



PHOENIX IMAGING, LTD.

Providing Equipment and Tools for Manual Inspection

MIB-170™

Precision Engineered Lighting Equipment



MIB-170™ shown in Standard Configuration
Powder Coated White, HMI in Armrest.

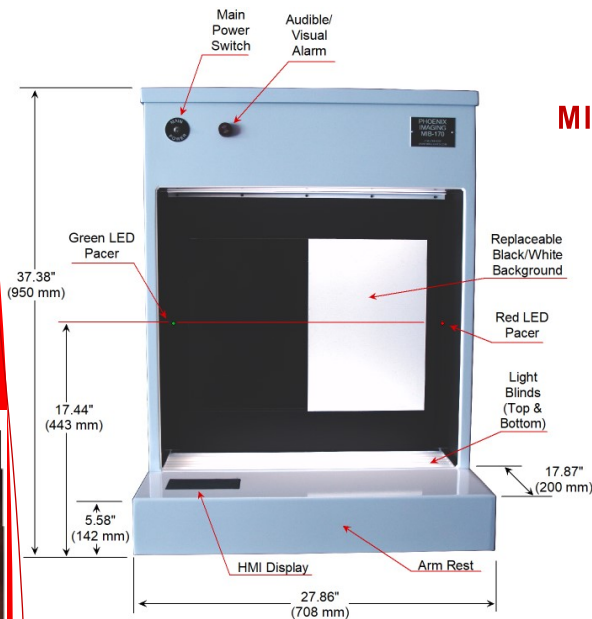
Advanced Dual-Sided LED Lighting System

Top / Bottom Lighting
Bench Top or Floor Standing Units

Manual
Inspection
Solutions
That Work

Technology at Work

MIB-170™ MANUAL INSPECTION BOOTH



MIB-170™ Standard Configuration. System available in Powder Coat White or Stainless Steel (optional).

Like any of the great products that Phoenix Imaging offers, the MIB-170™ comes from a long line of innovative lighting products designed specifically for manual inspection of pharmaceutical products. The MIB-170™ is part of the next generation of the inspection products. The MIB-700™ provides all of the advantages of the Top / Bottom lighting system plus the benefits of LED lighting.

The basic principle of using a dual illumination design to provide a large uniform inspection volume has remained a constant design criteria. The original design (pioneered by Julius Z. Knapp and Gerald W. Budd) provides the basis for consistent results when performing manual inspection of parental products.

The MIB-170™ offers a light intensity range or 2,000 to 12,000 Lux. The dual LED lighting system uses a feedback circuitry that maintain constant luminous flux from the LED modules.

MIB-170™ DESIGN BENEFITS

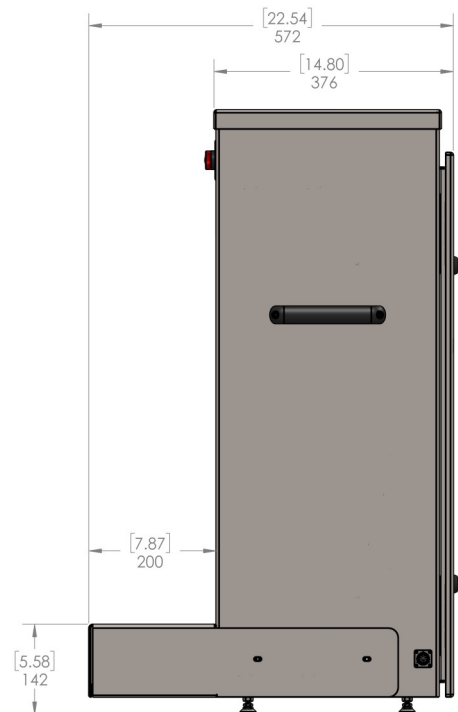
The core of the MIB-170™ design is based on the Dual-Sided lighting system which provides a very large inspection volume (>10 L). The light intensity in this volume will vary by less than 10%. This is made possible by the light entering the inspection volume from both the top and bottom directions. As one moves further from one light source, the light intensity from that source will decrease while the light intensity from the opposite source will increase, keeping the total light intensity approximately the same.

The lighting system uses advanced 3622 LED lighting controller with photo-diode monitoring to maintain a constant luminous flux for the life of the LED modules. The LED lighting controller will automatically adjust the current to keep the LED module output at the user specified intensity. The DC lighting controller provides constant current to the LED modules and provides constant "flicker-free" lighting inside the inspection volume. The light intensity in the inspection volume can be adjusted between 2,000 and 12,000 Lux¹.

flexible solutions for your inspection needs

The MIB-170™ product is superior to single sided LED lighting configurations because it offers a larger uniform inspection volume. The inspection volume is not only uniform in the MIB-170™ it is also deep, 200 mm from the front opening to the Black/White background. This is very useful when inspecting large volume containers (>100 ml) and IV Bags. The design allows the inspector greater latitude in holding the product in the inspection volume with a consistent light intensity. Since the Probability of Rejection (P_R) is directly proportional to the light intensity in the inspection volume, a more consistent inspection result will be obtained.

When ordering the system can be configured to mount the HMI display on the upper portion of the enclosure front or on the armrest (standard). The depth of the system is about 22.5" from the front of the armrest to the back of the enclosure. It is designed to easily fit on the surface of a standard desk. "No Mar" low-profile adjustable leveling feet of the MIB-170™ allow it to rest on most surfaces.



RIGHT-SIDE VIEW

¹—The maximum intensity depends on the diffuser selected for use in the MIB-170™. There are several diffuser options that allow for higher or lower light intensity ranges, consult factory.

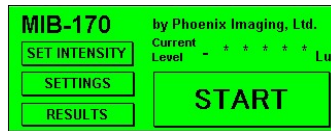
MIB-170™

Optional Components

The MIB-170™ offers optional components to customize a system to meet your exact inspection requirements.

MIB-170™ - Standard with Digital Light Intensity Control:

This feature allows the user to simply input the desired intensity value for the center of the booth and the system will go to that intensity.



Stainless Steel Components Option:

The external and internal components of the MIB-170™ may be built with stainless steel. Enclosure, light plates and electrical sub-panel allow use in clean room environments or when cleaning agents may be aggressive.

Light Curtain Option (LCO):

This option is available on MIB-170 units. The LCO issues that the inspector performs the inspection for the proper duration. Removal of sample prior to specified inspection duration generates an alarm. Alarm must be serviced before inspection sequence is allowed to continue.

Diffuser Adjustable Light Intensity Ranges:

The system comes standard with a BASE diffuser that provides a light intensity range of 2,000 to 10,000 Lux. Optional D1 & D2 diffusers will reduce the range to from 1,000 Lux or extend to 14,000 Lux with VMU1200 LED lighting modules. The LED modules and Diffusers must be selected at Time of Order.



Plastic Catch Basin:

This option is available on all MIB units. The basin is designed to prevent product from entering the MIB interior. It will also prevent small vials from breaking in the unit if dropped. The Catch Basins are available in 500 ml or 2500 ml volumes.



Top and Bottom Blinds:

This feature is standard on all versions of the MIB-170™. The blinds prevent direct viewing by the inspector of the MIB interior in the normal inspection position.

Steel Cart Option:

The cart may be ordered in steel that is powder coated in White or fabricated in stainless steel. The cart can be ordered with fixed height of 29.5" or with hydraulic legs. The hydraulic leg option allows the height of the cart top to be raised or lowered by 300 mm with the press of a button. The hydraulic pump is self-leveling and has an automatic stop valve that prevents the booths from lowering should a power failure occur. This option must be ordered at the time of MIB fabrication and includes stainless steel motor/pump shroud.



CUSTOM SOLUTIONS

Not all manual inspection projects can be performed using standard products. Some of the applications require custom hardware or system calibration. Phoenix Imaging will work with customers to create a Custom Tailored Solution (CTS) to meet exact customer requirements for both fit and function.



CALIBRATION SERVICES

When customer service is required we offer both On-Site and On-Line whenever possible. The Calibration service provides customers with the knowledge that their lighting system has been balanced and functioning correctly. All calibrations are performed using NIST traceable light meters and instrumentation.



EBUSINESS SOLUTIONS

Continuous product improvements often require modifications to the inspection software. Any changes to a customer's application are automatically logged in the secure project server. Any version of a customer's application is available for download upon request.

MIB-170™ Specifications

System Power Requirements:

115VAC, 4.0 A, 1 Ø (Hydraulic Lift add 2 A)

220VAC, 2.0 A, 1 Ø (Hydraulic Lift add 1 A)

Width (without handles): 708 mm (27.9")

Width (with handles): 820 mm (32.6")

Depth (without armrest): 376 mm (14.8")

Depth (with armrest): 572 mm (22.5")

Stand Option:

Height (without Hydraulic Lift): 795 mm (31.3")

Height (maximum with Hydraulic Lift Option): 1170 mm (46.1")

Height (minimum with Hydraulic Lift Option): 870 mm (34.3")

The MIB-170™ system is offered as 100—220 VAC and 50—60 Hz. Please specify the geographical region in which the MIB-170™ will be used at the time of order. All of the MIB Lighting Controllers are now equipped with Power Factor Correction (PFC) to meet European and world standards for operation. The Operator Interface Display now has a built in SD slot to allow easy software upgrades. They are equipped with removable diffusers for easy intensity range adjustment. The **Digital Intensity Control** makes changing the light intensity as simple as a push of a button. (Supervisor key allows access to programming switch on front of enclosure).

Other Phoenix Imaging PRODUCTS

- **MIB-140™ Low Cost Entry Top-lighting Unit, Benchtop**
- **MIB-150™ Dual-Sided Lighting System, Benchtop, Left-Right Light Path.**
- **MIB-160™ Dual-Sided Lighting System, Benchtop, Top-Bottom Light Path, LED Lighting.**
- **MIB-180™ Dual-Sided Lighting System, Floor Standing, Top-Bottom Light Path, Basic System, No PLC.**
- **MIB-190™ Dual-Sided Lighting System, Floor Standing, Top-Bottom Light Path, stainless steel arm-rest, large hooded work area, hydraulic height adjustment.**
- **MIB-200™ Dual-Sided Lighting System, Floor Standing, Top-Bottom Light Path, Corian arm-rest, PLC and Pacer Controls, (this model is the Industry Standard).**
- **RLPS™ Referee Level Particle Standards and Challenge Sets, Vials, Cartridges and Syringes.**

Our instrument laboratory is equipped with the latest optical, illumination and image processing technology. We have designed over 500 different types of lighting modules, including Custom and Standard models of High Frequency Fluorescent and LED lighting. A full line of advanced machine vision systems using the latest image processing technology. Whether the application requires intelligent vision sensors or high speed multiple-core vision processors, Phoenix Imaging offers a solution for your unique application.

Phoenix Imaging offers a wide range of special machine vision tools for a wide range of applications. From simple filter paper particle counters to non-destructive in-situ vial / cartridge particle detection / measurement systems. Phoenix Imaging will offer to perform an in-depth evaluation of your project for a nominal fee. The engineering fee may be applied to the project cost if feasibility is demonstrated and the customer decides to proceed with the project.

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