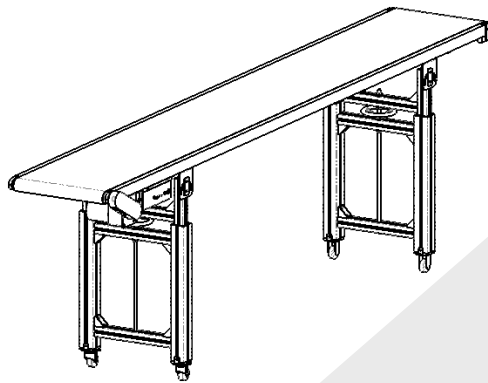


STAR

ECONO CONVEYOR

SEC-CCY



Read This Manual before Operating

OPERATION MANUAL

Notice:

Read through this operation manual before operating the conveyor. Always observe cautionary items written in this manual strictly. Keep this manual at a place where you can refer to it at any time.

INTRODUCTION

Thank you for purchasing the “ECONO COVEYOR”. This operation manual describes the conveyor’s functions, how to operate it, and the precautions when using it. Please read this manual thoroughly in order to understand the features of this conveyor better and use it more efficiently.

Features

- Because of aluminum frame and polyurethane belt, the structure is light and compact.
- Intermittent operation can be finished in interlock with external signals from an Unloader or the like , so that the tact amount of the mold can be easily changed.
- Belt surface is flat and can be used as a plarform if necessary.

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1 Related Safety Information


Improper operation of this product can cause failure or accident. Be familiar with safety precautions described in the operation manual and also be careful for related operations.

1-1 Safety-Precaution Indications

Safety-precaution indications which recorded in this manual are divided into 3 kinds.

 DANGER	Ignorance of this precaution may cause serious injuries even death.
 WARNING	Ignorance of this precaution n may cause serious injuries or serious damage to unloader.
 CAUTION	Ignorance of this precaution may cause injuries or damage to unloader.

●About Important Issues

Important issues are marked with  in this manual.

1 Related Safety Information

1-2 Safety-Precautions



DANGER

- Any operator is forbidden to sit on the conveyor

Never attempt to sit on the conveyor. If an operator sits on the conveyor, the conveyor will be unstable and operator may fall down and get injured.

- Maintenance is not allowed during conveyor running

Never attempt to maintain the conveyor while it is running. Before maintenance, be sure to turn off the machine: (1) Turn off the power of the control box. (2) Turn off the power.



WARNING

- Wear appropriate work clothes

Do not wear loose clothes and ornaments when working beside a conveyor, or clothes and ornaments maybe caught in the machine and get the worker seriously injured.

- Never attempt to modify the conveyor

Do not redesign, rebuild, or otherwise modify the conveyor. Our company will not be responsible for accidents or damage caused by modified equipment.

- Be sure to earth the conveyor

Please make sure the single-point earthing works fine in order to prevent serious electric shock.

- Use non-fuse switch

To avoid the risk of fire due to over current, a non-fuse circuit breaker must be used in the circuit of power source.

- Do not the open the cover of power box

High voltage exists within the power box. Opening the cover may cause serious electric shock.

- Do not remove the chain cover during operation

Operating the conveyor with the chain cover removed may cause the risk of getting the worker caught or pinched in the machine.

1 Related Safety Information

- **Do not touch the conveyor belt while the conveyor is running**

Never put your hands inside the conveyor belt while it is running, or the risk of getting hands caught or pinched in the conveyor driving rollers may be caused.

- **Stop operation during frequent power outage.**

The machine should be stopped during frequent power outage due to thunderstorm or other such external events. Operating with an irregular power supply may cause equipment damage. If you cannot find the cause of failure, please contact the service engineers of our sales dept.



CAUTION

- **Designate a management**

A management should be designated in order to prevent accidents caused by manual operation errors and poor safety check when 2 or more operators are operating a conveyor.

- **Reserve enough maintenance space**

For safe operation, please reserve at least 1 cubic meter maintenance space around the conveyor. Do not put anything into this area.

- **Keep the machine clean and tidy**

Always keep the machine clean and tidy and keep enough illumination.

- **Regular check and maintenance**

Check and maintain the device regularly to make sure it is in safe operating condition. Should you have any question, please contact us.

- **Stop operation in case of failure or other problems**

If the conveyor is abnormal or broken, do not keep operating the conveyor. The conveyor should be stopped immediately. Operation can only be continued after our technicians checking the conveyor.

- **Never touch the switches with wet or dirty hands**

Touching switches with wet or dirty hands will cause conveyor failure or operator electric shock.

1 Related Safety Information

- **Stop all devices linked to the conveyor during check**

Before check, maintain, modify, clean or lubricate the conveyor in the conveyor's moving range, be sure to shut down not only the conveyor itself but also all devices linked to it. A mistaken operation will cause serious casualty.

- **Read through this manual**

Read the operation methods and precautions in this manual carefully and obey the instructions during operation.


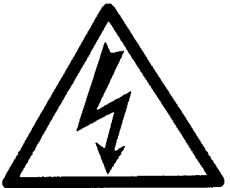
1 Related Safety Information

1-3 Precaution Labels

■Kinds of Precaution Labels

※Including some precaution labels which are not used on this conveyor.

● Caution for high voltage electric shock

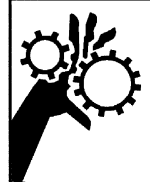
	<p>Make sure to turn off the breaker of control box while maintenance. Especially during maintenance inside the box, disconnect the cable with IMM and turn off primary power supply of the factory.</p>
 <p>Caution, electric shock</p>	<p>This precaution labels are marked at where there are high voltage and electric shock may be caused (such as terminal block etc.).</p>

1 Related Safety Information

● Caution for danger of chopping



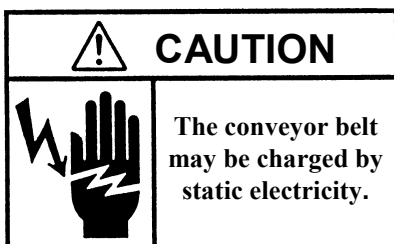
DO NOT TOUCH!



DO NOT TOUCH!

During working in operating area for maintenance or other purposes, do not touch rotary axis, gear, pulley belt which have danger of enfolding you. Turn off power supply while working.

● Caution for static electricity



The conveyor belt may be charged by static electricity.

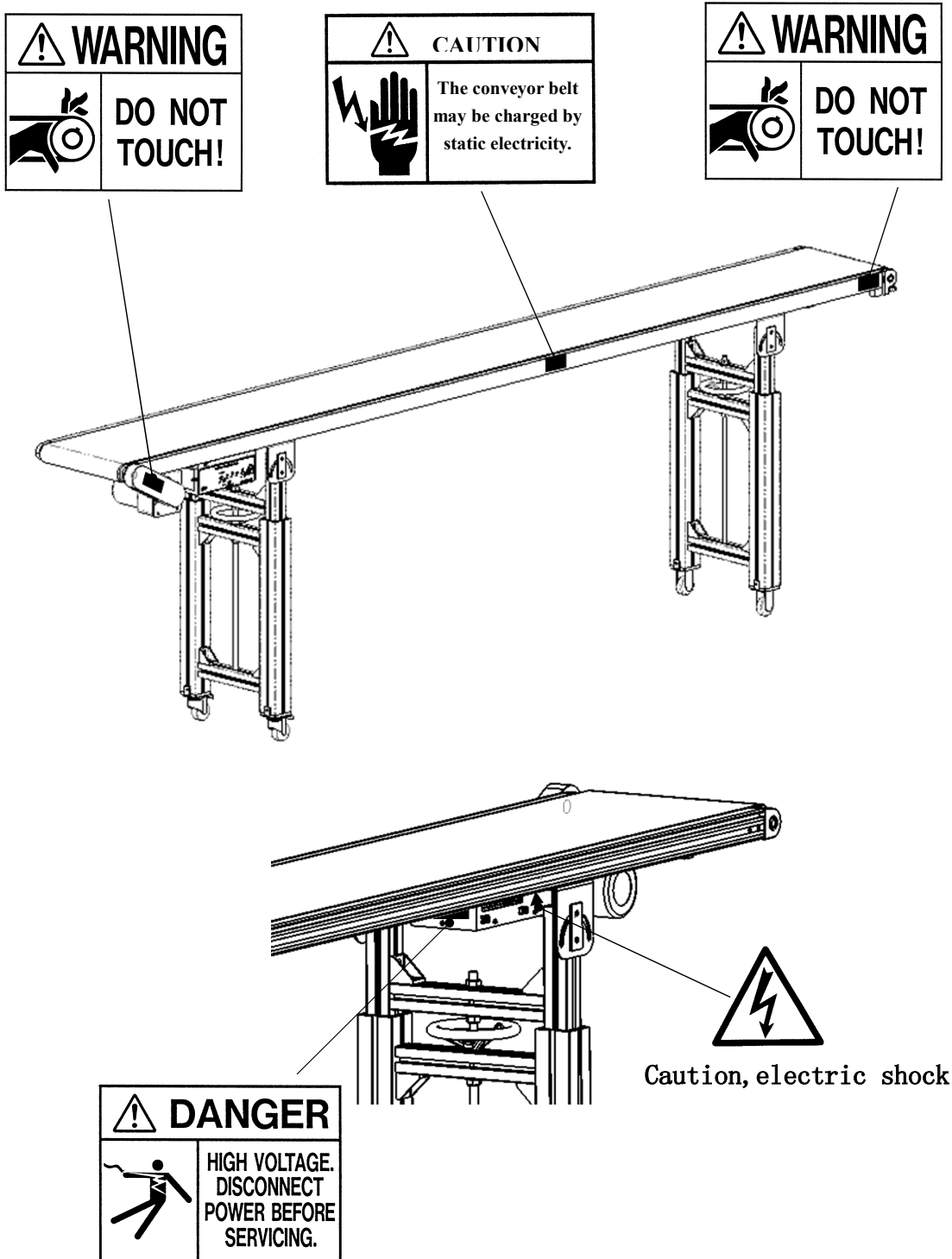
The conveyor belt or the product on the conveyor may be charged by static electricity. You may be shocked by electric when approaching.

1 Related Safety Information

■Locations of Precaution Labels

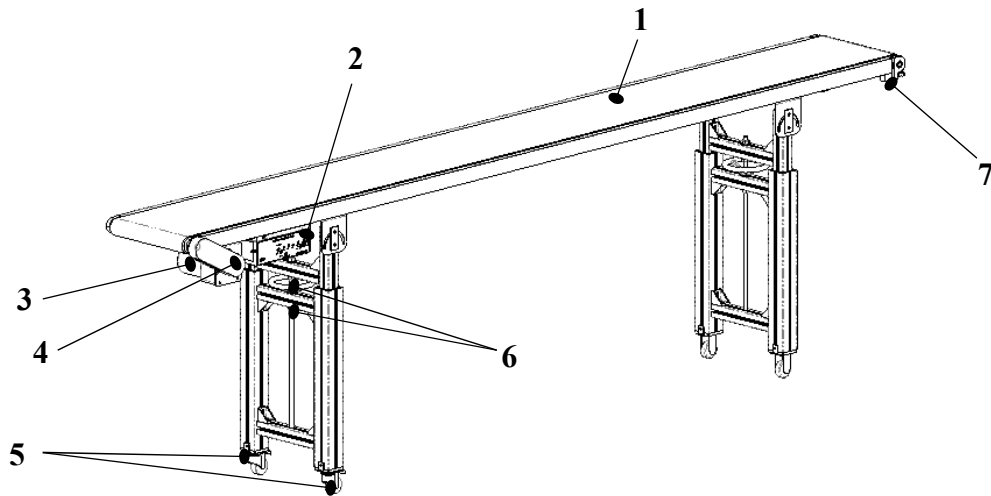
The locations of precaution labels are marked on the following picture.

●Picture of Conveyor



2 Name and Function of Each Part

2-1 Name of Each Part on Conveyor



① **Conveyor Belt**

This is a special belt made of polyurethane resin.

② **Control Box**

This box is used to set and operate the conveyor.

③ **Motor Reducer**

The power supply of conveyor. The speed varies according to the type of conveyor.

- Standard specification: 1-3m/min.

Note: this standard specification is measured at a frequency of 60 Hz.

④ **Chain Cover**

Open this cover before modifying, maintaining or check chain gears.

⑤ **Castor**

Castors are used to move the conveyor. Lock them with the stopper after assembling the conveyor.

⑥ **Height Adjusting/Mounting Nut**

These nuts are used to adjust the height of legs. Please first loosen these mounting nuts and adjust the height. After adjustment, tighten the nuts.

⑦ **Tension Adjusting Bolts**

These bolts are used to adjust the tension of conveyor. After adjustment, tighten the bolts.

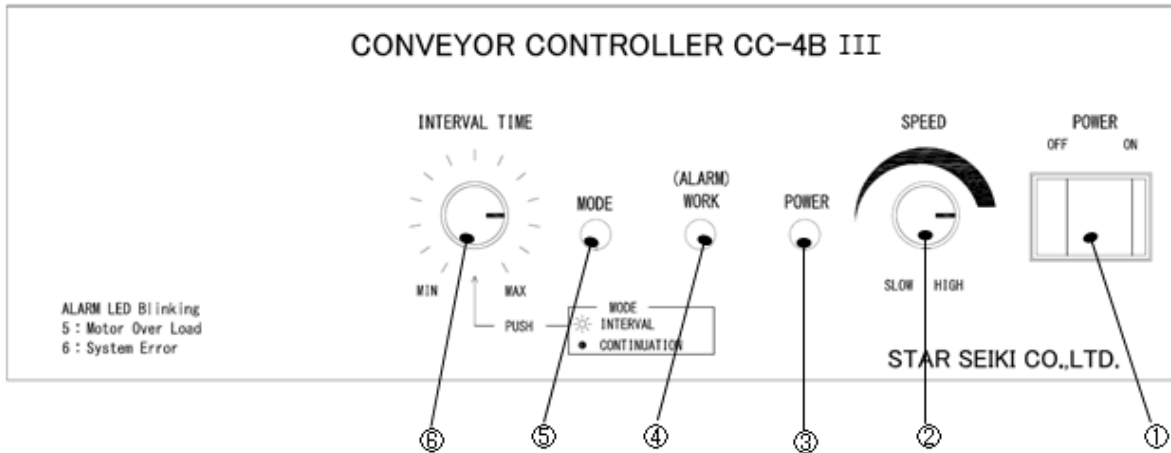
POINT 

Do not tense the belt too much. Adjust the bolts on both sides uniformly.

2 Name and Function of Each Part

2-2 Name and Function of Each Part in Control Box (Operation Screen)

■Standard Specification (CC-4B III)



① Power Switch

Turn on/off the power of conveyor.

② Speed Setting Switch

This switch is used to set the speed of product delivery.

Setting range: 1~3m/min

Note: this speed is measured at a frequency of 60Hz.

③ Power LED

This LED is on when turning on the power.

④ Working LED

The green LED is on when conveyor works normally. The green LED flashes when alarming.

⑤ Mode LED

This LED is on when conveyor works in interval mode.

⑥ Mode Selecting Switch

This switch is used to shift modes (Press)

- INTERVAL.....Conveyor start signal is input from an Unloader. Conveyor works in the setting time of timer.

- CONTINUATION.....The conveyor works continuously.

Product Delivery Timer (Rotate)

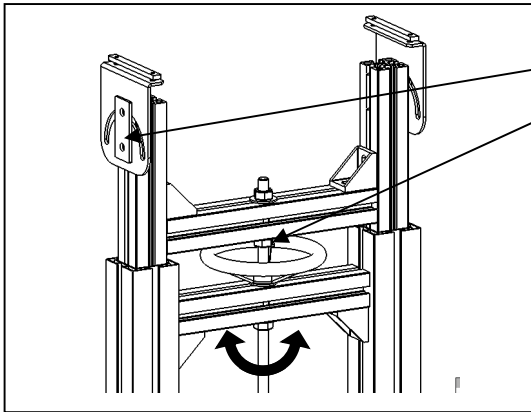
After pressing switch No.6 and select interval mode, please rotate the switch No.6 to set the time interval for the conveyor to deliver products.

3 Operation Method

3-1 Adjustment

When assembling a conveyor, please fix the castors and do the following adjustments.

■ Height Adjustment



Please refer to the picture, first loosen the mounting nuts by a monkey wrench, then rotate the hand wheel to adjust the height of conveyor.

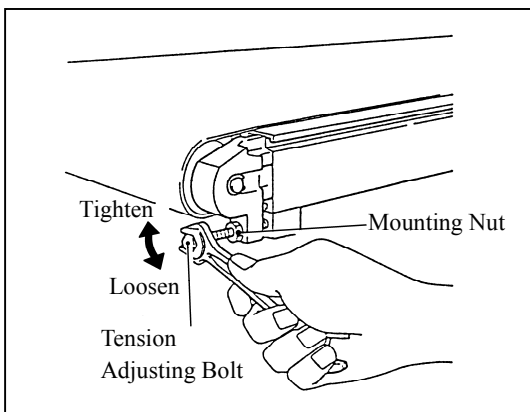
※Please tighten the nut after adjustment.

■ Belt Tension Adjustment



CAUTION

Adjust the belt tension only when the conveyor belt is snaking or the conveyor driver roller is idling. Or, there is no need to adjust the belt tension.



Adjust the belt tension by the tension adjusting bolts at both sides of move in side if necessary.

POINT



Do not tense the belt too much. Adjust the bolts on both sides uniformly. After adjustment, please tighten the nuts.

3 Operation Method

3-2 Power Supply

The following are the connecting methods of power wire and conveyor start signal wire.

⚠ DANGER

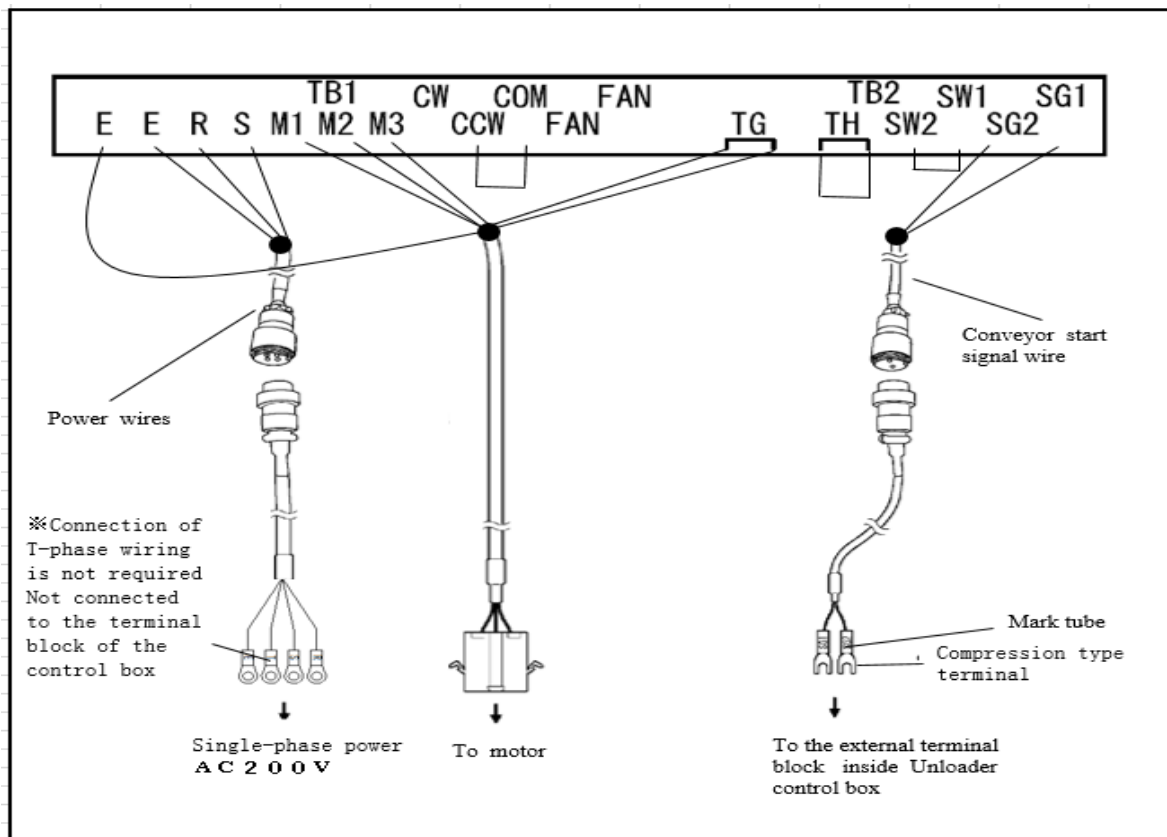
- Please turn off the power (supply side) before wire connecting.
- For instruction of connecting conveyor start signals (SG1 and SG2), please refer to the manual of Unloader control box. Besides, if inputting conveyor start signals from other devices instead of Unloader made by our company, please first contact the service engineers in our sales dept. before using. Because the electric circuit maybe damaged by incorrect connection methods.

⚠ WARNING

Please turn off the power (supply side) before connecting or disconnecting wires. Or, operators may get electric shock.

●Standard Specification

All the wiring of the outlet



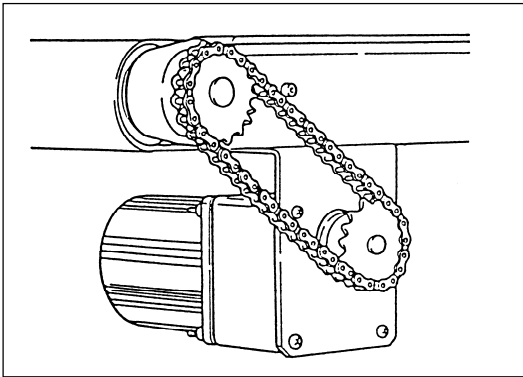
3 Operation Method

Signal Table

	Pin	Signal	Note
TB1	1	FAN	Cooling Fan (90W)
	2	FAN	Cooling Fan (90W)
	3	COM	Motor rotation direction control common terminal
	4	CCW	Motor rotation direction control forward terminal
	5	CW	Motor rotation direction control reverse terminal
	6	M3	Motor Power Output
	7	M2	Motor Power Output
	8	M1	Motor Power Output
	9	S	S-Phase of AC Input
	10	R	R-Phase of AC Input
	11	E	Earthing
	12	E	Earthing

TB2	1	SG1	Start Signal	
	2	SG2	Start Signal	
	3	SW1	External Option Switch. OFF: Internal Mode; ON: Continuation Mode.	
	4	SW2		
				Please short-circuit these signals by jumper when not using external option.
	5	TH	Signal Input of Motor Temperature Sensor	
	6	GND	GND	
	7	TG	Signal Input of Motor Speed Sensor	
8	TG	Signal Input of Motor Speed Sensor		

4 Maintenance and Check



Open the chain cover and grease the chains with bush every 6 months.

CAUTION

After maintenance or check, assemble the chain cover back to its place. Or, operator may get chopped by the chains.

5 Reference Data

5-1 Mechanical Specification

■ Standard Specification

Model	Overall Length (mm)	Belt Width (mm)	Height (mm)	Power Supply	Speed	Maximum Payload (Type A) (kg)	Total Weight (kg)
SEC2000-3CCX	2000	300	Setting range: 900~1300 The oblique angle can be adjusted.	Standard Specification AC200V (Single-Phase) 40W	1~3 m/min (Option) 1~8m/min (60HZ)	Please refer to the attached.	42
SEC2000-4CCX		400					46
SEC2000-5CCX		500					51
SEC2000-6CCX		600					56
SEC3000-3CCX	3000	300					50
SEC3000-4CCX		400					56
SEC3000-5CCX		500					63
SEC3000-6CCX		600					69
SEC4000-3CCX	4000	300					68
SEC4000-4CCX		400					75
SEC4000-5CCX		500					86
SEC4000-6CCX		600					95
SEC5000-3CCX	5000	300					73
SEC5000-4CCX		400					86
SEC5000-5CCX		500					96
SEC5000-6CCX		600					107

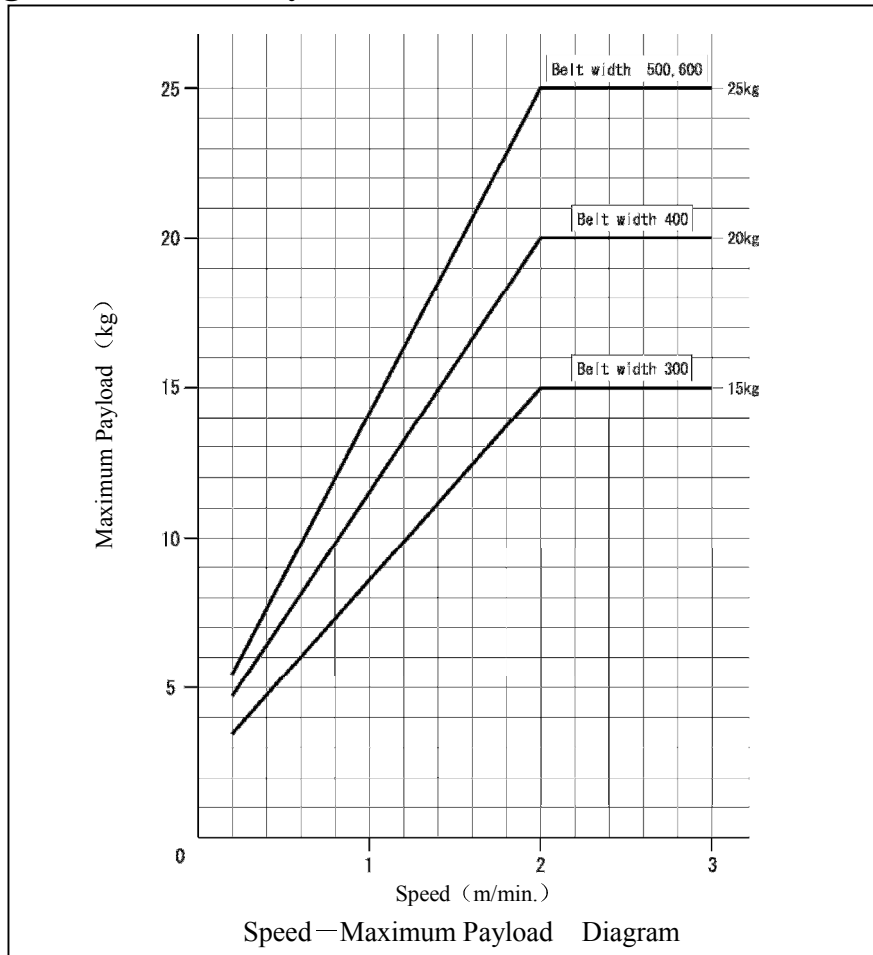
Please use belt made of polyurethane resin under the frequency of 60HZ.

※1...Please contact us about the power/input information when the conveyor is used abroad.

5 Reference Data

■ Standard Specification (Speed Variable Motor)

Drawing of Maximum Payload



5-2 Part List

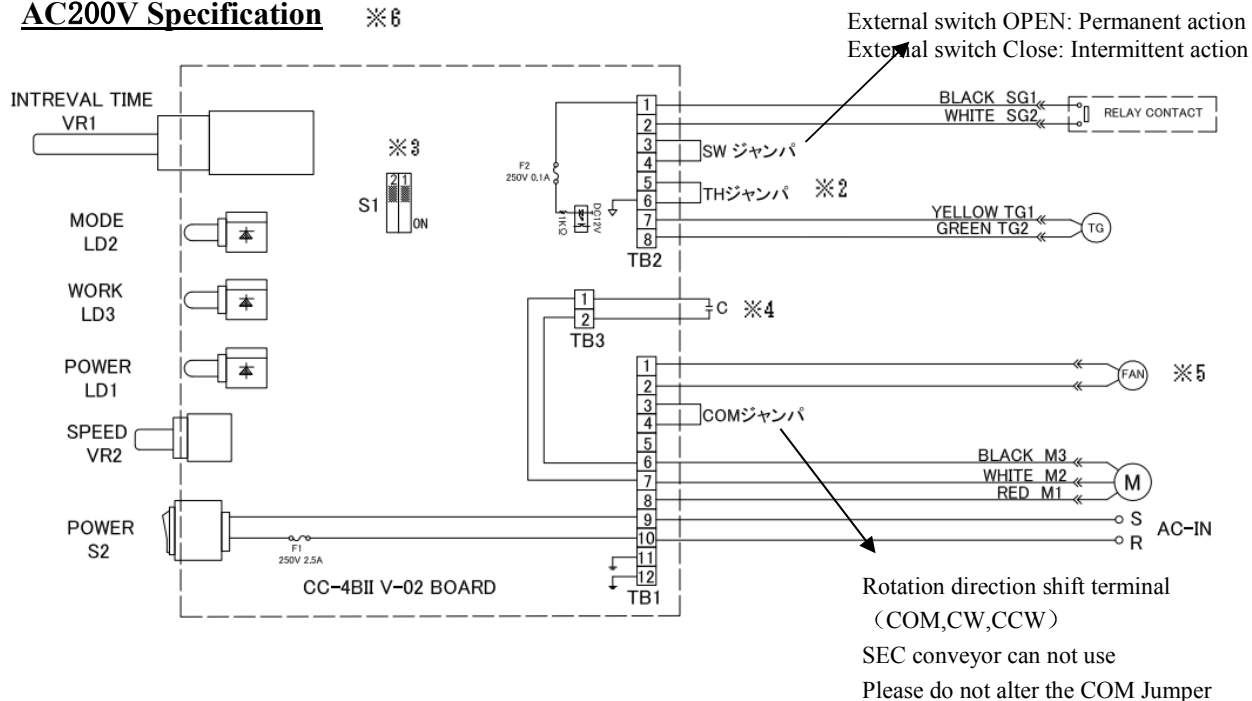
Name	Specification	Supplier	Quantity	Code No.
Single-Phase Induction Motor (Speed Variable)	M91X40GV4DGA 110V 40W	Panasonic	1	
Reducer	MX9G90B	Panasonic	1	
Polyurethane Resin Belt	SL-SY356	Bando	1	

5 Reference Data

5-3 Electric Drawing

■ Electric Drawing of Quick Conveyor (Standard Specification) ※1

AC200V Specification ※6



※1. Usage method of SW terminal

Under Intermittent action mode, if want to control the conveyor manually, please use SW terminal.

Please use B connection switch.

※2 Temperature fuse input terminal

SEC conveyor can not use.

※3 Time selection

S1-2: OFF According to the setting time of Interval Time (VR1) to perform the action.(Standard Mode)

S1-2: ON Interval Time (VR1) is invalid, SG1 2 is ON, execute the action.

Unloader need to control the time of the action, please use S1-2 ON

※4 The capacity of TB3 capacitor(The accessory of the Motor)

100V : 12uF/250V

115V : 10uF/250V

200V : 3uF/450V

220/230V : 2.5uF/450V

※5 If use 90W (Or above 90W) type of motor, need to connect the fan.

The supply voltage of the fan is the same as the output voltage of the conveyer.

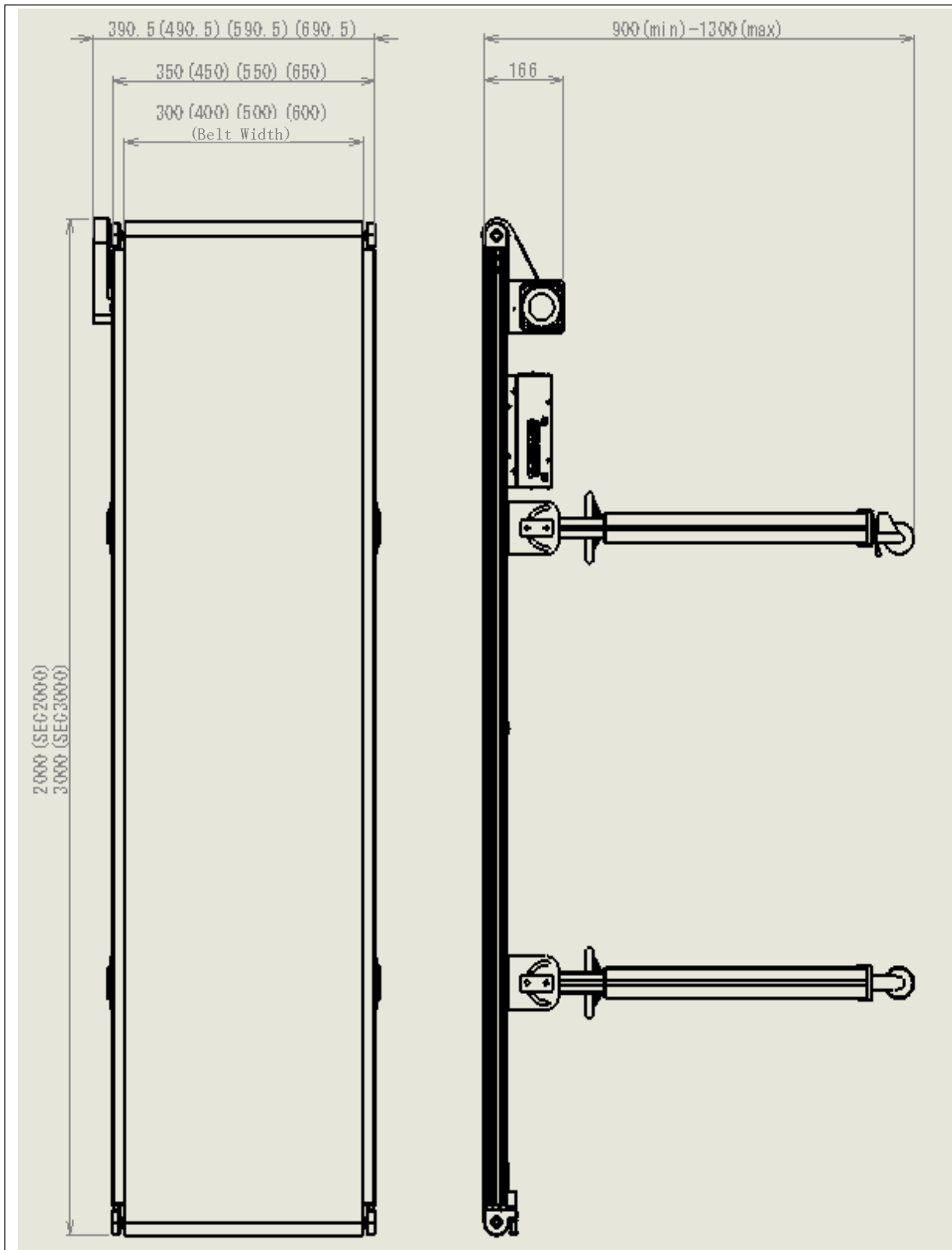
※6 The input voltage of the Board is AC100V or AC200V. Do not need power supply shift switch.

Due to the different voltage, the connection of the motor, TB3 capacitor etc. are also different. Please pay attention to it.

5 Reference Data

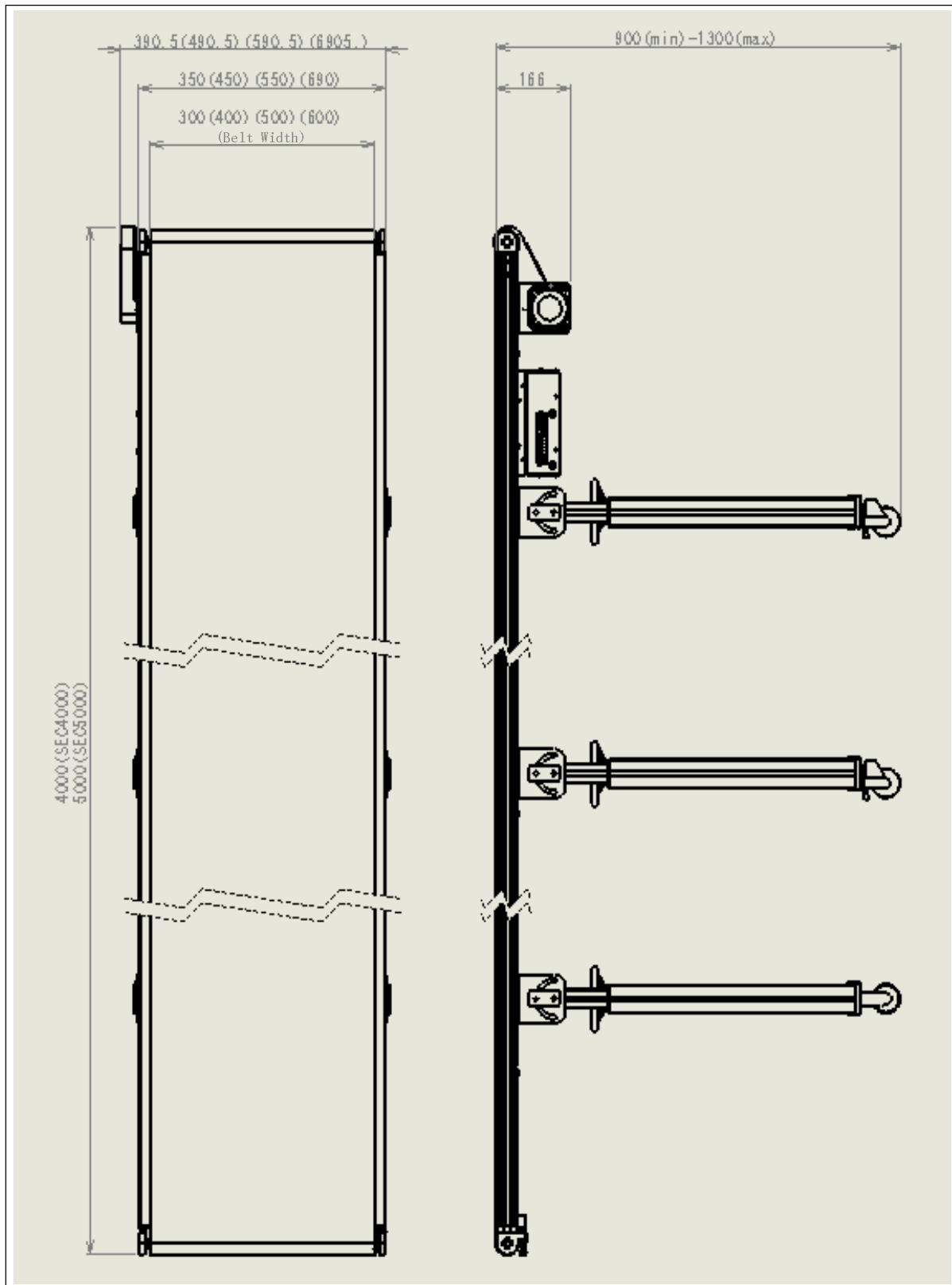
5-4 General Drawing

- SEC-2000、3000



5 Reference Data

■ SEC-4000、5000



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