Resin Transfer Molding Systems

Dispensing Equipment for RTM and Light RTM Applications

GlasCraft® RTM Systems

A full line of solutions for resin transfer molding

Resin transfer molding (RTM) is a closed mold manufacturing process. Finished parts are made by introducing polyester or vinyl ester resins into closed molds containing fiberglass, carbon or other reinforcements.

Whether your process is traditional RTM, Light RTM, Vacuum Infusion Process (VIP), Closed Cavity Bag Molding (CCBM), or other similar process, GlasCraft offers a complete line of RTM systems to fit your application.

GlasCraft RTM Systems provide control at low pressure – the key to successful Light RTM injection

- Engineered for low-pressure injection of polyester and vinyl ester resins

- Accu-Pressure sensor monitors and controls pressure

- Entry-level to automated, high-volume production models are available

Typical applications:

- Marine and watercraft

- Pool and spa

- Bathware

- Consumer products

- Automotive panels and parts

- Aircraft components

Touch-screen PLC

Programmable machine functions – from injection volume to catalyst ratio (depending on options)

Positive Feed Catalyst pump

Allows for infinite adjustment of catalyst percentage – no tools required

Air Purge/Solvent Flush

For quick, efficient maintenance cleaning

Accu-Pressure Sensor

- Regulates, monitors and controls injection pressure

- Stops material from dispensing if injection pressures go above the user set point

- Prevents molds from becoming over-pressured

Superior recirculation

- Allows resin and catalyst to cycle to the dispense head and back to the containers, unmixed

- Keeps pigments and fillers suspended in the resin

- Allows line to be de-gassed without wasting material

Spartan Dispense Head

Provides excellent mix of resin and catalyst, and trouble-free injection as well

Advanced features for automated, high-volume RTM production

Advanced GlasCraft models are available with the following:

Touch screen PLC
Programmable logic controller allows you to program injection volume and catalyst ratio settings. Reduces operator error. Results in less wasted material and improved productivity.

Programmable digital air/solvent flush
Flushes out the static mixer with a pre-programmed amount of solvent. Can be used in combination with the air purge function for extra cleaning power.

Programmable Automatic Catalyst (PAC)
Ideal for manufacturers of larger parts. PAC allows you to program and adjust catalyst ratios for the injection cycle. By reducing the catalyst required for the first infusion of material, and increasing the catalyst during the last part of the infusion cycle, the part cures at a more even rate.

Programmable Radio Frequency Identification tags (RFID)
Each mold in your plant gets a unique RFID tag that you program with specific parameters such as amount of resin required and a catalyst injection profile. The operator simply scans the tag and the machine automatically loads the pre-programmed settings. RFID tags eliminate operator error and programming errors, and save wasted material as well.

In addition, RFID tags provide your facility with unlimited programming potential. That's because the system only stores the current RFID tag's dispense parameters. Since all molding parameters are stored on each chip, you can have an unlimited number of RFID-tagged molds in your production facility.

Password Protected PLC
Spartan 3 PLC with PAC and RFID systems are designed with password protection so that operators cannot change mold settings and parameters.

Advantages of RTM

A growing number of companies are moving to closed mold processes because it offers many significant benefits:

- Less wasted material
- Faster gel and cure times
- Uniform part size and thickness
- Consistent material usage
- Finished surface on both sides
- Reduced VOC emissions – less environmental impact
- Higher glass content which results in lighter weight parts

‹GLASCRAFT® COMPOSITES EQUIPMENT BY GRACO

Feature	Spartan	Spartan II Basic	Spartan II Deluxe	Spartan 3 PLC	Spartan 3 PLC with PAC	Spartan 3 PLC with PAC & RFID
	Entry level designed for RTM high-pressure injection	For all forms of closed molding	For all forms of automated closed molding	For all forms of automated closed molding with touch-screen programming	For all forms of high-volume, automated closed molding	For all forms of closed molding; designed to simplify high-volume production when numerous mold sizes are used
Complete recirculation	•	•	•	•	•	•
Pneumatic trigger	•	•	•	•	•	•
Air/Solvent flush	•	•	•	•	•	•
Low-pressure injection	•	•	•	•	•	•
Spartan dispense head	•	•	•	•	•	•
Positive feed SSP catalyst slave pump	•	•	•	•	•	•
Stroke counter		•	•	•	•	•
Auto-valve ready		•	•	•	•	•
Low-pressure injection with Accu-Pressure		•	•	•	•	•
User-friendly control panel		•	•	•	•	•
Dispense timer			•	•	•	•
Adjustable independent solvent flush			•	•	•	•
Independent air flush toggle switch			•	•	•	•
Adjustable gel timer			•			
Touch-screen programmable				•	•	•
30 programmable injection settings				•	•	•
Programmable digital air/solvent flush				•	•	•
Programmable automatic catalyst					•	•
Programmable radio frequency identification tags						•
Unlimited programming						•
Password protected						•

Ordering Information

21650-00	Spartan	23280-02	Spartan 3 PLC
23200-00	Spartan II Basic	23280-00	Spartan 3 PLC w/PAC
23240-00	Spartan II Deluxe	23280-01	Spartan 3 PLC w/PAC & RFID

Specifications

Air consumption	35 cfm @ 100 psi (991 lpm @ 6.8 bar) at maximum pump output
Material pump capacity	2.5 gpm (9.5 lpm)
Pump output	.05 gal per cycle 20 cycles = 1 gal 5 cycles = 1 liter
Max Output Pressure	1,300 psi (89 bar, 8.9MPa)
Catalyst Range	0.5% to 3.5%

Repair Kits

Catalyst Pump

LPA-190-RK	Complete rebuild kit
LPA-190-SK	Seal kit

Air Motor (5-in)

20101-00	Complete service kit
20107-00	Pilot valve kit
20106-00	Main valve kit
20105-00	Gasket kit
20104-00	Stroke signal repair kit
20103-00	Rod seal kit
20102-00	Piston rod seal kit

Fluid Section

21570-00	5:1/11:1 Repair kit

Check Valves

21675-00	Resin check valve
21664-00	Solvent/air purge check valve
23547-01	Catalyst check valve
21676-00	Washer, crush, nylon, .52 ID
22904-00	Stem check valve
21044-02	Silicone o-ring
23540-00	Catalyst body check valve
22906-00	Washer, crush, nylon, ¼ ID
23524-01	Compression spring
22908-00	Round nut

Mixer

20625-00	Static mixer

Call today for product information or to request a demonstration.
800-746-1334 or visit us at www.graco.com.

GRACO®