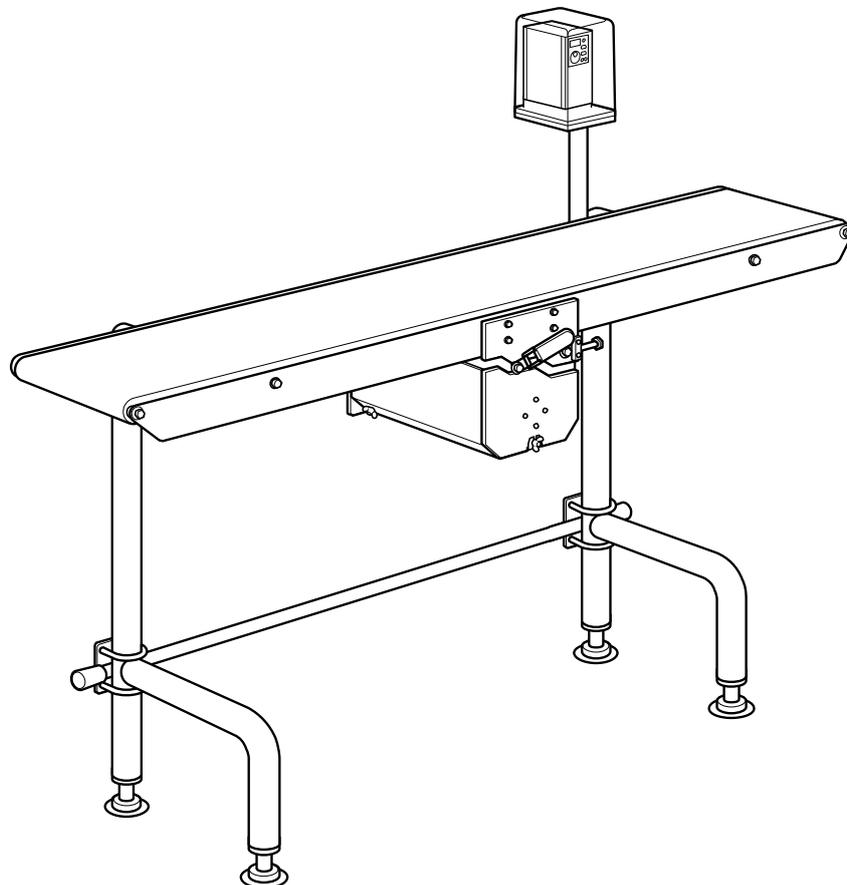


# BELQUICK/WQV

SANI-VEYOR® Quick-releasable Belt Type

## OPERATING AND SERVICE MANUAL



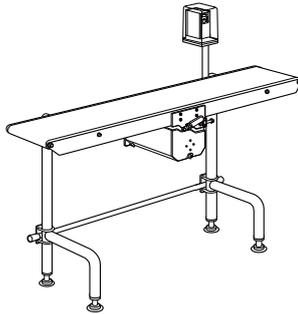
Thank you very much for purchasing our **SANI-VEYOR® Quick-releasable Belt Type BELQUICK/WQV**. To use the machine properly, please read this operating and service manual carefully before use. Keep the manual where the machine is installed, so that it may be referred to when needed.



#### TABLE OF CONTENTS

1. Caution When Handling .....	4
2. Component Names .....	6
3. Assembly .....	7
4. Running the Conveyor .....	10
5. Loosening/Removing the Belt .....	12
6. Taking up the Belt .....	14
7. Belt Alignment Adjustment .....	15
8. Geared Motor Replacement .....	17
9. Inspection and Maintenance .....	18

Upon delivery of this product, please check the package contents to ensure the product matches your order. If the delivered items do not match your order, please contact our local agent directly before use.



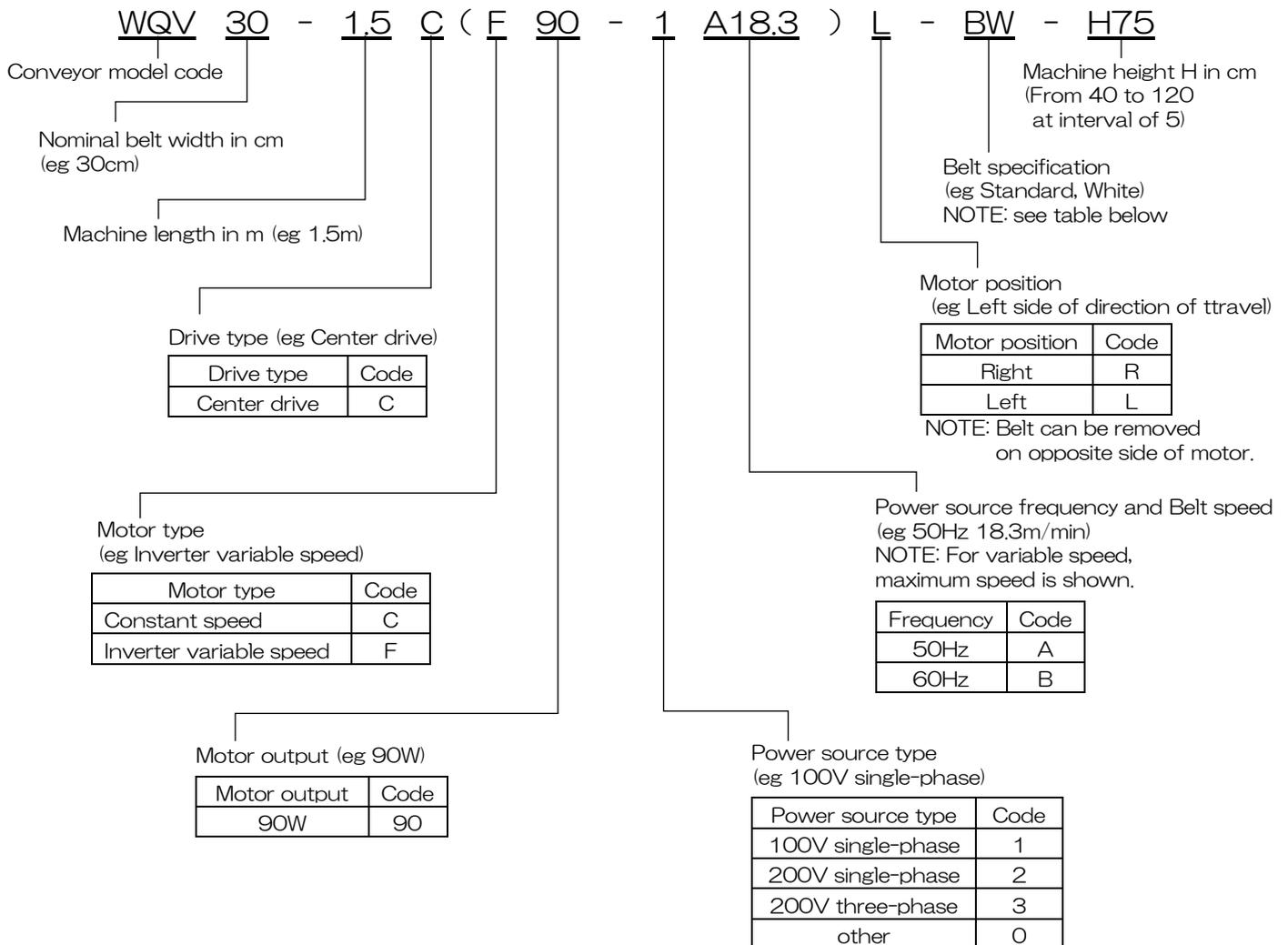
**Serial number and model label**  
(affixed to side of drive unit)

**Manufacturer's serial number**

(refer to this number when contacting us)

[ Example ]

Date of production 20□□.□□  
 JOB No. □□-□□□□-□□□-□□  
 WQV30-1.5C (F90-1A18.3) L-BW



**Belt specification**

Code	BG	BW	IG	IW	RG	EK	SG	SW	HW
Specification	Standard		Incline		Special rubber for inclines	Ultra anti-static	Sliding		Heat-resistant
Color	Green	White	Green	White	Green	Black	Green	White	White
Code	OG	OW	KW	KB	XG	XW	XB	XX	NO
Specification	Oil resistant		Antibacterial		Other				None
Color	Green	White	White	Blue	Green	White	Blue	Other	—

## A. Prior To Use

**CAUTION** : Improper handling of the conveyor may result in physical injury or damage!**■Transport and assembly**

When transporting and assembling the conveyor, pay special attention not to drop it in order to avoid physical injury or damage. When lifting by crane, pay attention to the balance of the conveyor.

**■Earth and leakage breaker**

Ensure the conveyor is connected to earth at all times to prevent electric shock. Also ensure that an earth leakage breaker is connected to the power supply.

**■Emergency stop**

Install an emergency stop device to immediately stop the conveyor in emergency.

**■Start alarm**

If it is not possible to supervise the operation of the full length of the conveyor from the operating position, install a start alarm for increased safety.

**■Keep the control unit etc. dry at all times**

The control unit etc. are not waterproof or drip-proof. Be sure to attach the cover to the control unit so that it will not get wet. Do NOT touch electrical parts with wet hands.

**■Do NOT use in an explosive atmosphere**

(Avoid explosive gas, explosive dust, etc.)

 When using in a high or inclined position:**■Lower cover and guard**

Install the optional lower cover or guard in order to prevent entry under the conveyor.

**■Guide rail, top and side covers**

To prevent objects from falling off the conveyor, install the optional guide rail, top and/or side covers.

**■Braking system**

When using the conveyor on an incline, it is recommended that an optional braking system be installed, in order to prevent reverse or other incorrect running of the conveyor.

**■Environmental conditions**

Ambient temperature	: 0°C to +40°C
Ambient humidity	: RH 90% max(Avoid condensation)
Atmosphere	: Indoor(Avoid corrosive gases, dust, etc.)
Elevation	: 1,000m or less

## NOTE :

- Using the conveyor in a strong electric field (eg near broadcasting devices or high- frequency welding machinery/equipment) could cause the conveyor to malfunction. In this case, install the conveyor at a sufficient distance. Alternatively shield completely to avoid any interference with the conveyor.
- Using an inverter to this machine could cause other machines to get effects of high-frequency. In this case, install the conveyor at a sufficient distance or shield completely.

## B. During Operation

	<b>WARNING :</b> Improper handling of the conveyor could result in serious physical injury or damage!
	■ <b>Do NOT touch the conveyor when it is running</b> There is considerable risk of being caught and injured by the conveyor.
 	■ <b>Do NOT ride on or climb on the conveyor / Do NOT go under the conveyor</b> There is considerable risk of falling or being caught and injured by the conveyor.
	<b>CAUTION :</b> Improper handling of the conveyor may result in physical injury or damage!
	■ <b>Beware of entanglement</b> When working close to the conveyor, take care not to get caught in the conveyor. There is considerable risk of being injured by the conveyor.
	■ <b>Do NOT remove safety covers</b> There is a risk of getting caught in the rotating parts such as pulleys. Only remove in case of maintenance or inspection.
	■ <b>Beware of heat. Do NOT touch the motor.</b> When the conveyor is running or immediately after it stops, do NOT touch the motor, control unit, etc. There is a risk of getting burned or injured by the heat.
	■ <b>Do NOT start the conveyor while it is loaded</b> The motor may become damaged due to overload. Additionally, the motors of variable-speed type machines may burn out as a result of running at excessively low speeds for long periods. Use the conveyor within the specifications, indicated in the instructions for use, and in the catalogue.
	■ <b>Do NOT apply force to ends of conveyor</b> Do NOT press down on, or hang off the sides of the conveyor. Injury may result from a toppling conveyor.  ■ <b>Secure the conveyor to the floor/ground</b> When using the conveyor, be sure to secure it to the floor/ground with anchor bolts etc. to prevent it from toppling irrespective of indoor use or outdoor use.

## C. After Use

	<b>CAUTION :</b> Improper handling of the conveyor may result in physical injury or damage!
	■ <b>Switch off the power after use</b> Ensure that the power is switched off when carrying out relocation, inspection, cleaning, etc. of the conveyor, otherwise there is a risk that the conveyor could start unexpectedly. When leaving the conveyor unused for a long period, take plug out of the outlet /connector to prevent electric shock or leakage.

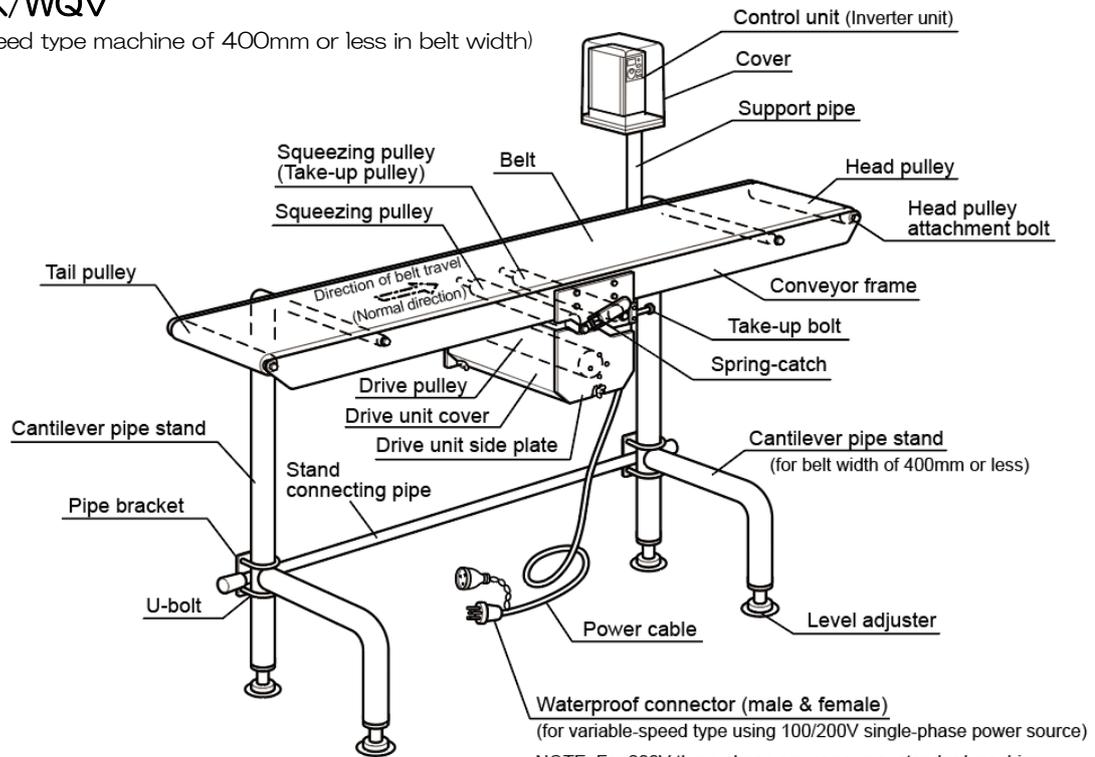
- NOTE: 1. Since salt and salt water cause stainless steel to get rusty and the belt to shrink, be sure to wash the conveyor with fresh water and completely dry it. Additionally, keep in mind that stainless steel may become rusty when it comes in contact with iron or iron powder.
2. Stainless steel is not used for the following parts. Keep in mind that these could rust: bearing, motor and electrical parts
3. Always use in accordance with the Occupational Safety and Health Act.
4. If the owner modifies the conveyor, any ill effects will fall outside the conditions of the guarantee.

# 2

## COMPONENT NAMES

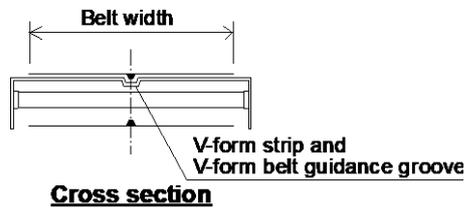
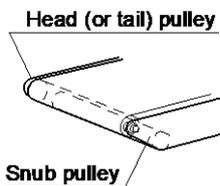
### BELQUICK/WQV

(eg Variable-speed type machine of 400mm or less in belt width)

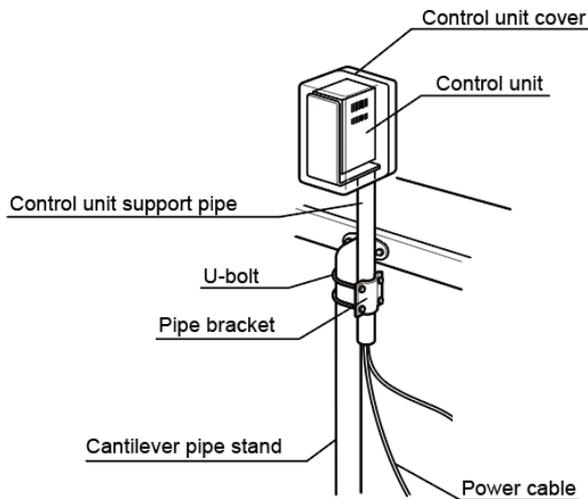


NOTE: For 200V three-phase power source, standard machine has power cable with terminals. For constant-speed type using 200V three-phase power source, standard machine has motor cable of 2m without terminal processing.

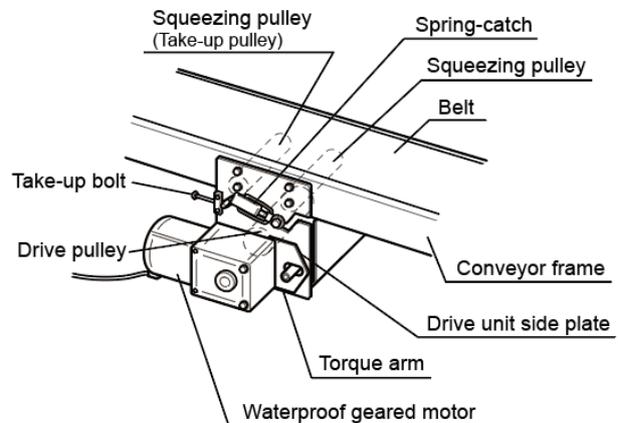
#### ● Snub pulley of head (or tail) unit (for machine length of 1.2m or less)



#### ● Rear of control unit



#### ● Drive unit (motor side)



# 3

## ASSEMBLY

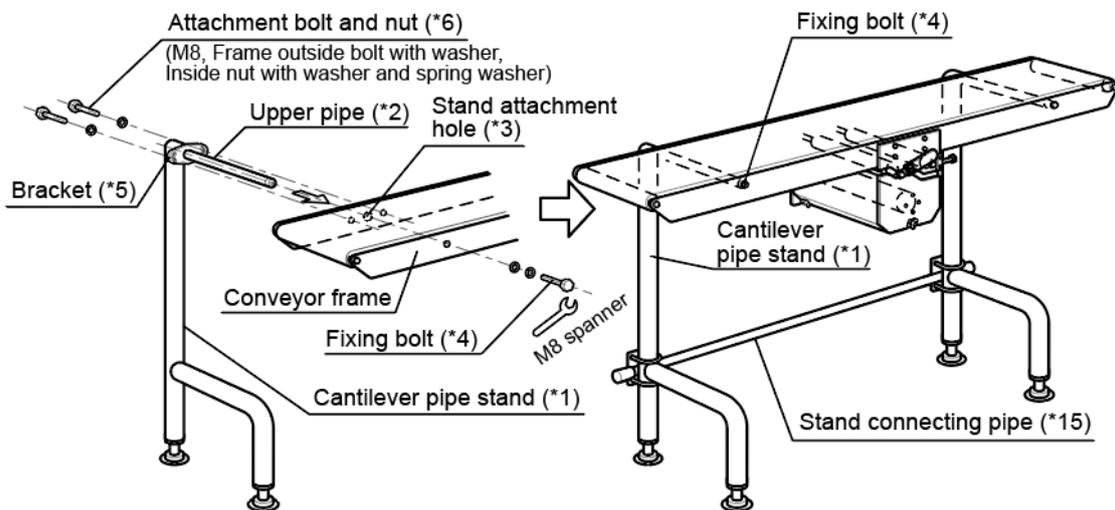
### 3-1. INSTALLING STANDS

NOTE: If machine length exceeds 2m and frame is delivered divided, install stands after assembling joints of frame. (→See “3-2. JOINING FRAMES” , p.8.)

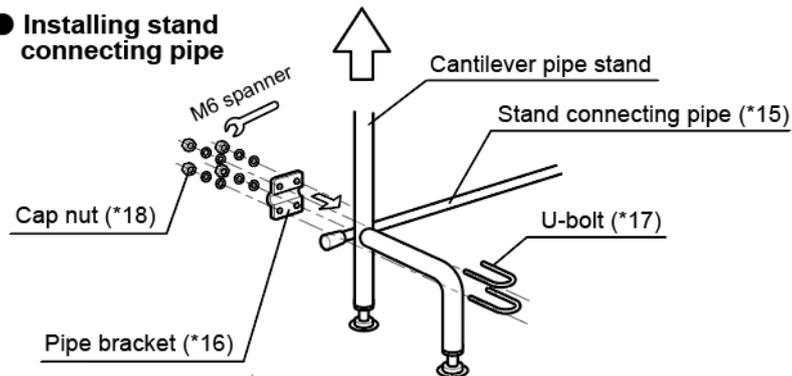
#### 1. For Belt Width of 400mm or Less

Stand attachment hole(\*3) is found on side of conveyor frame. Insert upper pipe(\*2) of cantilever pipe stand(\*1) into this hole as shown in figure, below. On opposite side of frame, insert fixing bolt(\*4) (M8, with washer and spring washer) into upper pipe(\*2) through hole of frame and tighten it. Then insert attachment bolts(\*6) (M8, with washer) into 2 long holes of bracket(\*5), and fix them to conveyor frame by tightening nuts(M8, with washer and spring washer) from inside of frame.

#### ● Installing stands (for belt width of 400mm or less)



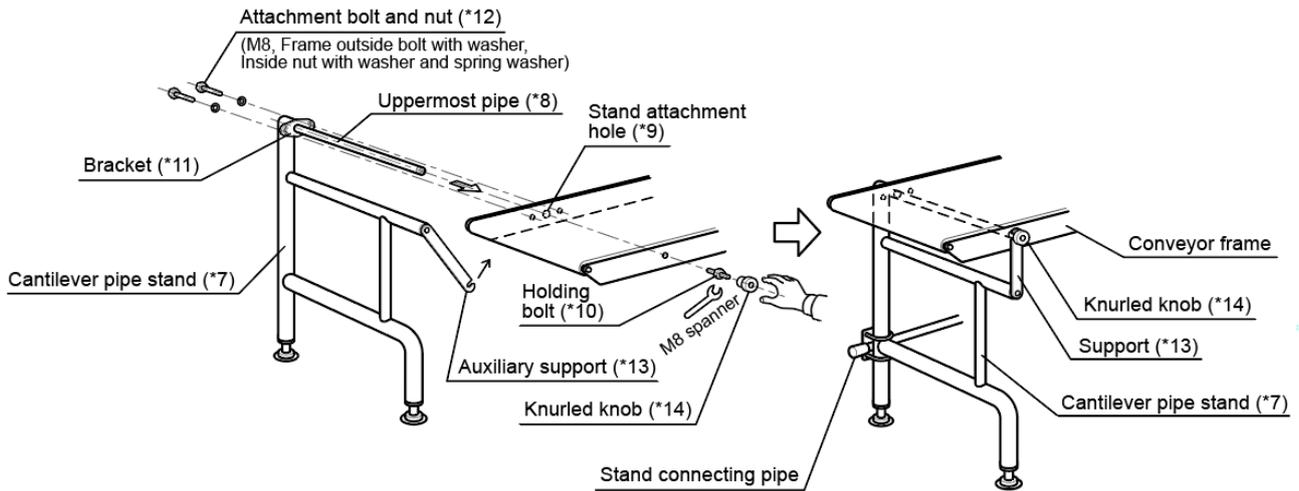
#### ● Installing stand connecting pipe



## 2. For Belt Width of 500mm or More

Stand attachment hole(\*9) is found on side of conveyor frame. Insert uppermost pipe(\*8) of cantilever pipe stand(\*7) into this hole as shown in figure, below. On opposite side of frame, insert holding bolt(\*10) (M8) into uppermost pipe(\*8) through hole of frame and tighten it. Then insert attachment bolts(\*12) (M8, with washer) into 2 long holes of bracket(\*11), and fix them to conveyor frame by tightening nuts (M8, with washer and spring washer) from inside of frame. Turn auxiliary support(\*13) of cantilever pipe stand(\*7) and set it to end of holding bolt(\*10). Then fix it by tightening knurled knob(\*14).

### ● Installing stands (for belt width of 500mm or more)



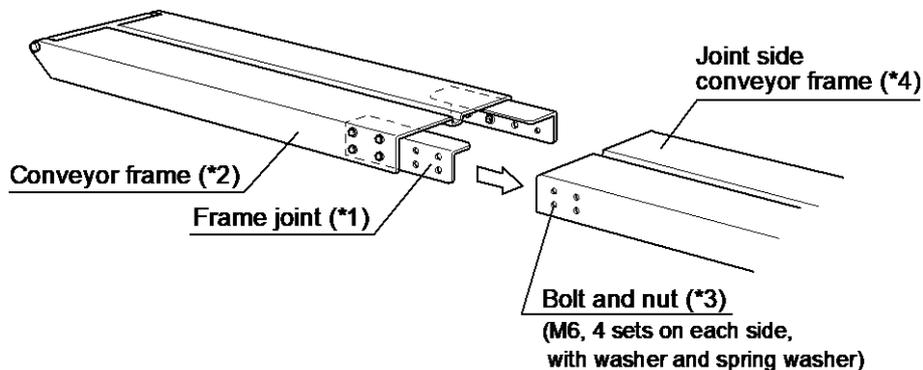
## 3. Installing Stand Connecting Pipe (→See lower figure on previous page.)

After installing cantilever pipe stands, to prevent them from shaking, install stand connecting pipe between stands as follows:

Set stand connecting pipe(\*15) to lower part of each stand. At each fixing point, hold stand connecting pipe(\*15) and pipe of stand with pipe bracket(\*16) and U-bolts(\*17) as shown in the figure, and fix them by tightening cap nuts(\*18) (M6, with washer and spring washer.)

## 3-2. JOINING FRAMES

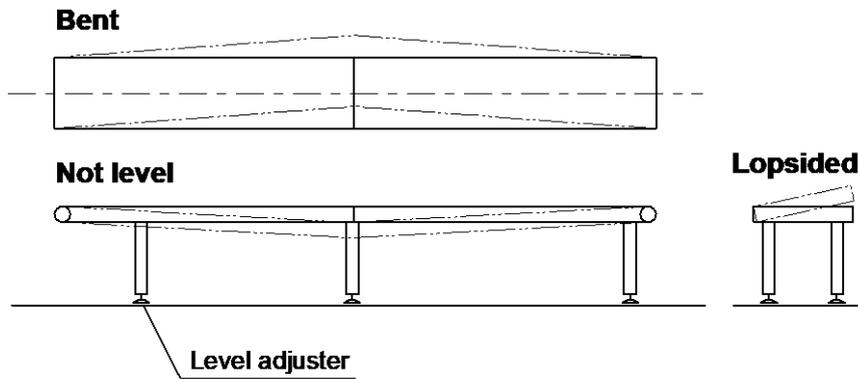
If machine length exceeds 2m and frame is delivered divided, assemble joints of frame as follows: For shipment, frame joints(\*1) are half attached to conveyor frame(\*2). Remove bolts and nuts(\*3) from joint side conveyor frame(\*4). Insert frame joints(\*1) into end of joint side conveyor frame(\*4), and retighten bolts and nuts(\*3).



■ **Caution when assembling and installing frame**

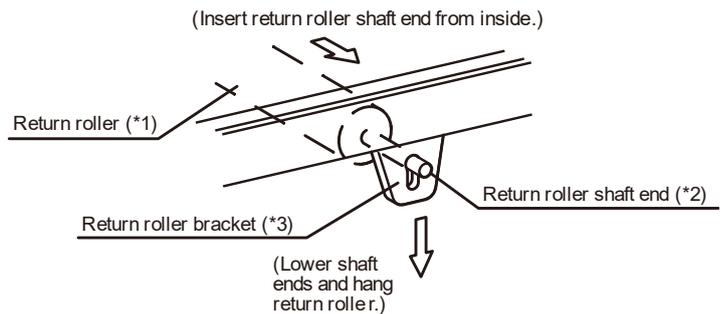
- (1) Confirm full length of frame is straight and not bent in any place.
- (2) Confirm full length of frame is level on top. (Adjust frame height with level adjusters underneath stands.)

NOTE: 1. If conveyor is bent or not level on top, belt may stray to one side or the other.  
 2. If machine is unstable after assembling and installing frame, adjust level adjusters underneath stands. Additionally it is possible to secure conveyor to the floor with anchor plates (optional).



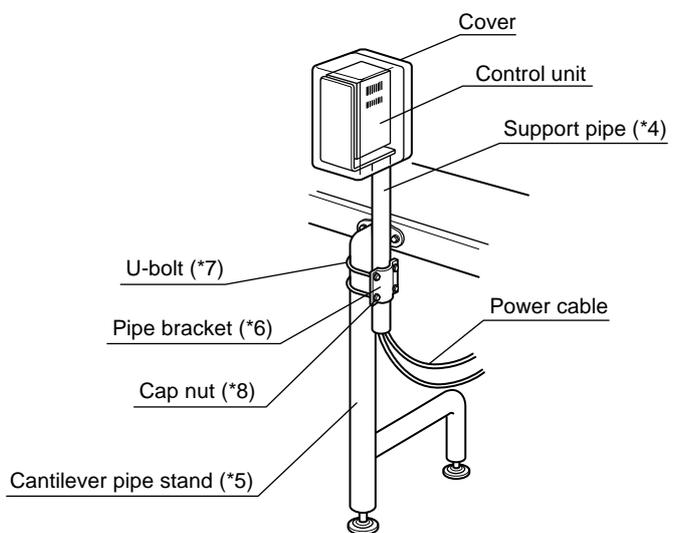
**3-3. INSTALLING RETURN ROLLERS**

For machine length exceeding 2m, machine is provided with return rollers. If return rollers are delivered separately from frame, install them after assembling joints of frame, as follows: Insert return roller shaft ends(\*2) into brackets(\*3) from inside of frame, and hang return roller(\*1) as shown in figure, right. NOTE: For machine length of 2m or less, machine does not have return roller.

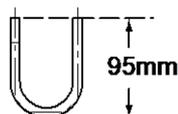


**3-4. INSTALLING CONTROL UNIT (OPTIONAL)**

Set support pipe(\*4) of control unit to cantilever pipe stand(\*5), facing operating panel of control unit towards conveyor belt. Hold support pipe(\*4) and pipe of cantilever pipe stand(\*5) with pipe bracket(\*6) and U-bolts(\*7) as shown in figure, right. Then fix them by tightening cap nuts(\*8) (M6, with washer and spring washer). NOTE: U-bolt(\*7) for control unit and U-bolt for stand connecting pipe are different in length. Pay attention when installing. (→See “3. Installing Stand Connecting Pipe” , p.8.)



● **U-bolt(\*7) for control unit installation**



# 4

## RUNNING THE CONVEYOR

### 4-1. BE SURE TO GROUND MACHINE BEFORE OPERATION

For Variable-speed Type (For standard machines, speed is changed by inverter.)

#### (1) 100/200V single-phase power source

Waterproof connectors (male & female) with earth are attached to power cable. Be sure to ground machine by connecting earth terminal of waterproof connector on power source side (female connector).

#### (2) 200V three-phase power source

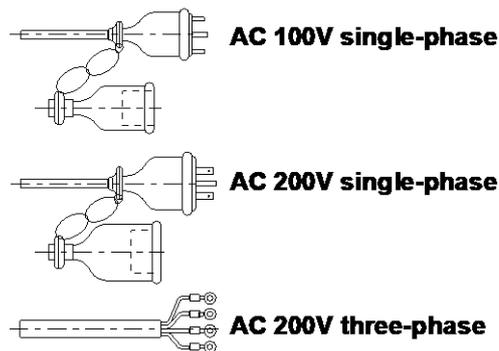
Power cable has ring terminals. When wiring, be sure to make proper earth wiring from earth terminal of power cable.

#### For Constant-speed Type

For standard machines, power source is 200V three-phase only and motor cable (2m, with ring terminals) is provided. When wiring, be sure to make proper earth wiring from earth wire of power cable. Control unit (switch etc.) is optional.

NOTE: For 100/200V single-phase power source, standard machines are not constant-speed type.

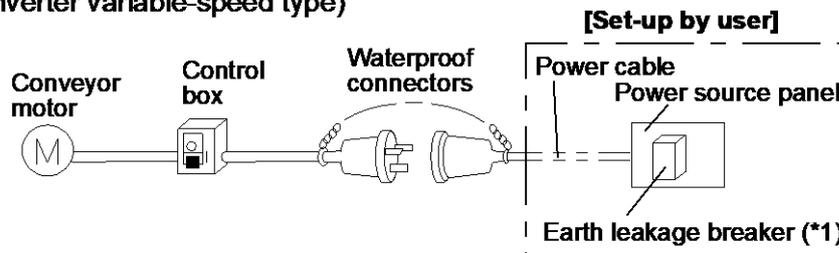
**fig. Power cable and terminals  
(for inverter variable-speed type)**



#### ■ Installing Earth Leakage Breaker

Since this machine is usually used in wet or humid places, be sure to install an earth leakage breaker(\*1) on power source side.

**fig. Arrangement of control devices  
(eg Inverter variable-speed type)**



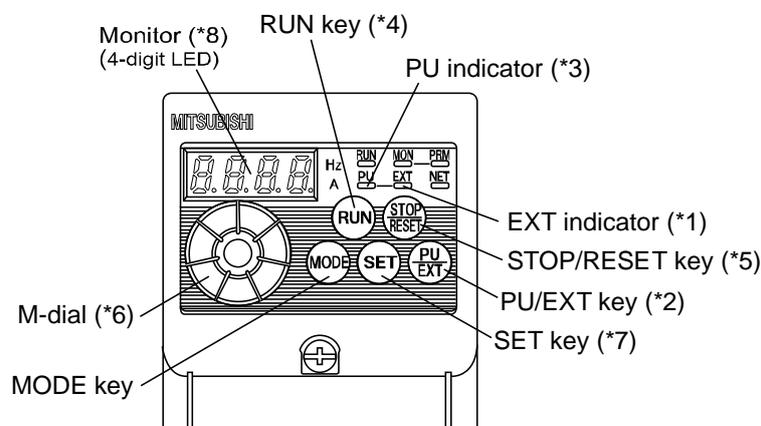
## 4-2. RUNNING THE CONVEYOR (for MITSUBISHI-inverter variable-speed type)

For standard machines of variable-speed type, speed is changed by inverter. Operate inverter as follows:

NOTE: To operate, remove cover of inverter operating panel. Reinstall cover after operating inverter.

- (1) Turn on power supply and ensure that EXT indicator(\*1) is illuminated. Then press PU/EXT key(\*2) and ensure PU indicator(\*3) is illuminated. (PU operation mode)
- (2) To start conveyor, press RUN key(\*4); to stop conveyor, press STOP/RESET key(\*5).
- (3) To set speed, turn M-dial(\*6) until the monitor(\*8) shows intended frequency. Then press SET key(\*7). (Only turning M-dial does not change speed. To complete speed setting, be sure to press SET key.)
- (4) It is possible to change direction of belt travel or make external control by setting parameter. For details, refer to inverter instruction manual, appendix.

**fig. Inverter operating panel**



MITSUBISHI inverter FREQROL D700 standard specifications		
Applied motor	90W	
Rated output voltage	AC 200V three-phase	
Power source voltage	Type 710W: AC 100V single-phase 720S : AC 200V single-phase 720 : AC 200V three-phase	
Permissible voltage variation	100V: 90-132V 200V: 170-264V	
Power source frequency	50/60Hz ±5%	
Environmental conditions	Temperature	-10°C to +40°C (Avoid freezing)
	Humidity	RH 90% or less (Avoid condensation)
	Atmosphere	Indoor, no corrosive/flammable gases, no oil mist or dust
	Elevation	1,000 m or less above sea level
	Vibration	5.9 m/s <sup>2</sup> or less

# 5

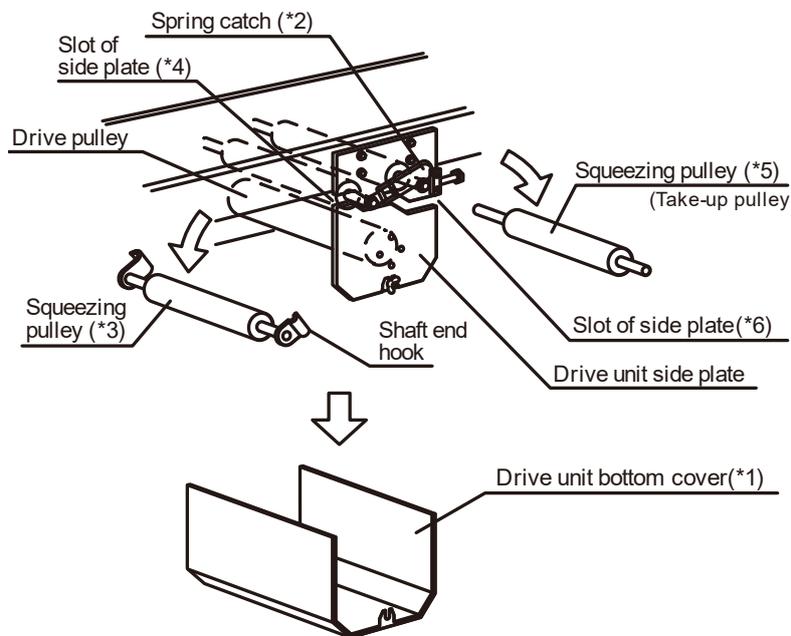
## REMOVING/INSTALLING THE BELT

Since belt of **BELQUICK/WQV** can be easily removed and installed, it is convenient when washing or replacing belt.

Remove and install belt as follows:

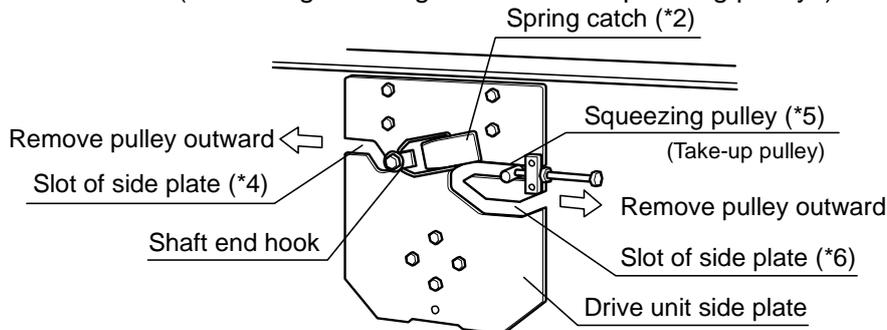
1. Remove drive unit bottom cover(\*1) by loosening 3 wing bolts. (When loosening bolts, firmly support the cover(\*1) with your hand so that it will not fall.)
2. Pull and unfasten right and left spring catches(\*2) of drive unit. Shaft end hooks of squeezing pulley(\*3) will then be released.
3. To remove squeezing pulley(\*3), move its shaft ends along slots(\*4) of right and left drive unit side plates.
4. To remove the other squeezing pulley(take-up pulley) (\*5), move its shaft end along slot(\*6) of drive unit side plate. (For this squeezing pulley, it is not necessary to move shaft end of motor side.)
5. Remove return rollers from conveyor frame, if any.
6. Belt(\*7) will hang down from both ends of conveyor. Pull it out of conveyor sideways.
7. For belt installation, perform in reverse order.

### ● Removal of squeezing pulley

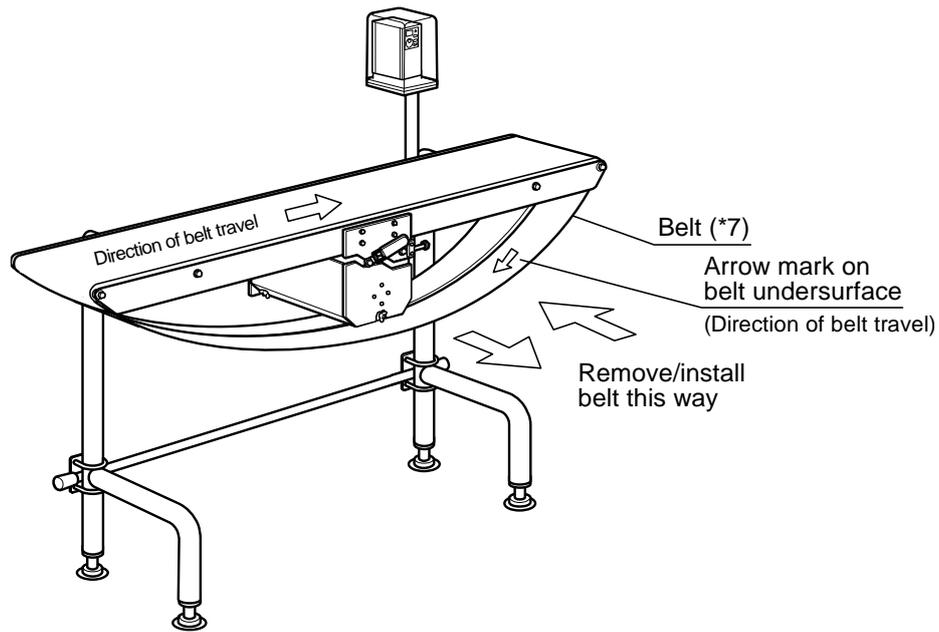


### ● Details of slots of drive unit side plate

(Removing/inserting directions of squeezing pulleys)



## ● Removing/installing direction of belt



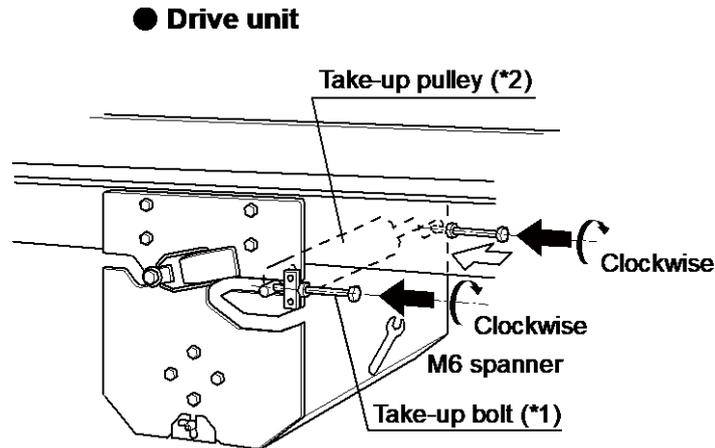
- NOTE: 1. Be sure to stop conveyor and switch off power supply before removing/installing belt.  
2. After washing, completely dry belt before reinstallation.  
3. When installing belt, confirm that arrow mark on belt undersurface correctly shows direction of belt travel.  
4. If belt is loose in operation after installation, take up belt slack. (→See "6. TAKING UP THE BELT" .) If belt is deviating in operation, adjust belt alignment. (→See "7. BELT ALIGNMENT ADJUSTMENT" .)

# 6

## TAKING UP THE BELT

When belt is slackened off, take up belt as follows:

Turn right and left take-up bolts(\*1) of drive unit clockwise, little by little, with a spanner. Take-up pulley(\*2) will then be moved and belt will be taken up. When turning take-up bolts(\*1), keep their movement lengths the same. If belt is taken up too much, properly adjust the tension by turning right and left take-up bolts(\*1) counterclockwise.



### ■ Belt Tension

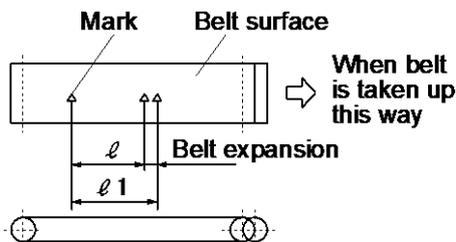
Do not take up belt too much, but only to extent that belt does not slip on drive pulley, i.e. enough to drive belt.

NOTE: 1. Belt occasionally shrinks depending on carried materials or type of belt. In this case make adjustment by turning take-up bolts counterclockwise.  
2. Excessive belt take-up may overload motor or shorten service lives of belt, pulley, etc.

### Standard belt expansion percentage

Nominal belt width (mm)	Expansion percentage (%)
~200	0.2
250~600	0.15~0.1

### How to calculate belt expansion percentage



- 1) Slacken belt.
- 2) Mark any two points on belt surface and measure length between them ( $l$ ).
- 3) Take up belt.
- 4) Measure length between two marks ( $l_1$ ) again.

eg

$$\left( \begin{array}{l} l = 1000\text{mm} \\ 0.2\% = 2\text{mm} \\ l_1 = 1002\text{mm} \end{array} \right)$$

# 7

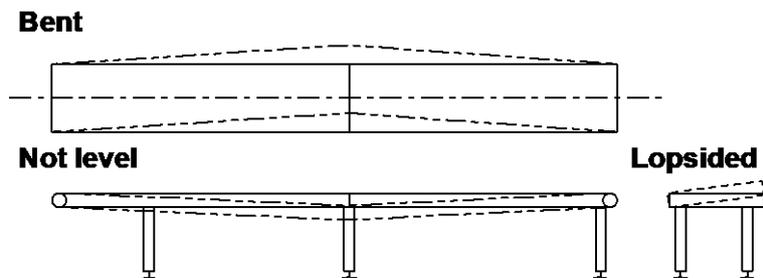
## BELT ALIGNMENT ADJUSTMENT

When belt is not correctly aligned, make adjustments while running conveyor slowly, following procedures below:

### PRIOR CHECKING

#### 1. Frame Condition

Confirm full length of frame is level on top, straight and not bent in any place. → See p. 9.



#### 2. Dirt on Pulleys

Check drive pulley, head and tail pulleys, etc. for dirt. Remove any dirt and clean. (Remove drive bottom cover to check.)

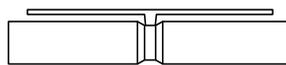
#### 3. Loading Condition

Improper loading, i.e. not-centered, may cause belt deviation.

#### 4. Dislodgment of V-form Strip

Check if V-form strip on belt undersurface has dislodged from V-form belt guidance grooves on pulleys and rollers. (Remove drive bottom cover to check.)

#### Correct condition



#### Dislodgment



#### Pulley of non-deviation model

#### 5. Belt Deviation

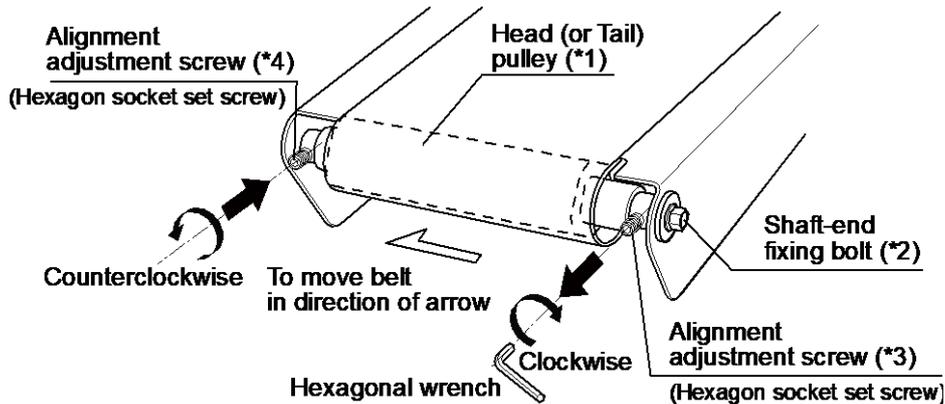
Check how belt is deviating before adjustment. Correct positions of the following parts while running conveyor slowly, and then continue running it for a while to check any further belt deviation.

- Take-up devices: Position and adjust them equally on right and left sides.
- Head and tail pulleys: Set at right angle to frame.

### Adjustment Using Head or Tail Pulley

On side to which belt is deviating, slightly loosen shaft-end fixing bolt(\*2) (M5) of head (or tail) pulley(\*1) with a spanner. Slightly turn alignment adjustment screw(\*3) clockwise with a hexagonal wrench. Head (or tail) pulley (\*1) will then move outward on this side and belt will center itself. Alternatively adjust on opposite side. In this case slightly turn alignment adjustment screw(\*4) counterclockwise. Head (or tail) pulley(\*1) will then move inward on this side and belt will center itself. Once adjustment is complete, be sure to retighten shaft-end fixing bolt(\*2) with a spanner.

#### ● Adjustment using head or tail pulley

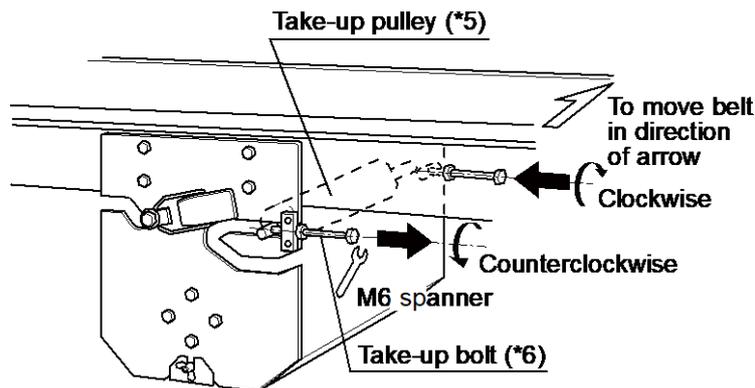


### Adjustment Using Take-up Pulley

On side to which belt is deviating, slightly turn take-up bolt(\*6) of drive unit counterclockwise with a spanner. Take-up pulley(\*5) will then move outward on this side and belt will center itself. Alternatively adjust on opposite side. In this case slightly turn take-up bolt(\*6) clockwise with a spanner. Take-up pulley(\*5) will then move inward on this side and belt will center itself.

NOTE: It is necessary to wait until belt running stabilizes after each adjustment step and to adjust belt alignment little by little. Belt running will not change immediately.

#### ● Adjustment using take-up pulley

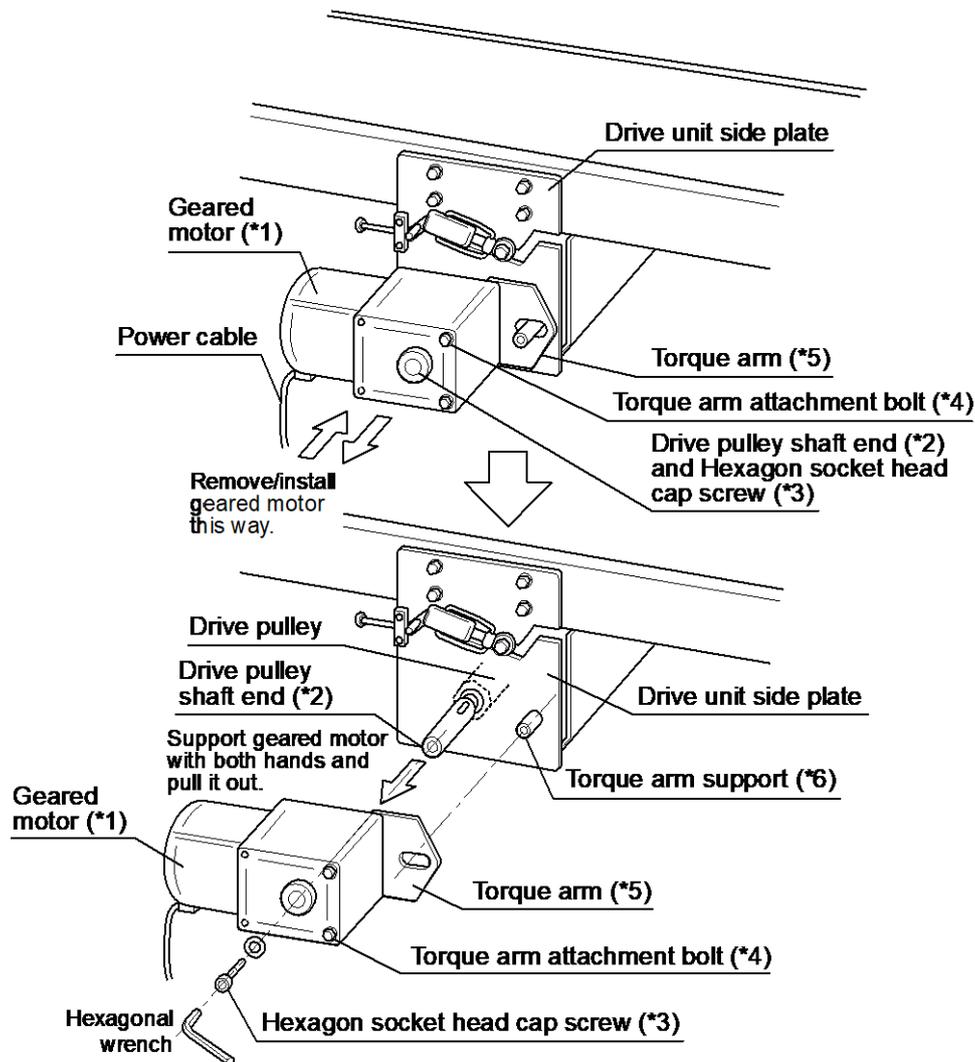


## 8

# GEARED MOTOR REPLACEMENT

The geared motor is hollow shaft type and attached to drive pulley shaft end. Be sure to switch off power supply and replace geared motor as follows:

1. Remove cap of geared motor shaft end, if attached. Remove hexagon socket head cap screw(\*3) and washer from drive pulley shaft end(\*2) with a hexagonal wrench.
2. Support geared motor(\*1) with your both hands and pull it out of drive pulley shaft end(\*2).
3. Remove torque arm(\*5) from geared motor(\*1) by loosening attachment bolts(\*4) (M8 hexagon socket head cap screw) with a hexagonal wrench.
4. Correctly attach the removed torque arm(\*5) to replacement geared motor with attachment bolts(\*4).
5. Support replacement geared motor with your both hands and correctly insert it to drive pulley shaft end(\*2). When inserting, fit key of drive pulley shaft end(\*2) to key groove of geared motor(\*1) hollow shaft, and also insert long hole of torque arm(\*5) into torque arm support(\*6) of drive unit side plate.
6. Retighten hexagon socket head cap screw(\*3) and washer to drive pulley shaft end(\*2). Reattach cap of geared motor shaft end in initial position, if removed.



**9-1. PROBLEMS AND REMEDIES**

PROBLEM	原 因	处 置
1. Conveyor does not run. (Conveyor cannot be turned on.)	(1) Power plug is not properly connected to the mains. (2) Power switch is not turned on. (3) Inappropriate power source	(1) Inspection, correction (2) Inspection, correction (3) Check power source. → See p.10
2. Conveyor is turned on, but motor will not run.	(1) Disconnection or breakage in wiring (2) Too slow conveyor speed (for variable-speed type) (3) Motor protective circuit or emergency stop switch has been activated. (4) Failure inside control device	(1) Check and repair wiring. (2) Reset to appropriate speed. (3) Restore protective circuit or emergency stop switch. (4) Inspection and repair or replacement
3. Motor runs, but belt does not move.	(1) Belt has been slackened off. (2) Belt has been trapped after misalignment. Foreign substances (3) Overload (4) Motor gear head teeth have become worn.	(1) Take up belt. → See p.14. (2) Adjust belt alignment. → See p.15-16. Clean and remove any foreign matter. (3) Check and reduce load. (4) Inspection and repair or replacement → See p.17.
4. Belt runs, but speed cannot be changed. (for variable-speed type)	(1) Disconnection or breakage in wiring of motor and controller (2) Inappropriate setting of controller or inverter (3) Failure of controller or inverter	(1) Inspection, repair (2) Inspection, correction (3) Inspection and repair or replacement
5. Conveyor will not start running unless belt is pulled.	(1) Belt has been taken up too much. (2) Belt has been trapped after misalignment. Foreign substances	(1) Loosen belt to proper tension. → See p.14. (2) Adjust belt alignment. → See p.15-16. Clean and remove any foreign matter.
6. Electric shock is received from conveyor.	(1) Static electricity has been charged in frames. (2) Electric leakage	(1) Check and correctly ground machine. → See p.10 (2) Inspection, correction

## 9-2. ITEMS FOR REGULAR INSPECTION

CHECKING PERIOD	PART TO CHECK	THINGS TO CHECK FOR	CHECKING METHOD	REMEDY
Daily	Belt	Foreign substances on surface and undersurface	Visual inspection	Clean and remove any foreign matter.
		Dislodgment from V-form belt guidance groove	Visual inspection	Inspection, adjustment
		Getting jammed	Visual inspection	Inspection, adjustment
	Drive pulley and other pulleys	Foreign substances	Visual inspection	Clean and remove any foreign matter.
Monthly	Drive pulley and other pulleys	Wear of surface, rotation malfunction	Visual inspection and manual check	Inspection and adjustment or replacement
Three monthly	Geared motor	Rotation malfunction, Inappropriate installation	Visual inspection and manual check	Inspection, adjustment
		Overheat, abnormal noise	Manual check and listening	Inspection and adjustment or replacement
Six monthly	Frame and stand units	Loose attachment bolts	Visual inspection and manual check	Inspection, adjustment Tighten loose bolts.
	Attachments	Damage of each part	Visual inspection and manual check	Inspection and repair or replacement

NOTE: Since salt and salt water cause stainless steel to get rusty and the belt to shrink, be sure to wash the conveyor with fresh water and completely dry it. Additionally, keep in mind that stainless steel may become rusty when it comes in contact with iron or iron powder.

## Customer Center

TEL +81-46-273-8989 FAX +81-46-273-8990

URL <https://www.hansou.jp>

E-mail [kikaiinfo@eng.sanki.co.jp](mailto:kikaiinfo@eng.sanki.co.jp)



[hansou.jp](https://www.hansou.jp)



Contact us

- Particular attention is given to the manufacture and transportation of SANKI conveyors. However, if you need any information about the use or failure of the machine or any other matters, please contact our customer service. Also do not hesitate to ask us for information about conveyors in general.
- The specification given in this manual are subject to change without notice.