

Service One Pager



PRODUCT : Press Automation

Document No : SE/SOP/Press automation Rev: 00

Product

Thermax offers press automation system comprising of steam, cooling water and chilled water circuit instrumentation ensuring precise control through PLC based automation.

Installation

Install all the control valves as per P&I drawing.

Install isolation valves, bypass valves strainer, DCV's and pressure gauges as per P&I drawing.

Install Temperature sensors in delite & condensate header.

Connect instrument air to all control valves.

Complete cable connections from field to control panel.

PLC Input Parameters

Recipes					
Recipe 1					▼
Cycle	Set Timer			Description	Set Time
	Hour	Minutes	Seconds		
Heating	...	...	...	TT-1 (HEATING)	...
Cooling	...	...	...	TT-1 (COOLING)	...
Curing	...	...	...	TT-2	...
<div> <div>Create New</div> <div>Save</div> <div>Send</div> <div>Delete</div> </div>					

Note - In recipes, we can save the heating curing & cooling time & set points for the different product types. The saved recipes can be named.

Critical Components

PRESS AUTOMATION

Pneumatic control valves

Isolation valves

RTD / TT

PLC based
control panel

RIFOMat (Float
trap)

System Requirement

- 1 Provide instrument air as per ISO norms ISO 8573-1:2001 norms. Adjust / set AFR air pressure as specified on the actuator.
- 2 Use pair cable for instruments.
- 3 Single phase 230Volts, UPS power supply with earthing.
- 4 Parts should be clean and flushed with compressed air before installation.

Control Valves Operating Position

	Steam control valve	Condensate valve	Cooling inlet valve	Cooling outlet valve
Heating cycle	√	√	X	X
Curing cycle	X	√	X	X
Cooling cycle	X	X	√	√
Loading	X	X	√	√
Unloading	X	X	√	√
	S.P - Press temp.	SP - condensate	Timer - recipe	Timer - recipe

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Troubleshooting

SYMPTOMS	POSSIBLE CAUSE	REMEDIES
No display on HMI or controller	Voltage out of range	Apply correct voltage
	Fuse burnt	Replace the fuse
	Wrong polarity	Correct the polarity
	Wire loose	Tight the wires
	MCB tripped	Check MCB
	Faulty input card	Replace the card
Control valve not operating	Loss of air pressure	Apply correct air pressure
	No signal or voltage	Apply correct signal or voltage
	Incorrect programming	Feed correct programming
	Positioner faulty	Change positioner
No temperature or incorrect process temperature on display	Temperature sensors installed incorrectly	Correct the installation
	Wrong terminal connection in field as well as in the panel	Correct the wiring
	Incorrect range setting of sensor	Check the parameter settings
	Sensor faulty	Change the sensor
Process temperature not increasing	Temperature sensor faulty	Refer temperature sensor remedies
	Steam pressure low	Line strainer choked, increase the boiler pressure
	Condensate or steam control valve not opening	Refer control valve remedies
	Condensate accumulation	Check line strainer, Check float trap, check back pressure over the trap

Process Flow

Steam control valve will precisely maintain the temperature as per set point w.r.t. process requirement. Outlet cooling valve will remain open till condensate temperature reaches its set point.

Loading Cycle

The valve remain as per the cooling cycle & delite will be loaded.

Curing Cycle

In curing, based upon selected recipe the inlet steam & cooling valve remains closed & condensate valve open until as specified in the pre-programme of the selected recipe.

Unloading Cycle

The valve remain as per the cooling cycle & delite will be unloaded.

Cooling Cycle

In cooling, based upon selected recipe the inlet & outlet cooling valve will get open & as specified in the pre-programme of the selected recipe.

Periodic Maintenance

Cleaning

Strainers

AFR

Steam trap

Lubrication

Greasing of isolation valves

Checking

Control valve operation