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ISO 9001 : 2015

OPERATION MANUAL

SAND BLASTING MACHINE

Model: GSS 1000-8SG

Serial:202109

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CHAPTER 1: CAUTIONS

⚠ WARNING

Careless operation of these machine may result in severe property damage, serious injury or even death

This manual has been prepared to guide users in the safe and proper operation of this machine manufactured by Growell Viet Nam Co.,Ltd

1. 1. Prior to operation of this machine, read this manual carefully to understand its content fully, especially the operation, and maintenance and inspection sections.
2. Never operate or perform maintenance and inspection of this machine without first thoroughly are unclear.Keep a copy of this manual near the machine where all concerned personnel have easy access to it.
3. Operating the machine in a manner not recommended in this manual may result in a serious accident. Hazard alerts, such as the one shown above, are displayed throughout this manual. These alerts are particularly important to ensure safety. Carefully follow the instructions contained therein.
4. Growell reserves the right to change the contents of this manual without prior notice. Changes in the contents of this manual must be complied with. Please inform us of any errors you find in this manual or any parts that are unclear.Keep a copy of this manual near the machine where all concerned personnel have easy access to it.

CAUTIONS IMPORTANT

Precautions before Operation

1. Before operating and performing maintenance and inspection of the machine, carefully read the operation manual to fully understand its contents.
2. Use only parts manufactured or approved by Growell Viet Nam.
3. When operating or performing maintenance and inspection of the machine, strictly follow the cautions in the operation manual and the instructions on the warning labels and caution plates.

Cautions during operation

1. Only operators who have read and completely understand the contents of this operation manual should operate this machine. Those who are not familiar with the contents of this

operation manual must not be allowed to operate the machine.

2. Do not use the machine for any purpose other than that specified or under conditions beyond the specifications for this machine.
3. Before operating the machine, check that no one is inside or in the hazard area of the machine.
4. Before operating the machine, check that the protective devices, such as doors and covers are attached properly.
5. Do not touch any moving parts of this machine.

Cautions for Maintenance and Inspection

1. Personnel who inspect or repair the machine must be well trained in the operation of this machine and thoroughly understand the contents of this operation manual.
2. Always perform maintenance, and inspection in groups of 2 or more workers. Determine the person in charge and keep in communication with each other.
3. Before performing maintenance, inspection, or repairs, the supervisor, operators, and workers the area must be informed before beginning the work. Always put up a sign stating "UNDERGOING MAINTENANCE AND INSPECTION" when performing this work.
4. Turn OFF the electrical, and pneumatic sources.
5. Always remove the key from the key switch. The person in charge must keep the key with him until the work is completed.

Cautions after Maintenance and Inspection

1. 1.Reattach all doors and covers removed during the work at their proper positions.
2. After maintenance, inspection or repairs has been completed, check that no tools or parts remain inside the machine.
3. The person in charge should gather the workers in one location and make sure that no one is in the hazard area before
4. Restarting the machine.

CHAPTER 2: SAFETY MEASURES

SAFETY PRECAUTIONS

Thank you for purchasing our product. ln order to obtain the maximum performance of this machine, please be sure to read this manual thoroughly before operation.

1) This manual contains all the information necessary to operate, maintain and inspect this machine correctly and efficiently. Operate this machine only in accordance with its instructions.

2) Study the manual to understand before use and before maintenance of the machine.

3) Please inform us if you have any questions or find anything unclear in this manual. Operating this machine without clarify first may those accident.

4) Always keep this manual in an easily accessible location near this machine. Please promptly advise back to us if this one is lost or damaged.

5) No duplication or translation into other languages of this manual may be done without prior written permission from us.

Before operating , performing maintenance or inspecting this machine, always read the operation manual. Do not perform work unless the contents are all fully understood. Carefully read what is writen on the warning labels and caution plates and strictly follow the contained there. lf operation, maintenance or inspection is not performed as specificd in the caution and instructinos, machine damage or breakage, serious injury or even a fatal accidentmay occur

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1. Warning Labels

Warning labels are provided to indicate possible hazards and ensure operational safety, ln order to easily identify the waring labels on the machine or in the operation manual, and thereby easily understand the dangers they represent, the warning labels are classified into

the following. Carefully read the contens and strictly follow the instructions on these labels.

These labels warn of the presence of a hazard which may result in personal injury. Read the contents of the warning label and the operation manual if these labels are present, and follow the instructions contented therein.

This denotes immediate hazards which WILL result in severe personal injury or death, and/or serious damage to the machine, if not avoided. This label also includes preventive measures to avoid such hazards.

These labels warn of the presence of a hazard which may result in personal injury. Read the contents of the warning label and the operation manual if these labels are present, and follow the instructions contented therein.

This denotes hazards which COULD result in minor personal injury and/or product or property damage, if not avoided. This label also includes preventive measures to avoid such hazards.

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2. Safety Devices

⚠ WARNING

Confirm the installation and functional ability of the safety and other protective devices.

Operation of this machine with these devices malfunctioning or with their position

altered may lead to severe damage to this machine and/or a serious accident.

This machine is equipped with various mechincal safety and other Before operating , performing maintenance or inspecting this machine, always read the operation manual.Do not perform work unless the contents are all fully understood. Always confirm that these safety devices are installed at the proper location, and function correctly before operation.

Confirm the installation and functional ability of the safety and other protective devices.
Operation of this machine with these devices malfunctioning or with their position
altered may lead to severe damage to this machine and/or a serious accident.

⚠ CAUTION

Failing to observe the specified safety standards may result in a serious accident.

In order to maintain operational safety, machine operators must be fully aware ot the safety standards, and supervisors must cooperate with them in maintaining these standards.

3. Safety Instruction

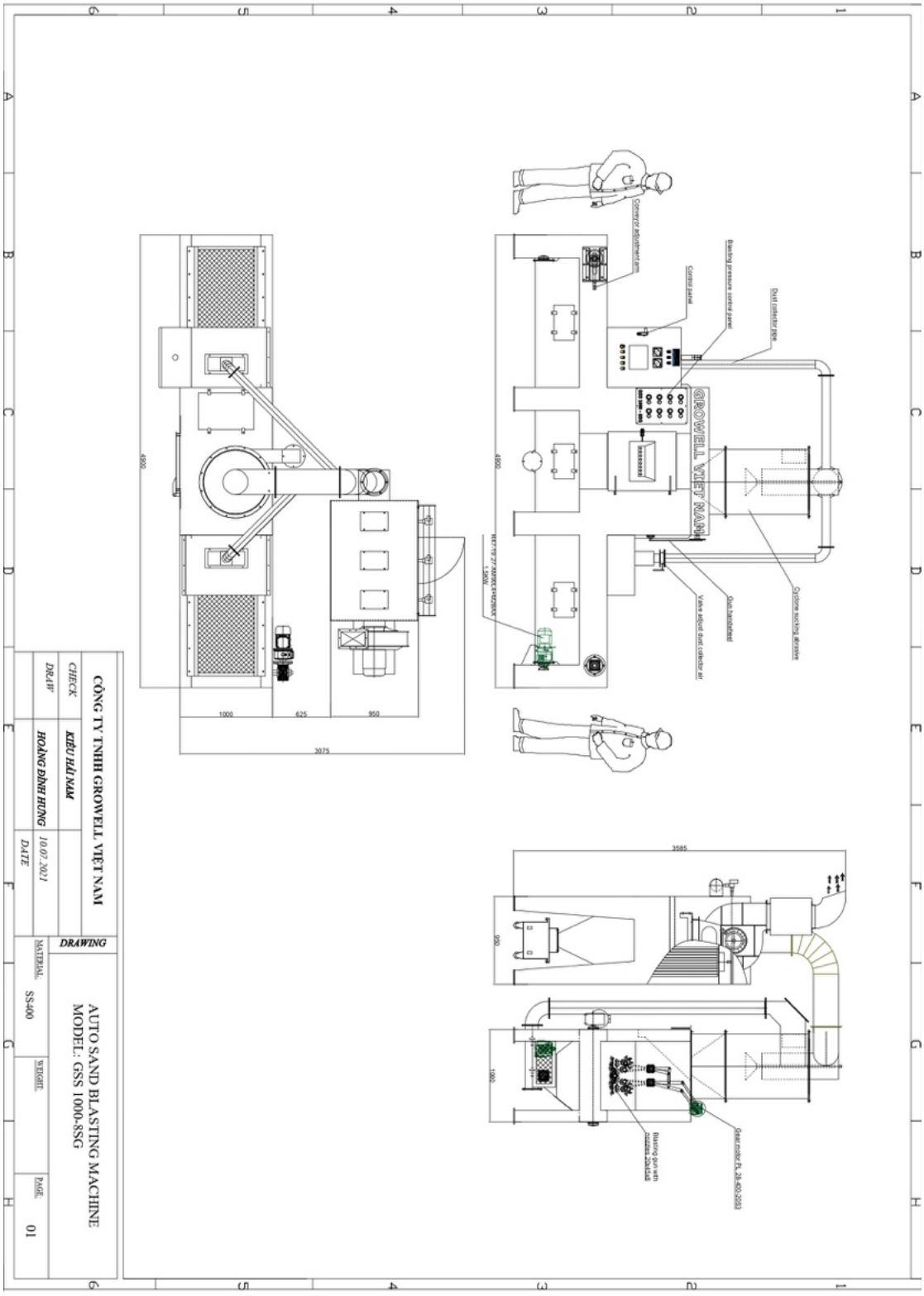
The following are safety instructions.

Item	Don't	Do
1	Do not work without wearing the necessary safety equipment	Wear protective equipment as necessary.
2	Do not let anyone who is unfamiliar with or has not read the operation manual, operate the machine.	Be thoroughly familiar with the functions of this machine. A supervisor must be placed in charge of education and training of workers so that all concerned workers thoroughly understand the function of the machine.
3	Do not try to modify the safety devices either in their structure or position.	Consult with the supervisor before altering the location of a safety device and obtain Growell written approval beforehand.
4	Do not operate the machine if you are not in good physical condition, i.e tired, ill, or distracted.	Superviser must check the physical condition of each worker before that person operates the machine. If the operator is not in good physical condition, they should not operate the machine.
5	Do not operate this machine without first inspecting it.	Inspect the machine before operation to confirm safety. The inspection work should be done with hand and verbal confirmation.
6	Do not operate this machine without first confirming that no one is inside or aroud the machine.	Look around this machine before beginning operation, and give the start sign to other workers.
7	Do not operate the machine if a safety device is broken.	Immediately stop the operation of the machine if a safety device is found to be malfunctioning
8	Do not lubricate, adjust or clean inside this machine while this machine is operating.	Stop machine operation and use the specified safety procedures for lubrication, adjustment and cleaning.
9	Do not put any part of the body into this machine without first stopping it, even if an abnormality is found during operation.	Should any abnormality arise in the machine during operation, press the EMERGENCY STOP button to stop the machine. Inform the persond in charge an perform specified safety procedures.
10	Do not touch moving parts of this machine during operation.	Stop the machine operation before touching a moving part.

Item	Don't	Do
11	Do not enter this machine without bringing the key to the key switch with you.	Shut off all power sources and remove the key from the switch before entering the machine.
12	Do not restart operation of the machine after maintenance or inspection without first confirming	Gather the maintenance workers and perform a rol l call to make sure no one is left in the hazard.
13	Do not bring an open flame near this machine.	A void using an open flame near this machine. If a flame must be used for repairs, remove flammable objects from the machine, and prepare the necessary, such as having a fire extinguisher nearby in advance
14	Do not perform any work or operate the without wearing safety glasses	Wear safety glasses.
15	Do not open the cabinet door, or remove a cover, During operation.	Stop the operation of the machine and take the prescribed safety steps before opening doors and covers.
16	Do not perform shot blasting with the door, or cover, open or removed.	Check to make sure doors, and covers, are closed before operating the machine.
17	Do not shot blast workpieces whose dimensions, weight, capacity or material quality, do not meet the machine speciftcations.	Strictly observe the machine specifications.

CHAPTER 3:

GENERAL DESCRIPTION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MATERIAL SS400
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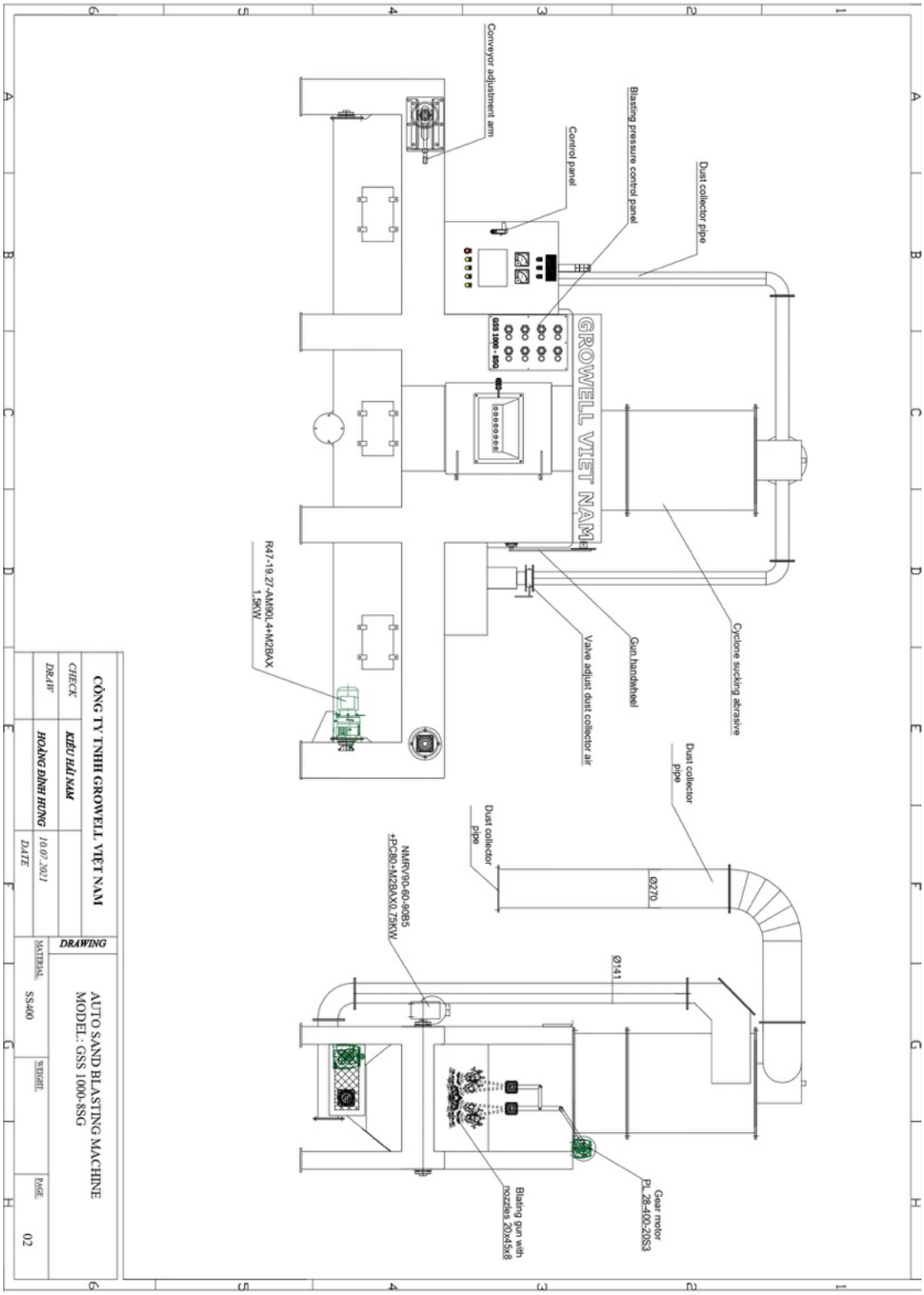
Conveyor adjustment arm
Control panel
Blasting pressure control panel
Dust collector pipe
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Valve adjust dust collector air
Gun handwheel
Cyclone sucking abrasive
Dust collector pipe
Dust collector pipe
NMRV90-60-90B5 +PC80+M2BAX0.75KW
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Blasting gun with nozzles 20x45x8
Gear motor PL.28-400-20S3
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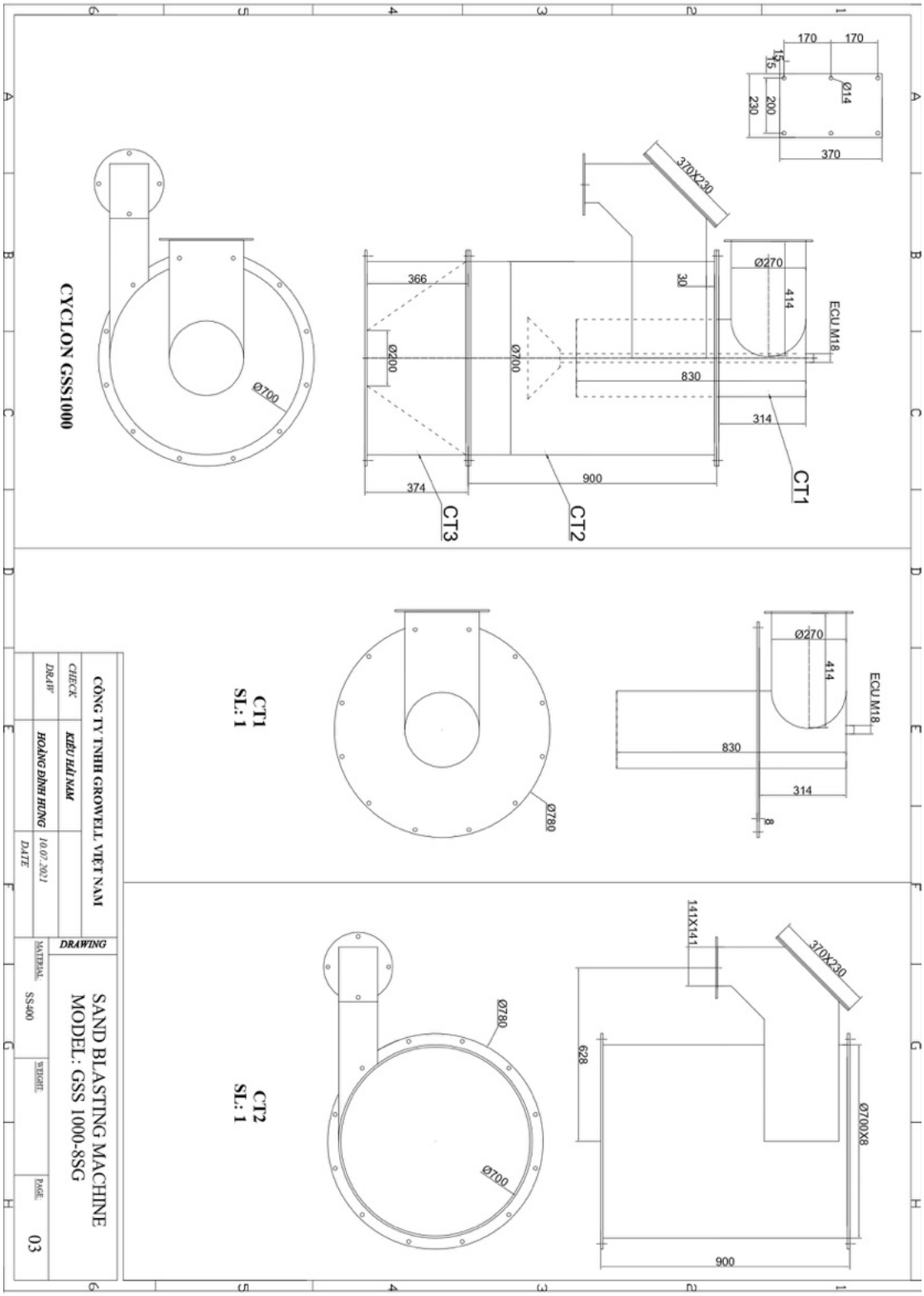
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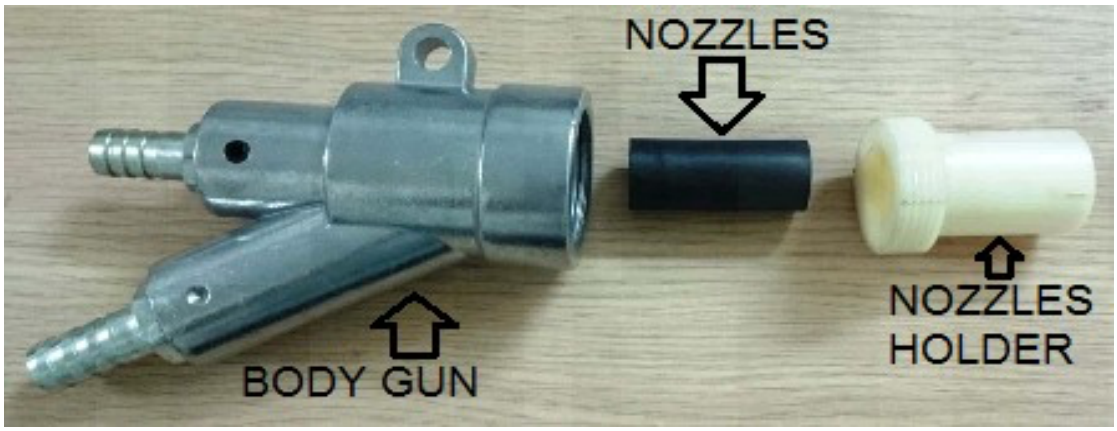
SPECIFICATIONS: AUTO SAND BLASTING MACHINE GSS 1000 - 8SG

1. BLASTING GUN	Pressure: 4-6 bar Air flow: 580L/min/gun	
Boron carbide Nozzles	OD. 20mm x ID. 8mm x L. 45mm	8 Sets
2. BLATING ROOM	L. 1600mm x W. 1000mm x H. 1900mm **Door:** L.660mm x W.360mm	
3. ROTARY GUNS	Gear Motor 1/20	
Gear motor	0.5HP 4 POLE 380/415V 3Phase	1 Set
4. MESH CONVEYOR	SUS 304 mesh, W.750mm x stainless steel chain C2052 Speed 1.9m/min – (have inverter adjust speed from 0-3m/min) Gear Motor 1/100	
Gear motor	1HP 4 POLE 380/415V 3Phase	1 Set
5. SCREW CONVEYOR	Gear Motor 1/30	
Gear motor	2HP 4 POLE 380/415V 3Phase	1 Set
6. DUST COLLECTOR	Q = 6000 m3/h , Recovery capacity 40kg/min	
Electric power	10 HP 2 POLE 380/415 V 3Phase	1 Set
7. CONTROL PANEL	Touch screen HMI, PLC, Electrical equipment: Mitshubishi, omzon,fuji..	
Total power	**13.5HP 380/415V 3PHASE 60HZ**	
Total air consumption	**4640 L/min**	

I. Blasting gun:

1. Structure

- Aluminum alloy gun body
- Boron Carbide nozzle super hard, high wear resistance, 2000 hours durability.
- Boron carbide Nozzles: OD. 20mm x ID. 8mm x L. 45mm
- Fixed plastic nozzle, protects the nozzle from mechanical impact.
- Air intake manifold creates pressure difference D4mm fitted with steam wire D16
- M6x5mm sand suction flow adjustment screw
- Sand guide: D13. wire mouse tail



2. Principle of operation

Supply compressed air with a flow rate of 580 liters/min to the air inlet. The amount of air passing through the cone of the sandblasting nozzle creates a pressure difference at the tip and a suction force appears at the sand guide. The sand head is in contact with the sand hopper to carry out the process of sucking sand through the nozzle of the spray gun.

With the push of compressed air mixed with sand, the surface of the product is clean and rough. The roughness of the product depends on the size of steel sand grains.

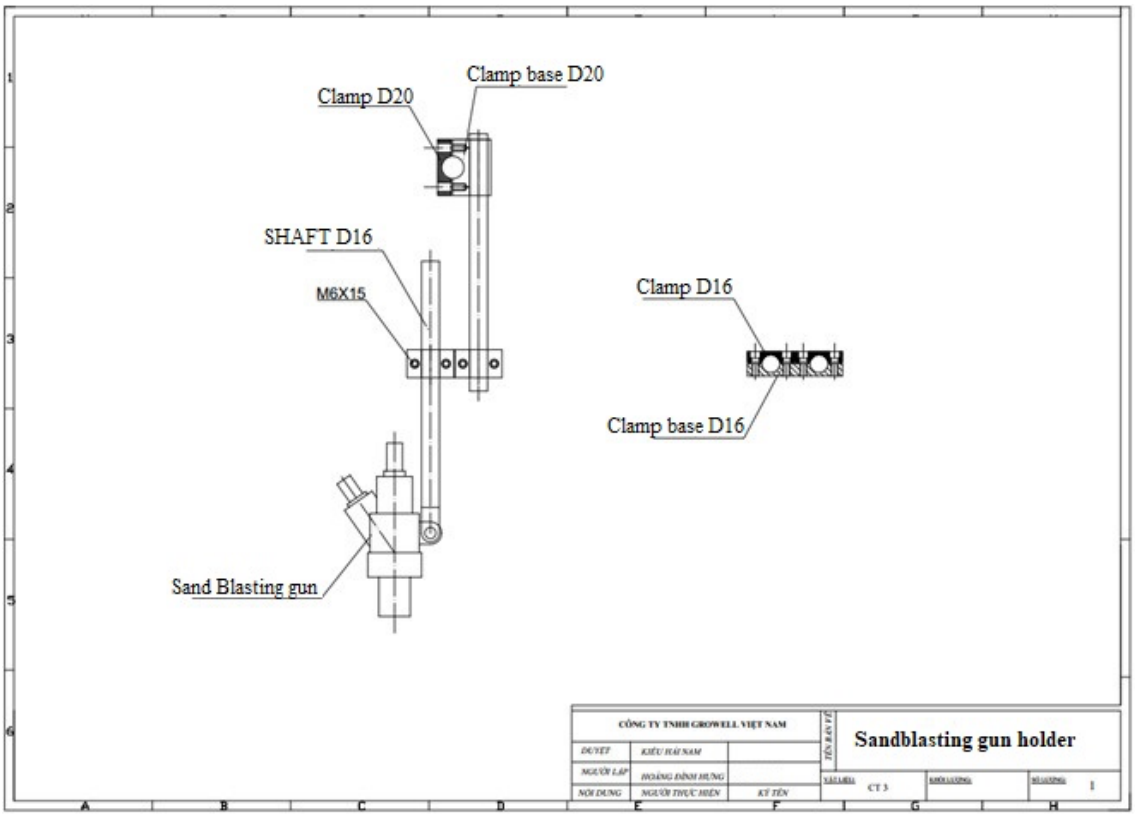
Granules used with self-suction sandblasting gun: Aluminum oxide beads of all kinds, glass beads of all kinds, plastic beads of all kinds, steel beads of all kinds with the size <0.3mm

. spraying process 4-6 bar/gun

3. Common problems and solutions

PROBLEM	SOLUTION
1. No gas, sand out at the top of gun	1. Remove the nozzle holder to check and clean nozzle

2. There is air coming out but no sand coming out at the top of the gun	2. Remove the nozzle holder to check and clean nozzle
3. Uneven sand out	3. Adjust the distance of the air inlet if the particle size is >0.7mm Check compressed air to maintain 4-6 bar
4. Sand out little	4. Remove the nozzle holder and check the silicone tube that covers the air inlet. If it is scratched, replace it



II. Sandblasting Chamber

1. Structure

- Dimensions: L.1600mm x W.1000mm x H.1900mm
- The entire wall frame surrounding the sandblasting chamber is made of 4.5mm corrugated iron with stiffeners
- The spray chamber has a glass door and a hand hole to carry out spraying miles vs hand spray guns.
- Lighting: 30W white led = 1 set
- The main door hangs plastic to prevent sand from splashing out

2. Principle

The sandblaster is ready to operate when:

- Compressed air, electricity are available at the upstream
- The product is mounted in the spray chamber
- The back door of the machine must be closed and no one can repair it inside the spray booth
- Setting the mesh conveyor speed according to each product

Operating principle of the sandblasting machine:

ON the start button of the spray guns, the solenoid valve opens, supplying air to 8 spray gun heads (can reduce the number of guns) to create a difference. pressure at the ends of the sand pipe. Sand is sucked up to the gun head combined with compressed air to form a stream of sand shot out of the gun head with high pressure shot onto the surface of the detail to be sprayed, creating the cleanliness and roughness of the product.

Sand after being shot out of the gun head will be deposited under the hopper of the spray chamber. Under the action of 10HP fan motor suction, the sand at the bottom of the sandblasting chamber hopper is sucked up to the Cyclone separating dust through the D120x3500mm. At Cylcone with the effect of centrifugal force, heavy fine sand particles will be collected at the bottom of the Cyclone hopper and circulated to the nozzle of the spray gun, while light dust particles will be sucked through the dust filter chamber. The dust entering the dust filter compartment is filtered by a filter and adheres to the filter surface, while the clean air after passing through the filter is released into the environment. After every 4 shifts, you should clean the dust bin.

This process is continuously repeated throughout the working process. After the product is sprayed. Turn off the spray guns, Use the air gun to clean the dust and sand remaining on the product.

3. Common problems and solutions

- Sand clogging at the bottom of the hopper of the sandblasting chamber:

+ Open the door to check the cleaning of foreign bodies on the sieve with a 4mm hole at the end of the hopper

+ Check the humidity of the compressed air.

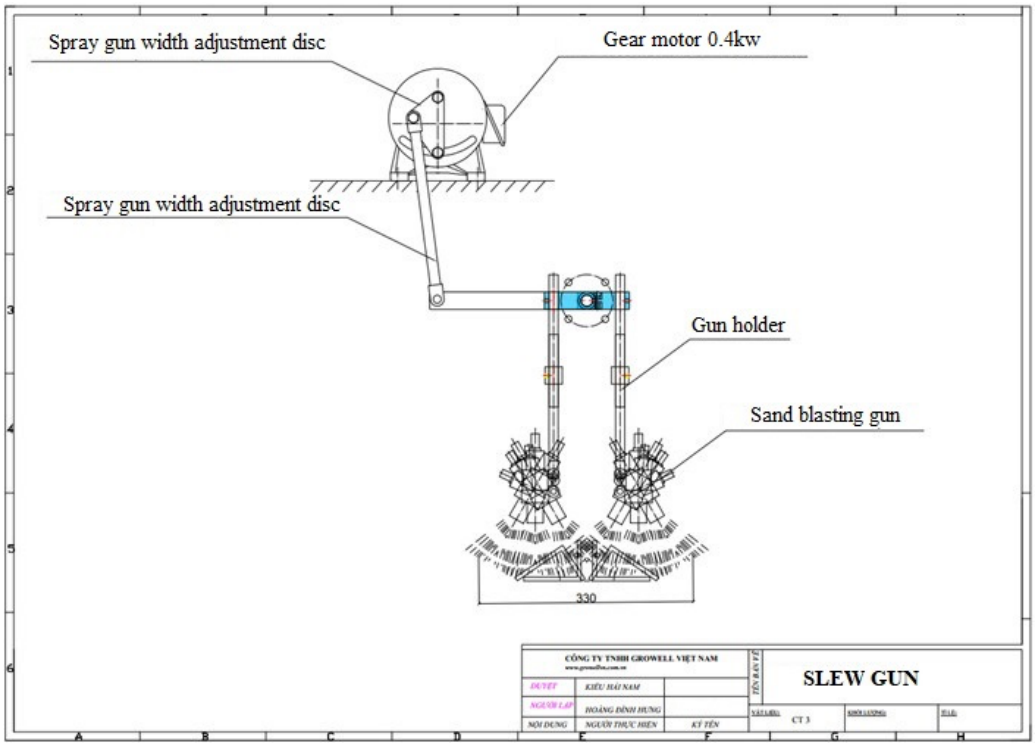
- Frosted sight glass:

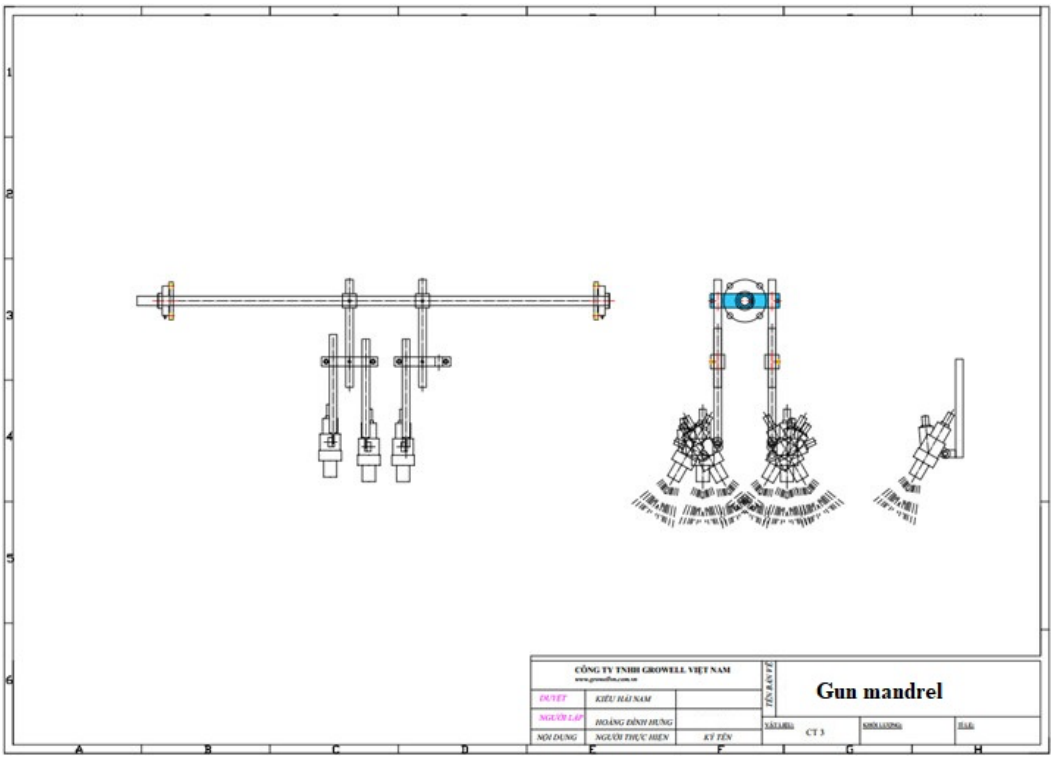
+ Replace with new one. double layer glass 6.38mm size: 455 x 303 x 6.38mm

III. ROTARY SPRAY GUNS

1. Structure

- Gear reducer motor 1/2HP 4POLE 3PHA 380/415V 1:20
- Set of pushers and cam discs
- Horizontal shaft for hanging gun D20x1130mm
- D16 x230mm gun mandrel
- Gun mount
- Sandblasting gun.





2. Principle of operation.

All 8 sandblasting guns are mounted on a D16 shaft and mounted on a D20 spindle using a gun jig. Under the action of internal rotation of 1/2HP geared motor through handwheel and cam wheel. Spindle D20 drives 8 sandblasting guns to rotate 30 degrees. The process repeats continuously until the setting time expires.

3. Common problems and solutions

- The position of concentrated sandblasting of 8 guns is different:

+ Increase or decrease the length of the push arm (*the hand is mounted with the cam disc at the top of the motor*)

- The height of the sandblasting gun compared to the mold surface is not suitable:

+ Adjust the screw position in the gun jig. Raise or lower the gun

**** Note: To ensure safety, before aligning the spray gun, it is necessary to lock the total air valve.*

IV. MESH CONVEYOR

1. Structure

- SUS 304 mesh, W.750mm x stainless chain C2052, sprocket C2052-17z
- Speed 1.9m/min – (have inverter adjust speed from 0-3m/min)
- Gear motor 1HP 4POLE 3PHASE 380/415V 1:100

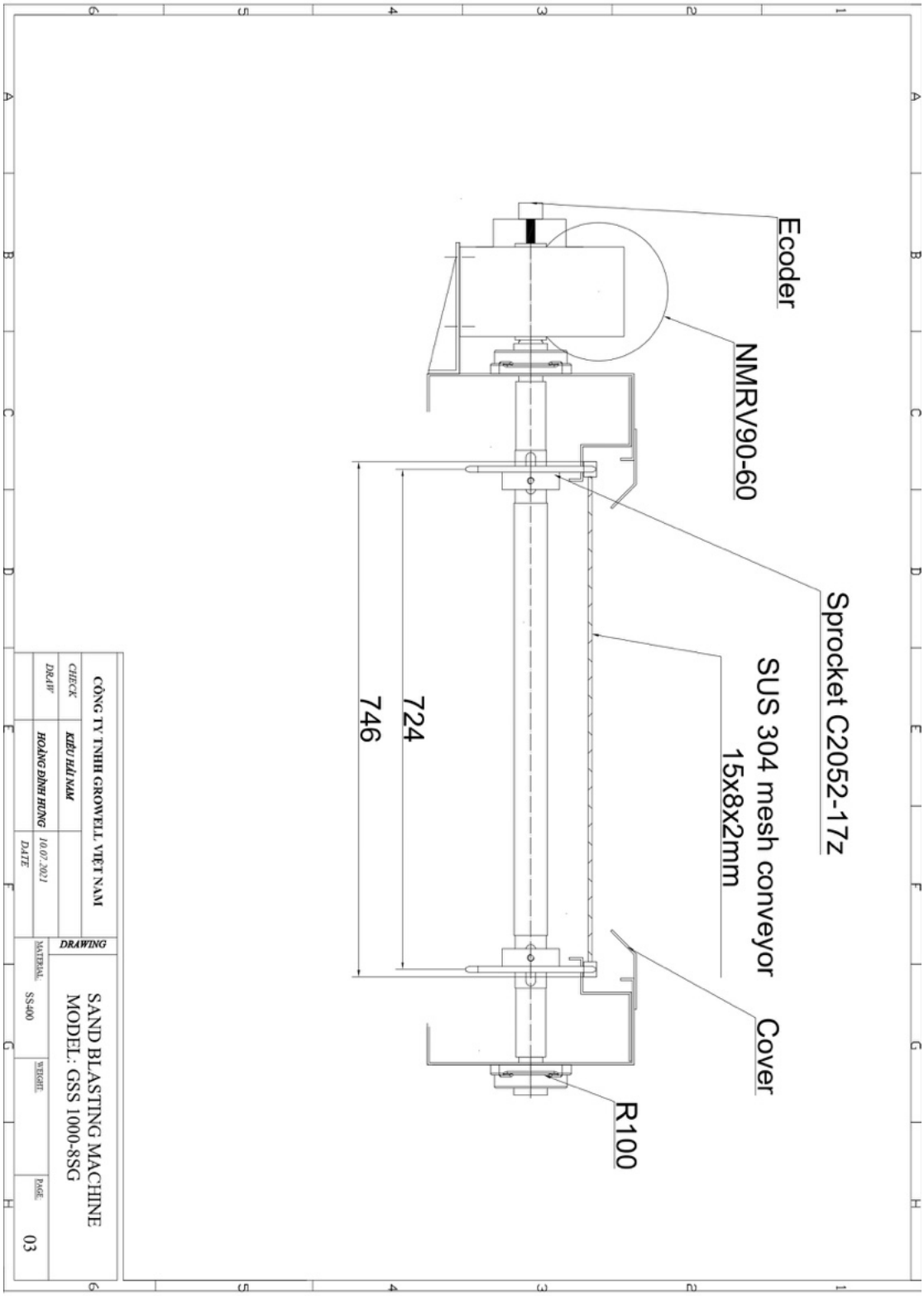


Figure 4.1 Mesh conveyor

2. Principle

The product is reciprocating through the sandblasting chamber by means of a mesh conveyor.

Turn on the Start button Mesh Conveyor. The 1Hp motor rotates, transmitting rotation to the chain by means of the sprocket C2052-17z. The product is mounted, placed on the table with the rollers, and passed along the sandblasting chamber.

3. Common problems and solutions

- The product is stuck with a plastic curtain not run through sandblasting chamber

+ Cause: Due to reverse rotation of the roller while product is still in the sandblasting chamber (within the plastic curtain)

+ Remedy: Stop the machine and pull the product out. Or push the sp out with cast iron. rubber hand.

V. DUST COLLECTOR

1. Structure

- Corrugated iron frame 4 cups
- Dust collector fan motor 10HP 2POLE 3PHA 380/418V
- Solenoid valve JICI 20 220V dust collector
- Jet pulse timer 2 ports 220V
- Filter cartridge 320x900mm

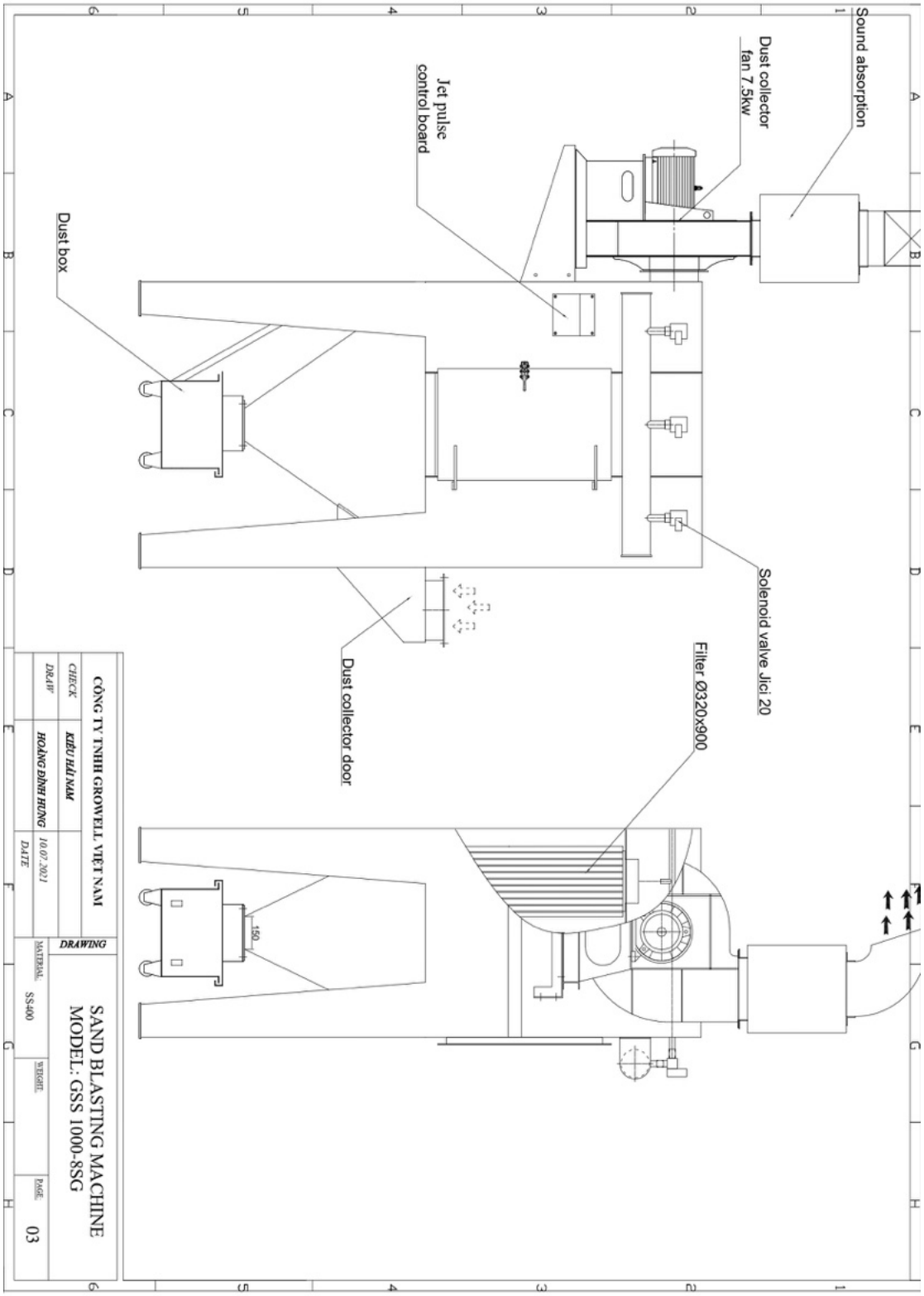


Figure 5.1 DUST COLLECTOR

2. *Working principle*

The functions of the dust collector are to collect all the dust and clean the air in the sandblasting chamber. This filter operates with filters and these filters are cleaned by compressed air. The exhaust fan will provide suction with a flow of 6000 m3/h for the dust collection system.

The filter is designed as a cylinder to filter and separate dust from the air because the bottom is sealed, through which it will separate the coarse particles from the gas. Then the dust is discharged into the dust bin and the clean air filtered by the filter will be discharged out by the exhaust fan.

❖ ***Attention:***

Dust is deposited on the bottom floor of the cabinet, it must be cleaned every day.

DUST FILTER IDxODxL(mm) 225 x 320 x 900mm.

Specifications:

- Dust filter material: 90: 10
- Fiber size 17 um
- Color: White
- Weight: 130g/m^2
- Material thickness 0.7mm
- Air permeability 1280m^3/h
- Maintain temperature 80 – C
- 500 hour usage time

Figure 5.2 FILTER CARTRIDGE

❖ ***INSTRUCTION FOR DUST COLLECTOR OPERATION***

After the installation of the locator is completed and before the filter is put into service the following items should be checked. Testing and editing should be repeated after major changes.

1. Power is available.

2. Check all motor rotation directions. Rotate in the correct direction of rotation in the case of the mortor

3. Ensure that all ducts are adequate and that all dust separation systems are in the correct position.

4. The dust collector will be fixed to the ground with an expansion screw.

5. Start the compressor and check that the air supply is maintained at about 5-6 bar.
6. Turn on the dusting board timer and check that all valves work in series by sensing vibrations in each valve. Pneumatic pressure should range from 5-6 bar as valve operation.
7. Make sure all filter washers are intact on the filter, then close the door and make sure the doors are tight.
8. Start the exhaust fan motors, dust collector air valve and dust collector board.

❖ ***MAINTENANCE SCHEDULE***

A record should be kept of all pressure tests to facilitate rapid diagnosis of induced manipulation.

· **Weekly maintenance**

1. Open the valve at the bottom of the moisture separator and allow the collected water to drain, then close the valve.
2. Connect a manometer to the extraction point and measure the pressure drop across filter
3. Record the numbers in the diary. If the pressure drop increases significantly over the next two or three shifts, cg 100% (a variation of up to 20% is allowed) check the filters as described in the diagram.

4. Check the seals on all doors for damage or damage and make sure they are properly glued. This is especially important, where the unit is located outside or in a humid atmosphere to prevent water ingress, defective seals must be renewed.
5. Close the compressed air supply, remove and clean the filters
6. Move each filter element and check for general conditions. Care must be used in hand-processed filters. If one end is damaged or dented, it will lead to a dust leak. Do not attempt to clean the filter by tapping on the floor or other objects. The hole shown on the filter element must be replaced.
7. Check that the tubes are in a clean condition and that the nozzles are also clean.
8. Remove the drain plug and air inlet connection and clean up any accumulated dust.

❖ ***CHECKLIST FOR MAINTENANCE***

Possible	Cause	Solution
1. Loss of Suction Parts (Excessive Pressure Difference)	1. Air Compressor	1. When the Air Compressor Stops, Repair the Machine air compressor, check lock, pressure gauge, pipe pressure gauge. 2. If the air compressor is OK Check the pipe pressure gauge. 3. Clean the filter, remove and clean the moisture separator. 4. Check for excess water in the compressed air, and if any buildup is present in the piping.
	2. No air entering the valve	1. Check the valve 2. If the valve is ok, Check the Timer All valves affect the electronic timer. Fired fuse check for short circuit. If Ok change the controller. 3. Change solenoid valve and diaphragm valve
	3. The filter is dirty	1.Check the motor. Check the overload, check the fuse, check the magnetic starter. Clean filter, purge dust in turn, check ambient conditions, and refresh if unit is damaged
	4. Main fan belt slips	Adjust or replace if worn
	5.Speed slow motor	Check power connection, motor, phase
	6. Fan motor rotates incorrectly	Check electrical connection
Possible	**Cause**	**Solution**
2. All parts lost suction	1. The fan is not running	1. Check the motor, filter and other parts 2. Check the motor connection to the coil

	2. The filter is clogged	Check the motor, filter, fuse, starter are from.
	3. Dust duct is blocked	Check the air inlet
3. Pollution	1. The dust filter is damaged due to dust leakage into the side of the filter	1. The dust filter is damaged because there is dust in the clean air compartment. Remove and clean the dust filter
	2. The dust filter is loose	2. Check and tighten the dust filter clamp.

CHAPTER 4:

OPERATION

SPECIFICATIONS: AUTO SAND BLASTING GSS1000 - 8SG

1. Power lock (lock switch) - The power light is white
2. Dust collector fan: motor 7.5kw 2P 380 / 415V 3Phase
3. Slew gun: motor 0.4kw 4P 380 / 415V 3Phase
4. Mesh conveyor: Motor 0.75kw 4P 380 / 415V 3Phase - With inverter adjust speed, reversing
5. Sandblasting: solenoid valve with 2 door and 1 suction coil 220V
6. Blow dust IN: solenoid valve with 2 door and 1 suction coil 220V
7. Blow dust OUT: solenoid valve with 2 door and 1 suction coil 220V
8. Jet pulse: solenoid valve with 2 door and 1 suction coil 220V
9. Optical sensor mounted
10. Reverse mounted optical sensor

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CONNECTION REQUIREMENTS:

MAIN

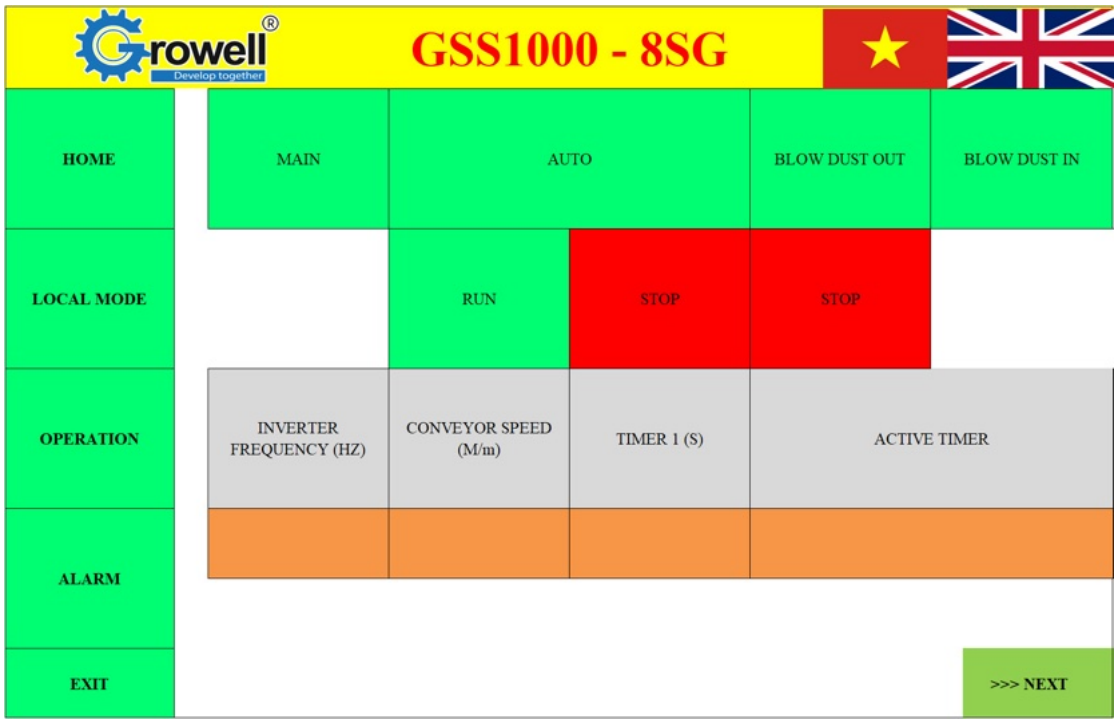
1. Turn on the Jet pulse
2. Turn on the Dust collector
3. Turn on the slew gun
4. Turn on the conveyor (With inverter adjust speed and reverse button Conveyor IN & Conveyor OUT)
5. Turn on sandblasting (Sand spray)
6. Turn on Blow dust in or Blow dust out

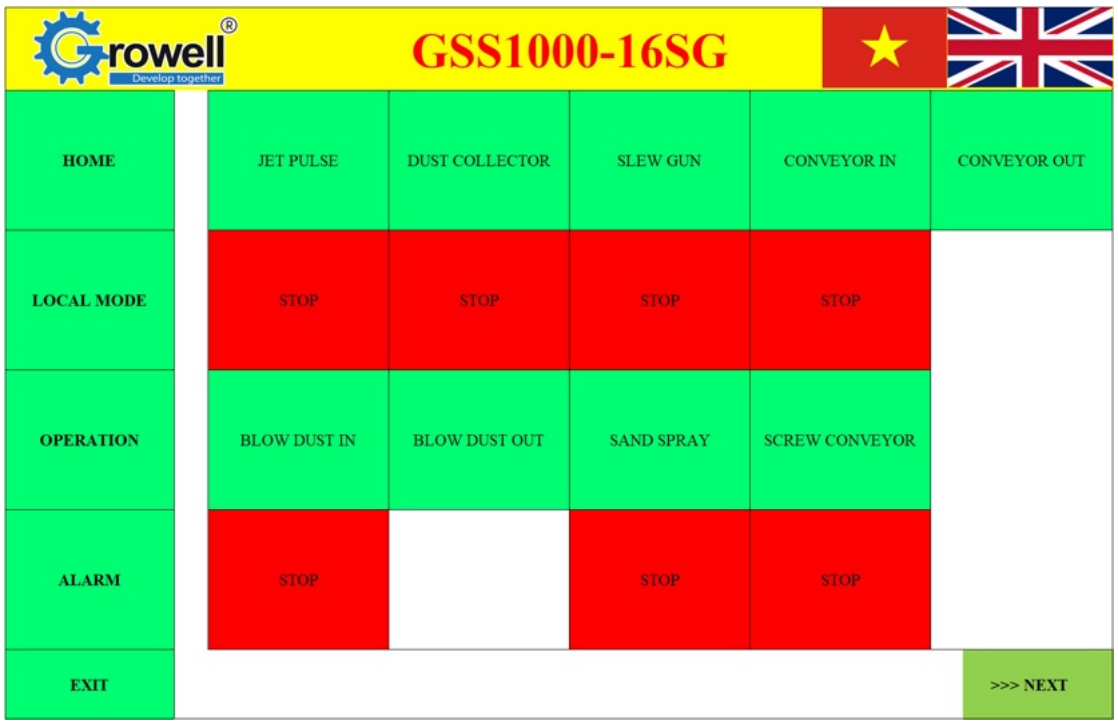
AUTO

- Start: Turn on the STARTS button to start sequentially from 1 -> 6. (In-way conveyor)
- Stop: Turn on the STOPS to stop sequentially from 6 -> 3, Dust collector (2) stop after 1 minute, Jet pulse (1) stop after 5 minutes

NOTE

- Sand blasting gun only has electricity when the duscollector fan is ON, 1 position switch at the door is powered.
- Sand blasting gun runs after the optical sensor detects the product and the mesh conveyor motor rotates 2 turns (The IN conveyor have the sensor signal is installed with IN head, the OUT conveyor have the sensor signal is installed with OUT head)
- OMRON screen with size 10 "
- Power source 60HZ
- Has phase protection of the entire electrical cabinet
- There are 3-color tower lights to report the error
- UL standard switch
- Screen gouge on the door of the electric cabinet, the door of the cabinet is orange.


GSS1000 - 8SG
HOME
MAIN
AUTO
BLOW DUST OUT
BLOW DUST IN
LOCAL MODE
RUN
STOP
STOP
OPERATION
INVERTER FREQUENCY (HZ)
CONVEYOR SPEED (M/m)
TIMER 1 (S)
ACTIVE TIMER
ALARM
EXIT
>>> NEXT


GSS1000-16SG
HOME
JET PULSE
DUST COLLECTOR
SLEW GUN
CONVEYOR IN
CONVEYOR OUT
LOCAL MODE
STOP
STOP
STOP
STOP
OPERATION
BLOW DUST IN
BLOW DUST OUT
SAND SPRAY
SCREW CONVEYOR
ALARM
STOP
STOP
STOP
EXIT
>>> NEXT


GSS1000 - 16SG
HOME
LOCAL MODE
OPERATION
ALARM
EXIT
JET PULSE
DUST COLLECTOR
SLEW GUN
CONVEYOR IN
CONVEYOR OUT
BLOW DUST IN
BLOW DUST OUT
SAND SPRAY
SCREW CONVEYOR
>>> NEXT

CHAPTER 5: FREQUENTLY PROBLEMS AND SOLUTION

NO	MACHINE CONDITION	CAUSE	PREVENTION
1	No sand and air coming out of the nozzle	Sand blockage at the nozzle or sand at the discharge valve due to strange matter entering the chamber spray There is no source air to the machine.	Lock the air, remove the nozzle to check, if there is no strange object, remove the particle discharge valve to check and clean. Check the total air valve
2	Only air out at the top of the gun, no sand out	Clogs at the discharge valve below the bottom of the cyclone due to strange objects falling in There is a strange object at the nozzle	Total air lock, Remove the abrasives discharging valve for inspection and cleaning. Remove the nozzle to check
		No return sand to the Cyclon	Exhaust fan is not on or there is a foreign object in the ball sieve at the bottom of the sandblasting chamber hopper
3	Uneven sand at the tip of	The air inlet spacing is not suitable for the grain size Silicon tip Air nozzle is damaged Releasing	The M6 screw to adjust the distance between the air inlet and the bec Replace the new silicone cover
4	Dust in the sandblasting chamber a lot	of dust filter Filter off the dust filter	Turn off the exhaust fan so that the dust collector valve works to shake off the dust, or replace the dust filter fiter if the use time is over
5	The product does not pass through the spray chamber The	product is placed diagonally and diagonally	Adjust the product to the balance between the spray chamber
6	The product surface is not clean	The sandblasting gun is not set to the correct distance, the product has not properly placed the useful cleaning area.	align the distance and position of the sandblasting guns.
7	Dust collector fan motor shows overload error	The amount of dust trapped on the dust filter is too thick	Perform dust removal, clean all dust filter filters in the dust collection chambers.

ATTENTION:

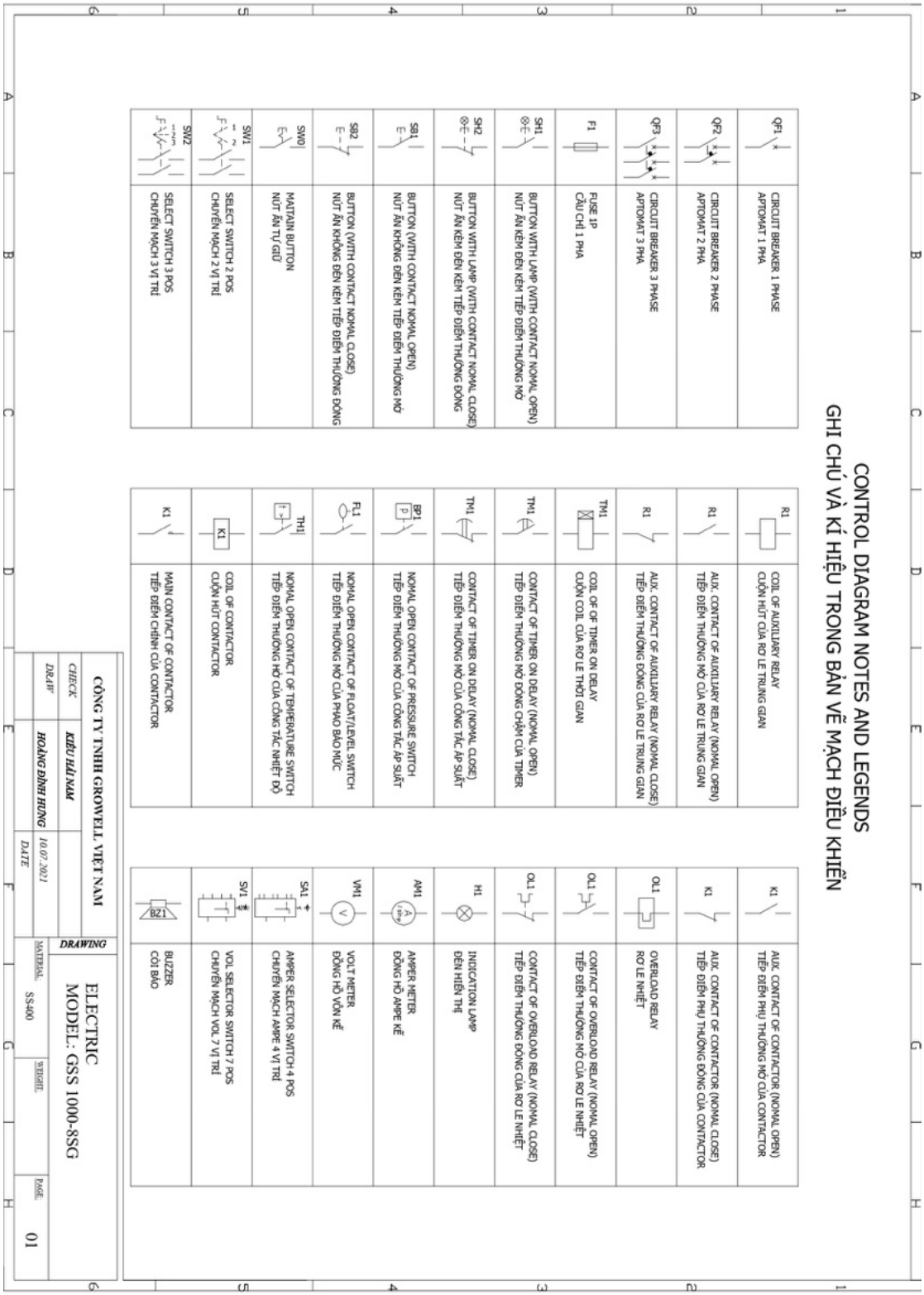
- To repair any problem, it is necessary to understand the operating principle of the machine. Before repairing or replacing a part, it is important to determine the cause of the problem. If the causes are not completely corrected, the problems will continue to recur. This system can be operated even if all the parts are not working properly. However, if this happens, the worker's safety may not be guaranteed, and the machine's performance will deteriorate along with its lifespan being shortened.

- In general, the most difficult of the shot blasting machine can be found from the loss of the ball or the inefficient firing capacity. Should these problems occur, appropriate and thorough corrective action must be taken to maintain an optimal operating condition.

Wish everything you do be successful!

CHAPTER 6:

DRAWING ELECTRIC


CONTROL DIAGRAM NOTES AND LEGENDS
GHI CHÚ VÀ KÍ HIỆU TRONG BẢN VẼ MẠCH ĐIỀU KHIỂN
CÔNG TY TNHH GROWELL VIỆT NAM
ELECTRIC
MODEL: GSS 1000-8SG
DRAWING
KIỀU HẢI NAM
HOÀNG ĐÌNH HƯNG
10.07.2021
SS400
01

THÔNG SỐ TỦ ĐIỆN

- KIỂU TỦ: ☐ MSB - HLT ☑ MDB - HLT ☐ DB - HLT ☐ CP - HLT
- TIÊU CHUẨN: ☐ IEC 60439 ☐ IEC 61439-2 ☑ TCVN
- CẤP BẢO VỆ: ☐ IP20 ☐ IP31 ☑ IP41 ☐ IP54
- DẠNG TỦ (FORM): ☑ 1 ☐ 2 ☐ 3b ☐ 4b

- VỊ TRÍ LẮP ĐẶT: ☐ NGOÀI TRỜI ☑ TRONG NHÀ
- DẠNG LẮP ĐẶT: ☑ TỰ ĐỨNG ☐ TREO TƯỜNG
- NHIỆT ĐỘ LÀM VIỆC: ☐ 35°C ☑ 40°C ☐ 50°C ☐ 55°C
- ĐIỆN TRỞ SƯỞI: ☐ CÓ ☐ KHÔNG
- KẾT NỐI VÀO/RA: ☑ TRƯỚC ☐ SAU
- MẶT TRƯỚC TỦ: ☐ MỘT SỢI ☐ KHÔNG KHÓA ☑ CÓ KHÓA
- MẶT SAU TỦ: ☐ CỬA ☑ DẠNG TẤM ☐ CÓ KHÓA
- VẬT LIỆU TỦ: ☑ THÉP ☐ INOX304 ☐ TÔN ZAM
- + ĐỘ DÀY KHUNG TỦ: ☐ 1.0mm ☐ 1.5mm ☑ 1.6mm ☑ 2.0mm
- + ĐỘ DÀY CÁNH TỦ: ☐ 1.0mm ☐ 1.5mm ☑ 1.6mm ☑ 2.0mm
- MÀU SƠN TỦ ĐIỆN: ☐ RAL7035 ☑ RAL7032 ☐ KHÁC ....
- ĐẾ TỦ: ☐ CÓ ☑ KHÔNG
- THANH CÁI: ☑ ĐỒNG ☐ NHÔM
  ☐ BỌC CO NGÓT ☑ MẠ THIẾC ☐ KHÔNG MẠ
  ☑ N=50%P ☐ N=100%P ☐ PE=50%P ☑ PE=25%P

- ĐIỆN ÁP ĐỊNH MỨC: = 400 VAC
- DÒNG ĐIỆN ĐỊNH MỨC: = 500 A
- DÒNG CẮT NGẮN MẠCH: = 45 kA
- TẦN SỐ ĐỊNH MỨC: = 50 HZ
- KÍCH THƯỚC TỦ: = H2100xW1000xD450mm

- PHÂN BIỆT THANH CÁI

- THANH CÁI	PHA A	PHA B	PHA C	PHA N	PHA PE
- CHỈ THỊ MÀU	ĐỎ	VÀNG	XANH	ĐEN	VÀNG XANH

- KẾT NỐI VÀO/RA

- HƯỚNG	VÀO	RA
- NÓC TỦ	☑	☑
- ĐÁY TỦ	☐	☐

- CÁP ĐIỀU KHIỂN:

CÁP ĐIỀU KHIỂN	ĐK 220V		ĐK 24V		ĐO LƯỜNG	
	VAC	VAC	VDC	VDC	VOL/ÁP	CURRENT/DÒNG
ĐIỆN ÁP	220V	0V	24V	0V	220/380V	N/A
LOẠI	1.0mm2	1.0mm2	0.75mm2	0.75mm2	1.0mm2	1.5mm2
MÀU	VÀNG	VÀNG	XANH	XANH	VÀNG	ĐEN

- NHÃN TRÊN TỦ:

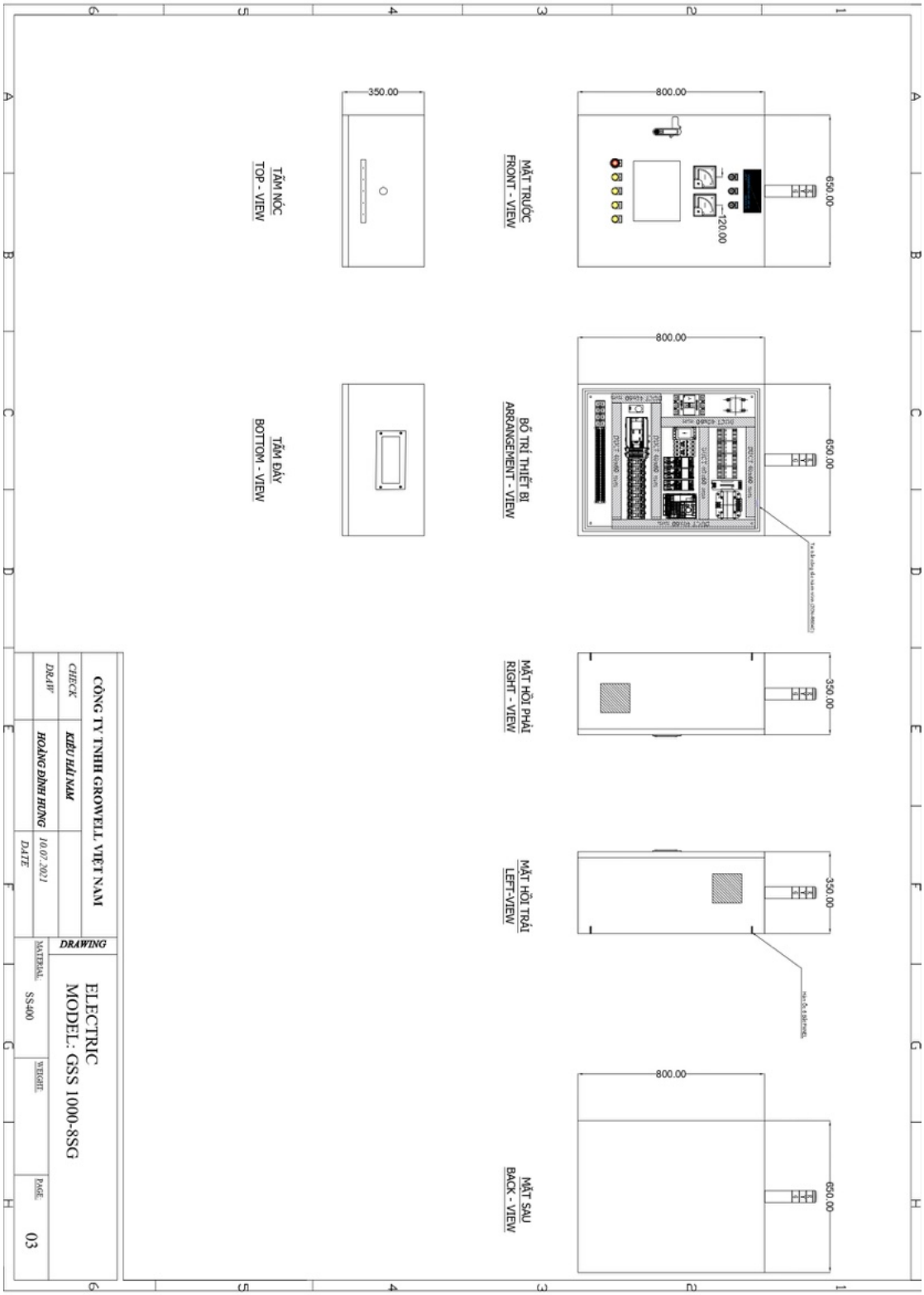
NHÃN	IN	MIKA	CHỮ ĐEN NỀN TRẮNG
TÊN KHOANG TỦ	☐	☑	☑
TÊN LỘ TẢI	☑	☐	☑

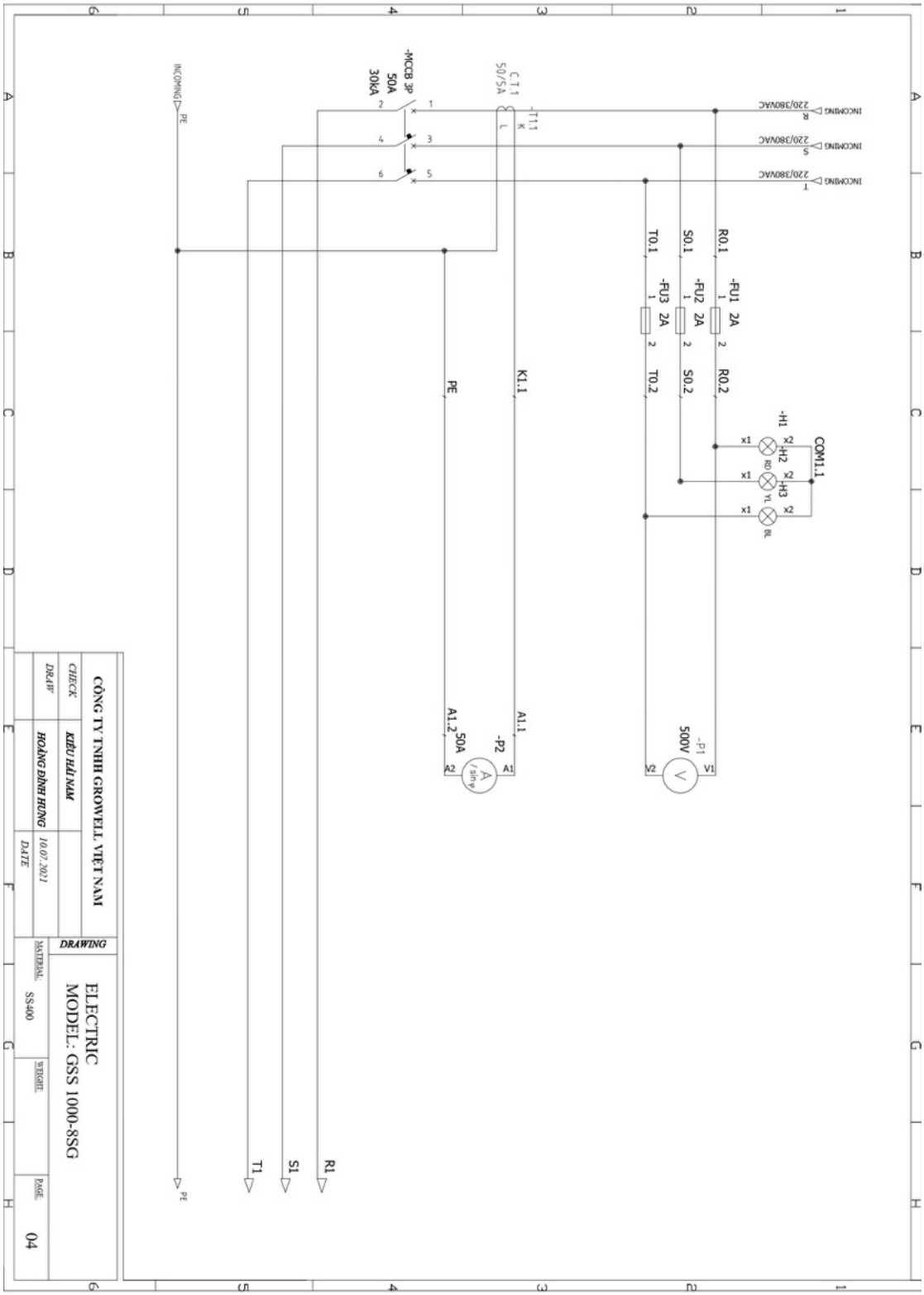
- BẢNG CHỌN DÂY DẪN, THANH CÁI:

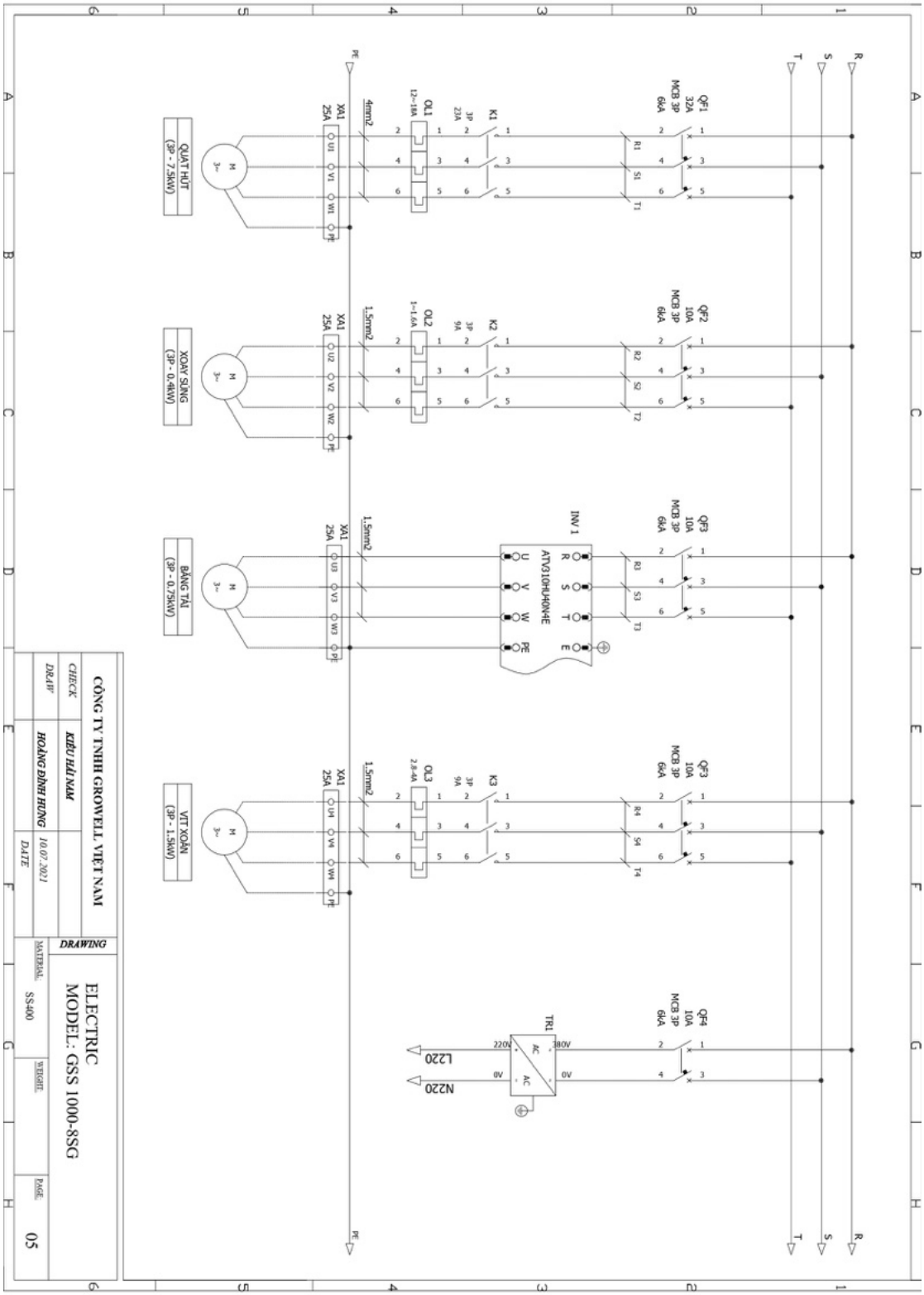
DÒNG ĐIỆN ĐỊNH MỨC (A)		KÍCH THƯỚC DÂY DẪN	
		mm2	AWG/MCM
0	8	1	
8	12	1.5	
12	15	2.5	
15	20	2.5	
20	25	4.0	
25	32	6.0	
32	50	10	
50	65	16	
65	85	25	
85	100	35	
100	125	35	
125	150	50	
150	175	50	
175	200	70	
200	225	70	
225	250	95	

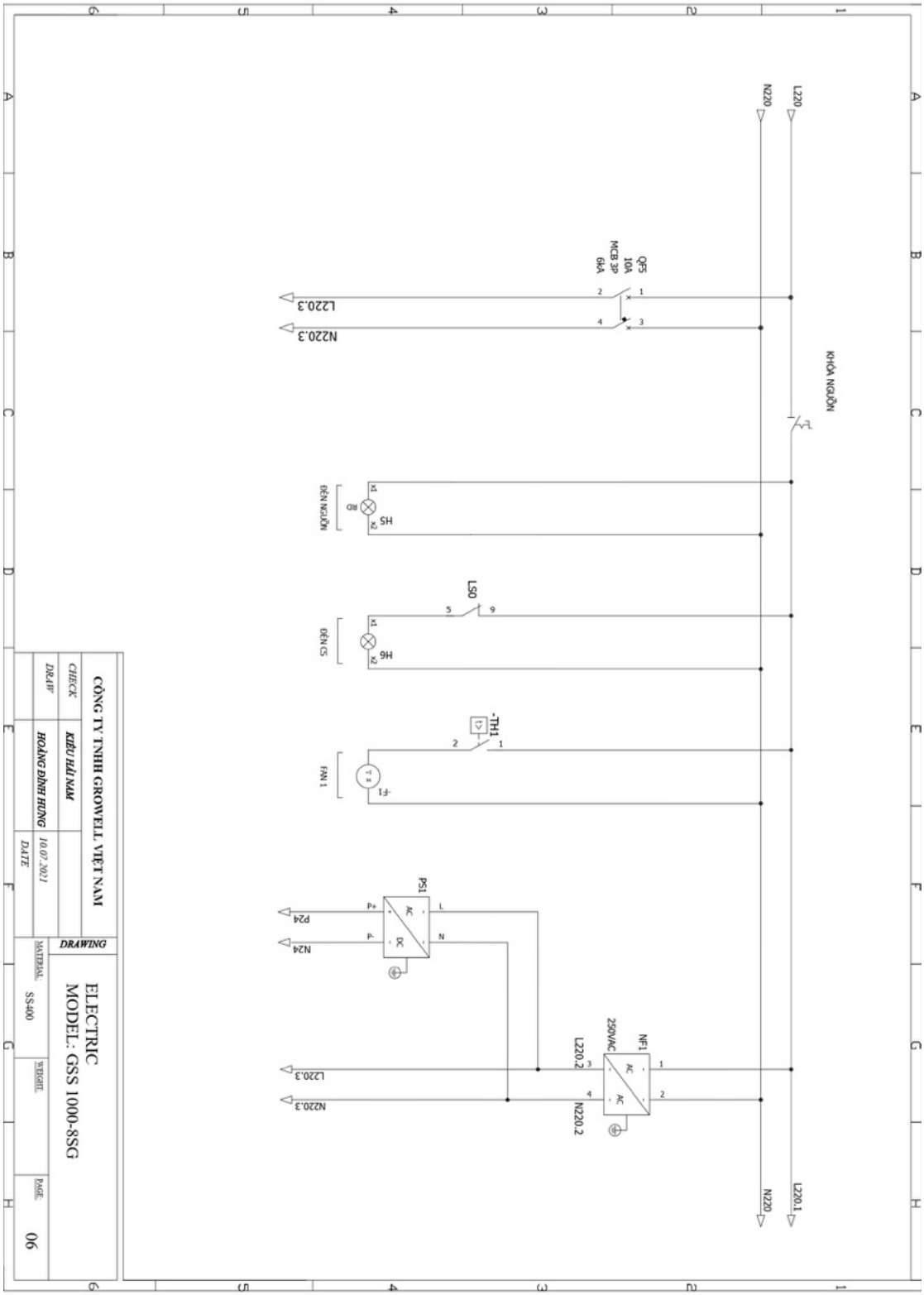
DÒNG ĐIỆN ĐỊNH MỨC (A)		TIẾT DIỆN THANH CÁI (WxT)		
		THANH RST	THANH N	
	MCB < 50	10x2.5	10x2.5	
MCB ≥ 50	MCB < 63	12x3	12x3	
63	100	15x3	15x3	
125	175	15x5	15x5	
200	250	20x5	20x5	
300	350	30x5	30x5	
	400	30x6	30x6	
	500	30x8	30x8	
600	630	30x10	30x10	
700	800	40x10	40x10	
	1000	50x10	50x10	
	1250	60x10	60x10	
	1600	80x10	80x10	
	2000	100x10	100x10	
	2500	2x80x10	2x80x10	
	3200	2x100x10	2x100x10	

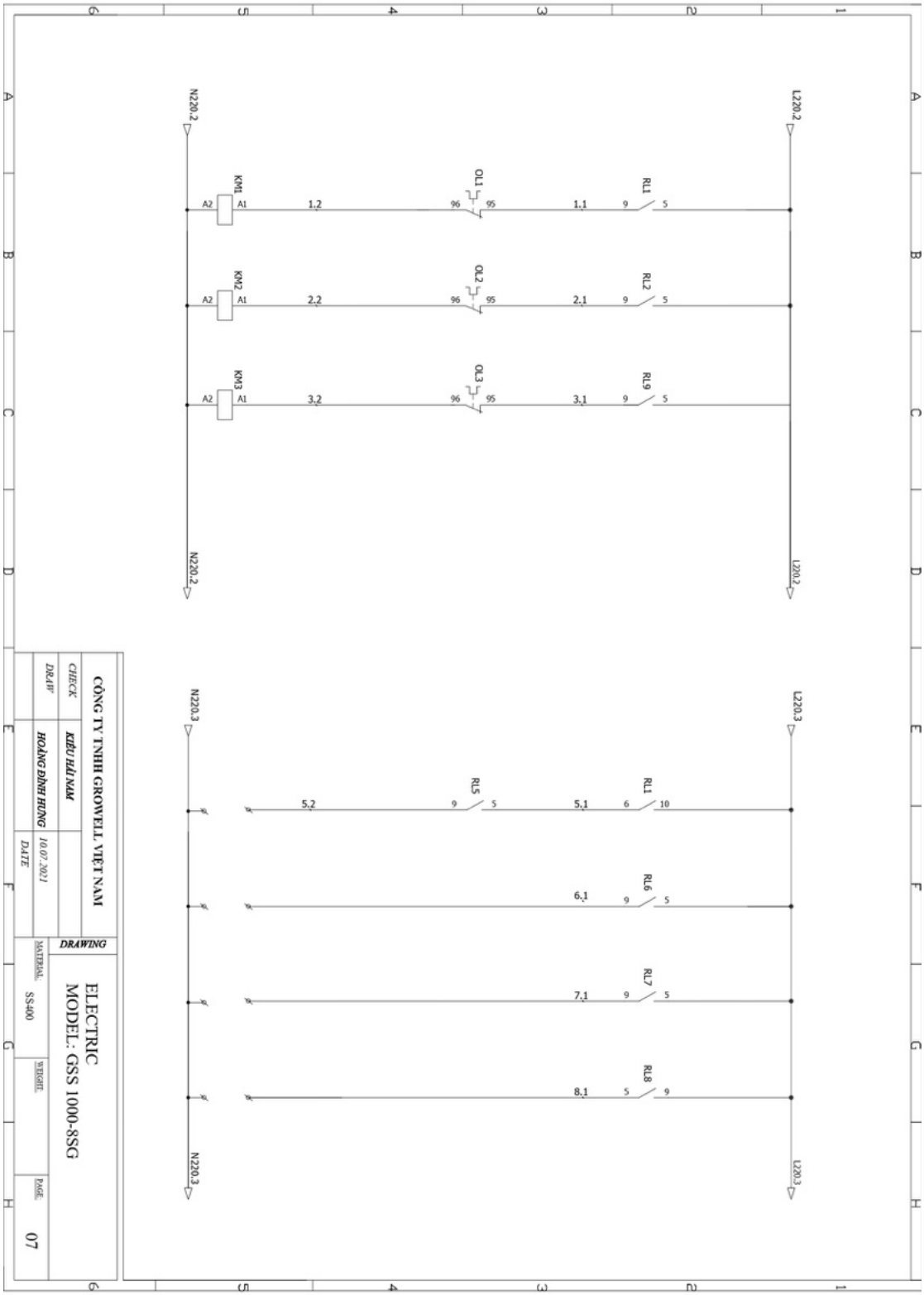
CÔNG TY TNHH GROWELL VIỆT NAM			DRAWING	ELECTRIC MODEL: GSS 1000-8SG	
CHECK	KIỀU HẢI NAM		MATERIAL: SS400	WEIGHT:	PAGE: 02
DRAW	HOÀNG ĐÌNH HƯNG	10.07.2021			
		DATE			

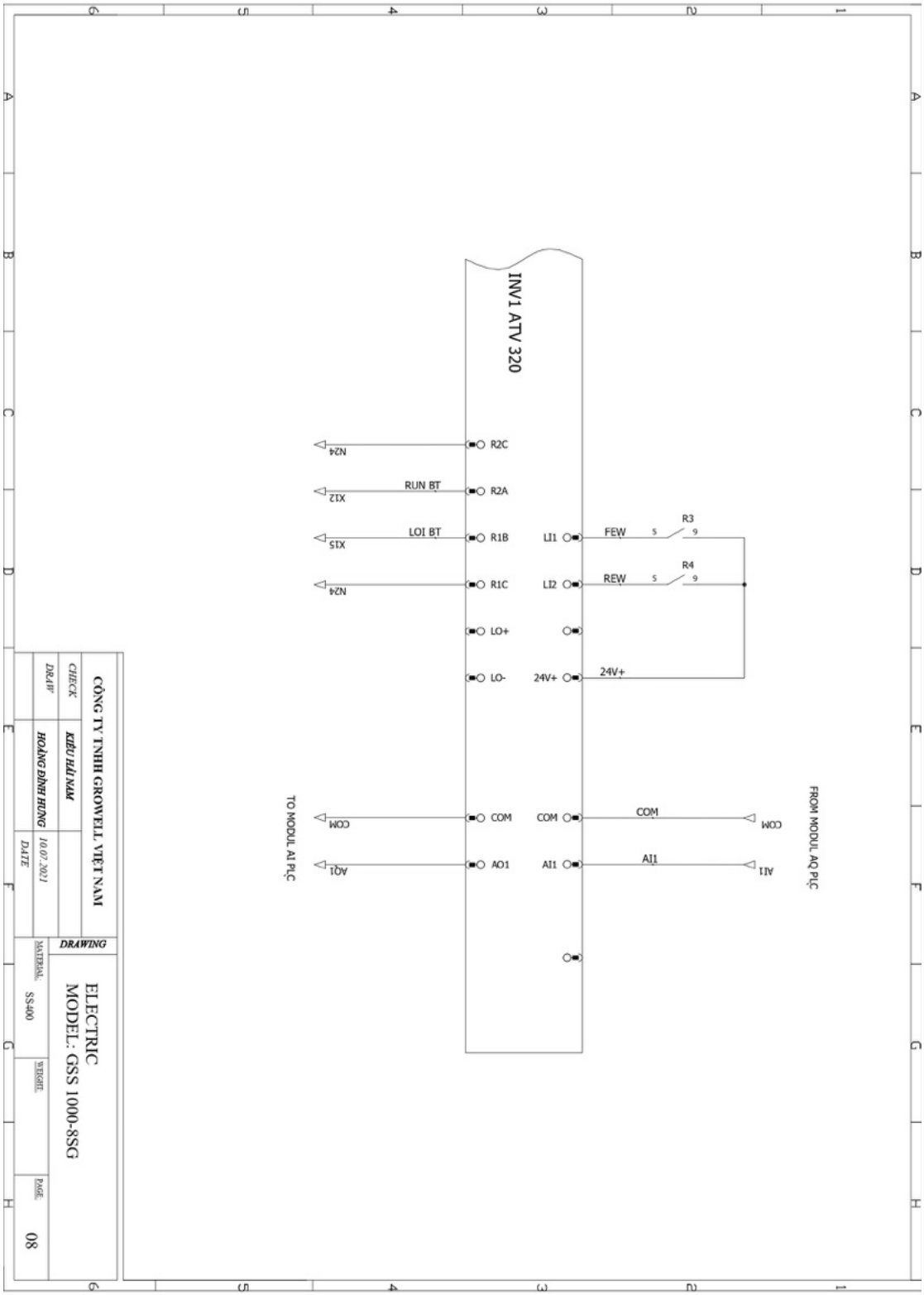

MẶT TRƯỚC
FRONT - VIEW
800.00
650.00
120.00
TẤM NÓC
TOP - VIEW
350.00
BỐ TRÍ THIẾT BỊ
ARRANGEMENT - VIEW
800.00
650.00
TẤM ĐÁY
BOTTOM - VIEW
MẶT HÔI PHẢI
RIGHT - VIEW
350.00
MẶT HÔI TRÁI
LEFT-VIEW
350.00
MẶT SAU
BACK - VIEW
800.00
650.00
CÔNG TY TNHH GROWELL VIỆT NAM
DRAWING
ELECTRIC
MODEL: GSS 1000-8SG
DRAW
CHECK
KIỀU HẢI NAM
HOÀNG ĐÌNH HƯNG
DATE
10.07.2021
MATERIAL
SS400
WEIGHT
PAGE
03

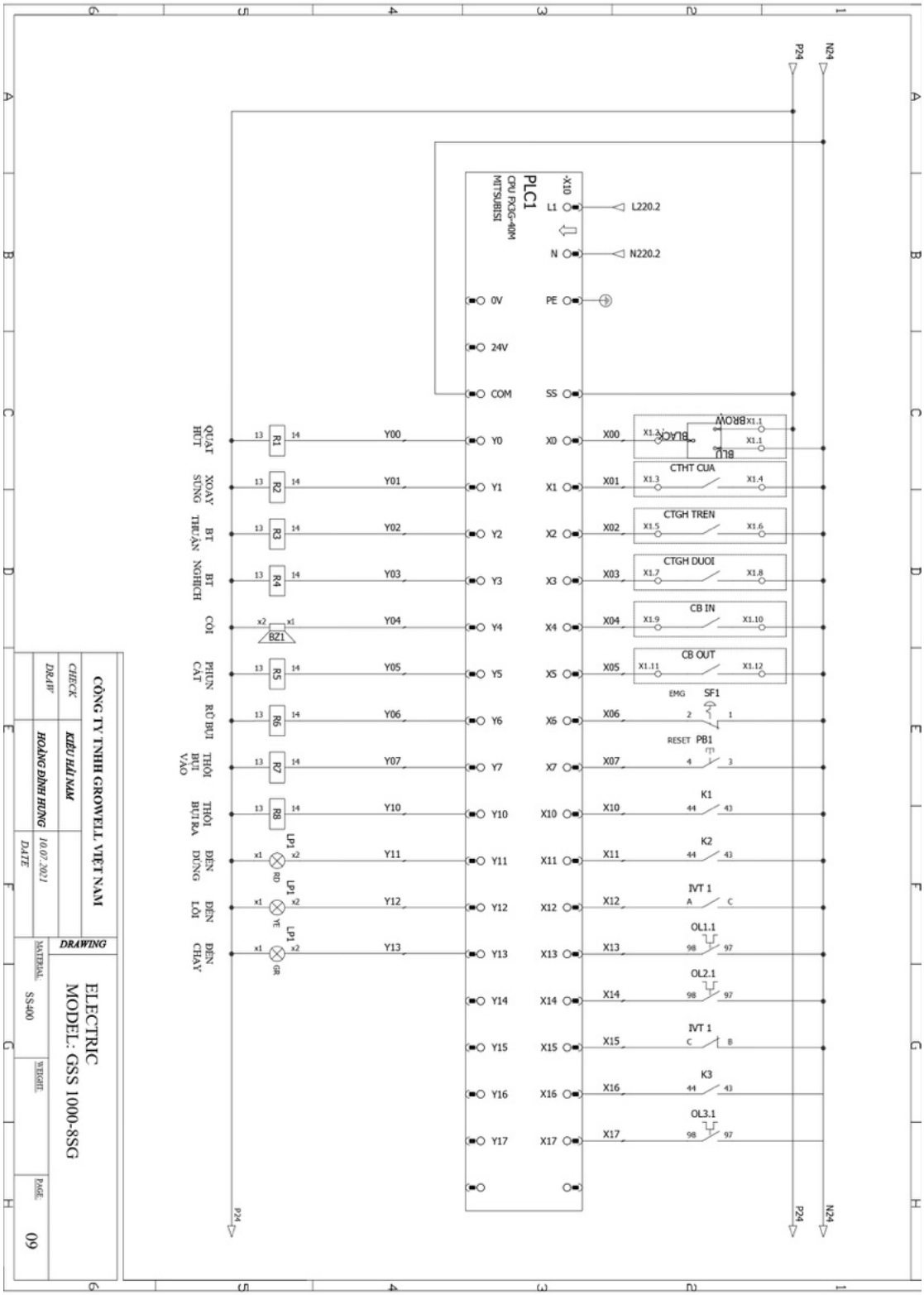

-MCCB 3P
50A
30kA
CT1
50/5A
-T1.1
INCOMING
PE
220/380VAC
R
S
T
TO.1
SO.1
RO.1
-FU3 2A
-FU2 2A
-FU1 2A
TO.2
SO.2
RO.2
K1.1
-H1
-H2
-H3
COM1.1
RD
YL
BL
A1.2
50A
-P2
A1.1
A2
A1
500V
-P1
V2
V1
T1
S1
R1
CÔNG TY TNHH GROWELL VIỆT NAM
DRAWING
ELECTRIC
MODEL: GSS 1000-8SG
DRAW
KIỀU HẢI NAM
CHECK
HOÀNG ĐÌNH HƯNG
DATE
10.07.2021
MATERIAL
SS400
WEIGHT
PAGE
04

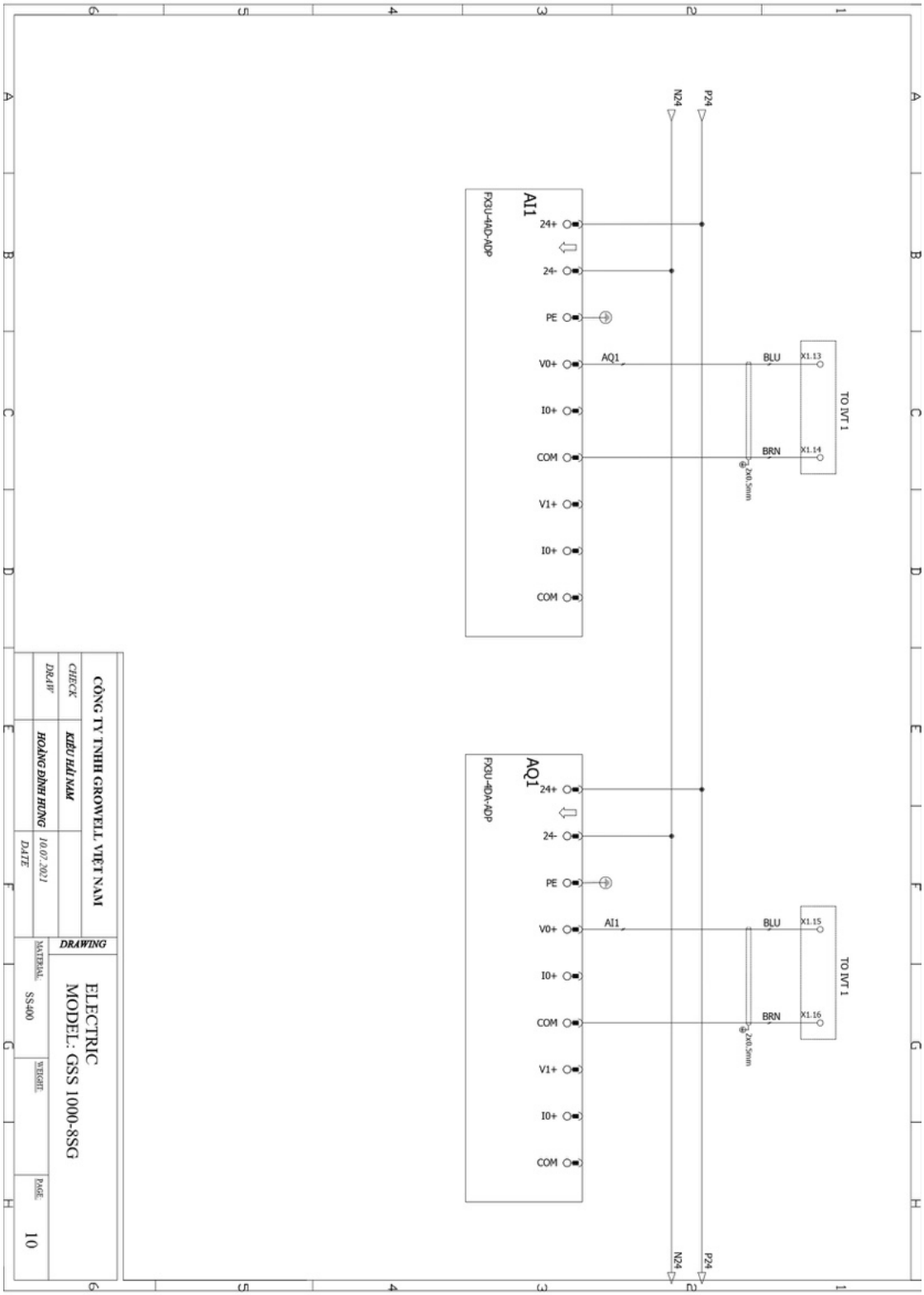

QUẠT HÚT (3P - 7.5KW)
XOAY SUNG (3P - 0.4KW)
BĂNG TẢI (3P - 0.75KW)
VÍT XOẮN (3P - 1.5KW)
INV 1
ATV310HU40N4E
TR1
L220
N220
CÔNG TY TNHH GROWELL VIỆT NAM
DRAWING
ELECTRIC
MODEL: GSS 1000-8SG
DRAW
KIỀU HẢI NAM
CHECK
HOÀNG ĐÌNH HƯNG
DATE
10.07.2021
MATERIAL
SS400
WEIGHT
PAGE
05

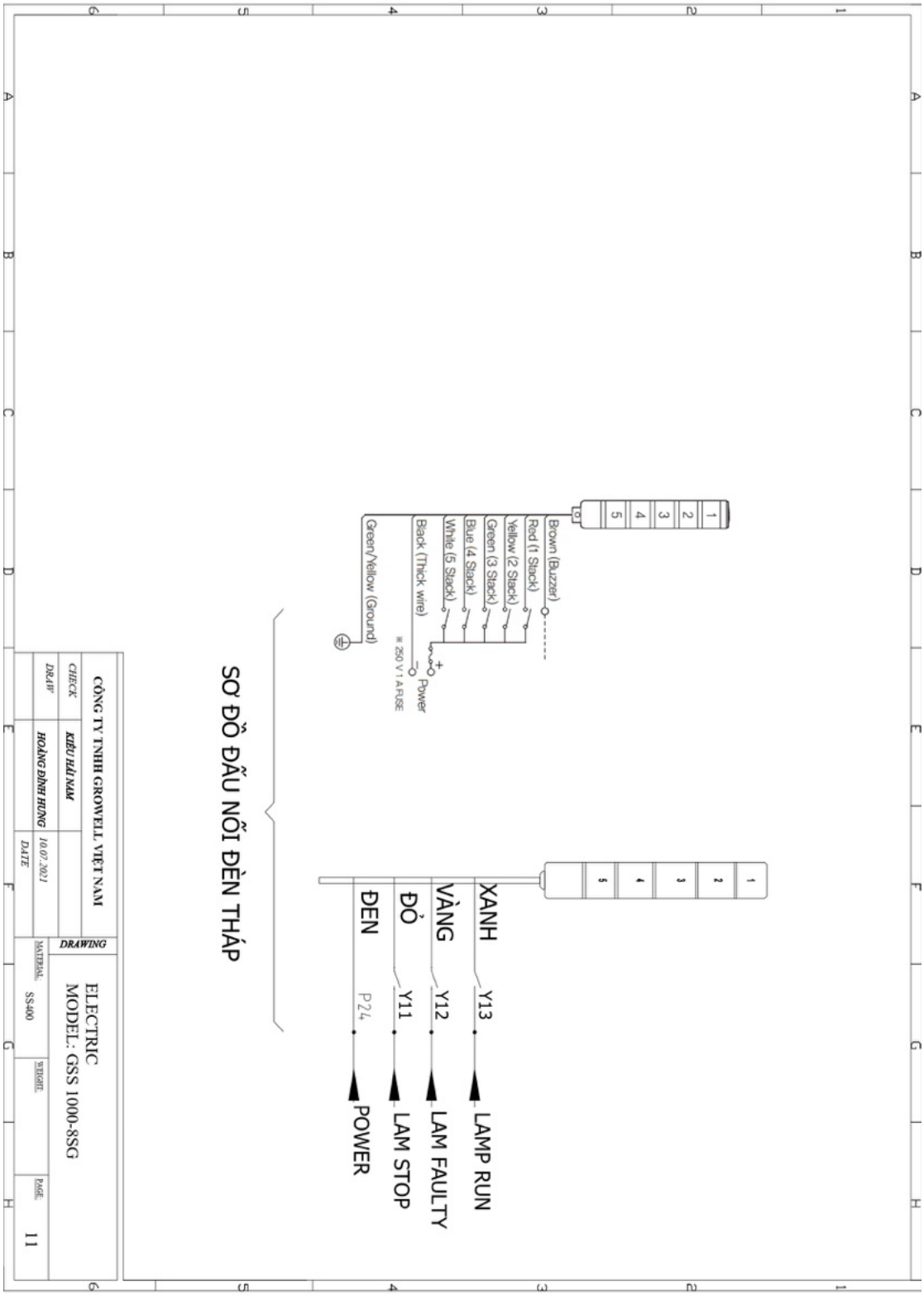

N220
L220
QF5
10A
MCB 3P
6kA
L220.3
N220.3
KHÓA NGUỒN
ĐÈN NGUỒN
HS
L50
ĐÈN CS
H6
-TH1
FAN 1
-F1
PS1
P24
N24
250VAC
NF1
L220.2
N220.2
L220.1
CÔNG TY TNHH GROWELL VIỆT NAM
DRAWING
ELECTRIC
MODEL: GSS 1000-8SG
CHECK
KIỀU HẢI NAM
DRAW
HOÀNG ĐÌNH HƯNG
DATE
10.07.2021
MATERIAL
SS400
WEIGHT
PAGE
06


N220.2
L220.2
KM1
A2
A1
1,2
OL1
96
95
1,1
RL1
9
5
KM2
2,2
OL2
2,1
RL2
KM3
3,2
OL3
3,1
RL9
N220.3
L220.3
5,2
RL5
5,1
RL1
10
6,1
RL6
7,1
RL7
8,1
RL8
CÔNG TY TNHH GROWELL VIỆT NAM
DRAW
KIỀU HẢI NAM
CHECK
HOÀNG ĐÌNH HƯNG
10.07.2021
DATE
DRAWING
ELECTRIC
MODEL: GSS 1000-8SG
MATERIAL
SS400
WEIGHT
PAGE
07


INV1 ATV 320
R2C
RUN BT
R2A
LOI BT
R1B
R1C
LO+
LO-
LI1
LI2
24V+
FEW
REW
R3
R4
COM
AO1
AI1
TO MODUL AI PLC
FROM MODUL AQ PLC
CÔNG TY TNHH GROWELL VIỆT NAM
DRAWING
ELECTRIC
MODEL: GSS 1000-8SG
KIỀU HẢI NAM
HOÀNG ĐÌNH HƯNG
10.07.2021
SS400
08


PLC1
CPU FX3G-40M
MITSUBISI
L220.2
N220.2
0V
24V
COM
PE
SS
P24
N24
QUẠT HÚT
XOAY SUNG
BT THUẬN
BT NGHỊCH
CÒI
PHUN CÁT
RŨ BỤI
THỔI BỤI VÀO
THỔI BỤI RA
ĐÈN DƯỠNG
ĐÈN LỖI
ĐÈN CHÁY
BZ1
CTHT CUA
CTGH TREN
CTGH DUOI
CB IN
CB OUT
EMG
SF1
RESET
PB1
K1
K2
K3
IVT 1
OL1.1
OL2.1
OL3.1
CÔNG TY TNHH GROWELL VIỆT NAM
ELECTRIC
MODEL: GSS 1000-8SG
DRAWING
CHECK
KIỀU HẢI NAM
DRAW
HOÀNG ĐÌNH HƯNG
DATE
10.07.2021
MATERIAL
SS400
WEIGHT
PAGE
09


N24
P24
AI1
FX3U-4AD-ADP
24+
24-
PE
V0+
I0+
COM
V1+
I0+
COM
AQ1
BLU
BRN
X1.13
X1.14
TO IVT 1
2x0.5mm
AQ1
FX3U-4DA-ADP
AI1
X1.15
X1.16
CÔNG TY TNHH GROWELL VIỆT NAM
DRAWING
ELECTRIC
MODEL: GSS 1000-8SG
CHECK
KIỀU HẢI NAM
DRAW
HOÀNG ĐÌNH HƯNG
DATE
10.07.2021
MATERIAL
SS400
WEIGHT
PAGE
10


SƠ ĐỒ ĐẤU NỐI ĐÈN THÁP
Brown (Buzzer)
Red (1 Stack)
Yellow (2 Stack)
Green (3 Stack)
Blue (4 Stack)
White (5 Stack)
Black (Thick wire)
Green/Yellow (Ground)
Power
※ 250 V 1 A FUSE
XANH
VÀNG
ĐỎ
ĐEN
Y13
Y12
Y11
P24
LAMP RUN
LAM FAULTY
LAM STOP
POWER
CÔNG TY TNHH GROWELL VIỆT NAM
DRAWING
ELECTRIC
MODEL: GSS 1000-8SG
KIỀU HẢI NAM
HOÀNG ĐÌNH HƯNG
10.07.2021
SS400
11