storage & transport	95 %
Min. humidity storage & transport	10 %

**Order info**

Partnumber

938930