

Thank you for choosing Koshin Submersible Pump.

This manual is prepared for your safety when operating pump. Please read carefully and comprehend fully before use. (Wrong usage could cause injury or death.)

Please keep this manual handy for future reference.

PLEASE READ THIS MANUAL BEFORE OPERATION.

"ACCEPTABLE FOR INDOOR OR OUTDOOR USE" "SUBMERSIBLE PUMP"

▲ CAUTION **▲**

Before use, please make sure to read the instruction manual. Do not operate the pump out of water or insufficient water.

A WARNING **A**

Risk of electric shock. This pump is supplied with a grounding conductor and grounding-type attachment plug. To reduce risk of electrical shock, connect only to a properly grounded, grounding-type receptacle. TO REDUCE THE RISK OF ELECTRIC SHOCK, INSTALL ONLY ON A CIRCUIT PROTECTED BY A GROUND-FAULT CIRCUIT-INTERRUPTER (GFCI).

A NOTE A

This pump has not been investigated for use in swimming pool or marine areas. This pump has been evaluated for use with water only.

KOSHIN LTD.

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- 1 - 09-07 043047003

INSTALLATION AND USE

An acceptable motor-control switch shall be provided at the time of installation.
 Ther mally protected

INSTRUCTIONS FOR USE

1. Please check the type, aperture, output, frequency, and voltage indicated on the name plate attached to the upper part of the pump.

Pay close attention, in particular, to frequency and voltage as inadequate frequency and voltage can cause lower pump performance and troubles.

2. Place to use

The pump can be used at almost all places but avoid continuous short-water operation at a sandy place, as such may accelerate wear of the pump. Try to install the pump at a position where water can be collected most easily. When the pump in installed on soft muddy or sandy ground, lay wooden board or block under the body to prevent setting down. Strictly refrain from putting into any pond bath, or swimming pool in which anybody is staying.

3. Hose piping

When any hose is used for connection, keep the hose as straight as possible as excessively bent hose reduces water quantity. Refrain from placing the discharge port under water Inverse flow may sometimes be resulted due to siphon effect when the operation is stopped.

4. Cabtire cable

To transfer the pump or to install, hold the pump on the handle or a rope tied to the handle. If the cabtire cable is pulled instead of the rope, the core wires may sometimes be cut off. To extend the cable, use a cable of the same or larger size than the one attached to the pump. Strictly refrain from placing the joint between the main line and the extension in water.

5. Earth leakage breaker

Be sure to ground the earthing wire before connecting the cabtire cable to the power source. The green wire is for earthing. Be sure to attach the leakage breaker to prevent any possible leakage trouble.

ACAUTION

1. Leak Current Breaker

For home use, attach a leak current breaker, GFCI (offered separately) to ensure safety.

2. Connect the power source

Absolutely refrain from connecting this pump to any other power source than 110V AC, 50Hz.

3. Water to use

* Absolutely refrain from using the pump for any oil, sea water, strong alkaline or strong acidic solution, or any agricultural chemicals.

4. Do not run dry!

Idling can cause trouble, to prevent short cycling place pump at deepest position as possible.

5. Handling of power cord (cabtype cable)

- a. Never lift or move pump by power cord.

 Only lift by handle or tie rope supplied to handle.
- b. Select and use proper size extension cord. Do not run extension cord in water.

6. Using in bath, etc.

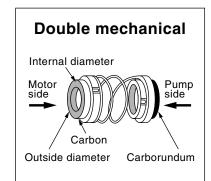
Do not enter the water when pump is being used.

A CAUTION

The pump is used a double mechanical seal. (See figure)

Consulting the following table assemble it.

Mechanical seal	Motor side (Carbon)	Plum side (Carborundum)
Outside diameter	22.5mm	20.5mm
Internal diameter	18.5mm	15.0mm



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6. After use

If the pump is left as it is after used for water of high sand content or other special substances, the sand is accumulated in the pump and will affect the next operation. Before stopping operation, therefore, be sure to keep pumping supernatant water or clean water for some time to clean out the inside.

7. Thermal protector

The pump incorporates a thermal protector to protect the motor, and the motor is stopped automatically at a over-load operation due to any reason. When the motor stops automatically, be sure to check after turning off the power source.

AFTER USING PUMP

- In cold climates, do not allow pump to freeze.
 Remove pump from water to prevent damage due to freezing.
- 2. Completely drain and dry pump of water before storing.

MAINTENANCE AND INSPECTION

- 1. Periodically check the insulated condition with a insulation resistance tester.

 To be acceptable, the resistance between the earthing wire and the power cord should be 100Meg ohm and higher
- 2. The shaft of the water-tight mechanism as the most critical part of the pump is sealed with liquid paraffin. The life changes greatly depending on the operating condition but the quantity should be checked periodically. Use 170cc of Crystol No.70 by Exxon Mobil Corporation for the sealing. The liquid paraffin can be checked easily by removing the hexagon socket head bolt at a side of the pump body.

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TROUBLESHOOTING GUIDE

performance

Impeller wear

Clogging of foreign

matter in strainer pump

POSSIBLE CAUSE PROBLEM SOLUTION Not properly connected Correct the connection to power circuit The GFCI, leakage Check the power circuit circuit breaker is actuated No start at all or stops The impeller is caught immediately Repair the point of leakage by foreign substance after start Motor is burnt Repair or replace Raise the voltage to Voltage drop the rating Remove foreign substance if the impeller is clogged Failure during The protector is actuated operation Lower the liquid temperature if it is too high Raise the voltage to Voltage drop the rating High delivery head Lower the head No pumping or poor Discharge pipe is clogged Overhauling

Replacement

Overhauling

SPECIFICATIONS

Total Head

Voltage

Output

Model

Net Weight

DIMENSION

Frequency

Rated Current

Consumption Revolution

Power Cord

Standard Accessories

MODEL

Connection Dia

Delivery Volume

Unit: mm

PERFORMANCE CURVE (USG/min) 20 (ft) 60 TOTAL HEAD (m) PB7-65011 15 50 40 10 30 20 5 PB-65011 10

2" (50 mm)

Single AC-110V

60 Hz

3400 rpm

Induction Motor

*Performance ratings are guaranteed minimum, not inflated maximum.

100

**Starting current is three times higher than rated current.

DELIVERY VOLUME (L/min)

200

Unit: mm

300

MODEL	Α	B	C	D	E	F	G	H	Ш	J	
PB-65011 PB7-65011	398	72	326	φ181	NPT	6000	0.4	40	4.4	74	
PB7-65011	384	52	332	φ193	2"	10000	04	43		44	74

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0

PB-65011

32.8 ft (10 m)

76.6 USG/min

(290 L/min)

8.7 A

400 W

750 W

19.7 ft (6 m)

35 lbs (16.7 kg)

*Starting current is three times higher than rated current.

1 Rope 5 m,

PB7-65011

55.7 ft (17 m)

89.8 USG/min

(340 L/min)

12 A

750 W

1.25kW

32.8 ft (10 m)

42 lbs (19 kg)

1 Hose Band

PARTS LIST

- 5 -

PB-65011

_					_						
ı	No.	PARTS CODE	PARTS NAME	QTY	N	0.	PARTS CODE	PARTS NAME	QTY	No.	PARTS CO
ſ	1	0438135	PB-5011 Motor	1	1	9	708219042	⊕ Screw (M4×25 SWRM)	2	41	04300
L			Set.(2~27 set)	Ľ	2	20	0430043	⊕ Screw (M4×145 SUS)	4	42	03907
L	2	0430465	PB-50 Motor Frame	1	2	21	0430023	PB-50 Supporter	1	43	03900
L	3	0430001	PB-50 Bearing Plate	1	2	2	857627023	Wave Washer	1	44	03907
	4	0430452	PB-50 Head Cover	1	2	23	0430082	Washer	1	44	03907
ſ	5	0430453	PB-50 Front Bracket	1	2	4	0430026	Bearing Washer	1	45	03900
Ī	6	0430004	PB-50 Frame Packing	1	2	\rightarrow	0430073	Screw (M4×6 SWRM)	5	46	04304
ľ	7	0430003	PB-50 Head Packing	1	-	-	0340142	SM Seal Ring	1	49	7081050
ľ	8	0430002	PB-50 Spacer	2	-	\rightarrow	0340153		1	50	04301
Ī	9	0430022	PB-40 Centrifugal	1	f	1		PS Socket Bolt	H	51	04302
L	9	0430022	Force Switch-cover	_	2	28	0390037	(M10×12 SUS)	1	52	03900
ŀ	10	0390002	Condenser	1	2	9	854255010	Seal Washer	1	53	8842050
L			(125VAC 150µF)	Ĺ	3	30	0430484	Power Cord (PB-65011)	1	54	8452050
ŀ	11	0390142	Band	1	3	31	703305102	⊕Screw (M5×14)	2	55	8274050
ľ	12	893555043	Oil Seal	2	3	32	0390031	PS-40 Cord Supporter	1	56	8274050
ŀ	13	0390141	Toothed Washer	1	3	-	0260137	BL-3224 Cord Band	1	57	04300
ľ	14	888727008	Stop Ring	1	- 1	34	703305100	⊕ Screw (M5×10 SUS)	1	58	
ŀ	15	0390001	PS-40 Centrifugal	1	F		0430008	PB-50 Out Cover	1		0 1000
ļ	_		Force Switch	Ĺ	- 12	-		PB-50 Out Packing	1	59	04301
ľ	16	707825018	⊕ Screw (M3×6 BS)	2	-	-	0430454		1	60	7478050
ŀ	17	708119037	⊕ Screw	2	- 1	\rightarrow	0430454		1	61	
ļ			(M4×10 SWRM)		- 1	-			H	01	8273050
ŀ	18	0390079	PS-5010 Terminal	1	- 1	9	889955100	O Ring (G100)	1	\vdash	
П			Protector (Spec. 110V)	1	- 14	10	0430025	PB-50 O Ring (ϕ 166)	1		

No.	PARTS CODE	PARTS NAME	QTY
41	0430014	PB-50 Stud Bolt	3
42	0390712	PS-40 Suction Cover	1
43	0390019	PS-40 Suction Packing	1
44	0390725	PS-50-60Hz Impeller (PB-65011)	1
45	0390025	Impeller Adjusting Washer	0~3
46	0430464	PB-50 Press Handle	1
49	708105056	⊕ Screw (M6×16 SUS)	2
50	0430150	Label	1
51	0430243	Mechanical Seal	1
52	0390092	PS-50 Flange Packing	1
53	884205023	Key	1
54	845205010	Toothed Washer	1
55	827405010	Nut (M10)	1
56	827405008	Nut (M8)	5
57	0430074	PB-50 Sleeve	1
58	0430044	Socket Bolt	3
59	0430143	PB-50 NPT Delivery Flange	1
60	747805028	Bolt (M6×12 SUS)	4
61	827305005	Nut (M5)	1

PARTS LIST

PB7-65011

0.	PARTS CODE	PARTS NAME	QTY	No.	PARTS CODE	PARTS NAME	QT\
	0438048	PB7-5011 Motor	1	19	0430026	Bearing Washer	1
'		Set. (2~22 set)	Ľ	20	0430073	⊕ Screw	3
2	0430478	PB-50 Motor Frame	1	20	0430073	(M4×6 SWRM)	٥
3	0430462	PB-50 Bearing Plate	1	21	0340142	SM Seal Ring	1
1	0430452	PB-50 Head Cover	1	22	0340153	SM ⊕Screw	1
5	0430220	PB7 Front Bracket	1		0040100	(M6×8 SUS)	Ľ
3	0430004	PB-50 Frame Packing	1	23	0390037	PS Socket Bolt	1
7	0430003	PB-50 Head Packing	1			(M10×12 SUS)	Ľ
3	0430294	PB-50 Spacer (L=5)	3	24	854255010	Seal Washer	1
)	708119039	⊕ Screw (M4×14 SWRM)	3	25	0430232	Power Cord (PB7-65011)	1
0	0430295	PB-50 Spacer (L=10)	1	26	703305102	⊕ Screw (M5×14)	2
1	708119041	⊕ Screw (M4×20 SWRM)	1	27	0390031	PS-40 Cord Supporter	1
-		Condenser	Н	28	0260137	BL-3224 Cord Band	1
2		(250VAC 32µF)	2	29	703305100	⊕ Screw (M5×10 SUS)	1
3	893555043	Oil Seal	2	30	0430008	,	1
4	0430293	PB7-5011	1				1
	0.00200	Terminal Protector	Ľ	_	0430013	3	Ŀ
5	0430043	⊕ Screw	4	32		PB-50 Casing	1
		(M4×145 SUS)	Ù	<u> </u>	0430225		1
6	0430231	PB7 Supporter	1	34		O Ring (G100)	1
7	857627023	Wave Washer	1	35	890155150	O Ring (S150)	1
8	0430082	Washer	1	36	0430253	PB7 Stud Bolt	3

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ı	QTY		Vo.	PARTS CODE	PARTS NAME	QTY
	1	(37	0430226	PB7 Suction Cover	1
ı	3	(38	0430227	PS7 Suction Packing	1
1	_	(39	0430234	PB7-60Hz Impeller	1
	1	4	40	0390025	Impeller Adjusting Washer	1
1	_	4	41	0430464	PB-50 Press Handle	1
	1	4	14	708105056	⊕ Screw (M6×16 SUS)	2
4	1	4	45	0430276	Label	1
	1	[46	0390003	Mechanical Seal	1
+	_	4	47	0390092	PS-50 Flange Packing	1
+	2	4	48	884205023	Key	1
	1	4	49	845205010	Toothed Washer	1
1	1		50	827405010	Nut (M10)	1
	İ		51	827405008	Nut (M8)	5
	1		52	0430074	PB-50 Sleeve	1
1	1		53	0430044	Socket Bolt	3
1	1	Ī,	. ,		PB-50 NPT	
	1	ľ	54	0430143	Delivery Flange	1
	1		55	747805028	Bolt (M6×12 SUS)	4
	1	[56	827305005	Nut (M5)	1
	1					
	3					

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