RADIUS ENGINEERING, INC.

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Radius 2100cc Electric RTM Injector with Data Acquisition

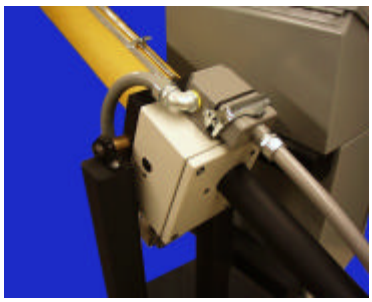
The Radius 2100cc Electric RTM injector is a flow controlled system, designed to inject single component or pre mixed multi-component resin systems. The injector's resin cylinder, which holds heated resin, contains an internal piston. The piston assembly's movement is driven by an electric stepper motor. Heated material is transferred through an injection line connected to a tool. All surfaces that come in contact with resin system are made of aluminum, which has been plated for durability.

The 2100cc Electric RTM Injector can function in either a "Stand Alone" mode, eliminating the need for computer interface, or integrated with Radius Floware™ software to provide computer menu driven control of the injection system. Radius Floware™ software also provides data acquisition for processing and recording injection parameters. Injector is mounted on roll-around stand with swivel locking castors.

Radius control circuitry includes:
Resin flow control: rate of injection (up to 500cc/min) can be controlled by the operator.
Resin pressure control: resin injection pressure (up to 400psi) can be controlled by the operator.
Data acquisition: Radius Floware™ data acquisition software for monitoring and recording process parameters.

RADIUS ENGINEERING, INC 2100cc ELECTRIC RTM INJECTOR

Enclosure control panel for operator interface in “Stand Alone” mode



Actuation via DC stepper motor with injector mounted for easy pivoting action

Easily retracted and removable piston for ease in cleaning and seal replacement

System Features:

✍✍Positive-displacement piston driven by a DC stepper motor
✍✍Aluminum piston with two polyseals for vacuum and pressure integrity
✍✍Controls for “emergency stop”, “power on/off” and “heat” indication
✍✍Type “J” thermocouples for temperature control
✍✍Operator defined monitoring and display of tool temperatures
✍✍Operator defined monitoring and display of tool pressure (pressure transducer not provided)
✍✍Recording of injection data to computer hard drive
✍✍Pressure control processing to set and control injection and hydrostatic pressure
✍✍Flow control processing to set and control resin flow rate during injection
✍✍Pivot action for different angles of injection
✍✍Ease in cleaning of resin cylinder
✍✍Locking swivel casters on easy roll-around stand
✍✍Display of resin volume remaining
✍✍Display of process temperatures and pressure
✍✍Resin cylinder heater jacket and line heater sleeving
✍✍Communications input for interfacing with other compatible equipment

Optional Features:

✍✍Vacuum transducer for monitoring tool vacuum
✍✍Vacuum pumping system for applying vacuum to tool
✍✍Independent degassing system for initial degas and heating of resin system

Specifications:

Application:
Low resin volume
High pressure
Capacity:
2100cc with additional 20% volume for degassing
Pressure:
400psi maximum injection and hydrostatic
Flow Rate:
500cc/min maximum
Temperature:
350ºF maximum
Heating:
Resin cylinder – Insulated silicone pad heater
Injection Line – 48” heated hose sleeving
Process Control:
PID temperature control
Motor and temperature control via RS232 ports
Pressure transducer closed loop control
Automatic over pressure retraction
Dimensions:
Horizontal –28”x 68”x 47”
Vertical – 28”x 29”x 74”
Power Requirements:
120 VAC, 20 Amp max