



**JVH ENGINEERING, INC.**  
Consulting Engineers In Industrial Automation  
[WWW.JVH.COM](http://WWW.JVH.COM)

## Predesigned Solutions

- Husky® E-Line
- Husky® D-Line
- Husky® Quadlock
- Husky® Tandem
- Husky® G-Line
- Demag / Van Dorn
- Ube Max
- Cincinnati / Milacron®

## Features

- **Allen-Bradley CompactLogix®**
  - CompactLogix
  - AC or DC Motor Control
  - Pressure Monitoring
  - Built-in Temperature Control
  - Advanced core features
  - Integrated sequential valve gates
  - Ethernet
- **Touchscreen HMI**
  - 12.5" Versaview® Industrial PC
  - Recipe Storage
  - Security
  - Integrated RFID Reader
- **Hydraulics Upgrade**
  - Ductile Iron Clamp Manifold
  - High speed proportional valves
- **Data Logging**
  - Setpoint Tracking
- **Digital Sensors**
  - Digital position sensors
- **Turnkey Control Solutions**
  - Design & Drawings
  - Installation & Programming
  - Training & Manuals
  - Support

## Husky® D-Line Solution

### JVH Screen Preview



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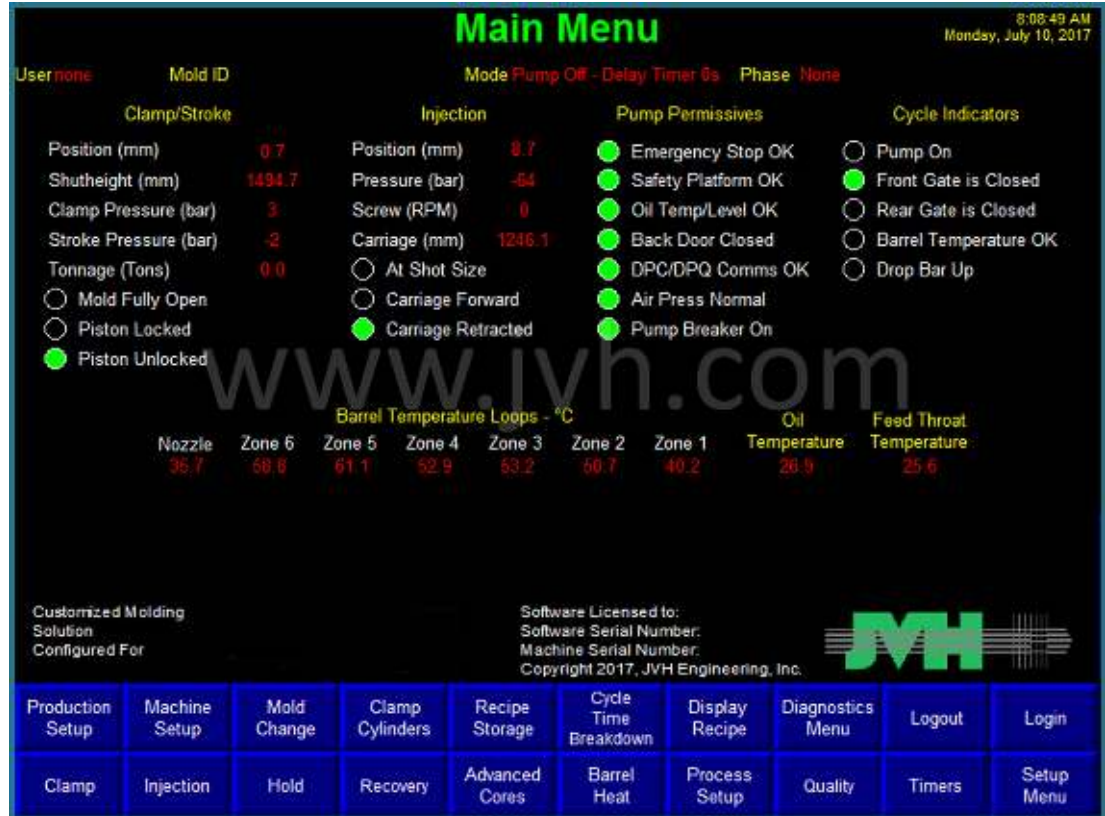
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## Preview Screens

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- Cycle Trend
- Diagnostic Trend
- Mold Change

## Process Overview / Main Menu



The Process Overview 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 press 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 and purging. To make Machine setup even easier, all setpoints are saved to the current recipe.

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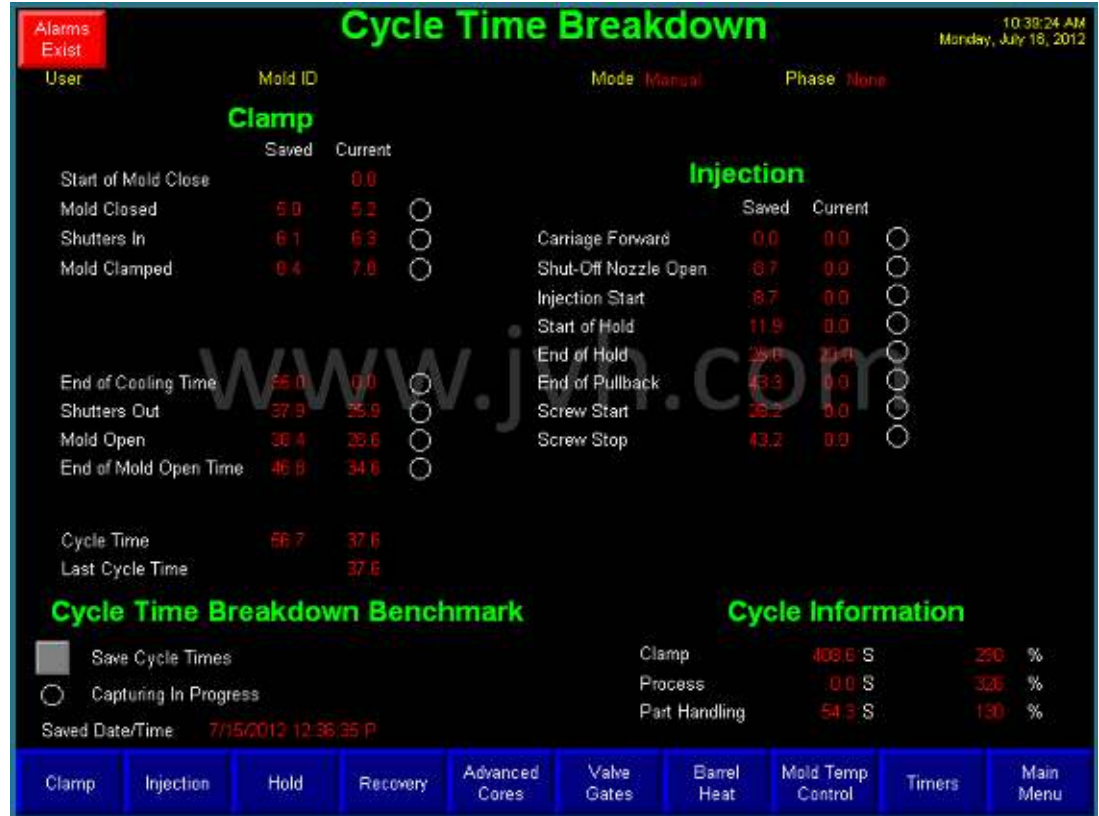
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## Cycle Time Breakdown



The cycle time breakdown screen is accessed from the Process Overview/ Main Menu screen. This screen provides detailed information about when each process of the cycle has begun during the cycle.

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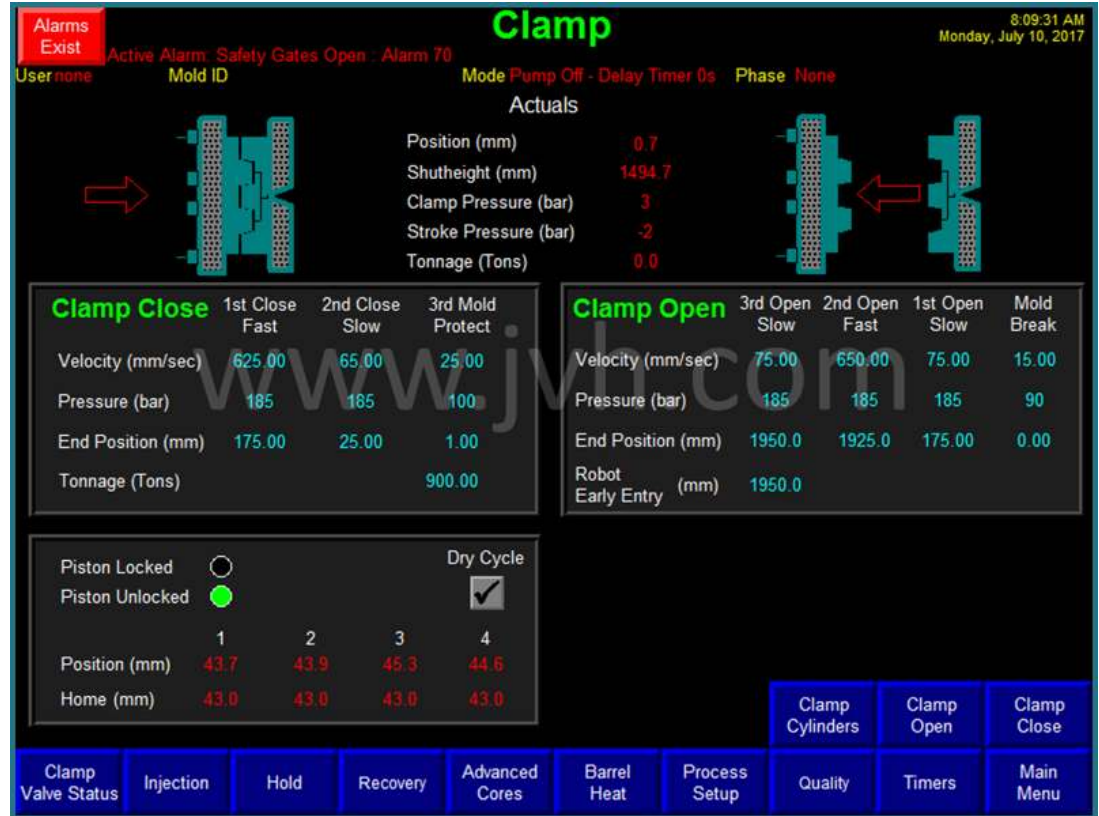
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## Clamp



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.

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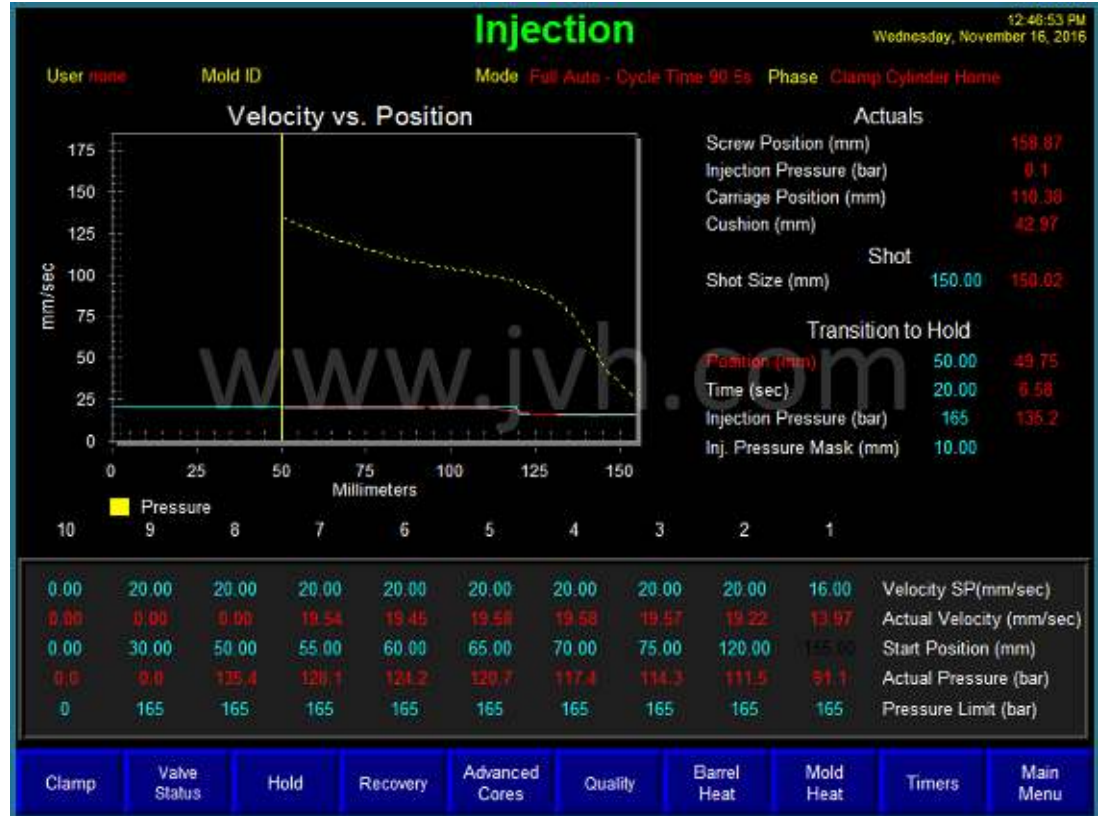
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## Injection



The injection screen contains all pertinent information to the mold fill (injection) process. There are ten segments of velocity vs. position 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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### Hold



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

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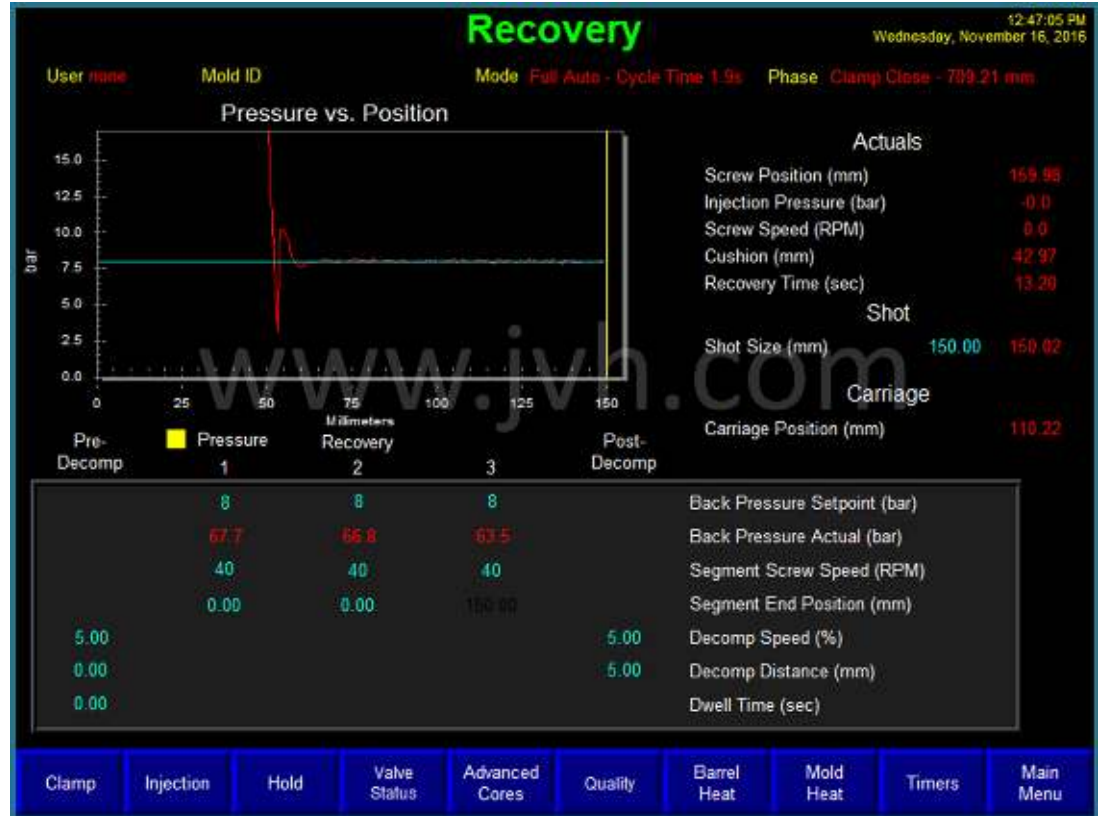
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## Recovery



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 back-pressure 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

**Alarms Exist** Active Alarm: Safety Gates Open : Alarm 70  
User: none Mold ID: Mode Pump Off - Delay Timer 0s Phase: None

**Advanced Cores** 8:11:06 AM Monday, July 10, 2017

Clear Selection	Core Set					Core Pull					Ejector Selection
	Step	Order	Output	LS	Time (sec)	Step	Order	Output	LS	Time (sec)	
<input type="checkbox"/>	1Mov	0	0	<input type="radio"/>	0.0	1Mov	0	0	<input type="radio"/>	0.0	<input type="checkbox"/>
<input type="checkbox"/>	2Mov	0	0	<input type="radio"/>	0.0	2Mov	0	0	<input type="radio"/>	0.0	<input type="checkbox"/>
<input type="checkbox"/>	3Mov	0	0	<input type="radio"/>	0.0	3Mov	0	0	<input type="radio"/>	0.0	<input type="checkbox"/>
<input type="checkbox"/>	1Sta	0	0	<input type="radio"/>	0.0	1Sta	0	0	<input type="radio"/>	0.0	<input type="checkbox"/>
<input type="checkbox"/>	2Sta	0	0	<input type="radio"/>	0.0	2Sta	0	0	<input type="radio"/>	0.0	<input type="checkbox"/>
<input type="checkbox"/>	3Sta	0	0	<input type="radio"/>	0.0	3Sta	0	0	<input type="radio"/>	0.0	<input type="checkbox"/>

Eject Back Retracted Pos (mm) Output Limit  
M/C Ejector 1.0 ☐ ☒

Eject Fwd Forward Pos (mm) Output Limit  
M/C Ejector 175.0 ☐ ☐

Machine Ejector Position (mm) 0.92

0. None (Core Disabled)	1Mov - 2Mov - 3Mov - 1Sta - 2Sta - 3Sta
1. Before Mold Closing	Ret M/C Ejector
2. During Mold Closing	
3. After Mold Closed	
4. After Clamped Up	
5. Before Unclamping	
6. Before Mold Opening	
7. During Mold Opening	
8. After Mold Open	Fwd M/C Ejector

Core Setup Mode: ☐ Core Setup Mode is Enabled Mold Damage Possible

Clamp Injection Hold Recovery **Advanced Cores 2** Barrel Heat Process Setup Quality Timers Main Menu

The Advanced Cores screen is the first of two core screens and is found by touching the Advanced Cores button from any of the profile screens. The advanced core screen can be utilized to configure nearly any sequence of core operation.

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## Quality

12:48:06 PM  
Wednesday, November 16, 2016

**Quality**

User name:      Mold ID:      Mode: Full Auto - Cycle Time 63.1s      Phase: Clamp Decompress

	Cycle Time	Injection Time	Trans Pos	Trans Press	Max Press	Cush Size	Injection Start	Shot Length	Recovery Time	Clamp Open
Max	70.00	3.50	45.00	100	95	32.00	155.00	127.00	10.00	2350.0
Min	60.00	3.00	39.00	80	85	25.00	150.00	121.00	8.00	2250.0
Current	62.95	6.54	49.75	135.1	136.3	43.24	161.96	118.72	12.33	0.0
1	100.61	6.58	49.75	135.2	135.4	42.97	162.55	119.58	13.20	1837.1
2	71.78	6.45	49.75	132.8	132.7	42.02	160.50	118.58	13.37	1836.7
3	70.66	6.44	49.75	132.7	132.9	41.91	160.41	118.49	13.37	1836.9
4	70.83	6.44	49.75	132.5	132.0	41.44	160.37	118.93	13.53	1836.9
5	69.71	6.46	49.75	132.5	132.4	41.63	160.96	118.98	13.38	1837.3
6	69.79	6.46	49.74	132.5	132.6	41.79	160.73	118.94	13.42	1837.4
7	69.72	6.45	49.77	133.2	133.4	42.30	160.62	118.31	13.36	1837.2
8	69.47	6.44	49.75	132.7	132.9	41.68	160.38	118.71	13.44	1837.0
9	69.59	6.44	49.77	132.5	132.7	41.67	160.49	118.82	13.41	1837.0
10	69.44	6.44	49.74	132.4	132.5	41.54	160.38	118.84	13.36	1836.8
11	69.72	6.44	49.75	132.7	132.8	41.88	160.41	118.53	13.40	1837.1
12	69.51	6.45	49.75	132.8	133.0	42.08	160.59	118.52	13.33	1836.9
13	69.99	6.45	49.75	132.7	132.9	41.91	160.54	118.63	13.28	1836.9
14	69.85	6.46	49.75	132.6	132.8	41.78	160.70	118.92	13.34	1836.9
15	72.63	6.48	49.76	133.1	133.2	42.14	161.03	118.89	13.37	1836.9

Quality Log

Clamp    Injection    Hold    Recovery    Advanced Cores    Barrel Heat    Mold Heat    Timers    Main Menu

The quality screen can only be accessed from the Process Overview/Main Menu screen. This 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.

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## Cycle Trend



The Cycle Trend screen can be accessed from the Diagnostics menu. This screen displays a trend showing the changing values of Actual Screw Position, Actual Screw Pressure, Actual Clamp Position, Actual Clamp Pressure, and Screw RPM over time. Selecting one of these will highlight and scale the vertical axis for that specific value.

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## Diagnostic Trend



The Diagnostic Trend screen can be accessed from the Diagnostics menu. 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 trend graph that records over time. The centermost button below the trend will pause the trend, while the proceeding buttons on each side will move it forward in time if the data isn't current, or back in time. Selecting a specific datum will highlight and scale the vertical axis appropriately for that value.

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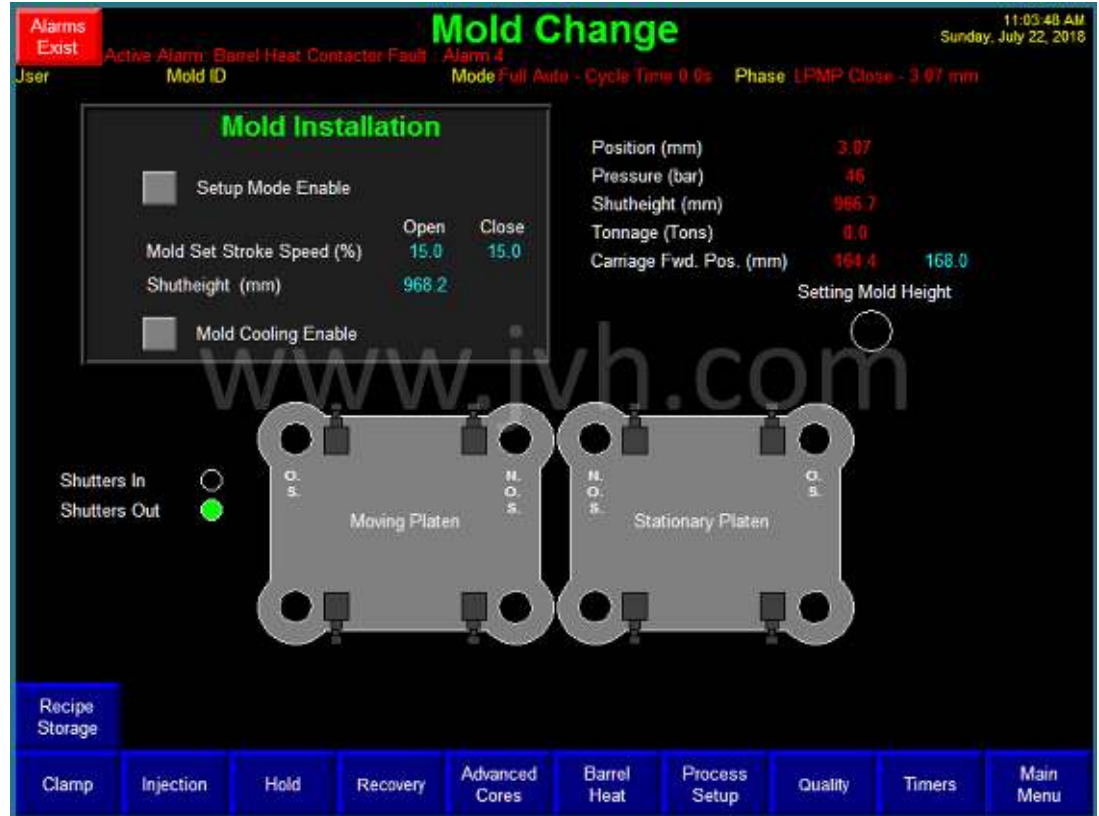
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The Mold Change screen can be accessed from the production setup screen. This screen provides a visual display of the status of the mold clamps and cylinders. The cylinders are indicated unlocked or locked by the green indicator.

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