



MODEL 200-V3

The PreRoll-Er machine never uses vibration to transport cannabis. Learn why that's so important!

Once cannabis is ground, it's highly fragile. When transported by vibration, the trichomes can become detached from the particles of the ground cannabis. The trichome is the part of the flower that contains the highest levels of THC.

When companies use a vibrating conveyor, the heavier particles move faster than the lighter ones. This results in an imbalance of heavy and light particles when the cones are filled and, therefore, inconsistent THC levels.

INTRODUCTION

This instruction manual covers specific information on installations, operations, and maintenance of the PreRoll-Er™ and its components. This equipment is a high-quality machine of rugged design conceived to give long hours of trouble-free service. Continued performance will not be maintained unless the precautions and procedures outlined in this manual for handling, installation, initial operation and maintenance are observed. Save this manual for future reference and keep it readily available.

**CAUTION:**

Failure to observe the instructions contained in this manual could result in personal injury and property damage, and may void the warranty. Read this manual carefully before installing and using the PreRoll-Er™.

If any information about operation and maintenance is not listed in this manual, additional information can be obtained by contacting:

Customer Services

920 Boulevard industriel
Terrebonne, QC J6Y 1X1
Tel.: (514) 360-1292
Toll Free: 1-855-360-1292 (USA / CAN)
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www.Preroll-er.com

PreRoll-Er™

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TECHNICAL SPECIFICATIONS

MACHINE DESCRIPTION

PreRoll-Er™ is designed to automatically fill and seal pre-roll cones/tubes with Cannabis (regular or infused). It is adaptable for cannabis weight dosages from 0.25 to 1.5 grams. This chapter is to illustrate how PreRoll-Er™ is divided in machine sections

MACHINE SPECIFICATIONS

Dimensions	
Net Width	92" ⁵ / ₃₂ in [2340.9 mm]
Net Height	79 ⁷ / ₁₆ in [2017.6 mm]
Net Depth/Length	49 ⁴⁷ / ₆₄ in [1263.2 mm]
Width including open doors	147 ⁹ / ₃₂ in [3741 mm]
Depth /Length with open doors	105 in [2667 mm]
Compressed air requirements	
Flow rate	20 CFM [565 L/min]
Pressure	90-110 psig [6.2-7.6 bar]
Pneumatic connection	Ø1/2 in NPT
Ambient air conditions	
Operation temperature range	60-65°F [16-18°C]
Optimal humidity range	35% to 45%
Electrical requirements	
Electrical Power	240V/20A/ 1Ph/ 60Hz

NAMEPLATE INFORMATION

Important ordering information

A nameplate is riveted on the base, between the enclosed switch disconnecter and the pneumatic solenoid valve.



SAFETY

USER SAFETY

User's safety is a priority for installation, operation, and maintenance. Select proper clothing, tools, and handling methods to avoid serious accidents. All safety rules and precautions listed in this manual must be followed by users. Every user must receive a proper PreRoll-Er™ training.



WARNING:

1. Operators must be aware of pneumatic and automated systems to take appropriate safety precautions preventing physical injuries.
2. To avoid risks of serious injuries and property damage, all unprescribed methods to install, operate and maintain the PreRoll-Er™ in prohibited. Prohibited methods includes all modifications to the equipment or using none supplied parts with the machine.
3. Contact a PreRoll-Er™ service representative before proceeding if there is any uncertainty regarding the appropriate use of the equipment.
4. Electric shock, fire, explosion, physical harm or environment damage may occur if pneumatics actuators are damaged. Do not operate until the problem has been fixed.
5. Operating without safety devices exposes operators to risks of serious injuries or death. Never operate unless the supplied safety devices (guards, etc.) are properly installed and in function.



CAUTION:

1. Risk of injury or/and property damage. (Operating without referring to this manual may cause heating or/and unstable machine function.)
2. Do not remove guards.
3. Do not change or modify service procedures without approval of a PreRoll-Er™ service representative.

SAFETY RULES

Risk of injury or/and property damage

Users must follow those safety rules:

1. Users verify that all guards and safety devices are in place and functional before running the PreRoll-Er™.
2. Users verify that all tooling are properly held in positions and functional before starting any operation.
3. Users verify that the PreRoll-Er™ surrounding area has enough light for accurate operation visibility. Users also verifies that this area is dry and free of any obstructions.
4. Users must be given and understand instructions regarding safety listed in this manual. All PreRoll-Er™ maintenance and repair work should be performed by users familiar with this manual.
5. Users must NEVER adjust or service while the PreRoll-Er™ power is "ON" and controls are in "ON" position.
6. Users should turn OFF the PreRoll-Er™ after completing the production run.
7. Users must turn OFF main disconnect switch when changing tooling or performing maintenance work.
8. Use rag or gloves to handle sharp cutting blades in station 7
9. Cutting blades must be securely fastened in the machine spindle with the proper accessory. Never try to tighten cutting bits or tools by hand.

SAFETY EQUIPMENT

Risk of injury

Use safety equipment in the work area according to user's company regulations:

1. Safety glasses



2. Protection shoes



3. Protection gloves



4. Mask



5. First-aid kit



SAFETY DEVICES

Following safety devices should always be in position and in good working conditions before operating PreRoll-Er™

STATUS LED

Function: It has a steady lighting effect providing signaling solutions to improve safety and productivity of PreRoll-Er™.

ALARMS

The alarms are displayed by the led lights installed on the guard of the machine. They are three (3) types of alarms represented by three (3) colors:

GREEN LED (NORMAL OPERATING CONDITION)



Status: The PreRoll-Er™ is Ready to run, or is running

Required action: No action required

YELLOW LED (CHANGE OF NORMAL OPERATING CONDITION)



Status: Some values are approaching their limits. (Example: need cannabis loading)

Required action:

1. Operator alarm acknowledgement
2. Reset of fault value in HMI

RED LED (DANGEROUS OR HAZARDOUS CONDITION)

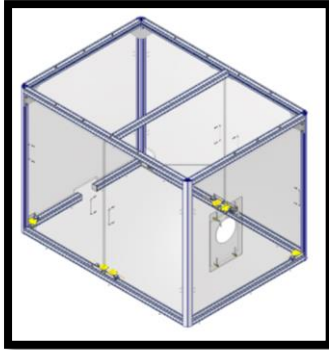


Status: A condition has stopped PreRoll-Er™. (Example: safety doors opened)

Required action:

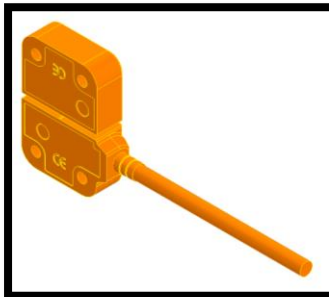
1. Operator alarm acknowledgement
2. Reset of fault value in HMI

SAFETY ENCLOSURE



Function: It provides protection against moving parts, flying debris caused by possible equipment failure, cannabis dust and noise. Door opening while PreRoll-Er™ is operating will shut off the power and flush residual compressed air from the machine.

SAFETY INTERLOCK SWITCHES



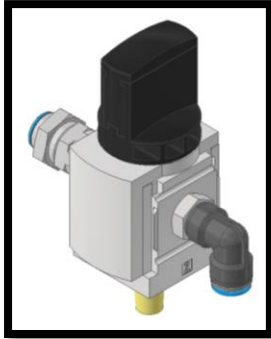
Function: They monitor the closed/opened positions of the safety enclosure doors.

ENCLOSED SWITCH DISCONNECTOR



Function: It is the main electrical switch to disconnect the PreRoll-Er™ power supply.

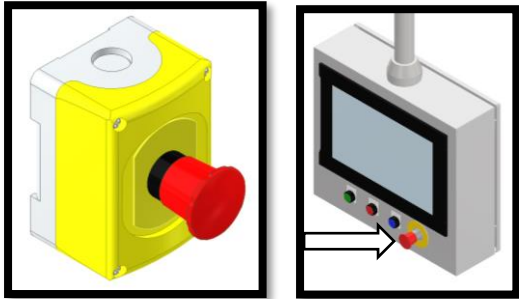
PNEUMATIC SOLENOID VALVE



Function: It allows the PLC controller to shut-off the compressed air inlet into the machine. If an E-Stop or a safety enclosure door is opened, the compressed air supply will be closed.

E-STOP

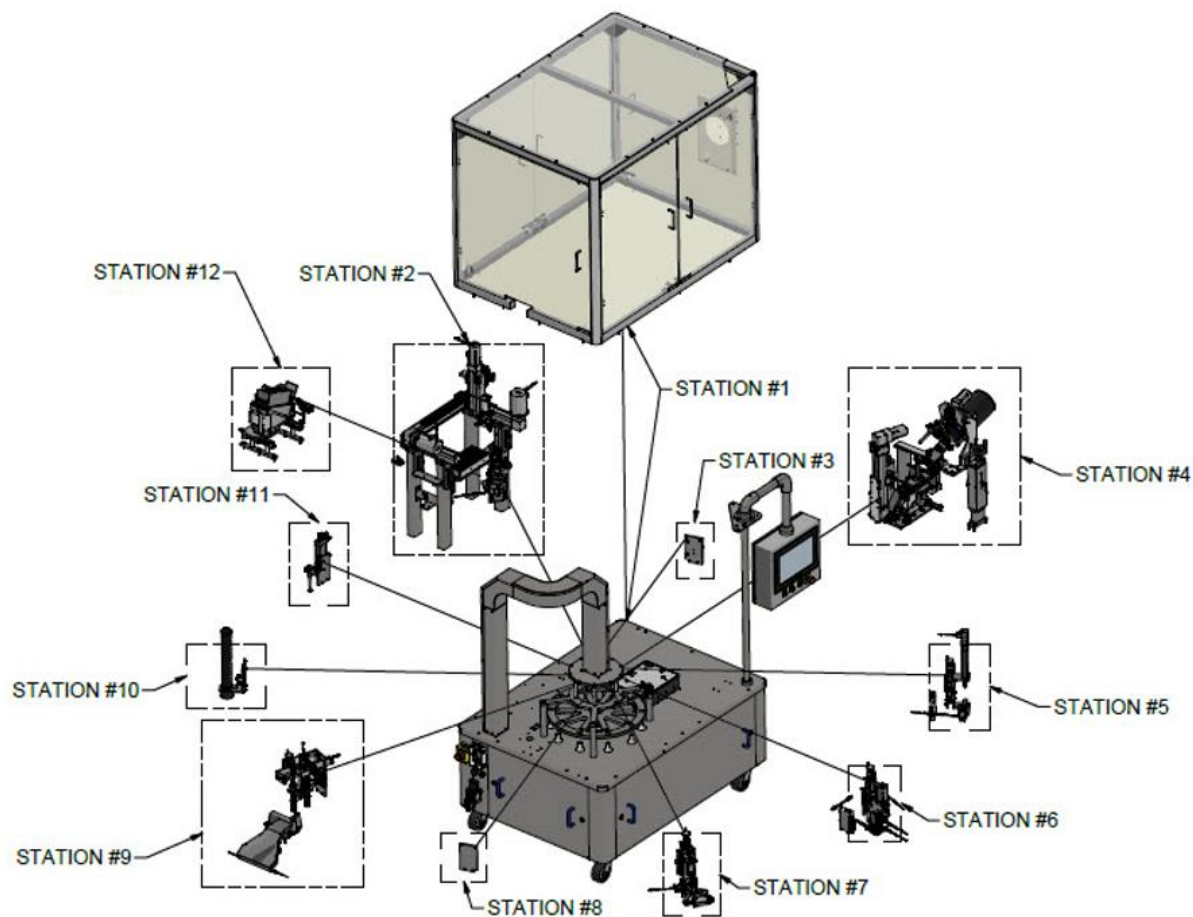
Function: It is used for emergency in situations where PreRoll-Er™ needs to be completely shut off.



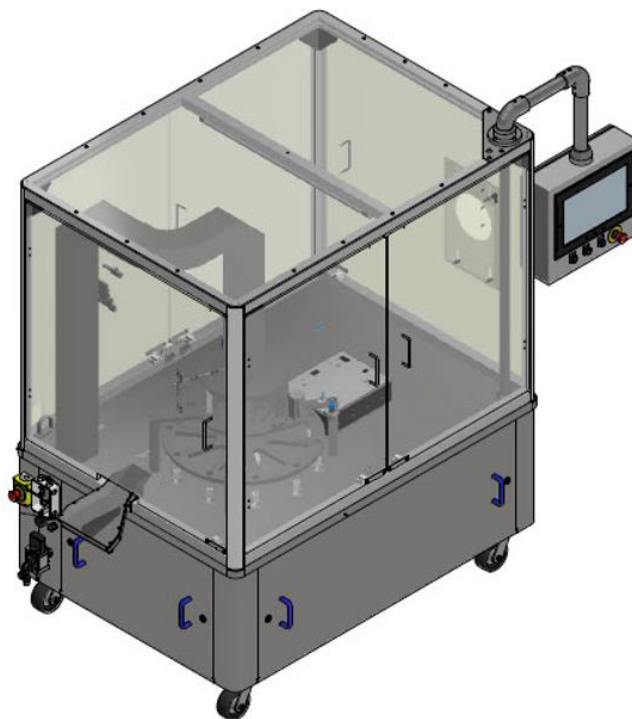
- A. Push to shut off
- B. Twist clockwise (right) to release

MACHINE DESCRIPTION

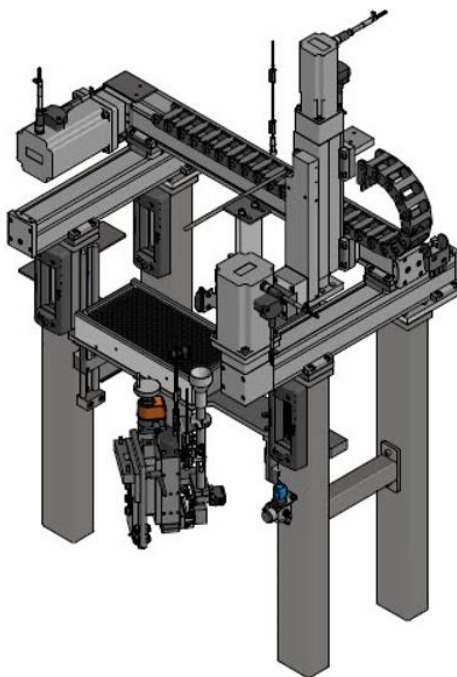
STATION OVERVIEW



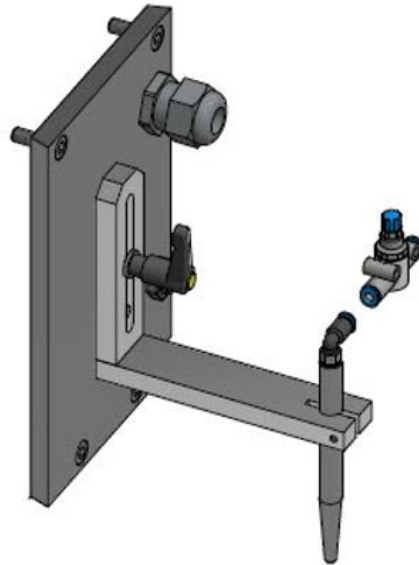
STATION 1



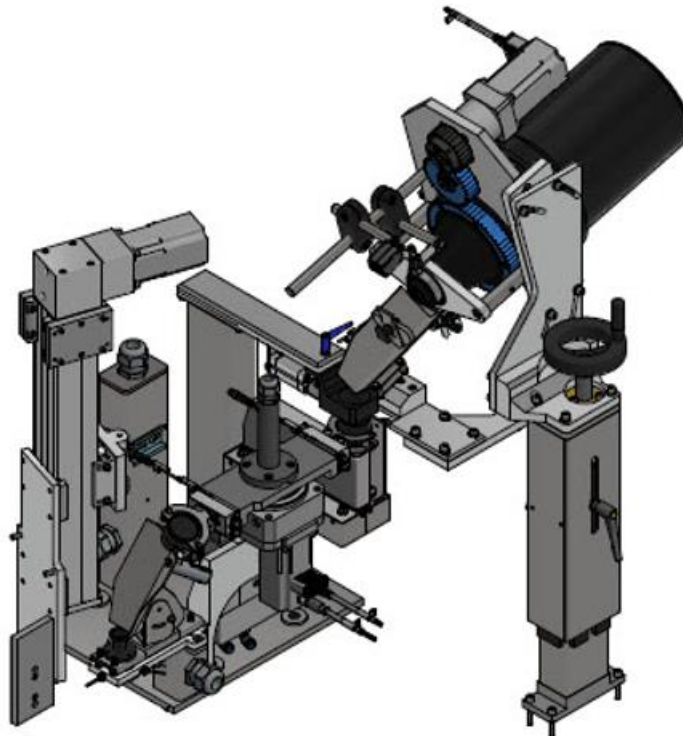
STATION 2



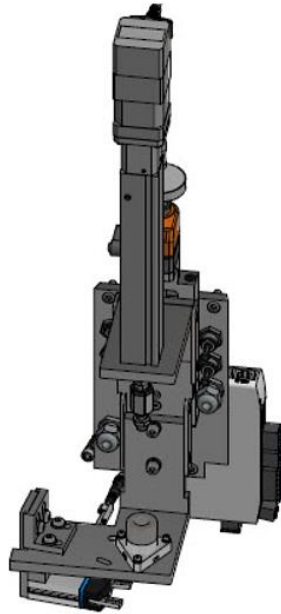
STATION 3



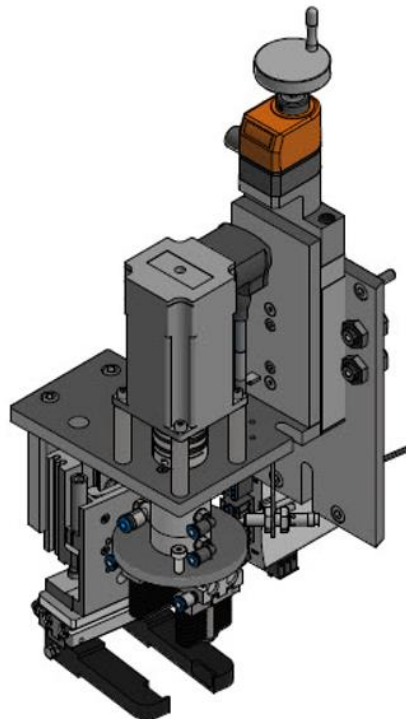
STATION 4



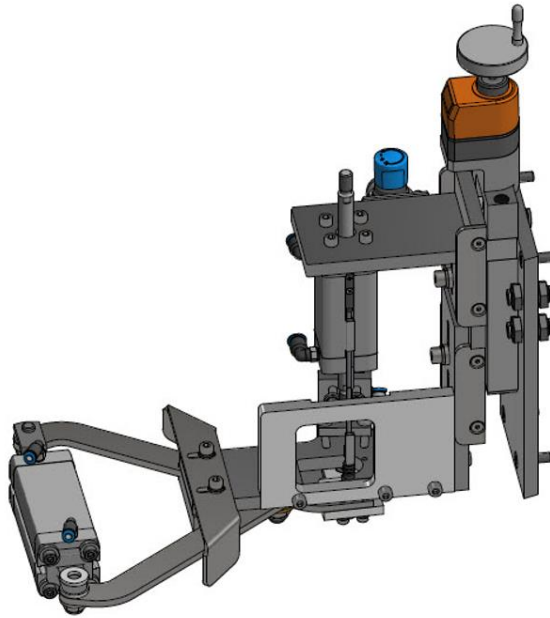
STATION 5



STATION 6



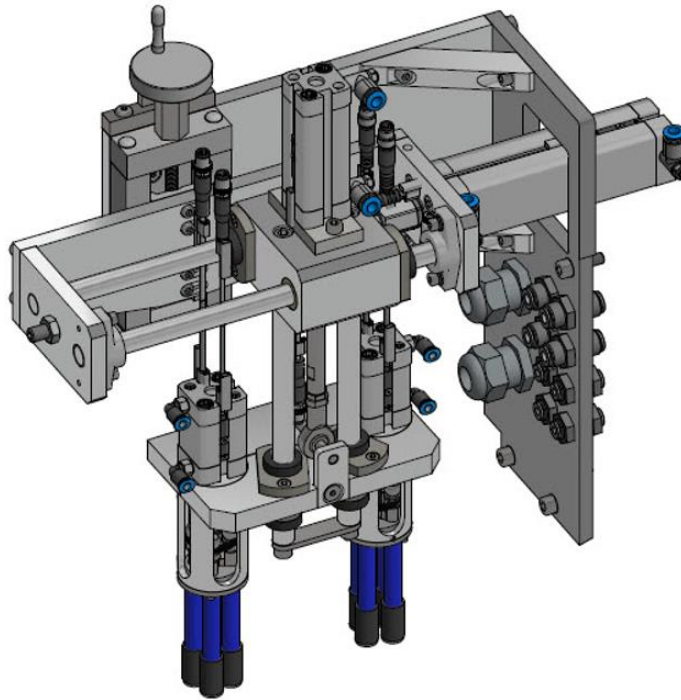
STATION 7



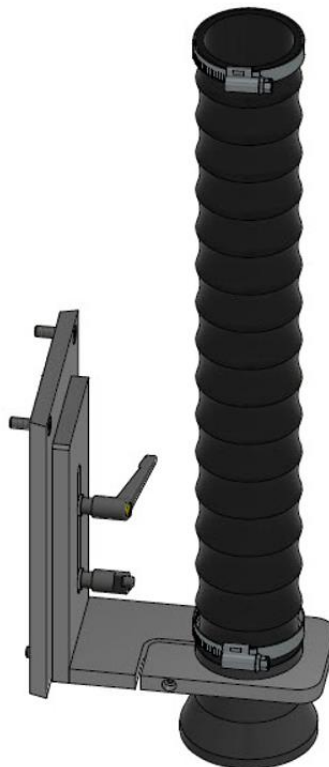
STATION 8

(Optional): Oil Injector

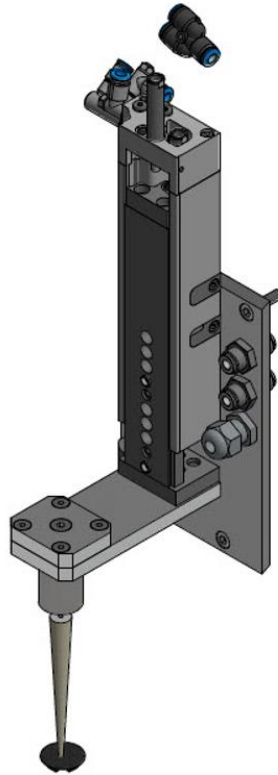
STATION 9



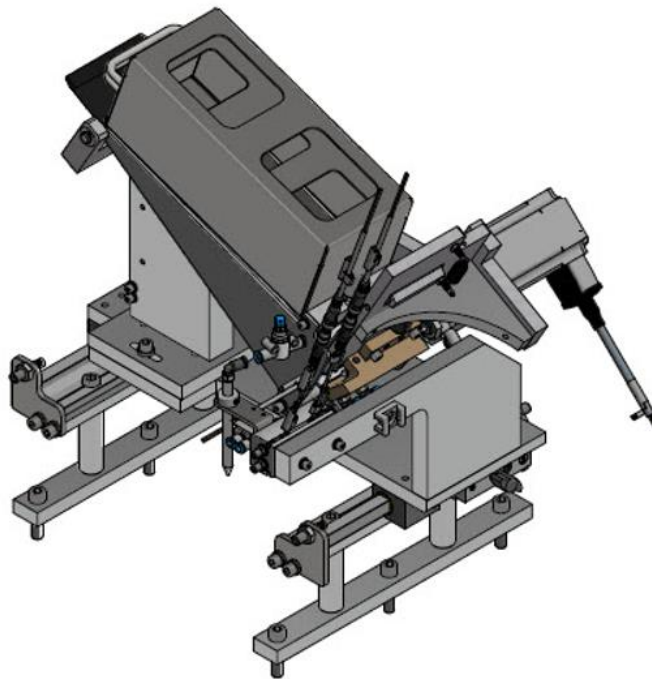
STATION 10



STATION 11



STATION 12



GENERAL FUNCTION

See mechanical drawings for better general machine function understanding.

HMI / PLC

HMI is used and controlled by the user for all the machine operations while in production or maintenance. PLC is the machine's computer that is programmed according to the Preroll and Cannabis product. HMI and PLC function together.

TOOLING

Function: Preroll-Er™ needs a set of tooling for each cone / straight tube format it is using. The tooling represents a group of components on the machine which are custom built according to the type of cone to be used. Even the same size of cones (ex: 98/26mm) from two different suppliers would need a separate set of tooling.

MANUAL POSITIONING

Function: Used for vertical positioning of assemblies at Stations 2,5,6 and 7.

STATION 1: BASE + GUARD

Function: The carousel turns in cycles to transport cones from station to station.

STATION 2: CONE DISTRIBUTION +ROBOT

Function: Grabs stacks of paper cones and dispenses them one by one through the feed tube and into the cone holders.

STATION 3: CONE OPENER

Function: Detects if there is a double picking paper and also pushes air with a nozzle to push the paper further down into the cone holder.

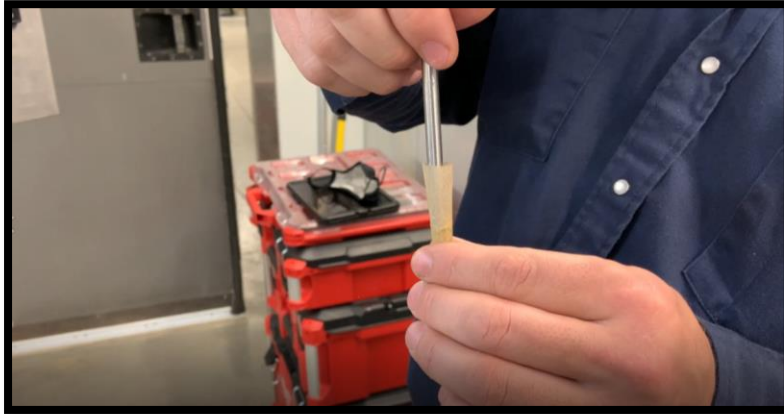
STATION 4: DOSING

Function: Distributes the proper weight (grams) of cannabis into the cone. The tumbler is filled with about a pound of cannabis. It rotates to feed cannabis into the funnel where it is detected by two lasers for high and low quantities. After, the adjustable gate is adjusted to give the desired cannabis flow. Cannabis goes through the gate and falls into the measuring cup. The measuring cup sits on the scale which is very precise. Once this is measured, the turret turns 180 degrees to go to the secondary funnel which will vibrate to bring cannabis into the cone. At this point the shaker would have lifted our cone into position. Once the cone is detected by the three fiber optic sensors as being a good cone, product will flow into the cone. The needle is used to do the bottom compaction of the cannabis preroll for about the first centimeter and a half (1.5cm). The tuning of the compaction is really controlled by the needle. Once this step is done the carousel will turn to station 5 which is top compaction of the cannabis preroll. (Station 4: bottom compaction/station five: top compaction).

STATION 5: COMPACTION

Function: It is used to compact the upper part of the cannabis preroll. The Inverted Funnel centers the cone under the Flower. When the flower is lowered, it opens to grip the paper. Then, the Station 5 Compaction Rod pushes the cannabis down in the cone for compaction.

The principle behind the compaction on station 5 could be explained as followed:
Imagine holding a cannabis preroll as shown:



The harder you hold the cannabis preroll, the harder it can slide through your fingers when you press the cannabis with the rod. This physical phenomenon is due to friction between your finger and the paper cone. The harder you press the cannabis preroll between your fingers, the more friction you get. This friction force is in reaction to compacting force of the rod. To make it easy to understand, the harder you hold the cannabis preroll, the more compaction force you will be able to apply on the cannabis with the station 5 compaction rod.

STATION 6: TWIST

Function: Twist the tip of the cannabis preroll. The gripper grabs the cannabis preroll and lift it a little bit while the twisting gripper twists the paper. The lift is to avoid paper tearing when twisting.

STATION 7: CUTTING AND FLATTENING

Function: While the gripper holds the cannabis preroll, the blade cuts the excess amount of twisted paper. Then, the flattening rod flattens the twisted tip of the cannabis preroll.

STATION 8 (OPTIONAL): OIL INJECTOR

Function: A cannabis oil dispensing system can be installed on station 8. The dispenser uses a syringe to inject a precise oil volume into the cannabis preroll.

STATION 9: PRODUCT VALIDATION

Function: Used to grab the cannabis preroll and place it on a second scale to verify if it is weighting the proper value (grams). If the cannabis preroll is good, it falls through the chute in the good product bin. If the cannabis preroll is not good, it falls through the chute in the reject bin.

STATION 10: CLEAN TIP AND CONE

Function: If an empty or damaged cone is detected at Station 4, it will not be cycled through all the other stations and will go directly to Station 10 to be rejected. The Cone Pusher Cylinder will eject the cone and a vacuum will remove it from the Cone Holder and send it to the reject bin.

STATION 11: CLEANING BRUSH

Function: Brush moves up and down to clean the Cone Holder.

STATION 12: STRAIGHT TUBE FEEDER (OPTIONAL)

Function: Straight Tubes are placed into the Cassette and are distributed into the Tube Holders be cycle through the PreRoll-Er™ for cannabis filling operations. Cassette Opening Assembly

COMMISSIONING

INITIAL VERIFICATION

Follow these precautions before starting the PreRoll-Er™.

1. Make sure that the unit is powered off.
2. Wipe and cleaned all the machine
3. Inspect the machine to spot any anomalies or components not properly installed / secured.
4. Remove all objects on the PreRoll-Er™

STANDARD OPERATING PROCEDURES (SOP)

SETTING THE FLOW CONTROLS

1. Identify the flow control on every cylinder
2. Set slower
3. Set faster

TOOLING VERIFICATION

Make sure that the proper Tooling Kit is installed on the machine according to the cannabis product.

ENERGY SOURCES ACTIVATION (AIR/ELECTRICITY)

See pages 13-14

1. Turn enclosed switch disconnecter ON.
2. Turn pneumatic solenoid valve ON.

TOOLING CHANGE

TOOLING DESCRIPTION

Tolling images in this section are for reference only.

Have the following in hand before proceeding with the tooling change.

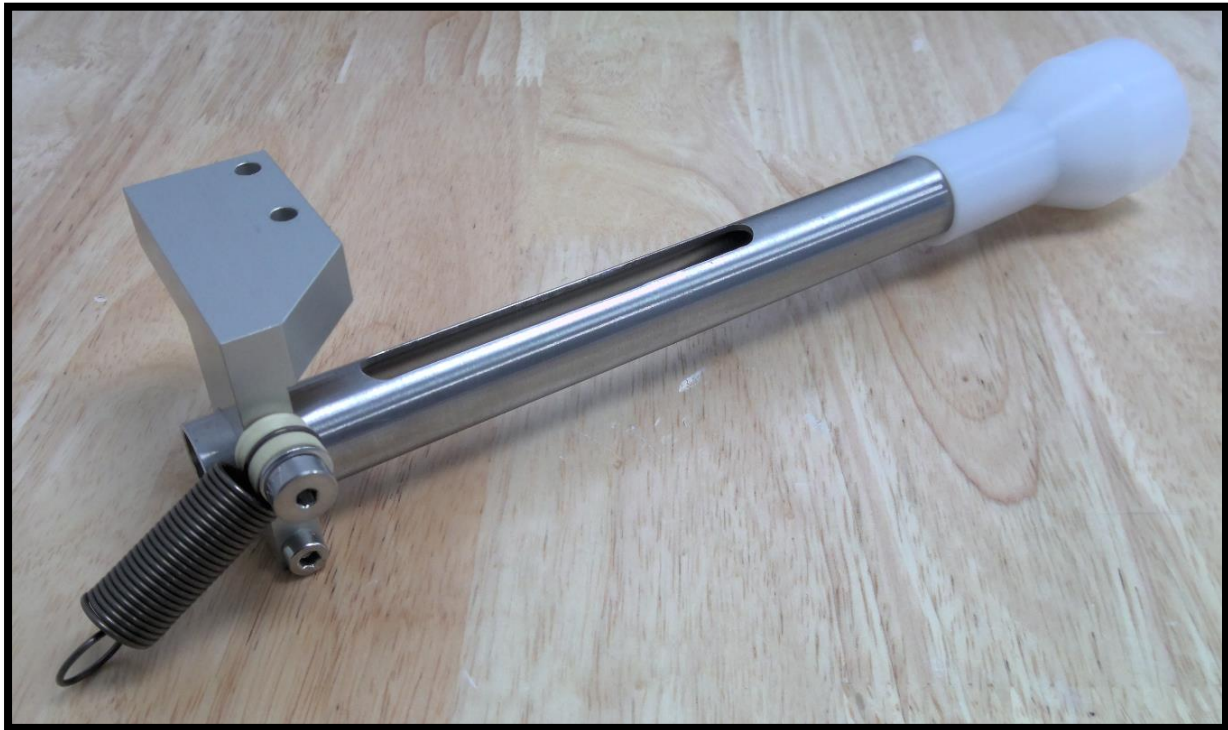
Tooling Kit



Cone Holder (10x) (Station 1)



Cone Distribution tube (Station 2)



Needle (Station 4)



Funnel Base Blank (Station 4)



Cone Former Blank (Station 4)



Angle Funnel Star (Station 5)



Compacting Pin (Station 5)



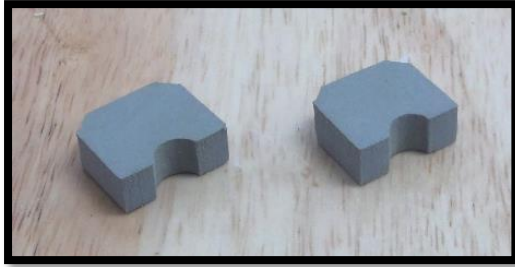
Sleeve Compacting Pin (Station 5)



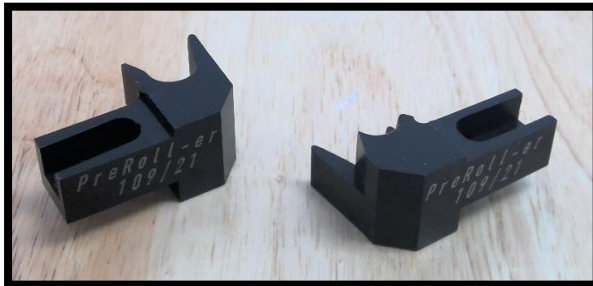
Gripper Blank (Station 5)



Rubber Gripper Twist (Station 6)



Gripper Auto-Centering Blank (Station 7)



Push Pin (Station 7)



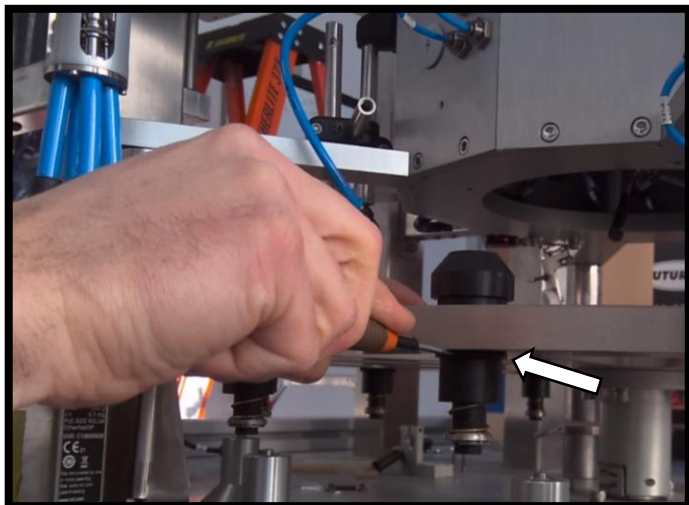
Scale Funnel (Station 9)



TOOLING DISASSEMBLING AND ASSEMBLING

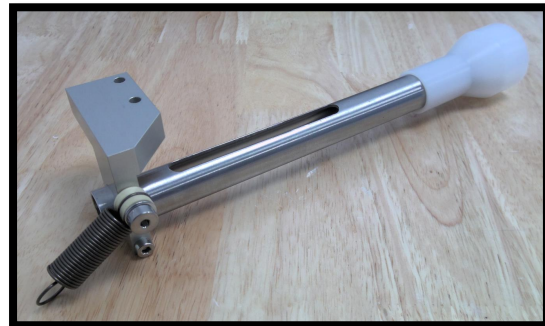
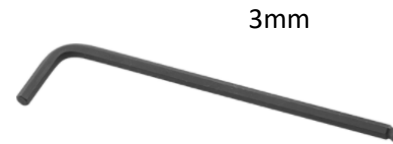
STATION 1

Disassemble/assemble Cone Holder by removing O-ring (use screwdriver) (10x).



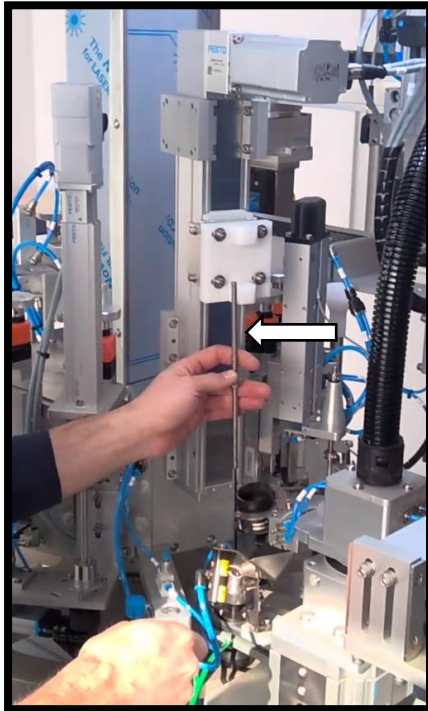
STATION 2

Disassemble/assemble Cone Distribution Tube (use metric hexagonal key).



STATION 4

Disassemble/assemble Needle (by hand).



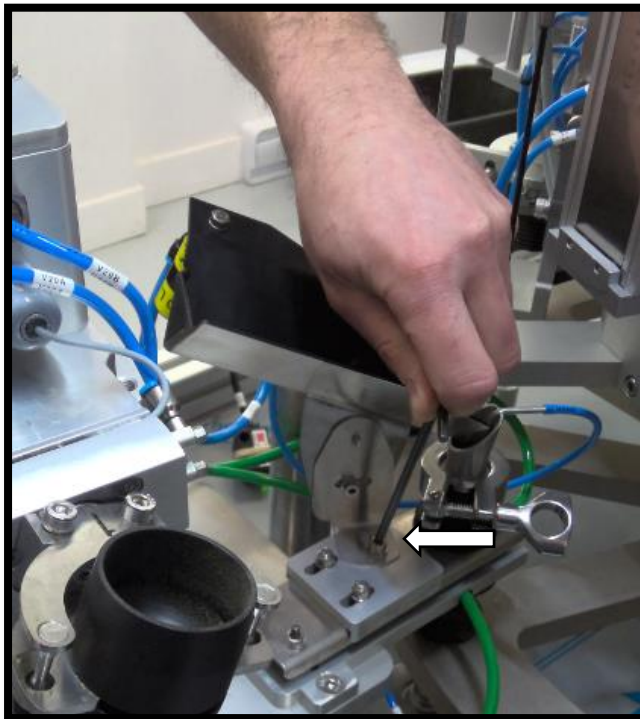
Disconnect/connect pneumatic tube (by hand).



Disconnect/connect pneumatic tube (by hand).



Disassemble/assemble Slide Mounting Bracket (use metric hexagonal key).



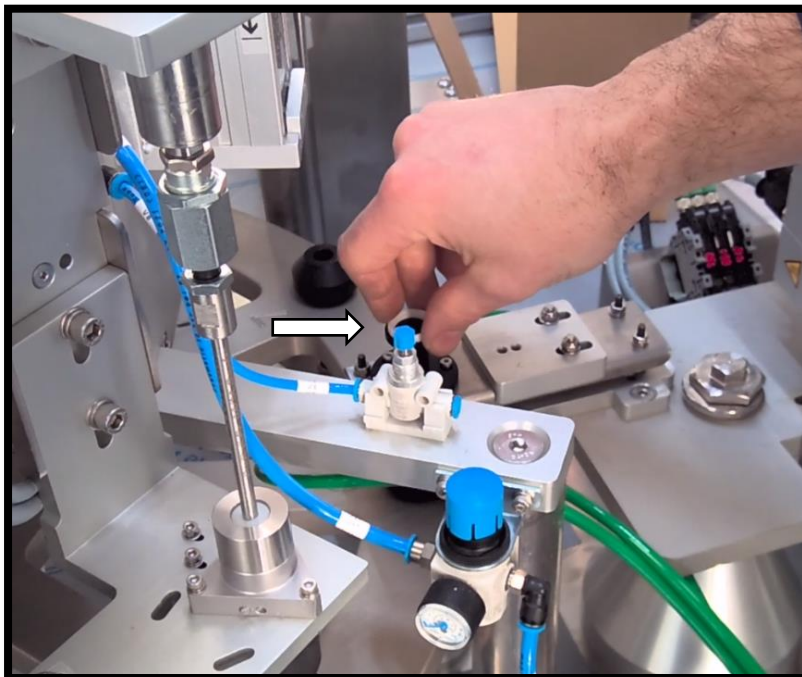
4mm



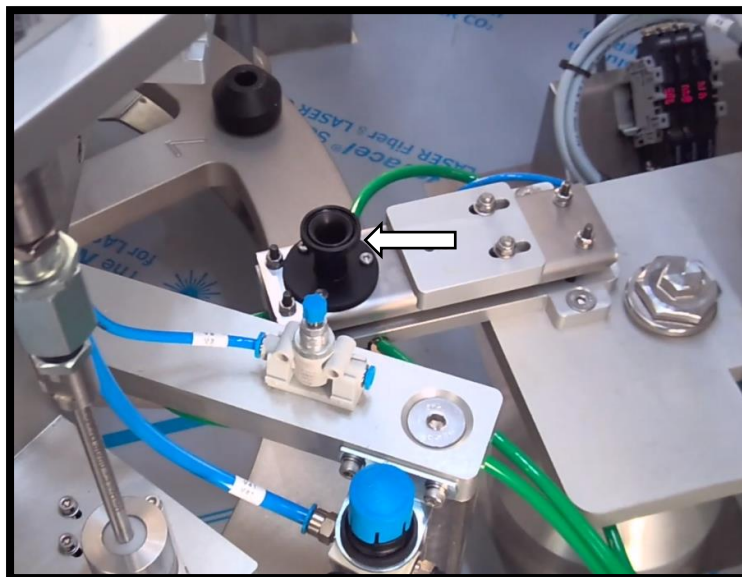
Disassemble/assemble Sanitary Clamp (by hand).



Disassemble/assemble Ring (by hand).



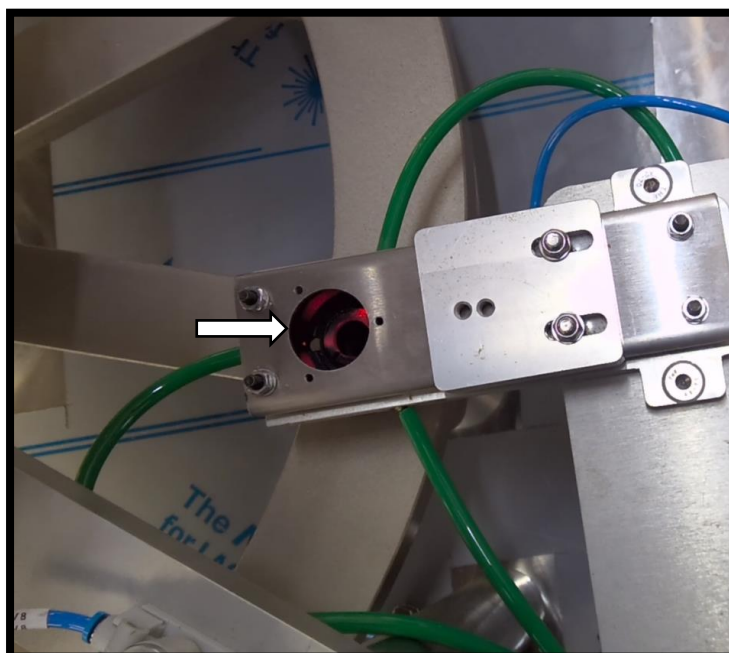
Disassemble/assemble Funnel Base Blank (use metric hexagonal key).



2.5mm

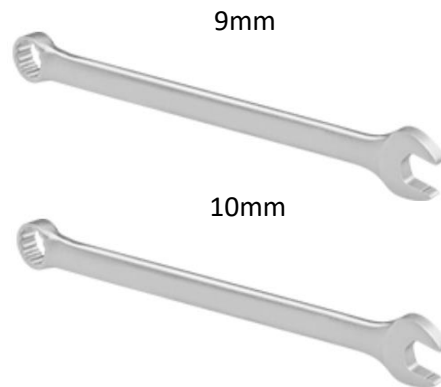
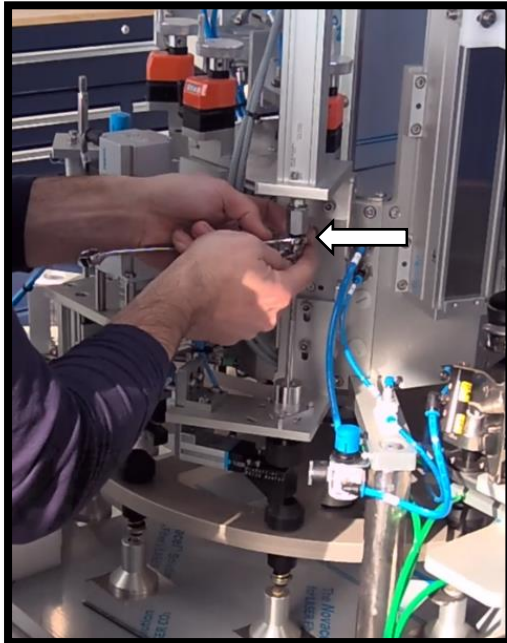


Disassemble/assemble Cone Former Blank by removing O-ring (use screwdriver).

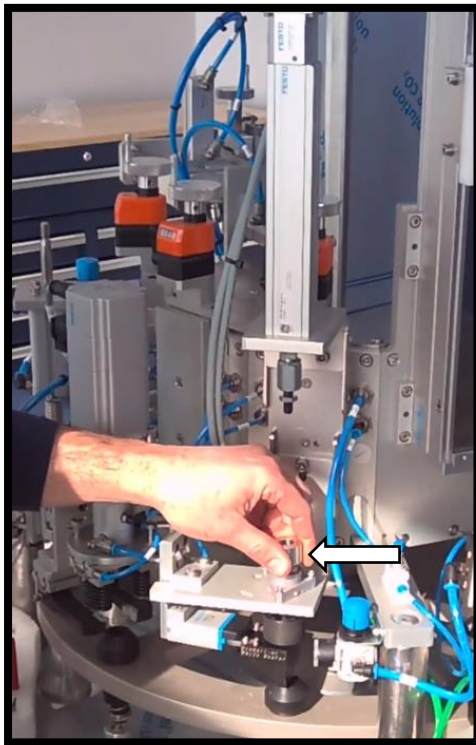


STATION 5

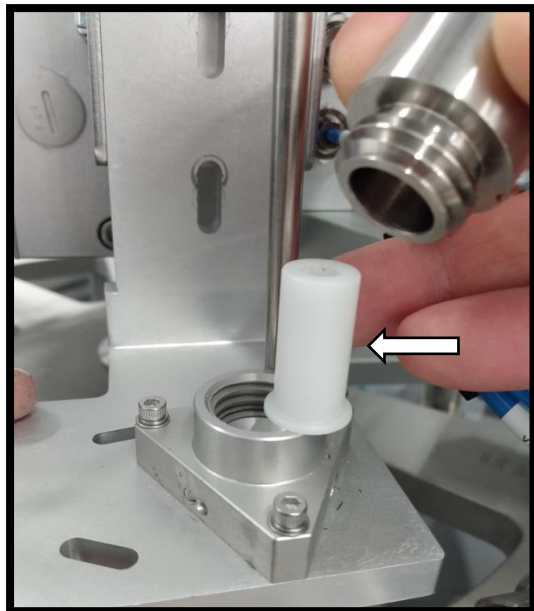
Disassemble/assemble Compacting Pin (use metric wrench).



Disassemble/assemble Holder Sleeve (by hand).



Disassemble/assemble Sleeve Compacting Pin (by hand).



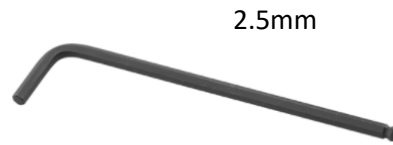
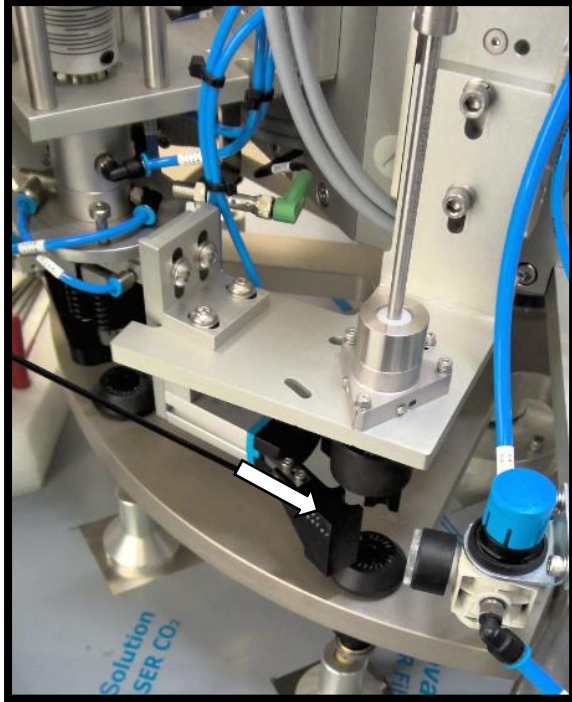
Disassemble/assemble Funnel Star (use metric hexagonal key).



2.5mm

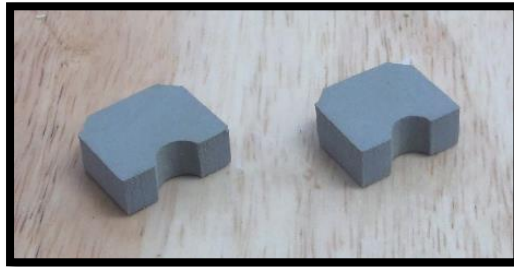
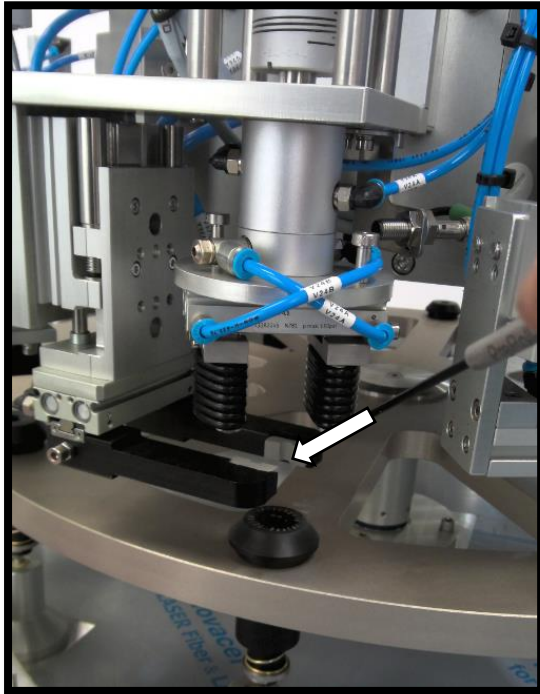


Disassemble/assemble Gripper Blank (use metric hexagonal key).



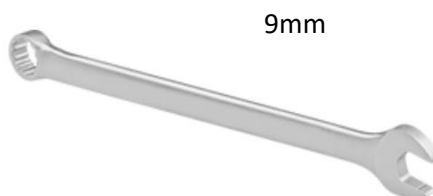
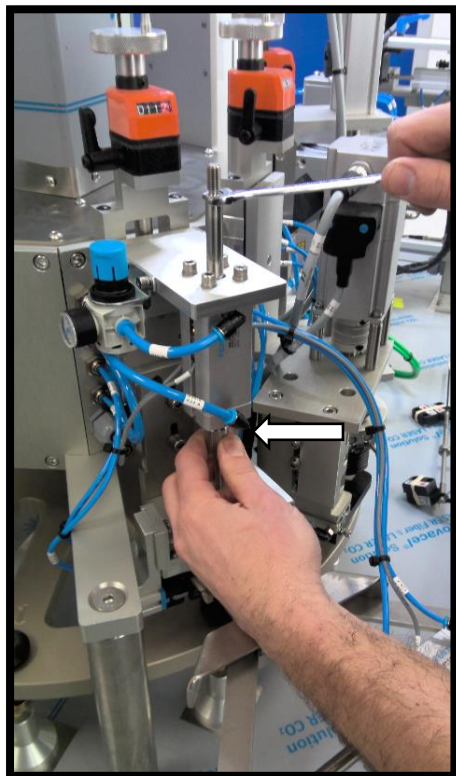
STATION 6

Disassemble/assemble Rubber Gripper Twist (by hand).

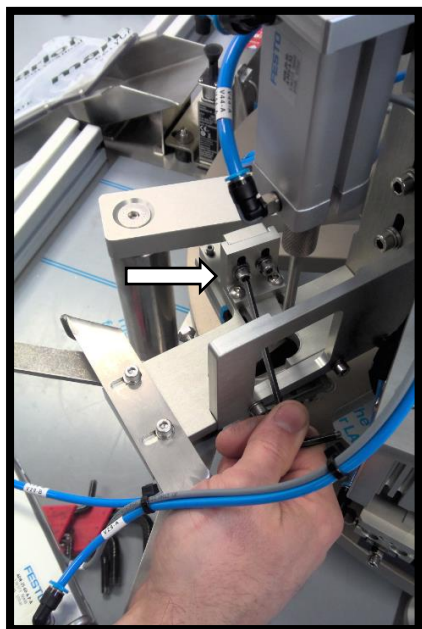


STATION 7

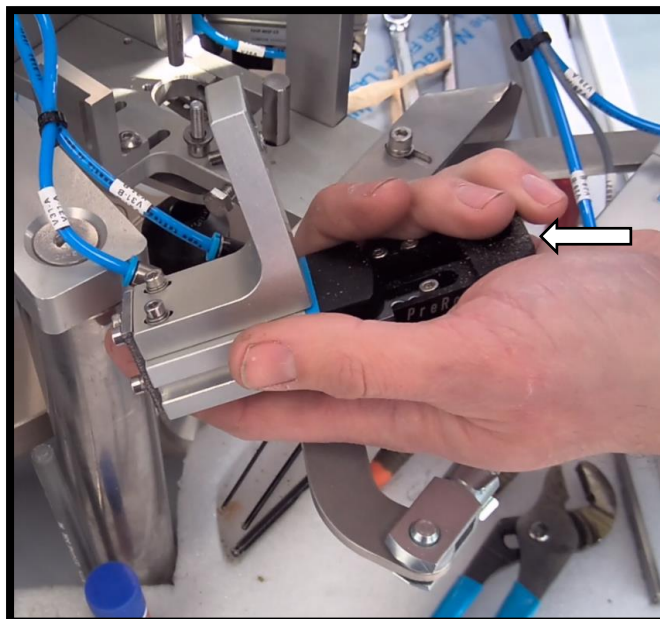
Disassemble/assemble Push Pin (use metric wrench).



Disassemble/assemble screws to access the gripper (use metric hexagonal key).



Disassemble/assemble Gripper Auto-Centering Blank (use metric hexagonal key).



2.5mm

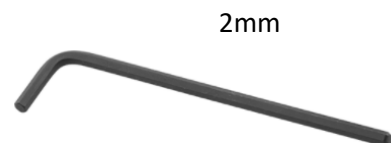


STATION 9

Disassemble/assemble Scale Funnel with scale base (by hand).



Disassemble/assemble Scale Base from Scale Funnel (use metric hexagonal key)



PREVENTIVE MAINTNANCE

Note: Contact Solid Packaging Robotik inc for more information on preventive maintenance.

PREVENTIVE MAINTENANCE AT 500000 PRODUCED UNIT

1. Inspection of usage/wear of all components
2. Replacement of rubber seals on pushrod podiums
3. Replacement of the needle spring
4. Replacement of Station 9 Orings for springs and delrin plunger pins
5. Replacement of Station 5-star Oring
6. Replacement of Station 9 foam grippers
7. Replacement of Station 2 index Orings
8. Replacement of twist Orings
9. Replacement of Station 7 cutting blade
10. Inspection of all air fittings and connections to ensure the absence of air leaks
11. Recentering and alignment of stations
12. Inspection of fiber optic cables
13. Inspection of the electrical system and retightening of terminals
14. Inspection of the dosing system, gate, and suspension.
15. Inspection of air filters
16. Inspection of the tumbler bearing
17. Full diagnostic and written report to the client listing all potential problems
18. Dismantle cleaning of pushrods, cone holders, shaker rod, and all other components difficult of access

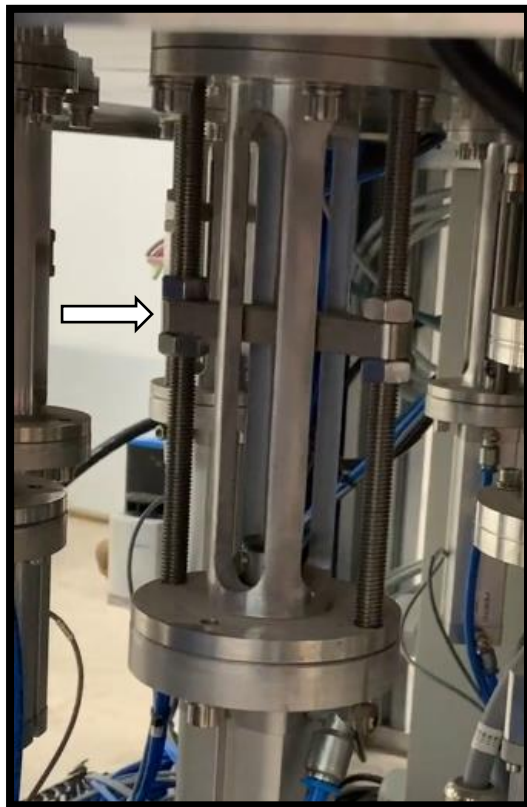
PREVENTIVE MAINTENANCE AT 1000 000 PRODUCED UNIT

1. Inspection of usage/wear of all components
2. Replacement of rubber seals on pushrod podiums
3. Replacement of the needle spring
4. Replacement of Station.9 Orings for springs and Delrin plunger pins
5. Replacement of the Station.5-star and Oring
6. Replacement of Station.9 foam grippers
7. Replacement of Station.2 index Orings
8. Replacement of twist Orings
9. Replacement of Anvil on station 7
10. Replacement of Station 7 cutting blade
11. Inspect and/or replace gaskets on all cylinders.
12. Inspection of all air fittings and connections to ensure the absence of air leaks
13. Recentering and alignment of stations
14. Inspection of fiber optic cables
15. Inspection of the electrical system and retightening of terminals
16. Inspection of the dosing system, gate, and suspension.
17. Inspection of air filters
18. Inspection of the tumbler bearing
19. Full diagnostic and written report to the client listing all potential problems
20. Dismantle cleaning of pushrods, cone holders, shaker rod, and all other components difficult of access

STATION ADJUSTMENTS

STATION 1

Adjust the Cone lifters nuts to the desired paper cone height for all stations (use metric wrenches (2))

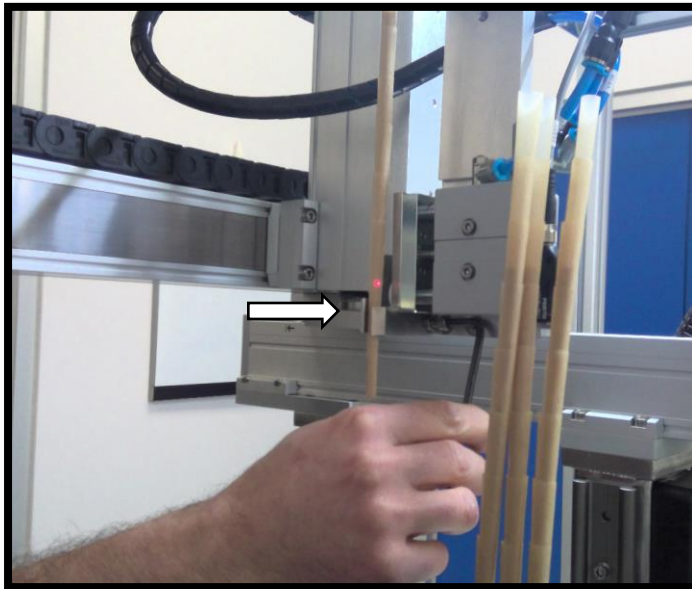
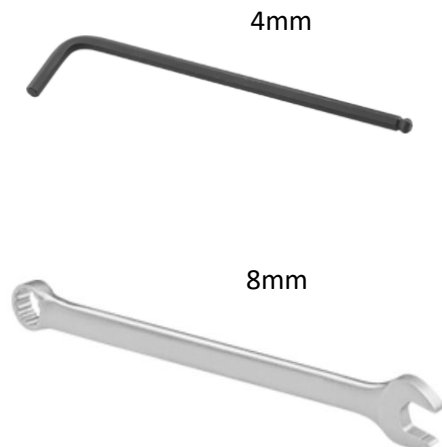
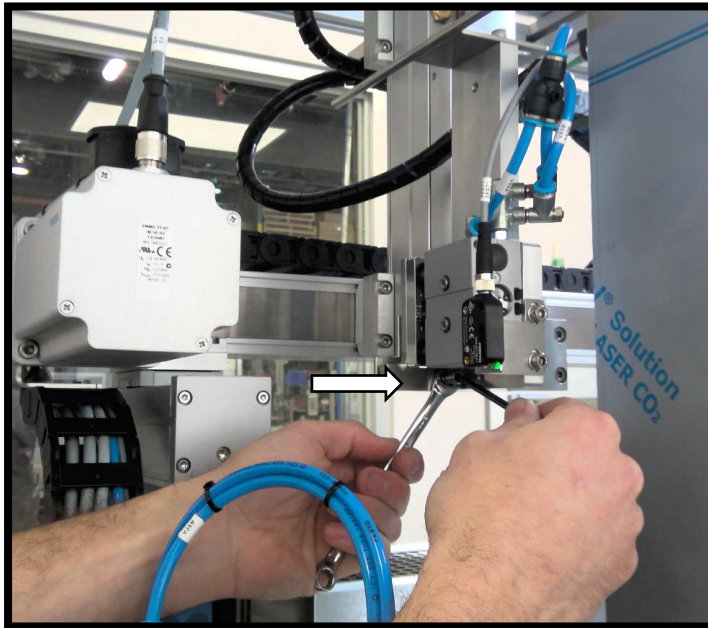


13mm

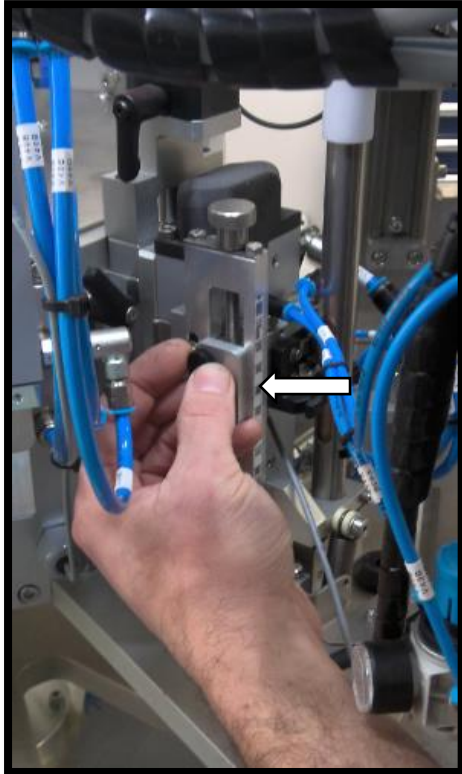


STATION 2

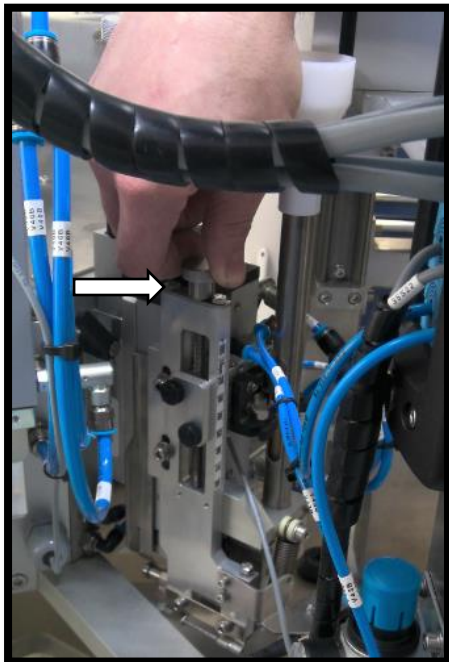
Adjust cone stack gripper width. The cone stack must stay in the closed gripper. Make sure not to flatten paper cone with the gripper. (Use metric hexagonal key and metric wrench)



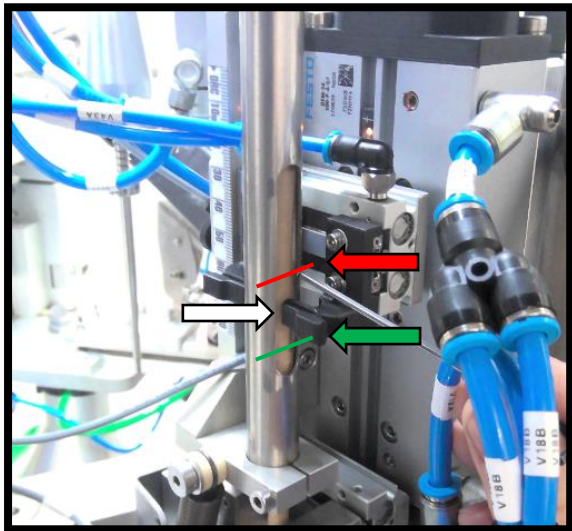
Loosen both knobs (by hand).



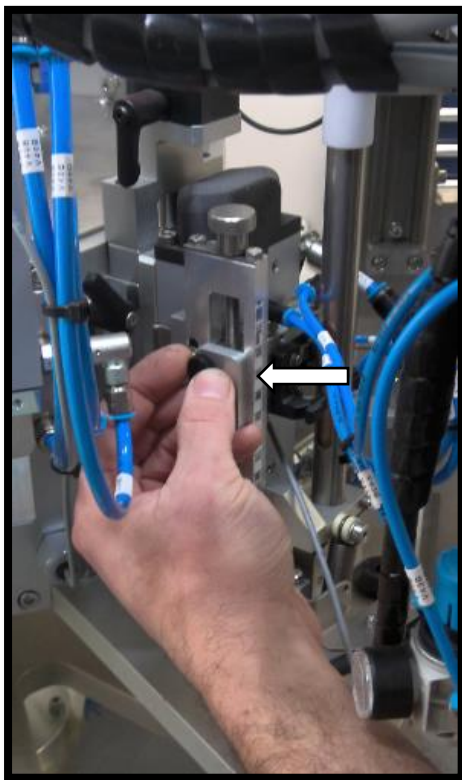
Turn knob to adjust height of paper holder gripper (by hand).



Position the paper holder gripper between first cone stack paper edge (green arrow) and second cone stack paper edge (red arrow).



Tighten both knobs (by hand).



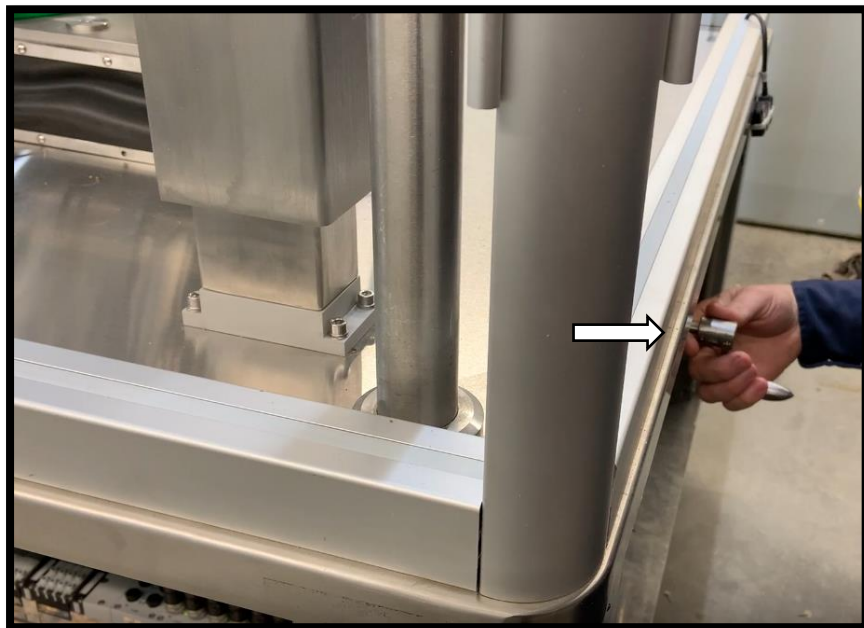
STATION 3

Adjust height of air nozzle (by hand). Adjust flow control (by hand).

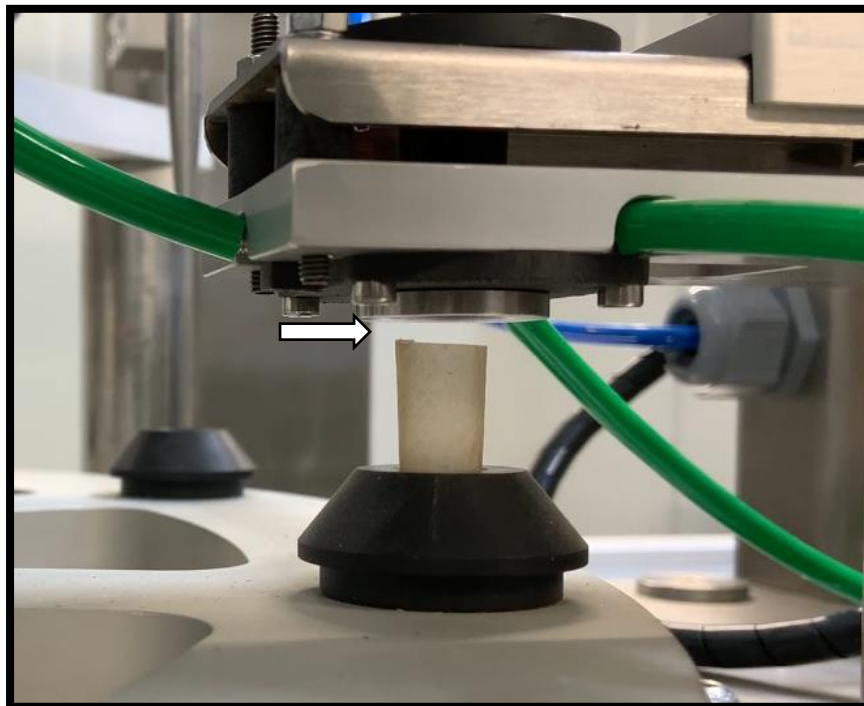


STATION 4

Adjust height of Station 4 with handle (by hand)

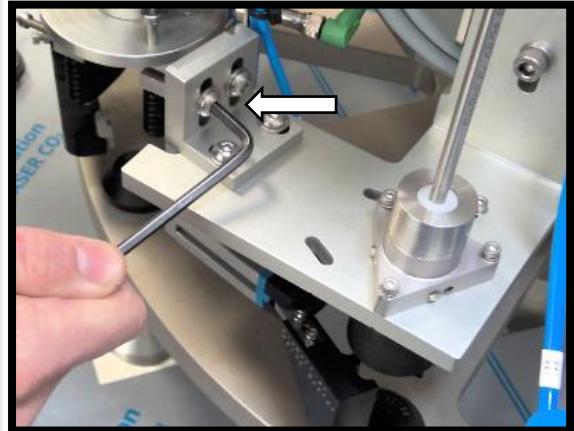
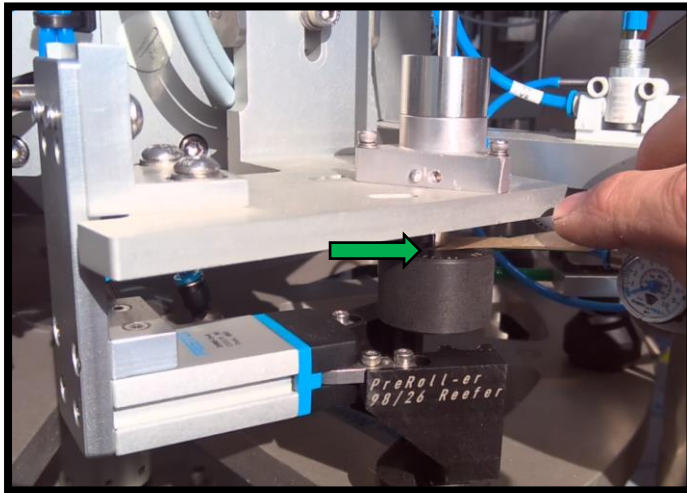


Leave 7mm clearance between the paper cone and the Cone Former Blank.

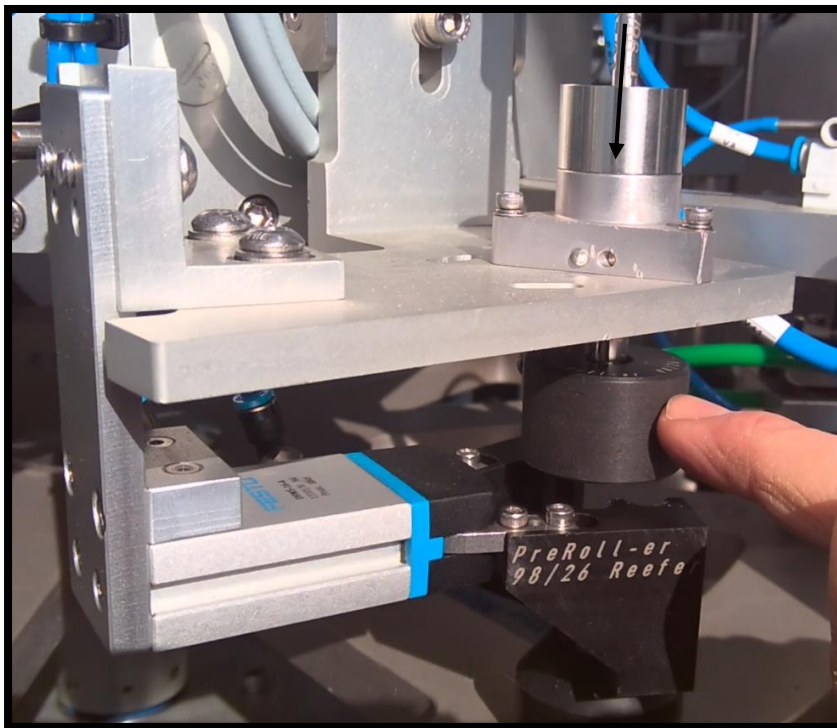


STATION 5

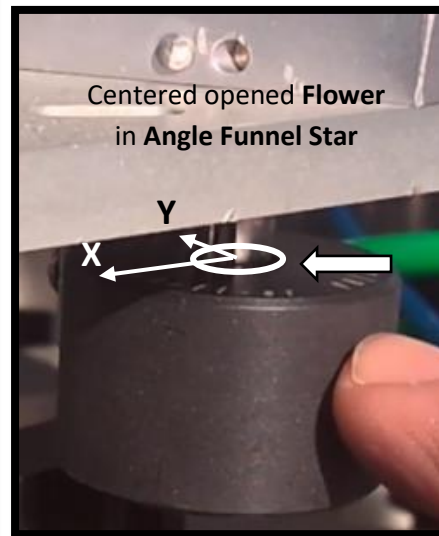
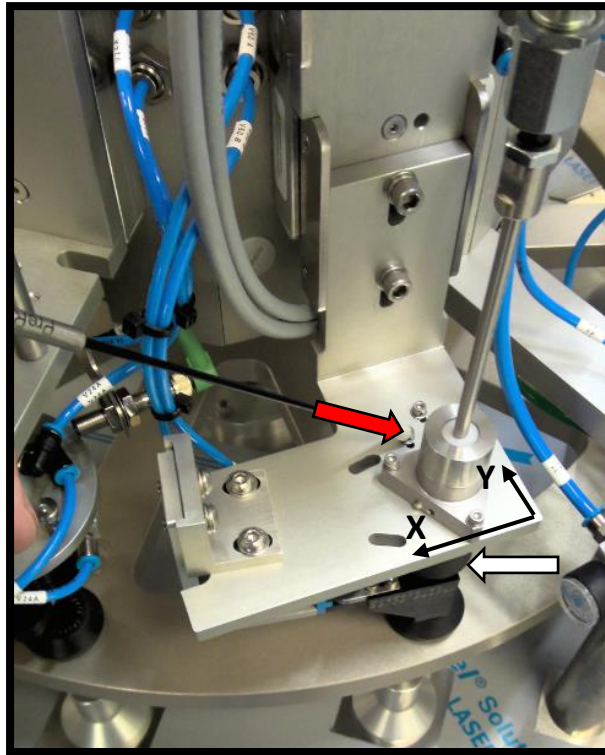
Adjust gripper height using screws (2) to have the thickness of a paper (green arrow) between the Angle Funnel Star and the Flower. (use metric hexagonal key).



Lower the Compacting Pin to open the Flower (by hand).



Center the Angle Funnel Star in both X and Y axes using screws (2) (red arrow). (use metric hexagonal key).

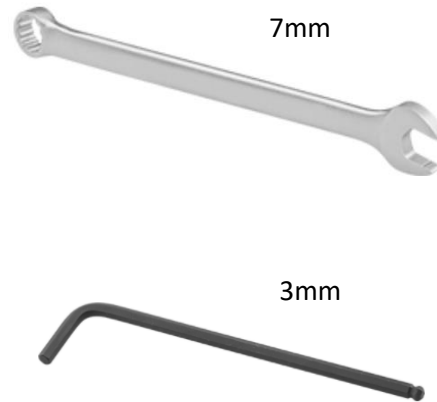
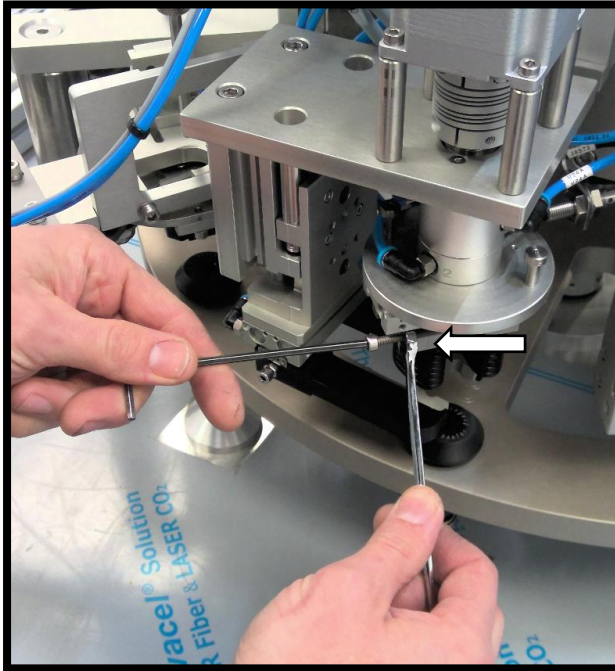


2.5mm

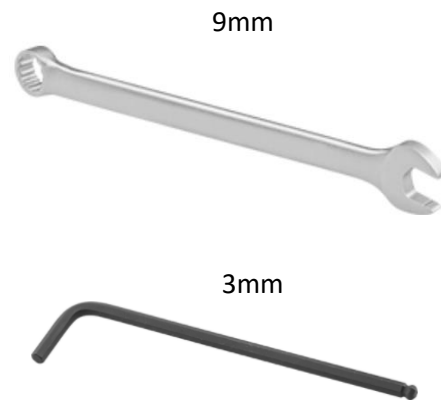
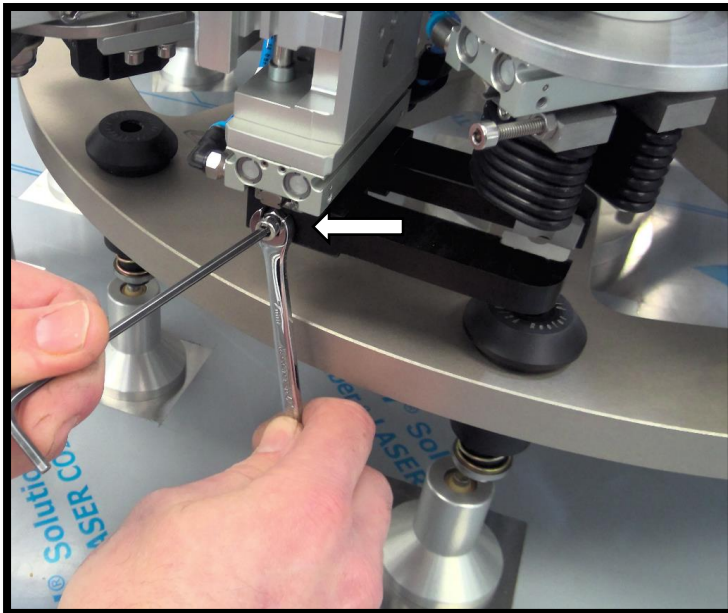


STATION 6

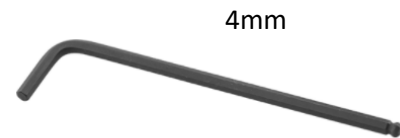
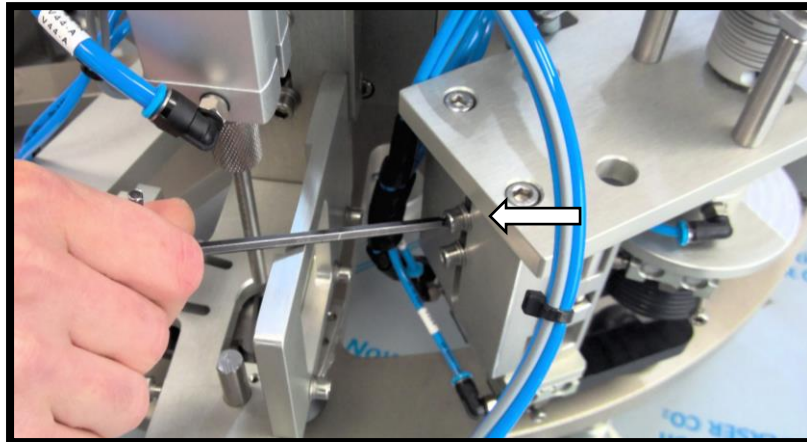
Adjust gripper width depending on type of paper cone angle and cannabis dosing (use metric hexagonal key and metric wrench).



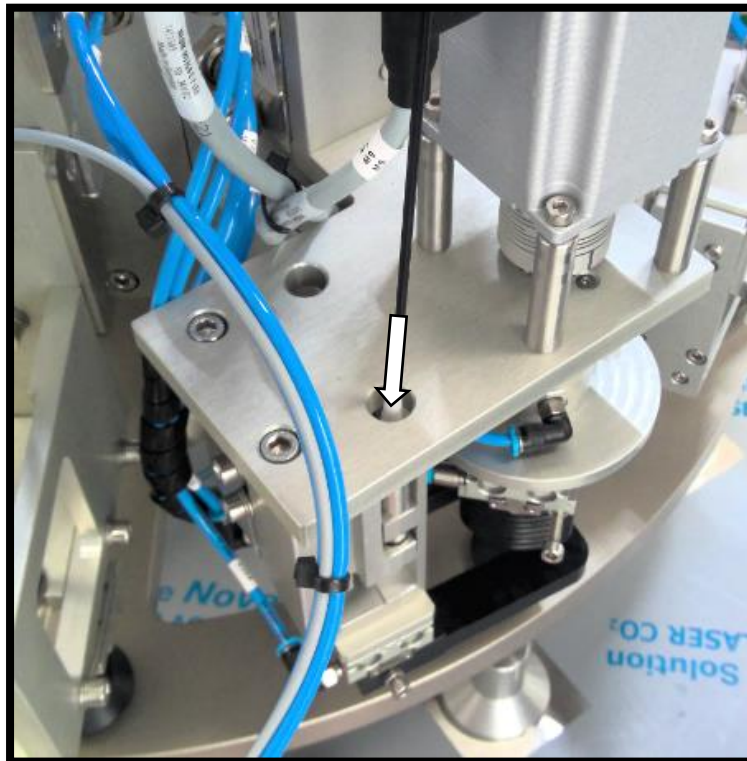
Adjust gripper width (use metric hexagonal key and metric wrench).



Adjust gripper high (use metric hexagonal key).

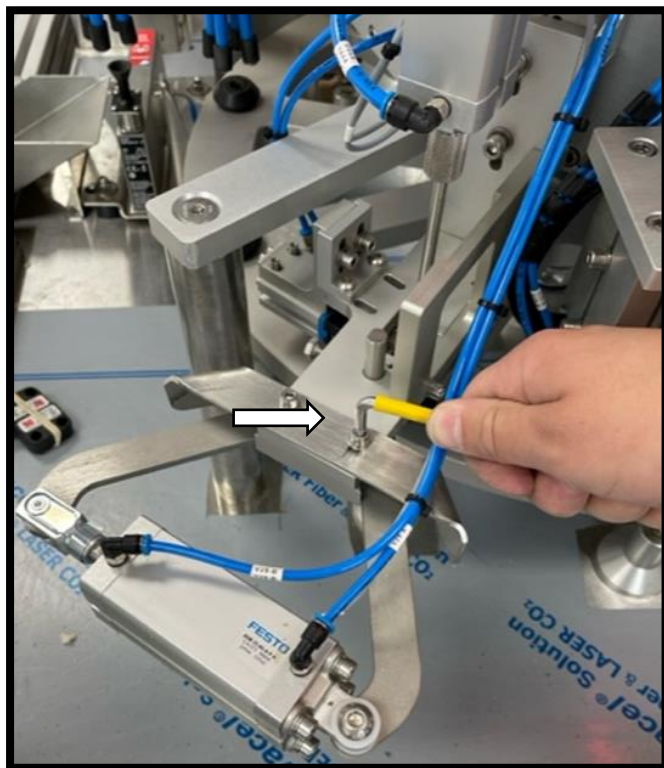


Adjust gripper up and down stroke (use metric hexagonal key).



STATION 7

Adjust blade opening stroke (use metric hexagonal key).



4mm



Adjust blade closing stroke (use metric hexagonal key).



4mm



STATION 9

Adjust pick & place grippers centered on scale funnel (use metric hexagonal key).



4mm



Adjust pick & place height (use metric hexagonal key).



4mm



STATION 11

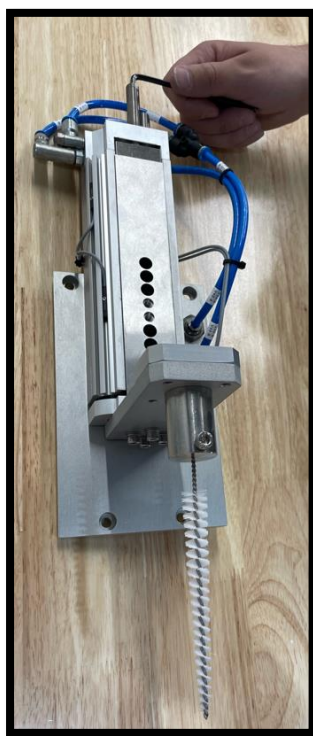
Adjust lower brush stroke limit (use metric hexagonal key).



4mm



Ad Adjust lower brush stroke limit (use metric hexagonal key).



4mm



PREROLL PAPER LOADING

IMPORTANT: Select cones model that matches the tooling installed on the machine.

Four boxes of cones should be available in order to make sure machine operation is not interrupted due to missing of cones. Follow steps as shown below (procedure can vary depending on the cone manufacturer).

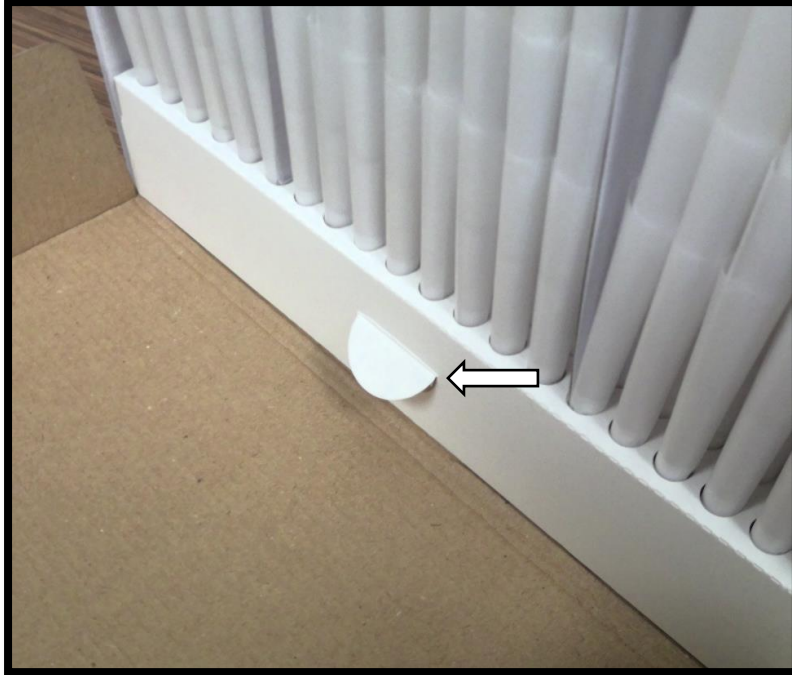
Place box opening side up



Open box



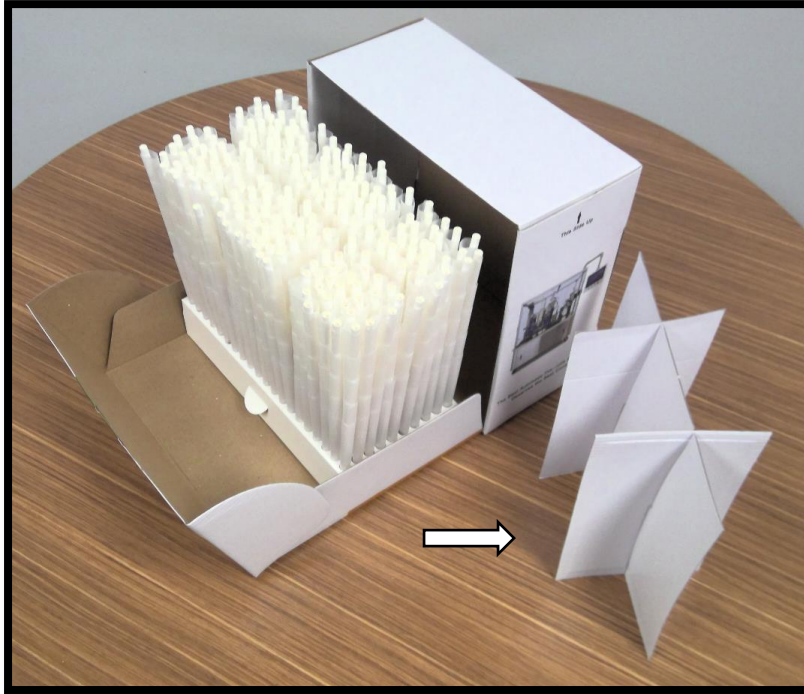
Open tap



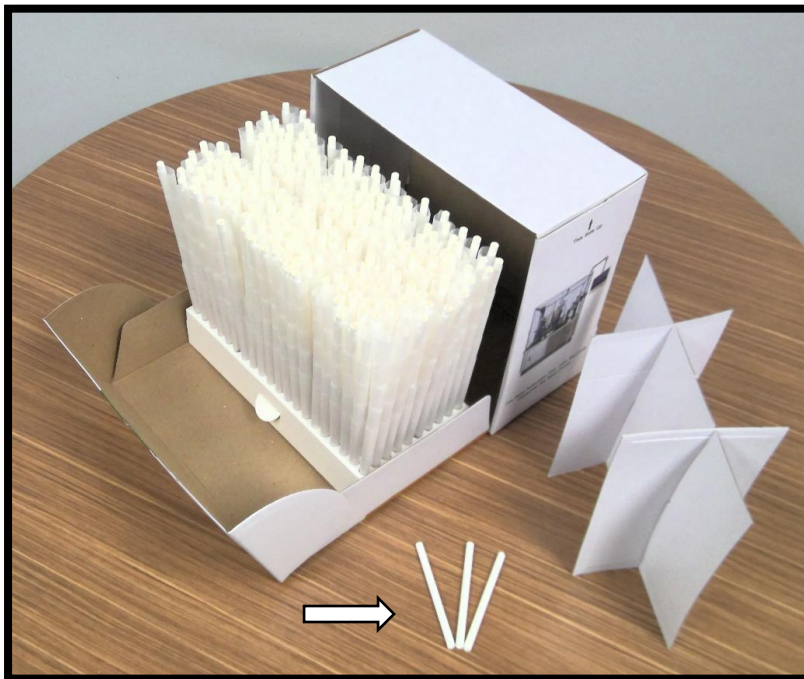
Pull cone tray out of the box



Pull up the separators to remove them

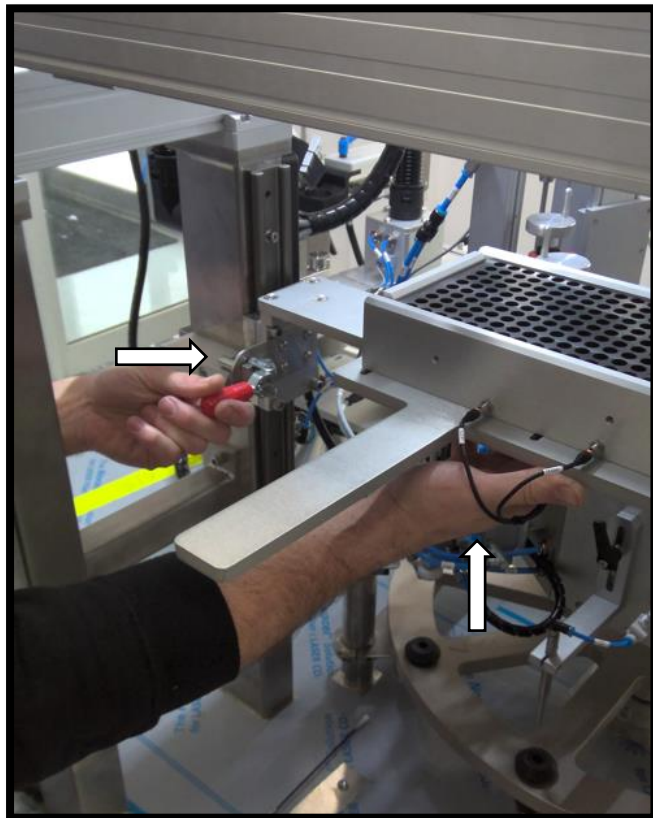


Removes all cardboard tubes from paper cones



CONE TRAY OPTIONREMOVING CONE TRAY FROM MACHINE

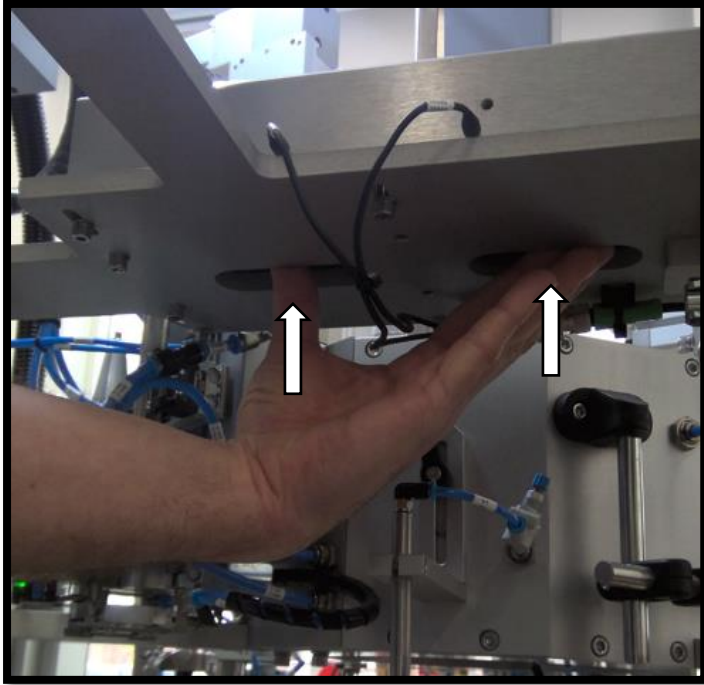
Release handle while supporting the tray holder by hand.



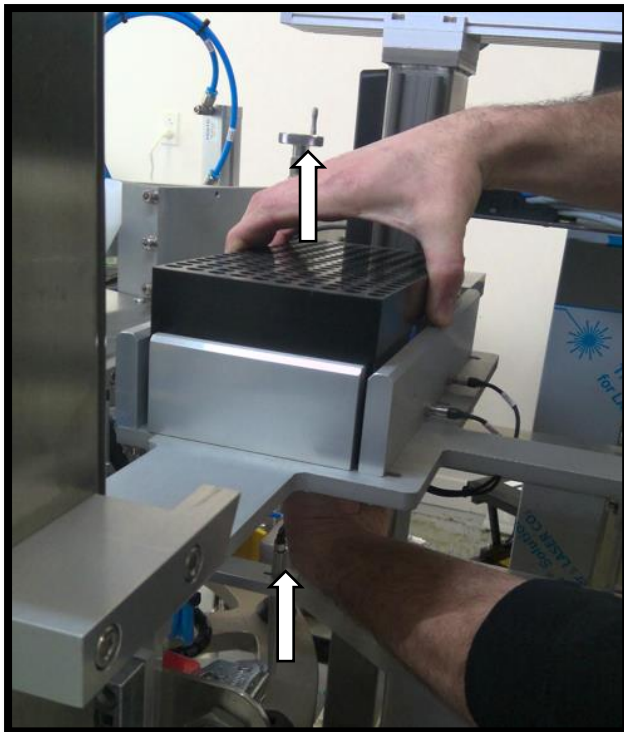
Lower the tray holder using handle.



Use openings to push on trays.

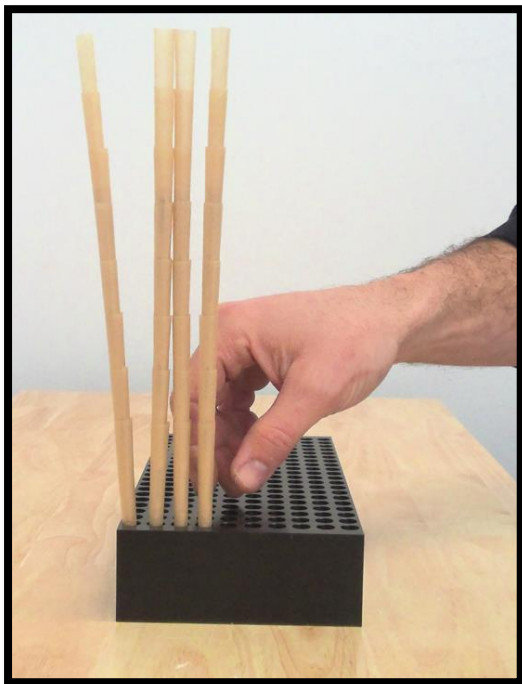
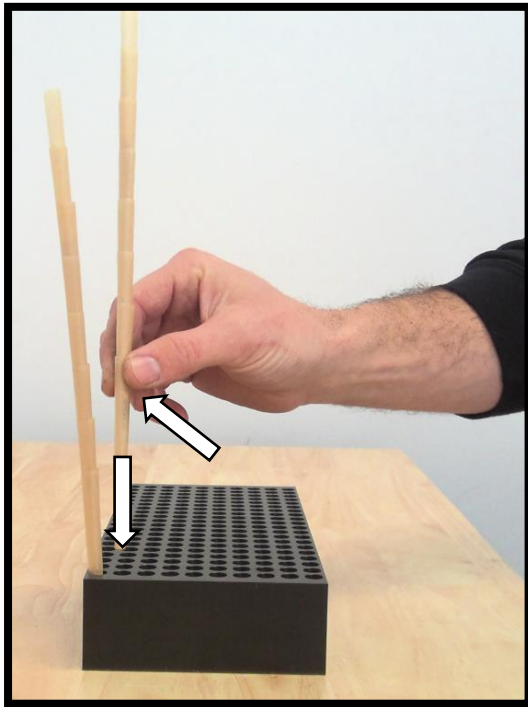


Remove em from tray holders.



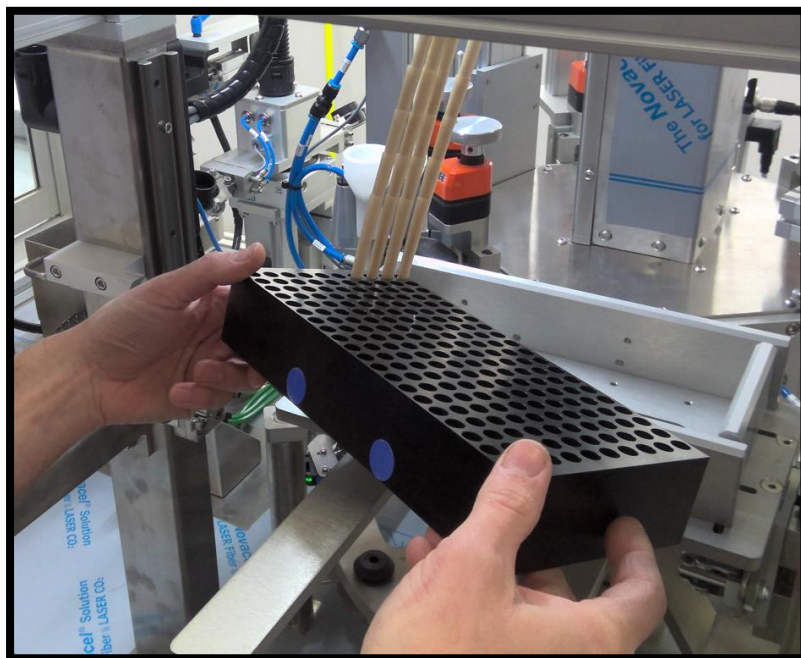
FILLING THE CONE TRAY

Fill the cone tray with cone stacks holding the lower cone of each by hand.

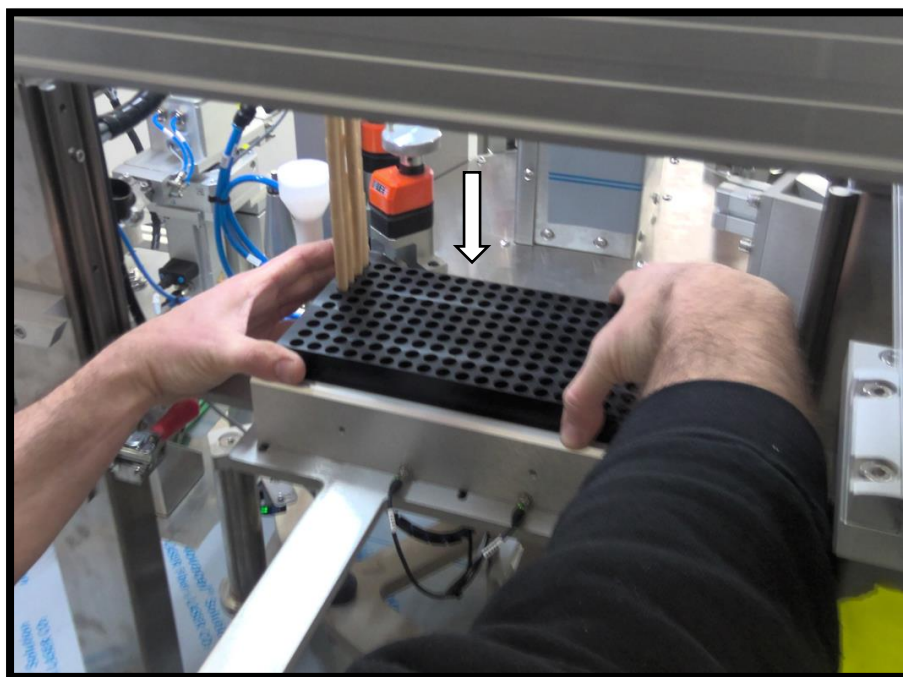


PLACING THE CONE TRAY IN THE MACHINE

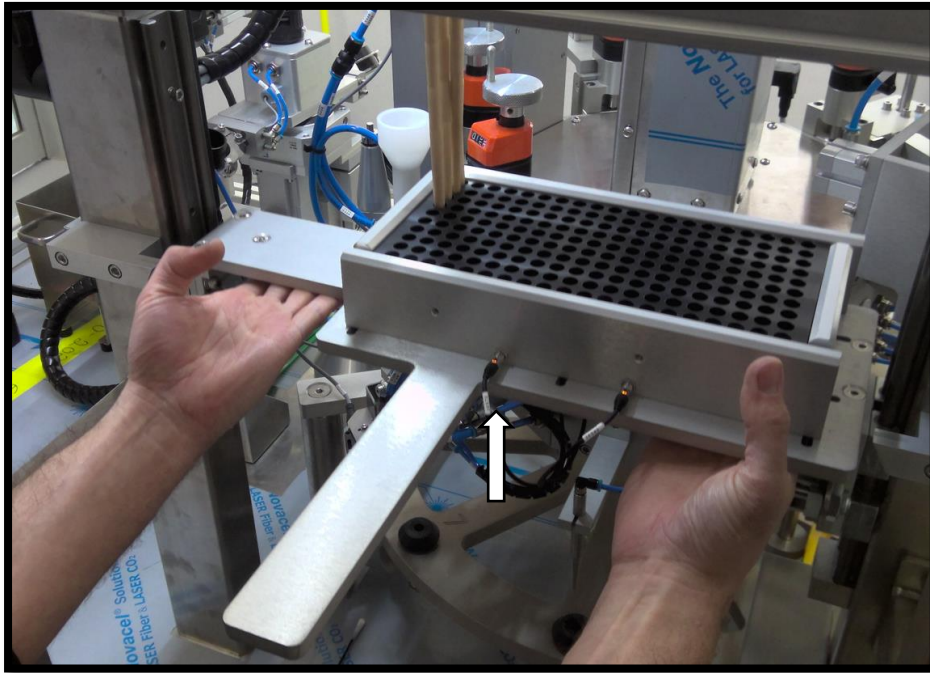
Hold the cone tray by hand



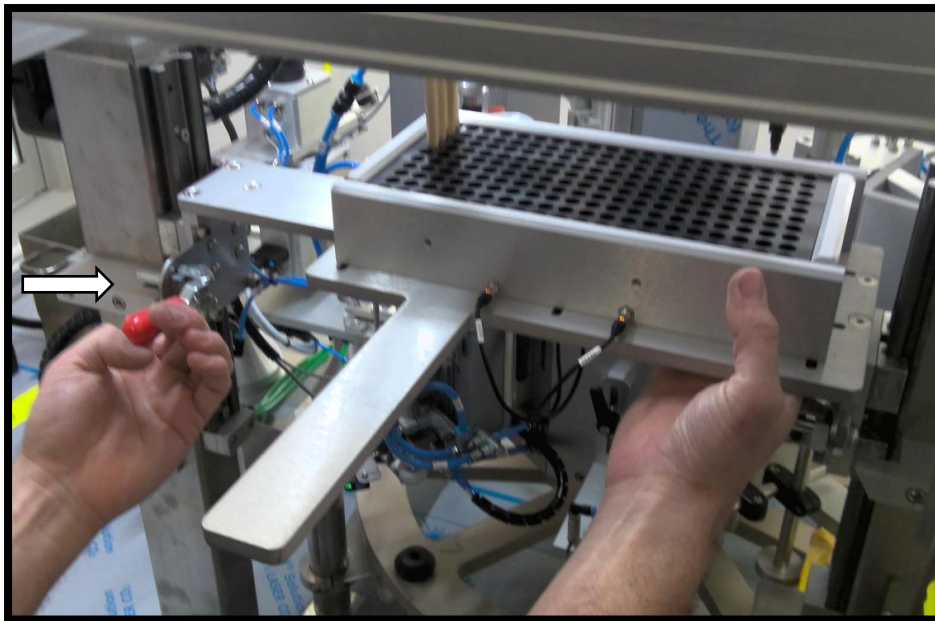
Place the cone tray in the cone tray holder



Raise the cone tray holder by hand



Lock handle to secure the cone tray



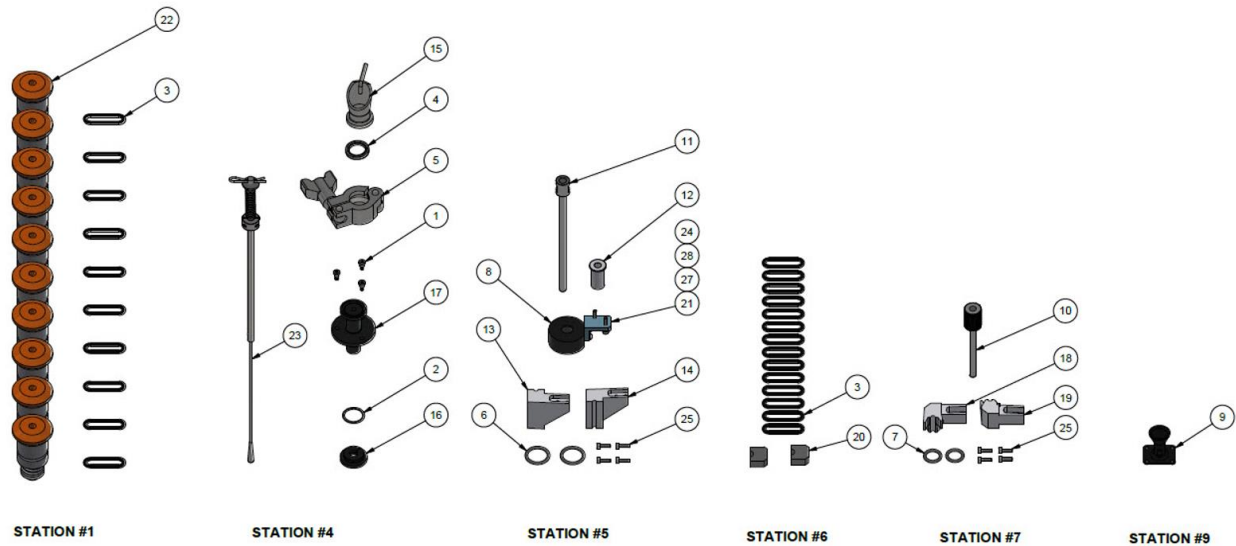
CANNABIS LOADING

At least 3 pounds of cannabis at a humidity level of 10-12% needs to be available for production. The grinding size of the product should be between 1.5 to 2.5 millimeters.

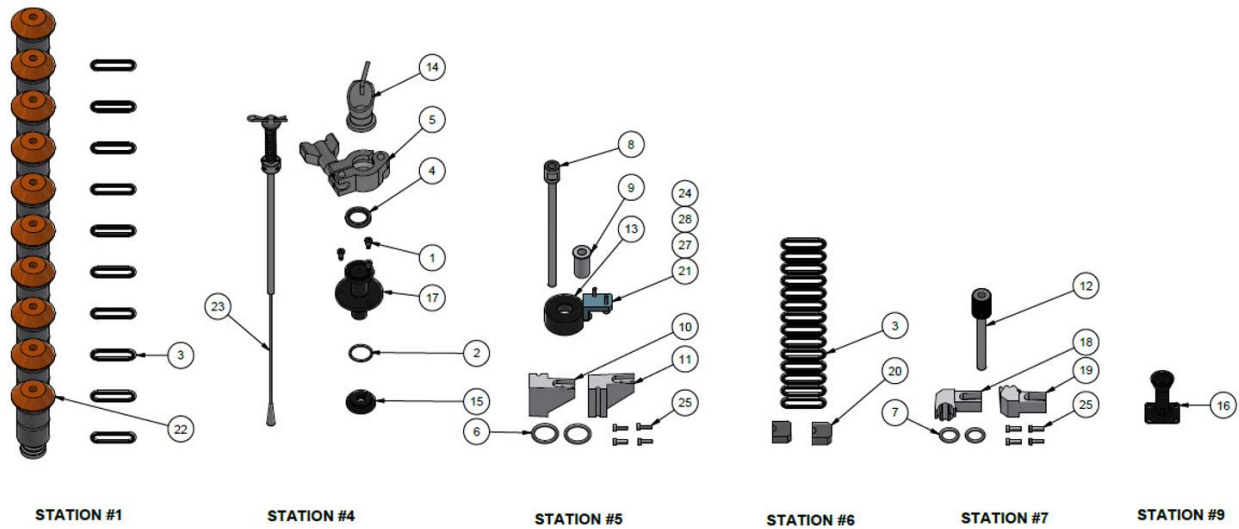
DRAWINGS AND SPARE PARTS

MECHANICAL DRAWINGS

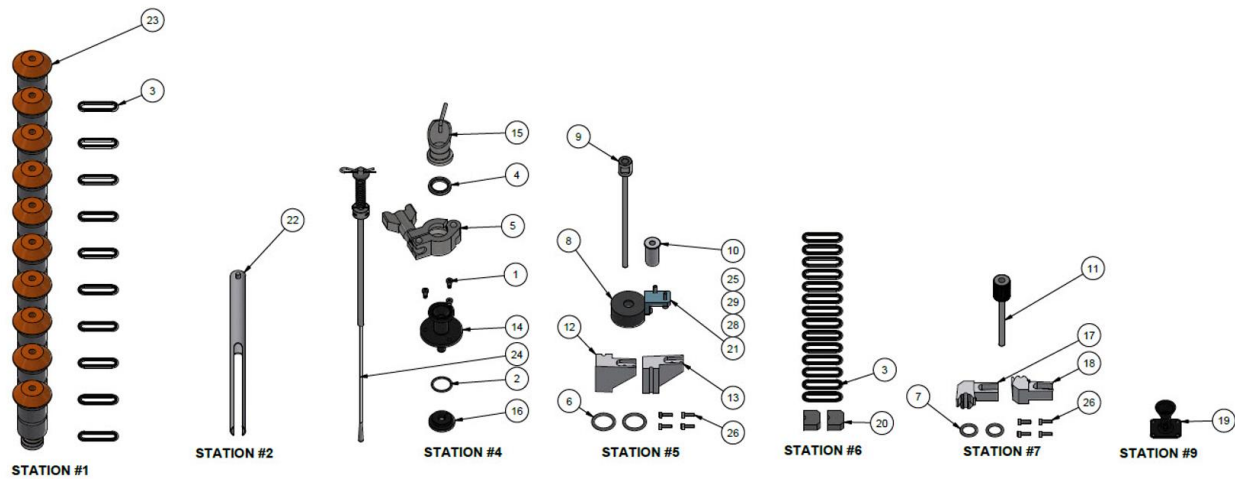
TOOLING



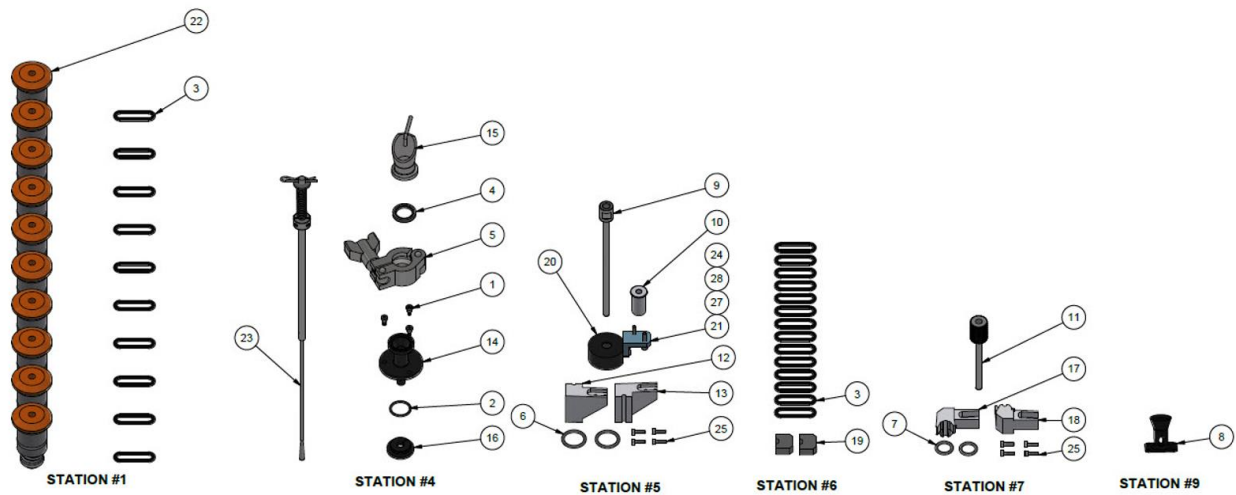
PARTS LIST		
ITEM	QTY	PART NUMBER
1	3	CAMEC000051
2	1	CAMEC000088
3	24	CAMEC000196
4	1	CAMEC000452
5	1	CAMEC000453
6	2	CAMEC000907
7	2	CAMEC000908
8	1	CAPRT000236
9	1	CAPRT000342
10	1	CAPRT000572
11	1	CAPRT000718
12	1	CAPRT000719
13	1	CAPRT001227
14	1	CAPRT001228
15	1	CAPRT001716
16	1	CAPRT001777
17	1	CAPRT001895
18	1	CAPRT001910
19	1	CAPRT001911
20	2	CAPRT001973
21	1	CAPRT002476
22	10	CASSY000102
23	1	CASSY000497
24	2	S-BHCS - M3 x 10
25	8	S-SHCS - M3 x 10
26	2	S-SHCS - M3 x 16
27	4	SW-FLAT WASHER - M3
28	2	SW-SPLIT LOCK WASHER - M3



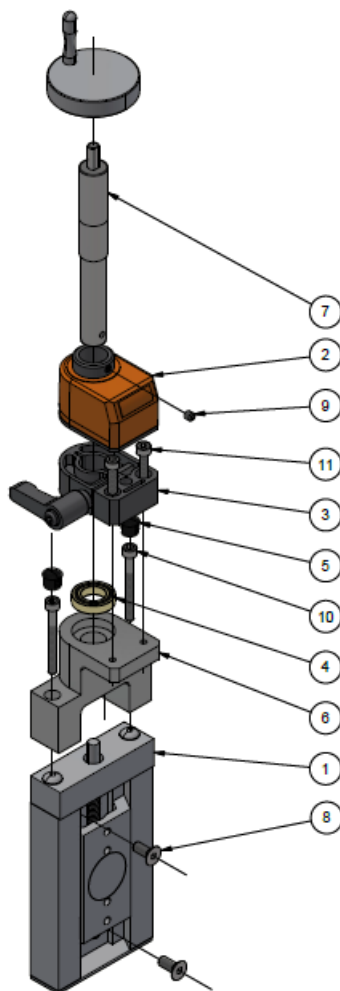
PARTS LIST		
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2	1	CAMEC000088
3	24	CAMEC000198
4	1	CAMEC000452
5	1	CAMEC000453
6	2	CAMEC000907
7	2	CAMEC000908
8	1	CAPRT000223
9	1	CAPRT000235
10	1	CAPRT001227
11	1	CAPRT001228
12	1	CAPRT001538
13	1	CAPRT001623
14	1	CAPRT001716
15	1	CAPRT001777
16	1	CAPRT001780
17	1	CAPRT001895
18	1	CAPRT001910
19	1	CAPRT001911
20	2	CAPRT001973
21	1	CAPRT002476
22	10	CASSY000104
23	1	CASSY000498
24	2	S-BHCS - M3 x 10
25	8	S-SHCS - M3 x 10
26	2	S-SHCS - M3 x 16
27	4	SW-FLAT WASHER - M3
28	2	SW-SPLIT LOCK WASHER - M3



PARTS LIST		
ITEM	QTY	PART NUMBER
1	3	CAMEC000051
2	1	CAMEC000088
3	24	CAMEC000196
4	1	CAMEC000452
5	1	CAMEC000453
6	2	CAMEC000907
7	2	CAMEC000908
8	1	CAPRT000286
9	1	CAPRT000496
10	1	CAPRT000498
11	1	CAPRT000572
12	1	CAPRT001227
13	1	CAPRT001228
14	1	CAPRT001323
15	1	CAPRT001716
16	1	CAPRT001777
17	1	CAPRT001910
18	1	CAPRT001911
19	1	CAPRT001972
20	2	CAPRT001974
21	1	CAPRT002476
22	1	CAPRT002572
23	10	CASSY000104
24	1	CASSY000496
25	2	S-BHCS - M3 x 10
26	8	S-SHCS - M3 x 10
27	2	S-SHCS - M3 x 16
28	4	SW-FLAT WASHER - M3
29	2	SW-SPLIT LOCK WASHER - M3



PARTS LIST		
ITEM	QTY	PART NUMBER
1	3	CAMEC000051
2	1	CAMEC000088
3	24	CAMEC000186
4	1	CAMEC000452
5	1	CAMEC000453
6	2	CAMEC000907
7	2	CAMEC000908
8	1	CAPRT000415
9	1	CAPRT000496
10	1	CAPRT000498
11	1	CAPRT000572
12	1	CAPRT001227
13	1	CAPRT001228
14	1	CAPRT001323
15	1	CAPRT001716
16	1	CAPRT001777
17	1	CAPRT001910
18	1	CAPRT001911
19	2	CAPRT001973
20	1	CAPRT001985
21	1	CAPRT002476
22	10	CASSY000102
23	1	CASSY000496
24	2	S-BHCS - M3 x 10
25	8	S-SHCS - M3 x 10
26	2	S-SHCS - M3 x 16
27	4	SW-FLAT WASHER - M3
28	2	SW-SPLIT LOCK WASHER - M3

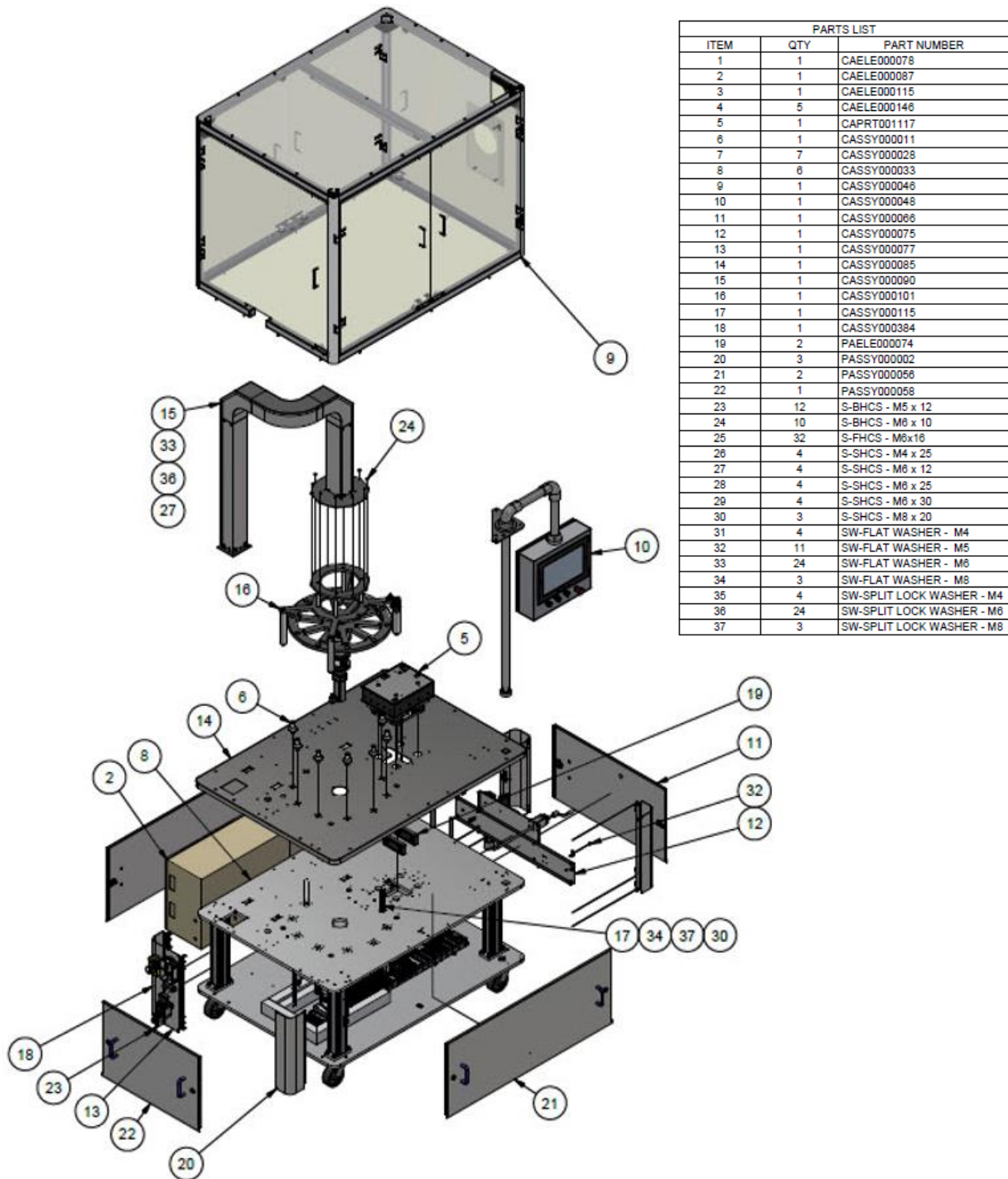
MANUAL POSITIONING

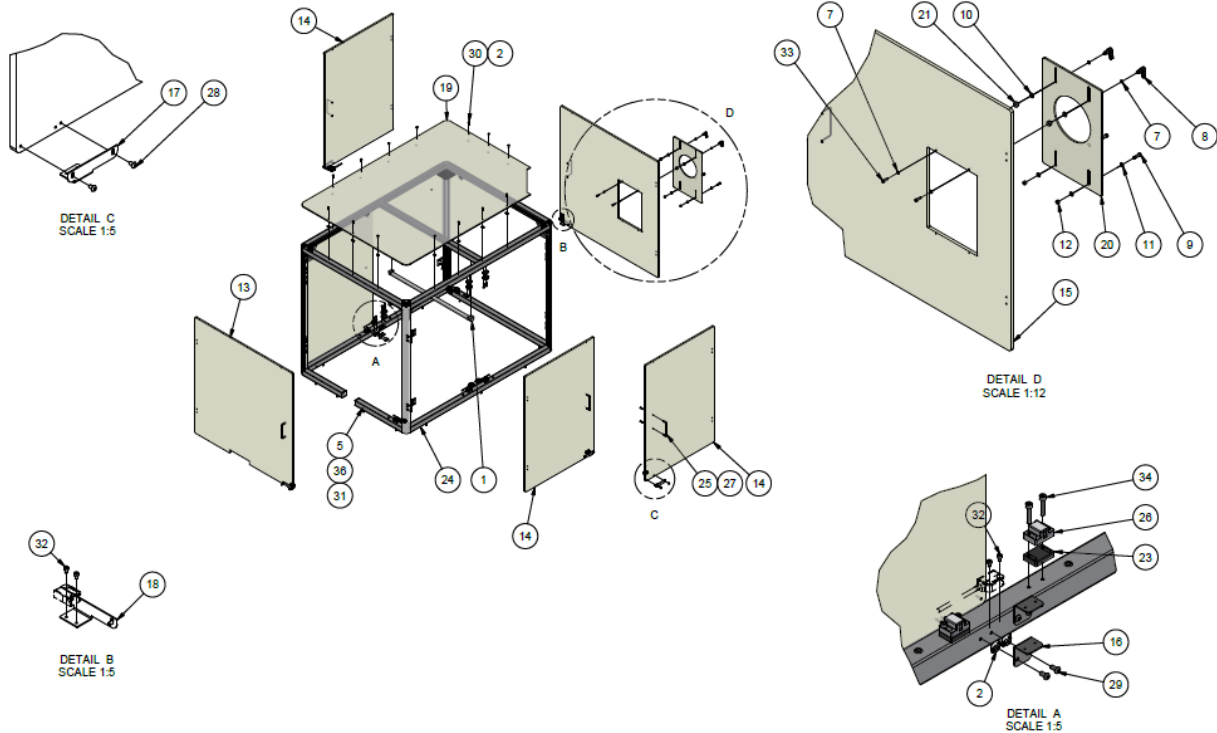
Note: Included in Stations: 2-5-6-7

PARTS LIST		
ITEM	QTY	PART NUMBER
1	1	CAMEC000029
2	1	CAMEC000630
3	1	CAMEC000631
4	1	CAMEC000633
5	2	CAMEC000635
6	1	CAPRT001962
7	1	CAPRT001963
8	2	S-FHCS - M5x12
9	1	S-HSS-FLAT - M4 x 4
10	2	S-SHCS - 8-32 UNC X 1.5
11	2	S-SHCS - M4 x 16

STATION 1: BASE**BASE**

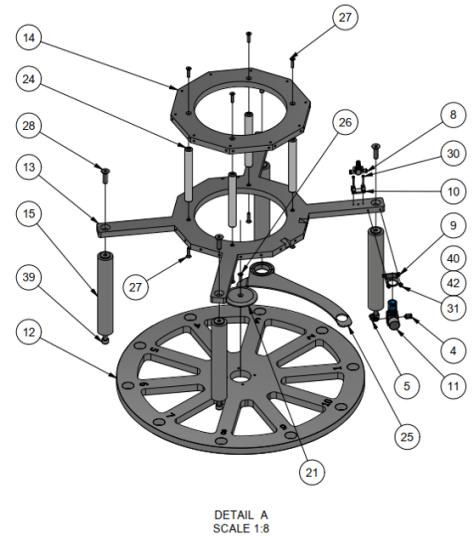
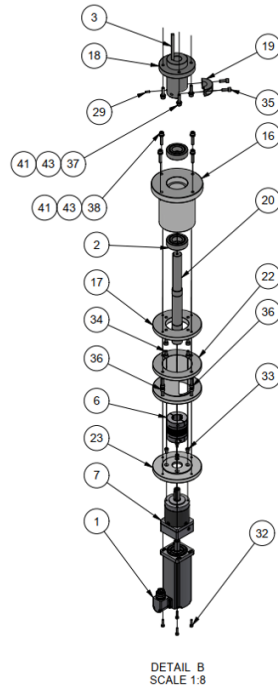
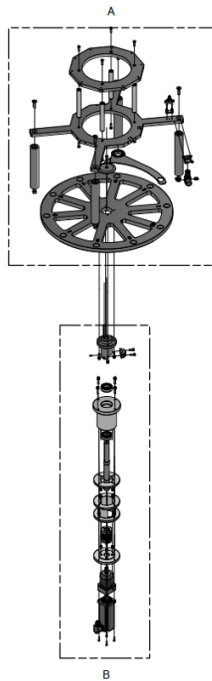
Function: The carousel turns in cycles to transport cones from station to station.



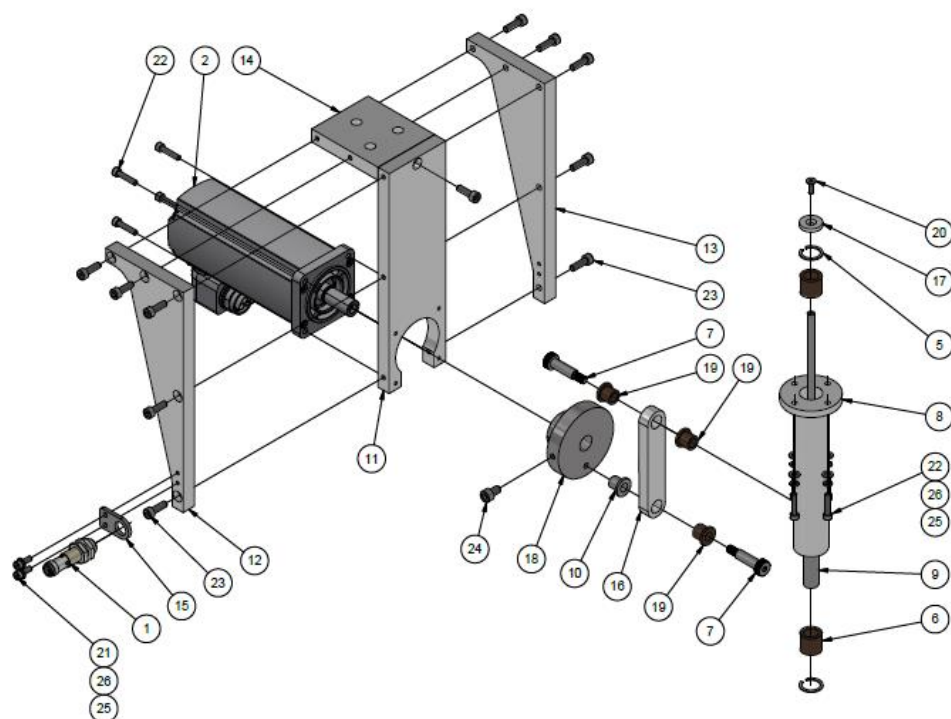
GUARD

PARTS LIST		
ITEM	QTY	PART NUMBER
1	1	CAELE000147
2	26	CAMEC000174
3	7	CAMEC000588
4	32	CAMEC000623
5	13	CAMEC000624
6	17	CAMEC000625
7	4	CAMEC000735
8	2	CAMEC000742
9	2	CAMEC000744
10	2	CAMEC000746
11	4	CAMEC000806
12	2	CAMEC000807
13	1	CAPRT000879
14	4	CAPRT000880
15	1	CAPRT000881
16	6	CAPRT001094
17	2	CAPRT001097
18	4	CAPRT001098
19	1	CAPRT001102
20	1	CAPRT002347
21	2	CAPRT002378
22	1	CAPRT002564
23	12	CAPRT002574
24	1	CASSY000370
25	6	PAMEC000224
26	12	PAMEC000229
27	12	S-BHCS - 8-32 UNC - UNC X 0.75
28	12	S-BHCS - M5 x 8
29	12	S-BHCS - M6 x 12
30	14	S-BHCS - M6 x 20
31	13	SN-NYLON LOCK NUT - M8
32	24	S-SHCS - M4 x 6
33	2	S-SHCS - M6 x 20
34	24	S-SHCS - M6 x 30
35	32	S-SHCS - M8 x 16
36	45	SW-FLAT WASHER - M8
37	32	SW-SPLIT LOCK WASHER - M8

TURN TABLE AND CROWN

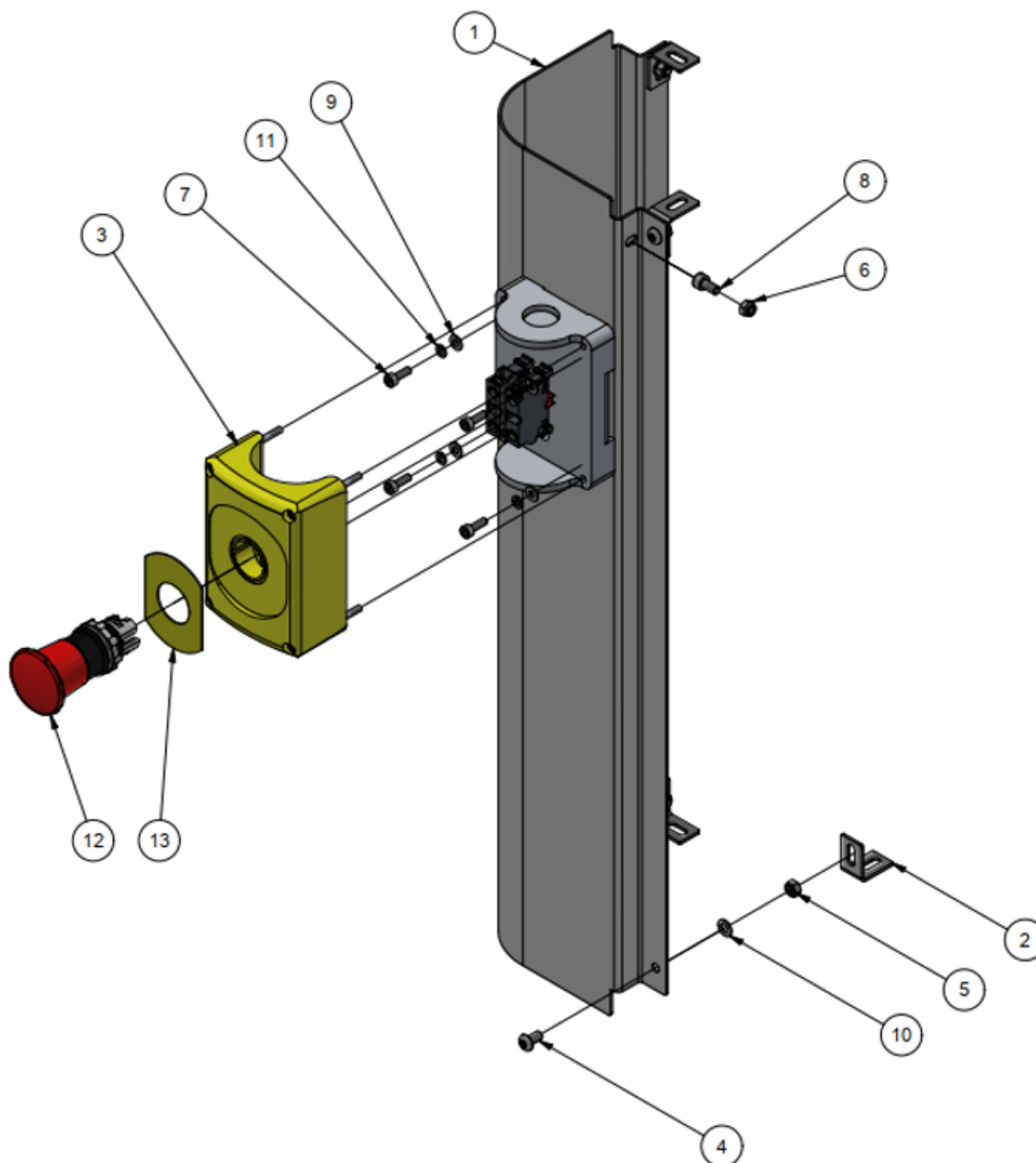
DETAIL A
SCALE 1:8

PARTS LIST		
ITEM	QTY	PART NUMBER
1	1	CAELE000046
2	2	CAMEC000030
3	1	CAMEC000055
4	1	CAMEC000139
5	1	CAMEC000140
6	1	CAMEC000177
7	1	CAMEC000280
8	1	CAPNE000104
9	1	CAPNE000140
10	1	CAPNE000183
11	1	CAPNE000184
12	1	CAPRT000002
13	1	CAPRT000004
14	1	CAPRT000005
15	4	CAPRT000007
16	1	CAPRT000325
17	1	CAPRT000326
18	1	CAPRT000327
19	1	CAPRT000328
20	1	CAPRT000331
21	1	CAPRT000332
22	1	CAPRT000642
23	1	CAPRT000643
24	4	CAPRT001956
25	1	CAPRT002442
26	1	S-FHCS - M6x20
27	8	S-FHCS - M6x25
28	4	S-FHCS - M10x35
29	1	S-HSS-FLAT - M4 x 10
30	2	S-SHCS - M3 x 20
31	2	S-SHCS - M4 x 8
32	4	S-SHCS - M4 x 16
33	4	S-SHCS - M5 x 8
34	4	S-SHCS - M6 x 12
35	2	S-SHCS - M6 x 16
36	8	S-SHCS - M6 x 20
37	4	S-SHCS - M6 x 25
38	4	S-SHCS - M6 x 30
39	4	S-SHCS - M10 x 30
40	2	SW-FLAT WASHER - M4
41	8	SW-FLAT WASHER - M6
42	2	SW-SPLIT LOCK WASHER - M4
43	8	SW-SPLIT LOCK WASHER - M6

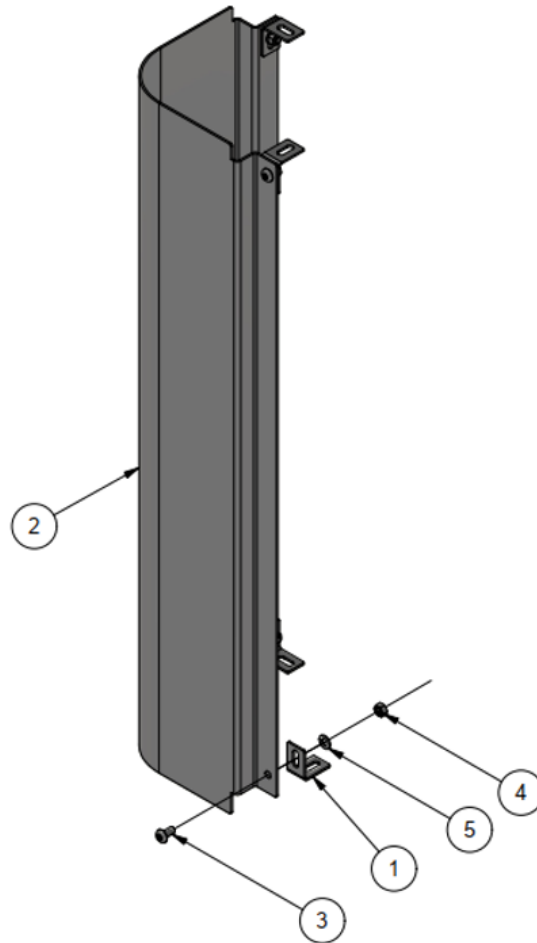
SHAKER

- 3 DRIVE SERVO
4 ASSORTMENT OF PLUG

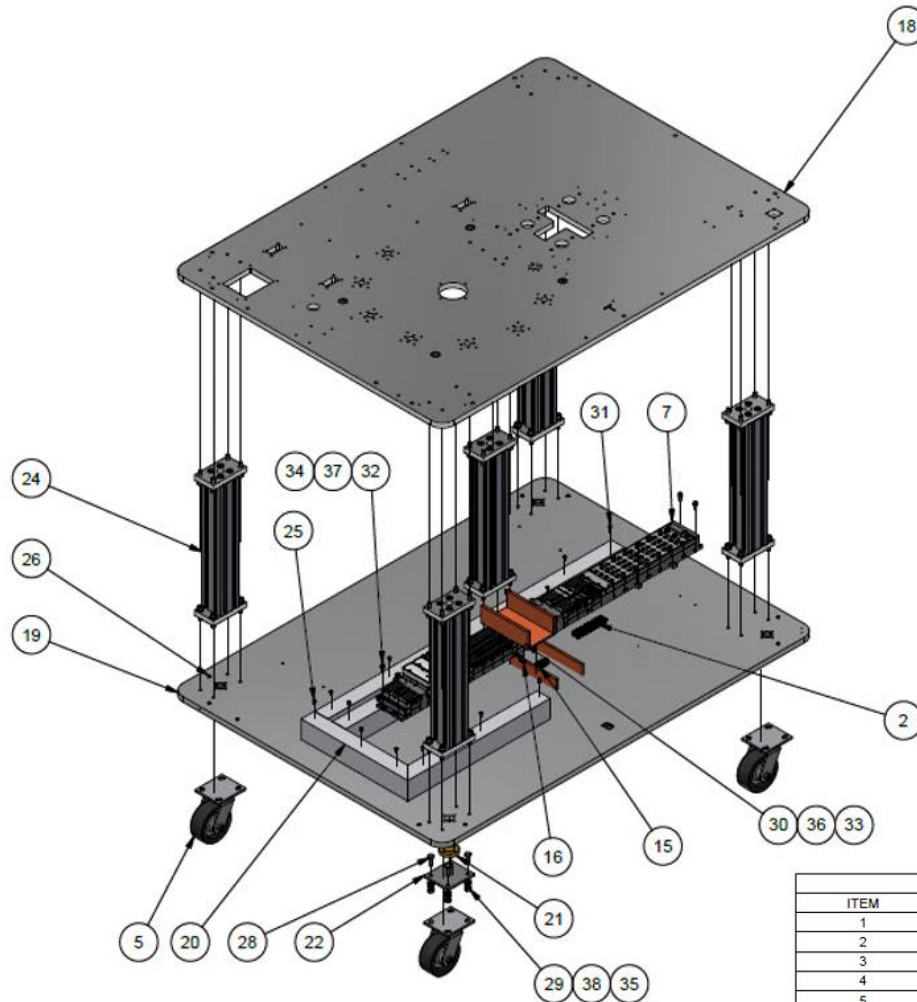
PARTS LIST		
ITEM	QTY	PART NUMBER
1	1	CABLE000032
2	1	CABLE000046
3	1	CABLE000055
4	1	CABLE000056
5	2	CAMEC000197
6	2	CAMEC000198
7	2	CAMEC000200
8	1	CAPRT000730
9	1	CAPRT000732
10	1	CAPRT000733
11	1	CAPRT000736
12	1	CAPRT000737
13	1	CAPRT000738
14	1	CAPRT000739
15	1	CAPRT000741
16	1	CAPRT000798
17	1	CAPRT001769
18	1	CASSY000393
19	3	FAMEC000687
20	1	S-FHCS - M4x12
21	2	S-SHCS - M4 x 12
22	8	S-SHCS - M4 x 20
23	11	S-SHCS - M5 x 16
24	1	S-SHCS - M5 x 10
25	6	SW-FLAT WASHER - M4
26	6	SW-SPLIT LOCK WASHER - M4

FRAME CORNER RIGHT E-STOP

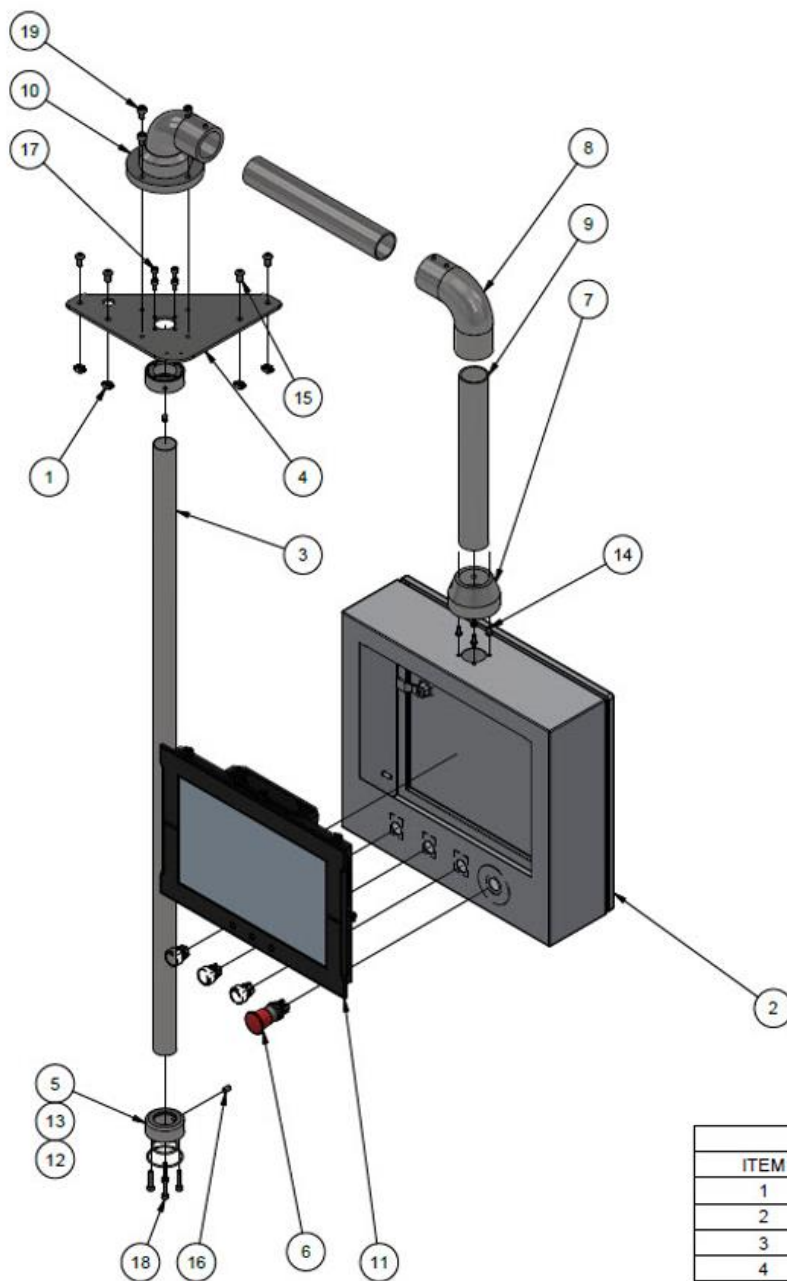
PARTS LIST		
ITEM	QTY	PART NUMBER
1	1	CAPRT001952
2	4	CAPRT001953
3	1	CAPRT001954
4	4	S-BHCS - M5 x 10
5	4	SN-HEX NUT - M5
6	1	SN-NYLON LOCK NUT - M5
7	4	S-SHCS - M4 x 12
8	1	S-SHCS - M5 x 10
9	4	SW-FLAT WASHER - M4
10	4	SW-FLAT WASHER - M5
11	4	SW-SPLIT LOCK WASHER - M4
12	1	CAELE000078
13	1	CAELE000171

FRAME CORNER BETWEEN PLATES

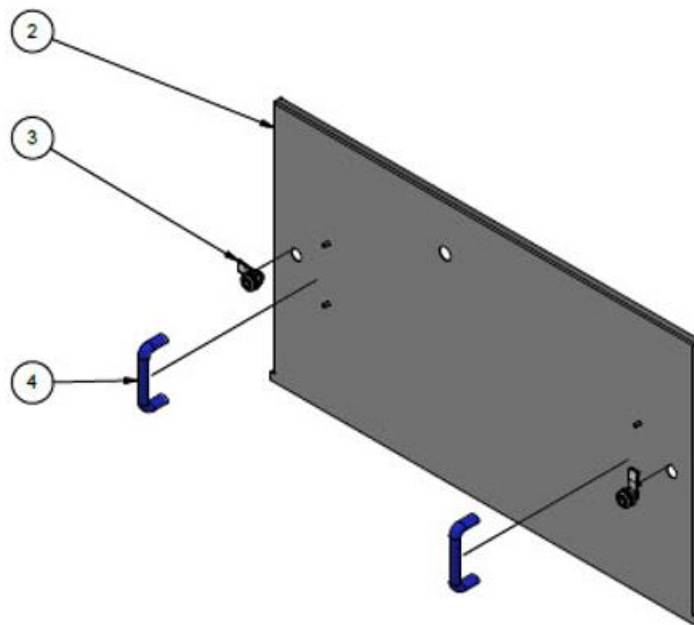
PARTS LIST		
ITEM	QTY	PART NUMBER
1	4	CAPRT001953
2	1	PAPRT000004
3	4	S-BHCS - M5 x 10
4	4	SN-HEX NUT - M5
5	4	SW-FLAT WASHER - M5

BASE STRUCTURE

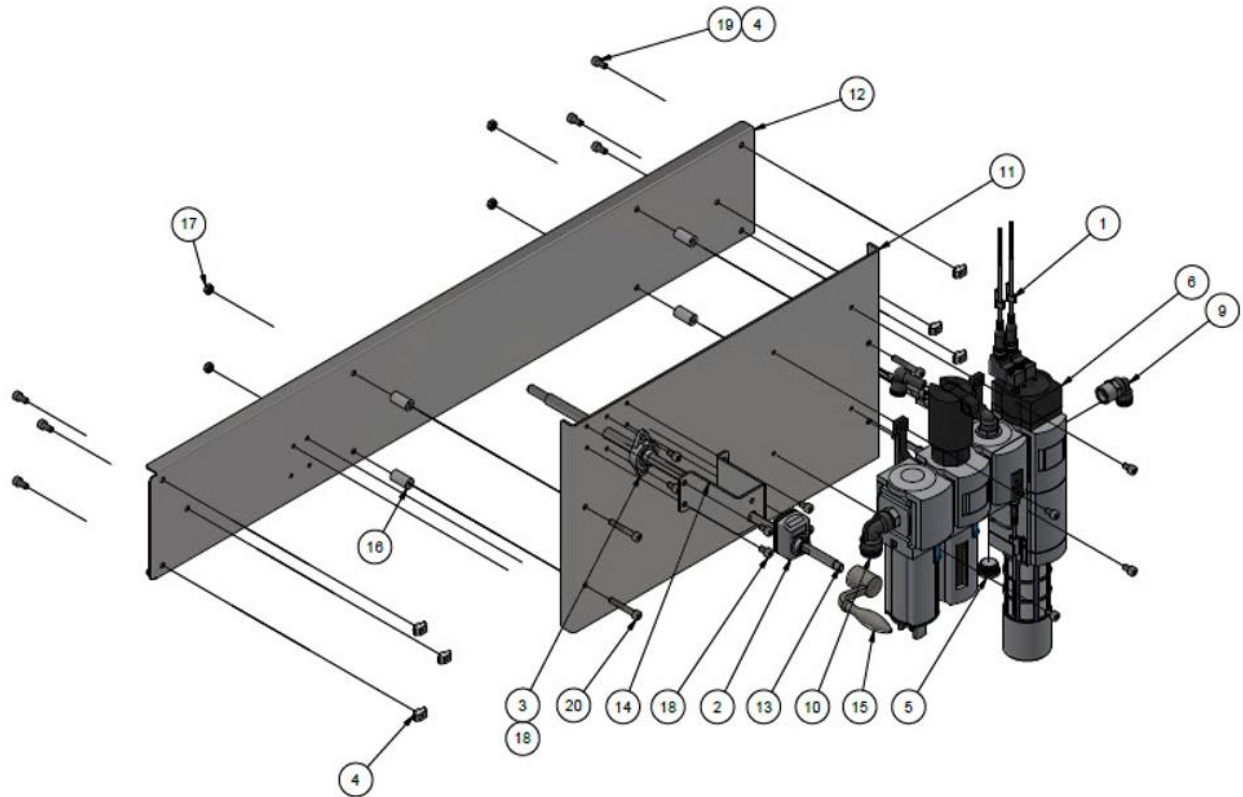
PARTS LIST		
ITEM	QTY	PART NUMBER
1	1	CAELE000048
2	16	CAELE000049
3	8	CAELE000176
4	6	CAELE000177
5	4	CAMEC000651
6	2	CAPNE000062
7	1	CAPNE000085
8	6	CAPNE000094
9	2	CAPNE000100
10	2	CAPNE000101
11	1	CAPNE000102
12	32	CAPNE000132
13	4	CAPNE000133
14	5	CAPNE000187
15	2	CAPNE000188
16	1	CAPNE000204
17	4	CAPNE000217
18	1	CAPRT000001
19	1	CAPRT000285
20	1	CAPRT000628
21	4	CAPRT001146
22	4	CAPRT001891
23	4	PAMEC000006
24	5	PASSY000059
25	17	S-BHCS - M5 x 10
26	9	S-BHCS - M5 x 20
27	16	S-FHCS - M6x25
28	16	S-HCS-F - M10 x 30
29	16	SN-HEX NUT - M10
30	1	S-SHCS - M4 x 10
31	2	S-SHCS - M4 x 20
32	4	S-SHCS - M6 x 20
33	3	SW-FLAT WASHER - M4
34	4	SW-FLAT WASHER - M6
35	16	SW-FLAT WASHER - M10
36	3	SW-SPLIT LOCK WASHER - M4
37	4	SW-SPLIT LOCK WASHER - M6
38	16	SW-SPLIT LOCK WASHER - M10

CONTROL PANEL

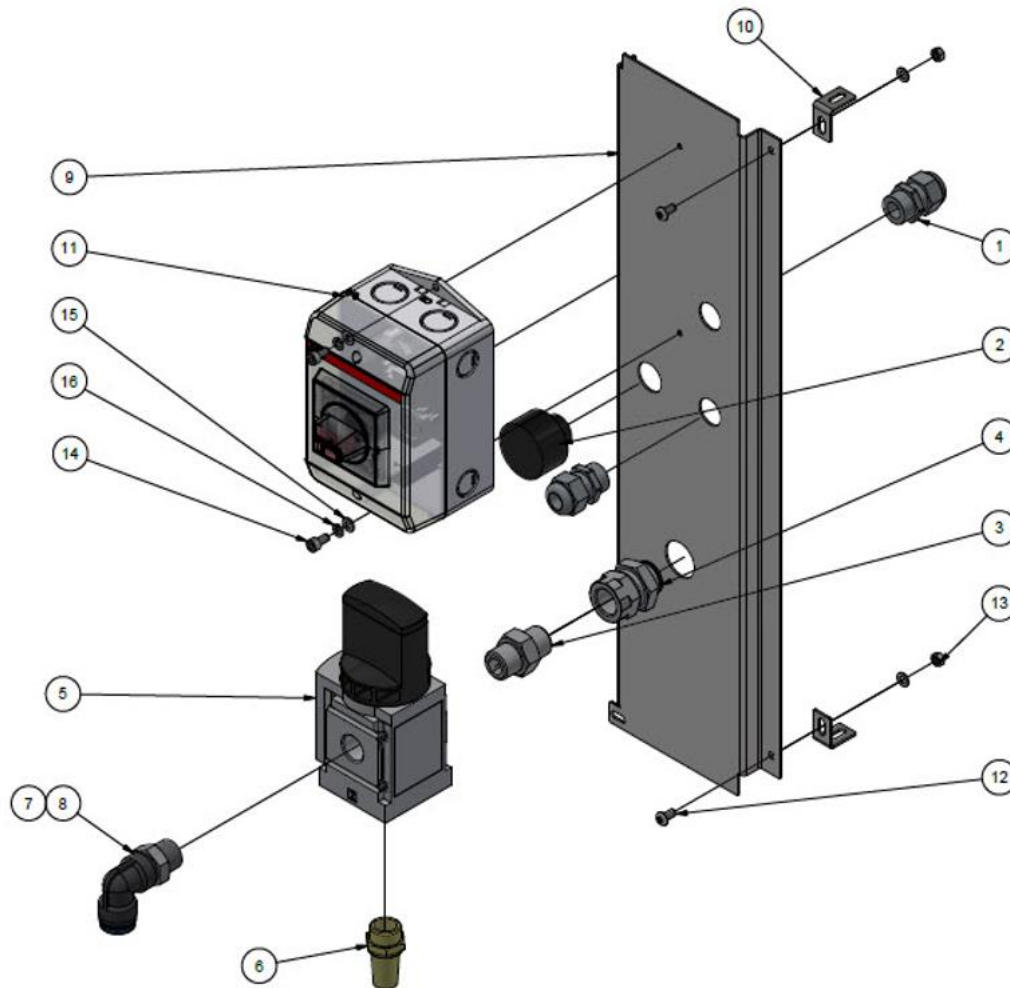
PARTS LIST		
ITEM	QTY	PART NUMBER
1	4	CAMEC000623
2	1	CAPRT000396
3	1	CAPRT000569
4	1	CAPRT001796
5	2	CAPRT001897
6	1	PAELE000017
7	1	PAELE000045
8	1	PAELE000047
9	2	PAELE000048
10	1	PAELE000053
11	1	PAELE000073
12	1	PAMEC000165
13	1	PAMEC000170
14	4	S-BHCS - M6 x 12
15	4	S-BHCS - M8 x 16
16	2	S-HSS-FLAT - M8 x 12
17	4	S-SHCS - M6 x 12
18	4	S-SHCS - M6 x 30
19	4	S-SHCS - M8 x 12

FRAME DOOR

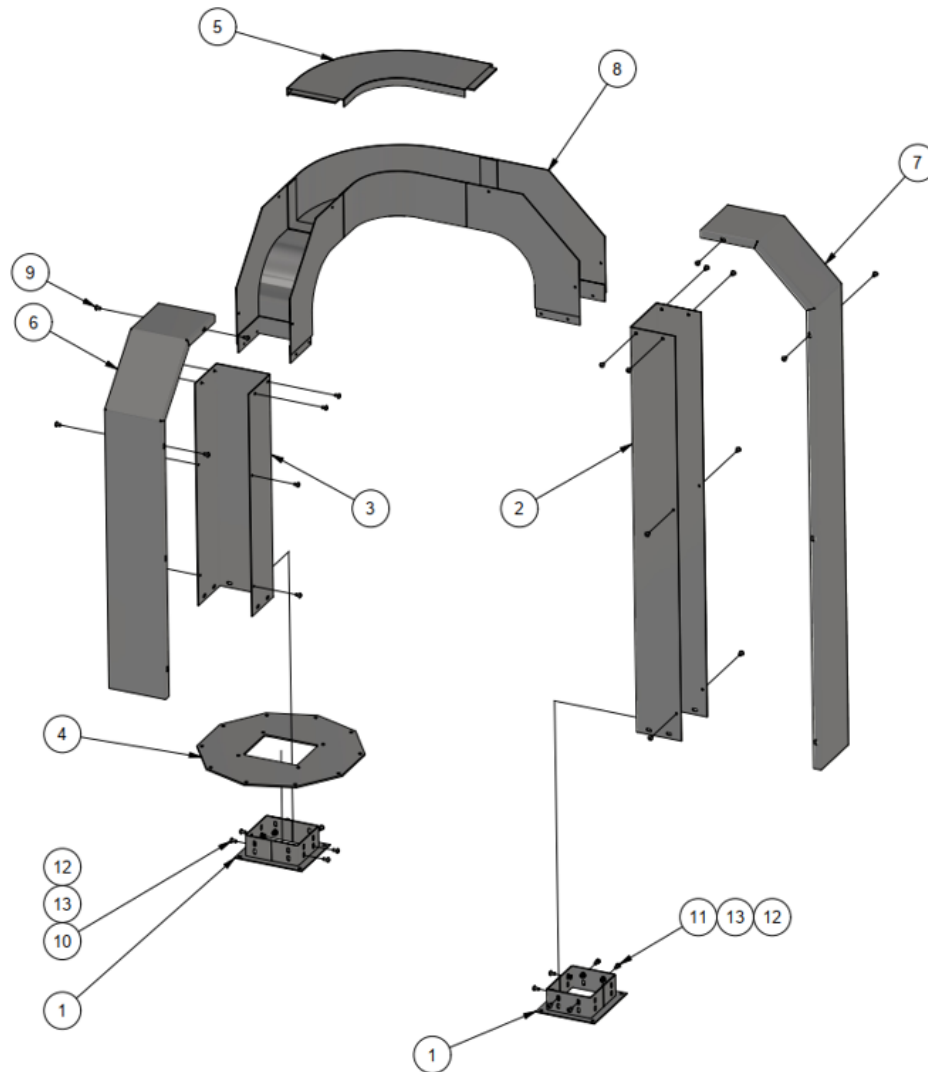
PARTS LIST		
ITEM	QTY	PART NUMBER
1	4	ANSI B18.3.4M - M6 x 1 x 12, FHSBHCSM
2	1	CAPRT000587
3	2	PAMEC000048
4	2	PAMEC000049

PNEUMATIC PANEL

PARTS LIST		
ITEM	QTY	PART NUMBER
1	4	CAELE000052
2	1	CAMEC000146
3	1	CAMEC000151
4	6	CAMEC000174
5	1	CAMEC000682
6	1	CAPNE000032
7	1	CAPNE000064
8	1	CAPNE000097
9	2	CAPNE000098
10	1	CAPNE000099
11	1	CAPRT000388
12	1	CAPRT000395
13	1	CAPRT000585
14	1	CAPRT000592
15	1	CAPRT000595
16	4	PAMEC000187
17	4	SN-HEX NUT - M6
18	10	S-SHCS - M6 x 10
19	6	S-SHCS - M6 x 12
20	4	S-SHCS - M6 x 40

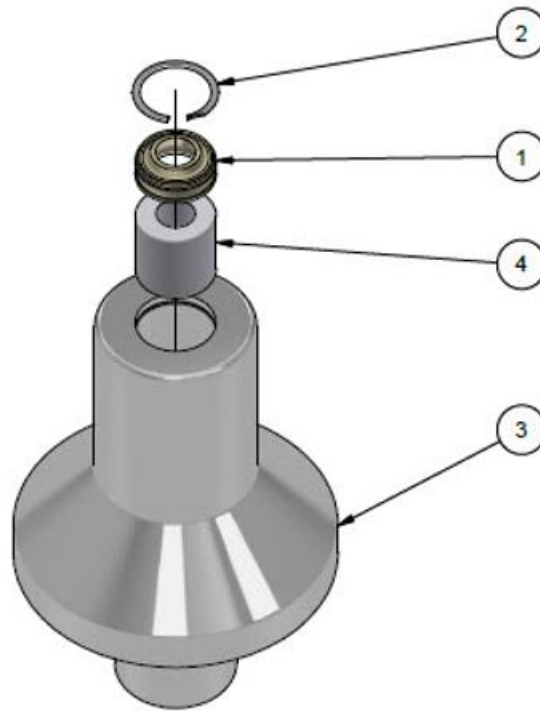
LEFT SERVICE DOOR FRAME

PARTS LIST		
ITEM	QTY	PART NUMBER
1	2	CAELE000057
2	1	CAELE000128
3	1	CAPNE000045
4	1	CAPNE000046
5	1	CAPNE000051
6	1	CAPNE000052
7	1	CAPNE000099
8	1	CAPNE000208
9	1	CAPRT000629
10	2	CAPRT001953
11	1	PAMEC000225
12	2	S-BHCS - M5 x 10
13	2	SN-HEX NUT - M5
14	2	S-SHCS - M5 x 10
15	4	SW-FLAT WASHER - M5
16	2	SW-SPLIT LOCK WASHER - M5

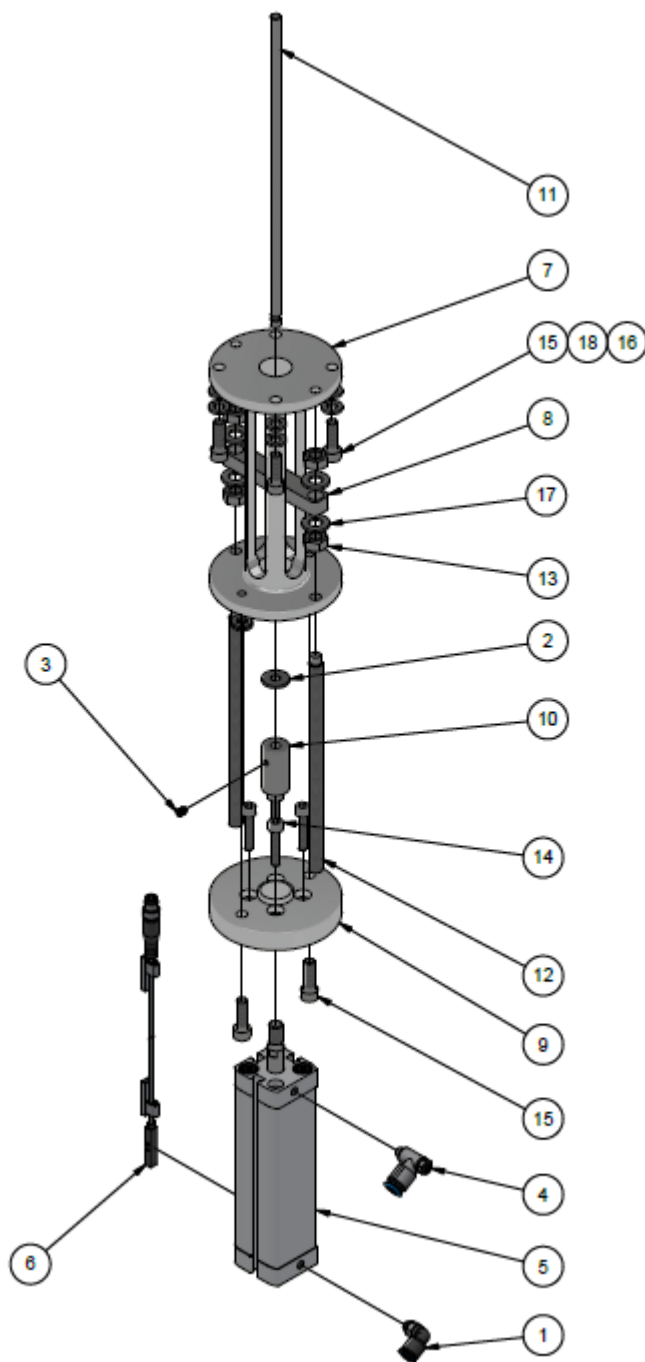
ELECTRIC DUCT

PARTS LIST

ITEM	QTY	PART NUMBER
1	2	CAPRT000675
2	1	CAPRT000676A
3	1	CAPRT000678A
4	1	CAPRT000680
5	1	CAPRT000684
6	1	CAPRT000688A
7	1	CAPRT000690
8	1	CAPRT001993
9	23	S-BHCS - M5 x 8
10	10	S-BHCS - M5 x 10
11	2	S-HCS-F - M5 x 10
12	12	SN-NYLON LOCK NUT - M5
13	12	SW-FLAT WASHER - M5

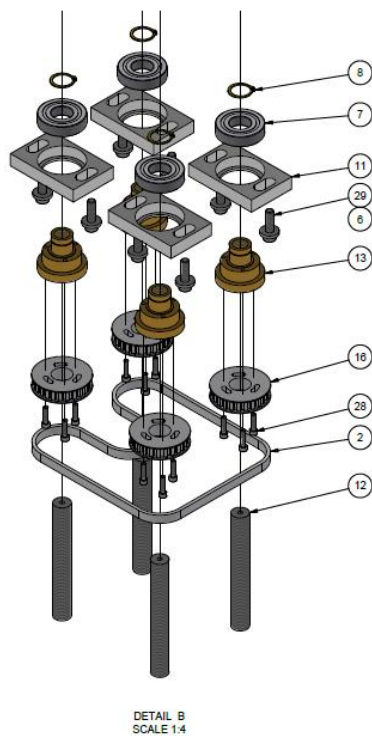
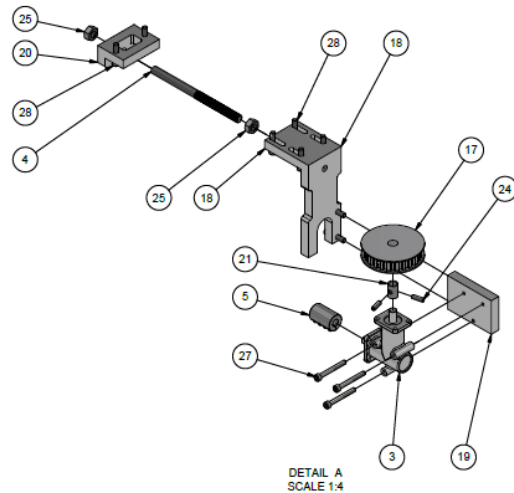
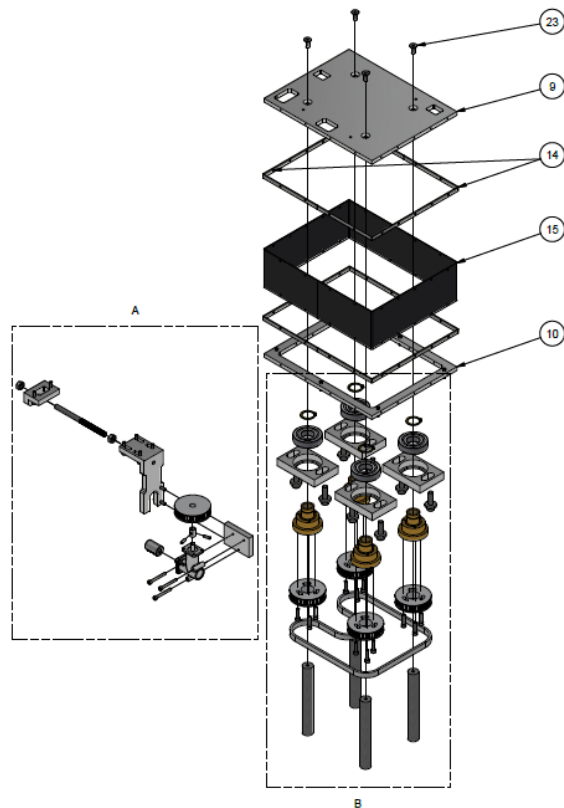
HUB PIN LINEAR GUIDE

PARTS LIST		
ITEM	QTY	PART NUMBER
1	1	CAMEC000380
2	1	CAMEC000381
3	1	CAPRT000302
4	1	CAPRT000304

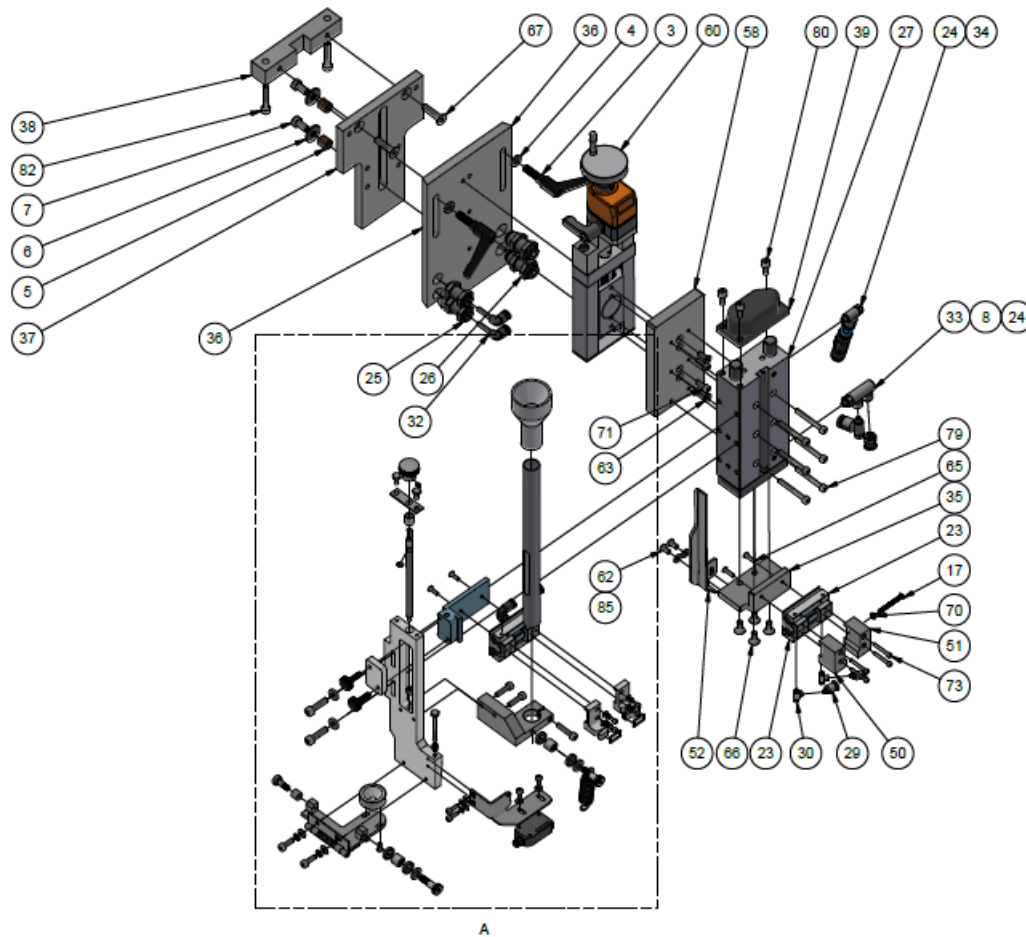
CONE PUSHER CYLINDER

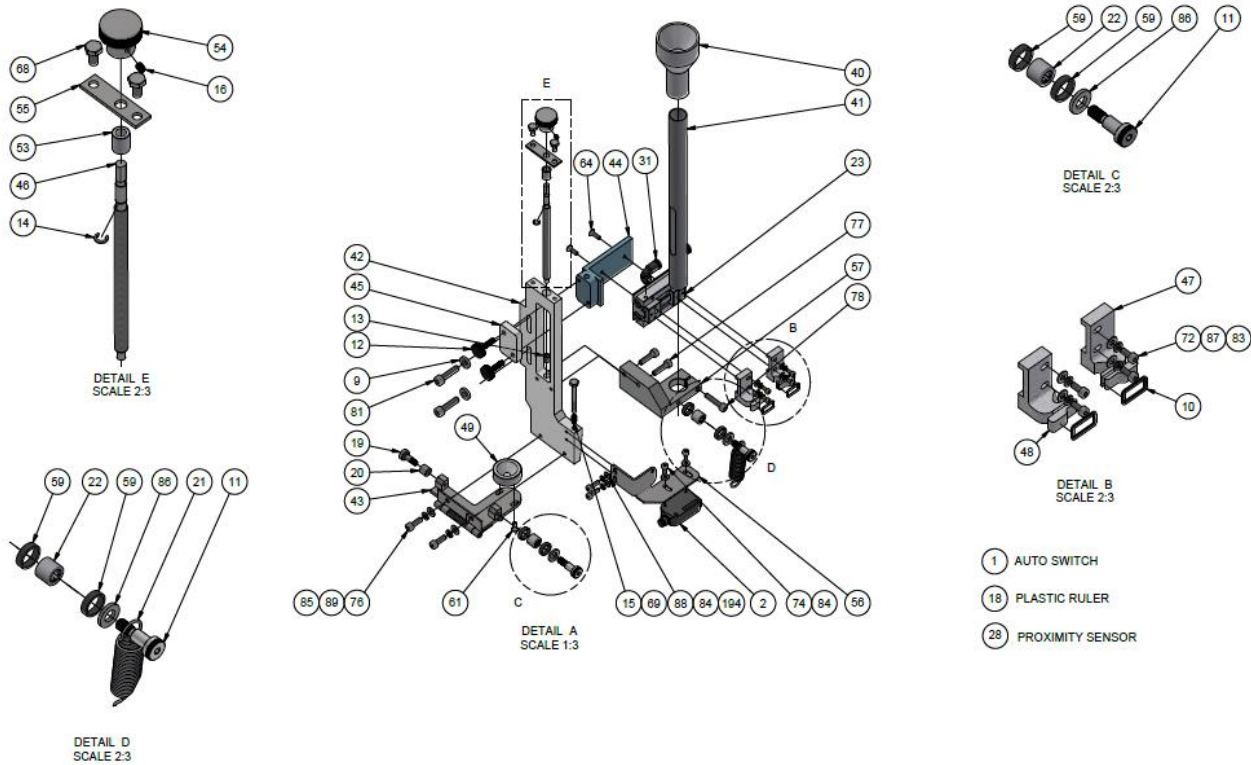
PARTS LIST		
ITEM	QTY	PART NUMBER
1	1	CAMEC000140
2	1	CAMEC000609
3	1	CAMEC000769
4	1	CAPNE000013
5	1	CAPNE000016
6	1	CAPNE000065
7	1	CAPRT000305
8	1	CAPRT000306
9	1	CAPRT000309
10	1	CAPRT000310
11	1	CAPRT000311
12	2	CAPRT000418
13	4	SN-HEX NUT - M8
14	4	S-SHCS - M8 x 25
15	6	S-SHCS - M8 x 20
16	6	SW-FLAT WASHER - M8
17	4	SW-FLAT WASHER - M8
18	6	SW-SPLIT LOCK WASHER - M8

TABLE RISER

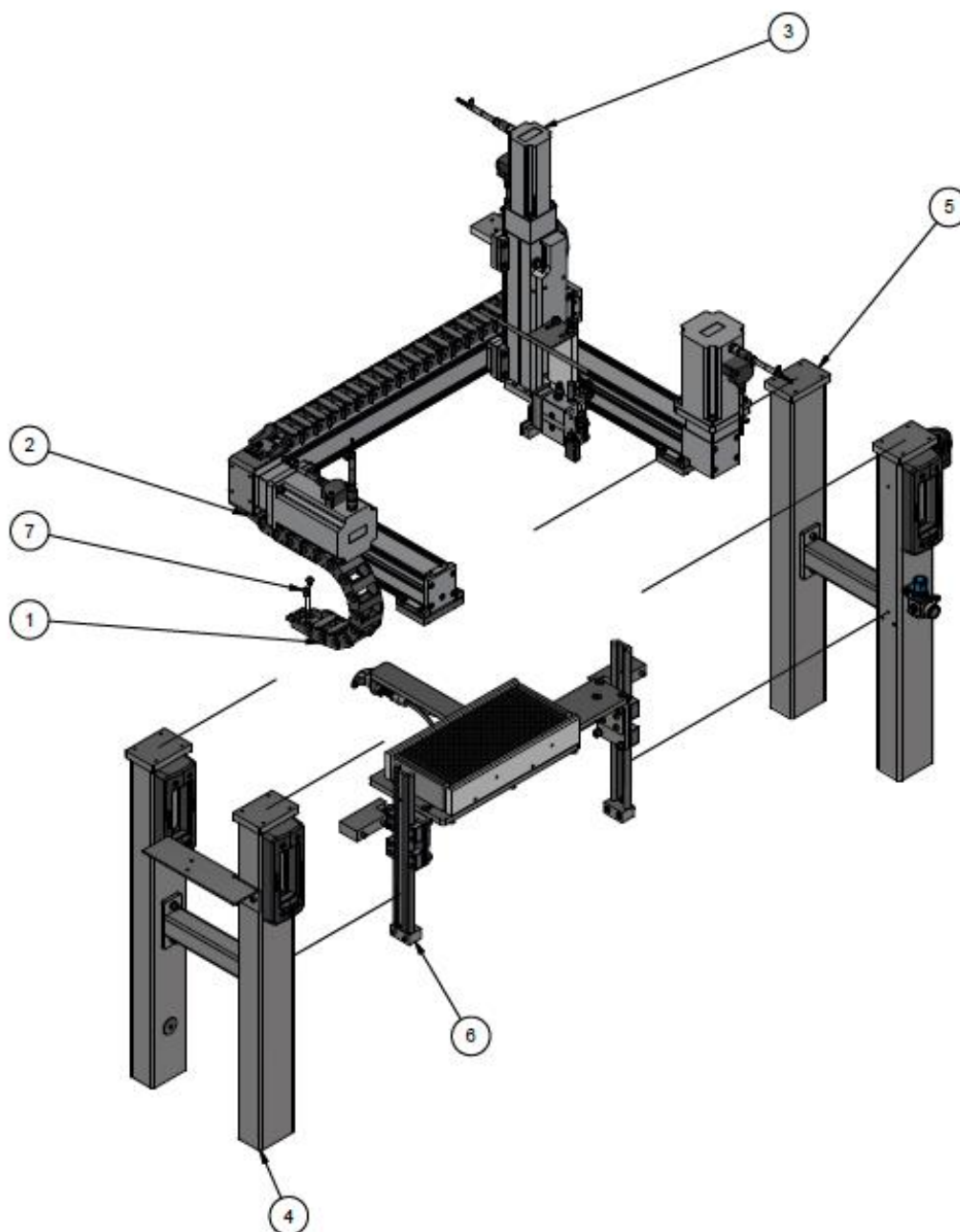


PARTS LIST		
ITEM	QTY	PART NUMBER
1	16	CAMEC000078
2	1	CAMEC000079
3	1	CAMEC000080
4	1	CAMEC000081
5	1	CAMEC000150
6	8	CAMEC000156
7	4	CAMEC000180
8	4	CAMEC000224
9	1	CAPRT000023
10	1	CAPRT000044
11	4	CAPRT000045
12	4	CAPRT000046
13	4	CAPRT000047
14	4	CAPRT000264
15	1	CAPRT000341
16	4	CAPRT000456
17	1	CAPRT000458
18	1	CAPRT000462
19	1	CAPRT000463
20	1	CAPRT000477
21	1	CAPRT000606
22	36	S-BHCS - M4 x 6
23	4	S-FHCS - M8x20
24	2	S-HSS-FLAT - M5 x 16
25	3	SN-HEX NUT - M10
26	6	S-SHCS - M4 x 20
27	3	S-SHCS - M5 x 45
28	20	S-SHCS - M6 x 25
29	8	S-SHCS - M10 x 35

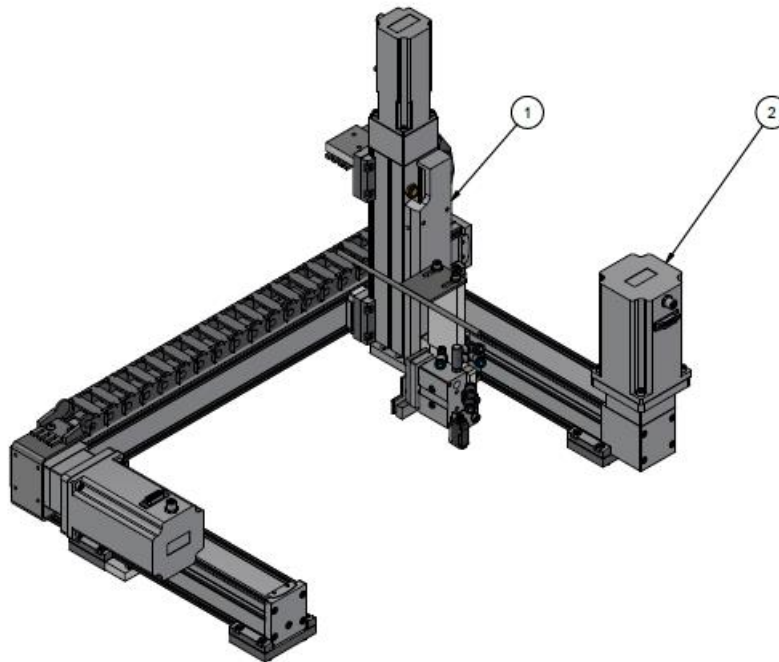
STATION 2: CONE DISTRIBUTIONCONE DISTRIBUTION



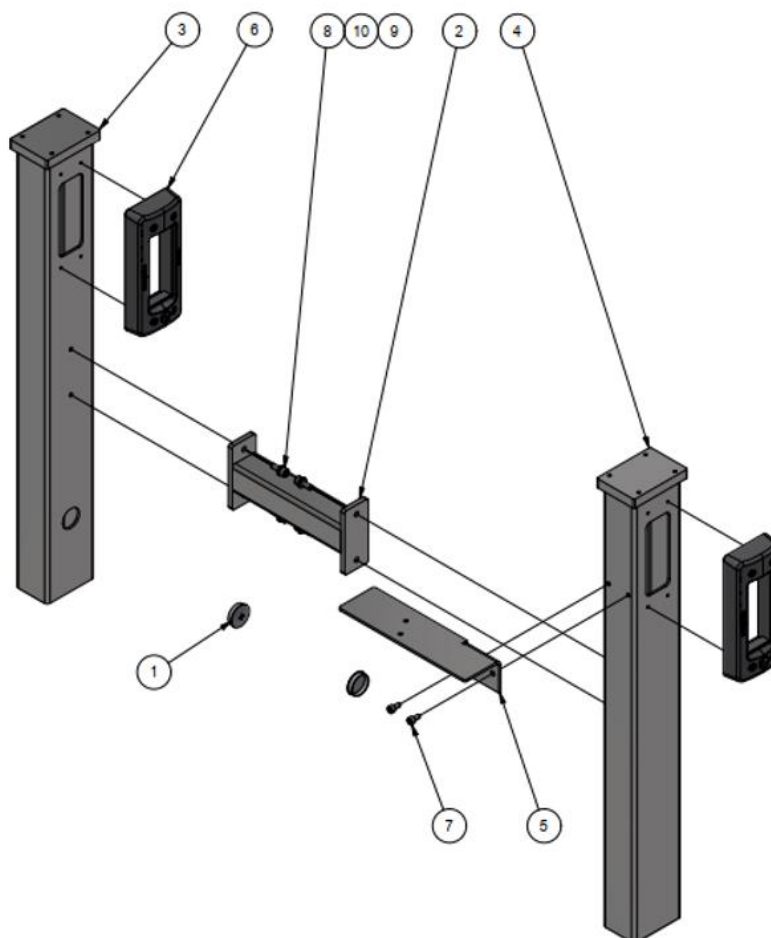
PARTS LIST			PARTS LIST		
ITEM	QTY	PART NUMBER	ITEM	QTY	PART NUMBER
1	1	CABLE000154	47	1	CAPRT001467
2	1	CABLE000190	48	1	CAPRT001468
3	2	CAMEC000016	49	1	CAPRT001472
4	2	CAMEC000017	50	1	CAPRT002232
5	2	CAMEC000058	51	1	CAPRT002233
6	2	CAMEC000059	52	1	CAPRT002291
7	2	CAMEC000060	53	1	CAPRT002295
8	1	CAMEC000139	54	1	CAPRT002296
9	2	CAMEC000154	55	1	CAPRT002348
10	2	CAMEC000454	56	1	CAPRT002357
11	2	CAMEC000688	57	1	CAPRT002488
12	2	CAMEC000702	58	1	CAPRT002552
13	1	CAMEC000719	59	4	CAPRT002626
14	1	CAMEC000720	60	1	CASBY000068
15	1	CAMEC000725	61	2	S-BHCS - M3 x 8
16	1	CAMEC000726	62	2	S-BHCS - M4 x 8
17	1	CAMEC000783	63	2	S-FHCS - 8-32 UNC X 0.5
18	1	CAMEC000785	64	2	S-FHCS - M3x10
19	1	CAMEC000794	65	2	S-FHCS - M3x12
20	1	CAMEC000823	66	4	S-FHCS - M5x12
21	1	CAMEC000895	67	2	S-FHCS - M6x25
22	2	CAMEC000896	68	2	S-HCS-F - M4 x 8
23	2	CAPNE000002	69	1	S-HH3-F - M4 x 35
24	2	CAPNE000013	70	1	SN-HEX NUT - M3
25	2	CAPNE000017	71	2	S-SHCS - 8-32 UNC X 0.4375
26	2	CAPNE000018	72	4	S-SHCS - M2.5 x 6
27	1	CAPNE000027	73	4	S-SHCS - M2.5 x 20
28	1	CAPNE000065	74	2	S-SHCS - M3 x 8
29	2	CAPNE000066	76	2	S-SHCS - M4 x 12
30	2	CAPNE000068	77	2	S-SHCS - M4 x 16
31	2	CAPNE000077	78	1	S-SHCS - M4 x 20
32	2	CAPNE000095	79	6	S-SHCS - M4 x 35
33	1	CAPNE000185	80	3	S-SHCS - M5 x 12
34	1	CAPNE000190	81	2	S-SHCS - M5 x 20
35	1	CAPRT000009	82	2	S-SHCS - M5 x 30
36	1	CAPRT000012	83	4	SW-FLAT WASHER - M2.5
37	1	CAPRT0000406	84	4	SW-FLAT WASHER - M3
38	1	CAPRT0000411	85	4	SW-FLAT WASHER - M4
39	1	CAPRT0000426	86	2	SW-FLAT WASHER - M6
40	1	CAPRT0000564	87	4	SW-SPLIT LOCK WASHER - M2.5
41	1	CAPRT001127	88	2	SW-SPLIT LOCK WASHER - M3
42	1	CAPRT001460	89	2	SW-SPLIT LOCK WASHER - M4
43	1	CAPRT001461	194	2	S-SHCS - M3 x 10
44	1	CAPRT001462			
45	1	CAPRT001463			
46	1	CAPRT001464			

ROBOTIC ASSEMBLY

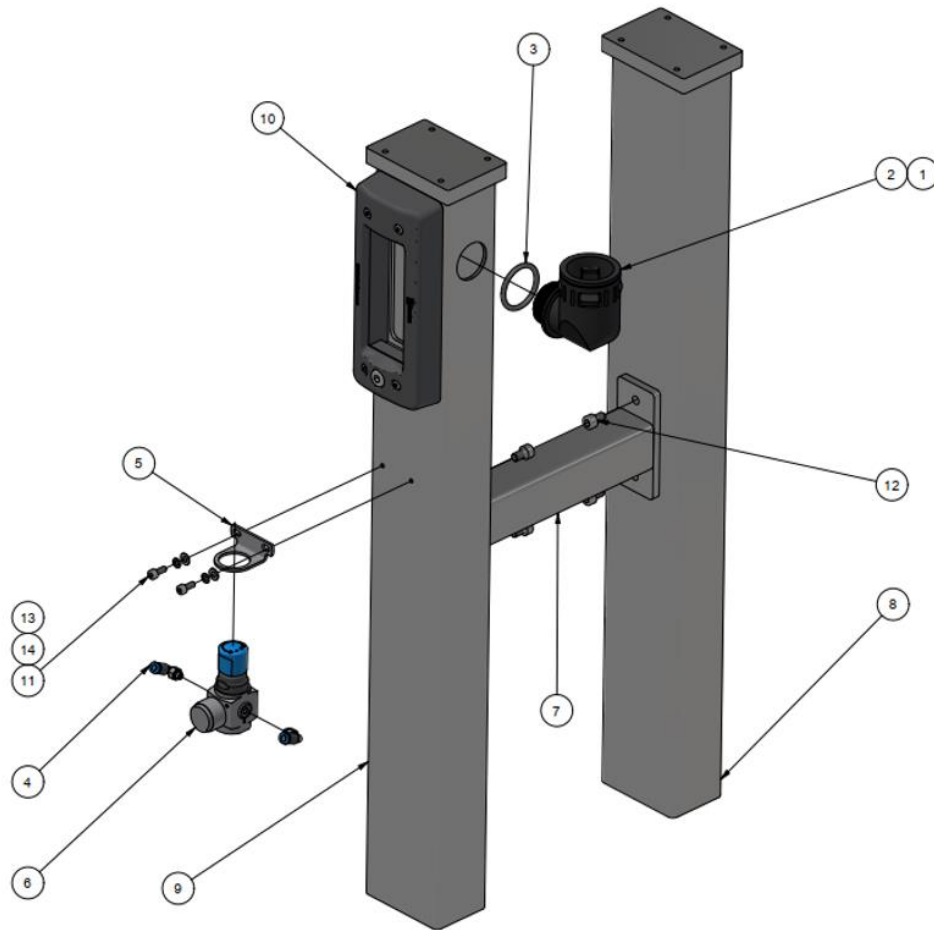
PARTS LIST		
ITEM	QTY	PART NUMBER
1	1	CAELE000150
2	1	CAELE000163
3	1	CASSY000042
4	1	CASSY000079
5	1	CASSY000080
6	1	CASSY000086
7	4	S-BHCS - M6 x 8

PICK AND PLACE ROBOT

PARTS LIST		
ITEM	QTY	PART NUMBER
1	1	CASSY000555
2	1	CASSY000556

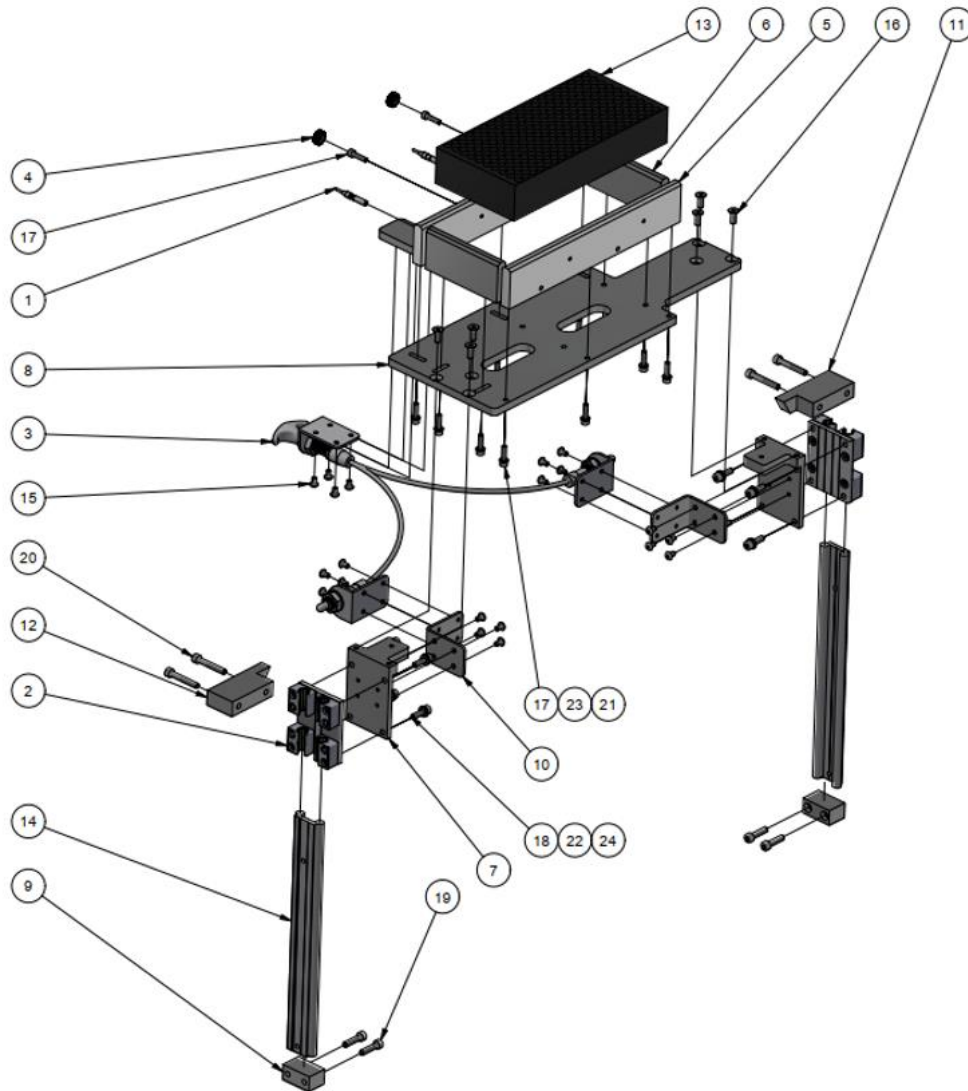
PICK & PLACE LEFT SUPPORT

PARTS LIST		
ITEM	QTY	PART NUMBER
2	1	CAPRT000532
3	1	CAPRT000635
4	1	CAPRT000636
5	1	CAPRT001521
7	2	S-SHCS - M5 x 10
8	4	S-SHCS - M6 x 16
10	4	SW-SPLIT LOCK WASHER - M6
9	4	SW-FLAT WASHER - M6
6	2	PAELE000074
1	2	CAELE000184

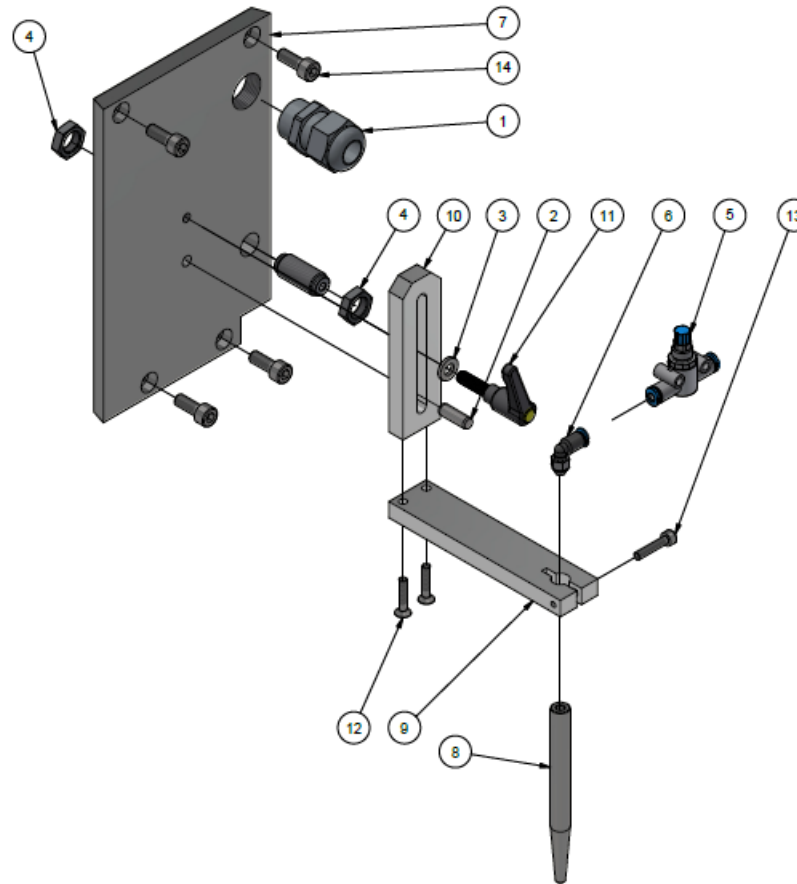
PICK & PLACE RIGHT SUPPORT

PARTS LIST		
ITEM	QTY	PART NUMBER
1	1	CAMEC000781
2	1	CAMEC000829
3	1	CAMEC000894
4	2	CAPNE000105
5	1	CAPNE000140
6	1	CAPNE000184
7	1	CAPRT000532
8	1	CAPRT000637
9	1	CAPRT000638
10	1	PAELE000074
11	2	S-SHCS - M4 x 10
12	4	S-SHCS - M6 x 10
13	2	SW-FLAT WASHER - M4
14	2	SW-SPLIT LOCK WASHER - M4

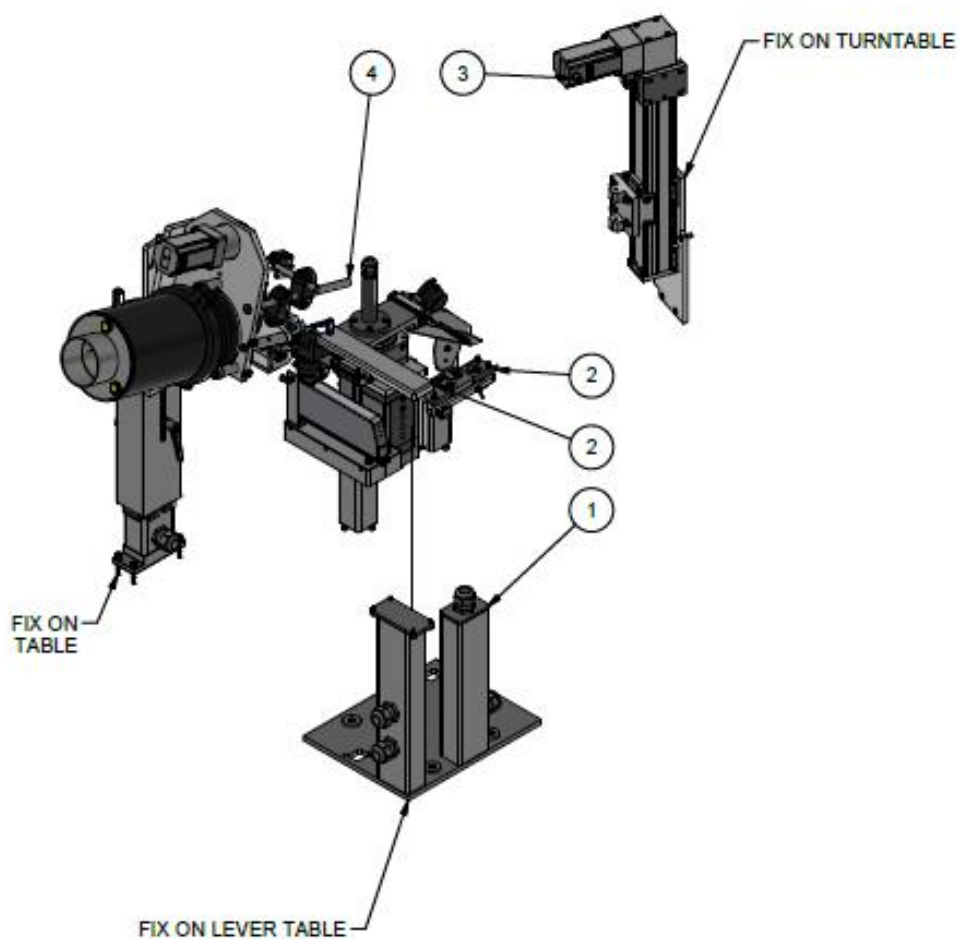
PICK & PLACE CONE TRAY



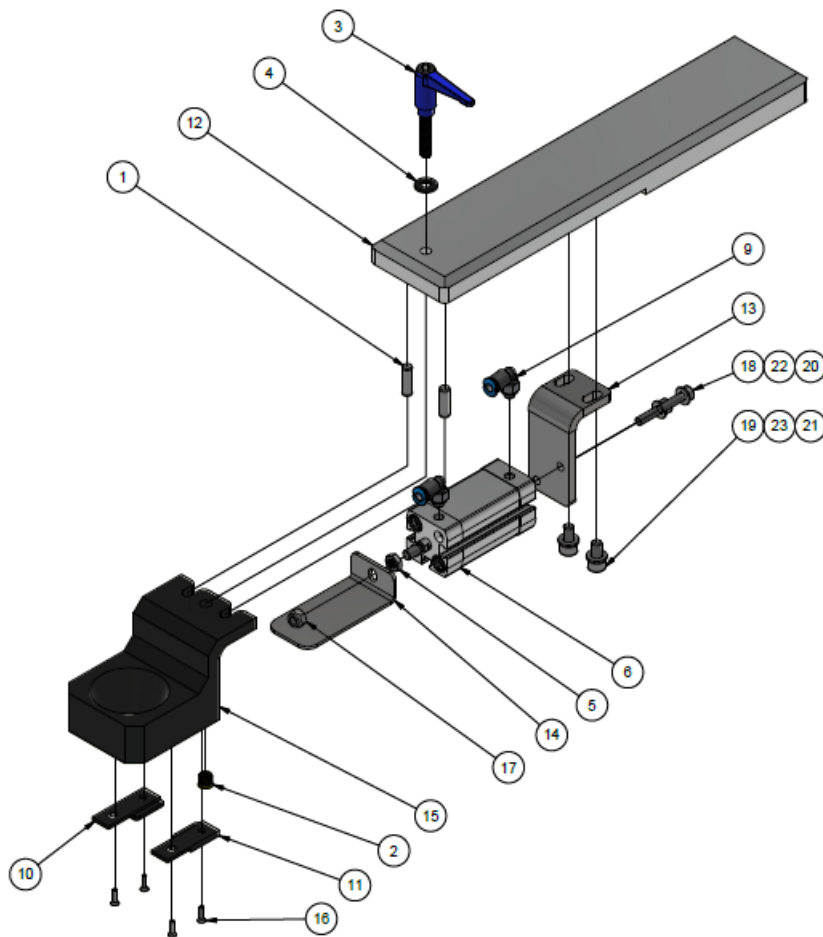
PARTS LIST		
ITEM	QTY	PART NUMBER
5	2	CAPRT000359
6	2	CAPRT000360
2	2	CAMEC000125
7	2	CAPRT000548
8	1	CAPRT000549
9	2	CAPRT000555
10	2	CAPRT000558
11	1	CAPRT000559
12	1	CAPRT000560
20	4	S-SHCS - M6 x 40
19	4	S-SHCS - M6 x 25
16	6	S-FHCS - M6x16
17	12	S-SHCS - M5 x 20
21	10	SW-FLAT WASHER - M5
15	20	S-BHCS - M5 x 8
13	1	CAPRT001793
1	2	CAELE000139
14	2	CAPRT001959
3	1	CAMEC000136
23	10	SW-SPLIT LOCK WASHER - M5
18	8	S-SHCS - M6 x 20
24	8	SW-SPLIT LOCK WASHER - M6
22	8	SW-FLAT WASHER - M6
4	2	CAMEC000674

STATION 3: CONE OPENER

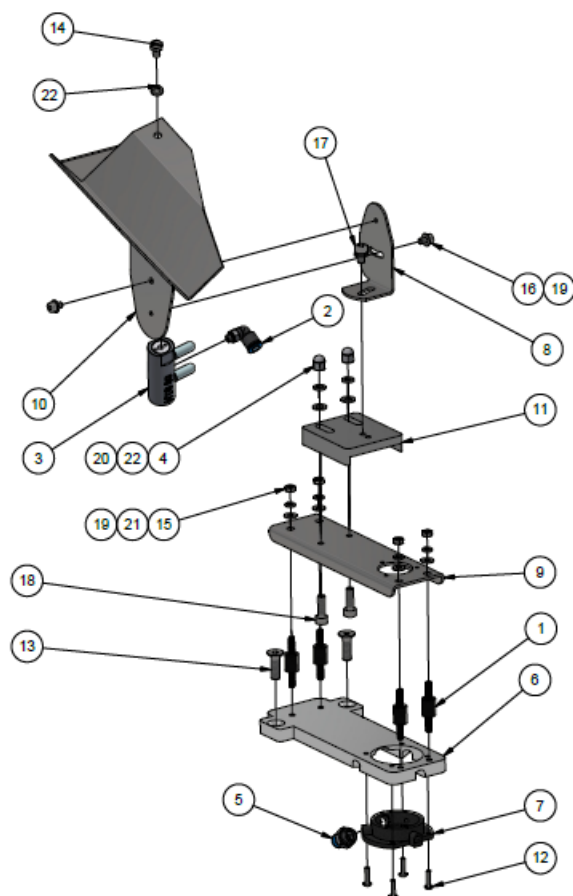
PARTS LIST		
ITEM	QTY	PART NUMBER
1	1	CAELE000057
2	1	CAMEC000014
3	1	CAMEC000017
4	1	CAPNE000017
5	1	CAPNE000104
6	1	CAPNE000105
7	1	CAPRT000071
8	1	CAPRT000072
9	1	CAPRT000073
10	1	CAPRT000294
11	1	PAMEC000081
12	2	S-FHCS - M4x20
13	1	S-SHCS - M4 x 20
14	4	S-SHCS - M6 x 16

STATION 4: DOSING

PARTS LIST		
ITEM	QTY	PART NUMBER
1	1	CASSY000091
3	1	CASSY000114
2	1	CASSY000092
4	1	CASSY000320
5	1	CASSY000426

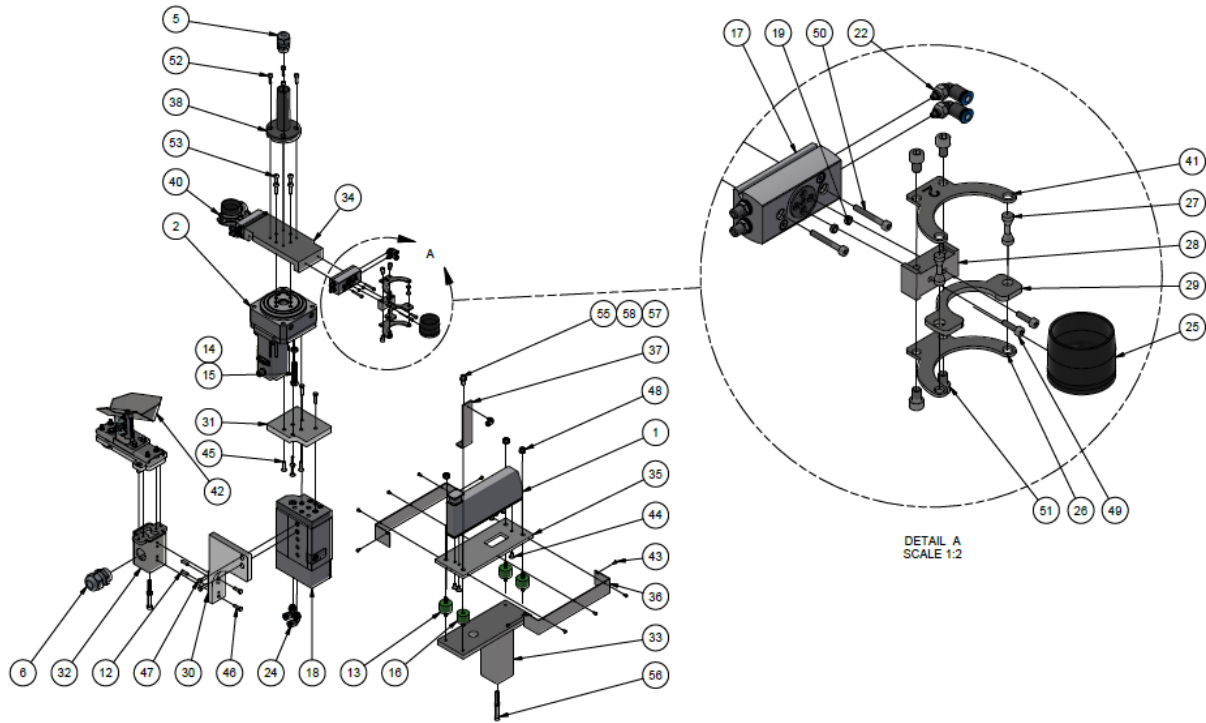
DOSING GATE

PARTS LIST		
ITEM	QTY	PART NUMBER
1	2	CAMEC000155
2	1	CAMEC000559
3	1	CAMEC000585
4	1	CAMEC000643
5	1	CAMEC000710
6	1	CAPNE000029
7	2	CAPNE000064
8	2	CAPNE000067
9	2	CAPNE000105
10	1	CAPRT000454
11	1	CAPRT000455
12	1	CAPRT001804
13	1	CAPRT001805
14	1	CAPRT001837
15	1	CAPRT001858
16	4	D-FHCS - M2x8
17	1	SN-NYLON LOCK NUT - M5
18	2	D-SHCS - M4 x 16
19	2	D-SHCS - M5 x 10
20	2	SW-FLAT WASHER - M4
21	2	SW-FLAT WASHER - M5
22	2	SW-SPLIT LOCK WASHER - M4
23	2	SW-SPLIT LOCK WASHER - M5

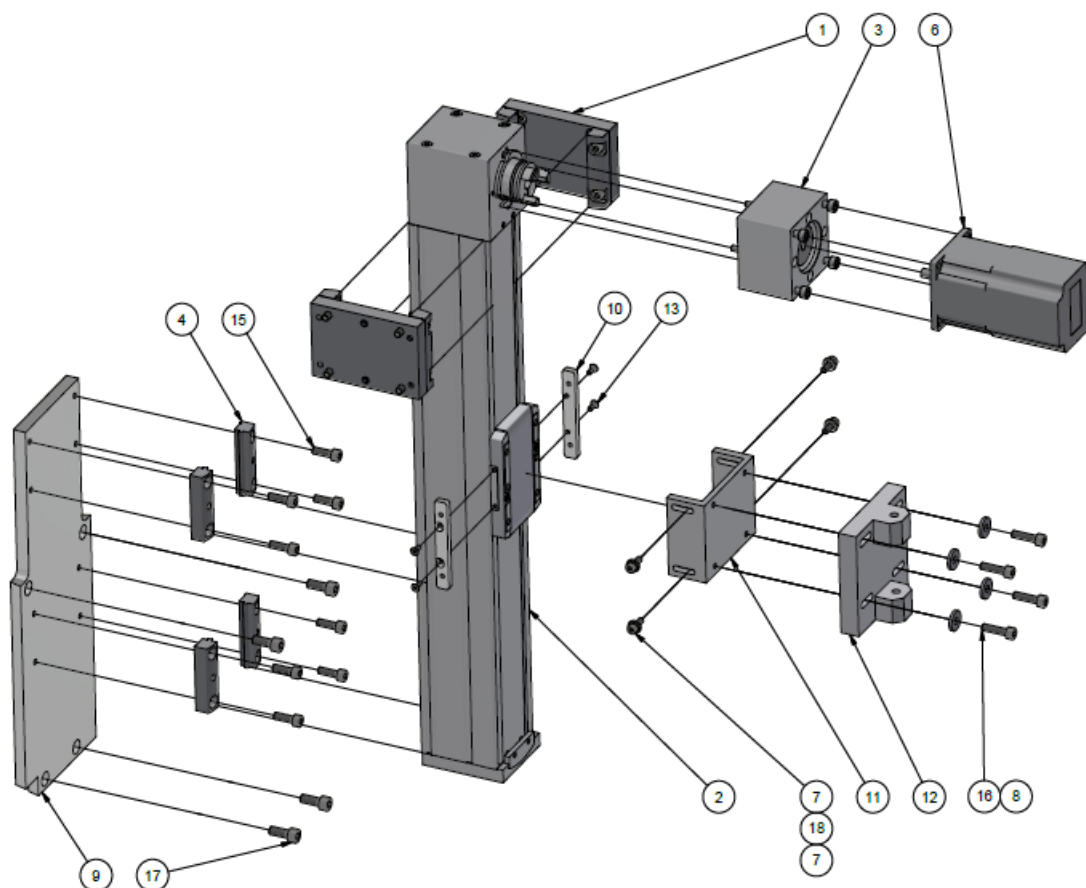
FEEDING FUNNEL

PARTS LIST		
ITEM	QTY	PART NUMBER
1	4	CAMEC000003
2	1	CAMEC000140
3	1	CAMEC000233
4	2	CAMEC000841
5	1	CAPNE000212
6	1	CAPRT000041
7	1	CAPRT000389
8	1	CAPRT001377
9	1	CAPRT001378
10	1	CAPRT001379
11	1	CAPRT001715
12	4	S-BHCS - M3 x 12
13	2	S-FHCS - M6x20
14	1	S-HCS-F - M5 x 8
15	4	SN-HEX NUT - M4
16	2	S-SHCS - M4 x 6
17	1	S-SHCS - M5 x 8
18	2	S-SHCS - M5 x 16
19	6	SW-FLAT WASHER - M4
20	3	SW-FLAT WASHER - M5
21	4	SW-SPLIT LOCK WASHER - M4
22	4	SW-SPLIT LOCK WASHER - M5

FEEDING STATION

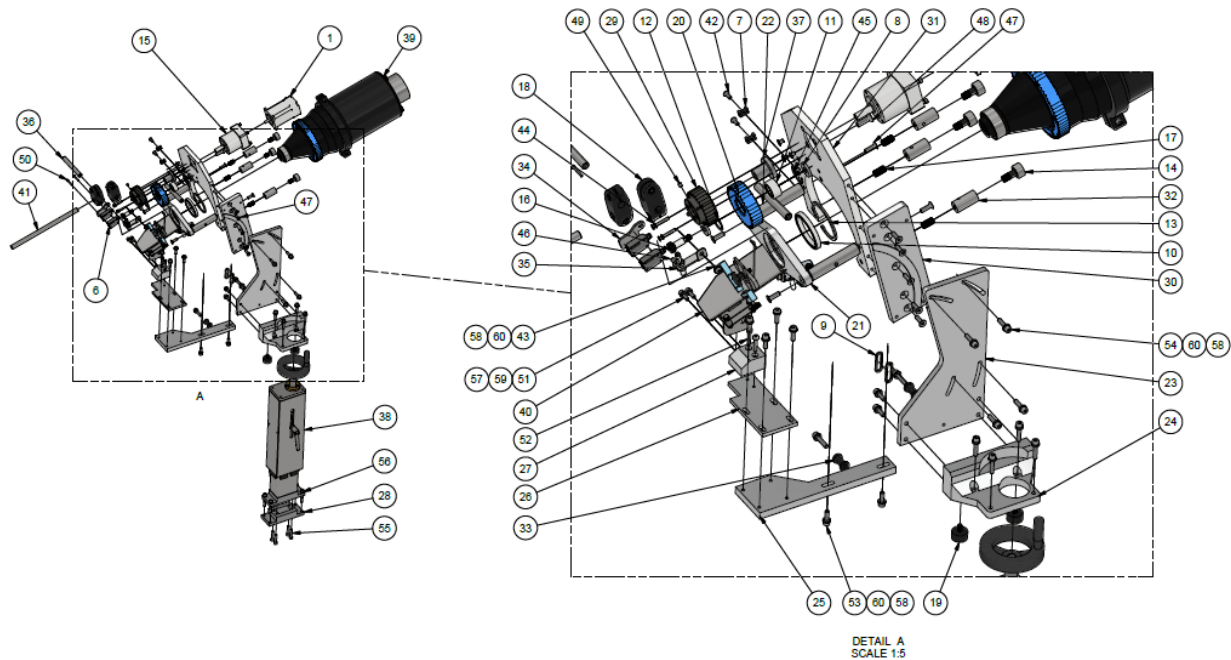


PARTS LIST			PARTS LIST		
ITEM	QTY	PART NUMBER	ITEM	QTY	PART NUMBER
1	1	CAELE000003	41	1	CAPRT001999
2	1	CAELE000023	42	1	CASSY000256
3	1	CAELE000047	43	10	S-BHCS - M3 x 6
4	1	CAELE000053	44	3	S-FHCS - M5x10
5	1	CAELE000057	45	4	S-FHCS - M5x20
6	1	CAELE000061	46	2	S-HCS-F - M5 x 16
7	3	CAELE000091	47	4	S-HCS-F - M5 x 20
8	1	CAELE000098	48	3	SN-HEX NUT - M6
9	1	CAELE000108	49	4	S-SHCS - M3 x 12
10	2	CAELE000109	50	4	S-SHCS - M3 x 25
11	3	CAELE000110	51	8	S-SHCS - M5 x 8
12	2	CAMEC000155	52	4	S-SHCS - M5 x 16
13	3	CAMEC000286	53	4	S-SHCS - M5 x 20
14	1	CAMEC000592	54	2	S-SHCS - M6 x 10
15	1	CAMEC000593	55	1	S-SHCS - M6 x 16
16	1	CAMEC000641	56	4	S-SHCS - M6 x 30
17	2	CAPNE000031	57	4	SW-FLAT WASHER - M6
18	1	CAPNE000037	58	4	SW-SPLIT LOCK WASHER - M6
19	4	CAPNE000042			
20	4	CAPNE000064			
21	2	CAPNE000072			
22	5	CAPNE000077			
23	2	CAPNE000078			
24	2	CAPNE000196			
25	2	CAPRT000370			
26	2	CAPRT000371			
27	4	CAPRT000373			
28	2	CAPRT000374			
29	2	CAPRT000375			
30	1	CAPRT000380			
31	1	CAPRT000394			
32	1	CAPRT000700			
33	1	CAPRT000701			
34	1	CAPRT000702			
35	1	CAPRT000981			
36	2	CAPRT000983			
37	1	CAPRT001935			
38	1	CAPRT001965			
39	1	CAPRT001980			
40	1	CAPRT001998			

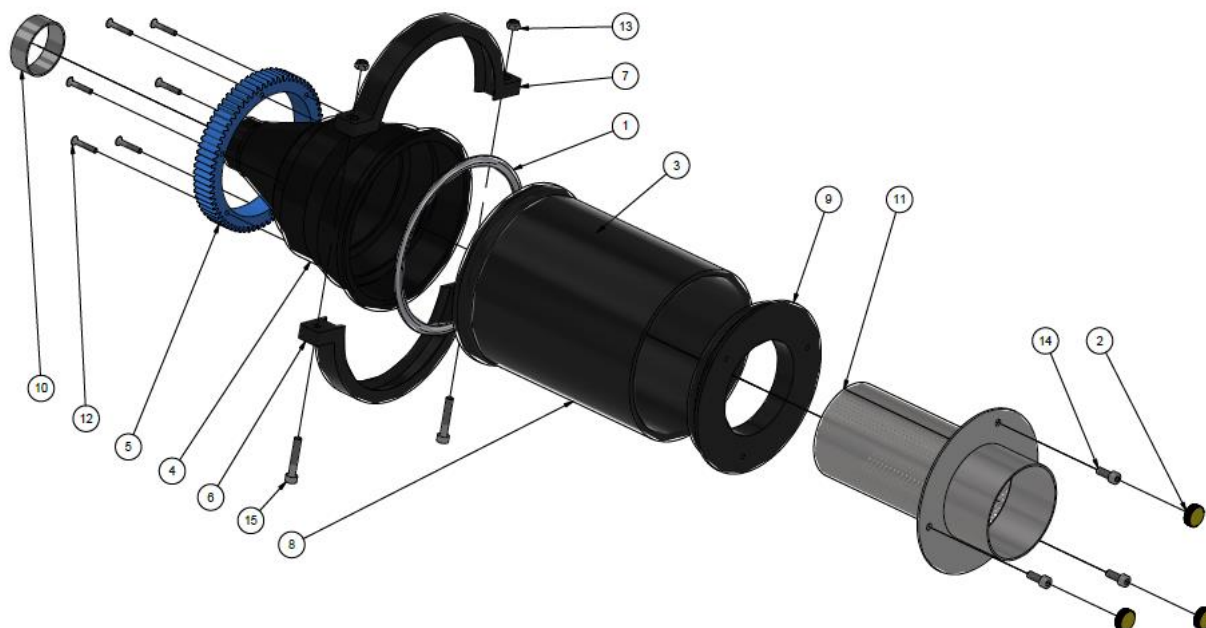
NEEDLE

PARTS LIST		
ITEM	QTY	PART NUMBER
1	2	CAELE000009
2	1	CAELE000010
3	1	CAELE000018
4	2	CAELE000020
5	1	CAELE000047
6	1	CAELE000069
7	4	CAMEC000159
8	4	CAMEC000687
9	1	CAPRT000436
10	2	CAPRT000978
11	1	CAPRT001447
12	1	CAPRT001448
13	4	S-FHCS - M3x8
14	4	S-SHCS - M4 x 12
15	8	S-SHCS - M5 x 16
16	4	S-SHCS - M5 x 20
17	4	S-SHCS - M6 x 16
18	4	SW-SPLIT LOCK WASHER - M4

FEEDING SYSTEM

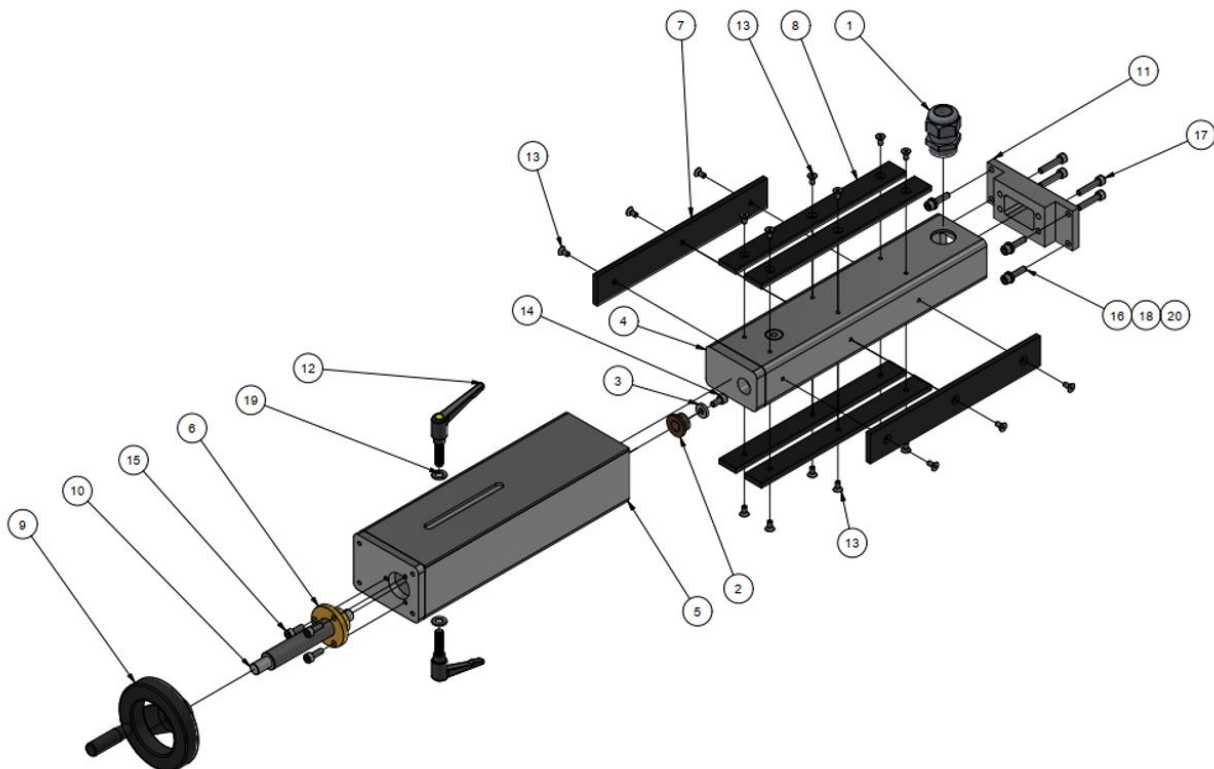


PARTS LIST			PARTS LIST		
ITEM	QTY	PART NUMBER	ITEM	QTY	PART NUMBER
1	1	CABLE000059	41	1	PAMEC000339
2	2	CABLE000091	42	2	S-BHCS - M5 x 12
3	1	CABLE000136	43	1	S-BHCS - M5 x 10
4	1	CABLE000156	44	4	S-FHCS - M4x25
5	2	CABLE000190	45	4	S-FHCS - M5x8
6	2	CABLE000195	46	1	S-FHCS - M6x12
7	1	CABLE000272	47	9	S-FHCS - M6x20
8	2	CAMEC000156	48	1	S-FHCS - M8x25
9	2	CAMEC000196	49	4	S-HDS-FLAT - M5 x 6
10	1	CAMEC000421	50	2	S-SHCS - M3 x 25
11	1	CAMEC000422	51	2	S-SHCS - M5 x 16
12	2	CAMEC000424	52	2	S-SHCS - M5 x 25
13	1	CAMEC000425	53	10	S-SHCS - M6 x 20
14	3	CAMEC000426	54	4	S-SHCS - M5 x 25
15	1	CAMEC000503	55	10	S-SHCS - M6 x 30
16	1	CAMEC000516	56	4	S-SHCS - M6 x 35
17	3	CAMEC000517	57	2	SW-FLAT WASHER - M5
18	2	CAMEC000551	58	21	SW-FLAT WASHER - M5
19	2	CAMEC000558	59	2	SW-SPLIT LOCK WASHER - M5
20	1	CAPRT001708	60	21	SW-SPLIT LOCK WASHER - M5
21	1	CAPRT001709			
22	2	CAPRT001710			
23	1	CAPRT001712			
24	1	CAPRT001791			
25	1	CAPRT001799			
26	1	CAPRT001801			
27	1	CAPRT001802			
28	1	CAPRT001814			
29	1	CAPRT001836			
30	1	CAPRT001838			
31	1	CAPRT001839			
32	3	CAPRT001840			
33	2	CAPRT001877			
34	1	CAPRT001881			
35	1	CAPRT001924			
36	2	CAPRT001966			
37	1	CAPRT002307			
38	1	CASGY000065			
39	1	CASGY000323			
40	1	CASGY000345			

TUMBLER

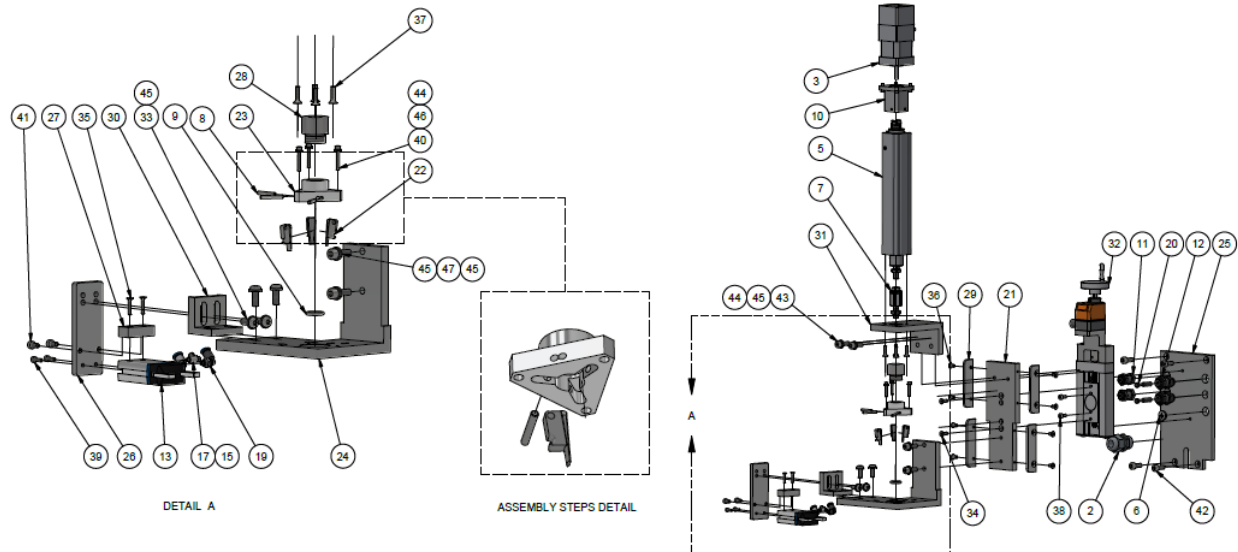
PARTS LIST		
ITEM	QTY	PART NUMBER
1	1	CAMEC000451
2	3	CAMEC000833
3	1	CAMEC000915
4	1	CAPRT001700
5	1	CAPRT001705
6	1	CAPRT001808
7	1	CAPRT001809
8	1	CAPRT001853-A
9	1	CAPRT001853-B
10	1	CAPRT001925
11	1	CAPRT002340
12	6	S-FHCS - M4x25
13	2	SN-NYLON LOCK NUT - M6
14	3	S-SHCS - M6 x 15
15	2	S-SHCS - M6 x 35

HOPPER POST



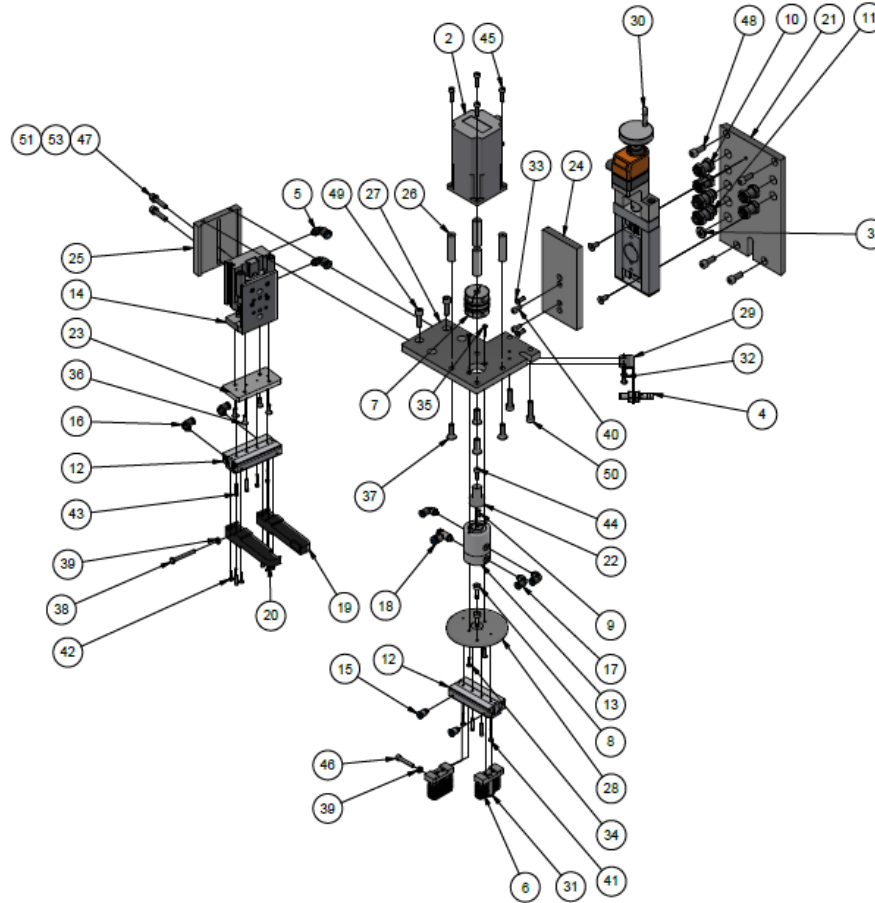
PARTS LIST		
ITEM	QTY	PART NUMBER
1	1	CAELE000061
2	1	CAMEC000142
3	1	CAMEC000147
4	1	CAPRT000552
5	1	CAPRT000576
6	1	CAPRT000577
7	2	CAPRT000578
8	4	CAPRT000579
9	1	CAPRT000580
10	1	CAPRT000581
11	1	CAPRT001814
12	2	PAMEC000124
13	18	S-FHCS - M5x10
14	1	S-SHCS - M6 x 12
15	3	S-SHCS - M6 x 16
16	4	S-SHCS - M6 x 25
17	4	S-SHCS - M6 x 30
18	4	SW-FLAT WASHER - M6
19	2	SW-FLAT WASHER - M8
20	4	SW-SPLIT LOCK WASHER - M6

STATION 5: COMPACTION



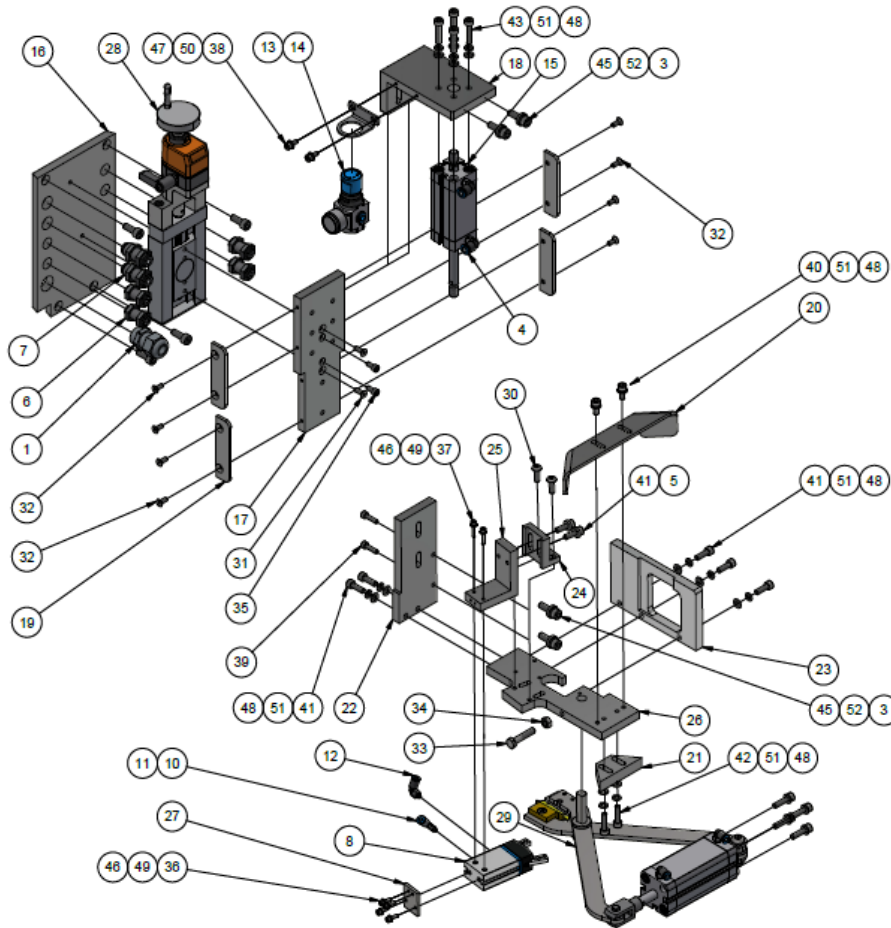
PARTS LIST		
ITEM	QTY	PART NUMBER
1	1	CAELE000047
2	1	CAELE000057
3	1	CAELE000118
4	1	CAELE000136
5	1	CAELE000152
6	1	CAELE000197
7	1	CAMEC000083
8	3	CAMEC000188
9	1	CAMEC000465
10	1	CAMEC000636
11	2	CAPNE000017
12	2	CAPNE000018
13	1	CAPNE000054
14	1	CAPNE000064
15	1	CAPNE000066
16	1	CAPNE000067
17	1	CAPNE000068
18	1	CAPNE000070
19	1	CAPNE000077
20	2	CAPNE000187
21	1	CAPRT000230
22	3	CAPRT000231
23	1	CAPRT000232
24	1	CAPRT000233
25	1	CAPRT000313
26	1	CAPRT000472
27	1	CAPRT000473
28	1	CAPRT000497
29	4	CAPRT000564
30	1	CAPRT000729
31	1	CAPRT001964
32	1	CASSY000068
33	4	S-BHCS - M6 x 16
34	2	S-FHCS - 8-32 UNC X 0.5
35	2	S-FHCS - M3x16
36	8	S-FHCS - M4x8
37	4	S-FHCS - M4x16
38	2	S-SHCS - 8-32 UNC X 0.375
39	2	S-SHCS - M3 x 10
40	3	S-SHCS - M3 x 20
41	2	S-SHCS - M4 x 8
42	4	S-SHCS - M6 x 16
43	4	S-SHCS - M6 x 20
44	3	SW-FLAT WASHER - M3
45	8	SW-FLAT WASHER - M6
46	3	SW-SPLIT LOCK WASHER - M3
47	4	SW-SPLIT LOCK WASHER - M6

STATION 6: TWIST

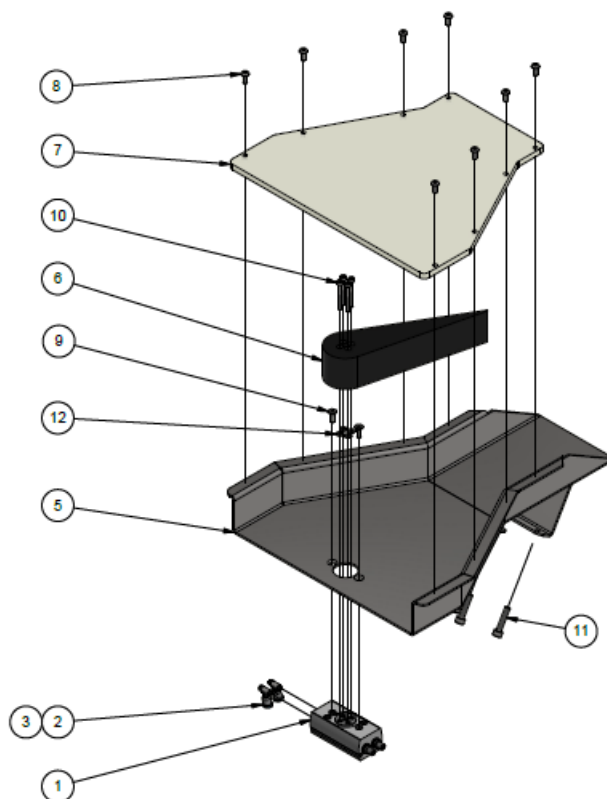


PARTS LIST			PARTS LIST		
ITEM	QTY	PART NUMBER	ITEM	QTY	PART NUMBER
1	1	CAELE000047	28	1	CAPRT001676
2	1	CAELE000069	29	1	CAPRT001978
3	1	CAELE000197	30	1	CASSY000068
4	1	CAELE000272	31	2	CASSY000488
5	2	CAMEC000140	32	2	S-BHCS - M4 x 8
6	14	CAMEC000196	33	2	S-FHCS - 8-32 UNC X 0.5
7	1	CAMEC000214	34	2	S-FHCS - M3x12
8	2	CAMEC000644	35	2	S-FHCS - M3x16
9	1	CAMEC000695	36	4	S-FHCS - M4x12
10	4	CAPNE000017	37	4	S-FHCS - M6x20
11	2	CAPNE000018	38	1	S-HCS-F - M4 x 35
12	2	CAPNE000022	39	2	SN-HEX NUT - M4
13	1	CAPNE000036	40	2	S-SHCS - 8-32 UNC X 0.375
14	1	CAPNE000056	41	4	S-SHCS - M2.5 x 16
15	2	CAPNE000066	42	8	S-SHCS - M2.5 x 12
16	2	CAPNE000077	43	4	S-SHCS - M2.5 x 16
17	3	CAPNE000105	44	1	S-SHCS - M4 x 12
18	1	CAPNE000227	45	4	S-SHCS - M4 x 16
19	1	CAPRT000240	46	1	S-SHCS - M4 x 25
20	1	CAPRT000262	47	2	S-SHCS - M5 x 25
21	1	CAPRT000323	48	4	S-SHCS - M6 x 16
22	1	CAPRT000347	49	2	S-SHCS - M6 x 20
23	1	CAPRT000393	50	2	S-SHCS - M6 x 25
24	1	CAPRT000431	51	2	SW-FLAT WASHER - M5
25	1	CAPRT000432	52	2	SW-FLAT WASHER - M6
26	4	CAPRT000790	53	2	SW-SPLIT LOCK WASHER - M5
27	1	CAPRT000794	54	2	SW-SPLIT LOCK WASHER - M6

STATION 7: CUTTING AND FLATTENING

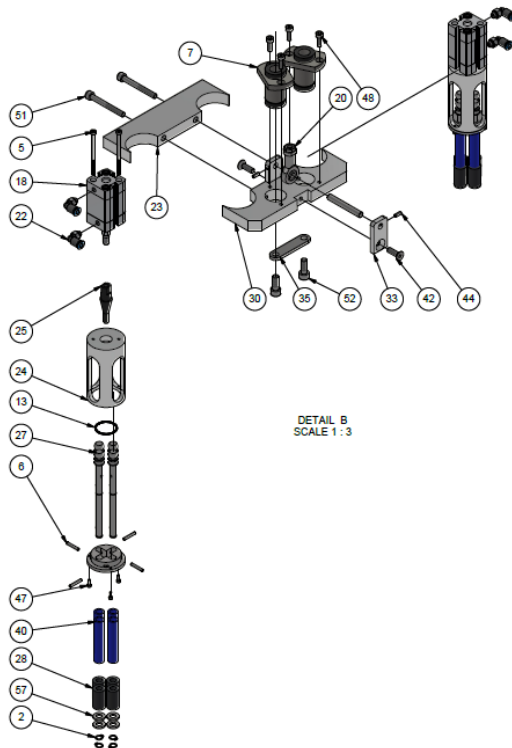
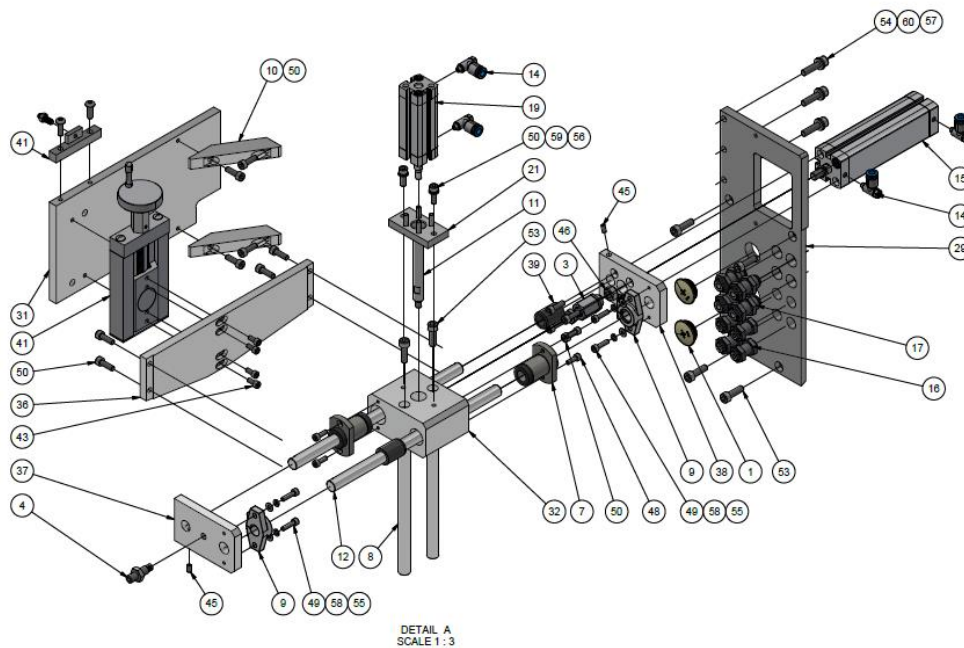


PARTS LIST			PARTS LIST		
ITEM	QTY	PART NUMBER	ITEM	QTY	PART NUMBER
1	1	CAELE000151	27	1	CAPRT002495
2	1	CAELE000189	28	1	CASSY000068
3	4	CAMEC000078	29	1	CASSY000228
4	2	CAMEC000140	30	2	S-BHCS - M5 x 16
5	2	CAMEC000154	31	2	S-FHCS - 8-32 UNC X 0.5
6	4	CAPNE000017	32	8	S-FHCS - M4x10
7	2	CAPNE000018	33	1	S-HHS-P - M6 x 30
8	1	CAPNE000054	34	1	SN-HEX NUT - M6
9	1	CAPNE000065	35	2	S-SHCS - 8-32 UNC X 0.375
10	1	CAPNE000066	36	4	S-SHCS - M3 x 10
11	1	CAPNE000068	37	2	S-SHCS - M3 x 16
12	1	CAPNE000077	38	2	S-SHCS - M4 x 10
13	1	CAPNE000140	39	2	S-SHCS - M4 x 16
14	1	CAPNE000141	40	2	S-SHCS - M5 x 12
15	1	CAPNE000142	41	7	S-SHCS - M5 x 16
16	1	CAPRT000469	42	2	S-SHCS - M5 x 20
17	1	CAPRT000562	43	4	S-SHCS - M5 x 25
18	1	CAPRT000563	44	4	S-SHCS - M6 x 16
19	4	CAPRT000564	45	4	S-SHCS - M6 x 20
20	1	CAPRT001280	46	6	SW-FLAT WASHER - M3
21	1	CAPRT001281	47	2	SW-FLAT WASHER - M4
22	1	CAPRT001283	48	13	SW-FLAT WASHER - M5
23	1	CAPRT001446	49	6	SW-SPLIT LOCK WASHER - M3
24	1	CAPRT001945	50	2	SW-SPLIT LOCK WASHER - M4
25	1	CAPRT001946	51	13	SW-SPLIT LOCK WASHER - M5
26	1	CAPRT001979	52	4	SW-SPLIT LOCK WASHER - M6

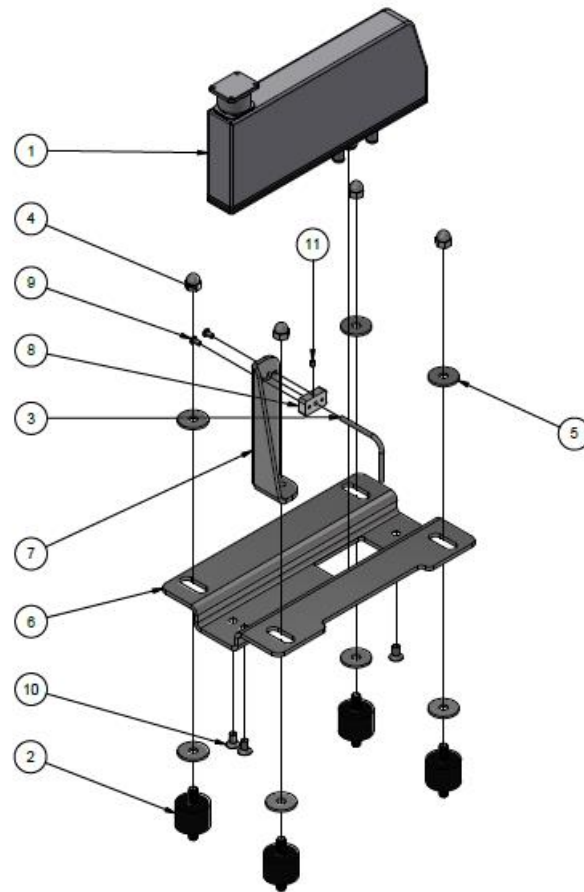
STATION 9: PRODUCT VALIDATIONEXIT CHUTE

PARTS LIST		
ITEM	QTY	PART NUMBER
1	1	CAPNE000031
2	2	CAPNE000066
3	2	CAPNE000068
4	2	CAPNE000078
5	1	CAPRT000408
6	1	CAPRT000410
7	1	CAPRT001514
8	8	S-BHCS - M4 x 10
9	2	S-FHCS - M4x12
10	4	S-SHCS - M3 x 30
11	4	S-SHCS - M5 x 25
12	4	SW-FLAT WASHER - M3

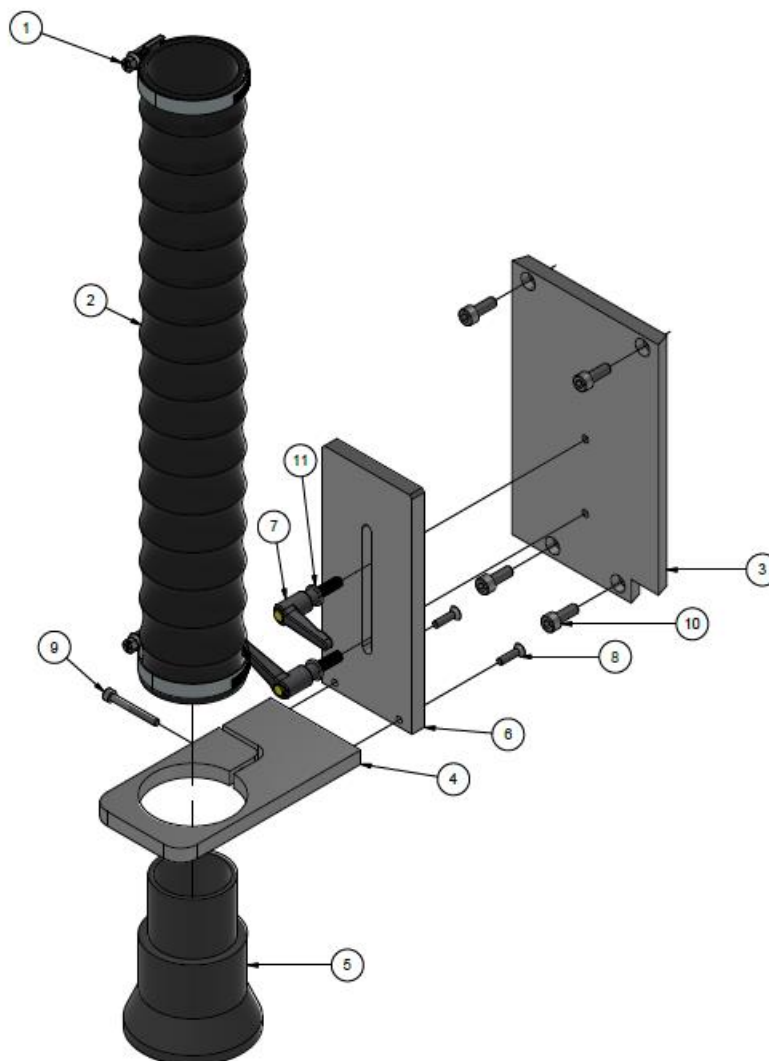
PICK AND PLACE



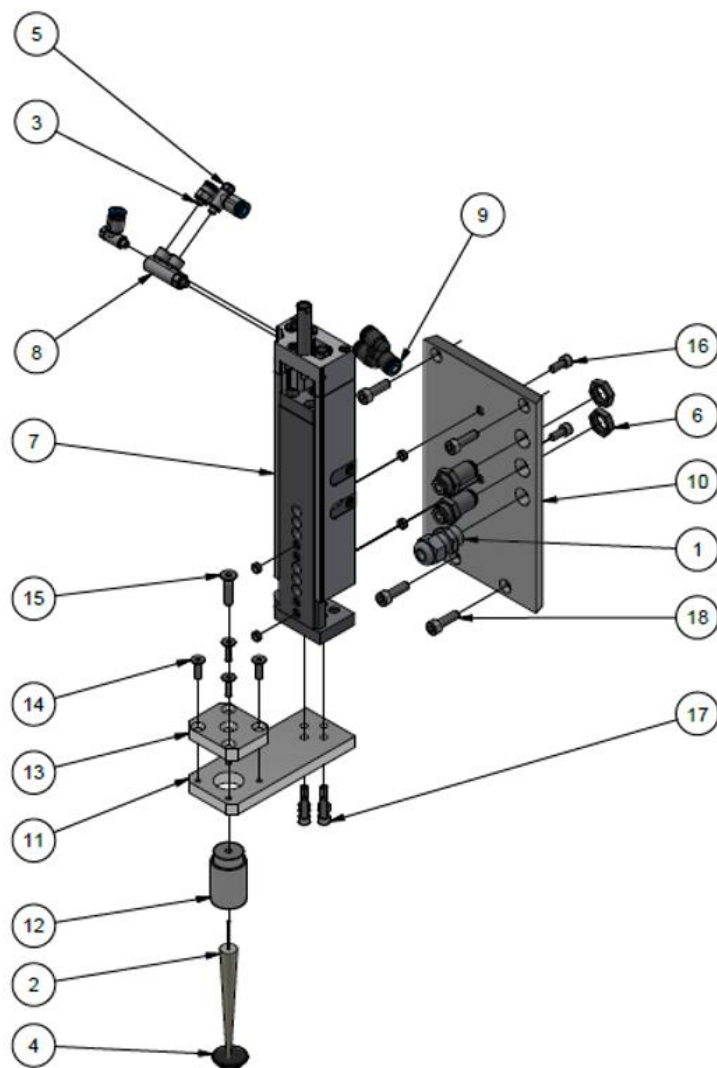
PARTS LIST			PARTS LIST		
ITEM	QTY	PART NUMBER	ITEM	QTY	PART NUMBER
1	2	CALC0000250	41	1	CADSY000151
2	8	CAMEC000039	42	2	S-FHCS - M5x15
3	1	CAMEC000083	43	4	S-HCS - S-32 UNC X 0.375
4	1	CAMEC000097	44	2	S-HS0-FLAT - M3 x 8
5	5	CAMEC000164	45	2	S-HS0-FLAT - M4 x 8
6	8	CAMEC000165	46	1	SN-HEX NUT - M8
7	4	CAMEC000184	47	6	S-SHCS - M2 x 6
8	2	CAMEC000185	48	8	S-SHCS - M4 x 12
9	2	CAMEC000187	49	4	S-SHCS - M4 x 16
10	2	CAMEC000188	50	14	S-SHCS - M5 x 16
11	1	CAMEC000189	51	2	S-SHCS - M5 x 45
12	2	CAMEC000190	52	2	S-SHCS - M6 x 16
13	2	CAMEC000832	53	6	S-SHCS - M6 x 20
14	4	CAPNE000013	54	3	S-SHCS - M6 x 25
15	1	CAPNE000016	55	4	SW-FLAT WASHER - M4
16	4	CAPNE000017	56	2	SW-FLAT WASHER - M5
17	4	CAPNE000018	57	11	SW-FLAT WASHER - M6
18	2	CAPNE000024	58	4	SW-SPLIT LOCK WASHER - M4
19	1	CAPNE000086	59	2	SW-SPLIT LOCK WASHER - M5
20	1	CAPNE000087	60	3	SW-SPLIT LOCK WASHER - M6
21	1	CAPNE000088			
22	4	CAPNE000105			
23	1	CAPRT000345			
24	2	CAPRT000346			
25	2	CAPRT000348			
26	2	CAPRT000349			
27	8	CAPRT000350			
28	8	CAPRT000352			
29	1	CAPRT000665			
30	1	CAPRT000669			
31	1	CAPRT000670			
32	1	CAPRT000683			
33	2	CAPRT000687			
34	1	CAPRT000692			
35	1	CAPRT000693			
36	1	CAPRT000696			
37	1	CAPRT000697			
38	1	CAPRT000698			
39	2	CAPRT000964			
40	8	CAPRT002301			

SCALE

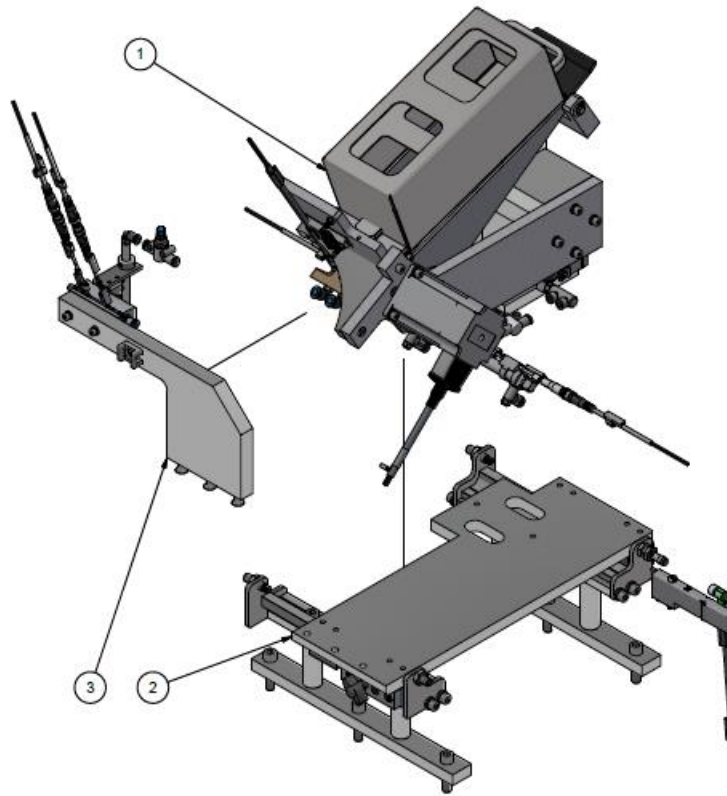
PARTS LIST		
ITEM	QTY	PART NUMBER
1	1	CAELE000003
2	4	CAMEC000002
3	1	CAMEC000084
4	4	CAMEC000269
5	7	CAMEC000737
6	1	CAPRT000365
7	1	CAPRT000465
8	1	CAPRT000466
9	2	S-BHCS - M3 x 6
10	3	S-FHCS - M5x10
11	1	S-HSS-FLAT - M3 x 4

STATION 10: CLEAN TIP AND CONE

PARTS LIST		
ITEM	QTY	PART NUMBER
1	2	CAMEC000380
2	1	CAMEC000840
3	1	CAPRT000322
4	1	CAPRT000800
5	1	CAPRT000802
6	1	CAPRT000803
7	2	PAMEC000081
8	2	S-FHCS - M4x16
9	1	S-SHCS - M4 x 35
10	4	S-SHCS - M6 x 16
11	2	SW-FLAT WASHER - M6

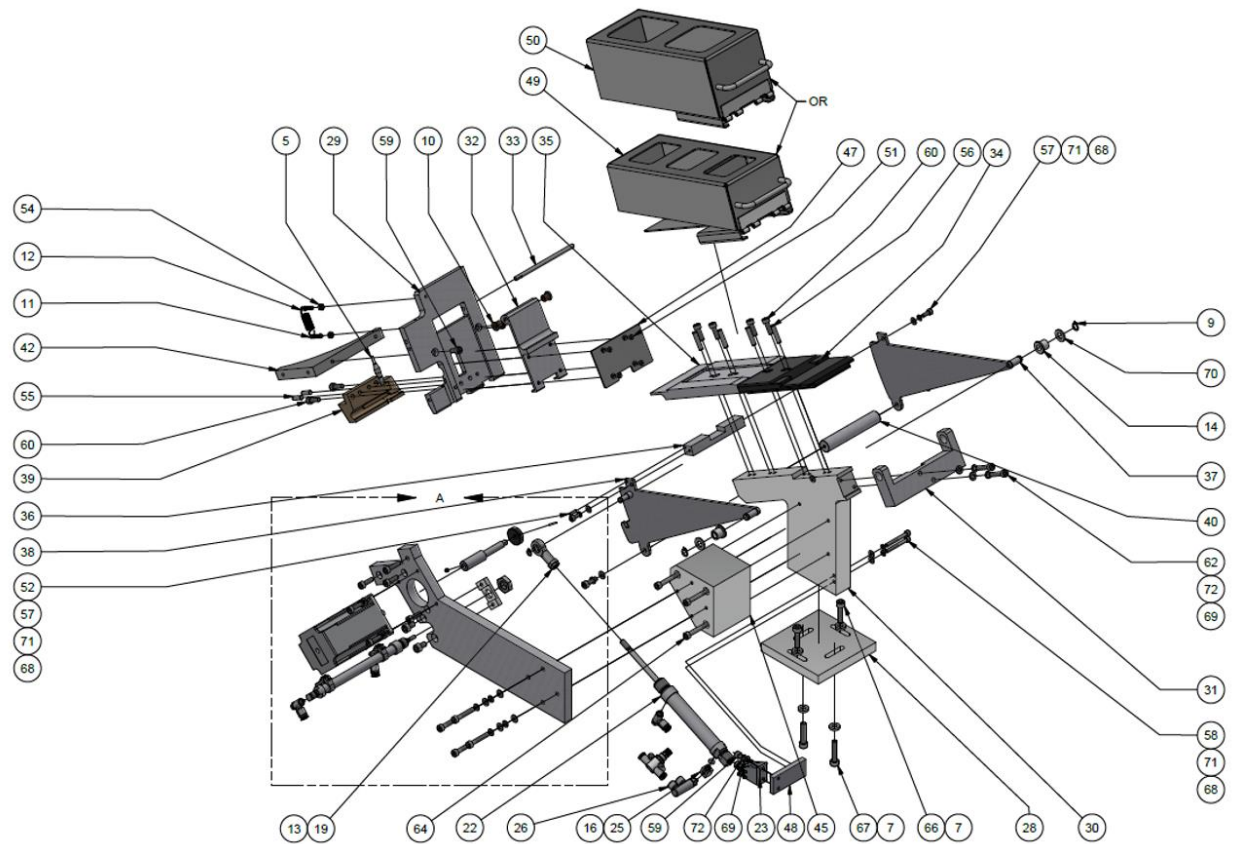
STATION 11: CLEANING BRUSH

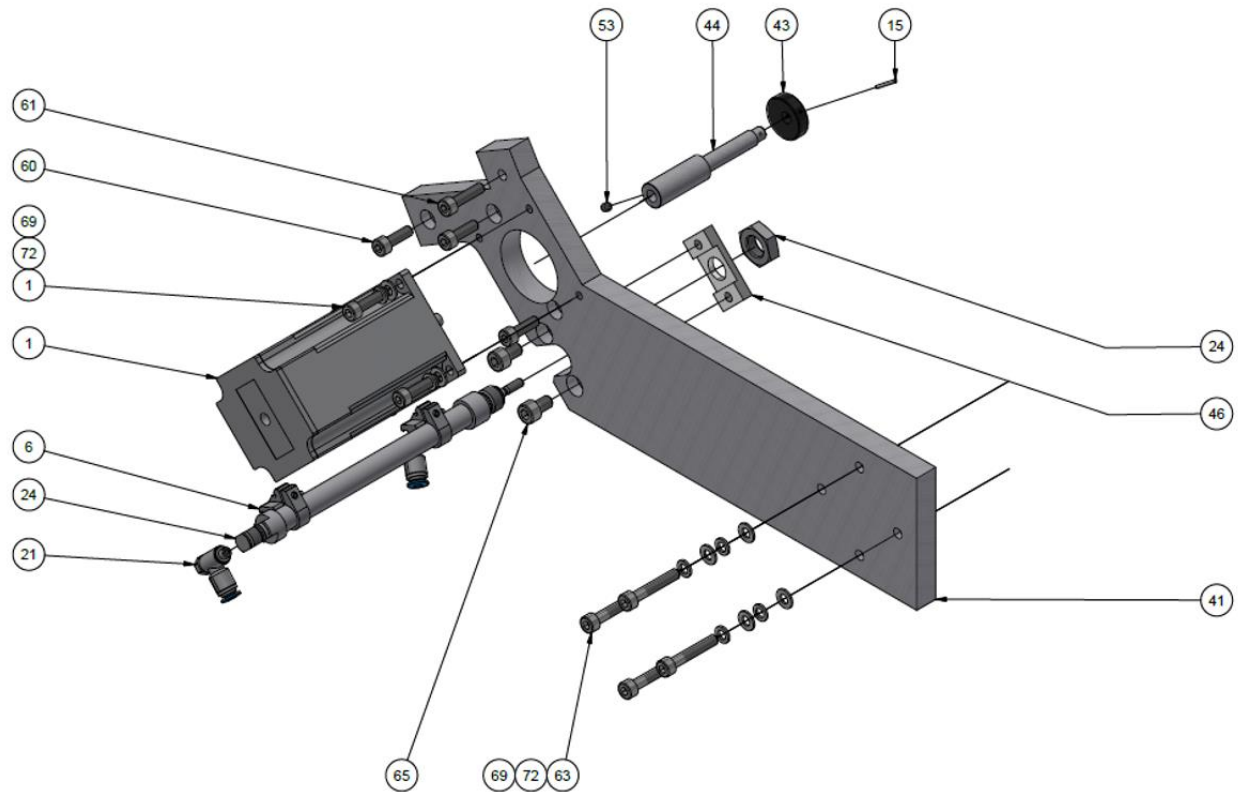
PARTS LIST		
ITEM	QTY	PART NUMBER
1	1	CAELE000045
2	1	CAMEC000056
3	1	CAMEC000139
4	1	CAMEC000439
5	2	CAPNE000013
6	2	CAPNE000018
7	1	CAPNE000084
8	1	CAPNE000185
9	1	CAPNE000190
10	1	CAPRT000312
11	1	CAPRT000615
12	1	CAPRT000742
13	1	CAPRT001387
14	4	S-FHCS - M5x16
15	1	S-FHCS - M6x25
16	2	S-SHCS - M5 x 12
17	4	S-SHCS - M5 x 16
18	4	S-SHCS - M6 x 20

STATION 12: STRAIGHT TUBE FEEDER (OPTIONAL)

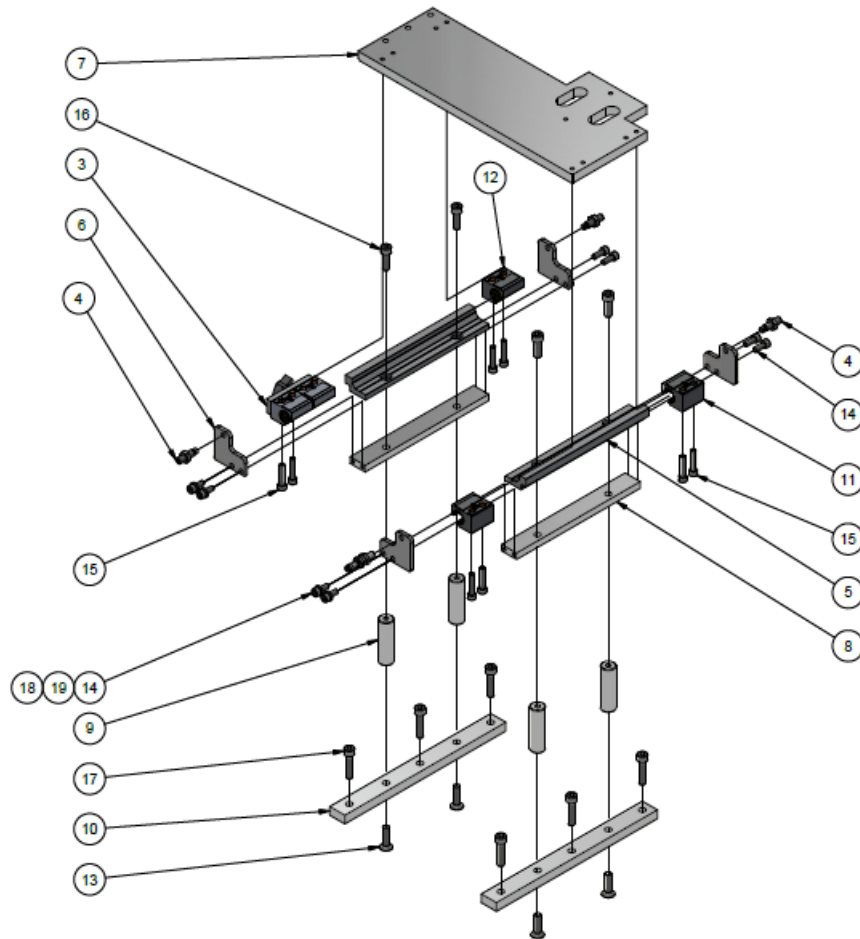
PARTS LIST		
ITEM	QTY	PART NUMBER
1	1	CASSY000172
2	1	CASSY000173
3	1	CASSY000174

CASSETTE OPENING ASSEMBLY

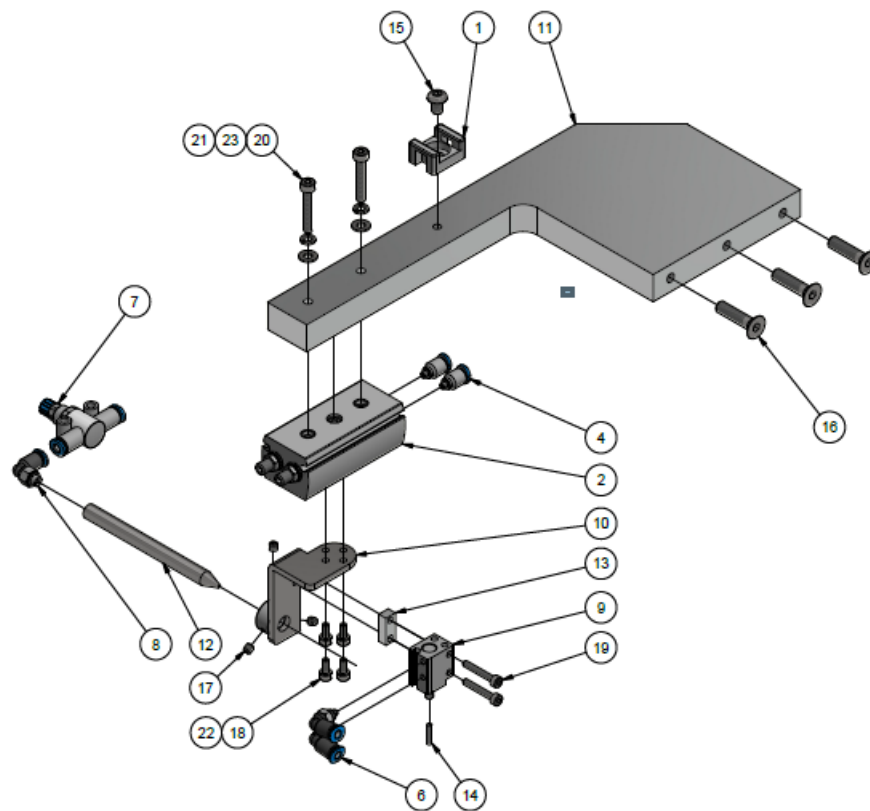




PARTS LIST			PARTS LIST		
ITEM	QTY	PART NUMBER	ITEM	QTY	PART NUMBER
1	1	CABLE000059	37	1	CAPRT001064
2	1	CABLE000091	38	1	CAPRT001065
3	2	CABLE000135	39	1	CAPRT001066
4	1	CABLE000136	40	1	CAPRT001067
5	1	CABLE000139	41	1	CAPRT001068
6	2	CABLE000140	42	1	CAPRT001069
7	4	CAMEC000078	43	1	CAPRT001070
8	2	CAMEC000140	44	1	CAPRT001071
9	2	CAMEC000254	45	1	CAPRT001072
10	2	CAMEC000255	46	1	CAPRT001209
11	2	CAMEC000256	47	1	CAPRT001213
12	1	CAMEC000257	48	1	CAPRT001587
13	1	CAMEC000259	49	1	CASGY000197
14	2	CAMEC000289	50	1	CASGY000198
15	1	CAMEC000671	51	4	G-FHCS - M3x8
16	1	CAMEC000909	52	1	G-HSS-FLAT - M3 x 10
17	5	CAPNE000058	53	1	G-HSS-FLAT - M4 x 4
18	2	CAPNE000054	54	2	SN-HEX NUT - M4
19	1	CAPNE000097	55	2	SP-DOWEL PIN - Ø5 X 16
20	1	CAPNE000104	56	4	SP-DOWEL PIN - Ø5 X 24
21	3	CAPNE000106	57	2	G-SHCS - M4 x 10
22	1	CAPNE000123	58	2	G-SHCS - M4 x 35
23	1	CAPNE000124	59	4	G-SHCS - M5 x 12
24	1	CAPNE000127	60	11	G-SHCS - M5 x 16
25	1	CAPNE000181	61	5	G-SHCS - M5 x 20
26	1	CAPNE000185	62	2	G-SHCS - M5 x 25
27	1	CAPNE000234	63	4	G-SHCS - M5 x 30
28	1	CAPRT000979	64	3	G-SHCS - M5 x 45
29	1	CAPRT001056	65	2	G-SHCS - M6 x 10
30	1	CAPRT001057	66	2	G-SHCS - M6 x 25
31	1	CAPRT001058	67	2	G-SHCS - M6 x 30
32	1	CAPRT001059	68	5	SW-FLAT WASHER - M4
33	1	CAPRT001060	69	14	SW-FLAT WASHER - M5
34	1	CAPRT001061	70	2	SW-FLAT WASHER - M8
35	1	CAPRT001062	71	4	SW-SPLIT LOCK WASHER - M4
36	1	CAPRT001063	72	14	SW-SPLIT LOCK WASHER - M5

SLIDER

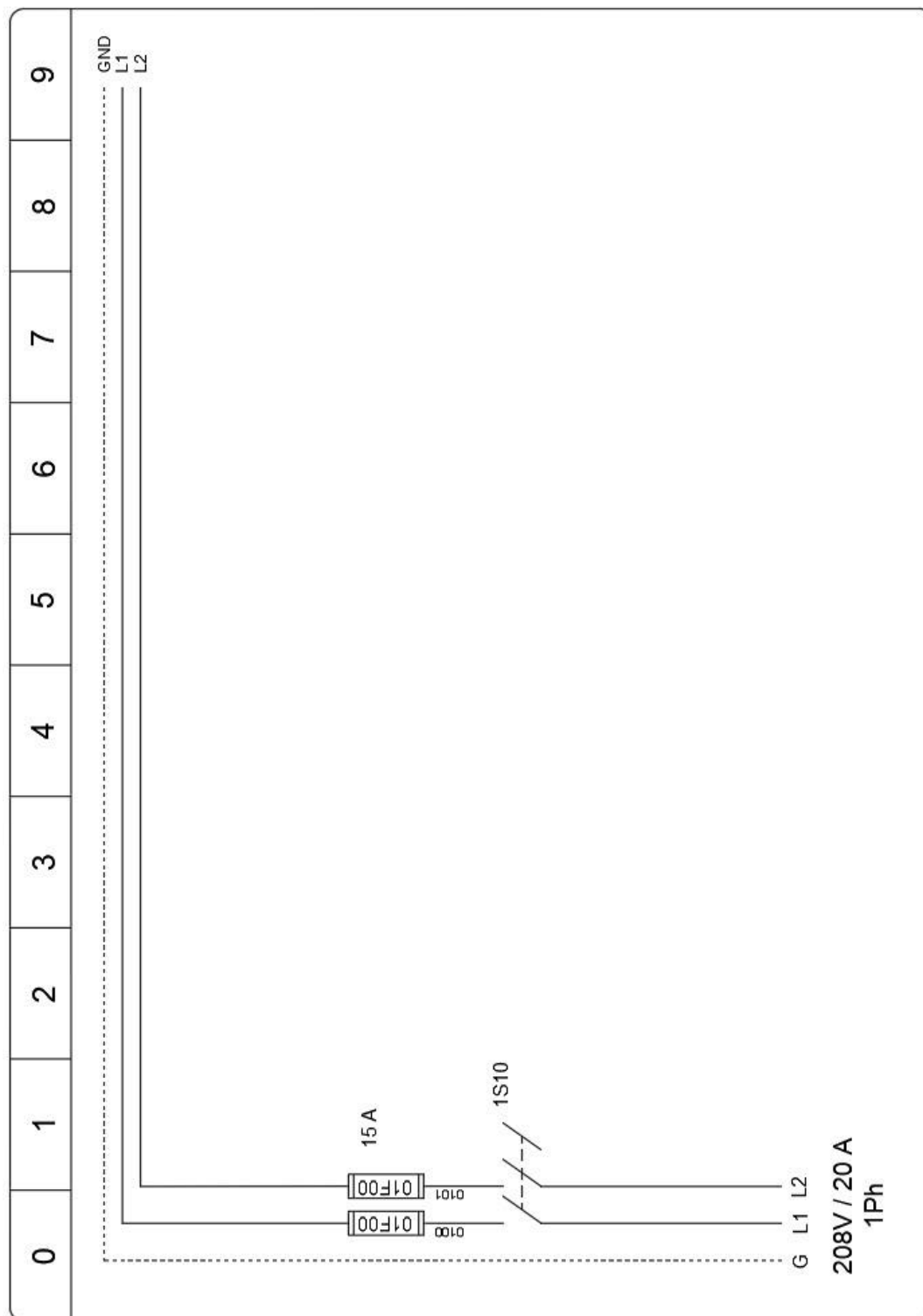
PARTS LIST		
ITEM	QTY	PART NUMBER
1	1	CABLE000156
2	1	CABLE000272
3	1	CAMEC000096
4	3	CAMEC000097
5	2	CAMEC000608
6	4	CAPRT000509
7	1	CAPRT001055
8	2	CAPRT001082
9	4	CAPRT001200
10	2	CAPRT001201
11	2	PAMEC000277
12	1	PAMEC000278
13	4	D-FHCS - M8x30
14	8	D-SHCS - M6 x 16
15	8	D-SHCS - M6 x 30
16	4	D-SHCS - M8 x 25
17	6	D-SHCS - M8 x 35
18	8	SW-FLAT WASHER - M6
19	8	SW-SPLIT LOCK WASHER - M6

TUBE LOADING ASSEMBLY

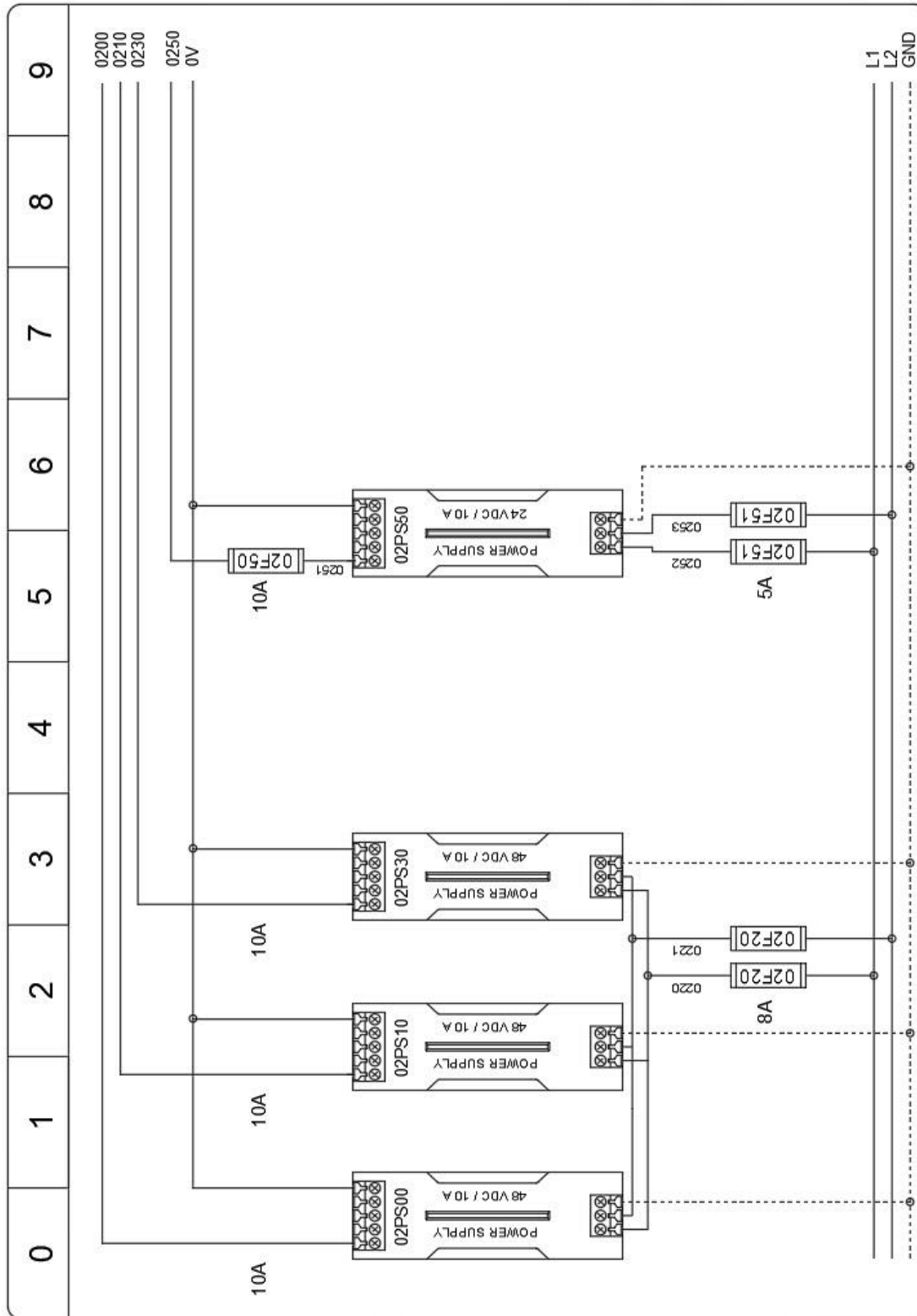
PARTS LIST		
ITEM	QTY	PART NUMBER
1	1	CABLE000146
2	1	CAPNE000031
3	2	CAPNE000064
4	2	CAPNE000066
5	2	CAPNE000072
6	2	CAPNE000077
7	1	CAPNE000104
8	1	CAPNE000106
9	1	CAPNE000144
10	1	CAPRT001199
11	1	CAPRT001202
12	1	CAPRT001210
13	1	CAPRT001211
14	1	CAPRT001212
15	1	0-BHCO - M5 x 8
16	3	0-FHCO - M5x25
17	3	0-HCO-FLAT - M4 x 4
18	4	0-CHCO - M3 x 8
19	2	0-CHCO - M3 x 20
20	2	0-CHCO - M4 x 25
21	2	0W-FLAT WASHER - M4
22	4	0W-SPLIT LOCK WASHER - M3
23	2	0W-SPLIT LOCK WASHER - M4

ELECTRICAL DRAWINGS

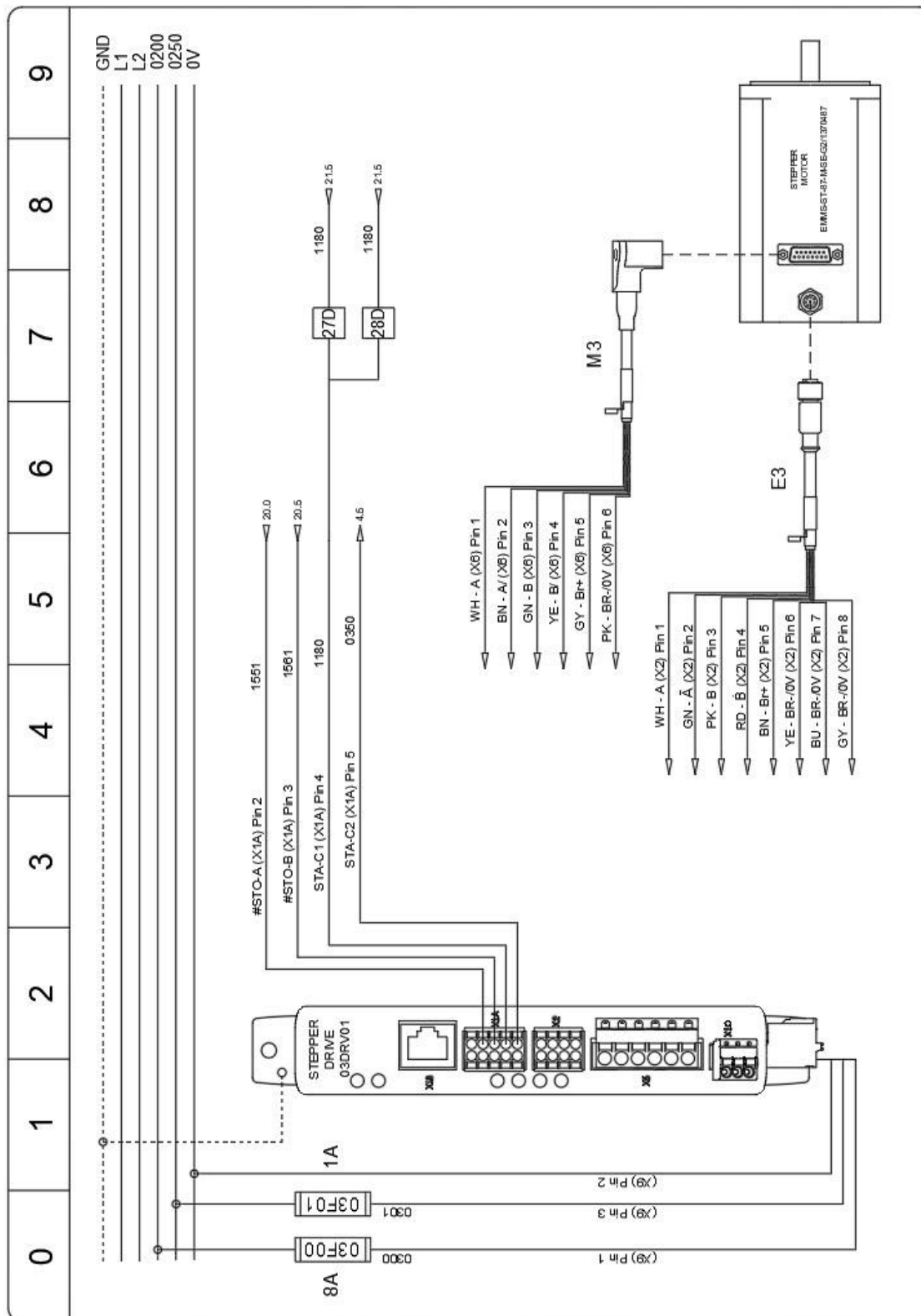
DESCRIPTION:

MAIN
POWER

DESCRIPTION:

SECONDARY
POWER

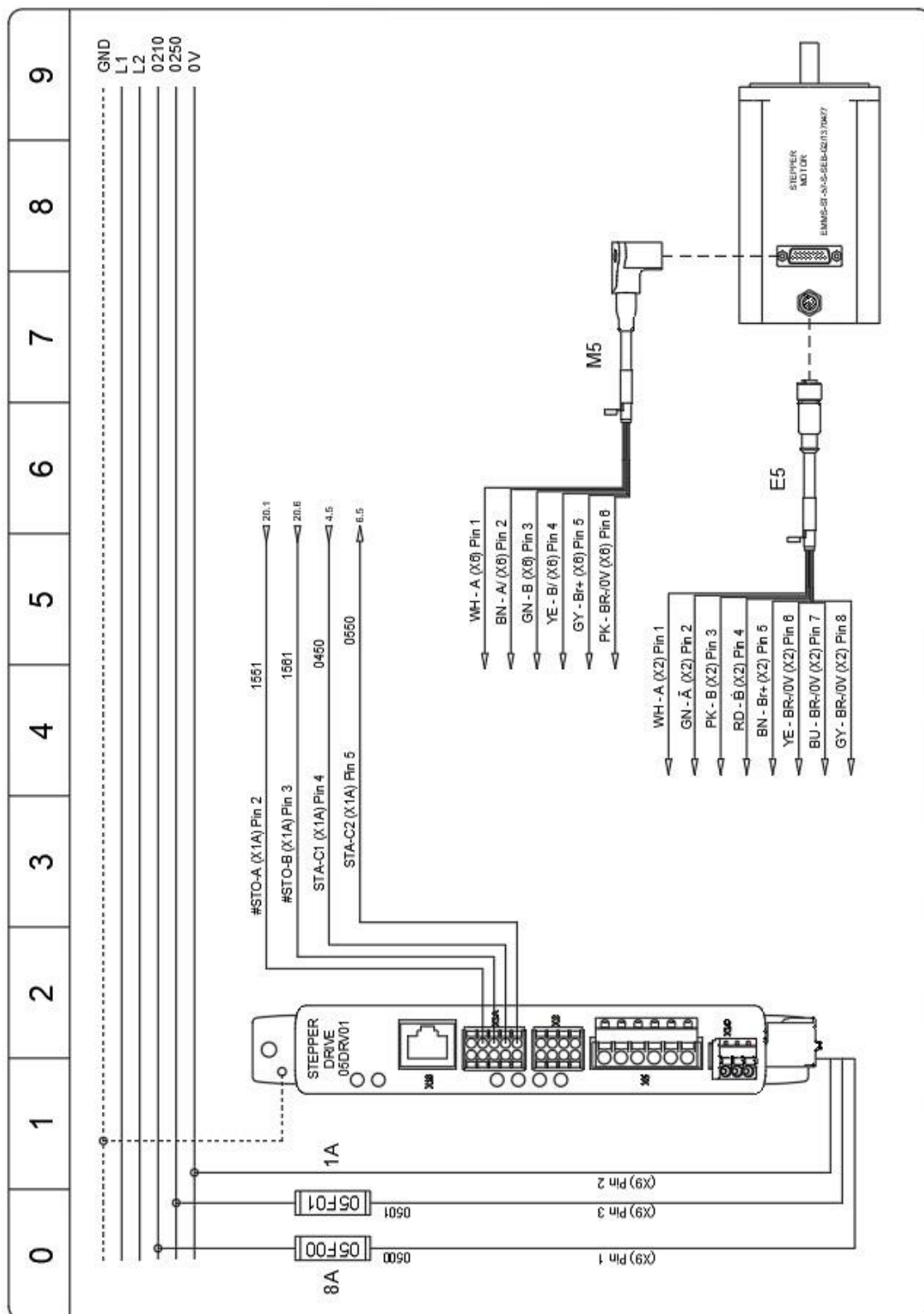
DESCRIPTION:

STEPPER FESTO (F1)
AXE X

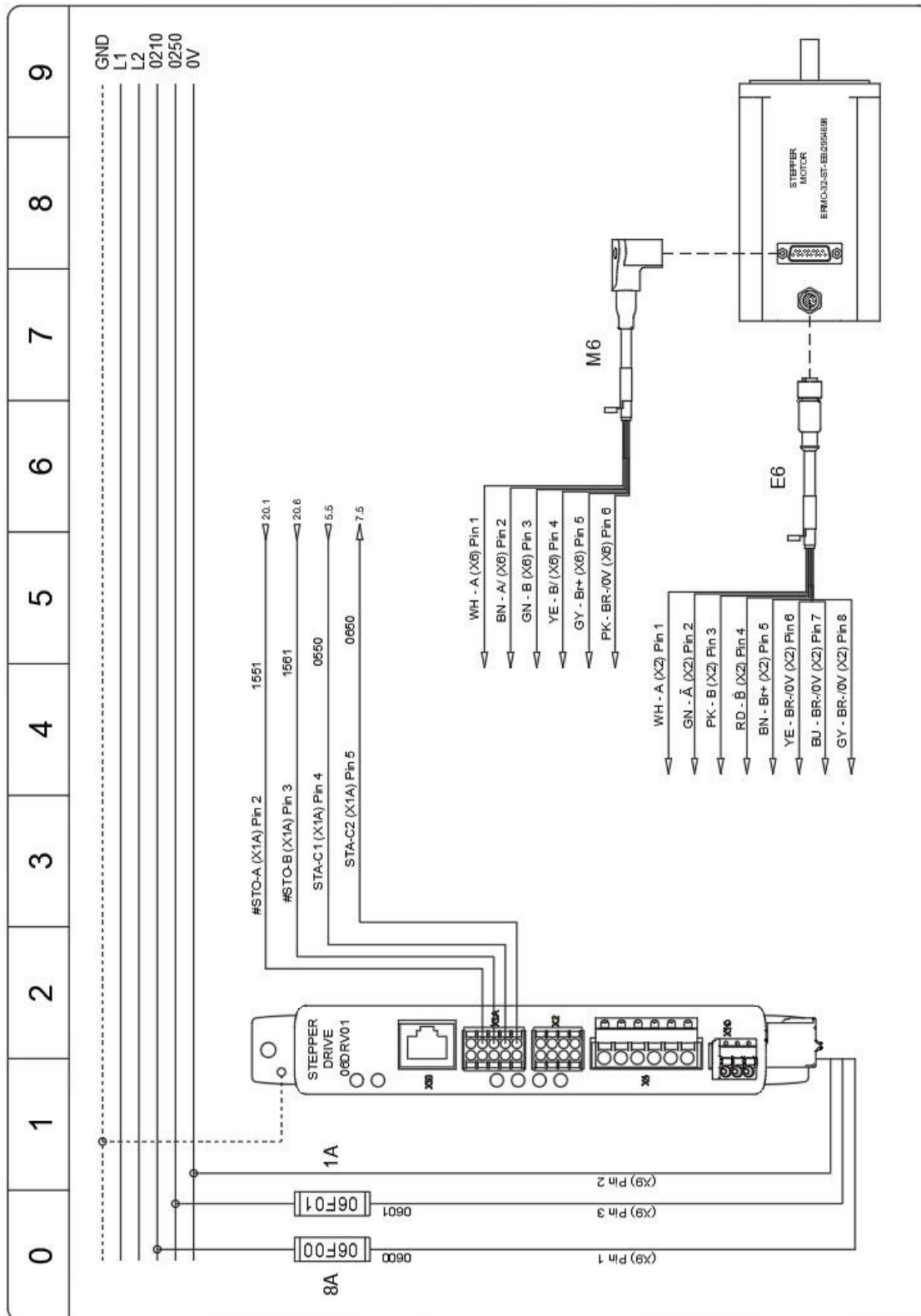
STEPPER FESTO (F2)
AXE Y



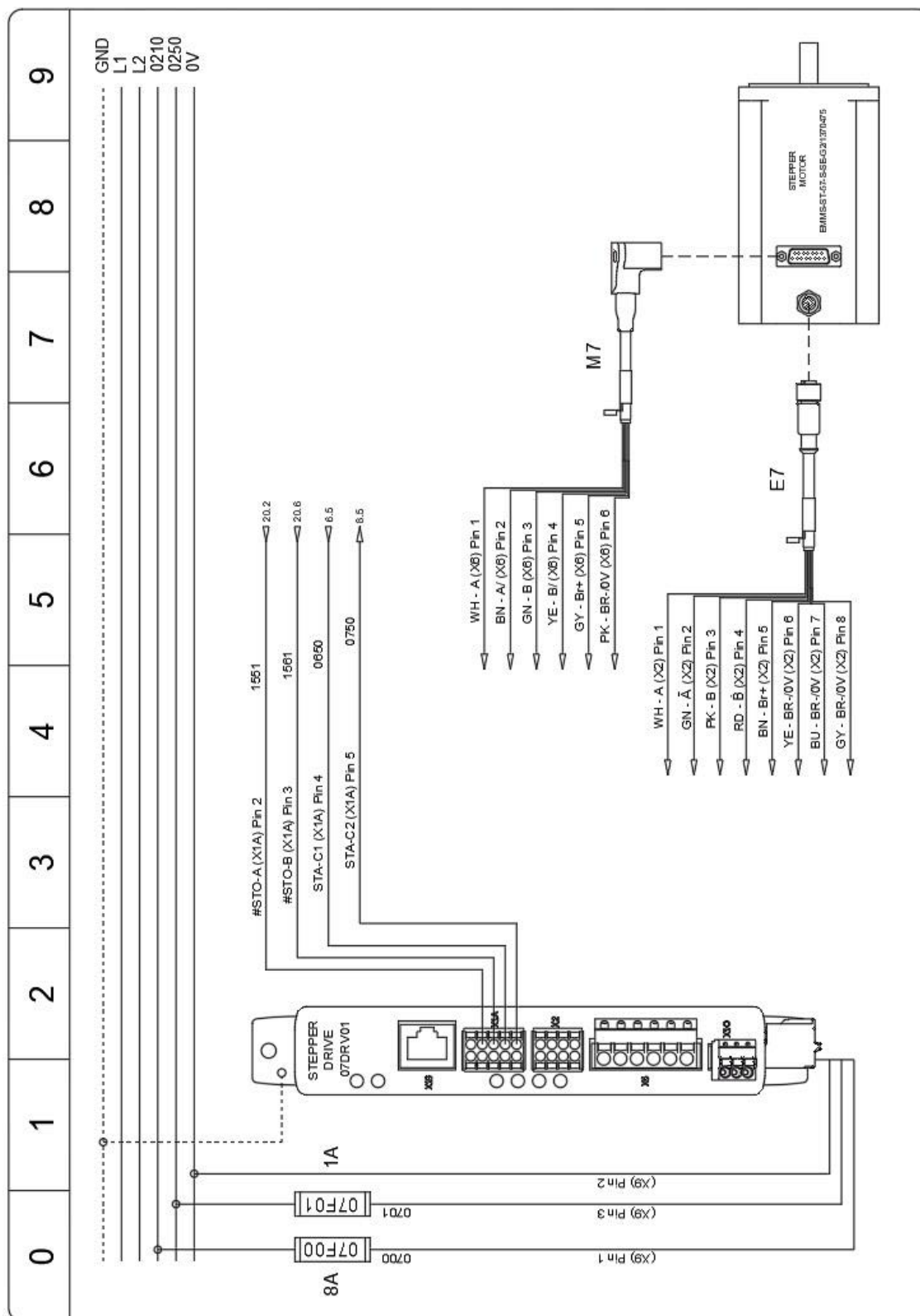
DESCRIPTION:

STEPPER FESTO (F3)
AXE Z

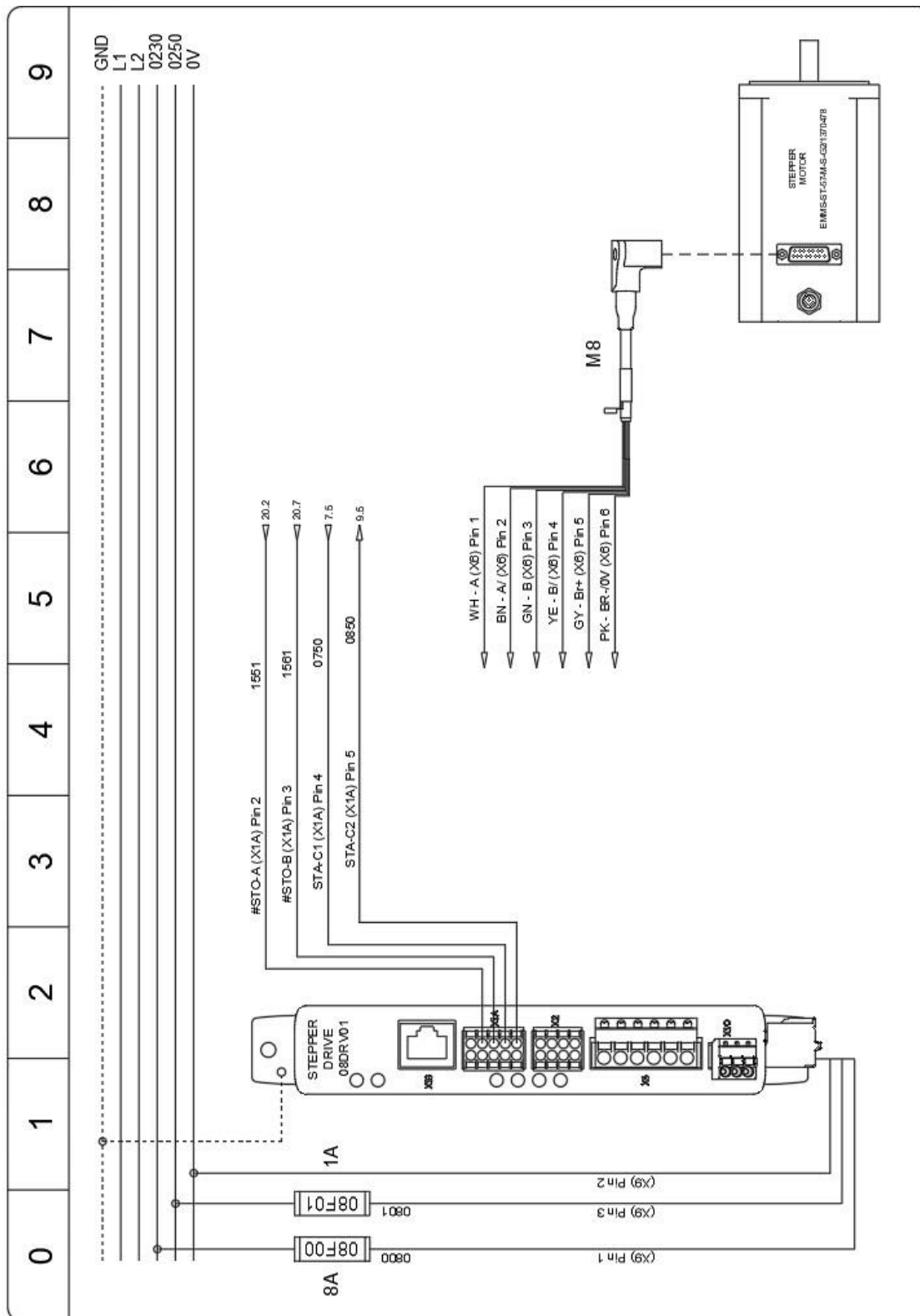
DESCRIPTION:

STEPPER FESTO (F4)
TURRET

DESCRIPTION:

STEPPER FESTO (F5)
UP/DOWN SPIN AND NEEDLE

DESCRIPTION:

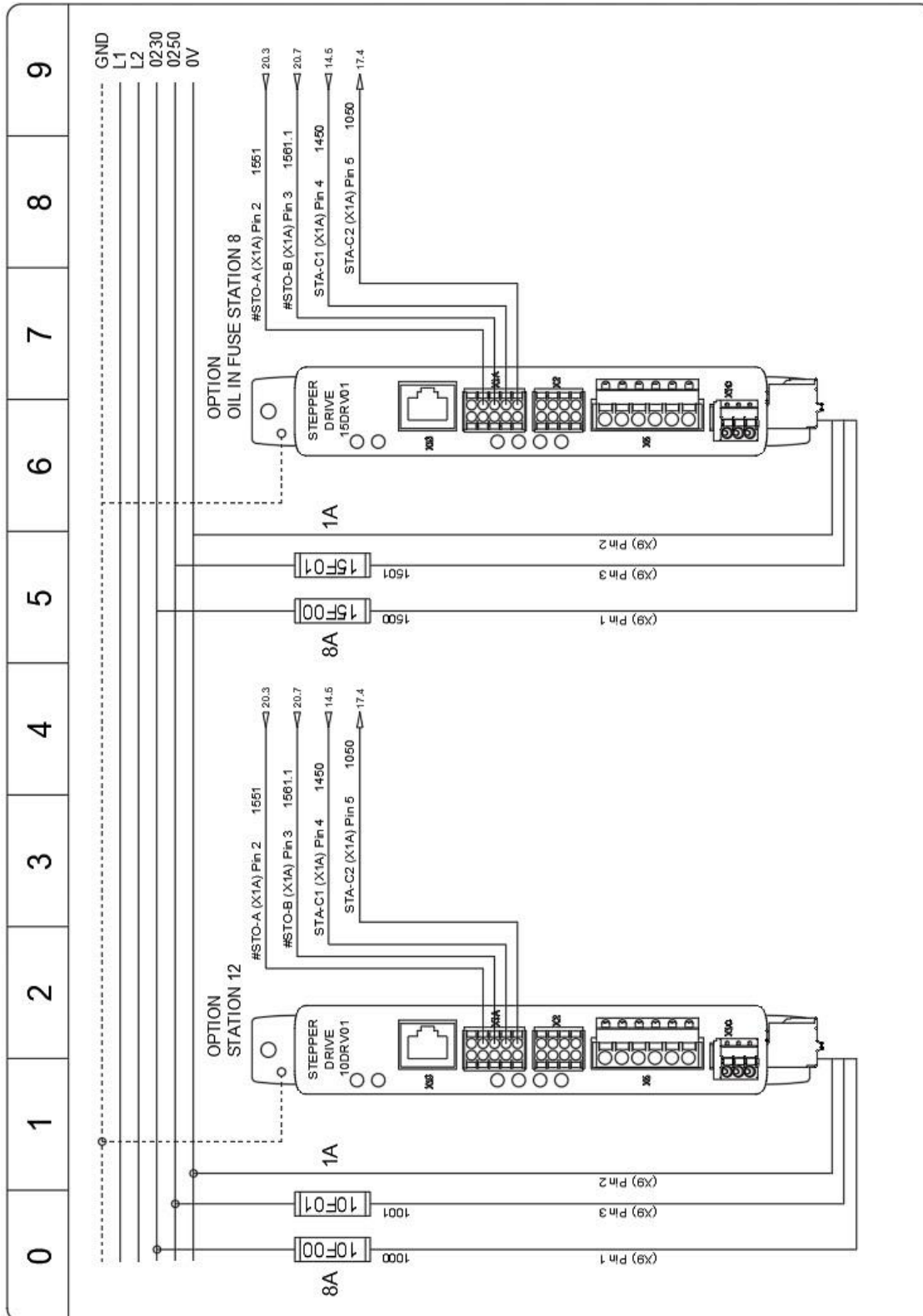
STEPPER FESTO (F6)
ROTARY TUMBLER

STEPPER FESTO (F7)
TWIST

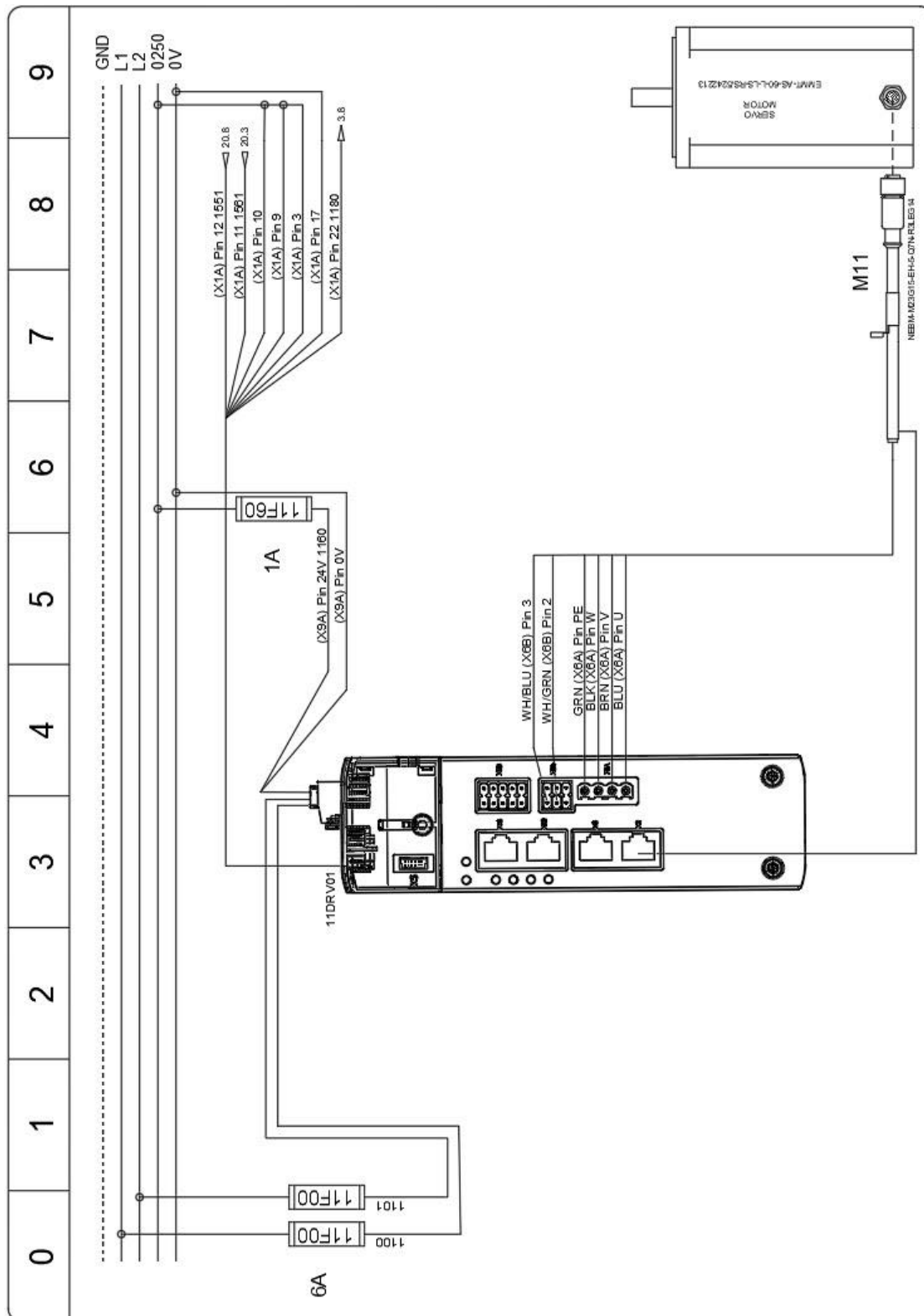


DESCRIPTION

OPTION STATION 12

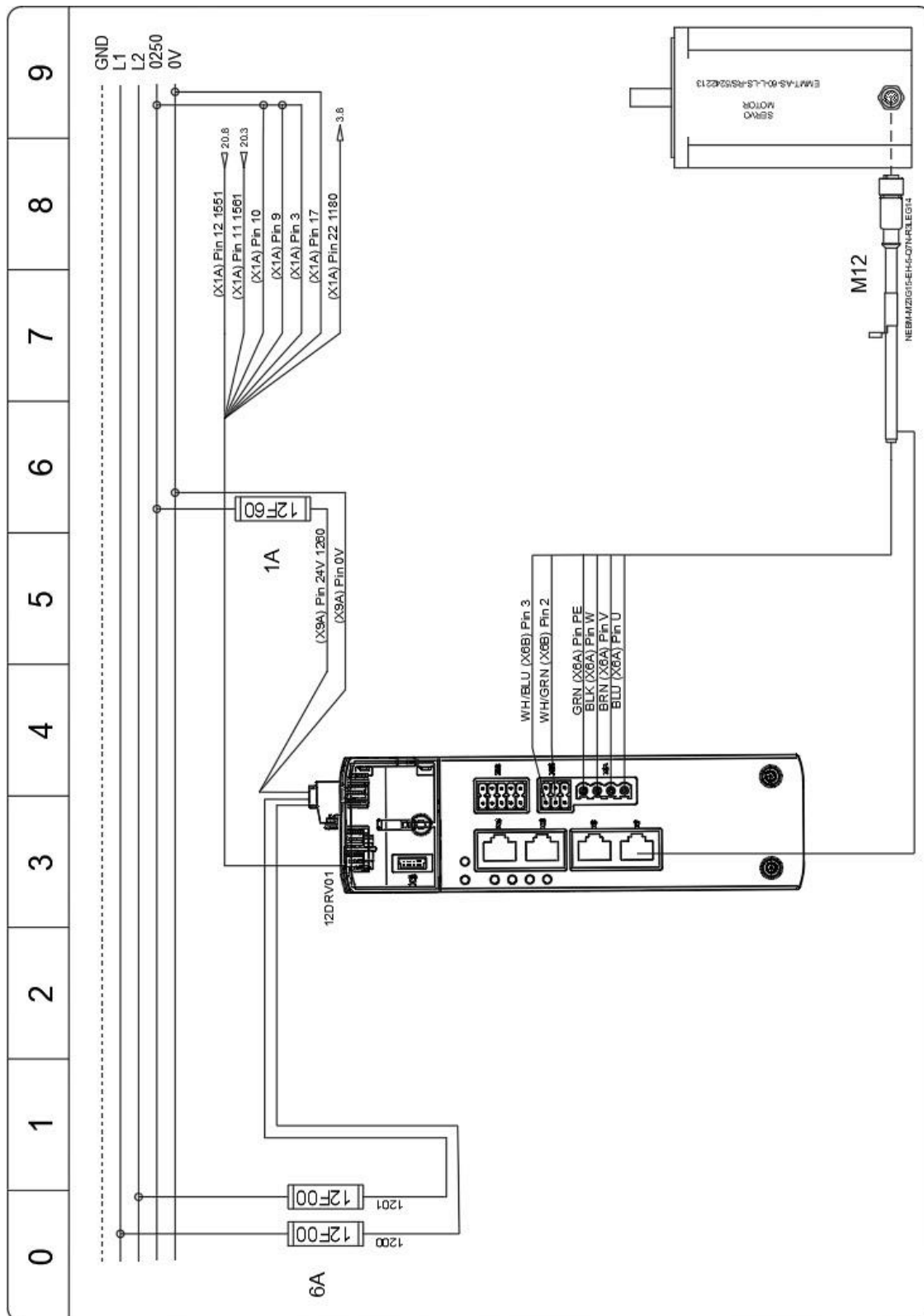


DESCRIPTION:

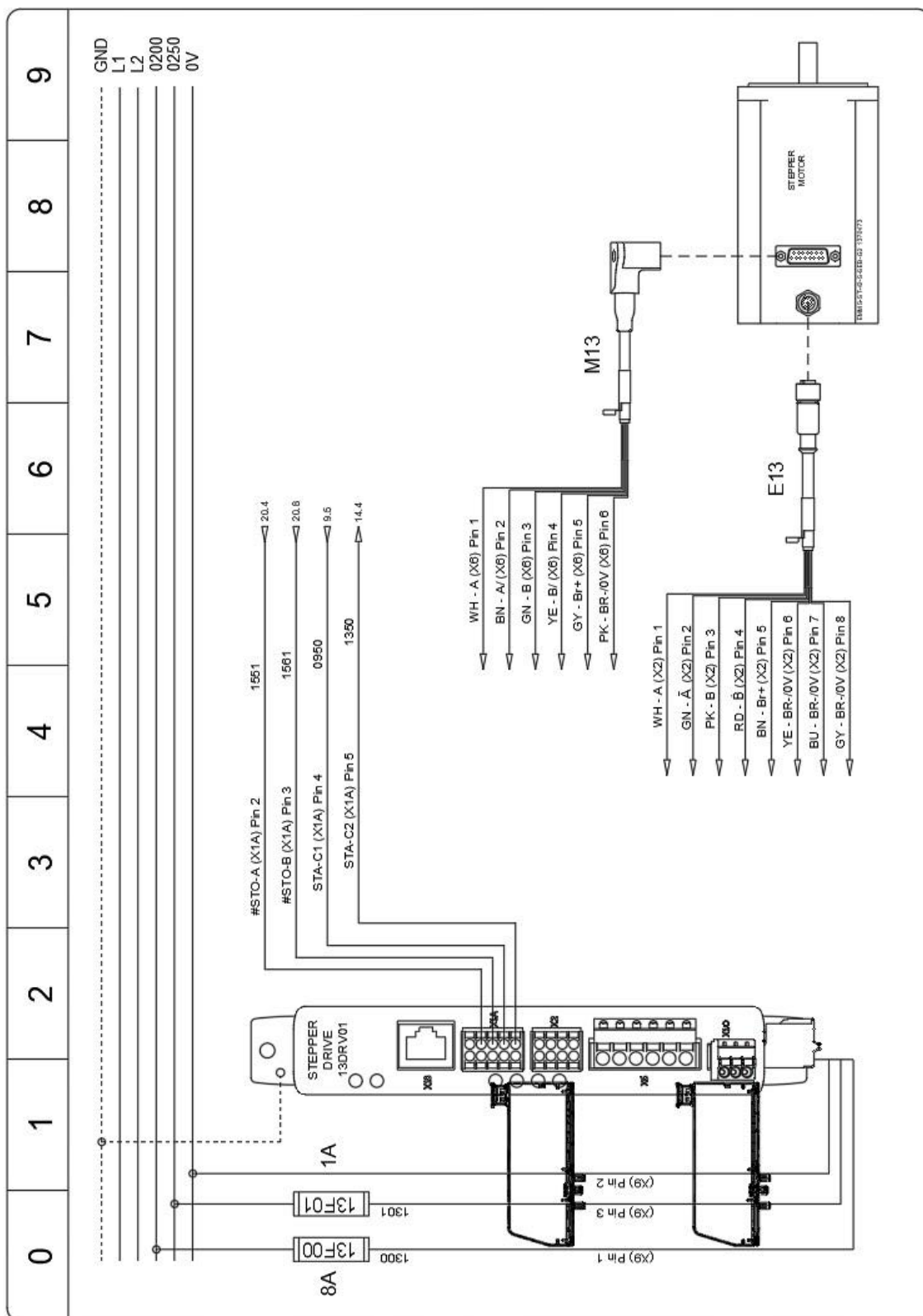
SERVO FESTO
TABLE

DESCRIPTION:

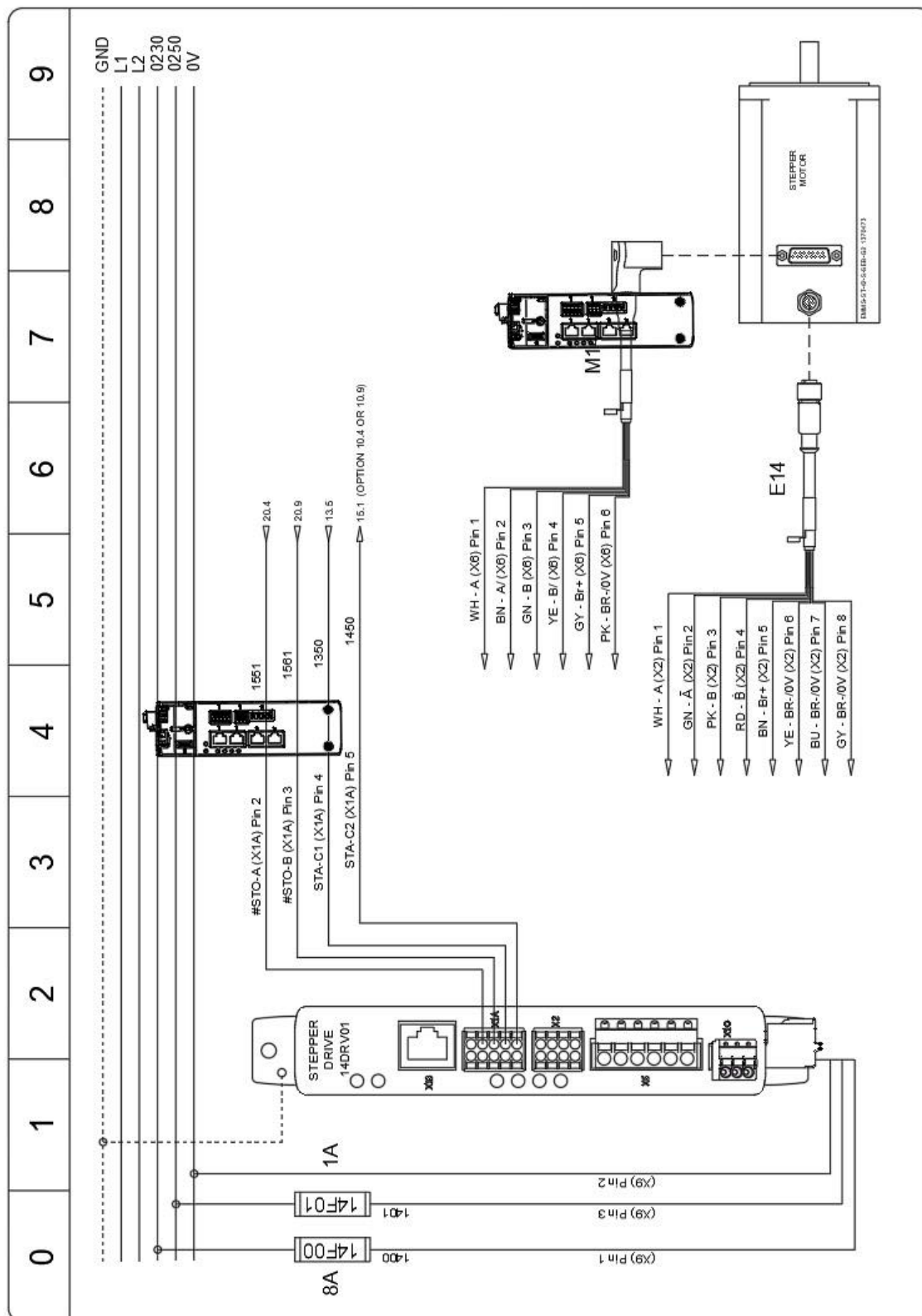
**SERVO FESTO
VIBRATOR**



DESCRIPTION:

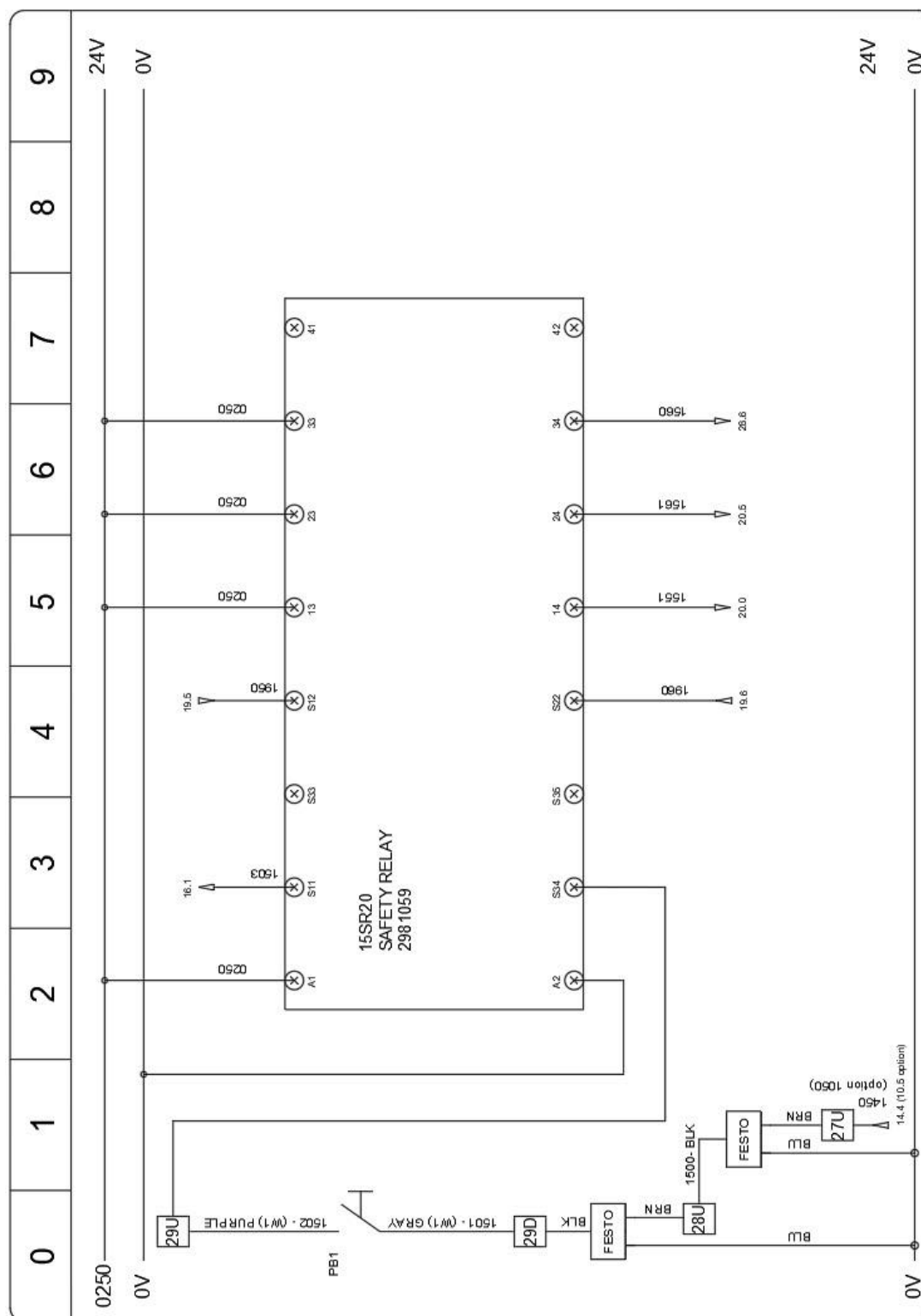
STEPPER FESTO STATION 5
PRODUCT COMPRESSOR

DESCRIPTION:

STEPPER TESTO
FUNNEL HEIGHT MODULATION

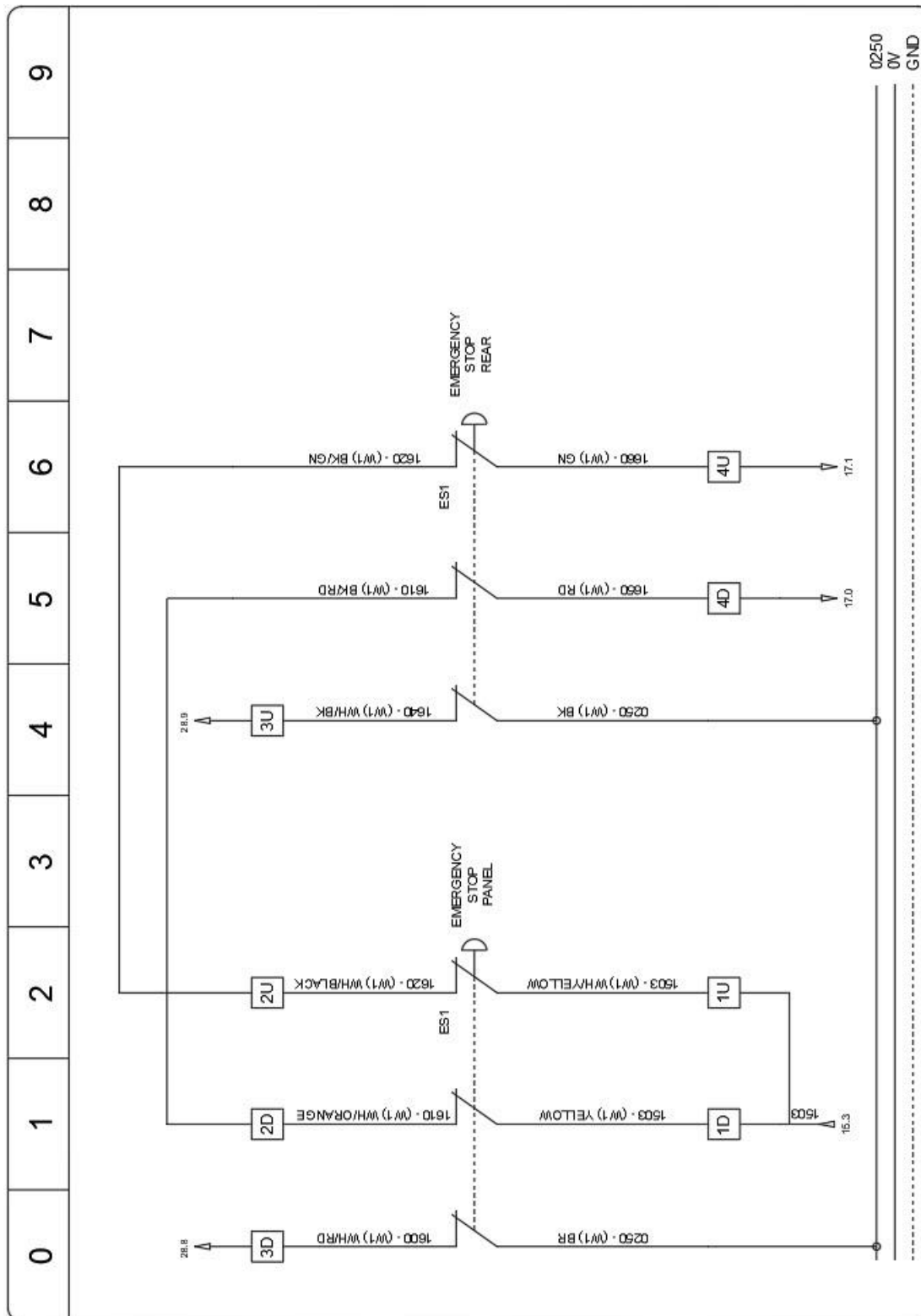
DESCRIPTION:

SECURITY RERLAY
2981059



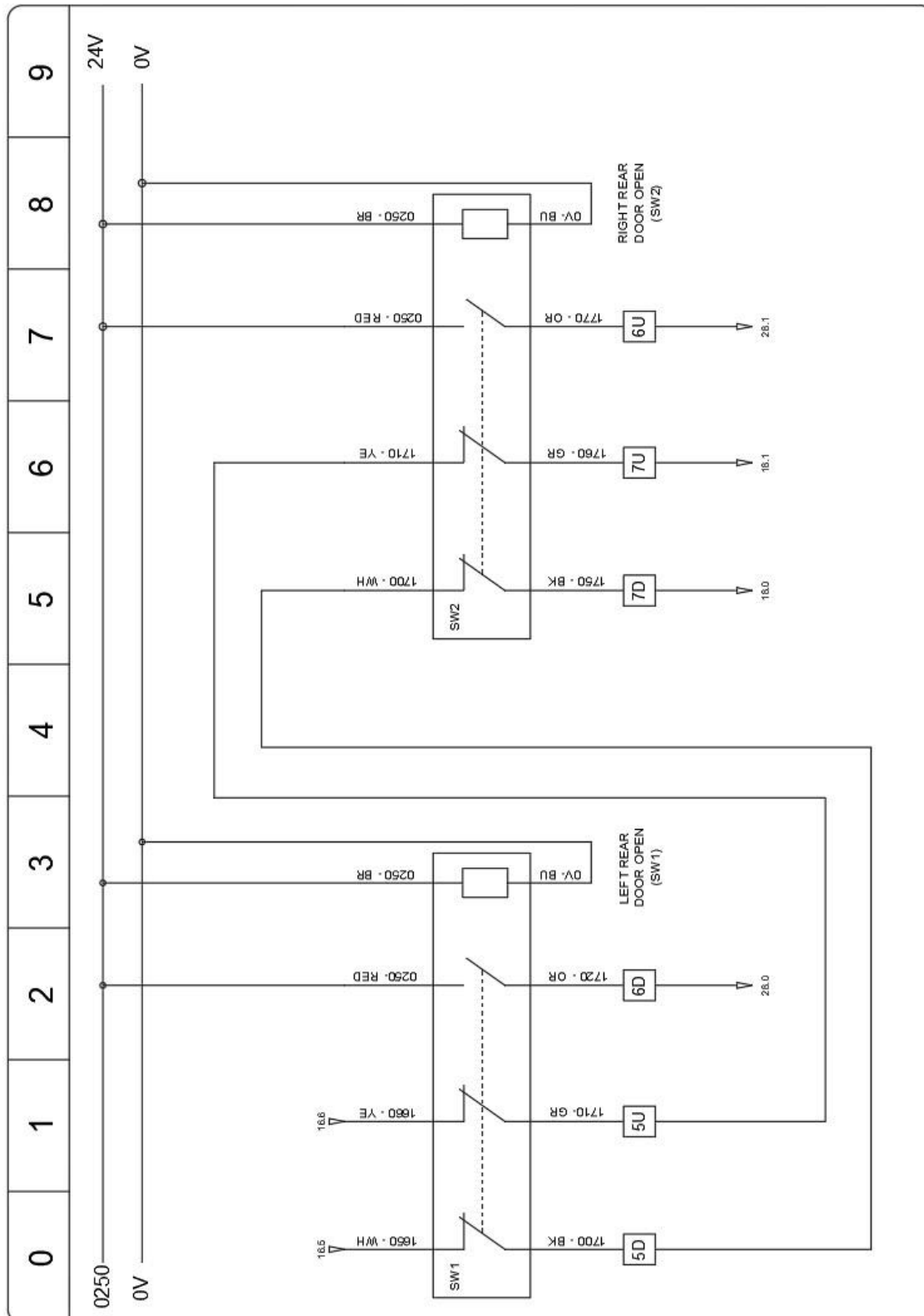
DESCRIPTION

EMERGENCY STOP



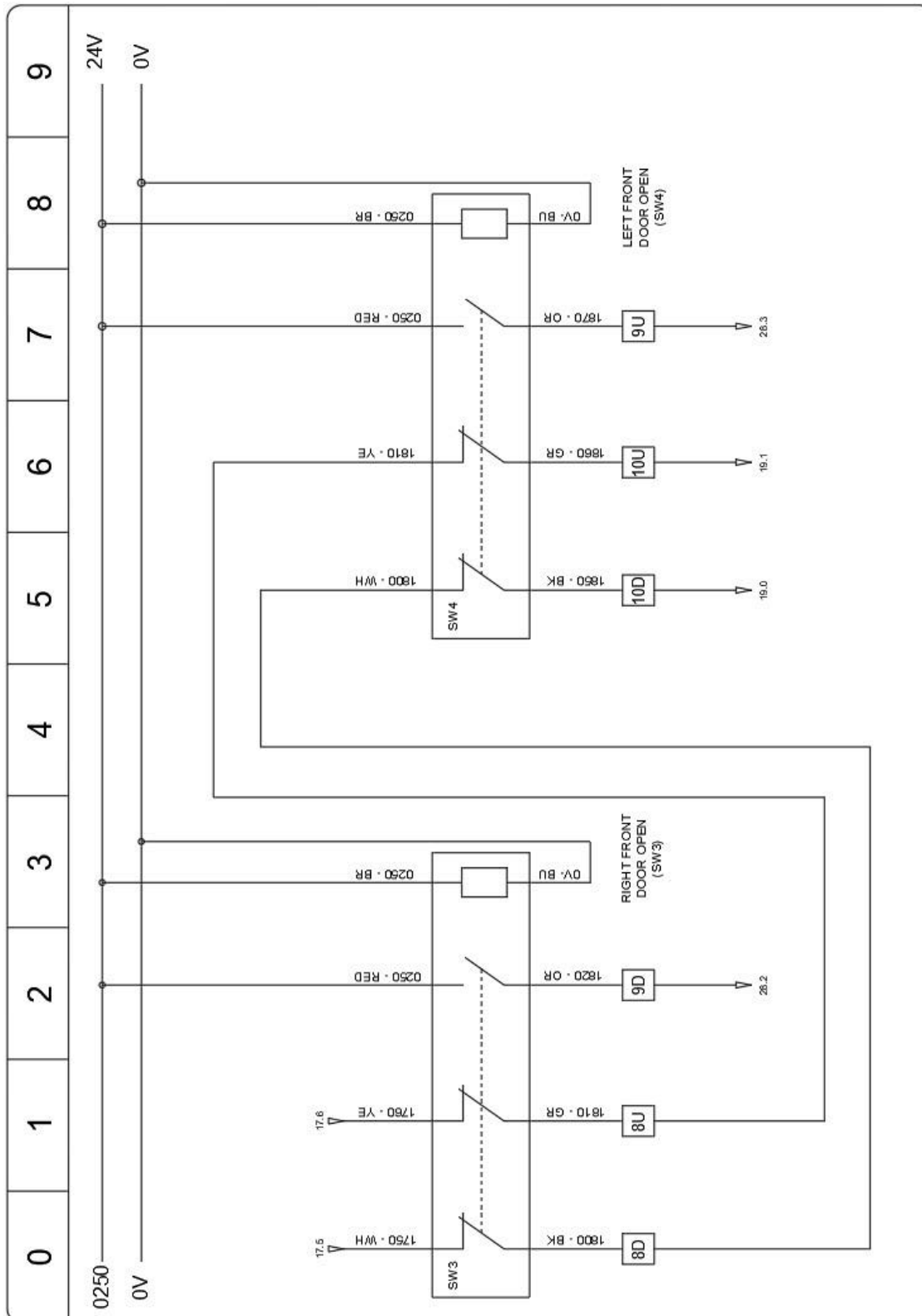
DESCRIPTION:

DOOR SWITCH

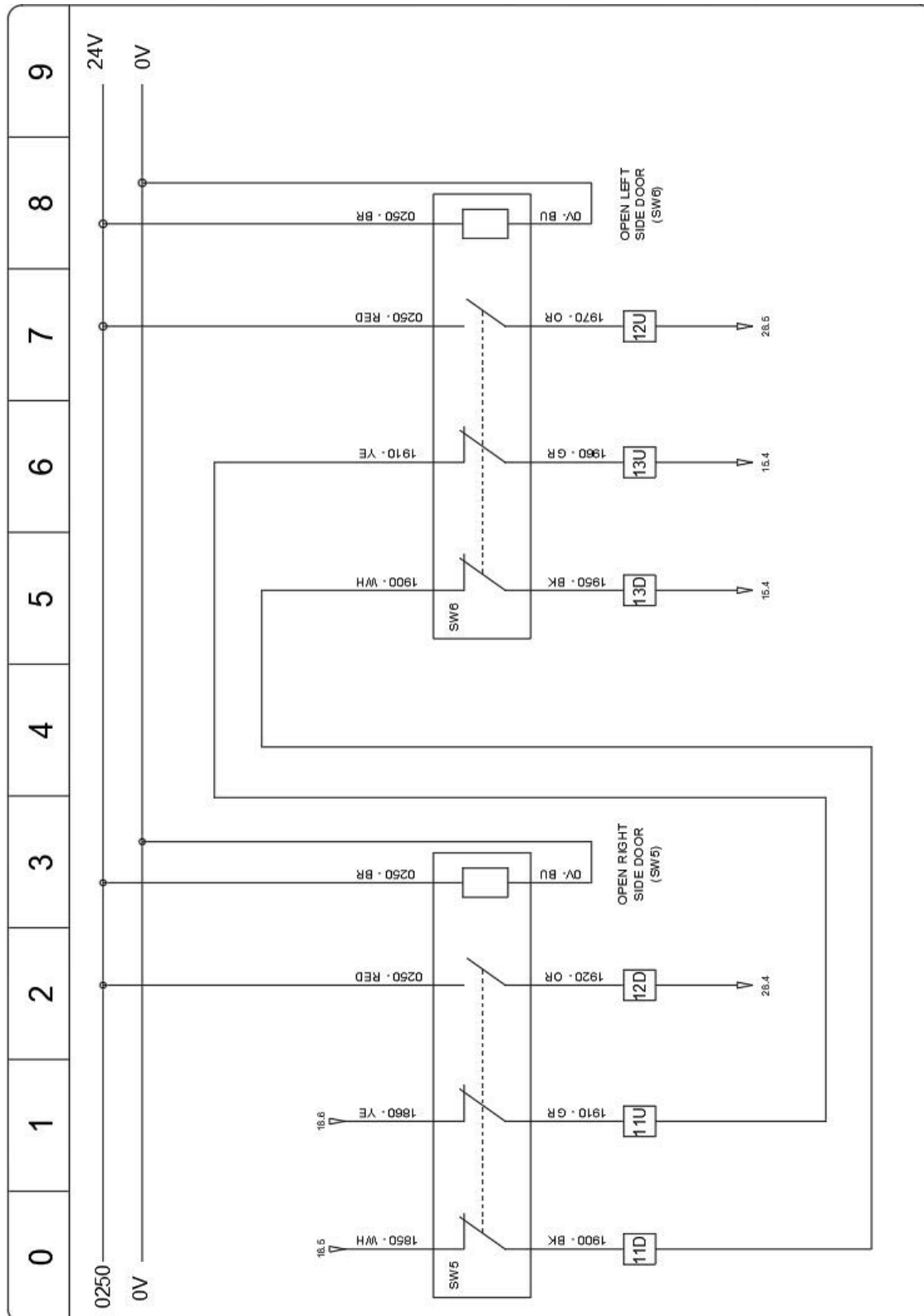


DESCRIPTION:

DOOR SWITCH

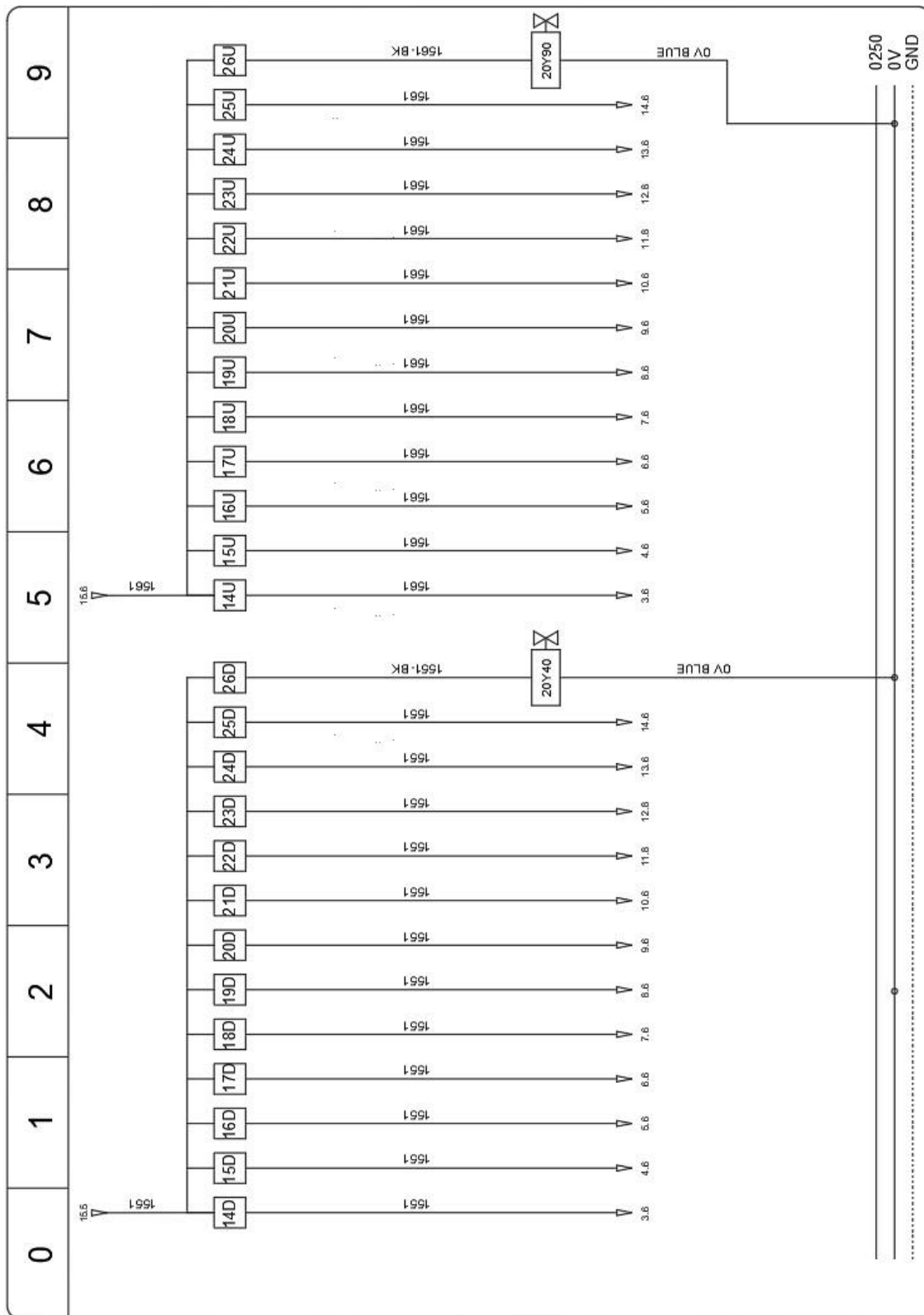


DESCRIPTION:

SECURITY OUTPUTS
(G9SP)

DESCRIPTION:

SECURITY OUTPUTS



DESCRIPTION:

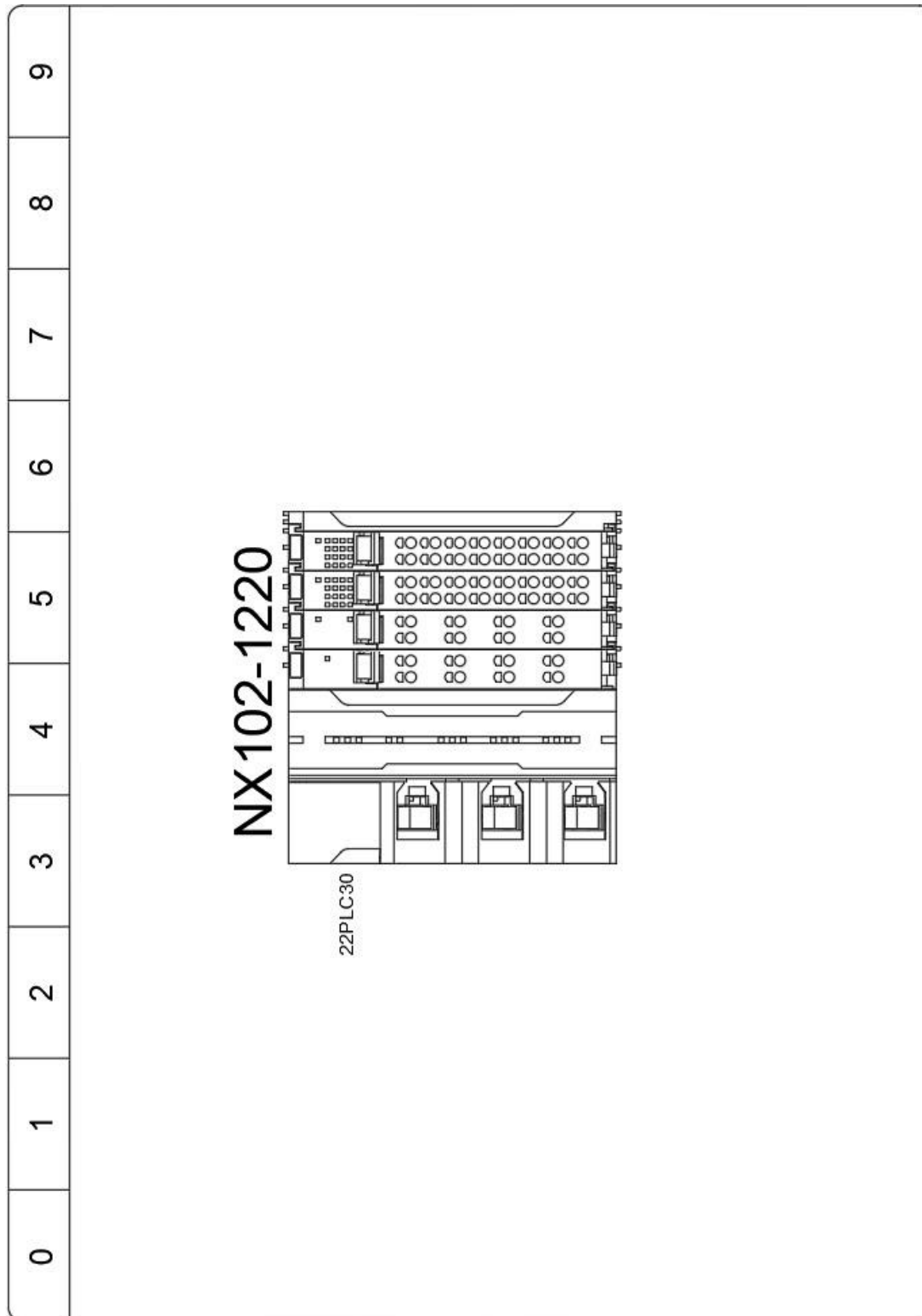
SECURITY TEST LINE
(G9SP)

9	
8	
7	
6	
5	
4	
3	
2	
1	
0	

0250
0V
GND

DESCRIPTION:

PLC
(NX102-1220)

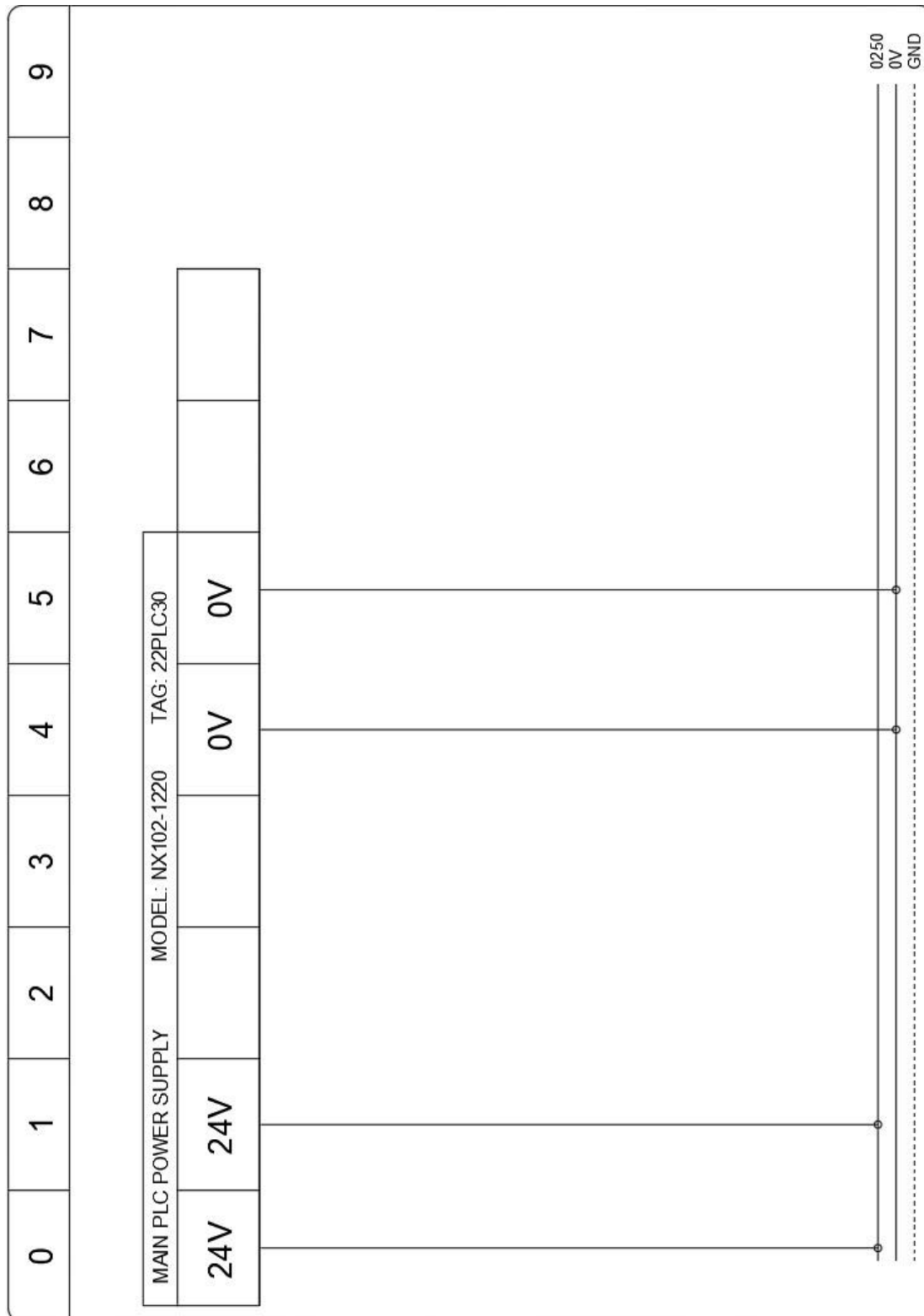


DESCRIPTION:

PLC
(NX102-1220)

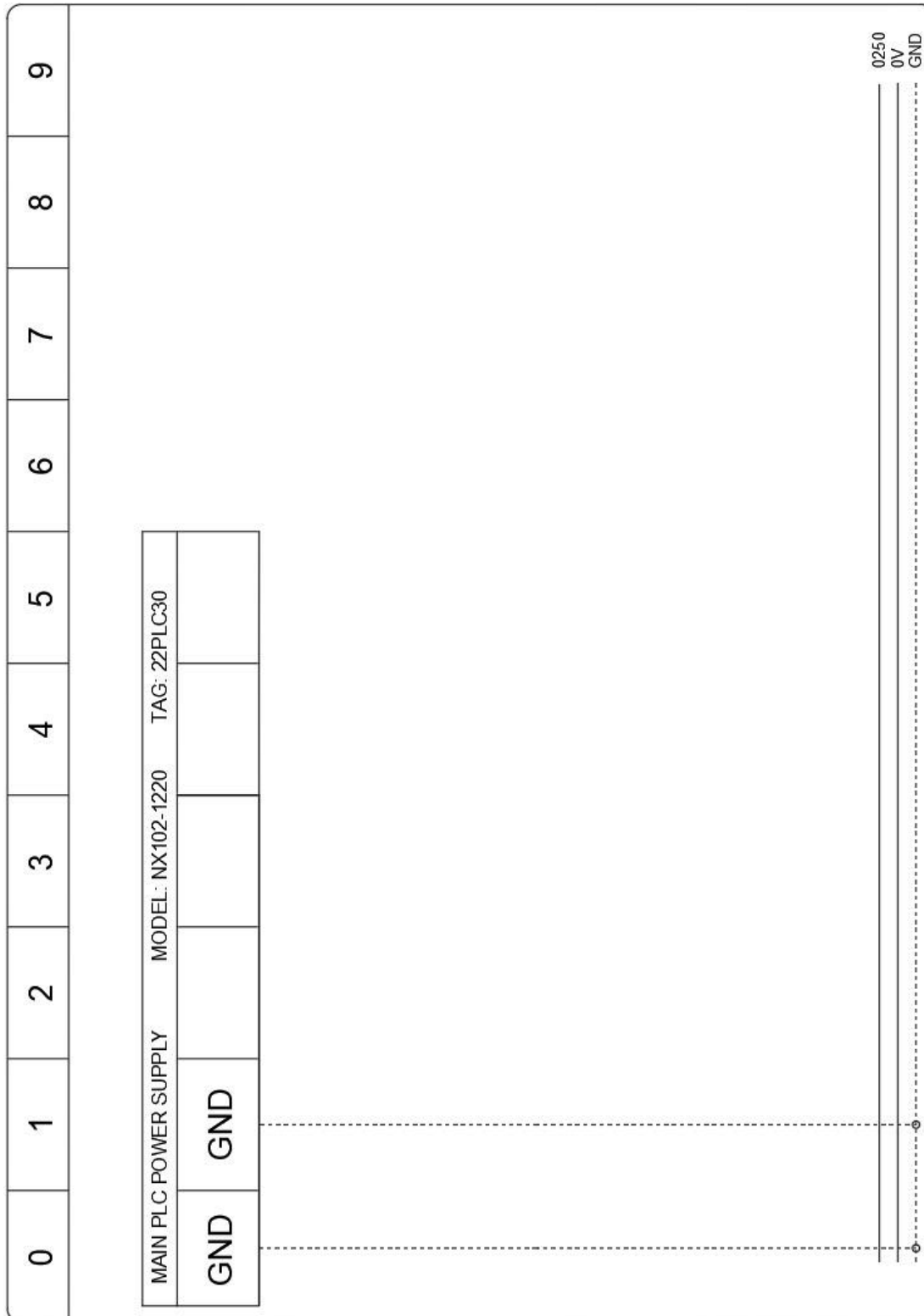
0	1	2	3	4	5	6	7	8	9
NX-102		NX-PF0730		NX-ID5442		NX-OD5258			
24V	24V	IOV	IOV	IOV	IN0	IN1	OUT0	OUT1	
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
					IN2	IN3	OUT2	OUT3	
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
0V	0V	IOG	IOG	IOG	IN4	IN5	OUT4	OUT5	
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
					IN6	IN7	OUT6	OUT7	
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
NC	NC	IOV	IOV	IOV	IN8	IN9	OUT8	OUT9	
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
					IN10	IN11	OUT10	OUT11	
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
GND	GND	IOG	IOG	IOG	IN12	IN13	OUT12	OUT13	
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
					IN14	IN15	OUT14	OUT15	
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	

DESCRIPTION:

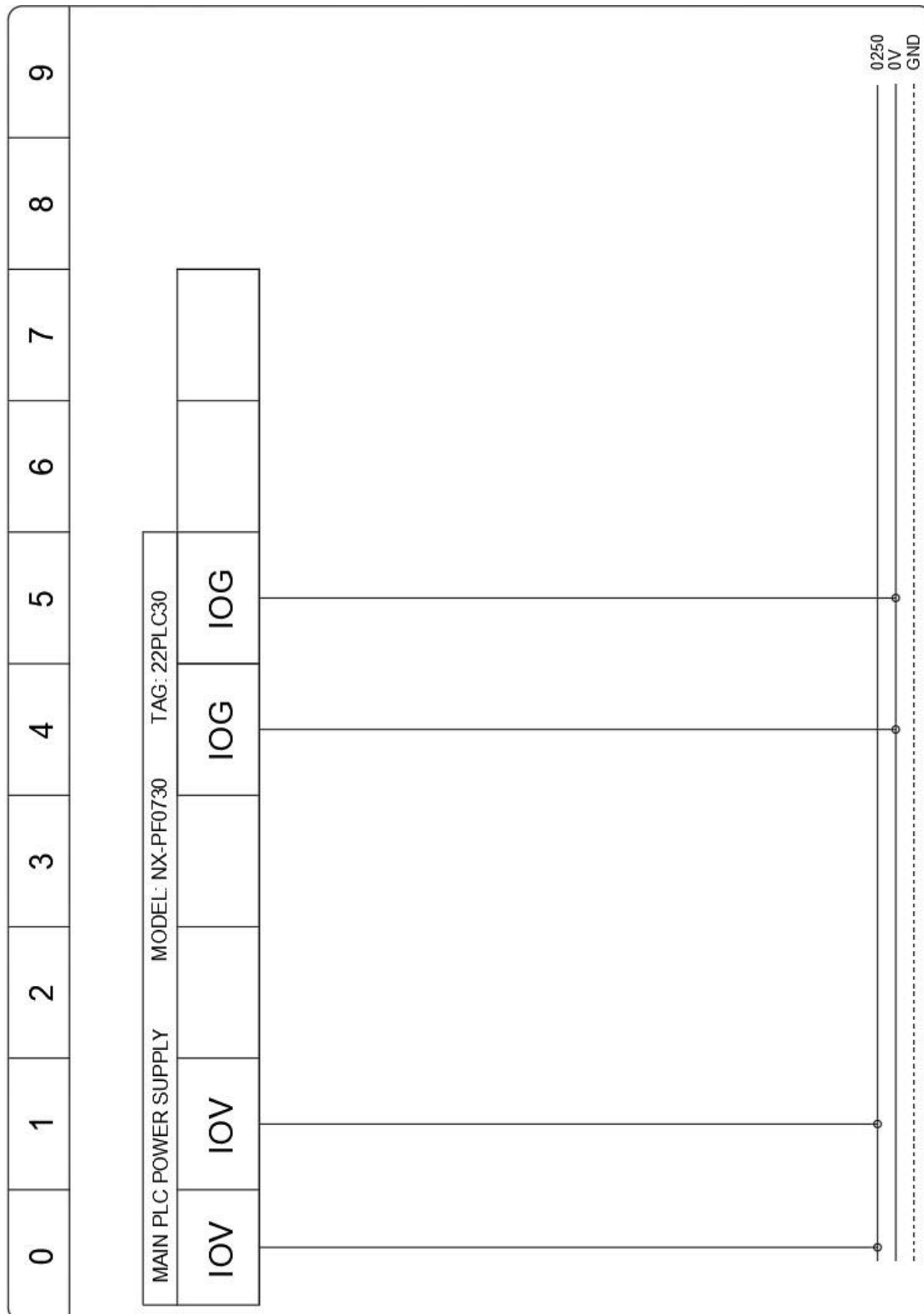
NX-102
POWER SUPPLY

DESCRIPTION

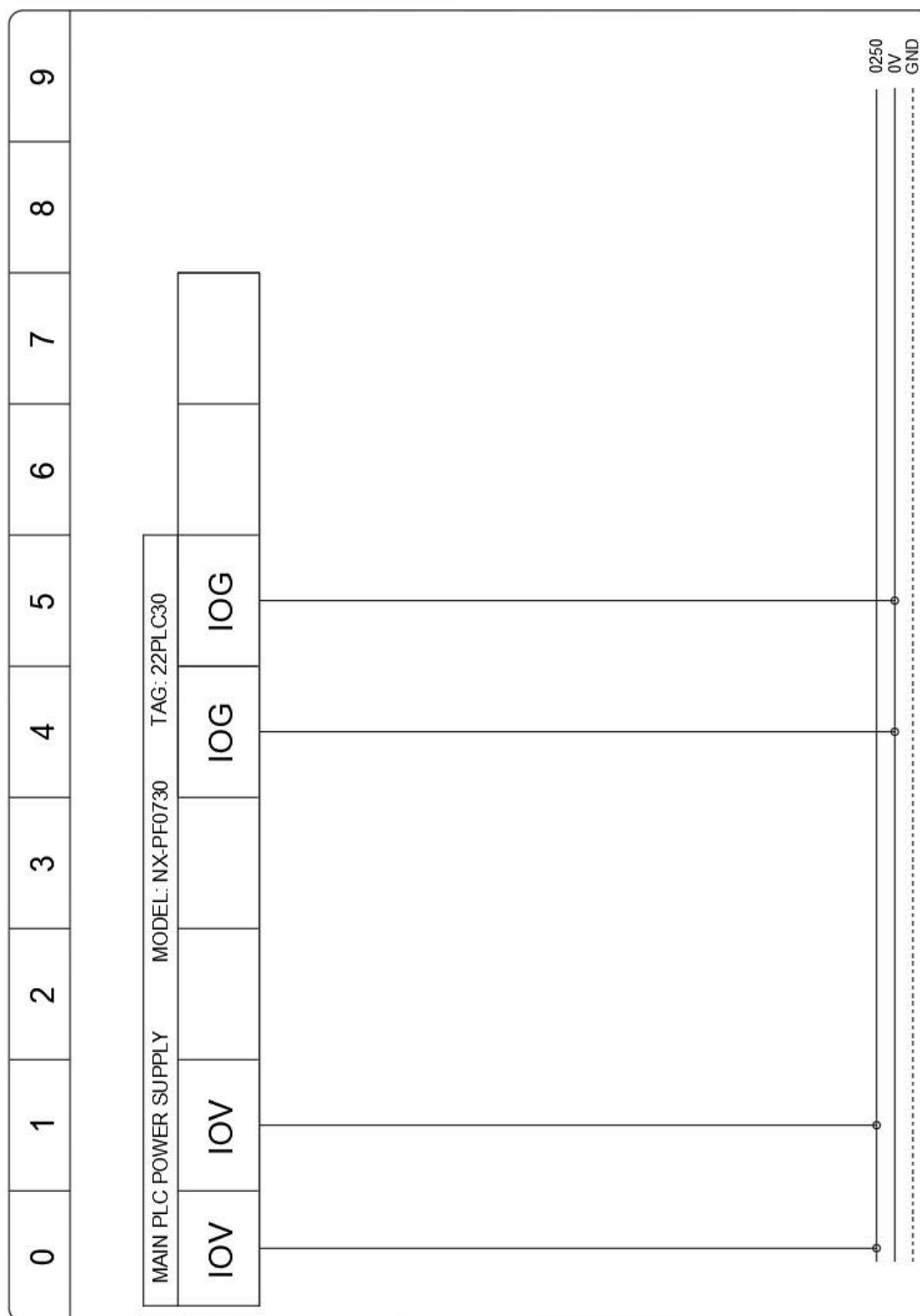
NX-102
POWER SUPPLY



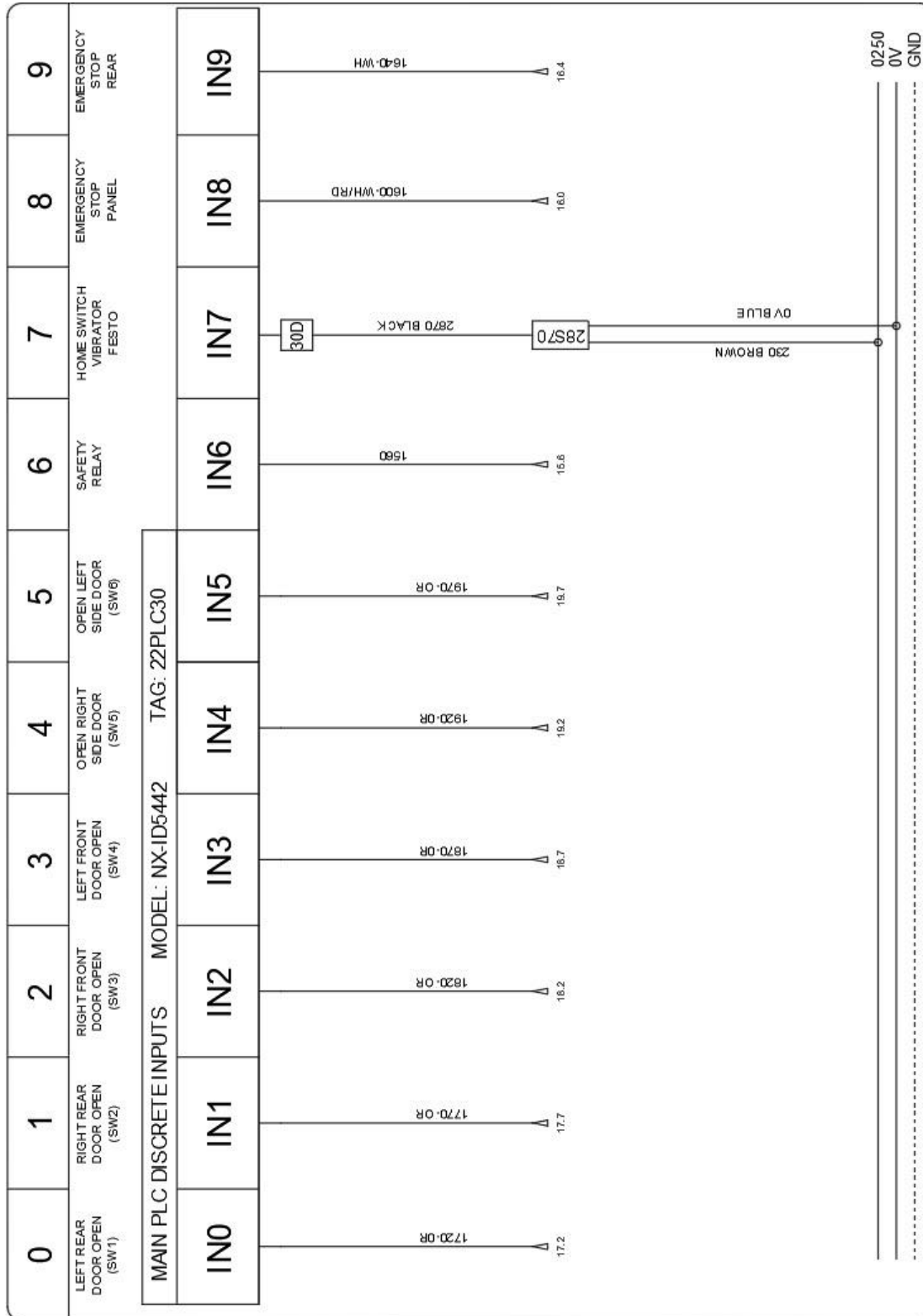
DESCRIPTION

NX-PF0730
POWER SUPPLY

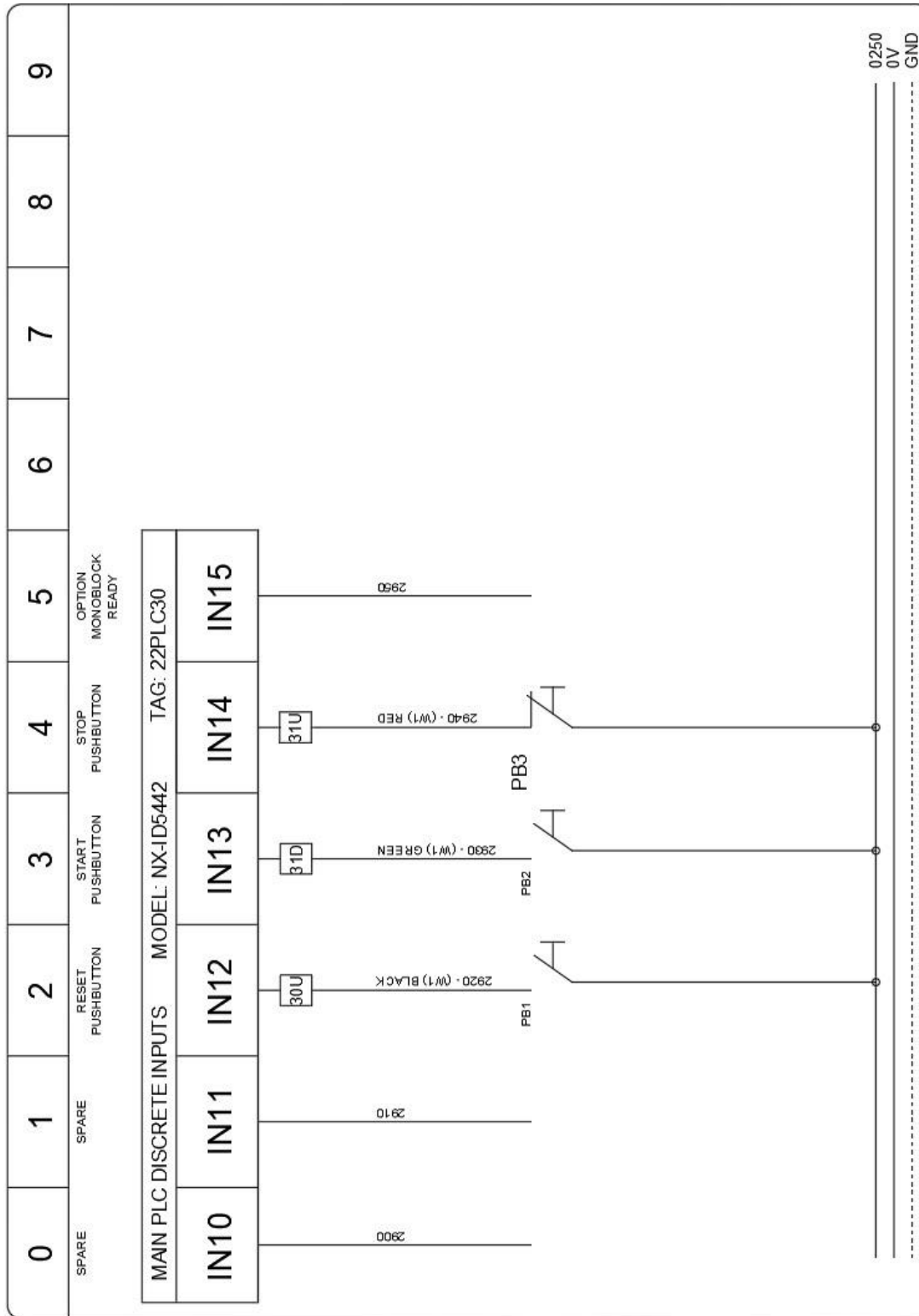
NX-PF0730
POWER SUPPLY



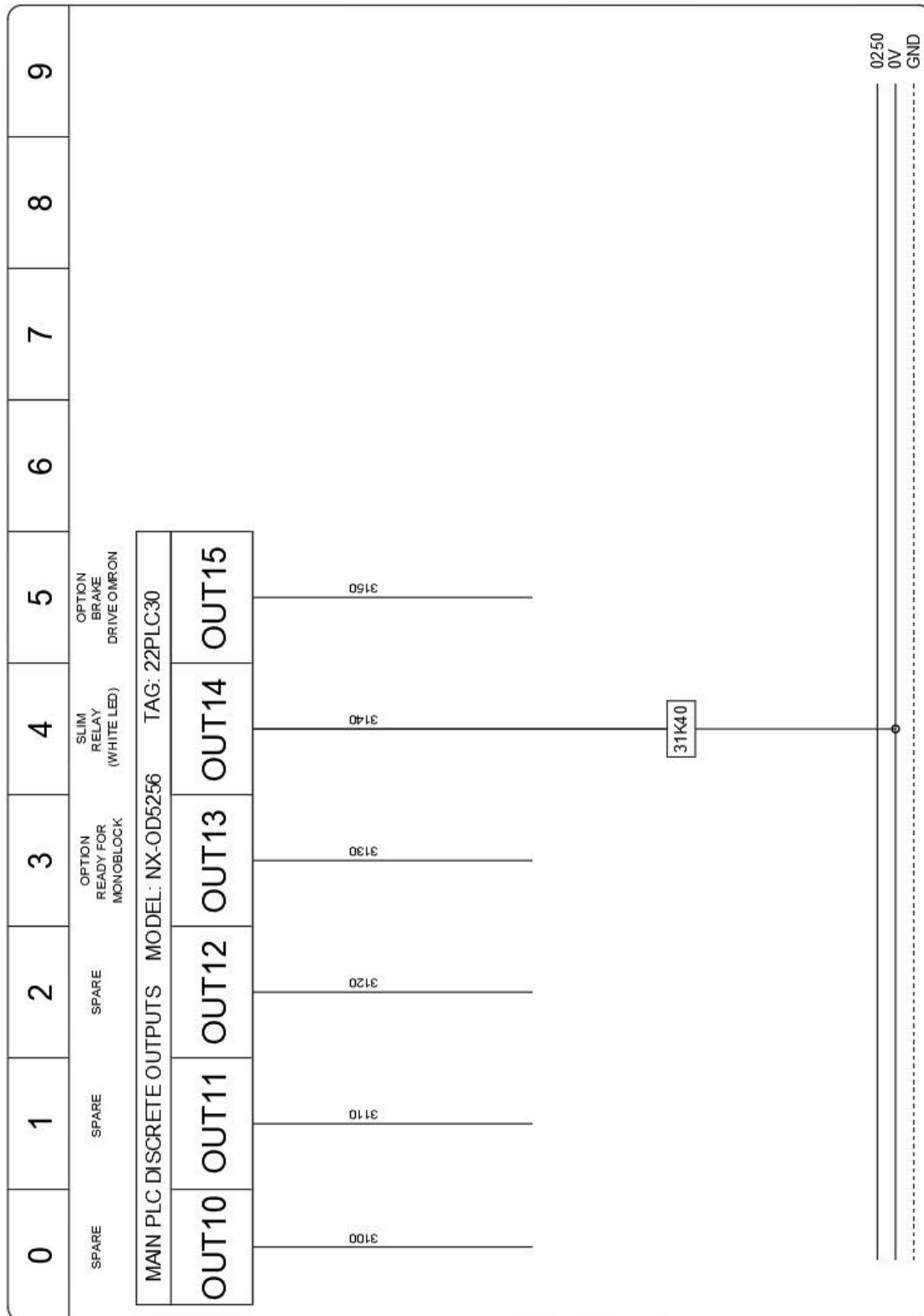
DESCRIPTION

DISCRETE INPUTS
NX-ID5442

DESCRIPTION:

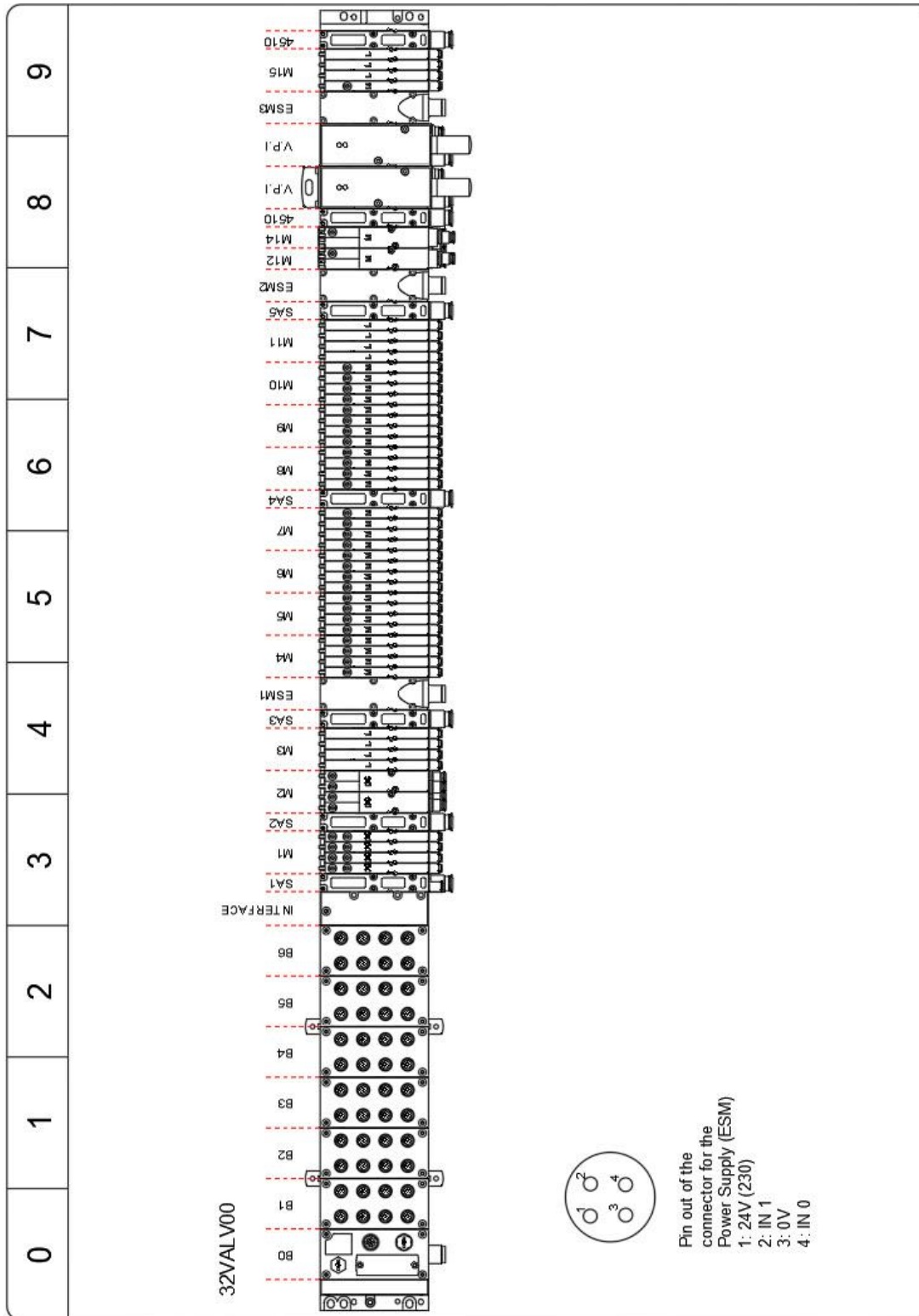
DISCRETE INPUTS
NX-ID5442

DESCRIPTION:

DISCRETE OUTPUTS
NX-OD5256

DESCRIPTION:

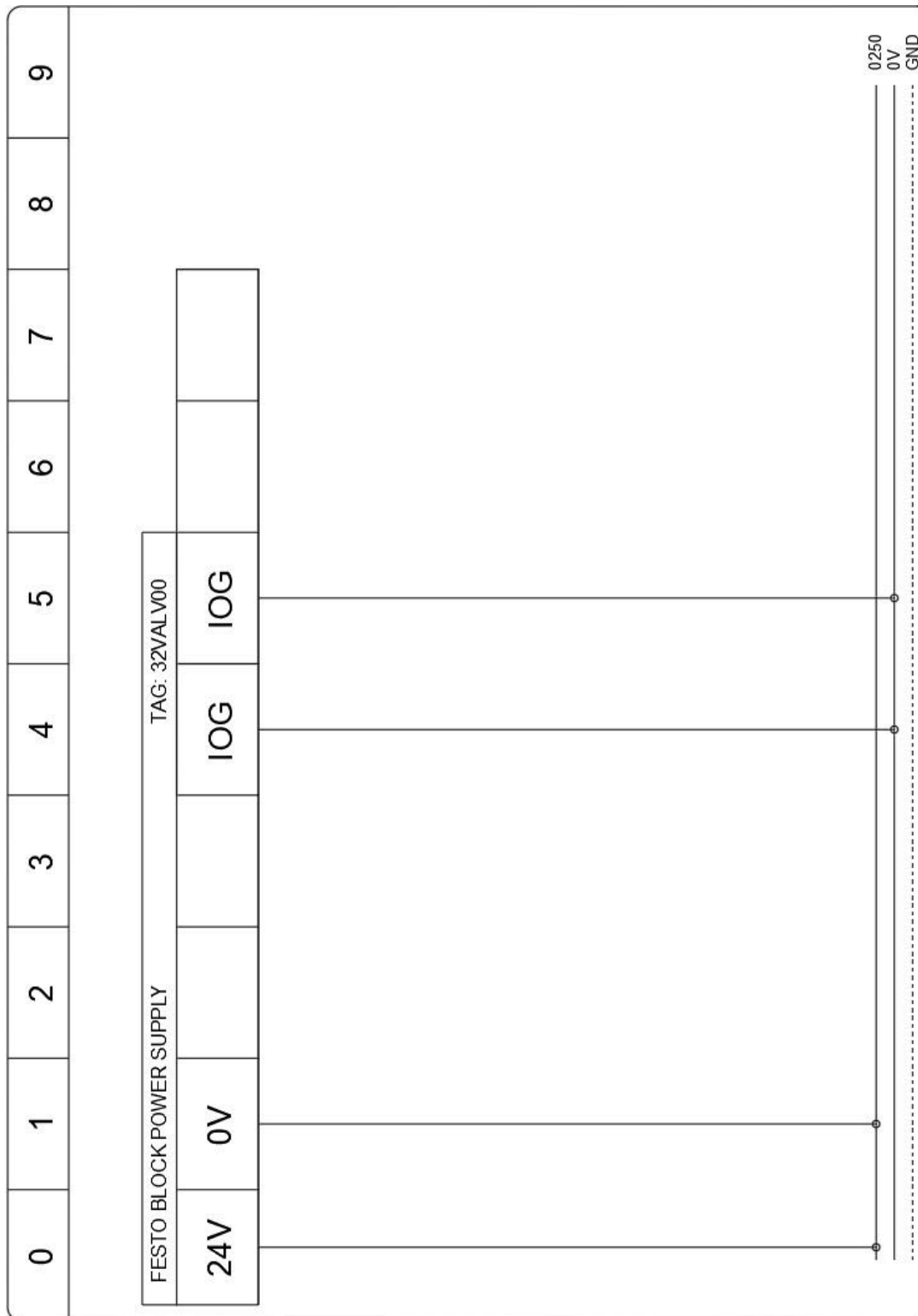
FESTO BLOCK



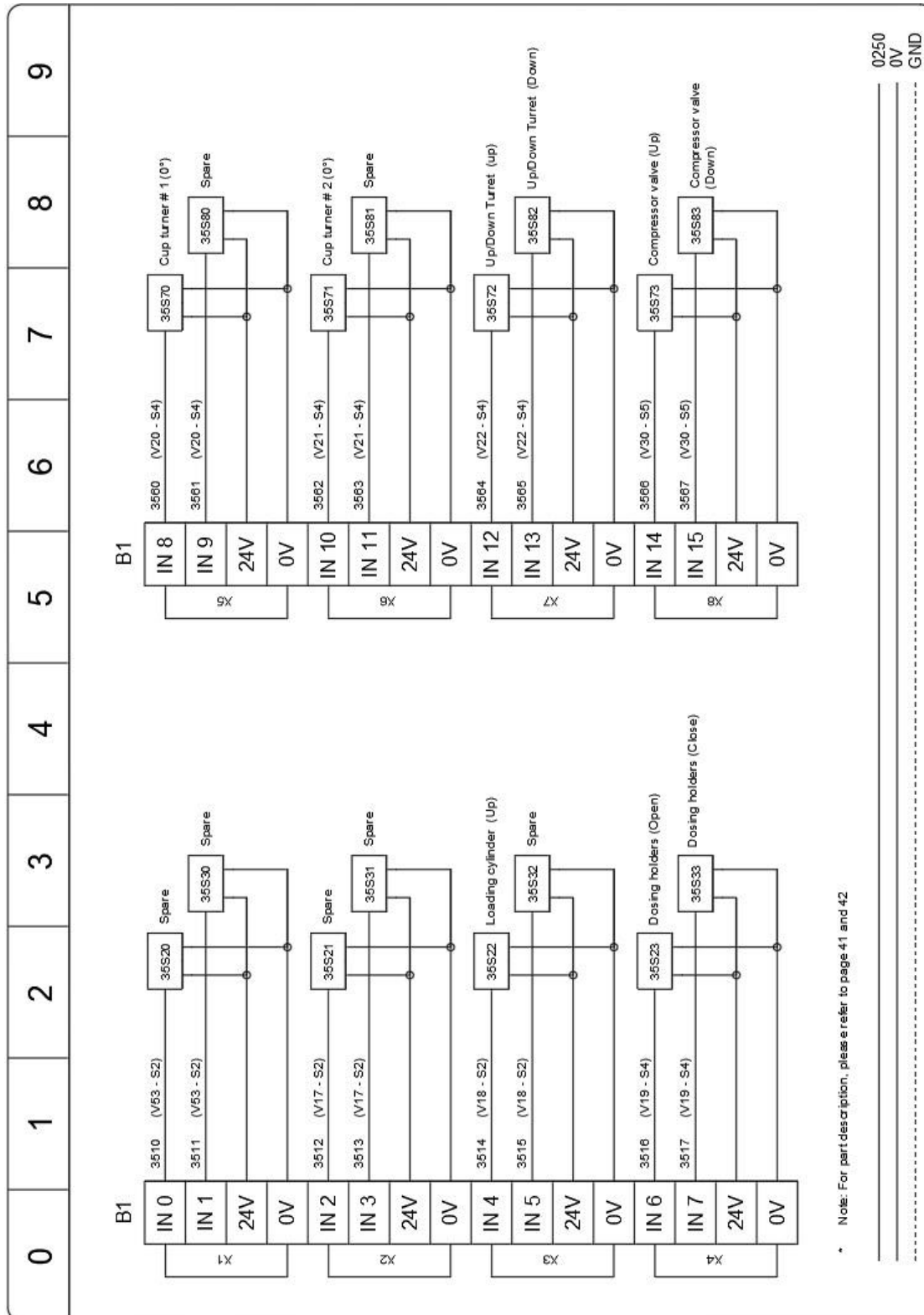
NX-102
INTERFACE**LEGEND**

<u>TAG</u>	<u>TAG DESCRIPTION</u>	<u>PART DESCRIPTION</u>	<u>PLAN PAGE</u>
B0	Block 0	Module de communication	44
B1	Block 1	Input Module	45
B2	Block 2	Input Module	46
B3	Block 3	Input Module	47
B4	Block 4	Input Module	48
B5	Block 5	Input Module	49
B6	Block 6	Input Module	50
ITF	Interface	Interface Module	42
SA1	Air Source 1	Air Supply	42
M1	Module Valve 1	8 x ½	42
SA2	Air Source 2	Air Supply	42
M2	Module Valve 2	4 x ½	42
M3	Module Valve 3	4 x ½	42
SA3	Air Source 3	Air Supply	42
ESM1	Power Block 1	Alimentation 24 VDC	
M4	Module Valve 4	4 x ½	42
M5	Module Valve 5	4 x ½	42
M6	Module Valve 6	4 x ½	42
M7	Module Valve 7	4 x ½	42
SA4	Air Source 4	Air Supply	42
M8	Air Module 8	4 x ½	42
M9	Air Module 9	4 x ½	42
M10	Air Module 10	4 x ½	42
M11	Air Module 11	4 x ½	42
SA5	Air Source 5	Air Supply	42
ESM2	Power Block 2	Alimentation 24 VDC	
M12	Module Valve 12	2 x ½	42
SA6	Air Source 6	Air Supply	42
M13	Module Valve 13	1x Proportional Valve	42
M14	Module Valve 14	1x Proportional Valve	42
ESM3	Power Block 3	Alimentation 24 VDC	
M15	Module Valve 15	4 x ½	42
SA7	Air Source 7	Air Supply	42

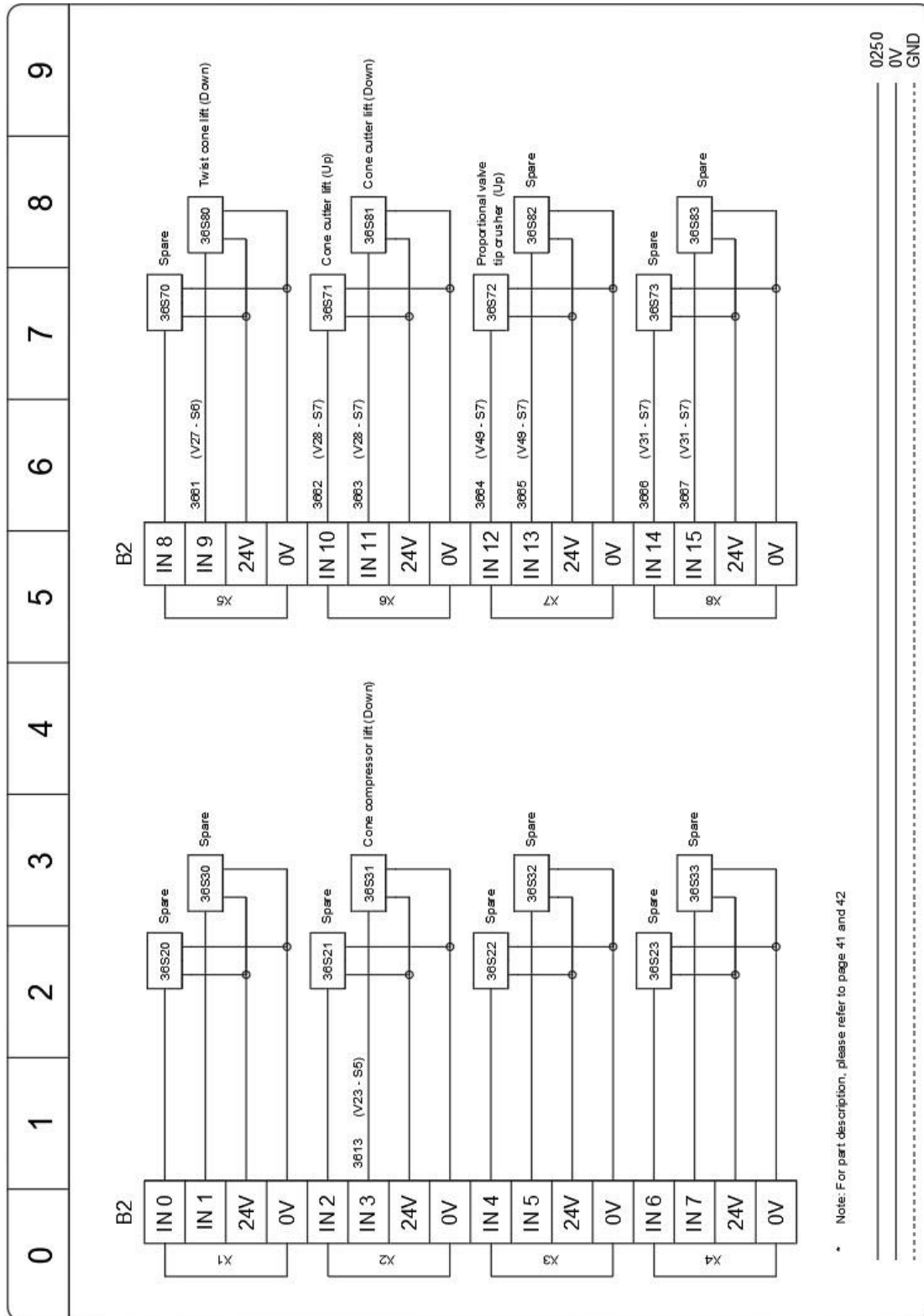
DESCRIPTION:

FESTO
BLOCK (B0)

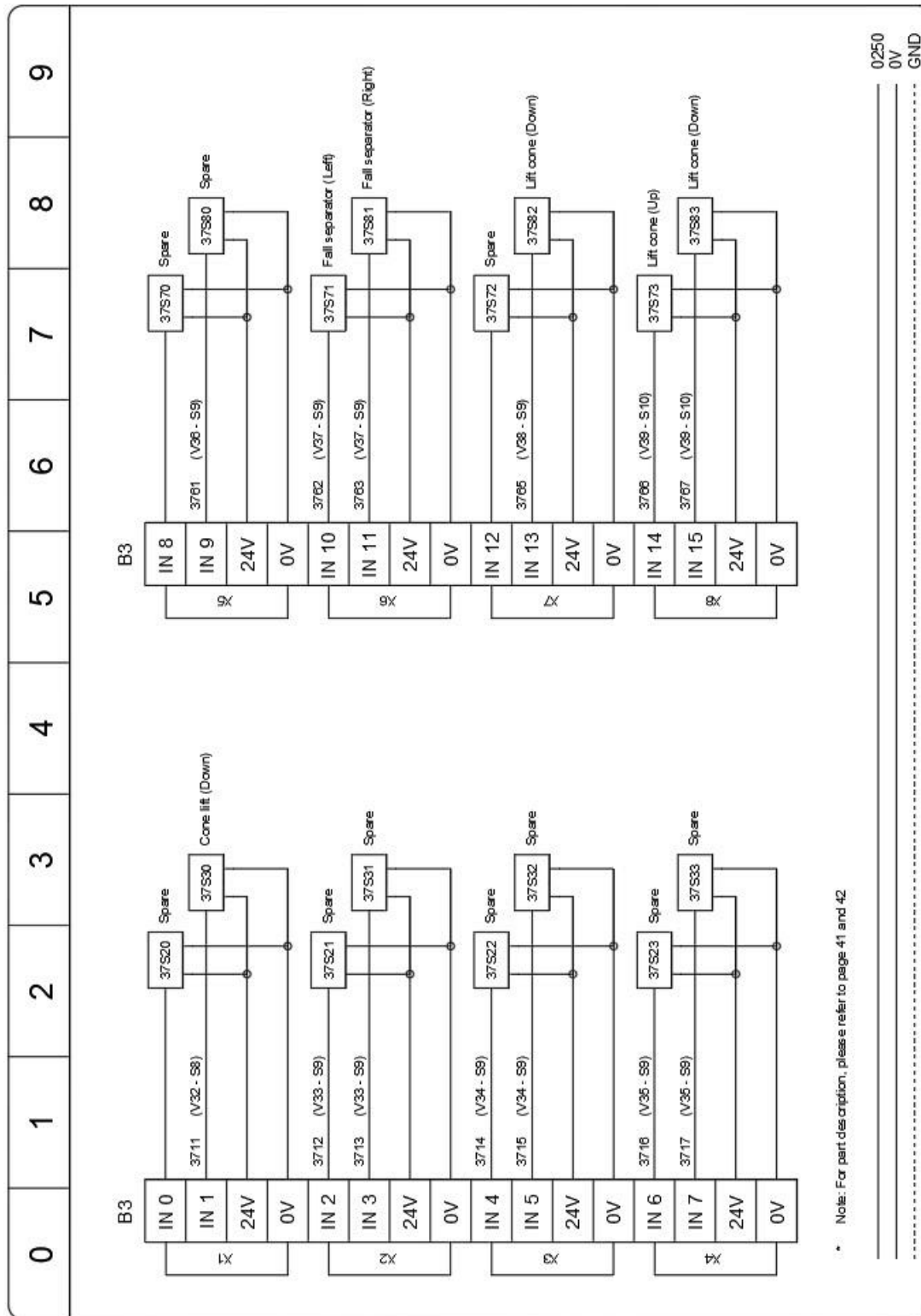
DESCRIPTION

FESTO
BLOCK (B1)

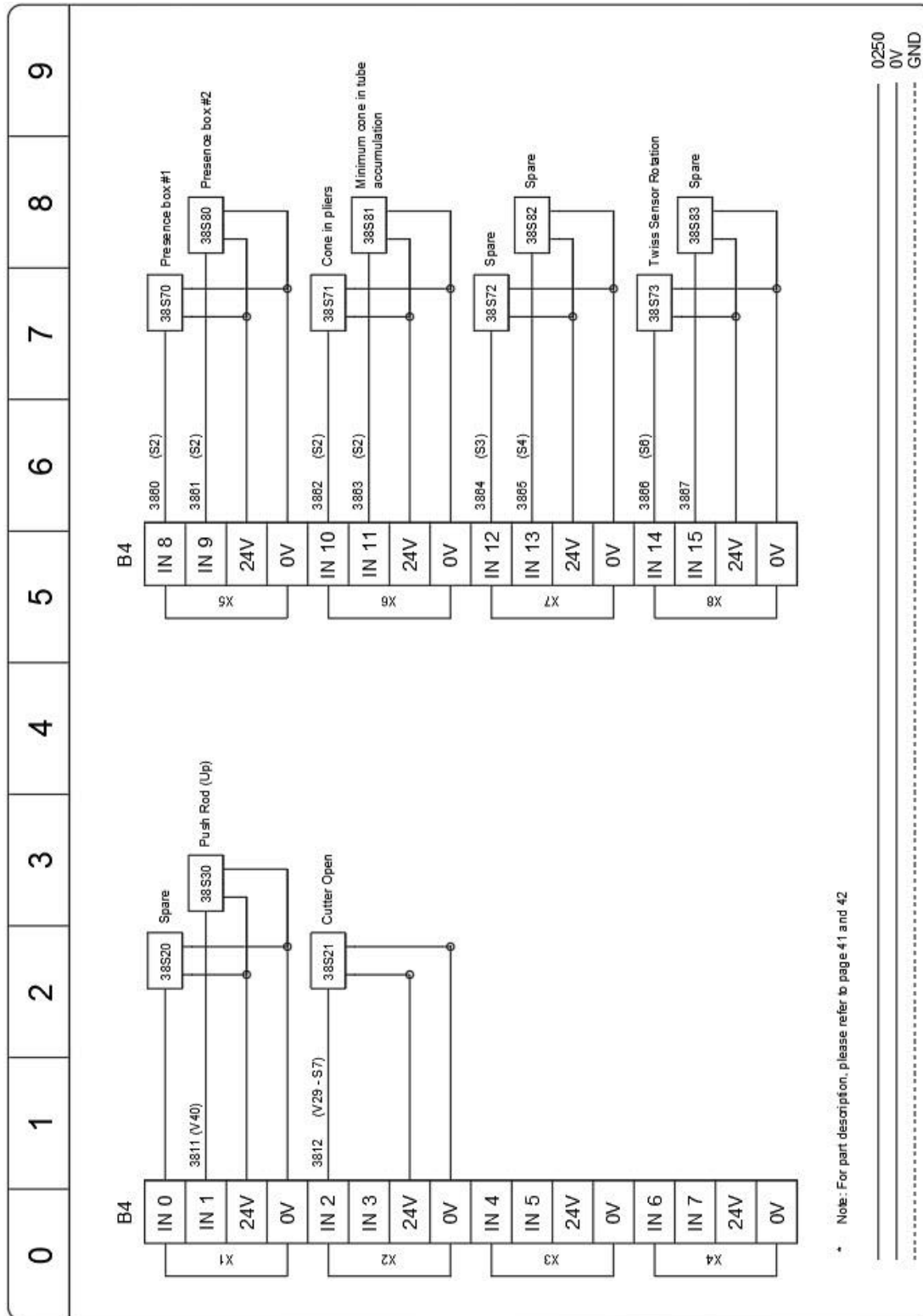
DESCRIPTION:

FESTO
BLOCK (B2)

DESCRIPTION:

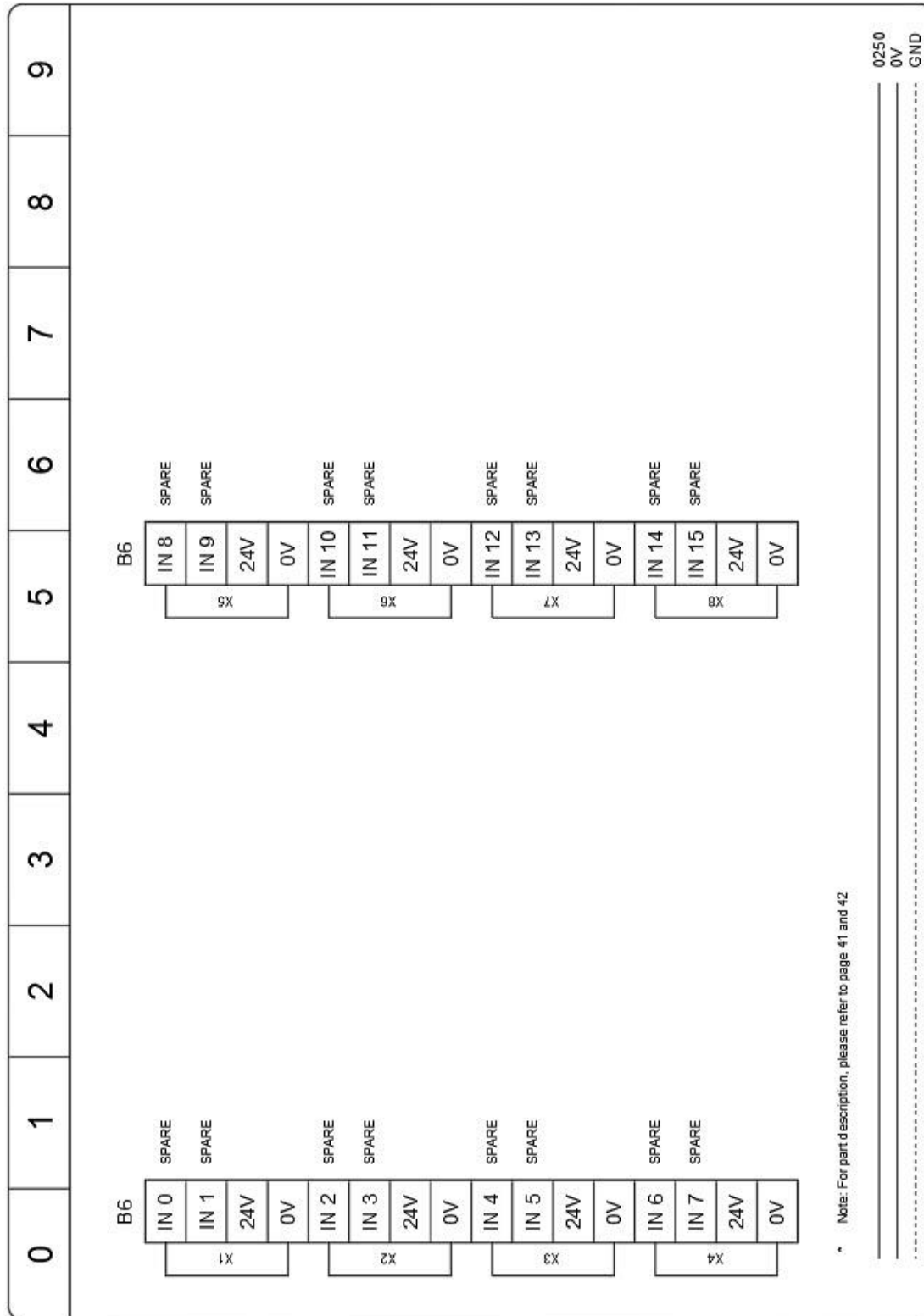
FESTO
BLOCK (B3)

DESCRIPTION:

FESTO
BLOCK (B4)

* Note: For part description, please refer to page 41 and 42

DESCRIPTION:

FESTO
BLOCK (B6)

IN 6

IN 7

24V

0V

X4

SPARE

SPARE

B6

IN 8

IN 9

24V

0V

X5

SPARE

SPARE

IN 10

IN 11

24V

0V

X6

SPARE

SPARE

IN 12

IN 13

24V

0V

X7

SPARE

SPARE

IN 14

IN 15

24V

0V

X8

SPARE

SPARE

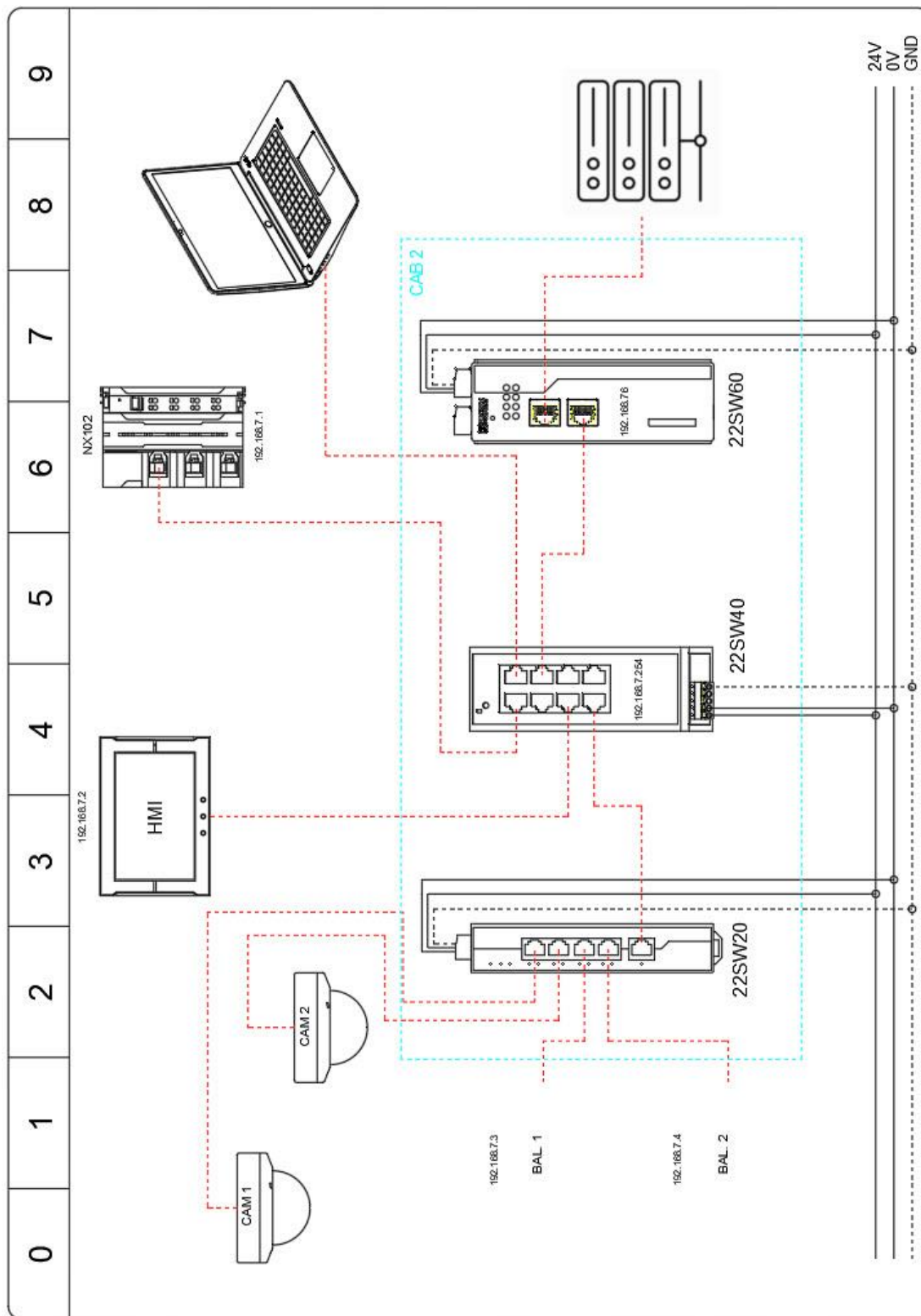
0250

0V

GND

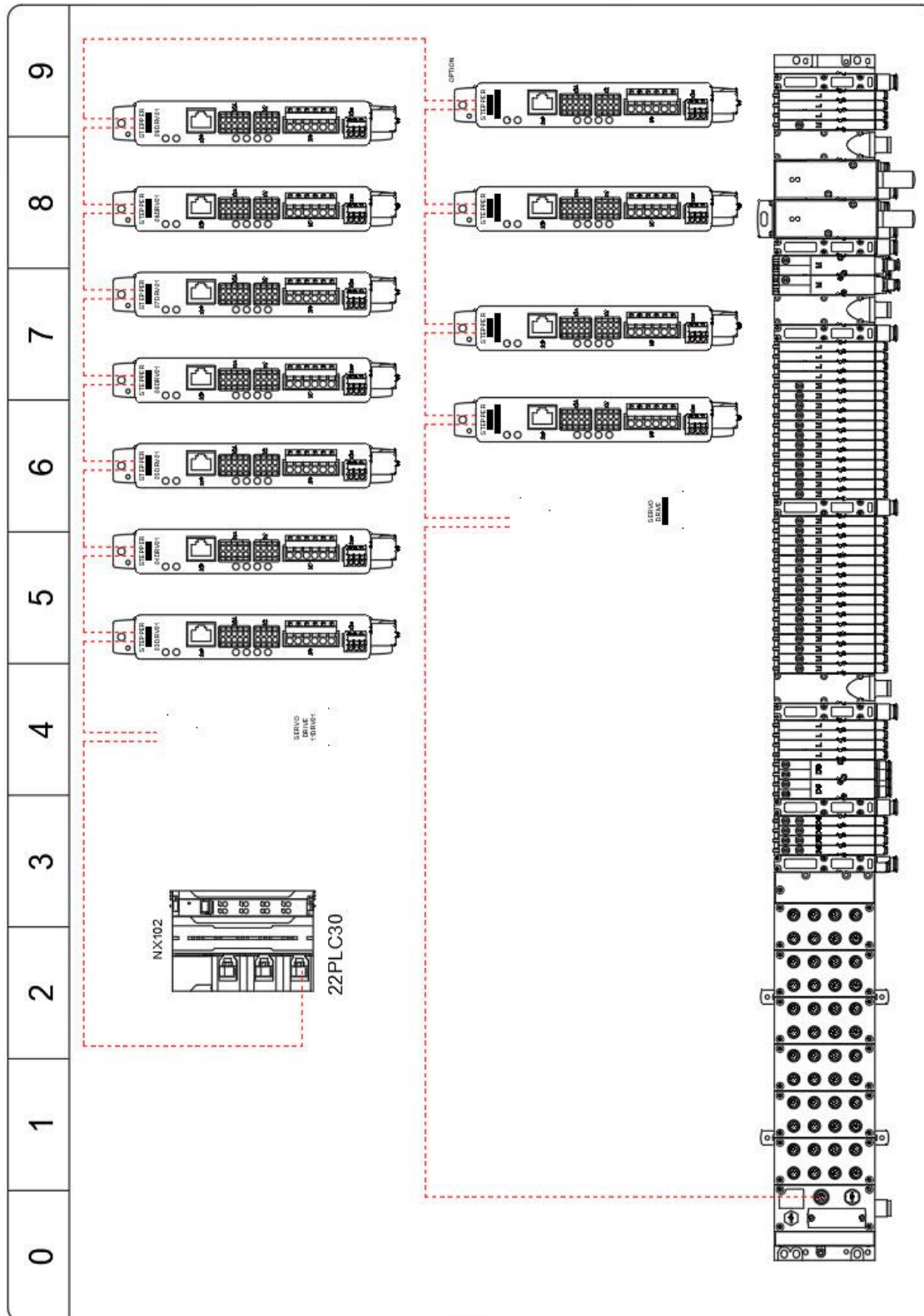
* Note: For part description, please refer to page 41 and 42

DESCRIPTION

ETHERNET
CONNECTIONS

DESCRIPTION

**ETHER-CAT
CONNECTIONS**



<u>VALVE LEGEND</u>				
<u>MODULE</u>	<u>ADDRESS</u>	<u>SECTION</u>	<u>DESCRIPTION</u>	<u>ACTION</u>
M1	V1	S3	Positioning air jets	Fix
M1	V2			Fix
M1	V3			Fix
M1	V4	S4	Cleaning of the balance	Fix
M1	V5	S9	Cleaning of the balance	Fix
M1	V6			
M1	V7			
M1	V8	S4	Cone Blower	On / Off
M2	V9	S10	Air brush cone ejection	
M2	V10	S11	Cleaning suction	Fix
M2	V11			
M2	V12			
M3	V13			
M3	V14			
M3	V15			
M3	V16			
M4	V17	S2	Cone loading clamps	In / Out
M4	V18	S2	Loading cylinder	Up / Down
M4	V19	S4	Dosing holder	Open / Close
M4	V20	S4	Cup turner #1	Rotation 0°- 180°
M5	V21	S4	Cup turner #2	Rotation 0°- 180°
M5	V22	S4	Up/Down Turret	Up / Down
M5	V23	S5	Cone compressor lift	Haut / Bas
M5	V24	S6	Twiss tip clamp	Open / Close
M6	V25	S6	Cone twist pliers	Open / Close
M6	V26	S6	Up/Down twist pliers	Up / Down
M6	V27	S6	Twist cone lift	Up / Down
M6	V28	S7	Cutter cone lift	Up / Down

<u>VALVE LEGEND</u>				
<u>MODULE</u>	<u>ADDRESS</u>	<u>SECTION</u>	<u>DESCRIPTION</u>	<u>ACTION</u>
M7	V29	S7	Tip cutter knife	Cut
M7	V30	S5	Compressor	Up / Down
M7	V31	S7	Cone cutter pliers	Open / Close
M7	V32	S8	Cone lift (option)	Up / Down
M8	V33	S9	Cone pliers #1	Open / Close
M8	V34	S9	Cone pliers #2	Open / Close
M8	V35	S9	Up/Down translation	Up / Down
M8	V36	S9	Translation	In / out
M9	V37	S9	Fall separator	Left / Right
M9	V38	S9	Cone lift	Up / Down
M9	V39	S10	Cone lift	Up / Down
M9	V40	S11	Up/Down brush	Up / Down
M10	V41	S4	Cone funnel vibrator	On / Off
M10	V42			
M10	V43	S2	Cone retainer	Open / Close
M10	V44	S7	Tip compressor	Up / Down
M11	V45	S12	Tube stopper	Open / Close
M11	V46	S12	Turn tube feeder to wheel	Up / Down
M11	V47	S12	Push tube to holder	In / Out
M11	V48	S12	Tube magazine	Up / Down
M12	V49	S4	Tumbleur funnel vibrator	On / Off
M12	V50	S5	Power proportional valve plier	Open / Close
M13				
M14				
M15	V53	S2	Pic and place	Open / Close
M15	V54	S12	Tube aspiration holder	On / Off
M15	V55			
M15	V56	S10	Slide air brush	In / Out

LAYOUT ELECTRICAL
PANEL

