Revolutionizing the Industrial Dispense Industry

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Summary of Our Equipment

Dispenser Machines

**Multi-Formula, Multi-Ingredient Dispenser** - This dispenser is for complex formulations typical of Paint Formulation, Paint Tinting, Ink Formulation, Dyes, Stains, Varnishes, Chemical Compounding, Flavorings and Lab Formula creation. Dispensers support a wide range of ingredients, large amounts of formulas, and various feedstock options for the ingredient supply. Our **Volumetrix™** Dispenser can handle up to 60 ingredients with an unlimited amount of formulas. This dispenser includes a full function Graphic Interface with a Formula Editor and dispense database.

**Single-Formula, Multi-Ingredient Dispenser** - In some applications, the dispenser only needs to repeat the same formula continuously. While this type of dispenser can have many ingredients, a single formula usually requires no more than 10 ingredients. Common applications for this dispenser are Toll Blending and Chemical Batch Production. Our **Formula 1** dispenser can handle up to 10 ingredients and comes with a simple to use Operator Control panel.

**Single-Formula, Ratio (Proportioning)** - A common application is the requirement to Ratio (proportion) ingredients together, in real-time in the proper ratio. Applications typically involve a “catalyst” which is proportioned with a base ingredient. Adhesives for laminators in the flex pack industry or catalyzing paints are common uses. Our **RMix** dispenser can ratio a formula of up to 6 ingredients in real-time through a unique Active Mixer assembly.

**Filling Smaller Containers from Larger Product Holding Tanks** - This dispenser simply fills containers with liquid. Our **Filling Station** dispenser line is designed to handle the task with various automatic and semi-automatic systems. This system can handle from 1 to 10 liquid circuits and can dispense into quart, gallon, drum, and tote size containers.

Fluid Delivery Systems

**Recirculation, Pumping and Valve Control** - We provide Electric-Driven **Pump Train** systems for fluid recirculation and delivery, batching, and production applications. We also supply valves, manifolds, valve-control station consoles, scale and weight displacement encoder options, and interfaces for these systems. Various combinations of this equipment can produce fully automatic or semi-automatic batching operations.

Custom Industrial Dispensers

Custom Combinations of our Dispenser equipment and technologies can be combined and integrated with Robots, Conveyors, Lid, and Labeling equipment to meet any possible application.
Select the Dispenser Mode for Your Operation

Virtually everything manufactured today involves coating applications. Whether it be paint, adhesive, varnish, ink for labels and packages, or even dyes for your clothes or carpeting…..the skillful production and distribution of coatings is a common requirement in almost every manufacturing endeavor.

Generic Fluid Systems line of dispensers includes four standard dispensers as well as fluid delivery equipment and customized dispensers.

<table>
<thead>
<tr>
<th>Your Process</th>
<th>Number of Ingredients and Formulas</th>
<th>Typical Applications</th>
<th>Dispenser Mode</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multi-Formula, Multi-Ingredient</td>
<td>10 to 60 Ingredients Unlimited Formulas</td>
<td>Paint Formulation, Paint Tinting, Ink Formulation, Dyes, Stains, Varnishes, Chemical Compounding, and Flavorings</td>
<td>Volumetrix</td>
</tr>
<tr>
<td>Single Formula, Multi-Ingredient</td>
<td>4 to 10 Ingredients 1 to 3 Formulas</td>
<td>Chemical Compounding, Toll Blending, Paints, Coatings and Adhesives</td>
<td>Formula 1</td>
</tr>
<tr>
<td>Single Formula, Ratio (Proportioning)</td>
<td>2 to 6 Ingredients 1 to 3 Formulas</td>
<td>Lamination Adhesives, General Purpose Adhesives, Multi-component Paints, or any application which uses catalysts mixed with base resins</td>
<td>RMix</td>
</tr>
<tr>
<td>Filling Containers with product from larger holding or batching tanks</td>
<td>1 to 10 Ingredients</td>
<td>Automatic and Semi-Automatic dispensers designed to fill liquids from storage tanks into quart, gallon, pail, drum and tote size containers.</td>
<td>Filling Station</td>
</tr>
</tbody>
</table>

Fluid Delivery Systems

Recirculation and Fluid Supply | Up to 10 Fluids per System | Electric-driven systems for fluid delivery to production or batching applications. We also supply valves and valve-control panels, and scale and weight displacement encoder interfaces for these systems. | Pump Train |

Customized Industrial Dispensers

Custom Combinations of our dispenser equipment and technologies can be integrated with robots, conveyors, lidding and labeling equipment to meet any possible application.
## Dispenser Line Capability Comparison

<table>
<thead>
<tr>
<th>Machines</th>
<th>Volumetrix</th>
<th>Formula 1</th>
<th>RMix</th>
<th>Filling Station</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supports Aqueous or Solvent-Based Ingredients</td>
<td>Standard</td>
<td>Standard</td>
<td>Standard</td>
<td>Standard</td>
</tr>
<tr>
<td>Number of Ingredients</td>
<td>10 to 60</td>
<td>4 to 10</td>
<td>2 to 6</td>
<td>1 to 10</td>
</tr>
<tr>
<td>Number of Formulas</td>
<td>Unlimited</td>
<td>1 to 3</td>
<td>1 to 3</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Ingredient Feedstock Methods</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 or 6 Gallon Canister Supply Wings</td>
<td>Optional</td>
<td>Optional</td>
<td>Optional</td>
<td>NA</td>
</tr>
<tr>
<td>From Remote Mother Tank</td>
<td>Optional</td>
<td>Optional</td>
<td>Optional</td>
<td>Standard</td>
</tr>
<tr>
<td>Direct from Day Tank</td>
<td>Standard</td>
<td>Standard</td>
<td>Standard</td>
<td>Standard</td>
</tr>
<tr>
<td>Methods of Dispense</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gravimetric</td>
<td>Standard</td>
<td>Optional</td>
<td>Optional</td>
<td>Optional</td>
</tr>
<tr>
<td>Volumetric</td>
<td>Standard</td>
<td>Standard</td>
<td>Standard</td>
<td>Standard</td>
</tr>
<tr>
<td>Ratio</td>
<td>Optional</td>
<td>NA</td>
<td>Standard</td>
<td>NA</td>
</tr>
<tr>
<td>Priority</td>
<td>Standard</td>
<td>NA</td>
<td>NA</td>
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</tr>
<tr>
<td>Combination</td>
<td>Standard</td>
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<td>NA</td>
<td>NA</td>
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<tr>
<td>PLC-based Controls</td>
<td>Standard</td>
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<tr>
<td>PC-based Graphic Interface</td>
<td>Standard</td>
<td>Optional</td>
<td>Optional</td>
<td>Optional</td>
</tr>
<tr>
<td>Hardwired Operator Panel (No PC)</td>
<td>NA</td>
<td>Standard</td>
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<td>Standard</td>
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<tr>
<td>Full Feature Formula Editor</td>
<td>Standard</td>
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<td>Formula Teach Pendant</td>
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<td>SQL Dispense Database</td>
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<tr>
<td>Mechanical Agitators</td>
<td>Optional</td>
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<tr>
<td>Weight Displacement Encoder</td>
<td>Standard</td>
<td>Standard</td>
<td>Standard</td>
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<tr>
<td>Electric Driven Pumps</td>
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<td>100 Lb. Capacity Scale</td>
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<td>Optional</td>
<td>Optional</td>
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<tr>
<td>1000 Lb. Capacity Scale</td>
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<td>Optional</td>
<td>Optional</td>
<td>Optional</td>
</tr>
<tr>
<td>Multi-lingual Interface</td>
<td>Standard</td>
<td>Optional</td>
<td>NA</td>
<td>NA</td>
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<tr>
<td>Selectable Unit or Measure (Quart, Gallon, Liters, Pounds, Grams, or Kilograms)</td>
<td>Standard</td>
<td>Optional</td>
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<td>NA</td>
</tr>
</tbody>
</table>

NA - Not Available
About Us

Generic Fluid Systems is Revolutionizing the Industrial Dispense Industry

Our innovative industrial-strength dispense equipment increases productivity and accuracy while reducing costs. It’s that simple. And it’s proven. It is a game-changer for the dispense industry. Believe it!

Our systems dispense formulas and liquids into a multitude of container sizes for manufacturing or distribution. The systems are robust, reliable, fast, and accurate dispensers for industrial uses. Whether using solvent-based or aqueous solutions, or a wide range of viscosities, our equipment has been demonstrated to handle it.

Don’t buy another Boat Anchor

Most vendors of Industrial Formula Dispensers make grand claims of accuracy and speed on their sales pitch, but usually deliver reverse payback and compromised accuracy and function. This is a great example of “Over Promise then Under Deliver.” Unfortunately, this is pervasive in the dispense industry.

For the unsuspecting that have purchased these boat anchors, it becomes difficult to explain why:

- It takes longer for the machine to dispense then it was previously done manually;
- There are as many, if not more, “off spec” dispenses;
- Many viscous materials keep stalling the pumps; and
- Formulas which require tight accuracy still need to be made manually.

These nightmares are the reason many industrial formula batches are still laboriously mixed by hand today.

Our competitors:

- Use only a scale as measurement device,
- Dispense one ingredient at a time until complete, and
- Use pneumatic diaphragm pumps to deliver the fluid.

Unfortunately, a scale is never accurate when dispensing onto it; motive force from the pump affects the scale, causing it to read heavier.

This effect is even greater for viscous materials, due to the higher pressures produced pumping those liquids. These machines use a software algorithm to “guess” the correct weight during dispense. They stop the dispense short of the set point, allow the scale to settle to get the true weight, switch to a finer nozzle, and “guess” again while dispensing. This is labor intensive, time-consuming, and often inaccurate.
The Generic Fluid Systems’ Advantage

You do not have to “guess” during the dispense. Generic Fluid Systems uses a unique Weight Displacement Encoder during the dispense which is a highly accurate, real-time measurement system. When the dispense is complete, your batch compliance is automatically double-checked by a certified scale.

- **You get repeatable, smooth flow.** Our electric-driven, positive - displacement pumps preclude the stalling, surging, and noise of our competitors’ pneumatic-diaphragm pumps.

- **You receive support for all modes of dispense.** Our competitors typically dispense in “gravimetric” mode. Our systems support:
  
  o Gravimetric (one ingredient at a time on a scale)
  o Volumetric Simultaneous (all ingredients at the same time)
  o Ratio (proportioning) (all ingredients at the same time in the proper ratio through an “active” mixer)
  o Priority mode (which allows the ingredients to be dispensed in a certain order).

- **You get Industrial Strength equipment.** Our rugged, reliable systems dispense formulas and liquids into a multitude of container sizes for manufacturing or distribution use easy service and operation built-in. Our equipment is not for retail or point-of-sale applications.

- **You can run Unlimited Applications.** Using solvent-based or aqueous solutions, or a wide range of viscosities? Producing custom color ink for flex pack, paint for vehicles, dyes for fabrics? Formulating lube oils, chemical compounding, small-batch filling or adhesive blending for laminators? No problem, our equipment can handle it for you.

- **You can trial your materials and formulas at any time at our full-function Lab Units.** We can prove all of our claims.

- **No compromises. 100% Guaranteed!** You get all of your dispense requirements met (difficult as it may be to believe).

“The accuracy of the dispense mixed is heads and shoulders above our previous machine.”

Matt Stratton, Freightliner Manufacturing

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Dispense Solutions

This guide provides an overview of common dispenser technology issues and illustrates the many advantages and benefits of the Generic Fluid Systems line of dispensers.

With our equipment, here is what you gain:

- Fast, accurate, dependable dispense with our servo-style gear pump, high-resolution controls, proprietary-dispense valve, automatic calibration, and multi-mode, simultaneous dispense capability.
- Easy operation with our configurable point-and-click Graphical User Interface, Formula Editor, automatic calibration, bulk-feed capability, level tracking, and multi-lingual capability.
- Flexible production with our wide viscosity, multi-batch size, and multi-material capabilities, and with our X-proof C1/D1 design.
- A high level of material hygiene with our stainless steel design, recirculation system, conical-supply canisters, and leak-proof top.
- Easy maintenance with our compact, modular design that still has plenty of space to access all components, with sanitary clamp-style fittings, and with our maintenance warning system.

"Productivity has been increased by over 50% with repaints reduced by 16%." Mike Darmanin, DuPont


A scale used as a measuring device, especially with the gravimetric method, must have sufficient resolution to obtain the desired accuracy. Gravimetric machines are often advertised with 0.1 gram accuracy; however, most 55-gallon drum scales have a resolution of +/- 50 grams.

A scale is never truly accurate because the force from the pumping system is transmitted to the scale, as is the weight of the material, causing the scale to read "heavier."

Our competitors typically address this problem using a software algorithm in the controller to look ahead or "guess" the weight while dispensing. In addition, multi-step dispensing processes are used with a staged valve for full, medium and fine flow, as follows:

1) Full flow for the first 80%;
2) Stop and wait for the scale to "settle" to get the true weight;
3) Medium flow for the next 15%;
4) Stop and wait for the scale to “settle”;
5) Fine flow for the last 5%;
6) Stop and check the scale to pulse in that last amount.

That's six steps!

Our Solution

Generic Fluid Systems uses a unique Weight Displacement Encoder that is not immersed in the wet material. A single "reference" is provided for all pumps in the system, much like a scale. The Weight Displacement Encoder tracks the weight for each individual ingredient, even when they are all dispensed at the same time! The encoder can also be combined with optional scales for dual-reference checks for each batch. This high-accuracy, real-time device allows for flexible methods of dispense with all of our machines.

That's one step!
**Issue - Methods of Dispense: Gravimetric, Volumetric, Ratio and Priority.**

*Gravimetric* method dispenses one ingredient at a time onto a scale until all ingredients in the formula are added.

*Volumetric* method dispenses all ingredients at the same time, which is much faster dispensing than a gravimetric machine.

*Ratio or proportioning* dispenses are common when a catalyst is involved in the formula, such as lamination adhesives and multi-component paints. With this method, formulas do not require stirring or agitation after being dispensed.

*Priority Mode* dispenses are useful when bases or inert portions of the formula are dispensed first and then checked for weight compliance, followed by the addition and weight-compliance check of active ingredients.

**Our Solution**

Our equipment line is capable of all methods of dispense: Gravimetric, Volumetric, Ratio, Priority and combinations of the above.

**Issue - Accurate Dispensing, Pumping the Liquid.**

Fluid delivery must be smooth and repeatable, without pulsation for any system to be consistently accurate. Pneumatic-diaphragm pumps, which are typically used with gravimetric machines, produce pulsations with each pump stroke, so design and installation of equipment such as pulse dampeners and back-pressure regulators are often needed. This can be further aggravated when a wide variety of material viscosities are pumped, since each material will have unique pressure and surge characteristics.

**Our Solution**

Generic Fluid Systems’ Volumetric and Ratio machines typically use electric motor-driven positive-displacement pumps that produce smooth, repeatable fluid delivery. Our Pump Drive Train system uses a single motor / gearbox coupled with a Weight Displacement Encoder to drive multiple pumps. This single motor and encoder combination provides the most reliable, repeatable, and accurate fluid delivery system for all these types of applications.

**Issue - Safe Dispensing in Hazardous (Explosive and Flammable) Environments.**

Many solvent-based materials require that dispenser equipment meet National Electric Code compliance for Class 1/Division 1 (explosive) atmospheres. Many vendors purge the enclosures of their water-based equipment to achieve compliance; however, purged enclosures are a maintenance nightmare since all power must be off when the enclosure is opened.

**Our Solution**

Based on our vast experience designing for solvent compatibility and hazardous environments, our equipment uses explosion-proof or intrinsically-safe electronics and does not require purged enclosures.
**Issue - Effective Dispensing. Feed Stock Options.**

Most vendors do not provide options for ingredient feed methods to your dispenser, typically relying on the customer to supply 55-gallon drums to each dispense pump.

**Our Solution**

Generic Fluid Systems’ line of dispensers features multiple feed stock options:

- Feed direct from 55-gallon drum.
- Feed from remote recirculation mother tote pumping systems using our Bulk Tap option.
- Feed from internal, canister wings supplied by Generic Fluid Systems, which contain various combinations of three or six gallon canisters. This allows smaller amounts to be loaded into the dispenser, typically from one or five gallon cans.
- Gravity Feed from Day Tank/Tote combinations.

**Issue - Effective Dispensing. Dispense Batch Sizes.**

Dispenser equipment typically comes configured to output one batch size, for example, 55-gallon drums. Need something smaller for production? Tough, hand mix it.

**Our Solution**

Our dispensers can output into container sizes ranging from a pint to large chemical totes. The dispensers can output in US gallons, US Quarts, Liters, Pounds, Grams, or Kilograms.

**Issue - Fast Dispensing. Need for Speed.**

Does your process have time (and thus money) to waste? Obviously, the faster one attempts to dispense a formula, the more challenging the accuracy component becomes. Gravimetric and volumetric dispenser machines address speed of dispense in different ways. Since a volumetric machine dispenses all ingredients at the same time, it is inherently much faster than the gravimetric method. This advantage becomes even larger in formulations that have many ingredients.

**Our Solution**

Our dispensers can be switched on the fly from gravimetric to volumetric dispense modes. So no matter how much time you have to waste (or not waste), we can accommodate your process.

**Issue - Effective Dispensing. Ease of Operation.**

Our competitors’ dispenser equipment often requires setting many calibration and dispense factors in a software interface to handle various viscosities, pump rates, container sizes, valve anticipator settings, etc.

**Our Solution**

Generic Fluid Systems dispensers are “one button” fully automatic. All factors are automatically set for you by the controller.
**Issue - Effective Dispensing, Serviceability.**

Most vendors cram all the components into the smallest spaces and provide electrical drawings, BOMs and user manuals which are at best poorly detailed or at the worst non-existent.

**Our Solution**

We design equipment with easy access to components and utilize common industrial standard fittings, tubing, and simple to understand mechanicals.

Generic Fluid Systems provides fully detailed electrical, pneumatic, and component assembly drawings as well as thorough user manuals and troubleshooting guides. In addition, we provide parts and onsite service for our equipment.
**Volumetrix™**
Multi-Ingredient, Multi-Formula Industrial Dispenser

40 Ingredient Volumetrix

**Revolutionizing the Industrial Dispense Industry**

- For complex formulations which are typical of Paints, Paint Tinting, Inks, Dyes, Stains, Varnishes, Chemical Compounding, Flavorings and Lab Formula creation.
- These applications require a dispenser to support:
  - A wide range of ingredients.
  - Large amounts of formulas.
  - Various feedstock options for the ingredient supply.
- Dispenser includes a full-function Graphic Interface with a Formula Editor and dispense database.
- **Volumetrix** Dispenser can handle up to 60 ingredients with an unlimited amount of formulas.
The Standard of Accurate Speed
Some dispensers are accurate and some dispense large volumes quickly. Speed, though, usually compromises accuracy. Not so with the Volumetrix, which competes with all other equipment in terms of speed but also greatly exceeds their accuracy. This speed with accuracy performance is revolutionizing the dispense industry.

Blend On Demand
If you run high production with many formulas, the Volumetrix can save you time and money by dispensing the formula needed, quickly and accurately, on a just-in-time basis.

Any Materials
Whether your blend components are aggressive solvents, aqueous solutions, highly viscous materials, or any other challenging media…the Volumetrix can handle them.

Any Size Batch
If you need a few ounces in a small container, 50 gallons in a drum, or 300 gallons in a tote….no problem for the Volumetrix.

Multi-Mode Dispense Capabilities
The Volumetrix can run batches in Volumetric simultaneous dispense (all ingredients dispensed at the same time), Gravimetric mode (ingredients dispensed one at a time), and Priority mode (dispensing a material in order of its “priority” setting in a batch). The Volumetrix also contains a Ratio (proportioning) mode in which all materials are dispensed simultaneously in the proper ratio.

Industrial Strength
We provide dispense systems for distribution. This is not retail or point-of-sale equipment; these are robust, reliable, fast, and accurate dispensers for industrial uses. Whether you process solvent-based or aqueous solutions, or a wide range of viscosities, our equipment can handle it.

Clean
All structural and surface materials are stainless steel. The wing tops are perimeter welded, leak-proof stainless steel design for easy clean up of spills and the prevention of cross contamination of materials.

Recirculation and Agitation
Automated, configurable fluid recirculation keeps materials “fresh” and prevents solids from settling. Optional mechanical agitation is available for supplied canisters.

Formula Editor and Import Utility
Complete Formula and Material Component Editor included with database. The Volumetrix can also directly link with corporate production servers for batching and reporting to create a paperless system.

Historical
Volumetrix software logs all pertinent data. Batch reports, material usage reports, and even VOC reports are standard.

Smart
The Volumetrix software package does all the hard work under the hood, with features such as automatic calibration and automatic level tracking with a “point-and-click” multi-lingual interface for the operator.
Ease of Use and Maintenance
The Volumetrix was designed with ease of use for Operators with a simple "point-and-click" dispense method. The Graphics Interface contains automatic level tracking screens as well as automatic calibration. The Volumetrix is configurable via software screens to handle a wide variety of customer requirements. The machine requires typically no preventative maintenance; however, spacious design and easy off, tool-free covers are standard.

Main Dispense Operation Screen

Minimum Floor Space
Considering the large volume and speed that the Volumetrix can dispense, its’ 500 square feet minimum floor space (for a typical 40 circuit unit), makes the greatest use of your floor space compared to competitors’ machines.
Specifications
- Dispense size range: 1/10 Quart to 300 Gallons
- Dispense speed: 1 gallon (typical formula) - 20 seconds
- Dispense repeatable minimum shot size: 1/10 gram

Fluid Requirements
- Viscosity range for supply materials: 0 cp - 7,000 cp
- Materials supported: Solvent-borne or aqueous

Machine Design Specs
- Supply of materials (internal): 3 gallon or 6 gallon canisters
- Supply of materials (external): unlimited via Remote Bulk Supply
- Fluid circuit capacity: 1 to 60 circuits (can be configured with 128)
- Operating environment: from unclassified up to Class 1/Division 1
- Machine composition materials: Stainless Steel
- Footprint (40 circuit machine): approximately 500 sq ft
- Weight (40 circuit machine empty): approximately 5,200 lb

Utility Specs
- Electric: 480 - 560 V 3phase
- Pneumatic: 120 psi @ 2 cfm

Time spent on color-match issues has gone from “60% with the old machine to [approximately] 5% percent with Volumetrix. Increased productivity is due in part to color accuracy problems that are a fraction of what was encountered with the [mix] system that preceded the Volumetrix system.” Matt Stratton, Freightliner Manufacturing
Standard Features
- PLC-based industrial controls platform. Robust and reliable.
- Microsoft SQL server-based data collection and acquisition.
- All stainless-steel construction.
- All covers removable without tools; stainless steel appliance-style sheet metal cover panels.
- Integrated laboratory-grade certified scale.
- Designed with easy access and plenty of room for maintenance.
- Dispense head opening can accommodate cans as small as one quart.
- Proprietary high-speed, bubble-tight dispense valves.
- Class 1/Division 1. No purged components.

Options
- Bulk or remote feed systems direct to Volumetrix.
- Canister wing assemblies containing 3- or 6-gallon ingredient storage.
- Active Mixer assembly with cip nozzle (for Ratio Dispense Method).
- Integrated secondary Floor Scale for certification of drum based dispenses.
- Conveyors shuttle can shakers.
- Direct paperless tie-ins to production databases.
- Dispense label printer.
- Service contracts.
- Robotic-based handling systems.

Applications
- Paint manufacturing or tinting.
- Ink manufacturing or tinting.
- Textile dyes manufacturing or tinting.
- Adhesive manufacturing.
- Wood stains and varnishes.
- Beverage blending or composition.
- Chemical blending and custom formulation.
- Liquid vitamins and food products.
Formula 1
Multi-Ingredient, Single-Formula Dispenser

Revolutionizing the Industrial Dispense Industry

- Dispenser continuously repeats the same formula.
- This dispenser can have many ingredients, however, a single formula usually requires no more than 10 ingredients.
- Can handle up to 10 ingredients and comes with a simple-to-use Operator-Control panel.
- Common applications: Toll Blending and Chemical Batch Production.
The Standard of Accurate Speed
Some dispensers are accurate and some dispense large volumes quickly. Speed, though, usually compromises accuracy. Not so with the Formula 1, which competes with all other equipment in terms of speed, but also greatly exceeds their accuracy. This speed with accuracy performance is revolutionizing the dispense industry.

Blend On Demand
The Formula 1 can save you time and money by dispensing the formula needed, quickly and accurately, on a just-in-time basis.

Any Materials
Whether your blend components are aggressive solvents, aqueous solutions, highly viscous materials or any other challenging media...the Formula 1 can handle them.

Any Size Batch
If you need a few ounces in a small container or 50 gallons in a drum, or 300 gallons in a tote....no problem for the Formula 1.

Multi-Mode Dispense Capabilities
The Formula 1 can run batches in Volumetric simultaneous dispense (all ingredients dispensed at the same time), Gravimetric mode (ingredients dispensed one at a time), and Priority mode (dispensing a material in order of its “priority” setting in a batch). The Formula 1 can also Ratio up to 10 ingredients simultaneously.

Industrial Strength
We provide dispense systems for distribution. This is not retail or point-of-sale equipment; these are robust, reliable, fast, and accurate dispensers for industrial uses. Whether you process solvent-based or aqueous solutions, or a wide range of viscosities, our equipment can handle it.

Clean
All structural and surface materials are stainless steel. The wing tops are perimeter welded, leak-proof stainless steel design for easy clean up of spills and the prevention of cross contamination of materials.

Recirculation and Agitation
Automated, configurable fluid recirculation keeps materials “fresh” and prevents solids from settling. Optional mechanical agitation is available for supplied canisters.

Minimum Floor Space
Considering the large volume and speed that the Formula 1 can dispense, its 200-square-foot minimum floor space (for a typical eight-circuit unit) optimizes your floor space usage compared to competitors’ machines.

Ease of Use
The Formula 1 does not require a PC. A simple Operator Panel controls all manual and automatic functions of the dispenser.
Operator Panel (8 Ingredient Dispenser)

Specifications
Dispense size range ......................................5 Switch selectable container sizes
Dispense speed: 1 gallon (typical formula) .............................................20 seconds
Dispense repeatable minimum shot size ...........................................1/10 gram

Fluid Requirements
Viscosity range for supply materials.................................0 cp - 7,000 cp
Materials supported ...........................................................solvent borne or aqueous

Machine Design Specs
Supply of materials (internal) .......................3 gallon or 6 gallon canisters
Supply of materials (external) .........................unlimited via Remote Bulk Supply
Fluid circuit capacity ..........................................................2 to 10 circuits
Operating environment .........................from unclassified up to Class 1/ Division 1
Machine composition materials .................................Stainless Steel
Footprint (8 circuit machine) ............................................approximately 200 sq ft
Weight (8 circuit machine empty) .........................approximately 1850 lb

Utility Specs
Electric.................................................................480 - 560 V 3phase
Pneumatic..........................................................120 psi @ 2 cfm
Standard Features

- PLC-based industrial controls platform. Robust and reliable.
- Hardwired Operator Control Panel.
- All stainless steel construction. No PC needed.
- All covers removable without tools; stainless steel appliance-style sheet metal cover panels.
- Integrated laboratory-grade certified scale.
- Designed with easy access and plenty of room for maintenance.
- Dispense head opening can accommodate cans as small as one quart.
- Proprietary high speed, bubble-tight dispense valves.
- Class 1/Division 1. No purged components.

Options

- Bulk or remote feed systems direct to Formula 1.
- Canister wing assemblies containing 3- or 6-gallon ingredient storage.
- Active Mixer assembly with cip nozzle (for Ratio Dispense Method).
- Integrated secondary floor scale for certification of drum-based dispenses.
- Conveyors shuttle can shakers.
- Optional data logging to external dispense database.
- Dispense label printer.
- Service contracts.
- Robotic-based handling systems.
Applications

- Chemical blending and custom formulation.
- Toll blending.
- Paint tinting.
- Ink formulation and tinting.
- Textile dyes manufacturing or tinting.
- Adhesive manufacturing.
- Wood stains and varnishes.
- Beverage blending or composition.
- Chemical blending and custom formulation.
- Liquid vitamins and food products.
RMix
Single Formula, Ratio Dispenser

Revolutionizing the Industrial Dispense Industry

✓ Ratio (proportion) ingredients together, in real-time and in the proper ratio.
✓ Applications typically involve a “catalyst” which is proportioned with a base ingredient.
✓ Can create real-time ratio of a formula of up to four ingredients through a unique Active Mixer assembly.
✓ Applications include blending adhesives for laminators in the flex pack industry and catalyzing paint.
The Standard of Accurate Speed
Some dispensers are accurate and some dispense large volumes quickly. Speed, though, usually compromises accuracy. Not so with the RMix, which competes with all other equipment in terms of speed but also greatly exceeds their accuracy. This speed with accuracy performance is revolutionizing the dispense industry.

Blend On Demand
RMix can save you time and money by dispensing the formula needed, quickly and accurately on a just-in-time basis.

Any Materials
Whether your blend components are aggressive solvents, aqueous solutions, highly viscous materials, or any other challenging media...the RMix can handle them.

Any Size Batch
If you need a few ounces in a small container or 50 gallons in a drum, or 300 gallons in a tote...no problem for the RMix.

Multi-Mode Dispense Capabilities
The mission of the RMix is to Ratio up to four ingredients simultaneously. The RMix can run batches in Volumetric simultaneous dispense mode (all ingredients dispensed at the same time) and Gravimetric mode (ingredients dispensed one at a time).

Industrial Strength
We provide dispense systems for distribution. This is not retail or point-of-sale equipment; these are robust, reliable, fast, and accurate dispensers for industrial uses. Whether you process solvent-based or aqueous solutions, or a wide range of viscosities, our equipment can handle it.

Clean
All structural and surface materials are stainless steel. The wing tops are perimeter welded, leak-proof stainless steel design for easy clean up of spills and the prevention of cross contamination of materials.

Recirculation and Agitation
Automated, configurable fluid recirculation keeps materials “fresh” and prevents solids from settling. Optional mechanical agitation is available for supplied canisters.

Minimum Floor Space
Considering the large volume and speed the RMix can dispense, its 200-square-feet minimum floor space (for a typical three-circuit unit) optimizes your floor space usage compared to competitors’ machines.

Ease of Use
The RMix does not require a PC. A simple Operator Panel controls all manual and automatic functions of the dispenser.
Operator Panel (Three-Ingredient Dispenser)

Pump Train Assembly
Specifications
Dispense size range..................................4-Switch selectable container sizes
Dispense speed: 1 gallon (typical formula)................................20 seconds
Dispense repeatable minimum shot size................................1/10 gram

Fluid Requirements
Viscosity range for supply materials ..........................0 cp - 7,000 cp
Materials supported.....................................solvent borne or aqueous

Machine Design Specs
Supply of materials (internal)..............................3 gallon or 6 gallon canisters
Supply of materials (external) ..........................unlimited via Remote Bulk Supply
Fluid circuit capacity ......................................2 to 4 circuits
Operating environment ..................from unclassified up to Class 1/ Division 1
Machine composition materials................................Stainless Steel
Footprint (4-circuit machine).............................approximately 200 sq ft
Weight (4-circuit machine empty) ......................approximately 1400 lb

Utility Specs
Electric..................................................480 - 560 V 3phase
Pneumatic...............................................120 psi @ 2 cfm
Standard Features
- PLC-based industrial controls platform. Robust and reliable.
- Active Mixer Assembly with cip nozzle.
- Hardwired Operator Control Panel.
- All stainless steel construction.
- No PC needed.
- All covers removable without tools; stainless steel appliance-style sheet metal cover panels.
- Integrated laboratory-grade certified scale.
- Designed with easy access and plenty of room for maintenance.
- Dispense head opening can accommodate cans as small as one quart.
- Proprietary high speed, bubble-tight dispense valves.
- Class 1/Division 1. No purged components.

Options
- Bulk or remote feed systems direct to RMix.
- Canister wing assemblies containing 3- or 6-gallon ingredient storage.
- Integrated secondary floor scale for certification of drum based dispenses.
- Conveyors shuttle can shakers.
- Optional data logging to external dispense database.
- Dispense label printer.
- Service contracts.
- Robotic-based handling systems.

Applications
- Chemical blending and custom formulation.
- Lamination adhesive batching.
- Blending resin and catalyst mixtures.
FILLING STATION
Fill Small Containers from Large Holding Tanks

Revolutionizing the Industrial Dispense Industry

- Designed to simply fill containers with liquid.
- Applies various automatic and semi-automatic systems to handle from one to 10 liquid circuits.
- Can dispense into four different container sizes.
The Standard of Accurate Speed
Some dispensers are accurate and some dispense large volumes quickly. Speed, though, usually compromises accuracy. Not so with the Filling Station system, which competes with all other equipment in terms of speed but also greatly exceeds their accuracy. This speed with accuracy performance is revolutionizing the dispense industry.

Batch on Demand
The Filling Station system fills batches from large product holding tanks into smaller containers. The design includes Pump Trains for recirculation and dispensing, valve and dispense nozzle assemblies, and an integrated Operator Control Panel.

Any Materials
Whether your batch materials are aggressive solvents, aqueous solutions, highly viscous materials, or any other challenging media…Filling Station can handle them.

Any Size Batch
If you need a pint, quart in a small container, 50 gallons in a drum, or 300 gallons in a tote…no problem for Filling Station.

Simply Reliable
The Filling Station system requires no computer, no parameter settings, and no software. The simplicity of this system equates to ease of operation. The reliable industrial PLC-based electronics make it an industrial workhorse.

Industrial Strength
We provide dispense systems for distribution. This is not retail or point-of-sale equipment; these are robust, reliable, fast, and accurate dispensers for industrial uses. Whether you process solvent-based or aqueous solutions, or a wide range of viscosities, our equipment can handle it.

Minimum Floor Space
Considering the large volume and speed the Filling Station can dispense, its 120-square-foot minimum floor space (for a typical four-circuit unit) optimizes your floor space usage compared to competitors’ machines.

Ease of Use
The Filling Station does not require a PC. A simple Operator Panel controls all Manual and Automatic functions of the dispenser.
Operator Control Panel

Pump Drive Train (10 circuits)
Specifications

Dispense size range ...........................................4 switch selectable container sizes
Dispense speed: 1 gallon (typical formula) ..................................20 seconds
Dispense repeatable minimum shot size ..................................1/10 gram

Fluid Requirements

Viscosity range for supply materials ...........................................0 cp - 7,000 cp
Materials supported .................................................................solvent borne or aqueous

Machine Design Specs

Supply of materials (internal) ...........................................3 gallon or 6 gallon canisters
Supply of material (external) ...........................................unlimited via Remote Bulk Supply
Fluid circuit capacity .................................................................1 to 10 circuits
Operating environment ..........................................................from unclassified up to Class 1/ Division 1
Machine composition materials ................................................Stainless Steel
Footprint (10 circuit machine) ..................................................approximately 120 sq ft
Weight (10 circuit machine empty) ...........................................approximately 1000 lb

Utility Specs

Electric .................................................................480 - 560 V 3phase
Pneumatic .................................................................120 psi @ 2 cfm
Standard Features
- PLC-based industrial controls platform. Robust and reliable.
- Hardwired Operator Control Panel.
- All stainless steel construction. No PC needed.
- All covers removable without tools; stainless steel appliance-style sheet metal cover panels.
- Integrated laboratory-grade certified scale.
- Designed with easy access and plenty of room for maintenance.
- Dispense head opening can accommodate cans as small as one quart.
- Proprietary high speed, bubble-tight dispense valves.
- Class 1/Division 1. No purged components.

Options
- Bulk or remote feed systems direct to Filling Station.
- Canister wing assemblies containing 3- or 6-gallon ingredient storage.
- Integrated secondary floor scale for certification of drum based dispensers.
- Conveyors shuttle can shakers.
- Optional Data logging to external Dispense Database.
- Dispense label printer.
- Service contracts.

Applications
- Chemical batching.
- Filling and distribution of liquid batches.
Fluid Delivery Systems
Components to Create Semi-Automatic Systems

Each of the four components comprising our fully automatic Dispenser Line can be installed separately to bring various levels of semi-automation to your fluid delivery needs:

- **Pump Drive Train Assemblies** - which pump the fluids
- **Canister Wing Assemblies** – which store the fluids
- **Dispense Valve Racks** – which control the fluids
- **Dispense Nozzle Stations** – which bring all the fluids to the batch station
Pump Drive Train Assemblies

Pump Drive Trains provide smooth-pulse, free-flow of fluids. Materials that are supplied in bulk totes or drums can be fed directly to our Pump Drive Trains. The units come complete with electric motor, gearbox, and pump-bearing mounts and are available in various sizes.

Standard Features

- Pumps mount directly to unique bearing block assemblies
- Pump sizes from 0.1 gallons per minute (gpm) to 5 gpm
- Can be mounted in the base of our **Canister Wing Assembly** or on a standalone frame
- Drive motor provides two dispense speeds
- Stainless Steel drip pans slide into the bottom of the frame
- PLC based controller for system included
- Operator control panel included
- Class 1/Division 1 hazardous area compatible; does not require purging

Canister Wing Assemblies

These ingredient wings contain 3- or 6-gallon conical bottom canisters to hold ingredients. They are typically combined with our **Pump Train** systems which mount to the bottom frame of the wing. This method of ingredient supply is convenient when materials are stocked in one-gallon cans or five-gallon pails.

Standard Features

- Stainless Steel top with completely welded rings to hold canisters
- Stainless Steel drip pans slide into the bottom of the frame
- Stainless Steel appliance-style covers with a lift off design (no tools required)
- Leak proof design
- Will accept 3- gallon or 6-gallon canisters (canisters are included)
- Canisters will feed directly to pump suction and a return (recirculation) tap
- Tube and hosing hangers included
- Pump train with motor and pumps included
- PLC based controller for system included
- Operator control panel included
- Class 1/Division 1 hazardous area compatible; does not require purging
Dispense Valve Racks

Dispense Valve Racks contain mounted high-speed, accurate, bubble-tight, three-way diverter valves. The racks also contain pneumatic pilot manifolds for special, high-speed pneumatic operators. All wet parts of the valves are made of Teflon or Stainless Steel inert materials. These valve racks can be mounted separately or into one of our Dispense Nozzle Stations.

Standard Features

- Two valve sizes available
- Stainless Steel or Teflon construction
- High CV flow factors
- Three-way diverter style; path flow back to container or when actuated, to a dispense nozzle
- Valves, pilots, and manifold come fully assembled in the rack enclosure
- PLC based controller for system included
- Operator control panel included
- Class 1/Division 1 hazardous area compatible; does not require purging

Dispense Nozzle Stations

Dispense Nozzle Stations bring all fluids to a single point of dispense. Typically, this station has either a floor scale for drums or totes, or a smaller scale for five gallon or smaller batches. Our Dispense Valve Racks can mount directly into this enclosure. A multi-ported dispense head brings all of the fluids to a circumference as small as a pint container opening.

Standard Features

- Can handle up to 60 fluids
- Stainless Steel construction
- Stainless Steel appliance style tool-free covers
- Direct mounting of Dispense Valve Racks
Build Your Own Machine

To obtain a cost estimate for a machine, build your own machine by going to our web site at www.genericfluidsystems.com, or complete the form below and fax to (419) 843-1420. We will contact you promptly.

Name________________________________________
Company_____________________________________
Telephone_____________________________________
Email________________________________________

Write a Brief Description of Your Application

Select Basic dispenser Style for your Application

Multi-Formula, Multi-Ingredient Dispenser - This dispenser is for complex formulations typical of Paint Formulation, Paint Tinting, Ink Formulation, Dyes, Stains, Varnishes, Chemical Compounding, Flavorings and Lab Formula creation. Dispensers support a wide range of ingredients, large amounts of formulas, and various feedstock options for the ingredient supply. Our Volumetrix™ Dispenser can handle up to 60 ingredients with an unlimited amount of formulas. This dispenser includes a full function Graphic Interface with a Formula Editor and dispense database.

Single-Formula, Multi-Ingredient Dispenser - In some applications, the dispenser only needs to repeat the same formula continuously. While this type of dispenser can have many ingredients, a single formula usually requires no more than 10 ingredients. Common applications for this dispenser are Toll Blending and Chemical Batch Production. Our Formula 1 dispenser can handle up to 10 ingredients and comes with a simple to use Operator Control panel.

Single-Formula, Ratio (Proportioning) - A common application is the requirement to Ratio (proportion) ingredients together, in real-time in the proper ratio. Applications typically involve a “catalyst” which is proportioned with a base ingredient. Adhesives for laminators in the flex pack industry or catalyzing paints are common uses. Our RMix dispenser can ratio a formula of up to 6 ingredients in real-time through a unique Active Mixer assembly.

Filling Smaller Containers from Larger Product Holding Tanks - This dispenser simply fills containers with liquid. Our Filling Station dispenser line is designed to handle the task with various automatic and semi-automatic systems. This system can handle from 1 to 10 liquid circuits and can dispense into quart, gallon, drum, and tote size containers.
### Number of Ingredients
Number of ingredients you wish to automatically dispense.

### Ingredient Material Type (check appropriate)
- Solvent Based
- Aqueous (water basec)
- Both

### Feedstock Supply Selection
Based on the total number of ingredients in the above section, determine your feedstock supply options. Select supply methods to the dispenser based on how you currently stock ingredients, whether cans, pails, drums, totes or mother tanks.
- 3- or 6-gallon SS canister wings supplied with dispenser. This is preferred if materials are supplied to you in cans or pails.
- Direct feed (gravity) from customer supplied drums.
- Direct feed (gravity) from customer supplied day tanks or totes.
- Bulk Taps. When material is pumped to the dispenser from remote mother tanks.

### Other Options (check appropriate)
- Second Dispense Scale (1000 lb capacity for drums)
- Integrated Dispense Label printer
- Active Mixer Adapter with CIP nozzle. Used for Ratio dispense method.
- Integrated Dispense Label printer
- Quarterly Service Contract (North America)
- Quarterly Service Contract (International)
- Semi-Annual Service Contract (North America)
- Semi-Annual Service Contract (International)
- Auto Feed conveyors (Cans, Pails) to Volumetric
- Direct Tie-ins to Production Scheduling Database
- Recommended spare parts kit

### Canister Agitators
If recirculation of ingredient is not sufficient to keep it blended, optional mechanical agitators may be added to the canister. This option is for 3 or 6-gallon SS canisters.

### Production Batch Sizes
Enter the size and approximate number of container batches produced daily for production.

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