

OPTRONIC LABORATORIES, INC.

Emphasizing Precision and Accuracy

OL 730D-CH

Computer-Controlled Variable Speed Chopper

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Revision: A

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This Manual Applies to

Instrument Serial Numbers XX100XXX and above.

A Gooch & Housego Company

OL 730D-CH
Computer-Controlled Variable Speed Chopper

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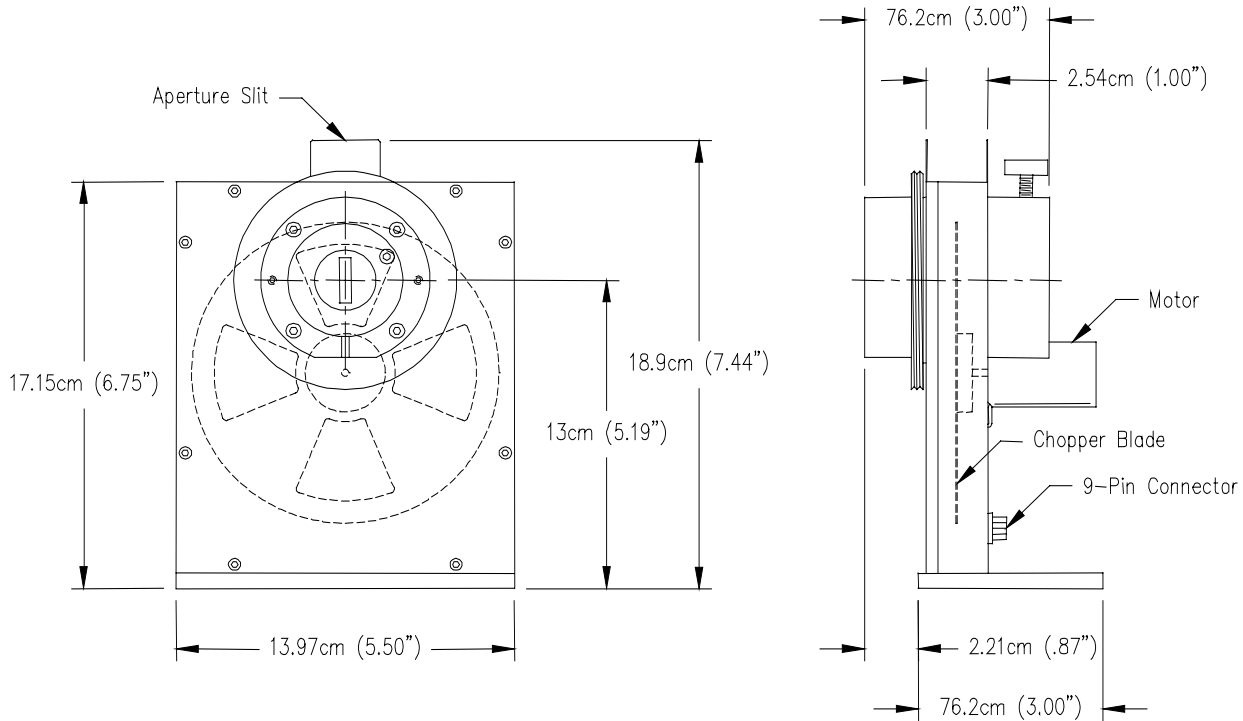
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OL 730D-CH Computer-Controlled Variable Speed Chopper

INTRODUCTION

The OL 730D-CH Computer-Controlled Variable Speed Chopper is a stand alone external chopper assembly designed to be used with the OL 730D Programmable DSP Radiometer. The precision DC motor assembly with an integrated optical encoder is mounted into a machined, metal enclosure that can be mounted to an optical table. The standard 4-slot blade provides chopper frequencies from 10 to 350 Hz. An optional 18-slot blade extends the frequency range from 100 to 1200 Hz.

Figure 1 - OL 730D-CH Computer-Controlled Variable Speed Chopper (shown with standard 4-slot blade)



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The chopper assembly has an entrance port and an exit port which are used to attach various optical components. Both ports have a 1-inch diameter through hole allowing access to the internal chopper blade.

The entrance port, mounted to the front cover plate, has a counterbore diameter of 1.875 inches and an outer diameter of 2.750 inches. Three 10-23 setscrews can be used to hold objects in the machined counterbore. Additionally, the entrance port has a mounting ring (3.625 inches in diameter) used for Optronic Laboratories' standard component securing rings. A machined slot in the cover plate is used for the insertion of various aperture slits.

The exit port, mounted to the housing on the motor side, has a counterbore diameter of 1.875 inches and is supplied with a securing thumbscrew. An adapter sleeve is provided to reduce the diameter to 1.50 inches for holding smaller optical components, such as detectors. A machined slot in the housing assembly is used for the insertion of various aperture slits.

SPECIFICATIONS

Motor	Precision 12 VDC
Frequency: 4-Slot Blade (Standard).....	10 to 350 Hz
18-Slot Blade (Optional)	100 to 1200 Hz

INSTALLATION

CAUTION:
The OL 730D should be turned off during cable connections.

1. Place the chopper assembly in the position in which it is to be used and secure it to the table.
2. Connect the female end of the chopper cable to the 9-pin connector on the chopper assembly.
3. Connect the male end of the chopper cable to the appropriate connector on the rear panel of the OL 730D Programmable DSP Radiometer.

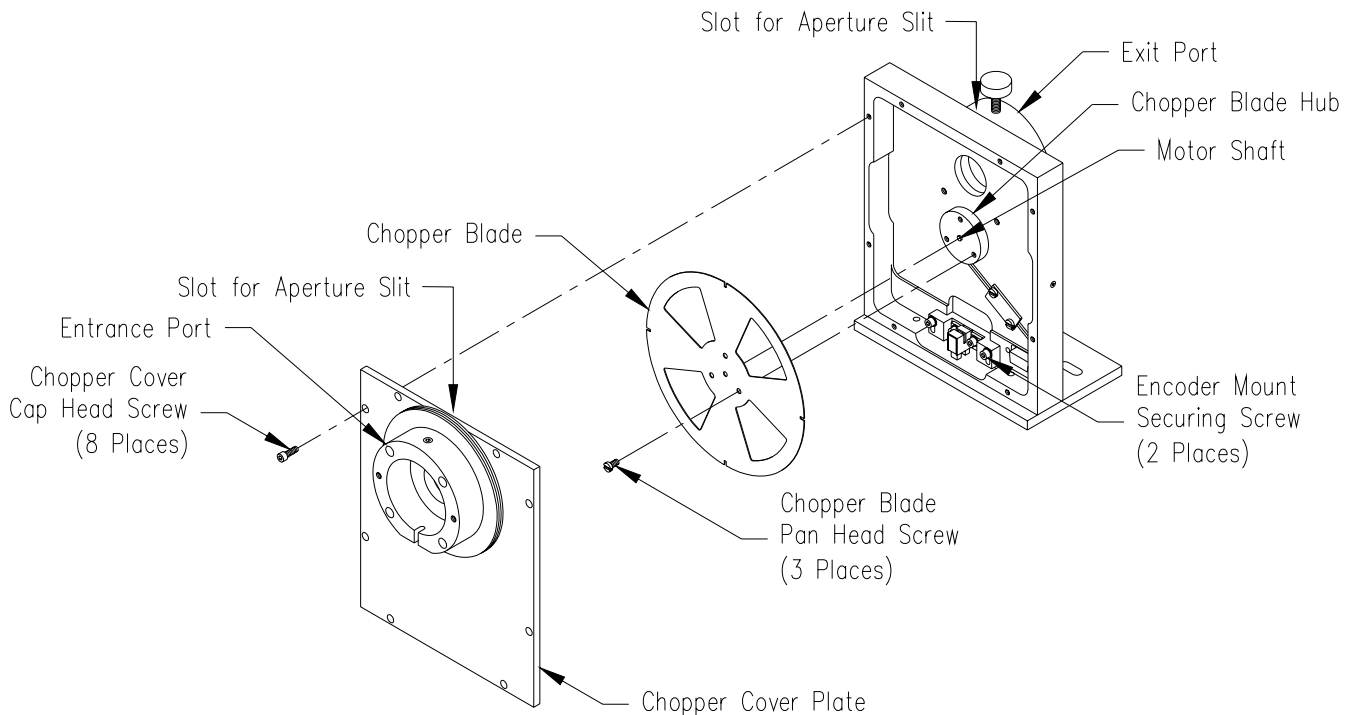
OPERATION

For proper chopper operation, refer to the OL 730D Programmable DSP Radiometer manual.

CHANGING THE CHOPPER BLADE

An optional 18-slot chopper blade is available for higher frequency settings. The following procedure is the recommended method of changing the chopper blade to prevent damage.

Figure 2 - Installing the OL 730D-CH Chopper Blade (shown with 4-slot blade)



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1. Turn off the OL 730D Programmable DSP Radiometer to remove the power to the chopper assembly.
2. Take out the eight cap head screws and remove the chopper cover plate.
3. Loosen the two cap head screws on the optical encoder mount and slide the mount down so that the chopper blade is clear of the encoder. The encoder wires may need to be pulled forward some to allow the mount to drop fully. Secure the mount out of the way by lightly tightening the cap head screws.
4. Holding the chopper blade by the hub section, remove the three pan head screws that hold the chopper blade in place.

CAUTION:

Care must be taken that the chopper blade does not get bent.
Handle the blade by the center hub diameter when ever possible.

5. Gently remove the chopper blade and place it in a safe, flat place.
6. Place the new blade onto the motor shaft. Position the blade flat against the mounting hub.
7. Replace the three pan head screws securing the blade into place.
8. Loosen the two cap head screws holding the optical encoder mount. Slide the mount all the way up making sure that the chopper blade enters the encoder's cutout. Tighten the two cap head screws securing the mount into place. Reposition the encoder wires if required.
9. Gently turn the chopper blade to make sure that it spins freely and does not rub on the encoder.
10. Replace the chopper cover plate and secure it into place with the eight cap head screws.

WARRANTY

Optronic Laboratories, Inc. warrants that all goods supplied will be of the kind described or in any specification and drawings approved by Optronic Laboratories, Inc. and will be free from defects in material and workmanship for one year from the date of purchase by the original Purchaser. During this period, Optronic Laboratories, Inc. will at its option either repair or replace any goods that are found to be defective in material or workmanship - provided the goods are returned to Optronic Laboratories, Inc. in Orlando, Florida, with all shipping, insurance and delivery charge prepaid. This Warranty does not extend to batteries, fuses, and glass phototubes (if any), or other items of limited durability, nor does this warranty cover damage to goods caused by leaky or otherwise defective batteries, by Purchaser use of improper batteries and by misuse or abuse, unauthorized alteration, excessive line voltage, excessive temperatures (above 160 degrees F), extreme environmental conditions (such as extremely dusty or wet environment), corrosive atmospheres or servicing by unauthorized personnel. The items returned shall only be accepted when accompanied by a written statement setting forth the nature and suspected cause of the alleged deficiencies. After the initial one year warranty, repairs performed by Optronic Laboratories, Inc. are covered under a limited ninety (90) day warranty. THERE ARE NO OTHER WARRANTIES, EXPRESS OR IMPLIED, (INCLUDING THE WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE OR IMPLIED WARRANTY OF MERCHANTABILITY) OTHER THAN THE WARRANTY SET FORTH HEREIN.