

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.

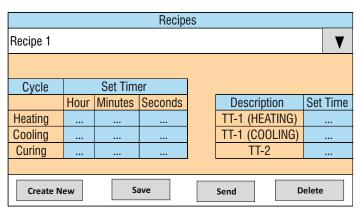
Install isolation valves, bypass valves strainer, DCV's and pressure gauges as per P&I drawing.

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



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

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.

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	V	V	Х	X
Curing cycle	Χ	V	Χ	Χ
Cooling cycle	Χ	Χ	V	V
Loading	Χ	Χ	$\sqrt{}$	V
Unloading	Χ	Χ	V	V
	S.P - Press		Timer -	Timer -
	temp.	condensate	recipe	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	Temperature sensors installed incorrectly	Correct the installation	
process temperature on display	Wrong terminal connection in field as well as in the panel	Correct the wiring	
	Incorrect range setting of sensor	Check the parameter settings	
	Sensorfaulty	Change the sensor	
Process temperature not	Temperature sensor faulty	Refer temperature sensor remedies	
increasing	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.

Unloading Cycle

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

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.

Cooling Cycle

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

Periodic Maintenance

