

# opal<sup>®</sup> ORTHODONTICS

## VALO<sup>®</sup> ORTHO Curing Light

### General Information:

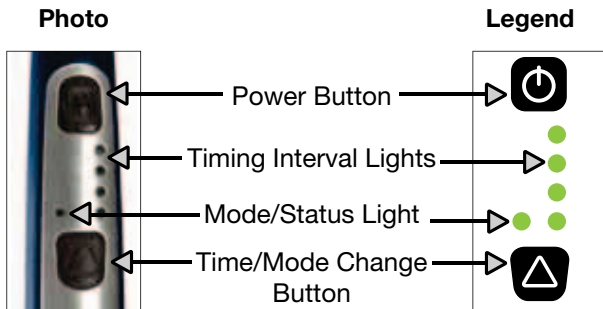
VALO<sup>®</sup> ORTHO is an LED curing light for the polymerization of light cured dental materials. With its broadband spectrum, VALO ORTHO is designed to polymerize all light cured products in the wavelength range of 395-480nm.

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/cm<sup>2</sup>**

#### **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.

Mode Power Level	<b>Standard Power Mode - 1200mW/cm2</b>
Power Button	
Mode/Timing LEDs	
Time Button	
Time Options	5 sec. 10 sec. 15 sec. 20 sec.
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 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.

### **CURING MODE: Xtra Power Mode - 3200mW/cm2**

#### **WARNINGS 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.

Mode Power Level	<b>Xtra Power Mode - 3200mW/cm2</b>
Power Button	
Mode/Timing LEDs	
Time Button	
Time Options	1 sec. 2 sec. 3 sec.
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 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.

Mode Power Level	<b>Xtra Power Quadrant Mode 3200mW/cm<sup>2</sup></b>
Power Button	
Mode/Timing LEDs	
Time Button	
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 use. 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-off™ )
- Methyl Ethyl Ketone

### **Troubleshooting Guide**

If the solutions suggested below do not rectify the problem, please call Opal Ortho.

<b>Problem</b>	<b>Possible Solutions</b>
Light will not turn on	<ol style="list-style-type: none"> <li>1. Press the Time/Mode Change Button or Power Button to wake from Power Save Mode.</li> <li>2. Check that both cords are firmly connected together and to the electrical outlet.</li> <li>3. Confirm power to the wall outlet.</li> </ol>
Light does not stay on for desired time	<ol style="list-style-type: none"> <li>1. Check Mode and Timing lights for correct time input.</li> <li>2. Confirm all cord connections are fully seated.</li> <li>3. Unplug and re-plug power cord into the electrical receptacle.</li> </ol>
Light is not curing resins properly	<ol style="list-style-type: none"> <li>1. Check lens for residual cured resins/composites. (see “Maintenance and Cleaning”)</li> <li>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)</li> <li>3. Check power level with light meter. (See “Maintenance and Cleaning”)</li> <li>4. Check expiration date on curing resin.</li> </ol>
Technical Information	VALO ORTHO LED Curing Light
VALO ORTHO Lens	Diameter 9.6 mm
Effective Curing Wavelength	395nm - 480nm
Light Intensity	Standard Power - 1200mW/cm <sup>2</sup> * (+/- 10%) Xtra Power - 3200mW/cm <sup>2</sup> † (+/- 10%) Xtra Power Quadrant- 3200mW/cm <sup>2</sup> † (+/- 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.

Legend  
Legende  
Légende  
Legenda

Legenda  
Legenda  
Legenda  
Förklaring

Symbol  
Merkkien selitykset  
Tegnforklaring  
Λεζάντα

Символы  
Objasnienie symboli  
Şekil Yazısı  
شرح الرموز

범례  
图例  
คำอธิบาย  
凡例



Equipment provides against electrical shock  
Das Gerät bietet Schutz gegen elektrischen Schlag.  
Équipement protégé contre les électrocutions.  
Apparatuur biedt bescherming tegen elektrísche 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  
Laitte on suojaattu sähköiskulta

Udstyr til beskyttelse mot elektrisk sjokk  
Ο εξοπλισμός παρέχει προστασία από ηλεκτροπληξία  
Оборудование защищено от электрошока  
Urządzenie ma zabezpieczenie przeciwko porażeniu elektrycznemu  
Ekipman elektrik çarpmasına karşı korur  
الجهاز مجهز ضد الصدمات الكهربائية  
장비 제공으로 전기충격에 대비합니다  
设备可防电击  
อุปกรณ์จะให้การต้านการแฉะไฟฟ้าช็อค  
感電防止装置



Class II Equipment  
Klasse II Gerät  
Équipement de classe II  
Klasse II apparatuur  
Attrezzatura di Classe II  
Equipo Classe II  
Equipamento de Categoria II

Utrustning av Klass II  
Klasse II udstyr  
Luokan II laitteisto  
Klasse II utstyr  
Εξοπλισμός κλάσης II  
Оборудование Классы II  
Urządzenie klasy II

Sınıf II Ekipman  
II والتصنيف  
클래스 II 장비  
II类设备  
อุปกรณ์หมวด 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 Bakınız  
انظر التعليمات  
안내사항을 참고합니다  
参见说明  
ดูขั้นตอนการใช้งาน  
取扱説明をご覧ください。



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  
door of in opdracht van een tandarts.  
La legge federale americana limita la vendita di questo dispositivo ai dentisti o  
per 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 säljas till eller beställas av  
en tandläkare.  
Ifølge amerikansk lovgivning må dette produkt kun sælges af en tandlæge eller  
efter dennes ordning  
Yhdysvaltain lain mukaan tätä tuotetta saa myydä vain hammaslääkäri tai  
hammaslääkäriin määräyksellä.  
Federale lover begrenser salget av dette utstyret til eller på bestilling av tannlege.

Ο ομοσπονδιακός νόμος περιορίζει την πώληση αυτής της συσκευής σε  
οδοντίατρο ή κατόπιν εντολής οδοντίατρου  
Федеральный закон ограничивает продажу 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 diş hekimii tarafından veya  
emriyle satılabilir  
يبيع القانون الفيدرالي بيع هذه الأداة إلا إلى طبيب أسنان أو بوساطته  
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  
กฎหมายรัฐกลางแห่งสหรัฐอเมริกาบังคับให้ขายอุปกรณ์นี้โดยหรือ  
ตามคำสั่งซื้อของทันตแพทย์  
米國連邦法により、本機器は歯科医に限定して販売されます



Western Europe Electronic and Electrical Disposal Standard (WEEE)  
 Europäische Richtlinie über Elektro- und Elektronik-Altgeräte(WEEE)  
 Western Europe Electronic and Electrical Disposal Standard (WEEE)  
 West-Europese richtlijn inzake afgedankte elektrische en elektronische apparatuur (WEEE)  
 Normativa relativa allo smaltimento di attrezzature elettroniche ed elettriche in vigore per l'Europa occidentale (Western Europe Electronic and Electrical Disposal Standard (WEEE))  
 Descarte según la Directiva Europea (CE) para Dispositivos Electrónicos y Eléctricos (WEEE)  
 Resíduos de Equipamentos Eléctricos e Electrónicos (REEE)  
 Västeuropeisk standard gällande hantering av avfall som utgörs av eller innehåller elektriska eller elektroniska produkter (WEEE)  
 Ifølge amerikansk lovgivning må dette produkt kun sælges af en tandlæge eller efter dennes ordinerings  
 Sähkö- ja elektronisen romun keräystä koskeva standardi (WEEE)

Vest Europeisk elektronisk og elektrisk afhængsstandard (WEEE).  
 Πρότυπο Ηλεκτρονικής και Ηλεκτρικής Απόρριψης στη Δυτική Ευρώπη (WEEE)  
 Стандартной электроники и электрических приборов для Западной Европы (WEEE)  
 Zachodnioeuropejska norma dotycząca utylizacji zużytych urządzeń elektronicznych i elektrycznych (WEEE)  
 Batı Avrupa Elektronik ve Elektrikli Atma Standardı (WEEE)  
 المعيار الغرب اوروبي للتخلص من الاكترونيات والكهربائيات (WEEE)  
 EU 폐전지전기제품처리기준 (Western Europe Electronic and Electrical Disposal Standard: WEEE)  
 《西欧电子产品废弃指令》 (WEEE)  
 မာကဒူရ Western Europe Electronic and Electrical Disposal Standard (WEEE)  
 西欧电子·電気機器廃棄物処理基準 (WEEE)



Keep Dry  
 Vor Feuchtigkeit schützen  
 A garder au sec  
 Droog houden  
 Conservare in luogo asciutto  
 Mantenga Seco  
 Manter seco

Förvara torrt  
 Skal holdes tørr  
 Säilytettävä kuivassa paikassa  
 Hold tørr  
 Διατηρήστε το στεγνό  
 Держите в сухом месте  
 Utrzymywać w suchym miejscu

Kuru Tutun  
 ابقها جافا  
 건조상태를 유지합니다  
 保持干燥  
 อย่านให้อุปกรณ์เปียก  
 湿気厳禁



37°C (98°F)

Temperature and Humidity Ranges  
 Temperatur- und Luftfeuchtigkeitsbereiche  
 Fourchette des températures et de l'humidité  
 Temperatur- en vochtigheidsbereik  
 Intervalli di temperatura ed umidità  
 Rangos de Temperatura y Humedad  
 Intervalos de temperatura e humidade  
 Temperatur- och fuktighetsområde  
 Temperatur- og fugtighedsområde  
 Säilytys- ja käyttölämpötilat

Temperatur og fuktighetsrekkevidder  
 Εύρη θερμοκρασίας και υγρασίας  
 Диапазон температур и влажности  
 Zakresy temperatury i wilgotności  
 Sıcaklık ve Nem Aralıkları  
 معدلات درجة الحرارة والرطوبة  
 온도 및 습도 범위  
 温度湿度范围  
 ช่วงอุณหภูมิและความชื้นสัมพัทธ์  
 温度および湿度範囲

12°C (65°F)



Manufactured by  
 Hergestellt von  
 Fabriqué par :  
 Vervaardigd door  
 Prodotto da  
 Fabricado por  
 Fabricado por

Tillverkad av  
 Fremstillet af  
 Valmistaja  
 Produzert av  
 Κατασκευάστηκε από την  
 Произведено  
 Wyprodukowane przez

Üretici  
 مصنع من قبل  
 제조원  
 生产厂商  
 ผลิตโดย  
 製造者

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](http://www.opalorthodontics.com).

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South Jordan, UT 84095

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**opal**<sup>®</sup> ORTHODONTICS