

**MODEL 1010 SERIES-2
DRY MATERIALS FEEDER**



**OPERATION
AND
MAINTENANCE MANUAL**

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1. INTRODUCTION

Your Acromet Model 1010 Volumetric Feeder is a Dry Material Feeder employing the new and unique principles of material control to provide exceptional metering accuracy and performance.

Versatility of design makes provision for the application of a variety of auger systems and other features, the selection of which is dependent on the characteristic of the product to be handled and the ease or otherwise with which an acceptable degree of feed rate accuracy is achieved.

There are over five (5) Metering Auger sizes available in the range for the Model 1010 Feeder. All size Metering Augers and Discharge Cylinders devices are interchangeable on the Model 1010. The Model 1010 has an exchangeable nylon insert in the discharge tube.

The Model 1010 Volumetric Feeder is both rugged and reliable, featuring a simple clean self-supporting design that will give long service life with the minimum of maintenance.

2. SAFETY PRECAUTIONS

Always use fresh material in Feeder for calibration purposes, in exactly the same condition that the material will be supplied to the hopper when the process is running continuously. Incorrect calibration values will result if material collected as samples are returned to the hopper, due to the 'conditioning' of the material through the Feeder.

Some materials, particularly those supplied normally to the hopper in the 'aerated' condition, become progressively denser each time they pass through the Feeder, resulting in 'heavier' samples for the same volume output.

Please read and familiarise yourself with all Sections of this and other Equipment Manuals before proceeding with installation.

3. INSTALLATION

3.1 The Model 1010 is normally connected to the extruder neck-piece or nominated mounting position via the feed tube mounting flange. Support the Model 1010 in position and fit the securing fasteners. Remove any temporary support. Various optional mounting arrangements are available to suit specific requirements.

NOTE: Operations 3.2 and 3.3 must be carried out by a Qualified Electrician.

3.2 Connect the drive motor/s (1) to the electrical supply. The type of drive used is often decided by customer preference and may be either:

- 3.2.1 Fixed speed motor operated by a timer.
- 3.2.2 Fixed speed A.C. Motor controlled manually or automatically by variable frequency inverter to vary the speed.
- 3.2.3 D.C. Variable Speed Motor controlled manually or automatically by SCR Controller.
- 3.2.4 Mechanical variable speed drive.

WARNING: DO NOT OPERATE THE FEEDER WITH THE FEED TUBE REMOVED OR PLACE HANDS, METALIC OR ANY OTHER OBJECT WITHIN HOPPER AREA WHILST FEEDER IS IN OPERATION. THERE IS A HIGH RISK OF INJURY TO PERSONNEL AND/OR DAMAGE TO THE AUGER.

3.3 Check the Feeder rotation by a short run. The rotation **MUST BE CLOCKWISE** when facing the discharge tube or damage to the Feeder will occur. Change the power leads in the motor terminal box to reverse the direction of rotation. Product discharge from the Feeder must fall freely and not be restricted in any way.

3.4 Fill the Conditioning Chamber and Hopper with material and run the Feeder for about one minute to ensure that the Metering Auger is operating with a complete supply of material. The material minimum level must always be at least 50mm to 100mm above the Auger.

3.5 When the Feeder is fully operational, calibrate the output with the graduations on drive control by collecting several samples, each for a predetermined time interval. Weigh the samples and record the average weight against the selected speed setting, repeating the procedure until the full speed range is calibrated.

4. CALIBRATION AND OPERATION

If during future operations or plant changes it becomes necessary to reduce or increase the capacity of the Feeder beyond the available limits of capacity, smaller or larger metering Augers and discharge cylinder sets may be available. Refer to Capacity Chart.

5. MAINTENANCE

5.1 General Care

Period cleaning of the entire Feeder is recommended especially when metering adhesive, cohesive or hygroscopic products. When cleaning **DO NOT** hose with water.

Humidity can have a pronounced effect on some dry materials, so ensure that adequate ventilation or air drying / heating is available to prevent the material from clogging or caking due to moisture absorption.

5.2 Drive Motor (1)

Refer to Manufacturer's Instructions.

5.3 Controller (AC or DC)

Refer to Manufacturer's Instructions.

5.3 Gear Reduction Box (4)

The worm gear reduction box is supplied with long term lubrication and is charged with a medium composition grease at the time of manufacture. After approximately 7,500-10,000 hours of operation, or a period of five (5) years, (whichever is the sooner) it is recommended to drain and clean the gear unit thoroughly and recharge it with a branded synthetic lubricant.

Lubricant: Shell Alvania E.P.

5.4 Shaft Seal Assembly (Fig. 2)

The seal has been designed to eliminate any necessity for lubrication and will often last several years dependent upon the abrasive properties of the product being metered. However, if abrasive particles are present, it is advisable to replace the Seal Assembly (Fig. 2) at least once every twelve (12) months. Should the seal start to fail and material manage to penetrate the inner Teflon Packing (24) and Outer Seal Cap (22), this will be evidenced by a leakage deposit through the BACK OF THE Adaptor Plate (8) which is located between the rear wall of the Conditioning Chamber (5) and the Adaptor Bracket (9).

(Refer to "Dismantling Procedures" for instructions on replacing seals).

6. DISMANTLING PROCEDURES

6.1 Feeder Removal

6.1.1 Run the Feeder until the hopper is empty. If a slide gate is fitted, close off the material feed from the hopper to the Conditioning Chamber (5).

6.1.2 Disconnect Motor (1) from power supply and isolate.

THIS MUST BE DONE BY A QUALIFIED ELECTRICIAN.

6.1.3 If the Feeder is provided with a circular inlet cover and a flexible connector between the cover and the bottom of the hopper, remove the flexible connector and then dismantle the cover bolts.

6.1.4 Where the Conditioning Chamber (5) is bolted directly to the bottom of a hopper, remove the bolts between the Conditioning Chamber (5) and the hopper.

6.1.5 Remove the bolts securing the Base Plate (12) to the foundation / support and slide the complete feeder out for maintenance access.

6.1.6 Open the quick empty Bottom Plate (208) and drain any remaining product from the Conditioning Chamber.

6.1.7 Support the Conditioning Chamber and remove the nuts and bolts securing the Feed Tube Flange (6) to its mounting point. Withdraw the Feeder carefully for maintenance access.

6.2 Tube Plate Removal

6.2.1 The Tube Plate is easily removed by unbolting the six fasteners securing the flange of the Tube Plate (6) to the face of the Conditioning Chamber (5).

6.2.2 Slide the Tube Plate (6) along the length of the Metering Auger (7) until clear. Care should be taken not to bend the Auger (if Auger has not already been removed), or allow spillage of material still retained in the Conditioning Chamber. Carefully remove the Tube Plate Gasket (11).

6.3 **Metering Auger Removal**

- 6.3.1 The Model 1010 Auger may be accessed by emptying the Chamber as in 6.2.1 and 6.2.2 above. Slacken and remove the Auger retaining screw (202) at the rear of the unit.
- 6.3.2 Undo the nuts securing the motor bracket to the Conditioning Chamber. Withdraw the motor assembly. The Auger can be removed via the hole at the rear of the Chamber.
- 6.3.3 The Auger Sleeve (7X) can also be changed via the rear hole in the Conditioning Chamber.
- 6.3.4 Undo the Retaining Screw (212) on the top side of the Feed Tube. Withdraw the sleeve from the Chamber.

6.4 **Seal Assembly Removal**

The Seal Assembly (A21) is located in the end of the Housing Plate (8).

Unscrew, **anti-clockwise**, the Seal Cap (22), using a corkscrew type packing removal tool, remove the Braided Teflon Seal Rings (24). Remove the Follower (23) and the Spring (25).

NOTE: For ease of assembly, the Auger Seal is supplied as a service replacement kit (A21) complete with pre-cut Braided Teflon Packing.

6.5 **Re-Assembly**

Re-assemble in reverse order to the dismantling sequence.

MODEL 1010 DRY MATERIAL FEEDER

PARTS LIST - GENERAL ASSEMBLY

ITEM	PART NO	DESCRIPTION	QTY REQD	NOTES
1	001- AS SPEC	DRIVE MOTOR	1	
5	35099	CONDITIONING CHAMBER, +30 LTR HOPPER	1	#
5X	AS SPEC	CONDITIONING CHAMBER ONLY / SPECIAL	1	#
6	AS SPEC	AUGER SLEEVE	1	
7	007- AS SPEC	METERING AUGER	1	
8	35326	ADAPTOR PLATE (SEAL HOUSING)	1	
9	35875	ADAPTOR BRACKET	1	
10	010- AS SPEC	GASKET, ADAPTOR BRACKET	1	
11	011- AS SPEC	GASKET, DISCHARGE TUBE PLATE	1	
13	013- AS SPEC	GASKET, HOPPER – CIRCULAR INLET	1	#
15	015- AS SPEC	CIRCULAR INLET	1	#
17	017- AS SPEC	AUGER WITH CONDITIONING AUGER	1	#
18	018- AS SPEC	AUGER WITH CONDITIONING BLADES	1	#
19	019- AS SPEC	DRIVE SHAFT	1	
A21	35325	SEAL ASSEMBLY KIT	1	⊗
22	AS SPEC	SEAL CAP	1	
23	AS SPEC	FOLLOWER	1	
24	AS SPEC	BRAIDED TEFLON PACKING	1	
25	AS SPEC	SPRING	1	
63	03528	NAME PLATE	1	

MODEL 1010 GENERAL ASSEMBLY CONT.

ITEM	PART NO	DESCRIPTION	QTY REQD	NOTES
201	35356	HUB, DRIVE END	1	
202	35609	LOCKING SCREW (AUGER)	1	
205	35100	SAMPLE CAP	1	
206	35101	RETAINING PIN ASSEMBLY	1	
208	35068	DOOR (PIVOT)	1	
209	35074	PIVOT PIN (DOOR)	2	
210	35070	THUMB SCREW (AUGER SLEEVE)	1	
213	08/10/01	HAMMER DRIVE PIN	4	
214	08/01/13	CAP SCREW (SEAL HOUSING)	3	
216	08/02/08	HEX HEAD SCREW (MOTOR)	4	
217	09/01/03	WASHER (MOTOR / BRACKET	8	
220	08/11/06	NUT (MOTOR BRACKET)	4	
		SIGHT GLASS	1	

Notes:

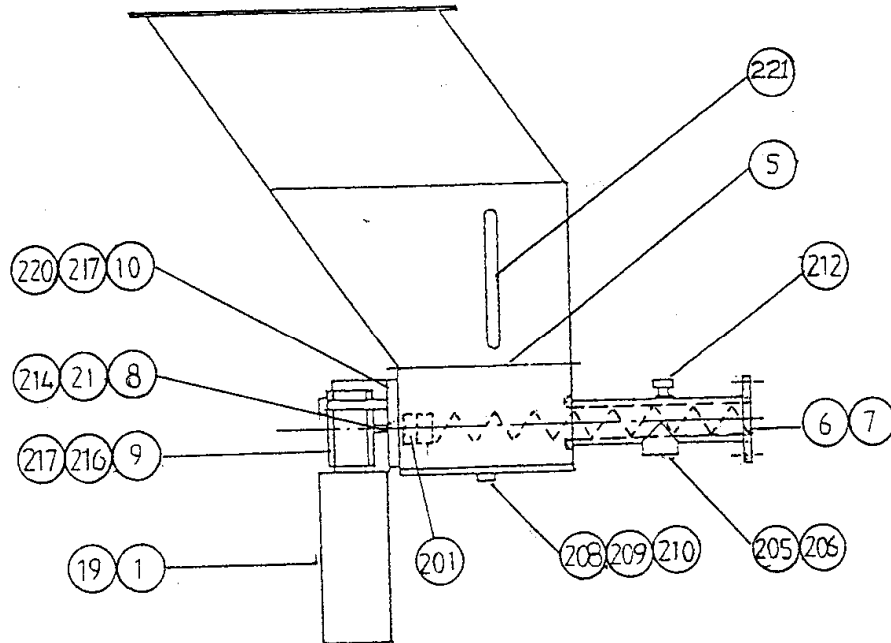
⊗ Available in A21 kit form only

When fitted

WHEN ORDERING SPARE PARTS PLEASE STATE:

- The Feeder Serial Number
- The Feeder Model Number
- The Spare Part Item Number and full description

MODEL 1010 DRY MATERIAL FEEDER



1	DRIVE MOTOR	9	ADAPTOR BRACKET
5	CONDITIONING CHAMBER c/w HOPPER	10	GASKET (ADAPTOR BRACKET)
5X	CONDITIONING CHAMBER ONLY	11	GASKET (TUBE PLATE)
6	SLEEVE	12	BASE PLATE
7	METERING AUGER	19	AUGER DRIVE SHAFT
8	ADAPTOR PLATE (SEAL HOUSING)	A2	SEAL ASSEMBLY KIT
		1	

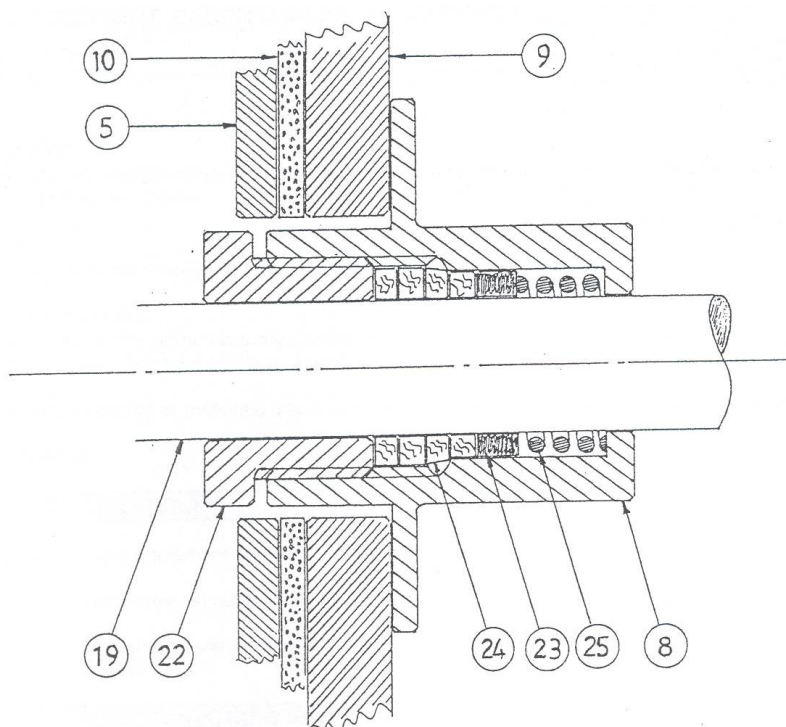
OPTION

17	CONDITIONING AUGER	} WHEN FITTED
18	CONDITIONING BLADE	
13	GASKET	
14	HOPPER REMOVABLE	
15	CIRCULAR INLET	

FIG. 1

SEAL AND DRIVE SHAFT ASSEMBLY

AVAILABLE IN KIT FORM ONLY, ITEM No. A21



A21 SEAL ASSEMBLY KIT INCORPORATING:

- | | |
|----|------------------------|
| 22 | SEAL CAP |
| 23 | FOLLOWER |
| 24 | BRAIDED TEFLON PACKING |
| 25 | SPRING |
-
- | | |
|----|------------------------------|
| 8 | ADAPTOR PLATE |
| 19 | DRIVE SHAFT (METERING AUGER) |

FIG. 2

APPENDIX

UNCONTROLLED DOCUMENT

Q.A. PROCEDURE

Section	EQUIPMENT DECONTAMINATION PROCEDURE	
Issued by	Date	Page
Approved by	REV 0	19.1
	19.12.94	Supersedes
	19/12/94	Valid from
		19/12/94

OBJECTIVE:

The purpose of this procedure is to provide a standard method for the return of equipment in a safe decontaminated condition.

SCOPE:

All goods / equipment being returned to Acromet (Aust) Pty Ltd for service and repair.

RESPONSIBILITIES:

It is the responsibility of the customer to ensure that the correct and proper decontamination has been carried out before returning goods to Acromet (Aust) Pty Ltd.

All persons arranging or receiving goods into Acromet (Aust) Pty Ltd shall adhere to this procedure.

PROCEDURE:

1.0 BEFORE RETURN

Before any goods / equipment can be accepted for return;

1.1 The customer must be notified of Acromet (Aust) Pty Ltd equipment decontamination procedure.

1.2 Supply the customer with a copy of the Equipment Decontamination Advice form SD-19.0-1 either by fax or mail.

2.0 THE CUSTOMER IS TO PROVIDE

2.1 A completed Equipment Decontamination Advice form SD-19.0-1.

2.2 The relevant Material Safety Data sheet.

2.3 A Purchaser Order detailing work to be carried out.

3.0 UPON ACROMET RECEIPT OF DECONTAMINATED GOODS

3.1 Upon receipt of decontaminated goods / equipment with completed Equipment Decontamination Advice form and Material Safety Data sheet, a repair / tag number will be allocated and processed accordingly.

Note: Any goods / equipment received without an Equipment Decontamination Advice form will be QUARANTINED and the Acromet Product Manager notified.

4.0 RETURN OF CONTAMINATED GOODS

The Acromet Product Manager will;

4.1 Notify the customer of Quarantine procedure.

4.2 Inform the customer of their responsibility to arrange collection of contaminated goods.

RELATED DOCUMENTS:

SD-19.0-1 Equipment Decontamination Advice form

END OF DOCUMENT

ACROMET (AUST) PTY LTD

SD1901.DOC

UNCONTROLLED DOCUMENT

ACROMET (AUST) PTY LTD

EQUIPMENT DECONTAMINATION ADVICE	Document No	Issue Date: 5/12/94
	SD -19.0 -1	REV 0
		Page No.
		1

ACROMET USE ONLY
MATERIAL RETURN TAG No. _____

IMPORTANT NOTE!

ITEM RETURNED MUST HAVE THIS FORM COMPLETED, ENCLOSED IN AN ENVELOPE AND ATTACHED TO OUTSIDE OF SKID OR CRATE IN AN EASILY VISIBLE LOCATION.

The exterior of the item must be cleaned and all part(s) in contact with the Process decontaminated. A Material safety data sheet (MSDS) for the fluid handled by the item must be provided together with the shipment.

Please Return Item(s), Freight Prepaid, To: Acromet (Aust) Pty Ltd
14 Winterton Road
CLAYTON VIC 3168
AUSTRALIA

MUST BE COMPLETED AND ATTACHED TO RETURNED ITEM!

Customer Name: _____	
PO Number: _____	
Model Number: _____	
Serial Number: _____	
Description: _____	
MSDS Provided _____ <input type="checkbox"/> YES	
This item has been decontaminated _____ <input type="checkbox"/> YES	
Name of Contaminate: _____	
By signing this form, the undersigned certifies that the enclosed item(s) have been properly decontaminated and the appropriate MSDS is enclosed.	
WARNING: A false Declaration may result in legal action.	
Name: _____	
Position: _____	
Signature _____	

Note: Gearbox must be opened and cleaned if process contamination is suspected.

If you have any questions, please contact Acromet (Aust) Pty Ltd Service Department on (03) 544 7333. Acromet and its employees would like to thank you for your cooperation in this matter.

SD191.DOC