



VAC AERO
INTERNATIONAL INC.

PRODUCT SPECS



Honeywell HC 900 Hybrid
Vacuum Furnace Control System

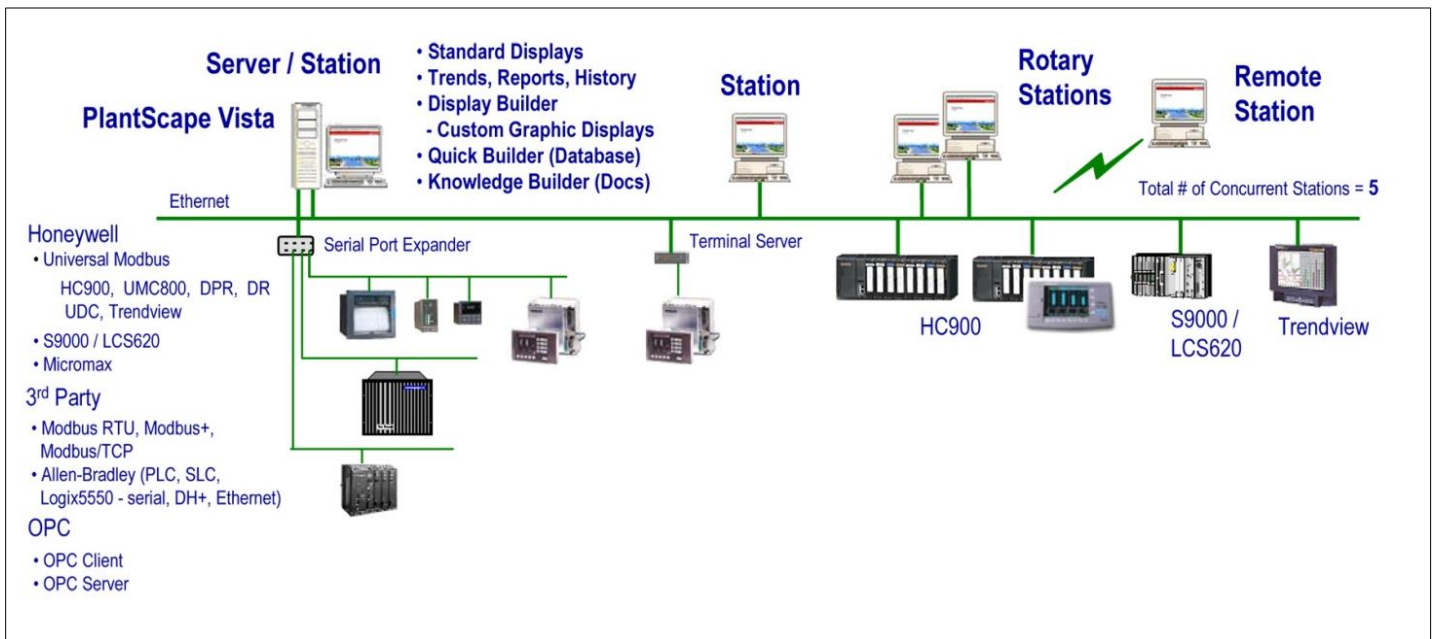
Specifications

Typical VAC AERO hardware/software configuration

- Honeywell's Experion HS SCADA Software
- Televac MC300/MM200 Vacuum Gauge Controller
- Honeywell UDC 3200 Over Temperature Controller
- Computer Interface

Platform

- The system uses the Honeywell HC 900 hybrid controller to manage furnace functions and run Set Point Programmer.
- The HC 900 is integrated with Honeywell's Experion HS to provide supervisory control and data acquisition (SCADA).
- Operator interface is provided through a large, color touch screen.
- Process information is accessible by operators and across a company's network for process engineers, allowing control and monitoring for higher productivity, reduced costs and increased quality.



Key Benefits of the HS R400 Hybrid Controller:

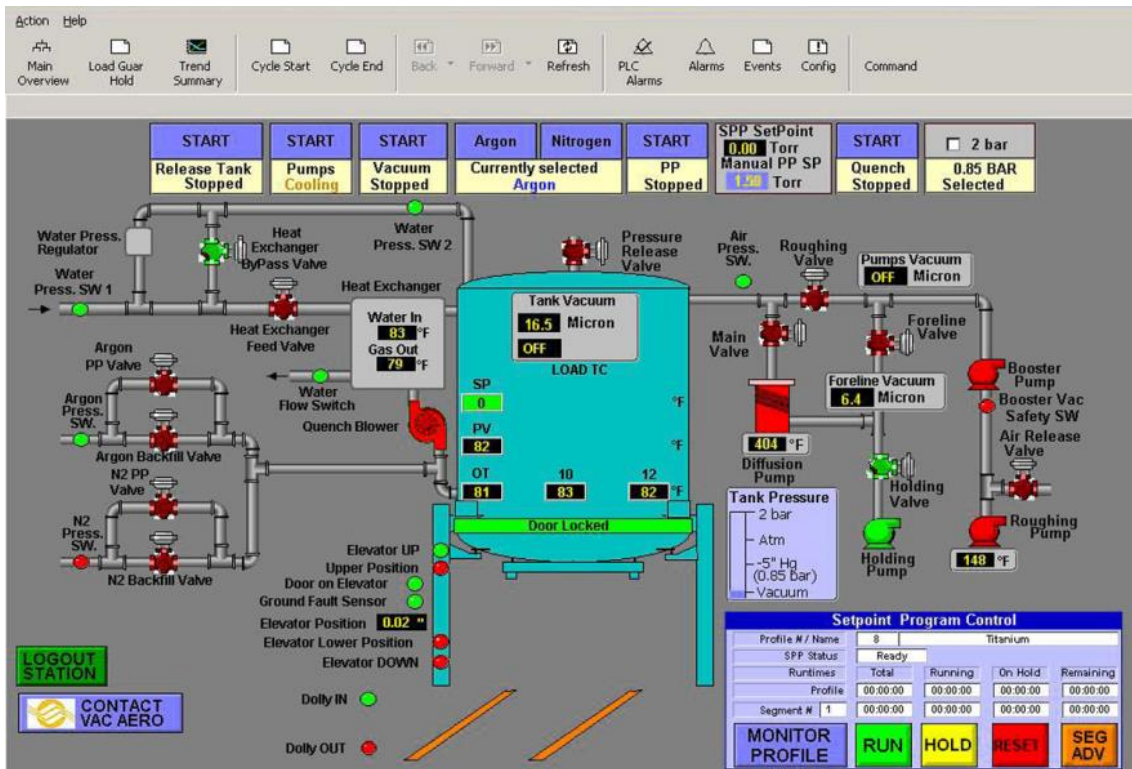
- Compatibility with plant wide SCADA and network integration.
- Process cycle validation.
- Extensive alarm and event management and reporting.
- Temperature control using advanced algorithms, auto tuning, and multiple zone digital trimming.
- Operator sign-on/sign-off security provides up to 255 control levels to limit operator control of individual items of plant and equipment.
- Enhanced maintenance and troubleshooting management and trending.

Other Features

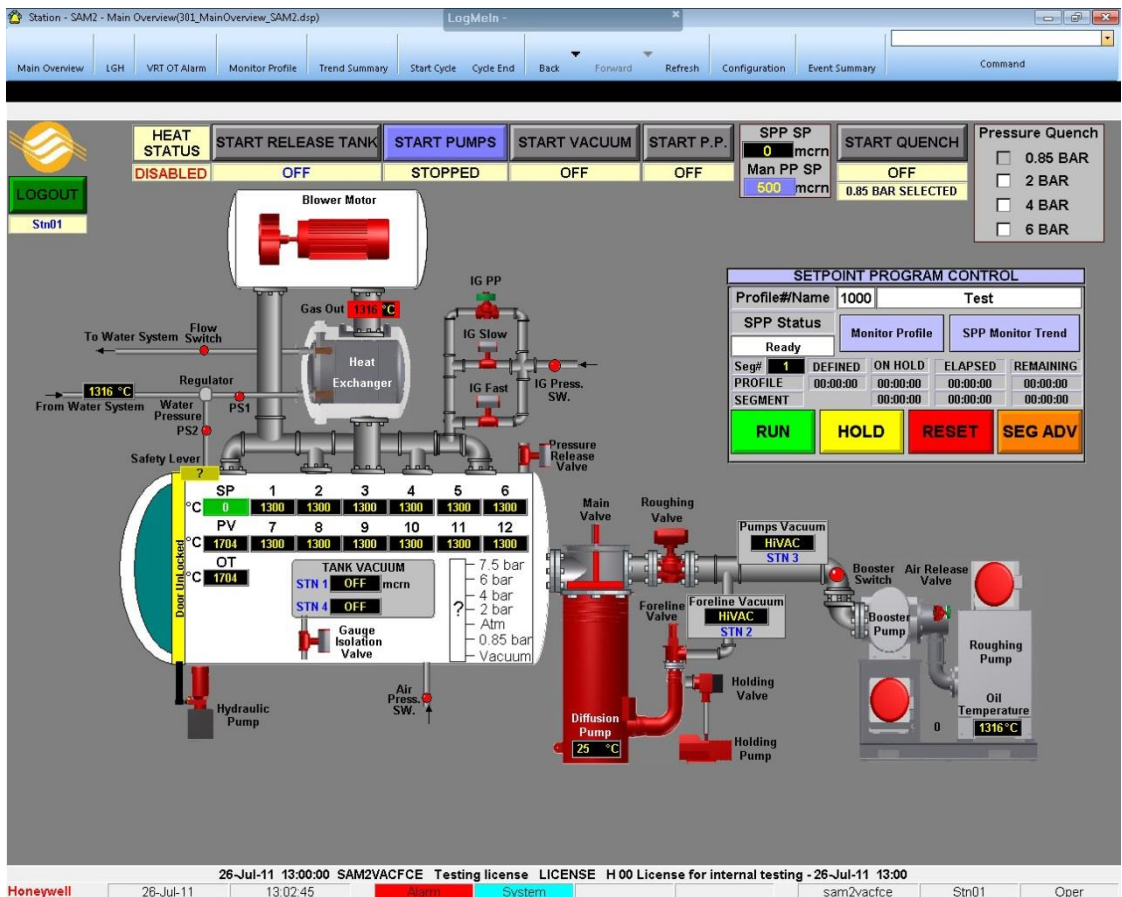
- Easily programmable in engineering units.
- Up to 1000 programs, of 2 to 50 segments in length can be stored on the HS server.
- Alarms and events may be programmed to send an e-mail message or call a pager.
- Operator Interface provides user-friendly displays along with local trending and data archiving capabilities.
- Supports direct PC connection or external Modem connection for configuration upload, download, debug and maintenance.
- Alarm / Event Log reports all alarms and events in a specified time period.
- Alarm Duration Log reports the time of occurrence and elapsed time before return-to-normal for specific alarms in a specified time period.
- Batch Reports collect batch data and load detail information, history for a set of points (up to 50) and events that occurred relative to a process production run.
- Reports may be generated periodically, or on an event-driven or demand basis.
- History collection is available over a wide range of frequencies in both average and snapshot/production formats.
- Flexible Trend Configuration allows users to configure up to 3000 Trend templates. Real-time and historical data are presented together on the same trend.



Typical VAC AERO Control Cabinet



Main Overview Vertical Furnace



Main Overview Horizontal Furnace

Controller: F19 HC900A | Programmer: SPP #1 | Status: Ready

Profile
 Ramp Type: RATE | Guar. Hold Type: None
 Time Units: Hours | Guar. Hold Lo Lim: 0.00
 Guar. Hold Hi Lim: 0.00

Program Control
 Show

Segment	Type	Start Value/Soak Value	Rate/Soak Time
1	Soak	0.00	0.00
2	Soak	0.00	0.00
3	Soak	0.00	0.00
4	Soak	0.00	0.00
5	Soak	0.00	0.00
6	Soak	0.00	0.00
7	Soak	0.00	0.00
8	Soak	0.00	0.00
9	Soak	0.00	0.00
10	Soak	0.00	0.00

Segment Time Remaining: 0000:00:00 | Program Elapsed Time: 0000:00:00

Upload from Controller | Download to Controller

Events Description

- Event #1 = Vacuum
- Event #2 = High Vacuum
- Event #3 = Partial Pressure
- Event #4 = Reserved
- Event #5 = Gas Quench
- Event #6 = 2 Bar Pressure Quench
- Event #7 = Load Guaranteed Soak
- Event #8 = End of Program
- Event #9 = Disable Heat
- Event #10 to #14 = Reserved
- Event #15 = Cycle Qualification
- Event #16 = Disable Automatic Restart

OK

Monitor Set Point Profile (Program)

Controller: F19 HC900A | Programmer: SPP #1 | Status: Ready

Primary | Auxiliary

Legend: — Set Point Program | — Process Variable

Profile Profile3 | Command Programmer

Point ID: SPP_1 | Description: Set Point Progra

Segment	Type	Segment Time Remaining	Program Elapsed Time
1	Soak	0000:00:00	0000:00:00

	Primary	Auxiliary
EU	DegF	
PV	74.65000	10.21099
SP	.0000000	.0000000

Events: 1 (red), 2 (red), 3 (black), 4 (black), 5 (black), 6 (black), 7 (black), 8 (black), 9 (black), 10 (black), 11 (black), 12 (black), 13 (black), 14 (red), 15 (black), 16 (black)

Monitor Set Point Profile (Program) – Trending

Select Profile

Profile	Name	Description
1	Profile1	Test combined Recipe
2	Profile2	Test Profile 2
3	Profile3	Profile 3 description
4	1seg	quick 1 seg test
5	prog 100	Furnace clean up
6	TestEnd	Test End Prog
7	FastTest	Dep17 Survey Fce w/ 12 TC's
8	Clean Up	Std profile to clean empty fce
9	Survey	Dep17 Survey Fce w/ 12 TC's
10	Prof10	Test Batch Report
11	P11_tBR	Test Batch Report
12	-	
13	-	
14	-	
15	VA Test	Demo Profile

An HC900/UMC800 Profile is a time-based program typically used as the setpoint of a control loop. Each program may be from 2 to 50 segments in length. Each segment of the program may be a ramp or soak except the last segment that must be a soak.

Up to 1000 profiles may be created and maintained using the PlantScape HC900/UMC800 Profile Configuration pages.

In addition to the main output value, a second analog value is available for each step of the program. This output is a fixed soak value which may be used as an input to another function or to provide a setpoint value for a secondary control loop in the process.

A setpoint guarantee function is provided that holds the program if a process variable exceeds a predefined deviation from setpoint. Selections allow setpoint guarantee to be active for the entire program, for soaks only, or for user specified segments.

Profile (Program) Selection for Editing, Creating New Profile

Profile # 5 ↑

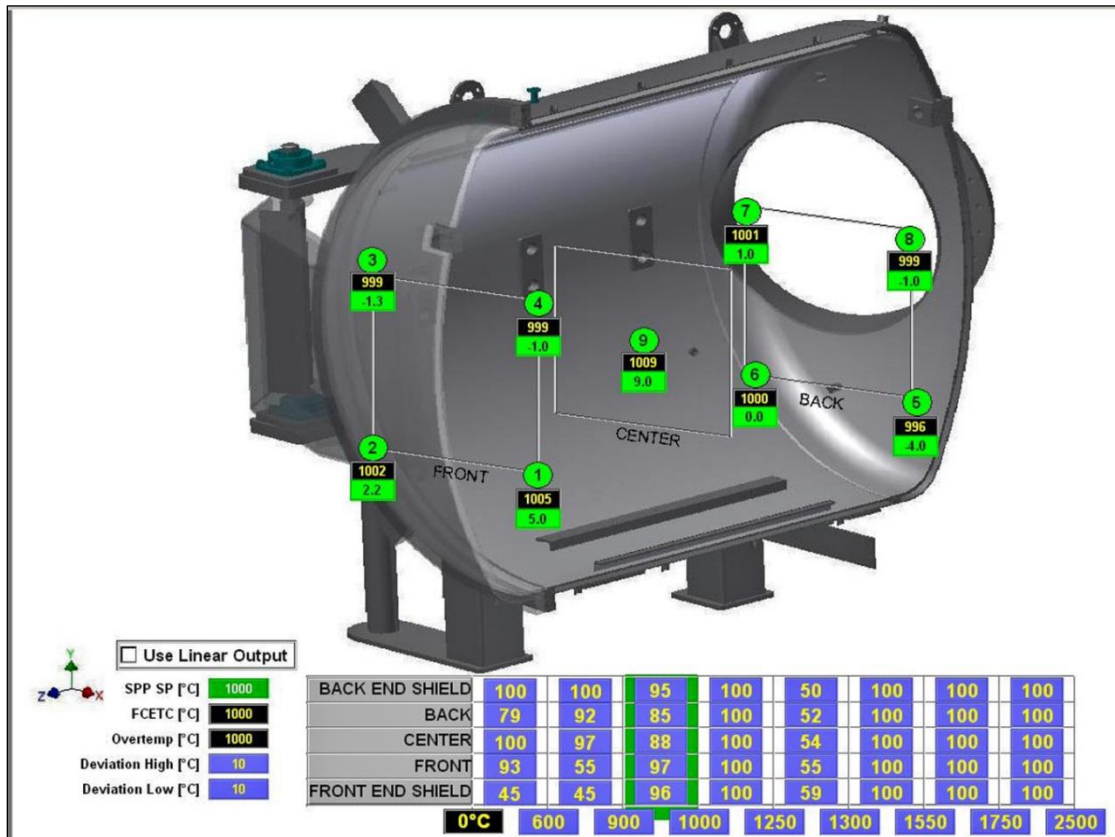
Name Description Eng Units

Ramp Type Guar. Hold Type Aux Out Label
 Time Units Guar. Hold Lo Lim Aux Eng Units
 Guar. Hold Hi Lim

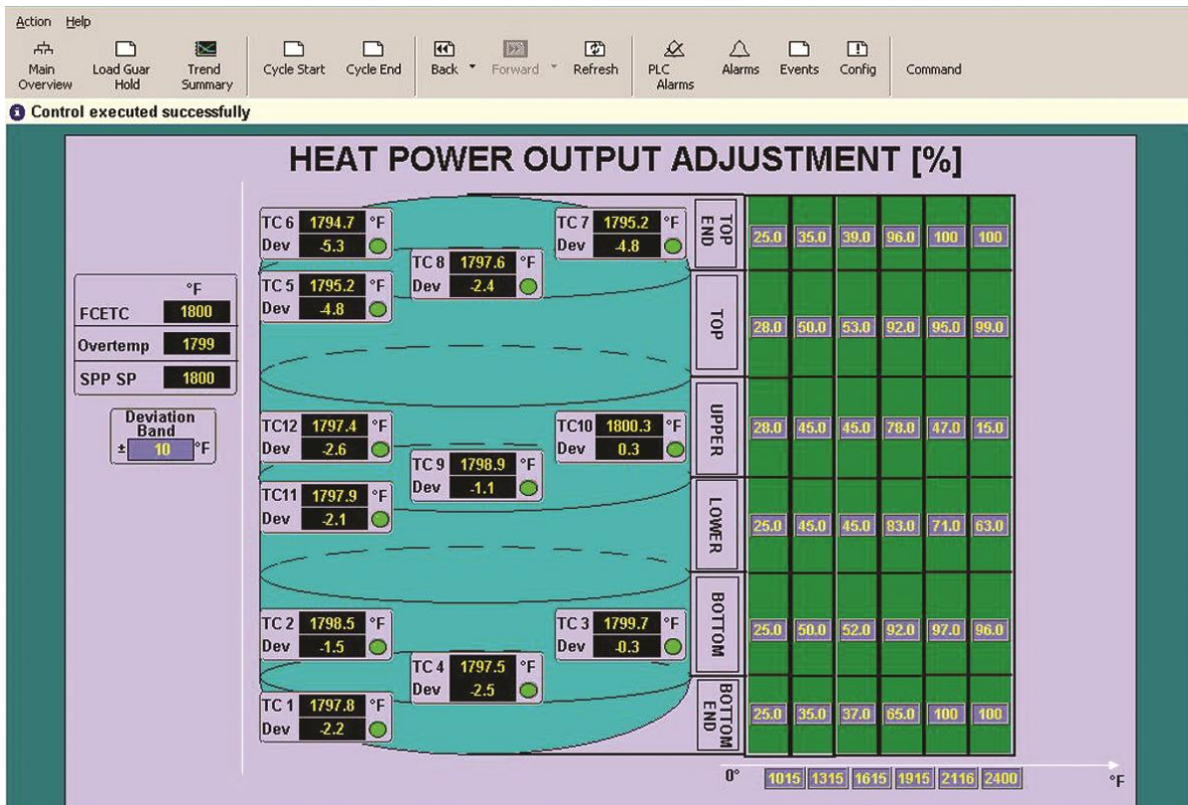
Program Control
 Restart Rate Loop Start Segment Loop End Segment Jog Segment Loop Cycles

Segment	Type	Start Value/ Soak Value	Rate/ Soak Time	Guar Hold	Aux Start Value	Events															
						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	Soak	0.00	0.05	<input type="checkbox"/>	0.00	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
2	Ramp	0.00	20.00	<input type="checkbox"/>	0.00	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
3	Soak	2450.00	60.00	<input type="checkbox"/>	0.00	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
4	Ramp	2450.00	99999.00	<input type="checkbox"/>	0.00	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
5	Soak	0.00	2.00	<input checked="" type="checkbox"/>	0.00	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
6	Soak	0.00	0.00	<input type="checkbox"/>	0.00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
7	Soak	0.00	0.00	<input type="checkbox"/>	0.00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
8	Soak	0.00	0.00	<input type="checkbox"/>	0.00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
9	Soak	0.00	0.00	<input type="checkbox"/>	0.00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
10	Soak	0.00	0.00	<input type="checkbox"/>	0.00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		

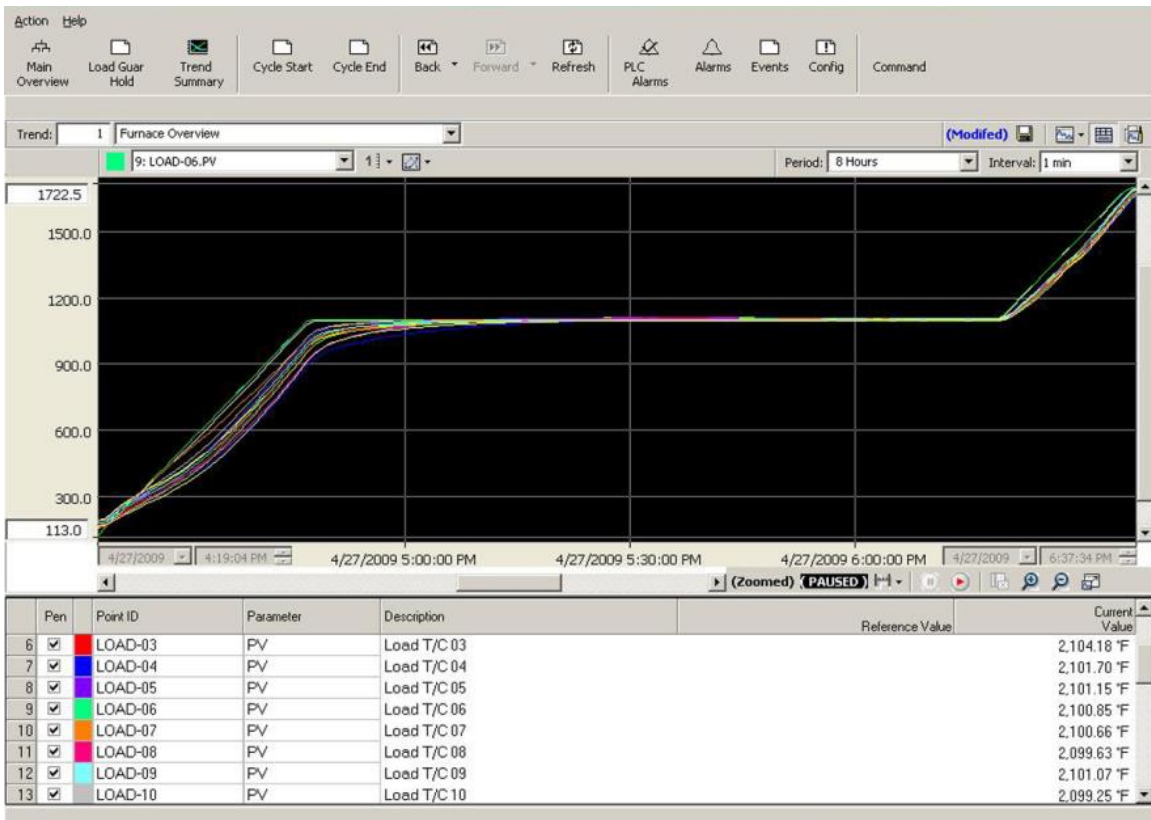
Profile (Program) Definition



Digital Trimming



Heat Power Adjustment Screen



Trend Screen Example

Station - Dep19_Full.stn - CycleControlStart (305)

Station Edit View Control Action Configure Help

Main Overview Load/Guar Hold Cycle Start Cycle End Monitor Profile PLC Alarms Trend Summary Profile Selection Recipe Selection CombRecipe Selection Furnace Config Vac Control Config Cycle Abort Pump Maintenance

Setpoint Program Control

SPP Status: Ready ✓
 Profile #/Name: 32 TestBR ✓
 Duration: 2 Min ✓
 Description: Test Batch Report ✓

Batch Information

Furnace #: 69025 ✓
 Batch ID: br1 ✓
 Number of pieces in run: 1 Units ✓
 Employee ID - Start: VA ✓
 Batch description: Test Batch Report Interface ✓
 No heat ✓
 Sequence #: 3 ✓
 Batch Report File: rpt001-b69025-lbr1-s003-r00-p00 ✓
 Batch Report Status: Ready ✓

Set Over Temp Controller

Using Value of: 10 °F ✓

Daily Servicing Checks

1 Checks ✓

Check Furnace interior is clean, check elements, ceramics, hot zone and thermocouples for signs of damage. Vacuum out any debris found. Report any damage found to Maintenance.
 Check alarms using alarm test function.
 Check water system is running and waterflow is visible in sight glasses.
 Check oil level in Roughing pump sight glass off.
 Check oil level in Holding pump sight glass off.
 Check oil level in Diffusion pump sight glass off.

2 Operate in accordance with Vac Aero Furnace Manual

Modify Start Cycle

Honeywell 22-Jul-07 11:34:56 localhost Stn01 Mngr

Start Cycle Interface with Batch Information

Batch Information

Batch identifier:

Lot identifier:

Size of production run: Units

Number of pieces in run: Units

Employee ID - Start:

Employee ID - Unload:

Batch description:

Product re-run:

Sequence #:

Batch Report File:

Batch Report Status:

Cycle Qualification

Cycle successful

Cause of Failure: Max Deviation:

Temperature Deviation

positive °F

negative °F

Time Deviation Min

Vacuum Deviation Micron

Setpoint Program Control

Profile Number:

Name:

Description:

Duration:

Cycle End Interface with Batch Information

Microsoft Excel - rpt001-bb1-l11-s025-r00-p00.xls [Read-Only]

Report number	Report name	Requested at	Tray No.	Item No.	Lot S/N	Quantity
1	BR	13 Jul 2006, 08:33:31	1	111	14	1
2			2	222	30	444
3			3	333		0
4			4	444	698	18
5			5	555	555	0
6			6			0
7			7			0
8			8			0
9			9			0
10			10			0
11			11			0
12			12			0
13			13			0
14			14			0
15			15	151515	151515	0
16			16	111666	161616	0
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						
32						
33						
34						

Report Details | Historical Data | Events Data | History Graph

Excel Batch Report – Report Details

Microsoft Excel - rpt001-bb1-ll1-s025-r00-p00.xls [Read-Only]

File Edit View Insert Format Tools Data Window Help

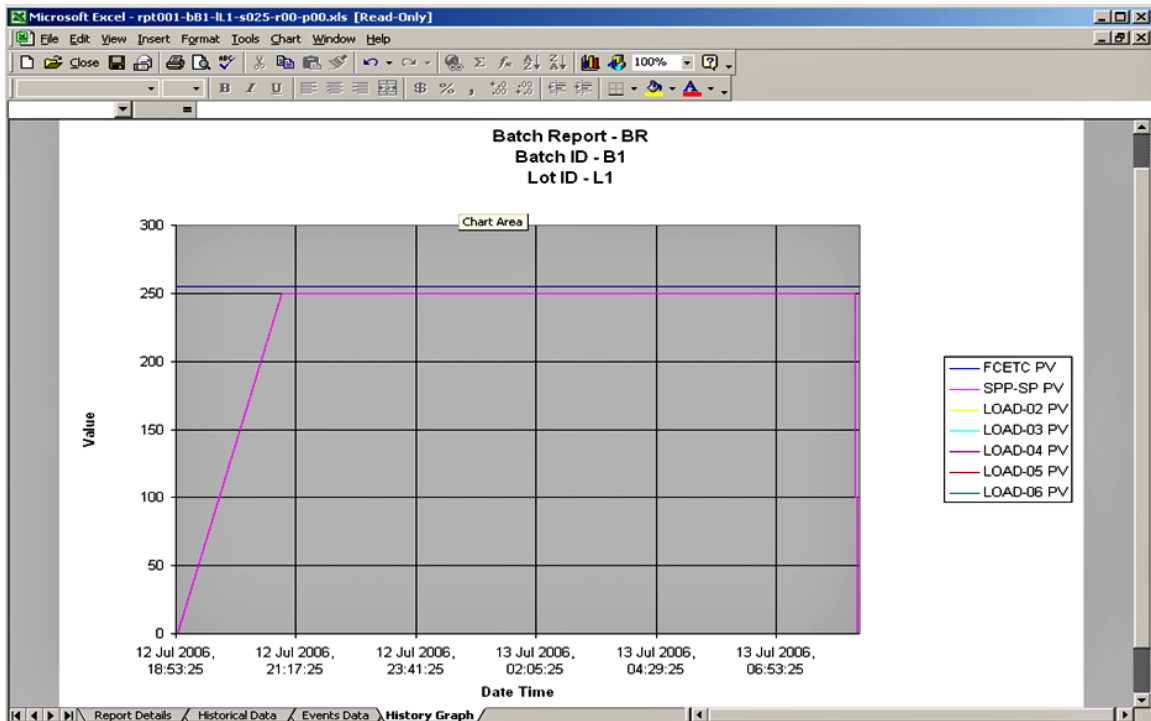
Close Copy Paste Undo Redo 100%

A1 Historical point list

Historical point list		Batch Report List						
1	Historical point list	Batch Report List						
2	History type	5 second						
3	Number of points	7						
4	Number of samples	9842						
5								
6								
7								
8	Date Time	FCETC PV	SPP-SP PV	LOAD-02 PV	LOAD-03 PV	LOAD-04 PV	LOAD-05 PV	LOAD-06 PV
9	13 Jul 2006, 08:33:30	255	0	0	0	0	0	0
10	13 Jul 2006, 08:33:25	255	0	0	0	0	0	0
11	13 Jul 2006, 08:33:20	255	0	0	0	0	0	0
12	13 Jul 2006, 08:33:15	255	0	0	0	0	0	0
13	13 Jul 2006, 08:33:10	255	0	0	0	0	0	0
14	13 Jul 2006, 08:33:05	255	0	0	0	0	0	0
15	13 Jul 2006, 08:33:00	255	0	0	0	0	0	0
16	13 Jul 2006, 08:32:55	255	0	0	0	0	0	0
17	13 Jul 2006, 08:32:50	255	0	0	0	0	0	0
18	13 Jul 2006, 08:32:45	255	0	0	0	0	0	0
19	13 Jul 2006, 08:32:40	255	0	0	0	0	0	0
20	13 Jul 2006, 08:32:35	255	0	0	0	0	0	0
21	13 Jul 2006, 08:32:30	255	0	0	0	0	0	0
22	13 Jul 2006, 08:32:25	255	0	0	0	0	0	0
23	13 Jul 2006, 08:32:20	255	0	0	0	0	0	0
24	13 Jul 2006, 08:32:15	255	0	0	0	0	0	0
25	13 Jul 2006, 08:32:10	255	0	0	0	0	0	0
26	13 Jul 2006, 08:32:05	255	0	0	0	0	0	0
27	13 Jul 2006, 08:32:00	255	0	0	0	0	0	0
28	13 Jul 2006, 08:31:55	255	0	0	0	0	0	0
29	13 Jul 2006, 08:31:50	255	0	0	0	0	0	0
30	13 Jul 2006, 08:31:45	255	0	0	0	0	0	0
31	13 Jul 2006, 08:31:40	255	0	0	0	0	0	0
32	13 Jul 2006, 08:31:35	255	0	0	0	0	0	0
33	13 Jul 2006, 08:31:30	255	0	0	0	0	0	0
34	13 Jul 2006, 08:31:25	255	0	0	0	0	0	0

Report Details Historical Data Events Data History Graph

Excel Batch Report – Historical Data



Excel Batch Report – History Graph

Action Help

Main Overview Load Guar Hold Trend Summary Cycle Start Cycle End Back Forward Refresh PLC Alarms Alarms Events Config Command

Load Guaranteed Hold - Status and Configuration

T/C #	Disable TC Input	T/C Status	Temperature	Deviation	Enable for LGS	Alarm	
1	<input type="checkbox"/>	OK	1494.7 °F	-5.3 °F	<input checked="" type="checkbox"/>	OK	2.8 °F
2	<input type="checkbox"/>	OK	1496.1 °F	-3.9 °F	<input checked="" type="checkbox"/>	OK	2.8 °F
3	<input type="checkbox"/>	OK	1500.0 °F	0 °F	<input checked="" type="checkbox"/>	OK	2.8 °F
4	<input type="checkbox"/>	OK	1490.4 °F	-9.6 °F	<input checked="" type="checkbox"/>	OK	2.8 °F
5	<input type="checkbox"/>	OK	1495.9 °F	-4.1 °F	<input checked="" type="checkbox"/>	OK	2.8 °F
6	<input type="checkbox"/>	OK	1494.8 °F	-5.2 °F	<input checked="" type="checkbox"/>	OK	2.8 °F
7	<input type="checkbox"/>	OK	1495.6 °F	-4.4 °F	<input checked="" type="checkbox"/>	OK	2.8 °F
8	<input type="checkbox"/>	OK	1494.2 °F	-5.8 °F	<input checked="" type="checkbox"/>	OK	2.8 °F
9	<input type="checkbox"/>	OK	1496.4 °F	-3.6 °F	<input checked="" type="checkbox"/>	OK	2.8 °F
10	<input type="checkbox"/>	OK	1499.0 °F	-1 °F	<input checked="" type="checkbox"/>	OK	2.8 °F
11	<input type="checkbox"/>	OK	1497.8 °F	-2.2 °F	<input checked="" type="checkbox"/>	OK	2.8 °F
12	<input type="checkbox"/>	OK	1497.1 °F	-2.9 °F	<input checked="" type="checkbox"/>	OK	2.8 °F

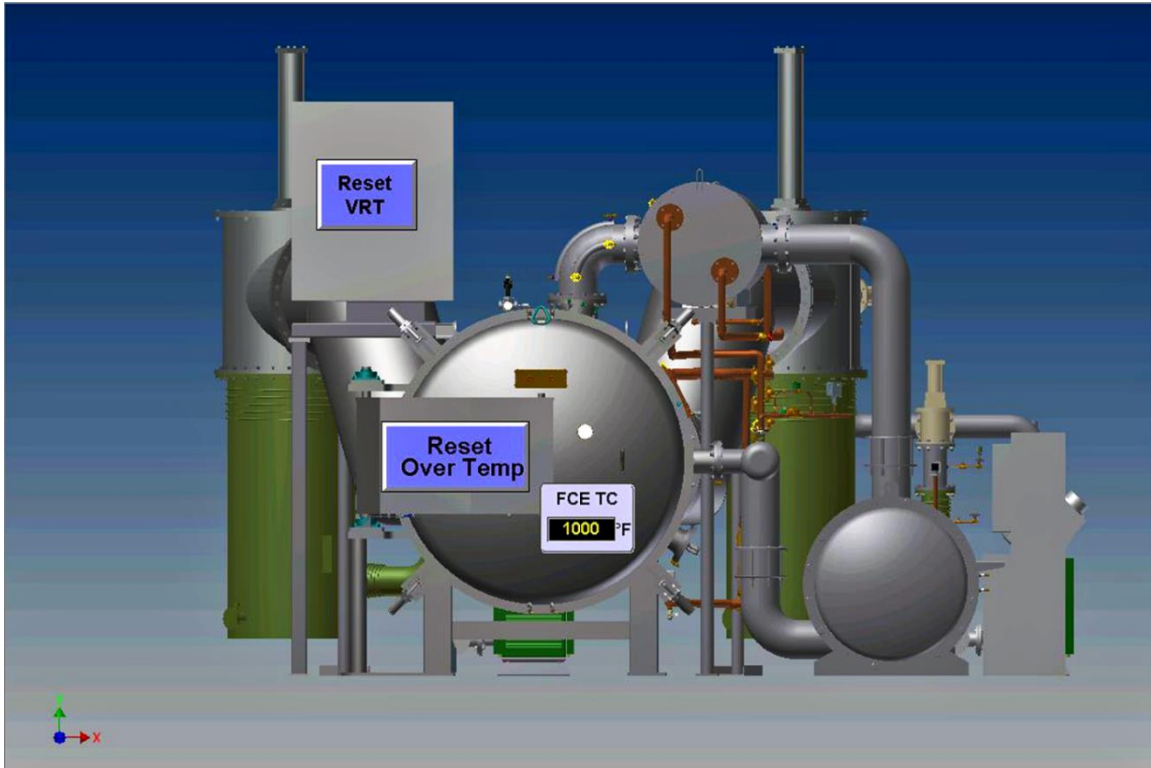
SPP SP 1500.0 °F LGS HIGH: 10.0 °F Waiting For 16 Min Clear LGS Timer

Furnace TC 1499.8 °F LGS LOW: 10.0 °F LGS Timeout SP 600 Min Configure Bias

Load Guaranteed Hold Status & Configuration Screen

Roughing Pump 1 Cumulated Runtime 104.55 Hours <input type="button" value="Reset"/>	Roughing Pump 2 Cumulated Runtime 98.87 Hours <input type="button" value="Reset"/>	Cryo Pump Cumulated Runtime 99.91 Hours <input type="button" value="Reset"/>
Maintenance Frequency 2000 Hours	Maintenance Frequency 2000 Hours	Maintenance Frequency 2000 Hours
Scheduled Maintenance 1895 Hours	Scheduled Maintenance 1901 Hours	Scheduled Maintenance 1900 Hours
Vacuum Booster Cumulated Runtime 92.64 Hours <input type="button" value="Reset"/>	Quench Blower Cumulated Runtime 0.00 Hours <input type="button" value="Reset"/>	Furnace Run # Cumulated Runtime 19.00 Cycles <input type="button" value="Reset"/>
Maintenance Frequency 2000 Hours	Maintenance Frequency 2000 Hours	Maintenance Frequency 2000 Cycles
Scheduled Maintenance 1907 Hours	Scheduled Maintenance 2000 Hours	Scheduled Maintenance 1981 Cycles

Pumps Maintenance - Timers



PLC Alarms

Station - EA14 - Alarm Summary (sysAlarmsSummary.htm)

Station Edit View Control Action Configure Help

Main Overview LGH Hard Alarms Trend Summary Cycle Start End Cycle Configuration

Alarms Message Summary

Date & Time	Location	Location Tag	Source	Condition	Priority	Description	Trip Value	Live Value	Units
2/28/2011 9:37:42	A1		ALNZDP	ALARM	U 00	Argon Dew Point Alarm			ON OFF
2/28/2011 9:35:20	A1		LOAD_10	PVHI	H 00	Load TC 10	2,400.00	1,001.00	°F
2/28/2011 9:35:20	A1		LOAD_12	PVHI	H 00	Load TC 12	2,400.00	1,000.00	°F
2/28/2011 9:35:18	A1		LOAD_06	PVHI	H 00	Load TC 06	2,400.00	1,000.00	°F
2/28/2011 9:35:18	A1		LOAD_07	PVHI	H 00	Load TC 07	2,400.00	1,001.00	°F
2/28/2011 9:35:18	A1		LOAD_08	PVHI	H 00	Load TC 08	2,400.00	999.00	°F
2/28/2011 9:35:18	A1		LOAD_09	PVHI	H 00	Load TC 09	2,400.00	998.00	°F
2/28/2011 9:35:16	A1		N2DEWPNT	RSHI	U 00	Nitrogen Dew Point	2,400.00	0.00	°C
2/28/2011 9:35:16	A1		LOAD_05	PVHI	H 00	Load TC 05	2,400.00	1,000.00	°F
2/28/2011 9:35:00	A1		LOAD_03	PVHI	H 00	Load TC 03	2,400.00	1,000.00	°F
2/28/2011 9:35:00	A1		LOAD_04	PVHI	H 00	Load TC 04	2,400.00	1,001.00	°F
2/28/2011 9:34:58	A1		LOAD_02	PVHI	H 00	Load TC 02	2,400.00	985.00	°F
2/25/2011 16:11:34	A1		ALFLPHI	ALARM	U 00	Diffusion Pump Foreline High Pressure A...			ON OFF
2/10/2011 11:46:32	A1		ALPSIWAT	ALARM	U 00	Low Main Water Pressure Alarm			ON ON
1/26/2011 15:38:26	A1		ALPSAIG	ALARM	U 00	Low Inert Gas Pressure Alarm			ON ON
1/26/2011 15:37:36	A1		TCFAL	ALARM	U 00	Fail TC Alarm			ON ON
1/26/2011 15:37:32	A1		RPPAOIL	RSHI	U 00	Roughing Pump A Oil Temperature	2,400.00	2,400.00	°F
1/26/2011 15:37:32	A1		RPPAOIL	PVHI	H 00	Roughing Pump A Oil Temperature	2,400.00	2,400.00	°F
1/26/2011 15:37:32	A1		RPMPAOL	RSHI	U 00	Roughing Pump Oil Temperature	2,400.00	2,400.00	°C
1/26/2011 15:37:32	A1		RPMPAOL	PVHI	H 00	Roughing Pump Oil Temperature	2,400.00	2,400.00	°C
1/26/2011 15:37:32	A1		DIFFPPA_TC	RSHI	U 00	Diffusion Pump A TC	2,400.00	2,400.00	°F
1/26/2011 15:37:32	A1		RPPAHOT	ALARM	U 00	Roughing Pump A Oil is HOT			ON ON
1/26/2011 15:37:32	A1		RPPMHOT	ALARM	U 00	Roughing Pump Oil is HOT			ON ON
1/26/2011 15:37:32	A1		DIFFPPAHOT	ALARM	U 00	Diffusion Pump A is HOT			ON ON
1/26/2011 15:37:32	A1		DPMPHOT	ALARM	U 00	Diff Pump is HOT			ON ON
1/26/2011 15:37:32	A1		HEATX_TC	RSHI	U 00	Heat Exchanger TC	2,400.00	2,400.00	°F
1/26/2011 15:37:32	A1		HEATXHOT	ALARM	U 00	Heat Exchanger is HOT			ON ON
1/26/2011 15:37:32	A1		WATER_TC	RSHI	U 00	Inlet Water TC	2,400.00	2,400.00	°F
1/26/2011 15:37:32	A1		WATER_TC	PVHI	H 00	Inlet Water TC	2,400.00	2,400.00	°F
1/26/2011 15:37:32	A1		WATERHOT	ALARM	U 00	Water is HOT			ON ON
1/26/2011 15:37:32	A1		DIFFPPB_TC	RSHI	U 00	Diffusion Pump B TC	2,400.00	2,400.00	°F
1/26/2011 15:37:32	A1		RPPBOIL	RSHI	U 00	Roughing Pump B Oil Temperature	2,400.00	2,400.00	°F
1/26/2011 15:37:32	A1		RPPBOIL	PVHI	H 00	Roughing Pump B Oil Temperature	2,400.00	2,400.00	°F
1/26/2011 15:36:18	A1		N2DEWSP	RSHI	U 00	Nitrogen Dew Point Alarm Setpoint	1,209.00	1,210.00	°C

Unacknowledged alarms: 30
Acknowledged alarms: 41

28-Feb-11 09:37:42 A1 ALNZDP ALARM U 00 Argon Dew Point Alarm ON

Honeywell 28-Feb-11 09:47:50 Alarm System elmywufurnace30 Str01 Mng

Alarms Screen

Service Alarm Setpoint - Configuration

Description	Setpoint	Process Variable
Roughing Pump Oil Temp Alarm	180 °F	157 °F
Diffusion Pump Oil Temp Hot Alarm	400 °F	316 °F
Diffusion Pump Oil Temp Cold Alarm	300 °F	64 °F
Heat Exchanger Outlet Temp Alarm	500 °F	72 °F
Water Inlet Temp Alarm	100 °F	
Low Argon Press Alarm - Delay Timer	60 Sec	

Furnace Settings - Configuration

Description	Setting
Enable Auto Restart of SPP	<input type="checkbox"/>
Disable Worn T/C Warning	<input checked="" type="checkbox"/>
Enable Thermocouple Bias	<input type="checkbox"/>
Furnace Control T/C Bias	0.0 °F
Over Temperature T/C Bias	0.0 °F

Argon Line Purge - Control

Start Purge
Stop Purge

Argon Line Purged ●

Argon Line - Purge Requested ●

Argon Line - Purge Enabled ●

Argon Purge - Backfill Valve Timer 5 Sec

Cycle Qualification - Setpoint Configuration

Description	Setpoint	Enable Monitoring
Temp Deviation - High	10.0 °F	<input checked="" type="checkbox"/>
Temp Deviation - Low	-10.0 °F	<input checked="" type="checkbox"/>
Segment Time Deviation	15.0 Minutes	<input checked="" type="checkbox"/>
Partial Pressure Vacuum Deviation	50.0 Micron	<input checked="" type="checkbox"/>

Advanced Furnace Configuration

Vacuum Control - Setpoint Configuration

Description	Setpoint	Status
Vacuum Crossover Safety	80 Micron	●
Primary Vacuum Safety	5 Micron	●
High Vacuum Safety	5.0 *10-4 Torr	●
Partial Pressure	500 Micron	●

Tank Vacuum

2 micron

1.0 *10-3 Torr

Conversion Factor for Pressure

Normal Atmosphere = 760 Torr

1 mmHG = 1 Torr

1 inchHG = 25.4 Torr

1 micron = 10-3 Torr

Leak-Up Routine Configuration and Monitoring

Manually Enable Leak-Up Routine

Leak-Up Enabled ● Leak-Up Running ●

Description	Setpoint	Process Variable
Tank Vacuum		1007 *10-6 Torr
Leak-Up Rate SP	20 Micron/Hr	0 Micron/Hr
Leak-Up Time SP	15.0 Minutes	

Argon Dew Point Meter Configuration and Monitoring

Manually Check Argon Dew Point

Enable Argon Dew Point Alarming

Dew Point Bleeding Vlv ●

Description	Setpoint	Process Variable
Dew Point Alarm SP	-75 °F	-83.8 °F

Vacuum Control - Set point Configuration

Cycle Abort - Status and Configuration

<u>Description</u>	<u>Setpoint</u>	<u>Description</u>	<u>Status</u>
Enable Cycle Abort Logic	<input type="checkbox"/>	Cycle Abort Logic is Monitoring	<input checked="" type="checkbox"/>
Excessive Hold Timer Setpoint	<input type="text" value="0"/> Minutes		
Abort Countdown Timer Setpoint	<input type="text" value="0"/> Minutes		
Segment on Hold for	<input type="text" value="0.0"/> Minutes	Abort Sequence Requested	<input checked="" type="checkbox"/>
Remaining Time prior Vac Cooling	<input type="text" value="0.0"/> Minutes	Cycle Abort Requested Vac Cooling	<input checked="" type="checkbox"/>
	<input type="text" value="0.0"/> Minutes	Cycle Abort is Active	<input checked="" type="checkbox"/>
	<input type="text" value="0.0"/> Minutes	End of Cycle Abort Sequence	<input checked="" type="checkbox"/>

Cycle Abort - Status & Configuration

Date & Time	Location Tag	Source	Condition	Action	Priority	Description	Value	Units
2/28/2011 9:49:32	ExpVistaServer	Aim Notification	FAIL		U 00	Illegal point number		ANY
2/28/2011 9:48:36	A1	ALFLPHI	ALARM	ACK		Diffusion Pump Foreline High Pressure Al...		ON
2/28/2011 9:48:36	A1	LOAD_02	PVHI	ACK		Load TC 02	2,400.00	°F
2/28/2011 9:48:36	A1	LOAD_04	PVHI	ACK		Load TC 04	2,400.00	°F
2/28/2011 9:48:36	A1	LOAD_03	PVHI	ACK		Load TC 03	2,400.00	°F
2/28/2011 9:48:36	A1	LOAD_05	PVHI	ACK		Load TC 05	2,400.00	°F
2/28/2011 9:48:36	A1	NZDEWPNT	RSHI	ACK		Nitrogen Dew Point	2,400.00	°C
2/28/2011 9:48:36	A1	LOAD_09	PVHI	ACK		Load TC 09	2,400.00	°F
2/28/2011 9:48:36	A1	LOAD_08	PVHI	ACK		Load TC 08	2,400.00	°F
2/28/2011 9:48:36	A1	LOAD_07	PVHI	ACK		Load TC 07	2,400.00	°F
2/28/2011 9:48:36	A1	LOAD_06	PVHI	ACK		Load TC 06	2,400.00	°F
2/28/2011 9:48:36	A1	LOAD_12	PVHI	ACK		Load TC 12	2,400.00	°F
2/28/2011 9:48:36	A1	LOAD_10	PVHI	ACK		Load TC 10	2,400.00	°F
2/28/2011 9:48:36	A1	ALN2DP	ALARM	ACK		Argon Dew Point Alarm		ON
2/28/2011 9:43:03	A2	BRSTATUS	CHANGE			SP	0.00	
2/28/2011 9:43:03	A2	BRSTATUS	CHANGE			SP	0.00	
2/28/2011 9:42:57	A2	BRSTATUS	CHANGE			SP	0.00	
2/28/2011 9:41:22	A1	N2PURGED	CHANGE		J 00	Nitrogen Line Purged		ON
2/28/2011 9:41:22	A1	LOAD_02	PVHI	OK	H 00	Load TC 02	985.00	°F
2/28/2011 9:39:54	A1	PB_2BARQ	CHANGE		J 00	Manual 2bar Quench		ON
2/28/2011 9:39:54	A1	2BARCB	CHANGE		J 00	Checkbox 2bar Quench		On
2/28/2011 9:39:54	A1	USELINEAROUT	CHANGE		J 00	Use Linear Output Power		ON
2/28/2011 9:39:54	A1	USELINEAROUT	CHANGE			OP		ON
2/28/2011 9:39:38	A1	LOAD_03	PVHI	OK	H 00	Load TC 03	1,000.00	°F
2/28/2011 9:39:34	A1	LOAD_04	PVHI	OK	H 00	Load TC 04	1,001.00	°F
2/28/2011 9:39:32	A1	NZDEWLV	CHANGE		J 00	N2 Dewpoint Valve		ON
2/28/2011 9:39:22	A1	NZDEWPNT	RSHI	OK	U 00	Nitrogen Dew Point	0.00	°C
2/28/2011 9:39:22	A1	LOAD_06	PVHI	OK	H 00	Load TC 06	1,000.00	°F
2/28/2011 9:39:16	A1	LOAD_05	PVHI	OK	H 00	Load TC 05	1,000.00	°F
2/28/2011 9:39:10	A1	PS-73PSI	CHANGE		J 00	73 psi and less Pressure Switch		ON
2/28/2011 9:39:10	A1	LOAD_07	PVHI	OK	H 00	Load TC 07	1,001.00	°F
2/28/2011 9:39:02	A1	LOAD_08	PVHI	OK	H 00	Load TC 08	999.00	°F
2/28/2011 9:38:54	A1	DPMPREDY	CHANGE		J 00	Diffusion Pump Is Ready		ON
2/28/2011 9:38:50	A1	LOAD_10	PVHI	OK	H 00	Load TC 10	1,002.00	°F
2/28/2011 9:38:32	A1	LOAD_09	PVHI	OK	H 00	Load TC 09	998.00	°F
2/28/2011 9:38:18	A1	LOAD_12	PVHI	OK	H 00	Load TC 12	1,000.00	°F

Events Log Screen

Station - EA14 - History Archiving Configuration(sysCpHistoryArchive.dsp)

Station Edit View Control Action Configure Help

Main Overview LGH Hard Alarms Trend Summary Cycle Start End Cycle Configuration

System Configuration History Archiving

- General
- System Hardware
- Profiles
- Alarm & Event Management
- Operator Security
- History
 - History Assignment
 - History Archiving**
- Reports
- Schedules
- Trend & Group Displays
- Acronyms
- Applications
- Application Development
- Server Scripting

History Types to Archive

Fast history	<input checked="" type="checkbox"/> 5 sec	% Full	0	Last Archived	28-Feb-11 09:28	Next Archive (estimated)	28-Feb-11 21:28
Standard history	<input checked="" type="checkbox"/> 1 minute		54		27-Feb-11 20:33		28-Feb-11 20:32
	<input type="checkbox"/> 6 min avg						
	<input type="checkbox"/> 1 hour avg						
	<input type="checkbox"/> 8 hour avg						
	<input type="checkbox"/> 24 hr avg						
Extended history	<input type="checkbox"/> 1 hour						
	<input type="checkbox"/> 8 hour						
	<input type="checkbox"/> 24 hour						

Archive Management

Delete after days

Retain

Retain

Retain

Retain

Retain

Retain

Retain

Archive All Now

History Archiving alarms priority

History Archiving Disk Limit

Archiving will not occur if free disk space falls below Mbytes

Location to Move History Archive to

History archives are stored in the "ArchiveDirectory", as specified in the Control Panel for the server. Percent Full, Last archived time and Next Archive time are only valid on the next minute boundary after being enabled. A value of 0 days will not cause history archives to be moved or deleted. Archives are actually generated at the next minute boundary after Archive All Now is clicked.

28-Feb-11 09:00:00 ExpVistaServer Testing license LICENSE H 00 License for internal testing - 28-Feb-11 09:00

Honeywell 28-Feb-11 09:30:05 System elmnywfurnace30 Str01 Oper

History Archiving

Station - EA14 - IO Overview(313)

Station Edit View Control Action Configure Help

Main Overview LGH Hard Alarms Trend Summary Cycle Start End Cycle Configuration

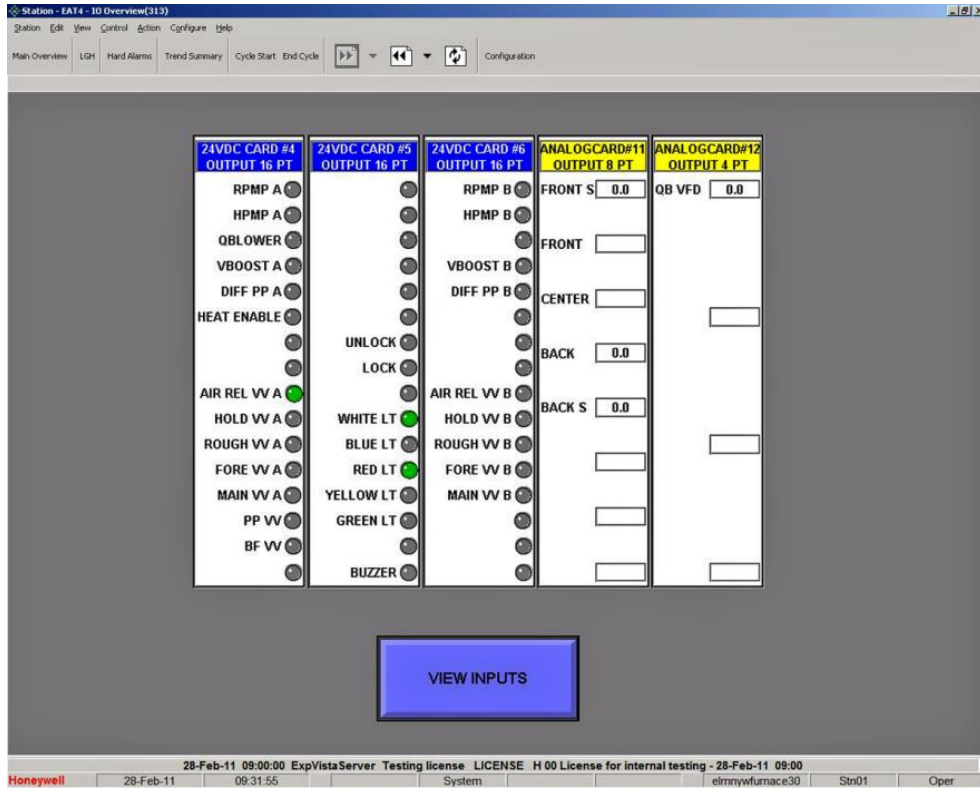
120V CARD #1 INPUT 16 PT	120V CARD #2 INPUT 16 PT	120V CARD #3 INPUT 16 PT	ANALOG CARD #7 INPUT 8 PT	ANALOG CARD #8 INPUT 8 PT	ANALOG CARD #9 INPUT 8 PT	ANALOG CARD #10 INPUT 8 PT
PS1 Water	RPMP A ON	VS1 B	LOAD 1 2400.0	LOAD 9 0.0	RPMP A 2400.0	TK VAC 1000.0
PS2 Water	HPMP A ON	RPMP B ON	LOAD 2 0.0	LOAD 10 0.0	DPMP A 2400.0	FORE A 1000.0
PS3 Air	QBLOWER ON	HPMP B ON	LOAD 3 0.0	LOAD 11 0.0	HEAT EX 2400.0	HIVAC
PS4 IG	VBOOST A ON	VBOOST B ON	LOAD 4 0.0	LOAD 12 0.0	WATER 2400.0	FORE B 1000.0
TST DP A	DIFF PP A ON	DIFF PP B ON	LOAD 5 0.0	FCETC 3100.0	RPMP B 2400.0	PMP A 1000.0
TST VRT	HEAT ON	TST DP B	LOAD 6 0.0	OTTC 3100.0	DPMP B 2400.0	PMP B 1000.0
OT SAFET			LOAD 7 0.0			
VS1 A			LOAD 8 0.0			
PS -5"	PB ACK					
PS +1 PSI	OPEN CLAMP					
PS 0 PSI	CLOSE CLAMP					
DOOR CLOSE						
FLOW SW						

[VIEW OUTPUTS](#)

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Honeywell 28-Feb-11 09:31:30 System elmnywfurnace30 Str01 Oper

I/O Inputs



I/O Outputs

