

# LN<sub>2</sub>, CLOSED CYCLE and TEC DEWAR ASSEMBLY PRICE LIST

(Effective April 1, 2019)

Each Dewar assembly comes with one mother-daughter board set with interconnecting cables. The assembly does not include the FPA. Other daughter boards may be used in the same cold clamp assembly provided their LCCC package is the same thickness as the initial package for which the Dewar was configured.

Dewar configurations are available for infrared focal plane arrays from most major suppliers. Custom configurations are also available.

## LN<sub>2</sub> POUR FILL DEWAR ASSEMBLIES (Lid must be purchased separately.)

Part Number	Description	Unit Price
<b>DWR-LN2-ST</b>	Standard LN <sub>2</sub> pour fill Dewar assembly. Maximum of twenty two stainless coax lines before an additional charge.	<b>\$ 11,700.00</b>
<b>DWR-LN2-LG</b>	LN <sub>2</sub> pour fill Dewar for 100 or 124 pin LCCC. Includes four DB25 hermetic feedthroughs.	<b>\$ 16,600.00</b>

**LN<sub>2</sub> POUR FILL DEWAR LIDS** (O-ring sealed) Order the type of window by replacing the "XX" with GE for Germanium, SI for Silicon or CF for Calcium Fluoride.

Part Number	Description	Unit Price
<b>DWR-LID-W1-XX</b>	Lid for DWR-LN2-ST with 3u-12u 1" diameter window.	<b>\$ 1,350.00</b>
<b>DWR-LID-W2-XX</b>	Lid for DWR-LN2-ST with 3u-12u 2" diameter window.	<b>\$ 1,650.00</b>
<b>DWR-LID-LG-W1-XX</b>	Lid for DWR-LN2-LG with 3u-12u 1" diameter window.	<b>\$ 2,400.00</b>
<b>DWR-LID-LG-W2-XX</b>	Lid for DWR-LN2-LG with 3u-12u 2" diameter window.	<b>\$ 2,700.00</b>
<b>DWR-LID-W1</b>	Lid for DWR-LN2-ST. Customer supplies 1" diameter window.	<b>\$ 1,000.00</b>
<b>DWR-LID-W2</b>	Lid for DWR-LN2-ST. Customer supplies 2" diameter window.	<b>\$ 1,000.00</b>
<b>DWR-LID-LG-W1</b>	Lid for DWR-LN2-LG. Customer supplies 1" diameter window.	<b>\$ 2,050.00</b>
<b>DWR-LID-LG-W2</b>	Lid for DWR-LN2-LG. Customer supplies 2" diameter window.	<b>\$ 2,050.00</b>
	<i>Custom Dewar lid.</i>	<b>Call</b>

## LN<sub>2</sub> POUR FILL DEWAR OPTIONS

Part Number	Description	Unit Price
<b>DWR-2L</b>	Option for two-liter Dewar shell.	<b>\$ 1,000.00</b>
<b>DWR-LN2-STF</b>	Option for stiffened LN <sub>2</sub> Dewar shell.	<b>\$ 750.00</b>
<b>DWR-LN2-DB37</b>	Option for DB37 connector configuration for DWR-LN2-LG.	<b>\$ 1,800.00</b>
<b>DWR-LN2-HTR</b>	Option for temperature controlled heater. Includes temperature sensor and heater interface cable to Lakeshore 331. <i>For new Dewars only. Call for pricing for existing Dewar.</i>	<b>\$ 900.00</b>

# LN<sub>2</sub>, CLOSED CYCLE and TEC DEWAR ASSEMBLY PRICE LIST

(Effective April 1, 2019)

## CLOSED CYCLE DEWAR ASSEMBLY (Lid must be purchased separately. Excludes cryocooler.)

Part Number	Description	Unit Price
<b>DWR-CC-LG</b>	Large format closed cycle Dewar/Cooler Assembly w/ four. hermetic DB25 connectors, Sunpower CryoTel CT cryocooler and cooler controller for 84, 100 or 124 pin and custom LCCCs	<b>\$ 48,000.00</b>

## CLOSED CYCLE DEWAR LIDS (O-ring sealed) Order the type of window by replacing the "XX" with GE for Germanium, SI for Silicon or CF for Calcium Fluoride.

Part Number	Description	Unit Price
<b>DWR-LID-LG-W1-XX</b>	Lid with plate, 1" diameter window for DWR-LN2-LG.	<b>\$ 2,400.00</b>
<b>DWR-LID-LG-W2-XX</b>	Lid with plate, 2" diameter window for DWR-LN2-LG.	<b>\$ 2,700.00</b>
<b>DWR-LID-LG-W1</b>	Lid for DWR-LN2-LG. Customer supplies 1" diameter window.	<b>\$ 2,050.00</b>
<b>DWR-LID-LG-W2</b>	Lid for DWR-LN2-LG. Customer supplies 2" diameter window.	<b>\$ 2,050.00</b>
	<i>Custom Dewar lid.</i>	<b>Call</b>

## TEC DEWAR ASSEMBLIES

Part Number	Description	Unit Price
<b>DWR-TEC</b>	Dewar with thermo-electric cooler for uncooled FPA. Includes TEC controller, four soldered DB25 hermetic connectors.	<b>\$ 18,500.00</b>

## TEC DEWAR LIDS (O-ring sealed) Order the type of window by replacing the "XX" with GE for Germanium, SI for Silicon or CF for Calcium Fluoride.

Part Number	Description	Unit Price
<b>DWR-LID-LG-W2-XX</b>	Lid for DWR-TEC w/, 2" diameter window	<b>\$ 2,550.00</b>
<b>DWR-LID-LG-W2</b>	Lid for DWR-TEC. Customer supplies 2" diameter window.	<b>\$ 1,900.00</b>
	<i>Custom Dewar lid.</i>	<b>Call</b>

## ADDITIONAL DAUGHTER BOARDS Additional daughter boards may be used in the same cold clamp assembly provided their LCCC package is the same thickness as the initial package for which the Dewar was configured.

Part Number	Description	Unit Price
<b>DBA-68</b>	Daughter board for 68 pin LCCC.	<b>\$ 1,300.00</b>
<b>DBA-84</b>	Daughter board for 84 pin LCCC.	<b>\$ 1,300.00</b>
<b>DBA-100</b>	Daughter board for 100 pin LCCC.	<b>\$ 1,400.00</b>
<b>DBA-124</b>	Daughter board for 124 pin LCCC.	<b>\$ 1,750.00</b>
<b>DBA-TUB</b>	Daughter board for 62 pin TUB.	<b>\$ 1,400.00</b>
<b>DBA-CUST</b>	Option for custom daughter board design (up to 4 PCB layers, up to four hours labor for PCB layout time.)	<b>\$ 1,500.00</b>
	<i>Daughter board with custom socket.</i>	<b>Call</b>

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## ADDITIONAL INTERFACE CABLES

Part Number	Description	Unit Price
<b>COAX-ST</b>	Stainless micro-coax internal lines.	\$ 35.00
<b>CBLE-ST</b>	Standard cable set. Maximum of 22 coax lines.	\$ 750.00
<b>CBLE-FLEX</b>	Manganin/Kapton internal flexible lines.	\$ 500.00
<b>CBLE-CUST</b>	<i>Custom cable set.</i>	Call

## DEWAR ACCESSORIES

Part Number	Description	Unit Price
<b>CS1.0-ST</b>	1" diameter standard cold shield.	\$ 425.00
<b>CS1.6-ST</b>	1.6" dia. standard cold shield (includes 1" cold filter holder).	\$ 775.00
<b>CS2.0-ST</b>	2" dia. standard cold shield (includes 1" cold filter holder).	\$ 800.00
<b>CS-CRYO</b>	Cold shield and cryosorb assembly for closed cycle Dewars.	\$ 2,000.00
<b>CS-CUST</b>	<i>Custom cold shield.</i>	Call
<b>APFLAT</b>	Flat aperture 1" outer diameter.	\$ 50.00
<b>APBLANK</b>	Aperture blank, 1", 1.6" or 2" outer diameter.	\$ 125.00
<b>APCUST</b>	Aperture, 1", 1.6" or 2" outer diameter.	\$ 225.00
<b>LENMT</b>	Bayonet lens mount ring.	\$ 400.00

## COLD CLAMP ASSEMBLY

Part Number	Description	Unit Price
<b>CLAMP-ST</b>	Cold clamp, Dewar mount pedestal, mother board, daughter board, optics mounting posts, cold shield and one cold aperture. Twenty two 8.75" long pre-tinned stainless coax lines with pin inserts on one end.	\$ 6,450.00
<b>CLAMP-TUB</b>	"Tub-style" FPA substrate carrier.	\$ 11,300.00
<b>CLAMP-BOT</b>	Cold clamp bottom. <i>Specify carrier size: 68, 84, 100 or 124 pin LCCC.</i>	\$ 1,275.00
<b>CLAMP-TOP</b>	Cold clamp top. <i>Specify carrier size: 68, 84, 100 or 124 pin LCCC.</i>	\$ 1,225.00
<b>CLAMP-CUST</b>	<i>Custom cold clamp.</i>	Call

## ENGINEERING SUPPORT LABOR

Part Number	Description	Unit Price
<b>ELABOR</b>	Engineering labor for NRE or technical support.	\$ 150.00/Hr.

## **DISCLAIMER**

**AS WITH ANY GENERAL PURPOSE TEST SYSTEM, THE SETUP FOR OPERATING AN FPA OR OTHER DEVICE IS VERY SPECIFIC FOR THAT DEVICE. IMPROPER SETUP AND OPERATIONS CAN DAMAGE AND EVEN DESTROY THE DEVICE BEING TESTED. IT IS IMPERATIVE AND CUSTOMARY FOR THE USER TO VERIFY PROPER SIGNAL LEVEL AND CONNECTIONS BEFORE INSTALLING A REAL DEVICE. MOST USERS VERIFY SYSTEM SETUP USING AN EXPENDABLE PART SO THAT IF AN IMPROPER SETUP IS USED A GOOD PART WILL NOT BE DAMAGED. THE USER UNDERSTANDS IN USING THIS EQUIPMENT THAT THEY ARE SOLEY LIABLE FOR ANY DAMAGE THAT MAY RESULT TO THE DEVICE BEING TESTED OR OPERATED.**

## **LIMITED WARRANTY**

**WARRANTY OF EQUIPMENT EXCLUDES THE DEVICE BEING TESTED OR OPERATED.**

**SE-IR CORPORATION WARRANTS ITS PRODUCTS TO OPERATE IN ACCORDANCE WITH ITS SPECIFICATIONS FOR A PERIOD OF 1 YEAR FROM DATE OF RECEIPT. THIS WARRANTY EXTENDS ONLY TO THE PARTS MANUFACTURED OR FABRICATED BY SE-IR CORPORATION. SOFTWARE PROVIDED WITH THE CAMIRA SYSTEM IS COVERED UNDER THE TERMS OF THE SOFTWARE LICENSE AGREEMENT. PARTS PROVIDED BY CUSTOMERS OR OTHER MANUFACTURERS ARE SOLELY THE RESPONSIBILITY OF THE RESPECTIVE SUPPLIER; THIS INCLUDES BUT IS NOT LIMITED TO LENS AND FILTER ASSEMBLIES. LIABILITY IS LIMITED SOLELY TO THE REPAIR OF DEFECTIVE EQUIPMENT MANUFACTURED OR FABRICATED BY SE-IR CORPORATION. IN NO EVENT SHALL SE-IR CORPORATION BE LIABLE FOR OTHER DAMAGES RESULTING FROM THE MALFUNCTION OR DEFECTIVE OPERATION OF THE EQUIPMENT INCLUDING BUT NOT LIMITED TO DAMAGE TO THE DEVICE BEING TESTED OR OPERATED. IN ANY EVENT SE-IR CORPORATION'S TOTAL LIABILITY SHALL NOT EXCEED THE PURCHASE PRICE OF THE SYSTEM. NO WARRANTY OF EQUIPMENT IS PROVIDED FOR ANY EQUIPMENT NOT PAID FOR IN FULL.**

Warranty 1-year parts and labor does not include normal wear and tear, abuse or modifications made by customer.  
Terms are net 30 days on approved credit. All orders are F.O.B. Goleta, CA unless quoted otherwise.  
*SE-IR Corporation reserves the right to change prices or configuration at any time without notice.*