

VRI-515 - Vacuum Infusion Machine



The VRI-515 machine has been developed using the experience gained with the successful Aplicator VIM-5 and RI-15 machines. The VRI-515 is an innovative concept for the manufacture of large or small components. The machine allows for multiple vacuum infusion ports each of which are individually controlled during the infusion process with Aplicator's

unique resin flow control system. The initial capacity can be up to 60 kg per minute or more depending on the number of vacuum hoses used and the machine settings. When producing very large components, customers are using Aplicator's VIM concept for delivering precision volumes of resin, up to 5000 kg, to the right place at the right time.

VRI-515

- Vacuum Infusion Machine

Operation – Feeding Pump

The VRI-515 machine uses an air driven dual-acting piston pump for both resin and catalyst. Constructed from stainless steel, the catalyst pump incorporates a pressure gauge and pressure relief valve and is mechanically synchronised with the resin pump for precise and pulse free delivery of catalyst regardless of variations in air supply or resin viscosity. Catalyst volumes are easily adjusted with a hand wheel, which changes the stroke length of the catalyst pump. The mixing ratios are continuously variable. Catalyst can be pumped direct from the original container. Resin is usually pumped from a 200-litre drum, but can also be pumped from a 25-litre pail, a bulk container or a fixed storage tank. Both catalyst and resin are thoroughly blended together using a static mixer on the front of the automatic gun. The machine is equipped with a unique recirculation system for degassing and functional checks.

Operation – Vacuum Infusion

The machine feeds mixed resin into the resin infusion tank. Four level indicators control the maximum – minimum levels of resin in the tank. During the infusion process, the ports are individually controlled manually, or automatically using Aplicator's unique Resin Flow Control (RFC) system. The operator decides when the individual ports should open and close. They can all be open at the same time or can be opened sequentially depending on the time that has been set. Should the resin level reach the low-level indicator, all hoses close automatically to prevent the risk of drawing air into the mould. Once the part is cured, the disposable vacuum hoses are replaced and the VRI machine is ready for the next production cycle.

Disposable Mixer or Automatic Flushing

Depending upon the resin used, the machine can be supplied with either a disposable mixer or with a permanent mixing head with a flushing function. A disposable mixer is simply replaced after use without the need for cleaning. Cleaning the permanent mixing head after use is simply achieved by using the built-in pneumatically operated flushing pump. Pressing the flush button, will automatically flush the head with no manual handling of potentially hazardous solvents.

Special Features

- Automatic gun with static mixer
- Recirculation of resin and catalyst
- Catalyst pressure gauge
- Catalyst slave pump for accurate catalyst dosage
- Catalyst volume continuously variable
- No resin valves that can clog or leak air
- No fitting between the resin container and the mould that can leak air
- Wheeled chassis for full mobility

Technical Data

Air supply:	6 Bar (90 psi)	CE
Air consumption feeding pump:	90 litres / litre output	
Pressure ratio:	15:1	
Max. working pressure:	90 bar (1350 PSI)	
Capacity filling:	Up to 6 litres / min, depending on viscosity, hose length/diameter	
Capacity vacuum injection:	1–60 kg/minute	
Container:	90 litres	
Mixing ratio:	Continuously variable between 0.8 and 4.0 %	
Vacuum:	Depending on mould size	
Max vacuum house length:	No limit	
Number of vacuum hoses:	Optional, 1–5 standard	
Electrical connection:	230 VAC, 50–60 HZ	
Resins to be used:	Polyesters, Vinyl-esters, Epoxies etc	

The machine showed on the overleaf might have extra equipment, modifications might have been made since the brochures were printed.

Options

- Catalyst Flow Control
- Volume meter
- Geltimer

