

DATASHEET

CIJECT²



KEY FEATURES

- Designed for use with RTM, VRTM and Resin Infusion processes.
- Available with mixed ratios to suit polyester/vinylester, epoxy and phenolic systems.
- Mixed output from 0.1 kg up to 10 kg per minute dependent on material viscosity.
- Purpose designed A and B component piston pumps, highly reliable and easy to maintain.
- Advanced seal technology preventing leaks without the need for lubrication.
- Unique pivoted pump mounting for easy maintenance access for pump assemblies.
- Fully enclosed cabinet with full operator control.
- Automatic mix-head mounted on adjustable boom.
- Unique A and B component monitoring system using pressure sensors.
- Inline A component filter in the pickup, allowing easy access for maintenance, without removing the pick-up from the material drum.
- A and B component inlet hoses include a serviceable filter for easy cleaning, which is essential for reliable operation.
- Low volume, non-pressurised mix-head flush system for simple and quick cleaning.

CONTROL SYSTEM FEATURES

- Modular Siemens PLC.
- 7" HMI colour screen.
- Easy to use interface allowing quick setup and safe operation.
- Wireless display capability for remote access to machine status/settings during machine operation.
- Tank module connectivity which allows the equipment to interact with an external material tank, control tank environment and material conditioning.
- Build multiple stage injections into a recipe; ramping speeds, pressure or B component percentage at different stages of injection.
- Store over 100 injection recipes.
- Password protection for settings and recipes.
- Machine log of user actions and alarms.
- Display of average flow rates during injection.
- 2 x IMPS inputs allowing in-mould pressure control.
- Ratio distance sensor which allows accurate and fast measurement of the injection process.
- Solvent level sensor that detects insufficient levels for operation.
- Automatic recirculation feature with user programmable timers.
- Adjustable 'Gel' alarm indicating when flushing is required.
- Adjustable 'Stall' alarm indicating when the machine has stalled.

MACHINE RESIN SYSTEMS

CIJECT 2 versions for use with phenolic materials are available on request.

All versions include a corresponding spares kit.

Standard Options	Description	Product Number
Polyester Version	Suitable for typical polyester and vinylester resin systems.	XE-2022-01 + SK
Epoxy Version	Suitable for typical 2:1 resin systems.	XE-2022-02 + SK
Polyester High Viscosity Version	Suitable for typical polyester/vinylester resin systems. Includes a ball valve mix-head and optimised resin hoses to accommodate higher viscosity resin systems.	XE-2022-01 + HV + SK
Epoxy High Viscosity Version	Suitable for typical epoxy 2:1 resin systems. Includes a ball valve mix-head and optimised resin hoses to accommodate higher viscosity resin systems.	XE-2022-02 + HV + SK

MACHINE UPGRADES

Standard Options	Description	Product Number
Drum Trolley	Stainless steel drum trolley to hold material barrels up to 200 litres.	XE-2022-OPT-D

MACHINE UPGRADES (continued)

Standard Options	Description	Product Number
Polyester Type Flow Meters	Advanced flow sensing system. Output can be data logged, plus graphical/numerical display on operator screen. Includes flow meters for both A and B components.	XE-2022-OPT-FP
Epoxy Type Flow Meters	Advanced flow sensing system. Output can be data logged, plus graphical/numerical display on operator screen. Includes flow meters for both A and B components.	XE-2022-OPT-FE
Motorised B Component Ratio (MCR)	On-screen adjustment of B component ratios, with continuous monitoring of the mechanical ratio position. The system allows for progressive catalyst injections, increasing the catalyst content through out the injection process to achieve a more consistent cure.	XE-2022-OPT-MCR
Inline PID A Component Heater	Stainless steel heater for PID temperature control with over temperature alarm, adjustable from ambient temperature to 60°C. Dual display output showing actual and preset temperatures. Note: Machine is rated for maximum material of 80°C.	XE-2022-OPT-HAC
Inline PID A and B Component Heaters	Stainless steel heater for PID temperature control with over temperature alarm, adjustable from ambient temperature to 60°C. Dual display output showing actual and preset temperatures. Note: Machine is rated for maximum material of 80°C.	XE-2022-OPT-HBO
Fixed B Component Tank	Polyester/Vinylester version only. Rigidly mounted 10 litre tank with a replaceable inline filter, positioned on the rear of the machine cabinet. Provides a gravity feed to the B component pump. Includes spares kit.	XE-2022-OPT-FCT
RFID	RFID mould recognition system enables operator to program a tag attached to a mould preventing incorrect injection settings. Includes 25 x RFID tags.	XE-2022-OPT-RFID
Thermocouple Monitoring Module	Enables monitoring of up to 4 x K-type thermocouples. Includes on screen display with graphs and can be recorded and monitored through datalogging. Note: Thermocouples to be specified and ordered separately.	XE-2022-OPT-TC

MACHINE ANCILLARIES/RELATED PRODUCTS

Related Products	Description	Product Number
IBC Connection Kit: A Component	Suitable for typical polyester/vinylester resin systems.	XA-1094
IBC Connection Kit: B Component	Suitable for typical epoxy 2:1 resin systems.	XA-1094-01
Barrel Heater	240V flexible jacket to heat 200 litre material barrels to a maximum of 80°C.	XA-1097
Injection Valve	Connects CIJECT equipment to a typical closed mould, ensuring reliable and clean operation.	XE-0015-01-
Flush Waste Tank	25 litre tank for the secure collection of waste material from your injection valve flush waste line.	XE-0030

TECHNICAL SPECIFICATION

General	
Product Dimensions	L: 1.1 m (1.75 m including drum trolley) W: 1.1 m H: 1.65 m
Product Weight	180 kg *for models without inline heaters and drum trolley upgrades
Maximum Shipping Weight	200 kg
Nominal Service Period	1 calendar year
Design Life	10 years
Mechanical	
Injection Pressure Setting Range	-1 to +9 (gauge)
Preset Injection Volume	0.1 — 1000 litres or continuously
Injection Rate	0.1 — 8 litres/min *dependent on material viscosity
Material Viscosity Range	Up to 5,000 cPs *for material viscosity above 5000 cPs contact Composite Integration
Ratio Ranges	Polyester: 100:0.5 to 100:4 Epoxy: 100:12.5 to 100:50
Control	
Pressure	PID controlled pressure control
Pressure Sensor Type	-1 to +19 bar (gauge)
Machine Parameters	Programmable injection quantities and speeds
Program Storage	100+ pre-settable programs

TECHNICAL SPECIFICATION (continued)

Safety & Monitoring	
B Component Monitoring	Detects low pressure
Stall Alarm	Audible alarm
Gel Alarm	Settable alarm to alert when flushing is required

Power Requirements	
Power Connection	16A 1P+NE appliance inlet
Electrical Supply	110 — 230V AC, 50/60 Hz, 1A
Supply Fusing Required	3A (BS1362, IEC 269-3A)
Internal Fuses	3.15A, 20 mm cartridges
Air Supply Standard	8 bar 600 L/min — dry, non-lubricated
Air Supply Limits	6 — 8 bar

Operating Conditions	
Maximum Material Temperature	50°C
Operating Temperature	0 — 45°C
Storage Temperature	0 — 60°C
Humidity	20 — 75% non-condensing
Noise Output	< 70 dB