



The image shows a black metal frame with three rectangular openings at the top. A vertical rod extends from the center of these openings down to a black rectangular base. A blue semi-transparent box is overlaid on the right side of the frame, containing the title and model information. The base of the frame is a black rectangular plate with a small circular opening in the center.

# ILLUSIONATOR SET

USER'S  
GUIDE

Model  
**14015A**



## Congratulations!

You have just acquired an innovative, high quality product. We have put our highest effort into each development stage. We are sure that you will find this equipment most reliable and accurate - exceeding your expectations.

Before using this device, we strongly recommend that you carefully read the user manual. There you will find all related information for correct handling and usage of this product.

We hope that you enjoy using this equipment as much as we did creating it.

De la Rosa Research Team.



# INDEX



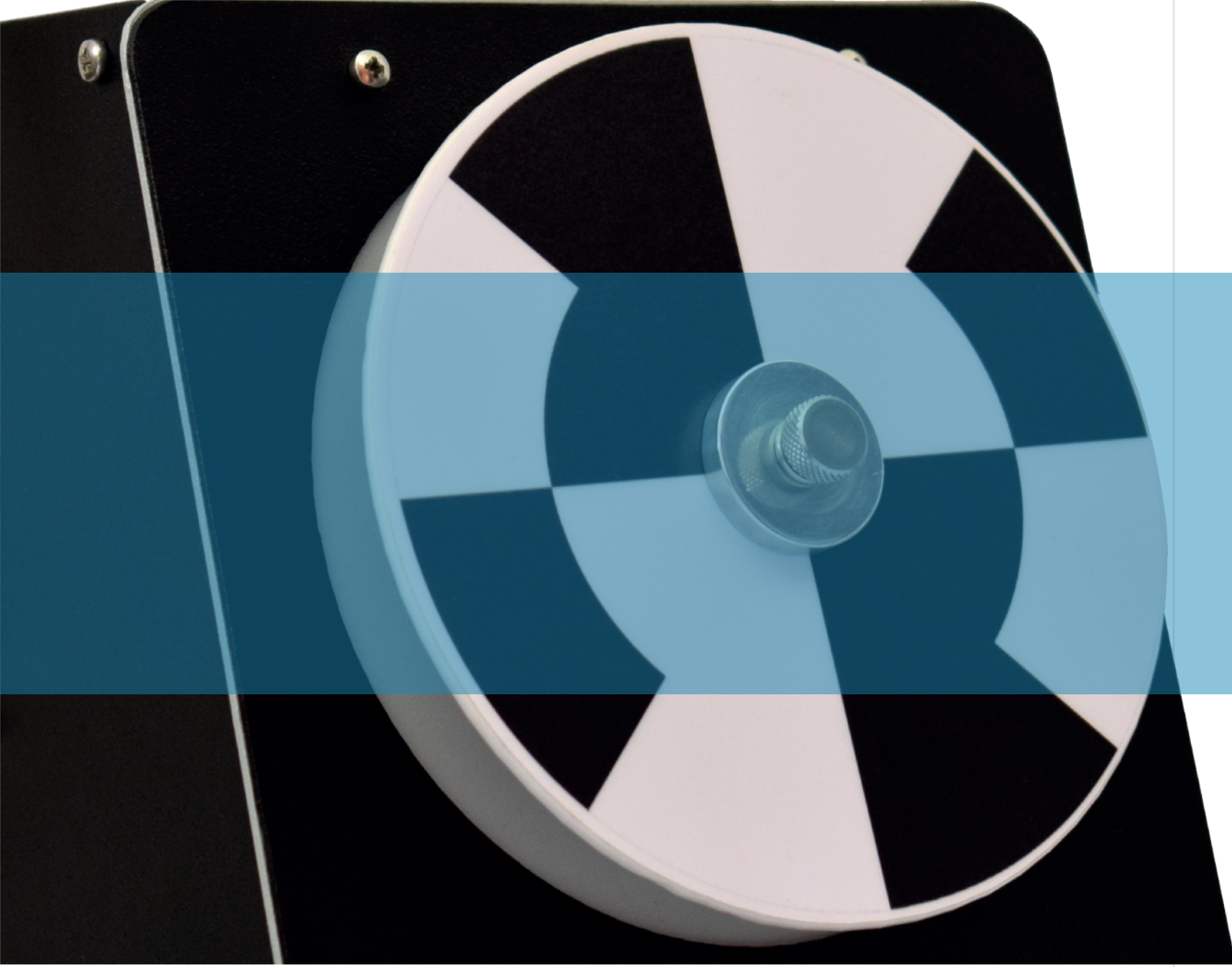
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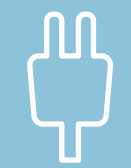
## DETAILS

The Illusionator Set is intended for the study of visual effect illusions. A very unusual assortment of visual illusion cards is included as part of the Illusionator Set. This optical illusion set allows for the demonstration of illusions of apparent color, apparent movement, tridimensional illusion and other classical illusions.. The main unit contains a low speed motor (0-8.5 RPM) for the trapezoid rotation illusion, and a high speed motor (0-2350 RPM) for the visual effects disks to create illusions of color from black and white patterns, after-images, rotating spiral, zig-zag, and others. The use of the Illusionator Set is excellent for any student demonstration or student's labs.

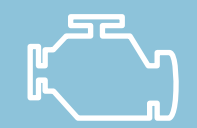




# SPECIFICATIONS



Line Voltage: 110/220 V AC - 50/60 Hz.



Number of Motors: Two (2).  
Motor 1 Speed (Frontal Motor): Maximum 2000 RPM  
Motor 2 Speed (Upper Motor): 1.5 - 7 RPM.

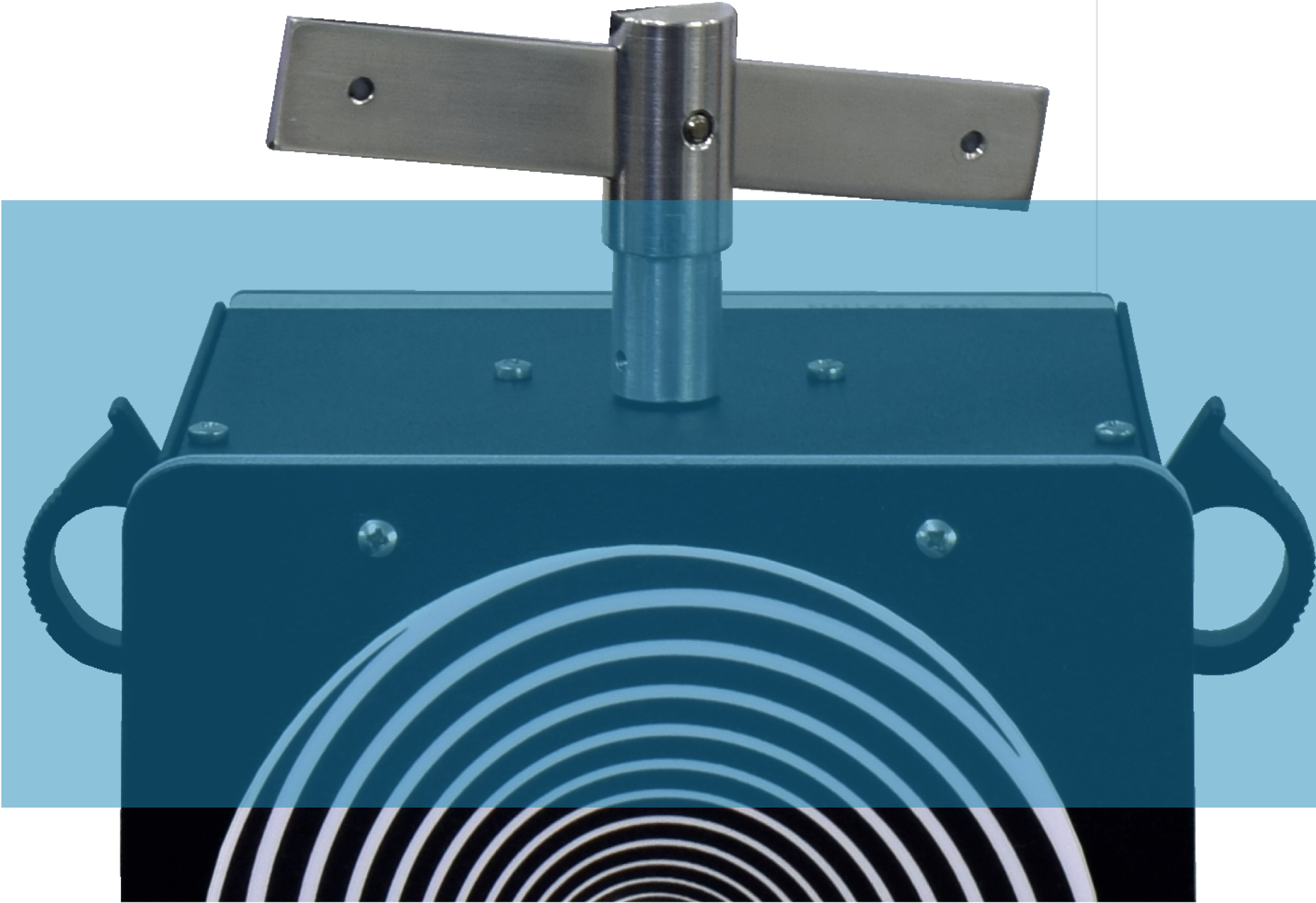


Supplied with User Guide.



Includes 12 squares in package, 7 disks and 1 window.

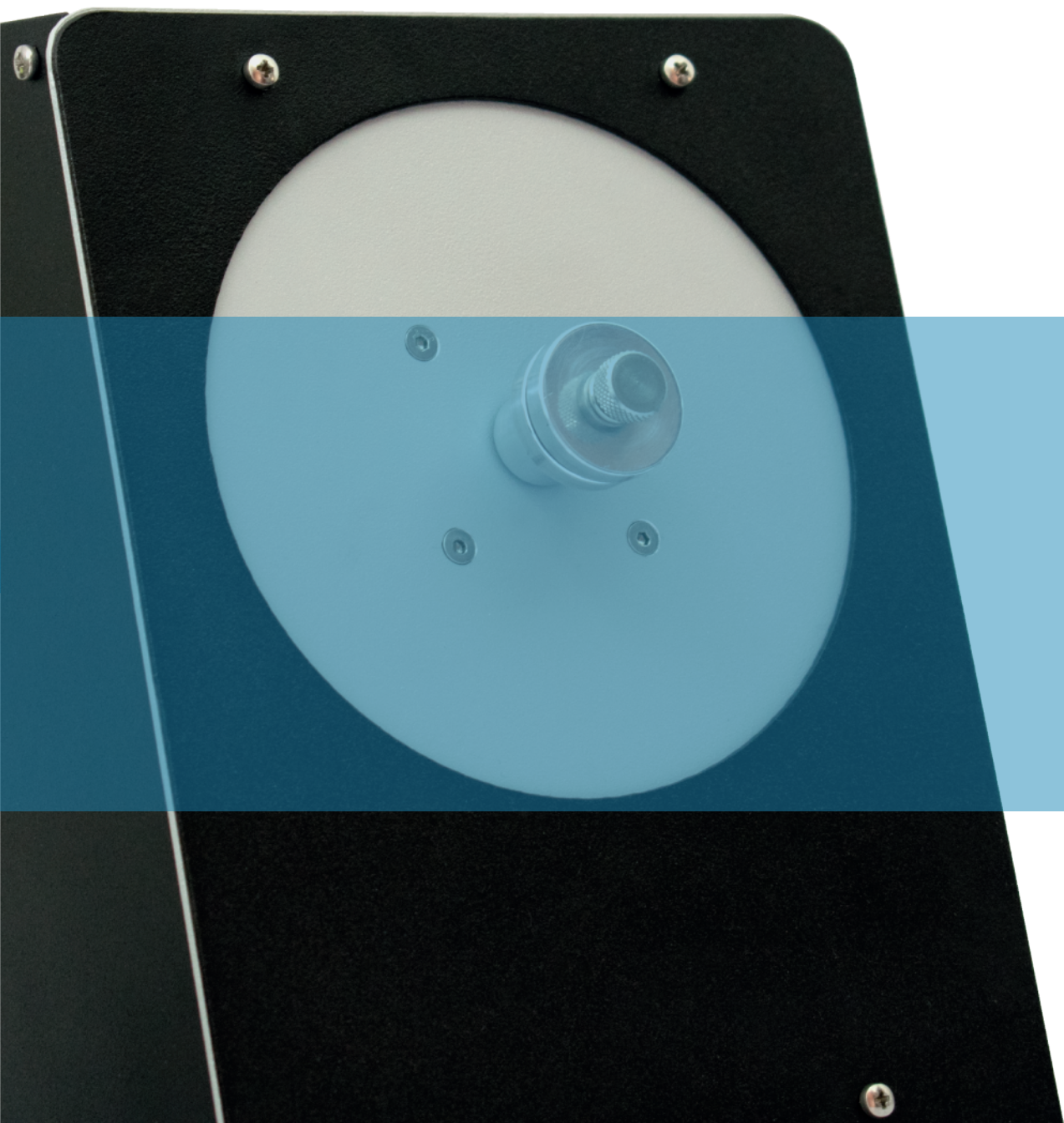




## APPLICATIONS

Visual illusions represent one of the major focuses in basic psychology courses (sensation and perception). This field was the scope of many renowned psychologists, forefathers of modern psychological science, as Hermann Von Helmholtz, Wilhelm Wundt, Max Wertheimer, Kurt Kofa and the Gestalt psychology among many others.

Students will learn about perception, color formation through retinal image and pattern-induced flicker colors (Fechner Colors), 3D illusion through shadows and movement of a single plane and apparent rotation invert through rotational frequency (Ames trapezoid or Ames Window) and other visual illusions using this simple to use equipment. The system has two independent RPM motors (LOW and HIGH RPM) to observe disks both at high revolutions and low revolutions. This fantastic set also includes classical illusion cards as Ponzo, Poggendorf, Müller Lyer and reversible figures among others. Recommended both for Advanced High School Biology courses and Basic Sensory and Perception courses at the university level.



## FEATURES



Quality



Durable



Recyclable  
materials



Accurate



# FEATURES

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## ACCESSORIES

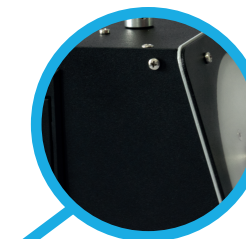
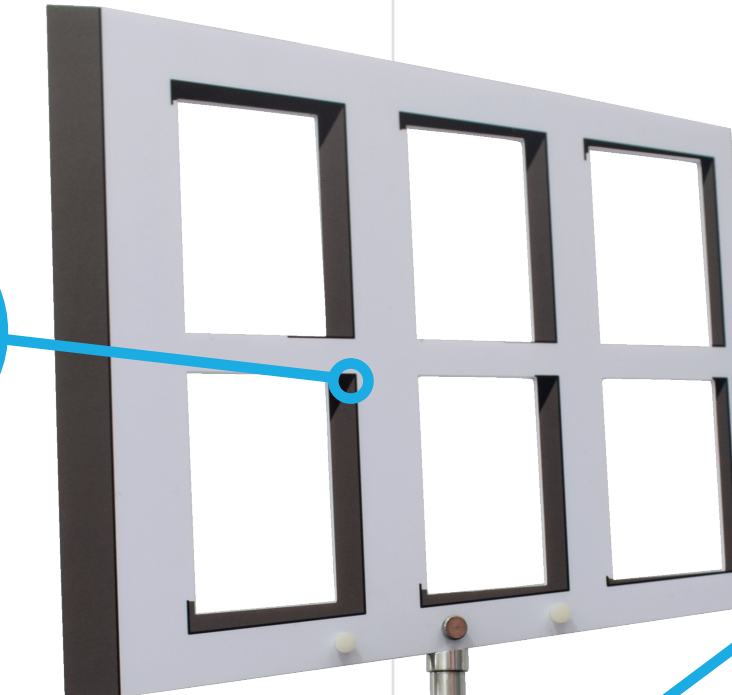
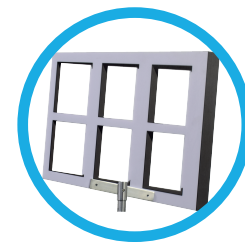
Easy to clean acrylic accessories.  
High resistant, and carefully finished to avoid injury.

**If you need accessories or replacement parts, these are the reference numbers:**

Trapezoid Window Model: AA86829-1  
Seven Illusion Disks Model: AA86829-2  
Thirteen Illusion Cards Model: AA86829-3

## CONTROL

LCD and key pad control  
Easy to read LCD display  
Allows RPM and time measurements.  
235 step motor control.



## BODY

Built from high-quality components manufactured in USA, Japan, Germany, Italy, etc.

## MOTOR 1 (Frontal motor)

Illusion Disks.  
Motor Speed: 20 - 200 Revolutions per minute (RPM)



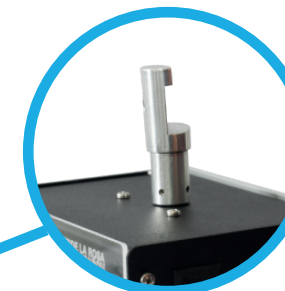
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# FEATURES

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## MATERIALS

Aluminum - stainless steel and acrylic body for sturdy usage. High resistance (and 100% recyclable) polymer base, easy to clean.

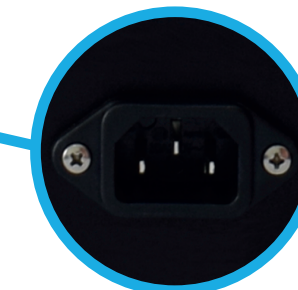
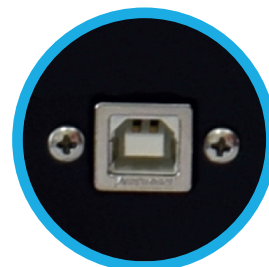


## MOTOR 2 (Upper motor)

Window Illusion.  
Motor Speed: 1.5 - 7 Revolutions per minute (RPM).

## USB PORT

USB port for serial communication (the software will be available and supplied at no charge).



## POWER SOURCE

Medical grade power source (short circuit protected through reprogrammable fuse).

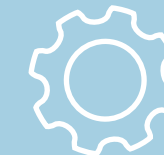
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## PROCEDURE



General recommendations

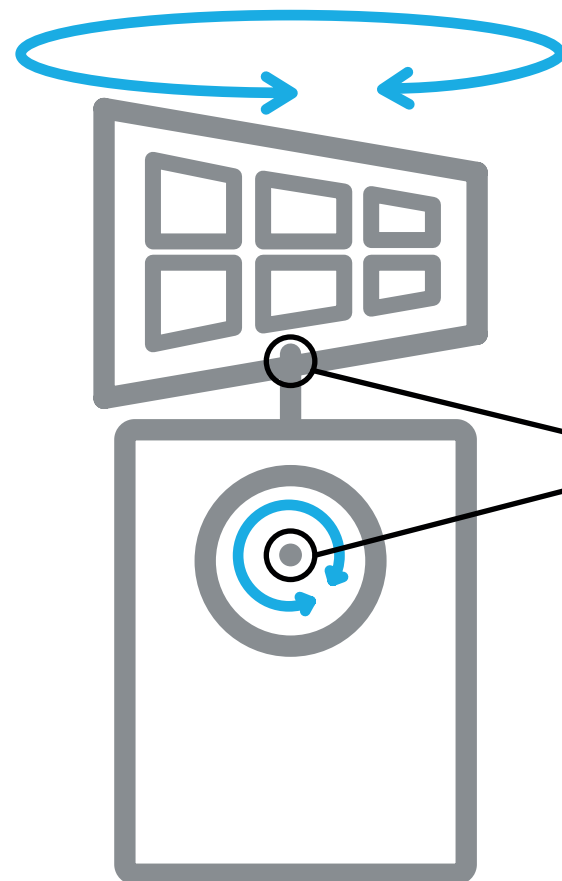


Initial settings

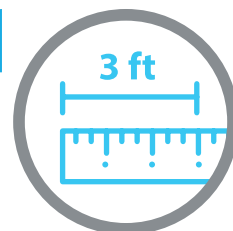


Operating



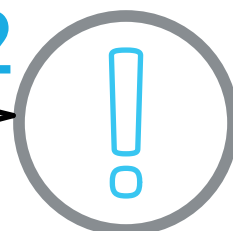


1



When the product is on, it is prudent to leave at least three feet between the product and any object or subject around it, in order to avoid any injury or damage.

2



Before starting the operation of this equipment, all the cables, controls, disk or window should be properly attached and carefully fixed to the equipment with the provided thumb screws. Failure to do so may cause inadequate functioning or injury.

3



While all pieces have blunt edges, you should avoid touching them when they are spinning.

## PROCEDURE

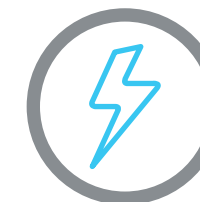
// GENERAL RECOMMENDATIONS



Avoid using sharp objects with the product.



Protect the product from rain and water.



Always ensure the proper power input.



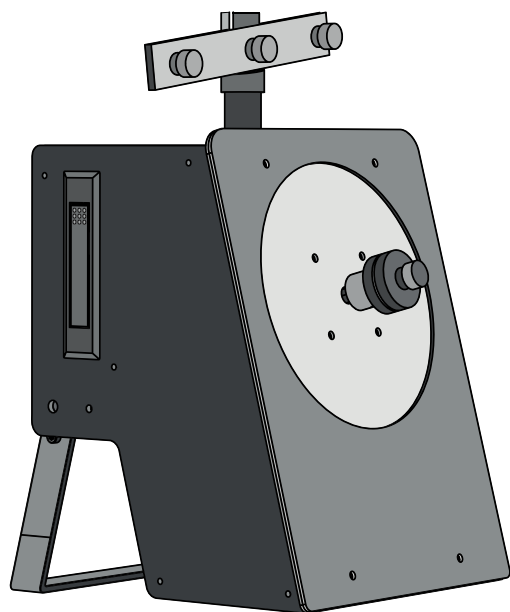
Do not try to fix or disassemble this product by yourself.

In case the product is not working properly, is damaged or needs maintenance, please contact us. We will gladly help you to solve any issue.



# 1 // WHAT SHOULD BE INCLUDED IN THE PACKAGE?

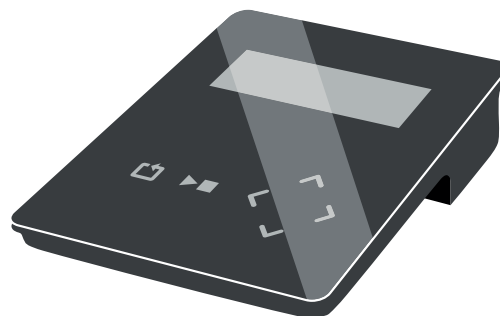
**a.**  
x1



**b.**  
x1



**c.**  
x1

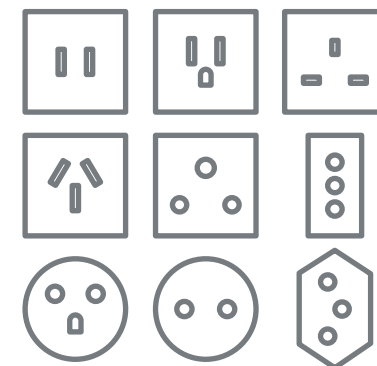
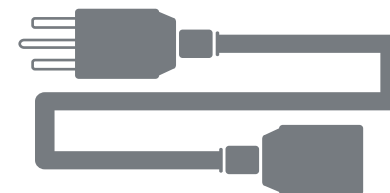


**a.** Illusionator body // **b.** Down Control x 1 // **c.** LCD control x 1 // **d.** DIN 5 cable x 1  
**e.** Serial cable DB25 x 1 // **f.** USB cable A-B x 1 // **g.** Power cable (AC cable) x 1.

# PROCEDURE // INITIAL SETTINGS



**g.**  
x1



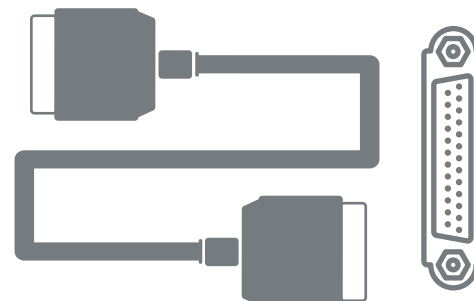
Depending on the geographical area,  
you will be given one of these AC  
cables (one per package).



**d.**  
x1



**e.**  
x1



**f.**  
x1

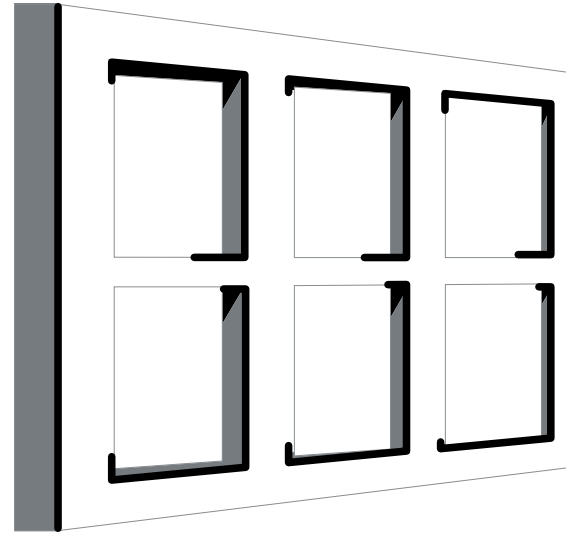


# 1 // WHAT SHOULD BE INCLUDED IN THE PACKAGE?

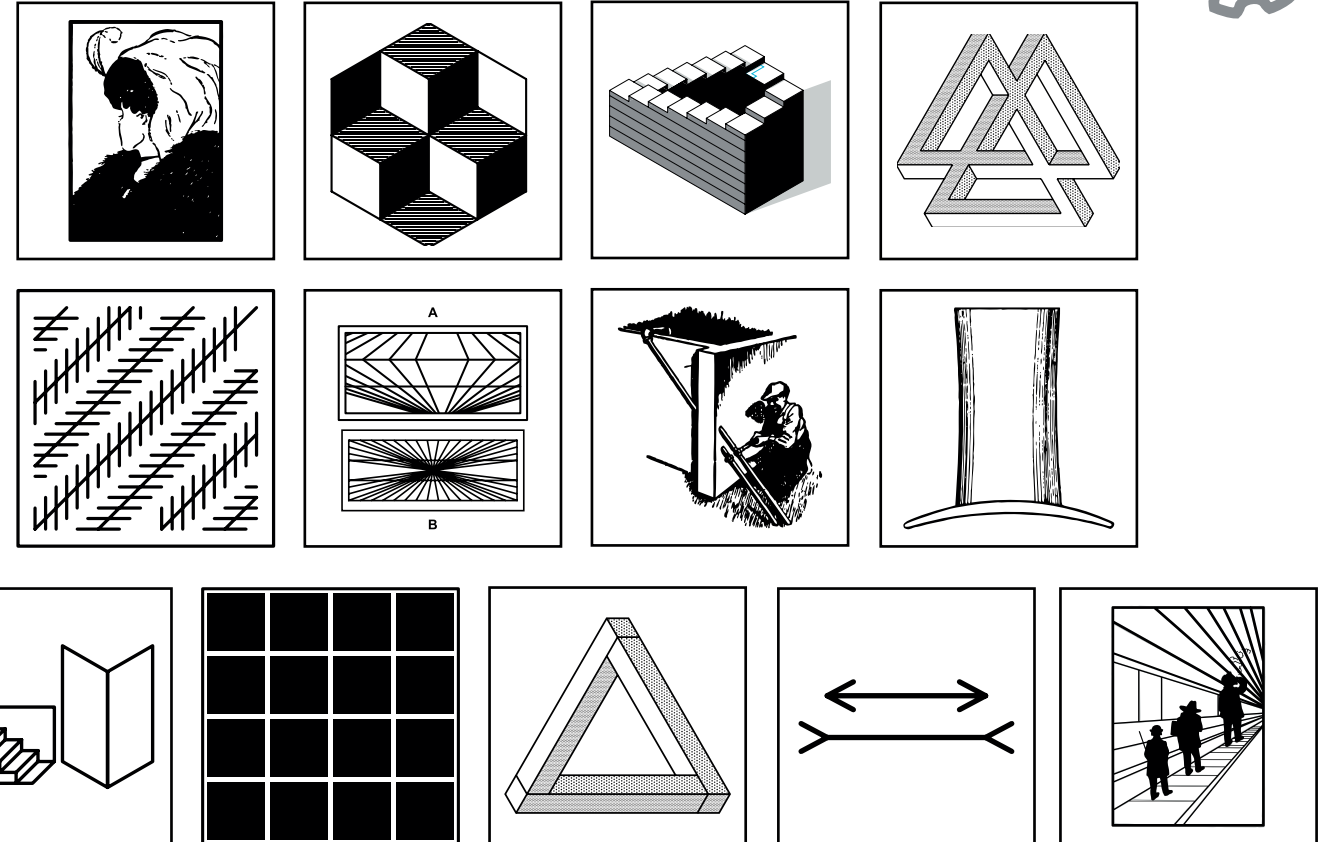
**h.**  
x6



**i.**  
x1



**j.**  
x13



## PROCEDURE // INITIAL SETTINGS



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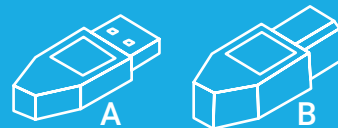
**h.** Illusionator disks x6 // **i.** Illusion window x1 // **j.** Illusion cards x 13

## 2 // HOW TO ASSEMBLE IT? MAIN BODY

### USB CABLE

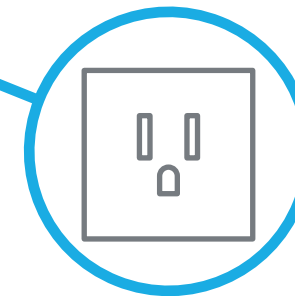
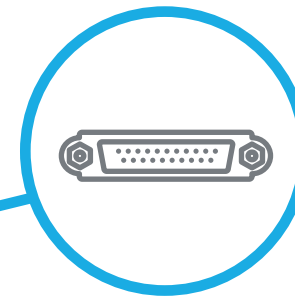
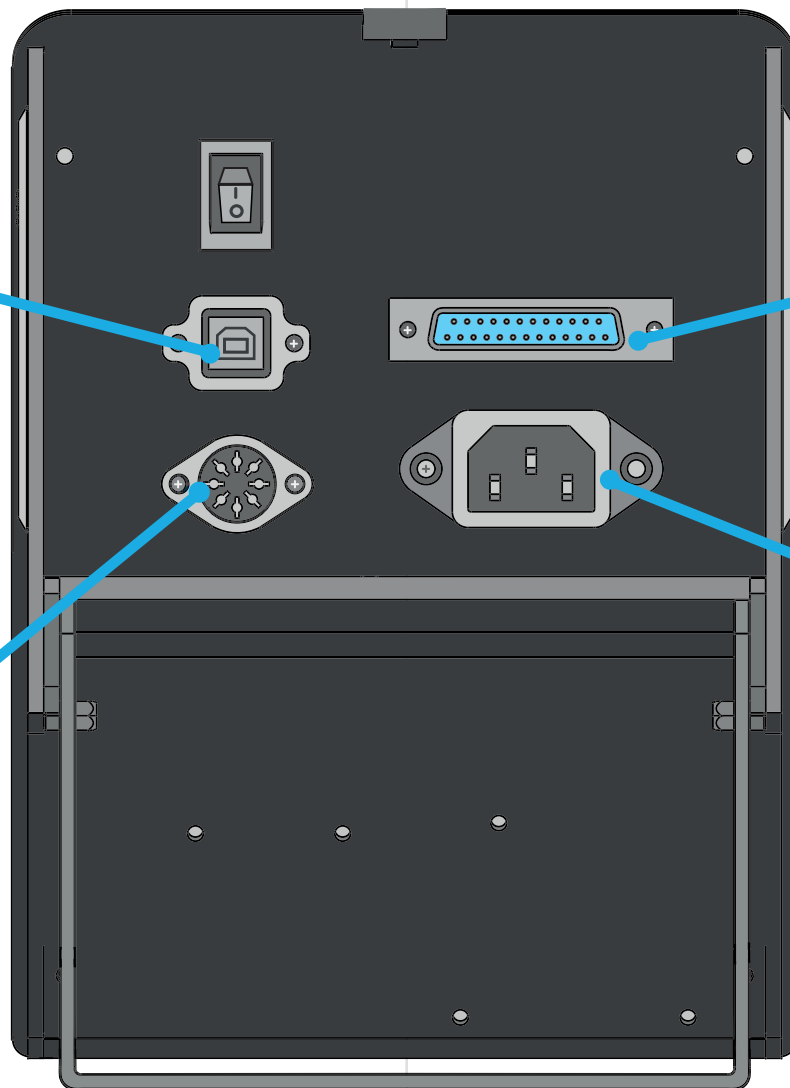
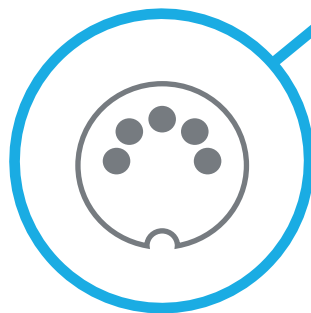
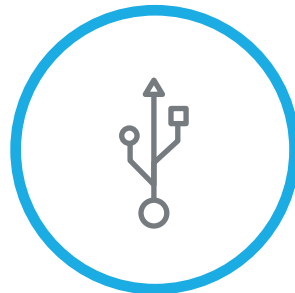
**USE ONLY IF USING CONTROL SOFTWARE.**  
The smallest end B of the USB cable (f) should be connected to this port.  
The opposite end of cable A should be connected to a computer USB port.

This USB cable has two different ends:



### DIN 5 CABLE

Connect the male end of any DIN 5 cable (d) to the Left DIN 5 female left side connector. The opposite end of the cable should be connected to one knob control (b).  
Repeat the process with right side connector.  
\*Knob controls works in any DIN 5 port of this device



### SERIAL DB25 CABLE

Connect the male end of the Serial DB 25 cable (e) to this port.  
The female end of the cable should be connected to the LCD control (c)

### A/C POWER CABLE.

Connect the A/C cable (g) to this port.  
The opposite end should be connected to a 110/220VAC- 50/60Hz power outlet.

## PROCEDURE // INITIAL SETTINGS



## 2 // HOW TO ASSEMBLE? UPPER MOTOR

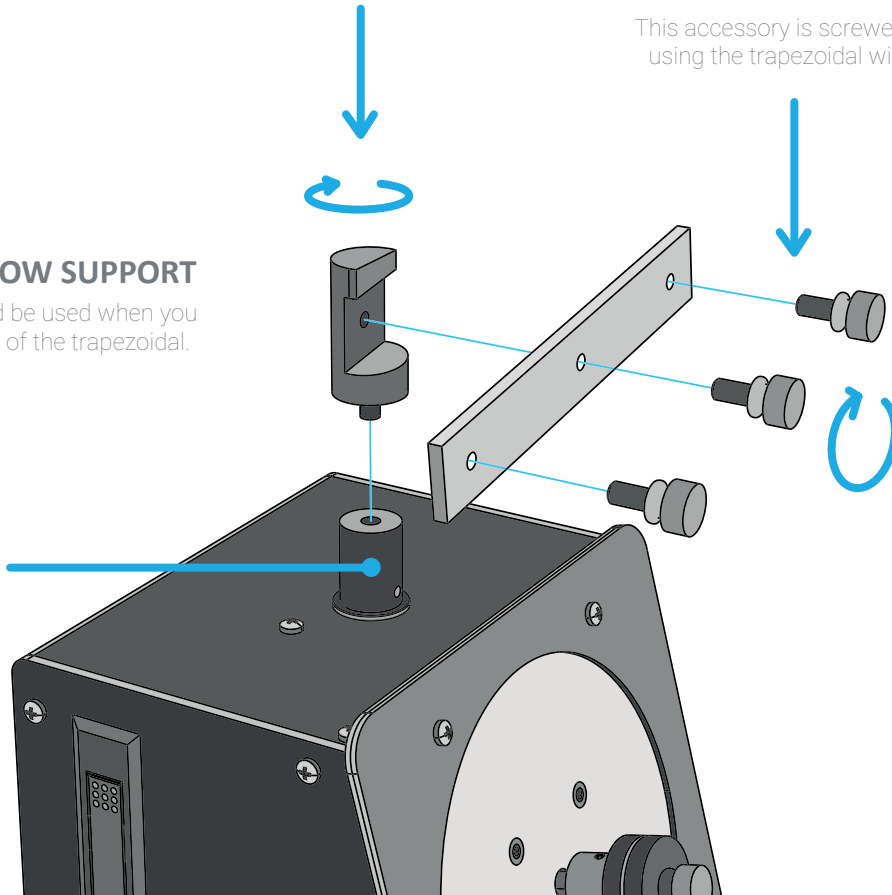
**AME'S WINDOW SUPPORT**  
This fixture should be used when you want to make use of the trapezoidal.

Here comes the trapezoidal

### THUMBSCREW

This accessory is screwed when using the trapezoidal window.

SHAFT



## 2 // HOW TO ASSEMBLE? FRONTAL MOTOR

## PROCEDURE // INITIAL SETTINGS



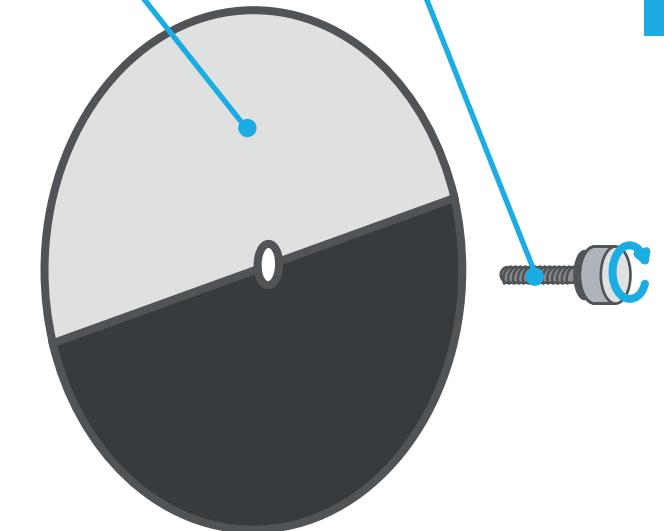
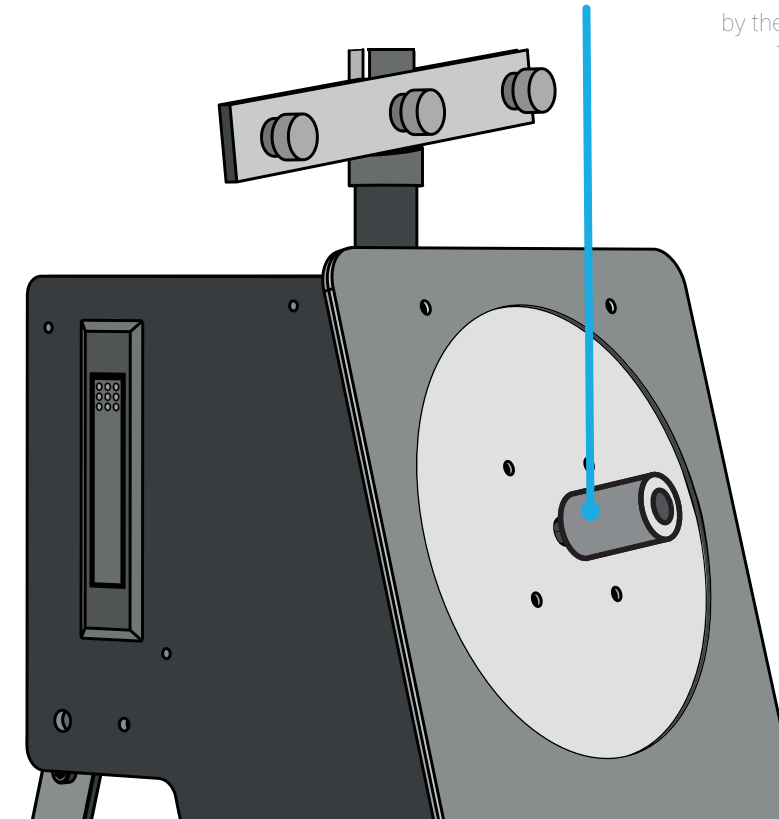
### SHAFT

### ILLUSION DISK

Attach the disk so it is retained by the frontal shaft and the THUMBSCREW.

### THUMBSCREW

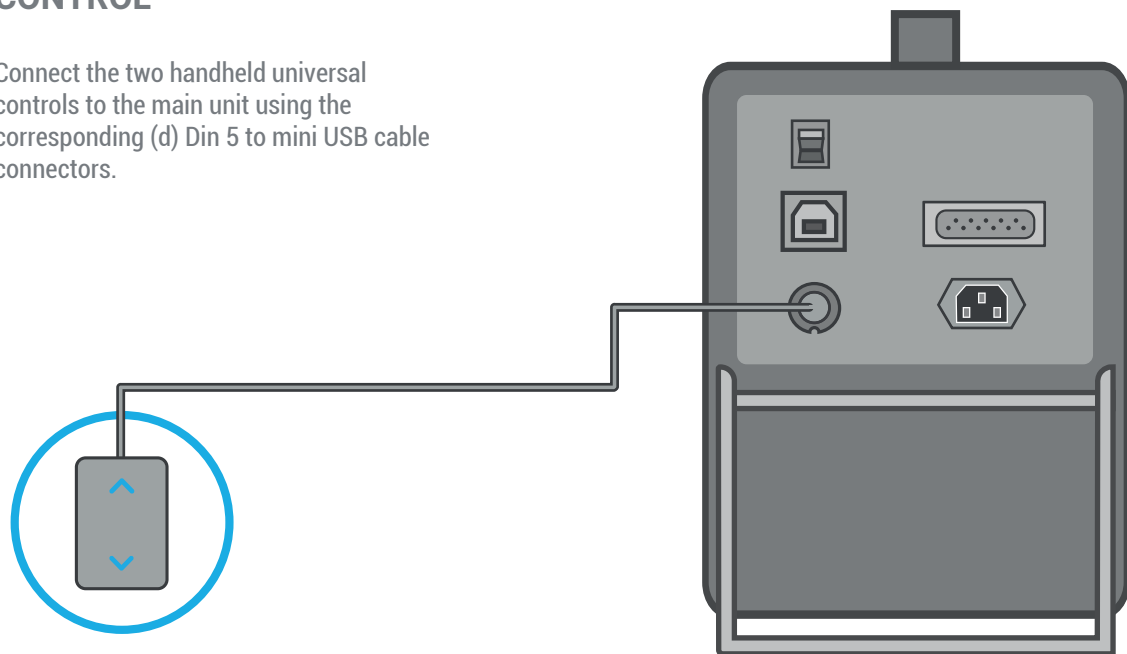
The selected disk will be attached and secured by firmly tightening the THUMBSCREW to the shaft.



# 1" CABLE CONNECTION SET UP

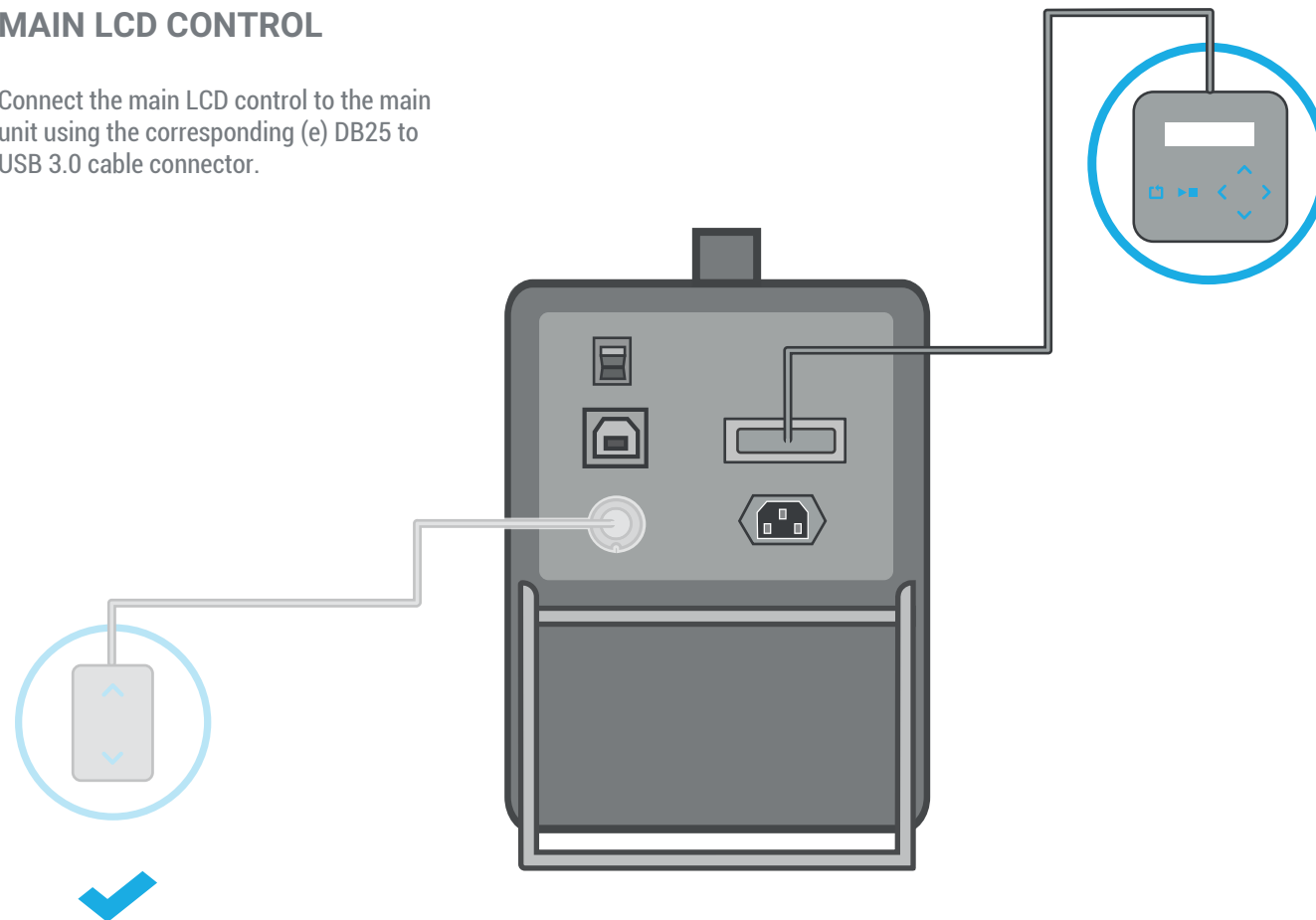
## HANDHELD UNIVERSAL CONTROL

Connect the two handheld universal controls to the main unit using the corresponding (d) Din 5 to mini USB cable connectors.



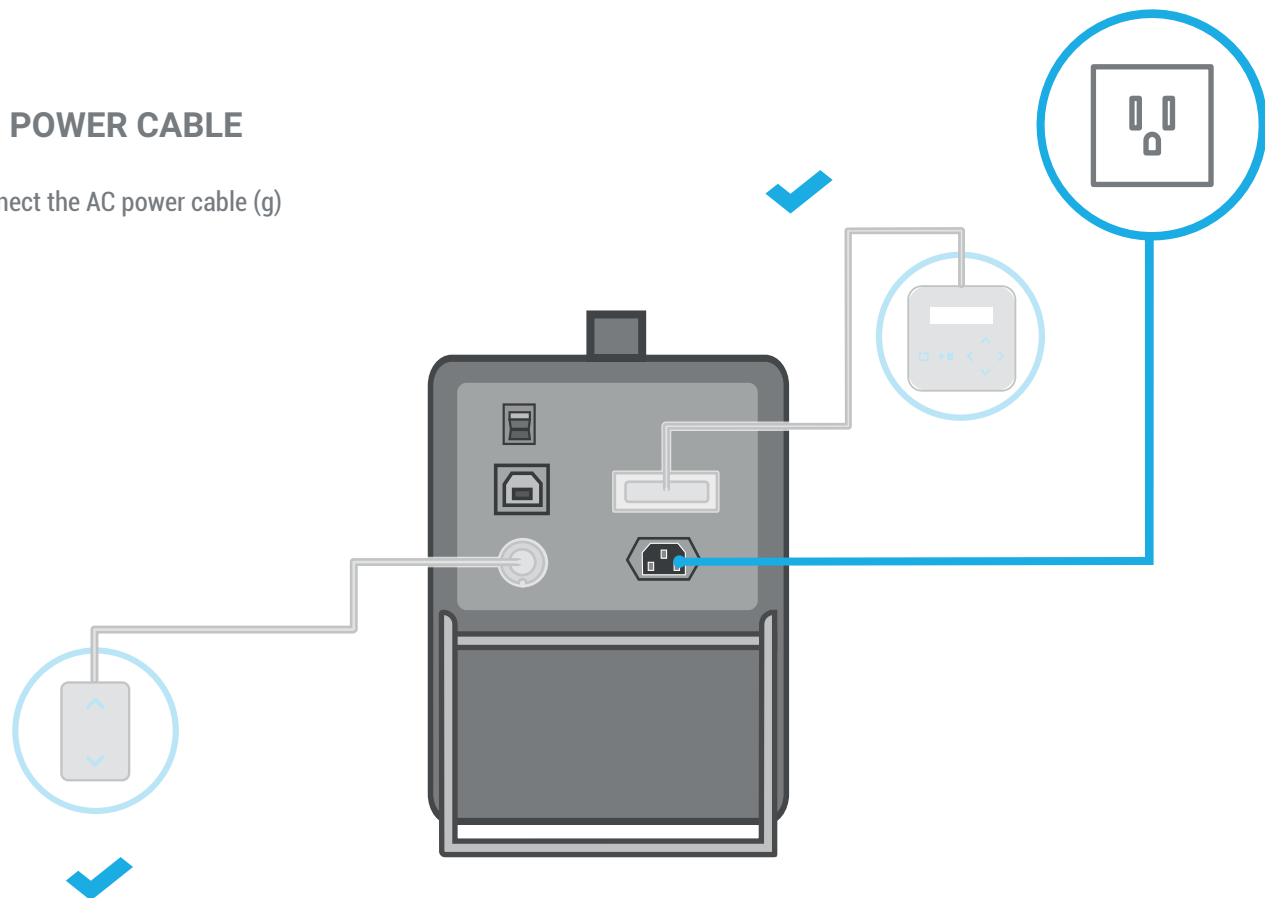
## MAIN LCD CONTROL

Connect the main LCD control to the main unit using the corresponding (e) DB25 to USB 3.0 cable connector.



## AC POWER CABLE

Connect the AC power cable (g)

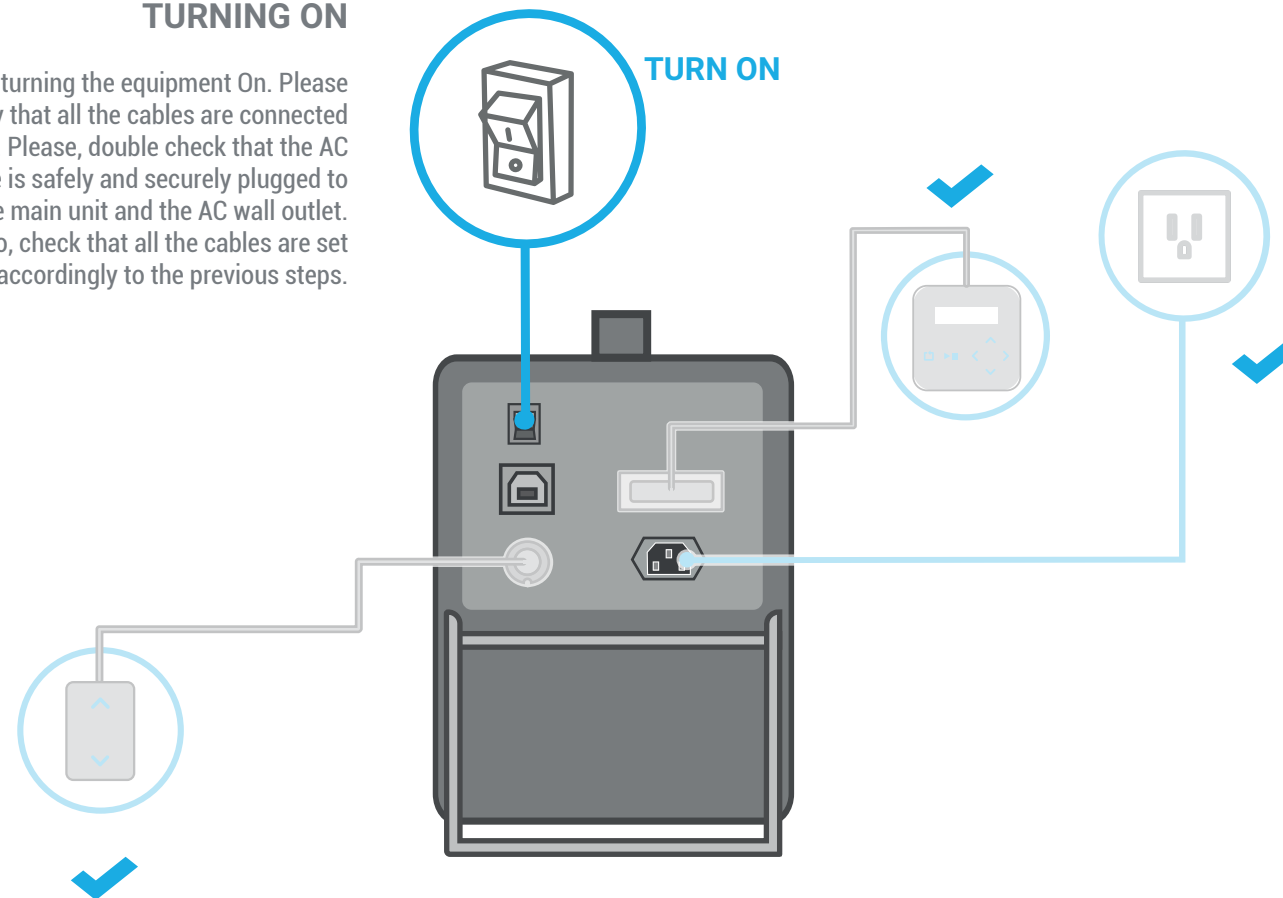


### ATTENTION!

Please verify that the neither (f) USB B connector is connected to the equipment or the USB A connector is connected to the PC when you start the equipment.

## TURNING ON

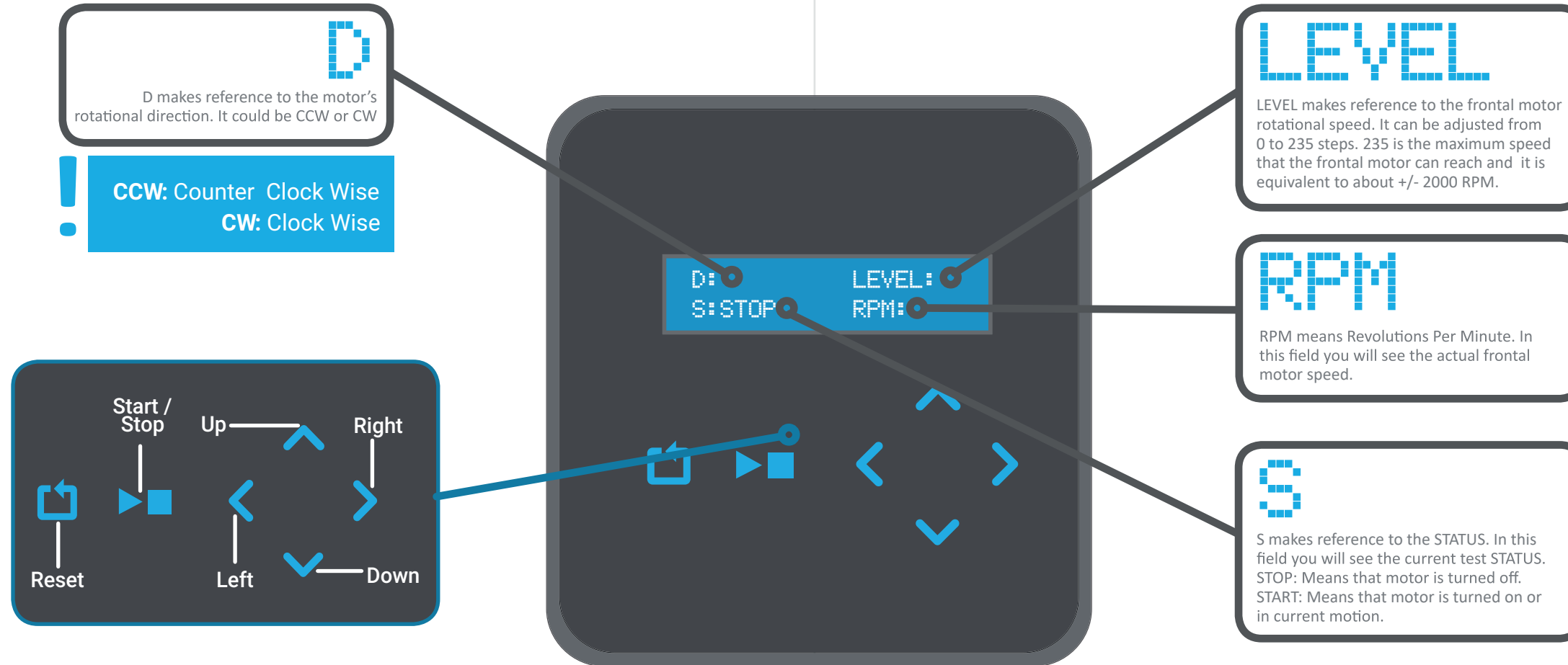
Before turning the equipment On. Please verify that all the cables are connected correctly. Please, double check that the AC power cable is safely and securely plugged to both the main unit and the AC wall outlet. Also, check that all the cables are set accordingly to the previous steps.



If you wish to use this equipment with the controlling software please follow the steps on page 41, else, please continue to follow the next steps, but without plugging the USB cable connector.

### 3 // WHAT DOES IT MEAN?

### PROCEDURE // INITIAL SETTINGS

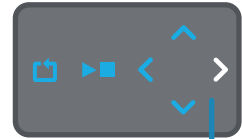




# 1 // SELECT MOTOR'S ROTATIONAL DIRECTION.

a.

Once the device has been plugged and turned ON, follow these steps.



Right

Press the RIGHT button to choose CW direction.

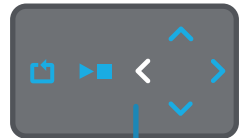


D: CW    LEVEL:  
S: STOP   RPM:



Please note that if no direction is selected during the first step, the system will not start even if the START/STOP button has been pressed.

b.



Left

Press the LEFT button to choose CCW direction.

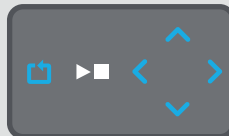


D: CCW    LEVEL:  
S: STOP   RPM:



To choose movement direction, the first step should be accomplished and STATUS should be (S):STOP.

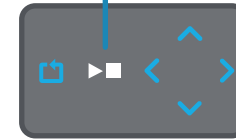
If STATUS (S) is START, and you want to change rotational direction, press START/STOP button until you see STATUS (S) changed to STOP.



# 2 // SELECT ROTATIONAL SPEED. Method 1: Fine Adjustment

a.

Start / Stop



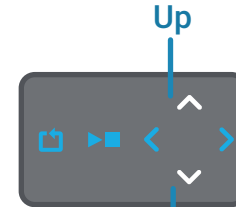
Press START/STOP until you see STATUS (S) changing to START.



D: CW    LEVEL:  
S: START   RPM:

Immediately after STATUS changes to START, both motors will start moving.

b.



Down



D: CW    LEVEL: 120  
S: START   RPM: 1240

By pressing the UP button, the rotational speed will increase.  
To decrease rotational speed, press the DOWN button.

RPM will show the corresponding information for the selected LEVEL.

# PROCEDURE // OPERATING



Assure that all accessories are properly and firmly attached before starting product operation. Failure to comply could cause injury, damage or bad functioning.

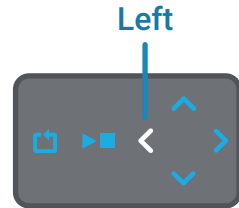


Each time that you press the UP or DOWN key to adjust rotational speed, the level will increase or decrease in one step; but if you desire to increase or reduce speed at a fast pace, press and hold the key until the desire level is reached.

## 2 // SELECT ROTATIONAL SPEED.

### Method 1: Fast Adjustment

a.



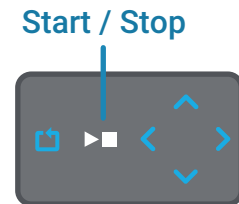
Press LEFT button several times until RPM: ----.



D: CW	LEVEL: 0
S: STOP	RPM: ----

Only when these four dashes appear, will the system be set to use the knob control rotation.


b.



If motion is or has been stopped, press START/STOP button to start operation.



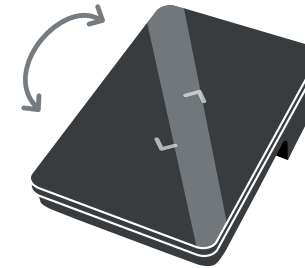
D: CW	LEVEL: 0
S: START	RPM: ----



Please note that if no direction is selected in the first step, the system will not start even if START/STOP button has been pressed.

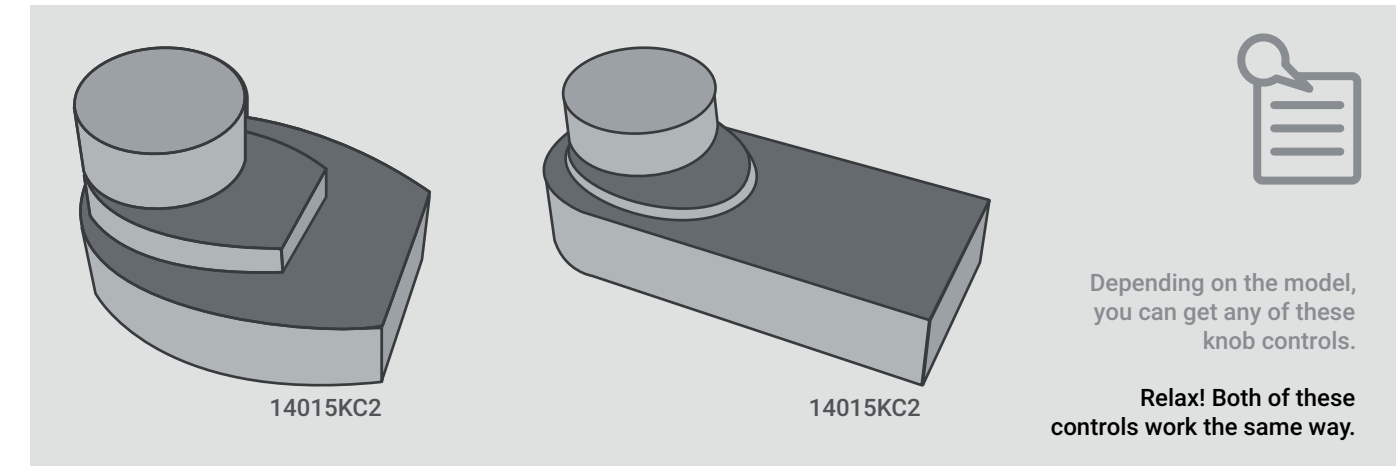
c.

Once the motors begin to move, you will be able to use the knob control to adjust the rotational speed.



D: CW	LEVEL: 120
S: STOP	RPM: 1420

Press any key (but the RESET button) to show actual RPM measure.



## PROCEDURE

// OPERATING



### 3// CHANGE ROTATIONAL DIRECTION.

a.

Start / Stop



Press the START/STOP button if the equipment is currently rotating. The motor's motion will stop.

b.

Select the new desired direction by following the procedure described in STEP 1 (Page. 32).

c.

Start / Stop



Press the START/STOP button again to start the system disk rotation in the desired direction or new direction.



Please note that this product has a volatile memory where the data and movement directionality will be stored. This memory will be erased by turning off or resetting the device.



#### Note

At this point the connection and execution steps have been followed without the software; If you want to deploy the device with this, you can go to:

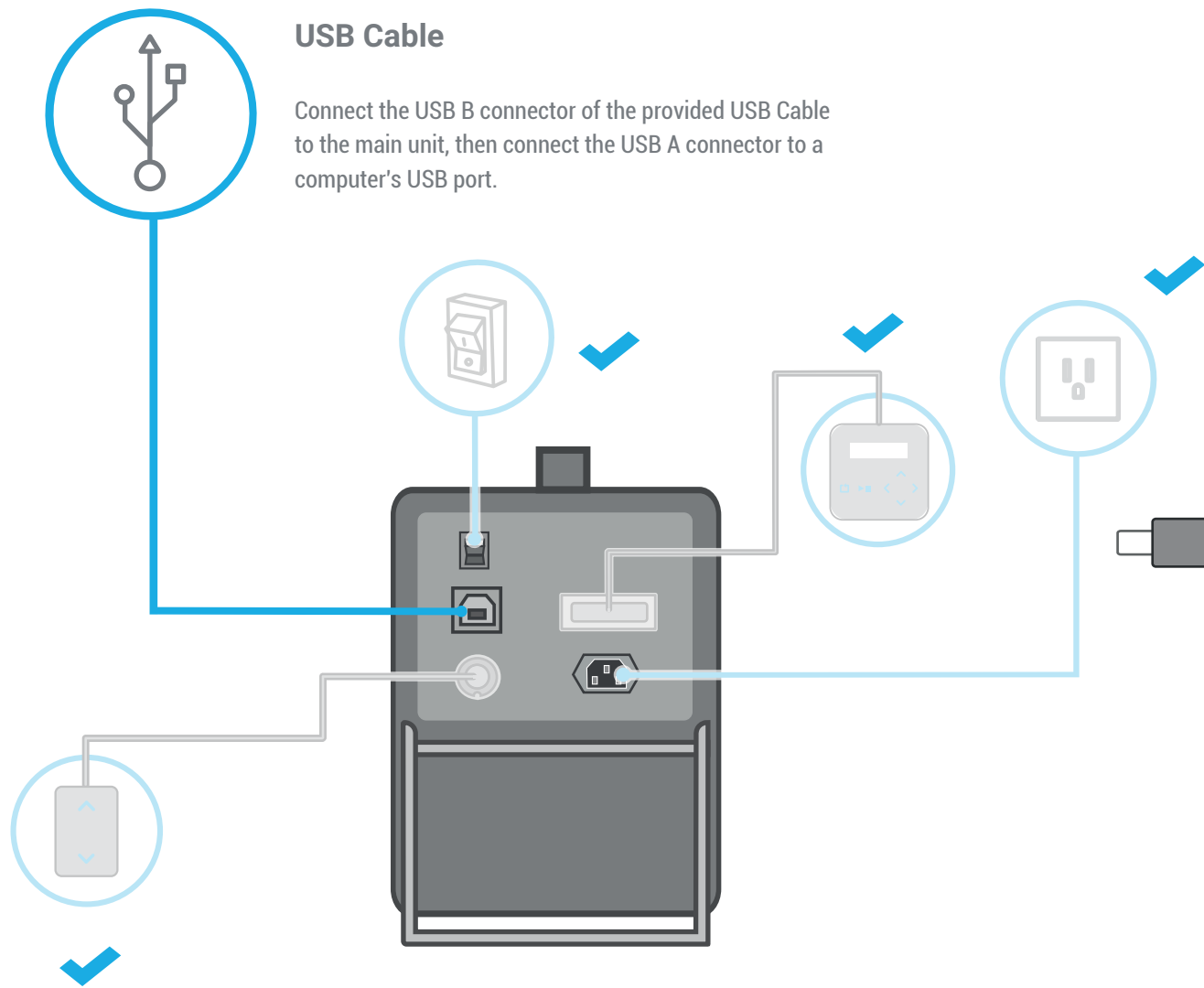
[www.delarosaresearch.com/downloads.php?t=delarosa](http://www.delarosaresearch.com/downloads.php?t=delarosa)

Then follow the steps below to connect your device to your computer.



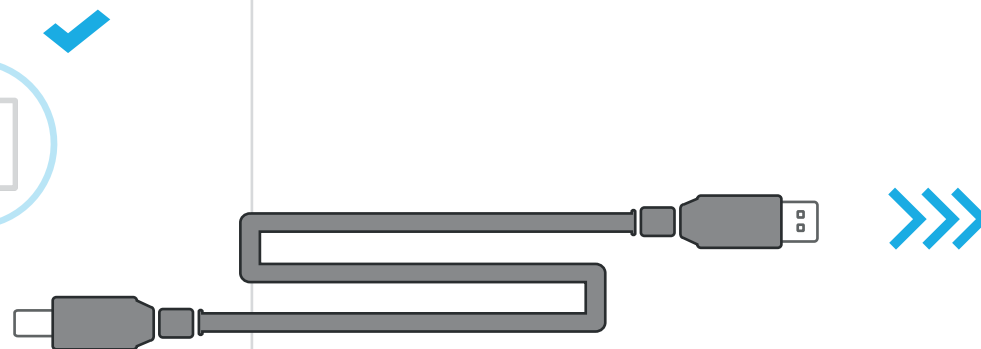
## USB Cable

Connect the USB B connector of the provided USB Cable to the main unit, then connect the USB A connector to a computer's USB port.



## Running the Controlling Software

While the computer is on and OS is running, execute the Controlling software by double-clicking on its icon. Follow up the instructions presented therein.



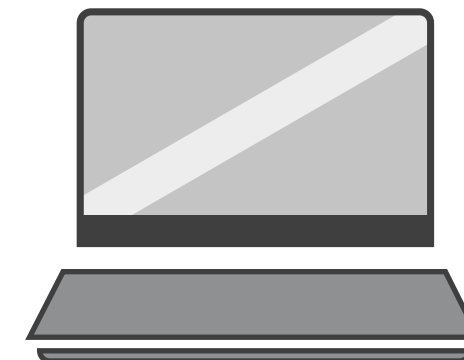
Please keep in mind that the equipment will start the communication protocol once the USB is plugged into the computer. The main unit will re-start automatically and the LCD control will display the re-start sequence. That means the unit has been reset by the computer to initiate the communication protocol.



If you wish to acquire the controlling software please follow this link:

<http://www.delarosaresearch.com/downloads.php?t=delarosa>

TURN ON





**THIS IS THE END OF THIS USER GUIDE.**

This was all the basic information you need for using the ILUSIONATOR SET; but this is just the beginning of the fun.

If there is something that is not clear to you, or if you have any questions, please feel free to contact us at any time.

We will be very happy to hear from you.

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