



DRY MATERIALS FEEDER

MODEL AZ-2200
MARCH 2022



Azano's AZ Series Dry Material Feeders reliably and accurately feed most dry materials encountered in industrial manufacturing processes, pilot plants and laboratories.

The versatility of design allows provision for the application of a variety of auger systems and options. The selection is dependent upon the characteristics of the product to be handled and that the required degree of feed rate accuracy can be achieved.

Application

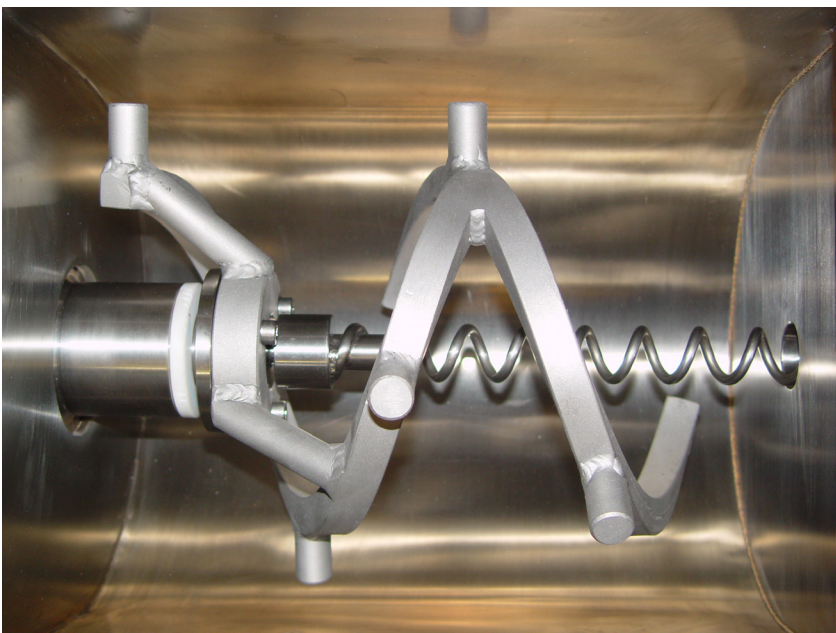
The AZ-2200 feeder is a dual auger feeder, specifically designed for difficult to handle materials. The main feed auger in these units is supplemented by a slow rotating conditioning auger or blade that maintains the supply of material homogeneously to the feed auger.

The gentle movement of product created by the conditioning auger or blade encourages flow from the feed chamber, preventing flow stoppages and ensures a high degree of metering accuracy.

Material Conditioning

Model AZ-2200

It is a prerequisite of feeder accuracy to maintain gravimetric uniformity of material at the feed auger. The unique Azano conditioning/feeding combination mechanism, drive and feed auger provide superior and dependable material conditioning/feeding combination not available with other designs. Azano selects the conditioning mechanism and rotating speed to suit the application that provides optimum conditions with the minimum of material agitation or degradation.



DESIGN FEATURES

Capacity

Model	2L to
AZ-2200	200 L/hour

Metering Auger

On the standard units the stainless steel metering auger is designed with a helical coil format to maintain an even, accurate feed of materials without compaction or pressure. The auger is screwed on to the end of the motor gearbox drive shaft and requires no tools for disassembly.

For special applications, solid flight augers are available in a variety of configurations to suit requirements.

Metering Tube

The stainless steel plain exit metering tube is welded to a mounting plate made of materials compatible with the feed chamber. The mounting plate is held in place by stainless steel nuts to allow for easy removal for chamber clean out and maintenance. Sealing is accomplished using general purpose industrial gaskets for general applications and EDPM for food quality grade and sanitary applications. Optional features for metering tubes include extra length to approximately 0.6 metres and a variety of specialised end fittings to suit individual application requirements such as “drop down tube” at the end with a grille on the top.

Feed Chamber and Hopper

The combined feed chamber and standard 30L hopper available on the Model AZ-2200 provides an economical solution where the storage capacity is acceptable. Model AZ-2200 feeders are produced in mild steel, stainless steel and food industry finish stainless steel as required. All options may be supplied with integral hopper, circular inlet or with feed chamber inlet flanged to suit storage hoppers supplied by others.

A range of non-standard options such as, chamber only, hopper lid, materials screen, and extra large hoppers are available to suit specific requirements.

Azano feeders are available with metering augers positioned off centre and specially designed feed chambers to provide a self-emptying feature.

Gearbox

All Azano gear drive units, are fully sealed, robust design reduction gearboxes, designed and manufactured for a long, low maintenance service life, providing consistent, accurate feeding and trouble-free operation.

MOTOR

The standard motor is an AC fixed speed unit sized to suit the particular feeder drive requirements. For low rangeability variable speed drive applications, control units are available to provide manual or automatic variable speed adjustment when coupled to the AC motor. Also available is an AC motor drive with a standard high turndown mechanical variator.

Where high turndown is required, the feeders are available with DC motors with manual or automatic variable speed controllers.

AC and DC automatic variable speed units are available which will accept a 4-20mA DC input to allow for coupling to process control systems.

Drive Shaft Seal

The specially designed, braided Teflon packed drive shaft seal is spring loaded to eliminate the need for periodic adjustment. The auger action carries material away from the seal ensuring long service under normal conditions.

Tests

Azano test facilities are used to carry out performance reports prior to taking delivery of any Azano Feeder. Alternatively, feeders are available for hire to clients requiring more detailed testing on site or on noxious products.

Backup

Azano's many years in the industry provides the necessary expertise to select the design features required to accurately feed a vast variety of materials.

Since the handling characteristics of materials may vary from one source to another, the Azano AZ Series has been designed to provide a high degree of versatility and ensures success where others fail.

ENGINEERING SPECIFICATIONS

Models AZ-2200

Hopper Capacity

30L

Option: Circular chamber inlet or chamber only to suit connection to bulk storage hopper. Larger capacity bulk storage hopper. Connections are available as well as other inlet configurations to suit specific application requirements.

MATERIALS OF CONSTRUCTION

Auger, Feed Tube and Drive Shaft

Stainless Steel

Chamber and Hopper

Standard is stainless steel
Optional: 304 or 316 stainless steel industrial or food quality

Seals

Teflon

Motor & Gearbox Cases

Standard, aluminium (may vary depending upon size of feeder and application)

POWER REQUIREMENTS

400V 50 Hz three phase
Optional: 230V 50 Hz single phase or any other to suit specific requirements

Ambient Temperature Limits

0-45°C

OPERATION

Azano AZ-2200 feeder incorporates dual concentric feed chamber input shafts where the inner drives the feed auger.

The configuration of the outer rotating element is designed to maintain homogenous flow from hopper to feed chamber and is selected to suit each material and, simultaneously “condition” the material to an homogeneous bulk density as it transitions to the feed auger.

All of the material in the feed chamber is kept in motion, avoiding separation or stagnation, with the aim of uniform presentation into the feed auger throughout its circumference and exposed length.

The material being conveyed by the metering element (feed tube and auger) is gravimetrically uniform with any minor variations in feed rate resulting from handling characteristics peculiar to the material sample and/or variations in speed of the drive unit.

Adjustments to feed rate within the capacity of each feed auger is carried out by varying the speed of the drive motor or output speed of a variator (where used). Change of capacity is achieved with an exchange of auger and feed tube.

Accuracy

±0.5 to 2% (of design feed rate) with the majority of materials. Azano’s AZ Series Volumetric Feeders frequently produce high accuracy where gravimetric control had previously been considered a necessity.

**MODEL
AZ-2200**

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Design Level

Changes when components are not interchangeable

Auger Type

- 1 Standard Auger
- 2 Solid Flight Auger
- X Special Auger

Auger Size and Feeder Capacity (m3/hr)

A	2L/hr	AZ-2200	AZ-2500
B	4L/hr	AZ-2200	AZ-2500
C	30L/hr	AZ-2200	AZ-2500
D	70L/hr	AZ-2200	AZ-2500
E	200L/hr	AZ-2200	AZ-2500

Conditioning Blades

- 1 Conditioning Auger
- 2 Conditioning Blades
- 3 Lime Conditioner
- X Special

Hopper & Feed Chamber

- B 30 litre Mild Steel (also 10L & 20L Model AZ-2200)
- C 30 litre 304 / 316 Stainless Steel
- D 30 litre 316 Stainless Steel Food Quality
- E Mild Steel Chamber Only
- F 304 or 316 Stainless Steel Chamber Only
- G 316 Stainless Steel Food Quality Chamber Only
- X Special
- SB 316 S/S Bolted Safety Grille for Integral Hoppers
- SW 316 S/S Welded Safety Grille for Integral Hoppers

Feed Tube

- 1 200mm Long
- X Special

Motor Type

- A AC TEFC IP55 400/3/50
- B DC 180 Volt IP54
- X Special

Variable Speed Drive

- 1 No Variable Speed Drive
- 2 AC Variable Speed Drive
- 3 DC Variable Speed Drive
- X Special

NOTES



1800 006 901

www.azano.com.au

sales@azano.com.au

WESTERN AUSTRALIA

Level 6, 218 St Georges Terrace
Perth WA 6000

VICTORIA

Unit 19, 45 Normanby Road
Notting Hill VIC 3168