General Information:
VALO® ORTHO is an LED curing light for the polymerization of light cured dental materials. With its broadband spectrum, VALO ORTHO is designed to polymerize all light cured products in the wavelength range of 395-480nm.
VALO ORTHO has a medical grade, international power supply and is suitable for power outlets from 100 to 240 VAC. The handpiece is designed to rest in a standard dental unit bracket or can be custom mounted using the bracket included with the kit.

Product Components:
- 1 – VALO ORTHO curing light with 7 foot / 2.1 meter cord
- 1 – 9 volt, medical grade, international power supply with 6 foot / 1.8 meter cord and universal plugs
- 1 – Handpiece surface mounting bracket with double stick adhesive tape
- 50 – VALO Barrier Sleeves
- 1 – VALO Light Shield

Overview of Controls:
Instructions for Use:
1 - Connect the 9-volt power cord to the handpiece cord.
2 - Plug the power cord into any electrical outlet (100 -240 VAC). The timing lights will illuminate indicating the light is ready for use. **The VALO ORTHO handpiece beeps when powering on.**
3 - Place the VALO ORTHO handpiece into a standard dental unit mounting bracket or accessory mounting bracket until ready to use.
4 - Select the desired mode: VALO ORTHO has 3 modes: Standard Power, Xtra Power, and Xtra Power Quadrant. To change modes, hold the Time/Mode Change button for 2 seconds and release. The Mode/Status light will change to the next mode.

**NOTE:** VALO ORTHO is programmed to cycle from the Standard Power to the Xtra Power to the Xtra Power Quadrant mode in sequence. For example, to change from the Standard Power mode to the Xtra Power Quadrant mode, it is necessary to cycle into the Xtra Power mode and then to the Xtra Power Quadrant mode.

VALO ORTHO always stores its last completed timing interval in each mode and will default back to that timing interval whenever the modes are changed, or if the unit is unplugged and loses power.

**CURING MODE:** Standard Power Mode - 1200mW/cm²

**WARNINGS AND PRECAUTIONS**

DO NOT look directly into the light output. Patient, clinician, and assistants should wear UV orange eye protection when this device is in use.
DO NOT expose soft oral tissues and rubber dam at close proximity. Maintain a safe distance between the lens and the soft tissue.
If a longer cure is needed, allow 10 seconds between consecutive cures or consider a dual-cure product (composite or adhesive).

This unit is programmed for Orthodontic use. If using VALO ORTHO for any other dental procedures, DO NOT exceed 10 seconds in the Standard Power mode.

For any other dental procedure: To avoid overheating the pulp, use two 10-second cures instead of a full 20 second cure.
TIMING INTERVALS: 5, 10, 15, 20 seconds

VALO ORTHO defaults to this mode when it is INITIALLY powered on. The green Mode/Status light is on and the green Timing Lights are solidly illuminated.
To change timing intervals, quickly press the Time/Mode Change Button

Press the Power Button to cure. To stop curing prior to completion of a timing interval, press the Power Button again.

WARNING AND PRECAUTIONS
When using the Xtra Power mode, DO NOT expose soft tissue for more than 3, three second cycles.
DO NOT look directly into the light output. Patient, clinician, and assistants should wear UV orange eye protection when this device is in use.
DO NOT expose soft oral tissues and rubber dam at close proximity. Maintain a safe distance between the lens and the soft tissue.
TIMING INTERVALS: 1, 2, 3 seconds

To initiate Xtra Power mode:

From **Standard Power mode**, press and hold the Time/Mode Change Button for 2 seconds. The green Timing Lights will illuminate and **flash**. The Status Light will illuminate as a flashing orange light, indicating Xtra Power mode.

To change timing intervals quickly, press the Time/Mode Change Button.
Press the Power Button to cure. To stop curing prior to the completion of a timing interval, press the Power Button again.

To return to **Standard Power mode**, press and hold the Time/Mode Change Button for 2 seconds, release, hold for 2 seconds, and release.

**CURING MODE:  Xtra Power Quadrant Mode 3200mW/cm²**

The Xtra Power Quadrant Mode is designed to allow the clinician to contiguously cure one quadrant or five teeth without needing to remove the VALO ORTHO handpiece from the oral cavity. Each of the five teeth will be exposed for 3 seconds followed by a 2 second rest.

**WARNINGS AND PRECAUTIONS**
In Xtra Power Quadrant mode, **DO NOT** expose soft tissue for more than 3, three second cycles. The Xtra Power Quadrant mode has a 2-second safety delay to limit heating during consecutive curing. At
the end of the delay, beeping indicates the unit is ready for continued use. If a longer cure is needed, allow 10 seconds between consecutive cures or consider a dual-cure product (composite or adhesive).

DO NOT look directly into the light output. Patient, clinician, and assistants should wear UV orange eye protection when this device is in use. DO NOT expose soft oral tissues and rubber dam at close proximity. Maintain a safe distance between the lens and the soft tissue.

<table>
<thead>
<tr>
<th>Mode Power Level</th>
<th><strong>Xtra Power Quadrant Mode 3200mW/cm²</strong></th>
</tr>
</thead>
</table>
| Power Button     | ![Power Button](image)
| Mode/Timing LEDs | ![Mode/Timing LEDs](image)  
| Time Button      | ![Time Button](image) 
| Time Options     | 3 sec. (5 consecutive bursts at 3 seconds each) |

**To Change Time**  
Press and release Time Button quickly to cycle through time options.  
**To Change Modes**  
Press and hold the Time Button for 2 seconds and release. VALO ORTHO will cycle to the next Mode.

**Legend**  
Solid LEDs 🟢  
Blinking LEDs 🟡  

**TIMING INTERVAL:** 5 automatically timed continuous bursts of 3 seconds each (Note: there is a 2-second safety delay at the end of each curing cycle).

To initiate Xtra Power Quadrant mode:

From the Standard Power Mode, press the Time/Mode Change Button for 2 seconds, release, press button again for 2 seconds, and release. All of the green Timing Lights will illuminate steady and the orange Status Light will illuminate and flash, indicating Xtra Power Quadrant mode.

Press the Power Button to cure. To stop curing prior to completion of a timing interval, press the Power Button again.

To return to the Standard Power mode, press and hold the Time/Mode Change Button for 2 seconds.
**SLEEP MODE: VALO ORTHO** will go into POWER SAVE mode after 1 hour of inactivity, as indicated by the green mode light blinking slowly. Press any button to wake VALO ORTHO and begin curing. VALO ORTHO will automatically return to the last setting used.

Follow the guidance of the manufacturer of the light curing material you use in your office regarding curing times and intensity of light needed (See Suggested Curing Card)

**WARNINGS AND PRECAUTIONS**
Read all instructions before operating this unit. The manufacturer accepts no liability for any damage resulting from the improper use of this unit and/or for any purpose other than those covered by these instructions.

**USER/PATIENT SAFETY WARNINGS:**
VALO ORTHO emits extremely high intensity light very similar to high intensity quartz halogen lights and must only be used as indicated in this manual. DO NOT look directly into the light output. Patient, clinician, and assistants should wear UV orange eye protection when this device is in use. DO NOT expose soft oral tissues at close proximity. Maintain a safe distance between the lens and the soft tissue.

This unit is programmed for Orthodontic use. For any other dental procedure: To avoid overheating the pulp, use two 10-second cures instead of a full 20 second cure.

**In Xtra Power Quadrant mode, DO NOT expose soft tissue for more than 9 seconds.** The Xtra Power Quadrant mode has a 2-second safety delay to limit heating during consecutive curing. At the end of the delay, beeping indicates unit is ready for continued used. If a longer cure is needed, allow 10 seconds between consecutive cures or consider a dual-cure product (composite or adhesive).

**PRODUCT SAFETY WARNINGS:**
DO NOT autoclave.
DO NOT immerse in disinfectant, cleaning solutions, or any kind of liquid.
DO NOT immerse in any kind of ultrasonic bath.

PRECAUTION: This unit may be susceptible to strong magnetic or static electric fields, which could disrupt the programming. If you suspect this has occurred, unplug the unit momentarily and then replug it into the outlet.
Accessory Bracket Instructions
1- Bracket should be mounted to a flat, oil-free surface.
2- Clean surface with rubbing alcohol.
3- Peel backing off of the bracket’s adhesive tape.
4- Position bracket so the handpiece lifts upward when removed. Press firmly into place.

Maintenance and Cleaning
VALO ORTHO is a sealed unit with a sapphire-like hard surface and a scratch resistant glass lens. After each use, moisten a gauze or soft cloth with an anti-microbial surface disinfectant and wipe the surface and lens. Periodically check the lens for cured dental resins.

CAUTION: Ensure the VALO ORTHO lens asepsis by using VALO Barrier Sleeves. These sleeves have been designed and optimized specifically for use with VALO ORTHO. In the event that dental resin adheres to the VALO ORTHO lens, use a non-diamond dental instrument to carefully remove the resin.

If using a light meter, Opal Orthodontics by Ultradent recommends checking VALO ORTHO in Standard Power mode. NOTE: The true numeric output will be skewed due to the inaccuracy of common light meters and the custom LED pack VALO ORTHO uses. Light meters differ greatly and are designed for specific light guide tips and lenses. Their main purpose is not to find an absolute value, but to test consistency in repeated measurements.

ACCEPTABLE CLEANERS:
• Cavicide products
• Isopropyl alcohol-based cleaners
• Ethyl alcohol-based cleaners
• Lysol® disinfectant
• Other non-bleach and non-abrasive disinfectants or cleaners

DO NOT USE
• Strong alkali detergent of any type, including hand soaps and dish soaps.
• Bleach-based cleaners (e.g. - Clorox®, Sterilox® )
• Abrasive Cleaners (e.g. - Comet Cleanser® )
• Acetone-based cleaners (e.g. - nail polish remover, Goo-offTM )
• Methyl Ethyl Ketone

Troubleshooting Guide
If the solutions suggested below do not rectify the problem, please call Opal Ortho.
**Problem**

**Light will not turn on**
1. Press the Time/Mode Change Button or Power Button to wake from Power Save Mode.
2. Check that both cords are firmly connected together and to the electrical outlet.
3. Confirm power to the wall outlet.

**Light does not stay on for desired time**
1. Check Mode and Timing lights for correct time input.
2. Confirm all cord connections are fully seated.
3. Unplug and re-plug power cord into the electrical receptacle.

**Light is not curing resins properly**
1. Check lens for residual cured resins/composites. (see “Maintenance and Cleaning”)
2. Using proper orange UV eye protection, verify the LED lights are working. Shine light onto white paper or ceiling to verify that the 4 LEDs are working (1 will be really faint)
3. Check power level with light meter. (See “Maintenance and Cleaning”)
4. Check expiration date on curing resin.

**Technical Information**

**VALO ORTHO LED Curing Light**

**VALO ORTHO Lens**
Diameter 9.6 mm

**Effective Curing Wavelength**
395nm - 480nm

**Light Intensity**
Standard Power - 1200mW/cm²* (+/- 10%)
Xtra Power - 3200mW/cm²† (+/- 10%)
Xtra Power Quadrant- 3200mW/cm²† (+/- 10%)

**Wand**
Weight - 8 ounces/226 grams (with cord)
Length - 9.26 inches/23.5 cm
Breadth -.74 inches/1.9 cm
Width -.79 inches/ 2 cm
Cord length - 7 feet/2.1 meters
Ratings - CE, IEC 60601
Power Supply
Output - 9VDC at 2A
Input - 100VAC to 240VAC
Rating - Medical Grade (UL, CE, RoHS, WEEE)
Cord length - 6 feet/1.8 meters

*As measured by a Demetron® L.E.D, Radiometer
†As measured by a spectrum analyzer
Den-Mat® Sapphire Plasma Arc Curing Light – Irradiance measured at 2,600mW/cm2 with a spectrum analyzer

Warranty for VALO ORTHO units:

Opal Ortho hereby warrants that this instrument shall, for a period of 3 years**, conform in all material respects to the specifications therefore as set forth in Ultradent’s documentation accompanying the product and be free from any defects in materials/or workmanship. This warranty applies solely to the original purchaser and is not transferable. All defective products are to be returned to Ultradent. There are no user service components of the VALO ORTHO system. Tampering with VALO ORTHO will void its warranty. Removal of the serial label from the cable cord will void VALO ORTHO’s warranty.

The VALO warranty does not cover customer caused damage. More specifically the warranty does not cover the cord or the lens. For example; if a VALO is dropped and the lens breaks, the customer would be responsible to pay for any necessary repairs. Also if the cord is vacuumed or rolled over and repairs are necessary the customer would be responsible for the damage.

**With sales receipt indicating the date of sale to the dentist.
Equipment provides against electrical shock
Das Gerät bietet Schutz gegen elektrischen Schlag.
Equipement protège contre les électrocutions.
Apparatuur biedt bescherming tegen elektrische schokken
Protezione da scosse elettriche
El equipo contiene protección contra choques eléctricos
O equipamento tem protecção contra choque eléctrico
Utrustningen skyddar mot elektrisk stöt.
Udstyret isolerer mod elektrisk stød
Laite on suojuattu sähköiskuiltta

Utstyret til beskyttelse mot elektrisk sjokk
O ηλεκτρικός στηρικός προστασία από την ηλεκτρικήν
Оборудование защищено от электропотенциала
Urządzenie ma zabezpieczenia przeciwporno porażeniom elektrycznym
Ekipman elektrik çarpmasına karşı korur.
장비 제공으로 전기충격에 대비합니다
设备可防电击
オプションにより、電気の衝撃を防ぎます
感電防止装置

Class II Equipment
Klasse II Gerät
Equipement de classe II
Klasse II apparatuur
Attrezzatura di Classe II
Equipo Clase II
Equipamento de Categoria II
Utrustning av Klass II
Klasse II udstyr
Luokan II laitteisto
Klasse II utstyr
Εξοπλισμός κλάσης II
Оборудование Класса II
Urządzenie klasy II
Sinif II Ekipman
جهاز من التصنيف II
클래스 II 장비
II类设备
ประเภทและ Class II
クラスII装置

See Instructions
Siehe Anleitung
Voir le mode d’emploi
Zie instructies
Consultare e osservare le istruzioni
Ver Instrucciones
Consultar as instruções
Se instruktionerna
Se brugsanvisningen
Lue käyttöohjeet
Se instruksjoner
Δείτε τις οδηγίες
См. Указания
Patrz instrukcja obsługi
Talimata Bakiniz
انظر التعليمات
안내사항을 참고합니다
参见说明
조언도구를 이용해서
取扱説明書をご覧ください

Federal law restricts this device to sale by or on the order of a dentist
Verkauf oder Bestellung dieses Gerätes sind aufgrund bundesrechtlicher
Regulierungen auf Zahnärzte beschränkt.
La loi fédérale limite la vente de cet appareil par ou sur ordre d’un dentiste.
Krachtens de federale wetgeving mag dit instrument alleen worden verkocht
doors of in opdracht van een tandarts.
La legge federale americana limita la vendita di questo dispositivo ai dentisti o
por loro conto
La ley Federal restringe la venta de este aparato a/por orden de dentistas.
A venda deste dispositivo está restringida a dentistas ou por ordem de dentistas.
Enligt federal (U.S.A.) lag får detta verktyg endast såljas till eller beställas av
en tandläkare.
Ifølge amerikansk lovgivning må dette produkt kun sælges af en tandlæge eller
efter dennes orderinger
Yhdsyvaltain lain mukaan täätä tuotetta saa myydä vain hammaslääkäri tai
hammaslääkärin määräyksestä.
Federeale lover begrenser salget af dette utstyret til eller på bestilling af tannlege.
Ο νομοθετικός νόμος περιορίζει την πώληση αυτής της συσκευής σε
οδοντίατρο ή κατόπιν εντολής οδοντίατρου
 Федеральный закон ограничивает продажи этого прибора по заказу
стоматологов
Prawo federalne zezwala na sprzedaż tego urządzenia tylko dla dentystów
lub na ich zamówienie.
Federal kanunlara göre bu cihaz sadece bir dış hekim tarafından veya
emriyle satılabılır
يمنع القانون الفيدرالي بيع هذه الأداة إلا إلى طبيب أسنان أو
بواطئه
연방법에서는 본 장치의 판매를 치과의사에 의해서만 또는 그 주문
에 한하도록 제한하고 있습니다
联邦法律规定本设备只能由牙医出售或经医嘱出售
กฎหมายว่าด้วยผลิตภัณฑ์สำหรับรังสีวิทยาภักธิ์ให้ขายอุปกรณ์นี้โดยหรือ
ตามคำสั่งของทันตแพทย์
米国連邦法により、本機器は歯科医に限定して販売されます
Keep Dry
Vor Feuchtigkeit schützen
A garder au sec
Droog houden
Conservare in luogo asciutto
Mantenga Seco
Manter seco

Temperature and Humidity Ranges
Temperatur- und Luftfeuchtigkeitsbereiche
Fourchette des températures et de l'humidité
Temperatuur- en vochtigheidsbereik
Intervalli di temperatura ed umidità
Rangos de Temperatura y Humedad
Intervalos de temperatura e umidade
Temperatur- og fugtighedsområde
Temperatur- og fuktighetsrekkevidder

37°C (98°F)

12°C (55°F)
U.S. federal law restricts this device to sale by or on the order of a dentist.
For immediate reorder and/or complete descriptions of Opal Orthodontics product line,
refer to Opal Orthodontics catalog or call Toll Free 1-888-863-5883.
Outside U.S. call +1-801-553-4177
or visit www.opalorthodontics.com.