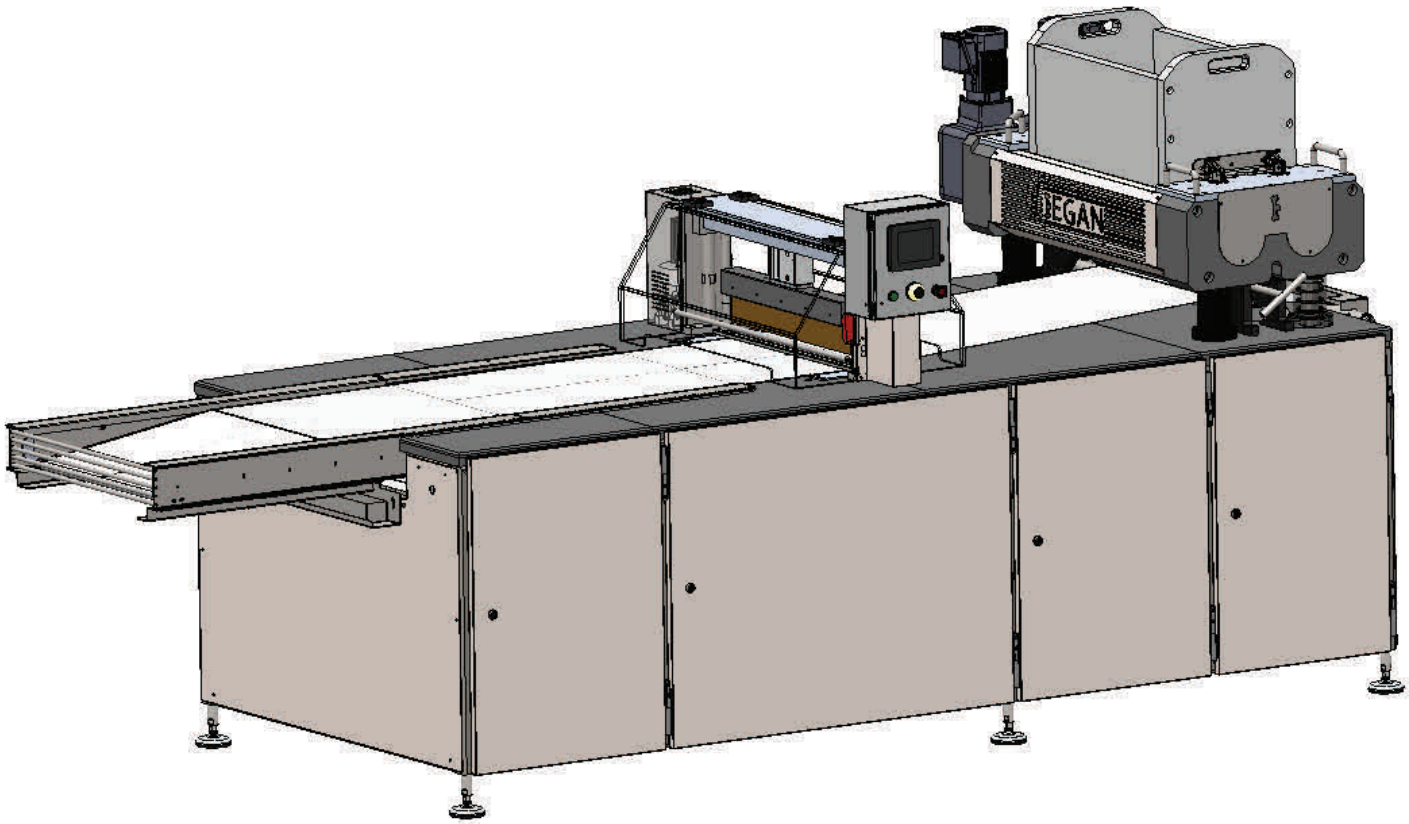
EGAN
FOOD TECHNOLOGIES

TECHNICAL MANUAL

CONTINUOUS EXTRUDER

WITH PNEUMATIC BAR CUTTER AND SERVO

RETRACT CONVEYOR



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SAFETY INFORMATION

READ THIS INFORMATION CAREFULLY

Operation of the Egan continuos extruder involves high voltage electrical energy, moving belts and rotating and cutting machinery. Safety awareness is essential. You can help prevent accidents that may cause injury to you and others, or damage to the equipment by observing all the standard shop safety rules in force at your workplace and taking additional precautions.

MACHINERY PRECAUTIONS

- Know and respect the machinery. Approach moving parts with caution; wear safety glasses to deflect flying fragments and leather gloves for handling high temperature parts.
- Learn the emergency shutdown procedures for the machine.
- Never place your hands on or near any moving machine parts.
- Never reach inside any enclosures or guard doors while the machine is being cycled in the automatic mode.
- While performing troubleshooting procedures for this machine, it may be necessary for maintenance personnel to open machine access and/or guard doors. Use extreme care to ensure that non-essential personnel keep clear of the machine or serious injury could result.
- KEEP THE DOORS TO ELECTRICAL CABINETS CLOSED! Only authorized personnel may open them.
- DO NOT operate the machine if there are obstructions in the way of moving machine parts.
- Always be attentive for machine malfunctions, fault indications, or unusual noises. These can indicate problems requiring immediate attention.
- Use warning signs when maintenance personnel are repairing the machine. Never allow anyone to operate the controls while others are working on the machine.
- Keep your work area clean by removing all rags, scrap, etc. that could cause accidents.
- Only qualified personnel should make repairs or adjustments to the machine.
- Do not work on pneumatic devices without bleeding the system pressure.
- Limit system pressure to within specifications to prevent damage to the system.

REMEMBER ...

IF YOU SUFFER AN INJURY SEEK FIRST AID IMMEDIATELY!

THE EGAN CONTINOUS EXTRUDER AND BAR CUTTER

The Egan Continuous Extruder and Bar Cutter ("Egan Extruder") consists of two major components: (1) a hopper and continuous two-roll extruder assembly and (2) a bar cutter assembly.

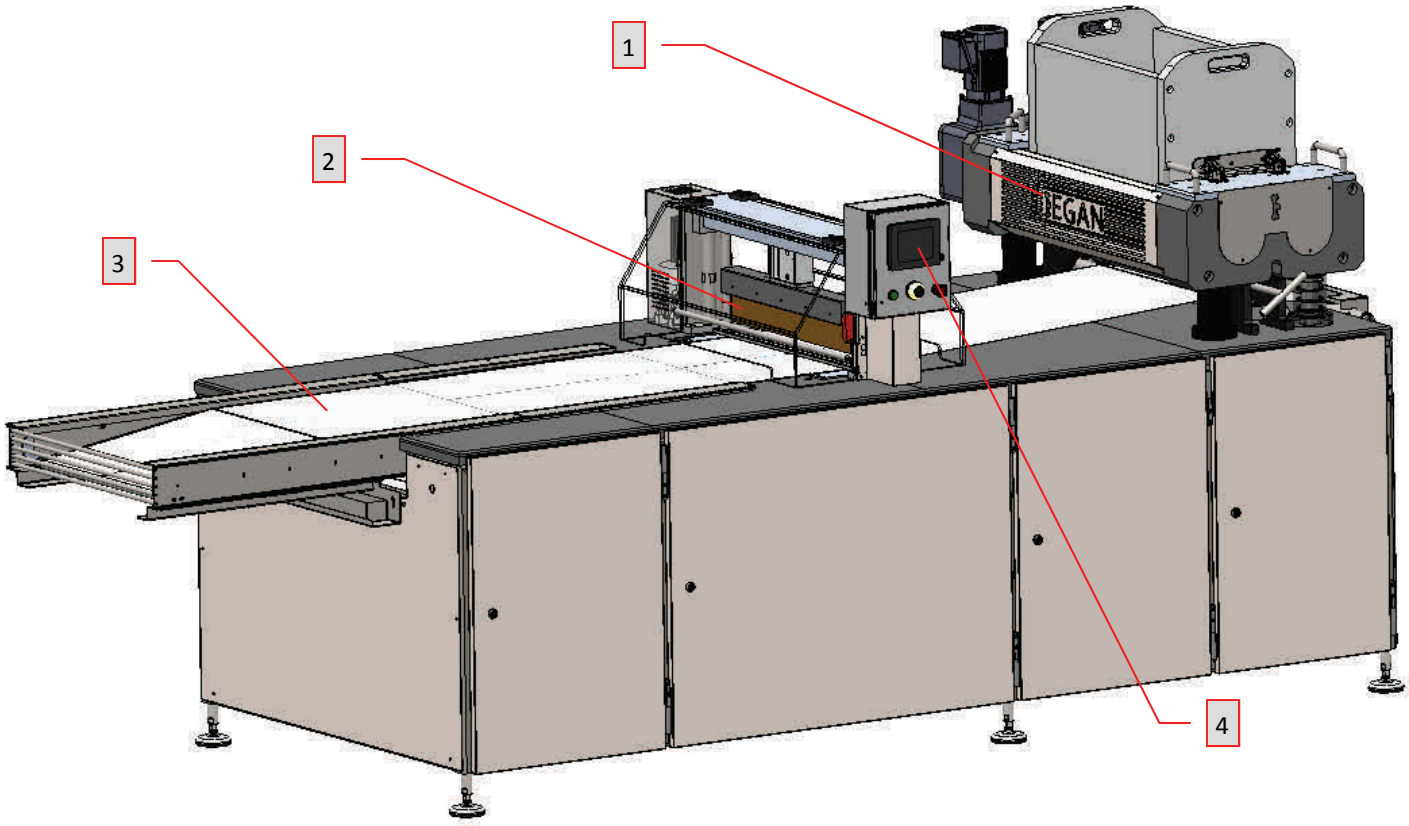


FIGURE 1—BAR CUTTER AND RETRACT CONVEYOR

1. **Extruder Head and Hopper** – The Egan Extruder is designed to process raw dough into bars. The hopper and extruder head assembly sit atop a conveyor. After the product is deposited in the hopper, the continuous, variable speed, feed rolls (located below the hopper) extrude the dough as a rope through a filler block and die onto a moving conveyor belt below. The conveyor belt comes with a raise function that can be adjusted to the optimum height for product transfer out of the die onto the conveyor belt.
2. **Cutting Mechanism With Vertical and Horizontal Blade Movement —**See Figure 14 on page 15 for a more detailed view.
3. **Discharge Retracting Conveyor —** After cutting, the bars transfer to the discharge conveyor where there is a retracting nosebar that will place the bars on a tray or another conveyor not supplied by Egan Food Technologies
4. **Operator Controls** – The operator controls are described elsewhere in the manual.

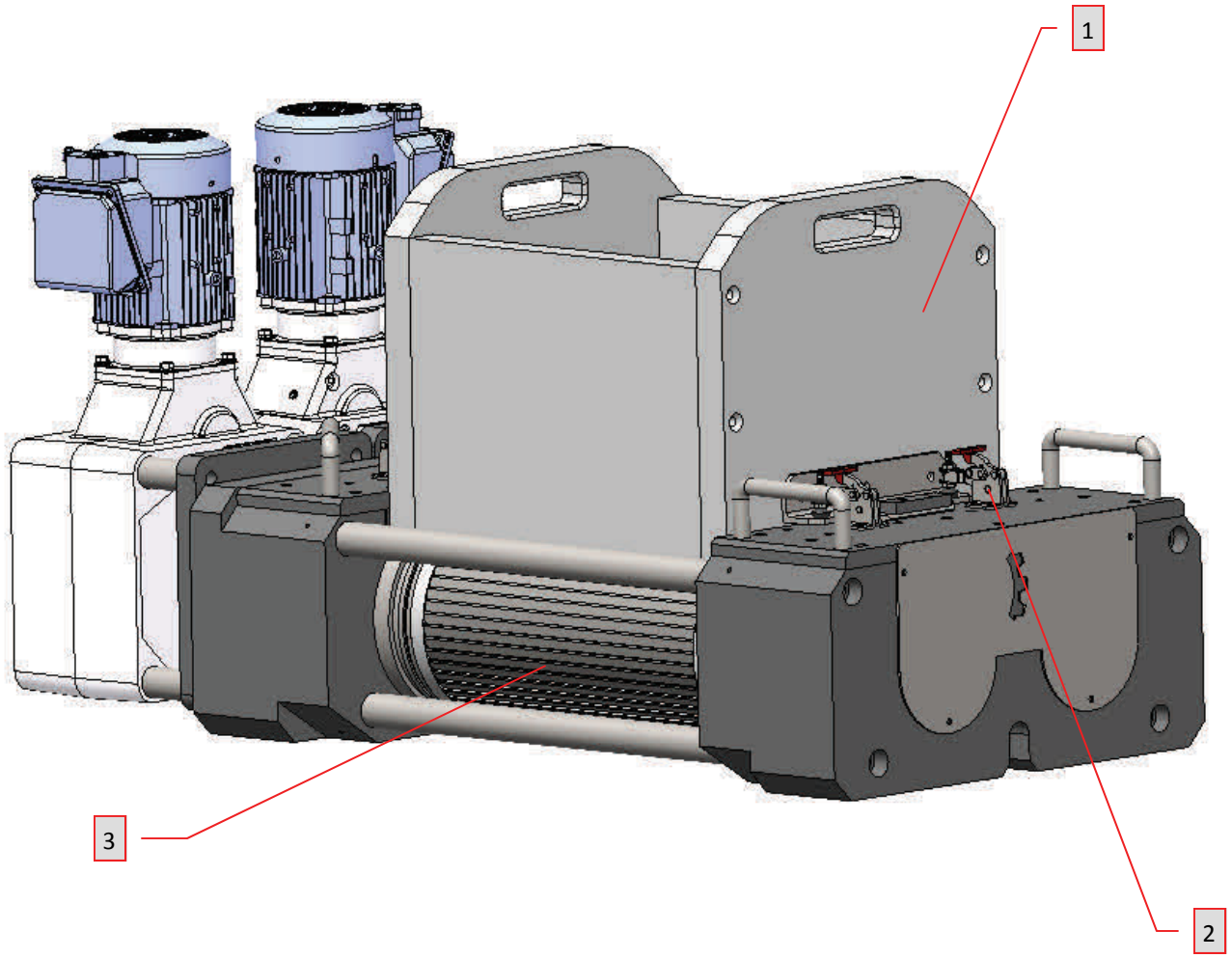


FIGURE 2—Hopper with Feed Roll Safety Cover Removed

1. **Hopper** – An open hopper is located above the feed rolls. Product is deposited in the hopper for use in the extruder. Lifting holes on each end of the hopper allow it to be lifted for cleaning or maintenance.
2. **Toggle Clamps** – There is one pair of toggle clamps on each side of the hopper. These hold the hopper down and can be opened to remove the hopper for cleaning or maintenance. See Figure 3 below for a more detailed view of the toggle clamps.
3. **Feed Rolls** – The two saw-toothed feed rolls below the hopper rotate inward to pull product from the hopper and extrude it through the filler block and die that sit below the feed rolls on a support bridge. See Figures 4, 5, and 6 below for more detail.

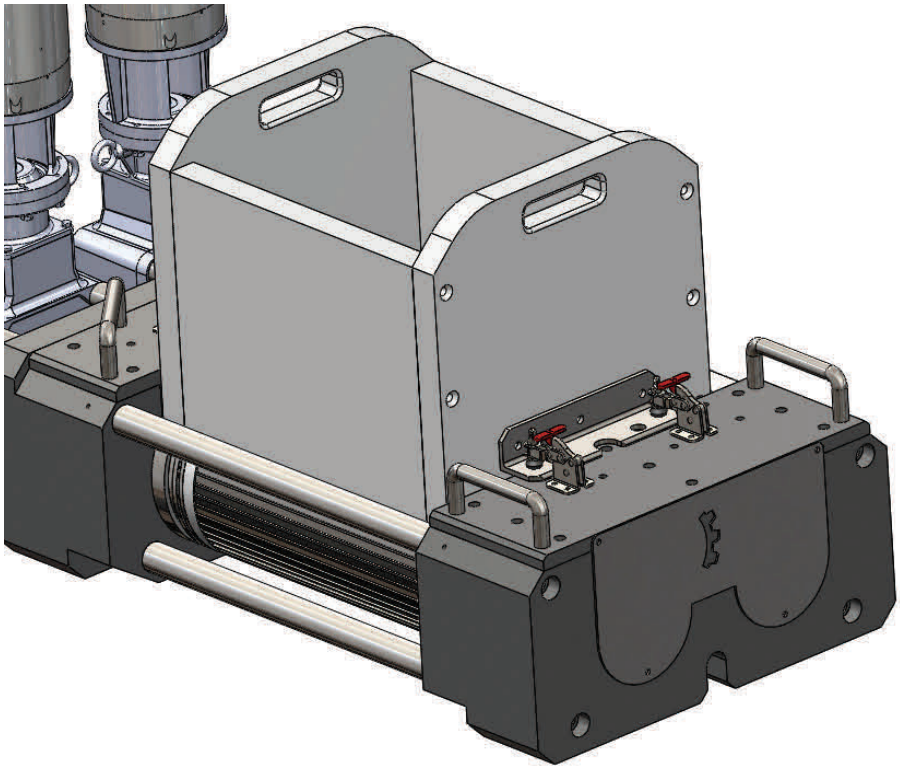


FIGURE 3—Detail of Hopper and Toggle Clamps

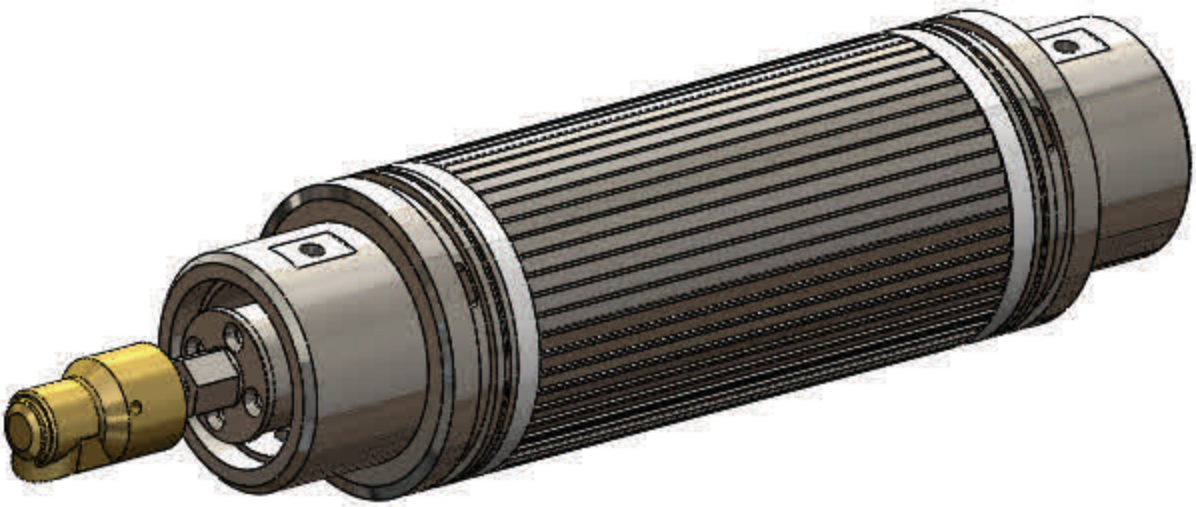


FIGURE 4—Feed Roll Assembly

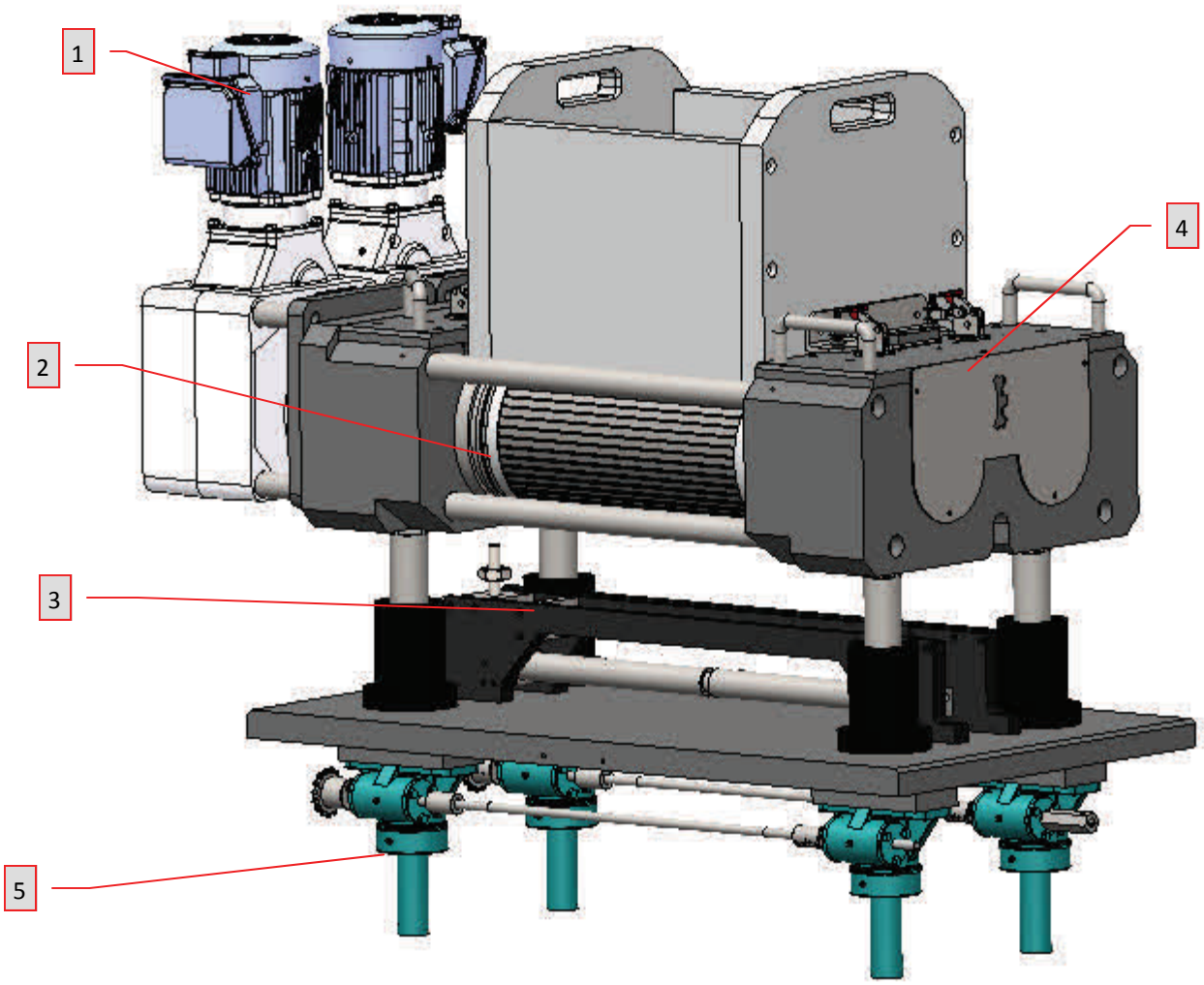


FIGURE 5— Extruder Assembly with Feed Roll Guard Removed

1. **Feed Roll Gear Motors** – A separate gear motor drives each feed roll. One of the gear motors is visible in this picture. See Figure 6 below for a view of both gear motors.
2. **Feed Roll**
3. **Filler Block and Die** – The filler block and die are located under the feed rolls on a support bridge. See Figures 7, 8 and 9 below for more detail.
4. **Extruder Head Housing** – There are two extruder head housings, one on each side. The tops are removable in order to remove the feed rolls. See Figure 6 below for more detail.
5. **Jack Screws** – Four jack screws (two on each side) raise and lower the extruder head. Lowering the head clamps the filler block and die in place. Raising the head unclamps the filler block and die so that it can be slid out for changing or cleaning. A hand wheel that can be used raise and lower the jack screws is located on the cabinet below the conveyor. See Figure 7 for more detail.

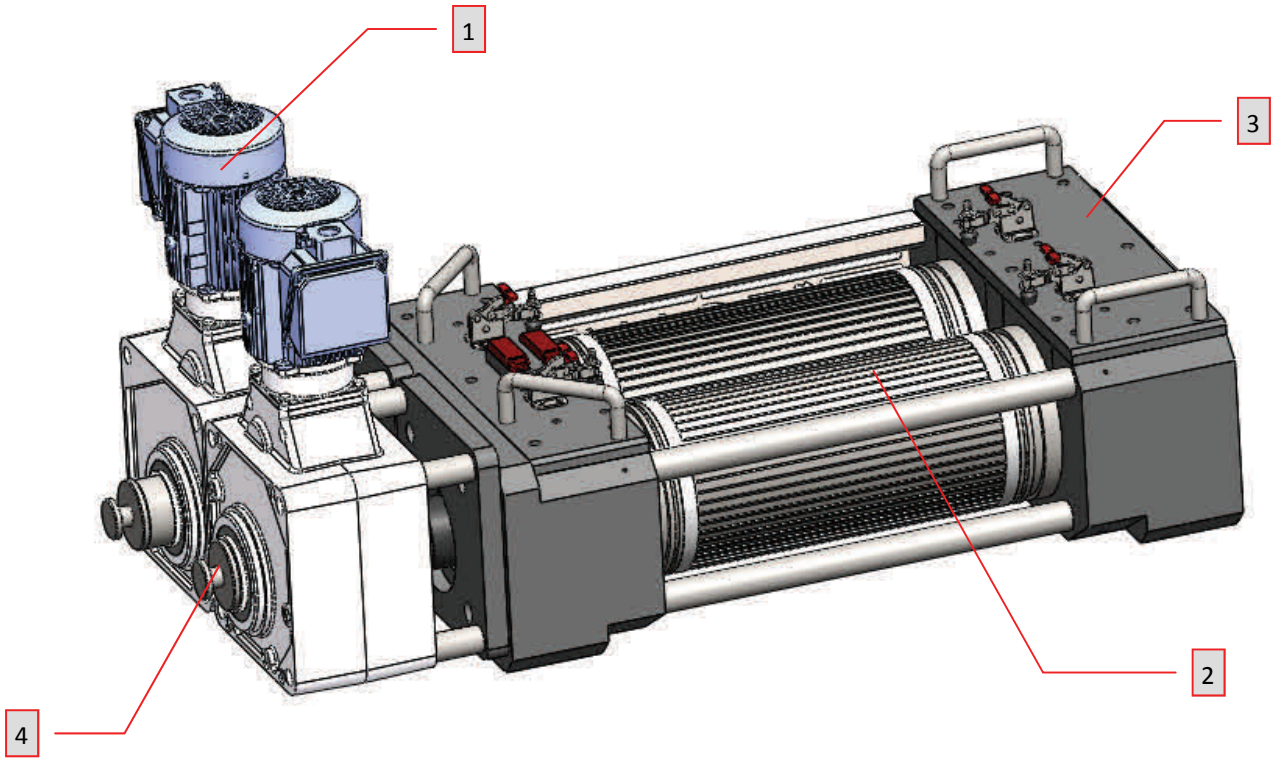


FIGURE 6—Feed Roll Assembly with Hopper Removed

1. **Feed Roll Gear Motors** – Both feed roll gear motors are visible in this picture.
2. **Feed Rolls** – The two saw-toothed feed rolls, shown here with the hopper removed, rotate inward to pull product from the hopper and extrude it through the filler block and die that sit below the feed rolls on a support bridge.
3. **Extruder Head Housing Removable Top** – The top of the extruder head housing on each side can be removed by undoing the bolts and lifting off the top with the handles shown. This exposes the ends of the feed rolls, which can be lifted out for cleaning, maintenance or repair. The feed rolls have swivel eyebolts on each end to assist in lifting them out.
4. **Quick Disconnect—** The gearmotors can be disengaged from the feed rolls by loosening the knob and removing the c-spacer located between the housing and gear motors. Once the spacer is removed pull the shaft by the know to disengage and then the rolls can be pulled out.

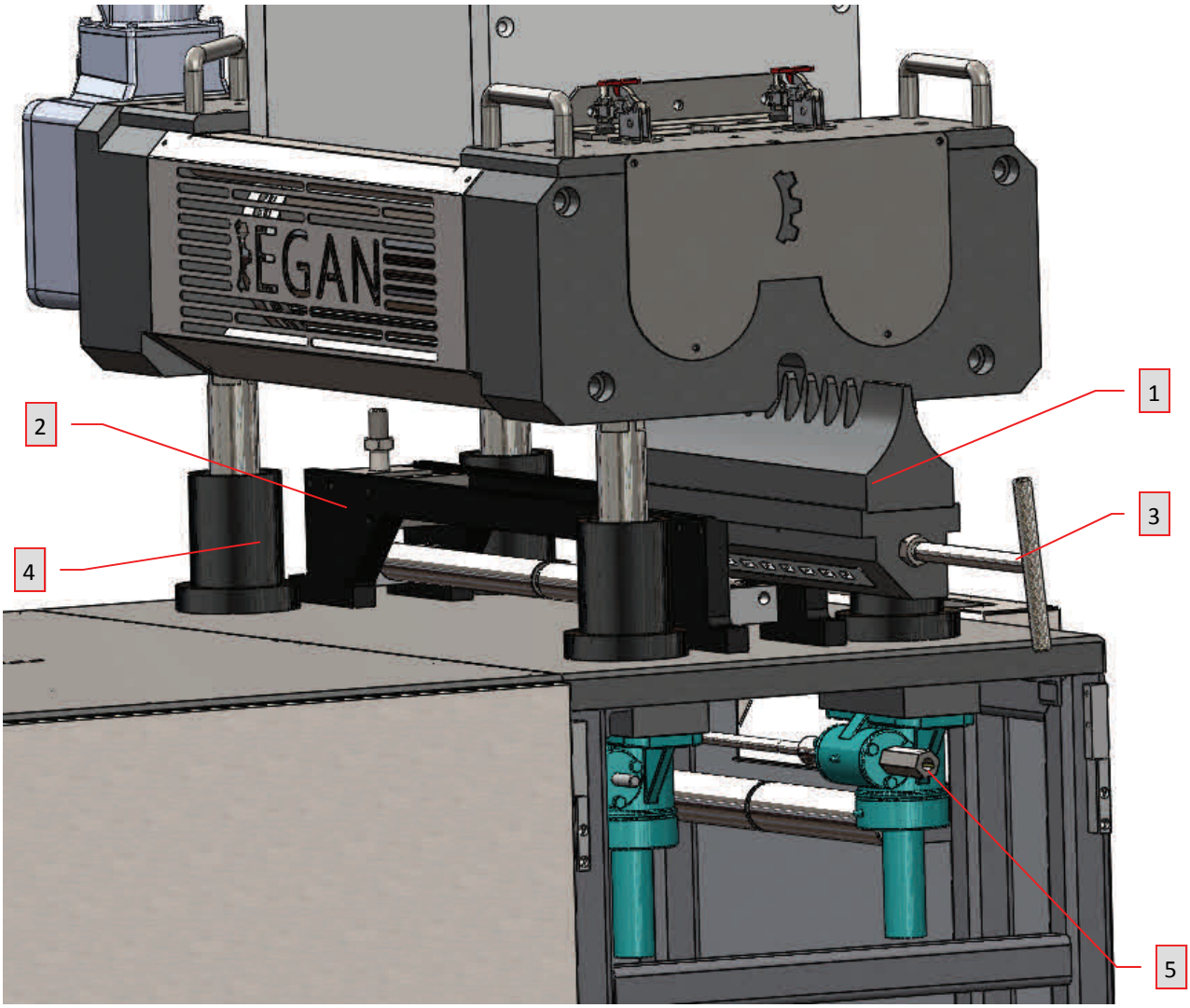


FIGURE 7—Detail of Jack Screw, Filler Block, and Die

1. **Filler Block and Die** – Close up view of the filler block and die below the feed rolls. See Figure 9 below for more detail.
2. **Support Bridge** – The support bridge for the filler block and die is shown in more detail in Figure 8 below.
3. **T-handle** –The T-handle on the filler block and die is used to push it into place and pull it out.
4. **Jack Screws** – Close up view of one of the four jack screws that raise and lower the extruder head
5. **Jack Screw Hex Fitting** – This hex fitting raises and lowers the four jack screws and is attached to a chain and sprocket mechanism inside the cabinet. See Figures 10 and 11 for more detail.

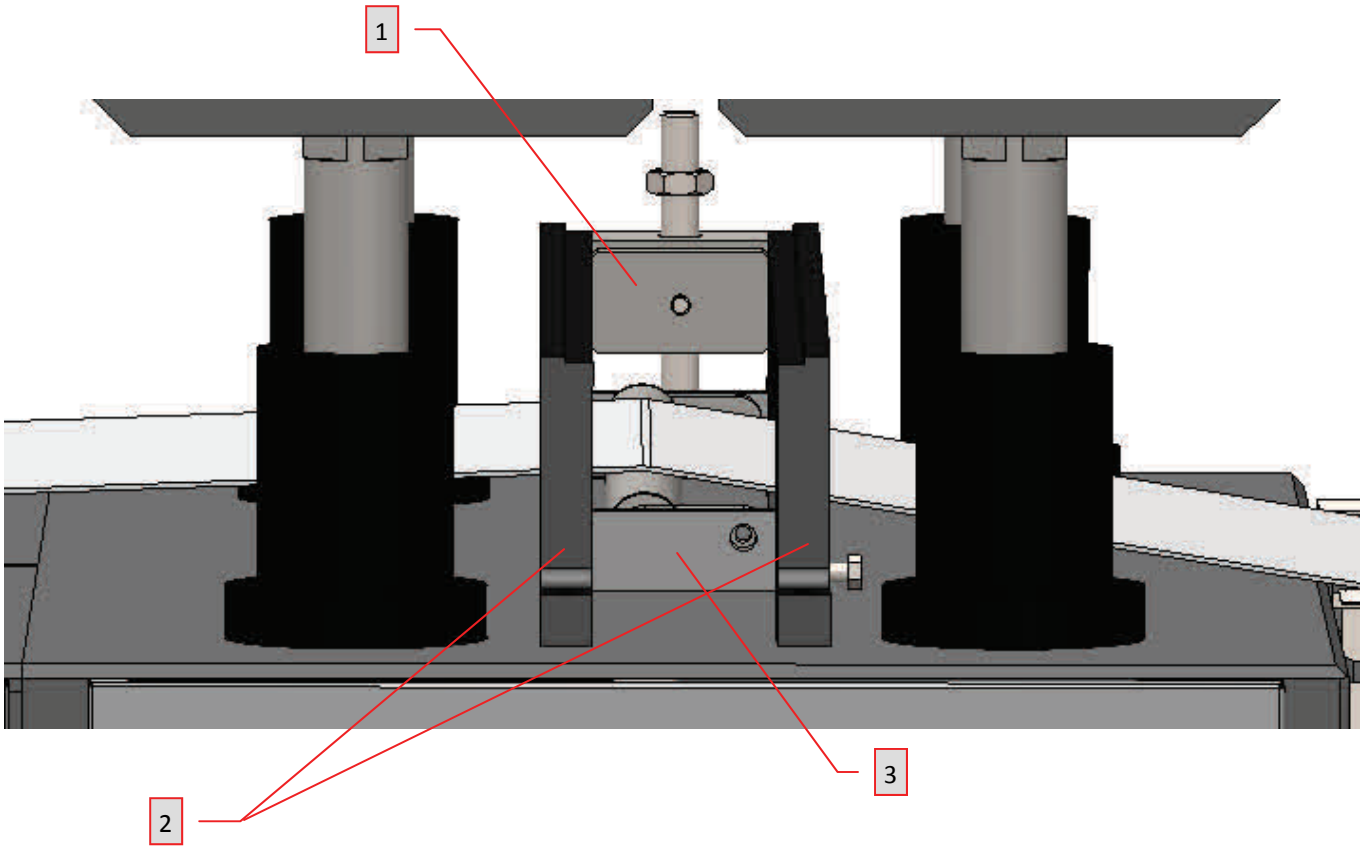


FIGURE 8—Support Bridge with Filler Block and Die Removed

1. **Die Stop Plate** - When the die is pushed in against this stop plate, it is fully inserted in place.
2. **Support Bridge Guide Rail** – The filler block and die ride on these rails.
3. **Spacer** – The spacer keeps the support bridge guide rails spaced evenly apart.

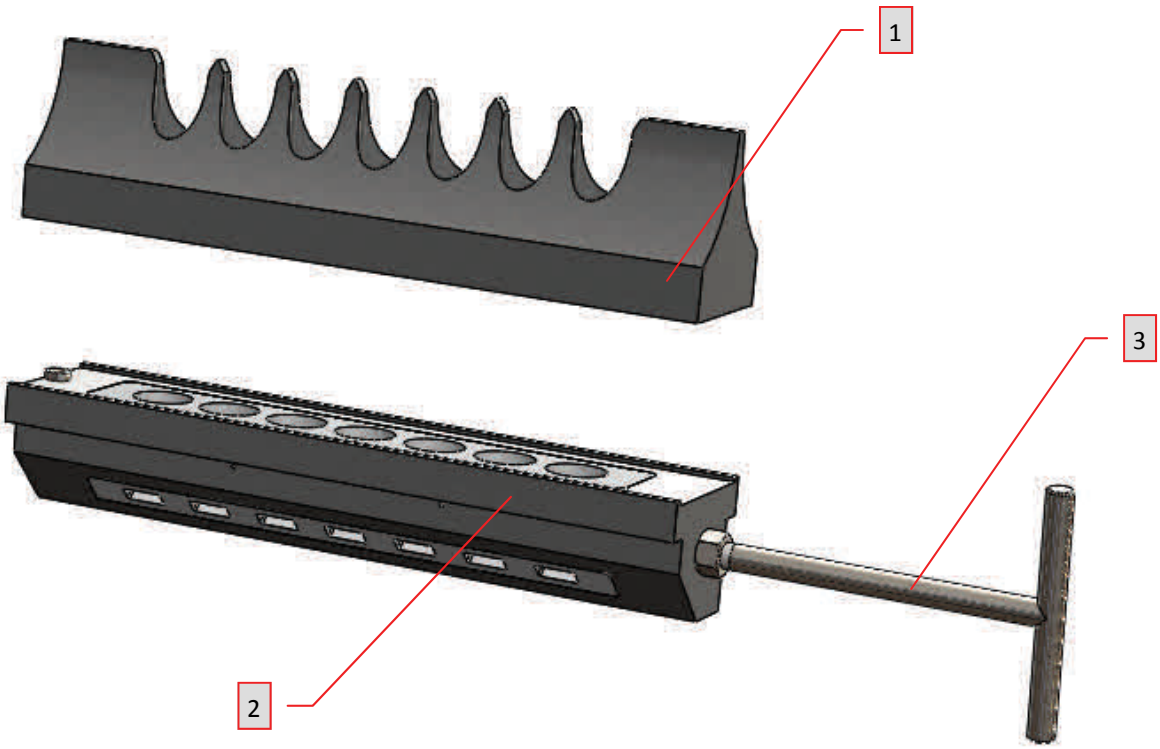


FIGURE 9—Filler Block and Die Shown Removed from Machine

1. **Filler Block.**
2. **Die** – This is used to extrude ropes of product for bars.
3. **T-Handle** – This is used to remove the filler block and die from the machine.

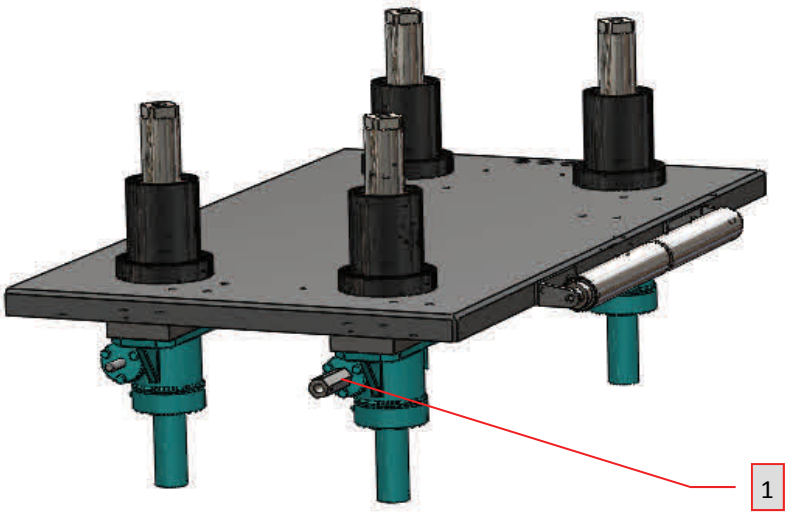


FIGURE 10—Detail of Jack Screw Mechanism

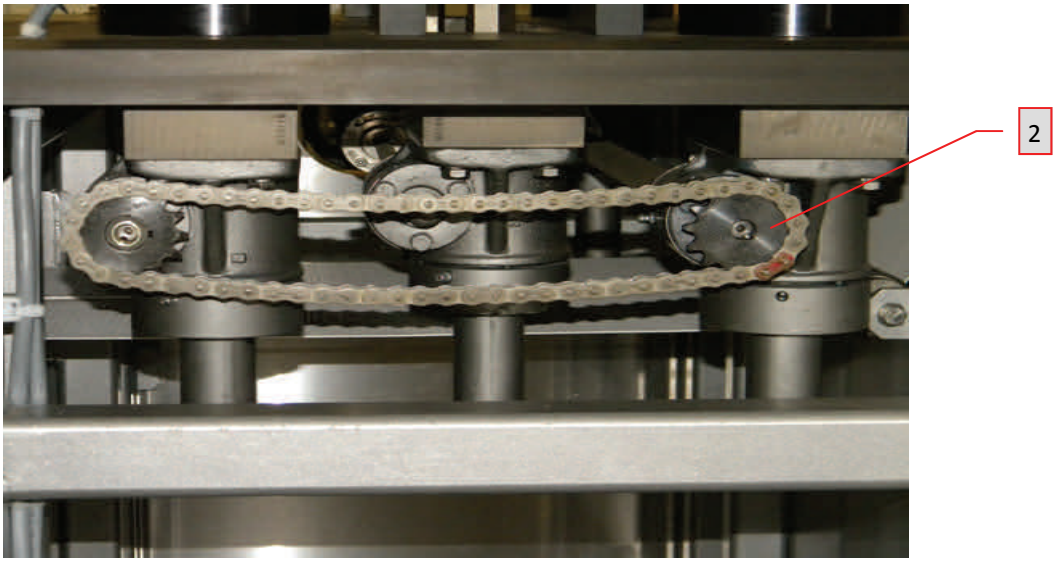


FIGURE 11—Detail of Jack Screw Mechanism in Cabinet

1. **Jack Screw Hex Fitting** – Turning this fitting moves all four jack screws simultaneously for synchronous movement of the extruder head. The two jack screws opposite each other are connected by shafts.
2. **Chain and Sprocket Assembly** - A chain and sprocket drive assembly on the other end connects the two jack screw shafts.

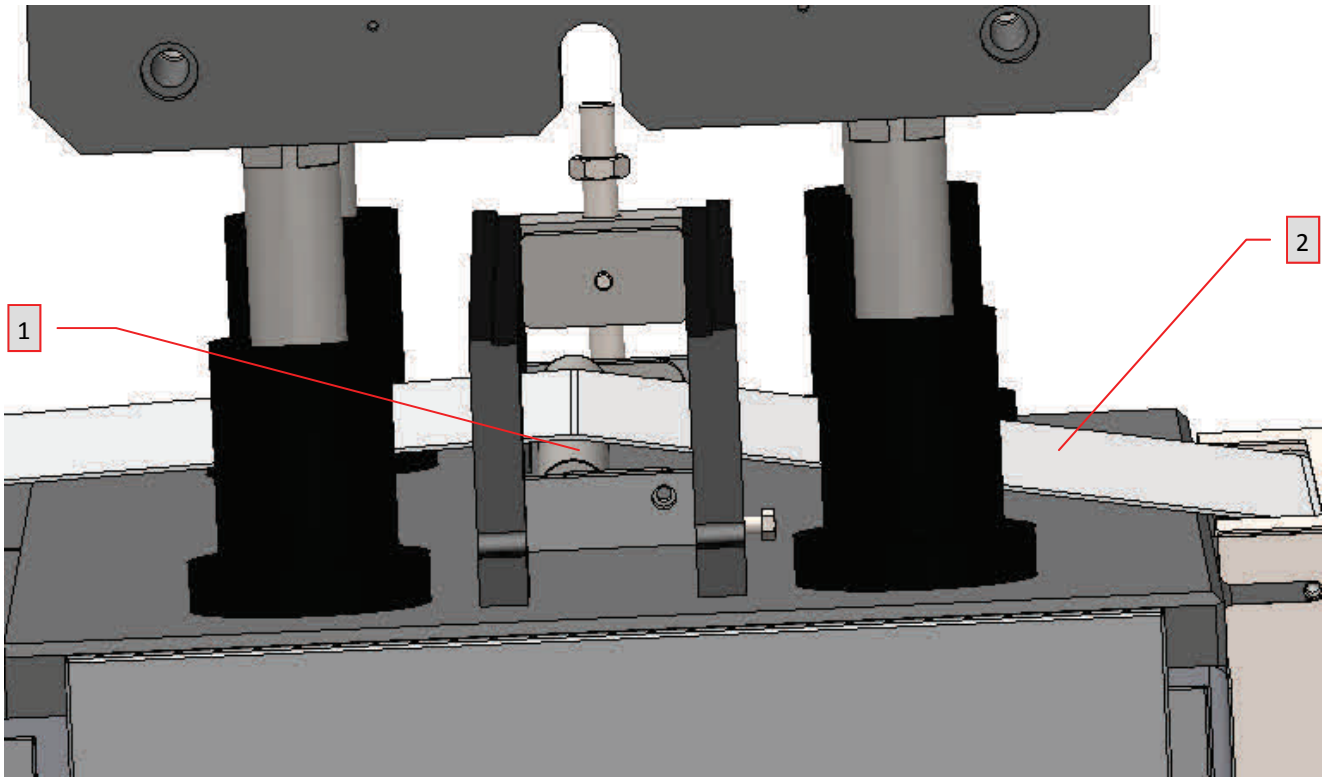


FIGURE 12—Detail of Belt Raise Mechanism

1. **Belt Raise Mechanism** – A mechanical belt raise mechanism, consisting of a belt raise roller and support post, is located underneath the extruder head. It can be adjusted to a fixed height for optimum product transfer out of the die and onto the conveyor belt. The operator sets the height of the belt raise mechanism by adjusting the position of the roller.
2. **Conveyor Belt** – The conveyor belt is shown here in a raised position.

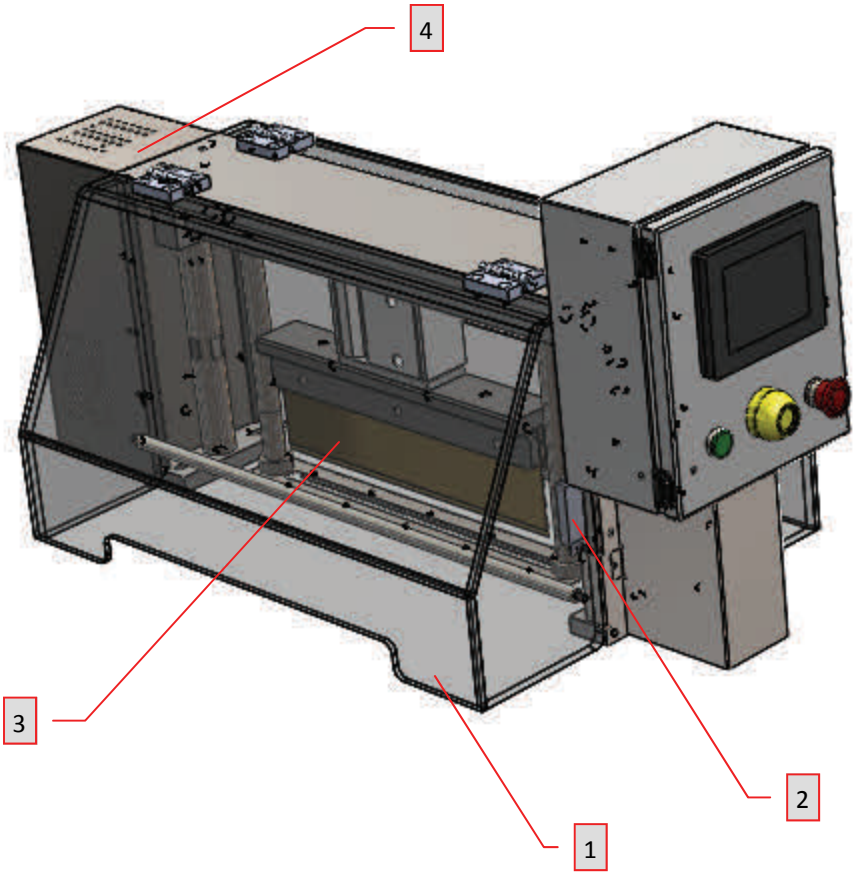


FIGURE 13—Bar Cutter Assembly

1. **Safety Covers** – There is a hinged, clear plastic safety cover on the both sides of the bar cutter assembly.
2. **Safety Switches** (Coded Magnet Switches) - When the cover is lifted, the safety switches send an emergency stop signal.
3. **Bar Cutter Knife** – See Figure 14 below for a more detailed view of the bar cutter knife mechanism.
4. **Drive Motor Cover**

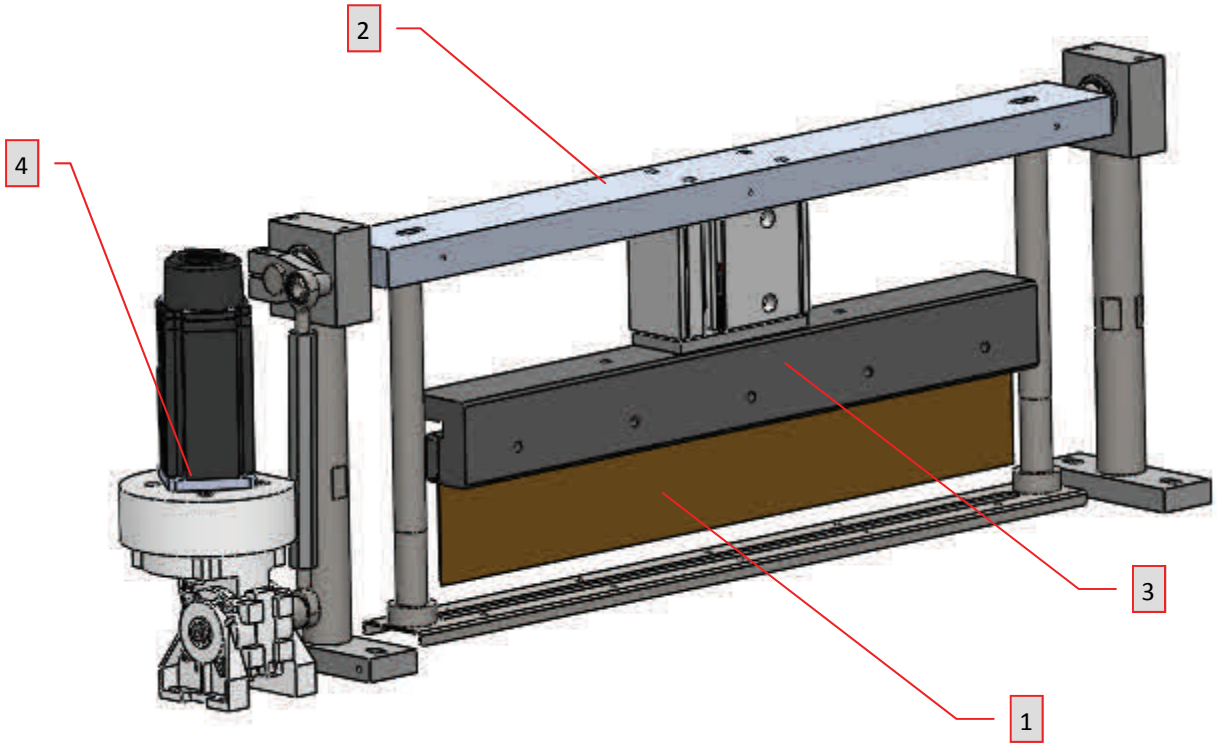


FIGURE 14—Bar Cutter Blade Detail

1. **Bar Cutter Knife** – The bar cutter knife moves vertically (in and out of the product) at a very rapid speed. It also moves horizontally with the product on the belt to insure minimum distortion of the cut. See Figure 15 below for detail of the adjustment mechanisms.
2. **Horizontal Blade Movement Shaft** – This is a pivoting shaft that moves the blade horizontally during the cutting movement.
3. **Blade Clamp** – This clamp is used to lock the blade in position. The blade should be adjusted to be as close to the surface of the cutting anvil as possible.
4. **Bar Cutter Drive Motor (shown without cover)** – See Figure 15 for more detail.

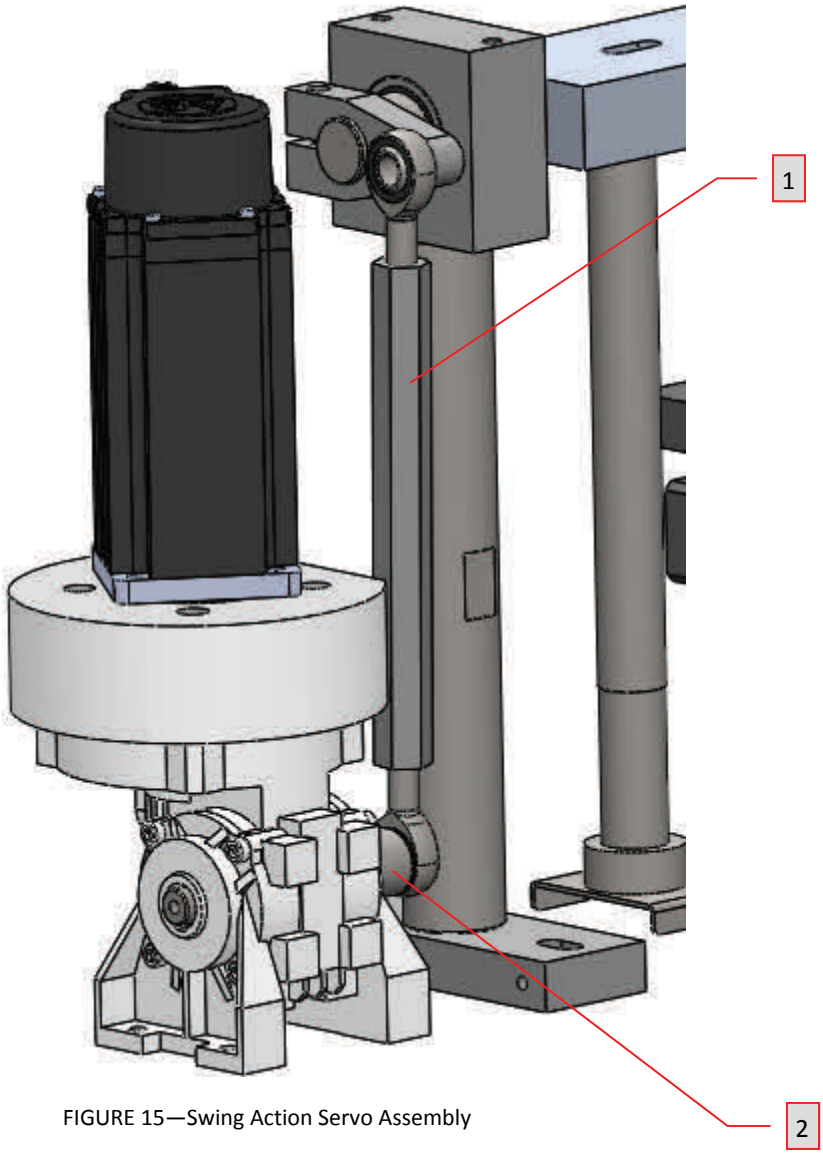


FIGURE 15—Swing Action Servo Assembly

1. **Horizontal Movement Shaft**
2. **Eccentric Shaft** – Moves the connecting rod which, in turn, rotates the horizontal movement shaft.

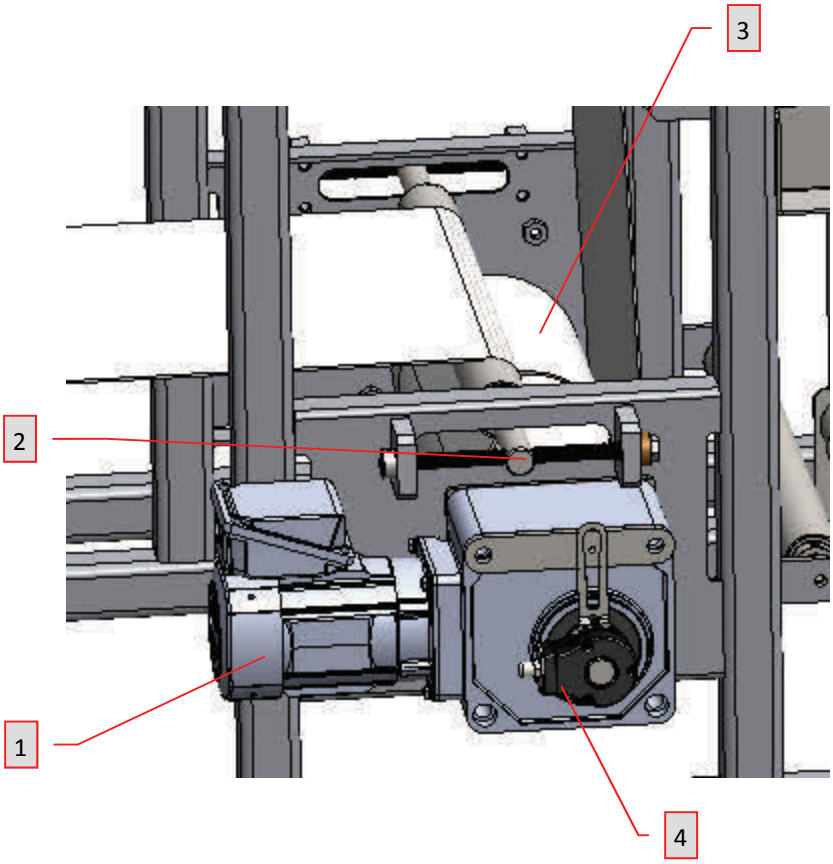


FIGURE 16—View of Conveyor Drive Motor

1. **Infeed Conveyor Belt Drive Motor** – This motor drives the infeed conveyor belt.
2. **Adjustable Belt Take-up** – This is used to adjust the conveyor belt tension. There is one on each side.
3. **Conveyor Drive Roll**
4. **Rotary Encoder** – This is a close up of the rotary encoder on the end of the drive roll.

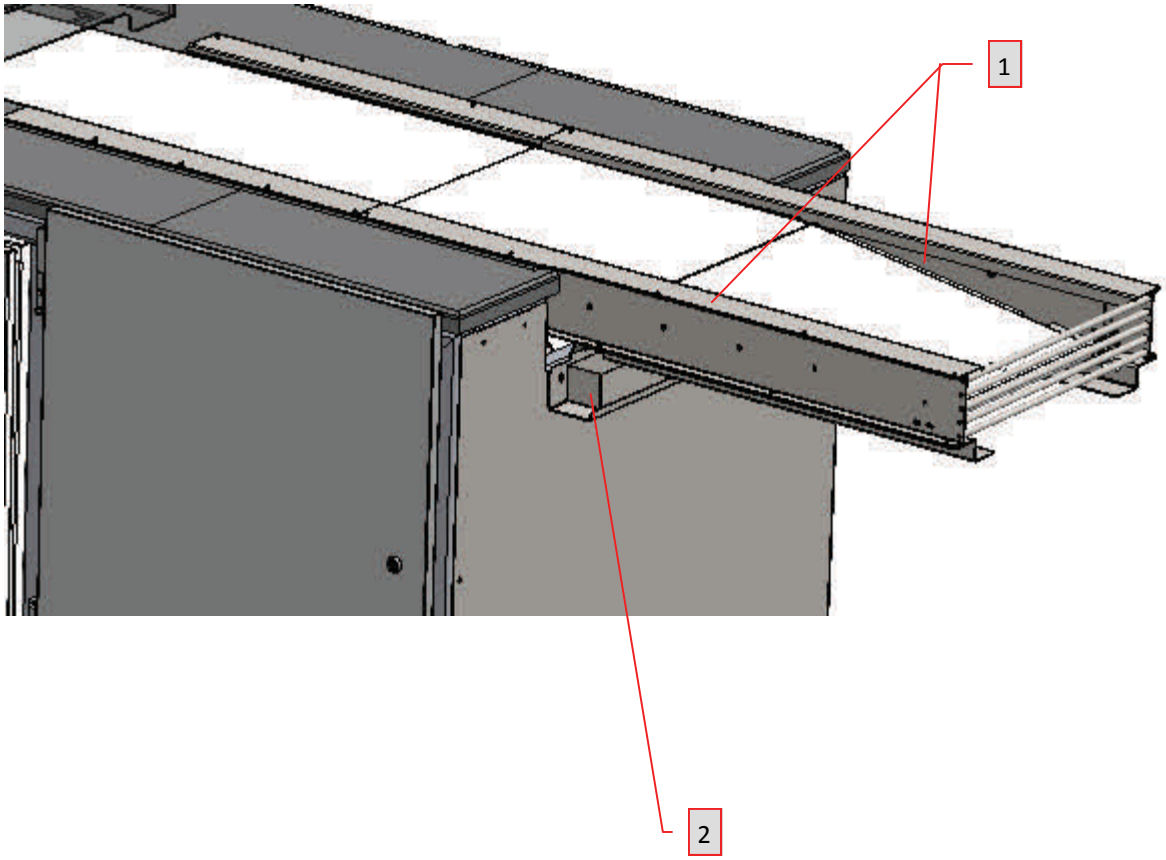


FIGURE 17—Retracting Conveyor Assembly

1. **Side Plate Guarding** – These guards cover up any potential pinch points when the retract conveyor is in motion.
2. **Belt Scraper and Scrap Tray**

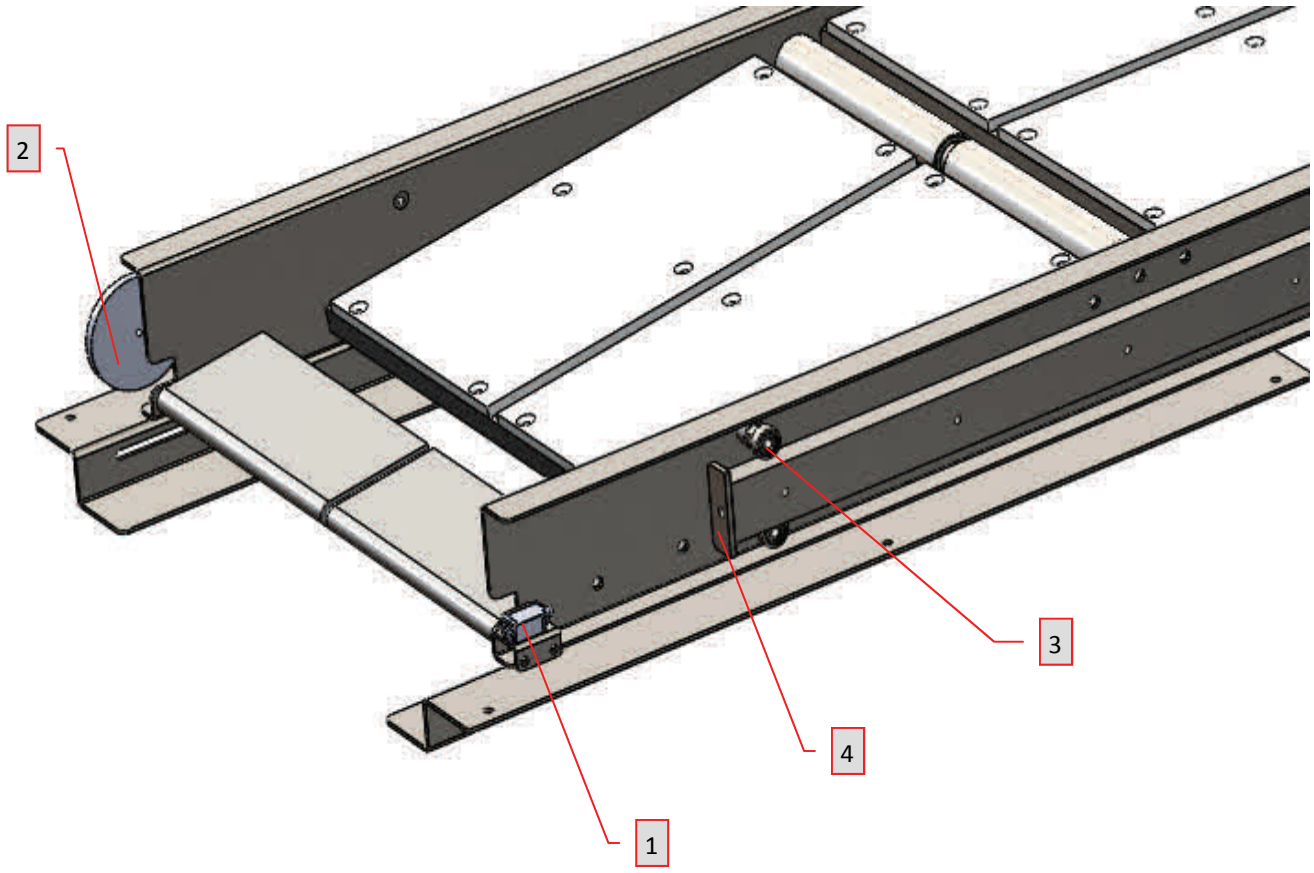


FIGURE 18—retracting Conveyor Assembly with Side Plates Removed

1. **Leading Edge Sensor** – This sensor, detects the leading edge of product which signals the retract cylinder.
2. **Sensor Reflector** – This reflector is positioned to properly send feedback to the leading edge sensor to close the signal.
3. **Retract Roller Bearings**
4. **Stop Plate** – Mechanical stop plate to prevent over travel of the cylinder. There are two on the front and back for each side.

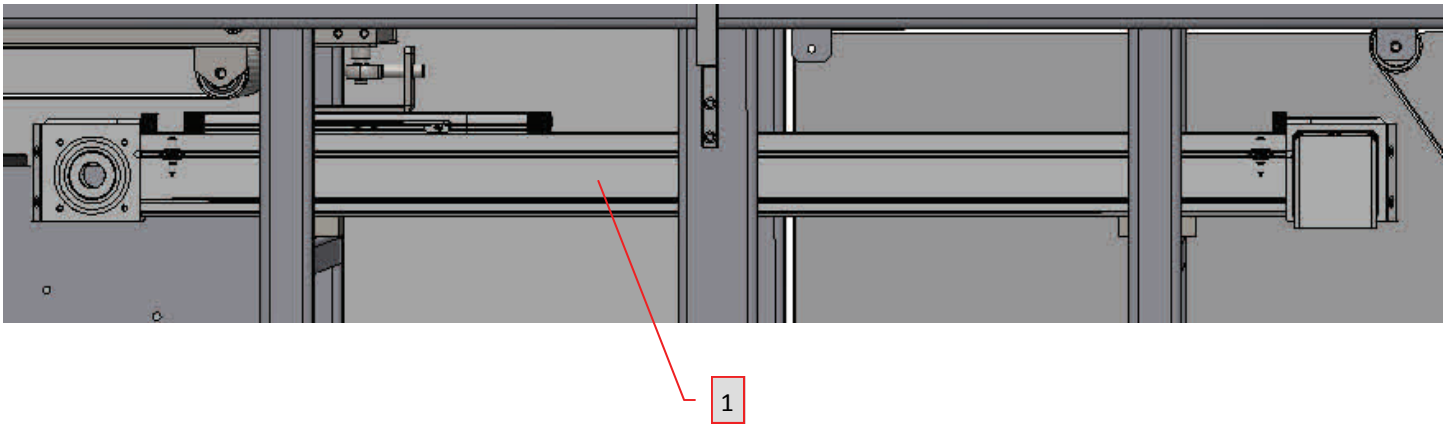


FIGURE 19—Retracting Actuator assembly

1. **Servo Retracting Actuator** – This cylinder retracts and extends based on the input signal from the leading edge sensor.

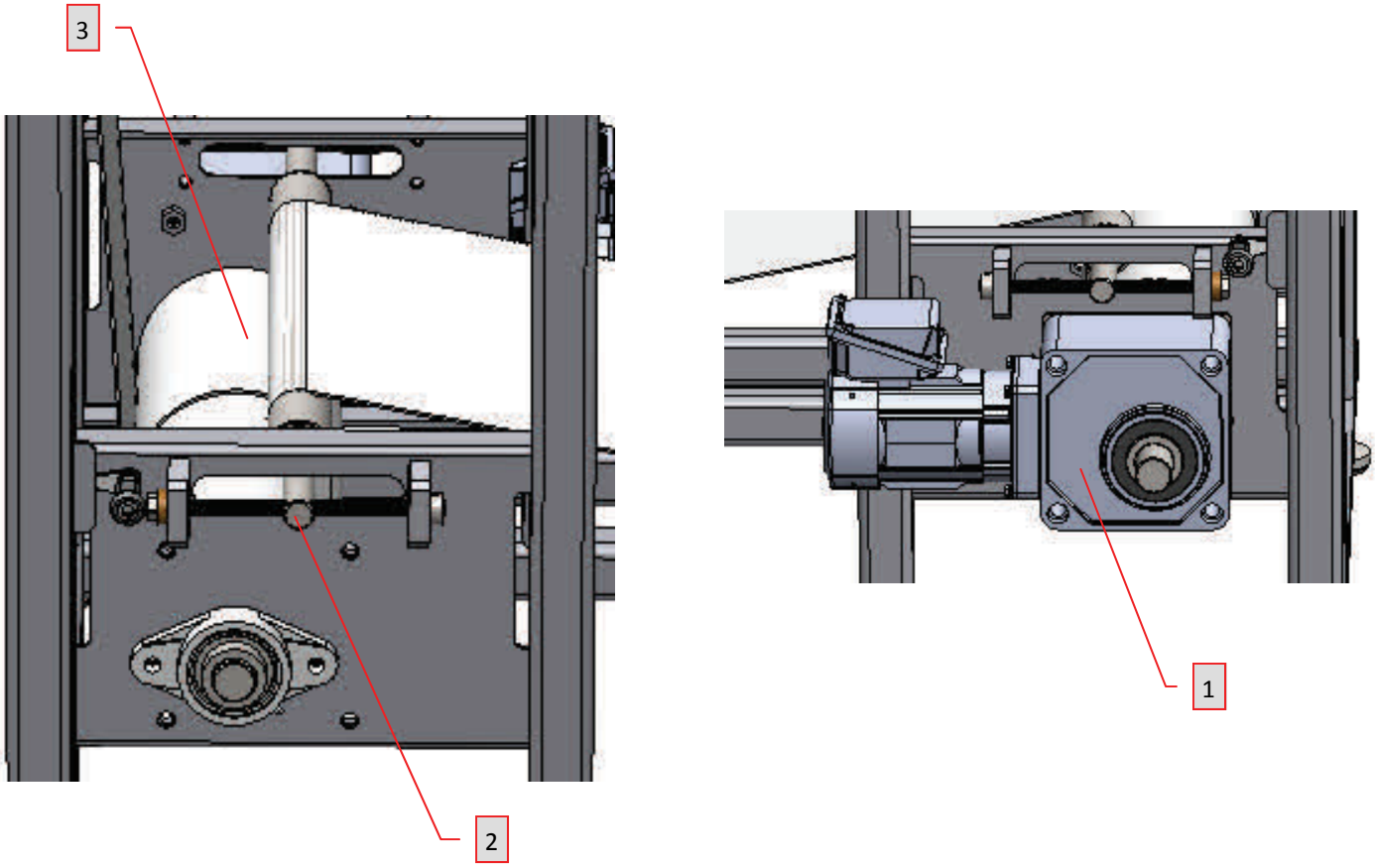


FIGURE 20—Discharge Conveyor Drive Assembly

1. **Discharge Conveyor Belt Drive Motor** – This motor drives the discharge conveyor belt.
2. **Adjustable Belt Take-up** – This is used to adjust the conveyor belt tension. There is one on each side.
3. **Conveyor Drive Roll.**

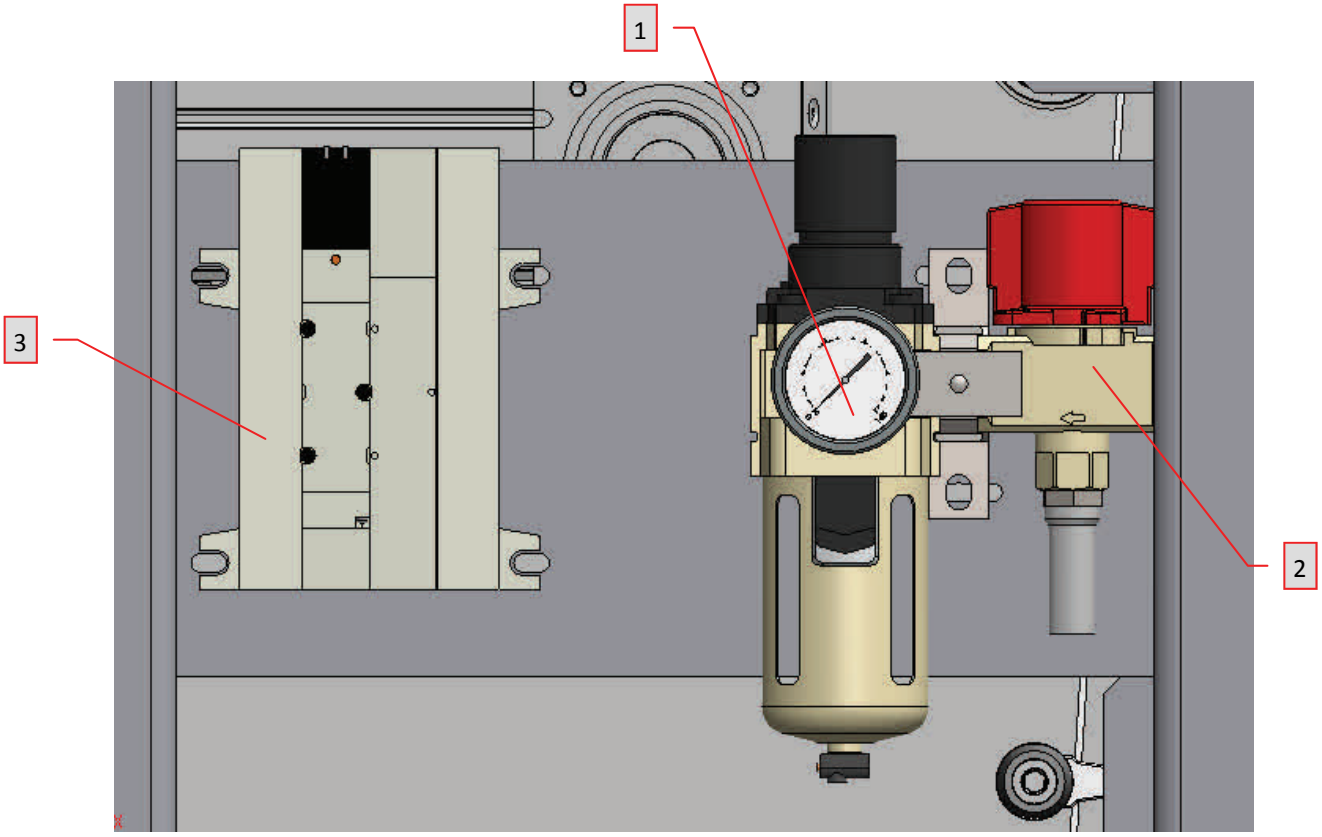


FIGURE 21—Air Assembly for Bar Extruder

1. **Filter Regulator** – Regulates air pressure and filters the air that is passed through to the guillotine cutter.
2. **Air Relief Valve** —Cuts off air to the guillotine cutter.
3. **SMC-Air Valve**—Initiates the guillotine cutter.

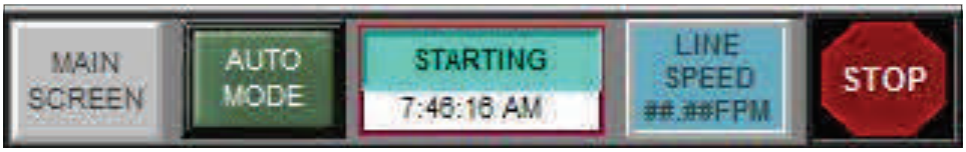
CONTROLS AND INDICATORS

HMI SCREEN FUNCTIONS

The HMI is an electronic module that has various screens that allow the operator to control and program certain functions of this machine.

The buttons on the HMI are touchscreen buttons, i.e. they are activated by touching the button on the screen.

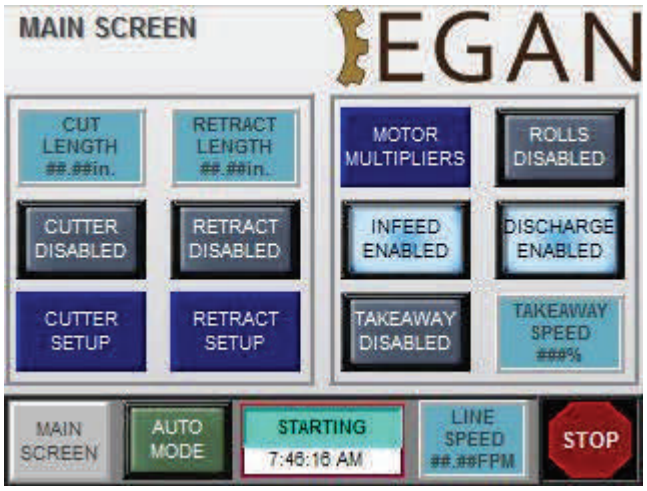
NOTE: THE MACHINE WILL NOT RUN UNLESS THE GREEN CONTROL POWER BUTTON IS PRESSED AND THE GREEN LIGHT IS ON.



MAIN CONTROL BANNER

This banner can be found on the bottom of every screen. It allows the user the ability to do the following:

- Start and stop the machine
- Display machine status
- Change the Main Line Speed



This is the HOME SCREEN. Here, the user is able adjust settings, enable and disable specific components, and navigate to other setup screens.

MOTOR MULTIPLIERS—This button will take the user to the screen to fine tune the speeds for the Feed Roll, Infeed Conveyor, and Discharge Conveyor motors as well as allow for manual jogging function.

FEED ROLLS ON/OFF— This button enables and disables the feed roll motors.

INFEED CONVEYOR ON/OFF— This button enables and disables the infeed conveyor motor.

DISCHARGE CONVEYOR ON/OFF— This button enables and disables the discharge conveyor motor.

BAR LENGTH—This button will set the bar length to be cut by the cutter in inches.

CUTTER ON/OFF—This button enables and disables the bar cutter functionality.

CUTTER SETUP—This button will take the user to a screen with additional bar cutter setup options.

RETRACT DISTANCE—This button sets the distance travelled by the retract conveyor when triggered by the sensor.

RETRACT ON/OFF—This button enables and disables the retract functionality.

RETRACT SETUP—This button will take the user to a screen with additional retract conveyor setup options.

This is the MOTOR CONFIGURATION SCREEN. Here, the user is able adjust the multiplier (value is a multiple of the line speed setting) and also jog the motors for manual control.

This is the CUTTER SETUP SCREEN

BAR CUTTER ON/OFF—This button enables and disables the bar cutter functionality.

SWING DISABLE/ENABLE—This button turns the servo controlled blade swing action on or off. The swing is used to follow the product along the belt to ensure a clean cut of the bar at higher belt speeds.

BAR LENGTH—This button will set the bar length to be cut by the cutter in inches.

TEST—This button allows the user to test the bar cutter sequence to ensure proper adjustments are in place.

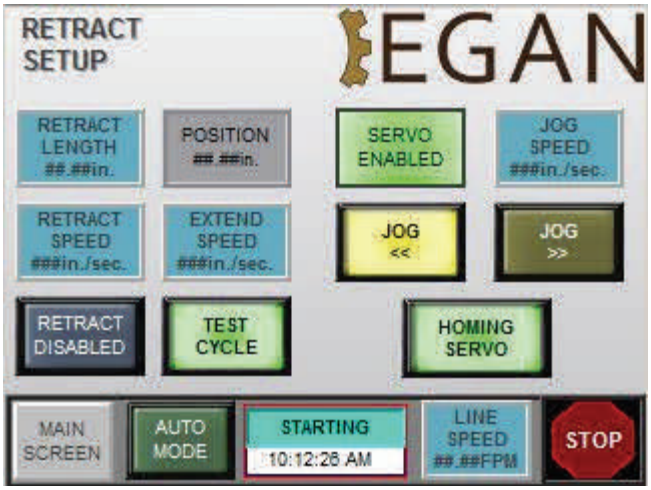
POSITION—Displays the current position of the cutter swing axis. Note: the position should read out 90° when the blade is centered over the cutter anvil. If the position does not read 90° when in that position, use the Jog << or Jog >> buttons to move the blade into the proper position and press the **SET ZERO POSITION** button to reset the 90° mark.

JOG << This button moves the blade in the positive (forward direction).

JOG >> This button moves the blade in the negative (reverse direction).

HOME SERVO—This button takes the current position (regardless of position readout number) and makes it 90°.

NOTE: This procedure should only to be used by a machine supervisor



This is the RETRACT SETUP SCREEN

RETRACT ON/OFF—This button enables and disables the retract functionality.

RETRACT SPEED—Changes the speed of the retracting motion of the retracting conveyor.

EXTEND SPEED—Changes the speed of the return motion of the retracting conveyor.

RETRACT DISTANCE—This button sets the distance travelled by the retract conveyor when triggered by the sensor.

TEST—This button allows the user to test the retract sequence to ensure proper adjustments are in place.

RETRACT POSITION—Displays the current position of the retract conveyor in inches.

JOG SPEED— Changes the speed of the servo motor for jogging.

JOG + This button moves the conveyor in the positive (forward direction).

JOG - This button moves the conveyor in the negative (reverse direction).

HOME SERVO—This button runs the homing sequence for the retract conveyor. It will fully extend the conveyor until it senses the forward overtravel proximity switch, then will retract away from the switch and set the position to 0.

The ALARM SCREEN provides information about current active alarms.

RESET ALARMS—This button will clear and alarms that have been resolved from the list.

SILENCE ALARMS—This button will disable the alarm horn while keeping the alarms active.

UTILITY REQUIREMENTS

ELECTRICAL REQUIREMENT

ELECTRICAL REQUIREMENT: 480VAC / 3PH / 60HZ / 30A DISCONNECT.

AIR REQUIREMENT

100 psi shop air

Installation Checklist

1. Level machine using the adjustment lock nut on the leveling feet.
2. Hook up air (Figure 19, Page 20).
3. Wire electrical cord to main control panel. (Note: A hole will need to be added to the box with a conduit. It is highly recommended that a certified electrician does this)

Startup Checklist

1. Power Machine on
2. Check that filler block is all the way against the die stop (Figure 8, page 10)
3. Ensure the extruder head is all the seated on the filler block properly. This is done buy twisting the jack screw handle counter-clockwise to lower the head (figure 10, page 12). Handle should move relatively easy. Once the resistance starts to increase the extruder head will be all the way seated.
4. Ensure the feed rolls are engaged. The C-spacer should be in between the gear boxes and the extruder head (Figure 6, page 8).
5. Verify that the hopper is seated properly on the rolls and clamped down to the head of the extruder (Figure 2, Page 5).
6. Check for left over product on the blade. If there is product wipe clean and lubricate (Figure 14, Page15)
7. Start the conveyor drives. Check to make sure the belt is properly tensioned and that the V-guide is in the groove of the drive roll (Figures 16 and 18, Pages 17 and 19)
8. Start the feed rolls and bar cutter

Operating Checklist

1. Feed dough into the hopper as uniform as possible to maintain a consistent bar. If hopper level is uniform and there are still inconsistencies adjustments to belt speed and feed roll speed may need to be made.
2. Check the transition from the die outlet onto the belt (Figure 12, Page 13). The belt raise mechanism may need to be changed in order to eliminate any breaking from the bar to the belt.
3. Periodically check the state of the blade. If product begins to build up stop production and wipe the blade clean. Additional lubrication may be needed if recipe gums up on the blade too much.
4. Check for build up on belt. If belt is building up too much adjust the scraper (Figure 17, Page 18) so that the scraper is pressing against the belt more.

End of Day Maintenance Checklist

1. Thoroughly clean the equipment as needed, removing debris and oils from all parts. It is recommended that this be a wipe-down procedure and not a complete washdown procedure which exposes the controls and servo motors to excess water.
2. Inspect equipment for loose nuts and bolts resulting from machine vibration.
3. Inspect all bearings, making sure each are clear of debris and are running smoothly.
4. Inspect all conveyor belts and chain conveyors, noting the tension on the belt and making sure the drive roll is grabbing the belt without slipping, if applicable.

Monthly Maintenance Checklist

1. Lubricate all threaded screw adjustments with an FDA approved food grade grease.
2. Lubricate all sliding or pivoting components with an FDA approved food grade grease.
3. Lubricate all bearings with grease fittings with an FDA approved food grade grease.
4. Follow vendors' instructions for maintenance of the drive motors, reducers, and any other vendor supplied components requiring periodic cleaning, inspection, and maintenance.

WARNING!

Maintenance of the equipment must be performed only by qualified and authorized personnel and only after disconnecting and locking out the power source.

RECOMMENDED SPARE PARTS

Refer to BOM's in the following section for the recommended spare parts list for this machine.

REFERENCE MATERIAL (BOM'S, DRAWINGS, SCHEMATICS)

The following BOM's and Assembly Drawings are attached:

EXTRUDER WITH PNEUMATIC CUTTER & RETRACTING CONVEYOR

EGAN FOOD TECHNOLOGIES
2001 Waldorf, NW
PH: (616) 855-1820
FAX: (616) 791-1037
www.eganfoodtech.com

CUSTOMER

ENJOY LIFE FOODS

DRAWING NO: E01076

DRAWN BY JRC

DATE 4/25/2017

PROJECT NO: 17-1002

DRAWING SCHEDULE

SHEET	DESCRIPTION
2	LEGENDS
3	WIRING SCHEMATIC 10
4	WIRING SCHEMATIC 20
5	WIRING SCHEMATIC 21
6	WIRING SCHEMATIC 30
7	WIRING SCHEMATIC 31
8	WIRING SCHEMATIC 40
9	WIRING SCHEMATIC 41
10	WIRING SCHEMATIC 50
11	NETWORK LAYOUT
12	PANEL LAYOUT
13	PANEL BOM

REVISION TABLE

REV	DESCRIPTION	DATE
1.0	INITIAL CONSTRUCTION RELEASE	3/9/2017
2.0	AS-BUILT DOCUMENT	4/25/2017

DEVICE SYMBOLS

PUSHBUTTON NORMALLY OPEN

PUSHBUTTON NORMALLY CLOSED

MOTOR STARTER COIL


SOLENOID VALVE

RELAY COIL


NORM OPEN CONTACT


NORM CLOSED CONTACT

PILOT LIGHT

CIRCUIT BREAKER


FLOW SWITCH


PRESSURE SWITCH


TEMPERATURE SWITCH


LIMIT SWITCH

SELECTOR SWITCH, SPDT


RESISTOR

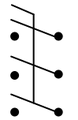

GROUND CONNECTION

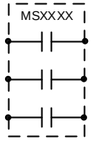
FUSE (AMPS)


FLOAT SWITCH

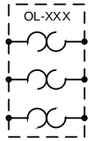
PROXIMITY SWITCH

DEVICE SYMBOLS

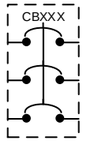

DISCONNECT SWITCH



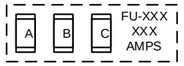
3 PHASE MOTOR STARTER



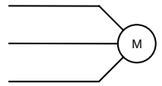
3 PHASE MOTOR STARTER OVERLOADS



3 PHASE CIRCUIT BREAKER



3 PHASE FUSE BLOCK



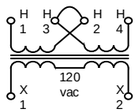
3 PHASE MOTOR

SINGLE PHASE MOTOR


PANEL DEVICE


FIELD DEVICE (BLUE)

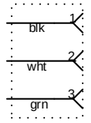

ETHERNET PORT



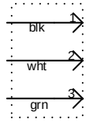
TRANSFORMER

RELAY WITH COIL & CONTACT

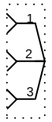
DEVICE SYMBOLS



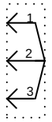
FEMALE RECEPTACLE WITH LEADS & PIN NOs.



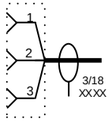
MALE RECEPTACLE WITH LEADS & PIN NOs.



FEMALE CORD PLUG WITH PIN NOs



MALE CORD PLUG WITH PIN NOs



FEMALE CORD SET WITH PIN NOs & CABLE NO.

WIRE DESIGNATION

WIRING WITHIN PANEL

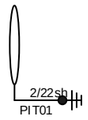
FIELD WIRING (BLUE)

PRE-WIRED FIELD (RED)

WIRE CONTINUATION TAG
SS = Schematic No.
LL = Line Number

WIRE NUMBER TAG
SS = Schematic No.
LL = Line Number
N = Sequential Wire on Line

WIRING DESIGNATION



CABLE DESIGNATION WITH GROUNDED SHIELD
Top = No. Conductors & Wire Size
Bottom = Cable Label

CABLE DESIGNATION (UNSHIELDED)
Top = No. Conductors & Wire Size
Bottom = Cable Label or Color

WIRING CONNECTION

TERMINAL CONNECTION

JUMPER

WIRE COLORS

The following represents the wire colors used in panel fabrication

BLACK (blk)	480vac
RED (red)	120 vac
WHITE (wht)	120 neutral
GREEN (grn)	Ground
BLUE (blu)	24vdc +
BLUE/WHITE (blu/wht)	24vdc -
YELLOW (yel)	AC Voltage from External Souce
BROWN (brn)	24vac
ORANGE (org)	24vac neutral

REVISION SCHEDULE

1.1-1.99	CONSTRUCTION PHASE
2.1-2.99	RECORD DRAWING PHASE

MISC: DESIGNATIONS

ALM	Alarm device
CON	Contactor
CR	Control Relay
DB	Distribution Block
ENC	Encoder
ENET	Network Switch
FB	Fuse Block
FS	Flow Switch
FT	Flow Transmitter
FIT	Flow Indicating Transmitter
FD	Flow Control Damper
FV	Flow Control Valve
HMB	Hand Momentary Button
HSS	Hand Selector Switch
MS	Humidity Switch
MSH	Humidity Switch High
MSL	Humidity Switch Low
MT	Humidity Transmitter
MIT	Humidity Indicating Transmitter
MV	Humidity Control Valve
LCV	Level Control Valve
LS	Level Switch
LSH	Level Switch High
LSL	Level Switch Low
LT	Level Transmitter
LIT	Level Indicating Transmitter
OIT	Oxygen Indicating Transmitter
OSL	Oxygen Level Switch Low
PDT	Diff Pressure Transmitter
PDS	Diff Pressure Switch
PDI	Diff Pressure Indicator
PE	Photoelectric Sensor
PV	Pressure Control Valve
PS	Pressure Switch
PSH	Pressure Switch High
PSL	Pressure Switch Low
PT	Pressure Transmitter
PIT	Pressure Indicating Transmitter
PX	Proximity Sensor
PWR	Power Supply
RS	Reed Switch
SOL	Solenoid Valve
TD	Temperature Control Damper
TE	Temperature Element (RTD, etc)
TS	Temperature Switch
TSH	Temperature Switch High
TSL	Temperature Switch Low
TT	Temperature Transmitter
TIT	Temperature Indicating Transmitter
TV	Temperature Control Valve
VFD	Variable Speed Motor Control (VFD)
XD	Damper, 2-position
XS	Motor On/Off Command
XI	Motor Status

LEGEND

EXTRUDER WITH PNEUMATIC CUTTER & RETRACTING CONVEYOR

TITLE

PROJECT

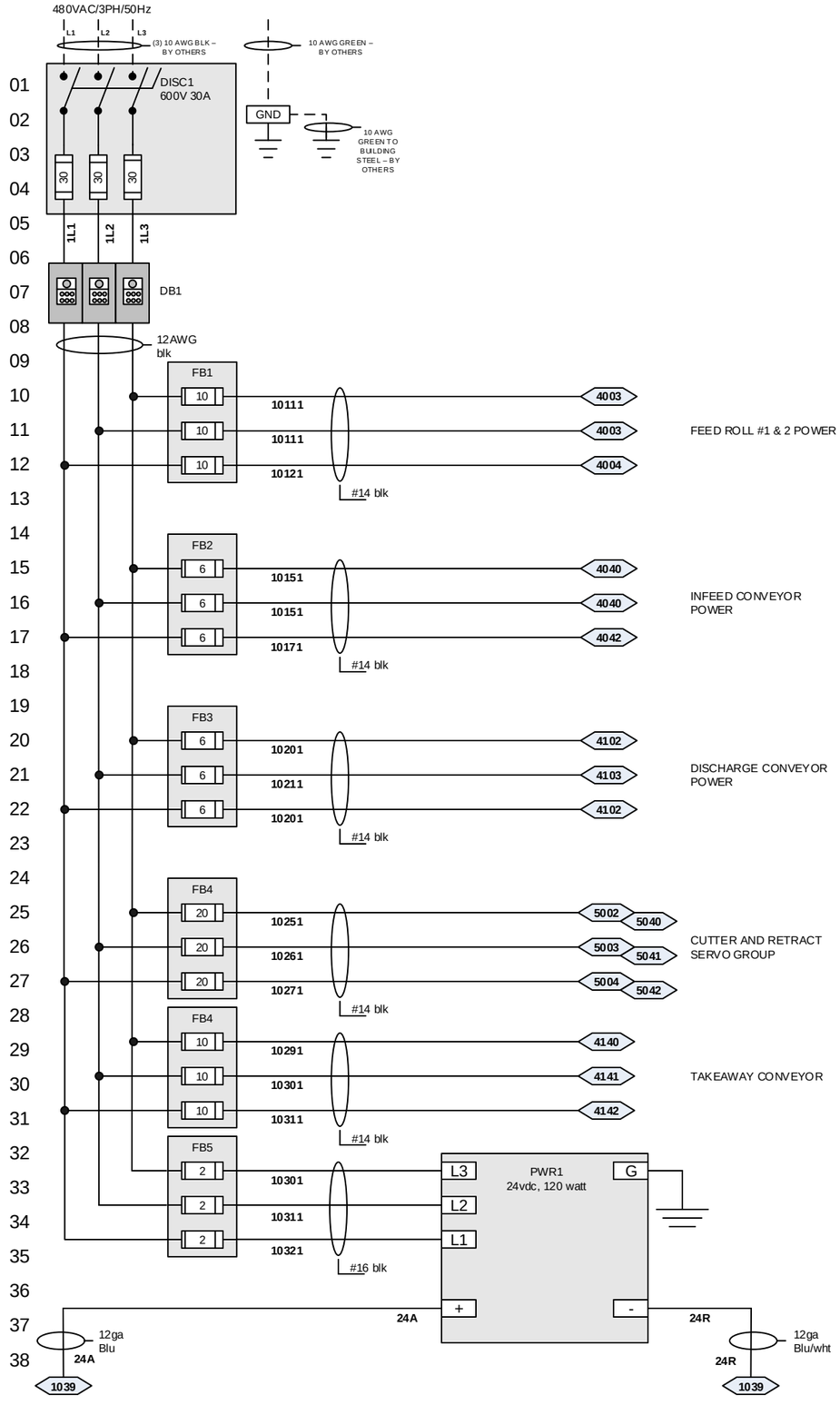
DRAWN BY
JRC

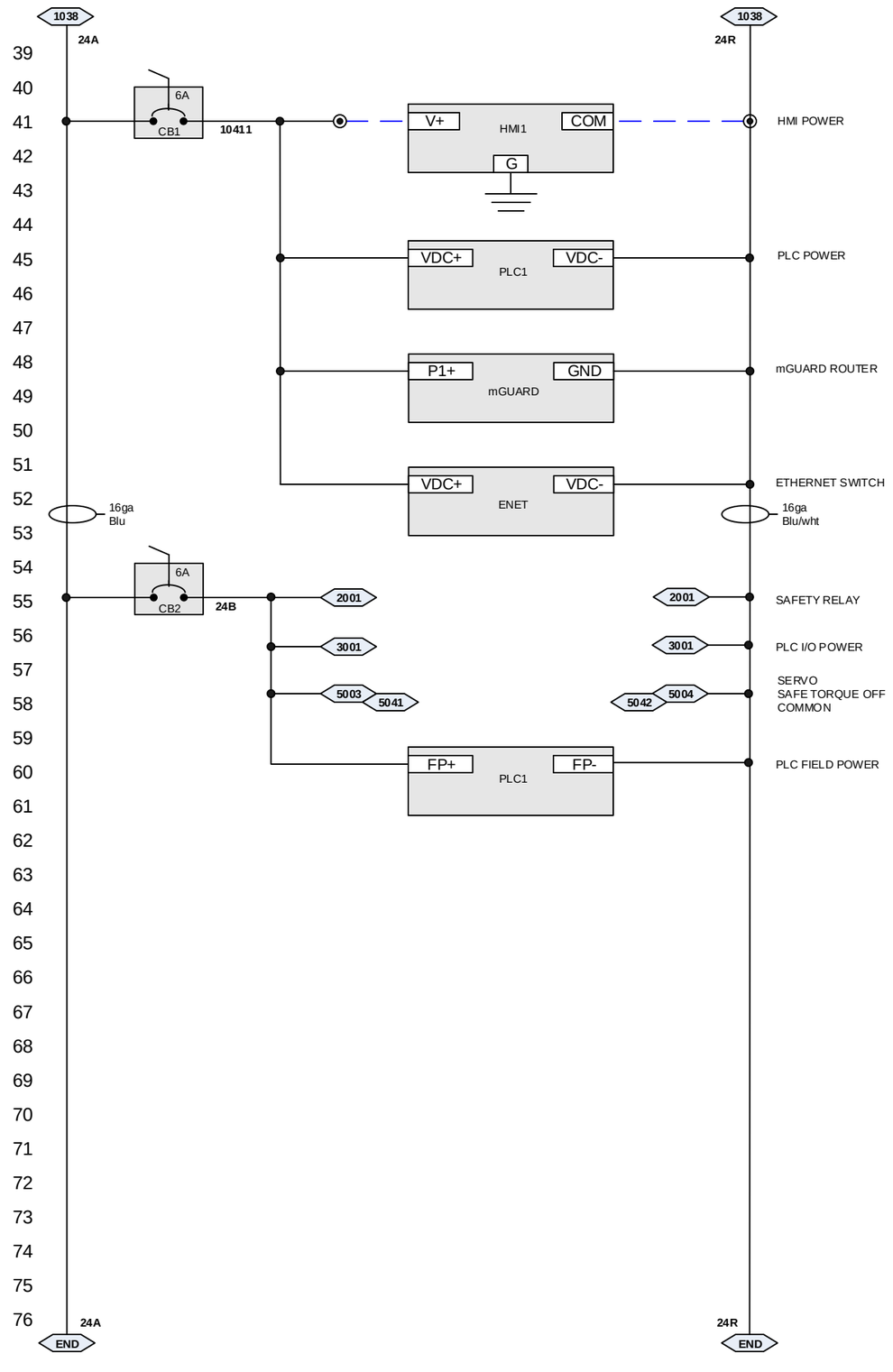
DATE
4/25/2017

SHEET
2

DRAWING NO:
E01076

EGAN FOOD TECHNOLOGIES

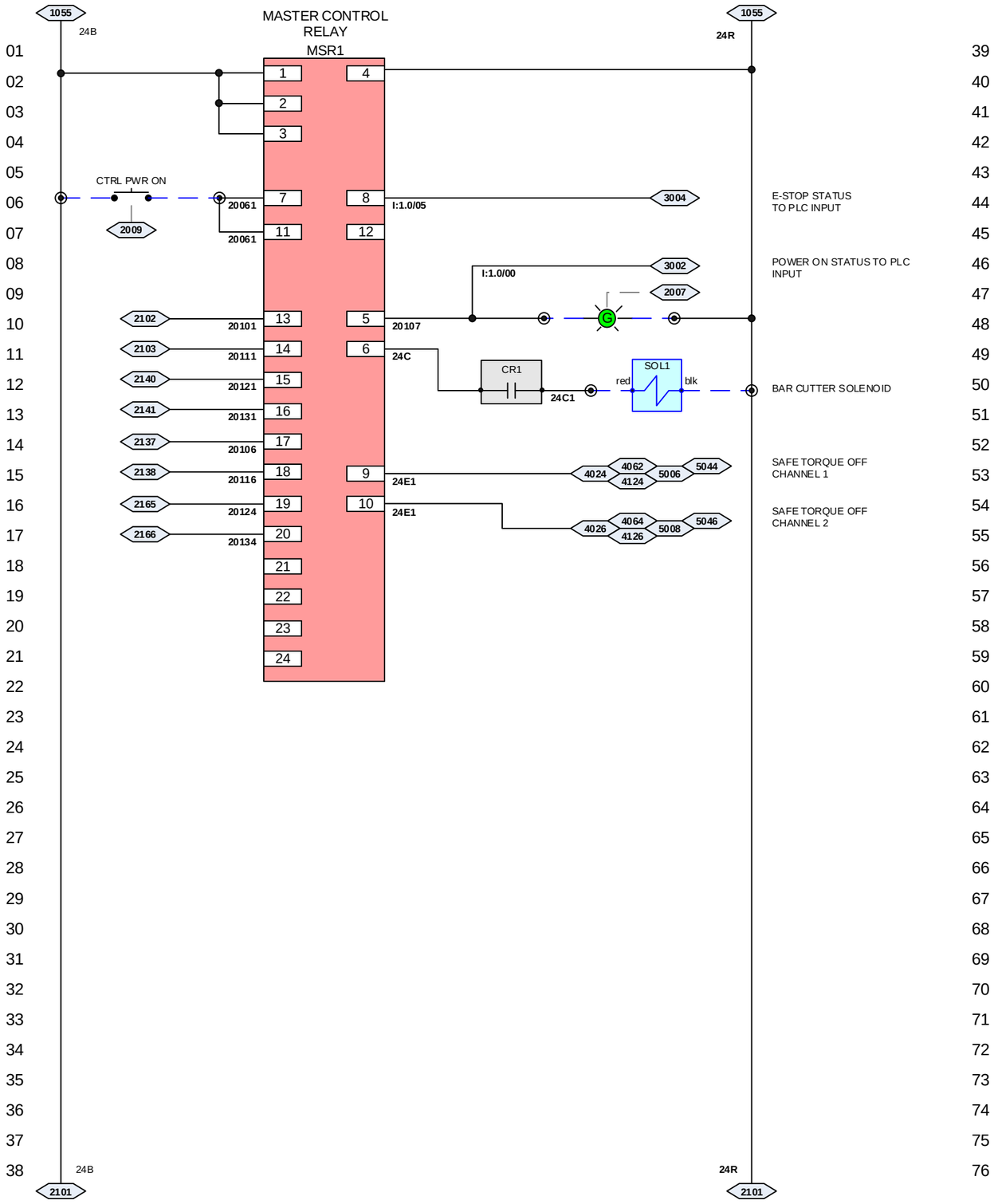




TITLE	SCH10
PROJECT	EXTRUDER WITH PNEUMATIC CUTTER & RETRACTING CONVEYOR

DRAWN BY
JRC
DATE
4/25/2017
SHEET
3
DRAWING NO:
E01076

EGAN FOOD TECHNOLOGIES



SCH20

EXTRUDER WITH PNEUMATIC CUTTER & RETRACTING CONVEYOR

TITLE

PROJECT

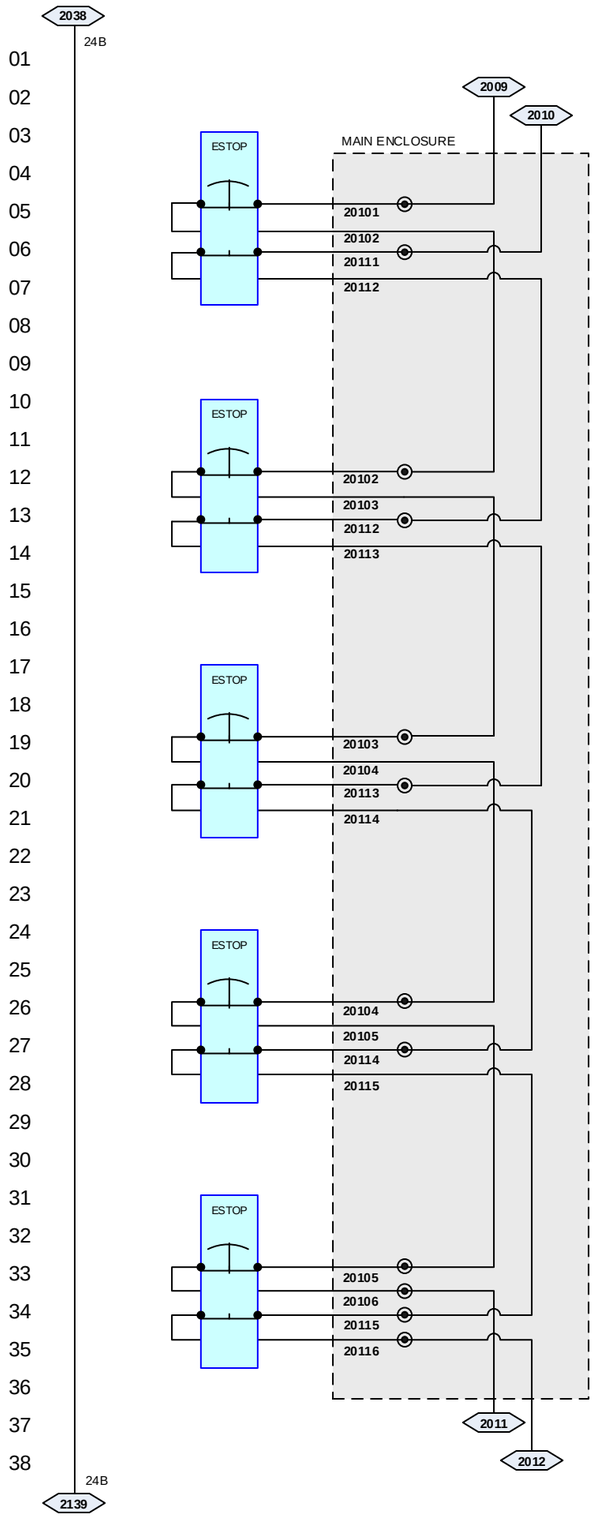
DRAWN BY
JRC

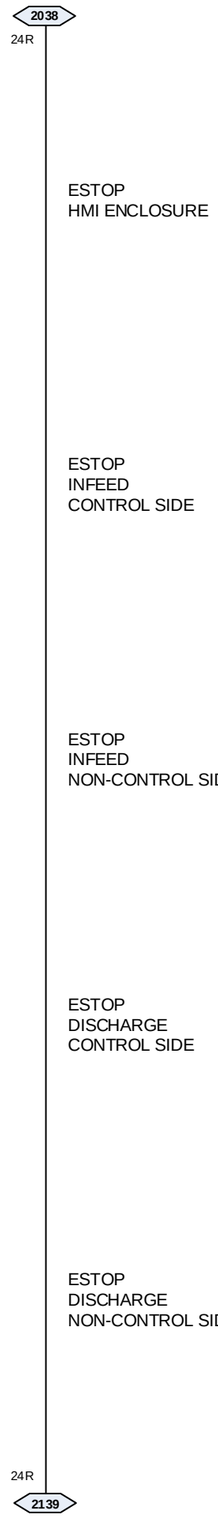
DATE
4/25/2017

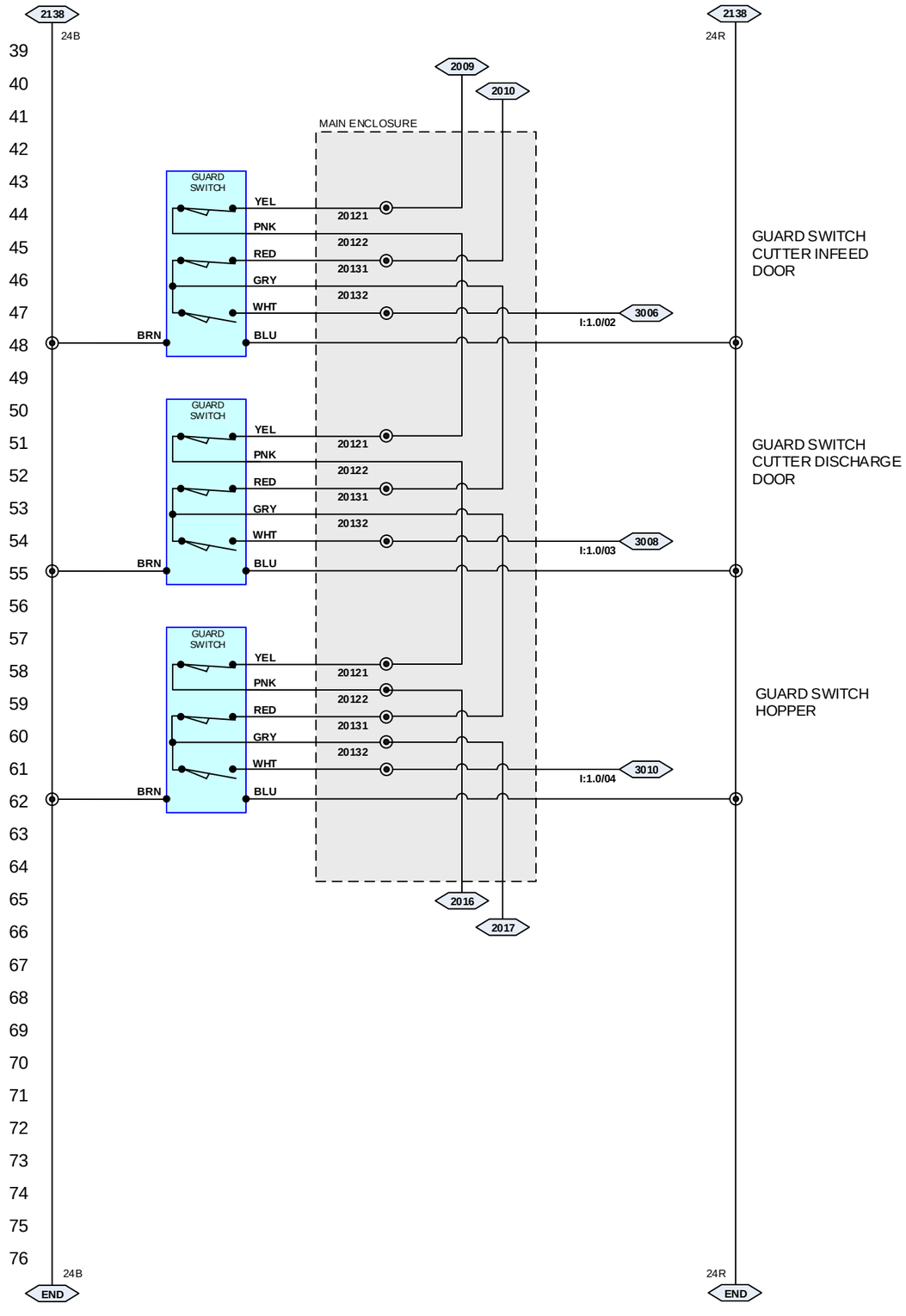
SHEET
4

DRAWING NO:
E01076

EGAN FOOD TECHNOLOGIES



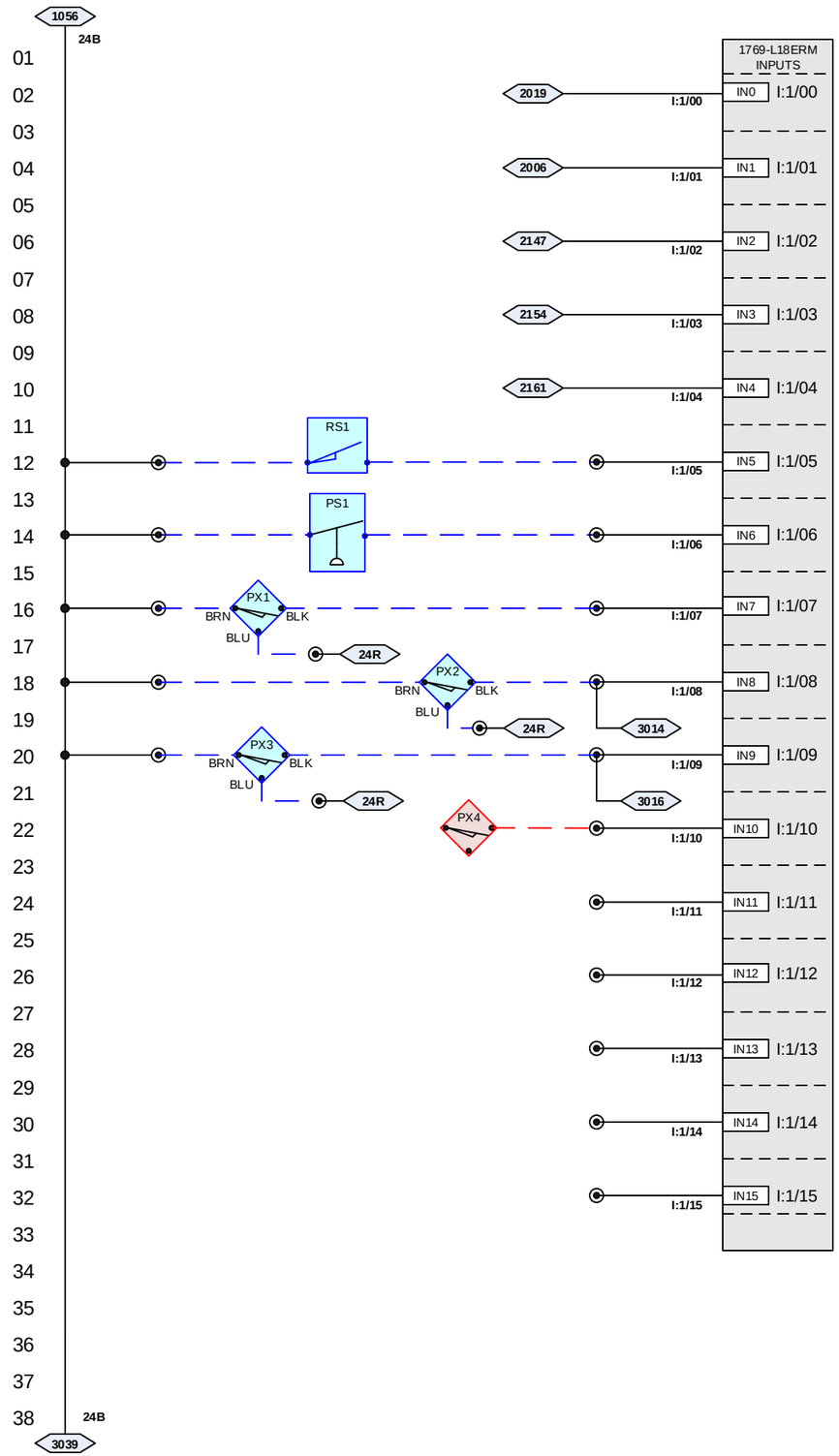


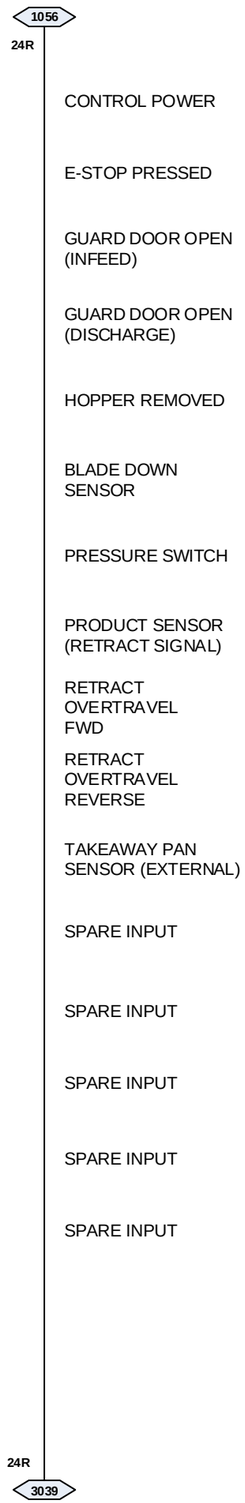


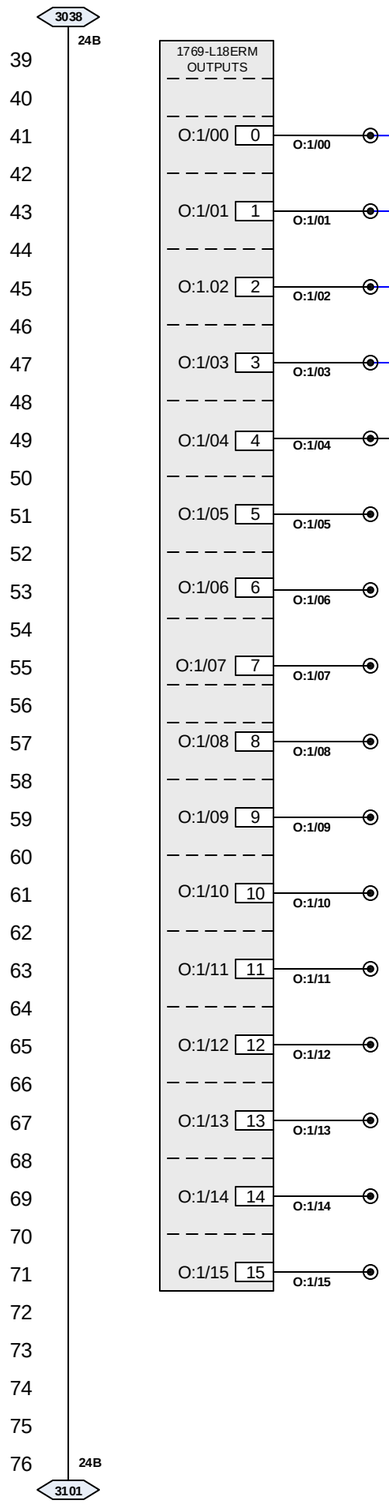
TITLE	SCH21
PROJECT	EXTRUDER WITH PNEUMATIC CUTTER & RETRACTING CONVEYOR

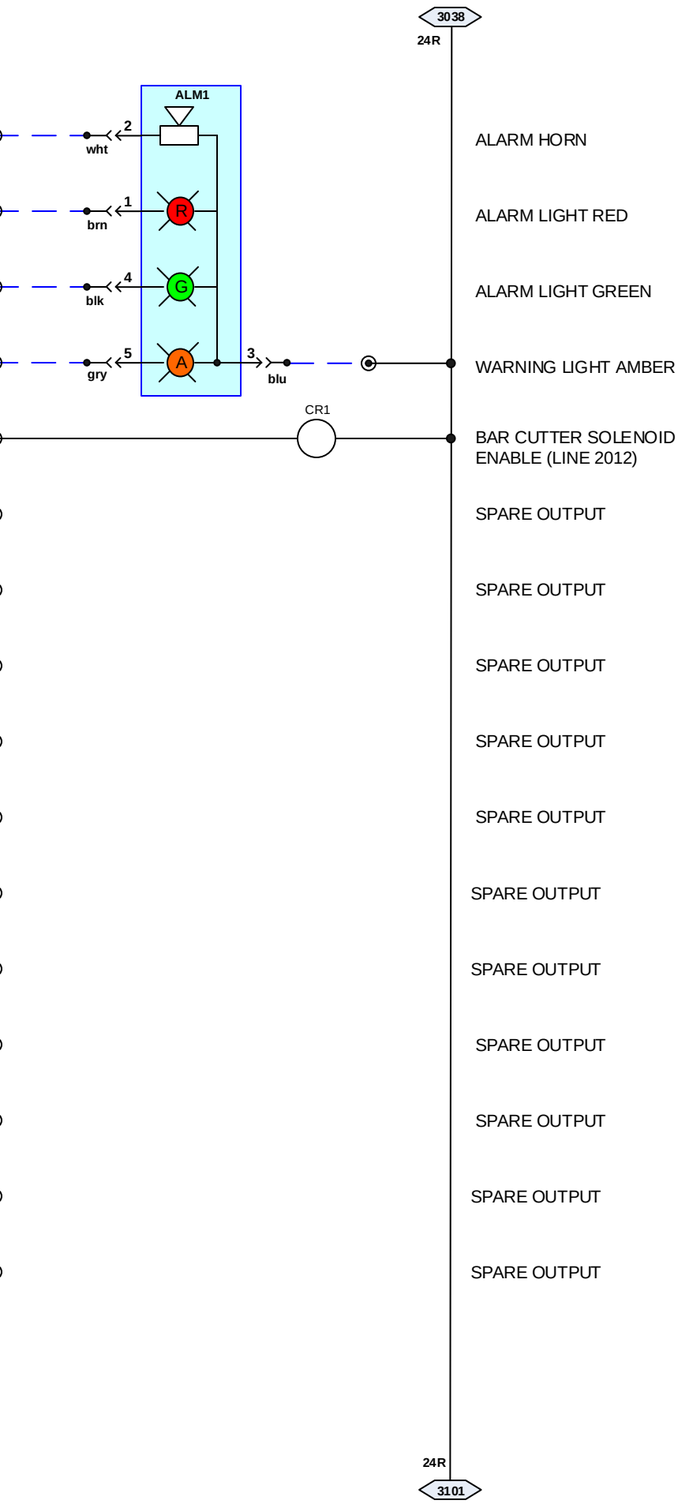
DRAWN BY	JRC
DATE	4/25/2017
SHEET	5
DRAWING NO:	E01076

EGAN FOOD TECHNOLOGIES









SCH30

EXTRUDER WITH PNEUMATIC CUTTER & RETRACTING CONVEYOR

TITLE

PROJECT

DRAWN BY
JRC

DATE
4/25/2017

SHEET
6

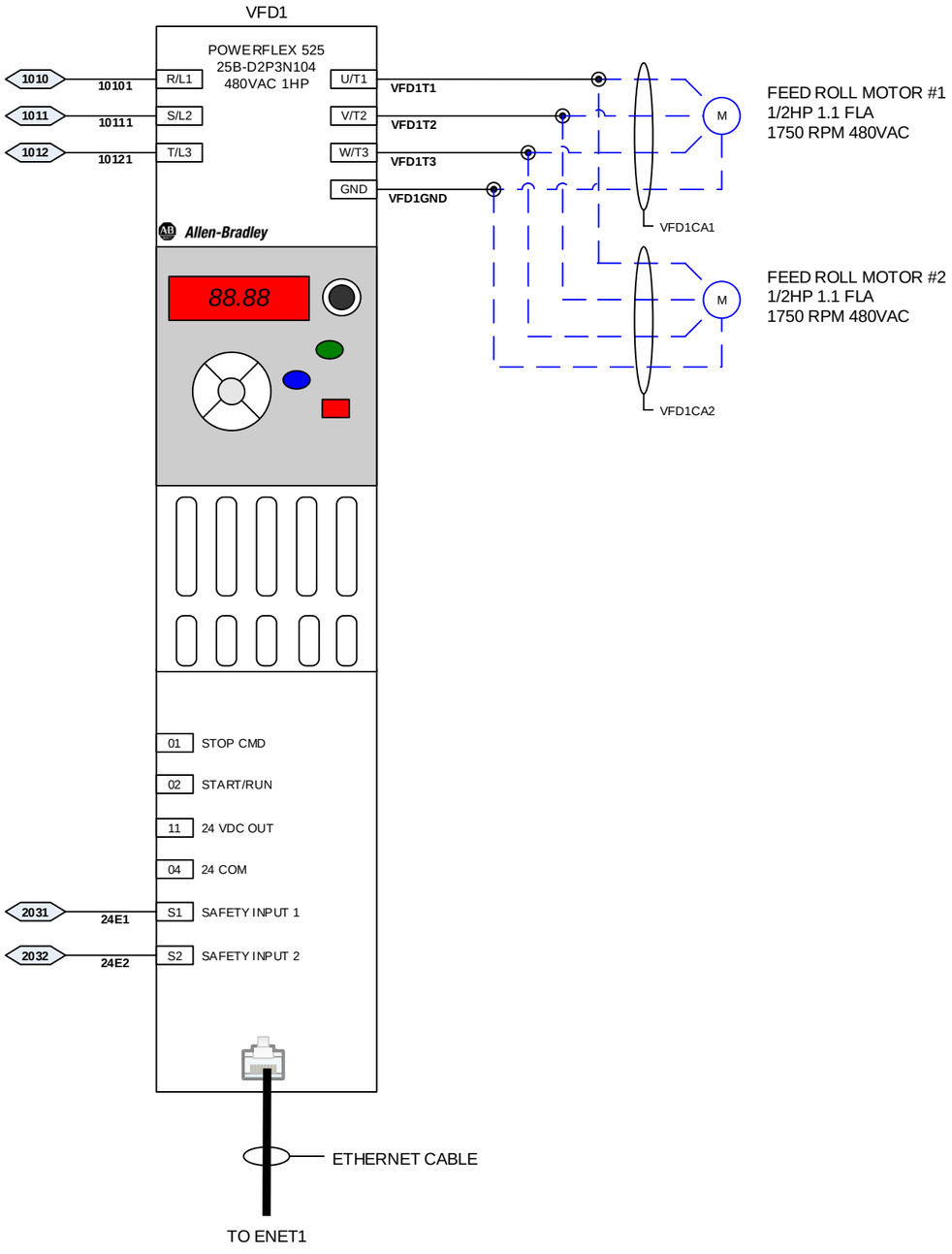
DRAWING NO:
E01076

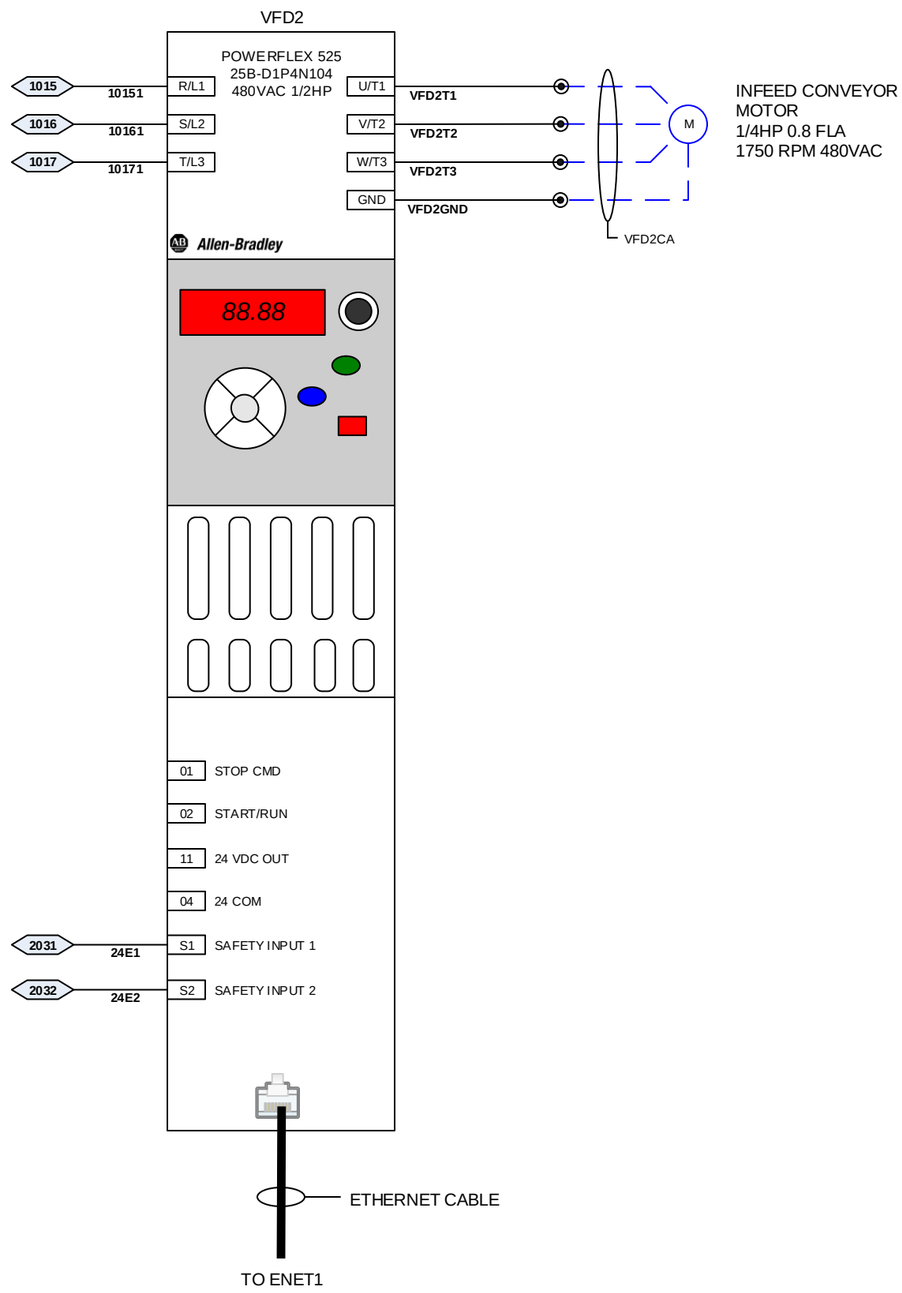
EGAN FOOD TECHNOLOGIES

TITLE	PROJECT
SCH31	EXTRUDER WITH PNEUMATIC CUTTER & RETRACTING CONVEYOR

DRAWN BY	JRC
DATE	4/25/2017
SHEET	7
DRAWING NO:	E01076

EGAN FOOD TECHNOLOGIES

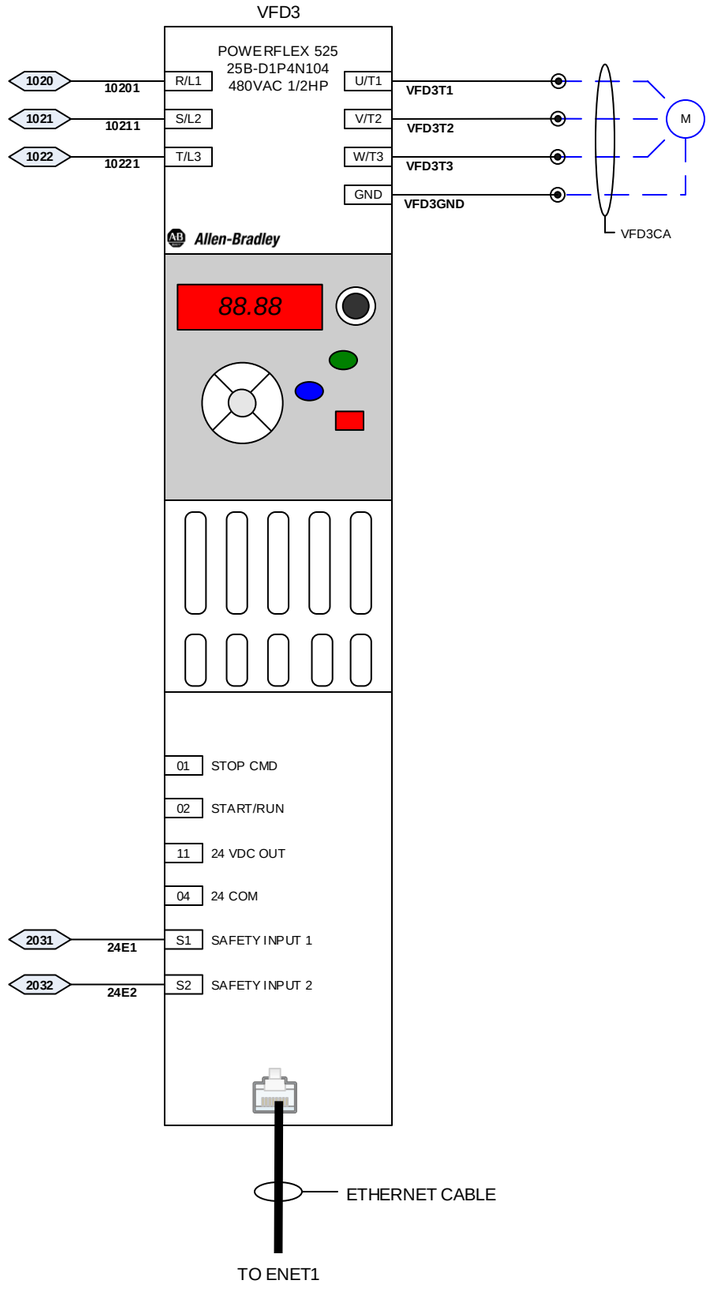




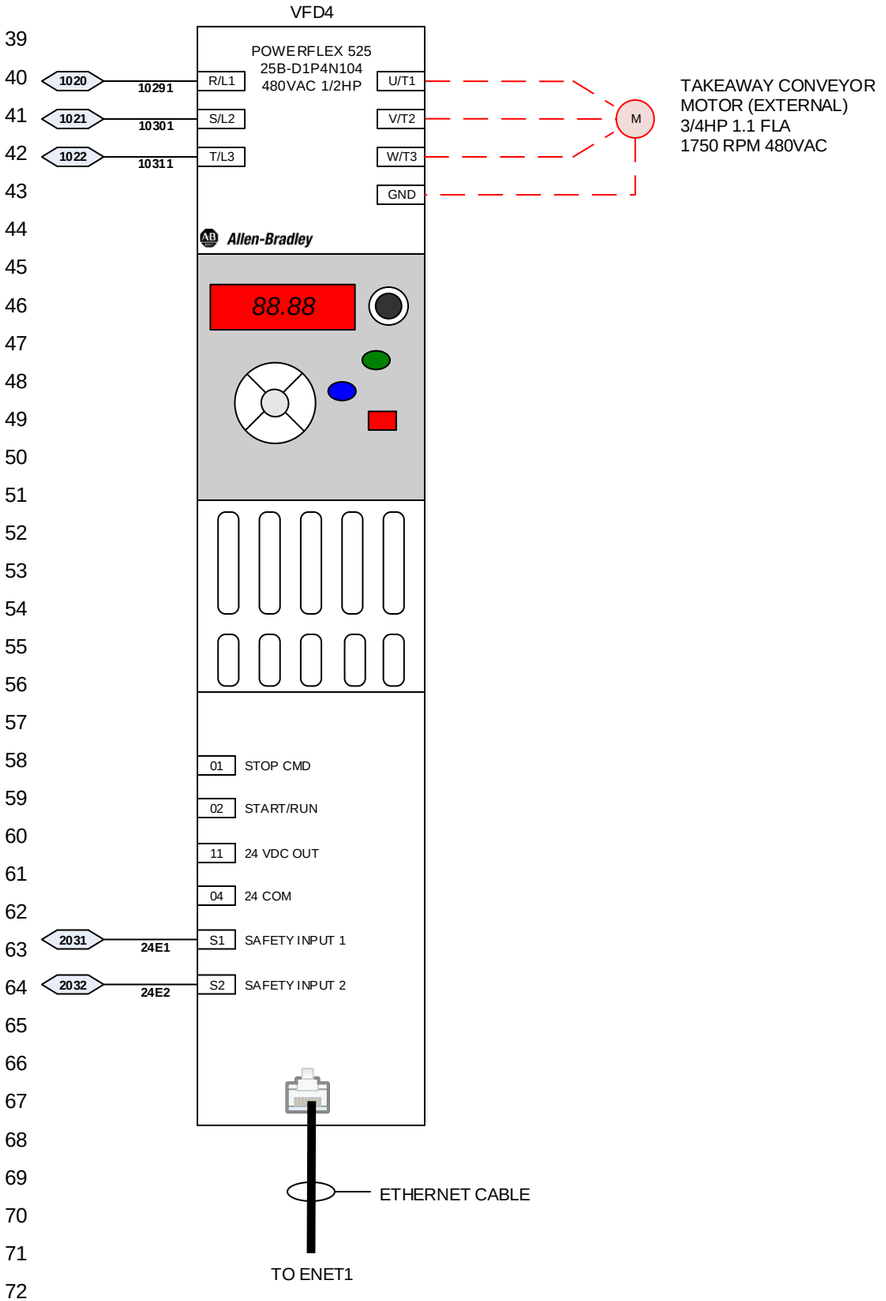
SCH40	EXTRUDER WITH PNEUMATIC CUTTER & RETRACTING CONVEYOR
TITLE	PROJECT

DRAWN BY
JRC
DATE
4/25/2017
SHEET
8
DRAWING NO:
E01076

EGAN FOOD TECHNOLOGIES



DISCHARGE CONVEYOR
MOTOR
1/4HP 0.8 FLA
1750 RPM 480VAC



TAKEAWAY CONVEYOR
MOTOR (EXTERNAL)
3/4HP 1.1 FLA
1750 RPM 480VAC

SCH41

EXTRUDER WITH PNEUMATIC CUTTER & RETRACTING CONVEYOR

TITLE

PROJECT

DRAWN BY
JRC

DATE
4/25/2017

SHEET
9

DRAWING NO:
E01076

EGAN FOOD TECHNOLOGIES

SCH50	EXTRUDER WITH PNEUMATIC CUTTER & RETRACTING CONVEYOR
TITLE	PROJECT

DRAWN BY
JRC

DATE
4/25/2017

SHEET
10

DRAWING NO:
E01076

EGAN FOOD TECHNOLOGIES

IP ADDRESS:
192.168.5.101

HMI

IP ADDRESS:
192.168.5.100

PLC1

IP ADDRESS:
192.168.5.110

IP ADDRESS:
192.168.5.111

IP ADDRESS:
192.168.5.112

IP ADDRESS:
192.168.5.113

VFD1

VFD2

VFD3

VFD4

IP ADDRESS:
192.168.5.5

Allen-Bradley

ENET1

IP ADDRESS:
192.168.5.10

ON-SITE NETWORK CONNECTION
(FIELD PROVIDE)

PHOENIX CONTACT

WAN

LAN

Mguard
ENET2

SERVO1

SERVO2

IP ADDRESS:
192.168.5.120

IP ADDRESS:
192.168.5.121

NETWORK LAYOUT

EXTRUDER WITH PNEUMATIC CUTTER &
RETRACTING CONVEYOR

TITLE

PROJECT

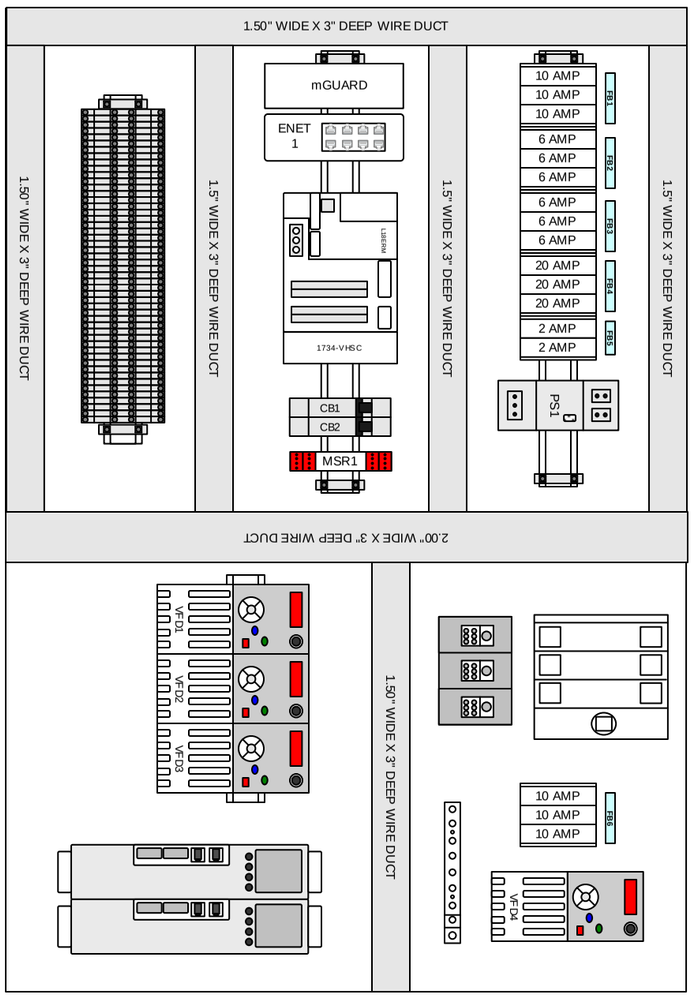
DRAWN BY
JRC

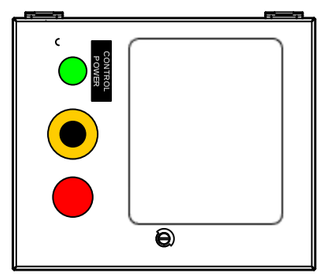
DATE
4/25/2017

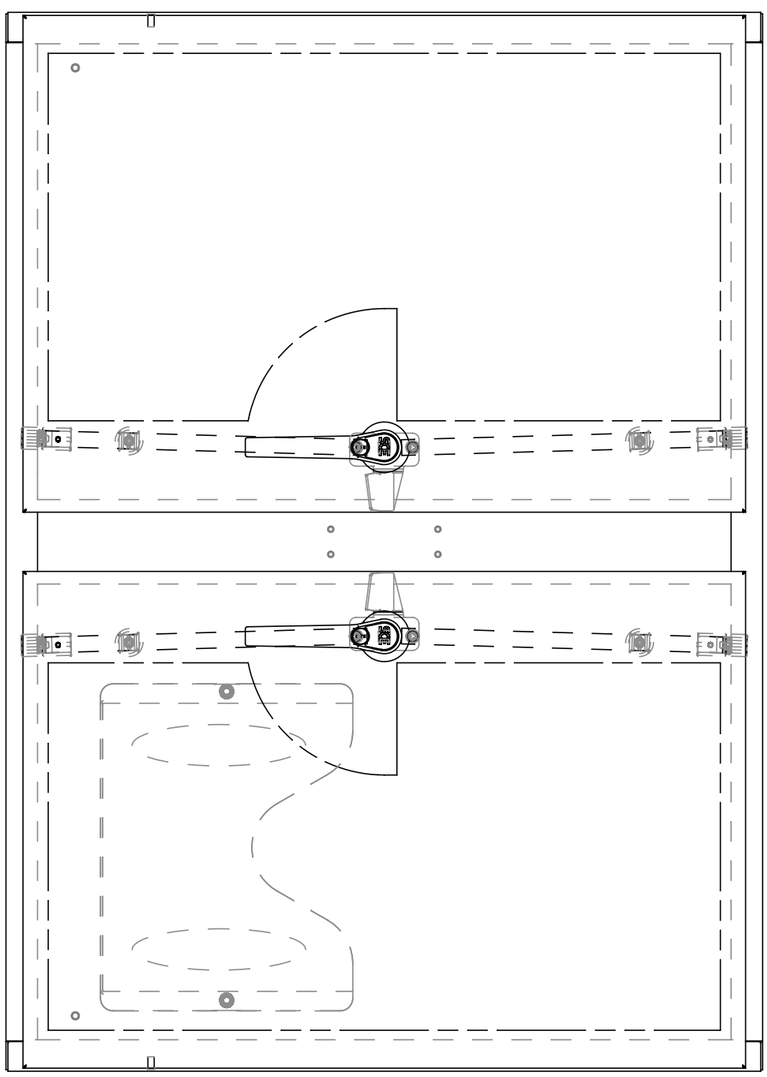
SHEET
11

DRAWING NO:
E01076

EGAN
FOOD TECHNOLOGIES







EGAN FOOD TECHNOLOGIES

DRAWN BY	JRC
DATE	4/25/2017
SHEET	12
DRAWING NO:	E01076
TITLE	PANEL LAYOUT
PROJECT	EXTRUDER WITH PNEUMATIC CUTTER & RETRACTING CONVEYOR

JOB NUMBER: 17-1002
ELEC. DWG #: E01077
CUSTOMER: EGAN FOOD TECH
MACHINE: EXTRUDER W/ PNEUMATIC BAR CUTTER & RETRACTING CONVEYOR
VOLTAGE: 480V/3PH/60Hz

EGAN FOOD TECHNOLOGIES

ELECTRICAL BOM

ITEM	QTY	DEVICE ID	PART NUMBER	DESCRIPTION	MANUFACTURER
1	1	DISC1	37103003	30 AMP FUSED ROTARY DISCONNECT SWITCH	SOCOMEC
2	1		14001032	DISCONNECT SHAFT (12.6")	SOCOMEC
3	1		141E2111	HANDLE FOR NEMA 4/4X ENCLOSURES	SOCOMEC
4	1	GND	L70	GROUNDING LUG	ALLEN BRADLEY
5	1	DB1	1433553	DISTRIBUTION BLOCK (3POLE - 1:6)	MARATHON
6	1		CH1433	DISTRIBUTION BLOCK COVER (3POLE)	MARATHON
7	3	FU1-3	EDCC30	30 AMP CLASS CC FUSE	EDISON
8	3	FU4-6	EDCC10	10 AMP CLASS CC FUSE	EDISON
9	6	FU7-12	EDCC6	6 AMP CLASS CC FUSE	EDISON
10	3	FU13-15	HCLR20	20 AMP CLASS CC FUSE	EDISON
11	3	FU16-18	EDCC2	2 AMP CLASS CC FUSE	EDISON
12	5	FB	EHCC3DIU	3 POLE FUSE BLOCK	EDISON
13	1	VFD1	25B-D2P3N104	1 HP 480VAC VARIABLE FREQUENCY DRIVE	ALLEN BRADLEY
14	2	VFD2,3	25B-D1P4N104	1/2 HP 480VAC VARIABLE FREQUENCY DRIVE	ALLEN BRADLEY
15	2	SERVO1,2	2198-H015-ERS	KINETIX 5500 SERVO DRIVE	ALLEN BRADLEY
16	1		2090-CSWM1DF-18AA03	VPL SERVO CABLE - 3M LENGTH	ALLEN BRADLEY
17	1		2090-CSWM1DF-14AA03	VPL SERVO CABLE - 3M LENGTH	ALLEN BRADLEY
18	1	PS1	PSB24-120S-3	DC POWER SUPPLY (120W)	RHINO
19	2	CB1,2	FAZ-C6-1-NA-SP	6 AMP DC CIRCUIT BREAKER	EATON
20	1	CR1	700-HK36Z24	8 AMP SLIM LINE RELAY	ALLEN BRADLEY
21	1		700-HN121	SLIM LINE RELAY BASE	ALLEN BRADLEY
22	1	MSR1	XPSMCMCP0802	PROGRAMMABLE SAFETY RELAY	SCHNEIDER
23	5	ESTOP1-5	800FM-MT44	PUSHBUTTON, RED MUSHROOM HEAD	ALLEN BRADLEY
24	5		800F-ALM	800F SERIES PUSHBUTTON METAL LATCH	ALLEN BRADLEY
25	5		800F-15YSE112	E-STOP LEGEND PLATE	ALLEN BRADLEY
26	1	PB1	800FM-LG3	ILLUMINATED PUSH BUTTON 24VDC, GREEN LED	ALLEN BRADLEY
27	1		800F-MN3G	GREEN INTEGRATED LED MODULE W/ METAL LATCH	ALLEN BRADLEY
28	1		800F-12AE178	"POWER ON" LEGEND PLATE	ALLEN BRADLEY
29	1		800F-X10	N.O. CONTACT BLOCK	ALLEN BRADLEY
30	10		800F-X01	N.C. CONTACT BLOCK	ALLEN BRADLEY
31	1	ENET1	1783-US08T	8 PORT ETHERNET SWITCH	ALLEN BRADLEY
32	1	ENET2	2700642	MGUARD VPN ROUTER	PHOENIX CONTACT
33	1	PLC1	1769-L18ERM-BB1B	COMPACTLOGIX PLC	ALLEN BRADLEY
34	1		1734-VHSC24	HIGH SPEED COUNTER MODULE	ALLEN BRADLEY
35	2		1734-TBS	COMPACTLOGIX PLC END CAP	ALLEN BRADLEY
36	1	HMI1	2711PC-T6C20D8	PANELVIEW PLUS 7 10" DISPLAY	ALLEN BRADLEY
37	1	GND	UGB2/0-414-6	6 PORT UL LISTED GROUND BAR	PANDUIT
38	1	ALM	K50LGRALSYPQ	EZ-LIGHT 3-COLOR SEALED LED / ALARM	BANNER
39	1	ALM	MQDC1-506RA	5-PIN EURO-STYLE RIGHT ANGLE CORDSET FOR EZ-LIGHT	BANNER
40	3	CBL	889D-F8AB-5	8-PIN M12 QUICK DISCONNECT CORDSET (5 METER)	ALLEN BRADLEY

TITLE PANEL BOM

PROJECT EXTRUDER WITH PNEUMATIC CUTTER & RETRACTING CONVEYOR

DRAWN BY JRC

DATE 4/25/2017

SHEET 13

DRAWING NO: E01076

EGAN FOOD TECHNOLOGIES

Machine: 24" EXTRUDER w/BAR CUTTER & RETRACT CONVEYOR

Customer: ENJOY LIFE FOODS

BILL OF MATERIAL

EGAN FOOD TECHNOLOGIES

B.O.M.: A0003259 24" WIDE 2-ROLL CONTINUOUS EXTRUDER

Job Num: 17-1002 0

Item	Part No	QTY	Vendor	Level	MFG Name	MFG Part#	Description
1	A0003272	1		1			CONVEYOR ASSEMBLY (EXTRUDER-BAR CUTTER)
1	C0016389	1	A & B Machining	. . 2			BASE FRAME (24" EXTRUDER/CUTTER/RETRACT)
2	A0003264	1		. . 2			PANEL AND DOOR ASSEMBLY
1	C0016402	1	Kimbow,Inc.	. . . 3			PANEL (DISCHARGE)
2	C0016401	1	Kimbow,Inc.	. . . 3			PANEL (INFEED)
3	C0015059002	1	Kimbow,Inc.	. . . 3			GUARD (INFEED ROLLER) A=32.50
4	P0011610	1	SAGINAW CONTROL & ENGINEERING	. . . 3	SAGINAW CONTRO	SCE-30EL4210WFLP	ENCLOSURE, DUAL DOOR WALL-MOUNTED, STEEL, NEMA 4, 42" W X 30" TALL X 10" DEEP, (FINISH: PAINT 'STARDUST SILVER')
5	P0011611	1	SAGINAW CONTROL & ENGINEERING	. . . 3	SAGINAW CONTRO	SCE-42P30	SUBPANEL, BENT SCE-42P30
6	A0003268	4		. . . 3			DOOR ASSEMBLY, EXTRUDER
1	C0012253019	4	Kimbow,Inc.	 4			DOOR A=24.875, B=35.50 (REV A)
2	C0010652003	8	A & B Machining	 4			HINGE BLOCK (DOOR) MAT'L: CRS, FINISH: POWDER COAT 'NUCRAFT 338/90007'
3	C0010653003	8	A & B Machining	 4			HINGE BLOCK (FRAME) MAT'L: CRS, FINISH: POWDER COAT 'NUCRAFT 338/90007'
4	P0010373	8	The Bolt Bin	 4		DOWEL PIN 3/8" DIA. X 1-	DOWEL PIN 3/8" DIA. X 1-3/4" LG, 18-8 ST. STEEL
5	P0000762	8	McMaster-Carr Supply Company	 4	McMASTER	95606A140	WASHER, NYLON (SMALL OD), 0.38 ID, 0.57 OD, 0.03 THK.
6	P0000388	4	ECP Hardware, Inc.	 4		E3-16-35	LATCH, TOOL OPERATED, SINGLE HOLE, #E3-16-35
7	A0003269	1		. . . 3			DOOR ASSEMBLY, CONTROL PANEL
1	C0012253020	1	Kimbow,Inc.	 4			DOOR A=44.5625, B=35.50 (REV A)
2	C0010652003	2	A & B Machining	 4			HINGE BLOCK (DOOR) MAT'L: CRS, FINISH: POWDER COAT 'NUCRAFT 338/90007'
3	C0010653003	2	A & B Machining	 4			HINGE BLOCK (FRAME) MAT'L: CRS, FINISH: POWDER COAT 'NUCRAFT 338/90007'
4	P0010373	2	The Bolt Bin	 4		DOWEL PIN 3/8" DIA. X 1-	DOWEL PIN 3/8" DIA. X 1-3/4" LG, 18-8 ST. STEEL
5	P0000762	2	McMaster-Carr Supply Company	 4	McMASTER	95606A140	WASHER, NYLON (SMALL OD), 0.38 ID, 0.57 OD, 0.03 THK.
6	P0000388	1	ECP Hardware, Inc.	 4		E3-16-35	LATCH, TOOL OPERATED, SINGLE HOLE, #E3-16-35
8	A0003203	2		. . . 3			DOOR ASSEMBLY, JACK-SCREW SECTION
1	C0012253008	2	Kimbow,Inc.	 4			DOOR A=22.50, B=35.50 (REV A)

Item	Part No	QTY	Vendor	Level	MFG Name	MFG Part#	Description
2	C0010652003	4	A & B Machining	 4			HINGE BLOCK (DOOR) MAT'L: CRS, FINISH: POWDER COAT 'NUCRAFT 338/90007'
3	C0010653003	4	A & B Machining	 4			HINGE BLOCK (FRAME) MAT'L: CRS, FINISH: POWDER COAT 'NUCRAFT 338/90007'
4	P0010373	4	The Bolt Bin	 4		DOWEL PIN 3/8" DIA. X 1-	DOWEL PIN 3/8" DIA. X 1-3/4" LG, 18-8 ST. STEEL
5	P0000762	4	McMaster-Carr Supply Company	 4	McMASTER	95606A140	WASHER, NYLON (SMALL OD), 0.38 ID, 0.57 OD, 0.03 THK.
6	P0000388	2	ECP Hardware, Inc.	 4		E3-16-35	LATCH, TOOL OPERATED, SINGLE HOLE, #E3-16-35
3	A0003197	4		. . 2			ROLLER ASSEMBLY W/ V-GROOVE
1	C0010986012	4	A & B Machining	. . . 3			SHAFT (ROLLER) A=32.00
2	A0003225	4		. . . 3			ROLLER, BEARING, COLLAR ASSEMBLY WITH V-GUIDE
1	C0010643061	8	A & B Machining	 4			ROLLER (2" DIA.) A=14.00
2	C0012329	4	A & B Machining	 4			SPACER (ROLLER)
3	P0000031	16	MDS of Michigan	 4		6005-2RS1	BEARING, BALL 0.984 B, 1.850 OD, 0.472 WIDE, W/ SEALS
4	P0000615	8	MDS of Michigan	 4		SSC16X1	SHAFT COLLAR, 1.000 B, 1.62 OD, .62 W, ST. STL.
4	A0003231	1		. . 2			ROLLER ASSEMBLY, NO V-GUIDE
1	A0003226	1		. . . 3			ROLLER, BEARING, COLLAR ASSEMBLY
1	P0000031	2	MDS of Michigan	 4		6005-2RS1	BEARING, BALL 0.984 B, 1.850 OD, 0.472 WIDE, W/ SEALS
2	P0000615	2	MDS of Michigan	 4		SSC16X1	SHAFT COLLAR, 1.000 B, 1.62 OD, .62 W, ST. STL.
3	C0010643067	1	A & B Machining	 4			ROLLER (2" DIA.) A=29.00
2	C0010986012	1	A & B Machining	. . . 3			SHAFT (ROLLER) A=32.00
5	A0003263	1		. . 2			DECK ASSEMBLY
1	C0016394	1	A & B Machining	. . . 3			CONVEYOR DECK (CUTTER INFEED)
2	C0016395	1	A & B Machining	. . . 3			CONVEYOR DECK (CUTTER DISCHARGE)
3	C0016397001	1	A & B Machining	. . . 3			CONVEYOR DECK (RETRACT) R/H
4	C0016397002	1	A & B Machining	. . . 3			CONVEYOR DECK (RETRACT) L/H
5	C0016398001	1	A & B Machining	. . . 3			SPACER PLATE (CONVEYOR DECK - CUTTER) R/H
6	C0016398002	1	A & B Machining	. . . 3			SPACER PLATE (CONVEYOR DECK - CUTTER) L/H
7	C0016399001	1	A & B Machining	. . . 3			SPACER PLATE (CONVEYOR DECK - RETRACT) R/H
8	C0016399002	1	A & B Machining	. . . 3			SPACER PLATE (CONVEYOR DECK - RETRACT) L/H
9	C0016400	1	A & B Machining	. . . 3			PLATE, MOUNTING (CONVEYOR DECK)
6	A0003265	2		. . 2			BELT-TENSIONING ASSEMBLY
1	A0003271	2		. . . 3			ROLLER, BEARING, COLLAR ASSEMBLY (ANVIL)

B.O.M.: A0003259 24" WIDE 2-ROLL CONTINUOUS EXTRUDER

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Item	Part No	QTY	Vendor	Level	MFG Name	MFG Part#	Description
1	P0000031	4	MDS of Michigan	 4		6005-2RS1	BEARING, BALL 0.984 B, 1.850 OD, 0.472 WIDE, W/ SEALS
2	P0000615	4	MDS of Michigan	 4		SSC16X1	SHAFT COLLAR, 1.000 B, 1.62 OD, .62 W, ST. STL.
3	C0010643029	2	Allied Machine, Inc.	 4			ROLLER (2" DIA.) A=26.00
2	C0011708011	2	Allied Machine, Inc.	. . . 3			SHAFT (TAKE-UP) A=39.75 (REV A)
3	C0016407	2	A & B Machining	. . . 3			BLOCK (TAKE-UP & TOGGLE CLAMP) (SLOTTED)
4	C0012571002	2	A & B Machining	. . . 3			BLOCK (TAKE-UP), MATERIAL: 304 SS, FINISH: NONE (REV A)
5	P0010738	4	McMaster-Carr Supply Company	. . . 3	McMASTER	92865A744	HEX HEAD CAP SCREW, 1/2-13 X 9", GRADE 5 ZINC PLATED, FULL THREAD
6	P0000605	4	MDS of Michigan	. . . 3	CLIMAX	C-50-S	SHAFT COLLAR, .500 B, 1.00 OD, .43 W, ST. STL.
7	P0011722	4	McMaster-Carr Supply Company	. . . 3	McMASTER	5429T4	FOOD-GRADE OIL-EMBEDDED THRUST BEARING FOR 1/2" SHAFT DIAMETER, SAE 841 BRONZE, 1" OUTSIDE DIAMETER
8	C0012570002	2	A & B Machining	. . . 3			BLOCK (TAKE-UP), MATERIAL: 304 SS, FINISH: NONE
9	C0016406	2	A & B Machining	. . . 3			BLOCK (TAKE-UP & TOGGLE CLAMP)
10	P0011528	4	McMaster-Carr Supply Company	. . . 3	McMASTER	5093A760	TOGGLE CLAMP, PUSH-PULL ACTION, HOLE MOUNTED, 700 IB MAXIMUM HOLD CAPACITY, 5-5/8" HEIGHT, STAINLESS STEEL
7	A0003279	1		. . 2			DRIVE ROLL ASSEMBLY W/ ENCODER
1	C0016411	1	Allied Machine, Inc.	. . . 3			SHAFT (BELT DRIVE)(ENCODER)
2	P0011708	1	MDS of Michigan	. . . 3			BELT DRIVE ROLL, 6.00" DIA. X 29.00" FLAT FACE, STEEL CONSTRUCTION WITH 1/4" WHITE EPDM VULCANIZED LAGGING (6.50" FINISH ROLL DIAMETER), 1.375 B X 5/16 KW W/SET SCREWS, V-GROOVE FOR K6 V-GUIDE LOCATED IN CENTER OF ROLL
3	P0010656	1	Sumitomo Machine Corp. of America	. . . 3	SUMITOMO	RNYMS02-1430YB-240	GEARMOTOR, HYPONIC, 1/4 HP, 1750 RPM, 230/460/3/60, 240:1 RATIO, 7.29 RPM OUT, 1.375 HOLLOW BORE w/KW, S=MICROSHIELD 360, S=SS HEX. SOCKET PT 3/8 PLUG
4	P0010083	1	RPM, Inc.	. . . 3	IPTCI	SUCTFL 207 22	BEARING, 2-BOLT FLANGE, 1.375 B, (Stainless Insert Thermoplastic Housing)
5	C0012060	1	A & B Machining	. . . 3			BRACKET (ENCODER ANCHOR) (REV A)
6	P0010908	1	Industrial Control	. . . 3	EPC	25T-40SJ-2048NV1QOC-F	ENCODER, THRU-BORE, 2048 CYCLES PER REV, 1" BORE SIZE
8	A0003198	1		. . 2			ROLLER ASSEMBLY
1	C0010986012	1	A & B Machining	. . . 3			SHAFT (ROLLER) A=32.00
2	A0003225	1		. . . 3			ROLLER, BEARING, COLLAR ASSEMBLY WITH V-GUIDE
1	C0010643061	2	A & B Machining	 4			ROLLER (2" DIA.) A=14.00
2	C0012329	1	A & B Machining	 4			SPACER (ROLLER)
3	P0000031	4	MDS of Michigan	 4		6005-2RS1	BEARING, BALL 0.984 B, 1.850 OD, 0.472 WIDE, W/ SEALS
4	P0000615	2	MDS of Michigan	 4		SSC16X1	SHAFT COLLAR, 1.000 B, 1.62 OD, .62 W, ST. STL.
9	A0003266	2		. . 2			ROLLER ASSEMBLY (2" DIA.)(REMOVABLE)

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Item	Part No	QTY	Vendor	Level	MFG Name	MFG Part#	Description
1	C0016408	2	Allied Machine, Inc.	. . . 3			SHAFT (ROLLER)(REMOVABLE)
2	A0003271	2		. . . 3			ROLLER, BEARING, COLLAR ASSEMBLY (ANVIL)
1	P0000031	4	MDS of Michigan	 4		6005-2RS1	BEARING, BALL 0.984 B, 1.850 OD, 0.472 WIDE, W/ SEALS
2	P0000615	4	MDS of Michigan	 4		SSC16X1	SHAFT COLLAR, 1.000 B, 1.62 OD, .62 W, ST. STL.
3	C0010643029	2	Allied Machine, Inc.	 4			ROLLER (2" DIA.) A=26.00
10	A0003227	2		. . 2			ROLLER WITH EXTENDED SHAFT FOR BELT TAKE-UP
1	C0010986013	2	A & B Machining	. . . 3			SHAFT (ROLLER) A=35.63
2	A0003225	2		. . . 3			ROLLER, BEARING, COLLAR ASSEMBLY WITH V-GUIDE
1	C0010643061	4	A & B Machining	 4			ROLLER (2" DIA.) A=14.00
2	C0012329	2	A & B Machining	 4			SPACER (ROLLER)
3	P0000031	8	MDS of Michigan	 4		6005-2RS1	BEARING, BALL 0.984 B, 1.850 OD, 0.472 WIDE, W/ SEALS
4	P0000615	4	MDS of Michigan	 4		SSC16X1	SHAFT COLLAR, 1.000 B, 1.62 OD, .62 W, ST. STL.
11	A0003267	1		. . 2			SCRAPER ASSEMBLY (INTERNAL)
1	C0016409	1	Kimbow,Inc.	. . . 3			BRACKET (SCRAPER & SCRAP TRAY)
2	C0012165023	1	Kimbow,Inc.	. . . 3			SCRAP TRAY A=32.00, B=2.75, C=2.25
3	M0011703004	1	Egan Food Technologies	. . . 3			SCRAPER A=28.00, B=4 SPACES @ 6.50 = 26.00, C=1.00
1	P0003781	1	C.M. Products	 4	CM PRODUCTS	MTDD	SCRAPER, DUAL DUROMETER, 8' LG.
12	A0003235	1		. . 2			SCRAPER ASSEMBLY (EXTERNAL)
1	C0016323	1	Kimbow,Inc.	. . . 3			BRACKET (SCRAPER & SCRAP TRAY)
2	C0012165024	1	Kimbow,Inc.	. . . 3			SCRAP TRAY A=28.00, B=2.75, C=2.25
3	M0011703019	1	Egan Food Technologies	. . . 3			SCRAPER A=44.00, B=6 SPACES @7.00 = 42.00, C=1.00
1	P0003781	1	C.M. Products	 4	CM PRODUCTS	MTDD	SCRAPER, DUAL DUROMETER, 8' LG.
13	A0003253	1		. . 2			DRIVE ROLL ASSEMBLY
1	C0012327002	1	Allied Machine, Inc.	. . . 3			SHAFT (BELT DRIVE) A=45.00
2	P0011708	1	MDS of Michigan	. . . 3			BELT DRIVE ROLL, 6.00" DIA. X 29.00" FLAT FACE, STEEL CONSTRUCTION WITH 1/4" WHITE EPDM VULCANIZED LAGGING (6.50" FINISH ROLL DIAMETER), 1.375 B X 5/16 KW W/SET SCREWS, V-GROOVE FOR K6 V-GUIDE LOCATED IN CENTER OF ROLL
3	P0010656	1	Sumitomo Machine Corp. of America	. . . 3	SUMITOMO	RNYMS02-1430YB-240	GEARMOTOR, HYPONIC, 1/4 HP, 1750 RPM, 230/460/3/60, 240:1 RATIO, 7.29 RPM OUT, 1.375 HOLLOW BORE w/KW, S=MICROSHIELD 360, S=SS HEX. SOCKET PT 3/8 PLUG
4	C0011712001	1	Allied Machine, Inc.	. . . 3			SPACER PLATE (GEARMOTOR) MAT'L: 304 SS, FINISH: GLASS BEAD BLAST (REV A)

B.O.M.: A0003259 24" WIDE 2-ROLL CONTINUOUS EXTRUDER

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Item	Part No	QTY		Vendor	Level	MFG Name	MFG Part#	Description
5	P0010083	1		RPM, Inc.	. . . 3	IPTCI	SUCTFL 207 22	BEARING, 2-BOLT FLANGE, 1.375 B, (Stainless Insert Thermoplastic Housing)
14	C0016403	2		A & B Machining	. . 2			MOUNTING BLOCK FOR ACTUATOR
15	P0011561	6		NGI	. . 2	NGI	H100-3A340851-RH034	LEVELING FOOT, TYPE H HYGIENIC, 3/4-10 UNC x 8.5" LG. SS THREAD, 3.94" DIA. SS BASE
2	A0003262	1			1			BASE PLATE AND JACKSCREW ASSEMBLY (EXTRUDER)
1	C0016393	1		A & B Machining	. . 2			BASE PLATE (24" EXTRUDER)
2	C0010115	4		Die Components, Inc.	. . 2			MOUNTING PLATE (SCREW JACK - HEAD LIFT)
3	P0010062	4		RPM, Inc.	. . 2	JOYCE	WJT122I3K-4.00-STDX-ST	SCREW JACK, 2 TON INVERTED, KEYED, 5/8-18 THREADED END, 4.00" TRAVEL
4	P0010029	4		McMaster-Carr Supply Company	. . 2	McMASTER	61005K122	RIGID SHAFT COUPLING, ONE-PIECE CLAMP-ON, STEEL, 1/2" BORE with KEYWAY
5	C0011553012	2		A & B Machining	. . 2			CONNECTING SHAFT (SCREW JACK) A=32.63
6	C0012317	2		Allied Machine, Inc.	. . 2			HUB, SPROCKET MOUNTING (REV A)
7	M0012318	2		A & B Machining	. . 2			SPROCKET (SCREW JACK)
1	P0010771	2		MDS of Michigan	. . . 3			SPROCKET, 40A15, MIN BORE NO KW
8	C0012319	1		A & B Machining	. . 2			ADAPTER (SCREW JACK DRIVE)
9	C0010123	4		A & B Machining	. . 2			EXTENSION SHAFT (SCREW JACK) (REV B)
10	P0010068	4		RPM, Inc.	. . 2	PACIFIC BEARING	SDSZ 32C	FLANGE MOUNT DIE SET (COMPENSATED), 2.000 BORE, ALUMINUM BLACK ANODIZED
11	P0000163	1	FT	MDS of Michigan	. . 2		40-1	CHAIN, ROLLER, 1/2" P, SINGLE #40-1
12	C0012333001	1		Kimbow,Inc.	. . 2			BRACKET (ROLLER) R/H (REV A)
13	C0012333002	1		Kimbow,Inc.	. . 2			BRACKET (ROLLER) L/H (REV A)
14	A0003197	1			. . 2			ROLLER ASSEMBLY W/ V-GROOVE
1	C0010986012	1		A & B Machining	. . . 3			SHAFT (ROLLER) A=32.00
2	A0003225	1			. . . 3			ROLLER, BEARING, COLLAR ASSEMBLY WITH V-GUIDE
1	C0010643061	2		A & B Machining	 4			ROLLER (2" DIA.) A=14.00
2	C0012329	1		A & B Machining	 4			SPACER (ROLLER)
3	P0000031	4		MDS of Michigan	 4		6005-2RS1	BEARING, BALL 0.984 B, 1.850 OD, 0.472 WIDE, W/ SEALS
4	P0000615	2		MDS of Michigan	 4		SSC16X1	SHAFT COLLAR, 1.000 B, 1.62 OD, .62 W, ST. STL.
3	A0003174	1			1			DIE & FILLER BLOCK SUPPORT ASSEMBLY (EXTRUDER)
1	C0010128	1		A & B Machining	. . 2			DIE STOP
2	C0012314	1		Die Components, Inc.	. . 2			HEAD STOP
3	P0010476	1		McMaster-Carr Supply Company	. . 2	McMASTER	91847A550	NUT, HEX JAM 3/4-10, 18-8 SS

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Item	Part No	QTY	Vendor	Level	MFG Name	MFG Part#	Description
4	P0010475	1	McMaster-Carr Supply Company	. . 2	McMASTER	92198A859	SCREW, HEX HEAD CAP, 3/4-10 X 6.00 LG. ST. STL.
5	C0012881	2	A & B Machining	. . 2			PIVOT BLOCK (BELT RAISE) (REV A)
6	C0015611001	1	A & B Machining	. . 2			PIVOT ARM (BELT RAISE) R/H
7	C0015611002	1	A & B Machining	. . 2			PIVOT ARM (BELT RAISE) L/H
8	C0012880002	2	A & B Machining	. . 2			SUPPORT, FILLER BLOCK A=44.00
9	C0012883002	1	A & B Machining	. . 2			ROLL (BELT RAISE) A=33.75
4	A0003287	1		1			EXTRUDER HEAD ASSEMBLY (W/ DRIVE DISENGAGEMENT)
1	A0003213	1		. . 2			EXTRUDER HEAD BLOCK ASSEMBLY, CONTROL SIDE
1	C0016118	1	Die Components, Inc.	. . . 3			HEAD BLOCK (CONTROL SIDE)
2	C0016117	1	Die Components, Inc.	. . . 3			COVER PLATE (CONTROL)
3	C0015616	2	Die Components, Inc.	. . . 3			CLAMP BLOCK (FEED ROLL)
4	P0010708	2	McMaster-Carr Supply Company	. . . 3	McMASTER	5004A14	TOGGLE CLAMP, HOLD-DOWN (ST. STEEL) 350-260 LB HOLDING CAP.
5	M0010114	2	Egan Food Technologies	. . . 3			HANDLE (COVER)
1	P0010058	2	McMaster-Carr Supply Company	 4	McMASTER	1435A25	HANDLE, DOOR PULL - 304 SS, 6" WIDE, 1/4-20 SCREW SIZE
6	C0016116	1	Kimbow,Inc.	. . . 3			FEED ROLL COVER (CONTROL SIDE)
7	M0015587	2	A & B Machining	. . . 3			PIN (HOUSING LOCATING)
1	P0010353	2	McMaster-Carr Supply Company	 4	McMASTER	92240A721	SCREW, 1/2-13 X 2.25" LG., HEX HD. CAP, FULL THREAD, ST. STL.
2	A0003286	1		. . 2			EXTRUDER HEAD BLOCK ASSEMBLY, NON-CONTROL SIDE
1	C0015592	1	Die Components, Inc.	. . . 3			HEAD BLOCK (NON-CONTROL SIDE)
2	C0015582	1	Die Components, Inc.	. . . 3			COVER PLATE (NON-CONTROL)
3	C0015616	2	Die Components, Inc.	. . . 3			CLAMP BLOCK (FEED ROLL)
4	P0010708	2	McMaster-Carr Supply Company	. . . 3	McMASTER	5004A14	TOGGLE CLAMP, HOLD-DOWN (ST. STEEL) 350-260 LB HOLDING CAP.
5	M0010114	2	Egan Food Technologies	. . . 3			HANDLE (COVER)
1	P0010058	2	McMaster-Carr Supply Company	 4	McMASTER	1435A25	HANDLE, DOOR PULL - 304 SS, 6" WIDE, 1/4-20 SCREW SIZE
6	C0015596	2	A & B Machining	. . . 3			DRIVE SHAFT (FEED ROLL)
7	C0015597	2	A & B Machining	. . . 3			C-SPACER (REV A)
8	C0015598	2	A & B Machining	. . . 3			DRIVE SHAFT ENGAGEMENT PLATE
9	C0015574	8	A & B Machining	. . . 3			SPACER (GEAR BOX)
10	P0010408	2	Essentra Components	. . . 3	ESSENTRA	SSKA-15	KNOB, KNURLED, ST. STEEL, 1/2-13 X 1-3/4" SS STUD
11	C0015618	1	A & B Machining	. . . 3			SPACER PLATE (SWITCH)
12	M0015587	2	A & B Machining	. . . 3			PIN (HOUSING LOCATING)

B.O.M.: A0003259 24" WIDE 2-ROLL CONTINUOUS EXTRUDER

Job Num: 17-1002 0

Item	Part No	QTY		Vendor	Level	MFG Name	MFG Part#	Description
1	P0010353	2		McMaster-Carr Supply Company	 4	McMASTER	92240A721	SCREW, 1/2-13 X 2.25" LG., HEX HD. CAP, FULL THREAD, ST. STL.
13	P0011651	2		Sumitomo Machine Corp. of America	. . . 3	SUMITOMO	RNYMS05-1540YA-300	GEARMOTOR, HYPONIC, 1/2 HP 1750 RPM, 230/460/3/60, 300:1 RATIO, 5.83 RPM OUT, S=1.750 HOLLOW BORE, S=MICROSHIELD 360, S=SS HEX. SOCKET PT 3/8 PLUG
14	P0011209	1		Kendall Electric, Inc.	. . . 3	AB	440N-ZPREC	SENSAGUARD (MAGNET)
15	P0011347	1		Kendall Electric, Inc.	. . . 3	AB	440N-Z21SS2HN9	SENSAGUARD (SWITCH)
3	C0010079001	4		A & B Machining	. . 2			SPACER SHAFT (HEAD) A=30.000
4	A0003215	1			. . 2			FEED ROLL ASSEMBLY (24IN)
1	C0010596007	2		A & B Machining	. . . 3			FEED ROLL A=24.000
2	C0010597	4		A & B Machining	. . . 3			END RING (FEED ROLL)
3	C0010598	4		Allied Machine, Inc.	. . . 3			BEARING HOUSING (FEED ROLL) (REV B)
4	P0003443	5		MDS of Michigan	. . . 3		6017-2RS1	BEARING, BALL 3.3465 B, 5.1181 OD, .866 W W/SEALS
5	P0010299	2	pkg	McMaster-Carr Supply Company	. . . 3	McMASTER	9452K92	O-RING, SIZE 127,1.424 ID., 1.630 OD, 0.103 DIA., BUNA N
6	P0010916	4	pkg	McMaster-Carr Supply Company	. . . 3		9452K365	O-RING, #266 BUNA N, 7.984 ID X 8.262 OD X 0.139 DIA., 5/PKG.
7	C0010599	2		Allied Machine, Inc.	. . . 3			DRIVE HUB (FEED ROLL)
8	C0010600	2		Kimbow,Inc.	. . . 3			BEARING RETAINER
5	P0003443	3		MDS of Michigan	. . 2		6017-2RS1	BEARING, BALL 3.3465 B, 5.1181 OD, .866 W W/SEALS
6	P0010059	2		McMaster-Carr Supply Company	. . 2	McMASTER	3049T94	LIFTING EYEBOLT (STEEL), 3/4-10 THREAD, WITH SHOULDER
7	C0016241	2		Kimbow,Inc.	. . 2			GUARD (FEED ROLLS)
5	A0003176	1			1			HOPPER ASSEMBLY (EXTRUDER)
1	C0015612	2		A & B Machining	. . 2			HOPPER (END) (REV A)
2	C0015613003	2		A & B Machining	. . 2			HOPPER (SIDE) A=25.00
3	C0015621	1		Die Components, Inc.	. . 2			BRACKET (HOPPER)
4	P0010061	2	FT	McMaster-Carr Supply Company	. . 2	McMASTER	9864K15	O-RING CORD, 3/16 DIA. (ACTUAL 0.210), BUNA N A50 DUROMETER
5	C0015614	1		Die Components, Inc.	. . 2			BRACKET (HOPPER)
6	C0015617	1		A & B Machining	. . 2			SPACER PLATE (SWITCH TARGET)
6	A0003273	1			1			CUTTER ANVIL ASSEMBLY (EXTRUDER)
1	C0012867	2		A & B Machining	. . 2			SCREW, ANVIL ADJUSTING
1	C0012867	2		A & B Machining	. . 2			SCREW, ANVIL ADJUSTING
2	C0012866	2		A & B Machining	. . 2			BRACKET (NOSEBAR MOUNTING)
2	C0016412	2		A & B Machining	. . 2			BRACKET (NOSEBAR MOUNTING)
3	C0016242	1		A & B Machining	. . 2			MOUNTING BAR (ANVIL)

B.O.M.: A0003259 24" WIDE 2-ROLL CONTINUOUS EXTRUDER

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Item	Part No	QTY	Vendor	Level	MFG Name	MFG Part#	Description
3	C0016410	2	Kimbow,Inc.	. . 2			BRACKET, ANVIL ROLLER
4	C0016243	1	A & B Machining	. . 2			ANVIL
4	A0003270	1		. . 2			ROLLER ASSEMBLY, NO V-GUIDE (ANVIL)
1	C0010986014	1	A & B Machining	. . . 3			SHAFT (ROLLER) A=29.00
2	A0003271	1		. . . 3			ROLLER, BEARING, COLLAR ASSEMBLY (ANVIL)
1	P0000031	2	MDS of Michigan	 4		6005-2RS1	BEARING, BALL 0.984 B, 1.850 OD, 0.472 WIDE, W/ SEALS
2	P0000615	2	MDS of Michigan	 4		SSC16X1	SHAFT COLLAR, 1.000 B, 1.62 OD, .62 W, ST. STL.
3	C0010643029	1	Allied Machine, Inc.	 4			ROLLER (2" DIA.) A=26.00
5	C0012338002	2	A & B Machining	. . 2			NOSEBAR (CUTTER) A=29.00
5	C0016242	1	A & B Machining	. . 2			MOUNTING BAR (ANVIL)
6	C0016243	1	A & B Machining	. . 2			ANVIL
7	C0012338002	2	A & B Machining	. . 2			NOSEBAR (CUTTER) A=29.00
7	A0003283	1		1			RETRACTING CONVEYOR ASSEMBLY(24" EXTRUDER)
1	P0010424	1	MDS of Michigan	. . 2	MDS	KMR-8T	ROD END, MALE, GENERAL PURPOSE 1/2 B, 1/2-20 R/H THREAD (MALE)
2	C0010936	1	A & B Machining	. . 2			MOUNTING BAR (DUAL VEE TRACK)
3	C0010957	1	A & B Machining	. . 2			TRACK BAR (ROLLERS)
4	C0012447001	1	Kimbow,Inc.	. . 2			SUPPORT RAIL (RETRACTING CONVEYOR) R/H (REV C)
5	C0012447002	1	Kimbow,Inc.	. . 2			SUPPORT RAIL (RETRACTING CONVEYOR) L/H (REV C)
6	P0010423	2	RPM, Inc.	. . 2	BWC	T2-SS-6063-21	TRACK, SINGLE EDGE, HARDENED 420 SS w/ DRILLED MOUNTING HOLES, SIZE 2, 60.63" LG., (DUAL VEE)
7	C0012453	1	A & B Machining	. . 2			BRACKET (CONVEYOR MOUNTING)
8	C0016309001	1	Kimbow,Inc.	. . 2			CONVEYOR BED (STATIONARY) R/H
9	C0016309002	1	Kimbow,Inc.	. . 2			CONVEYOR BED (STATIONARY) L/H
10	C0010828	4	Kimbow,Inc.	. . 2			STOP PLATE
11	C0000220304	5	A & B Machining	. . 2			SHAFT, ROLLER A=29.25, B=0.50, C=1/4-20 X 0.75 DEEP, MATERIAL=303 ST. STL.
12	C0012457001	1	Kimbow,Inc.	. . 2			GUARD (CONVEYOR SIDE) R/H (REV A)
13	C0012457002	1	Kimbow,Inc.	. . 2			GUARD (CONVEYOR SIDE) L/H (REV A)
14	C0012458	2	Die Components, Inc.	. . 2			SPACER (CONVEYOR SIDE) (REV A)
15	P0011408	1	IFM EFECTOR	. . 2	IFM	E20005	REFLECTOR
16	C0012461	1	Kimbow,Inc.	. . 2			BRACKET (SENSOR MOUNTING) (REV A)
17	C0016310001	1	Kimbow,Inc.	. . 2			BRACKET (TRAY SUPPORT) R/H (REV B)

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Item	Part No	QTY		Vendor	Level	MFG Name	MFG Part#	Description
18	C0016310002	1		Kimbow,Inc.	. . 2			BRACKET (TRAY SUPPORT) L/H (REV B)
19	P0011031	1		IFM EFECTOR	. . 2	IFM EFECTOR	06P302	SENSOR, PHOTOELECTRIC, POLARIZED RETROREFLECTIVE, 0.05-5M RANGE, RECTANGULAR METAL HOUSING, 3-WIRE DC PNP, 3-PIN M8 CONNECTOR
20	C0015311	1		Kimbow,Inc.	. . 2			BRACKET (ACTUATOR CONNECTING)(REV A)
21	A0003281	1			. . 2			SERVO LINEAR ACTUATOR ASSEMBLY
1	P0011728	1		Graybar	. . . 3	SCHNIEDER	PAS43BBM0686A1BAXX	ELECTRIC BELT DRIVE LINEAR ACTUATOR WITH 12:1 90 DEGREE PLANETARY REDUCER AND ADAPTER PLATE FOR ALLEN BRADLEY VPL-B0753M-PJ12AA SERVO MOTOR
2	P0011729	1		Kendall Electric, Inc.	. . . 3	ALLEN BRADLEY	VPL-0753M-PK12AA	SERVO MOTOR, VPL LOW INERTIA MOTORS, 480VAC, 75MM BOLT CIRCLE FRAME SIZE, 3 MAGNET STACKS, M WINDING, 6000 RPM RATED SPEED, MULTI-TURN ENCODER, KEYLESS SHAFT, SPEEDTEC RIGHT ANGLE DIN CONNECTOR
3	P0011648	1	10 P	Graybar	. . . 3	SCHNEIDER	VW33MF10613	CLAMPING CLAWS, T-NUT CONNECTION FOR SCHNEIDER LINEAR ACTUATOR
22	A0003218	1			. . 2			RETRACT CONVEYOR SHUTTLE ASSEMBLY
1	P0010913	1		Industrial Control	. . . 3	TURCK	PKG 3M-6	QUICK-CONNECT CABLE FOR 3-PIN PNP PICO SENSOR, 6M LG
2	C0012456	1		A & B Machining	. . . 3			SPACER (ROLLER)
3	P0010759	4		MDS of Michigan	. . . 3		SSR10-2RS	BEARING, BALL, 0.625 B, 1.375 OD, 0.344 W, W/SEALS, STAINLESS STEEL, #SSR10-2RS
4	P0010758	2		McMaster-Carr Supply Company	. . . 3	McMASTER	91590A126 (5/PKG)	RETAINING RING, EXTERNAL, 0.625 SHAFT, STAINLESS STEEL, McMASTER #91590A126 (5/PKG)
5	P0010427	2	pkg	McMaster-Carr Supply Company	. . . 3	McMASTER	91590A134 (5/PKG)	RETAINING RING, EXTERNAL, 0.984 SHAFT, STAINLESS STEEL, McMASTER #91590A134 (5/PKG)
6	C0012279004	2		Allied Machine, Inc.	. . . 3			ROLLER (1.50" DIA.) A=12.25
7	C0012277003	1		Allied Machine, Inc.	. . . 3			SHAFT (ROLLER) A=26.00
8	C0010984004	1		A & B Machining	. . . 3			SHAFT (ROLLER) A=26.25
9	P0000031	2		MDS of Michigan	. . . 3		6005-2RS1	BEARING, BALL 0.984 B, 1.850 OD, 0.472 WIDE, W/ SEALS
10	C0010643012	1		A & B Machining	. . . 3			ROLLER (2" DIA.) A=25.00
11	C0010983	2		A & B Machining	. . . 3			BRACKET (ROLLER MOUNTING)
12	C0016303	1		A & B Machining	. . . 3			BRACKET (ACTUATOR ATTACHMENT) REV A
13	P0010380	4		RPM, Inc.	. . . 3	BWC	W2SSX	GUIDE WHEEL, SIZE 2, STAINLESS STEEL, SEAL, (DUAL VEE)
14	P0003973	4		RPM, Inc.	. . . 3	BWC	BX2SS	ADAPTER BUSHING (STANDARD PROFILE) SIZE 2 ECCENTRIC, STAINLESS STEEL, (DUAL VEE)
15	P0003972	4		RPM, Inc.	. . . 3	BWC	B2SS	ADAPTER BUSHING (STANDARD PROFILE) SIZE 2 CONCENTRIC, STAINLESS STEEL, (DUAL VEE)
16	C0016304	6		A & B Machining	. . . 3			BAR (CONVEYOR BED MOUNTING)

Item	Part No	QTY	Vendor	Level	MFG Name	MFG Part#	Description
17	C0016311	1	A & B Machining	. . . 3			BAR (CONVEYOR BED MOUNTING FOR ROLLER)
18	C0016307	1	A & B Machining	. . . 3			NOSEBAR (DISCHARGE)
19	C0016305	2	A & B Machining	. . . 3			PLATE (CONVEYOR BED SLOPED SURFACE)
20	C0016306	2	A & B Machining	. . . 3			PLATE (CONVEYOR BED FLAT SURFACE)
21	C0012448002	1	Kimbow,Inc.	. . . 3			SIDE PLATE (CONVEYOR-MOVING) L/H (REV A)
22	C0012448001	1	Kimbow,Inc.	. . . 3			SIDE PLATE (CONVEYOR-MOVING) R/H (REV A)
23	C0010827	4	A & B Machining	. . . 3			SPACER (BEARING)
24	P0010381	4	MDS of Michigan	. . . 3	SKF	SSR6-2RS	BEARING, BALL, 0.375 B, 0.875 OD, 0.281 W, w/SEALS, STAINLESS STEEL
25	C0016308001	1	A & B Machining	. . . 3			CAM FOLLOWER BLOCK (R/H) (REV A)
26	P0011701	2	McMaster-Carr Supply Company	. . . 3	McMASTER	6721K900	THREADED TRACK ROLLER, Ø1.5" X 7/8" WIDE
27	C0016308002	1	A & B Machining	. . . 3			CAM FOLLOWER BLOCK (L/H) (REV A)
23	C0012863	2	A & B Machining	. . 2			STOP (TRAY)
8	A0003260	1		1			PNEUMATIC BAR CUTTER ASSEMBLY
1	C0012424	2	A & B Machining	. . 2			MOUNTING BLOCK (BAR CUTTER) (REV A)
2	C0012425	2	A & B Machining	. . 2			SHAFT (CUTTER SUPPORT)
3	C0012426	2	A & B Machining	. . 2			BEARING BLOCK (CUTTER PIVOT)
4	P0000031	4	MDS of Michigan	. . 2		6005-2RS1	BEARING, BALL 0.984 B, 1.850 OD, 0.472 WIDE, W/ SEALS
5	C0015609002	1	A & B Machining	. . 2			PIVOT PLATE (BAR CUTTER) A=31.00
6	C0012432	1	A & B Machining	. . 2			PIVOT SHAFT (CONTROL SIDE)
7	C0012433	1	A & B Machining	. . 2			PIVOT SHAFT (NON-CONTROL SIDE)
8	C0012428002	1	A & B Machining	. . 2			MOUNTING PLATE (BAR CUTTER) A=36.00
9	P0010776	1	Rapid Control Service, Inc.	. . 2	SMC	MGQM50TN-50	AIR CYLINDER,50mm BORE, 50mm STROKE, COMPACT GUIDE SERIES, NPT PORTS
10	P0010192	1	Rapid Control Service, Inc.	. . 2	SMC	D-Z73SAPC	REED SWITCH, QUICK DISCONNECT STYLE WITH INDICATOR LAMP
11	A0003216	1		. . 2			KNIFE ASSEMBLY
1	C0015891	1	A & B Machining	. . . 3			MOUNTING BLOCK (EL CUTTER)
2	C0015890	1	Kimbow,Inc.	. . . 3			KNIFE
3	C0016249	1	A & B Machining	. . . 3			CLAMP PLATE (KNIFE)
12	C0015610	2	A & B Machining	. . 2			GUIDE SHAFT (HOLD DOWN)
13	C0016244	1	Kimbow,Inc.	. . 2			BRACKET (HOLD DOWN)
14	C0016245	2	A & B Machining	. . 2			BAR (HOLD DOWN)
15	C0015227	1	Kimbow,Inc.	. . 2			COVER (CONTROL SIDE) (REV A)

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Item	Part No	QTY	Vendor	Level	MFG Name	MFG Part#	Description
16	C0012877	1	Kimbow,Inc.	. . 2			COVER (NON-CONTROL SIDE)
17	A0003261	2		. . 2			LEXAN COVER, BAR CUTTER
1	C0016314	2	Total Plastics	. . . 3			GUARD (BAR CUTTER) A= 36.00
2	C0000220303	2	A & B Machining	. . . 3			SHAFT, ROLLER A=35.00, B=0.63, C=1/4-20 X 0.50 DEEP, MATERIAL=303 ST. STL.
18	P0010135	4	Essentra Components	. . 2	ESSENTRA	JCL-321	HINGE, THROUGH HOLE FOR M6 SCREW, STAINLESS STEEL PIN
19	C0012437	1	A & B Machining	. . 2			PIVOT LEVER (BAR CUTTER)
20	C0012438	1	A & B Machining	. . 2			SPACER (PIVOT LEVER)
21	C0012439	1	A & B Machining	. . 2			CONNECTING LINK (PIVOT LEVER)
22	P0010789	1	MDS of Michigan	. . 2	MDS	CMR-7ET	ROD END, MALE, 0.437 B, 7/16-20 R/H MALE, ST. STEEL, MDS #CMR-7ET
23	P0010790	1	MDS of Michigan	. . 2	MDS	CML-7ET	ROD END, MALE, 0.437 B, 7/16-20 L/H MALE, ST. STEEL, MDS #CML-7ET
24	C0016417	1	A & B Machining	. . 2			ECCENTRIC (BAR CUTTER)
25	C0012445	2	A & B Machining	. . 2			MOUNTING BLOCK (GUARD)
26	C0012446	1	Kimbow,Inc.	. . 2			GUARD (BAR CUTTER)
27	C0014939	1	Kimbow,Inc.	. . 2			COVER (WIREWAY)
28	M0015827001	1	Egan Food Technologies	. . 2			HMI PANEL MODICATION (PNEUMATIC BAR CUTTER) (SS)
1	P0010270	1	SAGINAW CONTROL & ENGINEERING	. . . 3	SAGINAW CONTRO	SCE-1210ELJSS	ENCLOSURE, ST. STEEL, NEMA 4X, 12H X 10W X 6D, SAGINAW #SCE-1210ELJSS
2	P0011414	1	SAGINAW CONTROL & ENGINEERING	. . . 3	SAGINAW CONTRO	SCE-12P10J	BACKPANEL, ENCLOSURE
29	C0015225	2	A & B Machining	. . 2			MAGNETIC GUARD SWITCH MOUNT
30	A0003275	1		. . 2			SERVO AND GEARBOX FOR CUTTER
1	P0011725	1	Kendall Electric, Inc.	. . . 3	KENDALL	VPL-B0752E-PJ14AA	SERVO MOTOR, AB KINETIX VP LOW INERTIA
2	P0011726	1	Kendall Electric, Inc.	. . . 3	KENDALL	BS02-14L/C-SERVO-VPL-	GEARBOX, BAUER WORM GEAR, 22:1 RATIO (NON-REPEATING DECIMAL), HOLLOW SHAFT WITH KEYWAY 14 X 81 MM, H4 MOUNTING, SF1.0, 25 NM, FOOT AT LEFT, ADAPATER FOR AB VPL-B0752E-MOTOR
31	P0011209	2	Kendall Electric, Inc.	. . 2	AB	440N-ZPREC	SENSAGUARD (MAGNET)
32	P0011347	2	Kendall Electric, Inc.	. . 2	AB	440N-Z21SS2HN9	SENSAGUARD (SWITCH)
9	A0002823	1		1			AIR ASSEMBLY (BAR EXTRUDER)
1	P0010233	1	Rapid Control Service, Inc.	. . 2	SMC		SMC VALVE STACK (4000 SERIES) ASSEMBLED W/ 1) VV5Q41-0203TTO-RC 2 STATION MANIFOLD, 3/8" PORT 1) VQ4101-5 SGL. SOL VALVE, 24VDC(POS 1) 1) VVQ4000-10A-1 BLANK COVER(POS 2) 1) VVQ4000-20A-1 FLOW CONTROL(POS 1)

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Item	Part No	QTY	Vendor	Level	MFG Name	MFG Part#	Description
2	P0001573	1	Rapid Control Service, Inc.	. . 2	SMC	RC-FR-4-LV	MODULAR FILTER/REGULATOR SYSTEM, 1/2" NPT, ASSEMBLED WITH: (1) SHUT OFF w/LOCK-OUT, SMC #NVHS4500-N04-X116 (1) FILTER/REGULATOR, SMC #NAW4000-N04 (1) GAUGE 0-160, SMC #1481-RC (1) MOUNTING BRACKET, SMC #Y40T
3	P0000474	1	Rapid Control Service, Inc.	. . 2	ARROW	PDA4	PRESSURE SWITCH 1/4 NPT
10	A0003274	1		1			FILLER BLOCK & DIE ASSEMBLY (24" - 12 OUTLET)
1	C0016415	1	A & B Machining	. . 2			FILLER BLOCK (26" - 12 OUTLET)
2	C0011622	12	A & B Machining	. . 2			INSERT, SLEEVE
3	C0016418	1	A & B Machining	. . 2			RETAINER, SLEEVE
4	C0016414	1	A & B Machining	. . 2			DIE, SIDE DISCHARGE (24" - 12 OUTLET)
5	C0010131	1	A & B Machining	. . 2			DIE HANDLE
6	C0010129	1	Egan Food Technologies	. . 2			FILLER BLOCK STOP
11	P0011706	1	Mol Belting	1			CONVEYOR BELT, 1-PLY COPOLYESTER, 24.00" WIDE X 186" LG. (BOARD LENGTH), BIASED FINGER SPLICE PREPARED W/ NOTCHED K6 V-GUIDE CENTERED ON BOTTOM SIDE OF BELT ACROSS WIDTH FOR FULL LENGTH
12	P0011705	1	Mol Belting	1			CONVEYOR BELT, 1-PLY COPOLYESTER, 24.00" WIDE X 310" LG. (BOARD LENGTH), BIASED FINGER SPLICE PREPARED W/ NOTCHED K6 V-GUIDE CENTERED ON BOTTOM SIDE OF BELT ACROSS WIDTH FOR FULL LENGTH