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Italtech Injection Molding Solution
JVH Screen Preview

Predesigned Solutions

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- *Husky® D-Line*
- *Husky® Quadlock*
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- *Husky® G-Line*
- *Demag / Van Dorn*
- *Ube Max*
- *Italtech*
- *Cincinnati / Milacron®*

Features

- **Allen-Bradley CompactLogix®**
  - CompactLogix
  - Pressure monitoring
  - Built-in temperature control
  - Advanced core features
  - Integrated quick mold change
  - Integrated sequential valve gates
  - Ethernet communications

- **Touchscreen HMI**
  - 12.5" Versaview® Industrial PC
  - Recipe Storage
  - Customizable security levels
  - Integrated RFID Reader

- **Hydraulics Upgrade**
  - High speed proportional valves
  - Valve spool feedback

- **Data Logging**
  - Setpoint Tracking

- **Digital Sensors**
  - Noiseless position sensors
  - Resolution of .005 mm

- **Turnkey Control Solutions**
  - Design & Drawings
  - Installation & Programming
  - Training & Manuals
  - Support

Rockwell Automation
Recognized System Integrator

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- **Quality**
- **Diagnostic Trend**
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- **Pump Forcing**

Process Overview / Main Menu
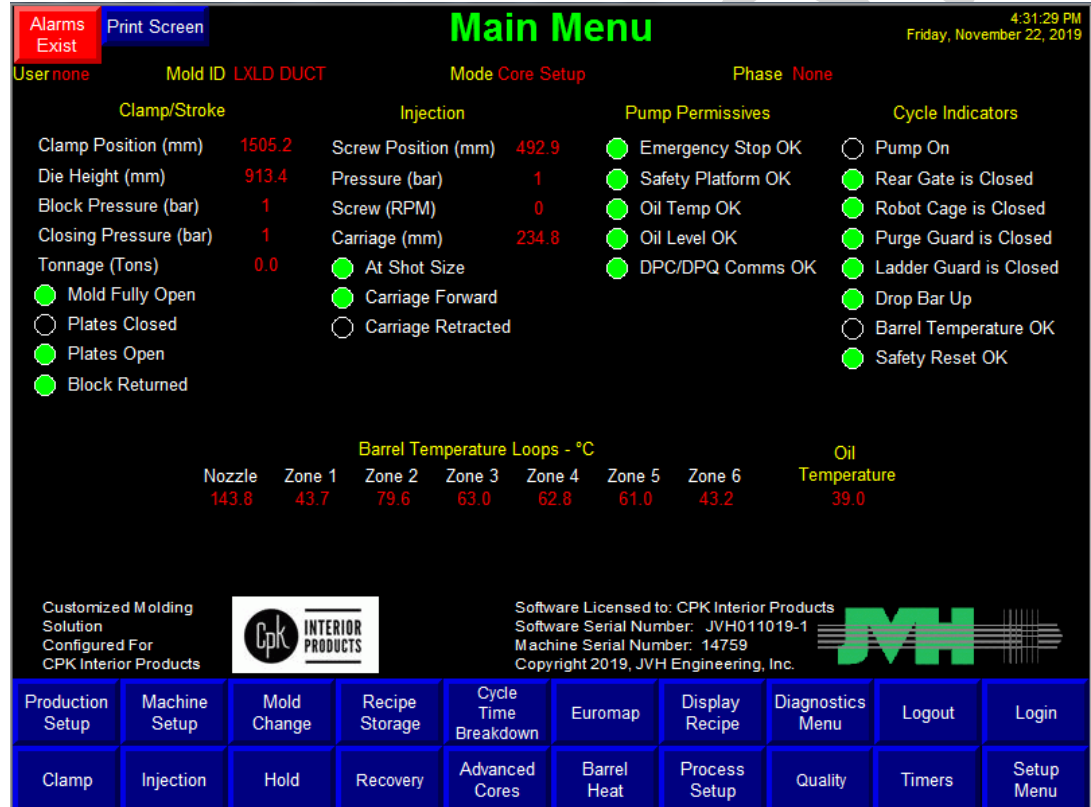
The Main Menu screen is designed to give the user a simple overview of the machine status. This screen includes all relevant temperatures, positions, pressures and indicators for basic machine operation. It is also the main hub from which many other screens are accessed. The buttons in the bottom row appear on all other profile screens allowing one-touch access to all profile parameters. The buttons on the top row exist on this screen only.

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Machine Setup

The machine setup screen can only be accessed from the Process Overview/Main Menu screen. This screen has a variety of information on it pertaining to lubrication, oil temperature, jogs, carriage, purging and accumulators.

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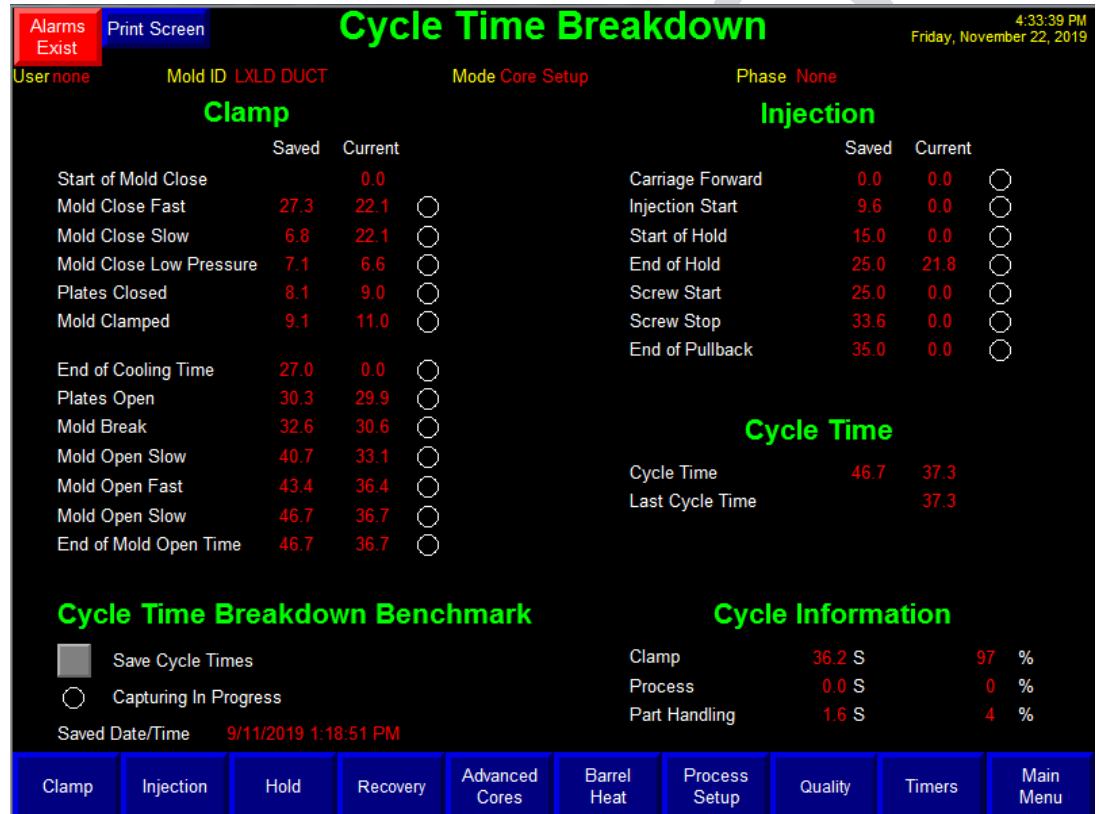
Cycle Time Breakdown

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The cycle time breakdown screen is accessed from the Process Overview/ Main Menu screen. This screen provides the time in seconds at which each machine phase completes.

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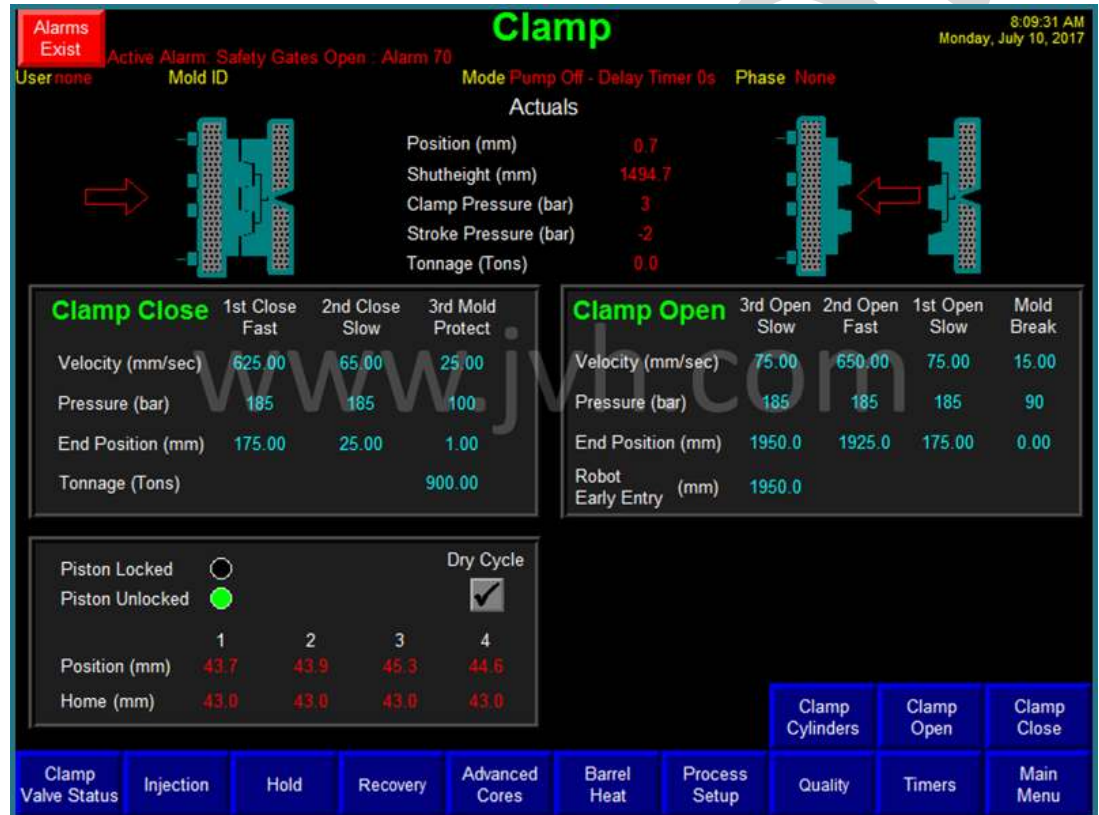Quotes@jvh.com   Support@jvh.com

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Clamp

The clamp screen provides all information required to configure the mold/clamp open and close profiles.

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Clamp Close

The Clamp Close screen can be accessed by clicking on the Clamp Close button in the bottom right of the Clamp screen. This Screen provides a detailed graph of the velocity of the clamp versus its position, as well as all the relevant parameters from the Clamp screen. There is a similar screen for the clamp open direction.

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Injection
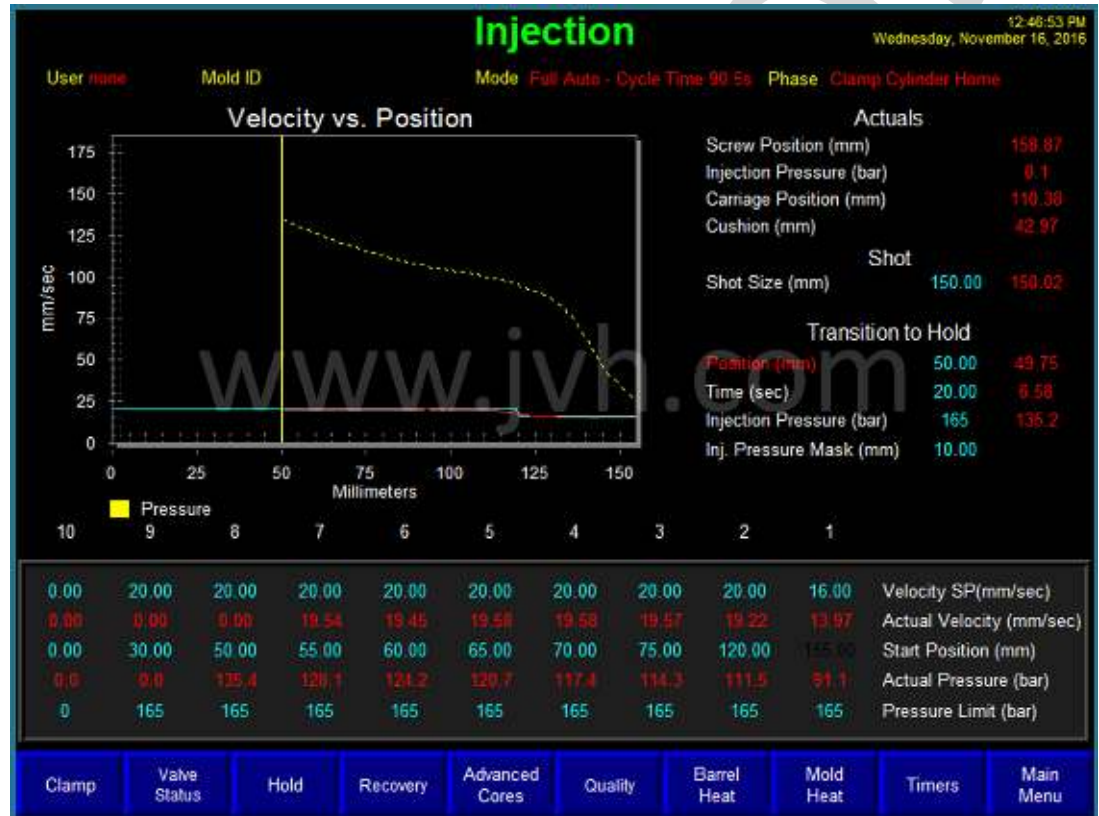
 The injection screen contains all pertinent information to the mold fill (injection) process. There are ten segments of velocity control. The injection profile begins from the start position, displayed here in black, which is the shot size plus the post-decompress distance. The screw will travel at the given segment velocity until the next segment start position is reached. This will continue to happen until the screw has completed the injection profile or a transition parameter has been met. Transition to hold will take place based upon which transition parameter is met first (time, position, hydraulic pressure).

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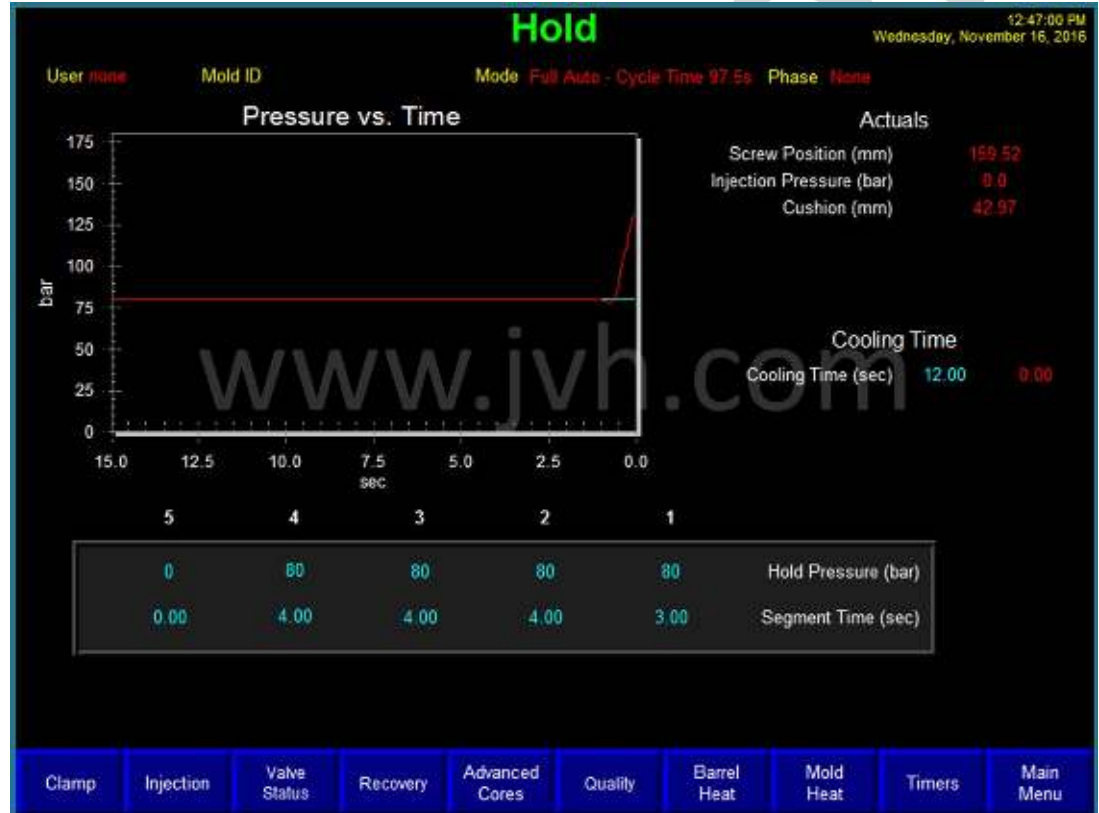
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Hold

The hold profile begins after injection transition has occurred. This profile performs closed loop injection pressure control to hold plastic pressure on material injected into the mold.

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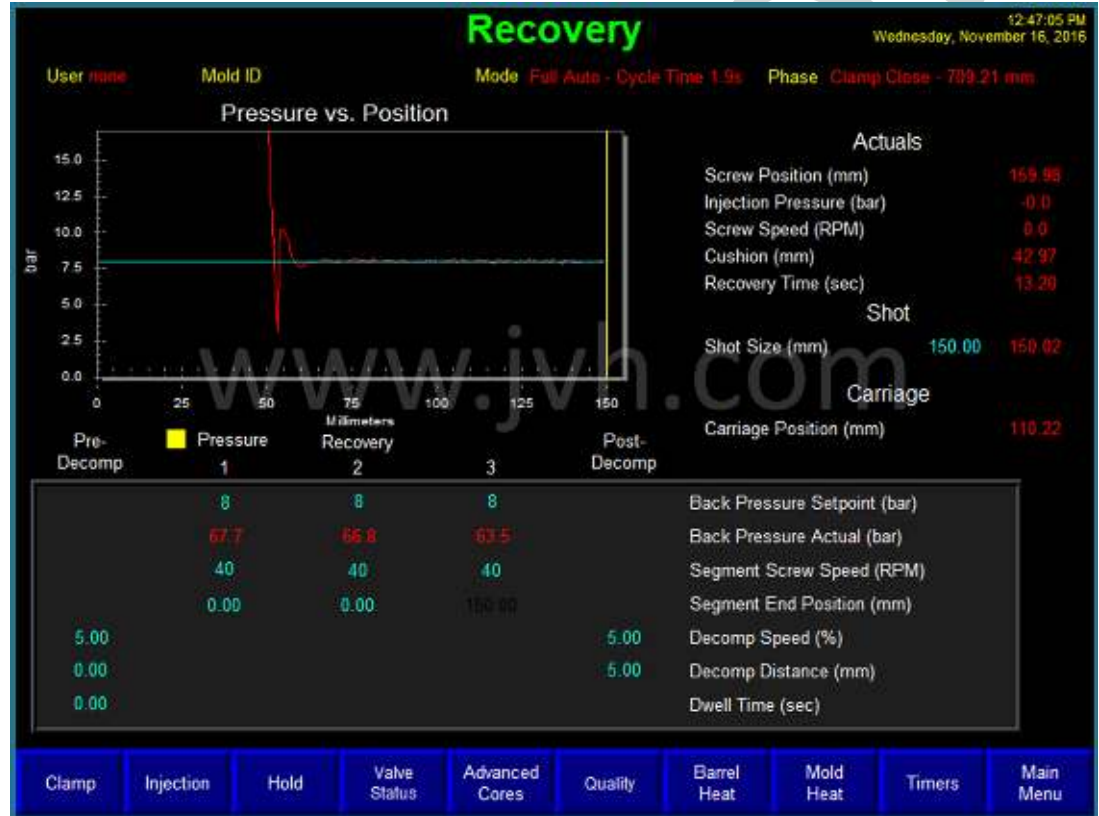
The Recovery screen contains all the parameters that are relevant to building a new shot for the following cycle. Upon completion of the hold profile, pre-decompress will suck the screw back the defined distance at the set speed. Recovery, steps 1-3, will rotate the screw while holding backpressure on the injection ram. This operation will take place until the screw reaches the defined shot size. After making shot size, post-decompress will again suck the screw back a defined distance and speed.

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Advanced Cores

The Advanced Cores screen is the first of two core screens utilized to configure nearly any sequence of core operation.

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Quality

The quality screen is utilized to view the key process parameters for the last 15 cycles. Additional cycle data can be viewed by accessing the quality log screen. Minimum and maximum values can be defined for each of the 10 process parameters displayed. When any cycle contains a process parameter that falls outside of the defined minimum/maximum boundary, the parameter for that cycle is displayed in red text. This screen can be used to quickly determine if the proicess is running repeatably and within tolerance.

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Diagnostic Trend

The Diagnostic Trend screen allows the operator to select up to six digital or analog outputs, as well as temperatures, and have these inputs and outputs represented visually using a live trend that records over time. Selecting a specific datum will highlight and scale the vertical axis appropriately for that value.

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Mold Change

The Mold Change screen provides a visual display for the sequence of events required to install a mold and then clamp it. Checks are in place on this screen to ensure operator security level along with interlock confirmations.

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Pump Forcing/ Output Calibration

Preview Screens

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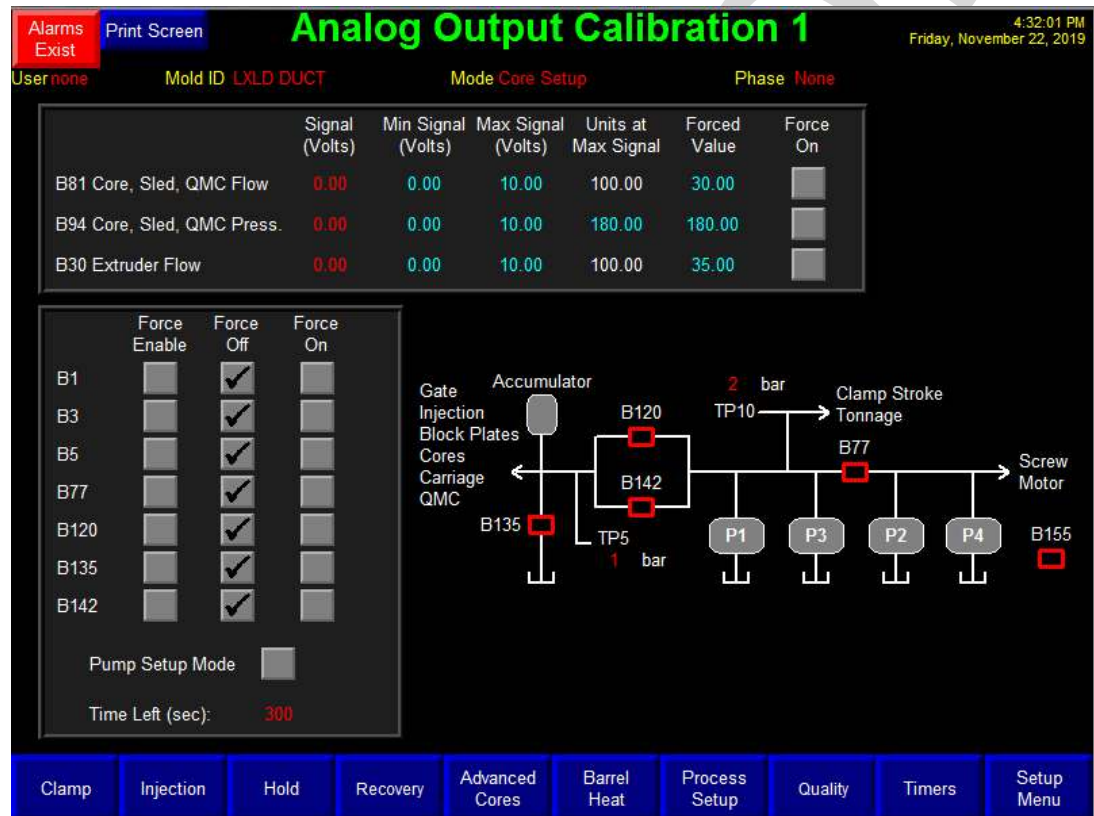
The Output Calibration screen is used to calibrate and force on each of the valve driver cards on the machine. For this project the original core speed and pressure, along with extruder flow valve drivers were left in use while all other valves were replaced with new stock valves that utilized onboard electronics. Also on this screen digital pump and accumulator solenoids can be forced on and off.

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