Sensor X 23 and 25 Operator

Daily Startup Procedures

1. **Wipe the upper and lower plastic lids in the product scanning area of the SensorX. This is to ensure that no water droplets are on the lids. Water droplets left in the machine after sanitation affect the X-ray signal and can decrease the ability of the machine to find bones.**

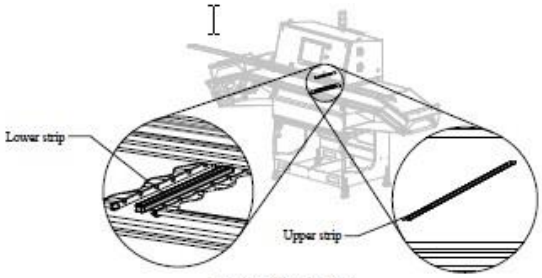
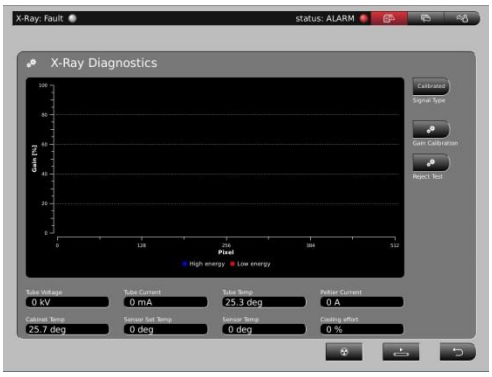


Figure 14 Wipe off the strips.

2. **Inspect the belts for wear and proper sanitation. Inspect the SensorX belt for any torn holes or any other damage. Replace it if necessary. Inspect the blue plastic belts for missing pieces and have maintenance replace broken links as necessary. Verify that both belts are running smoothly and that they are not skipping links or stopping intermittently once the machine is running.**
3. **Verify that the SensorX has power, air and water supplied. Test the reject from the X-Ray Diagnostics Screen:**



4. **Test the Emergency Stop system by pushing the E-stop Button on the front of the machine.**

5. **Start the X-Ray and the belts from the Home Page.** 

6. **Verify that the water sprayer is spraying to clean the belt. Spray cycle is ten seconds out of every minute by default, but may have been changed to spray continuously depending on the location.**

7. **Allow the machine to warm up for 15 minutes prior to the first calibration. This will ensure proper temperature regulation of the machine and proper bone detection.**

8. **Calibrate the machine. See below for instructions.**

9. **Return to the Main Production Screen. Test the machine by running a piece of product with bone embedded. Verify that the machine is detecting bone properly and is rejecting the piece. The SensorX is now ready for operation.**

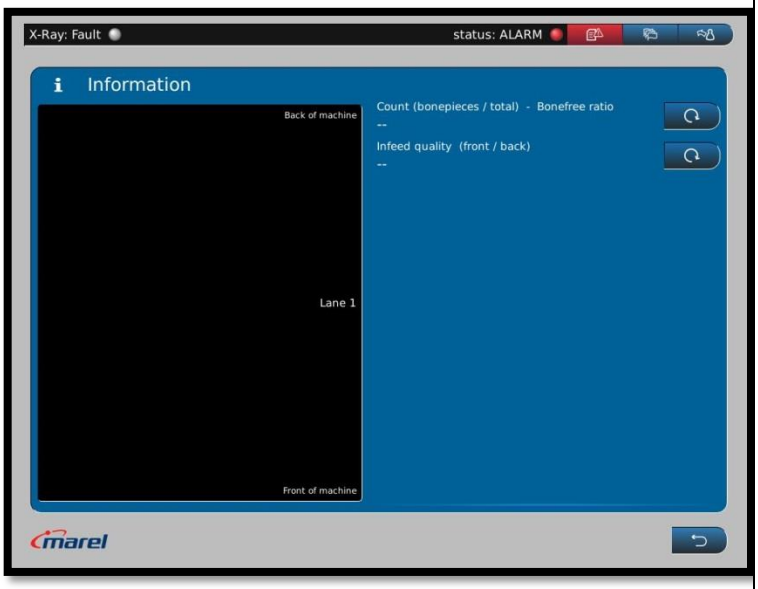
Sensor X Screens Overview

This section details the most common screens used by the Sensor X Operator and how to navigate the system menus, as well as descriptions of the navigation buttons on each page:

Main Production Screen

This is the main production screen, and is where the machine will most likely be set throughout the day. This screen gives us a look at each piece scanned as well as a count of total pieces, number of bone-free pieces, bone-free percentage and in-feed quality. These statistics can be reset with the "Reset" button.

In order to get the machine ready for production, press the back button.



The Home Page. From this screen we can:

Start/Stop the X-ray

Check the status of the safety circuit-Should be blue, red indicates errors

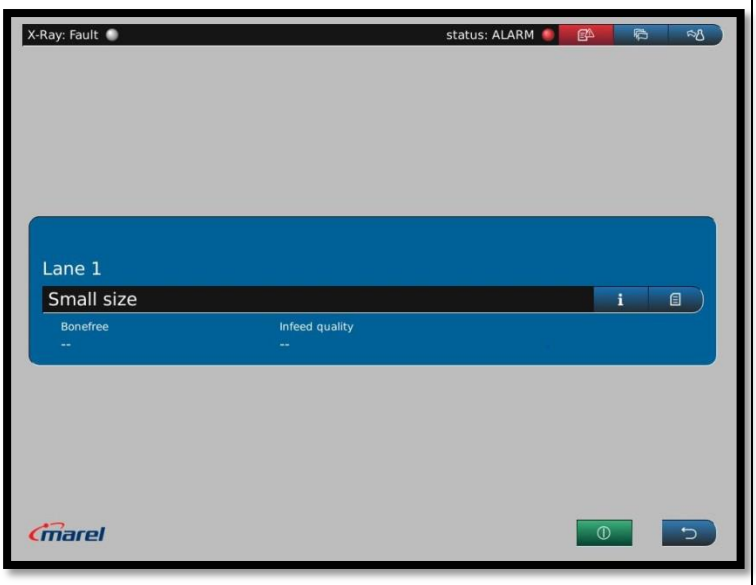
Change active program

Go to the Production Screen

Go to the Login screen, Also considered the "Back" button

We will now press the login button…

Home Page



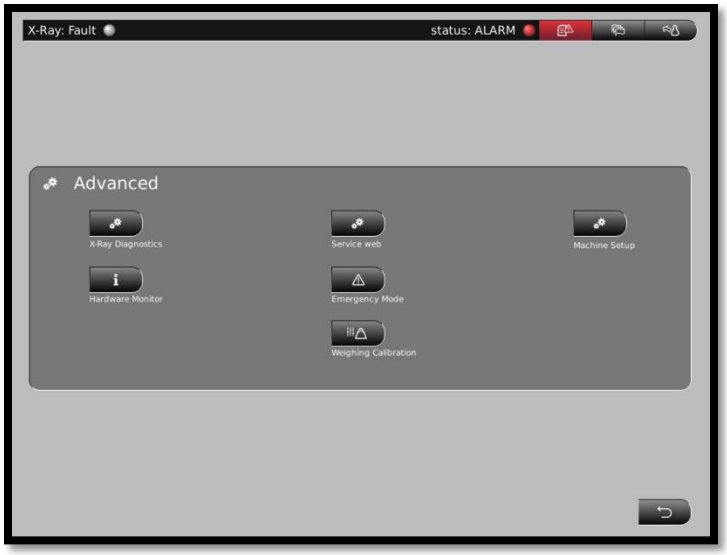
Login Page

The Login Page. From here we will press the Advanced Login button

Supervisor Menu

Next we will press the X-Ray Diagnostics button to go into the X-ray Calibration and Diagnostics Screen

All other buttons are not commonly used.



X-Ray Diagnostics Screen

This is the X-Ray Diagnostics Screen. It has our voltage, current and temperature readings. From here we can:

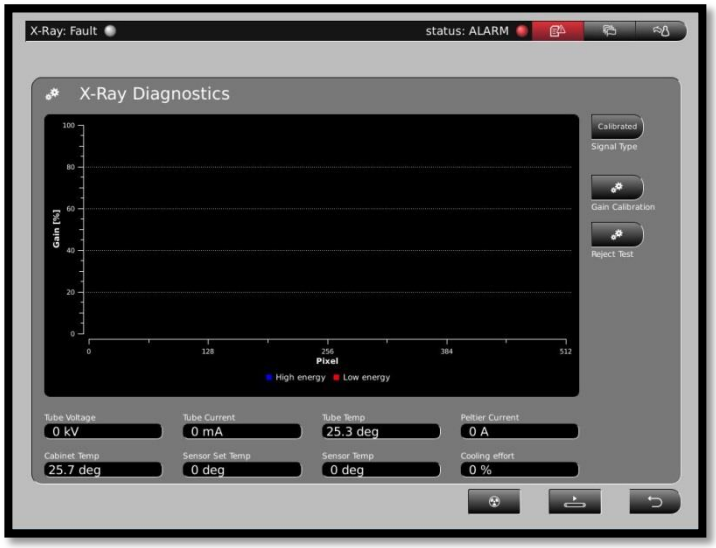
Gain Calibrate

Test the Reject Mechanism

Start/Stop the belt

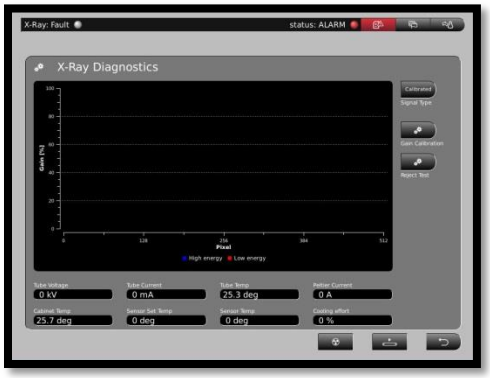
Start/Stop the X-Ray

Return to previous screens



Calibration

1. **Navigate to the X-Ray Diagnostics screen**



2. **Wait until the status at the top right of the page says RUNNING then press** 

3. **After the calibration has finished press** 

to test the reject mechanism

4. **Press**  **until you get back to the Login Page, then press** 

to get to the Home Page, and press  **to view the Main Production Page**

5. **Test a few pieces of product with bone embedded to make sure that the Sensor X is detecting bones and rejecting them properly**

********REMEMBER TO GO BACK AND DO A GAIN CALIBRATION**

AT EVERY BREAK AND AT SHIFT CHANGE******

Daily Production Procedures

1. **Keep a watch on your in-feed quality. This percentage should be as close to 100% as possible. Remember that any part of the product that does not pass through the Product Scan Area may potentially have bone in it but it will not be rejected if the machine can't scan the bone. Make sure that all product is as close to the center of the in-feed belt as possible.**

2. **Make sure that product is as flat as possible going through the machine. This will help with bone detection accuracy and will prevent false rejects which add more rework time and decrease throughput.**

3. **Make sure that the product has enough space between each piece as it goes through the machine. This will help to ensure that a piece without a bone does not get rejected with a piece that has a bone, which contributes to more rework time.**

4. **CALIBRATE, CALIBRATE, CALIBRATE!!! Do a Gain Calibration at every startup, break and shift change. Proper calibration ensures optimal bone detection.**