



**REF** **Weight Distribution**

**CE** Class I Medical Device

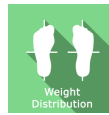
# User manual

## Distribution mode

Available for direct download at  
<http://virtualisvr.com/espace-client/>  
Use under license

 **VIRTUALIS**

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## DESCRIPTION

**Weight Distribution** is a software used to assess weight distribution on the two lower limbs in real time. It is used to view the weight distribution as a percentage of the body weight or in kg. It is also used to locate the body weight pressure for each plantar pressure.

## INDICATIONS

Posturographic assessment of plantar pressure distribution.

## CONTRAINDICATIONS

Epileptic patients, children under 15 years of age, pregnant women

## FOR USE BY

Healthcare professionals: Physiotherapists; Ergotherapists; Neuropsychologists; ENT doctors; Neurologists; PM&R physicians (Physical Medicine and Rehabilitation), etc.

Research Centers: CNRS, CHU, INSERM, etc.

## WARNINGS AND CAUTIONS

**During sessions, stay close to the patient in order to anticipate any loss of balance or discomfort caused by the use of virtual reality.**

Define a working area of about 3m<sup>2</sup> to allow for risk-free movements.

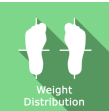
Take a 10 to 15-minute break every 30 minutes of use.

Potential adverse effects are those due to the use of Virtual Reality, namely vomiting, malaise, dizziness, syncope.

The accessories required to use the software may emit radio waves that can interfere with the operation of nearby electronic devices. If you have a pacemaker or other implanted medical device, do not use the product until you have taken advice from your doctor or the manufacturer of your medical device.

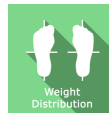


***Any serious incident should be notified in writing to [qualite@virtualisvr.com](mailto:qualite@virtualisvr.com)***



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## 1. GENERAL

### 1.1. Advice for use

Virtual Reality immersion is a powerful stimulation tool. This type of rehabilitation should be approached progressively and should consider the subject's tolerance, particularly during stimuli that may cause sensory conflicts or with patients with visual or balance disorders.

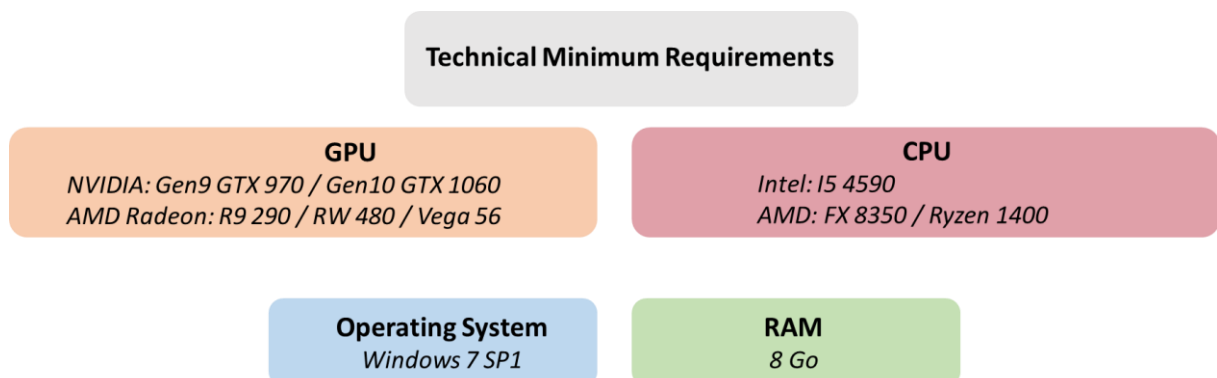
Virtualis declines any liability for any disorders suffered by patients during or after use of its software following inadequate stimulation with regards to the patient's state or aptitudes, or following inadequate patient securing means set up by the practitioner.

### 1.2. Hardware and minimum configuration requirements

#### Hardware required to use the system:

- VR Ready PC
- StaticVR static posturography platforms

In order to install and use our virtual reality applications, we recommend a configuration equal to or higher than the following system requirements:

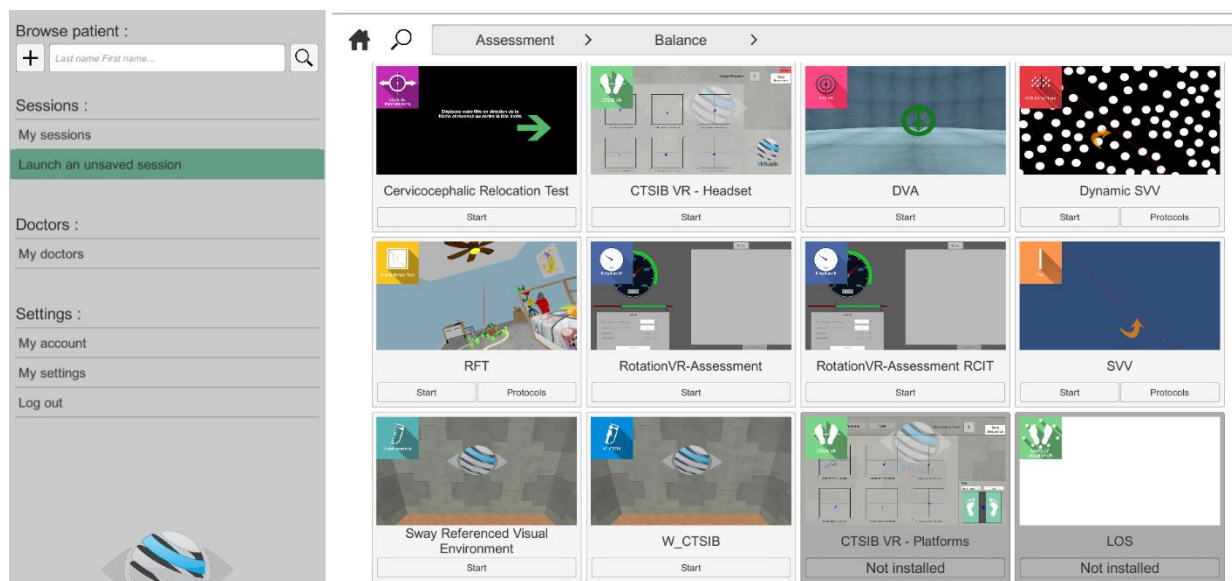


## 2. USE of PATIENT MANAGEMENT

Once connected to the Patient Management software, you get to the home page. It is from this home page that you will be able to start your VR software as well as other Patient Management features.

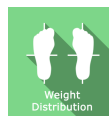
The softwares can be grouped according to criteria such as "Assessment" or "Rehabilitation" and then by pathology type: Neurology, Balance, Functional or Motion sickness.

You can start or switch from one software to another from the home page by clicking the corresponding "Start" or "Protocols" button.



A number of softwares can be started either in **manual mode**, by directly clicking the "Start" button, or in **protocol mode** by clicking the "Protocols" button.

The **manual mode** allows users to select settings for each environment. The **protocol mode** offers several sessions with different difficulty levels to test and gradually accustom patients to the VR environment.



<p><b>Motorway Simulation</b></p> <p>Start    Protocols</p>	<p><b>Optical Flow</b></p> <p>Start    Protocols</p>	<p><b>Optokinetic</b></p> <p>Start    Protocols</p>
<p><b>PursuitCoP</b></p> <p>Start</p>	<p><b>Reading (Sway Referenced)</b></p> <p>Start</p>	<p><b>ReflexVR</b></p> <p>Start</p>

Softwares which are not included in your subscription package are grayed out. If you want to use them, please contact our sales department.

<p><b>Sway Referenced Visual Environment</b></p> <p>Start</p>	<p><b>Target Tracking</b></p> <p>Start    Protocols</p>	<p><b>Upper Limb ROM</b></p> <p>Start</p>	<p><b>W_CTSIB</b></p> <p>Start</p>
<p><b>Waves (Sway Referenced)</b></p> <p>Start</p>	<p><b>BirdVR</b></p> <p>Not installed</p>	<p><b>CTSIB VR - Platforms</b></p> <p>Not installed</p>	<p><b>HipAbductionVR</b></p> <p>Not installed</p>



### 3. Weight Distribution

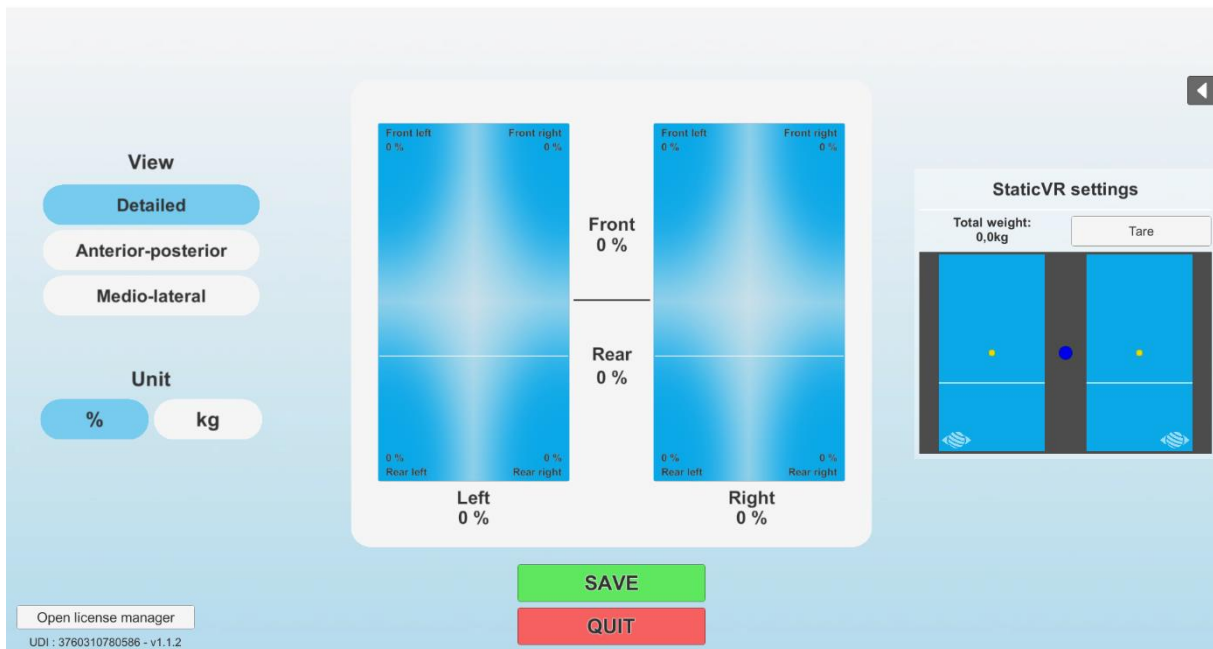
#### 3.1. Start interface

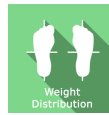


When launching the software in **manual mode** (Start button), it opens a launch interface consisting of a set up area and an action area (“save” and “quit” buttons).

The general Patient Management menu can be accessed from the start interface by simply clicking the "quit" button located in the action area or by pressing the "escape" key on the keyboard.

The software is launched by simply clicking the "start" button in the action area.





### 3.2. Software field of application

Static and dynamic assessment of plantar pressure distribution. Can be used for instantaneous measures or for real-time tracking during a rehabilitation session.

### 3.3. Installing the patient


Patient standing on static force platform.

Positioning the patient on the platform:

- Center the patient's feet on the force platform.
- The medial malleolus of each foot should be directly centered on the horizontal line of the force platform.



**Warning:** It is recommended that all tests be performed with shoes removed, in order to get a standardized input of somatosensory system signals and to compare with the standard data set.

Select  to get a snapshot of the data.

### 3.4. Session settings

Several pressure analysis modes are available for weight distribution:

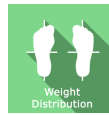
**Detailed:** the 4 sensors for each platform (front left, front right, rear left, rear right) record data independently of each other, meaning pressures can be visualized separately per platform quadrant while separating data from the left and right sides.

**Antero-posterior:** the 4 anterior sensors for the two platforms record anterior pressures simultaneously and the 4 posterior sensors do the same for posterior pressures. Weight distribution is displayed according to anterior or posterior pressure without dissociating the feet.

**Medio-lateral:** the 4 sensors for each platform process their information jointly but the two platforms process them independently. Pressures are shown accordingly to the total pressure on each platform, establishing a global distribution between right and left platform

The value of the support can be expressed as a percentage of the body weight (%) or in mass (kg), by simply clicking the relevant button.





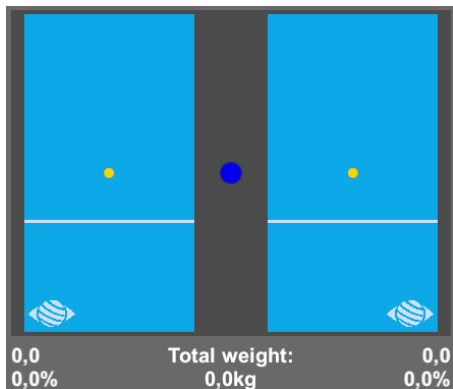
## StaticVR settings

### Raw data sent by the platforms

Yellow dots: Center of Pressure (CoP) of each foot

Blue dot: Overall Center of Pressure (CoP)

The weight distribution for each foot is displayed



### Smoothed data & settings:

#### Tare

Platform reset (must be carried out when empty)

#### Smoothing

Smoothing force applied to the data

#### Sensitivity

Multiplier applied to the data received

Decrease to reduce motion sensitivity

#### Score

The recorded settings are used to appreciate body weight distribution for each plantar pressure.

### 3.5. Data processing

Data retrieval and analysis is done using the Patient Management software.