

## 62-19 Synopsis of Loupes Used in Dentistry (Project 00-36) (5-01)

The popularity of user-worn dental loupes (i.e., magnification eyewear) is growing as clinicians realize their benefits. Among other things, loupes make it possible to more easily examine treatment areas which helps reduce eyestrain and promotes proper body posture.

Unfortunately, loupes are a relatively expensive and, as a result, it is well worth the potential buyer's time to learn about the various types available prior to purchase. This project is a synopsis of 44 loupes from 7 manufacturers who responded to a DIS request for product information. Several characteristics given in the tables warrant some explanation. These include Type of Loupe, Working Distance, Depth of Field, Width of Field, Weight, and Declination Angle.



The synopsis includes the two types of loupes used in dentistry: Through-the-lens (TTL) and front-frame-mounted (Flip-up). The



difference between the two is important. With TTL loupes, the magnification lens is fixed at the factory directly to the glasses. If you wear corrective glasses, and your prescription changes, the loupes must be sent back to the factory for correction. Flip-up style loupes are attached to the front of the frame of the glasses and, as the names indicates, can be flipped up when the clinician does not want to use them. With Flip-up Loupes, if your prescription changes, you simply detach the loupes from the glasses frame and take the glasses to an optical shop to have the lenses replaced. Choosing between the two types is a matter of personal preference.

The distance between the wearer's eye and the object to be viewed is known as the Working Distance. It is generally accepted that the working distance for a tall individual will be greater than that of a short person. Prior to purchasing any types of loupe, the users must be measured to determine his/her working distance.

Depth of Field is the amount of focused vision in front of and beyond the viewed object. For example, if a loupe has a 5-inch depth of field, the user should have clear, focused vision 2½ inches in front of and 2½ inches beyond the object. Generally, depth of field increases as the working distance increases.

The total length across the focused field of view is known as the Width of Field. Magnification affects the width and depth of field as well as the total weight of a pair of loupes. As the magnification increases, the width and depth of field decrease and the weight increases.

When planning to buy loupes, it is important that a representative from the company meet with you to determine another important factor: Declination Angle (DA). DA refers to the degree to which the eyes are declined (inclined downward) as the dentist views the oral/facial region. Studies indicate that the ideal declination angle is from 15 to 44 degrees. However, different loupes have different declination angles, and a product needs to match the provider's declination angle to avoid the added risk of neck/back strain. Therefore, it is important for the company representative to measure your DA as a means of determining the specific model best suited to your needs.

The synopsis is available by [clicking here](#). Please note that all information in the synopsis was provided by the manufacturers.

**LOUPES FOR USE IN DENTISTRY (1 of 3)**

Manufacturer	Type/Models	Magnification	Working Distance	Depth of Field	Width of Field	Warranty	Weight	Price Range
General Scientific Corporation	Flip-up EV200 (2 models) EV250 (3 models)  EV300 (4 models) KL400 KL500	2.0x 2.5x 3.0x 4.0x 5.0x	13" to 16" 12", 16" & 22" 11", 13", 16" & 21" Custom Custom	8" & 13" 6", 9" & 14" 4", 5", 6" & 10" 3" to 4" 2.5" to 3.5"	3.5" to 7.3" 2.6" to 5.9" 1.9" to 3.6" 2" to 4" 1.8" to 3.5"	Limited lifetime warranty	62g 65g 68g 97g 98g	Retail: \$995.00 to \$1,595.00 Govt: \$716.00 to \$1,220.00  * Contract: V797P-3493K Expires 30 Sep 2004 Note: 5% discount for ten or more
General Scientific Corporation	Through-the-Lens EVIMG250 (3 models) EVKim400  EVKim500	2.5x 4.0x  5.0x	12", 16", & 22" Custom  Custom	6", 9", & 14" 3" to 4"  2.5" to 3.5"	3" to 6.4" 2.4" to 4.5"  2.2" to 4"	Limited lifetime warranty	53g 97g  93g	Retail: \$1,045.00 to \$1,595.00 Govt: \$756.00 to \$1,220.00  * Contract: V797P-3493K Expires 30 Sep 2004 Note: 5% discount for ten or more
Keeler Instruments	Flip-up SuperVu SL (3 different powers to choose from)	2.0x 2.5x 3.0x	13" & 18" 13", 16", 18" & 20" 13", 16", 18" & 20"	Depends on provider eyesight	4.5" or 6.0" 3.1" to 4.5" 2.3" to 3.2"	3 years on all models	77g 83g 91g	Retail: \$945.00 Govt: \$637.00 * Contract: V797P324J
Keeler Instruments	Flip-up SuperVu XL (4 different powers to choose from)	2.5x 3.5x 4.5x 5.5x	All are available in: 13", 16", 18" & 20"	Depends on provider eyesight	Varies according to provider	3 years on all models	97g 100g 100g 117g	Retail: \$1,495.00 Govt: \$955.00 * Contract: V797P324J

**LOUPES FOR USE IN DENTISTRY (2 of 3)**

Manufacturer	Type/ Models	Magnification	Working Distance	Depth of Field	Width of Field	Warranty	Weight	Price Range
Microsurgery Instruments, Inc.	Flip-up 7 sizes	3.0x 3.5x 4.0x 4.5x 5.0x 6.0x 6.5x	14,16,18,20 16 14,16,18,20 16 14,16,18,20 14,16,18,20 14,16,18,20	3 for all sizes	3.1 2.75 2.75 2.75 2.75 2.3 2	3 years on all models	94g 100g 94g 100g 94g 94g 94g	Retail: \$545.00 to \$995.00 Govt: \$395.00 to \$795.00 * No Govt Contract
Microsurgery Instruments, Inc.	Flip-up 2 sizes	2.5x R 2.5x Z	14,16,18,20 10 to 23 adjustable	3 for all sizes	4.3 4.3	3 years on all models	88g 88g	Retail: \$ 545.00 Govt: \$395.00 Retail: \$645.00 Govt: \$495.00
Light-Tech	Flip-up 2.0 2.6	2.0x 2.6x	Both are: 14" to 16	Depends on provider eyesight	4 3	Limited 1 Year	198g	Retail & Govt Same \$495.00 \$570.00
Orascoptic Research	Flip-up	2.0x 2.6x 3.25x	12 to 22 11 to 21 13 to 21	5 4 3	5 4 3	Lifetime	78g 78g 89g	Retail: \$595.00 to \$1,045.00 Govt: \$495.00 to \$875.00 Govt with Resident Training Program: \$475.00 to 775.00 * Contract # V797P-3424k Expires: Sep 2004

**LOUPES FOR USE IN DENTISTRY (3 of 3)**

Manufacturer	Models	Magnification	WorkingDistance	Depthof Field	Width of Field	Warranty	Weight	Price Range
Orasoptic Research	Through-the-Lens	2.5x	11 to 24	4.5	4.5	Lifetime	64g	Retail: \$595.00 to \$1,045.00 Govt: \$495.00 to \$875.00 Govt with Resident Training Program: \$475.00 to 775.00 Contract # V797P 3424k Expires: Sep 2004
		3.3x 3.8x	Custom Fit Custom Fit	4 3.5	4 3.5		81g 81g	
		4.3x	Custom Fit	3	3		81g	
		4.8x	Custom Fit	2.5	2.5		86g	
Designs for Vision	Through-the-Lens	2.0x 2.5x 3.5x 4.5x	All Are Custom Fit	3.7 3.1 2.0 1.2	3.5 3 2 1.4	Lifetime as Long as in Practice	70g 62g 70g 76g	Retail: \$995 .00 to \$1,595.00 Govt: \$775 .00 to \$1,350.00 Redu ced price for bulk orders No Contract
Designs for Vision	Through-the-Lens	2.5x 3.5x 4.5x 6.0x	All Are Custom Fit	3.9 3.0 2.4 1.8	4.4 2.9 2.0 2.0	Lifetime as Long as in Practice	96g 99g 113g 117g	Retail: \$995 .00 to \$1,595.00 Govt: \$775 .00 to \$1,350.00 Redu ced for bulk orders No Contract
Designs for Vision	Flip-up Flip up II	2.5x	All Are Custom Fit	NA	NA	Lifetime as Long as in Practice	NA	Retail/Govt: \$395.00 to \$445.00 Redu ced for bulk orders * No Govt Contract
Eagle Optical Products	Flip-up Leica ET-25 Leica EL-25 Leica P-25	2.5x 2.5x 2.5x	12" to 16" adjusta ble	6" to 8"	2.75" to 4.00"	Limited Lifetime Warenty	63g 68g 78g	Retail: \$645 .00 to \$745.00 Govt: \$445 to \$495.00

**MANUFACTURER INFORMATION**

Manufacturer	Address & Phone Numbers	Website
General Scientific Corporation	77 Enterprise Drive Ann Arbor, MI 48103-9503 (800) 959-0153 (734) 996-9200 FAX: (743) 662-0520	<a href="http://www.surgitel.com">www.surgitel.com</a>
Keeler Instruments	456 Parkway Broomall, PA 19008 (610) 353-4350 FAX: (610) 353-7814	<a href="http://www.keelerusa.com">www.keelerusa.com</a>
Microsurgery Instruments, Inc	PO Box 1378 Bellaire, TX 77402 (713) 664-4707 FAX: (713) 665-8873	<a href="http://www.microsurgeryusa.com">www.microsurgeryusa.com</a>
Light-Tech, Inc.	8900 W. Josephine Road Sebring, FL 33875 (863) 385-6000 FAX: (863) 382-6000	<a href="http://www.light-tech.com">www.light-tech.com</a>
Orascoptic Research	3225 Deming Way Middleton, WI 53562 (608) 831-2555 FAX: (608) 831-2004	<a href="http://www.orascoptic.com">www.orascoptic.com</a>
Designs for Vision, Inc.	760 Koehler Avenue Ronkonkoma, NY 11779 (800) 727-6407 FAX: (631) 585-3404	<a href="http://www.designsforvision.com">www.designsforvision.com</a>
Eagle Optical Products	2 Benzel Complex Lancaster, NY 14086 (888) 318-2020 FAX: (716) 683-2570	<a href="http://www.eagleoptical.com">www.eagleoptical.com</a>