

AVAILABLE OPTIONS

Temperature Control System

- Conditioning Units are available in a wide range of capacities for heating and cooling the chemical system to precise process temperatures.

Autofill System

- Automatically controls day tank liquid levels.
- Can operate from a variety of different feed pumps including bulk storage.

Double Wall Jacketed Raw Material Tanks

- Provide more precise temperature control.
- Available in several sizes

Tank Agitators

- Maintain uniform temperature and chemical composition.
- Variable speed setting improves process control.
- Prevents separation of the chemical components.
- Electro-Pneumatic tank agitators provide the operator with the option to drive the agitators with either an electric motor or pneumatic motor.

Power Assisted Pneumatic Boom System

- Air assisted boom provides automatic manipulation of the mix head with a vertical travel of 20" (51 cm) and a horizontal swivel of 90°.

Dual Mix Head Switching Station

- Provides an economical means of adding a second mix head to your production operation

Regenerative Air Dryer

- Provides dry air to -40° C to the Operating Tanks.

Remote Operation Pendant Control

- 25 ft. remote pendant allows convenient access to operational controls such as dispense, emergency shut-off, and shot time selection.

Color Dosing Unit

- Designed with the CDC pumping concept, Gusmer-Admiral's color dosing unit provides unlimited shot sizes to one or several mixing heads.
- The injection nozzles in the unique color system allows for rapid, precise color change between shots.

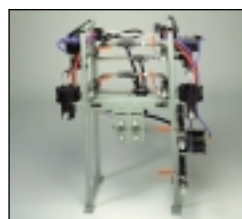
Multi-Station Ringline

- Permits the connection of several mixheads to a single metering unit.

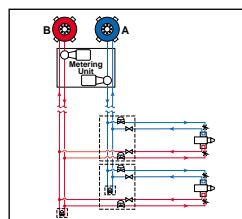
DeltaRim Series

TECHNICAL SPECIFICATIONS

U.S. Specifications at 60 Hz (Metric Specifications at 50 Hz)	DeltaRim 40	DeltaRim 80	DeltaRim 140
Max. Throughput-lbs/min (Kg/min)	40 (15)	80 (30)	140 (53)
Ratio Range, Variable	1:4 to 4:1	1:4 to 4:1	1:4 to 4:1
Power Required at 230V-amps	140	180	N/A
Power Required at 460V-amps	70	90	100
Working Pressure-PSI (bar)	3000 (207)	3000 (207)	3000 (207)
Floor Space-Sq. Ft. (Meters Sq.)	50 (5)	50 (5)	70 (7)
Approximate Dry Weight-lbs. (Kg.)	2300 (1043)	2300 (1043)	2800 (1270)
Plant Air Required	2-5 cfm @ 100 psig when using a 60 gallon tank reservoir and optional agitator.		



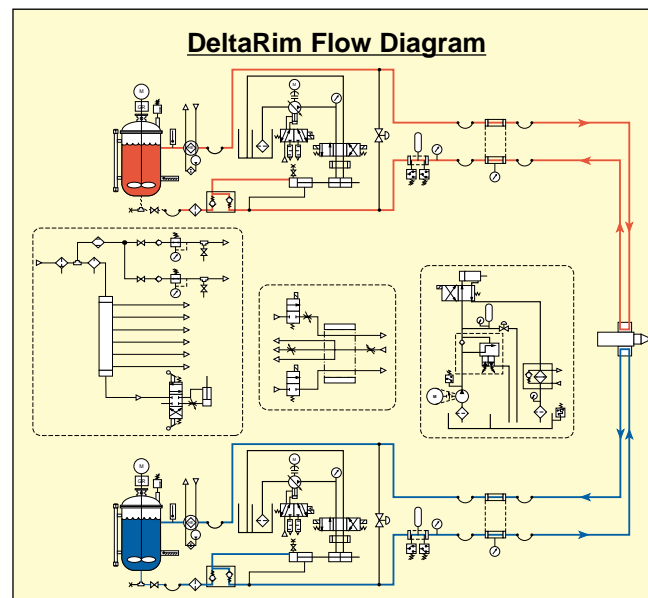
Dual Mixhead Switching Station



Multi-Station Ringline



Color Dosing Unit



The RimCell Series Metering Units are available for processing unfilled chemical systems.

CALL TODAY
TO ARRANGE A
DEMONSTRATION OR
CHEMICAL SYSTEM TRIAL
1-800-746-1330

See our website for complete information about all of our RIM equipment: www.gusmer-admiral.com



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DeltaRim Series

DISPENSES

FILLED AND

ABRASIVE

MATERIALS



Gusmer-Admiral, Inc.
Built to last.

WARNING: The equipment described herein must only be operated or serviced by properly trained individuals, thoroughly familiar with the operating instructions and limitations of the equipment.
NOTICE: All statements, information and data given herein are believed to be accurate and reliable but are presented without guarantee, warranty or responsibility of any kind expressed or implied. Statements or suggestions concerning possible use of GUSMER-ADMIRAL Equipment are made without representation or

warranty that any such use is free of patent infringement, and are not recommendations to infringe any patent. The user should not assume that all safety measures are indicated or that other measures may not be required. NOTE: All standard and service specifications identified on the GUSMER-ADMIRAL technical sales flyer are based on U.S. standards.



TURNKEY PRODUCTION LINES



HIGH PERFORMANCE MIXING HEADS



BULK STORAGE SYSTEMS

DeltaRim Series

The DeltaRim Metering Unit is specifically designed to process filled and abrasive materials.

The metering system incorporates a unique CDC (Continuous Displacement Cylinder) pump that accommodates filled polyol slurries containing calcium carbonate, aluminum oxide, barium sulfate, glass, mica, wollastonite, and many other materials used in the reinforced RIM and structural RIM manufacturing process.

The Continuous Delivery Cylinder piston pumps provide a **continuous** flow of material to the mixing head. This continuous flow, without pressure drop, allows for the production of very large parts with a virtually **unlimited** shot size.

The DeltaRim features a flexible design that can easily be configured to process two different polyol mixtures through two separate mixing heads, using only one DeltaRim metering unit.



CDC PUMP SYSTEM CONTINUOUS DELIVERY CYLINDER

The Continuous Delivery Cylinder metering accuracy is achieved through the design and manufacturing expertise of the reversible ball check system. A virtual instantaneous reverse in combination with the Admiral liquid tight metal to metal seal assures the metering accuracy within the strictest tolerances. Wet calibration results plotted on a standard regression chart have shown repeatability through-out the reverse cycle with an accuracy of 99.99%.

The DeltaRim CDC metering pump is a positive displacement, double acting, piston pump. The design is such that an equal volume of material is pumped to the mixing head on the fill and discharge strokes.

Dynamic seals of are at maximum effectiveness in one direction, this principle is utilized in the pump design. Pumps in general do not generate pressure, their function is to create flow. Pressure is a measurement, usually expressed in lbs. per square inch, of the restriction to flow.

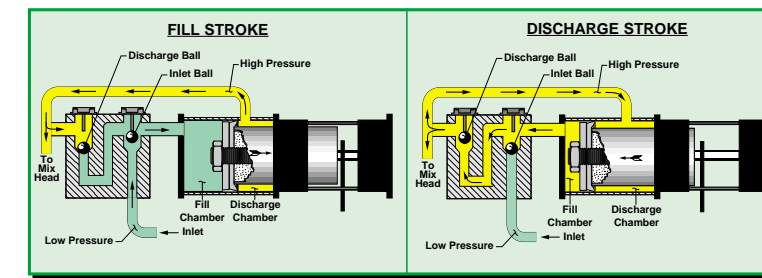
The above diagram shows the pump at the completion of the fill stroke. The piston volumetrically displaced three cubic inches of liquid to process against a high pressure generated by the hose(s) and the orifice in the mixing head. During the fill stroke this high pressure causes the discharge ball to close and the total material flow (shown in yellow) is discharged to the mixing head. The piston seal is effective on the fill stroke.

Simultaneously, with the discharge ball closing, the inlet ball valve is opened due to the pressure in the inlet line and the suction caused by the motion of the piston and a fixed volume of liquid (shown in green) into the pump.

In the instruction diagram the liquid dispensed on the fill stroke equals three cubic inches. At the completion of the fill stroke the piston reverses and the discharge stroke commences. High pressure is generated on the bottom side of the piston causing the discharge ball to open and the inlet ball to simultaneously close. The volume of liquid dispensed to the mixing head will be equal to the displacement of the rod. In the instruction diagram, the displacement is three cubic inches, hence, three cubic inches of liquid is dispensed to the mixing head. The effectiveness of the piston seal does not effect the amount of liquid metered.

In review, both the fill stroke and the discharge stroke dispense three cubic inches of liquid assuring the flow to the mixing head is constant as the piston reciprocates.

The diagram demonstrates the arrangement Gusmer-Admiral utilizes for the inlet and discharge balls. For efficient operation, ease of manufacturing, and maintenance the specially designed ball checks are integrated into a common holding block.



STANDARD FEATURES

Metering System

- Positive displacement, CDC, double acting piston pumps eliminate the need to calibrate and frequently check ratio.
- Equipped with mechanical and electrical low pressure and over pressure protection systems.

Programmable Logic Control System (PLC)

- User friendly touch screen data entry.
- Readout of throughput and ratio.
- Remote operation switch.
- 99 shot time memory.
- Can be interfaced with existing presses and production line control systems.



Flow Measuring System

- The Gusmer-Admiral flow measuring system provides accurate digital readout of flow while eliminating the mess and inconvenience of wet calibration.



Touch Screen Interface

Fixed Boom

- Supports mix head for easy access to molds and pouring targets.
- 8 ft. boom swings 90° with several preset height settings.

Shaft Seal Protection System

- All pump shafts are protected from chemical crystallization and foreign particles by an

integrated grease cup that continuously wipes and lubricates the pump shafts.

Low Pressure Recirculation

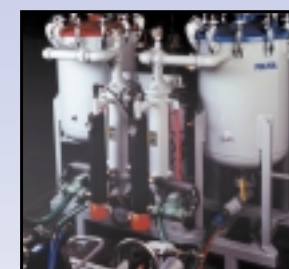
- Low Pressure loop reduces energy consumption of the machine and extends pump life by allowing the metering pumps to idle at reduced loading.

Raw Material Tanks

- 60 gallon (225 liter) ASME coded steel tanks constructed for operation at 100 psi (7 bar).
- Low level shut off automatically stops dispensing when chemicals fall below pre-set level.
- Tank liquid levels are easily monitored with an external tank visual level display system.
- Tube and shell heat exchangers are mounted in the return line to tank to provide temperature control with plant water or optional heating and

cooling systems. Includes an integral 7 kw heater with digital panel control.

- The tank stand provides modular positioning of tanks with open construction for easy maintenance access.
- Pressure relief safety system.
- Integrated dry air or optional nitrogen system provides moisture free blanket for tanks.



Raw Material Day Tanks



Continuous shaft lubrication.

Hydraulic Power Pack

- Provides controlled opening power to the mixing head(s).
- Opening speed can be varied.

Mixing Heads

The standard package for all Gusmer-Admiral RIM machines includes a high performance, hydraulically operated, mechanically self-cleaning mixing head.

Gusmer-Admiral offers a complete line of filler capable mixheads. They feature carbide sleeved bodies and carbide plated wear surfaces that can handle chemical mixtures containing extremely abrasive fillers and additives.

The Straight Style mixing head accommodates throughputs of up to 25 lbs. (55 kg.) per second when using a glass or wollastonite filled system. They can be directly mounted to RIM molds.

The L-style mixing head is carbide plated with a proprietary seal flush system and anti-sticking clean-out plunger. It is used in open pour situations.



Admiral L-style mixing head



Admiral Straight style mixing head