COMPOSITE INTEGRATION

DATASHEET

CIJECT 4

KEY FEATURES

- Robust high flow resin mixing and injection machine, designed for large scale direct infusions.
- Adjustable ratios to suit polyester/vinylester and epoxy systems.
- Mixed output from 0.1 kg up to 20 kg per minute dependent on material viscosity.
- Purpose built A and B component piston pumps, highly reliable and easy to maintain.
- Advanced seal technology preventing leaks without the need for lubrication.
- Enclosed cabinet with full operator control.
- Automatic ball valve mix-head enclosed within the machine.
- Unique A and B component monitoring system using pressure sensors.
- Inline A component pickup filter, allowing easy access for maintenance.
- A and B component inlet hoses include a serviceable filter for easy cleaning, essential for reliable operation.
- Low volume mix-head flush system for simple and quick cleaning.

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CONTROL SYSTEM FEATURES

- Modular Siemens PLC.
- 12" HMI colour screen.
- Easy to use interface allowing quick setup and safe operation.
- Tank module connectivity which allows the equipment to interact with an external material tank.
- Build multiple stage injections into a recipe: adjust ramp rates, pressure control or B component ratio at different stages of an 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.
- 4 x IMPS inputs allowing in-mould pressure control.
- 4 x thermocouple inputs allowing temperature monitoring.
- Ratio distance sensor which enables precise and rapid measurement for ratio accuracy.
- Solvent level sensor that prevents operation without sufficient solvent levels.
- Automatic recirculation feature with user programmable timers.
- Adjustable 'Gel' alarm indicating when flushing is required.
- Adjustable 'Stall' alarm indicating when the pumps have stalled.

MACHINE RESIN SYSTEMS

Standard Options	Description	Product Number
Polyester Version	Suitable for typical polyester and vinylester resin systems.	XE-4024-01 + SK
Epoxy Version	Suitable for typical 2:1 epoxy systems.	XE-4024-02 + SK

MACHINE UPGRADES

Standard Options	Description	Product Number
Remote Screen	Colour touch screen on 10 m armored pendant cable to enable remote machine operation.	XE-4024-OPT-RS
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, adjusting the catalyst content through out the injection process to achieve a more consistent cure.	XE-4024-OPT-MCR
Flow Meters	Advanced flow sensing system. Output can be data logged, plus graphical/numerical display on operator screen. Flow meters prevent infusion with incorrect material ratio. Features adjustable alarms for our of ratio faults. Includes flow meters for both A and B components.	XE-4024-OPT-FM

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MACHINE ANCILLARIES/RELATED PRODUCTS

Related Products	Description	Product Number
IBC Connection Kit: A Component	Suitable for typical polyester/vinylester resin systems. Included with this machine as standard.	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. Included with this machine as standard.	XE-0015-01-
Flush Waste Tank	25 litre tank. Included with this machine as standard.	XE-0030

TECHNICAL SPECIFICATION

General	
Product Dimensions	L: 1.83 m x W: 0.96 m x H: 1.35 m
Product Weight	400 kg
Maximum Shipping Weight	Dependent on shipping options
Nominal Service Period	1 calendar year
Design Life	10 years

Mechanical	
Injection Pressure Setting Range	-1 to +9 bar (gauge) or 0 — 8 bar (absolute)
Output Flow Range	Up to 20 kg/min ***viscosity, hose length and air supply dependent**
Material Viscosity Range	Up to 5,000 cPs ***maximum output is viscosity dependent**
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

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

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TECHNICAL SPECIFICATION (continued)

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