



**MVP**  
**MAGNUM VENUS PRODUCTS**  
**PRODUCT CATALOG**

► [mvpind.com](http://mvpind.com)



**Magnum Venus Products is equipping the world with production solutions to build a better tomorrow.**

Magnum Venus Products (MVP) is a global supplier of fluid movement and production solutions for industrial applications in the composites and adhesives markets. MVP collaborates with its customers to offer tailored production solutions to meter, mix, dispense, and apply materials. In addition to MVP’s North American direct sales team, MVP serves over 200 countries working with factory trained and fully stocked distribution partners. For more information, please visit [mvpind.com](http://mvpind.com).

**MARKETS WE SERVE**

- Aerospace
- Infrastructure
- Marine
- Oil & Gas
- Pool & Bath
- Transportation
- Wind
- Other

**PRODUCTS**

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# Composite Application Equipment

## Chop/Wet-Out Systems

Our Chopper/Wet-Out systems are rugged and accurate metering systems for polyester, vinylester, and MEKP applications. These systems are used in the construction of composite/fiberglass parts for low, standard, and high-volume outputs. Speak with one of our experts today to build your tailored chopper/wet-out solution.



### Patriot™ Chop/Wet-Out System

The Patriot™ Chop/Wetout system delivers unprecedented precision, power, versatility and rugged construction for long lasting use, Rapid Access Design (RAD) for easy maintenance, and reliable performance.

#### Specifications

##### Patriot™ - Standard Volume System

**Output Capabilities:**  
Up to 15 lbs/min. (6.8 kgs/min.)  
**Avg. Air Consumption W/Chopper:**  
25 - 30 CFM (0.7 - 0.8 m³/min.)  
**Catalyst % Range:**  
.75% - 2.5% by volume (PAT-CP 0980)  
1% - 3.25% by volume (PAT-CP1530)  
**Available Pump Ratios:** 7:1 and 15:1  
**Maximum Air Input Pressure:** 100 psi (7bar)

##### Patriot™ - High Volume System

**Output Capabilities:**  
7 Lbs/min. - 30 lbs/min.  
(1.5 kgs/min. - 6.7 kgs/min.)  
**Avg. Air Consumption with Chopper:**  
43 CFM (1.22 m³/min.)  
**Catalyst % Range:** .75% - 2.5% by volume  
**Available Pump Ratios:** 16:1  
**Maximum Air Input Pressure:** 100 psi (7 Bar)

#### Options

**Heaters:**  
• CFH Series  
**Monitors:**  
• CB-8000  
**Catalyst Alarm:**  
• CTS-9000  
**Mixers:**  
• M-AGD  
**Guns:**  
• TLN Series  
• PRO Series  
• AT Series  
**Choppers:**  
• RC Series  
• VRC Series



### UltraMax™ Chop/Wet-Out System

The MVP UltraMAX™ FIT® Chop system delivers power, versatility and rugged construction for long lasting use. MVP's Rapid Access Design (RAD) serves you with easy maintenance, and reliable performance. The best technology in emissions control is the patented FIT® (Fluid Impingement Technology). When you use FIT® technology, you can be assured you are armed with a state-of-the-art weapon against harmful emissions. The MVP UltraMAX™ FIT Chop system has very low emissions.

#### Specifications

##### UltraMax™ - Standard Volume Chop/Wet-Out System

**Output Capabilities:**  
3 lbs/min. - 15 lbs/min.  
(1.36 KGS/min. - 6.80 KGS/min.)  
**Avg. Air Consumption W/Chopper:**  
8 CFM (0.23 m³/min.)  
**Catalyst % Range:**  
0.5% - 3% by volume  
**Available Pump Ratios:** 6:1, 11:1 and 15:1  
**Maximum Air Input Pressure:** 100 psi (7bar)

##### UltraMax™ - High Volume System

**Output Capabilities:**  
8.5 lbs/min. - 35 lbs/min.  
(3.85 kgs/min. - 15.87 kgs/min.)  
**Avg. Air Consumption with Chopper:**  
(RESIN) 14CFM (0.4 m³/min.)  
(CHOPPER) 10-20CFM (0.3 - 0.6 m³/min.)  
**Catalyst % Range:** 0.5% - 2.3% by volume  
**Available Pump Ratios:** 6:1 and 12:1  
**Maximum Air Input Pressure:** 100 psi (7 Bar)

#### Options

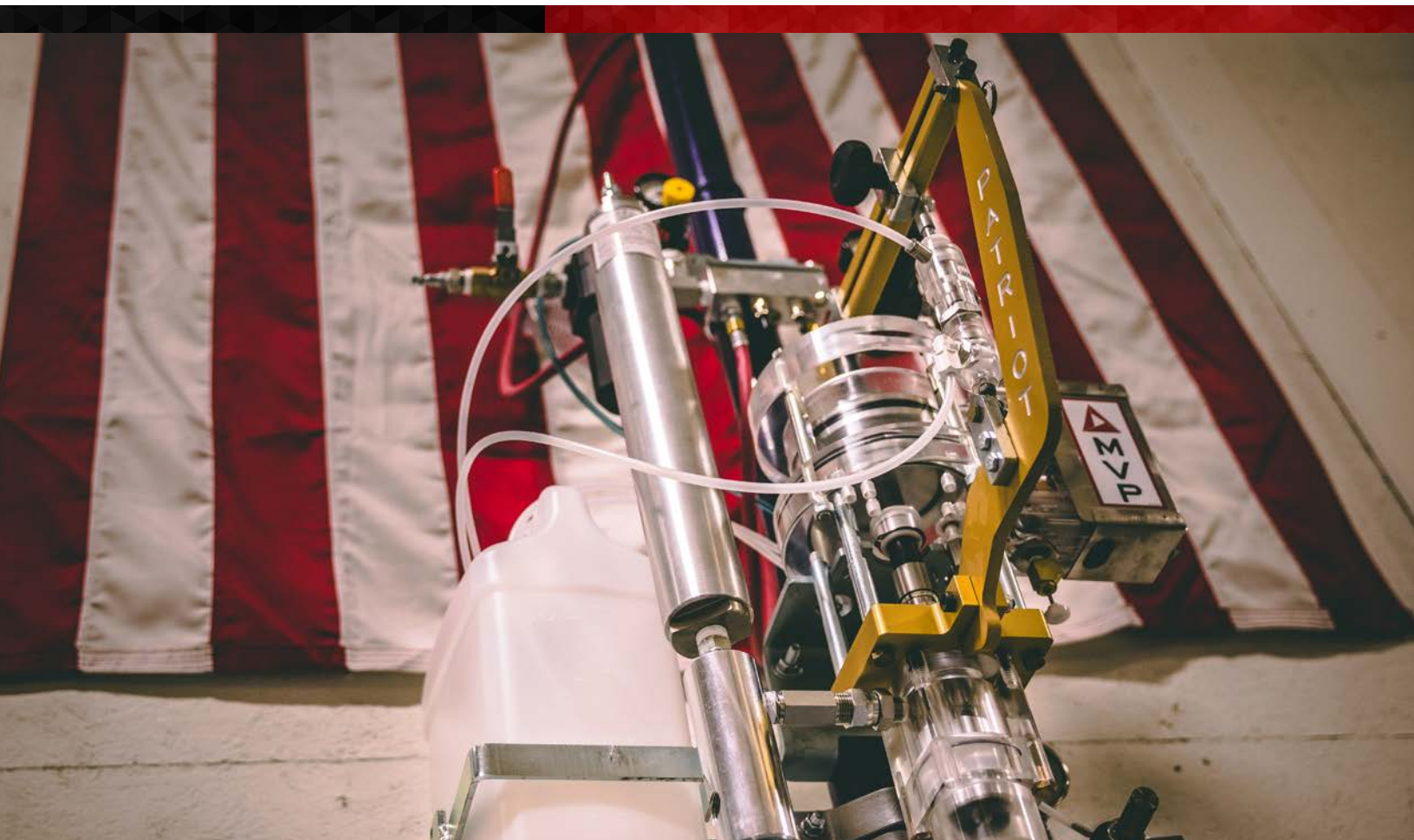
**Heaters:**  
• CFH Series  
**Monitors:**  
• CB-8000  
**Catalyst Alarm:**  
• CTS-9000  
**Mixers:**  
• M-AGD  
**Guns:**  
• TLN Series  
• PRO Series  
• AT Series  
**Choppers:**  
• RC Series  
• VRC Series



## Pro Chop/Wet-out System

The Pro Chopr/Wet-Out Systems feature reliable low pressure delivery, easy setup, easy operation and easy maintenance with Magnum Venus Product's renowned durability. Featuring the famous MVP Pro pumping system that utilizes a heavy duty stainless steel catalyst pump, this machine allows the operator to adjust the preferred setting with ease. Catalyst settings can be made with a simple pin adjustment.

Specifications	Options
<p><b>Pro Chopper/Wet-Out Systems</b></p> <p><b>Output Capabilities:</b> 1 lb/min. - 5 lbs/min. (.45 kgs/min. - 2.3 kgs/min.)</p> <p><b>Avg. Air Consumption W/Chopper:</b> 25 CFM (0.71 m³/min.)</p> <p><b>Catalyst % Range:</b> 1.25% = 2.5% by volume</p> <p><b>Available Pump Ratios:</b> 4:1 and 11:1</p> <p><b>Maximum Air Input Pressure:</b> 100 psi (7bar)</p> <p><b>Quick Shot Pail Dispense System</b></p> <p><b>Output Capabilities:</b> 4 lbs/min. - 8 lbs/min. (1.8 kgs/min. - 3.5 kgs/min.)</p> <p><b>Avg. Air Consumption with Chopper:</b> 6 CFM (0.17 m³/min.)</p> <p><b>Catalyst % Range:</b> 0.5% - 2.3% by Volume</p> <p><b>Available Pump Ratios:</b> 4:1 and 11:1</p> <p><b>Maximum Air Input Pressure:</b> 100 psi (7 Bar)</p>	<p><b>Heaters:</b></p> <ul style="list-style-type: none"> <li>• CFH Series</li> </ul> <p><b>Catalyst Alarm:</b></p> <ul style="list-style-type: none"> <li>• CTS-9000</li> </ul> <p><b>Mixers:</b></p> <ul style="list-style-type: none"> <li>• M-AGD</li> </ul> <p><b>Guns:</b></p> <ul style="list-style-type: none"> <li>• TLN Series</li> <li>• PRO Series</li> <li>• AT Series</li> </ul> <p><b>Choppers:</b></p> <ul style="list-style-type: none"> <li>• RC Series</li> <li>• VRC Series</li> </ul>



# Gelcoat Systems

Precision and accuracy are key for gelcoat applications. Our systems are adaptable to your production needs and provide a top-grade finish in a variety of multi-color, cost-effective options.



## Patriot™ Gelcoat System

The Patriot™ Gelcoat System features a deep induction heat hardened Fluid Section which is then coated with a thick hard chrome layer to increase the wear characteristics of the system, allowing it to run for longer periods.

Specifications	Options	
<b>Output Capabilities:</b> 1.5 lbs/min. - 7 lbs/min. (.68 kgs/min. - 1.49 kgs/min.) <b>Avg. Air Consumption W/Chopper:</b> 8 CFM (0.23 m³/min.) <b>Catalyst % Range:</b> .75% - 2.5% by volume <b>Available Pump Ratios:</b> 15:1 and 30:1 <b>Maximum Air Input Pressure:</b> 100 psi (7bar)	<b>Heaters:</b> • CFH Series <b>Monitors:</b> • CB-8000 <b>Catalyst Alarm:</b> • CTS-9000	<b>Mixers:</b> • M-AGD <b>Guns:</b> • TLN Series • PRO Series • AT Series



## Patriot™ Multi-Color Gelcoat System

With a heavy duty stainless steel catalyst pump, this machine allows the operator to adjust the preferred setting with ease - infinite catalyst percentage settings available with a simple adjustment.

Specifications	Options	
<b>Output Capabilities:</b> 1.5 lbs/min. - 7 lbs/min. (.68 kgs/min. - 1.49 kgs/min.) <b>Avg. Air Consumption W/Chopper:</b> 8 CFM (0.23 m³/min.) <b>Catalyst % Range:</b> .75% - 2.5% by volume <b>Available Pump Ratios:</b> 15:1 and 30:1 <b>Maximum Air Input Pressure:</b> 100 psi (7bar)	<b>Colors:</b> • Up to 8 Colors <b>Heaters:</b> • CFH Series <b>Monitors:</b> • CB-8000	<b>Catalyst Alarm:</b> • CTS-9000 <b>Mixers:</b> • M-AGD <b>Guns:</b> • TLN Series • PRO Series • AT Series



## UltraMAX™ Gelcoat System

The UltraMAX™ FIT® Gelcoat system features low pressure with easy setup, operation and maintenance. This durable machine allows the operator to adjust the preferred setting with ease. Infinite catalyst settings are available with a simple adjustment.

Specifications	Options	
<b>Output Capabilities:</b> 2 lbs/min. - 8 lbs/min. (.907 kgs/min. - 3.63 kgs/min.) <b>Avg. Air Consumption W/Chopper:</b> 8 CFM (0.23 m³/min.) <b>Catalyst % Range:</b> 1% - 4% by volume <b>Available Pump Ratios:</b> 11:1, 20:1 and 30:1 <b>Maximum Air Input Pressure:</b> 100 psi (7bar)	<b>Heaters:</b> • CFH Series <b>Monitors:</b> • CB-8000 <b>Catalyst Alarm:</b> • CTS-9000	<b>Mixers:</b> • M-AGD <b>Guns:</b> • TLN Series • PRO Series • AT Series



## UltraMAX™ Multi-Color Gelcoat System

The easy-to-setup, easy-to-operate and easy-to-maintain Multi-Color Gelcoat unit is durable and rugged with fewer parts. The unit utilizes quick-change components, extending the system life and resulting in reduced down time.

Specifications	Options	
<b>Output Capabilities:</b> 2 lbs/min. - 8 lbs/min. (.907 kgs/min. - 3.63 kgs/min.) <b>Avg. Air Consumption W/Chopper:</b> 8 CFM (0.23 m³/min.) <b>Catalyst % Range:</b> 1% - 4% by volume <b>Available Pump Ratios:</b> 11:1, 22:1 and 30:1 <b>Maximum Air Input Pressure:</b> 100 psi (7bar)	<b>Colors:</b> • Up to 8 Colors <b>Heaters:</b> • CFH Series <b>Monitors:</b> • CB-8000	<b>Catalyst Alarm:</b> • CTS-9000 <b>Mixers:</b> • M-AGD <b>Guns:</b> • TLN Series • PRO Series • AT Series



## Pro Gelcoat System

The Pro Gelcoat system features reliable low pressure gelcoat delivery, easy setup, easy operation and easy maintenance with MVP's renowned durability. Fewer parts, stainless steel where you need it, and a rugged design, combine to make this system the ultimate in versatile, portable gelcoating equipment.

### Specifications

#### Pro Gelcoat System

**Output Capabilities:**  
.75 lbs/min. - 3 lbs/min.  
(.34 kgs/min. - 1.36 kgs/min.)  
**Avg. Air Consumption W/Chopper:**  
5 CFM (0.14 m³/min.)  
**Catalyst % Range:**  
1.5% - 3.25% by volume  
**Available Pump Ratios:** 22:1  
**Maximum Air Input Pressure:**  
100 psi (7bar)

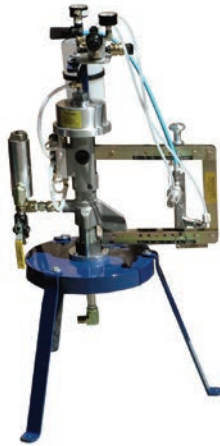
### Specifications

#### Advantage Gelcoat System

**Output Capabilities:**  
.75 lbs/min. - 3 lbs/min.  
(.34 kgs/min. - 1.36 kgs/min.)  
**Avg. Air Consumption W/Chopper:**  
5 CFM (0.14 m³/min.)  
**Catalyst % Range:**  
1.5% - 3.25% by volume  
**Available Pump Ratios:** 22:1  
**Maximum Air Input Pressure:**  
100 psi (7bar)  
**Available Pump Ratios:**  
4:1 and 11:1

### Options

**Heaters:**  
• CFH Series  
**Catalyst Alarm:**  
• CTS-9000  
**Mixers:**  
• M-AGD  
**Guns:**  
• TLN Series  
• AT Series



## Pro Rider Gelcoat System

The Pro Rider Gelcoat unit is an economical unit for external/internal mix gelcoat. It is the perfect unit for small operations that have made the decision to go from bucket-and-brush gelcoating, to an efficient, affordable spray system.

### Specifications

**Output Capabilities:**  
.75 lbs/min. - 3 lbs/min.  
(.34 kgs/min. - 1.36 kgs/min.)  
**Avg. Air Consumption W/Chopper:**  
5 CFM (0.14 m³/min.)  
**Catalyst % Range:**  
1.5% - 3.25% by volume  
**Available Pump Ratios:** 22:1  
**Maximum Air Input Pressure:** 100 psi (7bar)

### Options

**Heaters:**  
• CFH Series  
**Catalyst Alarm:**  
• CTS-9000  
**Mixers:**  
• M-AGD  
**Guns:**  
• TLN Series  
• AT Series

## Barrier Coat Systems

Our Barrier Coat Systems are uniquely designed for marine applications to dispense sprayable syntactic materials for core replacements and barrier coats. With modular construction, our systems simplify disassembly for cleaning and maintenance. Contact us today to learn more about integrating our systems into your production line.



## UltraMax™ Barrier Coat System

Designed to dispense sprayable syntactic materials for core replacement and barrier coats, this system can handle low density syntactics with compressible spheres and ensure consistent mix with limited variation.

### Specifications

**Output Capabilities:**  
0.5 gal./min. - 2 gal./min.  
(1.9 L/min. - 7 L/min.)  
**Avg. Air Consumption:**  
20 - 30 CFM (0.6 - 0.8 m³/min.)  
**Catalyst % Range:** .5% - 2.3%  
**Available Pump Ratio:** 30:1  
**Maximum Air Input Pressure:** 100 psi (7bar)

### Options

• Booms

## Finishing Systems

MVP's Finishing Systems accurately dispense plural component materials. Each compact system reduces material usage and provides manufacturers top-grade finishes with multiple cost-effective options.



### Precision Gelcoat System

The Precision Gelcoat unit delivers various output volumes with a wide range of spray patterns. Its ergonomic and lightweight gun system with support strap make the system compact and maneuverable, perfect for in-line or touch up applications requiring low or no fluid pressure.

#### Specifications

Output Capabilities: ~200 ml/min @ 60PSI & 25 ft hose  
Nozzle: 0.59 in, 1.5 mm (smaller available)  
Air consumption: ~ 18.7 cfm, 530 L/min  
Max pattern width: 10.6 in, 270 mm  
Air Pressure: 20-60 PSI adjustment

#### Options

- N/A



### Accurate Coatings Equipment (ACE)

The Accurate Coatings Equipment (ACE) unit is designed to apply wood finishings for products such as cabinetry, furniture, windows and doors, and more. The system is proven to minimize waste for up to 10-15% material savings compared to traditional pressure pot methods.

#### Specifications

Output capabilities: up to 0.637 gal/min  
Available pump ratio: 12:1  
Max air input pressure: 100psi (7 bar)

#### Options

- Gun
- Wall Mount

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# RTM Systems

Resin Transfer Molding (RTM) is a common closed mold production method in the composites industry. There are many benefits to closed molding including reduced emissions, higher quality parts, cleaner facilities, and more efficient work environments. Our RTM systems provide reliable meter and mixing pumping equipment for closed molding, including its accessories and seals. Our equipment enables you to inject into disposable bags, LRTM molds, and many reusable bag methods without over pressurizing the mold/part.



► Patriot™ Innovator Pro RTM System



► Patriot™ Innovator PLC RTM System

## Patriot™ Innovator RTM Systems

The Patriot Innovator RTM Systems were designed for injecting polyester, vinylester and methacrylate resins and catalyst at controlled pressures. The material mixing is done on demand at the injection head, and the catalyst ratio can be adjusted from 0.75% to 2.5%.

The fully pneumatic automated controls, controlling the number of strokes during injections, recirculation, and more makes the process easier and more efficient.

Specifications	Options
<b>Patriot™ Innovator Pro RTM System</b> Output Capabilities: Up to 7.5 lbs/min. (3.4 kgs/min.) (Depending on materials and application.) Avg. Air Consumption: 10 CFM Catalyst % Range: .75% - 2.5% by volume Available Pump Ratio: 7:1 Maximum Air Input Pressure: 100 psi (7bar)	<b>Heaters:</b> <ul style="list-style-type: none"> <li>• CFH Series</li> <li>• Heater Control</li> </ul> <b>Other Options:</b> <ul style="list-style-type: none"> <li>• Pneumatic PV Sensor</li> <li>• CE Guard</li> <li>• Turbo Auto Sprue</li> <li>• Patriot™ Innovator Plus PLC Option</li> </ul>
<b>Patriot™ Innovator MegaJect RTM System</b> Output Capabilities: Up to 7.5 lbs/min. (3.4 kgs/min.) (Depending on materials and application.) Avg. Air Consumption: 10 CFM/150 ltrs Catalyst % Range: 0.75% - 2.5% by volume Available Pump Ratio: 7:1 Maximum Air Input Pressure: 100 psi (7bar)	
<b>Patriot™ Innovator High Volume RTM System</b> Output Capabilities: 7 lbs - 30 lbs/min. (1.5 kgs - 6.7 kgs/min.) Avg. Air Consumption: 15 CFM Catalyst % Range: .75% - 2.25% by volume Available Pump Ratio: 7:1 Maximum Air Input Pressure: 100 psi (7bar)	
<b>Patriot™ Innovator PLC RTM System</b> Output Capabilities: Up to 7.5 lbs/min. (3.4 kgs/min.) (Depending on materials and application.) Avg. Air Consumption: 10 CFM/150 ltrs Catalyst % Range: .75% - 2.5% by volume Available Pump Ratio: 7:1 Maximum Air Input Pressure: 100 psi (7bar)	



## High Volume Duo RTM System

The High Volume Duo Injection System features precise, proven metering technology, reliable high-volume flow, automatic Pro Gun for consistent internal mix delivery, the lowest mix/meter percentage at plus/minus 0.01%.

### Specifications

**Output Capabilities:**  
Approximately 60 lbs./min.  
(6 gal./min. or 22 liter/min.)  
**Avg. Air Consumption W/Chopper:** 18 CFM  
**Maximum Air Input Pressure:** 100 psi (7bar)

### Options

- Heaters:**
- CFH Series
  - Heater Control
- Other Options:**
- Manual or Auto High-Volume Gun Options
  - Auto-level Control
  - Pneumatic PV Sensor
  - CE Guard
  - HV Turbo Auto Sprue
  - Patriot™ Innovator Plus PLC Option
  - PRO Series
  - AT Series



## MKVI RTM System

The MkVI RTM System comes in three configurations: polyester, phenolic, and epoxy resins. This unit is ideal for advanced closed mold applications. These systems come with multiple pump options based on the material used.

### Specifications

- Complete 2 stream mixing head with standard static mixer element
- Manual Resin and Catalyst re-circulation at head with manual valve interlocks
- Heavy-duty ratio arms
- 100cc Primary Resin Pump with inlet hose and filter suitable for a 200k drum.
- Full instrumentation and control panel, housed in a steel lockable cabinet
- MPG, Mould Pressure Guard
- RGA, Resin Gel Alarm
- Timed solvent flush of machine head (cancels RGA)

### Designed to connect to and control:

- Turbo Auto Sprue - Automatic injection valve
- IVx3 - 3-Position Injection Valve
- Pneumatic PV Sensor (PPVS) - For precise mold pressure control

### Options

- Heaters:**
- Heater Control
  - CFH Series
- Other Options:**
- Pneumatic PV Sensor
  - Turbo Auto Sprue
  - Patriot™ Innovator Plus PLC Option



# Epoxy, Urethane, and Silicone Systems

These complex materials are difficult to handle and often require a tailored solution. Our consultative approach allows our experts to design a unit from modular parts based on your exact needs to save you time and material cost.



## 1:1 Patriot™ Duo System

The 1:1 Patriot™ Duo System has been specifically designed to mix and dispense multiple 1:1 volumetric materials. Recognizing a need for such a system, MVP specifically designed the system to mix and dispense viscous materials through a gravity feed system that eliminates the need for a ram pump.

### Specifications

Pumping Ratio: 15:1  
Mix Ratio: 1:1  
Material Displacement (each fluid section):  
1.178 in<sup>3</sup>/stroke (19.30 c.c.)  
Avg. Air Consumption: 10 - 15 CFM  
Hose Length: 25 ft. (7.6 m)

### Options

- Robotic Option with Auto Pro Gun
- Transfer Pumps
- Heaters
- Portable Carts
- Booms



## 10:1 Patriot™ Duo System

The 10:1 Patriot™ Duo System has been specifically designed to mix and dispense multiple 10:1 volumetric materials. Similar to the 1:1 system, The 10:1 system is designed specifically to mix and dispense viscous materials through a gravity feed system that eliminates the need for a ram pump.

### Specifications

Pumping Ratio: 11:1  
Mix Ratio: 10:1  
Material Displacement (each fluid section)  
1.178 in.3/stroke (19.30 cc)  
Avg. Air Consumption: 20 CFM  
Hose Length: 25 ft. (7.6 m)

### Options

- Robotic Option with Auto Pro Gun
- Transfer Pumps
- Heaters
- Portable Carts
- Booms



## 1:1 UPS Duo System

With true 1:1 delivery of Urethane, Epoxy, Silicone or Polyester materials, it is ideal for materials used in coating, adhesives, casting and laminating resins.

### Specifications

**1:1 UPS Duo  
Standard Volume**  
Output Capabilities:  
10 lbs. - 30 lbs. per min.  
(Depending on materials)  
Avg. Air Consumption:  
10 - 15 CFM (0.14 m<sup>3</sup>/min.)  
Mix Ratio: 1:1

### Specifications

**1:1 UPS Duo  
Low Volume**  
Output Capabilities:  
5 lbs. - 20 lbs. per min.  
Avg. Air Consumption:  
10 - 15 CFM (0.14 m<sup>3</sup>/min.)  
Mix Ratio: 1:1

### Options

- Heaters
- Heated hose sets
- Stainless steel fluid sections
- Portable Carts
- Booms



## Universal Proportioner System

This system covers a wide application range for Epoxy and Urethane laminating resin and coatings. The air motor drives a heavy duty rocker arm linkage drive which drives two double acting reciprocating piston pumps. The resin side is fixed and the hardener side is adjustable, using an upper and lower screw/clamp block to set the ratio range.

### Specifications

#### Fluid Sections:

- UPLS-1000: 23.51 C.I./Cycle hardened seats or stainless steel
- UPLS-4600: 9.67 C.I./Cycle hardened seats or stainless steel
- UPLS-2300: 4.82 C.I./Cycle stainless steel only
- UPLS-2400: 4.95 C.I./Cycle hardened cylinder only

#### Ratios:

With two of the same fluid section listed above:

- 1:1 to 3.1:1 by volume
- UPLS-1000 & UPLS-4600: 2.43:1 to 7.5:1
- UPLS-1000 & UPLS-2300: 4.8:1 to 15:1
- UPLS-4600 & UPLS-2300: 2:1 to 6:1

#### Powerhead:

At 100 psi supply air, run at 60 psi, 40 cycle/min  
(10" - 45 to 50 SCFM)  
(7" - 20 to 25 SCFM)  
(5" - 10 to 15 SCFM)

### Options

- Pneumatic shot size control
- Heaters and heated hoses
- Auto Level Control
- Flow meters
- Gravity feed containers
- Pressure feed pumps
- Innovator Plus PLC control box



## MicroPro Proportioner System

The MicroPro Proportioner System is ideal for low flow rate metering of many epoxy, urethane and silicone materials, works with many application methods including spray, splatter, pour, RTM, and as a table-top proportioner, and is ideal for low or high pressure applications with material viscosity from 20 cps to 40,000 cps.

### Specifications

#### 5" Air Motor with Two VHPC-2200:

- UPLS-1000: 23.51 C.I./Cycle hardened seats or stainless steel
- UPLS-4600: 9.67 C.I./Cycle hardened seats or stainless steel
- UPLS-2300: 4.82 C.I./Cycle stainless steel only
- UPLS-2400: 4.95 C.I./Cycle hardened cylinder only
- 3.25" Air Motor:
- Power Ratio: 10:1
- Air Requirements: 60 psi at 40 cycles/min. 3 to 6 SCFM

#### Ratio:

- Two VHPC-2200: 1:1 to 3.7:1
- VHPC-2200 & VHPC-3200-ADH: 1.84:1 to 5.85:1
- VHPC-2200 & VHPC-4200: 4.15:1 to 13:1

#### Applications:

- Urethane: Gelcoat - Spray, Adhesive - Pour
- Urethane and Epoxy: RTM and LRTM
- Silicone Bags, Splatter Nozzle
- Quick Shot, Epoxy, and Urethane Table-Top Proportioner (pour with mixer or two-stream)

### Options

- Shot size controls
- Auto level control and alarm
- In-line resin heaters and heated hoses
- Recirculation
- Innovator control box



## MiniLink Hydraulic System

The MiniLink Hydraulic System features a hydraulic meter and cylinder to drive the metering system, delivers an extremely consistent mix/meter of materials at low flow rates, ideal for low & high pressure applications, and more.

### Specifications

#### Ratios:

- UPLS-1000: 23.51 C.I./Cycle hardened seats or stainless steel
- Two VHPC-2200: 1:1 TO 3.7:1
- VHPC-2200 & VHPC-3200-ADH: 1.84:1 - 5.85:1
- VHPC-2200 & VHPC-4200: 4.15:1 - 13:1

#### Metering Pumps:

120 Volt, 22 amp or 220V single phase, 13.7 amp  
(voltage must be specified on order)

#### Air Requirements:

20 CFM at 100 psi of clean dry air

#### Tanks:

15-gallon (57 liter) gravity feed (max fill load, 12-gallons each)

#### Flush Tank:

3-gallon (11 liter) pressure tank

### Options

- In-line Resin Heaters & Heated Hoses

# Guns & Applicators



External Mix Talon Gun

Internal Mix Talon Gun

## Talon Guns

Available in internal or external mix, Talon Guns have a simple, lightweight design for increased performance and easy maintenance.

Specifications	Options
<b>Weight:</b> 1.90 lbs. (.90 kg) <b>Output Resin:</b> Approximately 8 - 20 lbs./min. (Depending on tip size and materials.) <b>Output Gelcoat:</b> Approximately 2 - 12 lbs./min (Depending on tip size and materials.) Standard ceramic ball and carbide seat	<b>Gelcoat Gun:</b> <ul style="list-style-type: none"> <li>• Classic Airless and FIT Tips</li> </ul> <b>Chopper Gun:</b> <ul style="list-style-type: none"> <li>• Classic Airless and FIT Tips</li> </ul> <b>Airless Tips:</b> <ul style="list-style-type: none"> <li>• For lower emissions from .015 to .080 orifice</li> </ul> <b>Choppers:</b> <ul style="list-style-type: none"> <li>• VRC and RC Series</li> </ul>



## Pro Guns

Our Pro Guns feature internal mix technology with low pressure delivery and a comfortable design. Experience in the industry and documented research have proven that low pressure guns significantly reduce emissions and porosity.

Specifications	Options
<b>Weight:</b> 2.20 lbs. (1.0 kg) <b>Output Resin:</b> Approximately 8 - 20 lbs./min. depending on tip size and materials. <b>Output Gelcoat:</b> Approximately 2 - 12 lbs./min. depending on tip size and materials. Hardened valve rod.	<b>Gelcoat Gun:</b> <ul style="list-style-type: none"> <li>• Classic Airless and FIT Tips</li> </ul> <b>Chopper Gun:</b> <ul style="list-style-type: none"> <li>• Classic Airless and FIT Tips</li> </ul> <b>Patented FIT Tips:</b> <ul style="list-style-type: none"> <li>• For lower emissions from .015 to .080 orifice</li> </ul> <b>Choppers:</b> <ul style="list-style-type: none"> <li>• VRC and RC Series</li> </ul>



## Air Trigger Guns

The ATC-4000 Chop, ATG-3500 Gelcoat, and ITD-3500 Gelcoat Guns are made with high quality parts that will stand the test of time. All three guns enclose the needles in the gun protecting them from the spray environment. Our pneumatic trigger and air trigger gives the operator a controlled and precise shot to the target.

Specifications	Options
<b>Weight:</b> 2.5 lbs. (1.13 kg) <b>Output Resin:</b> Approximately 8 - 20 lbs./min. <b>Output Gelcoat:</b> Approximately 2 - 12 lbs./min. Carbide ball and seat on material side. Patented catalyst spool valve design.	<b>Gelcoat Guns:</b> <ul style="list-style-type: none"> <li>• ATG and ATC Series</li> </ul> <b>Twist Clean Tip:</b> <ul style="list-style-type: none"> <li>• ITD Series</li> </ul> <b>Airless Tips:</b> <ul style="list-style-type: none"> <li>• From .015 to .072 Orifice</li> </ul> <b>Patented FIT Tips:</b> <ul style="list-style-type: none"> <li>• For lower emissions from .015 to .080 orifice</li> </ul> <b>Choppers:</b> <ul style="list-style-type: none"> <li>• VRC and RC Series</li> </ul>

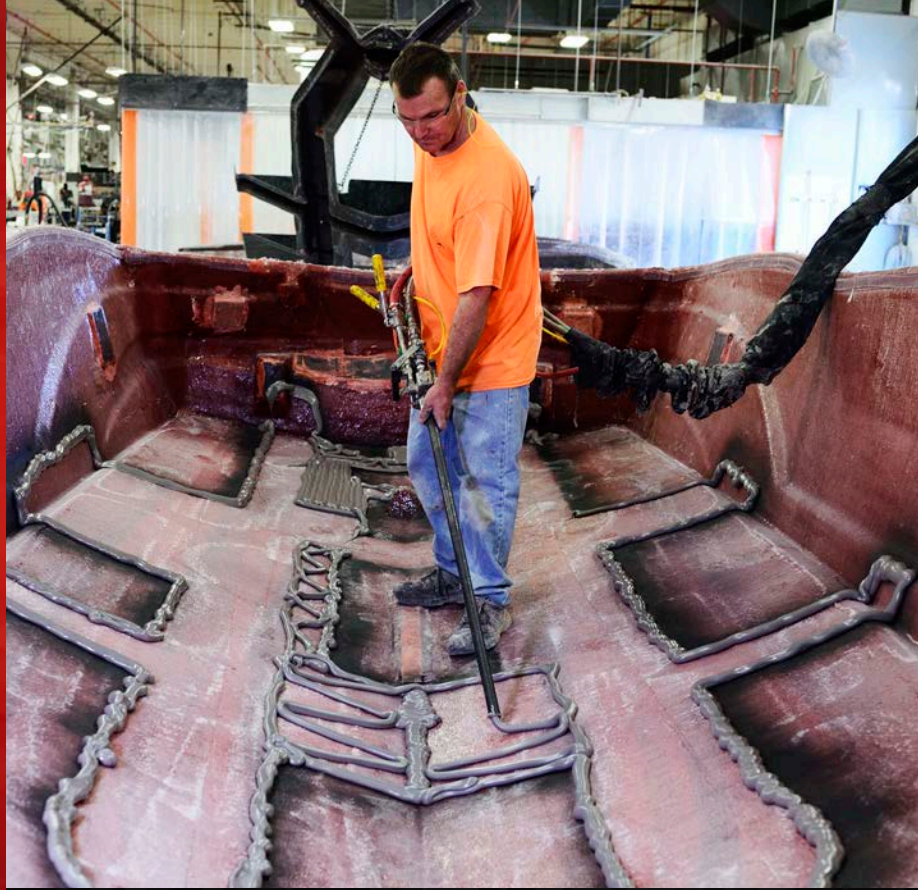


## DuraMax Guns

With this Internal Mix Gun, you can now deliver filled resins for high volume applications or standard chopping /saturation flow with ease, precision and efficiency.

Specifications	Options
<b>Weight:</b> 2.85 lbs. (1.28 kg) <b>Output Resin:</b> Approximately 9 - 30 lbs./min Carbide ball and seat on material side.	<b>Chopper Gun:</b> <ul style="list-style-type: none"> <li>• DMX-3000</li> </ul> <b>Wetout Gun:</b> <ul style="list-style-type: none"> <li>• DMX-3000-W</li> </ul> <b>Airless Tips:</b> <ul style="list-style-type: none"> <li>• From .015 to .072 orifice</li> </ul> <b>Patented FIT Tips:</b> <ul style="list-style-type: none"> <li>• For lower emissions from .015 to .080 orifice</li> </ul> <b>Choppers:</b> <ul style="list-style-type: none"> <li>• VRC and RC Series</li> </ul>

MVP's spray guns, chopper guns, and specialty applicators are uniquely designed to handle traditional and specialty materials including gelcoat, chopped fiber, adhesives, putties, epoxy, and more. Fully compatible with our pumping systems, these applicators and guns can be applied in a wide variety of production scenarios.



# Adhesive & Sealant Equipment

## Single Component Systems

Compact material unloader for highly viscous materials.



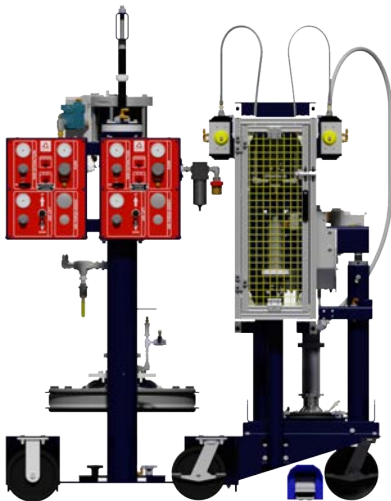
### Single Component Systems

Bulk single-component material unloader with unique frame design to help reduce labor required for each drum change out. Control panel gives user all operation functionality in one convenient location.

Specifications	Specifications	Options
<b>5-Gallon</b> Max Output (Avg.): 0.4 gal/min. (1.5L/min.) Avg. Air Consumption: 10 - 20 CFM (0.3 - 0.6 <sup>3</sup> /min.) Available Pump Ratios: 65:1 and 30:1 Maximum Air Input Pressure: 100 psi (7bar)	<b>55-Gallon</b> Max Output (Avg.): 2 gal/min. (7L/min.) Avg. Air Consumption: 20 - 50 CFM (0.6 - 1.4 <sup>3</sup> /min.) Available Pump Ratios: 60:1 and 30:1 Maximum Air Input Pressure: 100 psi (7bar)	• Stainless steel versions available

## Cartridge Filling Systems

Cartridge filling solutions for bulk material packaging.



### Cartridge Filling Station

Cartridge dispensers are an effective tool for applying bonding or sealing agents in hard to reach areas. As pre-filled cartridge costs continued to rise, our cartridge filling systems can reduce your material cost by 40-60%.

Features	Specifications
<b>Accurate Dispensing:</b> <ul style="list-style-type: none"><li>Displacement pumps provide consistent material flow</li><li>Mechanical shut-off allows material filling of cartridge to predetermined amount</li></ul> <b>Easy-to-Use:</b> <ul style="list-style-type: none"><li>All pump operations located on two side-by-side panels</li><li>Foot pedal operation keeps users hands free and available for cartridge preparation</li></ul> <b>Dependable with Limited Maintenance:</b> <ul style="list-style-type: none"><li>Hardened stainless steel pumps keep up with all production needs</li><li>Expert service assistance direct from equipment manufacturer and authorized distribution network</li></ul>	<b>Output Capabilities:</b> 0.1 gal./min. - 0.4 gal./min. (0.4 L/min. - 1.15 L/min.) <b>Avg. Air Consumption:</b> 10 - 20 CFM (0.3 - 0.6m <sup>3</sup> /min.) <b>Mix Ratio:</b> 10:1 and 1:1 <b>Available Pump Ratio:</b> 23:1 <b>Maximum Air Input Pressure:</b> 100 psi (7bar)

# Adhesive Systems

Material and accelerator pumps are linked together ensuring proper mix ratio is being achieved in a repeatable manner. This provides manufacturers consistent working times improving production output and limiting rework needs. Different configurations give users the ability to choose the proper output no matter the amount of material needed each day.

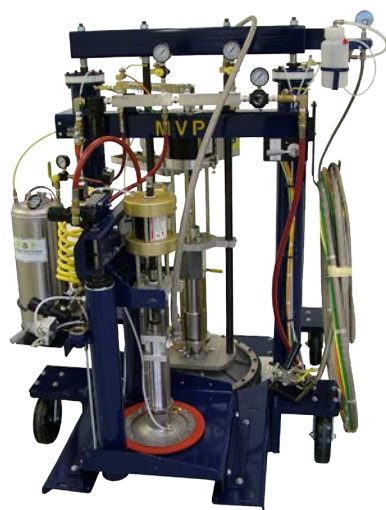


## 10:1 5-Gallon Adhesive System

Patriot™ technology: the most accurate & reliable metering system made for methacrylate adhesive bonding materials.

- Chop Check Fluid Section
- Double Acting Piston Pumps
- No Gear Pumps
- Rugged Stainless Steel UltraBond Gun
- Stainless Steel Transfer Pumps & Catalyst Pumps

Specifications	Options
<b>Output Capabilities:</b> Approximately 1 lb/min – 4 lbs/min (.45 kgs/min – 1.8 kgs/min) <b>Air Consumption:</b> 25-30 CFM (0.7 – 0.9 m <sup>3</sup> /min) <b>Mix Ratio Range:</b> 7:1 – 19.6:1 by volume <b>Available Pump Ratio:</b> 23:1 <b>Max Air Input Pressure:</b> 100 psi (7 bar)	<ul style="list-style-type: none"><li>• Robotic Option with Auto 1:1 Pro Gun</li><li>• Booms</li></ul>



## 10:1 55-Gallon Adhesive System

- Accurate metering & mixing - No gear pumps
- Easy-to-maintain - double acting piston pumps
- All stainless steel construction:
  - Transfer pump
  - Proportioner pump
  - Dispensing gun

Specifications	Options
<b>IMA-CCP-ADH-PRO &amp; HOD Output Capabilities:</b> Approximately 4 lbs/min – 16 lbs/min (1.8 kgs/min – 7.3 kgs/min) <b>Air Consumption:</b> 25-30 CFM (0.7 – 0.9 m <sup>3</sup> /min) <b>Mix Ratio Range:</b> 7:1 – 19.6:1 by volume <b>Available Pump Ratio:</b> 30:1 <b>Max Air Input Pressure:</b> 100 psi (7 bar)	<ul style="list-style-type: none"><li>• Robotic Option with Auto 1:1 Pro Gun</li><li>• Booms</li></ul>





## 1:1 5-Gallon Adhesive System

This system operates at a fixed 1:1 material ratio, with no gear or transfer pumps needed, and a power ratio of 15:1 with the 7" Patriot™ Powerslide Powerhead.

- Unmatched Patriot™ Technology
- Precise material placement
- No gear or transfer pumps needed
- Compatible materials include Methacrylates, Silicones and Polyurethanes

### Specifications

**Output Capabilities:**  
0.1 gal./min. - 0.4 gal./min.  
(0.4 L/min. - 1.15 L/min.)

**Avg. Air Consumption:**  
10 - 20 CFM (0.3 - 0.6 m³/min.)

**Activator Percentage:** 50% by volume

**Available Pump Ratio:** 23:1

**Maximum Air Input Pressure:** 100 psi (7bar)

### Options

- Robotic Option with Auto 1:1 Pro Gun
- Booms



## 1:1 55-Gallon Adhesive System

- Accurate metering & mixing - No gear pumps
- Easy-to-maintain - double acting piston pumps
- All stainless steel construction:
  - Transfer pump
  - Proportioner pump
  - Dispensing gun

### Specifications

**Output Capabilities:**  
2 gal./min. - 8 gal./min.  
(7 L/min. - 30 L/min.)

**Avg. Air Consumption:**  
20 - 50 CFM (0.6 - 1.4 m³/min.)

**Mix Ratio:** 1:1

**Activator Percentage:** 50% by volume

**Available Pump Ratio:** 15:1

**Maximum Air Input Pressure:** 100 psi (7bar)

### Options

- Auto Guns
- Booms



# Putty Systems

These compact systems provide precise delivery of medium viscosity putty materials and steady flow. Our systems are durable and easy to maintain to create increase production efficiency.



## 5-Gallon Patriot™ Putty System

The 5-Gallon Patriot™ Putty System is designed to dispense medium viscosity polyester putty for MEKP cure, provide a steady flow of material, with a balanced air motor and fluid section delivering a power ratio of 23:1. System features include:

- Thorough mix of materials
- Steady delivery of material
- Precise material placement
- No gear or transfer pumps needed

### Specifications

#### Output Capabilities:

0.1 gal./min. - 0.4 gal./min.

(0.4 L/min. - 1.15 L/min.)

#### Avg. Air Consumption:

10 - 20 CFM (0.3 - 0.6 m³/min.)

Catalyst % Range: .75% - 2.25% by volume

Available Pump Ratio: 23:1

### Options

- BPO System



## 55-Gallon UltraBond Putty System

- Chop Check fluid section design
- Pre-loads high viscosity material efficiently
- Hardened Nitrotech rods and cylinder
- Ideal for syntactic style putties
- Cuts production time and material waste
- Reduce labor by 33%
- Easy to use - easy to maintain
- Defined putty spray pattern

### Specifications

#### Output Capabilities:

0.5 gal./min. - 2 gal./min.

(1.9 L/min. - 7 L/min.)

#### Avg. Air Consumption:

20 - 30 CFM (0.6 - 0.8 m³/min.)

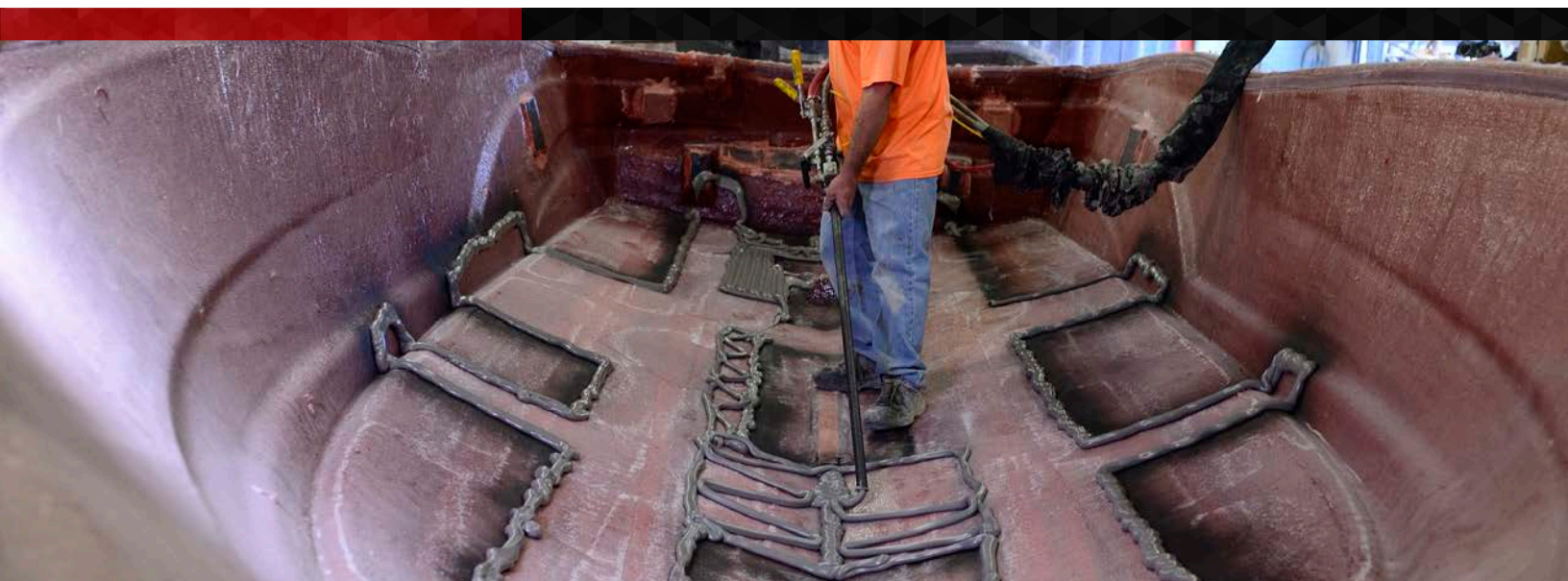
Catalyst % Range: .5% - 2.5% by volume

Available Pump Ratio: 30:1

Maximum Air Input Pressure: 100 psi (7bar)

### Options

- BPO System
- Auto Guns
- Booms



## Filament Winding

Precise, configurable and fully integrated, our line of filament winding equipment offers unique features such as dual side production, integrated pumping systems, and choices of axes and controls. Contact us today to build your custom solution.



### Comet Filament Winder

Easily customized for up to four axes of programmable motion

Specifications	Options
<b>Programming Control &amp; Software:</b> MVP Multi Axis Control System <b>Length Between Head &amp; Tail Chuck:</b> Up to 144 in. (3.6 M) <b>Maximum Part Diameter:</b> Up to 30 in. (762 mm) <b>Number of Machine Axes:</b> 2, 3 or 4 axis capabilities <b>Maximum Mandrel Rotational Speed:</b> Up to 150 rpm <b>Maximum Carriage Traverse Speed:</b> Up to 200 fpm (61 mph) <b>Carriage Travel Limits:</b> Configurable <b>Maximum Crossfeed Traverse Speed:</b> Up to 180 fpm (55 mph) <b>Crossfeed Travel Limits:</b> Configurable. Standard lengths up to 15 in. (381 mm) <b>Maximum Eye Rotation Speed:</b> Up to 60 rpm <b>Eye Rotation Travel:</b> Between $\pm 90$ degrees <b>Maximum Spindle Capacity:</b> Configurable, standard up to 750lbs (340kg)	<b>Programming Software:</b> CompositaD™, CADWIND or CADFIL® <b>Resin Dispense &amp; Mix Equipment:</b> Epoxy, Polyester, Vinylester, etc. <b>Fiber Delivery Systems:</b> Wet winding, prepreg, etc. <b>Fiber Tensioning:</b> Bookshelf, mechanical, electronic tensioning <b>Material Monitoring:</b> Tracking of resin & fiber usage



### Eclipse Filament Winder

Two to four axes manufacturing capabilities of small to large sized parts

Specifications	Options
<b>Programming Control &amp; Software:</b> MVP Multi Axis Control System <b>Length Between Head &amp; Tail Chuck:</b> Up to 50 ft. (15 M) <b>Maximum Part Diameter:</b> Up to 60 in. (1.5M); single spindle <b>Multiple Spindle Capabilities:</b> Configurable <b>Number of Machine Axes:</b> 2, 3 or 4 axis capabilities <b>Maximum Mandrel Rotational Speed:</b> Up to 150 rpm <b>Maximum Carriage Traverse Speed:</b> Up to 200 fpm (61 mph) <b>Carriage Travel Limits:</b> Configurable. Standard up to 40 ft. (12 M) <b>Maximum Crossfeed Traverse Speed:</b> Up to 180 fpm (55 mph) <b>Crossfeed Travel Limits:</b> Configurable. Standard lengths up to 30 in. (762 mm) <b>Maximum Eye Rotation Speed:</b> Up to 60 rpm <b>Eye Rotation Travel:</b> Between $\pm 90$ degrees <b>Maximum Spindle Capacity:</b> Configurable	<b>Programming Software:</b> CompositaD™, CADWIND or CADFIL® <b>Resin Dispense &amp; Mix Equipment:</b> Epoxy, Polyester, Vinylester, etc. <b>Fiber Delivery Systems:</b> Wet winding, prepreg, etc. <b>Fiber Tensioning:</b> Bookshelf, mechanical, electronic tensioning <b>Material Monitoring:</b> Tracking of resin & fiber usage



### Econo Filament Winder

Chop/Hoop winding system designed for pipe to large diameter tank manufacturing

Specifications	Options
<b>Programming Control &amp; Software:</b> MVP Multi Axis Control System <b>Manufacturing Capabilities:</b> Liner, Chop/Hoop <b>Machine Configuration:</b> Overhead or Floor Mount Winding Carriage <b>Operator Control:</b> Variable speed manual <b>Maximum Mandrel Length:</b> Up to 43 ft. (13 M) <b>Maximum Mandrel Diameter:</b> Up to 186 in. (4.7 M) <b>Fiber Chopper:</b> Four (4) strand Chopper assembly <b>Pneumatic Roll Goods Applicator:</b> Application of Mylar, Unidirectional, Woven Roving, etc. <b>Pneumatic Controlled Roll-out Assembly:</b> For removal of air entrapment in liner application <b>Fiber Creel:</b> Sixty (60) strand Creel with Sixty (60) strand backup <b>Resin Mix/Dispense Pumping Unit:</b> UltraMAX™ High Volume	<b>Mandrel Drives:</b> Cantilever and/or Head/Tailstock drive assemblies <b>Dual Drive Capabilities:</b> 2nd Mandrel drive for greater production potential <b>Mandrels:</b> Collapsible & Non-Collapsible Mandrels <b>Resin Bath:</b> Sixty (60) strand drum style assembly



## Ultra Filament Winder

Helical and chop/hoop winding system designed for pipe to large diameter tank manufacturing

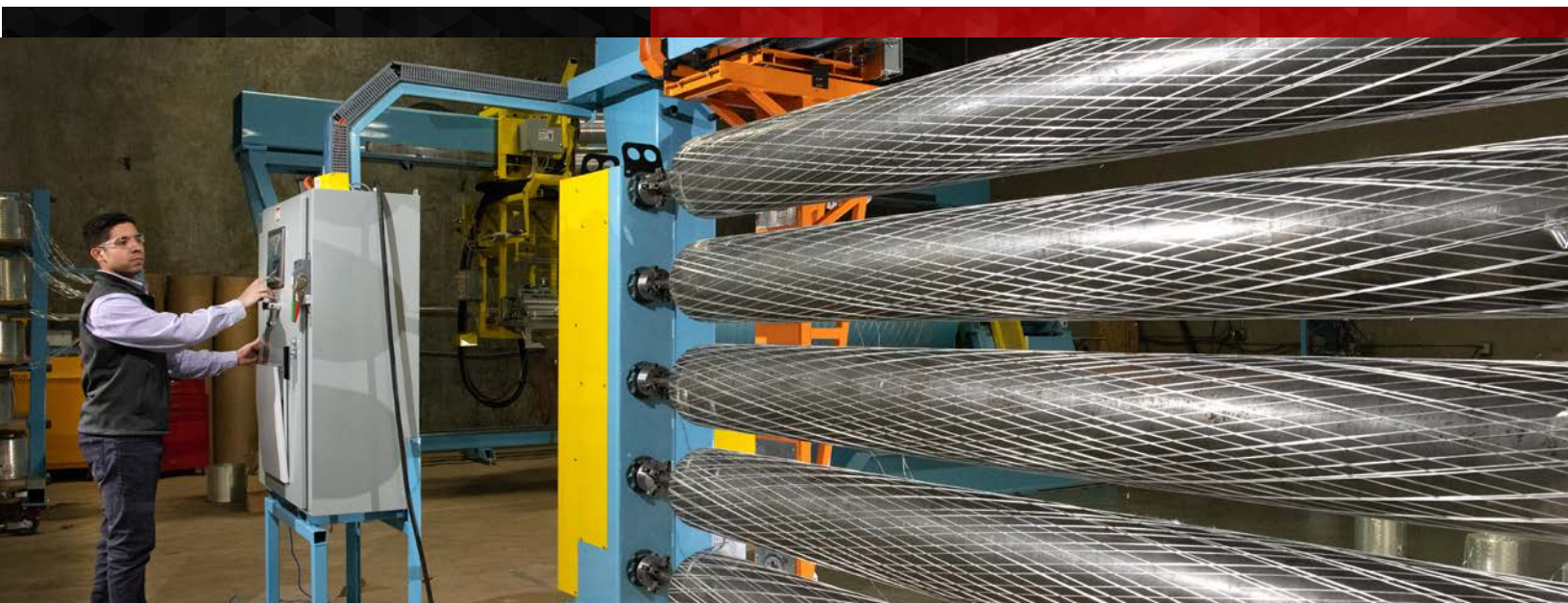
Specifications	Options
<p><b>Manufacturing Capabilities:</b> Liner, Chop/Hoop, Helical</p> <p><b>Machine Configuration:</b> Overhead or Floor Mount Winding</p> <p><b>Carriage/Computer Control:</b> User friendly HMI &amp; simple program capabilities</p> <p><b>Maximum Mandrel Length:</b> Up to 43 ft. (13 M)</p> <p><b>Maximum Mandrel Diameter:</b> Up to 186 in. (4.7 M)</p> <p><b>Fiber Chopper:</b> Four (4) strand Chopper assembly</p> <p><b>Pneumatic Roll Goods Applicator:</b> Application of Mylar, Unidirectional, Woven Roving, etc.</p> <p><b>Pneumatic Controlled Roll-out Assembly:</b> For removal of air entrapment in liner application</p> <p><b>Resin Bath:</b> Sixty (60) strand drum style assembly</p> <p><b>Fiber Creel:</b> Sixty (60) strand Creel with Sixty (60) strand backup</p> <p><b>Resin Mix/Dispense Pumping Unit:</b> UltraMAX™ High Volume</p> <p><b>Material Monitoring:</b> Resin, chop &amp; winding fiberglass tracking system</p>	<p><b>Mandrel Drives:</b> Cantilever and/or Head/Tailstock drive assemblies</p> <p><b>Dual Drive Capabilities:</b> 2nd Mandrel drive for greater production potential</p> <p><b>Mandrels:</b> Collapsible &amp; Non-Collapsible Mandrels</p>



## Fusion Filament Winder

Compact design perfect for high volume four-axis production

Specifications	Options
<p><b>Spindle Configuration:</b> 1, 3, or 5 spindles</p> <p><b>Maximum Diameter:</b> 24 in (61 cm) for 1 or 3 spindles 12 in (30.5 cm) for 5 spindles</p> <p><b>Maximum Length:</b> 13ft (3.96 m) maximum</p> <p><b>Spindle Maximum Weight:</b> 500lbs</p> <p><b>Spindle Maximum Speed:</b> 120 rpm</p> <p><b>Maximum Strands Per Spindle:</b> 10, or 50 combined</p> <p><b>Carriage Maximum Travel:</b> 13ft 3 in (403.9cm)</p> <p><b>Carriage Maximum Speed:</b> 39 in/sec</p> <p><b>Cross Carriage Maximum Travel:</b> 12 in (30.5 cm)</p> <p><b>Cross Carriage Maximum Speed:</b> 15 in/sec</p> <p><b>Rotating Eye:</b> +/-90 degrees</p> <p><b>Rotating Eye Maximum Speed:</b> 60 rpm</p>	<ul style="list-style-type: none"> <li>• Mold Drives</li> <li>• Panel Widths up to 16 ft. (4.8 M)</li> <li>• Combo Gelcoat and Chopper Units</li> <li>• Environmental Enclosures</li> <li>• Traveling Units over Stationary Molds</li> </ul>



## Custom Automated Solutions

MVP designs custom automated solutions for dispensing and spraying composite materials. Designed for total production cell solutions, equipment may include tensioners, resin baths, mandrels, extractors, curing ovens, mandrel/part handling systems, and more. These solutions are designed to be completely integrated with other MVP resin dispense equipment, fiber creels, resin baths, and more.



# Impregnators

Our impregnator systems are a series of high output, roll goods layup machines designed for wetting and placing woven roving and other roll good materials. We offer stand alone, portable, or mounting options which can be fully integrated with our standard equipment including resin pumps, dispense equipment, take-up assemblies, and more.



## Portable Impregnator

The portable impregnator unit is designed to process woven roving, stitch mat and/or fiberglass cloth with catalyzed resin, metering the resin-to-glass ratio and depositing this material on a flat surface (either male or female mold style). The unit is provided on rollers to allow its movement within a facility and be used on multiple stationary molds.

### Specifications

**Equipment Configuration:** Stationary or portable  
**Mix & Dispense Equipment:** Epoxy, Polyester, Vinylester, etc.  
**Controls:** Pneumatic controlled & adjusted  
**Auto Level Controls:** Controls resin dispensed level in Nip Rolls  
**Instrumental Dials:** Adjustment for fabric changes and variable wet-out  
**Glass to Resin Ratio:** Content up to 55%  
**Standard Widths:** Available 18in (457mm) to 100in (254M)  
**Output Capacities:** 1,000 lbs (454 kg) per hour  
**Processing Speeds:** 20 ft (61 M) per minute  
**Cleaning:** Solvent flush spray system

### Options

**Take-Up Assembly:** Spools up wetted materials with protective film  
**Bridge Crane Mounted:** Provides wetted material directly from above into mold



## Bridgecrane Impregnator

The Bridgecrane Impregnator is designed to process woven roving, stitch mat and/or fiberglass cloth with catalyzed polyester resin, metering the resin-to-glass ratio and depositing this material on a flat or hull surface (either male or female mold style). This style Impregnator is used to make up bulkheads, decking and other flat sheets used to build a composite ship as well as the hull itself.

### Specifications

**Equipment Configuration:** Stationary or portable  
**Mix & Dispense Equipment:** Epoxy, Polyester, Vinylester, etc.  
**Controls:** Pneumatic controlled & adjusted  
**Auto Level Controls:** Controls resin dispensed level in Nip Rolls  
**Instrumental Dials:** Adjustment for fabric changes and variable wet-out  
**Glass to Resin Ratio:** Content up to 55%  
**Standard Widths:** Available 18in (457mm) to 100in (254M)  
**Output Capacities:** 1,000 lbs (454 kg) per hour  
**Processing Speeds:** 20 ft (61 M) per minute  
**Cleaning:** Solvent flush spray system  
**Take-Up Assembly:** Spools up wetted materials with protective film  
**Bridge Crane Mounted:** Provides wetted material directly from above into mold  
 All impregnator controls are mounted at the side of the impregnator. Controls include auto level activation, feed direction and speed, resin activation, solvent application, etc

### Options

- High-Volume Pumping System
- Crane Bridge structure
- Bridge trucks
- Bridge drive (gear box and air motor)
- Hose and Track System

# Reciprocators

Our reciprocators are designed to automatically produce flat panels or sheets using a chopper gun and/or gelcoat spray gun that traverse a mold or table. Spray-up and rollout are both completely automated and some contoured shapes may be produced when part of the rolling is performed by hand.



## Traveling Reciprocator

The Traveling Reciprocator is equipment with drive wheels to move the machine over the stationary mold. Material source of gelcoat, resin and chop glass would all travel along with the moving unit. This would include space for solvent, gel coat, resin, catalyst and chop glass. This assembly would straddle the existing stationary molds. Track or guide rails would be placed on each side of the stationary mold. Traverse speed would be linked to the reciprocator application speeds. This would allow application of gel coat or chop lamination directly to the stationary mold below.

### Specifications

**Equipment Configuration:** Stationary or portable  
**Mix & Dispense Equipment:** Epoxy, Polyester, Vinylester, etc.  
**Controls:** PLC controlled and adjusted  
**Standard Available Sizes:** 8ft (2.7M) to 12ft (3.6M) wide  
**Gelcoat Output Capacities:** 5,400 ft.<sup>2</sup>/hr (500 M<sup>2</sup>/hour)  
**Lamination Output Capacities:** 2,700 ft.<sup>2</sup>/hour (240 M<sup>2</sup>/hour)  
**Spray Gun Travel Speed:** 5 ft./second (1.5 M/second)  
**Fiber Chopper:** Four (4) strand chopper gun  
**Automatic Flush System**

### Options

- Mold Drives
- Panel Widths up to 16 ft. (4.8 M)
- Combo Gelcoat and Chop Units
- Environmental Enclosures
- Traveling Units over Stationary Molds



## Chop/Lamination Reciprocator

The Chop/Lamination Reciprocator is designed to automatically produce flat panels or sheets using a gel coat and/or a chopper gun that traverses or reciprocates over a moving mold or table. Spray applications and material rollout can both be completely automated. Most commonly, this machine is used to apply polyester resin and chopped gun roving simultaneously. The Reciprocator features a quick gun carriage reversal to recover normal speed of the gun head. This quick reverse requires no gun triggering, giving little build-up at the edges of the panel for minimum waste and a high production rate.

### Specifications

**Equipment Configuration:** Stationary or portable  
**Mix & Dispense Equipment:** Epoxy, Polyester, Vinylester, etc.  
**Controls:** PLC controlled and adjusted  
**Standard Available Sizes:** 8ft (2.7M) to 12ft (3.6M) wide  
**Gelcoat Output Capacities:** 5,400 ft.<sup>2</sup>/hr (500 M<sup>2</sup>/hour)  
**Lamination Output Capacities:** 2,700 ft.<sup>2</sup>/hour (240 M<sup>2</sup>/hour)  
**Spray Gun Travel Speed:** 5 ft./second (1.5 M/second)  
**Fiber Chopper:** Four (4) strand chopper gun  
**Automatic Flush System**

### Options

- Environmental Enclosures
- Mold Drives
- Mold Shuttles
- Roll Out Assemblies



## Gelcoat Reciprocator

The system travels at about 5 feet/second (1.5m/second) across the table and is capable of applying a 15 mil (.38mm) gel coat with a tolerance of +/- .005 inch (.127mm). A maximum production rate of 5400 square feet/hour (500 square meters/hour) has been attained at 15 mil thickness. When the digital read-out system is used, accuracy can be monitored during set-up and operation of the machine. Includes pumping systems, nitrogen charging system, hooded fume collectors with filters and 3/4 HP exhaust fan.

### Specifications

**Equipment Configuration:** Stationary or portable  
**Mix & Dispense Equipment:** Epoxy, Polyester, Vinylester, etc.  
**Controls:** PLC controlled and adjusted  
**Standard Available Sizes:** 8ft (2.7M) to 12ft (3.6M) wide  
**Gelcoat Output Capacities:** 5,400 ft.<sup>2</sup>/hr (500 M<sup>2</sup>/hour)  
**Lamination Output Capacities:** 2,700 ft.<sup>2</sup>/hour (240 M<sup>2</sup>/hour)  
**Spray Gun Travel Speed:** 5 ft./second (1.5 M/second)  
**Fiber Chopper:** Four (4) strand chopper gun  
**Automatic Flush System**

### Options

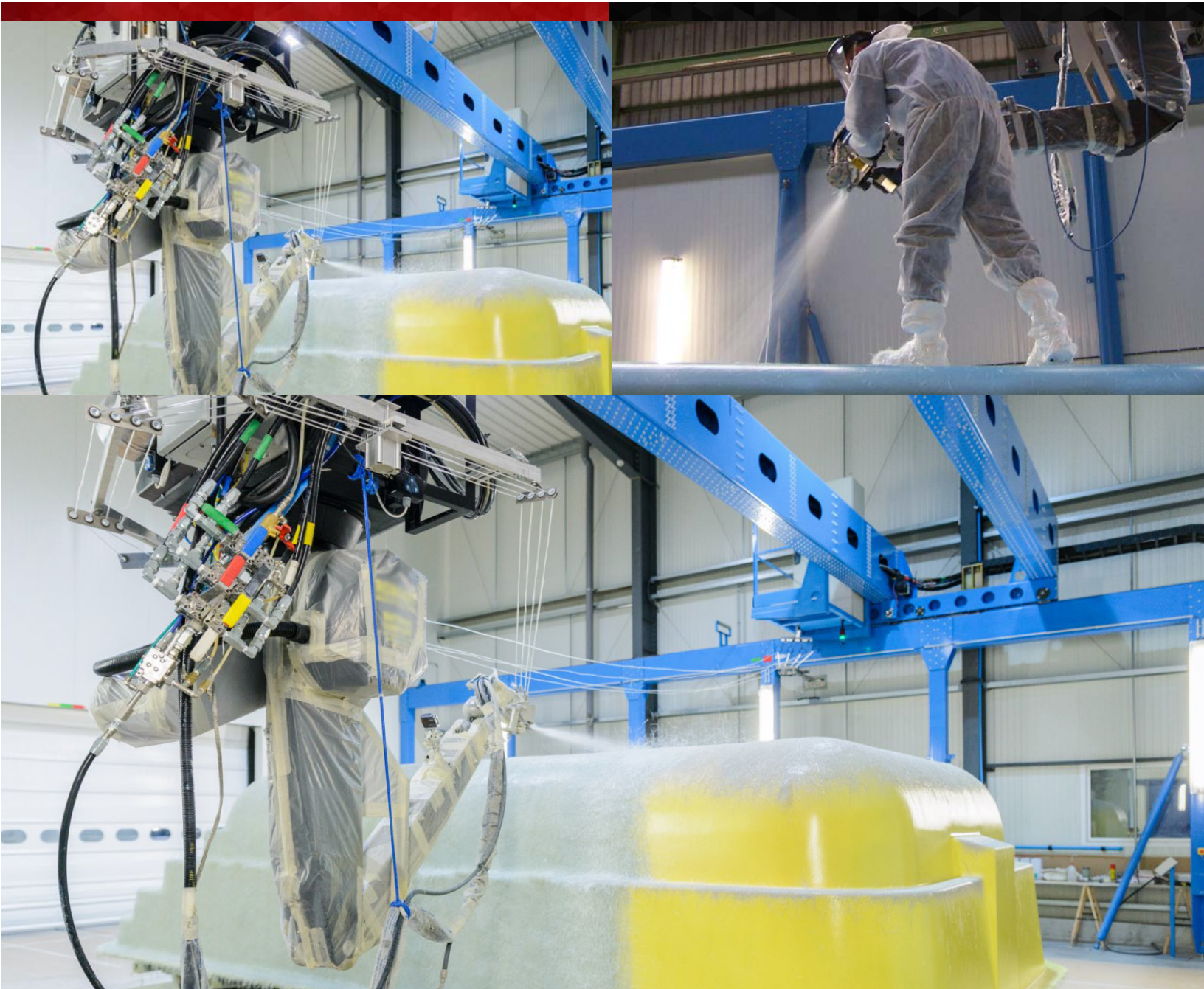
- Mold Drives
- Panel Widths up to 16 ft. (4.8 M)
- Combo Gelcoat and Chopper Units
- Environmental Enclosures
- Traveling Units over Stationary Molds

# Robotics

This teachable robot can be programmed by the operator in minutes, eliminating the need for costly programming. With fluid movements equivalent to your best operator's manual spraying, the robot dramatically improves product consistency and quality. These multi-application carbon composite robots are designed for the spray-up of: release agent, multi-color gelcoat, barrier coat, resin and fiberglass, and low-density putties.

## The Objectives:

- Save up to 15% of raw material
- Scale-up production without extra personnel
- Obtain a controlled production flow
- Eliminate the need for costly programming
- Easily integrate with other composite production methods





## Large-Scale Thermoset Additive Manufacturing

The world's first large-scale thermoset additive manufacturing machine, RAM enables cost-effective printing of thermoset materials in a wide range of applications including low-cost fixtures, tools, and autoclavable molds for prototype and production parts. RAM has the ability to produce large-scale parts in various resolutions with novel pumping technology reactive deposition materials.



### RAM 816

**Build envelope: 16' x 8' x 3.5'**

Designed for large-scale fabrication, RAM 816 features a roll-in/roll-out table for easy loading, unloading, indexing, and processing. The sophisticated print head can be adjusted to the optimal resolution and print speed.



### RAM 48

**Build envelope: 8' x 4' x 4' (scalable sizes available)**

The RAM 48 was designed as a cost-effective solution for medium-scale fabrication. The system can be configured modularly for a custom build index.



### Controls:

Proprietary software with touchscreen

## Modular Design

The RAM 48 model has a print area of 4-feet by 8-feet, with optional expandable 4-feet by 4-feet sections allowing for unrestricted build dimensions.

## Pick and Place

Fabrication is simple with the ability to pick and place items into the print, such as heating channels or sensors to monitor degradation.

## Open Layer Time

Unlock your design creativity and make more complex prints by leveraging open layer times to add onto prints even after material has cured.

## Print Multiple Objects Simultaneously

Maximize your machine uptime by printing items simultaneously.

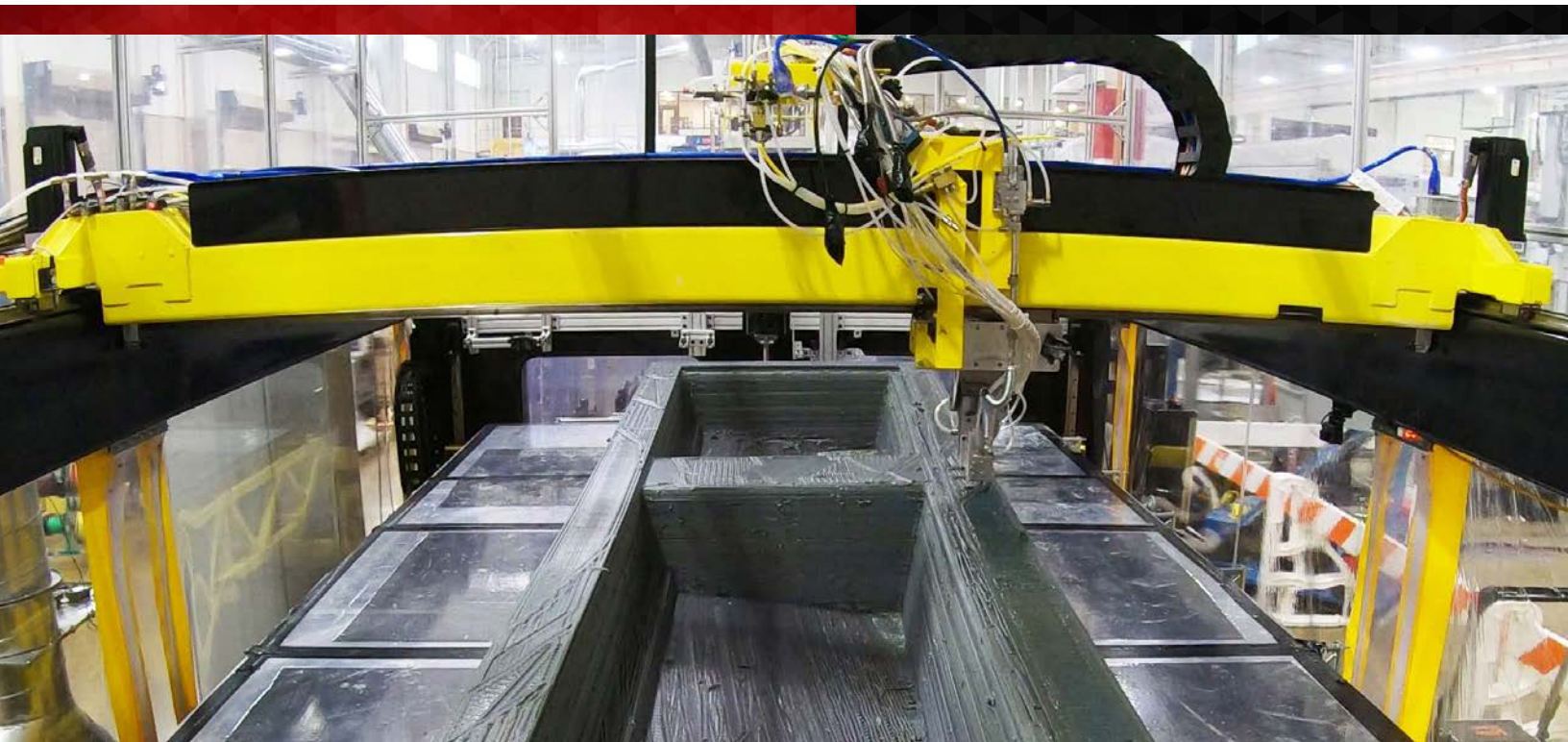
## Secondary Bonding

With secondary bonding, you can join two printed components, make quick repairs to any damaged areas, and apply coating for a class A surface finish.

## The Thermoset Difference

Thermoset materials strengthen when heated and cannot be melted. While thermoplastics can be reheated, it cannot withstand high temperatures without losing structural integrity.

Thermosets contain polymers which **chemically react** in the curing process to form a powerful bond. The thermoset advantage lies in the cross-linking of polymers between printed layers resulting in **stronger, more thermo-tolerant products**. Thermoset materials significantly **increase z-layer strength**, decreasing thermal expansion compared to thermoplastic materials. Thermoset materials also allow for **increased tool path freedom** as printing can occur between previously deposited soft materials resulting in **significantly shorter layer times**.



# Accessories

## Heaters



### CFH-2000 Series Heater

Description	Specifications	Options
<p>The MVP CFH-2110-AI &amp; CFH-2220-AI Heaters feature: lower flow rates, better control over temperature changes and an easy-maintenance design.</p> <ul style="list-style-type: none"> <li>• Chop Check Fluid Section</li> <li>• Better control over temperature changes</li> <li>• Easy maintenance design</li> <li>• Works for resin or gelcoat</li> </ul>	<p><b>Wattage:</b> 1,500  <b>Maximum Temp:</b> 135° F (57° C)  <b>Cycling Accuracy:</b> +/- 3° F (1.7° C)  <b>Fluid Pressure:</b> 2500 psi (172 bars)  <b>Fluid Passage:</b> 3/4" (1.9cm)  <b>Inlet:</b> 1/2" (1.27cm)  <b>Weight:</b> 50 lbs. (22.68 kg)  <b>Outlet:</b> 1/2" (1.27cm)</p>	<ul style="list-style-type: none"> <li>• 110 or 220 Volt Basic or Air Activated</li> </ul>



### CFH-4000 Resin Heater

Description	Specifications	Options
<p>The MVP CFH-4000-AI Heater features: higher flow rates, better control over temperature changes and an easy-maintenance design.</p> <ul style="list-style-type: none"> <li>• Chop Check Fluid Section</li> <li>• Higher flow rates</li> <li>• Better control over temperature changes</li> <li>• Easy-maintenance design</li> <li>• Works for resin or gelcoat</li> </ul>	<p><b>Wattage:</b> 3,000  <b>Voltage:</b> 220 volt  <b>Outputs:</b> 65° - 105° F (18° - 41° C) (at 231 cubic-in./min. volume)  <b>Maximum Temp:</b> 135° F (57° C)  <b>Cycling Accuracy:</b> +/- 3° F (1.7° C)  <b>Fluid Pressure:</b> 2500 psi (172 bars)  <b>High Limit Thermostat:</b> Adjustable BiMetal Contact  <b>Fluid Passage:</b> 0.787" dia. x 106" length (with fluid core static mixer inserts) (1.9 cm x 269 cm)  <b>Inlet:</b> 1/2" npt (1.3 cm)  <b>Heating Area:</b> 262"² (1690 cm²)  <b>Weight:</b> 70 lbs. (31.75 kg)  <b>Outlet:</b> 1/2" npt (1.3 cm)</p>	<ul style="list-style-type: none"> <li>• Basic or Air Activated</li> </ul>

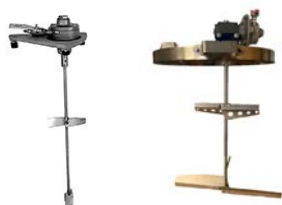
## Mixers and Agitators



### Pails

#### AGT-PM-500

Pail cover, 0.45 HP, angled direct drive, cage style blade. Within the cage design, the horizontal bottom blades push up, horizontal top blades push down, and the vertical side blades maintain mixing action within the unit. This design reduces splashing and the imparting of air into materials.



### Totes

50160-3	M-AGD-40-TT
<p>Plastic 6 in (15cm) Top Access or Stainless Steel 2 in/3 in (5 cm/8 cm) Top Fusible Vent</p> <p>Stabilized plate mount, 0.95 HP direct drive, 36 in (91 cm) shaft, two flipout blade sets. Two blade sets push material from the bottom up.</p>	<p>Stainless Steel 23 in/22 in (58 cm/56 cm) Top Access</p> <p>23 in (58 cm) access cover, 0.95 HP gear reduced 25:1 ratio, one EA 14 in (36 cm) &amp; 26 in (66 cm) fixed angled blade sets. The top blade set pushes materials down while the bottom blade set pushes materials up.</p>



## Open Top 30-Gallon Drums

### M-AGD-40-30-G

Drum cover, 0.95 HP, gear reduced 25:1 ratio, two 12 in (30 cm) fixed angled blade sets. Top blade set pushes material down while bottom blade set pushes material up.



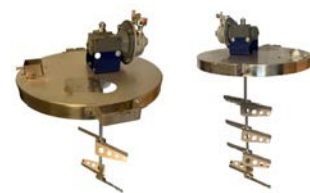
## Open or Closed Top 55-Gallon Drums with 3/4 in or 2 in (2cm or 5cm) Bungholes

### BHA-1000-S

Clamping mount, 0.95 HP, angled direct drive, 3/4 in (2 cm) access, 35 in (89 cm) shaft with 20 in (51 cm) auger style blade. Blade pulls materials from the bottom up.

### BHA-1000-L

Clamping mount, 0.95 HP, angled direct drive, 2 in (5 cm) access, 35 in (89 cm) shaft with 20 in (51 cm) auger style blade. Blade pulls materials from the bottom up.



## Open Top 55-Gallon Drums

### M-AGD-40

Drum cover, 0.95 HP, gear reduced 25:1 ratio, two 14 in (36 cm) fixed angled blade sets. Top blade set pushes materials down while bottom blade set pushes materials up.

### M-AGD-40-SS

Same as the M-AGD-40 set up with stainless steel shaft & blade sets. Top blade set pushes materials down while bottom blade set pushes materials up.

### M-AGD-40-ITW

Drum cover, 1.7 HP, gear reduced 25:1 ratio, four 14 in (36 cm) fixed angled blade sets. Top blade sets push materials down while bottom blade sets push materials up.

### M-AGD-50-ITW

Drum cover, 1.7 HP, gear reduced 5:1 ratio, four 14 in (36 cm) fixed angled blade sets. Top blade sets push materials down while bottom blade sets push materials up.



## Closed Top 55-Gallon Drums with 2 in (5cm) Bunghole

### 50160-1

Stabilized mount plate, 0.95 HP, direct drive, 30 in (76 cm) shaft, two flipout blades. Two blade sets push materials from the bottom up.

### 50000-1

Stabilized mount plate, 0.95 HP, direct drive, 30 in (76 cm) shaft, three auger style impellers. Top blade pulls materials down while two



## Agitators, No Mounting

### M-AGD-35

0.95 HP, gear reduced 25:1 ratio, two 14 in (36 cm) fixed angled blade sets. The top blade set pushes materials down while the bottom blade set pushes materials up.

### M-AGD-35-SS

Same as M-AGD-35 set up with stainless steel shaft & blade sets. The top blade set pushes materials down while the bottom blade set pushes materials up. bottom blades pull materials up.



## Agitator Lifts

### AL-1000

Stationary lift station, floor mount, Lid clamping frame, air cylinder, air control

### AL-1000-P

Portable AL-1000 set up with a wheel package



## Agitator Lift Packages

### M-AGD-AL

AL-1000 stationary lift with M-AGD-40 agitator

### M-AGD-AL-P

AL-1000-P portable lift with M-AGD-40

### M-AGD-AL-ITW

L-1000 stationary lift with M-AGD-40-ITW agitator

# Monitoring Systems



CB-6000



CB-8000



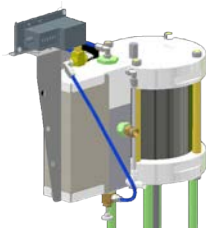
ECA-5000



CTS-9000



DSC-1000



PSC-1000

## Material Monitors

Designed to help operators achieve resin weight targets and monitor resin to glass ratio

Specifications	Options
<p><b>CB-6000</b></p> <p>Magnum Venus Products offers a series of digital electronic Materials Monitoring Systems which may be interfaced with any of the MVP pumping systems to indicate resin flow, chopper glass rate and gelcoat flow.</p> <p>This information may be read as a rate/minute in pounds or kilograms, and may also read as a total per part. A simple comparison of glass and resin will reveal critical glass-to-resin content and allow fine tuning of your system to exact specifications.</p>	<ul style="list-style-type: none"> <li>• Resin Totalizer (CB-6000-RT)</li> <li>• Glass Totalizer (CB-6000-GT)</li> <li>• Resin/Glass Totalizer (CB-6000-RGT)</li> </ul>
<p><b>CB-8000</b></p> <ul style="list-style-type: none"> <li>• Panel meter enclosure will be 20" wide x 16" tall x approximately 6" deep. UL listed, Blue color, fully labeled.</li> <li>• Scaling of the displays can be done in either pounds or gallons and decimal precision can be adjusted. User preference.</li> <li>• Panel will have 1 exterior button for Display 2 reset, 1 remote button for Display #1 reset, and an on/off switch.</li> <li>• Displays will be protected by glass/polycarbonate sheet with high visibility</li> </ul>	<ul style="list-style-type: none"> <li>• Resin Totalizer (CB-6000-RT)</li> <li>• Glass Totalizer (CB-6000-GT)</li> <li>• Resin/Glass Totalizer (CB-6000-RGT)</li> </ul>

## Catalyst Alarms

Specifications
<p><b>ECA-5000 - Catalyst Alarm</b></p> <p>The Catalyst Alarm system for meter/mix machinery will sound a clear, audible whistle if the catalyst pump fails to deliver a full portion of catalyst to the gun.</p> <ul style="list-style-type: none"> <li>• Sensors measure the presence of catalyst flow to avoid under-catalyzed or non-catalyzed parts</li> <li>• Gaps in catalyst flow may suggest seal wear and help avoid catalyst spills</li> <li>• Makes operator training simple and efficient</li> <li>• Microprocessor avoids false alarms</li> <li>• Works with signal from powerhead or gun</li> <li>• Standalone remote siren or optional visual alarm alerts operator</li> <li>• Does not require regular adjustment</li> <li>• Bright indicator lights show failure type making it easy for the operator to diagnose</li> <li>• Automatically arms when spraying starts and disarms when spraying stops</li> </ul>
<p><b>CTS-9000 - Cat Sense</b></p> <p>The Cat Sense is a unique, safe, pneumatically powered catalyst flow alarm system, with no electrical or batteries needed. It is designed for use on any MVP meter/mix system, and is quick and simple to install.</p> <ul style="list-style-type: none"> <li>• Thorough mix of materials</li> <li>• Pneumatically powered</li> <li>• No electrical or batteries</li> <li>• Quick and simple to install</li> </ul>

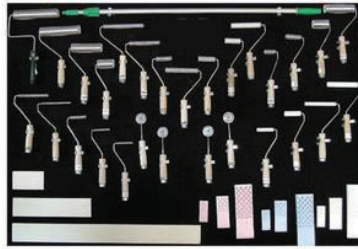
## Stroke Counters

Specifications
<p><b>DSC-1000 - Digital Stroke Counter</b></p> <p>Accurately and easily track material usage for the most precise bill of materials</p> <ul style="list-style-type: none"> <li>• Large, easy to read numbers</li> <li>• Operator reset button conveniently located on dispensing gun</li> <li>• Stroke count allows for consistent material application part to part</li> <li>• Optional preset count alarm alerts operator</li> </ul>
<p><b>PSC-1000 - Pneumatic Stroke Counter</b></p> <p>The Simply count powerhead strokes without electricity to standardize time and material use</p> <ul style="list-style-type: none"> <li>• Counts number of cycles or strokes the powerhead makes without electricity</li> <li>• Provides better understanding of the work your system does</li> <li>• Unique bracket allows the counter to rotate 360 degrees</li> <li>• Six-digit counter</li> </ul>

# Rollers



Resin Rollers		
Description	Specifications	Options
<p>This attachment can be used to dispense catalyzed resin directly into a mold without spraying or hand mixing.</p> <p>Normally, the Resin Roller Dispenser is used with an MVP Internal Mix Saturating Unit. Flushing of the tool is accomplished with the standard flush system for the gun.</p> <ul style="list-style-type: none"> <li>Unmatched Patriot™ Technology</li> <li>Plated steel roller support for strength and durability.</li> <li>Recessed head nut will not hang up and is easy to remove.</li> <li>Wooden handles are durable and are easy to clean.</li> <li>All handles accept extensions.</li> <li>Able to Attach to All MVP Internal Mix Guns</li> <li>Also Available on Patriot™ Pumping System</li> </ul>	<p><b>Output Capabilities:</b> Up to 20 lbs ( 9 kg ) per minute</p> <p><b>Part Numbers:</b></p> <ul style="list-style-type: none"> <li>72317-1: Resin Roller Assembly - 9" x 18"</li> <li>72317-3: Resin Roller Assembly - 9" x 36"</li> <li>72317-5: Resin Roller Assembly - 9" x 72"</li> </ul>	<ul style="list-style-type: none"> <li>Robotic Option with Auto 1:1 Pro Gun</li> <li>Booms</li> </ul>



Rollers		
Description	Specifications	Options
<ul style="list-style-type: none"> <li>Recessed head nut will not hang up and is easy to remove.</li> <li>Plated steel roller support for strength and durability.</li> <li>Wooden handles are durable and are easy to clean.</li> <li>All handles accept extensions.</li> </ul>	<p><b>1-Bubble Buster Roller:</b></p> <ul style="list-style-type: none"> <li>1" x 3"</li> <li>1" x 6"</li> </ul> <p><b>2-Paddle Roller:</b></p> <ul style="list-style-type: none"> <li>1" x 3"</li> <li>1" x 6"</li> <li>1" x 8"</li> </ul> <p><b>Aluminum 1" Diameter Rollers:</b></p> <ul style="list-style-type: none"> <li>1" x 3"</li> <li>1" x 6"</li> <li>1" x 8"</li> </ul> <p><b>Aluminum 2" Diameter Rollers:</b></p> <ul style="list-style-type: none"> <li>2" x 3"</li> <li>2" x 6"</li> <li>2" x 8"</li> <li>2" x 9"</li> </ul> <p><b>Delrin Rollers:</b></p> <ul style="list-style-type: none"> <li>3/4" x 3"</li> <li>3/4" x 6"</li> <li>1" x 3"</li> <li>1" x 6"</li> </ul> <p><b>Aluminum Diameter Rollers:</b></p> <ul style="list-style-type: none"> <li>3/4" x 6"</li> <li>1/2" x 6"</li> <li>3/4" x 3"</li> <li>1/2" x 3"</li> <li>3/8" x 3"</li> </ul> <p><b>Aluminum Corner Rollers (For compound-concave surfaces):</b></p> <ul style="list-style-type: none"> <li>1" x 2"</li> <li>1" x 3"</li> <li>2" x 3"</li> <li>2" x 6"</li> </ul>	<ul style="list-style-type: none"> <li>N/A</li> </ul>

# LRTM Accessories and Seals

## INJECTION



Turbo Autosprue  
High Volume  
(ASSY-0437)



Pneumatic PV  
Sensor  
(PPVS)



Turbo Autosprue:  
Innovator Pro (5855-INV2)  
Heavy Duty - 30 bar (5856)  
High Temperature - 30 bar (5856-HT)  
High Pressure/Double Acting - 110 Bar (5856-HIPRESS/DA)

## CATCH POTS



Vacuum Catchpot  
- Metal Lid for use  
with Universal  
Insert (2146-UNI)



Vacuum Catchpot -  
View Lid for use  
with Universal Insert  
(2146-VIEW-UNI)



Catchpot Bowl  
& Thread  
Adaptor  
(5686)

## PIPE CONNECTORS



Universal Injection  
Adapter - 10mm  
(6319)



10mm Vacuum Connection  
for Universal Insert  
(6318)



6mm Injection Adaptor  
for Universal Insert  
(6319-6mm)



Universal  
Blank Plug  
(6341)



PVS Universal  
Insert Adaptor  
(6317)



Air Ejector with  
Universal Insert  
(0580-UNI)



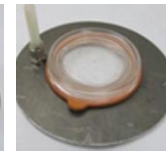
Geka Connection  
(6315)



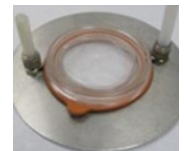
Universal Insert  
with Clip  
(6316)



Catchpot Bowl for  
Universal Insert  
(5686-UNI)



Catchpot Lid  
Complete with Seal  
(5685-VIEW)



Catchpot Lid  
- Inline  
(5686-INLINE)



Catchpot Lid  
Spare Seal  
(5954)



Catchpot Lid Spare  
Seal for Sight  
(6462)



Catchpot Lid Spare  
Sight Glass  
(5921)

## VACUUM CONNECTORS



Geka Connector  
3/4" npt -  
Female (3243)



Geka Connector  
3/4" npt - Male  
(3244)



Geka Main  
Seal  
(MISC-0829)

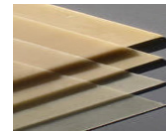


Brass Bulkhead  
Fitting 3/4"  
(3242)



Geka Connector  
3/4" Hose  
(3245)

## PART CALIBRATION



0.50 mm Sheet Wax (0007-BOX)  
1.0mm Sheet Wax (0008-BOX)  
1.5mm Sheet Wax (0009-BOX)  
2.0 mm Sheet Wax (0010-BOX)  
2.5 mm Sheet Wax (0011-BOX)  
3.0 mm Sheet Wax (0012-BOX)



Yellow Plasticine  
Wax Filler  
NONP-0144

## SEAL PROFILES



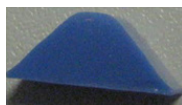
Reusable Wing  
Seal Channel  
Profile - 25M  
(3391)



Reusable  
Dynamic  
Seal Channel  
Profile - 25M  
(3340)



Reusable  
Mushroom  
Seal Channel  
Profile - 25M  
(0002)

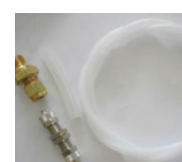


Standard Reusable  
Resin Flow Channel  
Profile - 25M (6438)



Small Reusable  
Resin Flow Channel  
Profile - 25M (4530)

## OPTIONS



Dynamic Seal  
Installation Kit  
(2056)



Neoprene Seal:  
Soft 12M x 25M (1062)  
Standard 25M (0979)



Latch  
Clamp  
(3370)

## MOLD SEALS



Mold Vacuum Wing  
Seal - 25M  
(1680-UK)



Mold Vacuum Wing  
Seal - 25M  
(5895)



Green Silicone  
Mushroom Seal  
- 25M (3202)



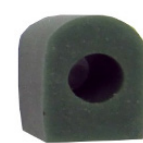
"V" Section  
Seal - 25M  
(6439)



Dynamic Silicone  
Seal - 25M  
(1114)



Dynamic Silicone  
Seal Heavy Duty  
- 25M (5857)



Dynamic Silicone  
Seal Semi Solid  
- 25M (5958)



Silicon Seal  
(6013)

# Flex Molding Process Accessories and Seals

## INJECTION



IVx3 3-Position  
Injection Valve  
(8010-INV2)



Pneumatic PV  
Sensor  
(PPVS-INF)



IVx3 Filter/Regulator -  
1 Feedline Control Module  
(8016)

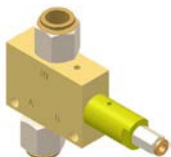


IVx3 Feedline Control Modules  
(8019 - 2 feedline control module)  
(8020 - 3 feedline control module)



IVx3 Service  
Module  
(8018)

## PIPE CONNECTORS



Automatic Vacuum  
Channel Valve  
(INV-VCV-1000)



Pipe Clamp  
Manual  
(IPC-1000)



Universal Injection  
Adapter - 10mm  
(6319)



Universal Injection  
Adapter - 16mm  
(ASSY-0448)



Universal Blank  
Plug  
(6341)

## INSERTS FOR PLASTIC BAGS



Infusion Film Adapter -  
Omega Feed Channel  
(IFA-1000-FLX)



Infusion Film Adapter -  
No Resin Feed Channel  
(IFA-2000-FLX)



Infusion Film Adapter for  
12mm Spiral Tube  
(IFA-3000-FLX)



Universal Insert for  
Silicone Bag Connector  
(FLX-SBC-UI)



Universal Insert  
with Clip  
(6316)

## RESIN CHANNEL & TECHNICAL CLOTH



Universal Insert PPVS,  
Vacuum & Locking Seal  
(FLX-UI-500)



Universal Insert  
Resin Feed  
Channel



Corrugated Channel  
- 25m bundle  
(FLX-CT-40MM)



Flex Cloth  
- 50m roll  
(FLX-CLOTH)



Stretchable  
Flex Cloth  
(FLX-CLOTH-A)

## MEMBRANE CLOSING SYSTEMS



Mold Groove Seal  
(FLX-GS-25M)



Small Locking  
Lip Seal  
(FLX-SLS)

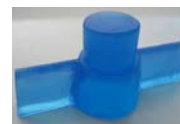


360° Small Double  
Locking Lip Seal  
for Membrane  
(FLX-SLS-360)



Silicone Suction Cup for  
Small Locking Lip seal  
(FLX-SSC)

## OPTIONS



Universal Insert -  
Groove Seal Locator  
(6410)



Grooved Band  
(Small - 7711)  
(Large 7712)



Groove  
Seal  
(7708)



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