

65-18 Synopsis of Dental Headlamps (Project 01-31) (5/02)

Headlamps are used during dental procedures to increase the amount of illumination directed at the treatment site. As with any type of equipment, users should be informed about the features of headlamps and their purpose prior to buying them. The purpose of this synopsis is to provide information about the features of 9 headlamps.



Perhaps the easiest way to classify headlamps is according to their light source. The two main types are halogen and fiberoptic. Both provide adequate illumination, so the most useful factors to consider prior to purchase are probably your intended clinical use for the light and the specific features you view as important. For example, the chief advantage of the halogen-based system is portability, which is made possible by the fact that they are battery powered. Portability would be important for a dentist who is a clinical instructor or who works in a multi-operatory office. One thing to be aware of is that although the purchase price of halogen systems tend to be lower than for fiberoptic systems, the cost of replacement batteries can add up over the lifetime of the system. Also, battery-powered systems are usually heavy and the halogen lamp can get hot during long procedures, both of which can make the halogen headlamps less comfortable to wear. In contrast, fiberoptic headlamps provide a more intense light, weigh less, and generate very little heat compared to halogen systems. They are less portable and cost more, however. Fiberoptic headlamps would be a good choice for clinicians who tend to use the same operatory every day (where portability is not an issue) and/or those who treat more time-consuming cases (where comfort with the headlamp is important).

One caveat for potential buyers: since illumination is, for most providers, an important property of a headlamp, manufacturers usually provide illumination values for their products. It should be noted, however, that manufacturers often use different focal lengths (i.e., working distances) when reporting illumination levels because there is currently no industry standard for measuring this property. One manufacturer may report an illumination value at a focal distance of 14 inches, while another provides it for a focal distance of 8 inches.

This synopsis gives information about various features of headlamp systems, from retail price to battery type (if applicable). Two features warrant a bit of explaining. You will see that the synopsis contains an entry for filters. This is because some systems have built-in filters that are useful when placing light-activated products, since they can help prevent the headlamp light from prematurely polymerizing the material. We also report how the headlamps can be worn. Some headlamp systems will attach to dental magnifying loupes or prescription glasses; others are used with a headband. A few products can be worn either way. As a general rule, however, halogen headlamps are worn with loupes or glasses, while fiberoptic systems provide both options. An additional note of caution. If purchasing a system for use with magnifying loupes, you should specifically ask the light manufacturer if their product is compatible with your brand of loupe. Some company's headlamps will only fit their loupes. Lastly, please note that the information in the synopsis tables has been provided by the products' manufacturers. It has not been verified by DIS laboratory or clinical-user testing. To view the synopsis, click on the following: [headlamp synopsis](#).

DENTAL HEADLAMP SYNOPSIS (1 OF 3)

| | | | |
|--------------------------------|---|---|--|
| Product/Model | Zeon Illuminator | Zeon Walkabout | PeriLUX LED Portable Light Source |
| Type | Fiberoptic | Halogen | LED |
| Manufacturer or Distributor | Orascoptic Research 3225 Deming Way Middleton, WI 53562 (800) 369-3688 (608) 831-2004 FAX www.orascoptic.com | Orascoptic Research 3225 Deming Way Middleton, WI 53562 (800) 369-3688 (608) 831-2004 FAX www.orascoptic.com | PeriOptix 27281 Las Ramblas Suite 200 Mission Viejo, CA 92691 (949) 366-3333 (949) 366-0033 FAX www.perioptix.com |
| Retail Price | \$995.00 | \$695.00 | \$695.00 - Headband \$650.00 - Loupe |
| Government Price | \$895.00 | \$645.00 | \$585.00 - Headband \$585.00 - Loupe |
| Light Source | Separate unit | Clip-on battery pack | Clip-on battery pack |
| Bulb Price | \$25.00 | N/A | N/A |
| Bulb Usage Rating | 40 hours | N/A | Up to 100,000 hours |
| Bulb Voltage or Wattage | 150 watts | 3.6 volts | N/A |
| Dimensions (inches) | 6½ x 7¾ (footprint) | N/A | 2¾ x 8 x 5 |
| Warranty | 5 years | N/A | 3 year |
| Weight | 6 lbs | N/A | 2½ ounces |
| Safety Features | Auto shut-off | N/A | N/A |
| Light Intensity (foot candles) | 4,400 | 2,000 | TBA |
| Headband Available | Yes | Yes | Yes |
| Attaches to Loupes | Yes | Yes | Yes |
| Light Cable Length (feet) | 7 feet | 6 feet | 4 feet |
| Warranty | 1 year | N/A | 1 year |
| Rechargeable Battery | N/A | Yes | Yes |
| Battery Life | N/A | 1½ hours | 8 hours |
| Battery Recharge Time | N/A | 10 hours | 10 hours |
| Battery Type | N/A | NiCd | NiMh |
| Battery Voltage | N/A | 3.6 VDC | N/A |
| Filters | Yes | No | No |

Information supplied by product manufacturers.

DENTAL HEADLAMP SYNOPSIS (2 OF 3)

| | | | |
|--------------------------------|---|---|---|
| Product/Model | Nova Plus Altair SA | Centauri Portable | Vega Portable |
| Type | Fiberoptic | Halogen | Halogen |
| Manufacturer or Distributor | High Q 6302 East Aster Drive Scottsdale, AZ 85254 (800) 775-3433 (480) 905-0794 FAX www.highqdental.com | High Q 6302 East Aster Drive Scottsdale, AZ 85254 (800) 775-3433 (480) 905-0794 FAX www.highqdental.com | High Q 6302 East Aster Drive Scottsdale, AZ 85254 (800) 775-3433 (480) 905-0794 FAX www.highqdental.com |
| Retail Price | \$1,025.00 | \$575.00 | \$385.00 |
| Government Price | Call for quote | Call for quote | Call for quote |
| Light Source | Separate unit | Wall transformer or battery pack | Wall transformer or battery pack |
| Bulb Price | \$28.00 | \$15.00 | \$15.00 |
| Bulb Usage Rating | 50 to 100 hours | 100 hours | 70 hours |
| Bulb Voltage or Wattage | 200 watts/24 volts | Specify need | 7 watts |
| Dimensions (inches) | 7 x 5 x 4½ | N/A | N/A |
| Warranty | 3 years (cable not included) | 3 years (battery not included) | 3 years (battery and bulb not included) |
| Weight | 7 lbs | Headlight: 7 ounces | Headlight: 5 ounces |
| Safety Features | Auto off if too hot | N/A | N/A |
| Light Intensity (foot candles) | 3,200 | 1,100 | 600 |
| Headband Available | Yes | Yes | Yes |
| Attaches to Loupes | Yes (with specific loupes) | No | Yes |
| Light Cable Length (feet) | 6½ or 10 feet | 3 or 7 feet | 3 or 7 feet |
| Warranty | 1 year | 3 year | 3 year |
| Rechargeable Battery | N/A | Yes | Yes |
| Battery Life | N/A | 2 hours of continuous use | 2 hours of continuous use |
| Battery Recharge Time | N/A | 6 hours | 6 hours |
| Battery Type | N/A | NiCd | NiCd |
| Battery Voltage | N/A | Specify need | Specify need |
| Universal Voltage | Yes | Yes (specify need) | Yes (specify need) |
| Filters | Yes | No | No |

Information supplied by product manufacturers.

DENTAL HEADLAMP SYNOPSIS (3 OF 3)

| | | | |
|--------------------------------|--|--|---|
| Product/Model | Dentalite | Quadrilite 6000 | Keeler Fibrelite Illuminator with UV Filter |
| Type | Fiberoptic | Fiberoptic | Fiberoptic |
| Manufacturer or Distributor | Designs for Vision, Inc. 760 Koehler Avenue Ronkonkoma, NY 11779 (800) 345-4009 (631) 585-3434 FAX www.designsforvision.com | Designs for Vision 760 Koehler Avenue Ronkonkoma, NY 11779 (800) 345-4009 (631) 585-3434 FAX www.designsforvision.com | Keeler 456 Parkway Broomall, PA 19008 (800) 523-5620 (610) 353-7814 www.Keelerusa.com |
| Retail Price | \$915.00 | \$1,660.00 | \$1,045.00 (\$995 without UV filter) |
| Government Price | \$915.00 | \$1,660.00 | \$788.00 (\$749 without UV filter) |
| Light Source | Separate unit | Separate unit | Separate unit |
| Bulb Price | \$15.00 | \$24.00 | \$12.86 |
| Bulb Usage Rating | N/A | 40 hours | N/A |
| Bulb Voltage or Wattage | N/A | N/A | 200 watts |
| Dimensions (inches) | 5¼ x 12 x 7 | 13 x 6 x 6 | 6 x 4 x 8 |
| Warranty | 5 years | Lifetime | 1 year |
| Weight | 6 lbs | 12 lbs | 6.6 lbs |
| Safety Features | Auto shut-off | Auto shut-off | N/A |
| Light Intensity (foot candles) | 3,200 | 6,000 | 3,344 |
| Headband Available | Yes | Yes | Yes |
| Attaches to Loupes | Yes | Yes | Yes, but only to Keeler's |
| Light Cable Length (feet) | 6½ or 10 feet | 5½, 10, or 16 feet | 7½ feet |
| Warranty | 1 year | Lifetime | 1 year |
| Rechargeable Battery | N/A | N/A | N/A |
| Battery Life | N/A | N/A | N/A |
| Battery Recharge Time | N/A | N/A | N/A |
| Battery Type | N/A | N/A | N/A |
| Battery Voltage | N/A | N/A | N/A |
| Filters | No | No | No |

Information supplied by product manufacturers.