

## RTM PRODUCTION LINE

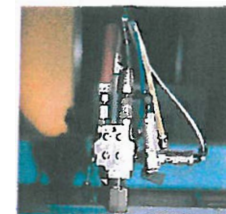
### THE MATRASUR RTM CONCEPT



**This low pressure, semi-automatic, cyclical production process for the manufacture of parts using composite materials utilizes the combination of MATRASUR Composites vast experience and the very latest technology.**

The new RTM CONCEPT from MATRASUR is a unique production line package which embodies advanced technologies to guarantee quality, optimise throughput, maximise control of the RTM operation, allow precise costings to be produced and ensure compliance with increasing environmental constraints. Utilising its considerable expertise in the composites industry, MATRASUR tailors the RTM CONCEPT to suit individual production requirements by linking together proven control, production and handling techniques as a

complete co-ordinated system. Each system is thoroughly tested under production conditions prior to installation, eliminating the need for time-consuming production trials, avoiding teething problems and ensuring cost-effectiveness from day one. With the RTM CONCEPT, companies no longer need to carry out their own research and development – MATRASUR undertakes this on behalf of customers and delivers a proven RTM solution backed-up with a complete technical support and maintenance programme.



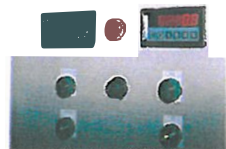
#### Automatic gun

It is fixed in place on the male mould. Injection and cleaning are automatic.



#### Advanced technology mould sealing

Mould closing and injection under vacuum.



#### Digital display

Controls, monitors and displays consumption of raw materials at all times (in kg/item, kg/minute and kg/day).



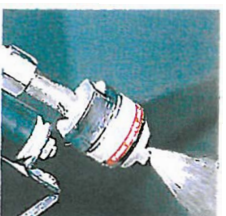
#### Mould rotation

Ensures the mould is always closest to the extraction system, thus providing operator safety. Baffles separate Gelcoat solvent from pigment to eliminate filter blockage.



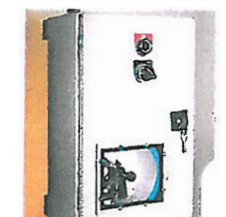
#### Needleless gun

Impossible for resin or Gelcoat flow to be out of phase with that of the catalyst when starting or stopping spraying. Provides greater precision.



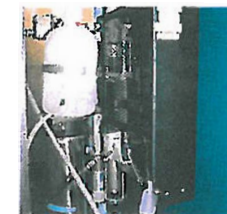
#### Air assist nozzle

Eliminates porosity in the Gelcoat during rapid curing, due to the very low spray pressure.



#### Catalyst detector

If the catalyst percentage varies from its setting the gun is automatically shut off and flushed.



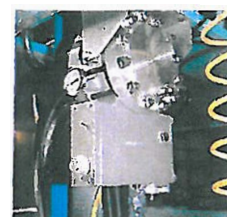
#### Injection equipment

Low pressure, double acting, positive displacement pump which provides a constant flow. Pneumatic motor with specially hardened hydraulic cylinder to withstand filler abrasion.



#### Multi-colour Gelcoater

Colour changing without material loss, flushing or stopping production.



#### Heater

Variable temperature control heater with display is situated close to the spray-gun and ensures year-round continuity of Gelcoat viscosity and optimises product surface finish quality.



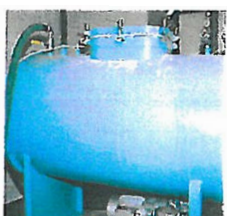
#### Mould temperature control

Reduces gel times and optimises production cycles regardless of factory temperature.



#### Mould flexibility

In the case of moderate production rates the system can operate using only one male and female mould.



#### Special resin tank

Filling, mixing and degassing is under vacuum and fillers are kept in suspension prior to pressurised dispensing.



#### Control cabinet

The automatic system controls all of the operations. A manual override allows fine tuning and adjustment of the process.

**MATRASUR Composites**

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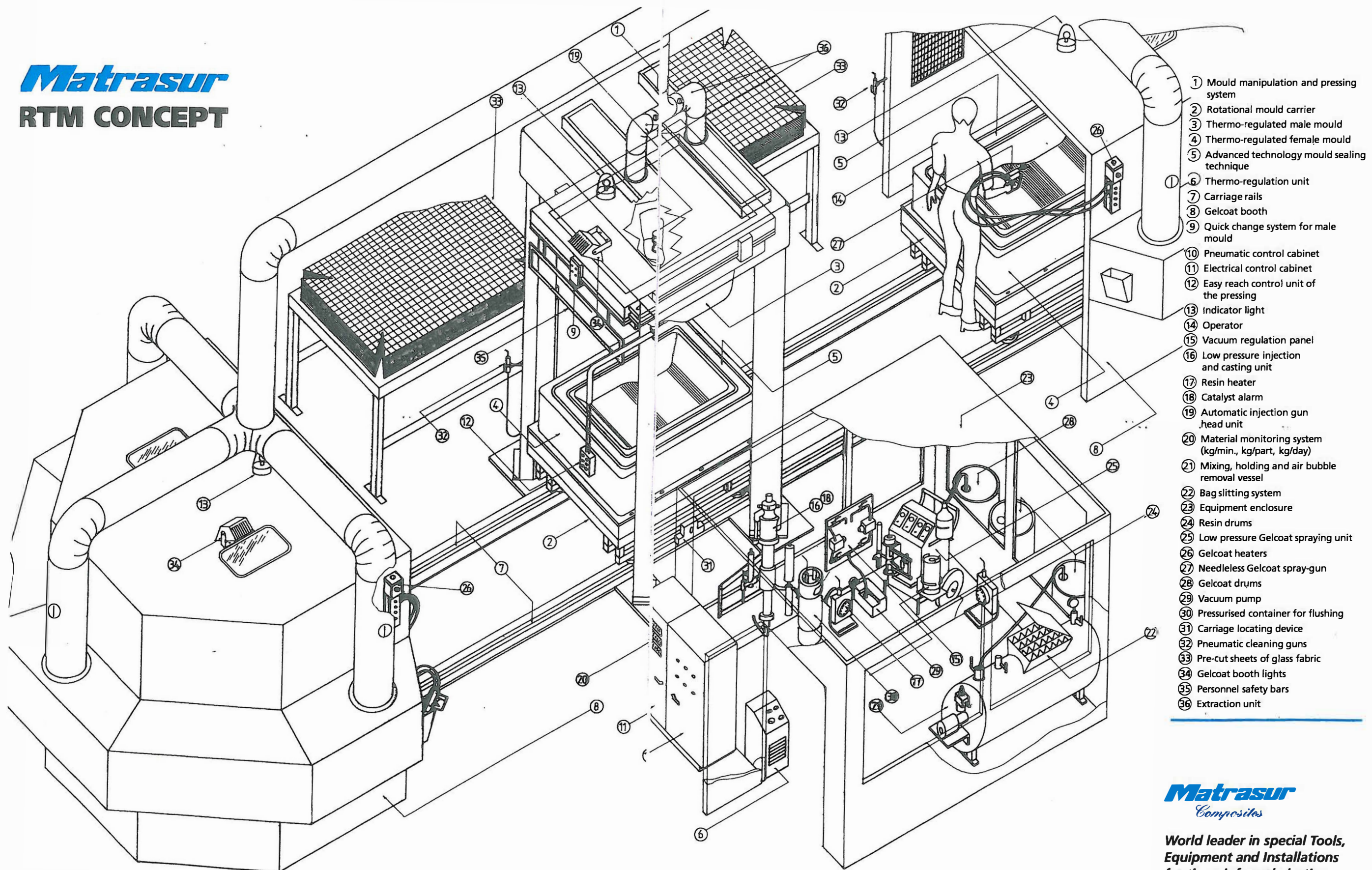
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## Matrasur RTM CONCEPT



- 1 Mould manipulation and pressing system
- 2 Rotational mould carrier
- 3 Thermo-regulated male mould
- 4 Thermo-regulated female mould
- 5 Advanced technology mould sealing technique
- 6 Thermo-regulation unit
- 7 Carriage rails
- 8 Gelcoat booth
- 9 Quick change system for male mould
- 10 Pneumatic control cabinet
- 11 Electrical control cabinet
- 12 Easy reach control unit of the pressing
- 13 Indicator light
- 14 Operator
- 15 Vacuum regulation panel
- 16 Low pressure injection and casting unit
- 17 Resin heater
- 18 Catalyst alarm
- 19 Automatic injection gun head unit
- 20 Material monitoring system (kg/min., kg/part, kg/day)
- 21 Mixing, holding and air bubble removal vessel
- 22 Bag slitting system
- 23 Equipment enclosure
- 24 Resin drums
- 25 Low pressure Gelcoat spraying unit
- 26 Gelcoat heaters
- 27 Needleless Gelcoat spray-gun
- 28 Gelcoat drums
- 29 Vacuum pump
- 30 Pressurised container for flushing
- 31 Carriage locating device
- 32 Pneumatic cleaning guns
- 33 Pre-cut sheets of glass fabric
- 34 Gelcoat booth lights
- 35 Personnel safety bars
- 36 Extraction unit

**Matrasur**  
Composites

World leader in special Tools,  
Equipment and Installations  
for the reinforced plastics  
industry.