

CO₂ LASER NOZZLES AND ACCESSORIES



LVD[®]



TOLL FREE 888.558.1504 (USA and Canada)
TEL. 724.352.1504 FAX. 724.352.4980



About II-VI INFRARED

In 1971, II-VI Incorporated began by exclusively producing the highest-quality cadmium telluride (CdTe) material available for manufacturing high-power industrial CO₂ laser optics. Today, we have diversified into producing zinc selenide (ZnSe) material, as well as into numerous business units including laser tools for materials processing (HIGHYAG); near-infrared optics, YAG components, and telecommunications components (VLOC); fiber optics, projection and display optics, DPSS laser, crystal materials, and other photonics products (Photop); defense and aerospace optics (Exotic Electro-Optics); tellurium and selenium products (PRM); thermoelectric cooling devices (Marlow Industries); silicon carbide (II-VI WBG); and advanced materials development (II-VI AMDC). Given this diversity of II-VI Incorporated's business units, we have thus christened our original IR materials and optics business unit II-VI Infrared.

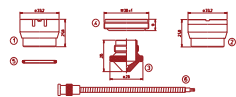
As II-VI Incorporated continues to grow, II-VI Infrared focuses on the company's original, industry-leading products: infrared and CO₂ laser optics and materials. And thanks to decades of innovation in zinc selenide (ZnSe) and zinc sulfide (ZnS) materials processing, thin-film coating, precision diamond turning, and finished optics fabrication, II-VI Infrared is the world leader in CO₂ laser optics, delivering an unbeatable combination of innovation, quality, and expertise. II-VI Infrared also delivers the largest vertically integrated CO₂ laser optics manufacturing process -- from raw materials to finished coated products -- in the world.

An optics foundry to CO₂ laser original equipment manufacturers (OEMs) the world over, consistently building optics to spec with consistent performance and quality, II-VI Infrared's products range from replacement CO₂ laser optics and nozzles to lenses, partial reflectors, windows, beamsplitters, mirrors, beam expanders, reflective phase retarders, scanning-laser system optics, diamond-turned custom optics, IR optical materials (ZnSe, ZnS, CVD Diamond), and more. Our products and reputation make us the number-one supplier to OEMs of CO₂ laser systems worldwide, while our capabilities are without rival in the industry.

Our diamond-turning facility is among the largest and most advanced in the world, offering services such as flycutting and multiple-axis turning, as well as fast and slow tool servos for custom optics. Single-point diamond-turning is used in finishing transmissive optics and mirrors in a variety of metals and IR materials.

Major investments in computer design programs, thin film evaporation equipment, clean rooms, and QA testing facilities enable us to offer a broad range of IR thin-film coatings. II-VI Infrared is known for designing and producing consistently low-absorption coatings for high-power CO₂ laser optics. Additionally, our talented and experienced engineering team using optical design software and CAD systems, designs and builds standard and custom optics as well as specialized mounts, components, and electro-optic assemblies.

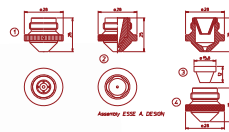
Our quality assurance program includes comprehensive testing, documentation, and statistical analysis to ensure that each optic and component performs to customer requirements.



3-4

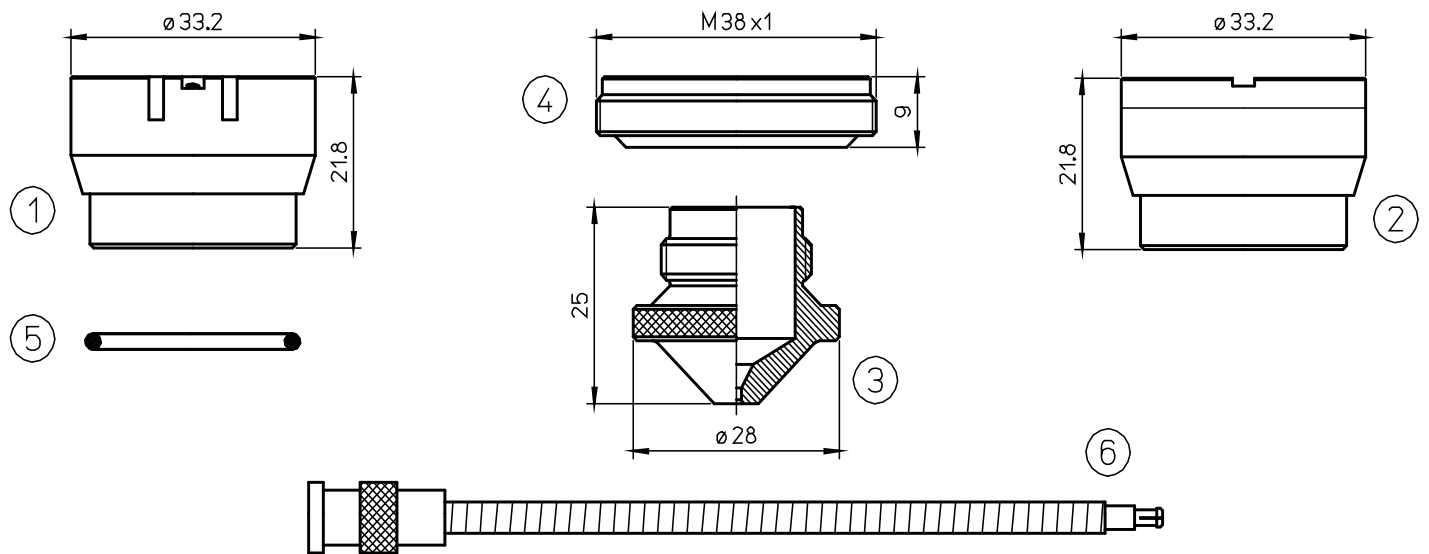


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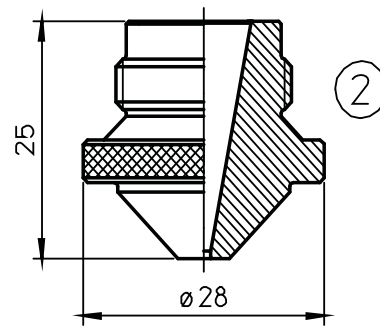
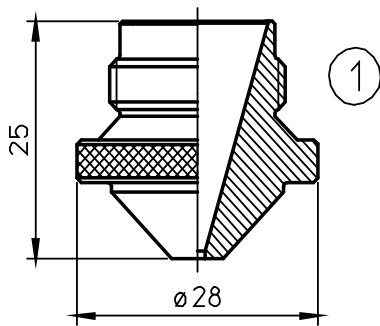


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POS	II-VI P/N	OEM P/N	DESCRIPTION
1	AL130	281146-P0380-211-00001-29100033	PRECITEC® ORIG. NOZ. HOLDER IT M1.5" DZ - ALUMINUM
	AL130/S	281146-P0380-211-00001-29100033	PRECITEC® NOZZLE HOLDER IT M1.5" DZ - ALUMINUM
2	AL40	280565-P0497-605-00001-29100106	PRECITEC® ORIG. NOZ. HOLDER KT M1.5"DXN - CERAMIC
3	L757	D5241993	LVD® NOZZLE Ø 0.8 - CYLINDRICAL
	L141	D7945470	LVD® NOZZLE Ø 1.0 - CYLINDRICAL
	L758	D5241982	LVD® NOZZLE Ø 1.2 - CYLINDRICAL
	L142	D7945434	LVD® NOZZLE Ø 1.5 - CYLINDRICAL
	L143	D7945452	LVD® NOZZLE Ø 2.0 - CYLINDRICAL
	L144	D7945517	LVD® NOZZLE Ø 2.5 - CYLINDRICAL
	L145		LVD® NOZZLE Ø 3.0 - CYLINDRICAL
	L757X	D5241993	LVD® NOZZLE Ø 0.8 CP - CYLINDRICAL
	L141X	D7945470	LVD® NOZZLE Ø 1.0 CP - CYLINDRICAL
	L758X	D5241982	LVD® NOZZLE Ø 1.2 CP - CYLINDRICAL
	L142X	D7945434	LVD® NOZZLE Ø 1.5 CP - CYLINDRICAL
	L143X	D7945452	LVD® NOZZLE Ø 2.0 CP - CYLINDRICAL
	L144X	D7945517	LVD® NOZZLE Ø 2.5 CP - CYLINDRICAL
L145X		LVD® NOZZLE Ø 3.0 CP - CYLINDRICAL	
4	AL198	P0492-702-00001-29100021	PRECITEC® INSULATING RING - plastic
	AL201	P0492-702-00002	PRECITEC® INSULATING RING - plastic
5	AL94	71366453	AMADA® O'RING FOR NOZZLE OUTER
6	AL204	P0360-100-00500 - 46713300100	PRECITEC® ORIG. SENSOR CABLE KE 500 Z
	AL202	P0497-002-00450	PRECITEC® ORIG. CABLE KE 450 gg

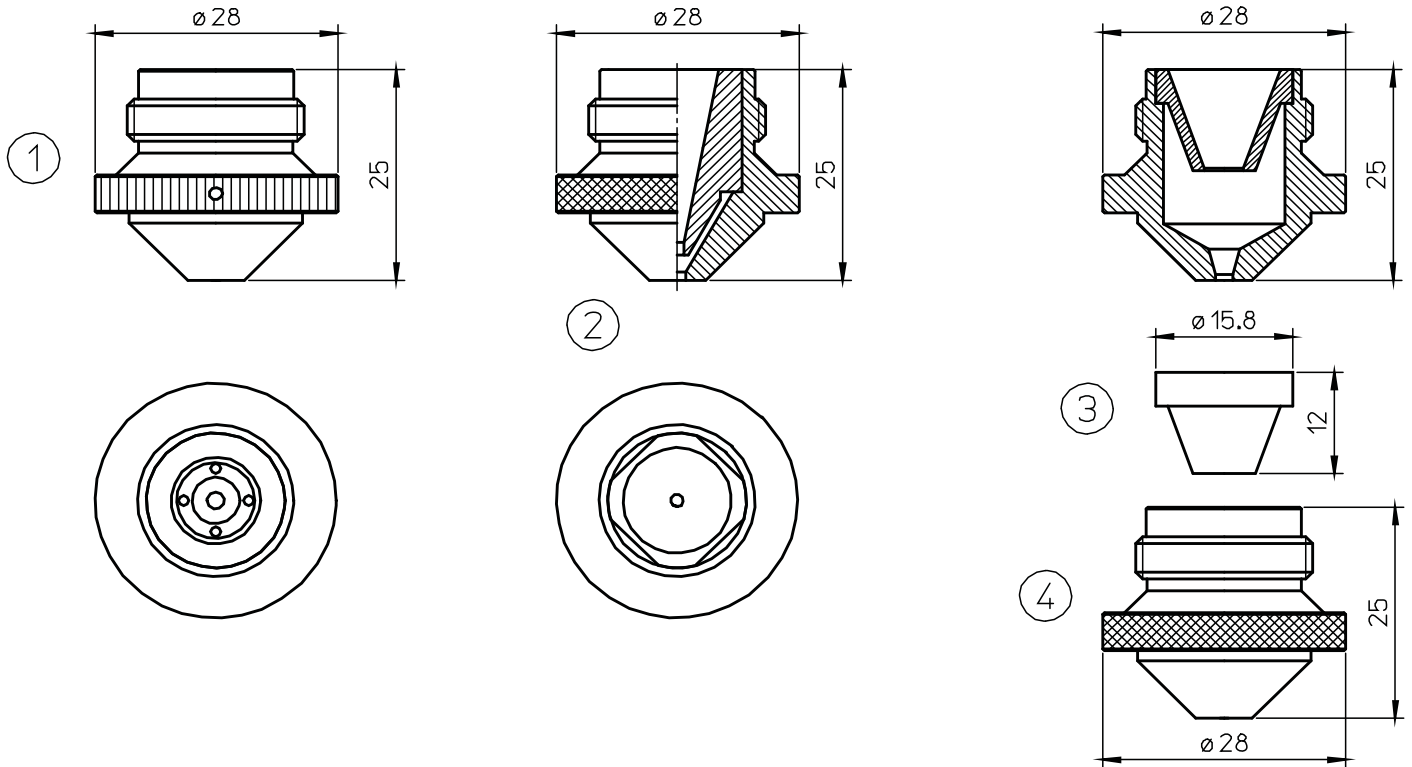


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POS	II-VI P/N	OEM P/N	DESCRIPTION	
1	L151	D5241863	LVD® NOZZLE Ø 1.0 HD - CONICAL	
	L759		LVD® NOZZLE Ø 1.2HD - CONICAL	
	L152	D5241862	LVD® NOZZLE Ø 1.5 HD - CONICAL	
	L748	D5242512	LVD® NOZZLE Ø 1.7 HD - CONICAL	
	L146	D5241855	LVD® NOZZLE Ø 2.0 HD - CONICAL	
	L749	D5242513-Z000000539D	LVD® NOZZLE Ø 2.3 HD - CONICAL	
	L147	D5241856-Z000000563B	LVD® NOZZLE Ø 2.5 HD - CONICAL	
	L148	D5241857-Z000000540B	LVD® NOZZLE Ø 3.0 HD- CONICAL	
	L149	D5241877-Z000000564B	LVD® NOZZLE Ø 3.5 HD - CONICAL	
	L283	D5241878-Z000000565B	LVD® NOZZLE Ø 4.0 HD - CONICAL	
	L1303	D5242531-Z000000566B	LVD® NOZZLE Ø 4.5 HD - CONICAL	
	L1304	D5242535-Z000000567B	LVD® NOZZLE Ø 5.0 HD - CONICAL	
	L1305	D5242536-Z000000568B	LVD® NOZZLE Ø 6.0 HD - CONICAL	
	L151X	D5241863	LVD® NOZZLE Ø 1.0 HD CP - CONICAL	
	L759X		LVD® NOZZLE Ø 1.2 HD CP - CONICAL	
	L152X	D5241862	LVD® NOZZLE Ø 1.5 HD CP - CONICAL	
	L748X	D5242512	LVD® NOZZLE Ø 1.7 HD CP - CONICAL	
	L146X	D5241855	LVD® NOZZLE Ø 2.0 HD CP - CONICAL	
	L749X	D5242513	LVD® NOZZLE Ø 2.3 HD CP - CONICAL	
	L147X	D5241856	LVD® NOZZLE Ø 2.5 HD CP - CONICAL	
	L148X	D5241857	LVD® NOZZLE Ø 3.0 HD CP - CONICAL	
	L149X	D5241877	LVD® NOZZLE Ø 3.5 HD CP - CONICAL	
L283X	D5241878	LVD® NOZZLE Ø 4.0 HD CP - CONICAL		
2	L152-S	D5242453A	LVD® NOZZLE Ø 1.5 HD SPECIAL	
	L146-S	D5242454A	LVD® NOZZLE Ø 2.0 HD SPECIAL	
	L147-S	D5242416A	LVD® NOZZLE Ø 2.5 HD SPECIAL	
	L148-S	D5242455 A	LVD® NOZZLE Ø 3.0 HD SPECIAL	



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POS	II-VI P/N	OEM P/N	DESCRIPTION
1	L1290	G8040180	LVD® DOUBLE NOZZLE W/SPRING Ø 2.5 INNER Ø 1.3
	L1291	G8040135	LVD® DOUBLE NOZZLE W/SPRING Ø 2.5 INNER Ø 1.5
	L1292	G8040132	LVD® DOUBLE NOZZLE W/SPRING Ø 3.0 INNER Ø 2.0
	L1293	G8040182	LVD® DOUBLE NOZZLE W/SPRING Ø 3.0 INNER Ø 1.3
	L1294		LVD® DOUBLE NOZZLE W/SPRING Ø 3.0 INNER Ø 1.5
	L1290X	G8040180	LVD® DOUBLE NOZZLE W/SPRING Ø 2.5 INNER Ø 1.3 CP
	L1291X	G8040135	LVD® DOUBLE NOZZLE W/SPRING Ø 2.5 INNER Ø 1.5 CP
	L1292X	G8040132	LVD® DOUBLE NOZZLE W/SPRING Ø 3.0 INNER Ø 2.0 CP
	L1293X	G8040182	LVD® DOUBLE NOZZLE W/SPRING Ø 3.0 INNER Ø 1.3 CP
	L1294X		LVD® DOUBLE NOZZLE W/SPRING Ø 3.0 INNER Ø 1.5 CP
2	L783		LVD® DOUBLE NOZZLE Ø 1.0
	L782		LVD® DOUBLE NOZZLE Ø 1.2
	L784		LVD® DOUBLE NOZZLE Ø 1.5
	L785		LVD® DOUBLE NOZZLE Ø 2.0
	L786		LVD® DOUBLE NOZZLE Ø 2.5
	L787		LVD® DOUBLE NOZZLE Ø 3.0
	L788		LVD® DOUBLE NOZZLE Ø 3.5
	L789		LVD® DOUBLE NOZZLE Ø 4.0
	L783X		LVD® DOUBLE NOZZLE Ø 1,0 CP
	L782X		LVD® DOUBLE NOZZLE Ø 1.2 CP
	L784X		LVD® DOUBLE NOZZLE Ø 1,5 CP
	L785X		LVD® DOUBLE NOZZLE Ø 2,0 CP
	L786X		LVD® DOUBLE NOZZLE Ø 2,5 CP
	L787X		LVD® DOUBLE NOZZLE Ø 3,0 CP
	L788X		LVD® DOUBLE NOZZLE Ø 3,5 CP
	L789X		LVD® DOUBLE NOZZLE Ø 4,0 CP
	L791	Z000000223A	LVD® DOUBLE NOZZLE Ø 3.0 - 1.7
	L790	G8040131	LVD® DOUBLE NOZZLE Ø 3.0 - 2.0
3	L157		LVD® INNER NOZZLE
4	L160		LVD® NOZZLE Ø 2.0 FOR INNER NOZZLE
	L158		LVD® NOZZLE Ø 1.0 FOR INNER NOZZLE
	L934		LVD® NOZZLE Ø 1.2 FOR INNER NOZZLE
	L159		LVD® NOZZLE Ø 1.5 FOR INNER NOZZLE
	L161		LVD® NOZZLE Ø 2.5 FOR INNER NOZZLE
	L178		LVD® NOZZLE Ø 3.0 FOR INNER NOZZLE
	L179		LVD® NOZZLE Ø 3.5 FOR INNER NOZZLE

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FOR ALL OF YOUR REPLACEMENT OPTIC NEEDS

CO₂ LASER OPTICS/CONSUMABLE PRODUCTS
 CO₂ LASER CONSUMABLES
 NOZZLES & ACCESSORIES
 TRUMPF CUT LENSES
 MP-5 ULTRA-LOW ABSORPTION LENSES
 ASPHERIC LENSES
 MENISCUS LENSES
 PLANO-CONVEX LENSES
 CYLINDER LENSES
 MIRRORS
 SCANNING LASER SYSTEM OPTICS
 BEAM COMBINERS
 BEAM EXPANDERS
 BEAMSPLITTERS
 COLLIMATING OPTICS
 DIAMOND-TURNED SPECIALTY OPTICS
 REFLECTIVE PHASE RETARDERS
 PRISMS & RHOMBS
 MODULATORS
 WAVEPLATES
 THIN-FILM POLARIZERS
 POLARIZER-ANALYZER-ATTENUATOR

RESONATOR OPTICS
 OUTPUT COUPLERS
 REAR MIRRORS
 BAND-SELECTIVE OPTICS
 AR-COATED WINDOWS
 BREWSTER WINDOWS
 PROTECTIVE WINDOWS
 LENS STRESS ANALYZER(LSA)
 1 MICRON OPTICS
 1 MICRON OPTICAL COMPONENTS
 1 MICRON DEBRIS SHIELDS
 1 MICRON HPDDL BEAM INTEGRATORS
 1 MICRON OPTICAL COATINGS
 1 MICRON MATERIALS
 OPTICAL MATERIALS
 ZINC SELENIDE (ZNSE)
 ZINC SULFIDE (ZNS)
 ZINC SULFIDE MULTISPECTRAL (ZNS MS)
 GERMANIUM (GE)
 GALLIUM ARSENIDE (GAAS)
 MATERIAL BLANKS
 CVD DIAMOND SUBSTRATES
 IR THERMAL IMAGING OPTICS



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HOW TO ORDER



If you are unsure of what nozzles you need contact our trained staff for assistance. Customers in the USA and Canada can call toll-free: 888.558.1504. Customers outside of the USA and Canada can call: 724.352.1504. Customers in Europe and Asia can also contact a II-VI Subsidiary Office (see back cover for details).

* Catalog revised January 2014 and copyrighted by II-VI Incorporated.

TERMS AND CONDITIONS OF SALE

All orders received by II-VI Incorporated ("II-VI") are expressly conditioned upon the following conditions of sale:

1) Acceptance

Any additional or different terms set forth in any purchase order or other communication from Buyer are objected to and not binding upon II-VI unless and until accepted in writing by an authorized representative of II-VI.

2) Standard Warranty

II-VI warrants to the Buyer of each product of II-VI's own manufacture ("Product") that each Product will be free from defects in materials and workmanship subject to the following conditions:

The obligations of II-VI under this Standard Warranty shall be limited to either, at the option of II-VI: (1) the replacement or repair of any Product upon the shipment of such Product, freight prepaid by Buyer to the II-VI factory; or (2) the provision to Buyer of a credit against future purchases in an amount equal to the purchase price of the defective Product.

IN NO EVENT WILL II-VI BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES OF BUYER. THE FOREGOING REMEDIES ARE THE SOLE AND EXCLUSIVE REMEDY OF BUYER FOR ANY BREACH OF WARRANTY UNDER THIS CONTRACT.

All claims under this Standard Warranty must be made within ONE (1) YEAR after the date on which the Product was delivered to Buyer. In the case of a replacement or repair of a Product, Buyer shall only ship a defective Product to II-VI after an authorized representative of II-VI has provided a Return Authorization (RA) number for such warranty claim. Returns will be subject to a restocking fee.

With respect to such returns, Buyer is solely responsible for properly packaging any Product to be returned to II-VI under this Standard Warranty. Products must be packaged in their original manufacturer's packaging or equivalent. Products must be packaged in separate shipping containers with Return Authorization (RA) numbers clearly marked on the outside of the shipping containers. If there are questions regarding proper packaging and shipping, contact II-VI for guidelines. II-VI will not be responsible for replacing or repairing any Product damaged while in transit to II-VI due to faulty or deficient packaging.

This Standard Warranty shall be void and shall not apply with respect to any Product which, upon inspection by II-VI, shows evidence of damage as a result of abuse, misuse, mishandling, accidental damage, alteration, negligent handling, or improper installation or application, or as a result of alteration or other causes beyond the control of II-VI.

This Standard Warranty shall not apply to goods or parts included in or supplied with Products; such goods or parts carry only such warranties, if any, as are provided by the manufacturers of such goods or parts, which warranties may be more restrictive than the Standard Warranty provided by II-VI.

With respect to any previously-purchased Product, II-VI shall have no obligation to install updates or upgrades to any components in such Product, even if the exclusion of such updates or upgrades of such components renders such Product obsolete when compared to a new Product of a substantially similar type.

THERE ARE NO WARRANTIES THAT EXTEND BEYOND THE DESCRIPTION CONTAINED HEREIN. THIS WARRANTY VOIDED AND EXCLUDES ANY AND ALL OTHER WARRANTIES OR REPRESENTATIONS, WHETHER EXPRESS OR IMPLIED OR ARISING UNDER ANY LAW, RELATING TO THE GOODS, INCLUDING BUT NOT LIMITED TO WARRANTIES OF MERCHANTABILITY AND/OR FITNESS FOR ANY PARTICULAR PURPOSES.

NO PERSON, FIRM, OR CORPORATION IS AUTHORIZED TO ASSUME ON BEHALF OF II-VI ANY ADDITIONAL OBLIGATION OR LIABILITY NOT EXPRESSLY PROVIDED HEREIN, EXCEPT IN A WRITING DULY EXECUTED BY AN OFFICER OF II-VI.

3) Limitation of Liability

In no event shall II-VI be liable for any incidental or consequential damages. The liability of II-VI on any claim of any kind shall in no event exceed the price of the Product which gives rise to the claim. Except as to title, all such liability shall terminate upon expiration of the warranty period of the Product.

The invalidity of any of the previous paragraphs shall not affect the remainder of this paragraph or any other paragraph in this section.

4) Patent Infringement

Buyer shall hold II-VI harmless against any expense or loss resulting from infringement of patents or trademarks arising from compliance with Buyer's designs or specifications.

5) Delivery and Title

Delivery dates are approximate and are based upon prompt receipt of all necessary information from Buyer. Under no circumstances does II-VI guarantee date of shipment.

Unless otherwise specified by II-VI, shipment will be made and title will pass F.O.B. point of shipment. II-VI shall ship Products as it deems appropriate unless instructed otherwise in writing by Buyer.

6) Risk of Loss

Risk of loss or damage shall pass to Buyer upon shipment. Loss or damage that occurs during shipping by a carrier selected by Buyer is Buyer's responsibility.

7) Uncontrollable Delays

II-VI shall not be liable for delivery delays due to causes beyond its reasonable control including, but not limited to, acts of God, acts of Buyer, acts of military authority, governmental priorities, labor strikes, and transportation delays.

8) Financial Conditions

If II-VI determines in good faith that the financial condition of Buyer at any time does not justify the continuation of production or shipment on the terms of payment originally specified, II-VI may require full or partial payment in advance. In the event of Buyer bankruptcy or insolvency, II-VI shall be entitled to cancel any outstanding order and shall receive reimbursement for its cancellation charges.

9) Payment Terms

Unless terms are specifically set forth on the Order Acknowledgement, Buyer shall pay at such time and such terms as specified in II-VI's original invoice. Any quotations shall be valid for the period stated on the quotation.

10) Cancellation

Buyer may not cancel its order after shipment has been made. Buyer may cancel its order prior to shipment only upon written notice and consent of II-VI. If II-VI consents to any such cancellation, Buyer may be required to pay cancellation charges which include lost profits and all expenses incurred in connection with the cancelled order.

11) Jurisdiction

The validity, performance, and all matters relating to the interpretation and effect of this agreement shall be governed by the laws of the Commonwealth of Pennsylvania.

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WORLDWIDE SALES OFFICES

To place an order, contact a II-VI sales representative at any of the following locations, or visit www.iiviiinfrared.com/contact for our most complete and up-to-date contact information.

**II-VI INFRARED**

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F. 724-352-4980
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F. 65 6481 8702
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