Acromet Model 1100Z is a rugged, versatile volumetric feeder designed to provide an economical means of dosing powders in the water treatment industry. The Acromet 1100Z is widely used for dosing polyelectrolytes, lime, fluoride, soda ash, PAC and aluminium sulphate etc.

Application
The Model 1100Z, in its simplest form, is a single auger feeder specifically designed to accurately meter free flowing dry materials at rates ranging from 0.0006 to 0.9 m³/hour.

Material agitation, in the form of a secondary auger or blades, is incorporated for conditioning when necessary, to achieve reliability and accuracy of feed rate with specific materials. For Lime products a very specific and purpose built lime conditioning auger is used.
MODEL 1100Z

Design Features

Capacity

Model 1100: 0.0006 to 0.9 m³/hour

Metering Tube

The 200mm long 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 set screws and butterfly nuts to allow for quick removal for chamber clean out and maintenance. Sealing is accomplished using a cork gasket for general applications and food quality rubber for sanitary and food applications.

Optional features for metering tubes include: extra length to approximately 1.5 metres and a variety of specialised end fittings to suit individual application requirements.

Feed Chamber and Hopper

The combined feed chamber and 0.03 m³ (1 ft³) hopper available on the Model 1100Z provides an economical solution where the storage capacity is acceptable. The standard Model 1100Z feeder is produced in mild steel, stainless steel and food industry finish stainless steel. 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, extra large hoppers, etc are available to suit specific requirements.

Metering Auger

On the smaller 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 onto the end of the motor gearbox drive shaft and requires no tools for disassembly.

For the larger feeders and special applications, solid flight augers are available in a variety of configurations to suit particular requirements.

The metering auger in the standard feeder is positioned centrally in the feed chamber. This facilitates the use of augers of different sizes to meet varying production requirements.

This centralised auger design also allows the fitting of product conditioning attachments, should these be found necessary, either by change of service or by change in handling characteristics of the material (perhaps from another supplier).

Acromet Series 1000 Feeders are available with metering augers positioned off-centre and with specially designed feed chambers to provide a superior self-emptying feature.

Product conditioners of a variety of configurations may be used in the Model 1100Z up to auger size ‘K’, designed to ensure reliability of feed and by creating a constant bulk density of material in the feed auger, consistent accuracy of feed rate. For very difficult products such as lime, a special conditioning auger is available.

Gearbox

The robust reduction gearbox provides direct coupling between the motor and metering auger. Various speed ratios are available to suit specific application needs.

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 mechanical variator.

Where greater turndown is required the feeders are available with DC motors and 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

Acromet test facilities are available for clients wishing a performance report prior to purchase of any Acromet Feeder. Alternatively, feeders are available for hire to clients requiring more detailed testing on site or on any noxious product.
Engineering Specifications

Model 1100Z
Capacity Chart (Cubic Metres Per Hour)

<table>
<thead>
<tr>
<th>MODEL</th>
<th>AUGER SIZE</th>
<th>MAXIMUM OUTPUT</th>
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<tbody>
<tr>
<td>1100</td>
<td>A</td>
<td>0.0006</td>
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<tr>
<td>1100</td>
<td>B</td>
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<td>H</td>
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</tr>
<tr>
<td>1100</td>
<td>K</td>
<td>0.9</td>
</tr>
</tbody>
</table>

Hopper Capacity:
Standard: 0.03m³ (1 ft³)
Option: Circular chamber inlet or chamber only to suit connection to bulk storage hopper. Larger capacity bulk storage hopper. Other inlet configurations to suit specific application requirements.

Materials of Construction:
Auger, feed tube and drive shaft: Stainless Steel
Chamber and Hopper: Standard is mild steel
Optional: food quality polyethylene stainless steel, food quality stainless steel.
Seals: Teflon
Motor & Gearbox Cases: Standard, aluminium (may vary depending upon size of feeder and application).

Power Requirements:
Standard: 415V 50 Hz three phase
Optional: 240V 50 Hz single phase or any other to suit specific requirements.
Ambient Temperature Limits: 0-45°C
Accuracy: ±0.5 to 2% (of design feed rate) with most materials