Lotem 400

Release 1.60.09
Release notes

DRAFT

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creo™

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RE37,376	5,325,217	5,532,728	5,742,743	5,996,499	6,158,345	6,353,216
4,558,302	5,339,176	5,561,691	5,764,374	5,998,067	6,159,659	6,366,339
4,743,091	5,343,059	5,568,595	5,764,381	6,003,442	6,164,637	6,371,026
4,992,864	5,355,446	5,576,754	5,771,794	6,014,471	6,180,325	6,377,739
5,049,901	5,359,451	5,579,115	5,785,309	6,016,752	6,181,362	6,387,597
5,079,721	5,359,458	5,592,309	5,813,346	6,031,932	6,181,439	6,396,422
5,103,407	5,367,360	5,594,556	5,818,498	6,043,865	6,186,068	6,396,618
5,111,308	5,384,648	5,600,448	5,854,883	6,060,208	6,189,452	6,407,849
5,113,249	5,384,899	5,608,822	5,861,904	6,063,528	6,191,882	6,414,755
5,122,871	5,412,491	5,615,282	5,861,992	6,063,546	6,204,874	6,422,801
5,124,547	5,412,737	5,625,766	5,875,288	6,072,518	6,208,369	6,435,091
5,132,723	5,420,702	5,636,330	5,894,342	6,090,529	6,214,276	6,441,914
5,150,225	5,420,722	5,649,220	5,900,981	6,096,461	6,217,965	6,450,092
5,153,769	5,459,505	5,650,076	5,934,196	6,098,544	6,260,482	6,456,396
5,155,782	5,473,733	5,652,804	5,942,137	6,107,011	6,266,080	6,476,931
5,157,516	5,481,379	5,680,129	5,946,426	6,112,663	6,266,134	6,477,955
5,208,818	5,488,906	5,691,823	5,947,028	6,115,056	6,267,054	6,509,903
5,208,888	5,497,252	5,691,828	5,958,647	6,121,996	6,268,948	
5,247,174	5,508,828	5,696,393	5,966,504	6,130,702	6,283,589	
5,249,067	5,509,561	5,699,174	5,969,872	6,134,393	6,295,076	
5,283,140	5,517,359	5,699,740	5,973,801	6,136,509	6,299,572	
5,291,273	5,519,852	5,708,736	5,986,819	6,137,580	6,318,266	
5,323,248	5,526,143	5,713,287	5,995,475	6,147,789	6,352,816	

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Introduction

We are pleased to send you the latest revision of Lotem 400 software.

These release notes highlight the changes and improvements that were made to release 1.60.09 of Lotem 400software. Where appropriate, they refer you to the Lotem 400 TechPlanet site for more information.

This section lists the configurations to which the release notes apply, the prerequisites, and what information can be found in the release notes.

Configurations

Type	Release status	Notes
Lotem 400 Small	early production	9” x 12.25”
Lotem 400 Standard	early production	12 beams
Lotem 400	full production	
Lotem 400 with MCU (Multi Cassette Unit)	full production	
Lotem 400 with SCU (Single Cassette Unit)	early production	
Lotem 400 Xpose	full production	diagnostics currently not supported
Lotem 400 Xpose with MCU	early production	diagnostics currently not supported
Lotem 400 Quantum	early production	diagnostics currently not supported
Lotem 400 Quantum with MCU	early production	diagnostics currently not supported
Lotem 400 Chemistry-free	Beta	processless plate

Prerequisites

Lotem 400—software version 1.30.04

Lotem Xpose—software version 1.00.135

Lotem 400 small—software version 1.50.07

Lotem 400 with MCU—FCO 28818: Short Pin Assembly

Chemistry-free devices—Brisque software version 4.0

What Is in These Release Notes

The release notes include the following sections:

Problems Fixed—lists problems in the previous release of Lotem 400 that are now resolved.

New Features—describes new menu commands, options, windows, or dialog boxes that were added to Lotem 400 software.

Enhancements—describes improvements that were made to existing features.

Known Problems—lists problems that are not yet resolved.

Differences—lists differences between the products within the Lotem 400 family.

Problems Fixed

This section lists problems in the previous release of Lotem 400 that are resolved in the current release of the Lotem 400 software.

- As part of the drum runaway solution, a detector was added to the emergency stop system to detect whether the drum is spinning or stopped.
- The application no longer crashes when one of the unload conveyor detectors/ out of machine/out of drum detectors is closed.
- The error message concerning the max DDB divider that appeared when using Strobe 5 was fixed.
- The communication timeout changed to 5 Sec (old value 3 Sec) to resolve the intermittant Fail of DDB Communication error.
- To prevent the plate thickness parameter for 0.2 mm plates from jumping to the next size, the script now identifies whether the plate thickness is equal to 0.2 mm, in addition to whether it is thicker than 0.2 mm.
- The ramp now returns to HP when any of stages A to C in the loading system dialog are selected.
- Some of the image registration problems caused by intermittant plate loading problems were resolved by changing two loading motor properties parameters.
- To enable you to monitor a job during expose, the drum speed is no longer limited when you connect remotely to the PC Controller.
- The plate stuck on drum problem was fixed.
- The **Load Head Gripper** parameter multiple locations was fixed.
- The Brisque indicated that it had a punch system, even when it did not. This caused the punch system to be deleted from the Lotem database. Now Brisque does not indicates that there is a punch system unless there really is.
- To enable loading the Lotem 400 Xpose version, two missing DLLs were added on the CD version:
  - msvcrtd.dll
  - mfc42d.dll
- The MCU is now supported in the Lotem 400 Xpose configuration.
- Some registration problems are solved by the new head grippers.
- Some registration problems in the manual loading devices are solved by the updated loading script.

New Features

This section describes features that were added in the new release of Lotem 400 software, version 1.60.09.

- UDRC support, including LC and BP as a Beta version
- Lotem backup utilities
- Export registry file utility
- Lotem 400 fiber head Omron interlocks support
- New head grippers to solve registration problem
- New loading setup features

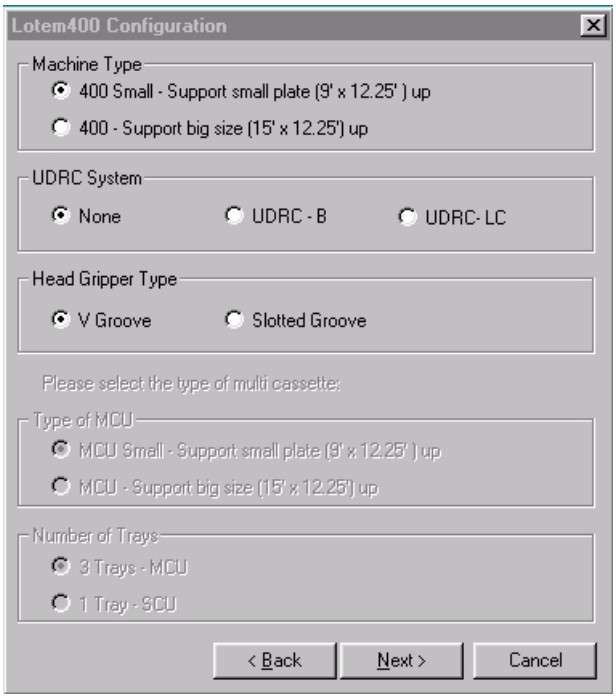
UDRC Support

All the UDRC functionality is now integrated into the latest Lotem 400 software.

CAUTION: Exposing chemistry free plates introduces a major safety concern that is discussed in *Defining safety parameters* on page 6.

Defining the UDRC in the Lotem 400 configuration

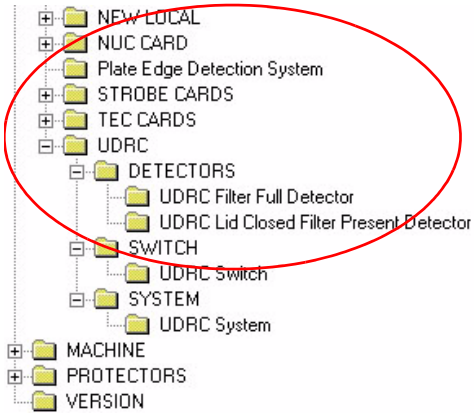
To define the UDRC in the Lotem 400 configuation, in the Lotem400 Configuration dialog box, select the relevant UDRC System type:



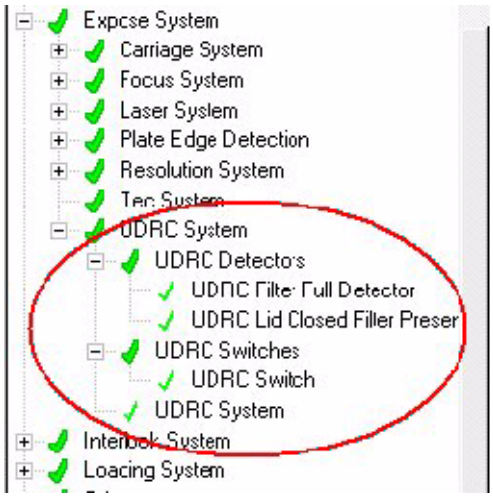
The Lotem controller application corresponds to the registry parameter LOTEM400V > MACHINE > **UDRC Installed**, in which the UDRC is defined as follows in the Lotem 400 configuration:

- No UDRC = 0 (default)
- UDRC BP = 1 (11-0934A)
- UDRC LC = 2 (11-0935A)

When the UDRC is installed and defined in the configuration, a new UDRC branch appears in the registry and in the hardware tree:



UDRC LC in registry



UDRC BP in hardware tree

In the Lotem Hardware tree, you can manually access the UDRC components. The components include one switch and two directors.

To access the UDRC internal parameters, in the Hardware tree, right-click **UDRC System**.

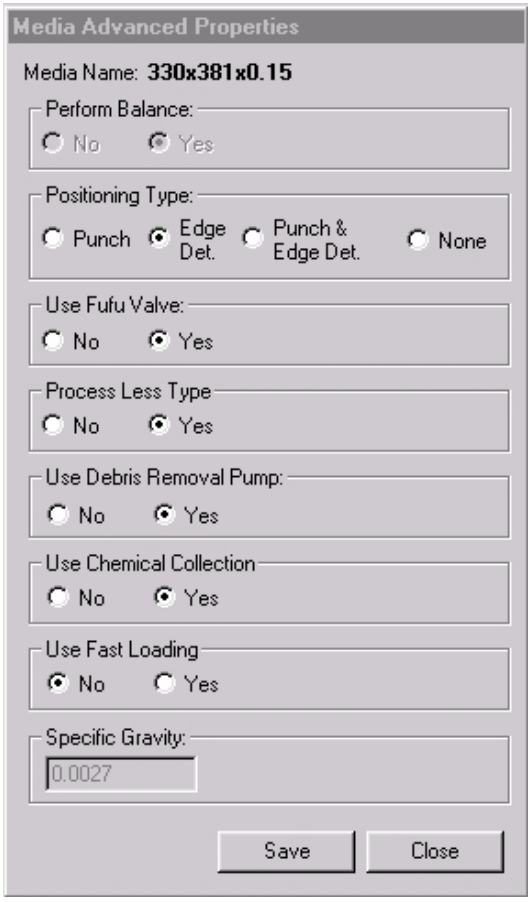
Defining safety parameters

Exposing chemistry free plates introduces a major safety concern: you must collect the harmful gases emitted during the exposure of the chemistry free media. To collect these harmful gases, you must define the chemistry free media correctly.

In the Media Advanced Properties dialog, shown following, there are three safety-relevant parameters for chemistry-free plates:

- Processless type—Select Yes to operate the UDRC when chemistry free media is exposed.
- Use Debris Removal Pump—select Yes to operate the UDRC.
- Use Chemical Collection—select Yes to have the UDRC collect the harmful gases and store the relevant UDRC parameters for maintaining the status of the chemical filter.

Note: The UDRC BP functionality also includes the collection of particles only, without gases.



Note: The UDRC functionality includes a 300-second delay when the UDRC is turned off. When you press the **Stop** button in the switch dialog, the UDRC pump stops after a delay of 300 seconds. This delay causes the pump to stay on during exposure between consecutive plate cycles. Minimizing the on-off cycles extends the mechanical life of the pump.

Running UDRC diagnostics on the Lotem 400 software tree:

1. Under Utilities, select Log Messages > **All Messages Types** and click **AutoSave**.
2. In the Lotem controller application, from the hardware tree, turn off the UDRC.
3. In the **Hardware** menu, select Exposure System > UDRC > **UDRC System** to open a window with a button labeled Debug Info.
4. Click the **Debug Info** button. A log file is created. Copy the log file onto a floppy disk.
5. In the Lotem controller application, from the hardware tree, turn on the UDRC.
6. Turn on the fufu air jet.
7. Move the carriage so that it is in front of the drum.
8. Spin the drum at Anthem drumspeed.
9. Click the **Debug Info** button. A log file is created. Copy the log file onto a floppy disk.
10. Write down whether the nozzle is Type 1 (for long Rodenstock lens tube) or Type 2 (for short lens tube).



11. Escalate the issue, and include the UDRC Registry values, the diskette with the log files, and the nozzle type.

Lotem Backup Utility

The backup utility enables you to back up the registry along with the data base, and with DDB files for Fiber Head machines. The backed-up files are automatically stored on the C drive under **LotemBackup**. Each back up process creates a new folder with the relevant files.

The LotemBackup utility includes the following functionalities:

- Full help content
- Backup the Lotem registry section, Lotem database, DDB configuration file (fiber head machines), or any such combination
- Save information with each package including date, version, user name, and optional comments.
- Back up files directly to a floppy disk.
- Restore a backed-up package or any combination of its parts.
- View and compare the backed up registry files.



Note: This utility tool functions properly with a Lotem application installed in the C:\Lotem directory. Therefore, if you plan to install the tool outside of a Lotem machine (for example, on your desktop or laptop), you must create such a directory on your local workstation hard disk and fill it with the proper files (mainly the data base, DDB config file for Lotem 400 fiber head devices, and the ExamDiff program) to prevent errors and missing functionality.

Export Registry File Utility

The Export Registry File utility enables you to export the registry file to the required folder, and to rename the registry file. To access this utility, select Start > Lotem400 > **Export Registry File**.

(HKEY_LOCAL_MACHINE\Software\Scitex\Projects\Lotem400V')

Lotem 400 Fiber Head Omron Interlocks Support

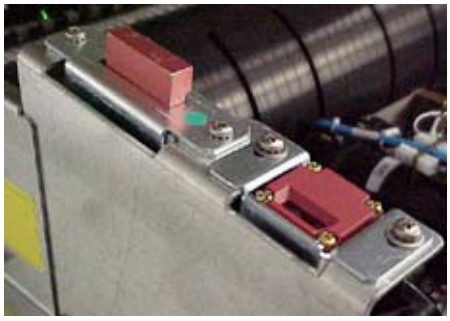
Starting with machine S/N 0251-124288/01, all Lotem 400 Fiber Head and Quantum machines have the same mainframe and Omron interlocks. In addition, a closed circuit was added to the platesetter hardware to support the Lotem 400 with Omron interlocks. The closed circuit is connected to the MCU, which has regular interlocks.

Interlock system cheater and defeater locations

- **Lotem 400 Fiber Head**—contains Omron interlocks, except for one mechanical interlock on the left back side of the machine (facing the back).



To operate mechanical components or assemblies with the doors open, defeat the mechanical interlock by inserting a cheater.



- **Lotem 400 Quantum**—interlocks are similar to the Lotem 400 Fiber Head interlocks, with the addition of a focus laser interlock on the right back side of the machine (facing the back).

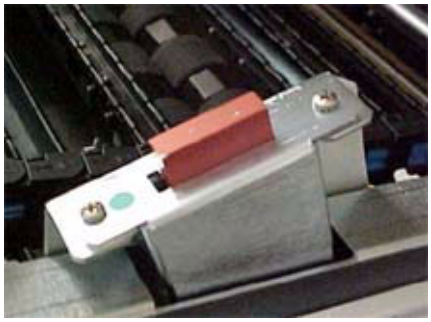
  To operate the focus laser with the doors open, defeat the focus laser interlock by inserting a cheater.



- **Lotem 400 Fiber Head Omron or Quantum with MCU**—note the following instructions:

  •If the MCU doors are closed, defeat only the mechanical interlock (as shown on page 9).

  •If the MCU doors are open, insert an additional mechanical cheater.



New Head Grippers

The new head grippers are an option that is standard for new machines.

Problem

During actuation and when opening of the head grippers, the drum moves due to the mechanical configuration of the head grippers. This can cause misregistration.

Solution

Head grippers were redesigned with slots instead of V grooves, as shown below, to enable the drum to complete its movement before actuation. In addition, the software was updated to support the new grippers and a new loading cycle.

There are four additional registry parameters for the new head grippers:

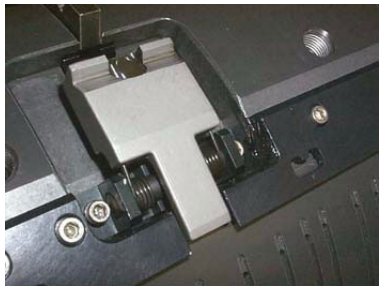
- Drum to Plate after extra for 0.15 = 0
- Drum to Plate after extra for 0.2 = 2
- Drum to Plate after extra for 0.3 =3
- Drum to Plate after extra for Small = 0

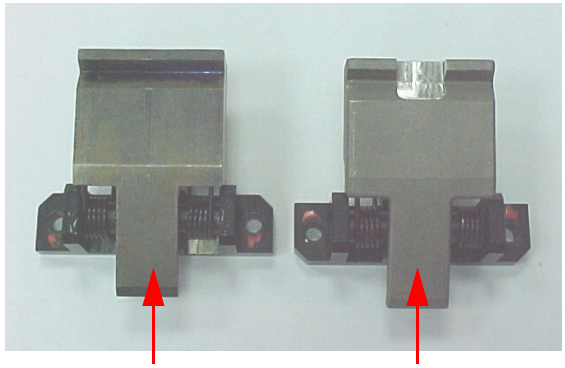
Note: All values are default.

A new parameter was added to the registry that enables you to check if the new head grippers are installed:

Is Head Gripper V-groove = 0 indicates that the new head grippers are installed.

Note: If registration problems persist, reduce the **MOMENT FOR 0.2** parameter from 45 to **35**.





New Loading Features

This section describes the new options in the configuration dialog boxes in the setup procedure of Lotem 400 software version 1.60.09.

Prior to loading the software, check the following:

- If the configuration includes the MCU, verify that the new short pins assembly (part number 507A4E235) is installed. If it is not, perform FCO 510F28818.
- Check and record the revisions for the following boards:

  •Distribution board

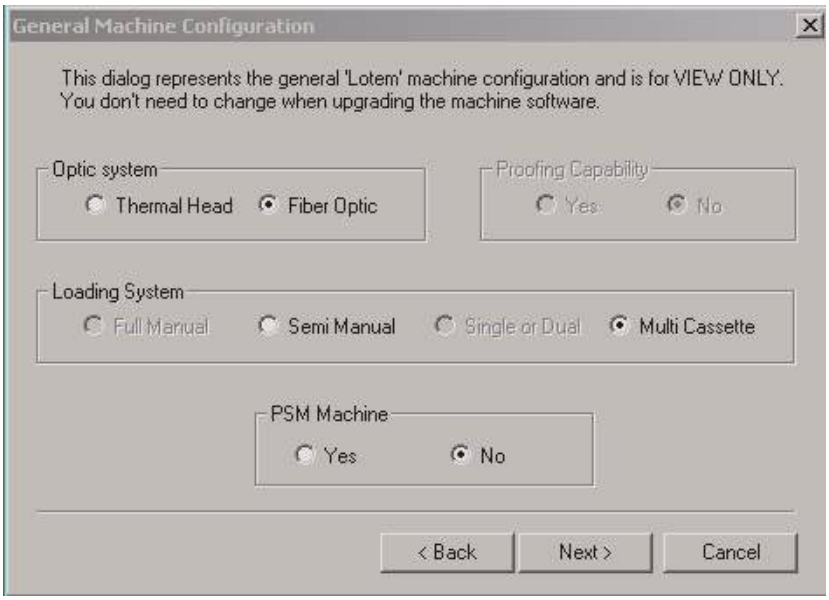
  •MCD

  •Strobe

  •DSM

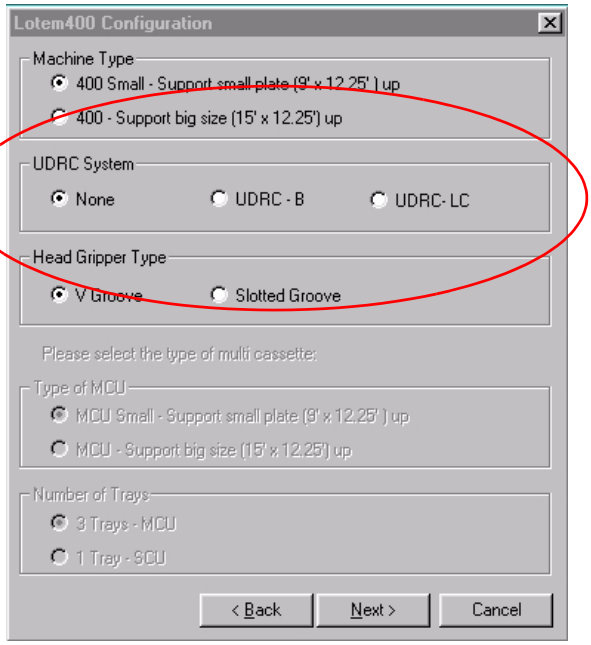
New Configuration Dialog Boxes

- In the General Machine Configuration dialog box, select the relevant loading system.

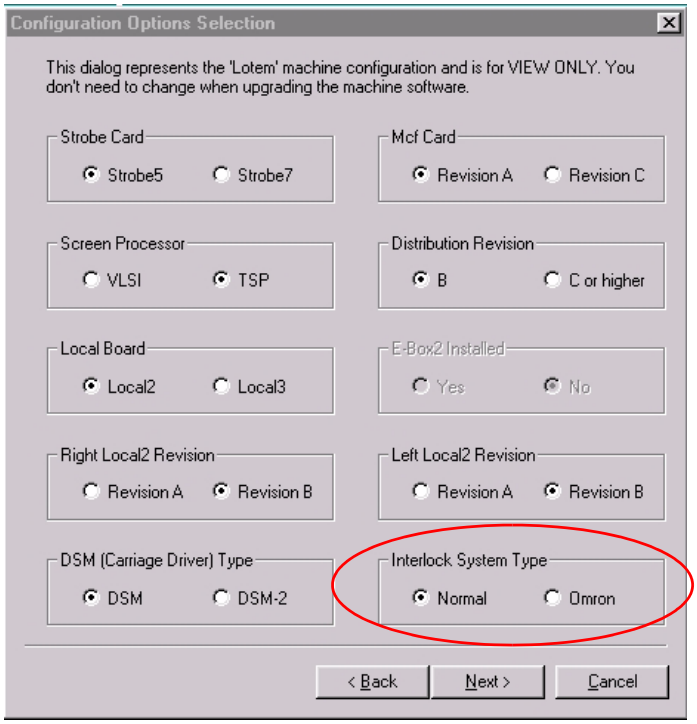


- In the Lotem 400 Configuration dialog box, the UDRC System and Head Gripper Type sections were added. If you select Multi Cassette, this dialog box appears.

Note: Pay attention to the machine configuration before you select the configuration in the next dialog box.



- In the Configuration Options Selection dialog box, the Interlock System Type section was added.



Note: The Interlock System type varies depending on the Lotem type and not the MCU.

Enhancements

This section lists features that were improved in this release of the Lotem 400 software. Features that were modified as a result of a problem in the software are described in *Problems Fixed* on page 3.

- Emergency stop system improved.

Changes from version 1.50.08

General

- The **Plate_Length_Tolerance_mm** parameter was added to the Preference dialog box.
- The Height Start Image area was changed.
- The Tec system default temperature was changed to 24 degrees C.
- The Min/Max Pos App parameter default value in the centering motor was changed.
- The version name was added to the log file name.
- The Fufu air pump is automatically turned on or off according to whether the media is positive or negative.

Plate Loading

- The ramp operation is improved.
- The parameter Rear Door Motor Interlock was added to the interlock system.
- A Retry option was added to the Do Centering sequence, in case of centering failure.

MCU Plate Loading

- The number of plate separations default value was changed to 3 (was 1).
- A new parameter was added to control the time the paper is pressed into the paper disposal bin: Loading System > Loading Plate > Paper Disposal Stage > **Delay for Y-up (milisec)**.
- New parameter added: MARIO TO CHECK AND ADVISE WHAT IT IMPROVES

  IO Objects > Loading System > Load Plate > **Loading Time To Wait After Extra**.
- Registry parameters added:

  •Y Up Before Back Abs (mm), default = 14

  •X Pre Extra To Short Pins For 02 (mm), default = 23

  •X Pre Extra To Short Pins (mm), default = 10



Note: All values are default.

- Parameters changed:

  •X In After Punch (mm), default = 740

  •X In Punch for Small Plate (mm), default = 860

  •X Move X Upto Wheels for 015 mm, default = -8

  •Y to Drum for Small 015 mm, default = 16

  •Y Up AfterDo Punch For 015, default = 35

  •Y Movement Rel For 015 Plate (mm), default = 0

  •Height For Small Plate Extra To Drum, default = 300



Note: All values are default.

Known Problems

This section lists known problems in Lotem 400 software. They may be outstanding issues from a previous release or new problems. When a problem listed here is resolved, the solution is described in the *Problems Fixed* section of the release notes for the next version of Lotem 400 software.

Installation

- When using Local-3 Rev A, you must manually change the active state of the Flyoff detector to **0**. Select IO Objects > Local 3 > Detectors > **Left (right) fly off activated** and change the **Detector Active State** parameter to 0.
- When installing Xpose, the PSM selection does not appear as the default selection.
- When upgrading from manual to automatic (MCU), you must open loader Local3 manually through Regedit:

  In Regedit, browse to **LOADER** > **Loader Local 3**, and then change the **Value Data** parameter from 0 to **1**.
- In a Lotem 400 Small with MCU configuration of the earlier version that does not support small plates, the suction cups for large plates are activated for small plates (381x457mm), causing loading problems.

  Workaround: Change the **Min Plate Height Operation Middle Value** parameter from 330 to **381**.
- On Lotem 400 Xpose, the Com 6 (communication with the UDRC) has to be set manually. For instructions see: http://techplanet.creo.com/output/computer_to_plate/lotem400/content/troubles/PSM/l4_tip_em-on-startup.htm
- When upgrading from Lotem 400 w/MCU non-small to version 1.60.09, set the **Detector Active State** parameter of the plate ramp according to the type of ramp detector you have:

  a. Check the type of ramp detector you have. There are two possibilities: magnetic or optic.

  b. Browse to **LOADER** > **Detectors** > **Plate Ramp Left HP Detector**, and set the **Detector Active State** parameter accordingly.

     - Magnetic = 1
     - Optic = 0

  c. Browse to LOADER > Detectors > **Plate Ramp Right HP Detector**, and set the **Detector Active State** parameter accordingly.

General

- When performing the focus test, you must temporarily turn off edge detection.

  In the Media Definition dialog box, select **Advance Mode**. Under **Positioning Type**, click **None**.
- The paper disposal stage in the loading system GUI does not work.
- In the Loading System dialog box, the drum movement requires you to perform Drum Init the first time.
- Checking the XY vacuum and the drum vacuum detector are not supported.
- After the cassette door is opened, the application goes to OFFLINE.
- Focus GoPos always has an error of 0.5.
- The flickering of the low speed detector does not have a solution, except to replace the distribution board.
- The digital vacuum sensor is not supported.
- In random scenarios, when trying to stop any running task, the application crashes with an error in MFC42D.
- When the drum is on low speed (under 600 rpm), plate edge detection fails.
- After application startup (with the Lotem doors open), the interlock is activated, an emergency stop of the machine occurs, and Lotem receives an attention status. The same process occurs when opening the loader door.
- In the Lotem Controller GUI, the image of doors opening on the PC controller works correctly in the Lotem MCU configuration, but the cassette door does not appear in the GUI.
- When aborting an exposure, there are some cases in which the plate does not unload.

  Workaround: In the Registry, under Expose, change the **Unload Plate In Expose Failure** parameter value from 0 to **1**.
- The Tec system default status is **Closed**.
- Diagnostics must be activated by clicking the **Diagnostics** icon on the desktop when the application is down.
- The conveyor does not move the plate because the conveyor motor does not rotate.

  Workaround: During installation of the unload plate conveyor, define the flat belt conveyor, and change the following parameters under Loading System > Unload Plate:

  •First Conveyor Motor Speed—change the default value (0.9) as follows:

  - Flat belt conveyor—**20**
  - Round belt conveyor—**5**

  •Second Conveyor Motor Speed—change the default value (0.5) as follows:

  - Flat belt conveyor—**15**
  - Round belt conveyor—**2**

Lotem 400 Xpose

- There is no diagnostic support for Lotem 400 Xpose machines. To get diagnostic support, you can order the new diagnostic CD, part number 633-00274A.
- The Backup and Restore utility does not work for Lotem 400 Xpose.
- On Lotem 400 Xpose with MCU, when exposing large positive plates of 750 mm along the drum, you must change the **Margin** parameter in Regedit from -3 to **0**.

UDRC

- When loading version 1.60.09 as Processless, the Max Laser Power is changed to 350 mW though it should be 600 mW.
- A `Nozzle air flow blocked` error occurs.

  Change the following UDRC nozzle parameters to resolve this error:

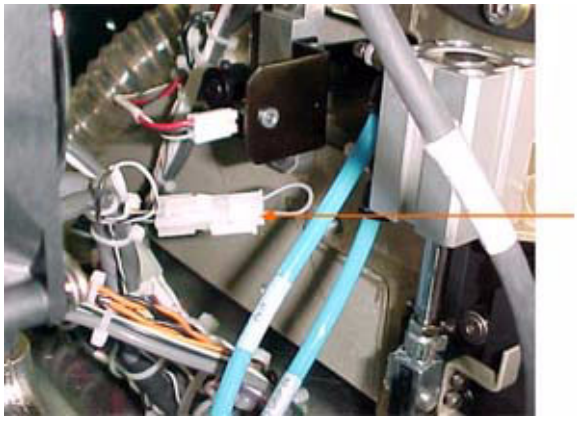
  •Bellmouth Flow Constand = 3763 (was 2789.703)

  •Bellmouth Flow Exponent = 1771 (was 1839.091)

Differences

This section lists the differences between the Lotem 400 Omron and the Lotem 400.

- The Lotem 400 Omron distribution box-contains interlock board 2 (503C2L971).
- The Lotem 400 Omron harness contains two additional short detectors.
  - Detector for automatic detection of small plates (not yet supported)



  - Supports MCU interlocks with connection to Lotem 400 Omron machine

Notes

Passwords

- Service engineer password—**Creo**
- Expert password—**lotempro**



Note: To bypass the password, put your curser on the application, and press CONTROL+U.

Appendix A - Lotem 400 Diagnostics

The Lotem 400 Diagnostics - version 1.60 is a software package that enables testing the Lotem 400 hardware locally as well as remotely. The diagnostics package is included in the official Lotem 400 version CD-ROM.

This document covers the following issues:

- Overview
- Installation & Activation
- Diagnostics Startup Process
- Main Test Subjects
- Coverage Level
- Feedback and Contact

Overview

Lotem Diagnostics use Java Over the Internet Diagnostics (JOIND) - a Creo Client/Server diagnostics controller that runs locally or over a TCP/IP connection. It is an online diagnostics tool for running tests on local and remote nodes connected over the Internet or a modem.

The user interface of the JOIND includes two main components:

- A hierarchical tree control that represents the functionality of the application activated on the server computer. Functions of the application are selected and executed from this tree. The tree content is dynamic and is suited to the application and to the environmental conditions that may change between sessions.
- Menu options enable the control of operations that are done on the tree. The menus are composed of fixed options, relevant for all applications, and of dynamic options that vary between applications.

Installation & Activation

The official Lotem 400 Family version 1.60.09 CD-ROM includes both Expose & Diagnostics applications. The size of the Diagnostics software is about 56 MB and it is located under the Expose application environment.

When the CD installation is complete, the Diagnostics icon is located on the PC desktop and in the 'Start' button (similar to the Expose Application). To activate the Diagnostics application, double-click the Diagnostics icon.



Note: Expose and Diagnostics applications cannot run together. Before activating the Diagnostics, verify that the Expose Application is off.

Diagnostics Startup Process

The startup process of the diagnostics, once it is initiated, includes:

- Verification of communication between the PC and the Machine.
- Embedded software is initialized and loaded (if needed). The DDB is initialized only when accessing the DDB chapter in the test tree.
- Electronic boards are initialized.
- Hardware configuration is identified.

The failure results of these sub processes (if exist) are summarized in the Startup Process window that is shown automatically when the startup is completed. In addition, a red/green indicator is shown in the right side of the diagnostics main screen.



Note: During the startup process, the Plate Location dialog is displayed. Since the existence of the plate in the machine limits the tests, it is very important to select the correct location of the plate (if it exists). Otherwise, the machine may be damaged. If the plate is loaded, it is recommended to use the **Unload Plate** button to unload the plate.

Main Test Subjects

The following components are tested:

- Power Supply
- Boards
- Machines with Fiber Head and Local-3 boards: Drum system, Loading system, (excluding the Loader Vacuum system), Carriage system and Unloading system
- Machines with Thermal Head and Local-3 boards: Loading system, (excluding the Loader Vacuum system), and Unloading system

The machine hardware coverage is done by the bottom-top approach (an integrated approach).

Bottom-Top Approach

The default test sequence goes from the simple and basic hardware (power supply and communication) through the machine boards (opto-mechanic drivers) to the main machine units (motors, detectors, etc.). Fixing the problems in the sequence they appear in the diagnostics test tree is recommended.

An Integrated Approach

Every machine unit receives input and sends output. When selecting a unit (FRU) to be tested, the diagnostics automatically checks these connections in order to maximize the coverage of the selected unit. In advance, it is possible to change (through the JOIND menu) the **integrated** mode to the **stand alone** mode.

Coverage Level

The following list includes those units that are not tested in this version:

- DSM Board
- Optic Head
- L-Box (Laser box)
- Punch System
- Loader Vacuum subsystem in Lotem 400VA
- Drum System, Carriage system and MCE board- in Lotem 400 Quantum (Thermal Head)
- Machine Detectors Utility
- Not support Lotem 400 Xpose (NT)



Note: When testing boards in the Boards category, the parts that cause the machine movements are not tested. Only in the Machine categories, is everything checked without any limitations.

Feedback and Contact

Diagnostics tools are developed for all Creo devices and platforms. We will continue to be in close contact with the field in order to improve the hardware coverage testing and the user interface. Your feedback on the Diagnostics is extremely important to us. Therefore, a special report template is available on the Diagnostics root directory:

- Bug Report.doc (in Word 97 format)
- Bug Report.txt (in plain text format)

A filled bug report, and any other comment/request/remark/question, can be e-mailed to diagnostics@creo.com