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Thank you for your choosing Raptor22LT2 for your recycling engineering plastic.
Please read following comments carefully for your safe operation.

1-1

Raptor22LT2 is designed as the engineering plastic regrind recycling machine.
Please do not use this machine for other purposes.

1-2

Please do not disassemble nor modify any part of the machine and the software
unless this operation manual allows.

1-3

Please operate the machine under this operation manual instructed.
The improper operation causes poor performance or damage on the machine or unexpected accident.

1-4

Use of Matsui Dehumidify dryer MJ3-50A and cyclon hopper MNH-1 is recommended.
Please refer Matsui operation manual for details.

1-5

Condition of acceptance

SPIRAL LOGIC LIMITED performed the trial run prior to shipment by the regrind material sent by the user.
Trial run at the installation site by the same regrind would be considered as the acceptance test.
At the certain injection molding conditions, severe degradation occurred during injection molding
and such regrind material could not keep running Raptor22LT2 constantly.
Thus, this is a reason why Spiral Logic insists on the trial run prior to shipment.


1-6

Hex-wrench recommended

Most of Raptor22LT2 uses hex-wrench to disassemble and assemble. Please use the short wrench.
Too strong torque will damage the machine parts.

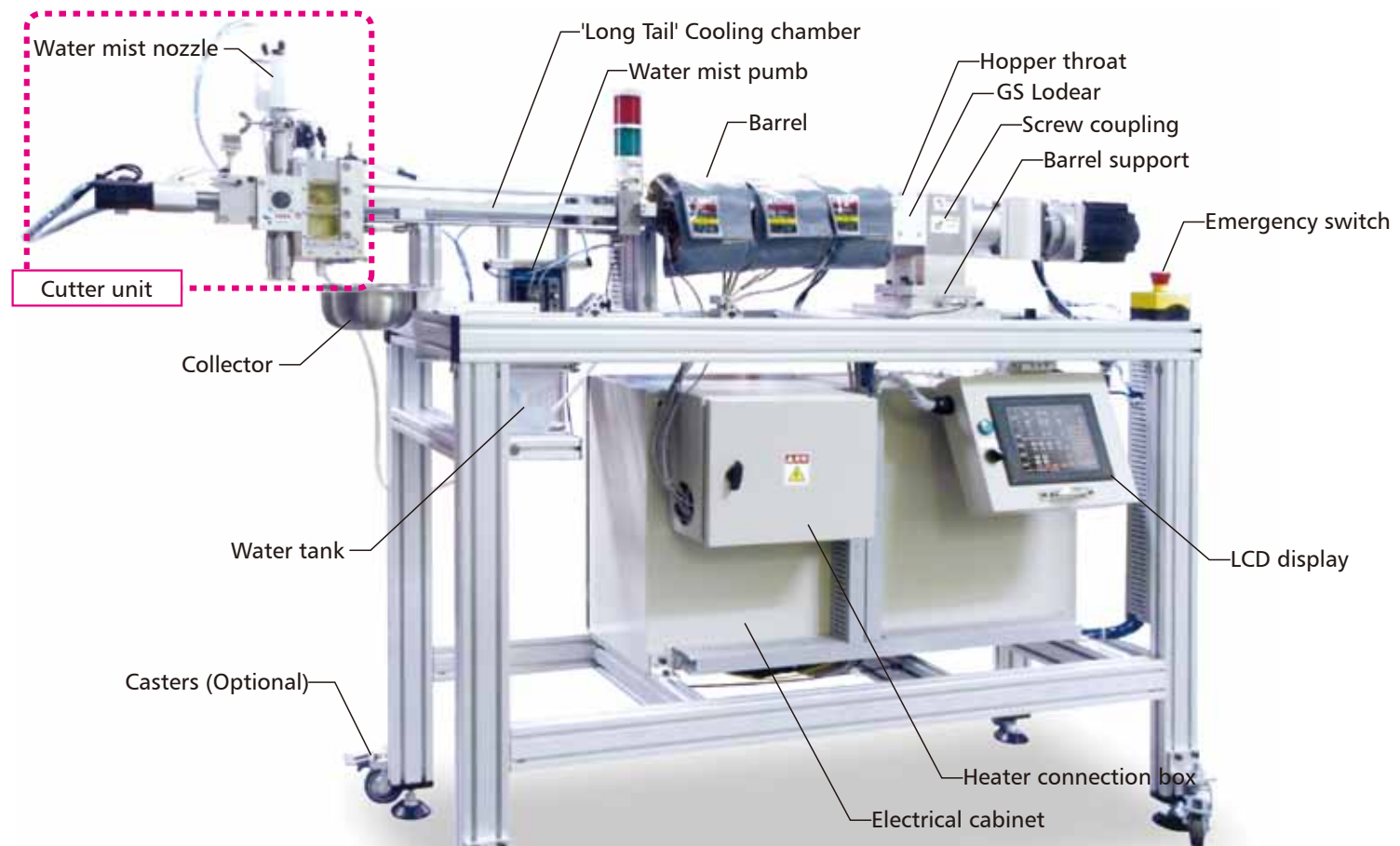
Swiss Tools 210H-10RB Rainbow color hex-wrench is recommended.

In this operation manual, we display which wrench is used by showing color of Swiss Tools. (cf. page 25)

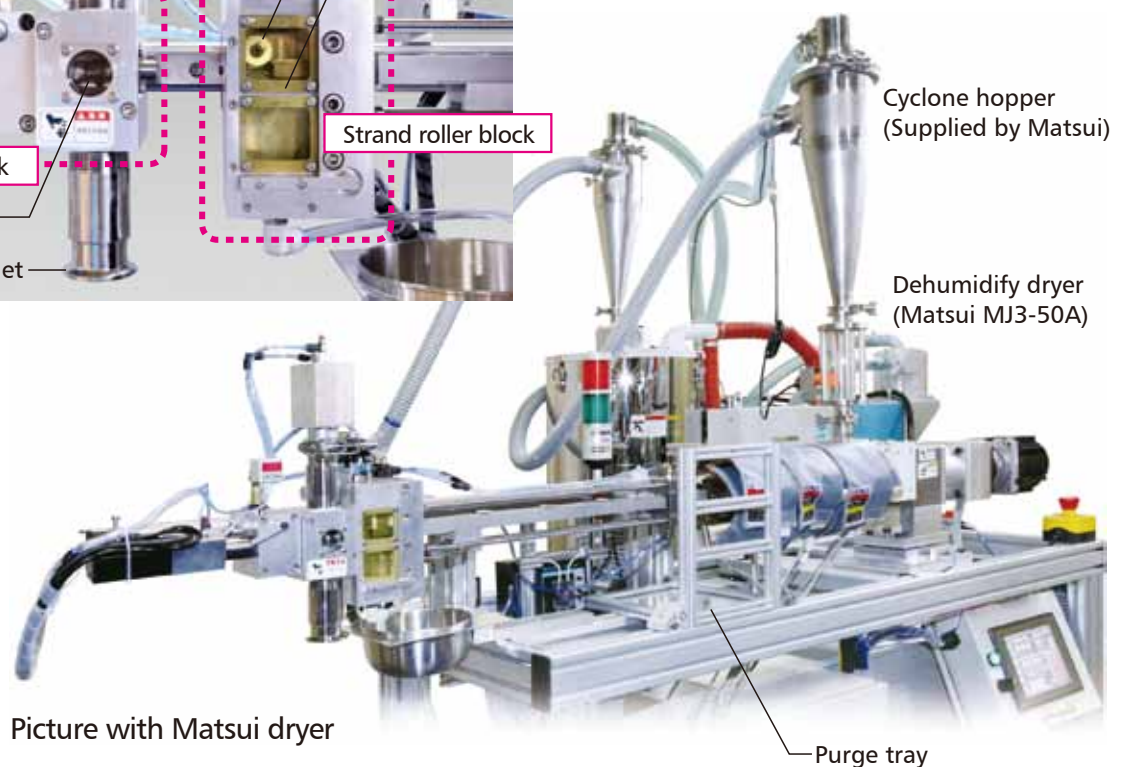
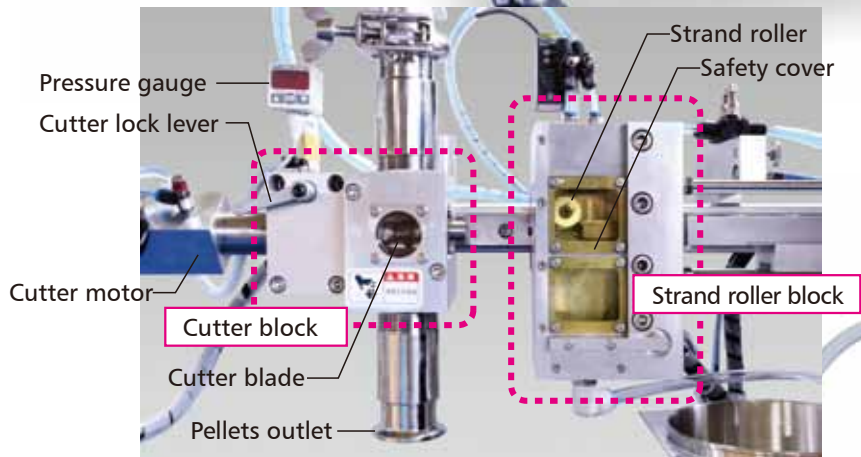
For example;  6 mm x (number of bolts)



2 Name of the Machine Parts



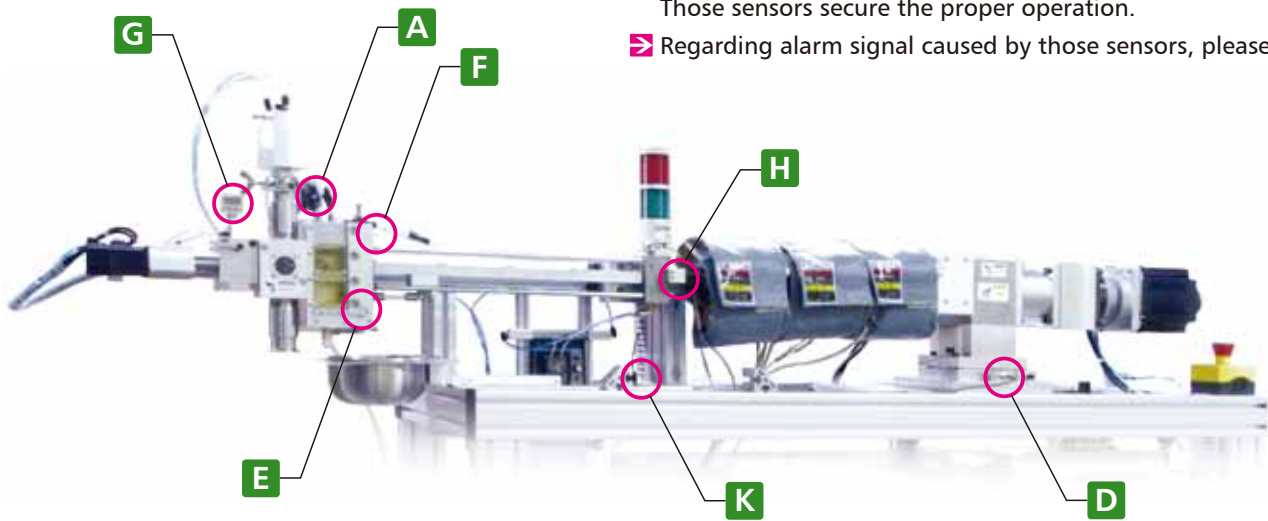
Cutter unit



3 Sensors

Those sensors secure the proper operation.

➤ Regarding alarm signal caused by those sensors, please refer Page 8.



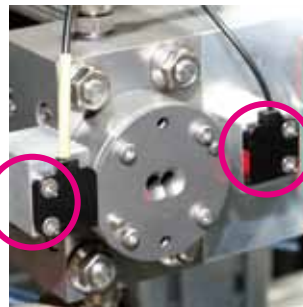
A Pellet Height



G Cutter Lock



D Barrel Position



H Strand Error



E Safety Cover



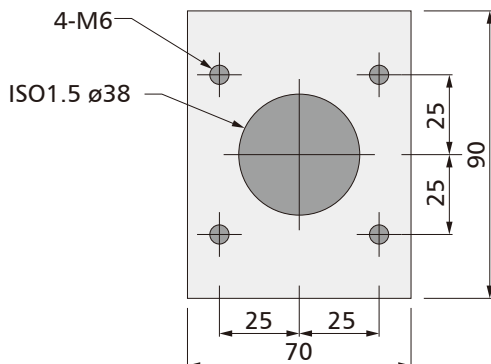
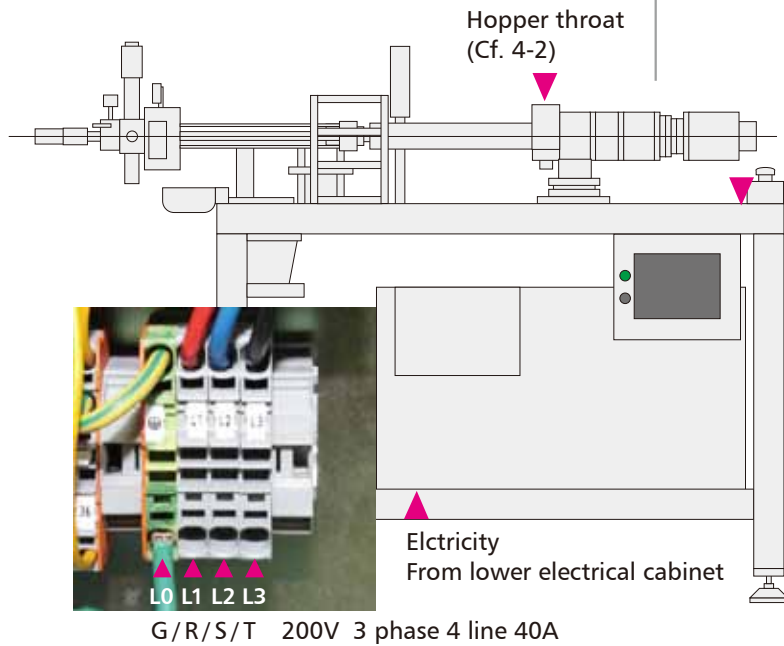
K Purge Tray



F Cutter Unit Position

4 Installation

4-1 Connection of utilities



4-2 Hopper throat

Please refer the drawing on the left.
Matsui cyclon hoppeper MNH-1 is designed to
fit on this hopper throat.



4-3 Compressed air and distilled water

Raptor22LT2 applies mist water for extra cooling efficiency
and for killing static electricity. Normal usage is around
300-600ml depending on the materials and process conditions.

- ⚠ Distilled water tank shall be put higher than the connection coupler.
- ⚠ Throttles of air and water are adjusted at the trial run prior to shipment. In case operating with same or similor materials, please do not change original setting.

4-4 Quality of distilled water

Please apply distilled water or pure water. Avoid using any kind
of water with mineral contents, which may crystallized on the
cutter or in the cooling chamber. Drinking water is not distilled water.
Please find the table on the left. We recommend 'Watson Water
pure distilled', while 'Vita pure distilled water' is also acceptable.
If you are not sure about the contents, water electricity conductivity
meter is useful. SPIRAL LOGIC LIMITED engineer holds one to measure
water quality at the installation.

Brands	Electricity conductivity [μS/cm]
Watsons Water pure distilled	6
Vita Pure distilled water	12
Bonaqua mineralized water	71
Watsons Water with minerals	80
Evian	590
Tap water	170

Measurement by the electricity conductivity meter
Horiba Twin Cond B-173

5 Display ON-OFF and MODE Change



Touch any place to switch on the display. Operation and purging can be done by this display.

- ⚠ Thanks to programmable controller, Raptor22LT2 is highly automated.
 Just use switch A-E can operate normal production.

A Heater

OFF shows heaters are off now. Press here to turn on heaters. Zone 3 reaches set temperature, then screw interlock timer starts counting down.

B Motor

Motor can be turned on after screw interlock timer counts up.

C Auto Start

After Motor is turned on, Auto Start can be workable. Only switch on Auto Start, every part of the machine will start sequentially.

D Purge Mode

After Motor is turned on, only switch on Purge Mode to perform purging automatically.

E Auto Stop

By pushing Auto Stop, the machine starts slow down sequentially and gradually. Finally, main screw will turn reverse to prevent drooling from the nozzle. On the other hand, you stop machine by switching B or C or D, the machine will stop suddenly.

F Attended / Not Attended

Selector of operator attended or not attended.

Attended : Keep heaters on for 15 minutes after alarm signal.

Not attended : Heater will turn off immediately at alarm signal.

- ⚠ In case heater alarm, heater will turn off immediately.

G Language selector

Now display shows English.

Press →日本語 to change to Japanese.

H Supervision

Change display to Supervision. In Supervision display, heater auto tuning and pellet hight sensor adjusting can be made.

- ➡ Please refer Page 9 for details.

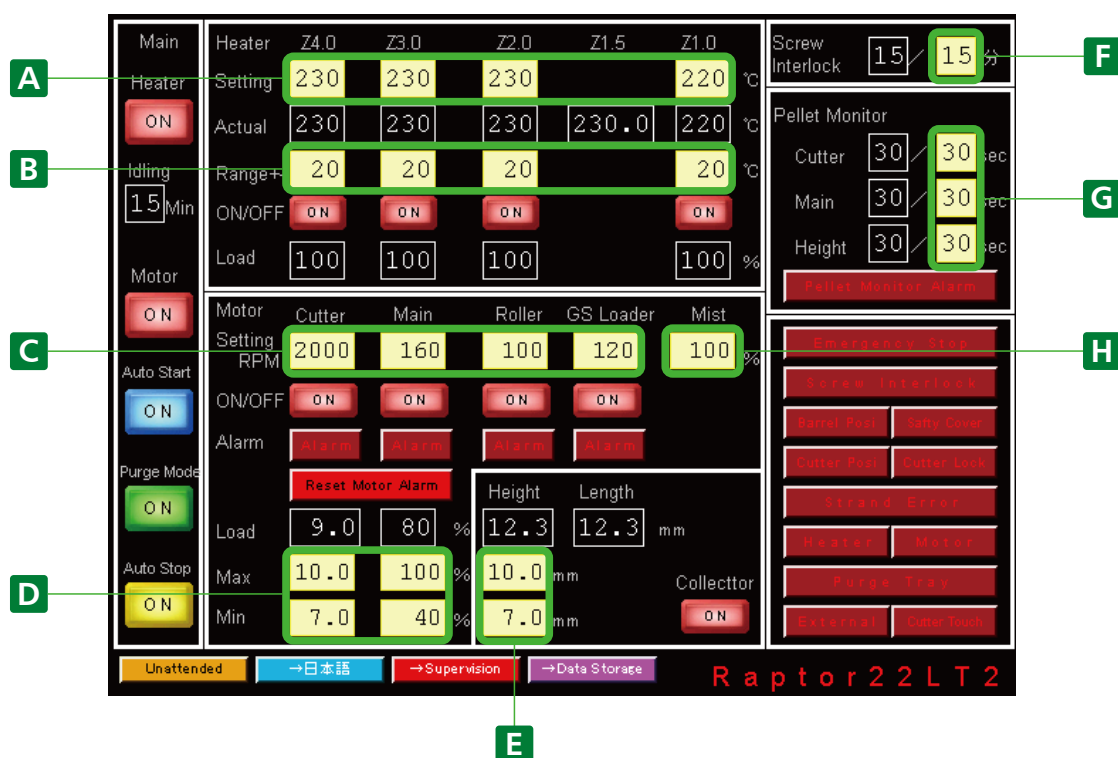
- ⚠ Turn on Supervision, pass ward is required.
 Please keep pass ward by supervisor only.

I Data Storage

Operation condition can be stored up to 20.

- ➡ Please refer Page 10 for details.

6 Display Operation



Yellowish portions are parameter of operation conditions.

Tap a yellowish portion, then ten-key will come out.

Enter number through ten-key and press Enter to confirm new setting.

A Heater Temperature

Z1.5 is a sensor to detect temperature between Zone 2 and 1. There is no heater controlled by Z1.5. Generally speaking, set temperature of Z4=Z3=Z2 and Z2-10°C=Z1.

B Heater Temperature Monitoring

Set range of monitoring temperature. Over or under this range during operation, the machine will turn on 'Heater' alarm and turn off all power immediately.

C Motor Rotation Speed

Switch	Part	Recommendation
Cutter	Cutter motor	1,500-2,200 rpm
Main	Main screw	100-220 rpm
Roller	Roller rotation	60-150 rpm
GS Loader	GS Loader screw	50-150 rpm

D Motor Torque Load

Monitoring cutter motor and main screw motor torque. Set max and min torque. Over or under this setting during operation, the machine will turn on 'Motor' alarm and turn of power as 'attended/not attended' mode specified.

E Pellet Height Monitoring

The sensor located at Page 4 A, monitoring the roller height as the pellet height. Recommended setting in between 5.0-3.0 as Max and 0.5-1.0 as Min. Collector will move forward to the pellets outlet during out of range to receive pellets.

F Screw Intelock Timer

Count down starts when Z3 reaches set temperature and interlock is cleared when set time(minutes) is over.

G Pellet Monitor

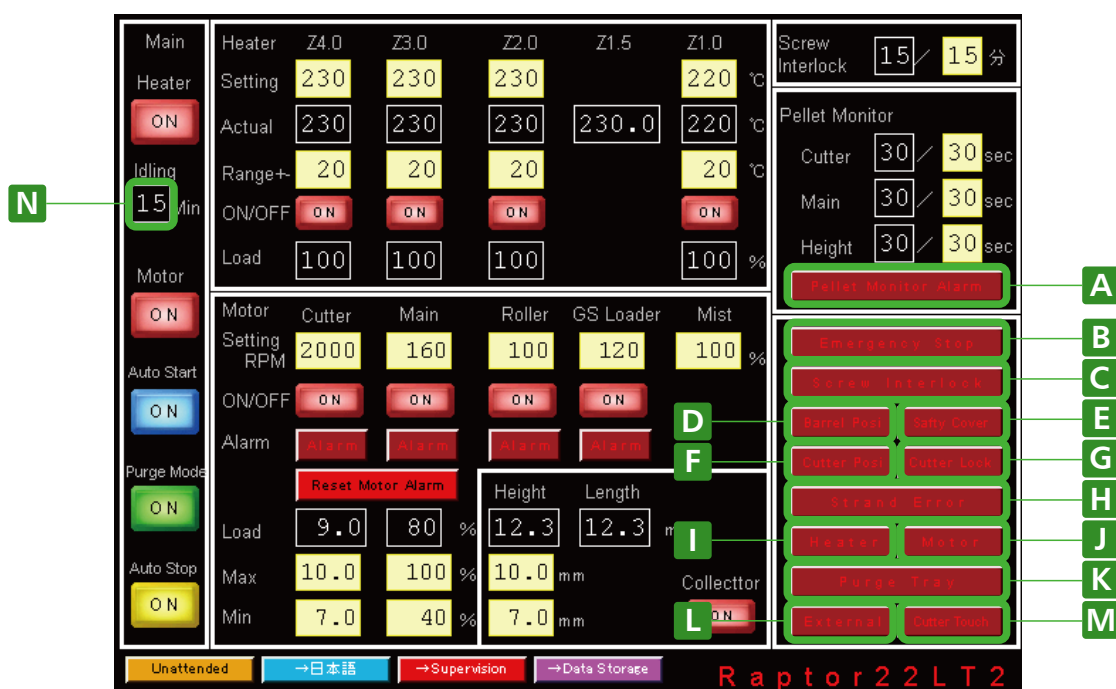
Either one of Cutter motor or Main screw motor or Pellet height is out of monitoring reange during set time (seconds), turn on 'Pellet Monitor Alarm'.

H Mist Spraying Time

Some material needs more mist to kill static eletricity. Some does not need a lot. Mist spraying time shows how long in a minute spray continues.

100% means continuously.

50% means 30 seconds spray, 30 seconds no spray.



Redish portions are showing the alarms. Once monitoring figures are out of range, the item on the display will light, the buzzer will sound, and the red warning lamp will light, then the machine will stop automatically.

⚠ At not-attended mode, the machine will stop without the buzzer sounds.

➡ Please refer Page 15 for recovery from alarms.

A Pellet Monitor Alarm

Monitoring 3 parameters and one of it is out of range for set time(seconds), the machine will stop.

Parameter	Monitoring	Status	Setting
Cutter	Cutter motor torque load	Under min	Set by Page 7 D
Main	Main motor torque load	Over max/Under min	Set by Page 7 E
Height	Roller height	Over max/Under min	Set by Page 7 E

B Emergency Switch

C Screw Interlock

It turns on during Z3 is heating up and for 15 minutes after Z3 reaches to the set temperature.

D Barrel Position

At the screw maintenance, you can swing screw toward the operator side. (➡cf. Page 11) To secure the machine will not work at this position, here is a sensor.

E Safety Cover

Ensuring the proper set of the Safety Cover on the strand roller block.

F Cutter Position

Monitoring the sensor of Page 4 F, ensuring the proper set of the Long tail cooling chamber against the barrel.

G Cutter Lock

Monitoring the pressure gauge on the Cutter Unit (Page 4 G), ensuring the proper set of the Cutter Lock Lever and the connection between the Cutter unit and the Strand roller block.

H Strand Error

Monitoring the sensor of Page 4 H, ensuring the strand is going to the Long tail cooling chamber.

I Heater

Monitoring the heater temperature during the operation.

J Motor

Monitoring the Cutter Motor and the Main Screw Motor torque load. The machine will stop immediately when torque is out of following monitoring range.

Monitoring	Status	Setting
Cutter motor torque load	Over max	Set by Page 7 D
Main motor torque load	Over 100%	Set by Page 7 D

A Pellet Monitor Alarm tolerate the small fluctuation of the process, while J Motor monitors serious problem to stop the machine immediately.

K Purge Tray

Monitoring the proper set of the Purge Tray.

L External

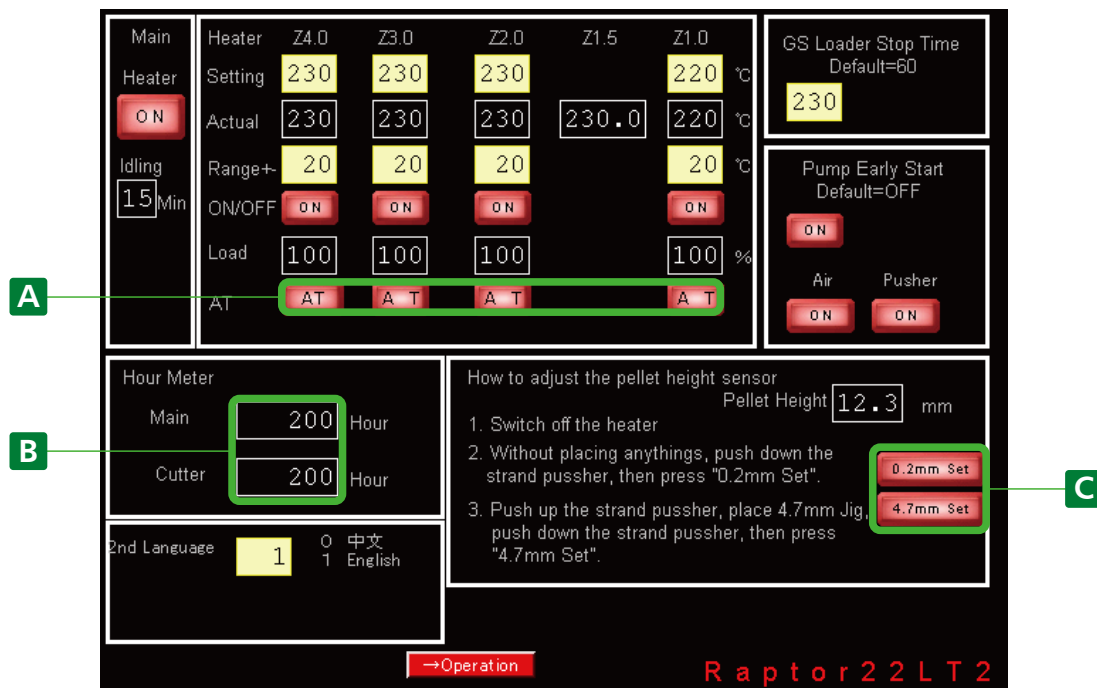
Raptor22LT2 is designed to be able to stop operation by switching off the connection between DC terminal 38 and 39. (Default is connected by the jumper cable. ➡cf. Page 28)

M Cutter Touch

To prevent from damaging the cutter blade, monitoring Cutter motor torque load at the beginning of the operation.

N Idling Timer

Unless starting operating the machine within 60 minutes after switch on Heater, Heater will switch off automatically to prevent from the degradation of the material. Display shows the elapsed time.



Supervision Mode is protected by the password.

This mode is just used for the adjustment before delivery and do not change during operation.

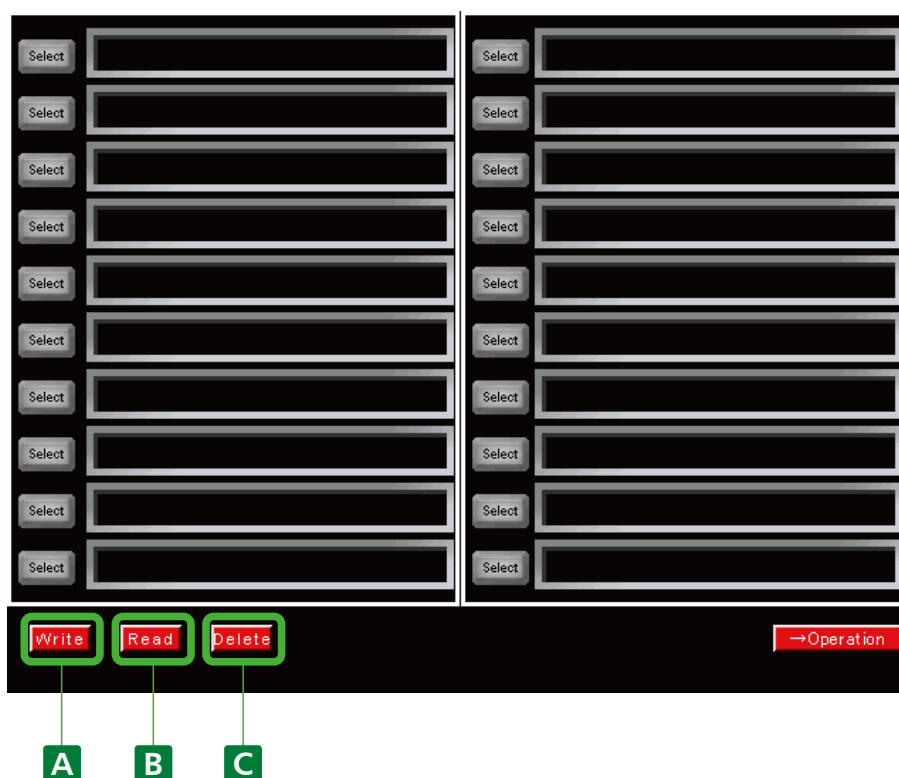
If you have any question, please ask SPIRAL LOGIC LIMITED.

A Heater Auto Tuning

B Hour Meter

Showing accumulated operation hours.

C Pellet Height Sensor Adjustment



20 process conditions can be stored.

The trial run at Spiral Logic Ltd prior to shipment will be recorded in this storage.

Please recall it to start easy operation.

A Write

Store the operation condition in the storage area at any time during the operation. Press Select key where you like to keep the data, then press Write key to store the data. Use key board to enter the name of the data.

⚠ Alphabet, number and symbol on the key board can be entered.



B Read

Recall the stored operation condition. Press Select key to choose the data you may recall, then press Read key to recall.

⚠ You can not recall the stored condition during operation. Please switch off Motor and Heater before recall data.

C Delete

Delete the stored condition. Press Select key to choose the data you may delete. Press Delete key to clear.

⚠ The deleted condition will not be recovered. Please be sure before you press Delete key.

10 Purging

10-1 Purging

Cleaning GS Loader when the material is changed.

Whenever changing the material, or using the purging pellets, please clean up GS Loader to ensure no pellets remain inside.

- ⚠ In case of purging by the same material, please refer from 10-6 of Page 12.



10-2 Take out plastic cover on GS Loader and screw coupling area

Take out the plastic screws of the each covers.

- ⚠ Please remind not to drop any thing inside those widows. It may cause damage on the barrel and screw.



10-3 Take out GS Loader from the barrel

Take out GS Loader from the rear side of the machine by loosening 2 fixing attachment.

10-4 Suction remaining pellets

Using the vacuum cleaner, suction remaining pellets in the GS Loader and the hopper throat.

Using air blow at the same time may help cleaning thoroughly.



10-5 Feeding the purging pellets

Feeding the purging pellets through GS Loader window.

- ⚠ Please be careful not to feed the purging pellets into the GS Loader.
- ⚠ Please refer the operation manual of the purging pellets for detail conditions.

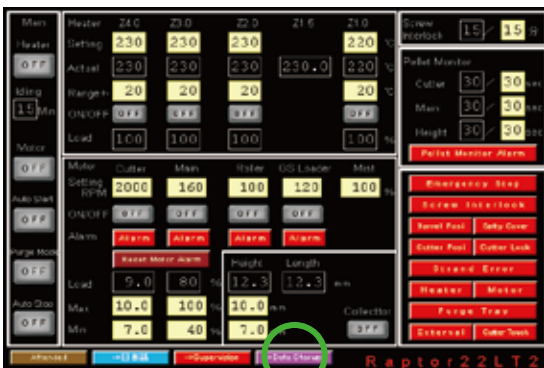
10 Purging



10-6 Set Purge Tray

Set Purge Tray properly, otherwise the machine does not start to work.

⚠ Sensor (cf. Page 4 K) is monitoring setting the Purge Tray.



10-7 Recall process condition

Stored date can be recalled by opening Data Storage display and Select data.

➡ Please refer Page 10 for Data Storage.

⚠ In case starting operation by the new material, please refer Page 14 11-6 Adjusting process condition.



10-8 Start purging

1. Switch on Heater
2. Wait for heating up and time up of Screw Interlock
3. Switch on Motor
4. Switch on Purge Mode
5. Switch on Auto Start

By only one push on Auto Start, GS Loader and Main screw start sequentially as written in the program.



10-9 Purging material

Temperature and pressure in the barrel may be stabilized when the cake of purging becomes as big as the picture on the left. Whenever starting operation, or re-starting operation, such purging is recommended.



10-10 Stop purging

Switch on Auto Stop.

Then, the machine will stop purging sequentially, it means GS Loader stops followed by Main screw stops and Main screw turns reverse to prevent drooling from the nozzle. If you switch off Purge Mode, this sequence does not work and in case some low viscosity material, serious drooling is expected. So, using Auto Stop to stop both operation and purging is recommended.

11 Production

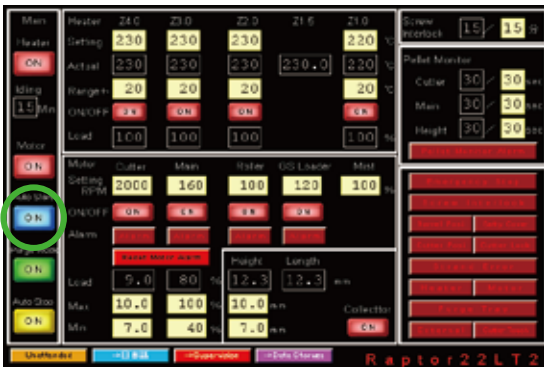


11-1 Remove Purge Tray

Purge Tray is not necessary to be set at production.

So, Purge tray can be removed from the machine.

During production, Purge Tray sensor(➤ cf. Page 4 K) does not work.

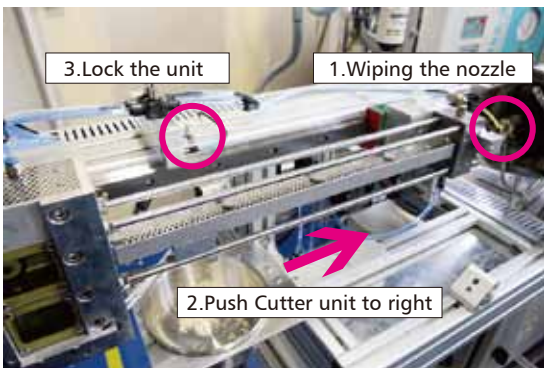


11-2 Auto Start

Switch on Auto Start.

Those switches shows present status. If display shows OFF, it is OFF now.

Then, press this button, ON will be turned on showing and the present status is ON.

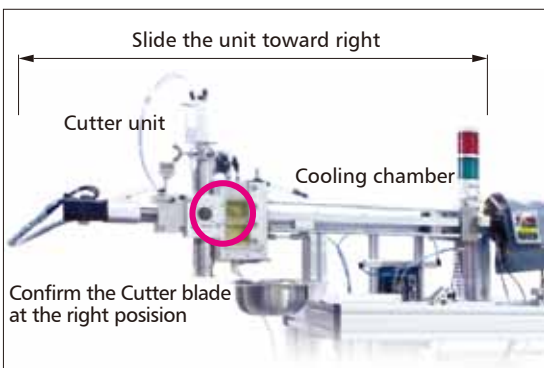


11-3 Set Cutter unit with Cooling Chamber

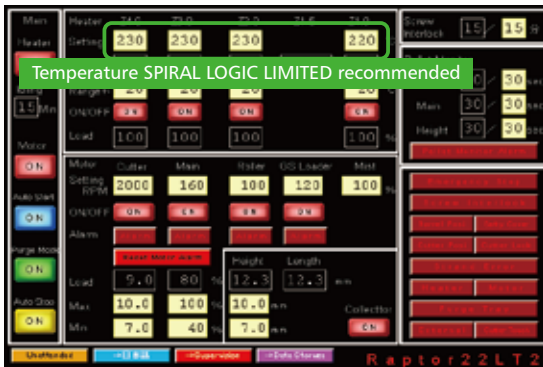
Within 10 seconds after switch on Auto Start, please set Cutter Unit as follows, otherwise the machine will stop.

1. Wiping the nozzle to remove the drooling material.
2. Push Cutter unit toward left until end of the stroke.
3. Lock the unit by the knurled screw.

⚠ Please do not close the knurled screw too tight.



11 Production



11-4 Set the operation condition for the new material

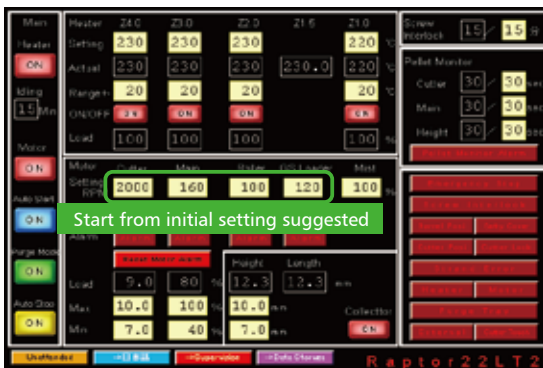
Temperature:

SPIRAL LOGIC LIMITED will suggest suitable temperature.

In case the new grade, we may ask for few grams of sample pellets for analysis.

Suggested initial setting of the motors:

Cutter	2,000	Roller	250
Main	100-150	GS Loader	70-100



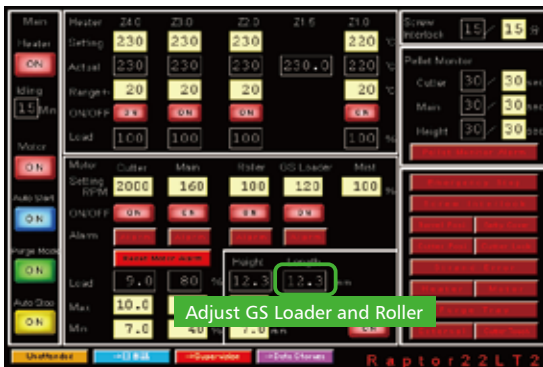
11-5 Supply and forward speed balance

Supply = quantity of the strand is mainly decided by GS Loader.

Forwarding speed is mainly decided by Roller.

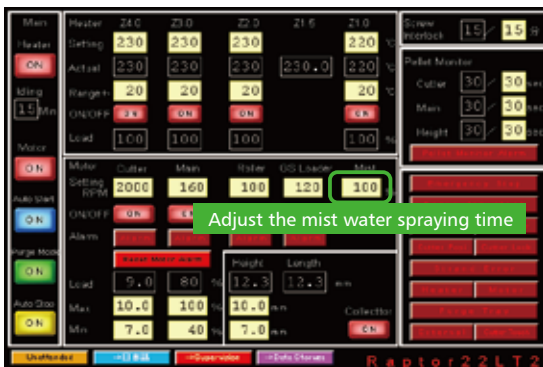
But, balance is decided by viscosity of the material.

So, please adjust GS Loader and Roller to find the stable operation condition.



11-6 Length

This figure shows the calculated pellet length based on GS Loader and Roller. Target figure is 3.0 mm as most of pellets. Large difference from 3.0mm shows either GS Loader or Roller is too fast/slow.



11-7 Adjust mist water spraying time

For extra cooling capacity or for killing static electricity, you may adjust spraying time. Otherwise, keep the initial setting.

Resins and static electricity status	Suggested setting	Spraying time per min
Non-crystalline resins	100%	60 sec
Crystalline resins / Strong static electricity	50%	30 sec
Crystalline resins / Weak static electricity	30%	20 sec



11-8 Adjust throttle of mist water

On top of the Cutter unit, there is a throttle of mist water.

Adjustment of the throttle has completed before delivery, so keep the initial setting.

But if you find the mist quantity is too small, there is a possibility the throttle having squeezed. In this case, after loosening the throttle, not only spraying time (11-7) but also opening throttle are the way to adjust the quantity of the water.

12 Recovery from Alarm



12-1 Attended Mode

The machine stops by alarm.

To turn off Warning lamp and buzzer and reset alarm, push motor switch off.

⚠ Holding alarm for 15 minutes, both Motor and Heater will be shut off. In such a case, please refer below Not-Attended Mode.



12-2 Not-Attended Mode

Immediately the machine stops by alarm, both Motor and Heater will be shut off.

To reset alarm, push Reset Motor Alarm.

To recover operation, please switch on Heater followed by Motor.

12-3 Warning and reset

Operation mode		Attended (Within 15 min)	Attended (After 15 min passed)	Non-Attended
Alarm	Buzzer	ON	OFF	OFF
	Lamp	ON	OFF	OFF
Status	Heater	ON for 15 min	OFF	OFF
	Motor	OFF	OFF	OFF
Reset		Switch on Motor	Push Reset Motor Alarm	Push Reset Motor Alarm

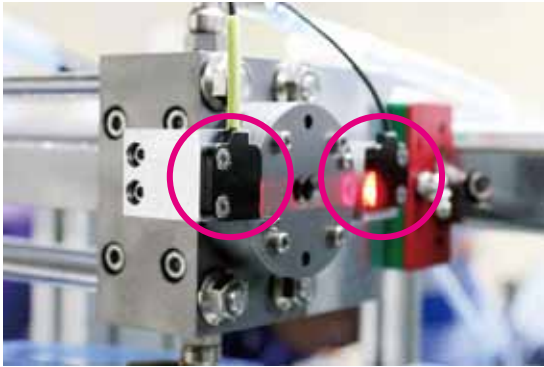


12-4 Clear remained strand

Whenever the machine stop, please confirm no strand or piece of strand remains in the Cutter Unit nor in the Cooling Chamber.

Inside of Cooling Chamber can be easily cleaned using a solid long strand.

⚠ Do not use metal rod nor wire as metal may damage inside of Cooling Chamber.



13-1 Clean Strand Error Sensor

Strand Error Sensor(➡cf. Page 04 H) is a light sensor measuring thickness of the strand from the nozzle. Please wipe both the luminous part and reception part by soft dry cloth.



13-2 Clean Pellet Height Sensor

Pellet Height Sensor(➡cf. Page 04 A) lower surface is the luminous part and under the sensor is the reception part. Please check there is nothing remain on the reception part, and clean both side by soft dry cloth.



13-3 Clear Strand Roller Block

Take out Safety Cover and check there is nothing remain in the Strand Roller Block. Clogged piece of strand between rollers may force Pellet Height Sensor misjudged.



13-4 Distilled water

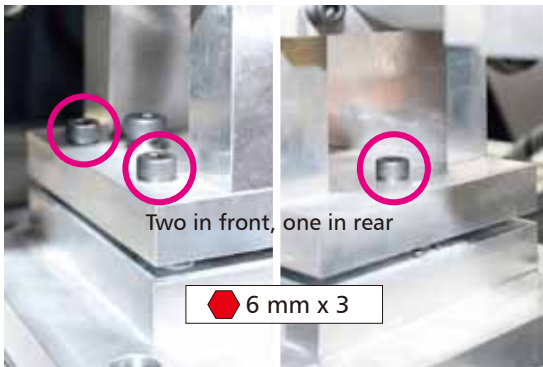
Supply enough distilled water.

13-5 Check by sight

Please watch there is nothing wrong around the machine. Clear piece of pellets remained to avoid contamination.

14

Maintenance Barrel and Screw

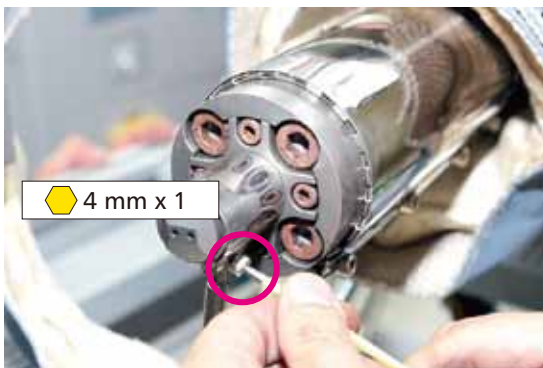


14-1 Turn barrel toward the operator side

Switch off Heater and Motor.

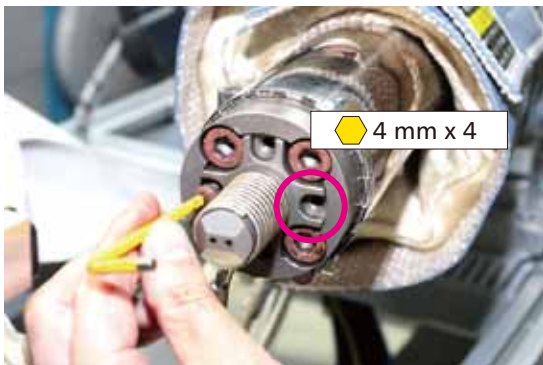
Loose 3 bolts at the barrel support and pull nozzle toward the operator side.

⚠ The barrel is still hot. Be careful not to suffer a burn.



14-2 Take off nozzle heater cover

Take off Nozzle heater cover by loosening a bolt.



14-3 Take off nozzle

Nozzle is fixed by 4 bolts.

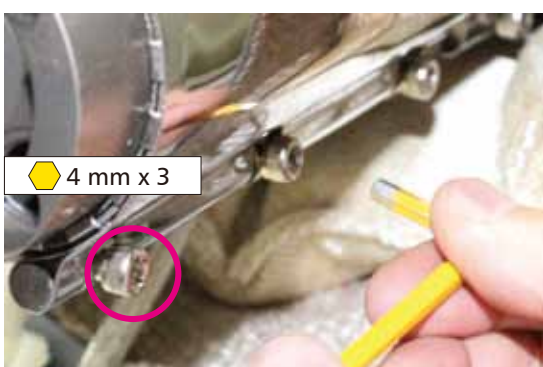
Loose 4 bolts by 4 mm Hex-wrench.

To assist taking out, screw M8 bolts through those 4 tapped hole.



14-4 Take off metal mesh support and metal mesh

To take out the screw, please take off the metal mesh support and metal mesh in the barrel head.

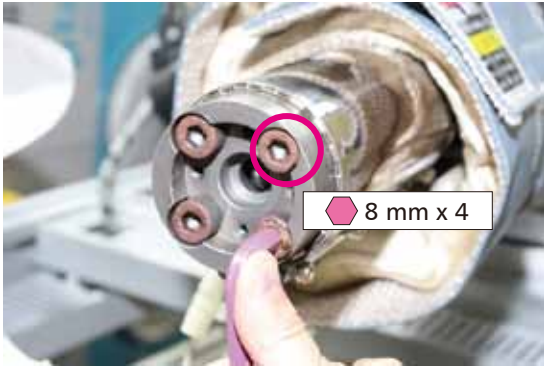


14-5 Loose zone 3 heater

Before take off the barrel head, loose zone 3 heater band.

14

Maintenance Barrel and Screw



14-6 Take off the barrel head

Take off the barrel head by loosening 4 bolts.
To assist taking out, screw M6 bolts through those 4 tapped holes.



14-7 Push the screw

Push the screw at the screw coupling area window from the spline holder.



14-8 Clean the screw

Please check the surface if there is a layer of carbonization. SPIRAL LOGIC screw does not have the compression zone where the carbonization, a cause of the black spot occurs. Clear all remained plastic on the screw.

⚠ If there is a layer of carbonization, please watch GS Loader setting. Too slow sometimes causes not enough flow in the screw and may become the cause of the carbonization.



14-9 Clean the barrel

To clean the barrel inside, such a metal brush on the rod may be useful. Please find the picture on the left.

⚠ Please confirm nothing remains in the barrel after cleaning. To wipe the barrel interior surface, squeezing a piece of cloth is quite effective.

14-10 Assemble the barrel and screw

Please assemble the barrel and screw on the contrary. Put anti-burn grease slightly on the bolts to assemble the barrel head and the nozzle.

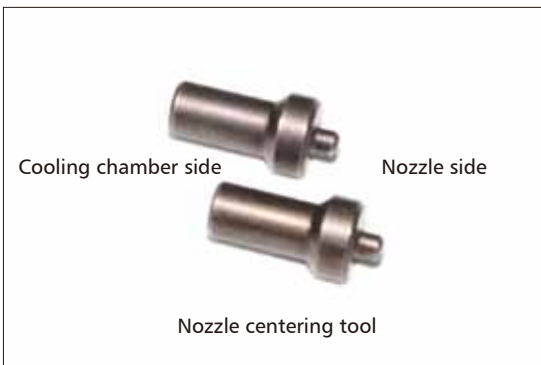
⚠ Do not apply too much grease as it may come out during the operation and become a reason for the contamination.



14-11 The nozzle centering

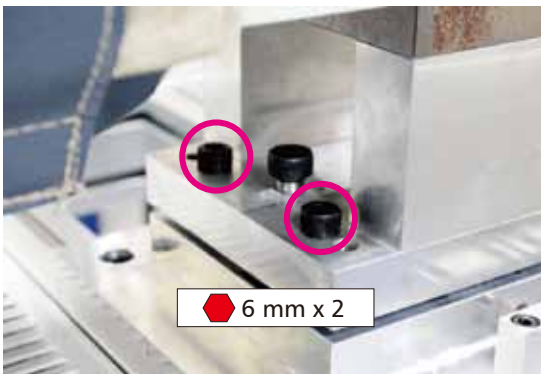
After assemble the barrel and screw,
place the unit at the right place.
Turn the barrel and screw to the operation position.
Tighten the 3 bolts(➡cf.Page17 14-1) slightly
so that easily adjusted by hand.

Put the nozzle centering tool on the cooling chamber
to find the right position.



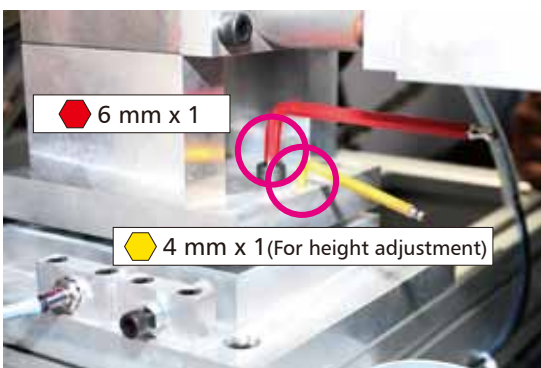
14-12 Adjust right and left direction

Push the barrel and screw to right and left
to meet the nozzle centering tool to the nozzle hole.
Decide the right and left direction,
tighten the 2 bolts at the front side of the barrel support.



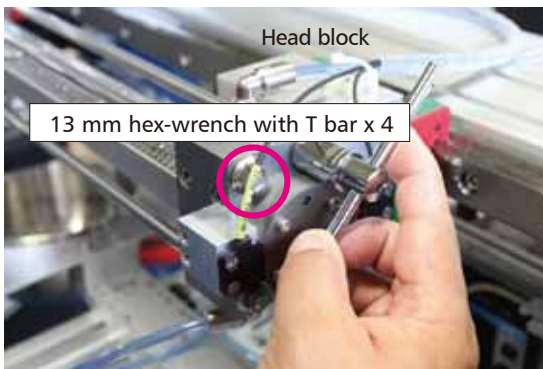
14-13 Adjust height of the nozzle

The height adjust bolt is located at the rear side
of the barrel support.
Tighten this bolt to lower the nozzle,
and loosen the bolt to raise.
Decide the height, and fix the position
by fixing the rear side of the barrel support.



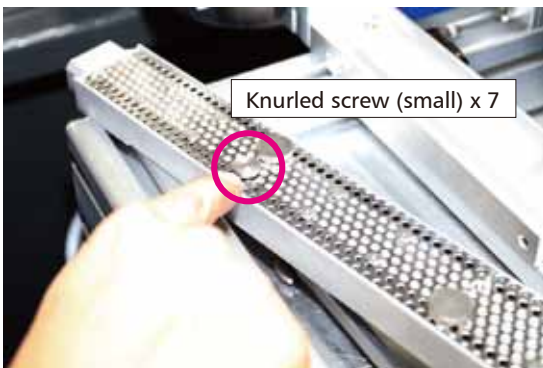
15

Maintenance Cooling Chamber



15-1 Take out the Cooling Chamber

Disassemble the cooling chamber once a month for cleaning. Use attached 13mm hex-wrench with T bar, loose 4 nuts and take out the head block toward the nozzle. The cooling chamber can be taken out from the machine.



15-2 Take out the cover of the Cooling Chamber

The upper side of the Cooling Chamber has 7 pieces of the small knurled screw and 3 larger knurled screw. Loosen 7 small knurled screw to take out the upper cover. If it is hard to take out, loosen 3 large knurled screw and screwing M4 bolts to force upper cover from lower cover.

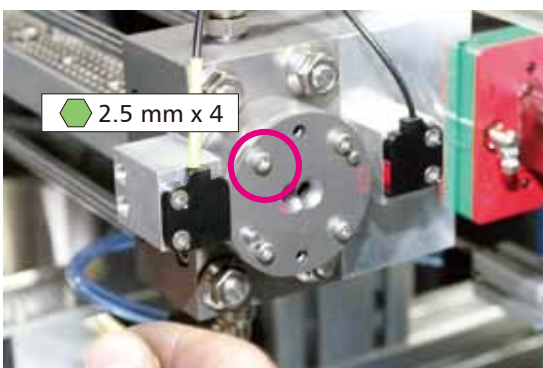
⚠ The Cooling Chamber is made by alminum. Please do not forcibly take out the upper cover. It is designed to keep a precise gap between the upper and lower cover.



15-3 Clean inside of the Cooling Chamber

Clean inside of the Cooling Chamber, the mold cleaner spray may work nicely. Clear the small drain as well. Use cloth only, do not use metal rod or grinding stones. After cleaning, assemble the Cooling Chamber and install on the machine.

⚠ To install the Cooling Chamber on the machine, keep the Cooling Chamber at the lower front to install smoothly, as there is a clearance on the head block.



15-4 Cleaning the Head Block inside

After assemble the Cooling Chamber on the machine, disassemble the Head Block by loosen 4 bolts.

To assist taking out, screw M3 bolts through those 4 tapped hole.

⚠ Open the Head Block when the Cooling Chamber is installed.



15-5 Cleaning the inside

There is a O-ring inside. Take off O-ring carefully not to damage it, and clean 2 alminum parts surface.

Use cloth only, do not use metal rod or grinding stones.

The mold cleaner spray may work nicely.

After cleaning, assemble the head block on the machine.

16

Maintenance Cutter Blade and Sprue Bush



16-1 Take out the Cutter Motor

Loosen the Cutter Lock Lever.

Take out the Cutter Motor from the Cutter Block.

There is a Cutter Blade at the end of the Cutter Motor.

⚠ Please be careful not to hit the Cutter Blade against anything hard.

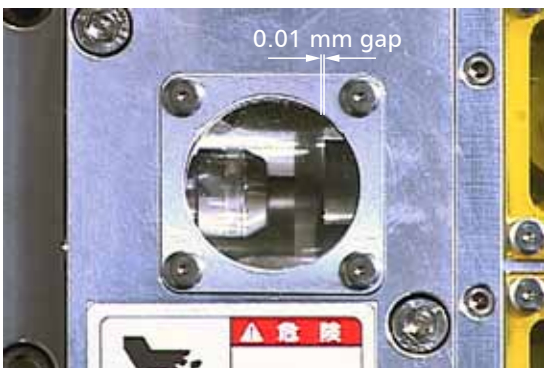


16-2 Change the Cutter Blade

Use 2 of M14 wrench in the standard spare parts to take out the Cutter Blade.

Fix new Cutter Blade and tighten.

⚠ Be careful not to hurt yourself by the Cutter Blade.



16-3 Adjust the Sprue Bush height

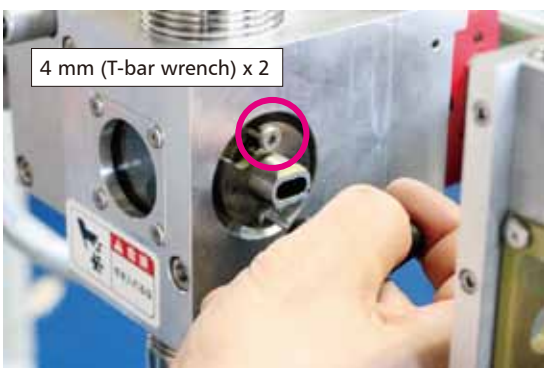
The gap between the Cutter Blade and Sprue Bush is said difficult to adjust.

Raptor22LT2 is designed to set the gap quite easily.

Whenever the Cutter Lock Lever is loosen

or start operation after a while,

please adjust the gap as this instruction manual shows.



16-4 Take off the Sprue Bush

Loosen 2 bolts on the Sprue Bush

by 4 mm T-bar wrench in the spare parts.

Do not take off the bolts.

Just one turn of the bolts then turn the Sprue Bush

clockwise to take out.

⚠ Be careful not to hit the Sprue Bush against anything hard.



16-5 Install the Dummy Bush on the Cutter Block

The Dummy Bush is 0.01mm longer than the Sprue Bush for production.

So, install the Dummy Bush to adjust the Cutter Blade,

then change to the Sprue Bush for production,

thus, easily adjust the Cutter Blade clearance at 0.01mm.

⚠ Use 4 mm T-bar wrench only. Do not use hex-wrench nor other tool.

Tighten the bolts gently to protect the thread.

The Cutter Block is made of Alminum,

screwing too tight will damage the thead easily.

16

Maintenance Cutter Blade and Sprue Bush



16-6 Confirm the serial number

Each Sprue Bush and Dummy Bush have a same 4 digit serial number.
If you have spare Sprue Bush, use the Dummy Bush with the same serial number.

⚠ Otherwise, the Cutter Blade may get damage.



16-7 Set the Cutter Motor

Squeeze the Cutter Motor into the Cutter Block gently until touching at the Dummy Block.
Then lock the Cutter Lock Lever.

⚠ Do not hit the Cutter Blade at the Dummy Block, as it may damage the Cutter Blade.

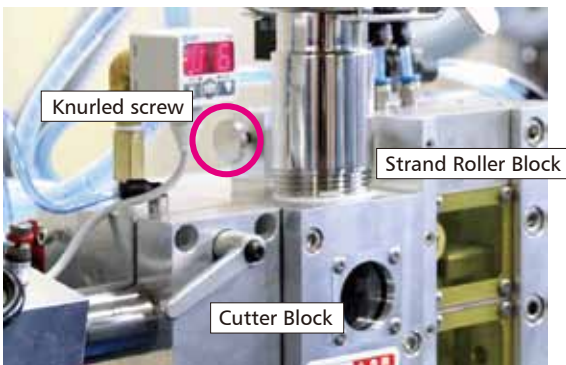
Just touch at the Dummy Block is good enough.



16-8 Install the Sprue Bush for production

Take out the Dummy Bush and install the Sprue Bush for production by using 4 mm T-bar wrench.

⚠ Do not screw the bolts too strong.



16-9 Fix the Cutter Block

Push the Cutter Block toward right to touch at the Strand Roller Block, and fix by a knurled screw.

⚠ Do not turn the knurled screw too tight.

17 Maintenance Cutter Lock Sensor



17-1 Cutter Lock Sensor (Air Pressure Sensor)

As shown on Page 22 16-9, the Cutter Block is fixed on the Strand Roller Block by a knurled screw.

If tighten, the air pressure gauge shows around 0.113 MPa.

If the Cutter Block is fixed firmly, OUT1 lamp is turn on.

⚠ If anything wrong, please ask SPIRAL LOGIC LIMITED.

18 Specifications

■ Extruder unit

Main Screw	mm	22	T-Rex Screw (No compression zone screw)
Screw L/D		18	T-Rex Barrel
Loader/Feeder			GS Loader
Main motor	kW	1.5	Serbo motor Max 272 rpm
Loader motor	kW	0.03	Servo motor Max 300 rpm
Heater zone		4	
Heater capacity	kW	2.7	Nozzle/zone 4 : 0.05kw, Zone 3 : 1.15kw, Zone 2 and 1 : 0.75kw
Temperature display		2	Zone 3.5 and Zone 1.5
Process capacity	kg/hr	5	Reference only. It vary depending on the material.

■ Cutter unit

Cutter Blade diameter	mm	29	2 strands
Number of the blade		2	
Cutter motor	kW	0.1	Servo motor Max 7,500rpm

■ Cooling unit

Cooling system			Long Tail Cooling Chamber (Strand automatic setting, water mist assist system)
Water mist nozzle	set	1	
Water mist pump	set	1	DC12V 2.4A

■ Controller Monitoring system

Display		8" touch pannel LCD display with 32bit PLC
Strand error		Monitoring the strands go into the cooling chamber
Pellet height		Monitoring the strands go into the strand roller unit
Screw interlock timer		Interlocking motors before time up
Barrel position		Confirming the barrel is fixed at the production position
Cutter Unit Position		Cutter Unit at the production position
Cutter Blade Lock		Confirming the Cutter Blade lock
Heater temperature		Monitoring heater temperature during the production within the range
Motor torque		Monitoring motor torque within the range

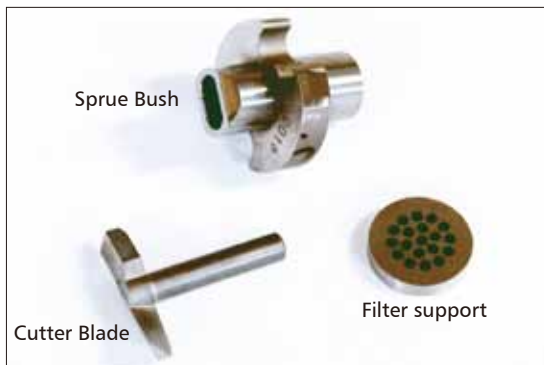
■ Dimension, weight and utilities

Outer diameter	mm	1,970x500x1,500	Height of the hopper throat : 1,290 mm
Weight	kg	Approx 200	
Power supply			AC200V 3P4L 40A
Compressed air			Cooling chamber and water mist Supply pressure 0.5-0.6MPa
Water for mist			Pure water or distilled water (Consumption depending on the material)

■ Packing

Outer diameter of wooden box	mm	2,210x870x1,710	Plywood box, no fumigation certificate required
Gross weight	kg	333	

19 Spare Parts



19-1 Spare parts

Heater, thermocouple

Nozzle (Zone 4) heater (0.05 kW)	1
Zone 3 heater (1.15 kW)	1
Zone 2 and Zone 1 heater (0.75 kW)	1
Thermocouple	1

Cutter system

Cutter Blade	1
Sprue Bush	1
Filter support	1
Filter mesh	10

19-2 Other parts

Attachment

Nozzle centering tool	2
Dummy Bush	1
Strand height 4.7mm standard gauge	1

Tools

4 mm T-wrench for Sprue Bush	1
13 mm T-wrench for CoolingChamber	1
M12-14 wrench for Cutter Blade	2

4 mm T-wrench for Sprue Bush

13 mm T-wrench for CoolingChamber

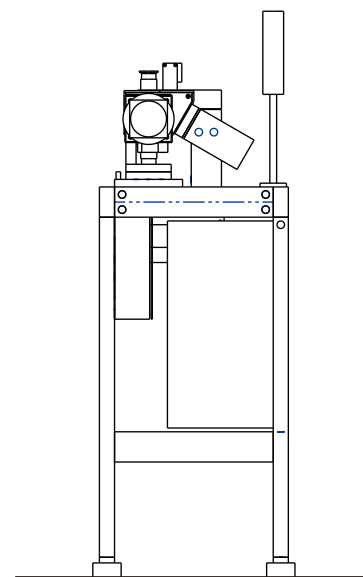
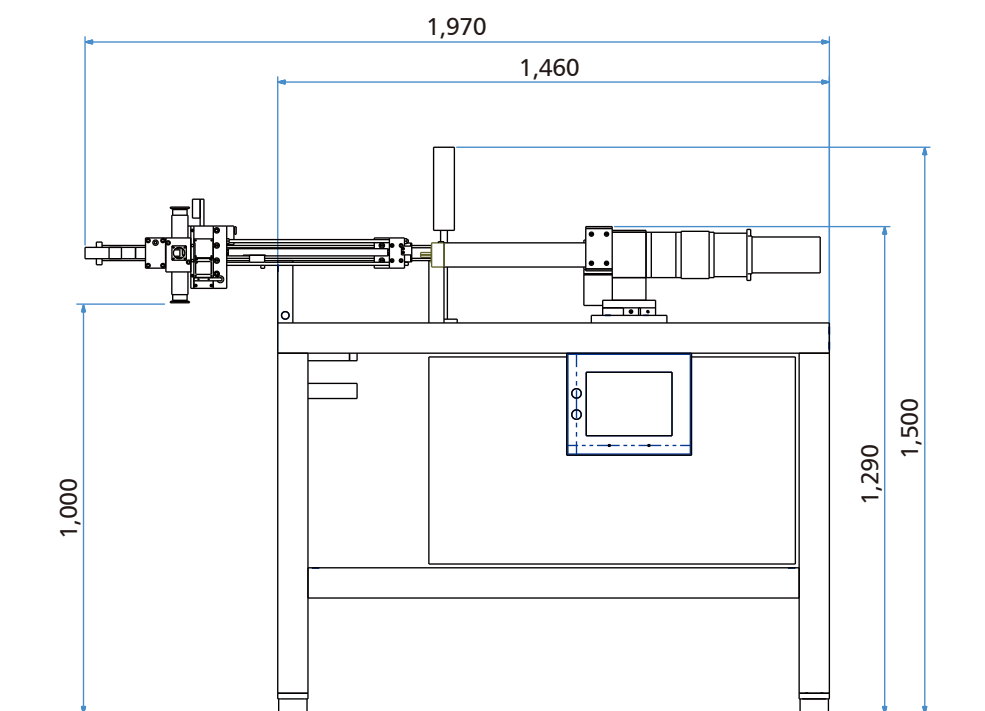
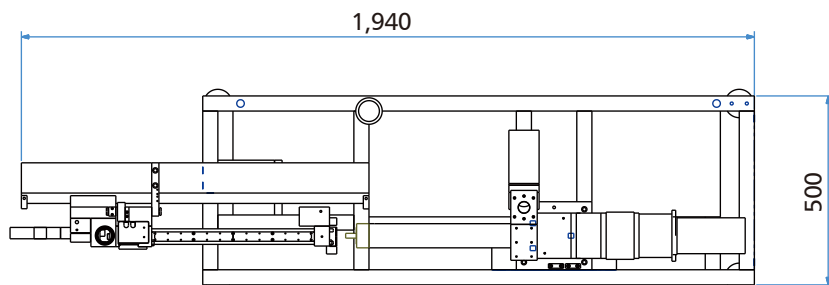
M12-14 wrench for Cutter Blade

19-3 Recommended tool

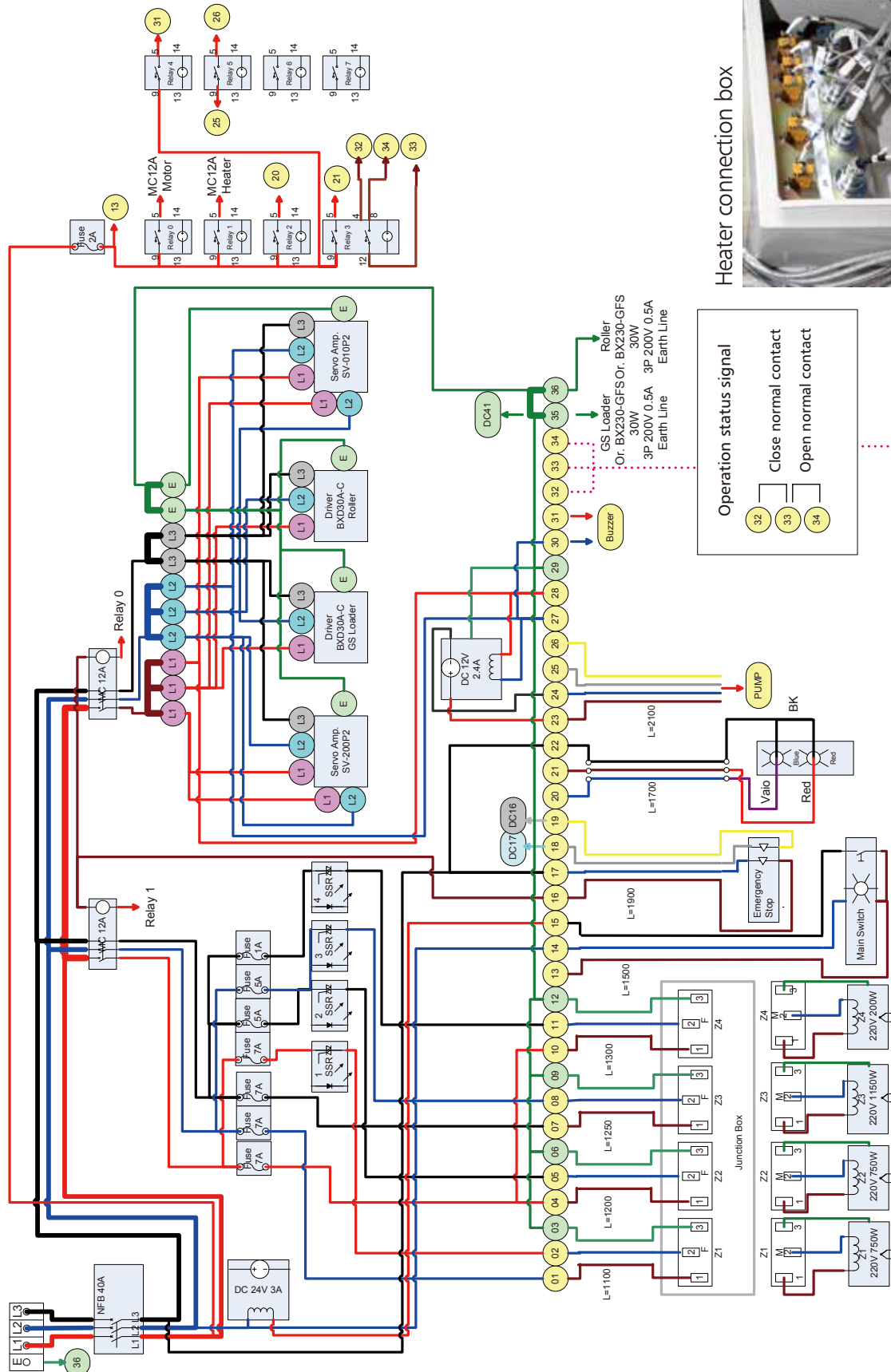
PB SwissTools 210H-10RB Rainbow hex wrench set

A 9 kinds of wrench set from 1.5-10mm

20 Outer Dimensions



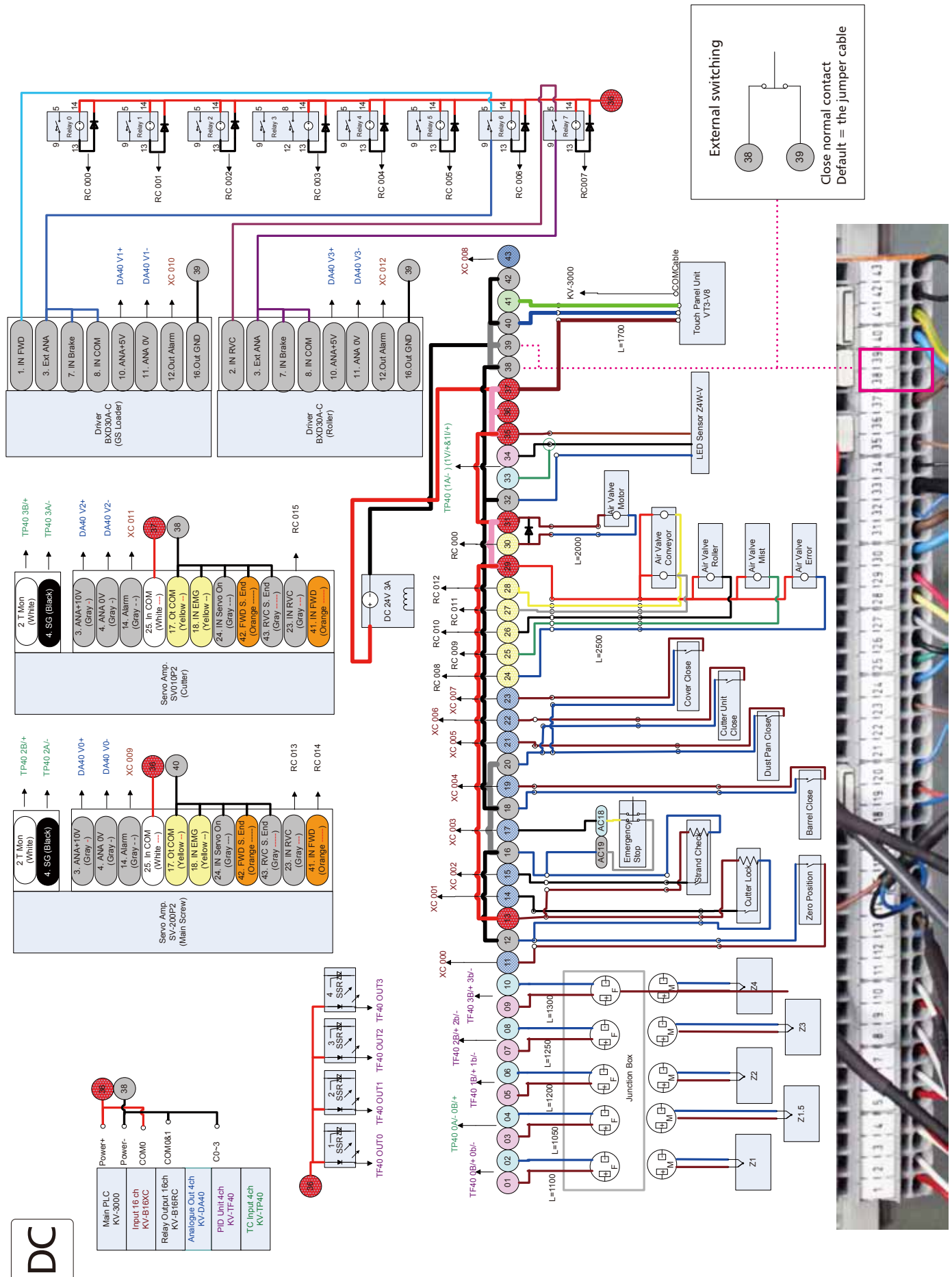
21 Electric Circuit (AC)



Heater connection box

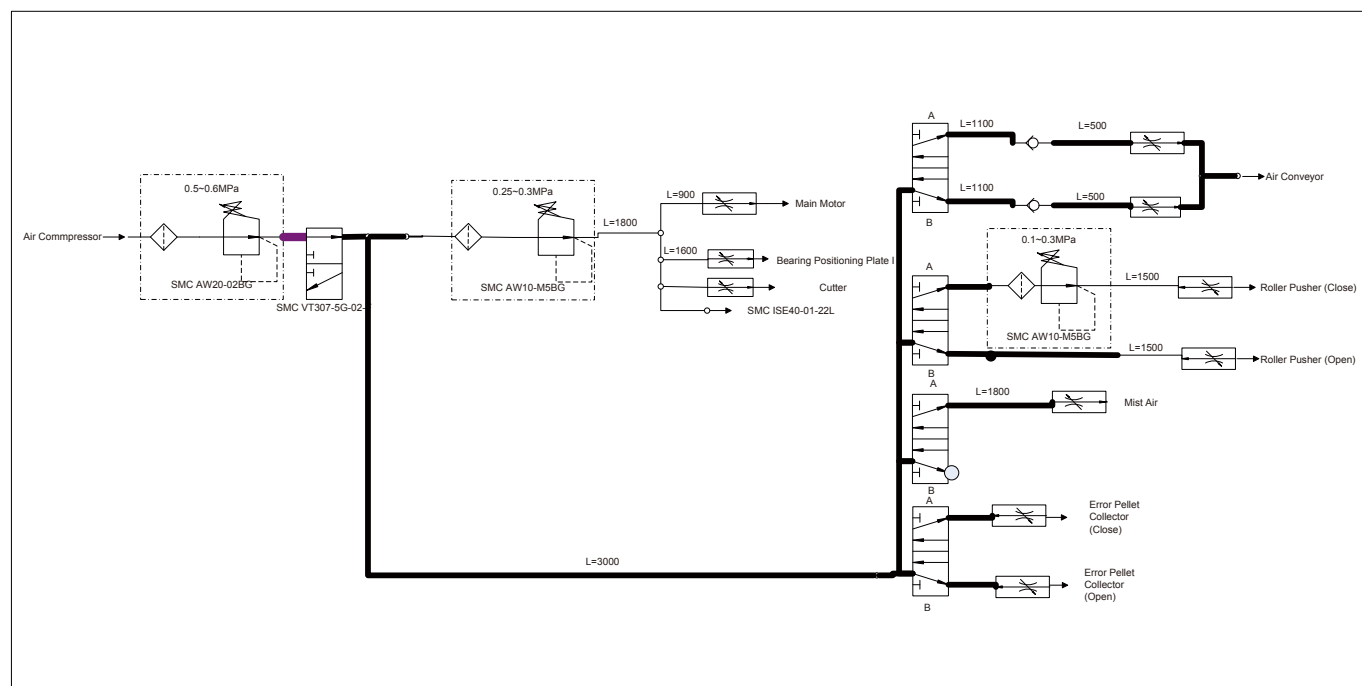


21 Electric Circuit (DC)



22 Air and Water Circuit

Air Circuit



Water Circuit

