**Purpose:**

To assure that the plates used on the TANGO are appropriately handled, loaded, and unloaded on the analyzer.

**Limitations and Precautions:**

* Do not load a plate while a plate is being unloaded (noted by a beeping sound at 5 second intervals).
* Do not load a plate if there are already 10 plates on the system as this is the maximum number of plates that can be loaded at once. This will cause a plate crash.
* Do not load plates while loading reagents or samples as only one Loading window can be displayed at the same time.

**Procedure:**

|  |  |  |
| --- | --- | --- |
| **Step** | **Action** | **Related Documents** |
| **Plate Preparation** |
| 1 | Each microplate contains 12 strips with 8 microwells each. The strips are packaged in a plate frame. |  |
| 2 | Each microplate has the following information printed as eye readable text and as a barcode.* Product code – 3 digits
* Expiration date – dd/mm/yy
* Lot number – 7 digits
* Plate number – 4 digit
 |  |
| 3 | The plates are sealed in a foil pouch and stored at 2-8 °C. |  |
| 4 | Remove foil pouches containing microplates from the refrigerator. |  |
| 5 | Allow the plate to come to room temperature prior to opening foil pouch. If the pouches are opened and the plates removed prior to coming to room temperature, condensation may form in the microwells. |  |
| 6 | Use scissors to cut open the foil pouch. Inspect the plate(s) to ensure that:* All strips are seated in the plate frame.
* Place plate frame on a flat surface and run your hand over the plate, pressing down slightly to seat strips.
* Plate frame is not broken.
* Discard plate if frame is broken.
* Strips are not broken.
* Remove and discard any broken strips.
* There is no condensation in the microwells.
* Discard strips with condensation.
* Microplates can be stored on the TANGO after opening for seven (7) days (168 hours).
* The TANGO tracks the amount of time the plates have been loaded on the analyzer.
* When the storage time on the analyzer is exceeded, the plate shows as expired in the system and will be ejected by the instrument.
 |  |
| **Step** | **Action** | **Related Documents** |
| **Load the plates** |
| 1 | Open the cover and place the microplate into the Loading Station.* The plate barcode must face the front of the analyzer.
* The instrument senses the presence of the plate and the plate is then loaded automatically and moved to the top empty position of the Plate Stacker.
* If the frame barcode cannot be read, the plate is moved back to the Loading Station.
 |  |
| 2 | The ‘Plate Loading’ window opens and the plate is displayed in the respective position. The plate data is displayed in the respective boxes.Plate key* Black – Selected plate
* Gray – Loaded, but not selected
* A flashing red dot indicates which plate is currently being processed.
 |  |
| 3 | Wait until the status ‘Ready’ is displayed in the lower left hand corner of the screen, then place up to nine more plates, one after the other, in to the Loading Station. |  |
| 4 | Verify data displayed in the ‘Plate Loading’ window matches the data on the loaded plates. |  |
| 5 | Loaded plates are displayed and managed in the ‘Plate Loading’ window. This window opens by placing a microplate into the plate loading station or by pushing the ‘Plates’ button in the Main Menu. |  |
| 6 | Confirm strips loaded completely:* The ten (10) positions of the Plate Stacker are displayed in the left hand section of this window.
* Each row corresponds to one level in the stacker. Row 1 corresponds to the top position.
* A loaded plate is displayed as a button with twelve (12) boxes in the respective stacker position.
* Each box within a plate (columns 1 to 12) represents one strip.
* The number of loaded strips per plate is displayed as bright green boxes.

Strips key* Bright green – Strip position occupied and strip barcode identified
* Dark green – Strip scheduled for test run (with correct strip barcode)
* Gray – Strip position empty
* Red – Strip barcode not identified or strip expired
 |  |
| 7 | Unload and reload plates that have red or gray strips.*Note: Record as TANGO problem.* |  |
| **Step** | **Action** | **Related Documents** |
| **Load the plates (continued)** |
| 8 | Confirm entries by pressing ‘OK’. The program returns to the Main Menu. |  |
| 9 | Text boxes* This information is automatically filled in when the frame barcode is read during plate loading. The system cannot use a plate if all text boxes of a plate have not been filled in.
* Plate name – Name of plate
* Barcode – Plate barcode
* Lot No. – Lot number of plate
* Expiry date – The expiration date of the plate
* Shelf life (h) – This will automatically begin at 168 hours (seven days) and count down.
 |  |
| 10 | Buttons* Remove plates – The selected plate is moved out of the Plate Stacker.
* Edit – Opens the ‘Shelf life correction’ window. The shelf life can be edited to a value that is smaller than the current value. This is required if the plate has been unloaded from the TANGO and is being reloaded.
* Synchronize – To remove a plate if there are any problems during loading of a new plate.
* OK – Confirm entries and return to the Main Menu.
 |  |
| **Unloading Plates** |
| 1 | Open the ‘Plate Loading’ window by touching the plate stacker icon in the Main Menu. |  |
| 2 | Select the plate to be removed by touching the corresponding row on the screen.* Do not remove plates that have strips displayed in dark teal as these strips are designated for testing.
* Do not remove plates that have a red flashing dot on the left side as this plate is active.
 |  |
| 3 | Touch the ‘Remove Plates’ button.* The plate is moved out of the stacker. The event status box will indicate that the plate has been removed.
* The instrument will give an audible signal when plate is being removed. “Please remove plate” will display when plate is ready to remove. Do not remove the plate until the prompt appears.
 |  |
| 4 | Take the plate out of the load position. |  |
| 5 | When removing plates intended for further use: * Record the remaining on board storage time for future use on side of plate.
* Place plates in a plastic bag and seal to avoid moisture during storage.
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**Referenced Documents:**

 TANGO User Guide, Version 3.3