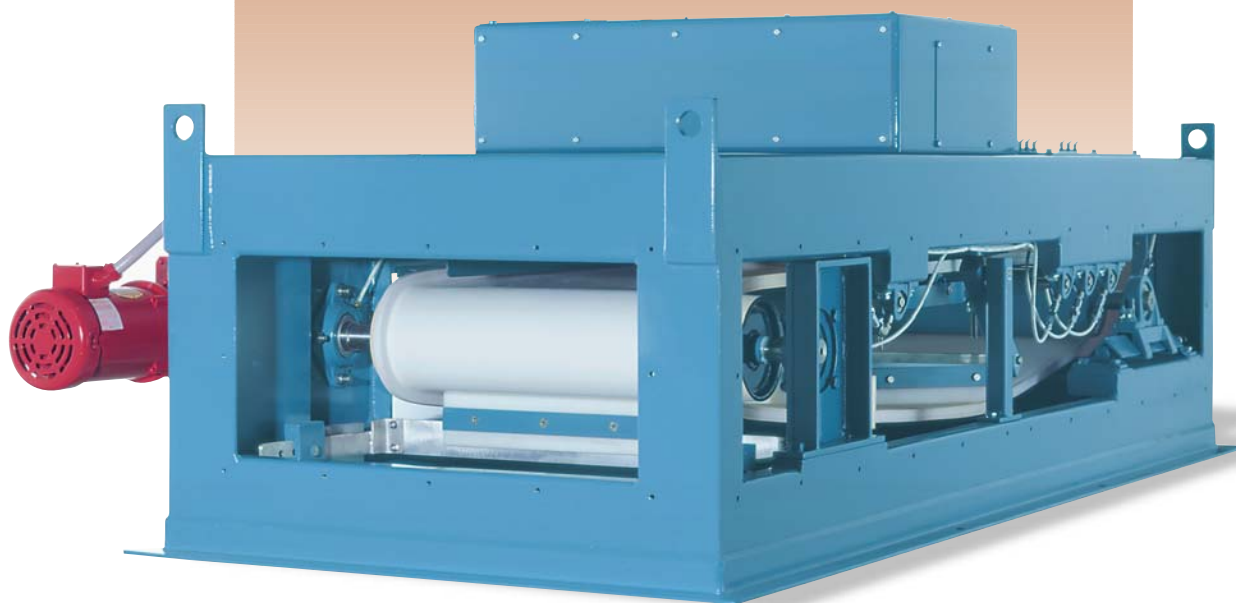


# Acrison®

## **“Weigh Belt” Weighers/Feeders Model 260 Series**

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*For Precise and Reliable  
Metering of Dry Solid Materials  
at High Feed Rates*



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*High Performance Weigh Feeding  
of Dry Solids Materials*

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# Weigh Belt Weighers/Feeders Model 260 Series

*For Dry Solid Materials*

## Operational Overview

Acrison's various Model 260 Weigh Belt Weighers and Weigh Belt Feeders are precision, heavy-duty, high capacity devices designed to accurately weigh and/or totalize the flow of dry materials in a "Wild-Flow" configuration, or to meter dry materials as a "Weigh Feeder" in a controlled, closed-loop configuration.

## Model 260 Series

### Model 260(WF)

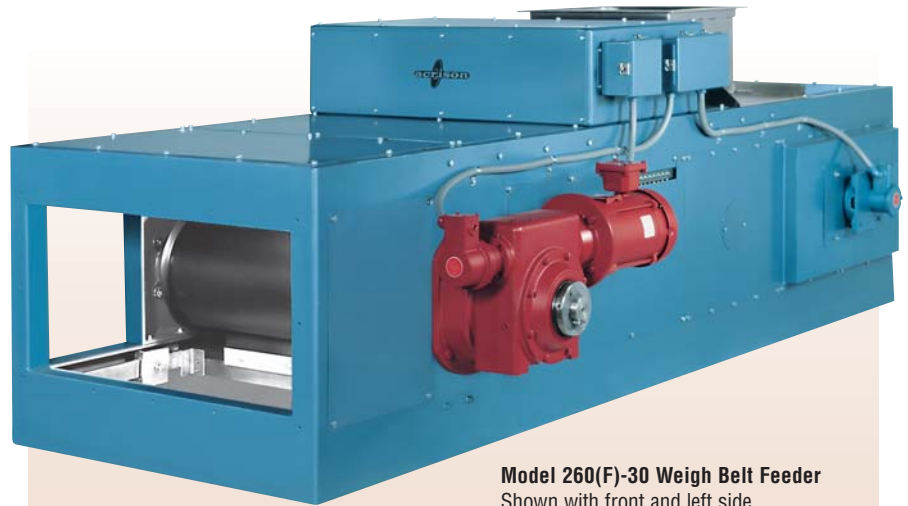
Operating as a weigher and/or totalizer, the Model 260(WF) continuously weighs product passing across the belt, producing an output signal directly proportional to the weight of product flow. In this mode of operation, belt speed is constant and the rate of flow is not controlled... only weighed. The belt weigher's multiprocessor controller continuously monitors and totalizes the flow of material, displays the rate at which product is flowing, and produces a precise proportional-to-weight output signal which can be used for various process functions. The Model 260(WF) Weigher is also capable of batching to a preset total.

***For the majority of applications, accuracy is generally  $\pm 0.25$  to 1% or better (error) of the actual weighed amount.***

### Model 260(F)

Operating as a weigh feeder, the Model 260(F) continuously controls the feed rate in relation to a feed rate set point via modulation of the belt speed by a multiprocessor based control system. In this mode of operation, the belt, driven by a variable speed motor, is continuously regulated to precisely maintain the selected feed rate.

***For the majority of applications, accuracy is generally  $\pm 0.25$  to 1% or better (error) at two sigma, based on a given number of consecutive one minute weighments.***



**Model 260(F)-30 Weigh Belt Feeder**  
Shown with front and left side panels removed.

## Design Parameters

Acrison's various Model 260 Weigh Belt Weighers and Feeders are ruggedly constructed for operation in typically adverse industrial environments. Their heavy-duty design encompasses many desirable features including an adjustment-free, totally enclosed, counterbalanced weighing mechanism (located above the weigh belt assembly), easily accessible and completely removed from the metering zone and all areas where product accumulation can occur.

Normally, material flows onto the weigh belt through a chute (integral to the structure of the feeder/weigher) which connects to product supply. An adjustable gate (part of the inlet chute arrangement) controls the depth of product on the belt to provide the desired flow pattern for optimum weight sensing and feed throughput parameters. However, other methods of introducing product to the various Model 260 Weigher/Feeders, such as a feeding mechanism, are also available.

As product passes over the fully suspended dual-idler weighbridge, the weight of this material is precisely sensed by Acrison's Ratiometric Digital Weight Sensor, producing twenty bits of unamplified digital data (the equivalent weight sensing resolution of better than one part in a million). The weighbridge itself is designed without any ledges or structural members where product (dust) can accumulate.

The Model 260 weighing mechanism is heavy-duty; it is not in any way delicate or temperamental, and along with the Ratiometric Digital Weight Sensing System, is entirely adjustment and calibration-free. The drive belt pulley is designed to ensure positive belt traction.

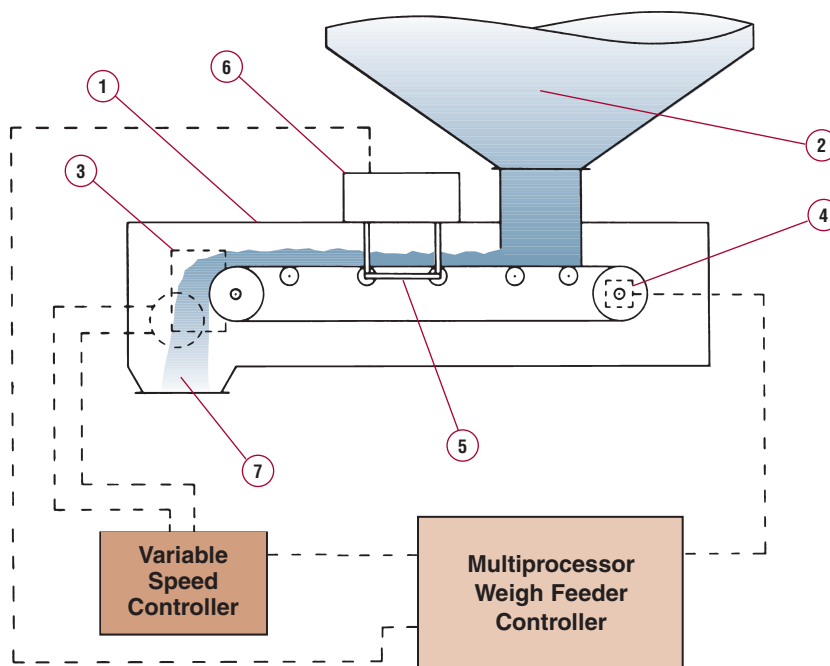
***As an indication of Acrison's confidence level in this equipment, the entire weighing mechanism of the Model 260, including its digital weight sensor, is unconditionally guaranteed for five years.***

# Model 260 Series Weigh Belt Weighers/Feeders

## Basic Functional Diagram [Typical Model 260 (F) Weigh Belt Weigh Feeder]

1. Weigh belt weigh feeder
2. Product storage supply
3. Variable speed gearmotor drive
4. Digital belt speed sensor
5. Weigh idlers
6. Weighing mechanism with Ratiometric Digital Weight Resolver (weight sensor).
7. Weighed output

**NOTE:** When the Model 260 is used as a weigher, the variable speed belt drive is replaced by a constant speed drive.



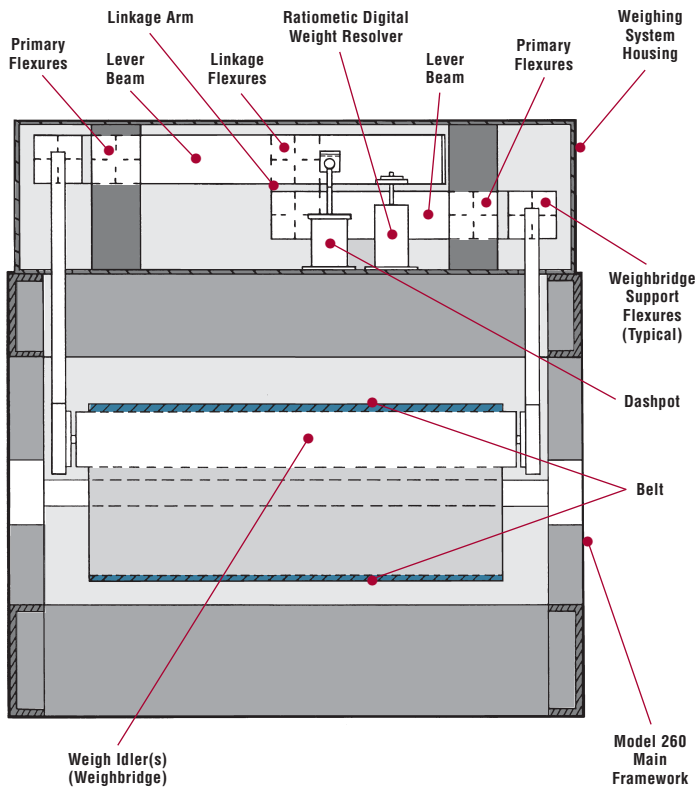
## Specifications/Features

- Three standard belt widths having the following maximum output capacities are available:
  - 24" Belt – 2800 cubic feet per hour
  - 30" Belt – 5200 cubic feet per hour
  - 36" Belt – 7100 cubic feet per hour
- Feed range is 20:1 from the maximum designed output capacity of the specific Model 260.
- A rugged, counterbalanced weighing mechanism located above the weigh belt – away from the product metering zone and dust – easily accessible, totally enclosed and adjustment-free. This precision weighing system ensures optimum weight sensing by only measuring vertical force (weight) via a unique dual-idler weighing mechanism (weighbridge).
- Weight is sensed by Acrison's Ratiometric Digital Weight Resolver which produces an extremely accurate, unamplified digital output signal directly proportional-to-weight.
- Equipped with a heavy-duty, multi-ply reinforced belt, vulcanized endless and designed for long life.
- Equipped with heavy-duty belt pulleys designed that provide reliable belt tracking and positive traction.
- Equipped with multi-stage alarms to indicate belt mis-tracking.
- Belt scrapers ensure a clean belt both on the top and underside surfaces.
- Designed for easy belt replacement.
- Support idlers beneath the belt maintain smooth belt operation, ensure optimum weight sensing, and enhance belt life. The idlers include permanently lubricated, sealed (free-wheeling), ball bearings that provide many years of trouble-free operation.
- A heavy-duty gearmotor drive (hollow-shaft) attaches directly to the shaft of the head pulley. The motor is totally enclosed.
- A high resolution digital tachometer, directly coupled to the tail pulley, precisely measures actual belt speed and will also detect belt breakage/slippage.
- Unaffected by typical in-plant vibrations and temperature variations.
- The weigh feeder is operated by a latest state-of-the-art multi-processor controller, totally adjustment-free.
- The standard Model 260 Series of Weigh Belt Weighers and Feeders will operate over an ambient temperature range of -10 to 140 degrees Fahrenheit.
- Rugged-duty construction for durability, longevity and minimal maintenance requirements.
- Optionally available with an Automatic Belt Tracking System.
- Optionally available for operation in hazardous environments (e.g., explosion proof construction).
- Optionally available with all stainless steel construction (excluding motors, gear-reducers, bearings, etc.).
- Optionally available with a dust collection hopper located beneath the main structure of the Model 260, including a product take-away screw conveyor (scavenger screw).

**NOTE:** For dimensional information, please contact Acrison.

# Model 260 Series Weigh Belt Weighers/Feeders

## Weighing System with Acrison's exclusive Ratiometric® Digital Weight Resolver

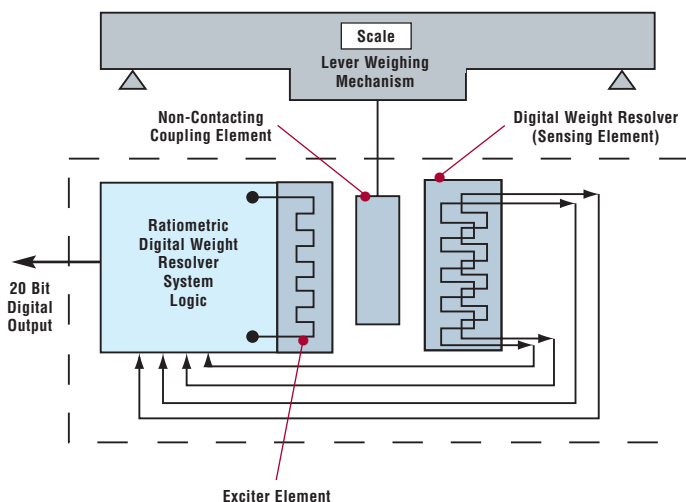


The weighing mechanism used with Model 260 Weighers/Feeders is a frictionless, mechanically counterbalanced, split-beam lever network utilizing Acrison designed and manufactured flexures for all connecting (pivotal) requirements. The weighing system is simple, very durable and extremely precise in producing unexcelled weight sensing resolution.

As noted in the illustration, two *Primary Flexures* connect each of the two *Lever Beams* to the *Weighing System's Housing*, which is mounted onto the top of the *Model 260 Main Framework*. The two *Lever Beams* are linked together by a *Linkage Arm* assembly employing two *Linkage Flexures*. Four additional *Weighbridge Support Flexures* (one in each outside corner of the two *Lever Beams*) connect the *Weighbridge* (upon which the belt travels) to the *Lever Network*. These novel, time-proven flexures, provide optimum structural rigidity of the lever network in both the horizontal and vertical planes, ensuring permanence of the weighing system accuracy and calibration. The weighing system only measures vertical force (weight), ensuring the highest possible degree of weighing accuracy. The entire weighing mechanism, excluding the weighbridge, is mounted on top of the main framework of the Model 260 for ease of accessibility and also, where the primary weighing mechanism is completely outside of the product feed zone.

As product on the belt passes over the weigh idler assembly of the weighbridge, the lever network "moves" in an extremely precise relationship to the weight of the product. In turn, this movement is sensed by Acrison's Ratiometric Digital Weight Resolver (RDWR) without physically contacting any portion of the lever mechanism, instantaneously converting this movement into an equally precise signal directly proportional-to-weight. Also, because the weight sensing element does not come into physical contact with the weighing mechanism, it cannot be damaged by any amount of overload or shock that the weighing system may experience. The entire Weighing mechanism, including the weight sensor, is completely calibration and adjustment free.

## Ratiometric® Digital Weight Resolver System (RDWR)



Acrison's exclusive Ratiometric Digital Weight Resolver (RDWR) System, used with all Acrison weigh feeders, computes the linear movement of the lever mechanism (scale) into a true binary coded, serially transmitted data stream having a discrete resolution of 20 bits (or the ability to sense 1 part in 1,048,576). This highly precise and advanced electronic displacement measuring technique basically consists of a sensing element and its computational logic.

The physical sensing component is composed of a series of windings collated on a common element that are equally affected by environmental changes and therefore, self-compensating. In addition, because the computational logic of the RDWR System compares relative measurements, rather than absolute values, its input power source can vary up to  $\pm 30\%$  without affecting the output. Also, all non-weight data, both cyclic and random in nature that may be super-imposed on the actual data, are cancelled-out.

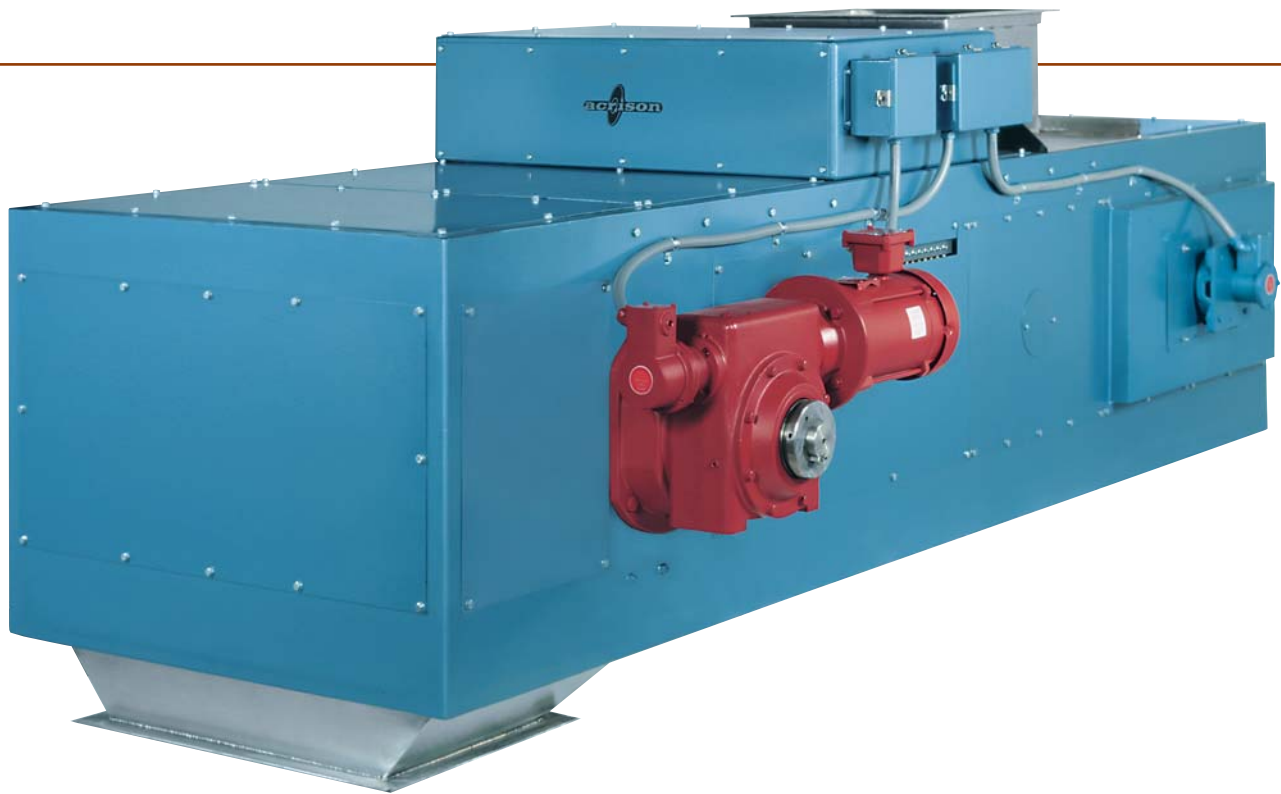
The RDWR System is linear to within 0.01 percent, repeatable to 0.005 percent, possesses long term stability of 0.005 percent (10,000 hours) and carries a 40,000 hour MTBF.

Acrison's RDWR System is FM (Factory Mutual) Approved and Listed for operation in hazardous environments... Classes I, II and III; Divisions 1 and 2; Groups C, D, E, F and G. This weight sensing system also complies with European hazardous area classifications EEx ia IIB T4 and EEx d [ia] IIB T6.

# Model 260 Series Weigh Belt Weighers/Feeders



**Model 260(F)-24  
Weigh Belt Feeder**  
Shown with front and side panels removed.



**Model 260(F)-30 Weigh Belt Feeder**  
Shown with output transition chute.

# Weigh Feeder Controllers and Control Systems

Acrison Weigh Feeder Controllers and Control Systems are universally recognized for their design superiority, unparalleled versatility, ease-of-use and operational reliability. From basic single weigh feeder controllers to multi-feeder supervisory control systems, the technologically advanced designs of these devices, including their cutting-edge software

routines, provide users with unexcelled weigh feeder performance to satisfy the most demanding metering requirements across a broad spectrum of applications. With a wide range of options, accessories and interfacing capabilities, these controllers and control systems are also available in a number of different packaging configurations.

## Acrison Weigh Feeder Controllers

For decades, Acrison Weigh Feeder Controllers have provided state-of-the-art performance for thousands of global processors. With leading edge products such as the MD-II-2000® and SBC-2000® Family of Controllers, these devices, widely recognized for their robust and quality designs, have gained a reputation for exceptional reliability throughout all sectors of the processing industries.

All Acrison Weigh Feeder Controllers will operate in either a continuous or batch mode using internal or external set points, and in master/slave or ratio-proportioning control modes. They are available with a choice of membrane keyboard or graphic touchscreen displays and include multiple languages, recipe storage capability, and a very wide selection of interfacing options (i.e., analog, Bluetooth, digital, wireless Ethernet, infrared, modem, and networking).

## SBC-2000® Family Controllers

Acrison's ongoing investment in research and development continues to result in the evolution of its leading-edge controls and control systems, as evidenced by the addition of the Models SBC-2000 CM and DSP Controllers to Acrison's SBC-2000 Weigh Feeder Controller Family. These new, small yet powerful devices encompass the latest technologies and functional algorithms, providing users with an unprecedented number of standard and optional features, including native Ethernet connectivity and a single operating program capable of controlling one or more Acrison weigh feeders. In particular, these controllers are ideally suited for those applications that require central computer control with minimal hardware. A variety of keyboard/display options is also available to suit specific user requirements.

## Multiple Weigh Feeder Control Systems

When combined with Acrison's Acri-Data® Supervisory and Control System Software hosted on a wall or desktop-mounted Microsoft® Windows® Embedded XP Platform, the Model SBC-2000 DSP and/or SBC-2000 CM Controllers form the basis for the SBC-2000 MFC Multiple Feeder Control System. This control system, with its color touchscreen, provides the ability to operate and control up to 20 Acrison Weigh Feeders while displaying rapid data and screen updates, and includes master/slave and ratio-proportioning operation, unlimited recipe storage and retrieval, trending, event and alarm logging, automatic shut-down configurability, and more.

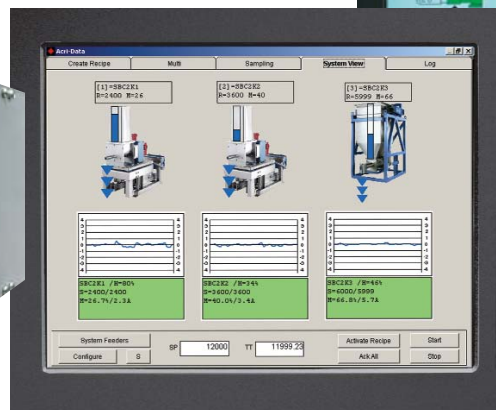
User PLC and DCS equipment can also serve as a host for an SBC-2000 Family Controller System.

*Reference Design Specifications 1-200-0602, 1-200-0627 and 1-200-113.*

All Acrison controllers are certified to UL, CSA and EC specifications.



▲  
Model SBC-2000 CM  
Controllers (Card Rack)



◀ Model SBC-2000 DSP  
Single Weigh Feeder Controller

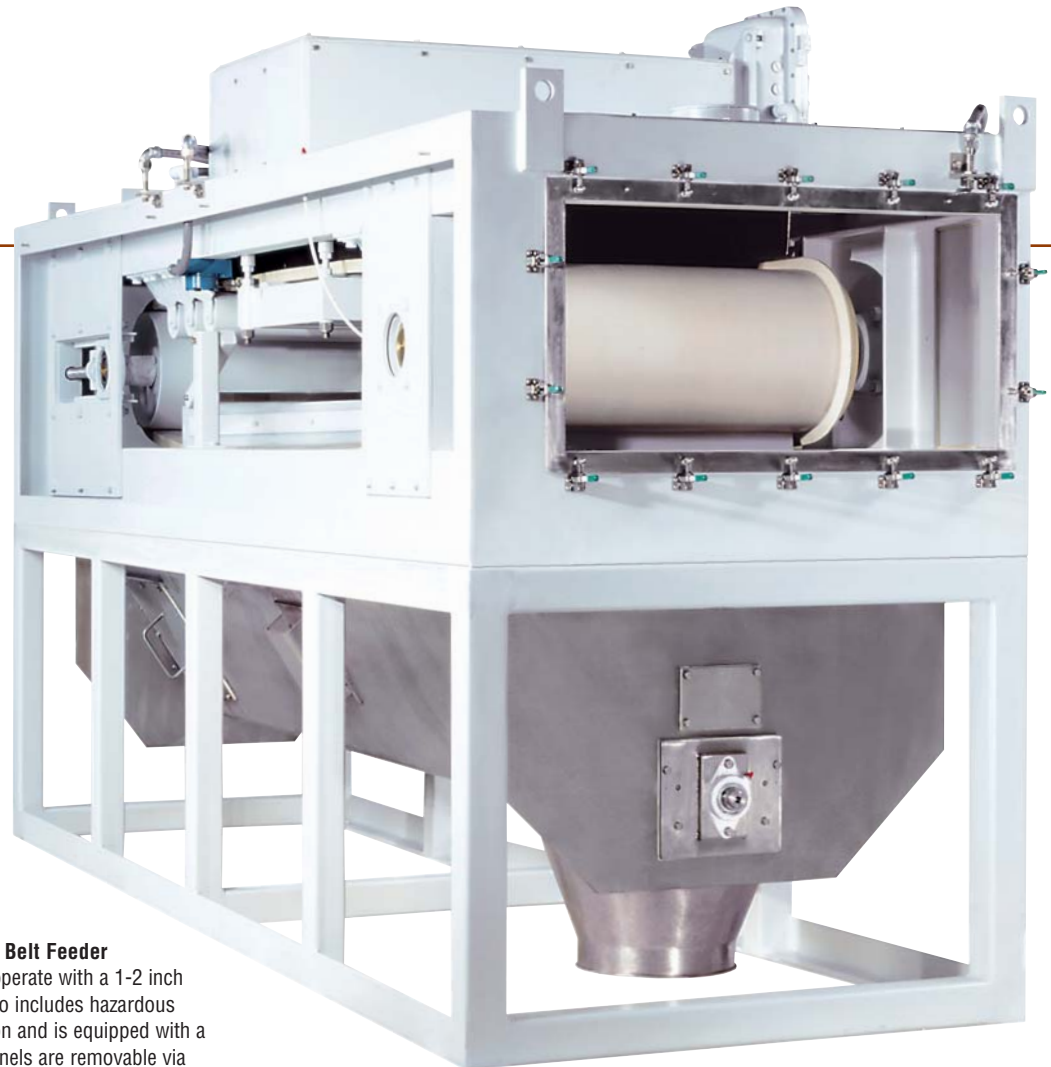


▲  
SBC-2000 MFC  
Touchscreen Displays

# Model 260 Series Weigh Belt Weighers/Feeders



**Model 260(F)-48  
Weigh Feeder**



**Model 260(F)-36 Weigh Belt Feeder**  
specially constructed to operate with a 1-2 inch WC purge. The feeder also includes hazardous area electrical construction and is equipped with a scavenger screw. Side panels are removable via the use of quick-release clamps.

# Acrison Facilities



Empire Boulevard Facility  
Moonachie, NJ USA



Trafford Park Facility  
Manchester, UK



Joseph Street Facility  
Moonachie, NJ USA

## Acrison products...

- Models 101 and 130 Volumetric Feeders
- 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 of Weigh Belt Feeders
- Model 203B Series of 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 Dischargers
- Model 800 Series of Bulk Bag Unloaders
- Model 500 Series of Polyelectrolyte Preparation Systems
- Water and Waste Water Treatment Systems
- Volumetric and Gravimetric Feeder Controllers and Control Systems
- Accessory Equipment for Acrison Products
- Systems Engineering

*Quality built, total performance products to satisfy  
your dry solids metering/handling needs.*

# Acrison<sup>®</sup>

*"Visibly Different... Measurably Better"*

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