Blending and Transfer Solutions
Drum Decanting Unit

Total solution for efficiently blending and transferring fluids
Utilizing the latest, industry leading technologies from the Emerson portfolio such as Micro Motion coriolis meters, Rosemount measurement devices, DeltaV control systems and other core Emerson technologies, we deliver highly accurate, automated blending and transfer solutions.

**Blending and Transfer Systems**
Designed for operational flexibility and fit-for-purpose applications

Blending and transfer systems are at the core of plant operations when it comes to impacting plant profitability. These systems are relied upon to efficiently enable production and delivery of a sellable, high quality product to market. Companies worldwide partner with Emerson as their blending and transfer trusted advisor with the expertise necessary to implement a total solution. With over 50 years of experience designing, engineering, optimizing and automating blending and transfer operations, we eliminate project risk and complexity by delivering cost-effective, easy-to-integrate solutions that heighten performance.

**Applications**
Emerson’s Blending and Transfer Solutions are total solutions that produce guaranteed accurate, repeatable, high quality blending results across a variety of industries and blending applications, including:
- Asphalt or Bitumen
- Consumer Goods (soaps, cosmetics, etc.)
- Crude Oil Blending
- Chemicals and Additives
- Food and Beverage
- Fuels (bunker, gasoline, diesel, etc.)
- Lubes and Greases
- Paints, Coatings and Inks

"99% of accidental losses begin with human error."
- Process Improvement Institute

Optimize blending operations and logistics with integrated, turnkey Blending and Transfer Solutions from Emerson

What if you could...

**Improve Blending Operations and Logistics**
- Cost-effectively meet changing market demand by leveraging Emerson’s Master Plan and FEED engineering studies to design, enhance and build blending capability
- Improve operational flexibility and increase throughput while reducing cycle time through the use of automated, turnkey blending systems
- Optimize logistics and operating costs for handling and blending of materials with easy-to-use process control and operations management software applications

**Reduce Health, Safety and Environmental (HSE) Risk and Eliminate Flush**
- Improve operator efficiency with automated blending and transfer systems
- Avoid the “snake pit” of piping used for fluid transfers and significantly reduce piping through implementation of Piggable Manifolds
- Eliminate the need to flush and minimize waste generation by implementing Piggable Systems and Clean-in-Place (CIP) technologies

**Improve Product Quality and Repeatability**
- Utilize Emerson’s best-in-class technologies to achieve higher accuracy and tighter component control
- Eliminate rework with a system designed to meet guaranteed performance for blending accuracy, quality, capacity and homogeneity

**Streamline Project Execution and Asset Management**
- Minimize project risk by leveraging the best global blending expertise to design and deliver a total solution from concept to commissioning
- Extend blend performance and asset health through a variety of Emerson’s Lifecycle Services, including service agreements, spare parts, calibrations and upgrades

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**Automatic Drum Decanting Units**  
**Designed for safety and efficiency**

Small volume additives can represent up to 20% of a blend recipe with recipes requiring a variety of different types of additives that are stored in drum containers. Drum Decanting Units (DDUs) ease and expedite the addition of drummed components into blending batches by automatically weighing (via load cells) and transferring the exact amount of small volume additives required into the blend vessel or a pre-mix, cocktail tank. In addition, the units feature Clean-In-Place (CIP) technologies that reduce downtime and the manual labor required to clean the units. By automating all steps of the process, DDUs drastically increase operational efficiency and safety.

**Key Specifications**

**System Functions:** Additive measurement, transfer by batch, supervisory control and cleaning of units  
**Dosing Accuracy:** ±1 kg  
**Capacities:** Up to 25 drums per hour  
**Residual Fluid:** Less than 2 kg

**Features of Drum Decanting Units**

- Eliminate manual dosing and cleaning for safer, efficient operations  
- Improve product quality by eliminating manual dosing inaccuracies through precise component measurement  
- Reduce cross-contamination and component waste through Clean-In-Place technologies such as a heated rinse tank to clean and empty drums as well as clean the dispensing lance  
- Maximize product recovery and removal with tilting devices to empty drums  
- Reduce downtime during each stage of additive dosing

**Principles of Operation**

A typical DDU skid system uses roller conveyors to feed and discharge the drums – one drum at a time – onto the drum weighing platform. The proper drum is selected and fed in sequence onto the platform by the operator. The platform is mounted on compression load cells that weigh the amount of each additive and a tilting device is included to ensure maximum product recovery and removal. In addition, a suction lance and swivel arm are inserted into the drum to withdraw liquid.

The operator initiates production using the Supervisory Control System which pulls and verifies the component recipe. The system also verifies the availability of components and that the correct valves are opened on the flow line to guide the additive to its destination.

A key component of the DDU is the controller which operates the lance. The controller ensures the continuous addition of the required recipe amount of each additive. When the set amount of additive has been withdrawn from each drum, the lance is removed, cleaned in a rinse tube and restored for the next additive drum in sequence. A rinse tank equipped with a heating system is included. It sends a hot oil flush to the lance to remove any remaining additive for maximum product recovery and minimum waste or cross-contamination. Additionally, each empty drum is rinsed with a low viscosity component to minimize any residual additive in the drum.