

Process

International Dealer Meeting
20 February 2025



Introduction

Phoenix BLACK

ORACLE

Sprint

SMART 6

Trac II (non-RoHS) EOS

Process Team - process.support@cem.com

- Kathy Herman
 - Lab Lead
- Luis Pena*
 - Applications Specialist
 - Heavily focused on ORACLE
- Jannick Barros*
 - Applications Specialist
- Virginia Mullis
 - Applications Specialist (Part-Time)
- Eileen Stochl
 - Product Manager



ORACLE Updates

- All RoHS units
 - Serial Numbers: OB & OW
 - New Software v1.13
 - New Shipments Contain NS7 Clone Files likely by end of 2024
 - All new units should be install with NS7 labeled clone files and normalization standards unless there are multiple units on-site or explicitly directed by PM or CA.
 - Current RoHS customers should remain on their existing NS60 normalization standard and clone file unless otherwise directed by PM or CA.
- All non-RoHS units
 - Serial Numbers: OE & OM
 - Can remain on the current software
 - NS6 normalization standards only



ORACLE Updates

- Software

- All RoHS customers can move to v1.13 regardless of NS number
- Software will identify which program to run based on NS number
 - Customers running v1.13 will not notice any difference from a navigation or usability perspective between units running NS6 and NS7. However, depending on sample type, differences will be seen between results.

- Normalization Kits

- NS6 – replacements for NS6 kits and if contacted by PM or CA (PN: 523020)
- NS7 – use for all new shipments and if contacted by PM or CA (PN: 50-000132)

NOTE: Do not move current NS6 customer to NS7 without PM (Eileen Stochl) or CA (Devin Darrell) instruction.

It will affect their results.

ORACLE Installations

- Mostly Business as Usual
 - Follow your typical installation procedure with the delivered NS7 normalization kit and leave it in the heater block for the customer when installation has been completed.
 - Normalization, oil, and check standards must sit in the fully heated heater block for 45 minutes prior to use. Do not use room temperature standards of any kind.
- Exceptions
 - Corporate accounts
 - See next slide for additional information on corporate accounts.
 - Customers with existing units on site
 - See next slide for additional information on multi-unit customers.
 - Special circumstances
 - If a customer is having issues with results, applications will work to solve the problem.
 - Customers should not be moved to NS7 kits unless explicitly directed by the PM.

NOTE: Do not move current NS6 customer to NS7 without PM (Eileen Stochl) or CA (Devin Darrell) instruction.

It will affect their results.

ORACLE Installations

Corporate Customers

- Explicit instructions will come from a corporate account manager prior to installation.
 - Devin Darrell

Multi-Unit Existing Customers

- One normalization kit should be used for all units at that site.
- Always use the c existing NS6 normalization tube and clone file unless explicitly notified to do differently

NOTE: If you use the existing NS6 tube during installation, take the entire NS7 normalization kit with you when you leave.

ORACLE Installations

- What if a customer will not let you take the NS7 normalization kit?
 - Make it very obvious that they should not use it without talking to you!
 - Clearly state that they should not be using this without contacting you, CEM Service, first because their ORACLE units won't match each other.
 - Physically note on the outside of the box to contact you before using.
 - Put a note on the inside of the box, with a business card, to contact you before use.

NOTE: If a customer contacts you trying to use the NS7 kit, send to Eileen Stochl.

Response to "Why NS7?"

Software was optimized to capture the signal enhancement provided by RoHS compliant components

NOTE: If an existing customer, using an NS6 kit, is moving to an NS7 kit, that means they have been having issues. They should be in contact with applications and the PM is likely involved, so you should not have to field this question.

ORACLE Software Updates

- Additional support for tags
 - Phospholipid, WPC, Animal Feed, etc.
- Removed the global fat bias from settings
- Added SMART 6 method name to the CSV sample export
- Mandatory entry of normalization standard serial number (NS6/NS7)
- Support for NS7 normalization standards and clone files
- Added an "Archive Old Data" button in entries, sample files, and logs greater than one year old
- New function to revert to the default Windows shell if ORACLE or ORACLE Utility are not available
- Expanded magnet shimming passing parameters
 - 35 at 5%
 - 18 at 20%
 - 7 at 50%

ORACLE Heater Blocks

NOTE: See slide notes about older versions of the robot (PF300) that may have different heater blocks.

SMART 6 and High Throughput



12-place and 50-place gray Fisher blocks

New Robot



50-place blue VWR blocks

ORACLE Heater Blocks

NOTE: See slide notes for an example and important info on temp calibration.

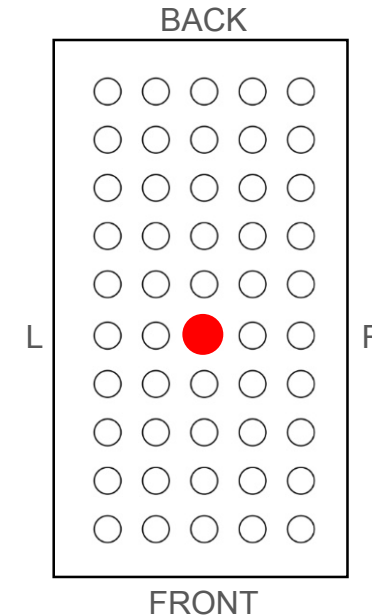
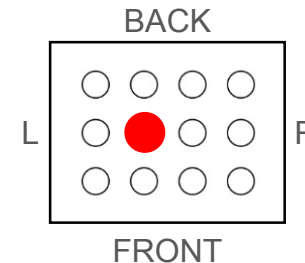
Display Temperature

- All heater blocks should be set to 44.2°C unless otherwise marked on the heater block.



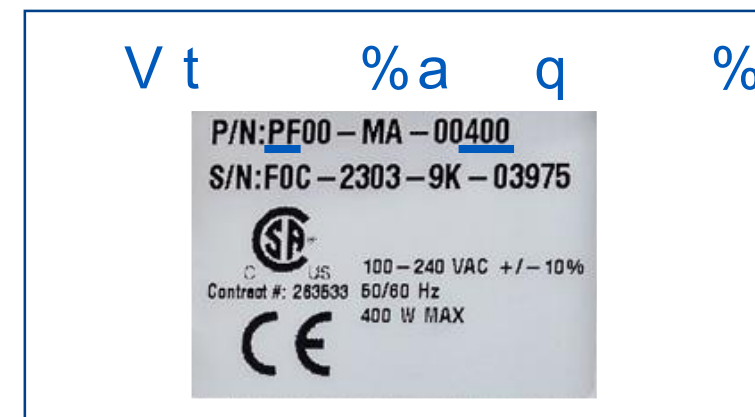
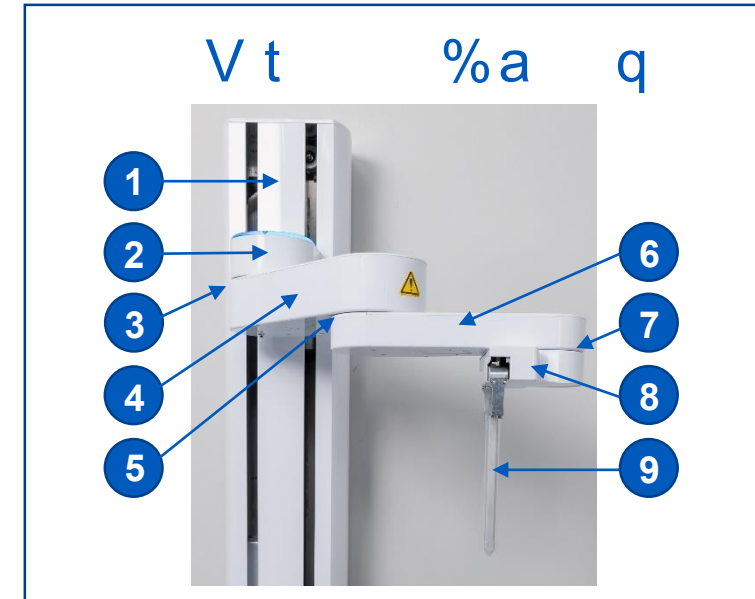
Calibration & Verification

- The block only recognizes calibrated temperatures.
 - Changing the display temperature to anything other than 44.2°C, or the marked temperature, will not correlate to the actual temperature of the heater block.
- Temperature measurements for calibration and verification should be taken in the designated spaces.



ORACLE + Robot

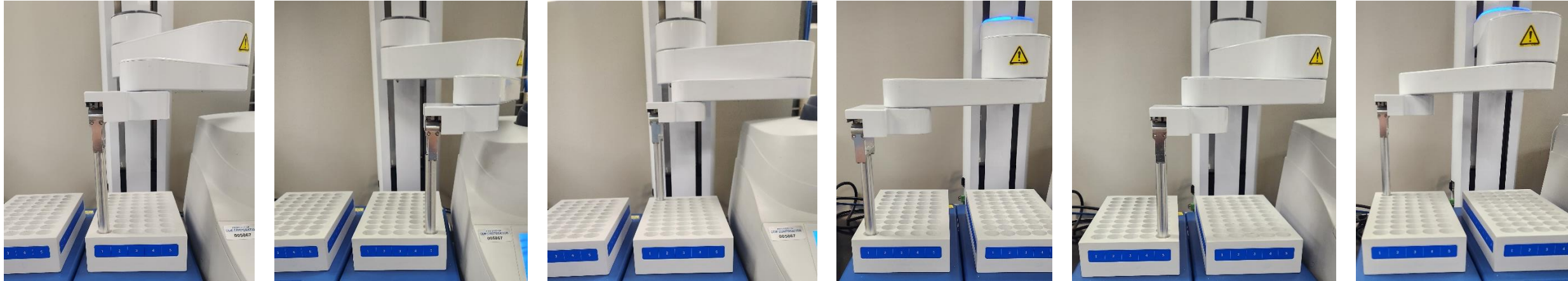
NOTE: See slide notes for more info about PF300 and PF400 and labeling seen in picture directly below.



ORACLE + Robot

NOTE: See slide notes for more info about PF400 arm calibration.

V t %a Proper Arm Configuration for Calibration



NOTE: Use an ORACLE tube for the first step of calibration when the grippers are inside of the ORACLE probe.

ORACLE + Robot Software Updates

- Support for PF400 (new 5-axis) Robot
- Added Model Fitting Heater Block Calibration (Rev.3)
- New Discard Sample Option After Run
 - Do not implement unless directed by Eileen Stochl
- Option to Select Starting Position for Batch Runs
- Duration Selection for Re-Calibration Reminders
 - Currently populates monthly
- Option to Defer Re-Calibration
- Power Assisted Calibration
 - Previously had no support, it was free weight
- Selection of Short (old) or Long (new) Grippers
 - PF400 (new 5-axis) Robots should always use long grippers

SMART 6 Updates

- Raspberry Pi (new)
 - Microprocessor controller board
 - Assist with processing speed and responsiveness
 - Units started shipping in late October/early November 2024
 - Comes with v2.27 software
 - Ensure Date/Time are set correctly prior to running samples
- Beagle Board (old)
 - All units prior to late October/early November 2024
 - Currently running on up to v1.20 software
 - New release of v1.27 software
- Beagle Board to Raspberry Pi Upgrade
 - Remove Old SD Card on Existing Unit
 - Transfer Customer Data to New SD Card
 - Install Raspberry Pi (new) board

NOTE: Full instructions included with Raspberry Pi upgrade kit, RI-0230 and RI-0231



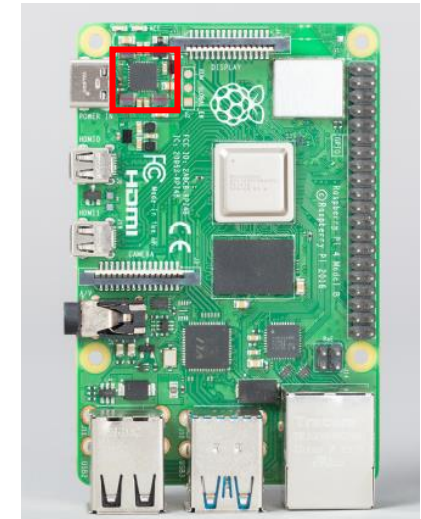
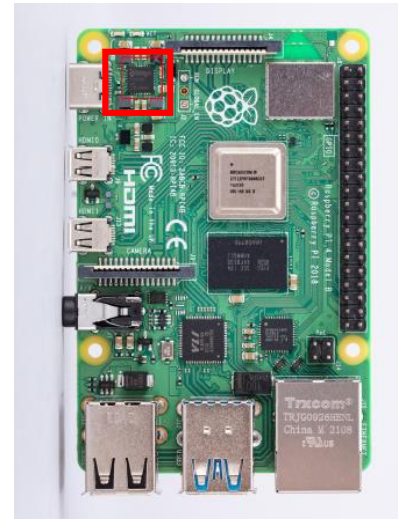
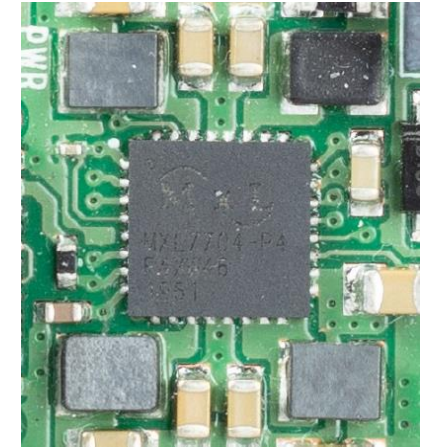
SMART 6 Raspberry Pi Revision

- CEM Software is compatible with the newest software (1.5) and PCB revision (Rev9).
 - Model: Raspberry Pi 4 Model B Rev 1.5
- Change of Raspberry Pi 4 PCB
 - OLD: Software 1.4 PCB Rev6
 - NEW: Software 1.5 PCB Rev9
- Change was made in order to move to a new power management chip.
 - New DA9090 PMIC
- All boards from CEM should be newest version.

NEW PCB - R9



OLD PCB - R6



SMART 6 Software Updates

- CFR Compliance
 - Three Users – Admin, Standard, Basic
 - Password customization/configuration
 - Auto Log-Out
- Printer Removed from Tools
 - No longer will have to re-install printer
 - Auto recognizes onboard printer or receipt printer (Phoenix BLACK)
- Invalid Result ----%
 - If you stop a test or open the unit it will make note in the user logs and print ----%
 - Previously would print and record whatever value was on the screen
 - If final weight > initial weight, it will print ----% rather than 100%
- Method Edit/View
 - Removed "Parameters" section, you can add st
 - Printing icon is available on the editing method screen

SMART 6 Software Updates

- Videos Removed
 - Will return when they have been updated
- Large Sample Name ID Correction
 - Full sample ID will display on the screen when 4+ digits are present
 - Example: Sample 11016 previously read as Sample 1101
- ORACLE Parameters
 - Max cooling time, tags, etc. have been added to print out
- Different Icons on Raspberry Pi
 - Icons on v2.27 (Raspberry Pi) look similar to those on v1.27 (Beagle Board) but are not exact
 - This is a good quick indicator to see which microprocessor they have
- SMART 6 + ORACLE/Trac Methods
 - On v1.27 and 2.27, SMART 6 units must be connected to an ORACLE/Trac in order to delete SMART 6 + ORACLE/Trac methods

Phoenix BLACK Updates

- Thermocouple Calibration
 - Will be 10 points, rather than 2
 - Takes <5 minutes for a much more robust calibration
- Maximum of 15 stages (previously 8)
- Password Visible 
- Password Hidden 
- New Balance Coming
 - Mettler discontinued ML & MS
 - Moving to MR series
 - USB C connection
 - USB Splitter comes with the Workstation (balance & printer)
- Drying Mode
 - Tight Temperature Control
 - +/- 2.0°C under 250°C
 - Implemented for pharma customer
 - Standard & Sulfated Ash systems
 - Airwave is closer to +/- 4.0°C, not a typical configuration for customers needing this mode.



Phoenix BLACK Reminders & Updates

- Phoenix BLACK Service Pack 2.0 is a **MANDATORY** update for anyone on software less than 2.0.

- If not on 2.0, data will be lost if the microprocessor controller (Pi) fails.

- Start up files for 2.0 are only meant to run on versions of Pi that were present prior to 2.0.

- Customer's already use the start up files for any reason.
 - Will lead to locking the SD card, rendering the system useless.

- Service Pack 2.0 should only be used if the **software** needs to be upgraded.

- Service Pack 2.0 should only be used if the **software** needs to be upgraded.

- Use if unit is running < 2.0
- Do **NOT** use if unit is running 2.0

- If replacing an I/O board, always use DFU files to upgrade/install firmware regardless of software version.

- Using Service Pack 2.0 will brick the SD card if the unit is already running 2.0

Sprint Updates

- New Balance Coming
 - Mettler discontinued ML & MS
 - Moving to MR series
 - Serial Connection
 - Connection instructions are provided in the new Sprint Operations Manual
- Recent and In-Process Updates
 - Strengthen Z-Axis
 - Strengthen Filter Ejector Solenoid
 - Improve Optics Line Connection
 - Supplier Collaboration
 - Polished Filter Ejector
 - Homogenizer Motor



Trac II (Non-RoHS) EOS

- SMART Trac II
 - SW & SB
- Fast Trac
 - FW & FB
- Hybrid Trac
 - See Above
- Meat Trac
 - HW & HB



<http://www.cem-service.com>
Service@cem.com

Reference: End of Life Announcement for Product SMART Trac II Derivatives

Serial number prefixes: SW, FW, HW, SB, FB, HB
Model Names Affected: SMART Trac II, Meat Trac, Fast Trac, Hybrid Trac
Note: This EOS only affects the Non-RoHS systems

Current Status: Limited Support

Limited Support Date: September 1, 2024
EOL/EOS Date: December 31, 2024

CEM Corporation is committed to providing the highest quality products and services to our customers. As a technology developer and provider, we understand that technology evolution allows our customers to establish and maintain competitive advantages, achieve operational efficiencies, and provide superior products. At CEM Corporation, we view product EOS (end of support) as a part of the life cycle that drives new technology and product innovation. All technology products eventually reach the end of their useful life requiring a business decision to discontinue availability and maintenance.

The SMART Trac II product line with serial number prefixes of **SW, FW, HW, SB, FB, or HB** has reached a point in its life cycle where components are increasingly difficult or impossible to source. As such, we must make a difficult business decision to announce the EOS planning for the SMART Trac II non-RoHS product derivatives effective as of **September 1, 2024**. We will do our best to accommodate orders for service parts placed between now and **December 31, 2024**, but our ability to fulfill orders relies on component availability.

To ease the transition and allow as much time as possible for support, CEM enters the EOS process in two stages:

1. First, the product is placed on **'Limited'** support status. This allows us to prolong support with the existing inventory we have. In this stage, only customers that have service contracts will be able to obtain support. Non-contract systems will no longer be able to obtain support.
2. After sufficient time has passed to notify users of the impending EOS of the product, all support will end, and the product support status will change to **'Discontinued' (EOL/EOS)**. This date will be announced as far in advance as possible, however some components could become unavailable prior to the formal EOS date. Once the product support status is changed to **'discontinued'**, no further support is available.

CEM Corporation understands how integral this equipment is to our customer's overall productivity, and we will do our best to continue to support if components are available. Our goal is to give our customers as much time as possible to plan their technology upgrade. Newer technology provides more productivity and greater efficiency in the same or similar applications as the existing products. As an engineering-driven company, we maintain a continuous new product development schedule and can review with you our latest offerings for your particular applications.

Please contact us with any questions you may have as to how this process affects you and we will assist in any way possible.

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NOTE: RoHS SMART Trac II, RoHS ORACLE, and non-RoHS ORACLE units are still being supported.

We are very limited on non-RoHS ORACLE parts making servicing difficult worldwide.

Questions?

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