

System Specifications

Ambient Operating Temp:	32° to 104°F (0o to 40oC)
Ambient Storage Temperature:	-4° to 140°F (-20°C to 60°C)
Ambient Humidity:	0 to 95% RH, non-condensing.
Input Operating Voltage:	240 vac, 3-Ph + E (4 wire, 3phase and ground) Other voltages require an input supply transformer.
Operating Frequency Range:	50/60 Hz, +/- 5%
System Power Isolation:	Front door mounted breaker, rated for system capacity. Front door interlock prevents door opening without isolating power from system...
System Over Current Protection:	RCCB (Residual Current Circuit Breaker) fitted to system, rated according to system specification.
Module (Card) Mode Indication:	Red LED indication of module status: Stop, Run, Communicating.
Module (Card) Protection:	All modules keyed to prevent insertion into incorrect slot. All modules capable of being removed and replaced while under power. All modules are fully fuse protected as follows: PSU Module - Power input & output. Thermocouple Module - All inputs protected for over voltage. 1 Zone Output Module - Both legs of the output individually fused. Card protected against over current. Green LED's indicate fuse status.
Measurement Accuracy:	±1.0° F (0.5° C) for the range Control: ± 0.5% Updated every 100mS for fast response to fast loads.
Calibration:	< 0.2% Of Full Scale 32°F to 932° F (0°C to 500°C)
Calibration:	Standard (using a NIST traceable thermocouple source)
Cold Junction Error:	±1.0° F (0.5° C) @ 77° (25° C) typically.
Temperature Stability:	±1.0° F (0.5° C) from ambient temperature.
Control Stability:	±1 digit - under steady state conditions.
Zone Setting:	Zones are split into 3 groups, Cavity, Manifold and Water to enable optimum control of each of their individual characteristics. Each zone can be uniquely identified using a 4 digit label and can have a unique setpoint. Each Hot Runner zone can be set to operate in automatic mode (close

loop using a thermocouple input), manual mode (open loop requiring the operator to enter the output power) or link mode (output power linked to that of another zone).

Cavity Zones: Separate PID setting to Manifold. Affected by Boost function.

Manifold Zones: Separate PID setting to Cavities. Not affected by Boost function.

Water Zones: Are Monitored zones allowing for manual manifold & water source adjustments.

Tuning Method:	Full 3-Term, P I D Auto-Tune control for stable control of temperature over a wide range of loads. 5 additional selectable values to refine Cavity and Manifold zones. Password protected user adjustable values allow for user adjustment to the PID settings to enable stable control of the most unusual or unstable loads.
Thermocouple Inputs:	Grounded or Ungrounded “Type J” (Fe/CuNi) or “Type K” (NiCr/NiAL), software selectable. Type J standard (Others optional) Sensor break and reverse detection with on-screen error display and user selectable alarm activation. Upscale failure mode automatically turns off power on thermocouple failure.
Thermocouple Input Protection:	Over voltage protection on all thermocouple inputs — See Module (Card) Protection.
Thermocouple Isolation:	Zone to Zone.
Measurement Display:	Paged display on LCD screen of zone information for all zones including: measured value, setpoint, output power, input or output error.
Display Units:	Temperature - Degrees F or C, user selectable with automatic scaling between units. Water Flow - Gallons or Litres.
Heater Outputs:	Zero cross over, ensures minimal electrical noise generation for increased temperature measurement accuracy. Proportional power switching reduces temperature oscillation in the load, improving control accuracy and heater life. 220 - 240V ac (Low voltage outputs are available on request) Cavity & Manifold zones rated at 16 Amps (Higher amperage available on request)
Heater Output Protection:	Cavity & Manifold Zones: 16A Output Cards: 16A FF Fuse on each output leg.
Heater Output	Red LED indication of output power for each zone. LED flashes in

Indication:	proportion to power applied to output. Off = 0%. On = 100%. Green LED indication of operational fuse for each zone. On = Fuse Heater Fuse Failure Indication:operational. Off = Fuse failure.
Operator Display - Standard:	800 x 600 (SVGA), Full Color Touch Screen, 12” LCD Display with backlight.
Display Protection - Standard:	LCD screen protected by toughened glass to prevent damage during industrial operation.
Output Display:	Display on LCD of output percentage/power/current — User selectable.
Load Display:	Display on LCD of load resistance, power, and current— User selectable
Display Backlight:	Automatic backlight switches off to increase lamp life. Pressing any button will reactivate lamp.
Soft Start:	Manual Bake out with reduced power for 30 minutes. Manual cancel available. Automatic Ramp of power on selecting RUN mode. Increases reliability of element heaters and reduces power required to bring tool to temperature.
Boost:	User selectable boost of cavity zones with settable time, temperature/power increase.
Standby:	User selectable standby of complete system with settable temperature/power.
Security:	User settable passwords with three levels of access and automatic timed lockout.
Graphs:	Trend Graphs - 2D display of up to 8 selected zones at a time with user adjustable scales. Surface Graphs - 3D display of up to 32 selected zones with user adjustable scales and selected zones.
History Event:	Automatically stores past 12 months of all production data, alarms, settings & graphs. All information is viewable on the VISIONS 3000 screen or downloadable.
Database:	Storage of over 100 toolsets with user selectable names. All settings are transferable to other VISIONS 3000 controllers.
Communications:	USB - Ethernet - Wi-Fi. Information can be viewed as a text file, spread sheet, or in graphic format.
Calibration Period:	Recommended every 12 Months.