

Installation/Operating Instructions

220v Micro Projector Lift by Draper

These Installation/Operating Instructions are available in the official language of the country where you purchase the product. Please contact your distributor to request a copy.

Vous pourriez demander les instructions d'installation et d'opération traduites dans la langue officielle du pays où vous achetez le produit. Veuillez demander à votre distributeur.

Die Gebrauchsanweisung für Installation und Konstruktion sind in der offiziellen Sprache des Landes, indem Sie das Produkt gekauft haben, vorhanden. Fragen Sie die jeweilige Verkaufs-Abteilung.

Caution:

- ① Read instructions completely before proceeding.
- ② Follow instructions carefully. Installation contrary to instructions invalidates warranty.
- ③ Do not obstruct operation of Micro Projector Lift with fingers or any object. Serious injury or damage could result.
- ④ The Micro Projector Lift is designed to accommodate ceiling suspended equipment. Equipment should not be allowed to rest on ceiling closure during operation. (Refer to section titled "Installing Projector.")
- ⑤ Entire bottom of unit must be unobstructed to permit proper operation.
- ⑥ Unit must be installed level (use a carpenter's level).
- ⑦ Unit operates on 220V AC current.

Note: Unit has been thoroughly inspected and tested at factory and found to be operating properly prior to shipment.

Planning

- ① Based on screen location and projector specifications, determine proper position for projector installation.
- ② Confirm that there is adequate space for installation and operation. Minimum clearance above ceiling level varies according to Micro Projector Lift plus height of projector, optional projector mounting bracket, optional ceiling closure, and optional plenum rated housing.
- ③ Arrange to provide service access to the unit.

As Soon As Micro Projector Lift Arrives

- ① Open carton and inspect for damage.
- ② Locate the following parts:
 - A. The unit itself;
 - B. Controls;
 - C. Any optional equipment.

Hanging Unit

The Micro Projector Lift is provided with four (4) holes with $\frac{5}{16}$ "-18 clinch nuts provided for suspending or direct mounting the unit. The unit should be guy wired or blocked to prevent swinging.

All installations should observe the following guidelines:

- ① Installer must ensure that all fasteners and supports are of adequate strength to securely support Micro Projector Lift and projector.
- ② Fastening methods must be suitable for mounting surface, and securely anchored so that vibration or abusive pulling on unit will not weaken installation.
- ③ Bottom of unit must be unobstructed after installation. Sufficient clearance must be allowed below projector or optional ceiling closure.
- ④ Do not use unit to support adjacent ceiling, light fixtures, etc.
- ⑤ Do not complete the ceiling below unit until electrical connections have been completed and unit has been operated successfully.
- ⑥ We recommend that safety cables be attached to the Micro Projector Lift for added security (a sound installation practice with overhead equipment).

DRAPER

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Electrical Connections

Unit operates on 220v AC, 50 Hz. current.

The Micro Projector Lift is shipped closed, with a temporary field connection provided in the form of a pigtail temporarily wired to the unit. After hanging the unit, make sure power is off and use this pigtail to temporarily connect the unit to power and to a switch, so the unit can be lowered to allow access inside.

Please note: Make sure electrical supply has been disconnected before attempting to connect MPL to power.

Terminal strip for field connections is located inside the unit on the left (as seen from front, or non-scissored end). Unit is shipped with internal wiring complete to the terminal strip. Once the unit has been lowered, turn off power, disconnect temporary pigtail from unit, then complete permanent wiring to electricity and to switches. Wire to connect unit to power supply and to switches should be furnished by installer. Connections should be made in accordance with wiring diagram, and wiring should comply with national and local electrical codes. All operating switches should be "off" before power is connected.

Micro Projector Lift should be operated and checked prior to installing projector and/or optional ceiling closure.

Operation

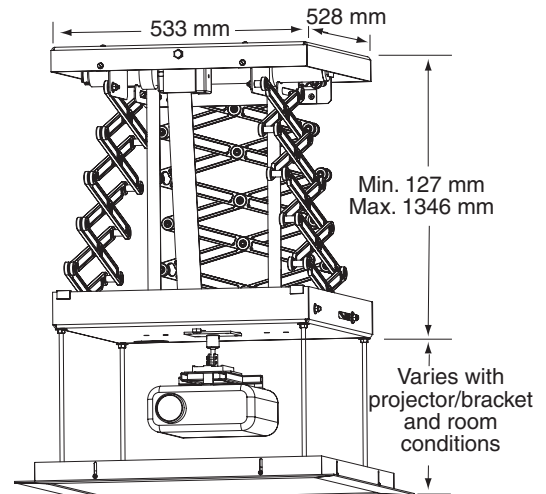
When unit is first operated, be cautious! If unit fails to operate when the switch is flipped "down", return switch to "off" and recheck electrical connections before proceeding. Cycle unit down and up several times to confirm satisfactory operation.

220V Single Station Control (CE Approved)—3-position UP-OFF-DOWN switch permits operation to be stopped at any point. Factory set limit switches automatically stop lift when fully down or fully up.

220V Multiple Station Control (Not CE Approved)—Switches are similar in appearance to Single Station Control. Lift stops when switch is released and may be restarted in either direction. Factory set limit switches stop lift automatically when fully up or fully down.

24V Control (Not CE Approved)—Three-button UP-STOP-DOWN switches stop at any point desired, operate in any sequence. Factory set limit switches automatically stop lift when fully up or fully down. Wireless controls—whether infrared or radio frequency—interface with low voltage control box.

Key Operated Switching (Not CE Approved)—Two kinds of key-operated switches are optionally available with this unit. ① The key-operated power supply switch controls power to the lift and switches. When it is "off", the switches will not operate lift. Key may be removed from the switch in "on" or "off" position. ② A three-position key switch permits the lift to be operated directly by key. In this case, the lift's operator must have a key.



If you encounter any difficulties installing or servicing your Micro Projector Lift, call your dealer or Draper, Inc. in Spiceland, Indiana, 765-987-7999, or fax 765-987-7142.

Installing Optional Plenum Housing

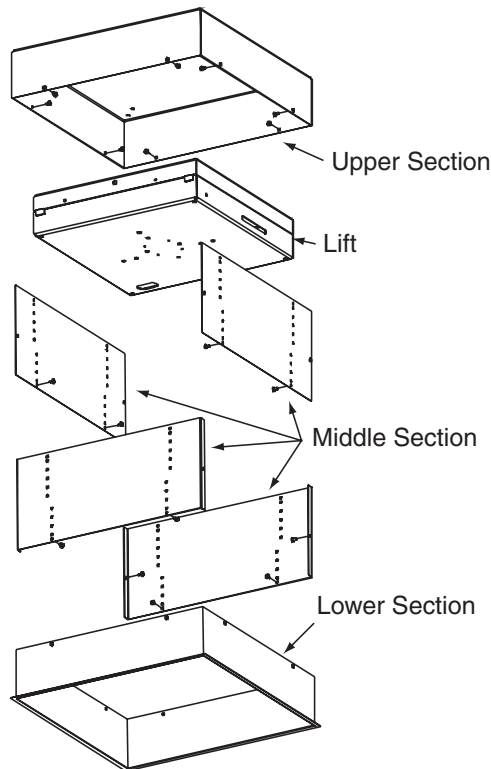
The Plenum Housing is shipped pre-assembled in its shortest position. The height of the plenum can be adjusted by moving the screws to different mounting holes in side panels. You can install the plenum housing in a pre-assembled state or as separate components, which will require that the plenum housing be completely disassembled prior to installation.

Please Note:

If the plenum is to be installed in a space where there is no access from above the plenum, then it is recommended that the Micro projector Lift be installed to the upper section prior to installing the plenum housing.

Please refer to drawing below for these instructions.

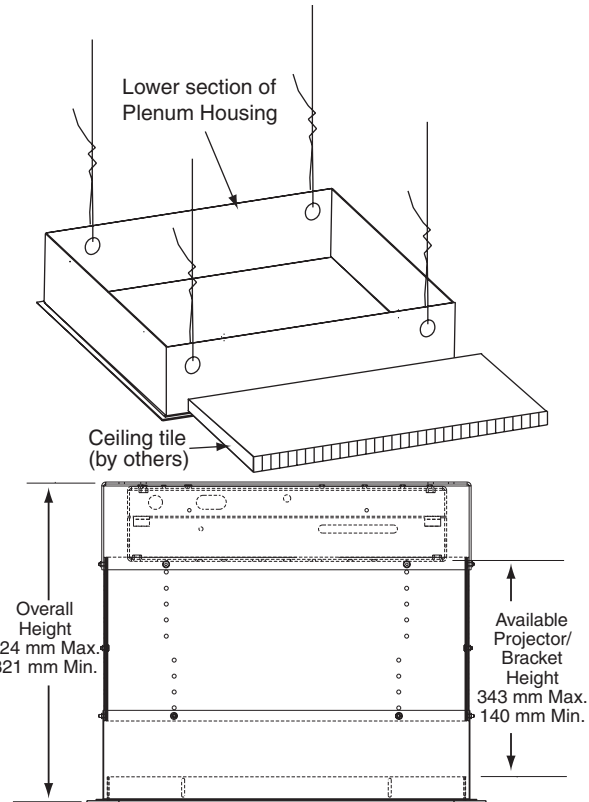
- ① Install top section of plenum housing using outer four holes located on top of upper section.
- ② Attach Micro Projector Lift to upper section of plenum housing through the inner four holes in the upper section with the $\frac{5}{16}$ "-18 x $\frac{7}{8}$ " hex head screws, $\frac{5}{16}$ " flat washers, and lock washers provided with plenum housing. The lock washers should be used *above* the plenum housing (one per screw); the flat washers should be used *between* the plenum housing and the MPL (three flat washers per screw).
- ③ Attach the two flat panels of the middle section across from each other with the clinch nuts to the outside of the housing.
- ④ Attach the two middle section panels with the formed ends across from one another.
- ⑤ Attach lower section of plenum housing.
- ⑥ Use 25 mm foil tape (roll provided with plenum housing) to cover any unused screw holes in plenum housing.



Installing Optional Ceiling Trim Kit

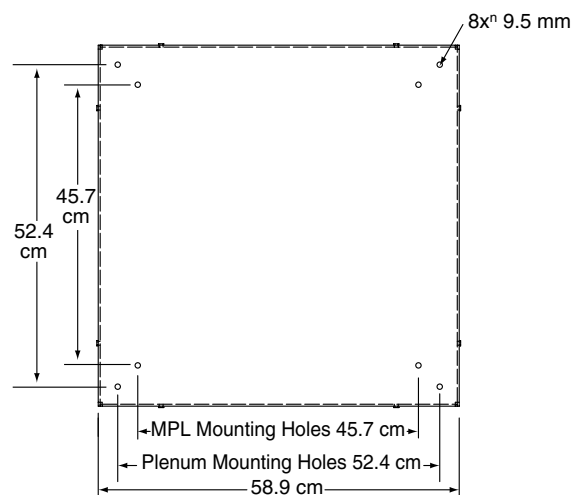
The Micro Projector Lift is available with a ceiling trim kit. **This kit consists of the lower section of the plenum housing and the optional closure panel.** Please refer to drawings below for these instructions.

- ① Install Micro Projector Lift as previously described in these instructions.
- ② Install bottom section of plenum housing in opening. This can be accomplished by suspending with wire, or by mounting directly to the ceiling joists (if space permits).
- ③ Install projector and attach optional ceiling closure to Micro Projector Lift (see instructions on page 3).



Plenum Housing, Lift and Closure

Mounting Hole Spacing



(Top view of Plenum shown)

Installing Projector

Generally, the video projector should be suspended from the bottom pan according to projector manufacturer's instructions or using optional Low Profile Aero Lift Bracket. If the Low Profile Aero Lift Bracket is used, holes are pre-drilled for attachment.

If for any reason the hole placement must be changed, completely lower Micro Projector Lift before attempting to drill new holes.

Control cables (maximum of four) should be laced through our Cable Management System (back scissor only). This will ensure that cords do not become tangled and damaged during Micro Projector Lift operation. Unit and projection system should be operated, checked and adjusted as necessary at this time (see below for limit adjustment procedures).

Warning: Keep fingers & other objects away from ceiling closure & scissor mechanisms when unit is operating. Serious injury or damage can result.

Adjustments

CAUTION: Be sure all switches are in "off" position before adjusting limit switches. Always be prepared to shut lift off manually when new adjustment is being tested. Please refer to diagram at right for these instructions.

Limit switches for the Micro Projector Lift are preset at the factory. The "Up" (closed) limit switch is set for fully closed. The "down" limit switch is set for 607 mm. Once unit is in place, the "down" limit switch may need to be changed to stop the Micro Projector Lift closer to the ceiling (that is, raise the "down" position) or further from the ceiling (that is, lower the "down" position). Limit switches are located on the left end of roller (as seen from the front, or non-scissored end, of the unit) and are accessible to a screwdriver/Allen wrench ($\frac{5}{32}$ ").

Adjusting Down Position — "Down" position may be adjusted by turning limit switch adjustment socket number 1. Turning the socket clockwise will stop the Micro Projector Lift closer to the ceiling. Turning it counter-clockwise will cause the lift to stop at a lower point.

Adjusting Up (closed) Position — Because the "up" (closed) position is preset at the factory, Draper does not recommend changing this position using the limit switch. The "up" position of the closure may be changed by changing the length of threaded rod (see instructions for closure installation below). If necessary, however, "up" position may be adjusted by turning limit switch adjustment socket number 2. Turning the socket counterclockwise creates a higher, or more fully closed position. Turning it clockwise creates a lower "UP" (closed) position.

Caution: Do not set limit switch so that the MPL motor is still running after the lift is closed. This could result in damage to the motor.

Installing Ceiling Closure

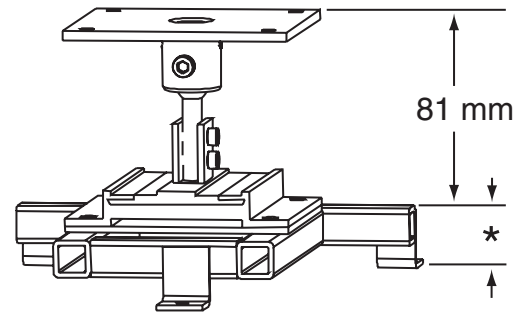
If your Micro Projector Lift is equipped with a ceiling closure system, it can be used as is, or in conjunction with a square of existing ceiling tile.

Please refer to diagram at right for these instructions.

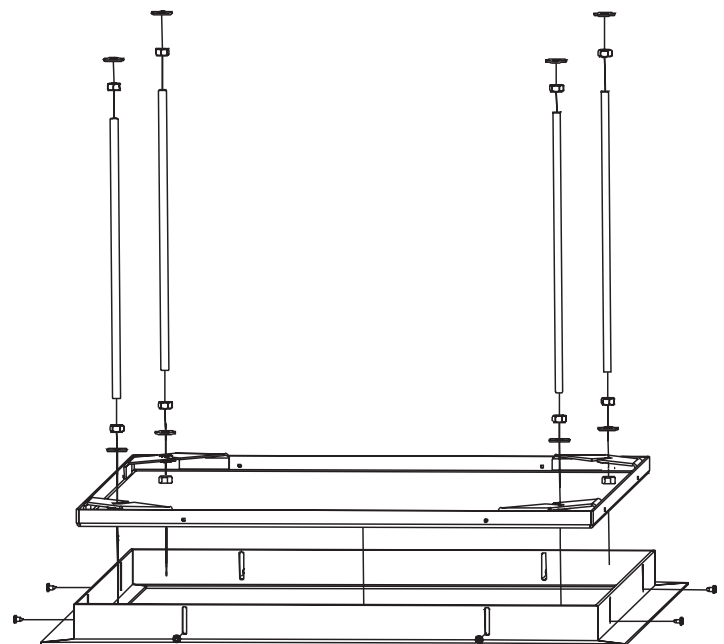
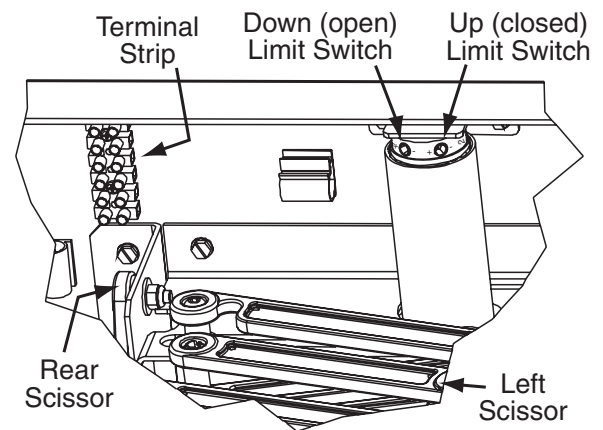
- ① If installing with ceiling tile, you may need to cut tile so that its overall dimensions are the same as (or slightly less than) the closure panel. Place tile into trim frame. Lay closure panel on top (back side) of ceiling tile, and tighten screws to hold in place.
- ② Attach $\frac{5}{16}$ "-18 threaded rods to pem nuts in lift pan.
- ③ Run unit "up" until bottom pan stops at highest position. Mark position on $\frac{5}{16}$ "-18 rods even with ceiling level and cut rods to length (removing from pan if convenient).
- ④ Run unit "down" until bottom pan stops at "show" position.
- ⑤ Attach closure to lower end of $\frac{5}{16}$ "-18 rods by slipping into four corner slots and secure with nuts above and below slots.
- ⑥ Run unit "up" again to highest position. Measure distance by which panel fails to reach required "closed" height for surrounding ceiling.
- ⑦ Run unit "down" then readjust mounting of $\frac{5}{16}$ "-18 rods in traveling grid to raise panel required distance.
- ⑧ Test unit operation to confirm that panel will stop in closed position just before touching ceiling.

NOTE: Immediately upon completion of the surrounding ceiling, units should be operated to confirm that optional ceiling closure panel stops just short of touching ceiling in closed position.

Low Profile Aero Lift Bracket

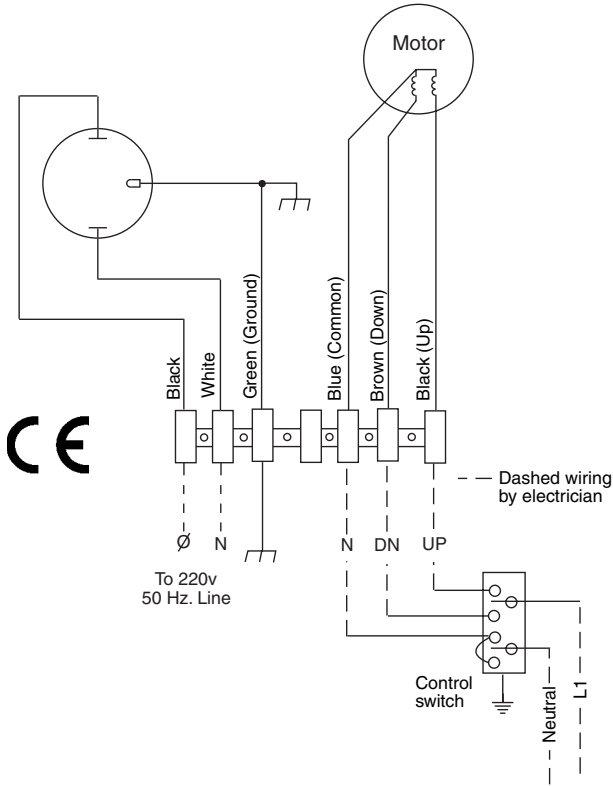


* Projector-specific bracket height varies according to the projector model. Contact Draper, Inc. for details.

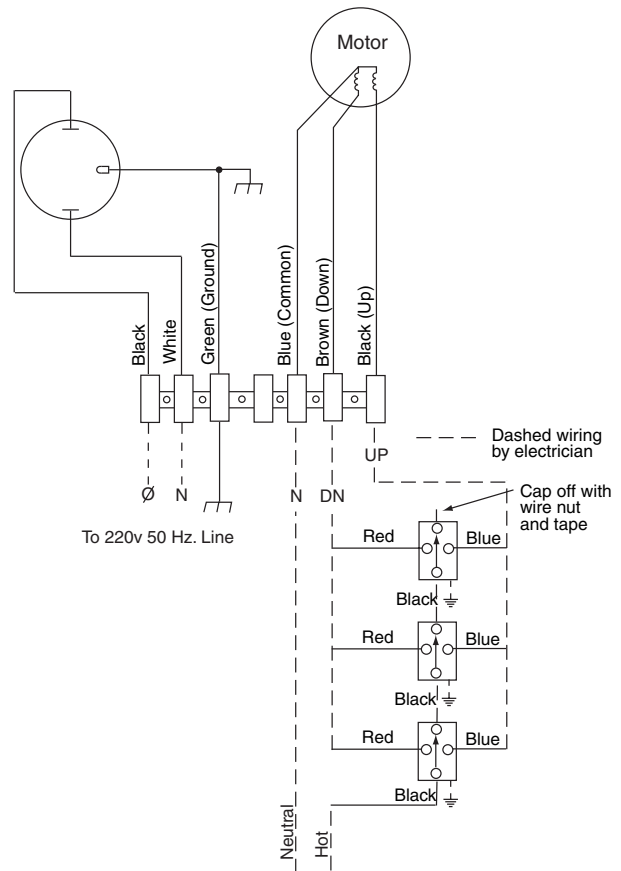


Wiring Diagrams

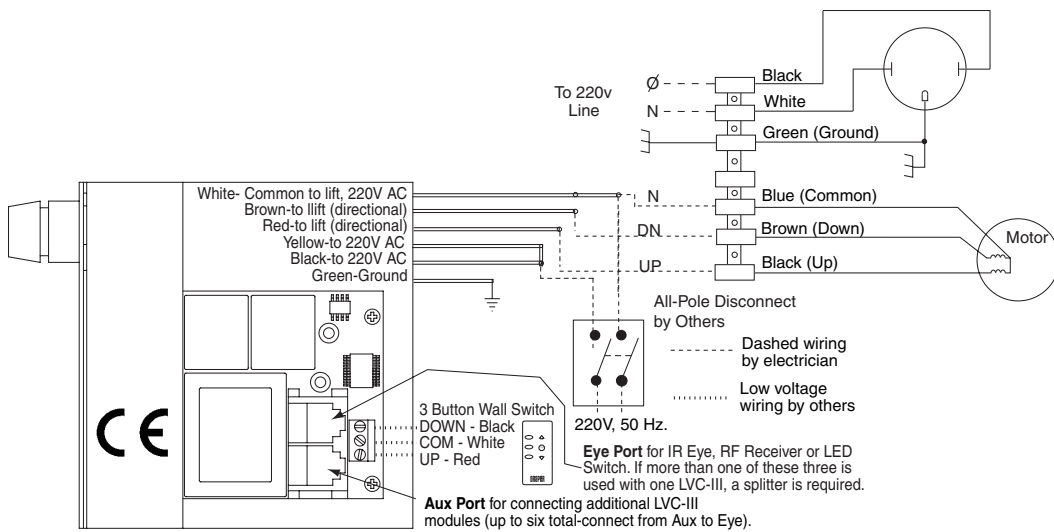
Single Station Control (CE Approved)



Multiple Station Control (Not CE Approved)



Low Voltage (& Wireless) Control



MC1

See separate Serial Communication-RS232 Instruction sheet for enabling RS232 with the MC1.

