Industrial Hologram Replication Machine

The **EXLIBRO-200R** DATASHEET, **February 2024**

Industrial R2R volume hologram replication machine

The Hologram Replication Machine EXLIBRO-200R is designed to replicate color or monochrome holographic images or gratings from volume reflection holograms onto photosensitive material coated on a film substrate. The principles employed in holographic image copying were invented by experts at Geola. The EXLIBRO-200R comprises two main modules:

Optical Unit: The optical unit is based on a mechanical breadboard that incorporates monochrome or RGB pulse or CW lasers. It includes a variety of essential optical elements and modules to shape the laser beam used for transferring holographic images from the master (drum-glued) hologram to the photopolymer.

Film Guiding Unit: This unit includes necessary film guiding rolls, automatic web guiding devices, sensors, as well as pre-exposure and post-exposure adjustable lighting systems.

The main system parameters of the replicator are controlled via a PC through the provided graphical user interface (GUI). The software also manages pulsed or continuous wave (CW) RGB lasers and a beam combiner unit, which can be supplied together with the Replicator. Additionally, the Replicator's software can implement and control the customer's existing lasers. Various autonomous sensors are incorporated to monitor the condition of photosensitive film tension, copying speed, web counting, and other relevant factors.

Typical Laser Specifications*

Description	Parameter
Width of film track spindles	300 mm
Working width of copying slit	200 mm
Copying drum diameter	97.2 mm
Copy drum in multiples of 25.4 mm	YES
Default slit lighting direction	~45 degrees
Default slit lighting direction adjustment (from – to)	35 – 55 degrees
Slit exposure speed (film track speed)	1…400 cm/min
Laser radiation in the working slit has a flat wavefront in the horizontal plane	YES
Light sensitive materials used	Photopolymer & Silver Halide film rolls
The copying device is designed as touch free separate unit from Film advance unit	YES
Master drum quantity	2 pc.
RGB Laser type	CW or Pulsed
RGB laser wavelengths**	640/532/457 nm
Laser Beam Combiner	LBC-3EC
System requires pressed air supply	up to 6 bar
Light sensitive material supply (Photopolymer or Silver-Halide)	Geola Digital

** Parameters marked typical are not specifications. They are indications of typical performance and will vary with each unit we manufacture.*

*** Other laser wavelengths can be also considered*

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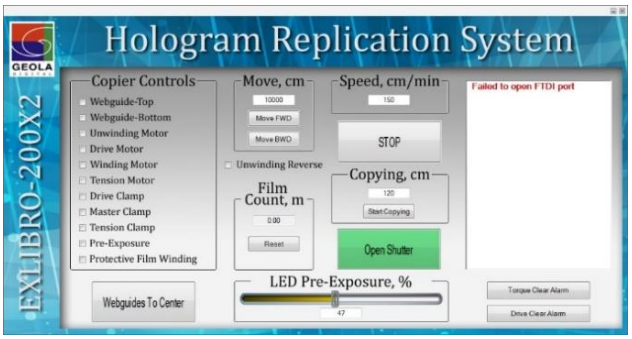
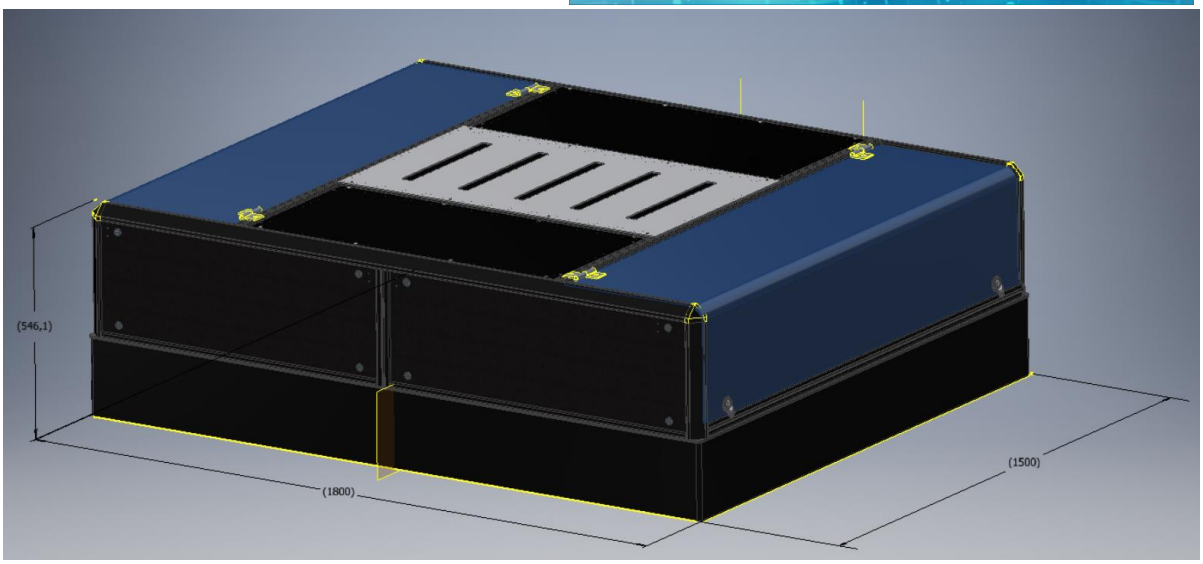
Application and GUI

- Color volume hologram replication
- Replication of volume HOE
- Rewinding film

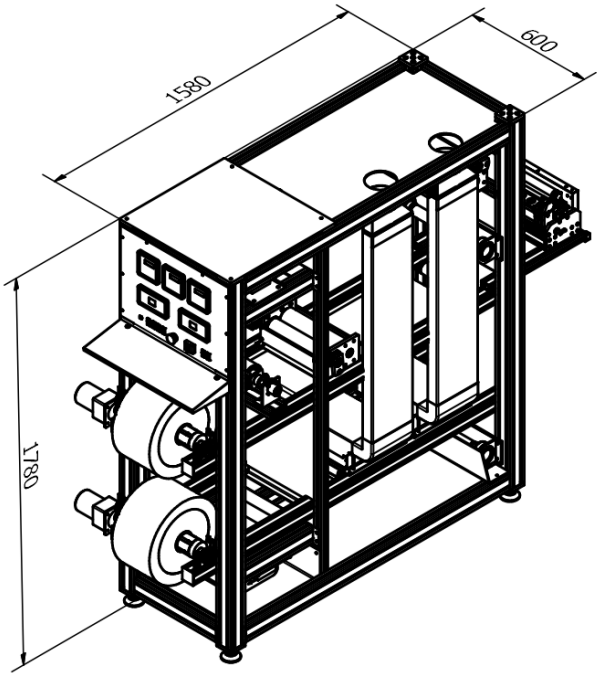


Dimensions EXLIBRO-200R

Optical Unit



Film Guiding Unit



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