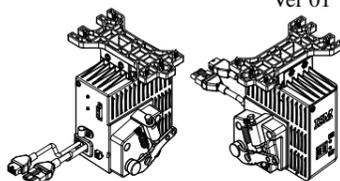


Catalogue:

- 1.For safe operation
- 2.Installation manual
- 3.Operating way for control box panel and parameter setting
- 4.Common parameter list



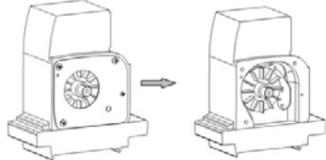
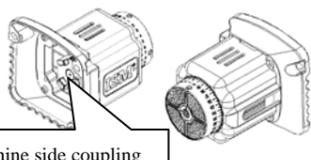
1. For safe operation

- 1.1 Prior the use of this product, please read the instruction Manual. Keep this Instruction Manual and the user may read it at anytime when necessary
- 1.2 Before turn on the power, be sure to check the power voltage and phase agreeing with the nameplate that indicated in the control box.
 - * The operated voltage should follow the nameplate with $\pm 10\%$ range.
- 1.3 Grounding the machine is always necessary for safe and normal operation.
- 1.4 Check lubricating oil prior to operation.
- 1.5 When the first time power transmission, please operate with low speed and check the rotational direction of the motor.
- 1.6 So as to prevent personal injuries during operation, be careful not allow to touch the moving parts. Also never try to stop it with external forces.
- 1.7 For the following conditions, turn off the power or disconnect the power plug from receptacle:
 - * For threading needle or replacing bobbin.
 - * To plug or unplug any connectors from control box.
 - * For maintenance and repairing.
 - * When lift the sewing machine and remove the belt.
 - * When machine is not at use, inspected or adjusted..
 - * When lightning and thunder occurs..
- 1.8 Operating environment
 - * Operating environment temperature $5^{\circ}\text{C} \sim 45^{\circ}\text{C}$.
 - * Operating environment temperature 30%~95%.
 - * Not close to high frequency or heat sources (such as electric heater).
 - * Dew, corrosive gases, and dust places should be avoided.
 - * Indoor use only, avoid the direct sunlight.
- 1.9 Warranty and maintenance
 - * The warranty period of the product is 18 months from the date of manufacture.
 - * Warranty void if improper use / man-made damage / voltage abnormal / bad grounding / self-dismantling / self-repair.
 - * Warranty void if foreign matter into / natural disasters / lightning / salt corrosion / damp / fall / self-transport damage.
 - * Repair parts should be provided by our company / maintenance person should be approved by our company.

2. Installation manual

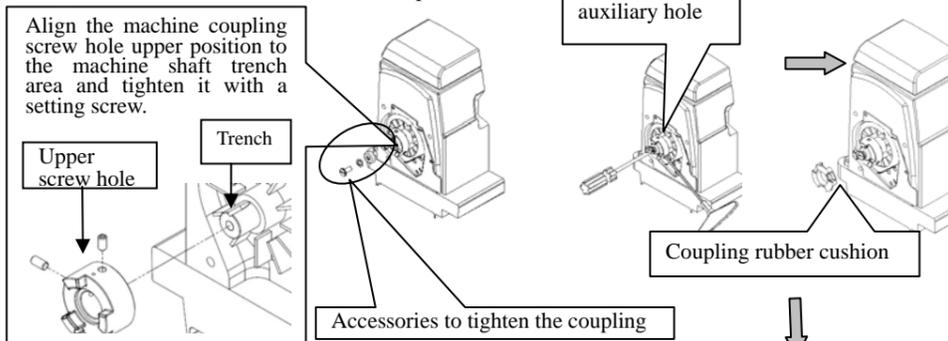
2.1.1. Check whether the motor exterior is ok and also confirm that coupling is properly installed.

2.1.2. Prior installing the motor, remove some parts from the machine as shown below and proceed for installation



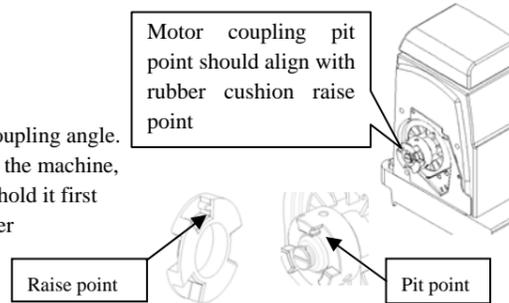
2.1.3 Machine side coupling installation :

- ① Insert the coupling to the center of the inner shaft and tighten with the setting screw temporarily.
- ② Insert the pressing fan and the spring washer using a M6 hexagon screw to tighten to the machine shaft.
- ③ Insert an allen key or a screw driver to the machine coupling auxiliary hole to assist installation and Tighten the machine's pressing fan screw.
- ④ Insert the coupling rubber cushion onto the machine.
- ⑤ Direct drive motor installation is completed.



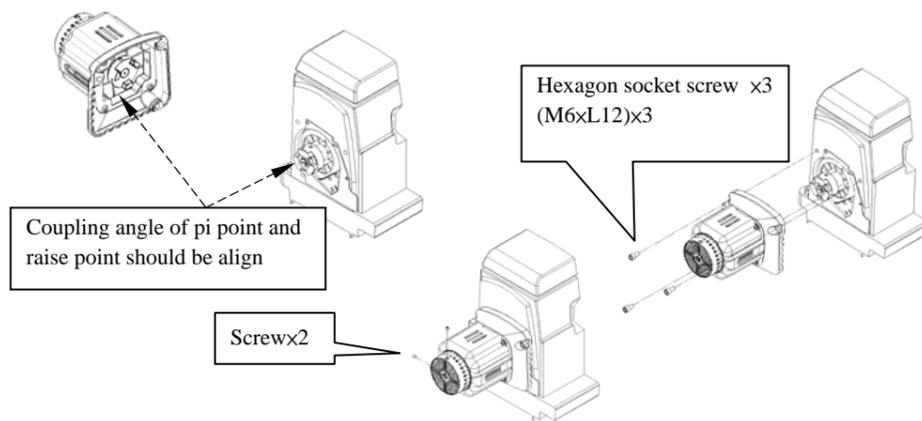
2.2. Installation manual for motor :

- ① Prior installing the motor, align the coupling angle.
- ② After proper alignment, install it onto the machine, hexagon socket screw(M6xL12) x3, hold it first tightening the screws in the front cover of the motor, then tighten the screws.



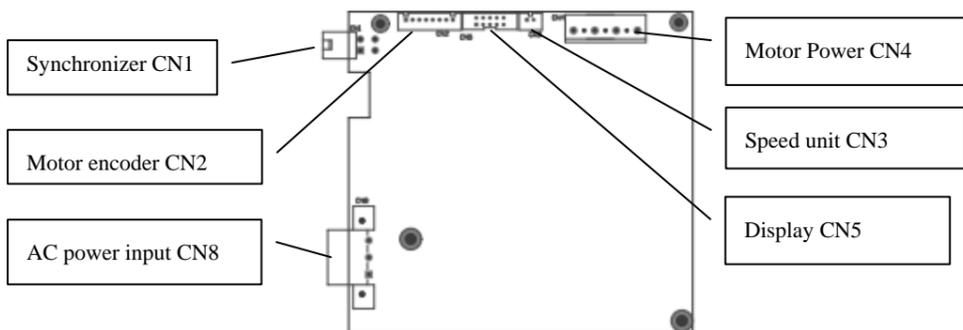
2.3. Needle up/down positioning adjustment :

If after installation positioning is not accurate, then remove the setting screw from the pulley and adjust it to the proper angle.

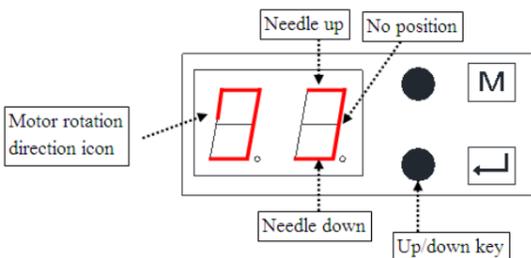


3. Control box How to connect the Cordially & Parameter setting

3.1 Connector Diagram



3.2 Panel key functions



3.3 Error message indicator

Error Code	Description of error detected
E.1 or E.A	Synchronizer failure
E.2	Motor is not rotating
E.5	Speed unit output failure
E.8	Setting speed over the motor maximum speed
E.9	IPM is failed
E.0 or E.C	Braking timing error

3.4 Parameter setting

Select the machine type and motor specification STEPS

1. Press **M** and **↶** simultaneously, and turn ON the power until panel display "rS" then release the key.
2. Press **M** key, thus machine type will be cycled increased.
3. Press **↶** key to save and enter motor specification selection.
4. Press **M** key, thus motor specification will be cycled increased.
5. Press **↶** key to save.

Machine Type		Motor Type	
LS	Lock Stitch	45	SM71S-4550 motor
OL	Overlock.	55	SM71S -5535 motor
PB	Postbed	65	SM71S -6535 motor
TN	Twin Needle	U6	SM80-6535 motor
CS	ChainStitch	d8	SM7-3570 motor
CM	Skiving Machine	dA	SM7-6560 motor
O2	OverLock suction & foot lifter	d9	SM7-3570V2 motor
SC	OverLock & sensor Save Suction Auto Foot	dB	SM7-5070 motor
MC	OverLock & without sensor Save Suction	d2	SM6-5535 motor
		dE	SM7-5560 motor

Parameter setting STEPS

1. Press **M** key and turn on the power until the panel display "PA". Release **M** key, the panel display parameters number. (or)
2. In normal mode, then press **M** key until the panel display "PA". Release **M** key, the panel display parameters number.

Parameter Setting Key Description

M	1. Press one time to increase Number. 2. Hold Press to decrease number	↶	1. Press one time to enter Parameter or parameter value. 2. Press 2 Seconds to Save Parameter value
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General Parameter List

NO.	Item	Range	Unit	LS	OL	PB	CS	O2	SC	MC
P1	Sewing machine maximum speed	2 ~ 80	*100spm	40	60	20	40	60	60	60
P2	Sewing machine positioning speed	10 ~ 25	*10spm	20	20	20	20	20	20	20
P3	Motor's pulley dimension	50 ~ 100 (note1)	*1mm	75	85	65	75	85	85	85
P4	Machine's pulley dimension	50 ~ 120 (note1)	*1mm	75	55	65	65	55	55	55
P5	Pulley ratio setting mode	ON: Refer motor pulley ratio measurement OF: Refer P.3 and P.4 AT: Auto measurement	--	AT						
P6	Virtual needle down positioning function	ON: Valid OF: Invalid	--	OF						
P7	The angles between virtual needle down positioning point and needle up signal	70 ~ 250	*1°	180	180	180	180	180	180	180
P8	Soft start stitches	0 ~ 19	*1 stitch	0	0	0	0	0	0	0
P9	Soft start speed	25 ~ 200	*10spm	40	40	25	40	40	40	40
F1	Synchronizer mode	ON: Valid OF: Invalid	--	OF						
F2	Motor rotating direction	ON: Clock wise OF: Counter Clock wise	--	ON	OF	ON	OF	OF	OF	OF
F4	Accelerating speed slope	1 ~ 8 (fast~slow)	--	3	3	3	3	3	3	3
F5	Decelerating speed slope	1 ~ 14 (fast~slow)	--	4	3	6	6	3	3	3
F9	Motor's braking force when positioning	1 ~ 8	--	note2						
L1	Auto needle up positioning when power on	ON: Valid OF: Invalid	--	ON						
L3	Reversed revolution angles after pedal heel down	0~250	*1°	0	0	0	0	0	0	0
L4	Increase motor current limitation	0~20	--	0	0	0	0	0	0	0
L5	Function when pedal is heeled. (note3)	0: needle up 1: foot lifting 2: none 3: needle up & foot lifting	--	0	0	0	0	1	1	60
L6	Thread Suction control mode (note3)	0: Output when motor rotates 1: Motor control middle suction 2: Sensor control middle suction 1&2 Depend on Parameter L7,L8	--	0	0	0	0	0	2	1
L7	Thread SD output ON stitches(Middle)	0~99	*1 stitch	0	0	0	0	10	5	10
L8	Thread SD output OFF stitches(Middle)	0~99	*10 stitch	0	0	0	0	1	3	99
L9	Thread SD_OUT acts time when motor stops	0~10	*100ms	0	0	0	0	1	0	10
C4	Sensor control Front Suction stitches	0~250	*1 stitch	0	0	0	0	0	10	10
C5	Sensor control back Suction stitches	0~249	*1 stitch	0	0	0	0	0	40	40
C6	Auto Foot lifter after back sensor suction	0: Padel control 1: Sensor control 2: Auto Foot lifter after back sensor suction	--	0	0	0	0	0	2	0
C7	Motor auto stop after sensor suction	0:unable 1:able	--	0	0	0	0	0	1	0

note1. 1digital display is hundreds, 2digital display are tens and units respectively

note2. This value depends on motor specification.

note3. The function is valid in SV-72 control box

