

# HIGH PERFORMANCE SELF-PRIMING PUMP OPERATION MANUAL

## PABOOL PUMP

### 《SU-V SERIES》

Thank you for your purchase of our PABOOL PUMP

Upon receipt, please check the followings.

- Model is exactly what you ordered.
- There is no damage in transit.
- Accessories are all supplied.

In case of trouble, please contact dealer.

Be sure to read this manual  
before operation

## KOSHIN LTD.

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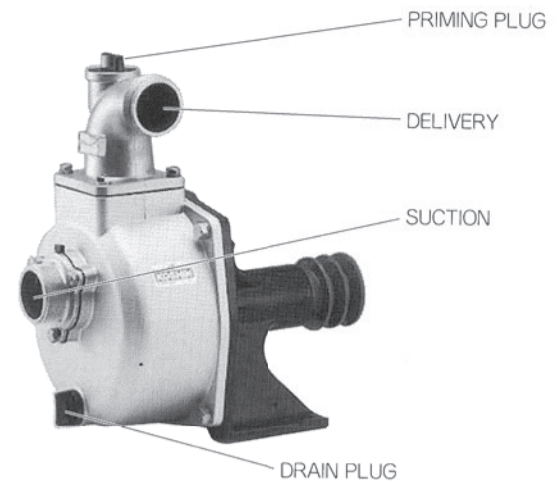
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- 1 -

14-06 011593603

### CAUTION



- Application**  
As this pump is exclusively used for agriculture, do not apply muddy water.
  - Trouble if you don't observe.  
Damage of mechanical seal
- Priming (photo 1)**  
As this pump is of self-priming type, pour water fully from priming port before running.
  - Trouble if you don't observe.  
Impossible pumping  
Damage of mechanical seal
- Connection of suction hose**  
If priming is not made by running after pouring water from priming port, it is almost because of imperfect connection of suction hose. In such a case, run after checking again connection of hose.
  - Trouble if you don't observe.  
Impossible pumping
- Always rotate arrow direction, see photo 2 (counter-clock wise watching from pulley)**
- Don't turn over 4000rpm because it needs greater power.**  
Please set correct pulley on motor shaft,  

$$\text{pump rpm} = \frac{\phi \text{ Engine pulley} \times \text{Engine rpm}}{\phi \text{ pump pulley}}$$
- Don't run dry.**
- Drain of water after use**  
Water inside casing freezes at below 0°C in winter and thereby pump may possibly be broken. After use, drain water from drain port at bottom to store.
  - Trouble if you don't observe.  
Breakage of pump casing

- 2 -

### SPECIFICATIONS

Model	SU-40V			SU-50V			SU-80V		
Connection Dia	40 mm(1 1/2")			50 mm(2")			80 mm(3")		
Connection Thread	Outer Pipe Thread BSP								
Revolution	3000 rpm	3600 rpm	4000 rpm	3000 rpm	3600 rpm	4000 rpm	3000 rpm	3600 rpm	4000 rpm
Total Head	28 m	40 m	50 m	30 m	42 m	53 m	21 m	31 m	38 m
Delivery Volume	300 L/min	350 L/min	370 L/min	430 L/min	480 L/min	500 L/min	800 L/min	920 L/min	1000 L/min
Max. Suction Head	7 m(23 ft)	8 m(26 ft)	8 m(26 ft)	7 m(23 ft)	8 m(26 ft)	8 m(26 ft)	7 m(23 ft)	8 m(26 ft)	8 m(26 ft)
Output	1.5 kW (2 PS)	2.2 kW (3 PS)	3.7 kW (5 PS)	2.2 kW (3 PS)	3.7 kW (5 PS)	5.5 kW (7.5 PS)	3.7 kW (5 PS)	5.5 kW (7.5 PS)	7.5 kW (10 PS)
Standard Accessories	1 Strainer, 2 Couplings, 3 Hose Bands								
Net Weight	12.5 kg			15 kg			22 kg		

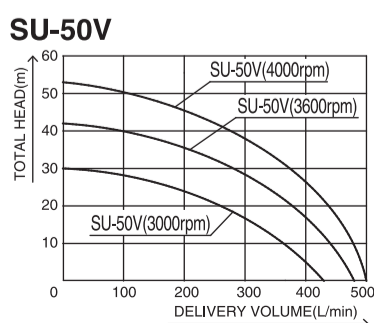
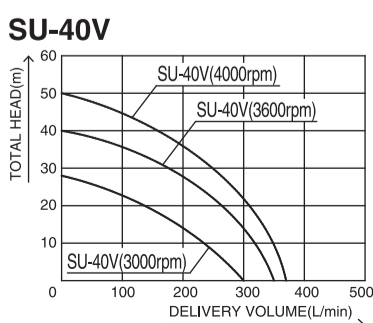
Chart Showing co-relation between motor rotation and pulley diameter

SU-40V								SU-50V														
Hz	Motor Poles (Revolution)	Revolution		3000rpm		3600rpm		4000rpm		Hz	Motor Poles (Revolution)	Revolution		3000rpm		3600rpm		4000rpm				
		Pulley	inch	mm	inch	mm	inch	mm	Pulley			inch	mm	inch	mm	inch	mm	inch	mm			
50 Hz	2P(2880rpm)	3	76.2	3-1/2	88.9	4	101.6	2P(3440rpm)	2-1/2	63.5	3	76.2	3-1/2	88.9	60 Hz	2P(3440rpm)	2-1/2	63.5	3	76.2	3-1/2	88.9
	4P(1430rpm)	6	152.4	7-1/2	190.5	8	203.2	4P(1720rpm)	5	127	6	152.4	7	177.8	4P(1720rpm)	5	127	6	152.4	7	177.8	
	6P(960rpm)	9	228.6	11	279.4	12	304.8	6P(1150rpm)	7-1/2	190.5	9	228.6	10	254	6P(1150rpm)	7-1/2	190.5	9	228.6	10-1/2	266.7	

SU-50V								SU-80V														
Hz	Motor Poles (Revolution)	Revolution		3000rpm		3600rpm		4000rpm		Hz	Motor Poles (Revolution)	Revolution		3000rpm		3600rpm		4000rpm				
		Pulley	inch	mm	inch	mm	inch	mm	Pulley			inch	mm	inch	mm	inch	mm	inch	mm			
50 Hz	2P(2880rpm)	3	76.2	3-1/2	88.9	4	101.6	2P(3440rpm)	2-1/2	63.5	3	76.2	3-1/2	88.9	60 Hz	2P(3440rpm)	-	-	3	76.2	3-1/2	88.9
	4P(1430rpm)	6	152.4	7-1/2	190.5	8-1/2	215.9	4P(1720rpm)	5	127	6	152.4	7	177.8	4P(1720rpm)	5	127	6	152.4	7	177.8	
	6P(960rpm)	9	228.6	11	279.4	12-1/2	317.5	6P(1150rpm)	7-1/2	190.5	9	228.6	10-1/2	266.7	6P(1150rpm)	8	203.2	9	228.6	10	254	

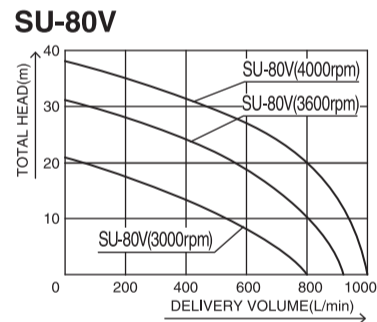
SU-80V														
Hz	Motor Poles (Revolution)	Revolution		3000rpm		3600rpm		4000rpm						
		Pulley	inch	mm	inch	mm	inch	mm						
50 Hz	2P(2880rpm)	3	76.2	3-1/2	88.9	4	101.6	2P(3440rpm)	-	-	3	76.2	3-1/2	88.9
	4P(1430rpm)	6	152.4	7-1/2	190.5	8-1/2	215.9	4P(1720rpm)	5	127	6	152.4	7	177.8
	6P(960rpm)	9-1/2	241.3	11	279.4	12-1/2	317.5	6P(1150rpm)	8	203.2	9	228.6	10	254

### PERFORMANCE CURVE



- 3 -

### PERFORMANCE CURVE

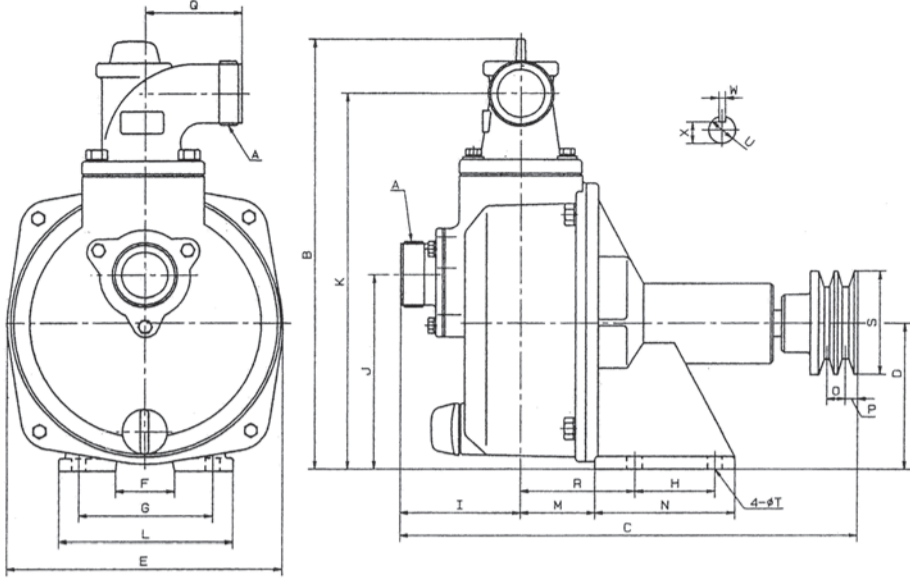


### TROUBLE & REMEDY

- Pump dose not revolve.
  - Breakage of bearing (Replace bearing)
  - Sticking of impeller (Disassemble & clean)
- Pumping volume is small.
  - Entrance of air at suction side (Check piping at suction side)
  - Breakage of mechanical seal (Replace mechanical seal)
  - High suction lift (Lower)
  - Thin or long or kink of hose (Thicken or shorten or straighten)
  - Leak of water from water passage (Stop leak)
  - Clogging of foreign substance in impeller (Disassemble & clean)
  - Imperfect revolution
  - Wear of impeller (Replace impeller)
- Pump does not self-prime.
  - Suction of air at suction side (Check piping at suction side)
  - Insufficient priming water inside pump casing (Prime water fully)
  - Imperfect tightening of drain cock (Tighten the plugs completely)
  - Imperfect revolution
  - Entrance of air from mechanical seal (Replace mechanical seal)

- 4 -

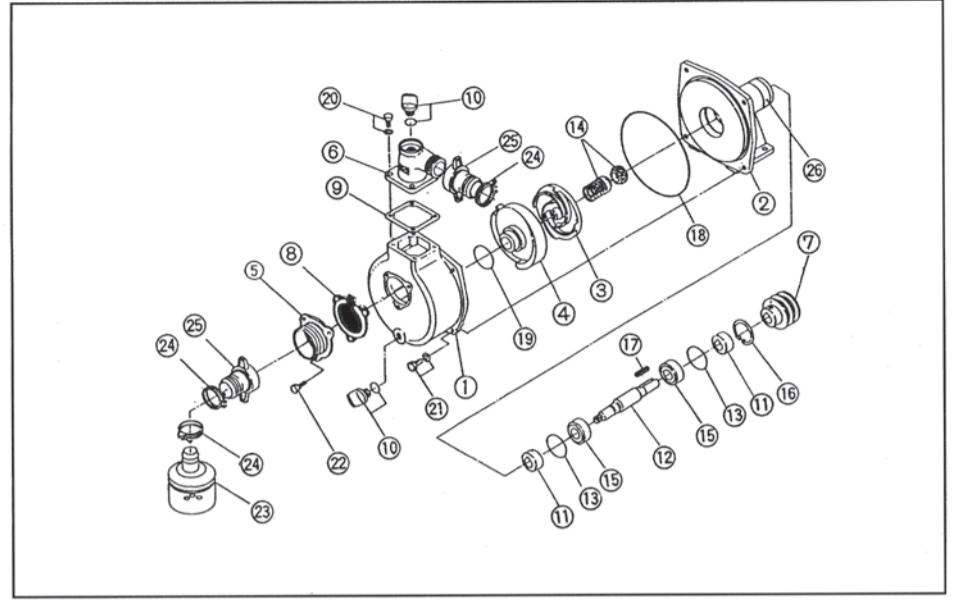
**DIMENSION**



MODEL	A	B	C	D	E	F	G	H	I	J	K	L
SU-40V	PS1½"	319	341	110	209	110	150	60	91	147	280	190
SU-50V	PS2"	378	371	115	238	135	150	80	100	152	337	205
SU-80V	PS3"	428	404	130	270	155	205	85	122	175	371	235

M	N	O	P	Q	R	S	T	U	W	X	V-Pulley
52	108	15	9	75	85	76.2	11	19	5	16	3"×A2
56	127	19	12.5	80	88	78	11	24	7	20	3"×B2
72	130	19	12.5	112	102	78	14	24	7	20	3"×B2

**PARTS LIST**



**[SU-40V]**

No.	PARTS No.	PARTS NAME	QTY	REMARKS	No.	PARTS No.	PARTS NAME	QTY	REMARKS
1	0113330	Pump casing	1		14	0114825	Mechanical seal	1	φ 19
2	0115733	Pedestal stand	1		15	912506014	Bearing	2	
3	0115734	Impeller	1		16	888427047	Stop ring	1	
4	0110218	Volute casing	1		17	884009045	Parallel key	1	
5	0113327	Suction flange	1		18	0115014	O-ring	1	1517-42.5 NBR
6	0110577	Delivery flange	1		19	889855048	O-ring	1	P48 NBR
7	0118314	V-pulley set	1		20	743119047	Bolt	4	M8×25
8	0113328	Check valve	1		21	743119046	Bolt	4	M8×22
9	0110593	Flange packing	1		22	743119045	Bolt	3	M8×20
10	0118078	Plug set	2	20A	23	0118194	Strainer	1	
11	0115737	Rubber seal	2	NBR	24	940019048	Hose band	3	
12	0115736	Shaft	1		25	0117212	Coupling set	2	
13	889855018	O-ring	2	P18 NBR					

**[SU-50V]**

No.	PARTS No.	PARTS NAME	QTY	REMARKS	No.	PARTS No.	PARTS NAME	QTY	REMARKS
1	0114005	Pump casing	1		14	0114825	Mechanical seal	1	φ 19
2	0115719	Pedestal stand	1		15	912506016	Bearing	2	
3	0115720	Impeller	1		16	888427052	Stop ring	1	
4	0115721	Volute casing	1		17	884009073	Parallel key	1	
5	0112662	Suction flange	1		18	0115015	O-ring	1	1517-46.5 NBR
6	0110556	Delivery flange	1		19	0112792	O-ring	1	P54 NBR
7	0118090	V-pulley set	1		20	743119047	Bolt	4	M8×25
8	0112665	Check valve	1		21	743119061	Bolt	4	M10×25
9	0110541	Flange packing	1		22	743119045	Bolt	3	M8×20
10	0118078	Plug set	2	20A	23	0118159	Strainer	1	
11	0115723	Rubber seal	2	NBR	24	940019060	Hose band	3	φ 60
12	0115722	shaft	1		25	0117026	Coupling set	2	
13	889955025	O-ring	2	P25 NBR					

**[SU-80V]**

No.	PARTS No.	PART NAME	QTY	REMARKS	No.	PARTS No.	PARTS NAME	QTY	REMARKS
1	0112795	Pump Casing	1		13	889955025	O-ring		
2	0115913	Pedestal stand	1	FC	14	0115918	Mechanical seal	1	TYPE6
3	0115914	Impeller	1	FC	15	912506018	Bearing	2	6206-2NSE
4	0115915	Volute casing	1	FC	16	0116788	Stop ring	1	
5	0112797	Suction flange	1	ADC	17	0116741	Parallel key	1	
6	0110570	Delivery flange	1	ADC	18	0115016	O-ring	1	1517-51.5 NBR
7	0117593	V-pulley set	1		19	0113989	O-ring	1	P74 NBR
8	0112799	Check valve	1		20	743119063	Bolt	4	M10×30
9	0110584	Flange packing	1	CR	21	743119078	Bolt	4	M12×30
10	0118078 0118079	Plug set	1		22	743119061	Bolt	3	M10×25
11	0115917	Rubber seal	1	NBR	23	0118016	Strainer	1	
12	0115916	Shaft	1	S45C	24	940019090	Hose band	3	φ 90
					25	0117028	Coupling set	2	