

Acrison®

SILO SYSTEMS

For Dry Chemical Storage and Feeding



Industrial and municipal chemical feed equipment

Acrison®
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ACRISON SILO SYSTEMS

**For Storing, Feeding and
Dissolving Dry Chemicals**

Introduction

Since 1964, Acrison has been applying its skills to the empirical science of designing and building innovative, uncommonly versatile equipment for metering and handling dry bulk solid ingredients. And while scientific to some extent, the complexity and diversity of dry solids materials has resulted in the evolution of Acrison's business to a true art form in actual practice.

Over the years, Acrison developed and perfected a number of unique and innovative metering mechanisms for feeding dry bulk solid materials... mechanisms that revolutionized the industry because of their inherent ability to feed more dry solid ingredients more accurately and reliably than any other. And with bare minimal maintenance requirements and unsurpassed longevity, the viability of Acrison dry solids metering and handling equipment has been proven time and time again in many thousands of successfully operating installations worldwide, strongly surviving the brutal test of time.

Today, to meet the growing needs of the various water and wastewater treatment industries, Acrison applies its in-depth expertise and experience to the design and implementation of product storage silos, and the dependable removal (discharge), metering and dissolving of the chemicals contained within.



Acrison Silo Systems

Some of the typical options available with Acrison supplied Storage Silos:

- Various height and diameter Silos
- Various materials of construction
- Skirted Silos
- Leg-supported Silos
- Single discharge Silos
- Dual discharge Silos
- Two-level storage rooms
- Dust collectors (bin vents)
- Volumetric and 'Weight-Loss' dry chemical feeding equipment
- Equipment pre-installation
- Specialized control panels
- Custom Designs



Top: A skirted silo with a reverse air-clean dust collector used for a municipal lime storage and feeding application.

Bottom: *Dual Dry Chemical Discharge*, also known as a "pantleg" design; this type of arrangement can be used for multiple feed points or for duty/standby operation.

Acrison Dry Chemical Feeders typically used with Storage Silos

Volumetric

Based on the physical characteristics of the material(s) to be handled, feed rates and a number of other parameters, Acrison's extensive, world-renowned line of multiple auger/agitator dry solids metering mechanisms allows the selection of the feeder model best suited for a given application.

- Feeding mechanisms that effectively "condition" the material to a uniform consistency for accurate metering. The feeders are powered by common variable speed drives.
- Feeders boast rugged, durable mechanical designs that stand-up to even the most unfavorable conditions.
- Feeder long-term operating costs are the lowest in the industry.
- As standard, feeders are constructed of heavy gauge stainless steel.
- Feeders are dust-tight and silent when operating.
- Metering accuracy is +/- 1 to 2 % (error) based on a given number of consecutive one-minute samples.

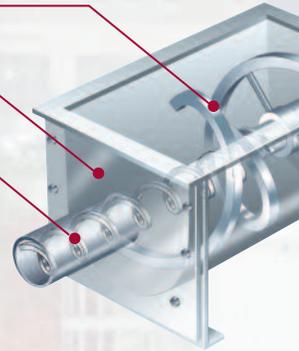


Model W105Z
Volumetric Feeder for feeding "difficult-to-handle" dry solid materials (chemicals).

Intromitter/Conditioning Auger

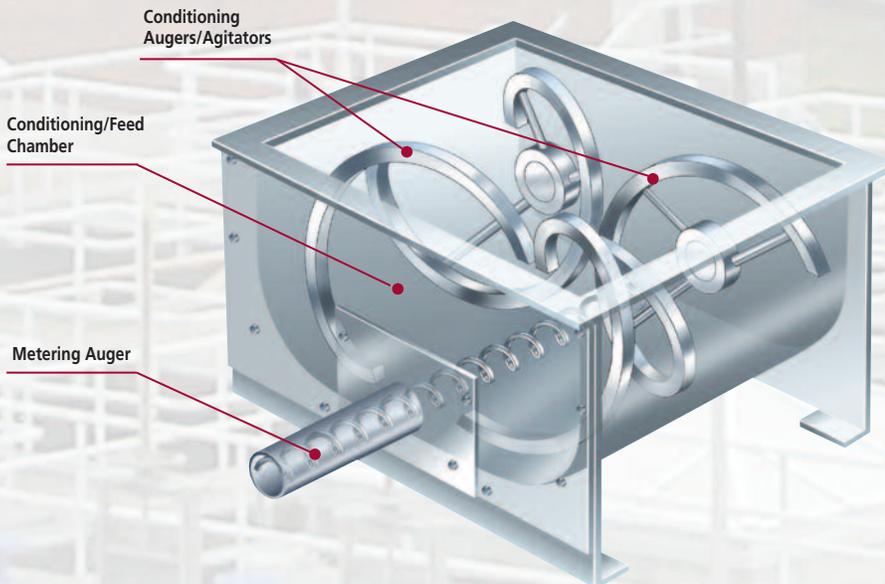
Conditioning/Feed Chamber

Metering Auger



Acrison's Dissimilar Speed, Double Concentric Metering Mechanism efficiently and reliably fills the concentrically positioned metering auger from a full 360 degrees.

Acrison's Dissimilar Speed, triple agitator conditioning/feeding mechanism effectively and efficiently fills the centrally located metering auger from a minimum of 320 degrees.



Conditioning Augers/Agitators

Conditioning/Feed Chamber

Metering Auger



Model BDF-1.5
Volumetric Feeder for feeding "difficult-to-handle" non-free-flowing dry solid materials (chemicals).

The dry solids feeder is a crucial component of a (chemical) storage and feed system. The feeder must be fully capable of metering the specific dry chemical(s) while being a totally dependable mechanism that requires bare minimal maintenance.

"Weight-Loss"

For applications requiring highly accurate metering performance, the appropriate model Acrison "Weight-Loss" Weigh Feeders are supplied. Globally recognized for their stable long-term performance and exceptional longevity, these rugged-duty weigh feeders easily provide many years of trouble-free operation. In addition, their weighing and control systems are entirely calibration and adjustment-free.

- Acrison "Weight-Loss" Weigh Feeders are equipped with functional mechanisms that provide optimum metering performance with the specific dry solid chemicals. Operating costs are the lowest in the industry.
- Acrison "Weight-Loss" Weigh Feeders boast the most durable mechanical designs for reliable operation even in the most unfavorable environments.
- The Weigh Feeders are dust-tight and silent when operating.
- Metering accuracy is ± 0.25 to 1% (error) based on a given number of consecutive one-minute sample weighments.

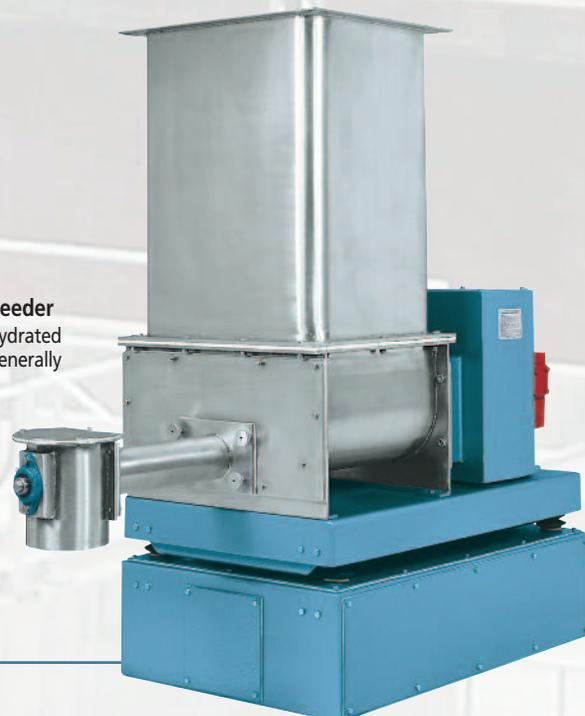


Model 402-105Z "Weight-Loss" Weigh Feeder

Typically used to feed a wide variety of dry solid materials (chemicals), including those of a "difficult-handling" nature (i. e., hydrated lime, potassium permanganate, alum, powdered activated carbon, sodium silico fluoride, etc.) at low to moderate feed rates.

Model 402X-BDF-1.5 "Weight-Loss" Weigh Feeder

Typically used for metering dry chemicals such as hydrated lime, soda ash, powdered activated carbon, etc., at generally higher feed rates.



Acrison Dissolvers

Only a properly designed dissolving system will ensure the delivery of a homogeneous solution to the point of application.

Dissolving Tanks

Acrison's stainless steel dissolving tanks are engineered and fabricated to meet the requirements of a specific application based on chemical feed rates, solution concentration strengths, retention time, and method of discharge (gravity, constant rate, variable rate). A dust and vapor removal device is provided as standard with all dissolving tanks. Tank design, as well as mixer sizing and placement, ensure a superior solution.

All Acrison Dissolving Tanks are available in 304 and 316 stainless steel having a minimum of 11 gauge metal thickness. Long service life is assured in utilizing all steel construction which protects against rupture, cracking or abrasion. Also, because of the nature of their construction, these high quality Dissolving Tanks are virtually immune to damage. They are available in standard sizes of 50, 100, 150 and 200 gallons. Larger sizes are also available.



Volumetric Feeder with Dissolving Tank
Ensures complete dissolving of dry chemical with water by utilizing a suitably sized mechanical mixer.

Wetting Cones

Wetting cones can be used for powdered activated carbon or potassium permanganate when the solution will be brought directly to the point of application with minimal backpressure. Acrison wetting cones produce a swirling water vortex that effectively wets the chemical. In addition, the internal suction produced by the eductor mounted on the outlet of the wetting cone further ensures mixing of the water and chemical, while capturing any residual dust.

The Wetting Cone is constructed of 316 stainless steel and includes a PVC eductor that ensures both complete wetting of the chemical and transport of the solution. The Wetting Cone includes an overflow port as standard and is available with an optional high level probe.



Volumetric Feeder with Wetting Cone
Swirling water vortex and eductor mixing action ensure a consistent slurry discharge.



Wetting Cone Application

Two Model BDF-1.5 Volumetric Feeders, each feeding powdered activated carbon into an Acrison high-capacity wetting cone with educator.

Acrison Silo Systems



Installation of an Acrison Silo System by a municipal contractor.

Left: After removal from truck, silo is lifted.

Main: Silo is turned upright and moved into mounting position.

Right: Finished silo after installation of external components.





Acrison Silo Systems

Typical Silo Arrangement

Dust Collector

Ensures dust-free loading of dry chemical into the silo.

Guardrail

For roof-top safety.

Non-Slip Roof Deck Surface

Access Ladder

With safety cage.

Chemical Fill Pipe

Exterior Lights

When needed for remote installations.

Truck Fill Panel

Includes silo level indication and dust collector controls. NEMA 4X (stainless steel) is standard.

Truck Fill Connection

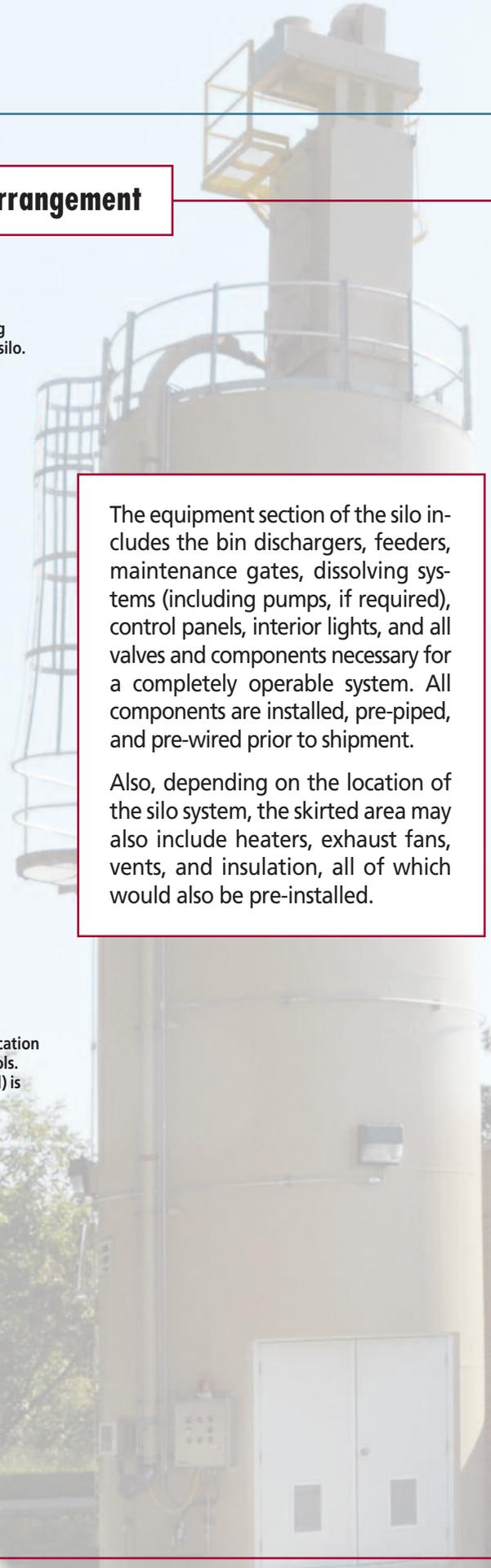
With limit switch and dust cap.

Double Door

For access to equipment area.

The equipment section of the silo includes the bin dischargers, feeders, maintenance gates, dissolving systems (including pumps, if required), control panels, interior lights, and all valves and components necessary for a completely operable system. All components are installed, pre-piped, and pre-wired prior to shipment.

Also, depending on the location of the silo system, the skirted area may also include heaters, exhaust fans, vents, and insulation, all of which would also be pre-installed.



From Concept To Turn-Key



Acrison guides our customers through the entire silo process, from system design to equipment start-up and operator training. We look forward to assisting in equipment selection, component recommendations, layout of system control logic, and even providing suggested specifications tailored for each specific application.

For more information on Acrison Silo Systems, please feel free to call us toll free at 800-4-ACRISON, email us at informail@acrison.com, or visit us on the web at www.acrison.com to download a silo system application data sheet.



A typical system control panel located within the 'skirted' silo.



An experienced Acrison Service Technician performs start-up and training for all new silo systems.

Discover the difference!

We cordially invite you to witness a test in Acrison's state-of-the-art Customer Demonstration Facilities handling your actual product(s) with the specific equipment we recommend for the application. Usually, there is no cost or obligation for this service.

Discover the difference in technology, quality and performance of Acrison equipment.



Empire Boulevard Facility
Moonachie, NJ USA



Trafford Park Facility
Manchester, UK



Joseph Street Facility
Moonachie, NJ USA

Acrison products...

- Models 101 and 130 Volumetric Feeder Series
- Models V-101 and V-130 Volumetric Feeders
- Model 1015 Volumetric Feeder Series
- Model 105 Volumetric Feeder Series
- Model W-105 Volumetric Feeder Series
- Model 120 Volumetric Feeder
- Model 140 Volumetric Feeder Series
- Model 170 Volumetric Feeder Series
- Model 905-14 Volumetric Feeder
- Bin Discharger Feeders
- Model 200 Series Weigh Belt Feeders
- Model 203B Series Weigh Auger Feeders
- Model 270 Series of In-Line Weigh Feeders
- Models 402, 404, A405, 406, 407 and 410 Series ("Weight-Loss-Differential") Weigh Feeders
- Model Series 403 ("Weight-Loss-Differential") Weigh Feeders
- Model 403B(D) Batch/Dump Weighing Systems
- Model 404BZ(BU) Bulk Bag Unloader Batch Weigher
- Models 350 and 301 Continuous Blenders and Blending Systems
- Multiple Auger Bin Dischargers and Multiple Auger Bin Discharger Hoppering Systems
- Vibratory Bin Dischargers
- Model 170-BD-30 Bin Discharger
- Model 800 Series Bulk Bag Unloaders
- Model 500 Series Polyelectrolyte Preparation Systems
- Water and Waste Water Treatment Systems
- Volumetric and Gravimetric Feeder Controllers and Control Systems
- Silo Systems
- Accessory Equipment for Acrison Products
- Systems Engineering

"Visibly Different... Measurably Better"

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