

Chemical Feed Solutions



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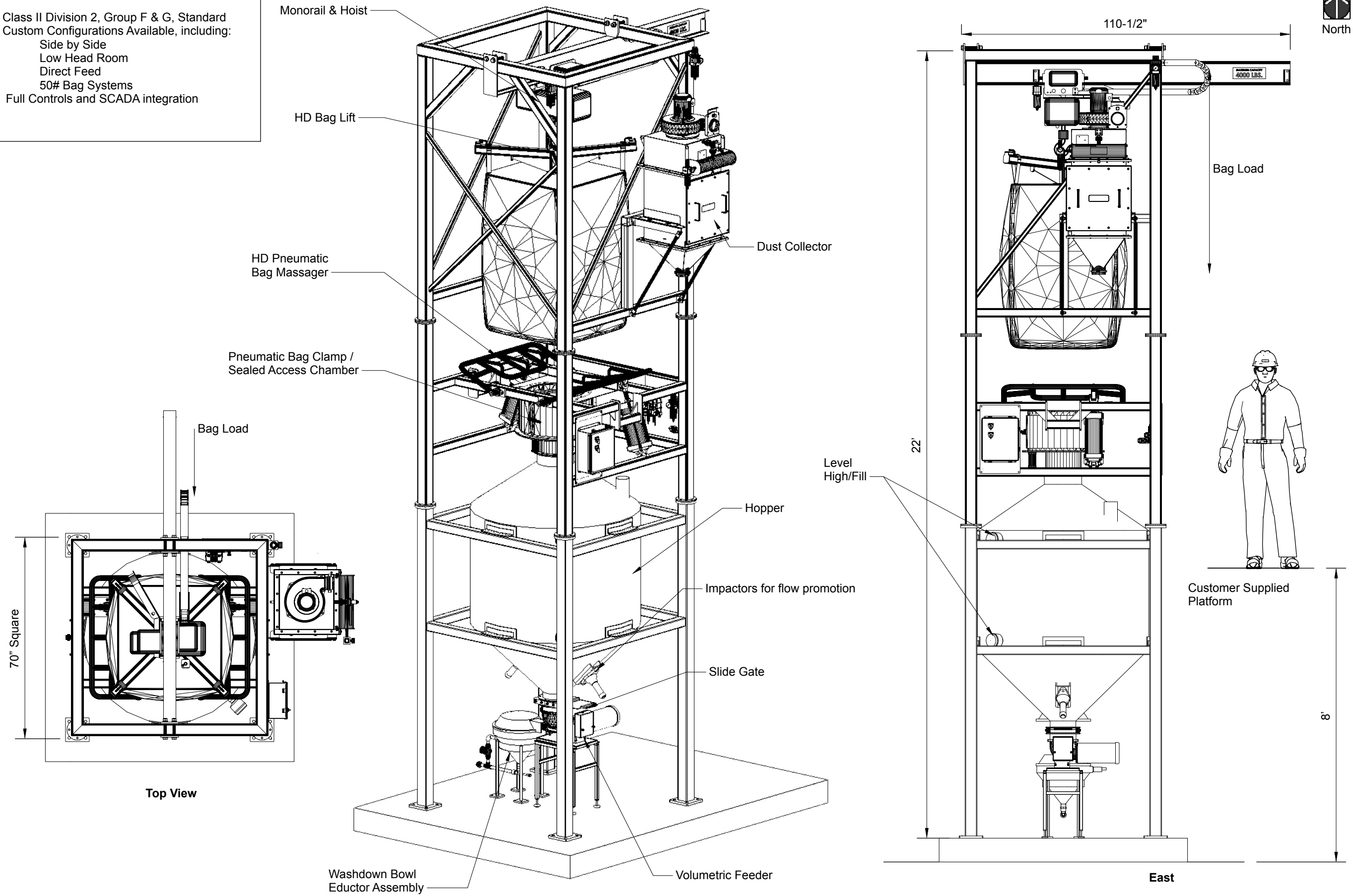
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Notes:

Class II Division 2, Group F & G, Standard Custom Configurations Available, including:
 Side by Side
 Low Head Room
 Direct Feed
 50# Bag Systems
 Full Controls and SCADA integration



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DRY FEED PACKAGE SYSTEMS

Mequipco Ltd. is a leading provider of packaged chemical feed systems to the municipal and industrial water and wastewater treatment industry in Western Canada.

Mequipco Ltd. will work with the consultant and end user to provide a well-packaged and engineered system. Our systems are completely customizable to accommodate areas such as materials of construction, control and redundancy.

Shown below is a powdered activated carbon (PAC) feed system designed to be filled with a dust tight bulk bag unloader system from above. PAC is then fed using a Coperion K-Tron volumetric feeder into a washdown hopper and eductor. The PAC is transported to service using the motive water flow through the eductor. The system is built and packaged for simple installation at site.



Coperion K-Tron International companies provide material handling equipment, systems and services to a wide variety of industries, including the plastics, food, chemical, detergent, pharmaceutical, electric utility and paper and pulp industries. Coperion K-Tron's customers include many of the largest companies in their fields as well as numerous other multinational, regional and local businesses.

Coperion K-Tron has been for many years the global leader in the design, production, marketing and servicing of high-quality feeders and related equipment for the handling of bulk solids in many different kinds of manufacturing processes. Coperion K-Tron Soder feeders control the flow of materials into a process that then transforms those materials into an end product.

GENERAL ARRANGEMENT OF EQUIPMENT AND MODE OF OPERATION

Powder activated carbon (PAC) will be delivered in bulk dry form in totes with a mass of approximately 400-600 kg.

PAC is loaded onto the bulk bag discharge system via the bag lifting frame and powered chain hoist with motorized trolley. The PAC tote bag is then tied off onto the Spout Clamping System. The massagers are initiated (via local control panel) and PAC begins to flow.

A low level and high level indicator located on storage bin will be triggered when the carbon level drops to a set point or rises to a set point. The set point should alert the operator that the storage bin has approximately one third of storage bin capacity remaining in the case of a low level or the storage bin is full in case of a high level.

The storage bin shall come fitted with pneumatic impactors. Compressed air to the impactors is controlled by an air solenoid valve (by others) to allow flow of air to the impactors. The solenoid valve will be controlled by a local control panel (by PAC system supplier).

The motive water discharged into the wash down hopper and eductor will be started from the WTP main PLC output that opens an electric solenoid flow valve. Water flow rate to the wash down hopper will be manually controlled (throttled) through hand operated globe valve.

A high level indicator located on wash down hopper will be triggered when the slurry level reaches a set point. This set point should alert the operator that the wash down hopper has backed up and allow the solenoid flow valve to shut off the motive flow.

The volumetric feeder, impactors, dust collector, etc will be tied into and controlled from a local control panel.



CHEMCO SILO FEED SYSTEMS

Chemco offers both standard & customizable chemical storage and treatment systems. These systems are highly configurable, allowing our sales & engineering team to work closely with the customer to provide the appropriate system that meets the project specification while delivering on the client's vision for functionality and operability.

Chemco is able to provide an unparalleled level of quality assurance and dependability as we are the only silo system manufacturer that engineers, fabricates, and tests the complete system within our own facility. Each system is designed from scratch by a mechanical project manager, who determines and sizes the appropriate equipment based on the specific project requirements. All silos 15'-0" in diameter or smaller are fabricated horizontally at our facility in Monongahela, Pa and then erected to allow for the setting of equipment. Equipment installation is performed by our experienced fabrication team and involves the placement of all the feeders, tanks, mixers, pumps, control panels, valving, and associated water/air/electrical piping. Our one-stop-shop fabrication method gives us an unparalleled level of project oversight and ensures that we deliver the best product on the market to our customers.





SIMPLEX & DUPLEX PUMP PACKAGES

The Simplex pump system incorporates a duty pump and piping arrangement. The panel comes pre-piped with all accessories which simplifies installation. The Duplex pump system incorporates a stand-by/duty piping arrangement.



ENCORE® 700 METERING PUMP

The Encore® 700 diaphragm metering pump manufactured by UGSI Chemical Feed Solutions combines the robustness of hydraulic diaphragm pumps with the unparalleled economy, simplicity, and serviceability of a mechanical pump. The Encore® 700 pump is engineered to handle industrial and municipal metering applications in water and wastewater treatment, swimming pools, food processing, chemical processing, brewing and distillation, and agriculture.

- Handles capacities to 2500 l/h (660 USGPH), backpressures to 12 bar (175 psi).
- Non-loss-motion (amplitude modulation) variable eccentric stroke adjust mechanism renders efficiency, longevity, and reliability, as well as a smooth discharge pattern.
- Flexibility of direct coupled or pulley driven, for an additional 4:1 turndown on stroke frequency with a standard induction motor.
- Precision-engineered liquid ends meter mild solutions, aggressive chemicals, high-viscosity polymers, and slurries with greater efficiency than conventional liquid ends.
- Clear PVC cartridge valves for fast service with no piping disturbances and built-in visual indication of operation.
- Premium composite diaphragm design ensures high metering accuracy, even at varying discharge pressures.





JESCO METERING PUMPS

Diaphragm dosing pumps are leak-free, and are therefore suitable for highly aggressive or toxic media. Depending on the gear type, the diaphragm allows pressures up to 232 psig. Diaphragm dosing pumps are fitted with a separation chamber as standard. If a crack forms in the diaphragm due to wear, this prevents the medium from flooding the system components or the pump itself. The medium is controlled and flows through a downpipe to the collecting basin. The medium sides of the diaphragms are coated with PTFE.



CHLORINE ANALYZERS & MONITORING

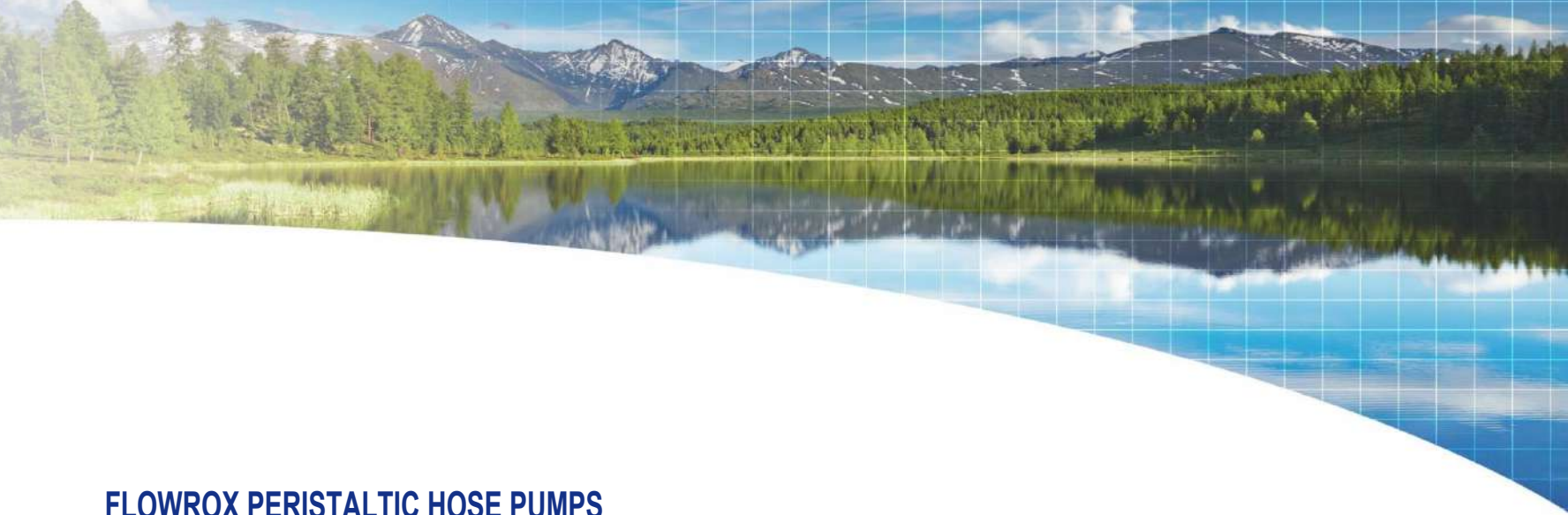
Lutz-Jesco water sampling stations have all the components necessary for measuring and regulating the water values at one location. Pressure-resistant and temperature-resistant valves are used in these sampling stations, along with a TOPAX controller where required. With these complete solutions, there are no more problems in measuring the usual hygiene parameters in the water.



CHLORINE GAS DETECTORS

When handling solid, liquid and gaseous chemicals, safety must be given the highest priority. For gas-conveying installations, Lutz-Jesco offers devices that monitor the surrounding air and respond to the slightest traces of gas, in which case they set off an alarm or warning signal, depending on their configuration.





FLOWROX PERISTALTIC HOSE PUMPS

Flowrox metering pump is ideal for chemical dosing applications which require accurate metering. To optimise metering performance, Flowrox has designed next generation metering pumps: FXM2 and FXM3 series with integrated smart features.

Compared to the previous generation, FXM pumps have expanded logic programming and functionality and also higher capacity. Maximum flow of the FXM2 model reaches up to 176 l/hr (46.5 GPH) and FXM3 up to 840 l/hr (221.9 GPH). Working pressure of both models goes up to 8.6 bar (125 psi). They can also withstand higher ambient temperature up to 55° C (131° F). Combined with accurate metering and a selection of different tube materials, the FXM pumps are an ultimate choice for chemical dosing applications.



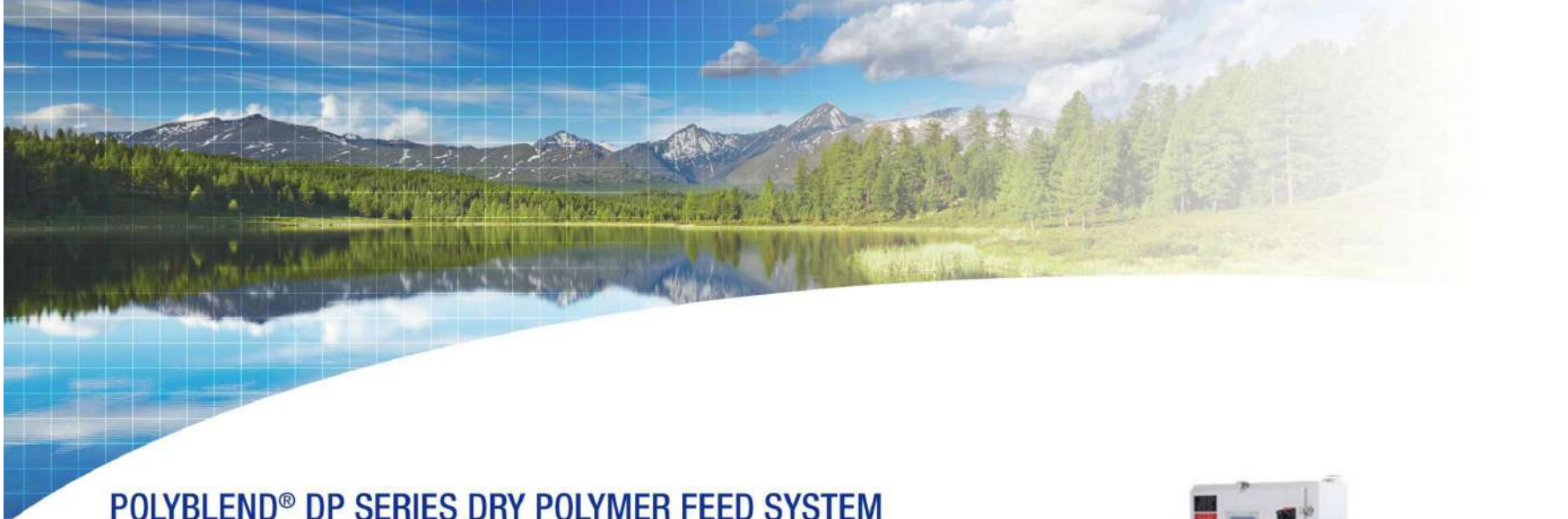
REALTECH UV254 METER

UV transmittance (UVT) at 254 nm is particularly important for a UV disinfection systems operation and performance. Real Tech provides a complete line of UV254/UVT instrumentation for any application need, including portable field meters, online bypass analyzers and online submersible probes. Clients' can customize a solution for their application and water type with multiple path length selections, and optional accessories to improve ease of use and performance.

Real Tech's M series UV254 bypass analyzer provides continuous real-time UV254 and UVT organics analysis with built in display. Benefiting from our innovative Ortho-Beam and Split-Sense Pro technologies, accurate and reliable measurements are output for the highest level of confidence in organics monitoring.

Real Tech's S series UV254 probe sensor benefits from a long life UV LED light source. Accurate and stable UV254 and UVT measurements are output for reliable monitoring in many wastewater organics monitoring applications.





POLYBLEND® DP SERIES DRY POLYMER FEED SYSTEM

The PolyBlend® DP Series manufactured by UGSI Chemical Feed Solutions is the finest dry polymer feed system available by reducing polymer consumption 25% or more while substantially improving polymer performance in terms of sludge dryness, solids capture, water clarity, drainage / retention, or any other measure.

DP 110 Dry Polymer Feed System outperforms all other designs in head-to-head trials. PolyBlend® DP systems have an unmatched reputation for reliability. While dry polymer feed systems are notoriously high maintenance items, the PolyBlend® DP Series requires the least maintenance and operates unattended for a longer interval than any other dry polymer feed system on the market.



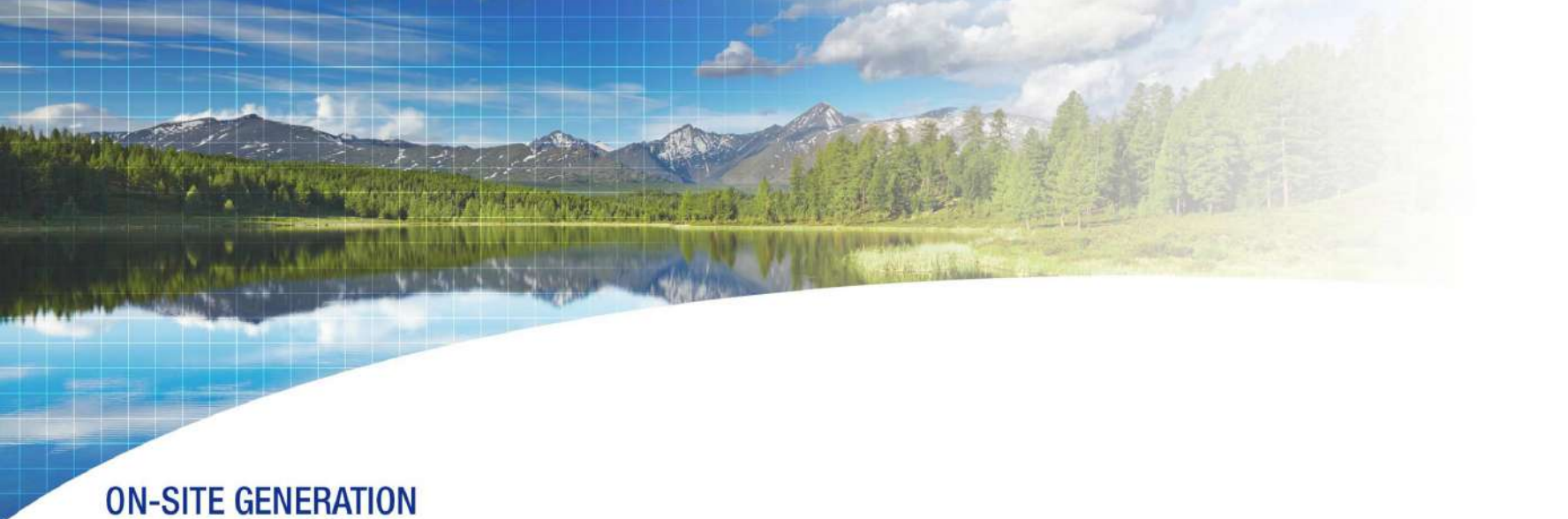
PolyBlend® Dry Prep Models	Polymer Feed
DP105	Up to 3.3 lbs (1.5 kg)/hr dry polymer @ 0.25%, 30 minute batch cycle
DP110	Up to 1.9 lbs/hr (0.86 kg/hr)
DP500	Up to 20 lbs (9.1 kg) /hr dry polymer based on a .75% solution and two (2) batches per hour
DP800	Up to 45 lbs (20.4 kg) /hr dry polymer based on a 0.75% solution and two (2) batches per hour
DP2000	Up to 31lbs (14.1 kg)/hr dry polymer based on a 0.5% solution

POLYBLEND® M SERIES POLYMER FEED SYSTEM

The Polyblend® M Series liquid polymer feed system features proven motorized mixing technology with precise controls, a variety of pump offerings and an easy-to-service open-frame design.

The PolyBlend® M Series polymer feeders combine UGSI's proven motorized mixing technology with precise controls, a variety of pump offerings and an easy-to-service open-frame design. Then UGSI adds two unique options: variable speed mixing and automatic dosage control with constant solution strength. Six sizes are available with output ranges from 0.1 to 200 USPGM.



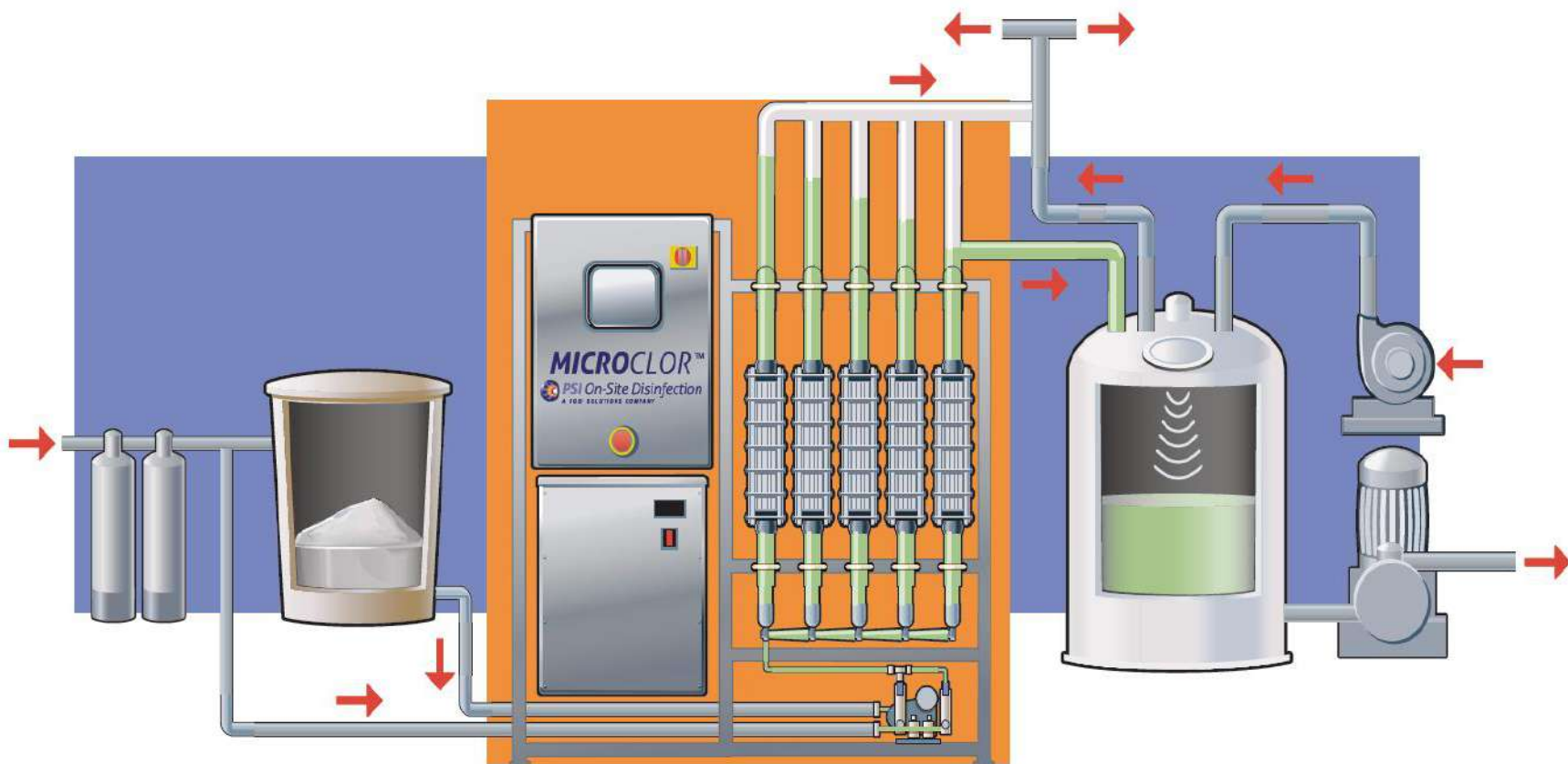


ON-SITE GENERATION

Microclor® On-Site Hypochlorite Generation (OSHG) is the safe, reliable and sustainable solution for water or wastewater disinfection.

As concerns mount regarding the safety and security of using chlorine gas for water disinfection, many utilities are choosing sodium hypochlorite (bleach) as a safer alternative. In weighing the implications of either concentrated, delivered bulk bleach or on-site generated hypochlorite (OSHG), utilities are considering factors such as safety, delivery frequency, cost per pound of free available chlorine, sustainability and overall life-cycle costs.

Since all chlorine compounds are made from salt, making bleach on site will result in significant savings to the owner. In many cases, it costs 30-70% less to produce sodium hypochlorite versus buying it in commercial bulk delivery. Additionally, price swings in the price of bulk hypochlorite are difficult to predict and can create significant budget variances. In contrast, the raw materials consumed by an OSHG system are readily available, much less volatile and easier to manage.





ELECTRONIC CHEMICAL SCALES

Monitor and control chemical feed at your water treatment plant or in your industrial process. Weight-based and ultrasonic systems for monitoring chemical usage, level and feed rate. Also automated onsite chemical dilution and day tank auto refill systems.

Chlor Scale

The Chlor-Scale 150 was specifically to weigh chlorine gas, sulfur dioxide & ammonia cylinders used in small treatment plants, well heads, booster stations and various industrial plants. A low overall height of only 1 -5/8 inches (4 cm) allows cylinders to be easily rolled on and off without lifting and our wall mounted chaining bracket provides the safest possible installation by securing the cylinder to the building structure itself. Optional remote mounted indicators (up to 25') provide operators with an added level of convenience and safety by preventing unnecessary entry into the chlorine building.

The Chlor-Scale has a 100% PVC platform coated with our exclusive 80 mil thick Tuf-Coat Environmental Armor and uses corrosion resistant fasteners and fittings. That makes this scale survive for years and years without any damage from corrosion, UV light, impact or abrasion. The incredibly simple "pivoted platform" design has no moving parts either. This means that there are no flexures, levers or mechanical links that are susceptible to corrosion, bending or breaking.



SOLO® G2 Indicator

The all new SOLO® G2 digital Indicator provides a simple and economical way to measure chemical usage and inventory. The SOLO® G2 incorporates many new features including keypad operation, 0-100% bar graph display and a diagnostics menu. The diagnostics menu allows the user to calibrate the indicator without the hassle of test weights.

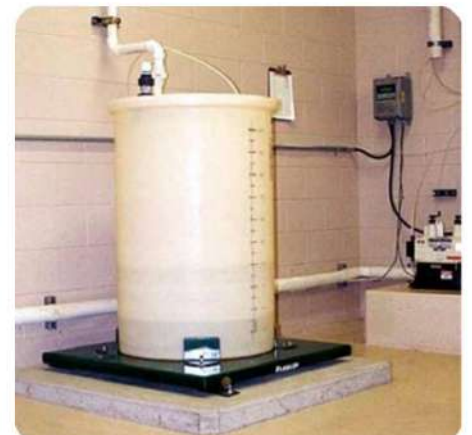
All set point, 4-20mA output, bar graph and filtering values are now easily entered using the keypad so adjusting DIP switches is a thing of the past! During a tank change, tare weights can be entered via the keypad to arrive at the correct net (chemical) weight or, if the net weight is known, you can simply enter it directly. Either way, the menu driven display prompts the user through this easy process.



Chem Scale

When feeding chemicals such Fluoride, Polymer and Sodium Hypochlorite, it is imperative that you have a way of accurately tracking chemical usages and feed rates. In fact, many government regulations require you to document chemical usages and there is no more accurate method than using a weight based chemical monitoring system.

Compared to intrusive tank level technologies, weight is an inherently more accurate means of measuring level contents because it is independent of vessel shape, temperature, corrosive fumes and specific gravity of the contents. Using the CHEM-SCALE for your inventory management results in an inexpensive, non-contacting, highly reliable method of tracking chemical levels, usages and feed rates.





THE WIZARD 4000+

The Wizard 4000+ is an extremely powerful chemical inventory management system for monitoring chlorine gas, sodium hypochlorite, hydrofluosilicic acid and all other chemicals used in water treatment. The Wizard 4000+ helps insure a safe process and a safe plant by providing essential information such as current chemical feed rate, how much chemical has been fed, and how much chemical remains.

The Wizard 4000+ can be used with any Force Flow scales and ultrasonic sensors, easily converts any existing Force Flow hydraulic scale to a digital multi-function system and can be used with most electronic load cell based weighing systems.



TOMCO2 pH CONTROL SYSTEMS

TOMCO2 Systems, the established leader in water treatment solutions and potable water solutions, since 1972, for the potable / desalination water and wastewater treatment industry. We offer patented solutions for global clients, while specializing in acidification to waste water, desalination, industrial waste, and processed water.

Our team of water treatment specialists has the industry experience needed to design, fabricate, install and maintain water treatment solutions that meet the challenges municipalities face, including tough environmental regulations. In fact, TOMCO2 Systems helps clients easily comply with these new regulatory changes in pH without the liability of using sulfuric or other mineral acids.

TOMCO2 Systems offers a revolutionary automatic Pressurized Solution Feed System (PSF) that provides constant pH levels using environmentally safe carbonic acid. This equipment can be conveniently installed in existing pipelines without the need for additional contact basins.

Features:

- C02 Based Water Treatment Solutions
- Direct C02 Gas Injection Systems
- Pressureized Solution Feed Systems
- C02 Storage and Vaporization
- Industrial Water and Waste Solutions
- Transitions liquid C02 to a useable product

