

MagicBox®

Manual (standard)



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1 Scheme and Product Description

Quick overview of dimensions, weight and material mix of MagicBox®

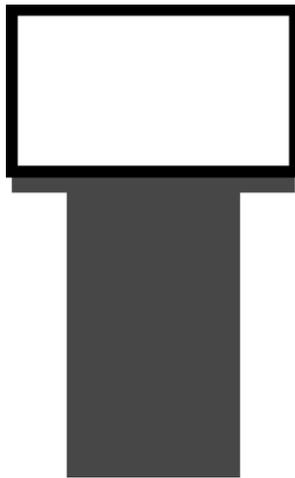
Height: 179,0 cm (incl. adjustable feet at default "0" position)

Width: 99,5 cm

Depth: 57,9 cm

Weight display cabinet: ca. 32 kg

Weight pedestal: ca. 36 kg (plus 65 kg extra steel plates for additional stability)



The MagicBox® is made of a range of carefully selected high quality materials. The cabinet is made of Aluminum, lacquered in RAL 9005 mat. The pedestal is made from sheet steel and is powder coated in RAL 7016 mat. On request, cabinet and pedestal can be lacquered/powder coated in any available RAL color.

Product description

We believe that technology can pave new ways of learning. By combining the best of paper and pixels, we can reinvent what it means to teach and learn.

The MagicBox® is an astonishing innovation that magically fuses traditional display cases with actual hands-on experience. The technology behind it is a special 43" transparent touch screen that is incorporated in the front glass of the display case. The digital content is not projected *on* the glass, it is seemingly *in* the glass. This makes it possible to superimpose images, videos and 3D models on the exhibited object while keeping the same object visible at all time. Print publications, up to now limited to a look-only display spread, will be fully tangible at the fingertips of the audience. Physical objects can be combined with video and 3D animation to enhance the understanding of their functionality and history.



The MagicBox® enables pulsating windows to a world of wonder, enriching exhibitions not only with valuable information, but by making them truly memorable experiences.

2 Technical characteristics

The MagicBox® consists of the following parts:

- An illuminated exhibition vitrine with 4mm laminated safety glass to protect the exhibition item
- LED lighting panels with adjustable light level per enclosed remote control
- A 43" transparent screen with Media Board to superimpose digital content
- An infrared frame to detect the users gestures
- An application software including a Content Management System to edit media material and showcase it on the transparent display
- A high performance PC to run the software in conjunction with the transparent touch screen
- An integrated high-quality soundbar with enclosed remote control

The transparent screen is laminated to a safety front glass with the infrared frame being attached to the front glass. Screen (via Media Board), infrared frame and soundbar are connected to the computer which sits in the pedestal of the MagicBox®. The computer runs the application software that produces the digital content on the screen.

Light levels and environment in the Magic Box

As the Magic Box is an unsealed case with free airflow, the humidity inside the case is likely to be similar to whatever the room environment is (although likely a bit warmer and dryer when the case lights are on). No passive humidity controls within the box are possible. Therefore, objects with humidity sensitivity (such as parchment, photographs, metals, and ivory) would require that the Magic Box be located in a room with acceptable climate control.

With regards to lighting, the visible light levels read from the "ELSEC Environmental Monitor" are an order of magnitude brighter than recommended levels for sensitive objects (50 lux). Although the lighting intensity is adjustable by using the enclosed remote control, objects with light sensitivity (such as colored inks and dyes, e.g. illuminated manuscripts, colored paper, historic photographs, and dyed leather) are not recommended for long-term display. Such materials might be allowed for a one-day/one-week exhibition, if the light is dimmed to an appropriate level.

Computer

The integrated computer is the following:

Dell Precision T3420 SFF (or similar), 16 GB RAM, 256 GB SSD, NVIDIA Quadro 2GB, OS: Win 10

Both the DELL PC and the soundbar (see chapter below) need a permanent AC Power connection. Therefore the 3-way multi plug needs to be plugged in at the “master” outlet of the USB controlled power strip (see pictures below). The power plug of the PC has to be plugged in at one of the 3 outlets of the 3-way multi plug.



Soundbar

The integrated soundbar is the following:

Teufel CineBar One, 4 speakers, 4-channel amplifier with a total RMS power of 80 Watt, remote control

The attached user manual explains the use of the remote control.

The soundbar needs a permanent AC Power connection to avoid a frequent “switch On” via remote control. The power plug of the soundbar has to be plugged in at one of the 3 outlets of the 3-way multi plug.

3 Transport

The MagicBox is cased in two customized wooden transport crates. The dimensions of the crates are as follows:

- Crate 1 (pedestal, including PC, soundbar, steel plates for extra stabilization and vacuum grip)
138 cm (W) x 57 cm (D) x 86 cm (H).
190 kg (36 kg pedestal plus 65 kg steel plates plus 89 kg transportation crate)
- Crate 2 (cabinet)
119 cm (W) x 77 cm (D) x 90 cm (H)
95 kg (32 kg display case plus 63 kg transportation crate)

Client takes care of transport organisation and, if needed, custom clearance and administration.

To navigate the crate on-site a pallet carrier is needed.

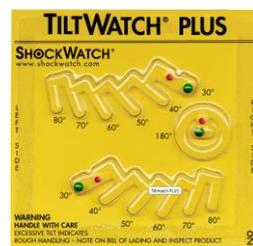


4 First thing to do upon delivery

Inspect the transportation crates of any damages and check whether the shock watch has been activated (in this case the indicator would turn RED, see below). There's also a tilt indicator. It registers positional changes ranging from 30 to 80 degrees, as well as 180 degree rotation (i.e. the package being turned upside down).

Should there be damages to the transportation box, the tilt indicator show a positional change bigger than 30 degrees or the indicator of the shock watch show RED, please do the following:

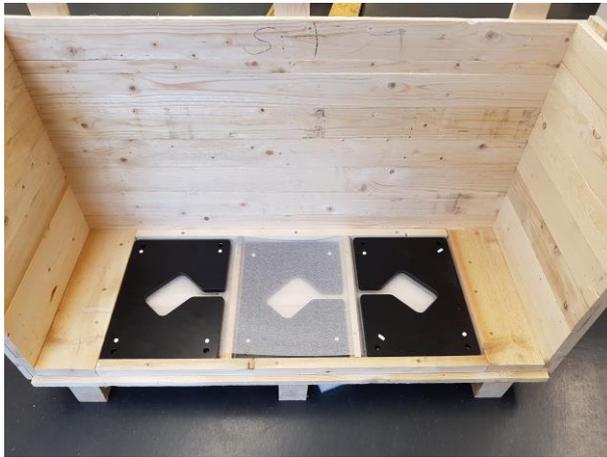
- Note any damages of the crates or the activation of the shock watch on the delivery note (bill of loading).
- Take photos of the damaged areas as well as activated shock watch and/or tilt indicator. It is important to do this documentation before opening the crates as this is the main proof for any insurance matters.
- Report to CCS.



5 Set up

5.1 Unboxing

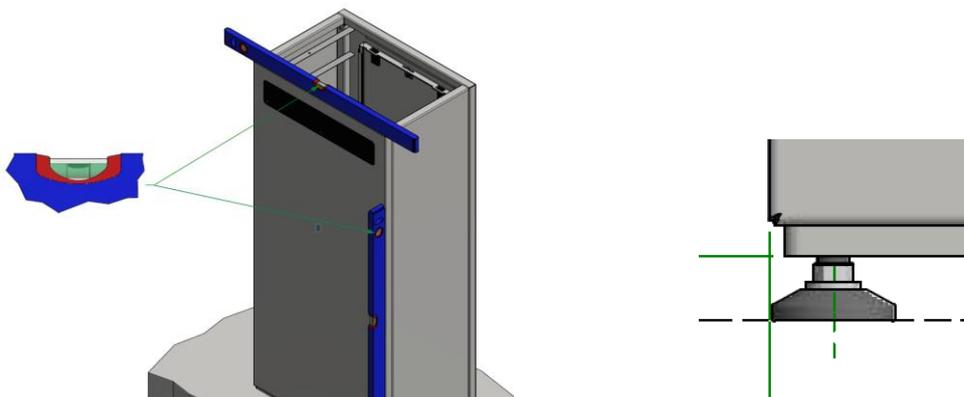
- Unscrew the screws at upper and front side of the crates (see pictures in chapter 3).
- Remove the pedestal from crate 1. Remove the protective foil. The keys for the back door are in the accessories box. The pedestal also comes with 5 extra steel plates (13 kg each) for additional stability. To get access to the plates, the inner bottom plate of crate 1 needs to be removed (see picture below).



- Remove the display cabinet from crate 2. Remove the protective foil.

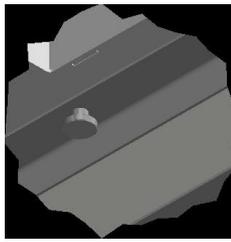
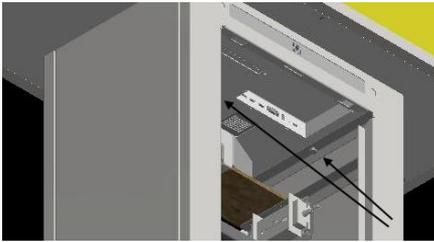
5.2 Installation

- Position the pedestal on the final location of the MagicBox. Door of the pedestal should face backwards.
- Pull electric port through the bottom hole of the pedestal for power connection.
- As the MagicBox® is manufactured in Germany, the electronic cabling inside the MagicBox® (of screen, audio, light etc) is brought together in a German multi-plug. The main power plug is per default the German standard, but an adapter and cables with plugs for UK, USA and AUS are enclosed as accessories.
- Level the pedestal by adjusting the height of the pre-installed feet. As shown in the pictures, use a spirit level and make sure that the small bubble is centered. An open wrench (10 mm) is needed to adjust the feet accordingly.

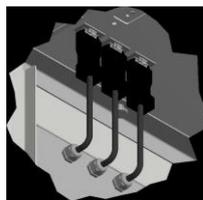
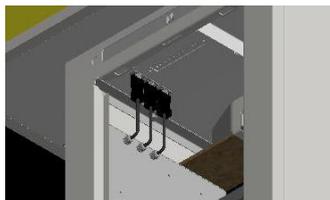


- Position the pedestal on the final location of the MagicBox.

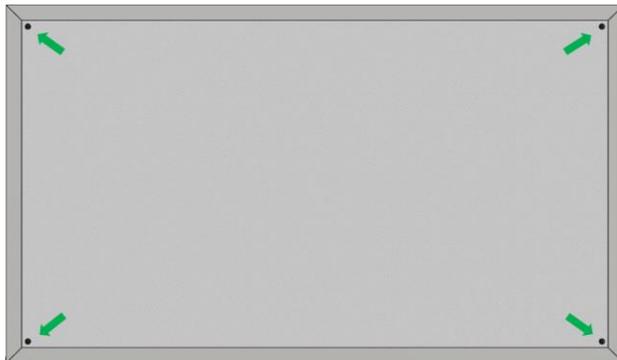
- Place display cabinet on top of pedestal (**32kg, 2 men needed**). Open the backdoor of the pedestal and fix the display cabinet to the pedestal by tightening the 2 knurled thumb screws from inside the pedestal (see illustrations below).



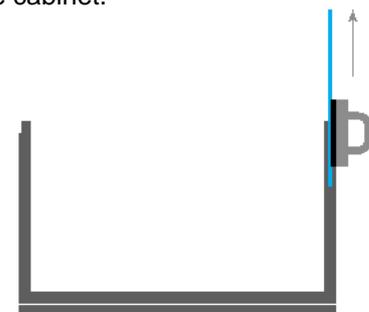
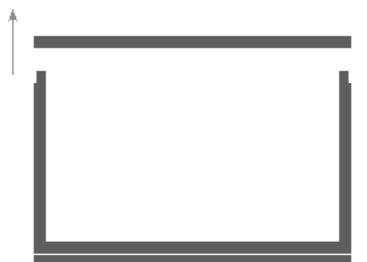
- Plug in the 3 cables connecting the cabinet with the pedestal (see illustrations below).



- On the right side of the pedestal there are 2 cables, one with HDMI plug and the other with USB plug. Connect these plugs with the "HDMI 1"-port and the "USB"-port located at the back panel of the media board, which is mounted to the bottom of the display cabinet.
- Before removing the top lid, unscrew the 4 screws fixing it to the cabinet (see illustration below).

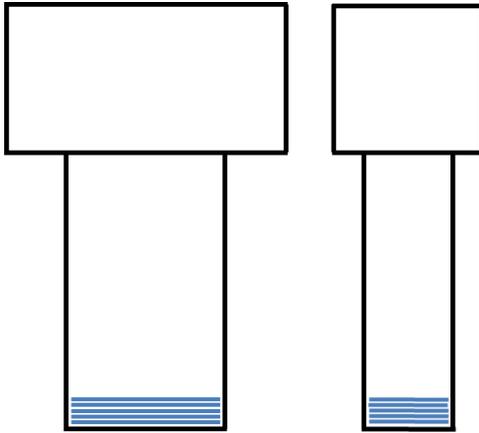


- Carefully remove the top lid of the display cabinet (see illustrations below). Do this parallel on both sides with 2 persons to avoid an unbalanced lift of the top lid!
- Place the enclosed vacuum grip to one of the side glasses of the cabinet (either one) and remove the glass by gently pushing it to the top to get access to the inside of the cabinet.



- Place the exhibited object in the center of the cabinet. In case of a book please use the enclosed acrylic book stand.

- Carefully reinsert and lower the side glass, remove the vacuum grip and carefully (and parallelly!) place the top lid back on the cabinet. Screw in the 4 screws fixing the top lid to the cabinet.
- To allow a safe installation and prevent it from accidental tilting, the MagicBox® comes – like regular display cases – with holes in the bottom of the pedestal to bolt the MagicBox® with the floor. Should the flooring not allow a bolting, there is an alternative to stabilize the display by inserting the 5 enclosed steel plates at the bottom of the pedestal (see illustration below).



- If needed, clean the MagicBox gently with a microfiber cloth and little glass cleaner

5.3 Turn on MagicBox®

- Insert main power plug of MagicBox® to provide MagicBox® with electricity.
- Hit the power button of the PC to boot the computer.
- Double-click MagicTouch App-Icon on touch screen.

5.4 Turn off MagicBox®

- Click in very upper right corner of screen to close MagicTouch App.
- Click on Windows icon in very lower left corner of screen to open Windows menu.
- Click the "Shut down" button in the Windows menu to shut down PC.
- Remove main power plug to completely turn off electricity.

5.5 Boxing

Disassemble MagicBox® by following assembly and unboxing instructions in reverse order.

Please make sure to wrap pedestal and cabinet in protective foil to avoid defect in paint work during transport and storage.

6 FAQ

What is the first thing to do upon delivery of the MagicBox®?

You should check the transportation crates for visible signs of damage. If "tilt" or "shock" indicators are attached to the box, please check those for signs of impact during transport. If damages are apparent or signaled with the indicators, it is important to take pictures before opening the crate as this is our main documentation to prove to insurance that it was damaged on transport.

What tools should I have at hand when installing the MagicBox®?

- A screwdriver or an electric drill to easily remove the screws from the wooden crates.
- A spirit level and open-end wrench (10 mm) to check the angle of the box and adjust the legs at the bottom to make it even.

Is it possible to exhibit very sensitive material?

The MagicBox® needs a strong light source to illuminate the materials on display and create a sufficient contrast on the transparent screen. We do not recommend to exhibit materials in the MagicBox® that are sensitive to light. In this case please use replicates.

Is it possible to link the MagicBox® to the collection via network?

Due to performance issues, we don't recommend to do this. To have a great performance close to tablets on such a large screen, all available performance should be concentrated – thus network is completely turned off by default. The idea is that MB is a teaser, a showcase, but not a view into the archive.

Can the MagicBox® tilt when installed?

The MagicBox® is stable to a certain degree and comes with 5 customized steel plates that can be placed in the pedestal for extra stability. It is also possible to bolt the pedestal to the ground, which is what museums regularly do with their display cases.

Can the software's look and feel be customized?

Yes, at extra cost. Please get in touch with us regarding your ideas.

Is it possible to search for text?

We try to keep the MagicBox® as simple as possible to enable an intuitive use. This is why for the moment we have not yet included a text search, as this might be better done via a normal desktop computer. Theoretically a search option is possible for docWizz processed material.

Can the box read out loud?

If the relevant metadata is available it is technically possible to include a read-out-solution. We have tested it, but felt the usual placement of the MagicBox® in a public exhibition is not the right environment for a sufficient use.

Why does the screen have a slight shade?

The shade is produced by the interspaces of the screen's pixels. This net of "pixel frames" makes the screen image appear a little darker and blurred in relation to a normal glass window. But this slight blur also clearly separates the digital content (in the front) from the exhibited object (in the back) and thus makes using the MagicBox® and watching/reading the digital content a lot more pleasant for the user's eyes.

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