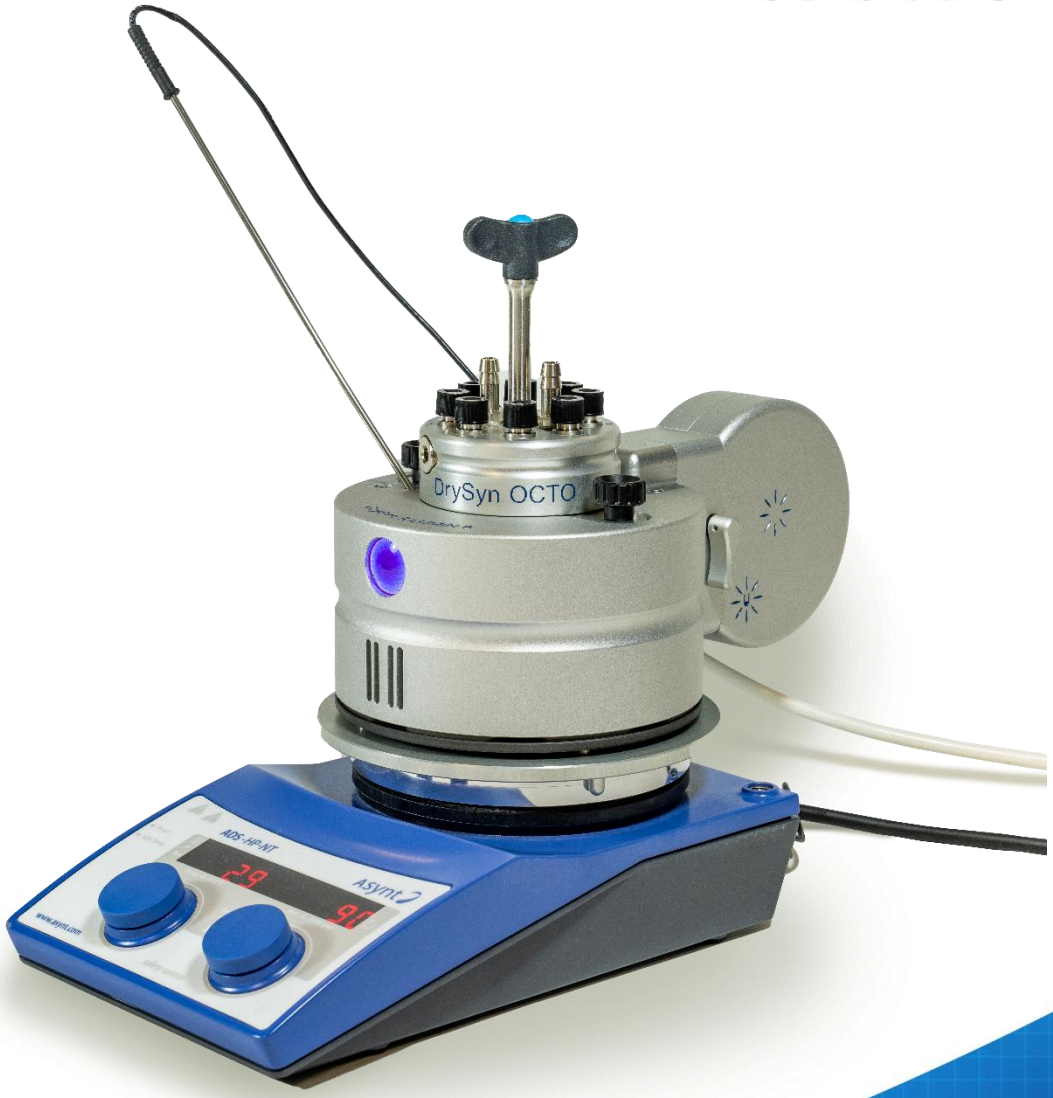
Illumin8

Instruction Manual



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Thank you for purchasing this Asynt product

CONTENTS

PLEASE READ THESE INSTRUCTIONS PRIOR TO OPERATING YOUR UNIT.

IF THERE IS AN ISSUE WITH YOUR PRODUCT, PLEASE CONTACT YOUR SUPPLIER.

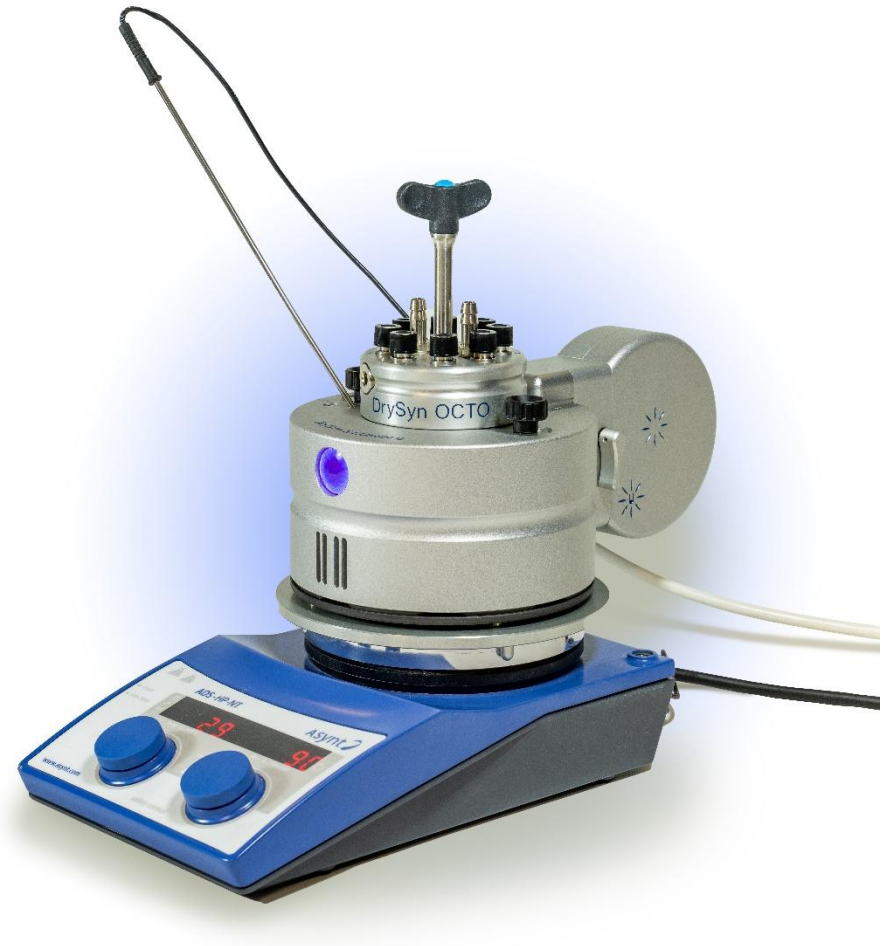
PLEASE DO NOT RETURN ANY GOODS WITHOUT PRIOR AGREEMENT.

INTRODUCTION

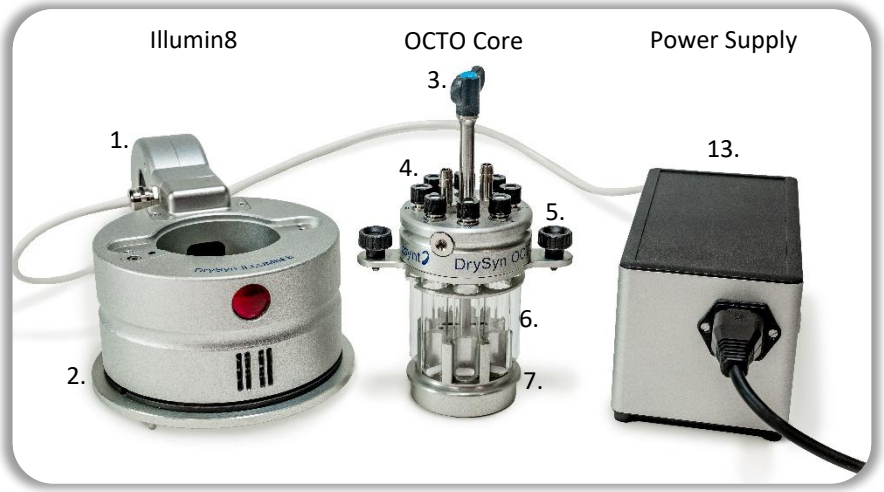
The Illumin8 is an advanced photoreactor designed for parallel reactions, with 8 vials that are ideal for use with substances ranging from 1 to 8 mL in volume. It is compatible with any hotplate and has the capability to heat up to 80°C and stir the contents of the vials through the use of magnetic stirrer bars. Additionally, the Illumin8 can be used with PT100 temperature probes for precise temperature control.

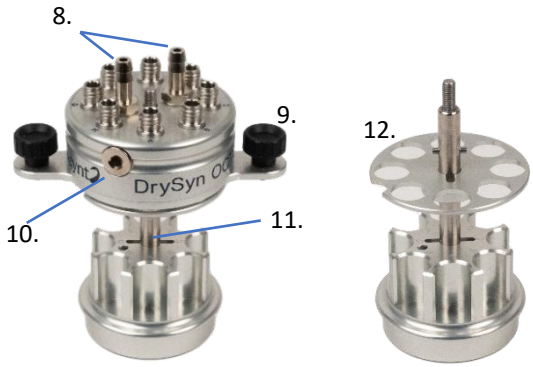
Using the OCTO system, vials are easily interchangeable, and sampling or additions are simple to arrange. The OCTO allows simultaneous purging of all 8 vials using the gas inlet and outlet.

8 LEDs provide wavelength radiation of your choice from 365 nm to 660 nm. The LEDs are interchangeable for testing at multiple wavelengths using the same system. To offset the heat generated by the electronics, the Illumin8 includes a fan within the body that either cools the electronics only or cools the samples down as well.



COMPONENTS





Labels

1. Fan
2. Base
3. Winged Handle
4. Septum Seal Caps
5. OCTO Core Lid
6. Glass Vials
7. Stirrer bars (8)
8. Gas Inlet/Outlet
9. Thumbscrews
10. Blanking Screw
11. Support Rod
12. Positioning Plate
13. Power Supply

TECHNICAL SPECIFICATIONS

Lowest Working Temperature (°C)	Ambient*
Maximum Working Temperature (°C)	80
LED Power	8 x 10 W
Input Voltage (V)	110/230 Universal Input
Material	Anodised Aluminium

*Can be used at temperatures down to -30 °C with optional cooling base.

SAFETY WARNINGS

GENERAL WARNINGS

Only trained personnel should be allowed to use the Illumin8, and they must have full knowledge of the equipment, its capabilities, and of the process likely to be carried out with the equipment.

Any specific warnings and methods of operation are to be drawn up and made available to all users.

The appropriate PPE must always be used when handling the Illumin8.

It is the user's responsibility to ensure that they follow in house regulations regarding training and PPE.

HOT/COLD SURFACE WARNINGS

Do not touch the Illumin8 base whilst hot/cold. The Illumin8 base will retain high/low temperatures (max 80°C) for some time after use.

Ensure that the electrical cables do not touch any part of the Illumin8 that will reach high/low temperatures.

ELECTRICAL WARNINGS

Keep the Illumin8 away from water sources. Do not use if wet. Isolate at the socket, switch it off, and only use once an authorised person has inspected it.

Keep away from flammable substances. Avoid hazardous reactants and products.

NON-IONISING RADIATION WARNINGS

Do not use if not fully assembled. Doing so could lead to exposure to non-ionising radiation.

Ensure all ports are capped with septum caps and that the temperature probe is housed within the 3.5 mm probe port to reduce exposure.

FOR UV-A WAVELENGTHS OF LED (315 – 400 NM) THE FOLLOWING ALSO APPLIES:

UV resistant eye protection must be worn around this device.

Hands and arms must be protected by wearing gloves and sleeves made from low UV transmission materials, with no gap between the cuff and the glove.

Warning signs should be used around this equipment to indicate the presence of a UV source and the need for PPE.

The Exposure Limit Value for eye exposure to UV-A is 10,000 J/m^2 for an 8-hour day and must not be exceeded.

Those who are extremely photosensitive or are potentially exposed to photosensitising agents should take additional protective measures.

Use UV resistant barriers around the device and avoid reflective surfaces. If the device is kept in the vicinity of untrained personnel, warning signs may be needed nearby.

KEY CONSIDERATIONS

1. Depending on the size of your hotplate, screw the feet into the appropriate holes on the underside of the Illumin8 base.

   - For circular hotplates with a diameter of 145 mm, attach 3 feet to the outer holes.
   - For circular hotplates with a diameter of 135 mm, attach 3 feet to the inner holes.
   - For square hotplates, attach 4 feet to the 4 smaller holes (if purchased with the Illumin8).
   - If using an irregularly sized hotplate, do not attach any feet.

2. Do not fill the glass tubes above half-full.

3. Please note that the OCTO core cannot be placed in or removed from the Illumin8 base whilst a temperature probe is in use. Attempting this could damage the temperature probe.

4. If carrying out additions or sampling mid reaction, attach a syringe/syringe pump/peristaltic pump via a Luer fitting and tubing. We recommend 1/8” tubing with an inner diameter of 1/16” for the optimal flow rate.

5. To form an inert atmosphere, connect the gas inlet to a valve. Alternate between pulling a vacuum and then adding nitrogen gas.

ASSEMBLY

1. Take the Illumin8 OCTO core out of the packaging and unscrew the winged handle. Lift the lid off the OCTO rod.

2. Place tubes and stirrer bars into each of the eight holders. If necessary, adjust the positioning plate by loosening the grub screw.

3. Re-attach the lid, ensuring that the prongs on either side of the OCTO rod slot into the bottom of the lid, and screw the winged handle on until each of the tubes is sealed.

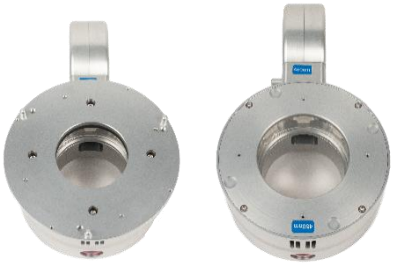
4. Screw hose barbs into the top middle two ports of the OCTO lid if applying inert gas, otherwise insert blanks.

5. Place septum caps onto each of the tube ports, then lower the OCTO core into the Illumin8, taking care to line up the prong with the microswitch.

6. Fully tighten both thumbscrews and plug the power supply into a mains socket. The Illumin8 is ready to switch on at the power supply.

7. Place a temperature probe in the 3.5 mm hole. This must be removed before taking the OCTO core out of the Illumin8 base.

INTERCHANGING LED CARTRIDGES



1. Using an Allen key, unscrew each of the 4 hex screws in the base of the Illumin8, then life the base off.

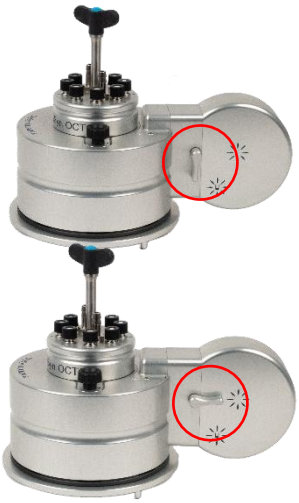
2. Remove the 4 hex screws on the underside of the Illumin8 and lift out the cartridge, being careful not to tug the wires connecting it to the Illumin8, then unclip the wiring.

3. Clip the new cartridge wiring into the Illumin8 wiring, then tuck the clip and wiring into the recess within the Illumin8 whilst placing the cartridge into the Illumin8.

4. Insert and tighten 4 hex screws into the underside of the Illumin8, then place the base onto the Illumin8.

5. Align the hex screw holes in the base with those in the underside of the Illumin8, and screw 4 hex screws into place.

RUNNING REACTIONS



1. To maintain ambient temperatures using the Illumin8, have the fan switch in the vertical position, which directs 50% of airflow to the electronics, and 50% to the test tubes.

2. To allow efficient heating, have the fan switch in the horizontal position, which directs all air flow to the electronics only.

3. The Illumin8 can be run with an optional cooling base which allows cooling down to -30 °C dependent on the circulator used.

If you feel that you require further guidance, please contact enquiries@asynt.com.

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