

**Warm Up**Warm-up Duration

Total duration of the warm up phase. Motor will power the rotation.

Units: hh:mm:ss

**Progression**Automatic Speed Progression

If checked, speed will progress in 1rpm increments up to the target speed each time a session is completed without reaching 100% stimulation.

**Ergometer**Motor Torque (Nm)

This value specifies the maximum force that the motor can use to rotate the crank. The idea is to set it high enough to smoothly rotate the crank, but low enough that a spasm will be able to stop the rotation. Only small changes are usually required.

Speed Ramp-up Duration

This is the time taken for the motor to take the crank from stationary to warm up speed.

Units: hh:mm:ss

Target Control Speed (rpm)

This is the control speed which the system will automatically progress up to. Automatic Speed Progression completes once this speed is reached.  
Range: 15 -55    Increment: 1

Motor Support Duration

This value specifies how long into the active phase the motor will be available to assist maintaining rotation. During the motor support period the system will not be able to detect muscle fatigue since the motor will prevent the crank from slowing down long enough to trigger fatigue detection. Note that while the motor is running the controlled will display a CG wheel. The wheel will turn blue if the motor is actually assisting vs. grey if it is on but not assisting.

### Speed offset

This value is used to calculate the warm up speed by adding it to the Control Speed. For example:

Speed Offset (rpm) -5rpm

Control Speed 40rpm

Gives us a warm up speed of 35rpm

Units: Rpm

Range: -30- +30 Increment: 1

-5

### Automatic Resistance Progression

If checked resistance will progress in single increments up to the target resistance each time a session is completed without resistance being reduced.

If Automatic Speed Progression is checked, resistance progression will not begin until speed progression has completed, i.e. speed has progressed to the speed target.

### Motor Support Offset (rpm)

This sets the velocity at which the ergometer motor will cycle even if the patient is fatigued and can't cycle under their own muscle power. Note that while motor support maintains cycling rpm above the fatigue offset, stimulation will continue

-5

### **Active- Forwards**

#### Duration

This is the time duration of the active phase.

Units: hh:mm:ss

Range: 0:00 -2:00:00 Increment: 00:00

0:30:00

#### Target Resistance (Nm)

This is the resistance which the system will automatically progress up to. Automatic Resistance Progression completed once this resistance is reached.

Range: 0.500 – 20.750

5.060

### **Controller**

#### Do Spasm Detection

If checked the system will stop the therapy if a spasm is detected.

If unchecked a spasm will not stop the therapy. This should usually be left checked.

### Control Speed (rpm)

This is the speed that the system will target. If speed exceeds the control speed stimulation will be lowered. If speed is lower than the control speed stimulation will be increased. Control speed also impacts resistance if Resistance Control is set to auto or both.

Range: 15-55 Increment: 1

45

### **Stimulator**

#### Frequency (Hz)

This is the default frequency in Hertz for all channels. The frequency of individual channels can be adjusted on the Stimulator page.

Range: 10 -100

33.3

#### Fatigue Offset (rpm)

This value is used to calculate the speed at which fatigue is detected by adding it to the Control Speed. For example:

Fatigue Offset (rpm) -15rpm

Control Speed 40rpm

Gives a fatigue detection speed of 25rpm. If the speed drops below the fatigue detection speed for at least a time duration equal to the Duration for Fatigue, the system will detect muscle fatigue and enter the passive therapy phase.

-15

Control Speed Settable

If checked the Control Speed can be adjusted from the main screen during the session.

PW Modulation (%)

The system will randomize the pulse width of any channel by this percentage each time the channel is stimulated. The resulting pulse width remains contained within the overall limits of 50-500usec. For example, if a channel has a PW set 250usec and PW modulation set to 10%, pulse widths will range from 225 usec to 275usec.

Duration For Fatigue

The time duration for which the cycle speed must stay beneath the fatigue threshold for the controller to detect that speed. If this duration is set to 0 then as soon as the velocity goes below the fatigue offset the controller will detect that fatigue has occurred.

Range: 00:00 – 2:00:00 Increment: 1

Resistance

This is the amount of initial resistance that will be applied. If resistance control is set Auto or Both the system may vary resistance from this initial setting.

Units: Nm

Smoothing Duration (deg)

This value specifies the number or crank rotation degrees over which the stimulation will be ramped up and down.

For example if a channel has an On Angle of 320 and an Off Angle at 20 degrees and smoothing duration is set to 60 degrees then: Stimulation will start ramping up at 260 degrees reaching its target value at 320 degrees, Stimulation will start ramping down at 20 degrees and reach zero at 80 degrees.

Max Stim in Warm-Up (%)

This value determines how much stimulation will be applied during the warm up phase. For example, if this is set to 20% then during warm up 20% of the maximum stimulation will be applied during the warm up phase.

Resistance Control

Defines how the system will control the resistance.

Manual: Clinician or user can raise or lower the resistance (R) as needed using the +/- buttons.

Auto: The machine will apply up to the amount of R listed in the resistance box if the patient is able to push against it. If the machine senses that the R is too much it removes R to maintain speed.

Both: allows the clinician to add or lower R as well as the machine.

Range: Auto/Manual/Both

Stimulation Before Rotation:

Duration   
Ramp up Duration

Stim in Speed Ramp-Up

If this is checked, the warm up stimulation will commence earlier. It will be applied during the initial speed ramp up time as well as during warm up.



### Passive

#### Speed Offset (rpm)

This value is used to calculate the passive speed by adding it to the Control Speed. For example:

Speed Offset (rpm) 5rpm

Control Speed 40 rpm

Gives a passive speed of 45rpm

Range: -30 - +30 Increment: 1

### Log

#### Log Period

How often data is collected during a session.

#### AT Stim Ramp-Up (%/s)

This value determines the rate at which stimulation ramps up during the Active Transition Phase. For example if this is set to 1% then during the Active Transition phase stimulation will ramp up at a constant 1% per second until the therapy enters the Active phase or stimulation reached 100%.

### Cool Down

#### Cool Down Duration

Total duration of the cool down phase. Motor will power the rotation, usually at a low speed.

Units: hh:mm:ss

#### Log State Changes

Log therapy phase changes

#### Speed Offset (rpm)

This value is used to calculate the cool down speed by adding it to the Control Speed. For example:

Speed Offset (rpm) -5rpm

Control Speed 40 rpm

Gives a cool down speed of 35rpm

Range: 0- -30 Increment: 1

#### Log Tone

Log tone measurements

## Pulse Oximeter

### Pulse Upper Limit (bpm)

Therapy will stop if the configured pulse oximeter reports a pulse rate greater than this value. Note; if you set a limit the therapy will not start unless the pulse oximeter is communicating.

Not Set

### Pulse Lower Limit (bpm)

Therapy will stop if the configured pulse oximeter reports a pulse rate lower than this value. Note: If you set a limit the therapy will not start unless the pulse oximeter is communicating.

Not Set

### O2 Saturation Lower Limit (%)

Therapy will stop if the configured pulse oximeter reports a SpO2 less than this value. Note: If you set a limit the therapy will not start unless the pulse oximeter is communicating.

Not Set

The pulse-oximeter alarm functions are not currently available in countries requiring the CE mark.