

# Acrison<sup>®</sup>

## Volumetric Feeders and Dissolving Systems Model W-105 Series

*For Dry Solid Materials*



*Industrial and municipal chemical feed equipment.*

# Acrison®

## Volumetric Feeders

### Model W-105 Series

#### For Dry Chemicals

Acrison's Model W-105 Series of dissimilar speed, Double Concentric Auger Volumetric Feeders are universally recognized for their highly dependable all-around superior metering performance, rugged construction, low maintenance and exceptional longevity.

### The "Inter-Auger Action" Metering Concept

Acrison's Model W-105 Series of Volumetric Feeders, as are all of Acrison's various model Double Concentric Auger Volumetric Feeders, are designed with "Inter-Auger-Action" that not only produces both positive flow and feed, but also, ensures complete control of the product for unsurpassed levels of metering performance.

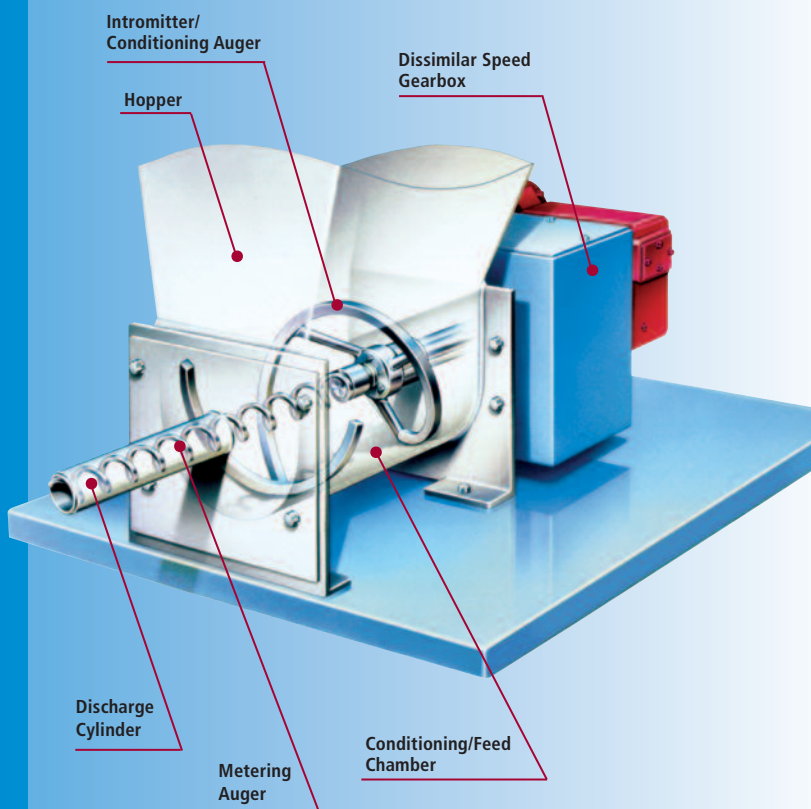
In operation, the unique "Inter-Auger-Action", produced by rotation of the Double Concentric Augers operating at dissimilar speeds, "conditions" the product to a remarkably uniform consistency while precisely, reliably, and efficiently filling the metering auger circumferentially.

Acknowledged as the most viable dry solids metering concept yet devised, "Inter-Auger-Action" is functionally described as an opposing sliding movement of material within the confines of the Double Concentric Augers – produced by the speed differential between the two rotating augers – that effectively and gently "conditions" the material to a consistent (natural) density while simultaneously filling the centrally located metering auger from a full 360 degrees for accurate product delivery, a feat unparalleled by any other auger type dry solids feeding device.

The outer (larger) auger, identified as the Intromitter, rotates in the same direction as the (smaller) metering auger, but at a much slower speed. The two augers are mechanically geared together in a common precision drive network, powered by a single variable speed gearmotor.

Metering accuracies generally range between  $\pm 1$  to 2 percent or better (error) for the majority of products based on a given number of consecutive one minute samples.

### Acrison's "Inter-Auger Action"



#### Model W-105

Used for semi-free flowing materials, this model features a six inch diameter Intromitter or "conditioning" auger.

#### Model W-105Z

Used for non-free flowing materials, this model features a ten inch diameter Intromitter or "conditioning" auger.

# Models W-105 and W-105Z Volumetric Feeders

*The Models W-105 and W-105Z Volumetric Feeders are usually supplied as part of a "package" for water and waste water treatment processes.*



**Model W-105** – recommended for feeding alum, ferrous sulfate, ferric sulfate, potassium permanganate, sodium silicofluoride and other moderately free-flowing chemicals.

## Standard Features

- The feeder is constructed in 304 stainless steel, including the Intromitter (large conditioning auger), seal components and discharge cylinder.
- The metering auger is 316 stainless steel.
- Available with either a one cubic foot supply hopper or a flanged conditioning chamber. The flanged conditioning chamber may be furnished with a cover having a circular inlet up to a maximum of six inches in diameter.
- Designed with a six inch diameter Intromitter (large "conditioning" auger).
- Furnished with a 1/2 HP, totally enclosed variable speed AC or DC motor, operated by one of Acrison's various model SCR/DC Controllers or an AC Variable Frequency Controller, providing either a 10:1, 20:1, 30:1 or 50:1 speed range.
- Maximum output capacity is 14.5 cubic feet per hour.
- Dust-tight construction.
- Heavy-duty construction; exceptional longevity.
- Very low maintenance.
- Silent when operating.

## Optional and accessory equipment for the Models W-105 and W-105Z Feeders

- Various materials of construction.
- Integral supply hoppers of various capacities.
- Precision variable speed drives.
- Motors for use in hazardous environments.

**Model W-105Z** – recommended for feeding the more difficult-to-handle materials such as hydrated lime, soda ash, activated carbon, diatomaceous earth and other non-free-flowing chemicals.

## Standard Features

- The feeder is constructed in 304 stainless steel, including the Intromitter (large conditioning auger), seal components and discharge cylinder.
- The metering auger is 316 stainless steel.
- Available with either a one cubic foot supply hopper or a flanged conditioning chamber. The flanged conditioning chamber may be furnished with a cover having a circular inlet up to a maximum of twelve inches in diameter.
- Designed with a ten inch diameter Intromitter (large "conditioning" auger).
- Furnished with a 1 HP, totally enclosed variable speed AC or DC motor, operated by one of Acrison's various model SCR/DC Controllers or an AC Variable Frequency Controller, providing either a 10:1, 20:1, 30:1 or 50:1 speed range.
- Maximum output capacity is 101 cubic feet per hour.
- Dust-tight construction.
- Heavy-duty construction; exceptional longevity.
- Very low maintenance.
- Silent when operating.

- Various control modes.
- Bag loading hopper.
- Dust collector hopper loading station.

# Model W-105 Volumetric Feeder Series

## Dissolving Tanks • Wetting Cone



A 50 gallon Dissolving Tank with Mixer.



A Model W-105Z Feeder metering into a high capacity Wetting Cone.

### Dissolving Tanks

Acrison Dissolving Tanks are used to produce solutions or slurries by efficiently mixing dry materials (chemicals) with water. An Acrison Volumetric Feeder is used to meter a dry chemical into a Dissolving Tank.

Standard Acrison Dissolving Tanks are furnished complete with a full cover having an inspection port/chemical feed inlet. When a mechanical mixer is required, the Dissolving Tank is supplied with an Acrison manufactured intermediate speed mixer as a complete assembly, totally eliminating the common problems of vibration, wear and chemical build-up typically associated with the operation of traditional high speed mixers.

Depending upon the application, hydraulic mixing jets (constructed of PVC pipe with 304 stainless steel jets) may be provided. When a Dissolving Tank is used to wet certain chemicals, surface jets may also be necessary to enhance wetting and control dust. All Acrison Dissolving Tanks include a dust and vapor remover as standard.

Additionally, Acrison Dissolving Tanks are available with a variety of baffle configurations to ensure complete mixing of the chemical and optimum detention time. They can also be provided with certain accessories to produce constant strength solutions or slurries, or to meet other special requirements. Typical optional equipment includes solenoid valves, level probes, rotameters, etc.

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 by 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 available on special order.

### Wetting Cone

Typically operating in conjunction with an Acrison Model W-105 Series Volumetric Feeder, Acrison Wetting Cones have been specifically designed for "wetting" activated carbon, potassium permanganate and certain other dry chemicals.

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.



# Model W-105 Volumetric Feeder Series

## *with Accessories*



A Model W-105Z Feeder integrally mounted beneath an Acrison Bulk Bag Unloader. The feeder meters product into a 50 gallon Dissolving Tank.



A Model W-105Z Feeder with a Dust Collector Bag Loading Station. The feeder meters product into a 100 gallon Dissolving Tank.



A Model W-105Z Feeder with a low capacity Wetting Cone.

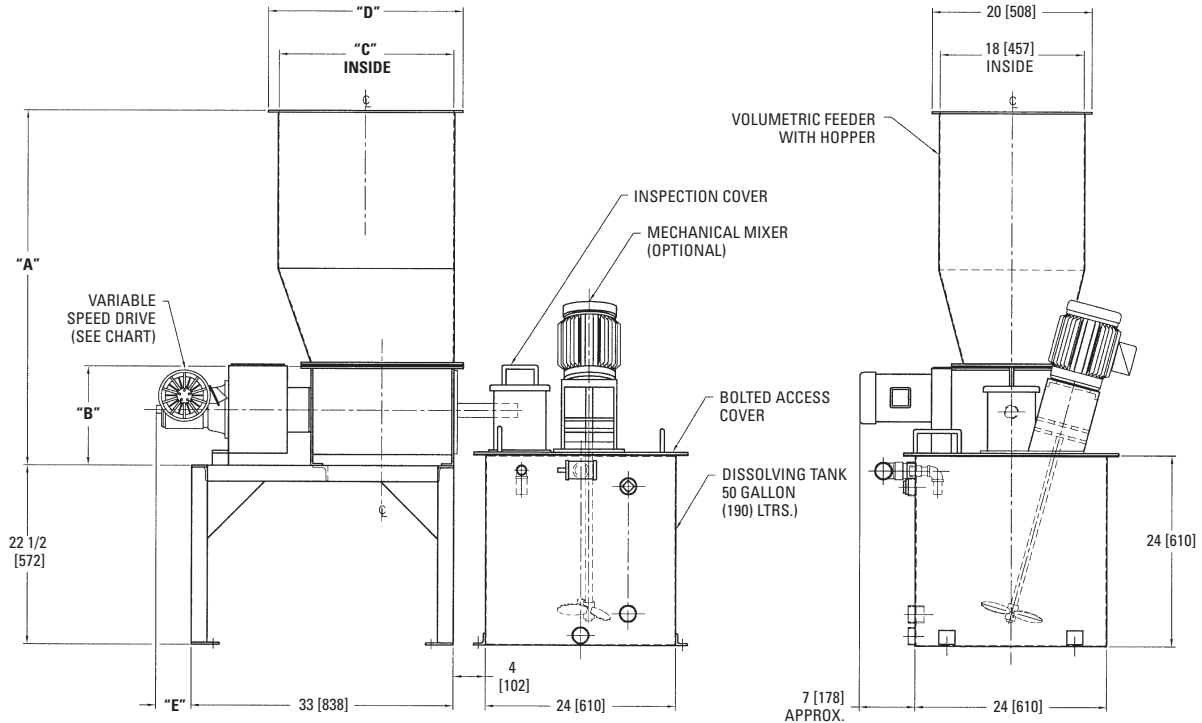
# Models W-105 Volumetric Feeder Series *with Accessories*



A Model W-105Z Feeder integrally mounted beneath an 80 cubic foot storage hopper; the hopper includes a pneumatically operated maintenance gate. The feeder meters product into a low capacity Wetting Cone.

A Model W-105Z Feeder integrally mounted beneath a 75 cubic foot storage bin equipped with an Acrison Vibrating Bin Activator and level probes. The feeder meters product into a 200 gallon Dissolving Tank.

# Models W-105 and W-105Z Volumetric Feeders with a standard 50 gallon Dissolving Tank



All dimensions are in inches [mm] and subject to change.

MODEL	"A" @ HOPPER CAPACITY – CU. FT. (Liters)					"B"	"C"	"D"	"E"	HP (kW)
	2 (57)	3 (85)	4 (113)	5 (142)	6 (170)					
W-105	24 1/4 [616]	28 1/2 [724]	33 [838]	37 1/2 [953]	42 [1067]	8 1/2 [216]	22 [559]	24 1/2 [610]	0 [0]	1/2 (0.37)
W-105Z	24 3/4 [630]	29 3/4 [755]	34 3/4 [883]	39 3/4 [1010]	44 3/4 [1137]	12 1/2 [318]	20 [508]	22 [559]	4 1/4 [108]	1 (0.75)

Please contact Acrison for dimensional information regarding other feeder arrangements.

## Capacity Chart

### Models W-105 and W-105Z Feeders

Capacities are shown in cubic feet/liters per hour

MAXIMUM CAPACITY	A/2	B/2	BC/2	BB/2	C/2	CC/2	D/2	DD/2	E/2	EE/2	F/2	FF/2	G/2	*GG/2	*H/2	*HH/2	*K/2	*KK/2	*M/2	*N/2
Cubic Feet	0.03	0.075	0.10	0.16	0.32	0.46	1.1	2.1	3	3.6	6.2	9.9	15.3	20.2	27	33.7	47	59	80	101
Liters	0.85	2.1	5.4	7.6	12.7	19.8	34	59	85	122	198	269	410	594	722	1019	1358	1670	2264	2858

### Capacities

\* Available with the Model W-105Z Only

The capacity chart indicates the typical output range for each standard size metering auger available with the Model W-105 Series of Volumetric Feeders.

Since the physical properties of the actual product being metered may have an effect upon the exact output, the stated capacities could vary.



## 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

### 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 Discharger Hoppering Systems
- 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



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*"Visibly Different... Measurably Better"*

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