

# Automatic Screw Hopper

## 自動ネジ補給機

# NEJIKURA Tower Type

(T-510S・T-510J・T-510F)

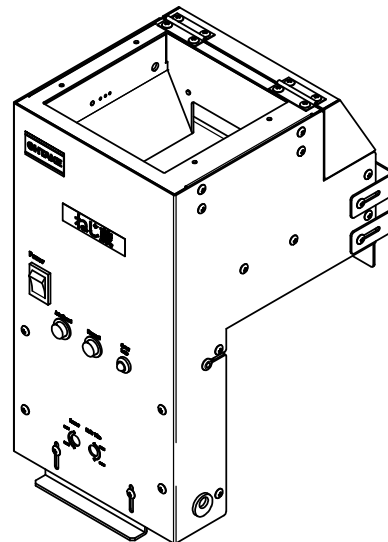
## Operation Manual

- Read these instructions for the proper use of this machine.
- After having read these instructions, keep them in a convenient place so you or the operator can refer to them whenever necessary.

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We do not have any branches in China.

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目前, 敝司在中国没有办事处与所谓的中国官网。」

注意! : [www.ohtake-root.co.jp](http://www.ohtake-root.co.jp) が当社唯一の HP アドレスです。  
弊社の名を騙る偽サイトにご注意下さい。現在、当社は中国国内に支店はございません。



ONT1MAE02a

# Contents

1. OVERVIEW OF THIS MACHINE -----	1	6. TROUBLESHOOTING-----	14
2. BEFORE USE -----	1	7. SPECIFICATIONS -----	16
3. OPERATING PRECAUTIONS -----	2	8. EXTERNAL DIMENSIONS -----	17
4. NAMES OF MACHINE PARTS -----	5	9. WARRANTY -----	20
5. HOW TO USE AND ADJUST-----	7		

## 1. OVERVIEW OF THIS MACHINE

By using this product in combination with our screw feeder, you can increase the capacity of stocking screws. This hopper can automatically detect the remaining amount of screws in the feeder with a sensor and automatically replenishes the screws.

## 2. BEFORE USE

Please confirm the feeder type with which the part number of Nejikura, as the table below.

Check that the following accessories are supplied with Nejikura:

- |  |  |
|--|--|
| * Instruction Manual 1 copy                  | * AC Adapter 1 unit                      |
| * Additional screw stocker (with lid) 1 unit | * Stocker mounting screw(M2.6×5) 4 piece |
| * Allen wrench 1 piece                       | * Screwdriver 1 piece                    |
| * External signal output cable 1 piece       | * Ground Wire 1 piece                    |

【Only for T-510F:】

- |                |  |
|----------------|--|
| * Stand 1 unit | * Screws to fix the stand (M2.6×5) 3 piece |
|----------------|--|

Nejikura Type	Corresponding Automatic Screw Feeder
SR-80	NSB/NSR/NSBI/NSRI Series
NJ-80	NJ/NJR Series
NJ-80F	FM-36/FME-36 Series

※ The design, performance and specifications are subject to change without prior notice for the sake of improvement.

### 3. OPERATING PRECAUTIONS

This manual contains safety alert symbols and signal words to help prevent injuries to the user or damage to property.

#### ◎ Indications



**WARNING**

This indicates there is a chance of death, serious injury or fire if the instructions are not followed.



**CAUTION**

This indicates there is a chance of personal injury or damage to property if the instructions are not followed.

#### ◎ Symbols indicating type of danger and preventative measures



Prohibited operation. Never do this!



Do not disassemble, modify or repair.



Do not touch with wet hands.




This indicates to stop operations.

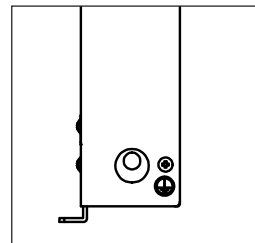


Unplug power supply from wall outlet.














General caution.

Attach the ground wire by loosening the screw near the mark  of the equipment.

















the side of the main body

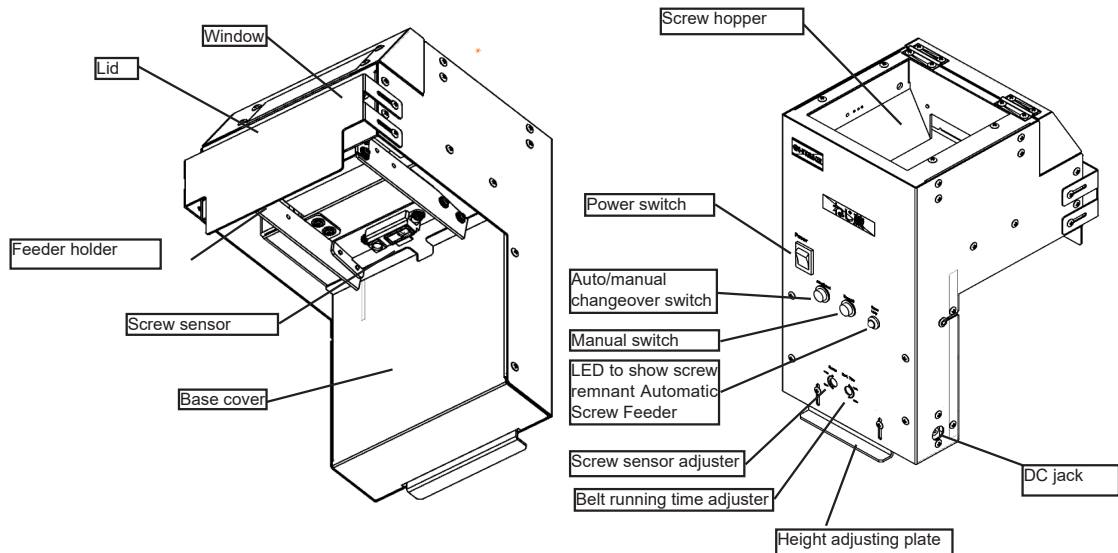
## WARNING

-  Never touch the rotating belt while the power is on.
-  Never reach into the inlet and outlet. It may lead to injury or serious accident.
-  Do not disassemble the AC adapter as there is a risk of electric shock, fire or malfunction.
-  Do not damage, alter or change the power cord. Do not place heavy objects on the cord. Do not pull hard on the cord or twist the cord as it could be damaged, thereby causing a risk of fire or electric shock.
-  Do not handle the AC adapter with wet hands as it could cause an electric shock.
-  When using an outlet with AC100 ~ 240V, don't overload the electrical circuit.
-  Do not modify or remodel this machine as this may cause a fire or electric shock.
-  Do not operate this machine near flammable liquids, gasses or materials as there could be a risk of fire or explosion.
-  Stop operating the machine and unplug the AC adapter from the wall outlet when you detect overheating, smoke, a pungent odor or any other unusual condition, as there may be a risk of fire or electric shock. Contact the dealer, from which you purchased the machine and have it examined and repaired.
-  In the case of a thunderstorm, stop operating the machine, turn off the power and unplug the AC adapter from the wall outlet. If there is lightning and thunder nearby, move away from the machine and do not touch it or the AC adapter. After the thunder stops, and when it is safe to do so, check the machine. If there is any abnormality, contact your dealer.
-  When performing maintenance, changing parts or when you sense an abnormality in the machine, turn the power off and pull the AC adapter from the wall outlet.  
In addition, there are parts that become hot in the circuit board. When performing maintenance around the circuit board, turn off the power for at least 5 minutes before performing work. There is a risk of burns.

## CAUTION

-  When using this machine, do not remove the main unit from the automatic screw feeder in the automatic supply state. The belt operates and the screws fall.  
Before removing the main unit, be sure to turn off the power or set the automatic / manual switch to manual (off).
-  Properly adjust the amount of screws replenished from the machine to the automatic screw feeder.  
If the replenishment is excessive, the automatic screw feeder may stop. Refer to 5-4 for adjustment.  
Adjustment of screw sensor and 5-5. Adjustment of belt operation time.
-  Use only the AC adapter supplied with this machine otherwise it may result in a fire or electric shock.
-  Do not install this machine in an unstable location otherwise it may fall causing damage or injury.
-  Always operate the machine with the upper cover in place, otherwise it may result in injury.
-  Do not allow any foreign material to enter the machine while in operation.
-  Do not put your fingers into the machine while in operation, otherwise an injury will result.
-  Do not operate this machine in overly humid or dusty conditions.
-  Keep the plug socket clean at all times otherwise it may cause a fire or electric shock.
-  When moving the machine, always disconnect the AC adapter from the wall outlet or it may result in damage to the cord, or cause a fire or electric shock.
-  Turn off the machine and unplug the AC adapter from the wall outlet during closing hours or if the machine will be unused for any extended period of time.
-  When moving the machine, be sure to hold it with both hands and be careful not to drop it.  
Dropping the machine at your feet may cause injury.
-  Do not operate the machine with tension on the AC adapter cord.  
Keep the cord loose and untangled.
-  Do not use any screw that is out of the specified range nor any screw that is oily or dirty.

## 4. NAMES OF MACHINE PARTS

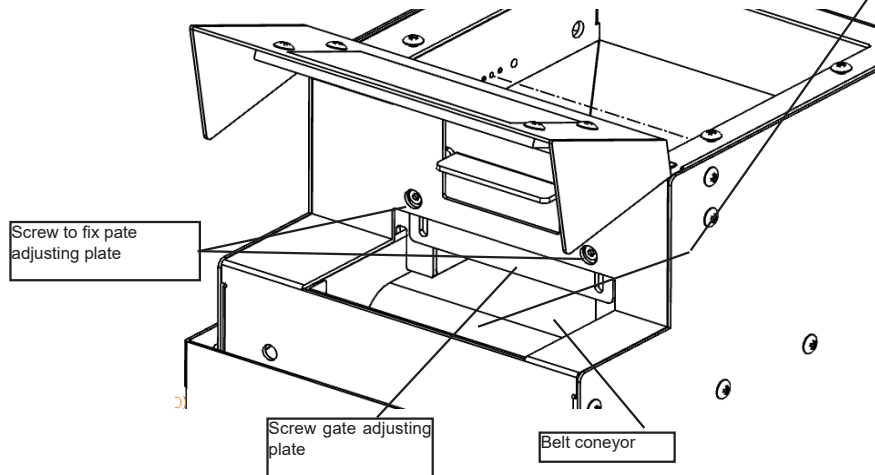


## 《Parts inside cover》



## WARNING

Be careful not to be caught your fingers or hands in belt. It can cause injury.



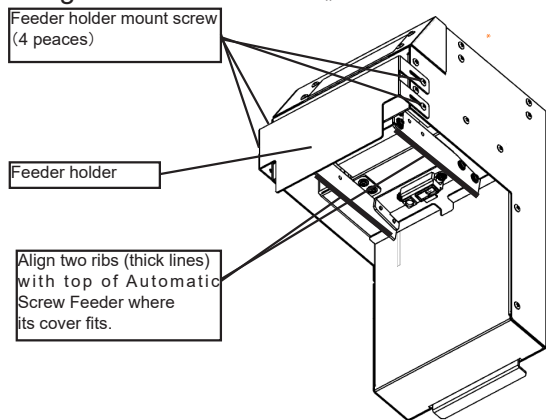
## 5. HOW TO USE AND ADJUST

Nejikura can be used with Automatic Screw Feeder, model NJ and NS. Adjust Automatic Screw Feeder according to the screw to be used before hand. For the adjustment of Automatic Screw Feeder, read the respective instruction manual.

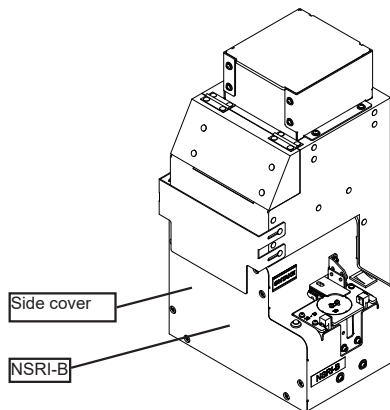
### 5-1. Mounting Nejikura on Automatic Screw Feeder

Loosen four screws fastening the feeder holder and mount Nejikura on Automatic Screw Feeder. When you mount it, align two ribs (thick lines shown in the following illustration) with top of Automatic Screw Feeder where the cover of Automatic Screw Feeder fits. Press the Automatic Screw Feeder holder of Nejikura against the side cover of Automatic Screw Feeder and tighten four screws.

#### 《Mounting T-510S / T-510J》



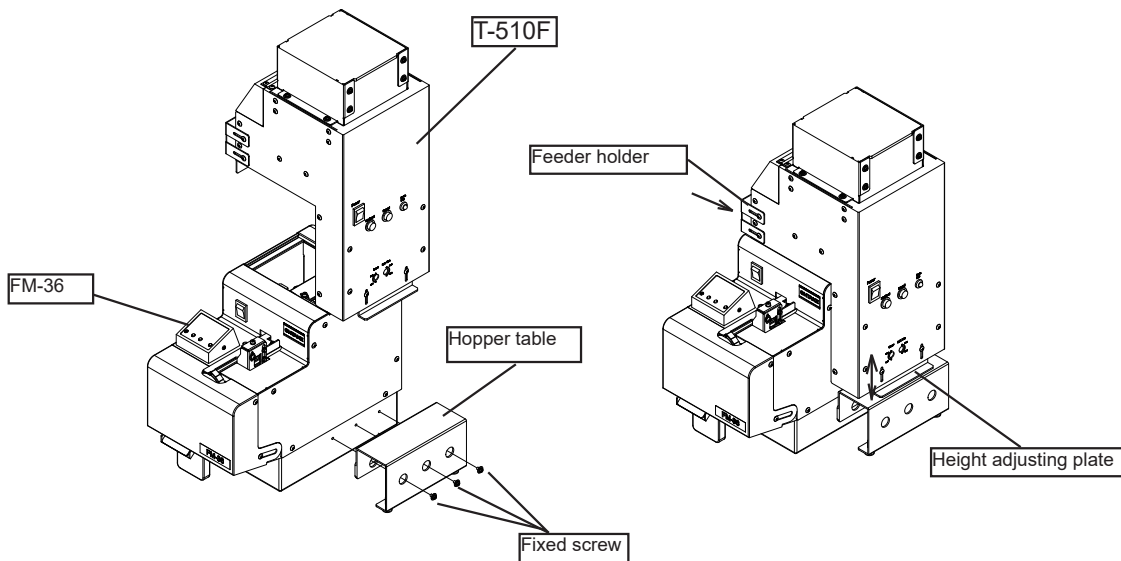
#### 【EX. Mounting NEJIKURA on NSRI-B】





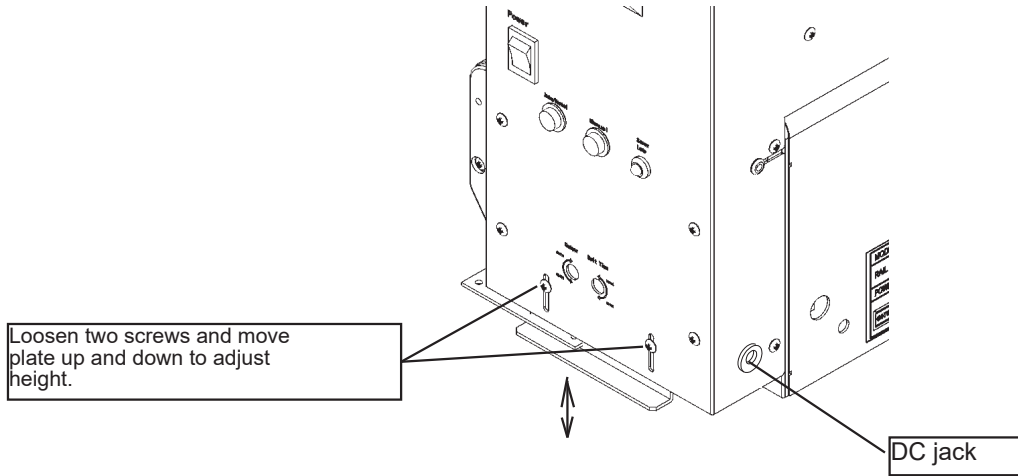
## 《Mounting T-510F》

- Fix the setting stand to the side of FM-36 with three attached screws.
- Loosen the fixed screw of the feeder holder, and establish the NEJIKURA on FM-36.
- Let the Hopper table and the height adjusting plate adhere by adjusting the height adjusting plate.
- Fix Automatic Screw Feeder with a feeder holder.



## 5-2. Height adjustment

Loosen two screws fastening the height adjusting plate to the chassis. Adjust the height adjusting plate so that it touches ground and tighten two screws (If the height adjusting plate can not touch ground, the adjustment is not necessary.)



## 5-3. Connection of AC adapter

Insert the plug of supplied AC power adapter to the DC input jack and plug other end to a wall outlet.

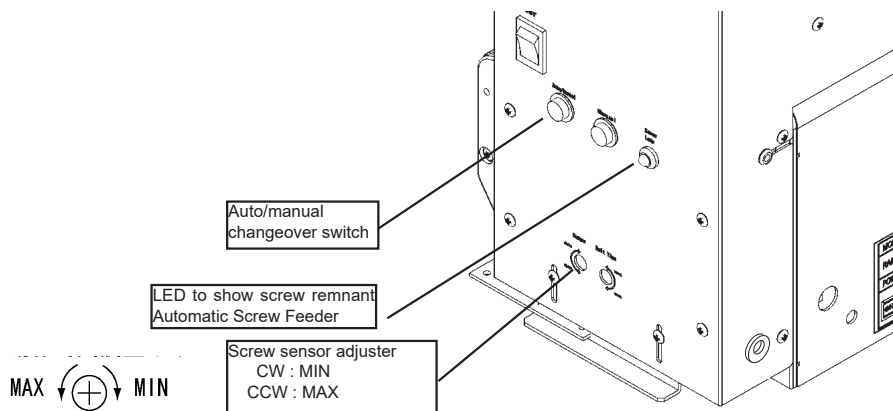
## 5-4. Power

- Turn on the power source switch of the unit and change the Auto/Manual Changeover Switch to Auto position. (LED of the Auto/Manual Changeover Switch turns on.)
- Turn on power source switch of Automatic Screw Feeder.

## 5-5. Adjusting screw sensor

To operate the unit, an adequate amount of screws should be supplied on the scooper of Automatic Screw Feeder. In order to supply the screws to the scooper, adjust the screw sensor according to the following instructions:

- 1) Identify that the scooper of Automatic Screw Feeder is empty and turn on power source switch of Automatic Screw Feeder.
- 2) Turn the screw sensor adjuster, illustrated below, slowly from MIN to MAX direction and stop turning at the point where LED starts to blink.
- 3) Then, turn on the Auto/Manual Changeover Switch (built-in lamp turns on.)
- 4) Identify that LED starts to blink as the scooper of Automatic Screw Feeder moves up and down.  
The adjustment will be completed if the belt conveyor starts to run after LED blinked three times.

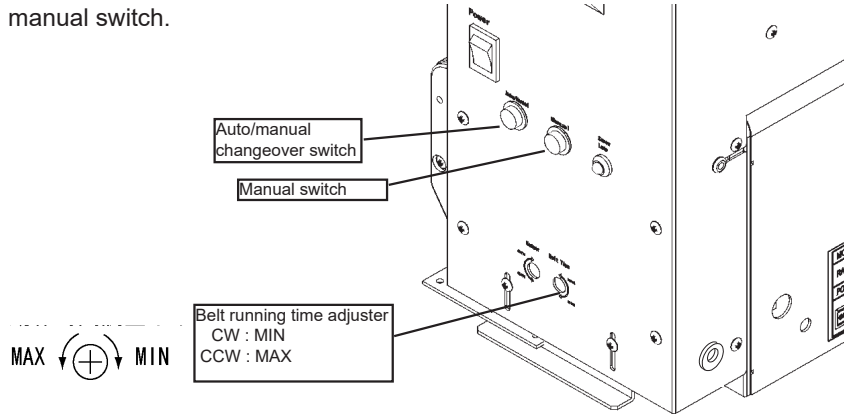


## 5-6. Adjusting belt running time

The belt conveyor carries the screws and drops them on the scooper of Automatic Screw Feeder. The belt reverses for a certain period of time after rotating for a time adjusted by the volume. However, if the belt runs too often, or the screws overflow even on the rail of Automatic Screw Feeder, adjust the belt running time. Turn the belt running time adjuster to maintain an appropriate belt running time. Turn the adjuster to MIN direction for the short time running and to MAX for long.

To avoid the overflow of screws in Automatic Screw Feeder, set the belt running time short.

To identify the belt running time, turn off the Auto/Manual Changeover Switch (built-in lamp turns off), and press the manual switch.



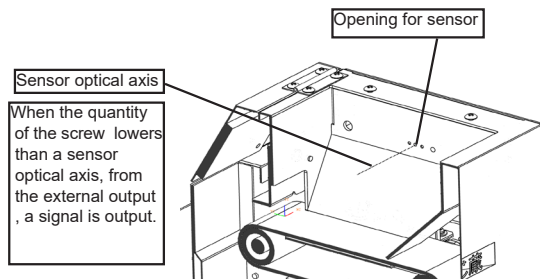
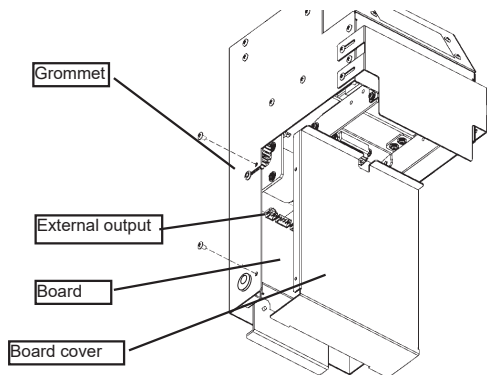
## 5-7. Adjustment of the screw rate adjusting plate

- Close the screw gate with the screw gate adjusting plate (see page 7) and fill the hopper with the screws.
- Open the screw gate adjusting plate. Adjust it according to the screw size (narrow for the short sized screws and wide for the long sized.)

## 5-8. Checking screw amount in hopper.

Nejikura is equipped with the signal cable and sensor to check and tell the amount of screws in the hopper. If you want to install an additional screw hopper on Automatic Screw Feeder, follow the installation procedures stated below.

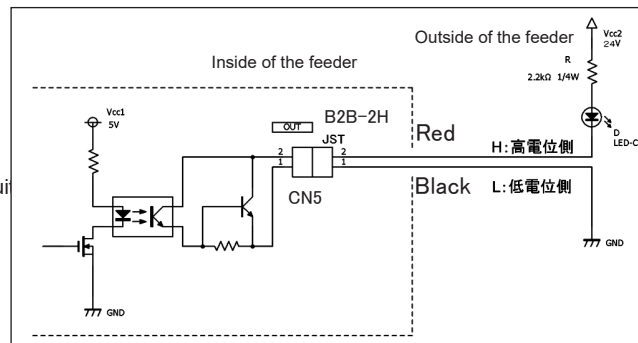
- 1) Remove the base cover (unscrew four places.)
- 2) Connect the supplied external signal cable to the external output connector and pull it out through the grommet.
- 3) Return the base cover.
- 4) Connect lamp and buzzer to the signal cable.



[Function]: Screw present: signal high (ON)  
 Incoming current: shall be limited to less than 100mA  
**\*\*CAUTION:** Additional resistor is required on external circuit regulating current \*\*

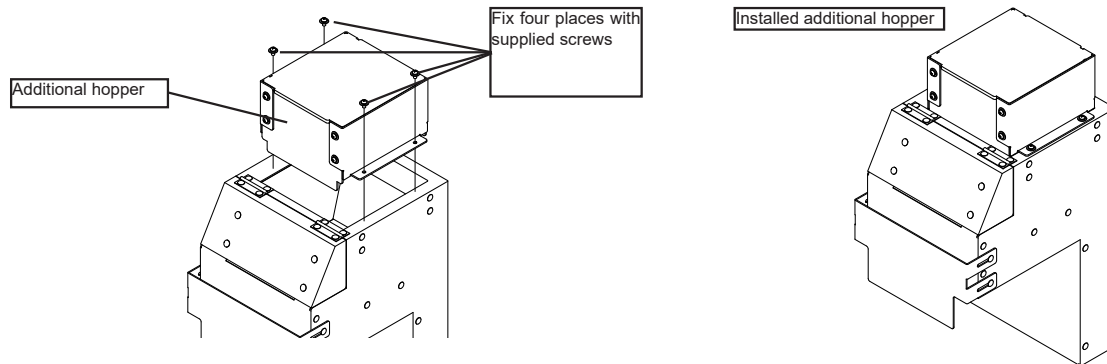
[Capacity]: Max DC current: 100mA  
 External supply voltage: 5 ~24VDC (Max: 27VDC)

[caution]: Please keep the length of output signal wire less than 3m;  
 \* The red wire functions as signal output high (Collector end), with the black wire as common (Emitter end)



## 5-9. Installation of the additional hopper

· Install the additional hopper to Automatic Screw Feeder according to the following illustration.



## 5-10. Overload protective circuit

This machine is equipped with an overload protective circuit.

If an overload is applied to the motor, such as when a screw is caught in the rotating, the drive motor will reverse for a certain period of time.

When the cause of overload disappears during reverse rotation, it returns to normal normal rotation.

If the cause of the overload does not disappear during reverse rotation, the rotation will stop after repeating reverse rotation-forward rotation-reverse rotation-normal rotation ... for a certain period of time. In this case, the power switch lamp blinks.

To recover, turn off the power switch to eliminate the cause of the overload, and then turn the power on again.

## 6. TROUBLESHOOTING

Please check the following items, if problems occurred during operation.  
If the problem is still not resolved, please consult your dealer.



**CAUTION** Before you conduct the corrective action, be sure to turn off power source switch.

SYMPTOM	CAUSE	CORRECTIVE ACTION
The switch lamp does not light even when the power switch is turned on.	<ul style="list-style-type: none"><li>• Power is not supplied.</li><li>• The AC adapter has failed.</li></ul>	<ul style="list-style-type: none"><li>• Please confirm that AC100-240V is supplied to the outlet and if AC power adapter is properly connected.</li><li>• Contact your dealer.</li></ul>
The unit does not work despite power switch is turned on.	<ul style="list-style-type: none"><li>• There is enough screw in the automatic screw feeder.</li></ul>	<ul style="list-style-type: none"><li>• In the automatic mode, check if the automatic screw feeder operates when the number of screws decreases.</li></ul>
Screw does not come out. The belt does not rotate even if the manual switch is pressed in the manual mode.	<ul style="list-style-type: none"><li>• Insufficient opening of screw adjustment plate.</li><li>• Oil has adhered to the belt.</li></ul>	<ul style="list-style-type: none"><li>• Open the screw adjustment plate as long as the screw length you want to use.</li><li>• Clean the belt with alcohol etc.</li></ul>

SYMPTOM	CAUSE	CORRECTIVE ACTION
<p>The machine does not supply screws even if the number of screws in the automatic screw feeder is low.</p>	<ul style="list-style-type: none"> <li>• Auto switch is off (LED lamp is off)</li> <li>• The screw detection sensor is dirty.</li> <li>• The screw detection sensor adjustment is incorrect.</li> </ul>	<ul style="list-style-type: none"> <li>• Turn on the Auto switch (LED lamp lights).</li> <li>• Clean the sensor.</li> <li>• Make the adjustment referring to 5-4.</li> </ul>
<p>The supply does not stop even though there is an appropriate amount of screws in the automatic screw feeder.</p>	<ul style="list-style-type: none"> <li>• The screw detection sensor is dirty.</li> <li>• The screw detection sensor adjustment is incorrect.</li> </ul>	<ul style="list-style-type: none"> <li>• Clean the sensor.</li> <li>• Make the adjustment referring to 5-4.</li> </ul>
<p>A green lamp blinks while in use by automatic mode.</p>	<ul style="list-style-type: none"> <li>• There are no screws in the Nejikura hopper.</li> <li>• A screw is caught on the way.</li> <li>• Automatic screw feeder not working.</li> </ul>	<ul style="list-style-type: none"> <li>• Fill Nejikura with screws.</li> <li>• Check that the screws are not caught on the gap adjustment plate.</li> <li>• If the sensor does not change even if the belt rotates three times, the operation stops once to prevent overfilling. When the automatic screw feeder operates and the sensor changes, it resumes operation.</li> </ul>
<p>The motor is rotating, but the belt is not rotating.</p>	<ul style="list-style-type: none"> <li>• The drive belt is damaged.</li> </ul>	<ul style="list-style-type: none"> <li>• Contact your dealer.</li> </ul>



## 7. SPECIFICATIONS

Power AC adapter (Switching type)	Input: AC100~240V 50/60Hz Output: DC15V 1A
Dimensions	130 (W) × 171 (D) × 245 (H) (mm) With additional hopper: 295(H)
Weight	Approx. 3.1Kg
Following accessories	Operation Manual 1 copy AC Adapter 1 unit Additional hopper (with lid) 1 unit Stocker mounting screw (M2.6 × 5) 4 piece Allen wrench 1 piece Adjustment screw driver 1 pc External signal output cable 1 piece Ground wire 1unit 【Below, only for T-510F】 Stand 1 unit Screws to fix the stand (M2.6 × 5mm) 3 pieces
Installation location	Level stable place
Installation and storage condition	Temperature 0~40°C Humidity 10 to 85% (without condensation)
Compliance standards	EMC: 2014/30/EU MD: 2006/42/EC RoHS: 2011/65/EU
Compatible screw size	M1. 0~M6. 0
Compatible screw lengths	Up to 25 mm
Screw sensor	Photometric sensor
Screw capacity	Original unit : 400cc / With additional stocker : 800cc
Possible number of screw stored (800cc)	M2.3 × 5 / About 20,000 screws M3.0 × 6 / About 5,600 screws

Nejikura Type	Corresponding Automatic Screw Feeder
SR-80	NSB/NSR/NSBI/NSRI Series
NJ-80	NJ/NJR Series
NJ-80F	FM-36/FME-36 Series

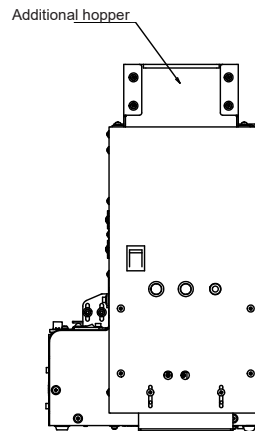
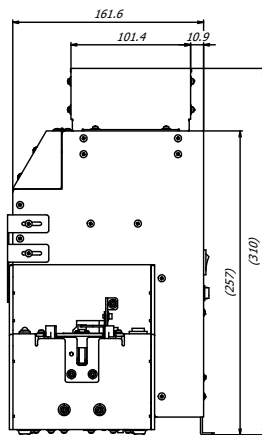
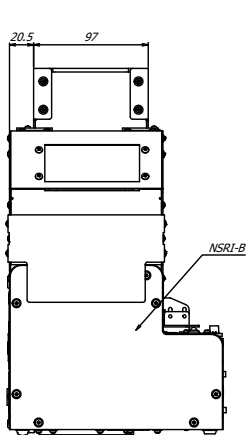
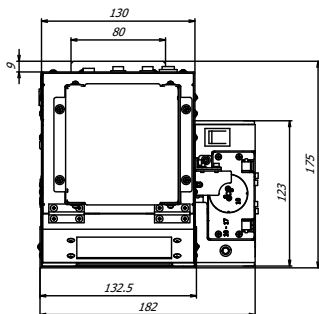
### Note)

- Within the specified range of screw dimensions, instances may occur where unique shape or type of screws which cannot be compatible with the automatic screw hopper. Please adjust the amount of screws stored in the hopper, so the supply of screws can be more efficient.
- There may be additional changes or modifications to the machine, which are not included in this operation manual.
- The noise of this unit is less than LAeq 70 dB at a distance of 1 m.
- This product complies with EU directive. Please check the EU Declaration of Conformity for compliance standards.

## 8. EXTERNAL DIMENSION

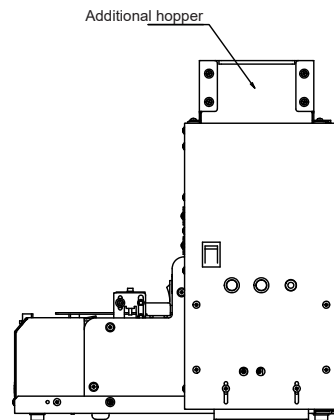
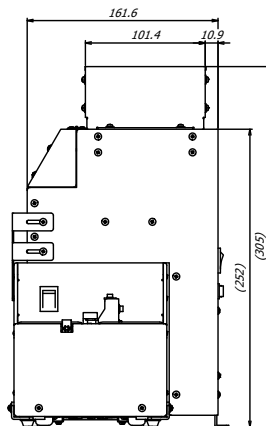
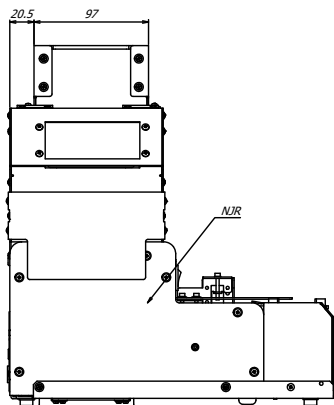
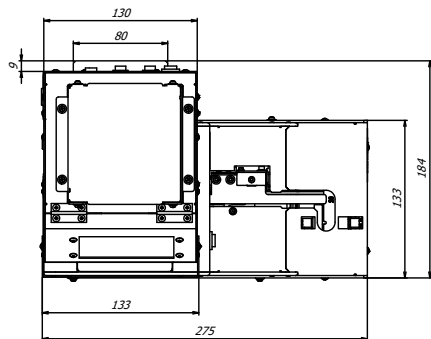
T-510S

[unit : mm]



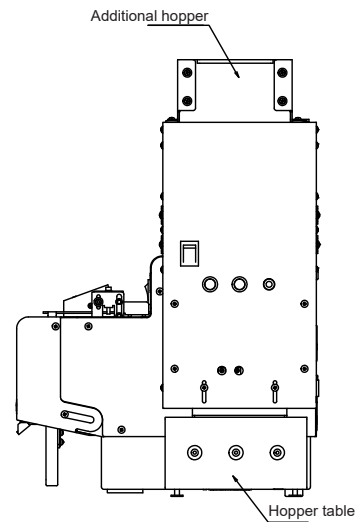
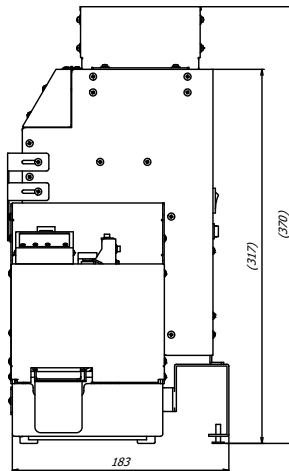
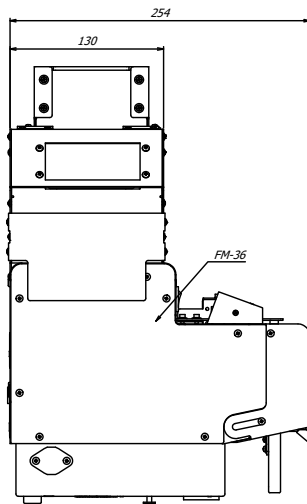
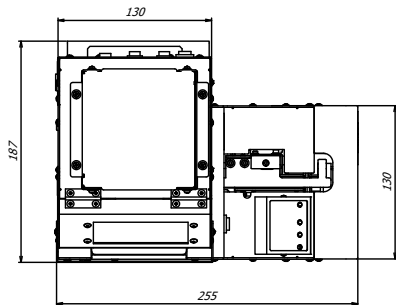
T-510J

[unit : mm]



T-510F

[unit : mm]



## 9. WARRANTY

For users within Japan, the effective term of warranty is 6 months after delivery.

Such warranty will not be applicable to purchases or users outside of Japan.

If any troubles should occur, please contact your dealer.

After the warranty period, repair services will be provided.

In the following cases, the customer shall be responsible for parts and labor regardless of the terms of warranty:

- ① Failure due to improper handling.
- ② Failure due to product modification or improper processing.
- ③ Failure due to causes beyond control (for example earthquake or fire).
- ④ Failure attributable to any cause other than this product.
- ⑤ Consumables (Driving belt, Driving motor) and replaceable parts and replacement work expenses.

The repair parts shall be available within 5 years after purchase.



RoHS



Please note that on disposal, this product may be safely recycled in accordance with the relevant national legislation relating to electrical/ electronic products. If in doubt please contact your retailer for guidance.

部品名称	有毒有害物質或元素					
	鉛 (Pb)	汞 (Hg)	鎘 (Cd)	六价铬 (Cr(VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
驱动齿轮,轴心部件	×	○	○	○	○	○
螺钉	×	○	○	○	○	○
六角铜柱	×	○	○	○	○	○
电路板元件	×	○	○	○	○	○
连接器	×	○	○	○	○	○

○：表示該有害物質在該部件中的含量均在GB/T 26572-2011規定的限量要求以下。  
 ×：表示該有害物質至少在該部件中的某一均質材料中的含量超出GB/T 26572-2011標  
 准規定的限量要求。

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