



****FEEDTECH****
FEEDINGSYSTEMS



FEEDTECH

Brochure and PartsCatalogue

Volume 1, Issue 1

****FEEDTECH****

Committed to manufacturing quality products. For all livestock feeding requirements

By **Trevaskis Engineering**

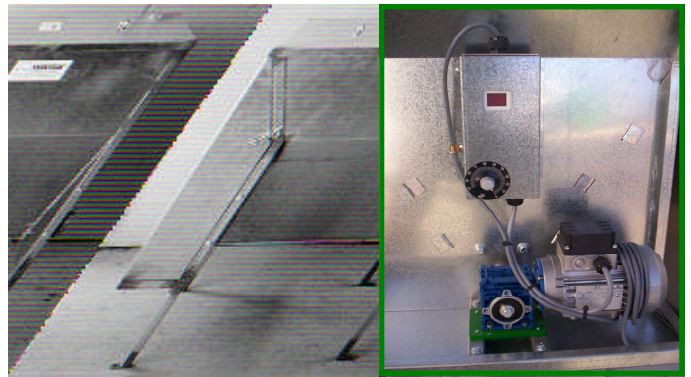
Page1

Index

Product.....	page 3
Additive Dispenser.....	3
Agri-Matic.....	3
Auger Centreless.....	4
Bent Casing.....	4
Boots & Anchor Shafts.....	4
Casing (PVC).....	5
Control Modules.....	5
Flatson.....	5
Grain Pre cleaner.....	6
Hoppers.....	6
Pencil Augers.....	5
Proximity Switches.....	6
Roller Mills.....	7
Silo Components.....	7
Rota-Matic Drive Head.....	8
Trevaskis Feeders.....	8
Vol-U-Mat Feeders.....	8
Universal Drive.....	9
Herringbone Set up.....	10
Rotary Set up.....	11
Additive Dispenser / Operation / Installation.....	13-14
Additive Dispenser / Trouble Shooting.....	14-16
Agri-Matic / Operation / Installation.....	17-29
Agri-Matic / Trouble Shooting.....	30-31
.	
Flatson / Operation / Installation.....	32-41
Flatson / Trouble Shooting.....	42-43
.	
Roller Mill / Operation / Installation.....	44-58
Roller Mill / Trouble Shooting.....	59-61
.	
Feedtech Auger Methology.....	62
Wiping Board's Memory.....	63
Flow Rates.....	64

ADDITIVE DISPENSER

- ROBUST FULLY GALVANISED CONSTRUCTION
 - VARIABLE ADD RATES
 - LARGE HOPPER HOLDS UP TO 70KG
 - 50mm PVC WITH 40 mm AUGER OR 65mm PVC WITH 60 mm AUGER
 - METERING DROP
 - ADJUSTABLE HEIGHT
 - EASY ACCESS
 - CLIP ON LID AND WEATHER COVER
 - PROVEN PERFORMER
 - 3 PIN PLUG - READY TO GO
- 501545** 50 mm ADDITIVE DISPENSER
505446 65 mm ADDITIVE DISPENSER
504320 ADDITIVE DISPENSER MOTOR
504321 ADDITIVE DISPENSER GEARBOX
504322 ADDITIVE DISPENSER INVERTOR
504327 ADDITIVE DISPENSER TRIM POT



- CAN HOLD 500 kg, AND A BULKER BAG ON TOP
- 40mm, 65mm, 80mm, or 100mm AUGER
- CAN BE SET UP WITH OR WITHOUT VSD CONTROLLER
- SUPPLIED AS A FLAT PACK FOR EASY TRANSPORT
- WEATHER COVER FOR PRODUCT, MOTOR AND CONTROLLER

- **507075** Additive Dispenser Bulk Type 40mm with VSD drive
- 507074** Additive Dispenser Bulk Type 65mm with VSD drive
- 507076** Additive Dispenser Bulk Type 80mm with VSD drive
- 507077** Additive Dispenser Bulk Type 100mm with VSD drive
- 507078** Additive Dispenser Bulk Type 40mm no VSD
- 507079** Additive Dispenser Bulk Type 65mm no VSD
- 507080** Additive Dispenser Bulk Type 80mm no VSD
- 507081** Additive Dispenser Bulk Type 100mm no VSD

Agri-Matic

- Agri-Matic drops feed through the centre of each unit.
- Each unit will stack on each other, and turn 360 dg. From each other
- Four units can be stacked on each other and be controlled by one controller.
- The Agri-Matic drive head comes in four sizes 40mm / 65mm / 80mm / 100mm
- Clutch driven auger drive

504872 Agri-Matic Drive Head Mount
505447 (LH) 505448 (RH) 40 mm Agri-Matic Drive Head
505449 (LH) 505450 (RH) 65 mm Agri-Matic Drive Head
505451 (LH) 505452 (RH) 80 mm Agri-Matic Drive Head
505453 (LH) 505454 (RH) 100 mm Agri-Matic Drive Head

505474 Agri-Matic Controller 1HC (Semi Auto)
505608 Agri-Matic Controller 1HC (Full Auto)
505475 Agri-Matic Controller 2HC (Semi Auto)
505609 Agri-Matic Controller 2HC (Full Auto)
505476 Agri-Matic Controller Expander 3H
505477 Agri-Matic Controller Expander 4H
506017 Agri-Matic Remote Push Button



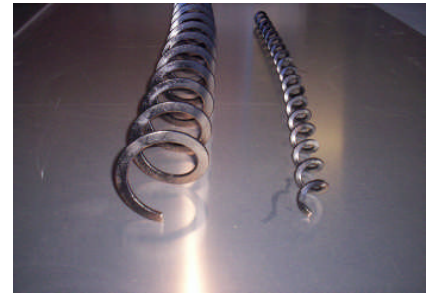
Agri-Matic Controller

Will control up to four heads. In Fully Auto or Semi Auto
 Fully Auto it will not feed an empty bail, will not feed a cow twice, will not feed if the platform is backed up until it is back to the next unfed cow.
 Semi Auto will feed every bail and has a manual skip

AUGERS CENTRELESS

Centreless Auger, available in four sizes 40 mm, 60 mm, 80 mm, & 100 mm.

Note the auger has a flat blade for Maximum thrust but round edges to eliminate wear on the PVC casing



501158	40 mm	Centreless Auger
501065	60 mm	Centreless Auger
501193	80 mm	Centreless Auger
501192	100 mm	Centreless Auger

Bent Casing

Bent Casing is available in five sizes

40 mm and has a bend of approx 45 deg. 50 mm and has a bend of approx. 45 deg.
65 mm and has a bend of approx 85 deg. 80 mm and has a bend of approx 85 deg.
100 mm and has a bend of approx 85 deg.



501183	40 mm	PVC Bent Casing
503678	50 mm	PVC Bent Casing
501184	65 mm	PVC Bent Casing
501185	80 mm	PVC Bent Casing
501186	100 mm	PVC Bent Casing

BOOTS AND ANCHOR SHAFTS

Feedtech have a large range of Boots and anchors. All Manufactured in powder coated heavy duty steel and are supplied with bolts, clamps, bearings and shafts where required. This range is designed to hold the centreless auger and PVC casing at the opposite end to the drive motor, with the boots allowing grain to drop into the auger, thus giving a solid trouble free auger.

The range covers Twin Parallel Boots, Twin Parallel Through Boots, Twin Uni-Directional Boot, Single Boot, Single Through Boot, Pencil Auger Boot, Anchor Shaft & Bearing, Anchor Shaft Bearing & Tube. A new range of drive boots are now available. Designed to push over a short distances, they have a motor bolted to the rear of them and come in 40 mm 65 mm 80 mm and 100 mm

505488	40 mm	Twin Parallel Boot Assy
505489	40 mm	Twin Parallel Through Boot
505490	65 mm	Twin Parallel Boot Assy.
505491	65 mm	Twin Parallel Through Boot
505492	40 mm	Twin Uni-Directional Boot Assy. (360 deg.)
505493	65 mm	Twin Uni Directional Boot Assy. (360 deg.)
505494	40 mm	Single Boot Assy
505495	40 mm	Single Through Boot
505496	65 mm	Single Boot Assy
505497	65 mm	Single Through Boot
505498	80 mm	Single Boot Assy
505499	80 mm	Single Through Boot
505500	100 mm	Single Boot Assy
505501	100 mm	Single Through Boot
505502	4"	Pencil Auger Boot
505503	5"	Pencil Auger Boot
505505	40 mm	Anchor Shaft & Bearing
501383	40 mm	Anchor Shaft
505506	65 mm	Anchor Shaft & Bearing
505507	80 mm	Anchor Shaft & Bearing
505508	100 mm	Anchor Shaft & Bearing
505509	40 mm	Anchor Shaft, Bearing & Tube
505880	50 mm	Anchor Shaft, Bearing & Tube
505510	65 mm	Anchor Shaft, Bearing & Tube
505511	80 mm	Anchor Shaft, Bearing & Tube
505512	100 mm	Anchor Shaft, Bearing & Tube
506496	40mm	Drive Boot (with shaft but no box or motor)
506497	65mm	Drive Boot (with shaft but no box or motor)
506498	80mm	Drive Boot (with shaft but no box or motor)
506499	100mm	Drive Boot (with shaft but no box or motor)



CASING (PVC)

PVC Casing is priced per metre and sold in 6 metre lengths. We only use class 12 PVC

501085	40 mm	PVC Straight Casing
503654	50 mm	PVC Straight Casing
501086	65 mm	PVC Straight Casing
501181	80 mm	PVC Straight Casing
501182	100 mm	PVC Straight Casing

CONTROL MODULES

Feedtech have a range of control modules on the shelf, designed to switch Augers on and or off. In addition to this we offer a custom design service with controllers made your requirements.

505514	Flatson High Level Control Module
505515	High Level Control Module
505516	High Level Control with Time Delay
505517	High Level Control Module with 2 prox's
505518	Vol-U-Mat Control Module



FLATSON FEEDING SYSTEM



The Flatson feeding system because of its quality construction and reliability, it is a popular choice amongst dairy farmers.

Features include:

- Push button dispensing
- Augered drop controlled by timer makes it easy to change feed amounts
- Fully automatic auger filling system from silo to hoppers
- Easy installation into most dairies
- Can be upgraded to individually feed
- Large hopper storage

Feedtech Digital Technology now extends to the Flatson Feed System with the Flatson Controller.





Grain Pre Cleaner

Ideal for cleaning grain that has been stored in a bunker or straight off the header. Simply feed the grain to be cleaned into the top of the unit, clean grain can then be augered out the bottom of the cleaner while impurities fall out another opening

507275 Rotary Grain Pre Cleaner

HOPPERS

Feedtech have a range of hoppers that include small hoppers to clamp onto a mill, large hoppers that bolt to mills, stand alone hoppers and modular hoppers that can be put together to cater for numerous applications.

- 505647** Modular Hopper Segment (Motor)
- 505648** Modular Hopper Barrel
- 505649** Modular Hopper Cone Segment
- 505650** Modular Hopper Lower Cone
- 505651** Modular Hopper Frame and Mount (over mill)
- 505652** Modular Hopper Twin Chassis
- 505653** Modular Hopper Triple Chassis
- 505654** Small Hopper For Mill (Clamp-on type)
Hopper & Frame (over mill)
- 505655** Dual Mill Hopper
- 503347** 100 mm Hopper Shaft (4-6-10 / 60 S. Gear Box)
- 503679** 80 mm Hopper Shaft (4-6-10 / 60 S. Gear Box)
- 503346** 65 mm Hopper Shaft (4-6-10 / 60 S. Gear Box)



Pencil Augers Belt Drive

4" or 5" augers, Powder coated or hot dipped Galvanized, Easy belt adjustment, Belt cover for your safety, Compact and robust, Motor cover available.

Pencil Augers Gearbox drive

Powder coated or hot dipped Galvanized, Direct positive drive, Compact and robust, Un-matched strength and reliability by design. Drive shafts are supported through the gearbox and an independent Bearing.

- 504967** 4" Pencil Auger Drive with the first 3m (Belt Drive)
- 505701** 4" Pencil Auger Drive with the first 3m (Gear Box Drive)
- 505702** 4" Pencil Auger (Drive extension) per. Metre
- 505009** 5" Pencil Auger Drive with the first 3m (Belt Drive)
- 505703** 5" Pencil Auger Drive with the first 3m (Gear Box Drive)
- 505704** 5" Pencil Auger (Drive extension) per. Metre
- 505705** Pencil Auger Motor Cover (Belt Drive)
- 505706** Pencil Auger Clamp (4")
- 505707** Pencil Auger Clamp (5")



PROXIMITY SWITCHES

Proximity switches designed to auto switch on or off augers. They have a proven performance record.

- 505656** A/T Proximity Switch with surge suppressor
- 501436** A/T In-Line surge suppressor only
- 501450** A/T Proximity Switch without surge suppressor
- 503896** Roller Mill 3 Wire Prox - suits Digital Mill Controller



ROLLER MILLS

FEEDTECH offer a range of Roller Mills to suit most feeding systems.

Fully automatic and manually operated roller mills are available in four sizes:

4" (Rolls 4" W x 8" Diam.) Capacity = 2.00 Tonne per hour

6" (Rolls 6" W x 8" Diam.) Capacity = 3.50 Tonne per hour

8" (Rolls 8" W x 8" Diam.) Capacity = 4.50 Tonne per hour

Twin Roller Mill (Twin 8" / 8" & 6" / 8" & 4" / Twin 6" / 6" & 4" Twin 4") up to = 9.00 Tonne per

hour

Note: Specified roller mill capacity can vary according to type and condition of grain.

Features:

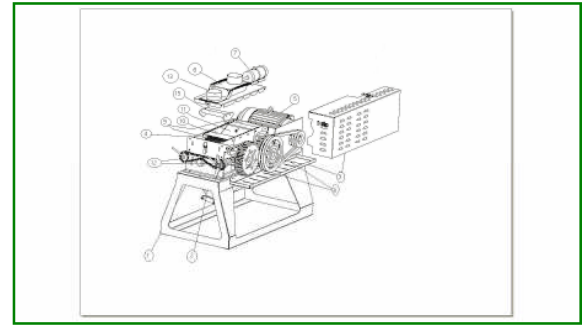
- 3 hp Electric Motor (4" Mills)
- 5 hp Electric Motor (6" Mills)
- 10hp Electric Motor (8" Mills)
- Belt and gear drive combination
- Solid rollers
- Magnetic protection of rollers
- Spring loaded roller overrides
- Quick and simple adjustment of rollers
- Robust M/S construction
- Quality roller bearings
- Fully guarded, preventing accidental access to moving parts
- Lowline design to fit underneath most silos
- Remote lubrication of bearings.
- Soft start on all mill motors



All Roller Mills need soft starters fitted.

Soft starters are standard on three phase Mills.

Soft starters are an option on single phase Mills.



Options:

- Fully Automatic Digital Controller - Suited to in line applications (Grain flow is actuated and shut off automatically on demand—Motor shuts down on a variable timer delay)
- Manual Control - Manual Start/Manual Stop
- Available in 3 Phase or Single phase
- Overhead hopper and frame available.
- Vacuum or Pneumatic actuation

506683	4" Manual Roller Mill - Single Phase (gear type no soft start)
506684	4" Manual Roller Mill - Three Phase (Gear type with soft start)
506685	4" Fully Auto Roller Mill - Single Phase (Gear type no soft start)
506686	4" Fully Auto Roller Mill - Three Phase (Gear type with soft start)
506688	6" Manual Roller Mill Single Phase (Gear type no soft start)
506689	6" Manual Roller Mill - Three Phase (Gear type with soft start)
506690	6" Fully Auto Roller Mill - Single Phase (gear type no soft start)
506691	6" Fully Auto Roller Mill - Three Phase (Gear type with soft start)
506692	8" Manual Roller Mill Single Phase (gear type no soft start)
506693	8" Manual Roller Mill - Three Phase (Gear type with soft start)
506694	8" Fully Auto Roller Mill - Single Phase (Gear type no soft start)
506695	8" Fully Auto Roller Mill - Three Phase Gear type with soft start
506658	Twin Roller Mill 8" with 8" Single Boot Three Phase
506659	Twin Roller Mill 8" with 6" Single Boot Three Phase
506660	Twin Roller Mill 8" with 4" Single Boot Three Phase
506661	Twin Roller Mill 6" with 6" Single Boot Three Phase
506662	Twin Roller Mill 6" with 4" single Boot Three Phase
506663	Twin Roller Mill 4" with 4" Single Boot Three Phase
506664	Twin Roller Mill 8" with 8" Twin Boot Three Phase
506665	Twin Roller Mill 8" with 6" Twin Boot Three Phase
506666	Twin Roller Mill 8" with 4" Twin Boot Three Phase
506667	Twin Roller Mill 6" with 6" Twin Boot Three Phase
506668	Twin Roller Mill 6" with 4" Twin Boot Three Phase
506669	Twin Roller Mill 4" with 4" Twin Boot Three Phase
506671	Twin Roller Mill 8" with 8" Single Boot single Phase
506672	Twin Roller Mill 8" with 6" Single Boot single Phase
506673	Twin Roller Mill 8" with 4" Single Boot single Phase
506604	Twin Roller Mill 6" with 6" Single Boot single Phase
506675	Twin Roller Mill 6" with 4" single Boot single Phase
506676	Twin Roller Mill 4" with 4" Single Boot single Phase
506677	Twin Roller Mill 8" with 8" Twin Boot single Phase
506678	Twin Roller Mill 8" with 6" Twin Boot single Phase
506679	Twin Roller Mill 8" with 4" Twin Boot single Phase
506680	Twin Roller Mill 6" with 6" Twin Boot single Phase
506681	Twin Roller Mill 6" with 4" Twin Boot single Phase
506682	Twin Roller Mill 4" with 4" Twin Boot single Phase

506705 4" single phase Roller Mill soft start option
 506706 6" single phase Roller Mill soft start option
 506707 8" single phase Roller Mill soft start option

SILO COMPONENTS

Feedtech have a range of silo fittings and attachments to assist the augering of grain or pallets from silos.

FT - 900P Silo Fitting with slide
 FT - 910P Cablevey Adaptor
 FT - 920P Silo Adaptor (Angled)
 FT - 925P Silo Adaptor (Flat)
 FT - 940P 4" Pencil Silo Inlet (Top Hat)



ROTA-MATIC DRIVE Head

CLUTCH DRIVEN AUGER DRIVE
FLEXIBLE AUGER DELIVERY
QUALITY CONSTRUCTION
TWIN BELT PRIMARY DRIVE
FULLY GUARDED

505740	65mm Rota-Matic Drive (A29)
505741	80mm Rota-Matic Drive (A29)
505742	100mm Rota-Matic Drive (A29)
505743	40mm Rota-Matic Additive Drive Head (A29)
502172	Rota-Matic Drive Head Support System

TREVASKIS FEEDING SYSTEM

- Stores feed enabling extra ration feeding
- Ideal for one dispenser per cow
- 6, 15 & 20 kg models available
- Flexible auger fill from silo
- Manual drop
- Minimal auger start ups during milking
- Adjustable drops to suit your needs
- Brass pulleys & stainless steel cables
- Trevaskis dispensers suit most dairies
- Simple, effective design & operation

FT - 510F	6kg. Trevaskis Dispenser
FT - 511F	6kg. Trevaskis Lid with Brass Pulley
FT - 520F	15kg. Trevaskis Dispenser
FT - 521F	15kg. Trevaskis Lid with Brass Pulley
FT - 530F	20kg. Trevaskis Dispenser
FT - 531F	20kg. Trevaskis Lid with Brass Pulley
FT - 540F	Trevaskis Feeder Ball with Hook
FT - 541F	Trevaskis Brass Pulley Assy.



VOL-U-MAT FEEDING SYSTEM

- Single or double units
- Flexible auger fill from silo
- Fills after each drop
- Manual drop - one pull drops all
- Single dispensers hold up to 4 kg
- Double dispensers hold up to 6 kg
- Quality construction
- Brass pulleys & stainless steel cables
- Pellets or grain
- Simple operation
- Adjustable drops to suit your needs
- Economical system
- Thousands of dispensers in service



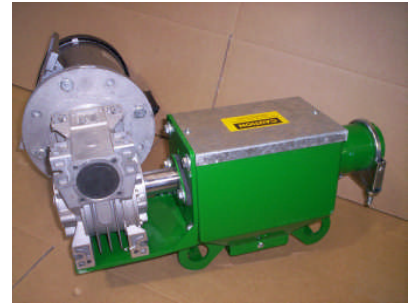
501432	Vol-U-Mat Single Dispenser 40mm with Drop Chute
505753	Vol-U-Mat Single Dispenser 65mm with Drop Chute
501107	Vol-U-Mat Single Dispenser Drop Chute only
501132	Vol-U-Mat Double Dispenser with Drop Chutes
501409	Vol-U-Mat Double Dispenser Drop Chute only
FT - 462F	Vol-U-Mat Double Dispenser Splitter only
505759	Vol-U-Mat 40mm Single Drive Unit
505760	Vol-U-Mat 65mm Single Drive Unit
501143	Vol-U-Mat Motor Cover Assy. Only
502115	Micro Switch

UNIVERSAL DRIVE UNITS



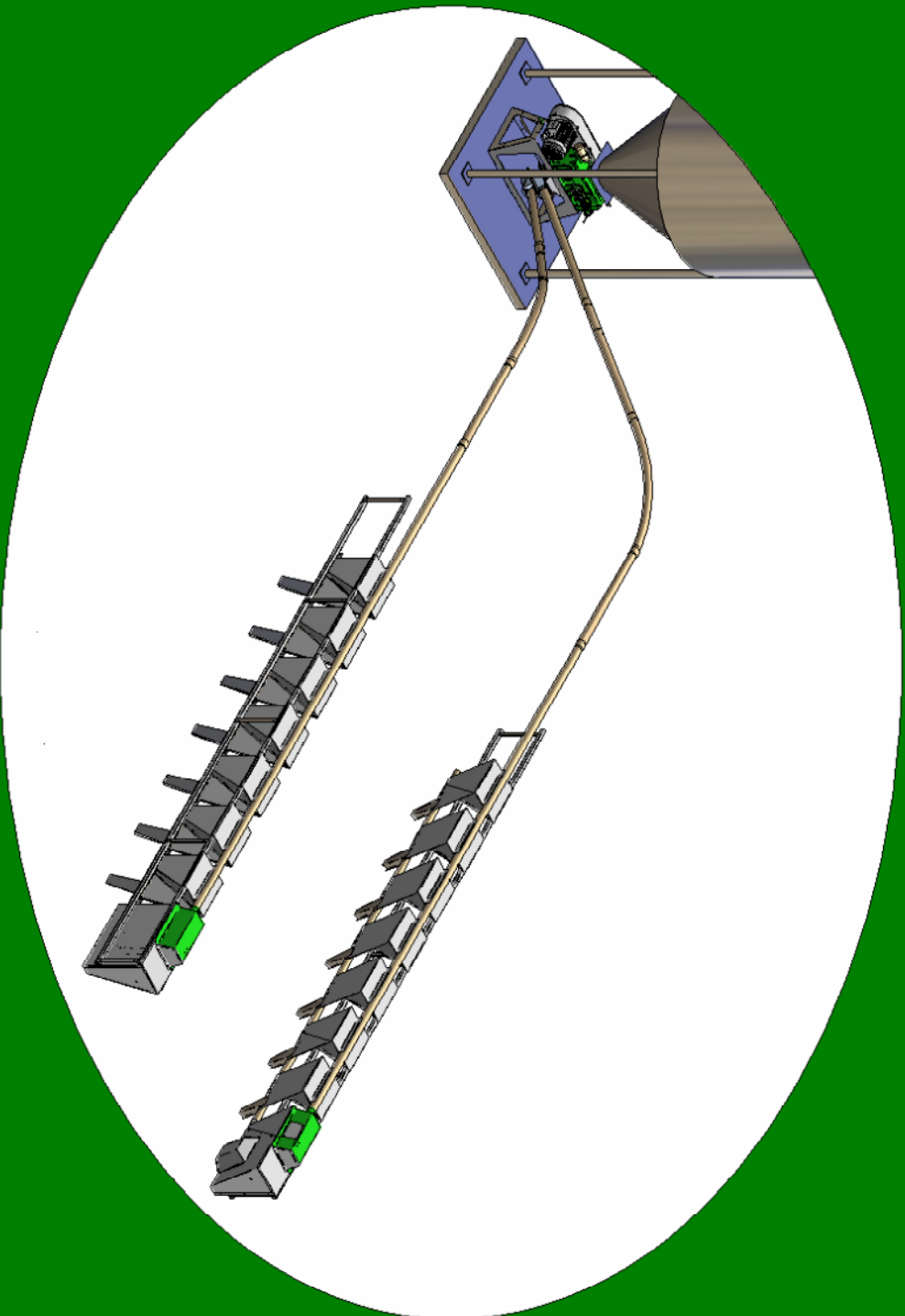
FEEDTECH's Universal Conveying System offers many great features with a proven track record of reliability. Universal drive heads are available in 4 sizes to suit most conveying needs. Available with high level control. Compact and robust, with powder coated steel chassis, belt driven and fully guarded.

Also now available in gear box drive.

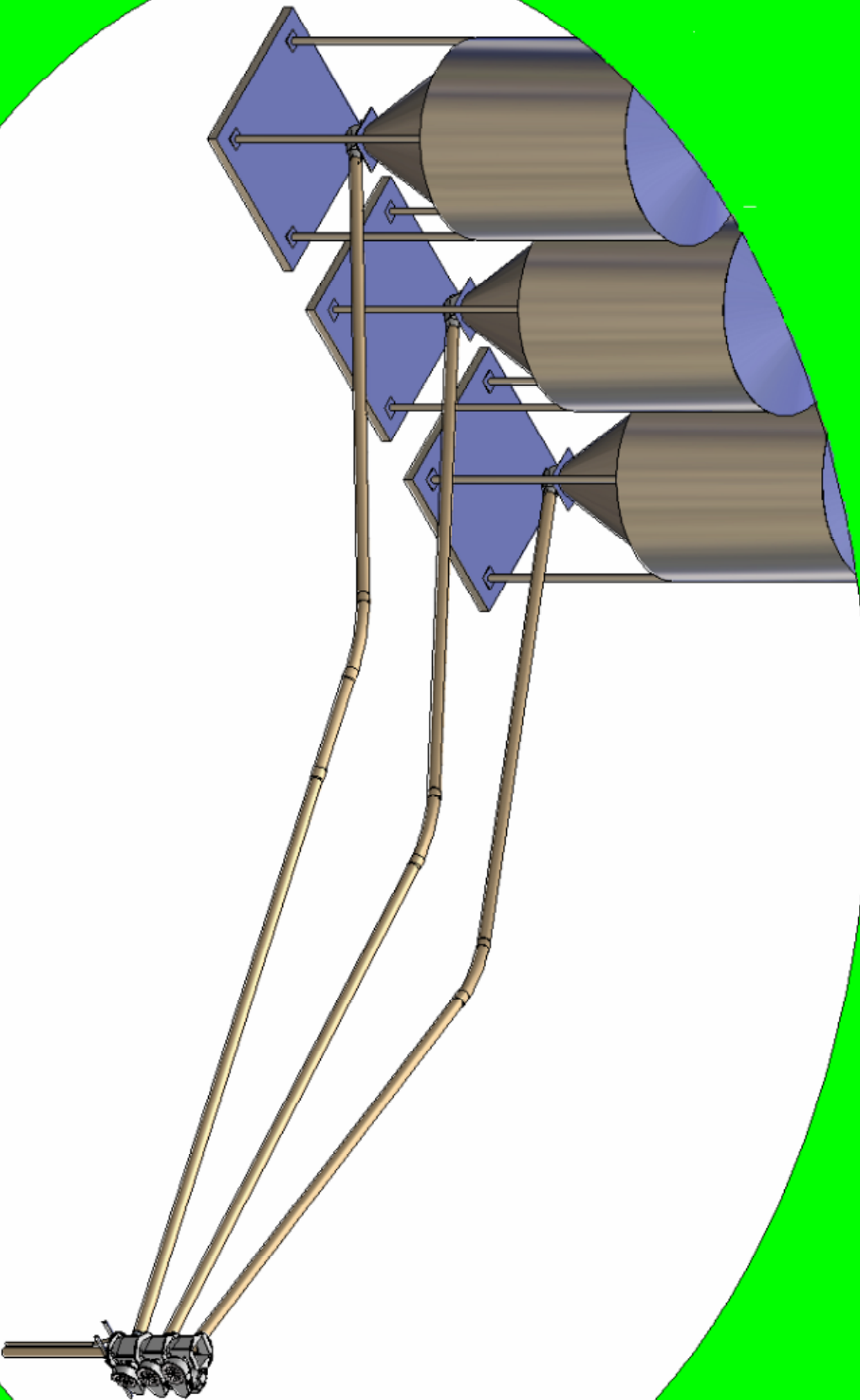


505749	40 mm	Universal Drive Head with Control
505750	65 mm	Universal Drive Head with Control
505751	80 mm	Universal Drive Head with Control
505752	100 mm	Universal Drive Head with Control
505745	40 mm	Universal Drive Head
505746	65 mm	Universal Drive Head
505747	80 mm	Universal Drive Head
505748	100 mm	Universal Drive Head
506628	40mm	Universal Drive Head Gear Box Drive
506629	65mm	Universal Drive Head Gear Box Drive
506630	80mm	Universal Drive Head Gear Box Drive
506631	100mm	Universal Drive Head Gear Box Drive
506632	40mm	Universal Drive Head Gear B. Drive with Control
506633	65mm	Universal Drive Head Gear B. Drive with Control
506634	80mm	Universal Drive Head Gear B. Drive with Control
506635	100mm	Universal Drive Head Gear B. Drive with Control

Typical Herringbone set up



Typical Rotary set up



ADDITIVE DISPENSER

Additive dispensers are one piece of equipment that have been around for a long time, and have a great track record. However of late we have been receiving some concerns that they will not go as slow as is required. If you turn the speed control down below 1/2 it will over load the motor. This can be reset in the controller so this does not happen. Instructions below. Flow rates are listed below. To give more power at a lower speed we can supply a 30/1 gear box and reset the controller again instructions are listed below.

ADDITIVE DISPENSER OPERATION

The Feedtech Additive Dispenser is designed to accurately introduce supplements and / or additives into a feed system or Roller Mill. The additive dispenser is supplied with a three pin plug and can be plugged in and turned on, it's ready to go. It can also be hard wired and set up to run as a fully auto machine.

If fitting the Additive Dispenser to a feed system with a Feedtech fully Auto. Roller Mill. The Mill controller has the ability to control the additive dispenser at the same time as it is controlling the Mill. This gives the Additive Dispenser the ability to stop and start as the Roller Mill stops and starts.

The amount the Additive Dispenser distributes is controlled by a simple turn of a dial. This will set the speed of the auger in the bottom of the dispenser and therefore the amount of product distributed.

To set the amount of product distributed simply set the dial to the amount required. This amount is then checked by the following method. Fill the Additive Dispenser and turn it on open the drop tube (found in the PVC auger between the Additive Dispenser and the Roller Mill) for 60 seconds. Weigh the product. Adjust the speed dial, and repeat the process until the required amount is achieved.

Additive Dispenser range & through put

Feedtech Additive Dispensers are designed to auger, grain or pellets. The following measurements are based on tests using wheat in whole grain form.

50mm Additive Dispenser :-

- 20-1 gearbox set low = .77kg per min.
- 20- 1 gearbox set high = 2.9 kg per min.
- 30- 1 gearbox set low = .54kg per min.
- 30- 1 gearbox set high = 2.13kg per min

65mm Additive Dispenser :-

- 20-1 gearbox set low = 2.9kg per min.
- 20- 1 gearbox set high = 6.5 kg per min.

ADDITIVE DISPENSER INSTALLATION

The Feedtech Additive Dispenser is designed to accurately introduce supplements and / or additives into a feed system or Roller Mill. The additive dispenser is supplied with a three pin plug and can be plugged in and turned on, it's ready to go. It can also be hard wired and set up to run as a fully auto machine.

When fitting the Additive Dispenser to a Feedtech fully Automated Roller Mill. The Mill controller has the ability to control both the Mill and the Additive Dispenser. The dispenser is wired directly to the Mill controller. **THIS CAN ONLY BE CARRIED OUT BY A LICENSED ELECTRICIAN.**

Two automatic options are available.

The first step is to remove the controller cover by removing four screws found in the sides of the cover. Remove the loop wire from terminal 20 and 28 on the additive dispenser controller.(image 1) With two core flex run one wire from terminal 20 and one from 28 to the Mill controller's terminal marked **VSD run**. (image 2). Plug the dispenser in to a wall socket with the plug supplied. This method will require the machine to be turned off manually.

For a fully automated option the following is the method. Remove the loop wire from terminal 20 and 28 on the additive dispenser controller. (image 1). With two core flex, run one wire terminal 20 and one from 28 to the Mill controller's terminal marked **VSD. run**. (image 2) Remove the three-pin plug from the Additive Dispenser lead. Connect the active, neutral and earth. To the VSD power (active, neutral and earth.) in the Mill controller. (image 2) This will automatically shut the Additive Dispenser down if the Dispenser is not used for 15 min.

Controller settings

The Additive Dispenser has a number of controlling features. Two of the features are as follows:-

Thermal motor monitoring. This can be checked and / or reset in the following manner. Push the enter button once. Using the arrow buttons to scroll up or down, scroll until **C20** is displayed . Press enter, the screen should now show 30 this is the preferred thermal protection setting. If it is not set at this, use the up or down button to set it at 30. Press the enter key once this is achieved (it may take 30 seconds for the controller to lock this in)

The other protection is to stop the motor receiving insufficient power and therefore causing damage to the motor. . This can be checked and / or reset in the following manner. Push the enter button once. Using the arrow buttons to scroll up or down, scroll until **C10** is displayed. Press enter, the screen should now show 20. This is the preferred protection setting and will not allow the motor to run under it's required power. If it is not set at this use the up or down button to set it at 20. Press the enter key once this is achieved (it may take 30 seconds for the controller to lock this in)

Controller settings for 30:1 Gearbox

The lower setting for the controller, when a 30:1 gear box is fitted is the same as above (**C10** set at 20). The upper setting is to be set at 75 this is set and or set in the following manner.

Using the arrow buttons to scroll up or down, scroll until **C11** is displayed. Press enter, the screen should now show 75. This is the preferred upper setting for a 30 : 1 gearbox and will allow the motor to run at a top speed similar to that of the 20 : 1. If it is not set at this use the up or down button to set it at 75. Press the enter key once this is achieved (it may take 30 seconds for the controller to lock this in)

Image 1

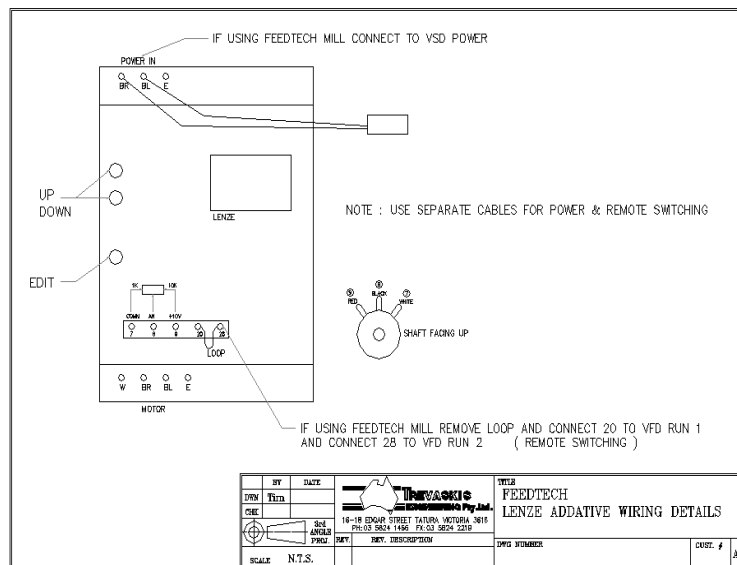
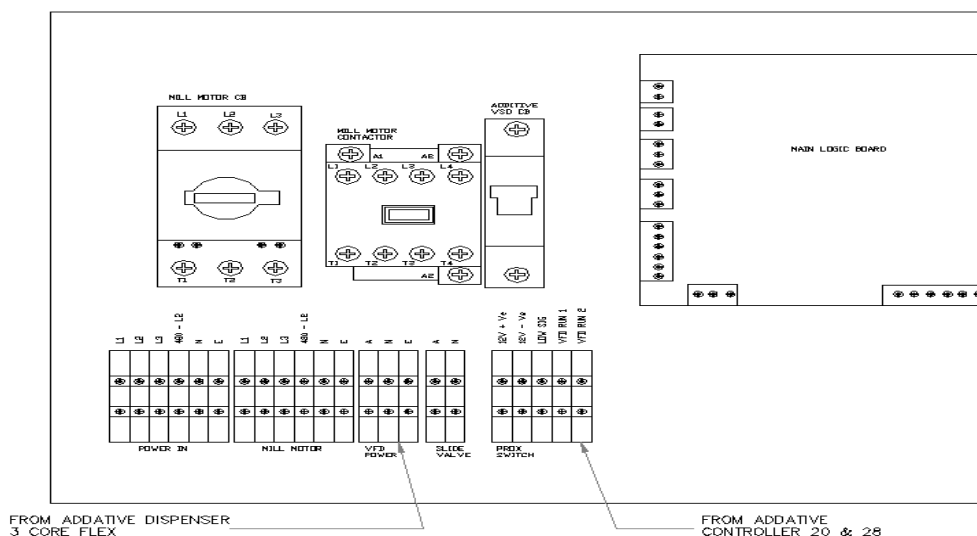


Image 2

Image 2



Additive Dispenser Trouble Shooting

Problem	Possible Cause	Corrective Action
Can not slow the product flow enough	<p>Controller set on the old settings</p> <p>Controller set on the old settings and 20 : 1 gear box</p> <p>To much product in auger</p>	<p>Read controller settings page 12</p> <p>As above, and replace gear box with 30 ; 1</p> <p>Fit pipe up the centre of the auger</p>
Every thing running but not augering	<p>Auger not protruding past the PVC</p> <p>Product to wet or powdery</p>	<p>Cut the PVC back (auger must protrude past the PVC by at lest one pitch of auger</p> <p>Mix product with grain (a good test to see if a product will auger is to crush it up in your hand, when you open your hand it should fall apart)</p>

Problem	Possible Cause	Corrective Action

Agri-Matic Operation Manual

Basic overview of the system.

This control panel and associated switchgear is designed to run on the following supply voltage:
Single Phase 240VAC. Installation and repair should only be carried out by qualified personnel.

The main control panel has a two line, sixteen-character alphanumeric display to allow for configuration information to be programmed, and to display the current status of the panel. To view the various screens and make adjustments there are three push button keys, UP, DOWN and EDIT. There are also two other buttons on the main panel, MANUAL FEED and STOP/SKIP/ FEED.

This controller was designed to allow semi-automatic and full-automatic feeding on rotary dairies. It has various bail and animal detection sensors, which will initiate automatic dispensing of feed. The system can be supplied to enable dispensing from 1 to 4 different products simultaneously. There are menu selectable options, which allow selection between two herds, each having two adjustable sets feed rates. A remote panel can be supplied which has the extra buttons needed for the system to activate extra operator selectable functions. It should be mounted near the operator.

As mentioned, feeding is automatic but it can be initiated independently by pressing the manual feed button on the main panel. If a cow is not to be fed, press the skip button on the main panel or on the remote panel. Pressing the skip again will skip 2 cows. Up to 10 skips can be selected. If a feed is currently progress pressing the Skip button will stop a feed cycle and not invoke a skip action. If the skip button on the remote panel is pressed for more than 3 seconds all skips, back counts and optional feed rations are reset. If the Stop/ Skip button on the main panel is pressed for 2 seconds the system will be disabled from dispensing any product automatically. To re-enable the system press the start button.

If feed No2 is required, Option 2 feed button on the remote panel prior to the next ration being dispensed. The system will automatically revert to the standard ration after No2 ration has been dispensed.

The menu structure can be best explained by comparing it to a circular road (Main Menu) with houses all the way around. If you press the UP or DOWN you travel forwards or backwards around the road (Main Menu) to look at the houses (Menus) up and down the road. If you want to enter a house (Menu) to have a look inside, you press the EDIT key. Once inside the house you can move through the hallway of the house looking at each room (Sub Menu), by pressing the DOWN key. When you get to a room (Sub Menu) where you want to enter and change the contents (Data), press the EDIT key, the top line of the display will flash indicating that the contents (Data) of the room (Sub Menu) can now be changed, press the UP or DOWN key to change the contents (Data). When the appropriate value has been set, press the EDIT key again & the new value will be set, you have now exited the room and are back in the hallway. To exit the house you can press the UP key and go back the way you came in all the way back to the circular road (Main Menu), or, press the DOWN key and move past the rest of the rooms (Sub Menus) until you exit via the back door, which will lead you instantly back to the circular road (Main Menu).

Some menus are not editable and therefore cannot be entered. To prevent unauthorised access to the editable menus the correct access code must be entered. This is achieved by the moving through the main screens until the ACCESS CODE screen is displayed, press the EDIT key which should cause the top line on the display to flash, then press the UP or DOWN keys to change value, when the correct access code has been reached, press the EDIT key again. Access to all editable menus should be possible.

When main panel is powered up the sign on screen is displayed for a short time.

Agrimatic XHC

Version XXXX

Loading Data

Into Memory

If it continues to display these screens, it indicates that this is the first time the panel has been powered up and the default parameters need to be loaded. (See loading defaults below)

Otherwise after a short period it will then show:

Auger 1

5.0 Seconds

Loading defaults

To do this press the push button key that is located on the back of the display circuit board until the display is showing:

Storing Data

Into Memory

Release the push button key and the display will show:

Loading Data

Into Memory

The panel should now be operational.

Main Screens.

The main screens display the current status of the controller. There are various screens to show the current working status and preset conditions. The controller will automatically return to the status screen after five minutes.

Status Screen.

If no feed is currently being dispensed the display will show the last ration.

Auger 1

5.0 Seconds

If more than one (1) auger is in use then the display will show one of the following:

Auger 1 5.0 Secs

Auger 2 5.0 Secs

Or

A1 5.0 A2 5.0

A3 5.0

Or

A1 5.0 A2 5.0

A3 5.0 A4 5.0

When feed is being dispensed all feed timers are zeroed and start to increment up to their independently preset times at which point they will turn off.

If no feed is currently being dispensed and the skip button has been pressed, then next feed cycle will be skipped. If the skip button is pressed more than once then the same number of feed cycles will be skipped.

Skip Count

X (*X = the number of cows to be skipped*)

If the skip button is pressed when a feed cycle is in progress all augers will be stopped immediately.

Auger 1

1.1 Seconds

If a feed cycle is currently in progress and another feed has been called for by the automatic sensing system, then a message will appear on the screen, “Dispensing Fault” “Feed Overlap” This is telling you that there has not been enough time for the first feed to be dispensed before the second started. If this occurs then one or more augers need to be sped up or the platform slowed down.

Dispensing Fault

Feed Overlap

If the controller is set to full automatic and the platform has been reversed, then the controller will show how far back the platform has been reversed.

Back Count

X (*X = the number bails*)

When the platform is moved forward again the back count will decrement and each feed will automatically be missed until the platform reaches the point at which it started from.

Each time a feed cycle is initiated, a counter is incremented to show the number of feeds since the counter was last reset.

Number of feeds

XXXXX (*X = the current feed count*)

To reset the counter, pres & hold the EDIT key until the counter is reset, this should occur after about two seconds.

Feed Settings.

When entering the FEED SETTINGS menu you will be able need select which herd settings are going to be used. If the controller is being used for the first time the display will show;

Feed Selection Herd 1

The controller can be programmed to run one off two independent herd profiles. To change from Herd 1 to Herd 2 and visa versa, press the EDIT key and then press the UP or DOWN key to make a selection. Then press the EDIT key to lock in the selected Herd. Once the herd number has been selected the feed data for the selected herd can be viewed by pressing the DOWN key. For each auger installed there are two settings, a standard feed ration and a No2 ration. (A2 Auger system, running Herd 1 settings show below)

Auger 1 Std Feed XX.X Sec

Auger 2 Std Feed XX.X Sec

Auger 1 No2 Feed XX.X Sec

Auger 2 No2 Feed XX.X Sec

If herd 2 was selected the displays are slightly different.

H2 Aug 1 Std Feed XX.X Sec

H2 Aug 2 Std Feed XX.X Sec

H2 Aug 1 No2 Feed XX.X Sec

H2 Aug 2 No2 Feed XX.X Sec

If the start button on the front of the controller is pressed when the display is showing a feed setting, the auger associated with setting will run for the time shown. This function is designed to facilitate easy calibration of all augers and types of feed products.

Configuration Options.

Upon entering the configuration menu you will be presented with an operating modes menu.

Operating Mode

Full Automatic

There are 4 modes to choose from;

Master OFF.

This mode turns off the controller. It prevent the controller from dispensing feed but keeps the unit powered up to allow other devices to control the feed augers.

Semi Auto-Mode 2

This mode requires only one sensor to detect each bail as it passes to activate the feed system according to the feed settings. It utilises sensor input number 2 and operates at the point when the sensor turns off. This provides a feed point very similar to the Full Automatic mode and typically would be used as a backup mode to the Full Automatic function. If the platform is reversed or a cow is not to be feed the operator must manually activate the skip button.

Semi Automatic

This mode requires only one sensor on input number 1 to detect when each bail passes to activate the feed system according to the preset feed settings. If the platform is reversed or a cow is not to be feed the operator must manually activate the skip button.

Full Automatic

This mode has sensors to detect each bail, the direction of rotation of the platform, presence of a cow at the feed point and a sensor to detect animals that have not finished milking and are continuing around for a second time. All of these sensors are used to automatically determine if the cow currently at the feed point should be fed, if it is the system will activate the feed cycle according to the feed settings.

The next menu in the configuration menu is to set the number of augers in use. Operation of One to Four augers are possible. If the system was purchased as a one auger system, extra hardware is required to facilitate the operation of further augers.

Number of Augers

1 (Range 1 to 4)

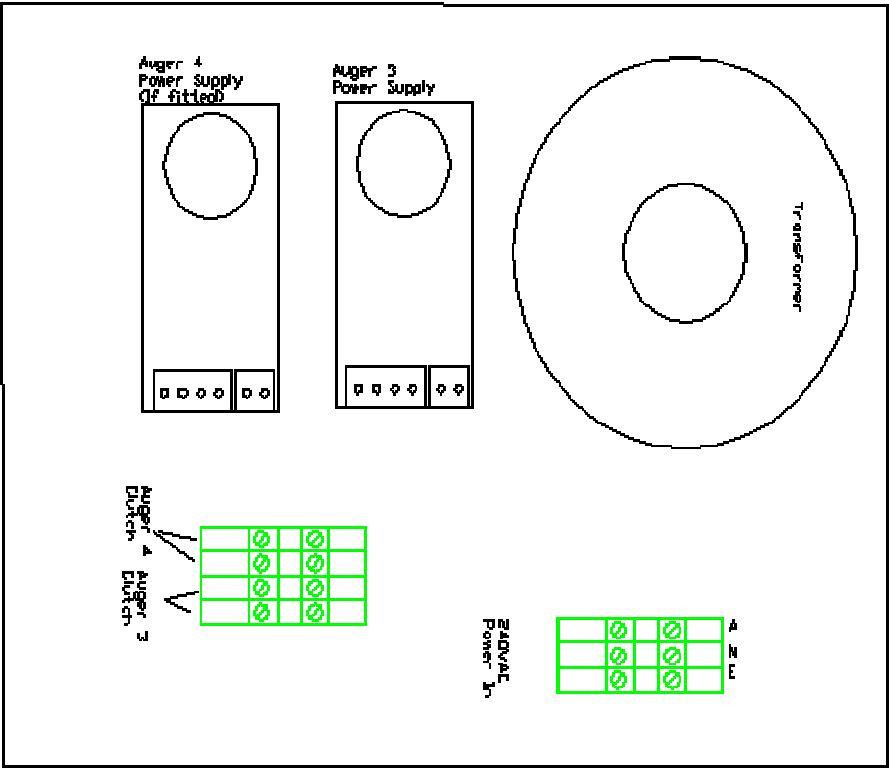
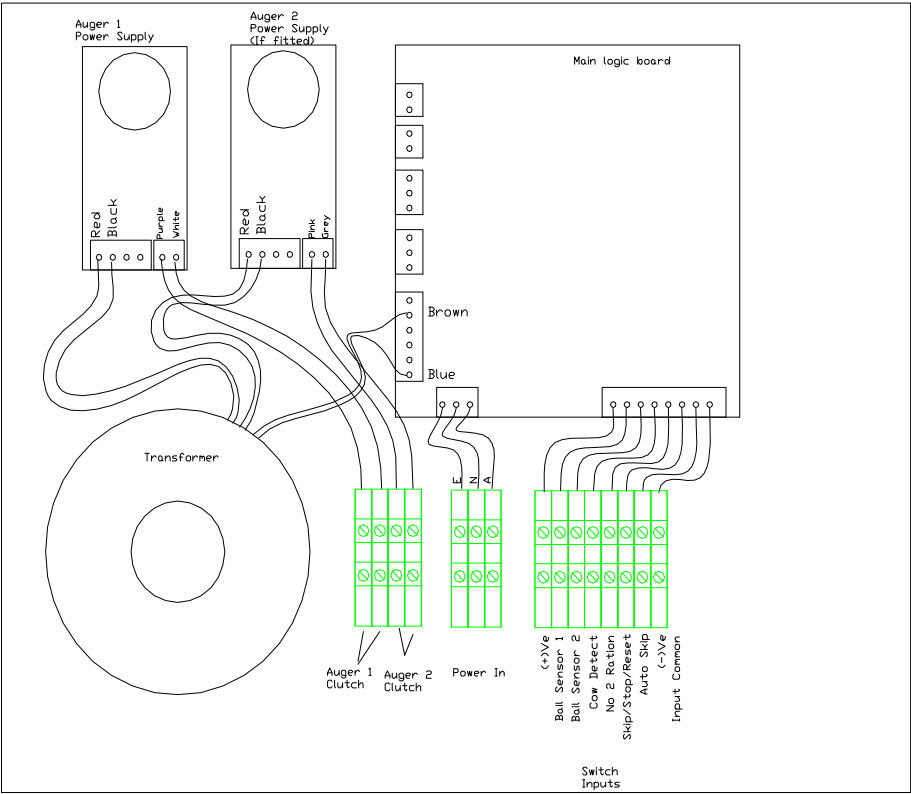
If operation in Full-Automatic mode this menu will appear, otherwise it will drop back to the main menus.

This menu in the configuration menu is to set the number of bails between the feed point and auto-skip detection sensor. To determine this setting count the number of bails from the feed point to the auto-skip sensor bail (Note: The feed bail is not included in the count).

Auto Skip Pos'n

3 (Range 1 to 7)

Connections



Drive head Fitting Instructions

Parts List

Drive Head



Available in :-

40mm Rotary Drive Head
65mm Rotary Drive Head
80mm Rotary Drive Head
100mm Rotary Drive Head

Drive head mount /Drive head support system



Controller



One Controller. standard / automatic

Standard Detector :- One PW-41J Photo Electric Detector
Automatic Detectors :-

Three Platform Rotation Sensor.
Two Cow Detect / Auto Skip Sensor.

Fitting Instructions

Fitting Base plate

Select the position best suited for the drive head (usually one or two bales from where the cow enters the platform) Fit four chains (not supplied) to the roof of the shed, select strong suitable mounting point for the chains keep in mind a four head system can weigh up to 170kg.

Take the base plate, from the lid base box. From the mount kit box take the two mount bars, mount brackets and fitting kit. Install the mount bars through the base plate mounting holes. Slip the tube support bar onto one of the mount bars. Now fit the mount bar brackets using the 3/8" x 3/4" high tensile bolts flat and spring washers provided. Align brackets with each other and tighten.

Select a height for the base plate to be mounted on the chain (the first drive head will be mounted on the base plate and the auger feeding it will need to clear all parts of the rotary platform, you need to allow enough height.) Cut chain to selected height and fit turn buckles (supplied) to chain with 3/4" x 1/4" bolt nut spring & flat washers. Fit a turn buckle to each end of the mount bars. Using a spirit level, level the mount plate using the turn buckles. Fit 3/8 locking bolts to under side of the mount plate, do not tighten.

Feed drop tube

Make up the feed drop tube. Fit the square to round adapter to the mount plate with the two 3/16" x 1/2" mushroom head screws. Fit the PVC pipe to the square to round adapter and the tube support bar. Tighten hose clamps. Do not tighten the tube support bar to mount bar. This is done at the same time as the plate is tightened.



Brace Cables

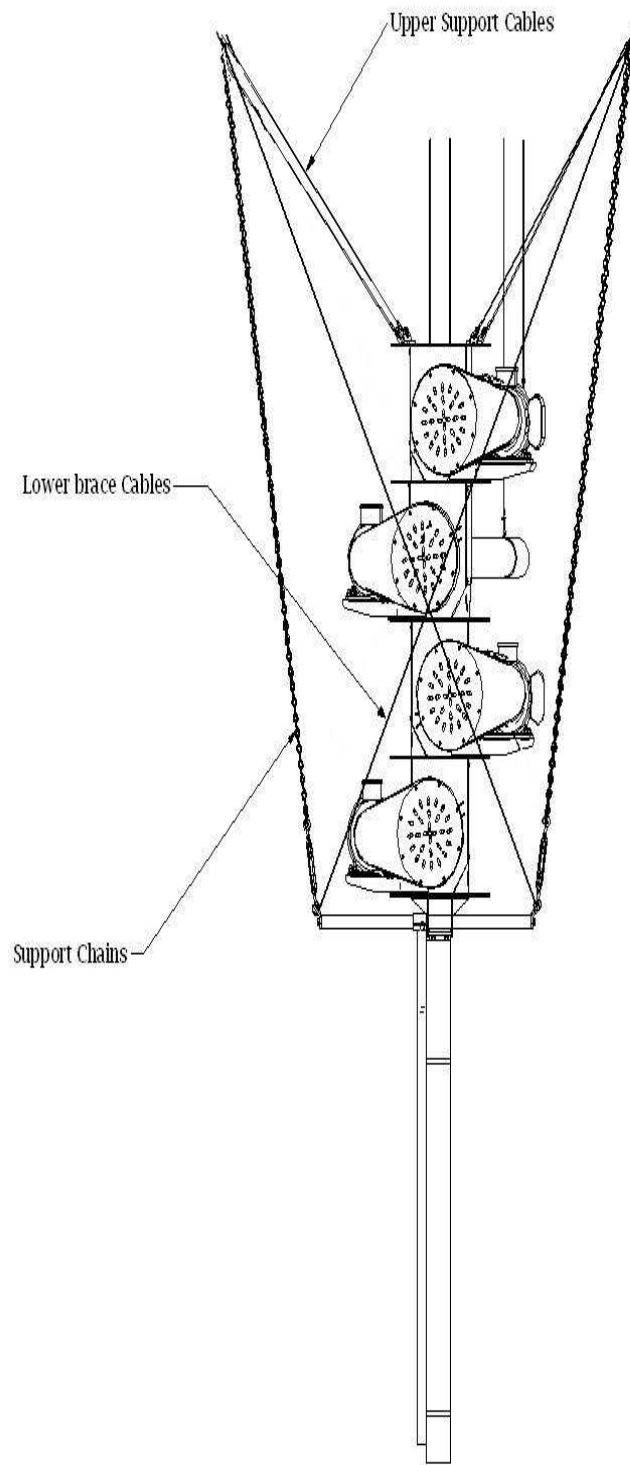
Fit cross brace cable (not supplied) from the roof mounting point to the opposite side of the same mount bar, fix to the mount bar bracket. Repeat this on the other side of the same mount bar, ensuring that both cables are tight.

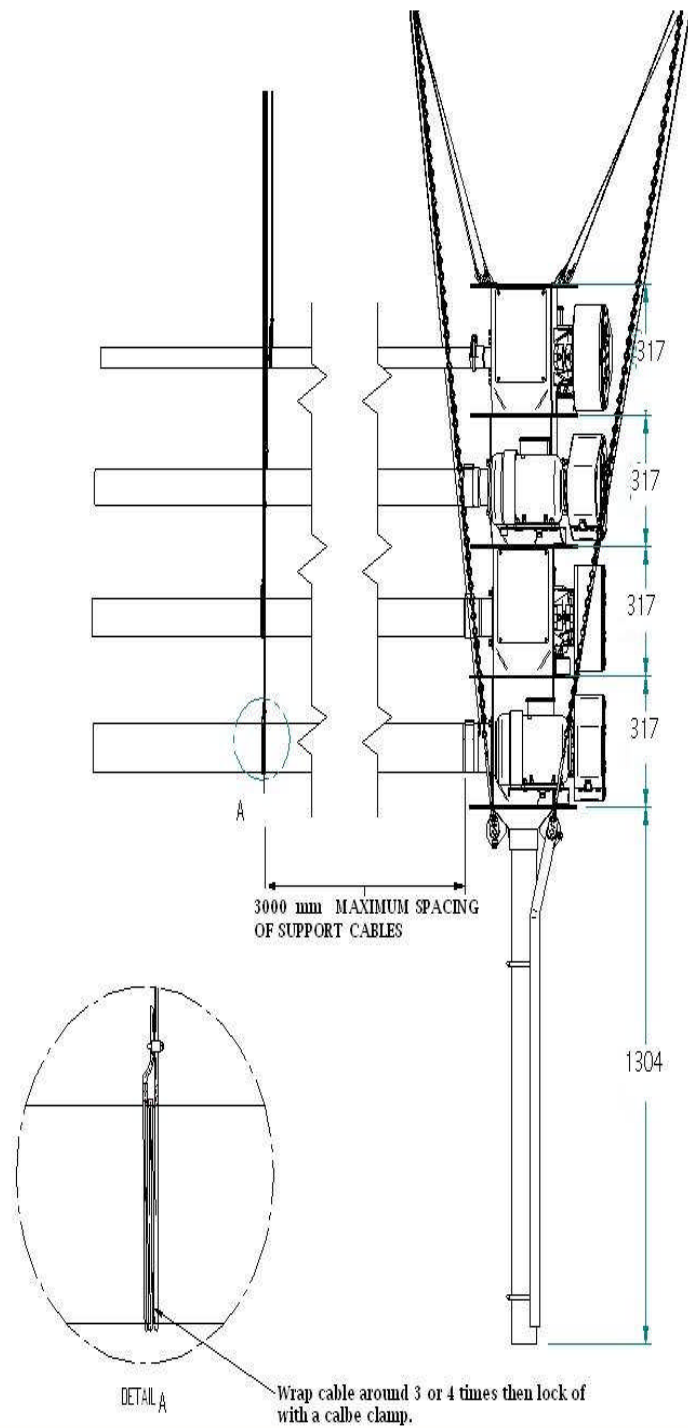


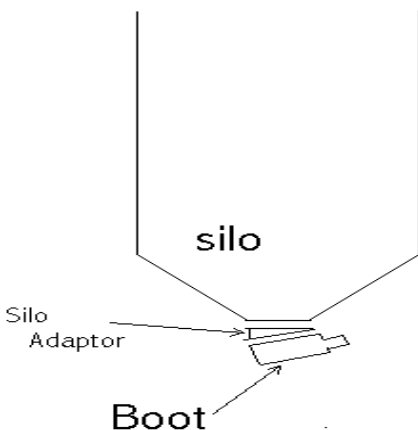
Drive head

Fit the first drive head. Drive heads come in left and right hand configurations. With the auger tube facing you and the motor on the left, the unit is left hand. Motor on the right, the unit is a right hand drive head. Pick the unit you need to fit first, and the angle it needs to be on, as to point the auger tube to the silo. This may require the mount plate to be moved along the mount bars to accommodate the motor clearing the chain and cross wire, however it is best to keep the unit as close as practical to the centre of the bars to allow for the next drive head. Once the position of the mount plate is established, tighten the locking bolts to the mount bars. Using a suitable lifting device, fit the unit onto the mount plate. Align to the direction required and bolt down using 5/16" x 1" bolts, nuts, flat, & spring washers supplied. Tighten the feed tube support bar.









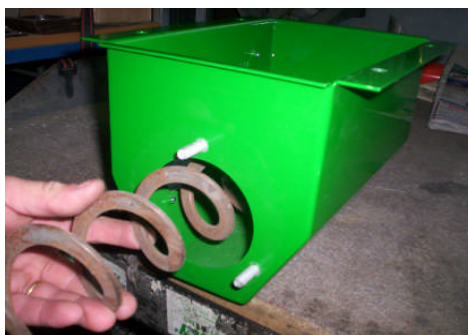
Auger casing

Fitting of the auger casing. This is done now rather than later because it helps to stabilize the drive head particularly when you are building a multiple stack of drive heads.

The first step in this is to fit the silo adaptor. This is usually welded or bolted to the bottom of the silo with the angle facing the direction needed to assist the auger's lift up to the drive head. Having fixed the silo adaptor to the silo now fit the boot using 5/16" X 3/4" bolts, nuts, flat & spring washers provided. Now fit the P V C casing this may need a bent casing to level out the angle created by the angle of the boot, as the P V C casing will need to enter the drive head horizontally. When fitting the P V C casing keep in mind the least amount of bends the better and the flatter it runs the better. A P V C auger that has high and low spots in it is a poorly fitted auger. It may need to be supported in several places. Support is required at an average of 3 metres. The normal practice for doing this is by using a cable and suspending it from above. Once all the P V C casing has been fitted and checked for alignment you can now glue all joints, fit and tighten clamps on both the boot and the drive head.

Auger fitting

Fitting the auger. This is accomplished by removing the boot bearing and shaft from the back of the boot. This will expose a hole in the back of the boot large enough to pass the auger through. Simply pass the auger through the boot and into the P V C casing all the way up to the drive head.



Fit the auger over the drive shaft in the drive head and lock to the drive shaft with the drive shaft locking mechanism. Once this is done you go back to the boot end and give the auger two or three good pulls, this is to take out any excess auger and settle the auger into place. Remove the side inspection cover and mark the auger one coil inside the back edge of the boot. Pull the auger out approximately three coils, and clamp there using a clamp. Cut the auger at the mark, and fit the boot shaft. Lock the auger to the shaft using the boot shaft locking mechanism. Undo the clamp and allow the auger to pull back into place. The correct tension is when the auger has enough pressure to just hold the shaft and bearing against the rear of the

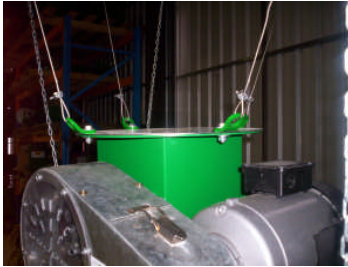
boot. If there is not enough pressure to do this adjust until the fit is correct. Refit the bearing and support. Replace the side inspection cover. At this time recheck the PVC for alignment it may require more support with the weight of the auger that is now fitted inside the PVC.

Fit further drive heads

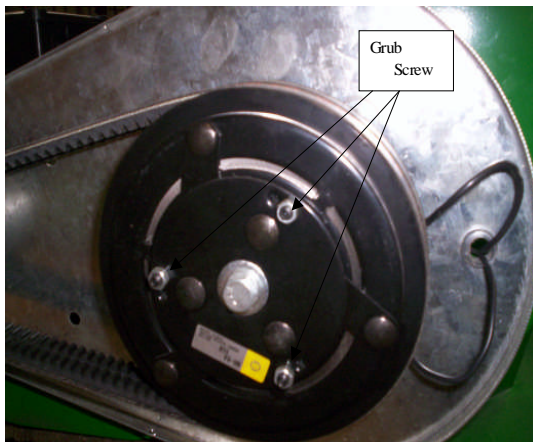
If more than one drive head is required repeat the earlier process. Before doing so remember drive heads come in left hand and right hand combinations. You need to select a drive head that is the opposite hand to the one previously fitted. This is to keep the system balanced.

Lid and stabilizing cables

Once all drive heads are in place fit the lid to the last drive head with upper mount brackets and 5/16" x 1" bolts, nuts, flat and spring washers. Fit four stabilizing cables (not supplied) from the roof to each of the four upper mount brackets.



Clutch fitting and adjusting



The clutch has two black wires that are fed through the rear of the belt guard one is to be connected to ground and the other is connected to the controller. One of these wires is connected to the base of the clutch this is to go to earth. The other is from the clutch centre this is to go back to the controller.

The clutch is fully adjusted when it leaves the factory and there is no need to reset it when fitting it. However the unit will have a large number of starts each day and over a long period the clutch will wear. Making a simple adjustment can extend the life of the clutch. This is achieved by undoing the 5mm nuts on the grub screws found on the front of the clutch. Place a 0.5 mm feeler gauge under the grub screw. Screw grub screw down until it makes contact with the feeler gauge lock in place with the 5 mm nut repeat with the other two grub screws.

Note

Auger Life

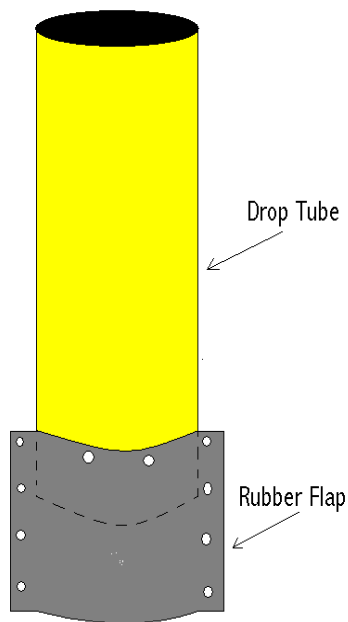
We have seen PVC casing last over seven years, and not require replacement. The life of the casing is determined by a number of things, do not run the auger empty, an excessive amount of bends or not enough support, auger fitted to tight or to loose .or a practically abrasive product. All of these things can cause premature wear.

Electronical Installation & Cabling

Electronical Installation & Cabling will be covered in the instruction manual. However it is important to note that the 12v and the 240v wiring (Clutch, Sensors. and Motor) must never be run together. This can cause electrical interference.

Drop tube end

The drop tube supplied is suite sufficient, and is often all that is used. However if you are looking to slow down the feed drop or reduce the dust, some times it may be an advantage to fit rubber to the end of the tube. This is done with flat rubber sheeting bolted to each side of the drop tube as shown below.



Agri-Matic TroubleShooting

Problem	Possible Cause	Corrective Action
Not feeding and the busier sounding	Remote button has water in it	Check button for water clean and dry or replace.

Problem	Possible Cause	Corrective Action

FlatsonFeed System InstallationManual



Feedtech Feeding System

**16-18 Edgar St Tatura Vic Aust Ph:
03 5824 1466 Fax: 03 5824 2219**

Congratulations on your purchase of a Feedtech Feeding Systems. The **Flatson feeding system** you have purchased is designed for long lasting trouble free service.

Supplied & Installed By _____
Phone No _____

Please assure your Qualified installer fills out his name and phone number above, but also toward the back of this document where your electrician must also fill out his name and phone number., and follow the appropriate wiring diagram.

Take the time to read this manual and understand the maintenance and operation of your feed system.

The equipment you have purchased has proven to provide excellent service for extended periods of time. To ensure that you obtain the optimum performance and service for the life of your feeding systeml, some simple suggestions follow.

- Use only Qualified personnel for installation and service of all equipment. Costly damage due to incorrect adjustment or wiring connections will thus be avoided.
- Use only products that the equipment has been specifically designed to process, if in doubt as to the suitability of any given product please contact the Dealer
- Ensure that all of the equipment is provided with adequate protection from moisture and wind etc.
- Carry out the regular maintenance and inspection program as listed in this booklet.
- In the event of replacement parts being required, use only genuine Feedtech supplied components, available from your installing Feedtech dealer.
- Never work on the feeding system without isolating the power. This includes simple tasks i.e. removing guards. The system can start without warning.
- Before all else fails, read the instructions

Tableof contents

Fitting feed bins & Auger.....1

Basic overview of the system.....3

Status Screens.....4

Feed Time Settings.....5

Maintenance.....6

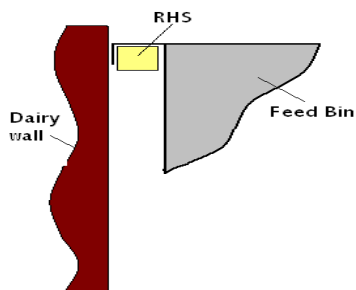
Circuit Board connections & information.....7

Control panel layout.....8

Diagnostic information.....9

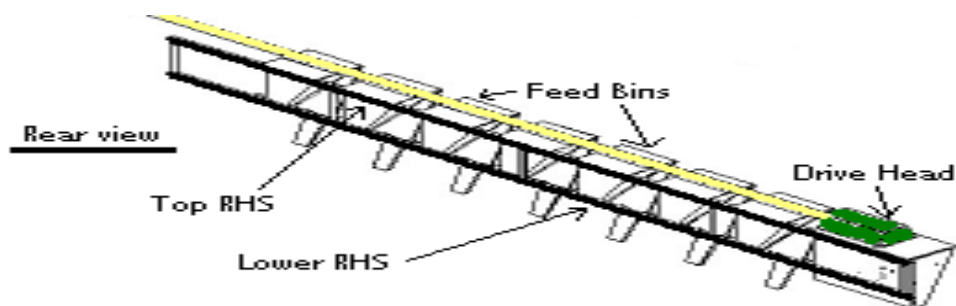
Fitting Flatson feed bins and Auger

Flatson feed bins are designed to clip on to 40mm RHS. Having selected the required height for the bins, fix the 40mm RHS to the dairy wall. This may be bolted, welded or fixed by what-ever means is appropriate. It must be spaced out from the wall the required amount to allow the feed bin to fit over and behind the RHS.

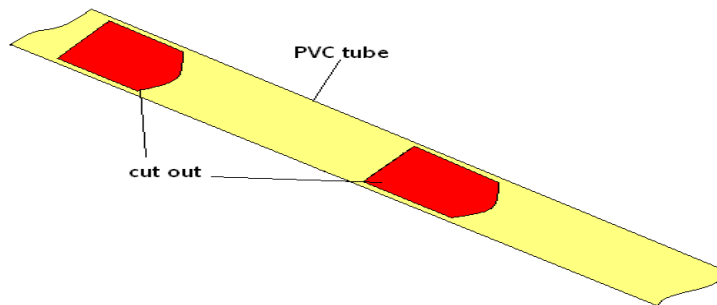


Before attaching, it is important to work out the bin spacings. Do not allow the spacers used to space the RHS off the wall to obstruct the bin's rear clip over edge.

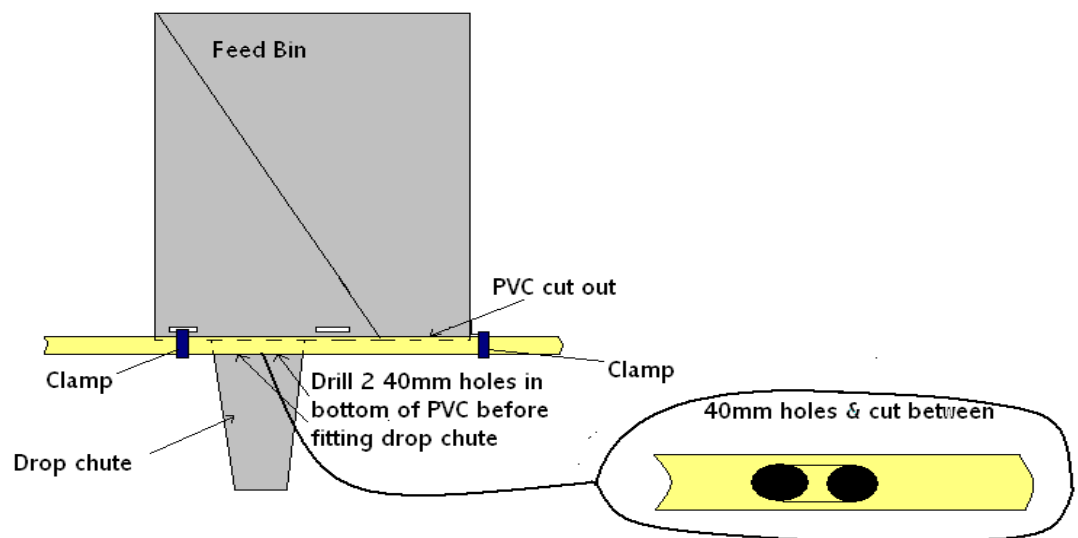
Once the top RHS is fitted, fit the lower RHS 430mm under the upper one. Fit the bins including the drive head over the top RHS at your predetermined spacings. Fix all bins to the lower RHS.



Clip lower PVC into place (this should be 50mm class 12 PVC). Clip it into the base of all bins starting at the drive head 200mm from the drive gear box, finishing 100mm beyond the end of the last bin. With a can of pressure pack paint reach in from the top of the bin and spray the PVC (this is done to mark the size and shape of the bin out let). Remove PVC from the bins. With a small angle grinder cut out the part of the PVC that is marked with paint.

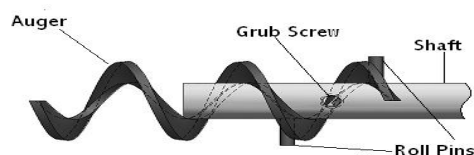


Fit the PVC back into the bottom of the bins. It is important to align the holes in the PVC with the hole in the bottom of the bin accurately, do not leave any edges that will allow a build up of feed. Clamp the PVC to the bins with the clamps provided.

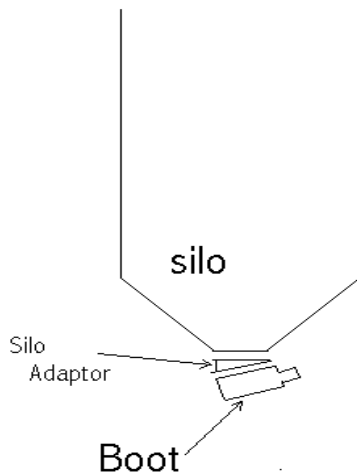


Mark the bottom of the PVC 290mm from the edge of the feed bin (the outer edge of the feed drop). Mark it again another 50mm along from that. At the two marks, drill with a 40mm hole saw, cut between the holes to form a rectangular hole. Fit the drop chute over the hole and tech screw or pop rivet to the feed bin.

Cut the 40mm auger to length (when fitted it should fit on to the drive shaft and finish 50mm short of the gear box, the anchor shaft end should also finish 50mm short of the bearing). Fit the auger inside the PVC. Fit the anchor shaft into the auger sliding the auger around the two roll pins and lock by tightening the grub screw. Feed the auger onto the drive shaft and fit the anchor tube onto the PVC tighten the auger on to the drive shaft and fix the anchor tube to the PVC.



Fitting the fill auger. This may be 40mm but more commonly it is 65mm. Fit an angled silo adapter to the bottom of the silo (angle facing the direction the auger is to go). Then fit the boot to the silo adapter with bolts provided.



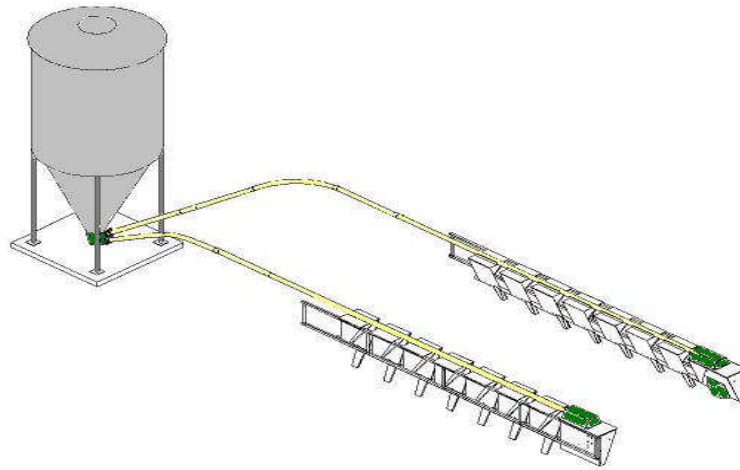
Having fixed the silo adaptor and the boot to the silo, now fit the PVC casing. This may need a bent casing to level out the angle created by the angle of the boot, as the

PVC casing will need to enter the Feed bins horizontally. When fitting the PVC casing keep in mind the least amount of bends, the better and the flatter it runs, the better. A PVC auger that has high and low spots in it is a poorly fitted auger. It may need to be supported in several places. Support is required at an average of three metres. Where the PVC passes over a bin it needs to have three or four holes drilled in the bottom of it. (In 65mm drill three, 40mm holes in the first three bins three, 60mm holes in the next three bins and four, 60mm holes in the rest. This is to give grain carry over and therefore a smooth running auger). Once the entire PVC casing has been fitted and checked for alignment you can now glue all joints. Fit and tighten clamps on both the boot and the drive head.

Auger fitting

Fitting the auger. This is accomplished by removing the boot bearing and shaft from the back of the boot. This will expose a hole in the back of the boot large enough to pass the auger through. Simply pass the auger through the boot and into the PVC casing all the way up to the drive head. Fit the auger over the drive shaft in the drive head and lock to the drive shaft with the drive shaft locking mechanism. Once this is done you go back to the boot end and give the auger two or three good pulls, this is to take out any excess auger and settle the auger into place. Remove the side inspection cover and mark the auger one coil inside the back edge of the boot. Pull the auger out approximately three coils, and clamp there using a clamp. Cut the auger at the mark, and fit the boot shaft. Lock the auger to the shaft using the boot shaft locking mechanism. Undo the clamp and allow the auger to pull back into place. The correct tension is when the auger has enough pressure to just hold the shaft and bearing against the rear of the boot. If there is not enough pressure to do this adjust until the fit is correct. Refit the bearing and support. Replace the side inspection cover.

At this time recheck the PVC for alignment. It may require more support with the weight of the auger that is now fitted inside the PVC.



Basic overview of the system.

The Flatson feed system is designed to feed cows in a Herringbone dairy. This system can be supplied in two configurations.

- 1 A single feed auger on each side.
- 2 Dual feed augers on each side. Each side has an auger feeds the front bails, and another that feeds the rear bails.

The operation for both systems is identical except the dual feed system has two extra switches to allow dispensing to the front bails only.

Each side can be programmed to dispense feed from 1.0 to 250.0 seconds. Each side can be set at a different time setting to allow for differing feed flows, which ultimately means that each side can be set to feed the exact same feed ration.

The control panel has a two line, sixteen-character alphanumeric display to allow for configuration information to be programmed, and to display the current status of the panel. To view the various screens and make adjustments there are three push button keys, UP, DOWN and CHANGE. To change screen, use the UP or DOWN keys. To change the data on the current screen, push and hold down the CHANGE key, then press the UP or DOWN key. These keys are often referred to as “edit keys”.

There are two other switches on the front panel, they are:

Feed Left & Feed Right, pressing either switch will initiate the dispensing of feed relevant to the button pressing. NOTE: These buttons will feed all bails on the single and dual feed system.

If a feed cycle is in progress and you want to stop it, press the Edit/Stop key.

The system may have been supplied with external feed switches. The single system will have a switch labelled “Feed All” mounted on both sides, which will dispense feed to all bails on the same side as the switch is mounted. The dual feed switch has an extra switch, which is labelled “Feed Front” and feed the front bails only.

When main panel is powered up the sign on screen is displayed for a short time.

When feed is being dispensed on the left hand side.

Flatson Status Feeding LHS

When feed is being dispensed on the right hand side.

Flatson Status Feeding RHS

When feed is being dispensed on both sides simultaneously.

Flatson Status Feeding LHS&RHS

Feed Time Settings.

Press the Up key once and the following screen should be displayed.

LHS Feed Time

15.0 Seconds

Using the edit keys, adjust this value to achieve the required rate of feed on the left hand side.

Press the Up key again and the next screen should be displayed. **RHS Feed Time**

15.0 Seconds

Using the edit keys, adjust this value to achieve the required rate of feed on the right hand side.

Diagnostic information

The access code is used to prevent access to the set up parameters by unauthorised personnel. Change to 21 to continue.

Access Code

Each time a feed is initiated on either side a counter is incremented. The operator cannot edit this data.

Feed count LHS

XXXXX

Feed count RHS XXXXX

If a motor should fail or there is a problem with the feed system, we have include an hour run meters for each motor to evalute how much work the system has done since installed.

LHS Mtr Run Time

RHS Mtr Run Time

The serial number is used by FeedTech to track all products and should be quoted we seeking service support.

Serial Number

MAINTENANCE

WEEKLY

1. Visual check of the Feed system

3 MONTHLY

1. Check all bolts and nuts for tightness.
2. Check grub screws for tightness
3. Check drive belt tension, adjust if required.
4. Refit all covers.

6 MONTHLY

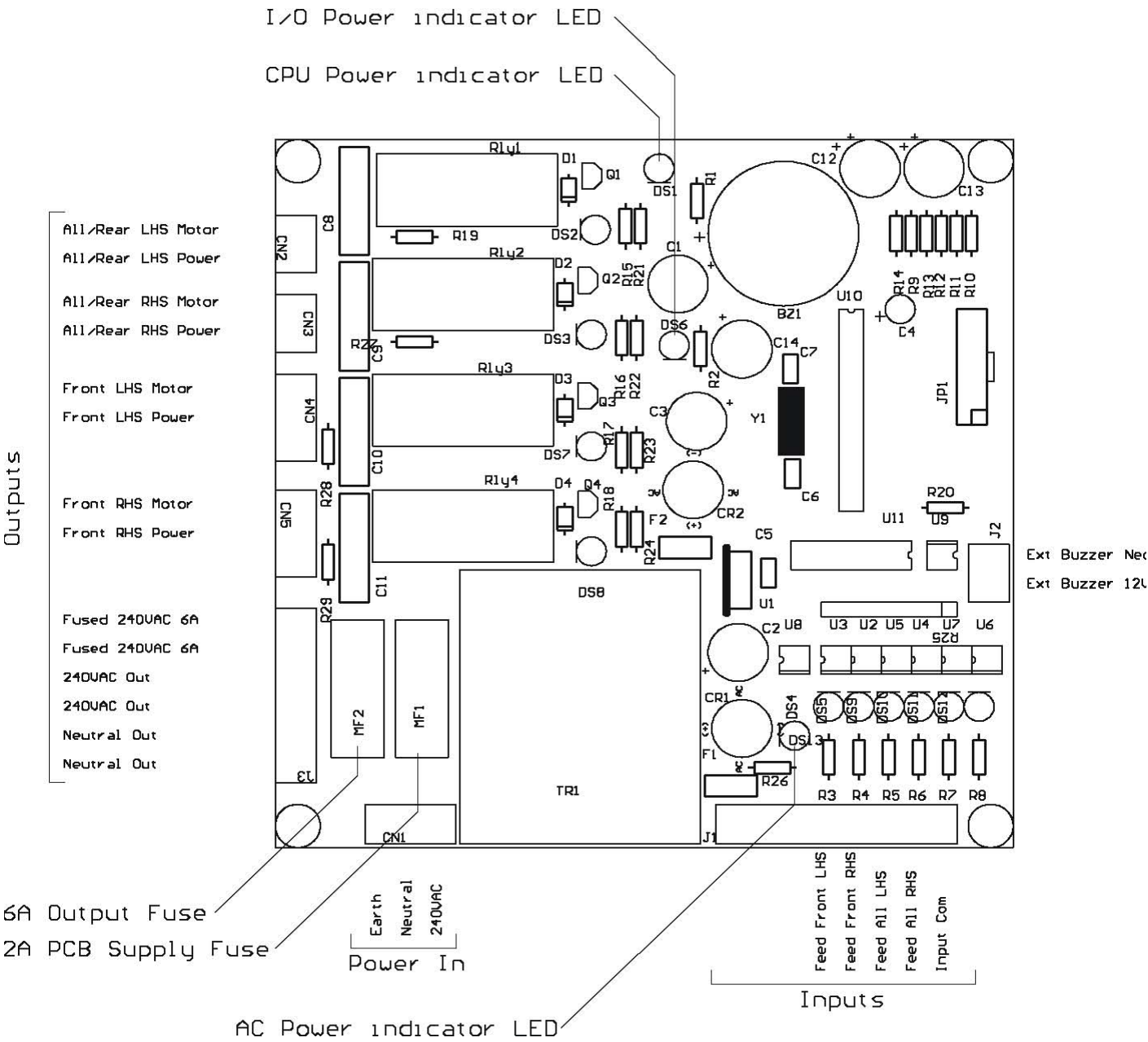
1. Grease bearings (1 pump).
N.B. Do not overfill and damage seals of bearings.
2. Repeat 3 monthly service as above.

Note

The Feed System should never be left powered up when not in use. The system is designed to feed for a preset time only, and can not feed again until the first feed is completed. Therefore the system's design will not allow it to constantly feed. Having said that it is an electrical system and electrical systems are subject to electrical spikes. If you have a clock radio. You may have been out for the day, left with the radio off only to find it on when you return home? An electrical spike can cause this. It may be annoying to have the radio do this, but just imagine if this happened to a feed system and you got up to a dairy pit, full of feed. **Turn the system off when not in use.**

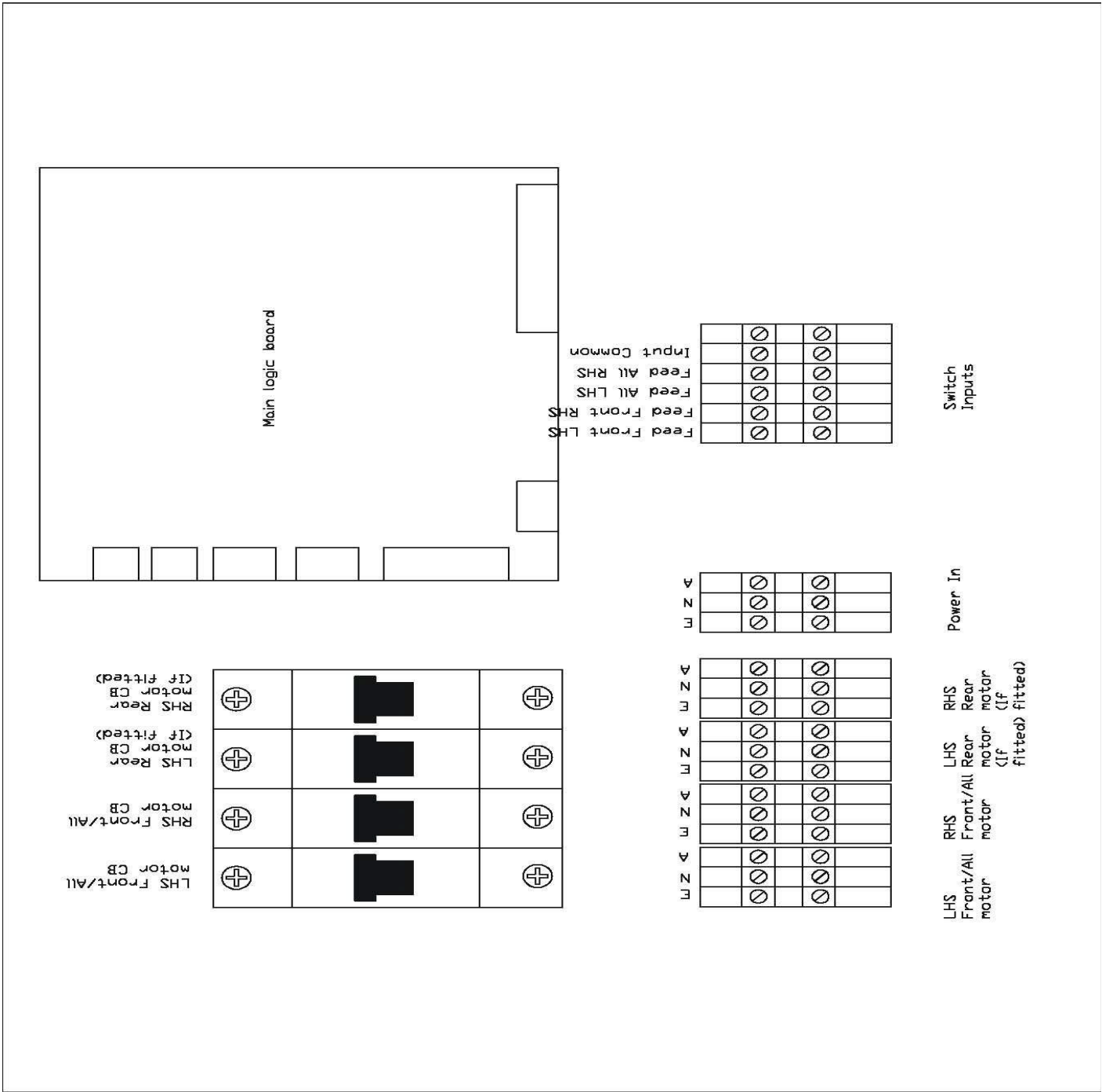
Electrical Installer_____

Phone No _____



Circuit Board connections & information

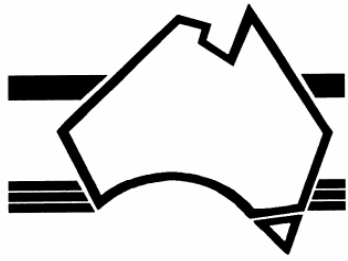
Control panel layout



Flatson Troubleshooting

Problem	Possible Cause	Corrective Action
Will not feed on one side	Controller will not feed if last feed has not been completed	Check for water in remote buttons dry out and reseal
Front Screen is Jammed at Access code and will only go up When pressing up or down Key Edit key also sends it up	The up key is stuck on This can be mechanically or Electrically	Remove display board from door, free up Key. Replace ribbon Replace display board Replace main board

Problem	Possible Cause	Corrective Action



****FEEDTECH****
FEEDINGSYSTEMS



Operation & Installation Manual

FEEDTECH ROLLER MILL

Congratulations on your purchase of a Feedtech Feeding Systems Roller Mill.

please Tick the appropriate boxes

Type of Mill	Drive	Control			Phase	
4" Mill	Gear Drive	Auto	Manual	Three	Single/480	Single/240
6" Mill	Gear Drive	Auto	Manual	Three	Single/480	Single/240
8" Mill	Gear Drive	Auto	Manual	Three	Single/480	Single/240
Twin Mill	Gear Drive	Auto	Manual	Three	Single/480	Single/240

Supplied & Installed By_____

Phone No _____

Please assure your Qualified installer not only fills out his name and phone number above, but also toward the back of this document where your electrician must make a choice on how the mill is to be wired and follow the appropriate wiring diagram.

Take the time to read this manual and understand the maintenance and operation of your roller mill.

The equipment you have purchased has proven to provide excellent service for extended periods of time. To ensure that you obtain the optimum performance and service for the life of your roller mill, some simple suggestions follow.

- Use only Qualified personnel for installation and service of all equipment. Costly damage due to incorrect adjustment or wiring connections will thus be avoided.
- Use only products that the equipment has been specifically designed to process, if in doubt as to the suitability of any given product please contact the Dealer
- Ensure that the equipment is provided with adequate protection from moisture and wind etc.
- Carry out the regular maintenance and inspection program as listed in this booklet.
- In the event of replacement parts being required, use only genuine Feedtech supplied components, available from your installing Feedtech dealer.
- Never work on the Mill without isolating the power. This includes simple tasks i.e. removing guard, unblocking rollers. The mill can start without warning.
- Before all else fails, read the instructions.

Basic overview of the Auto system.

The function of this controller is to supervise the crushing of grain. The objective is to maintain a minimum level of time running to effectively reduce the operating costs and also increase the life of all parts.

To achieve this a sensor is fitted to the main hopper (or boot) to detect when the level of crushed product is at a minimum level. When the milled grain falls below the sensor, the Mill motor starts reaches operation speed and the grain slide opens allowing grain into the mill rollers. If an additive system is fitted it will start also. When milled grain then covers the sensor the grain slide closes and the additive is turned off. The mill motor will continue to run on to allow all un-crushed grain to be cleared, it also needs to keep running to prevent excessive stopping and starting which can cause premature failure of motors and switchgear. If the mill motor is still running and the milled grain falls below the sensor again the slide will open and the additive is turned on to allow more grain will enter the mill rollers. If the milled grain stays above the sensor for the prescribed set time then the mill motor is turned off. If no grain has been milled for fifteen minutes, power to the additive VSD will be turned off to conserve power. If the additive VSD (Variable Speed Drive) is turned off and the milled grain falls below the sensor, power will be supplied to the VSD first and five seconds later the mill will start.

All equipment needs to be serviced to achieve a long trouble free period of operation. To do this we have built in a service alarm, after the mill has been crushing grain for a prescribed period of time, a buzzer will beep at the start of every mill cycle to indicate that the mill is due for a service. When this occurs, contact your service agent and they will service the mill and reset the service timer.

To switch the mill controller to manual, firstly press the * key, then push the manual start button on the front of the control, the display will now indicate the controller is operating in manual mode by displaying "In Manual Mode. The controller will now ignore all signals from the sensor and it can now be started and stopped using the Manual Start and Stop keys. To return the controller to automatic operation simply turn the power off for ten seconds and then back on, or press the * key, then push the manual stop button

This control panel and associated switchgear is designed to run on any of the following supplies: Single Phase 240VAC, Two Phase 480VAC & Three Phase 415 VAC. Installation and repair should only be carried out by qualified personal.

The control panel has a two line, sixteen-character alphanumeric display to allow for configuration information to be programmed, and to display the current status of the panel. To view the various screens and make adjustments there are three push button keys, UP, DOWN and *. To change screen, use the UP or DOWN keys. To change the data on the current screen, push and hold down the * key, then press the UP or DOWN key These keys are often referred to as "edit keys".

WARNING

1. ISOLATE ELECTRICAL POWER BEFORE INSPECTING OR SERVICING EQUIPMENT UNLESS MAINTENANCE INSTRUCTIONS SPECIFICALLY STATE OTHERWISE.
2. WIRE THE ELECTRICAL EQUIPMENT (WHERE APPLICABLE) ACCORDING TO THE WIRING DIAGRAMS AND LOCAL CODES.
3. KEEP ALL COVERS AND GUARDS IN PLACE, THE GUARDS SUPPLIED WITH YOUR MILL ARE FOR YOUR SAFETY.
4. GROUND ALL ELECTRICAL EQUIPMENT.

OPERATING SAFETY

1. Do not operate the "Roller Mill" prior to correct electrical installation by a suitably qualified person.
2. Stop roller mill and disconnect power prior to making any adjustment or repair.
3. If the mill clogs with straw or foreign material, **stop** the mill and **isolate power** prior to attempting to remove the offending material.
3. In the event of the mill binding or stalling, **switch off power supply immediately.**
5. Always have safety guards installed whilst mill is operating.
6. Ensure children are kept away from mill whilst it is operating.

INSPECTION PRIOR TO OPERATING

1. Visually inspect the mill for damage in transit.
2. Remove mill top cover and check for foreign objects in rolling chamber.
3. Check that all bolts and nuts are tight.
4. Check control slide for freeness of opening and closing.

When main panel is powered up the sign on screen is displayed for a short time.

Trvaskis Mill Version XXXX

If it continues to display this screen, it indicates that this is the first time the panel has been powered up and the default parameters need to be loaded. To do this press the push button key that is located on the back of the circuit board until the display is showing:

Storing Data Into Memory

Release the push button key and the panel should now be operational.
After a short period it will then show:

Mill Status On Standby

Status Screens.

The main screen displays the current status of the controller. There are various screens to show the current working status. The controller will automatically return to the status screen after two minutes. Milled grain is above the sensor and the mill motor is off, slide closed, additive is off and the additive VSD power is on.

Mill Status On Standby

Milled grain has fallen below the sensor and the mill motor is on, slide open & additive is on.

Mill Status Now Running

Milled grain is above the sensor and the mill motor is still running, slide is closed, additive is off and the additive VSD power is on.

Mill Status Slide Closed

No grain has been milled for fifteen minutes and the milled grain is above the sensor, the mill motor is off, slide closed, additive is off and the additive VSD power is off.

Mill Status VSD Off. Standby

If the motor has been overloaded or there is a motor or wiring fault.

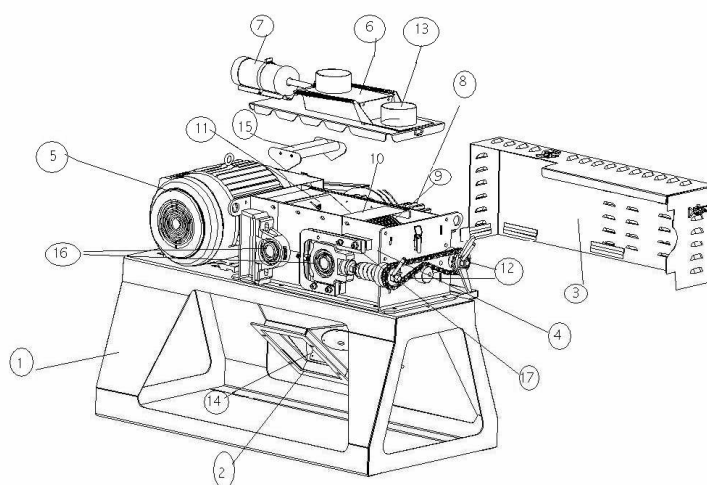
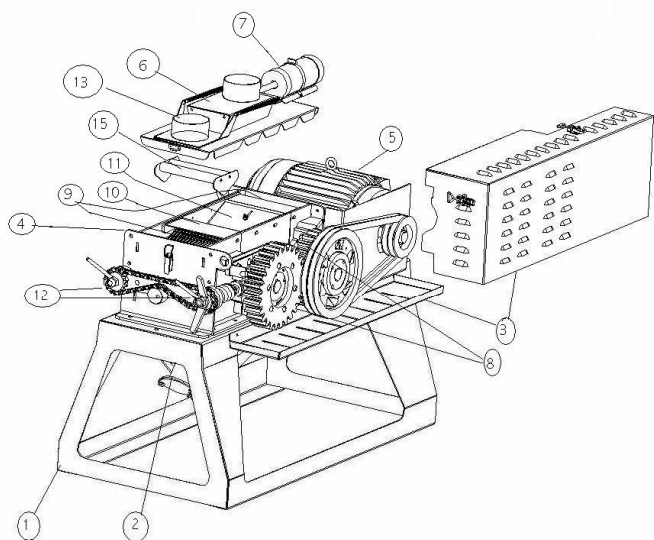
Mill Status Motor Fault

If a service is due and the mill is in the standby mode.

Mill Status Service Required

When manual mode has been initiated and the mill is in the standby mode.

Mill Status In Manual Mode



1. Mill Base
2. Mill Boot
3. Belt guard
4. Roller body
5. Mill motor
6. Mill lid
7. Air or vacuum ram
8. Mill gears (inside belt guard)
9. Rollers (inside roller body)
10. Butterfly (inside roller body)
11. Internal slide
12. Roller adjustment
13. By pass chute
14. Sensor "Grain level"
15. Magnet
16. Bearings
17. Bearing Slide

MAINTENANCE

WEEKLY

1. Visual check of the mill
2. Check Adjustment of Rollers. (Bearing housing should be clear of stops)

3 MONTHLY

1. Check all bolts and nuts for tightness.
2. Check grub screws for tightness
3. Check drive belt tension, adjust if required.
4. Clean magnet.
5. Clean solenoid valve and air filter. (pneumatic)
6. Clean Solenoid valve and vacc ram (vacuum)
7. Refit all covers.

6 MONTHLY

1. Grease bearings (1 pump).
N.B. Do not overfill and damage seals of bearings.
2. Repeat 3 monthly service as above.

ROLLER ADJUSTMENT

2. Turn power off, remove plug.
2. Remove lid and check roller gap.
3. Unlock roller adjustment and reset to required gap
4. Lock up roller adjustment.
5. Run mill without grain to ensure that mill runs freely.
6. Open slide and run with grain - checking a sample of crushed grain.

Please note that finer crushing of grain will reduce the output of the mill.

INSTALLATION AND ASSEMBLY

1. Locate the mill in a suitable position, this position should be such that feeder line/s can be easily connected, as well as silo connection tubes and fittings.
2. Dynabolt or loxin the mill to the foundations being used.
3. Vacc ram:- Connect vacuum supply line to mill, vacuum solenoid tailpiece and a suitably located vacuum pipe of the milking machine. When fitting the clamp to the air-line, ensure that the nipple of the clamp faces vertical up or as near as possible.
4. Pneumatic ram:- Connect pneumatic ram to air supply
5. Fit correct boot assembly, or fitting for feeding system being utilised.
6. Arrange for a suitably qualified person to connect electrical supply to the mill.
7. Trial run the mill without grain.
8. Prior to operating with grain, remove top cover with the inlet fitting and adjust internal choke slide and refit top.

OPERATION - ORIGINAL START UP

1. Start milking machines, plug machines as normal milking preparation (Vacuum model only).
2. Turn roller mill switch "ON" to commence mill running.
3. Automatic slide on mill must now open to admit grain to mill.
4. Open slide on silo fitting to allow grain to enter the roller mill.
5. Observe rolled grain falling past observation glass.
6. Automatic slide on mill must close when grain reaches mid to upper level of viewing glass.

Mill is now ready to have the feeding system turned "ON", operation now becomes automatic.

Installation

When main panel is powered up the sign on screen is displayed for a short time.

Trvaskis Mill

Version XXXX

If it continues to display this screen, it indicates that this is the first time the panel has been powered

up and the default parameters need to be loaded. To do this press the push button key that is located on the back of the circuit board until the display is showing:

Storing Data

Into Memory

Release the push button key and the panel should now be operational. After a short period it will then show:

Mill Status

On Standby

Status Screens.

The main screen displays the current status of the controller. There are various screens to show the current working status. The controller will automatically return to the status screen after two minutes. Milled grain is above the sensor and the mill motor is off, slide closed, additive is off and the additive VSD power is on.

Mill Status

On Standby

Milled grain has fallen below the sensor and the mill motor is on, slide open & additive is on.

Mill Status

Now Running

Milled grain is above the sensor and the mill motor is still running, slide is closed, additive is off and the additive VSD power is on.

Mill Status

Slide Closed

No grain has been milled for fifteen minutes and the milled grain is above the sensor, the mill motor is off, slide closed, additive is off and the additive VSD power is off.

Mill Status

VSD Off. Standby

If the motor has been overloaded or there is a motor or wiring fault.

Mill Status

Motor Fault

If a service is due and the mill is in the standby mode.

Mill Status

Service Required

When manual mode has been initiated and the mill is in the standby mode.

Mill Status

In Manual Mode

Wiring & Connections

Single Phase 240VAC.

Fit terminal links to L1,L2&L3 on the Power In and Mill Motor terminals.

Connect the supply as follows:

Power In Terminals. Active to L1. Neutral to N. Earth to E.

Mill Motor Terminals. Active to L1. Neutral to N. Earth to E

480VAC.

Fit terminal links to L1,L2&L3 on the Power In and Mill Motor terminals.

Connect the supply as follows:

Power In Terminals. Line 1 to L1. Line 2 to 480-L2. Neutral to N. Earth to E.

Mill Motor Terminals. Line 1 to L1. Line 2 to 480-L2. Earth to E .

Three Phase 415VAC.

NO links fitted.

Connect the supply as follows:

Power In Terminals. Line 1 to L1. Line 2 to L2. Line 3 to L3. Neutral to N. Earth to E.

Mill Motor Terminals. Line 1 to L1. Line 2 to L2. Line 3 to L3. Neutral to N. Earth to E .

Incorrect connection of the power supply and motor may result in permanent damage to the motor and controller.

Additive VSD Power. 240VAC.

VSD Power Terminals. Active to A. Neutral to N. Earth to E .

Grain Slide Solenoid Valve. 240VAC.

Sol Valve Terminals. Active to A. Neutral to N. Earth to E .

Grain Sensor 12VDC.

Prox Switch Terminals. Pos to 12V +Ve. Neg to 12V -Ve. Signal to Low Sig.

VFD Run. Voltage free contacts.

VSD Run Terminals. Run Input to VSD Run1. Com Inp to VSD Run2

Commissioning Screens.

The access code is used to prevent access to the set up parameters by unauthorised personnel. Set the access code to continue.

Access Code

The motor run time tracks the actual time that the motor has been running. This data can be used to determine the number of starts in relation to the actual time running. If there are more than ten starts per hour of motor run time, increase the Motor run-on time. The operator cannot edit this data.

Motor Run Time

Each time the motor starts a counter is incremented. This data can be used to determine the number of starts in relation to the actual time running. If there are more than ten starts per hour of motor run time, increase the Motor run-on time. The operator cannot edit this data.

No Of Motor Starts

The Motor run-on time allows all grain to be milled before the motor stops, which reduces the required start up current and prevents false motor overload trips. It is also required to prevent excessive motor starts. Adjust the Run-on time to achieve ten or less starts per hour of motor run time.

Run_On Time

The service timer decrements each hour that the motor is running. When the mill has been commissioned or a service performed, adjust the service timer to 300 hours.

Next service

The serial number is used by Feedtech to track all products and should be quoted when seeking service support.

Roller Mill motor type

This roller mill has been dispatched from the Feedtech factory with the following motor set up:-

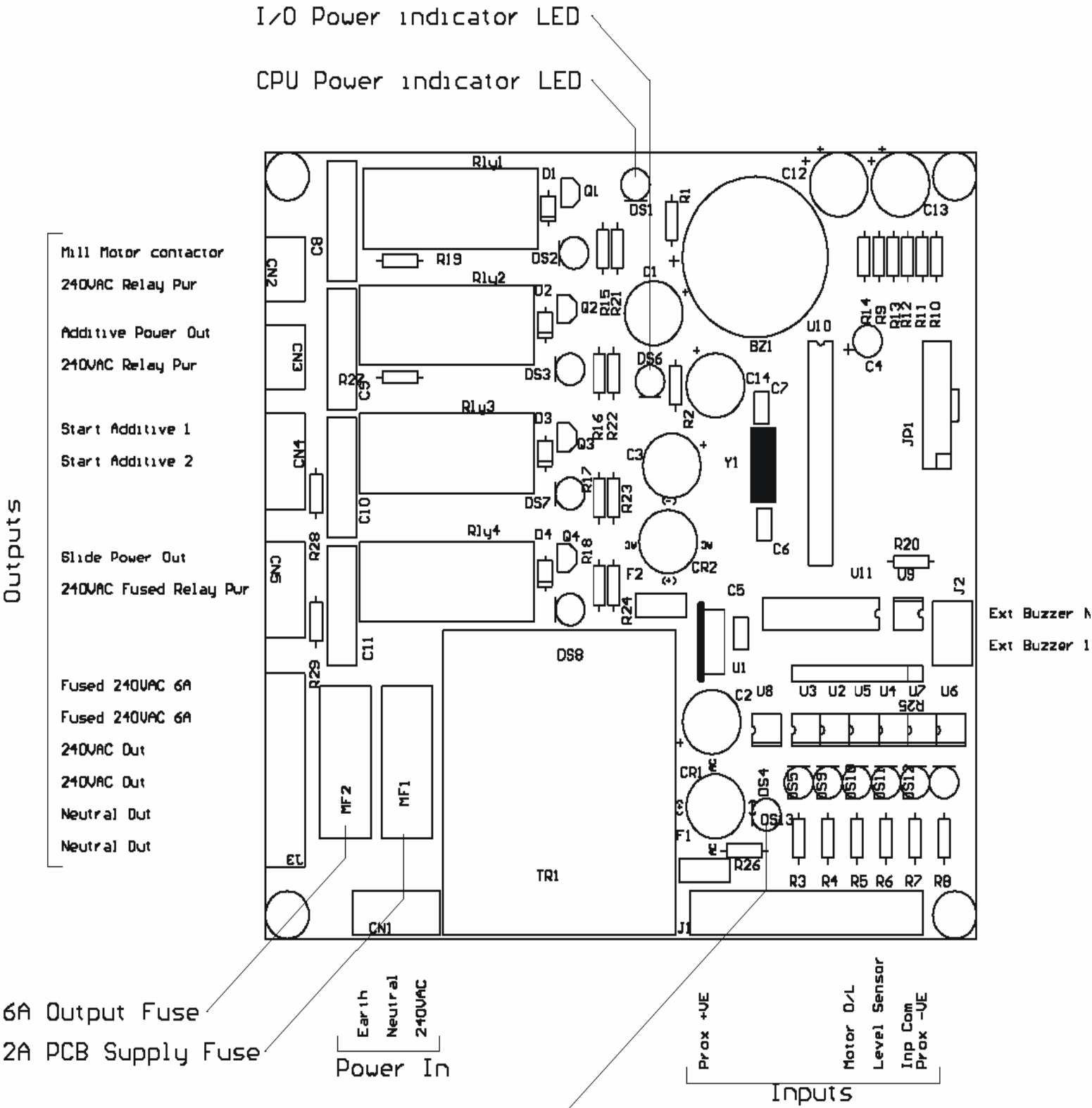
415 three phase

480 two phase

240 single phase

Important when wiring this Roller Mill please select one of the following wiring diagrams supplied on page 17, 18 or 19 of this book. Once your selection is made please follow the wiring diagram, and fill out the name and phone number on that page only. This then gives traceability to the mill and its wiring

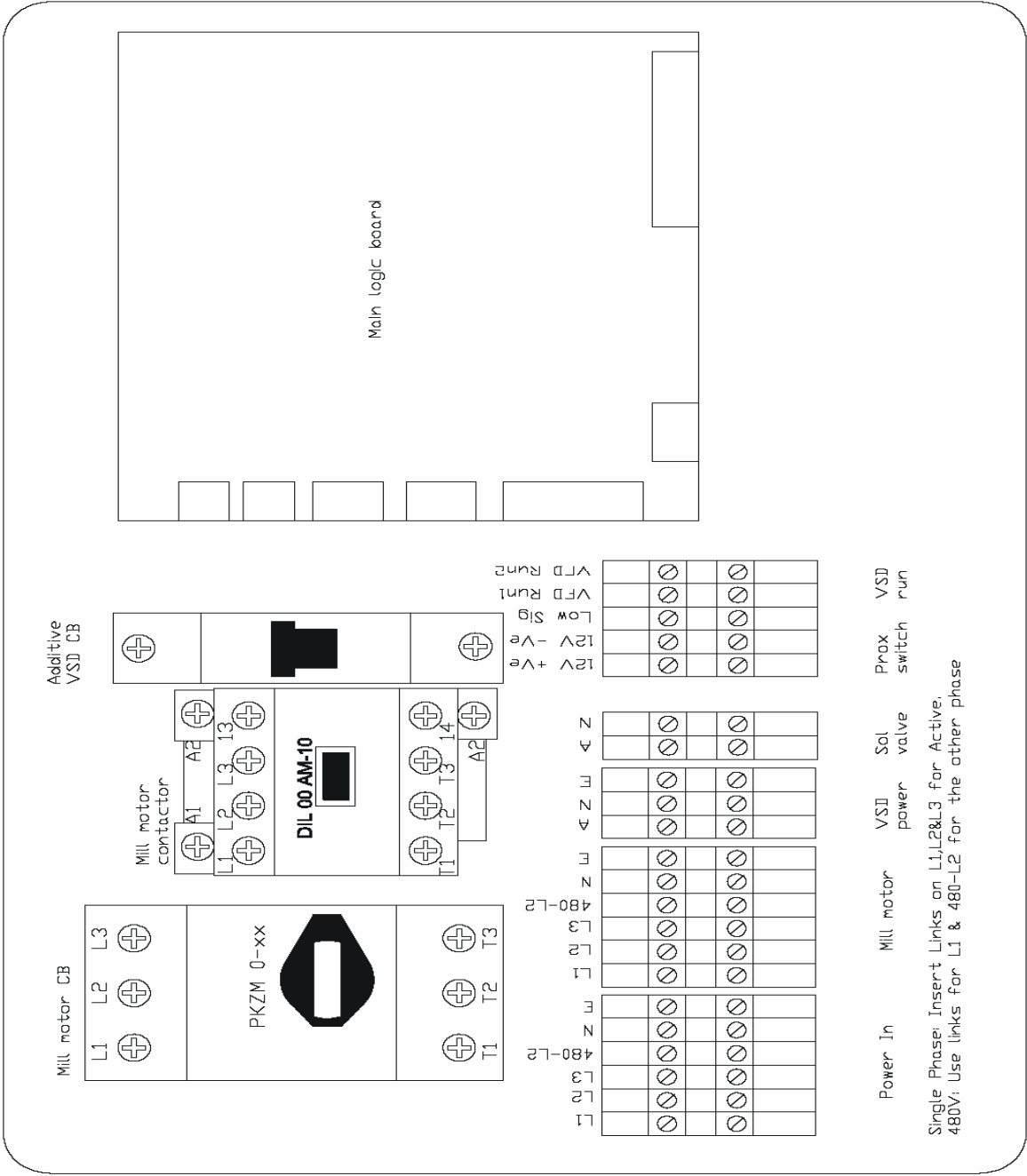
Circuit Board connections & information



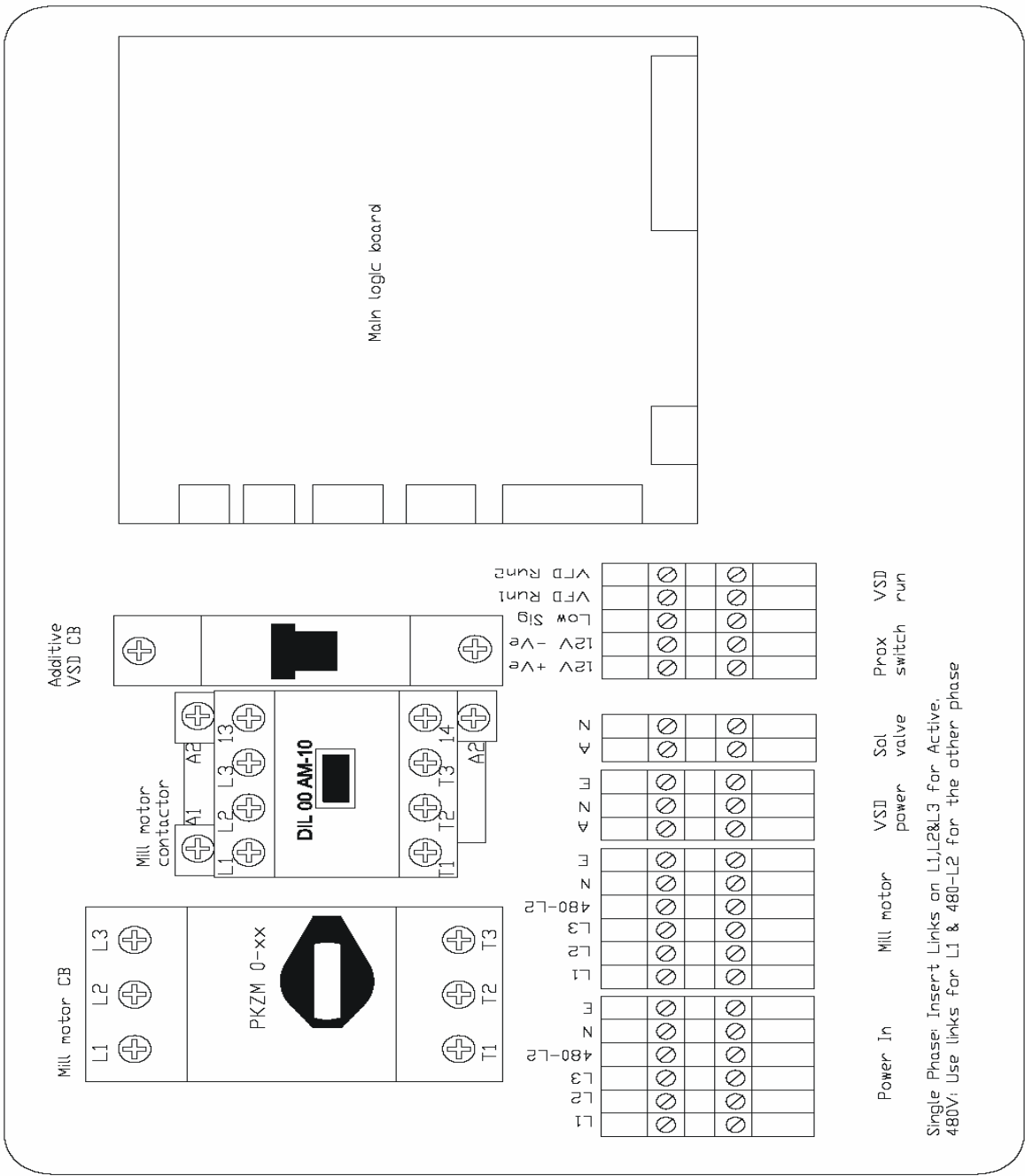
Electrical Installer_____

Phone No _____

Control panel layout



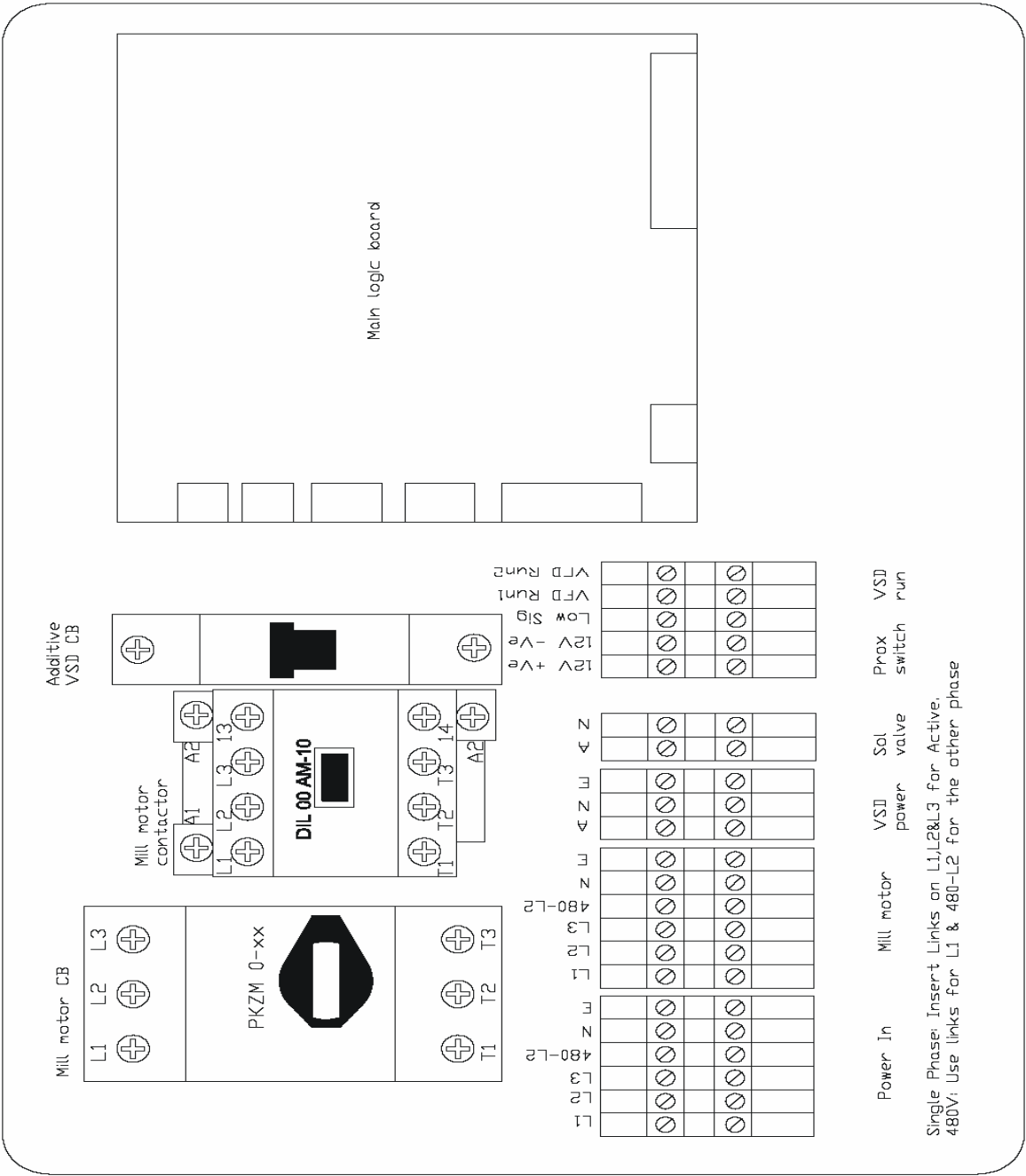
Control panel layout



Electrical Installer_____

Phone No _____

Control panel layout



Problem	Possible Cause	Corrective Action
Mill motor will not run, no noise and not trying to run.	<p>Check switch is turned on</p> <p>Check for damaged fuse.</p> <p>Check motor thermal overload for tripping.</p> <p>Visually inspect wiring and plugs on joiners.</p>	<p>Turn on</p> <p>Replace if necessary.</p> <p>Press firmly and reset thermal overload.</p> <p>Refit plugs and call an electrician if cables are visually damaged.</p>
Mill motor will not run or is noisy when trying to run.	<p>Foreign object jamming rollers.</p> <p>Grain leaking into rolling chamber.</p> <p>Burnt out motor</p>	<p>TURN OFF. Remove lid and remove obstruction.</p> <p>Remove drive cover, turn pulley by hand to ensure there is no resistance to starting.</p> <p>As above.</p> <p>Ensure slide return springs are not broken or stretched.</p> <p>Ensure slide operates freely.</p> <p>Ensure air filter on vacuum cylinder is clean.</p> <p>Check for foreign objects in solenoid valve stem.</p> <p>Fit new motor</p>
Motor running but grain flow control slide will not open.	<p>Collapsed vacuum supply line.</p> <p>Leaking, piston/cylinder assembly.</p> <p>Sticking slide assembly</p>	<p>Check for flattened supply line. Repair.</p> <p>Remove and dismantle cylinder lubricate, check for possible leaks, clean lubricate and refit.</p> <p>Remove top cover, disconnect springs, clean and check for cause of binding.</p> <p>Repair and refit.</p>

Problem	Possible Cause	Corrective Action
Motor running but grain flow control slide will not open. (Cont.)	Faulty solenoid on vacuum cylinder of proximity switch	With unit running, turn brass screw head approximately 1/2 a turn, vacuum slide should open, close quickly to prevent bind up. Replace switches.
	Wet grain or dust on proximity switch.	Remove perspex cover, clean end of proximity switch. Reassemble.
	Feeder system not taking feed from roller mill boot assembly.	Remove obstruction from mill boot. Check feeder operation.
Motor running, grain slide open, no grain passing through rollers or insufficient grain passing through rollers.	Foreign objects blocking passage through rollers.	TURN OFF. Remove top assembly, remove obstruction. Reassemble.
	Internal slide wrongly adjusted.	TURN OFF. Remove top assembly, loosen adjusting nut, open slide. Reassemble.
	Block or restriction in silo or fittings to roller mill.	Close silo grain slide, remove flexible connection tube, check for blockage at any point in this assembly.
	Metallic objects on magnet blocking grain passage.	TURN OFF. Remove top assembly, carefully clean objects from magnet. Reassemble.
	Glazed or worn rollers.	Call authorised service agent.

Problem	Possible Cause	Corrective Action
Grain not being rolled sufficiently	Rollers spaced too wide	Decrease roller spacing as per roller adjustment instructions.
Grain being excessively rolled.	Rollers too close.	As above, but increase the roller spacing.

Fully automatic mill

<p>Mill turned on motor will not start.</p> <p>Note: Timer settings should be approx. 30-40 seconds or 0.6 min.</p>	<p>Feeder not taking grain away from control switch.</p> <p>Moist dust or grain on proximity switch in mill body.</p> <p>No power to roller mill</p>	<p>Check feeder operation repair if necessary.</p> <p>Turn mill and feeder off. Remove sight glass and clean end of proximity switch.</p> <p>Check that all switches are on.</p> <p>Check fuses.</p> <p>Check connections or call electrician.</p>
<p>Mill motor running, will not turn off.</p>	<p>No grain supply to roller mill.</p> <p>No grain in silo.</p> <p>Foreign object in rolling chamber, obstructing grain flow.</p>	<p>Check feed supply to mill.</p> <p>Check level of grain in silo.</p> <p>TURN OFF. Check for obstruction clear as required.</p>

Feedtech - Auger Drive Methodology

Rota-Matic Drive Heads, Agri-Matic Drive Heads, Universal Drive Heads, Variable Speed Additive Drives and General Centreless Auger Drive Systems.

Since taking over Bonlac Feeding Systems and implementing product name change to “Feedtech Feeding Systems” Trevaskis Engineering have stood fast to the methodology that centreless augers should be driven from the destination end (out-feed end) of the auger.

Whilst this is not exclusively applied to all centreless auger drive systems (eg. Variable Speed Additive Drives), Trevaskis Engineering believe that Rotary Dairy Dispensing Drive Heads should be Clutch Driven Auger to minimize motor starts and should only be driven from the out-feed end.

The reasoning for this is based on the following findings.

1. Centreless Augers compress like a spring under load, load on the auger is greatest at the out-feed end if the drive is at the fill end.
2. Delayed reaction to dispense point, as load on auger is transferred up the auger line causing auger whip, if the drive is at the fill end.
3. Loads on large rotary drive heads are such that the above is exaggerated.
4. Accuracy of the ration is distorted if the drive is at the furthestmost end of the dispensing point.
5. Electrical supply required at the holding silo, if the drive is at the fill end.
6. Drive head is exposed to the elements – Dust, Rain, if the drive is at the fill end.
7. Clutch drive with motor constantly running :- therefore the motor does not stop and start constantly

Feedtech Flat Centreless Drive Methodology

Feedtech has always supported the concept that flat bladed centreless auger is the most efficient way to auger grain or pellets (inside flexible PVC casing).

Feedtech strongly stand behind our Philosophy that flat blade auger has the best delivery. As our auger has rounded edges it, it has no added wearing effect on the PVC casing. It does not have sharp edges as some people may believe. Round centreless auger is available, however it is reported to deliver some 20% less flow rate, no added strength, no better wear on the PVC. Why would you accept any auger that did not deliver the best possible result, proven over 25 years

Reasons for excessive wear in PVC casing

- Incorrect fitment.
- Running the auger when dry.
- Incorrect PVC casing
- Excessive bends.

Feedtech and previously Bonlac have a 25 year history of manufacturing quality products for the livestock industry. Farmers were feeding their stock with our automated auger fill systems even back then. Since that time we have developed our range to be the outright trend setters for quality automated feeding systems and related product. An example of that is our range of Roller Mills, Agri-Matic drive heads, Control Modules, Pencil Augers, Universal drives. The fact that we are the manufacturer allows us to custom make product to meet your requirements.

Instructions on wiping the board's memory and resetting it

If a controllers behaving in an erratic manner. This in most cases is due to an electric spike scrambling the memory. The fix for this is to wipe the control board's memory, and reset the information back into the board. It is not in any of the manuals, the simple reason for this is we do not need unqualified farmers tampering with something they don't need to. The following are instructions on how to achieve this with a Mill controller, however all controllers are very much the same as they actually run the same board.

First step is to write down all settings, so you can put the figures back in after you have wiped the board. This is done by pushing the arrow up button once, then hold the star button down (the one between the up and down arrows) at the same time press the up arrow to bring up the number **21** release buttons. Using the up arrow the first will be MOTOR RUN TIME write this down, next is NUMBER OF MOTOR STARTS, next is RUN ON TIME, next is NEXT SERVICE and the last is the SERIAL NUMBER.

After writing them all down you are ready to wipe the board. This is achieved by turning the power off at the supply, opening the door on the controller on the back of the door you will see the L C D, screen on the back of it you will see a button (My Key) hold this button in and turn the power on, hold the key down for 3 or 4 seconds, this has now wiped the board's memory (and removed any corrupting messages). Push the arrow up button once, then hold the star button down (the one between the up and down arrows) at the same time press the up arrow to bring up the number **21** release buttons. (With a Mill controller you can't change the first two fields) Press the up arrow once this will bring up motor run time, which you can't change. The next is number of motor starts (not changeable). Next is run on time, press the star button and the up (or down) arrow to reset the number you have written down for this field. The next is not changeable. Repeat this for the next setting (serial number). When this is done simply arrow down until the system says loading information.

Flow Rates

Average delivery amounts

Auger size amount in Tonnes per hr.

100 mm	3 t
80 mm	2 t
65 mm	1.2 t
40 mm	.6

Agri-Matic / Roda-Matic

Auger size amount in kilograms per second & at about 560 R P M

100 mm	1.0 kg
80 mm	.8 kg
65 mm	.5 kg
40 mm	.25 kg

Pencil Augers Tonne'sper Hr.

4"	4.5
6"	10

Mill's Tonne'sper Hr.

4	2
6	3.5
8	4.5