

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

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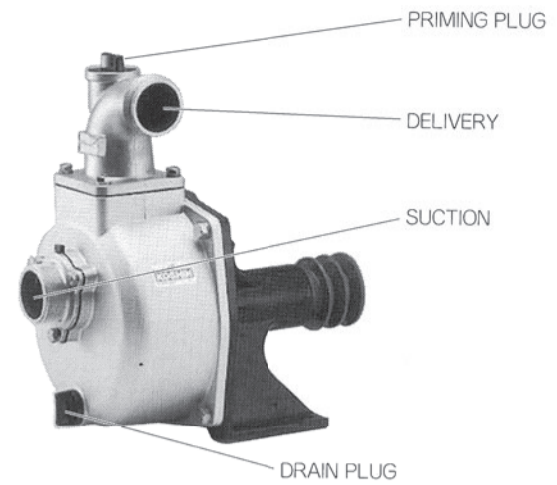
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12 Kami-Hachinotsubo, Kotari, Nagaokakyo city, Kyoto, 617-8511, Japan

- 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 | | |

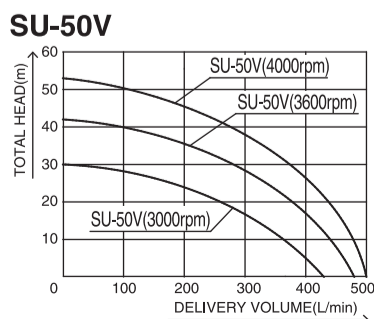
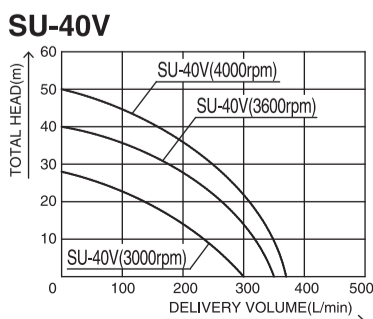
Chart Showing co-relation between motor rotation and pulley diameter

| 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 | 2P(2880rpm) | 3 | 76.2 | 3-1/2 | 88.9 | 4 | 101.6 | 60 | 2P(3440rpm) | 2-1/2 | 63.5 | 3 | 76.2 | 3-1/2 | 88.9 | 4P(1720rpm) | 5 | 127 | 6 | 152.4 | 7 | 177.8 |
| | | 6 | 152.4 | 7-1/2 | 190.5 | 8 | 203.2 | | | 4P(1720rpm) | 5 | 127 | 6 | 152.4 | 7 | | 177.8 | | | | | |
| | | 9 | 228.6 | 11 | 279.4 | 12 | 304.8 | | | 6P(1150rpm) | 7-1/2 | 190.5 | 9 | 228.6 | 10 | | 254 | | | | | |

| 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 | 2P(2880rpm) | 3 | 76.2 | 3-1/2 | 88.9 | 4 | 101.6 | 60 | 2P(3440rpm) | 2-1/2 | 63.5 | 3 | 76.2 | 3-1/2 | 88.9 | 4P(1720rpm) | 5 | 127 | 6 | 152.4 | 7 | 177.8 |
| | | 6 | 152.4 | 7-1/2 | 190.5 | 8-1/2 | 215.9 | | | 4P(1720rpm) | 5 | 127 | 6 | 152.4 | 7 | | 177.8 | | | | | |
| | | 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 | | | | | |

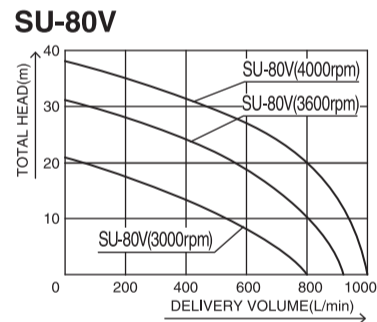
| SU-80V | | | | | | | | SU-80V | | | | | | | | | | | | | | |
|--------|--------------------------|------------|-------|---------|-------|---------|-------|---------|-------------|-------------|--------------------------|------------|------|---------|------|-------------|-------|---------|----|-------|---|-------|
| 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 | 2P(2880rpm) | 3 | 76.2 | 3-1/2 | 88.9 | 4 | 101.6 | 60 | 2P(3440rpm) | - | - | 3 | 76.2 | 3-1/2 | 88.9 | 4P(1720rpm) | 5 | 127 | 6 | 152.4 | 7 | 177.8 |
| | | 6 | 152.4 | 7-1/2 | 190.5 | 8-1/2 | 215.9 | | | 4P(1720rpm) | 5 | 127 | 6 | 152.4 | 7 | | 177.8 | | | | | |
| | | 9 | 228.6 | 11 | 279.4 | 12-1/2 | 317.5 | | | 6P(1150rpm) | 8 | 203.2 | 9 | 228.6 | 10 | | 254 | | | | | |

PERFORMANCE CURVE



- 3 -

PERFORMANCE CURVE

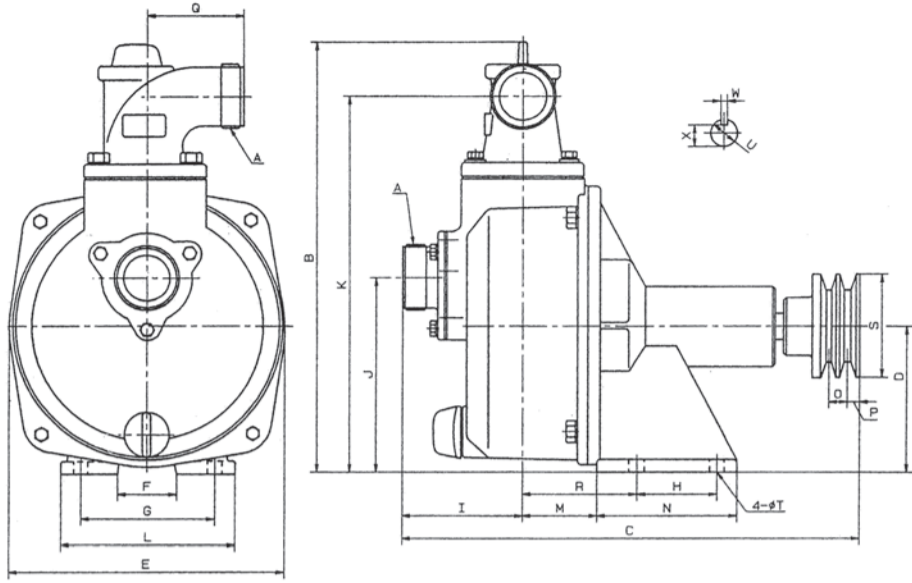


TROUBLE & REMEDY

- 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 -

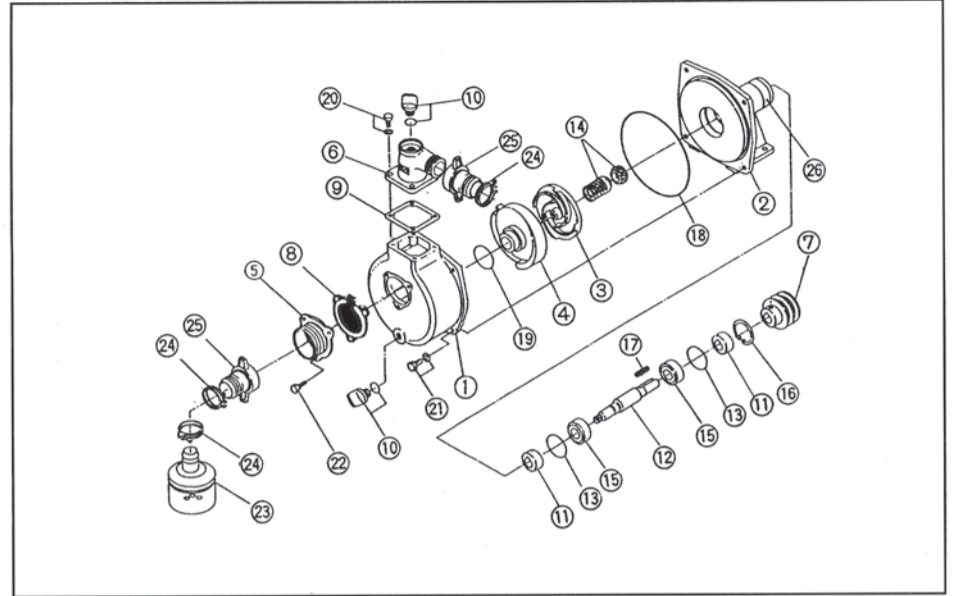
DIMENSION



| 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 | |