CreoScitex™

Safety Precautions for User

Lotem 800 Family

www.creoscitex.com

399Z1P791A

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This product is covered by one or more of the following U.S. patents:

4456924	5247352	5412737	5592309	5764381	5969872	6107011
4500919	5283140	5420702	5594556	5771794	5973801	6112663
4558302	5291273	5420722	5600448	5785309	5986819	6115056
5049901	5296935	5459505	5608822	5813346	5995475	6121996
5079721	5313278	5473733	5615282	5818498	5996499	6130702
5103407	5323248	5481379	5625766	5854883	5998067	6134393
5111308	5325217	5488906	5636330	5861904	6003442	6136509
5113249	5331439	5497252	5649220	5861992	6014471	6147789
5122871	5333064	5508828	5650076	5864651	6016752	6158345
5124547	5339176	5509561	5652804	5875288	6031932	6159659
5132723	5355446	5517359	5691823	5894342	6043865	6164637
5150225	5359451	5519852	5691828	5900981	6060208	
5153769	5359458	5526143	5699174	5934196	6063528	
5155782	5367360	5532728	5699740	5942137	6063546	
5157516	5367388	5561691	5708736	5946426	6072518	
5208818	5384648	5568595	5713287	5947028	6090529	
5208888	5384899	5576754	5739819	5958647	6096461	
5247174	5412491	5579115	5742743	5966504	6098544	

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Lotem 800 Family Safety Precautions For User

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Read this chapter carefully before operating or maintaining the Lotem 800 platesetter.



The safety precautions outlined in this document apply to the following Lotem 800 platesetters, namely Lotem 800, Lotem 800 (F Speed), Lotem 800 GTO and Lotem 800 Spectrum.



For safety precautions regarding the Lotem 800 with MCU refer to *Lotem 800 MCU Safety Precautions for User*, catalog number 399Z1R097A.

This product is a **Class 1** laser product, according to IEC825-1 and USA 21 CFR 1040. This implies that there is no radiation providing that the user and service safety precautions are followed.

Lotem 800 safety at a glance - how to avoid exposure?



The laser beam and radiation are invisible to the eye !

1. Keep all external doors and internal protective barriers of the platesetter complete and undamaged !
2. Never defeat the Laser interlock switches! Motor and actuator interlock switches may be defeated by service personnel only if necessary !
3. Never cut or bend an optical fiber in any way !
4. Never cut or damage the optical fibers protective tubing !
5. Never allow an optical fiber to extend from the platesetter outer enclosure or even from the Laser box !
6. Never leave any object between the optical head and the drum.
7. Do not operate the platesetter if there is any doubt regarding the above. Contact your service engineer.

Extensive efforts were taken in the design and manufacturing of the platesetter to eliminate hazards for user and service personnel.

Follow the instructions in this document to ensure your safety and the safety of others, when operating or maintaining the platesetter.

Installation Safety Precautions

Installation is performed only by authorized service personnel.

The Lotem 800 platesetter is installed and serviced exclusively by specialized technicians. These technicians are trained, authorized and certified in the proper procedures for working with, and adjusting the multi-beam, multi-optical fibers and laser diodes system, and working with the mechanical and electrical systems of the platesetter.



Do not connect the platesetter to the power supply before it is installed by authorized service personnel.

Disconnection from Main Supply

The Distribution box at the lower front panel of platesetter has three (3) circuit breakers - main power (in the center), drum power and drum vacuum pump circuit breakers. Additional circuit breakers for Laser box and Electronic box are on their respective inner covers. Two On/Off yellow pushbuttons are located on both sides of the front panel.



For total disconnection from mains supply: deactivate the **main power circuit breaker** (set to “0”), or unplug the power cable from the power connector.

Electrical Connections & Requirements

The user is **forbidden** to touch, change, or alter in any way one of the electric connections to the platesetter.



Do not change the power supply installed by the service engineer. Do not alter any electric wiring.

The total power consumed by your system depends on the specific site configuration. All voltage settings, fuses and cords should be in full compliance with local standards. Two 3Ph (three-phase) connectors are needed, one for the platesetter and the second for the vacuum pump.

Lotem 800 platesetter connections:

- The connector is supplied by the customer (male & female).
- One 3Ph outlet - 208V/120Vac ±10%, 3 phase (Star) 20A. Frequency – 50/60 ±2%.

- For customers with line power of 230Vac, a step-down transformer is used, from 346/200, 380/220, 400/230 or 415/240 to 208/120V (3Ph).
- To protect the transformer, a 3-pole circuit breaker must be provided in the power line that feeds the transformer. The circuit breaker must be rated: 10KA IEC 947.2, 230/400 VAC, 16A, tripping curve D or K.

Other electrical connections:

- 2 power supply connections for Brisque DFE and PC controller monitor – 120V ±10% or 230V ±10%, 16A.
- An additional isolated single-phase outlet for service purposes.
- Line voltage at the customer's site - 208V/120V ± 10%, 3 phase (Star) 20A, 7.5 KW.
- The connector to be supplied by the customer (male & female). The electrician at the customer (male & female) site should connect the three-phase R.S.T according to the three-phase sequence of the connector on the Platesetter power cable. The customer should have a 5-pin connector - 3 phase R.S.T, Neutral & GND,32A for 120V line voltage (NEMA L21-30P), and 16A for 220V line voltage.
- Voltage variations of up to ± 10% on all selectable voltages are acceptable. Supply frequency variations of ± 2 Hz are acceptable.
- When the line power supply at your site is 200-240V, the use of a step-down transformer is required.
- Power supply for Brisque + PC Controller - 120V ± 10% or 220V ± 10%
- Frequency - 50/60 ± 2%

- For countries with a line power of 220V - a step-down transformer is used, from 346/200, 380/220 or 415/240 to 208/120V (3 phase). The transformer can be purchased from CreoScitex.
  Transformer - height 550 mm (22 inch), width 320 mm (12.5 inch), length 520 mm (20.5 inch).
  The wall connector must have a 3 pole protection fuse, within it a circuit breaker with high transient currents (for LV/LV transformers) for 16A magnetic releases operating between 10-14 In (startup current).
- An additional isolated single phase 110V outlet is required for service purposes.

Lithium Battery

The platesetter contains a lithium battery in CPU board. Users are not allowed to replace the battery. It can be replaced only by qualified service personnel.



Danger of explosion if battery is incorrectly replaced !

Safety Interlocks

Safety interlocks are the **main** protective means against severe laser and mechanical hazards involved with the Lotem 800 platesetter, providing you carefully follow all the safety precautions in this document. Interlock switches disconnect power from the laser system, drum motors and other motors when a door is open or a panel is removed. The Paper disposal door disconnects the Paper disposal motor.



Important note: Never defeat **an interlock switch**.

All doors (upper and side doors) and the two front panels have laser and motor interlocks that disable the laser system and motors.



It takes up to one second for the laser interlock system to shut off the laser sources. Therefore, when opening a door or panel, do not rush to access inside the platesetter.



If the laser interlock switches are defeated, invisible laser radiation of up to several watts at a wavelength of 810-860 nanometer may be present in each of the optical fibers, and at the output of the plotting head. This radiation is hazardous to the eye and skin. **Even brief exposure of the eye to this radiation or its reflection from shiny or matte objects can cause permanent degradation or permanent loss of eyesight !**



The laser and drum interlock system is equipped with a **buzzer**. If a failure is detected in the operation of the laser and drum interlock system, the buzzer is activated and the laser is shut off. In any case, not every possible failure in the interlock system can be detected.



If the buzzer is activated do not operate the platesetter again until it has been checked and approved for operation by an authorized service engineer !

Laser Safety Precautions

Use of controls and/or adjustments or performance of procedures other than those specified in this manual may result in hazardous radiation exposure.

The Lotem 800 is equipped with a **highly hazardous multi-beam laser system** that exposes the media. However, it is a **Class 1 laser product**, which implies that there is no hazardous radiation, providing you carefully follow the instructions detailed in this section.

The laser beam and radiation of the platesetter are invisible to the eye, but hazardous to the eye and skin. **Even brief exposure of the eyes to the laser radiation or beam, or its reflections from shiny or matte objects can cause permanent loss or permanent degradation of eyesight** !

If you **must** enter the room where the platesetter is located when the platesetter is on, and you suspect that any of the above mentioned precautions was somehow violated, then you must **disconnect** the power supply to the platesetter before entering the room !

Whenever in doubt, the platesetter should never be operated until it is checked and approved by an authorized service engineer !

The laser safety precautions include the following topics:

- Enclosures
- Optical fibers
- Warning labels

Important: The **Safety Interlocks** section on the previous pages is also part of the **Laser Safety Precautions** section.

Enclosures

Together with the laser safety interlock system, the enclosures are designed to protect anyone in the platesetter vicinity from exposure to laser radiation. The enclosure includes external doors and panels, and the internal protective barriers. This protection requires that the outer enclosure and the internal protective barriers are complete and correctly assembled.



A spring-loaded mechanism opens the upper doors. Stay clear !



You are forbidden under any circumstances to dismantle any external door or panel, or internal protective barrier from the platesetter !



If the platesetter is on and the enclosure or internal protective barriers are damaged or incomplete, and even with the doors closed, then laser radiation of up to several watts at a wavelength of 810-860 nanometer may be present. **Even brief exposure of the eye to this radiation or its reflection from shiny or matte objects can cause permanent degradation or permanent loss of eyesight** !

Optical Fibers

Laser energy is generated in the laser diodes, located in the laser box and conducted to the plotting head through optical fibers.



You are forbidden under any circumstances to move, pull or handle the optical fibers and their protective tubing !

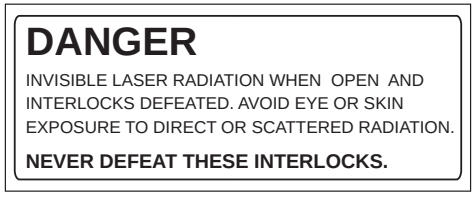


If the platesetter is on and an optical fiber extends from the enclosure, or if a fiber is damaged inside or outside the platesetter, and even when the doors are closed, invisible laser radiation of up to several watts at a wavelength of 810-860 nanometer may be present. **Even brief exposure of the eye to this radiation or its reflection from shiny or matte objects can cause permanent degradation or permanent loss of eyesight** !

Warning Labels

The following pages show the laser and other warning labels, their catalog numbers and locations.

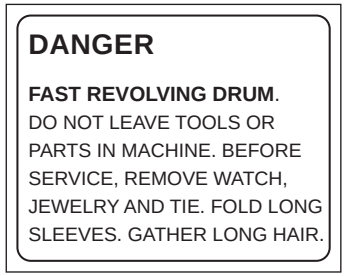
The catalog numbers for English labels contain the letter A; all other languages contain the letter K instead. For example, cat. no. 374A8L697 is the English label; cat. no. 374K8L697 is for all other languages. The following labels show the English catalog numbers.
Some labels have the same text but the label shape or size is different. Therefore these labels have different catalog numbers. The labels on next page show one of these labels, but the other catalog numbers are also listed.



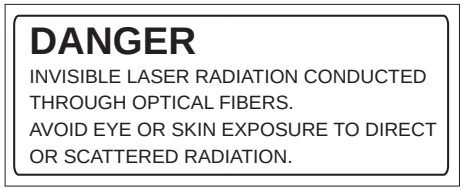
K7L414 (also K7L415)



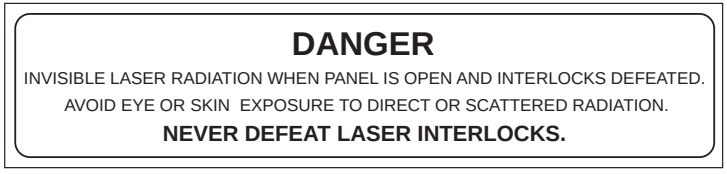
K7L407



K7L413 (also K7L412A)



K7L420



K7L411



K7L405

DANGER

INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCKS DEFEATED.
AVOID EYE OR SKIN EXPOSURE TO DIRECT OR SCATTERED RADIATION.
NEVER DEFEAT LASER INTERLOCKS.

K7L409A

CAUTION

THIS PLATESETTER HAS INVISIBLE LASER RADIATION INSIDE THAT IS HAZARDOUS TO THE EYE AND SKIN. THE PLATESETTER WAS TESTED FOR LASER SAFETY AND APPROVED AS CLASS 1 (SAFE) LASER PRODUCT, ACCORDING TO SAFETY STANDARD EN60825-1

NOTE-
- READ USER SAFETY INSTRUCTIONS PRIOR TO OPERATING THE PLATESETTER
- ALWAYS REFRAIN FROM LOOKING INSIDE THROUGH THE PLATESETTER OPENINGS, USE DOORS TO GAIN INSIDE ACCESS
- USE OF ANY TOOLS AND DEFEATING INTERLOCKS IS FORBIDDEN!

K7L666

DANGER

INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCKS DEFEATED.
AVOID EYE OR SKIN EXPOSURE TO DIRECT OR SCATTERED RADIATION.

NEVER DEFEAT LASER INTERLOCKS.

K7L410

DANGER

INVISIBLE LASER RADIATION CONDUCTED THROUGH OPTICAL FIBERS. AVOID EYE OR SKIN EXPOSURE TO DIRECT OR SCATTERED RADIATION.

BEFORE CLOSING SIDE DOOR, VERIFY FIBERS ARE NOT CUT, DEVIATED OR FAULTY.

K7L417

DANGER

INVISIBLE LASER RADIATION WHEN BARRIER IS OPEN. AVOID EYE OR SKIN EXPOSURE TO DIRECT OR SCATTERED RADIATION.

NEVER CLOSE SIDE DOOR WHEN THIS BARRIER IS REMOVED.

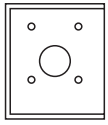
K7L416

DANGER

INVISIBLE LASER RADIATION WHEN OPEN. AVOID EYE OR SKIN EXPOSURE TO DIRECT OR SCATTERED RADIATION.

THIS BARRIER MUST BE IN PLACE

K7L668



K7L668



K8L535



K2G957



374A30170

See the following figures for locations of warning labels on the Lotem 800 single cassette and dual loading cassette platesetters.

Make sure that all warning labels are in good order; renew warning labels if needed.

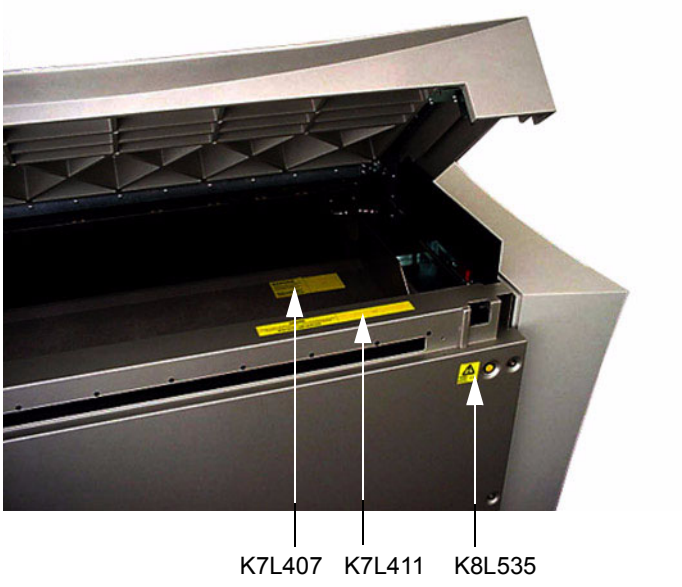
When a language other than English is spoken, the service engineer should stick the translated labels (attached to the platesetter), in the relevant locations.



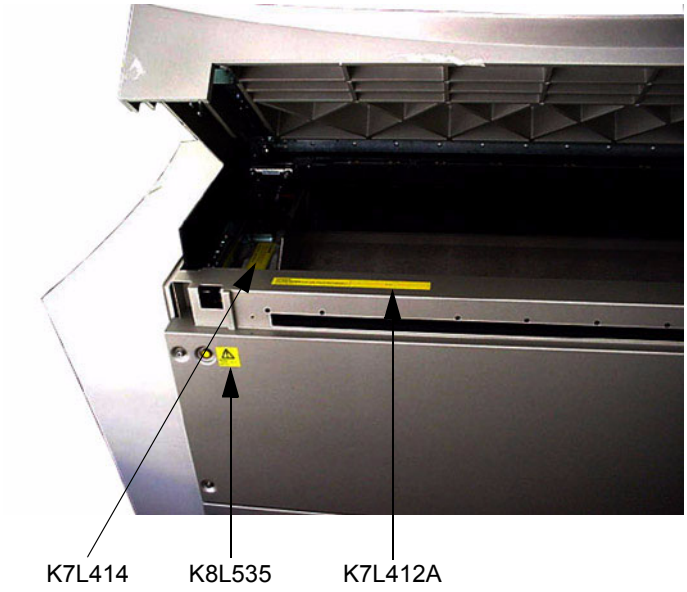
Front view, door closed



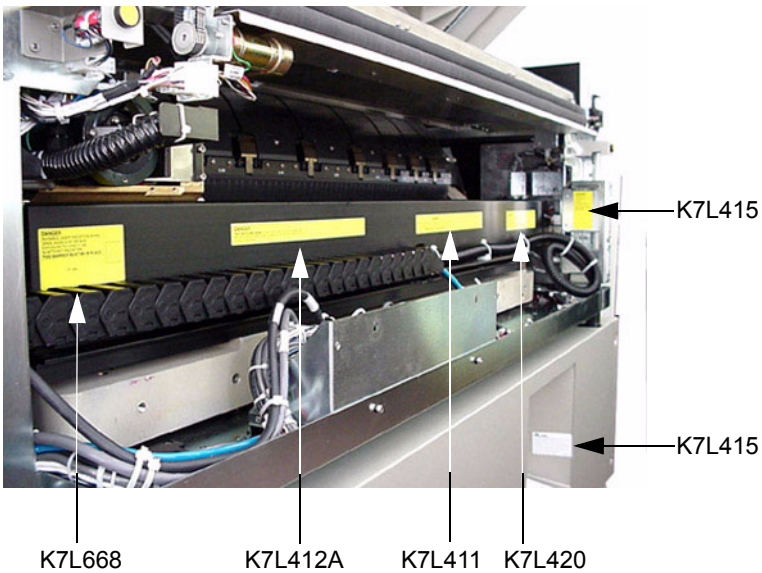
Rear view, door open



Rear view, right side with door open



Rear view, left side with door open



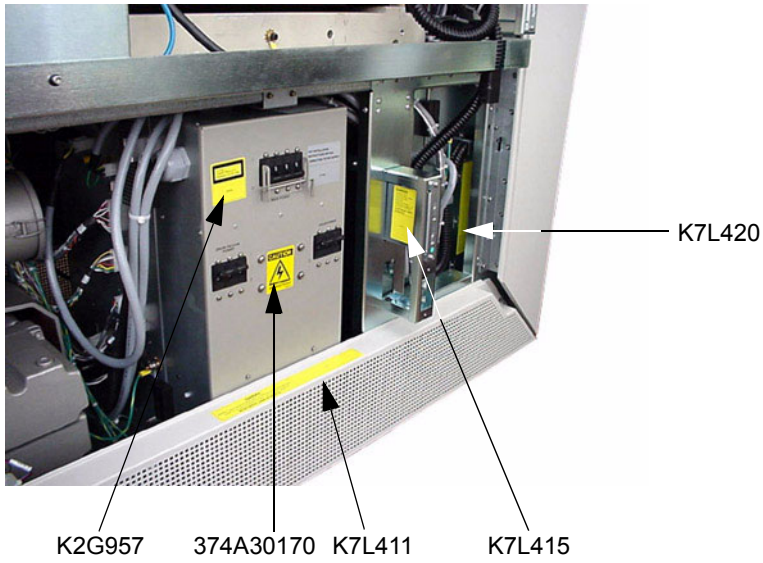
Rear view, top back panel removed



Left side, door open



Right side, door open



Distribution box, lower rear panel removed

Drum Safety Precautions

The Lotem 800 platesetter contains a drum that revolves inside the platesetter. The plates are loaded and unloaded manually onto the drum. Special safety precautions are implemented in the platesetter in order to prevent rotation of the drum while the user is loading or unloading media.



Opening the upper front or rear door is initiated from the PC controller. This releases the solenoids that lock the door. You can then open the door, but you must first make sure the drum is stationary. **If 5 seconds after the door is unlocked the drum is not stationary, shut off the machine and call your service engineer.**



If the buzzer is activated this indicates that the drum interlock or laser interlock system has failed. Do the following: remove your hands from the drum, shut down the machine and call your service engineer.

The drum revolves at approximately 1000 revolutions per minute. If an object hits the rotating drum, the object may get dislodged inside the platesetter and cause damage (including damage to the safety system, optical head or optical fibers). It may also force the upper doors to open or penetrate through the doors.



Do not leave any loose object, tool or part inside or on the platesetter enclosure. A loose object inside the enclosure may penetrate through the enclosure and injure a person standing nearby.



You are forbidden under any circumstances to defeat any interlock switch !