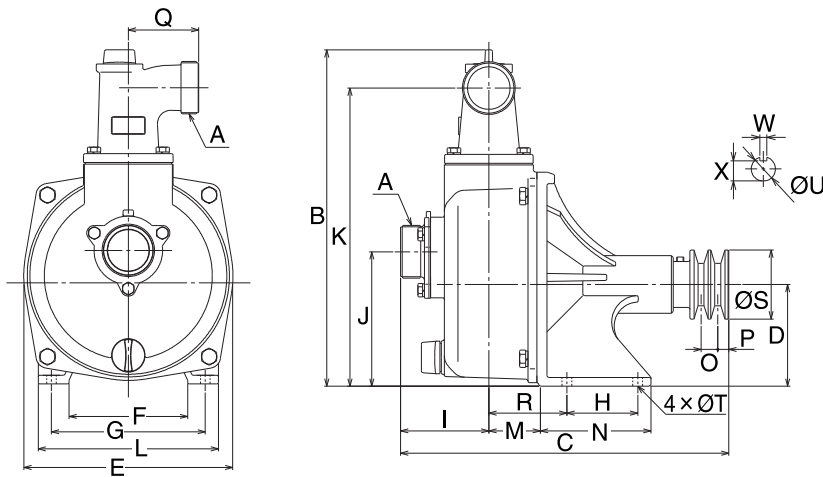


**DEMENSION**



	A	B	C	D	E	F	G	H	I	J	K	L
SU-25Z	G1	274	307	90	174	90	130	45	92	121	242	150
SU-25Z-BAD			297									
SU-40Z	G1½	318	340	110	209	110	150	60	91	147	280	190
SU-50Z	G2	351	371	115	238	135	175	80	100	152	307	205
SU-80Z	G3	403	405	115	238	135	175	80	123	168	348	205
	M	N	O	P	Q	R	S	T	U	W	X	V Pulley
SU-25Z	41	90	16	9	57	71	64	9	19	5	15	2½" × A2
SU-25Z-BAD			—	12			102					4" × B1
SU-40Z	52	108	16	9	75	85	76	11	19	5	15	3" × A2
SU-50Z	56	127	20	12	76	88	78	11	24	8	20	3" × B2
SU-80Z	67	127	20	12	110	99	78	11	24	8	20	3" × B2



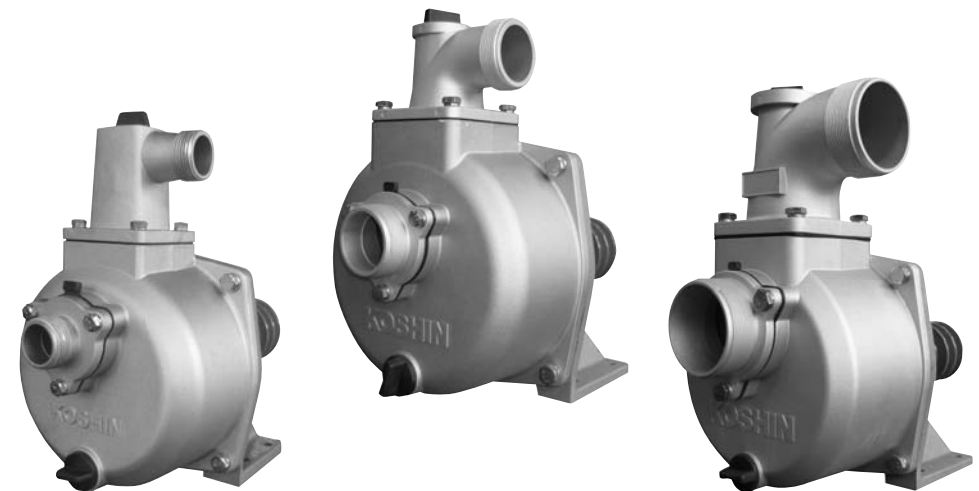
# PABOOL PUMP

High Performance Self-Priming Pump

## OPERATION MANUAL

Common points for SU series

- Thank you for purchasing Koshin Pabool Pump. Upon receipt, please check the followings.
- Model is exactly what you ordered.
- There is no damage in receipt.
- All accessories are included.



## KOSHIN LTD.

12 Kami-Hachinotsubo Kotari, Nagaokakyo City, Kyoto 617-8511 JAPAN  
 TEL.+81-75-954-6111 FAX.+81-75-954-6119  
[www.koshinpump.com](http://www.koshinpump.com)

## KOSHIN LTD. <http://www.koshinpump.com>

12 Kami-Hachinotsubo Kotari, Nagaokakyo City, Kyoto 617-8511 JAPAN  
 TEL.+81-75-953-2499 FAX.+81-75-954-6119

## About " SNAP RING (C-RING)

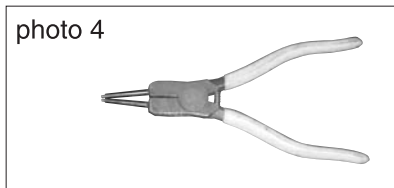
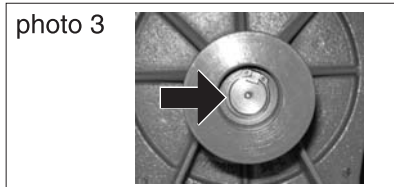
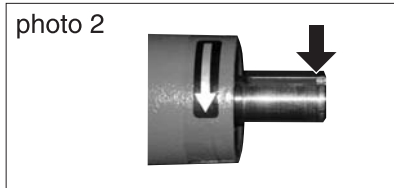
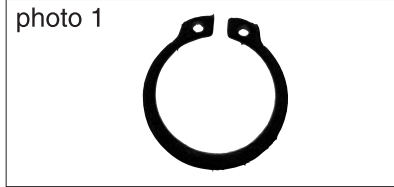
This product has "Snap Ring (C-Ring) as standard accessory. (Please refer photo 1)

To avoid Pulley's omission from the pump shaft during operatin of pump, we recommend to put this Snap Ring (C-Ring).

You can find the groove at the end of the shaft where you install the Pulley. (Please refer photo 2)

After install the Pulley, please put the Snap Ring (C-Ring) into this groove. (Please refer photo 3)

To fix the Snap Ring (C-Ring), it is necessary to use special tool such as Snap Ring Plier. (Please refer photo 4)



## ⚠ CAUTION

### 1. Application

As this pump is design for clean water , do not apply for with muddy water.  
\*If you don't follow instruction , it may cause no damage of mechanical seal.

### 2. Priming

As this pump is self-priming type, fill water into pump casing before running.  
\*If you don't follow instruction , it may cause no suction and pump . Damage mechanical seal.

### 3. Connection of suction hose

Fix suction hose to suction side coupling firmly and tighten by hose band.  
If you don't follow instruction , it may cause no suction and pump.

### 4. Always rotate arrow direction , see photo 2(counter-clock wise watching from pully)

### 5. Don't turn over 4000rpm(except SU-25),because itneeds bigger power.

Please set correct pulley on moter shaft.

$$\text{pump rpm} = \frac{\text{øEngine pulley} \times \text{Engine rpm}}{\text{øpump pulley}}$$

### 6. Drain water after use

Water inside may freeze at below 0°C in winter it may damage pump casing.  
After use, drain water from drain plug before storing.

\*If you don't follow instruction , it may damage pump casing. Breakage of pump casing.

### 7. Don't run dry.

### 8. Drain of water after use

If water remain in pump casing at below 0°C, pump casing may be damaged.  
After use please, drain water from drain port at bottom to store.

\*If you don't follow instruction , pump casing may be damaged.

### 9. Prevent water hammer

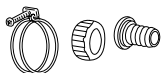
Do not abruptly compress discharge hose during operation.

\*If you don't follow instruction , pump casing may be damaged. Breakage of pump casing.

## ⚠ CAUTION



**Please use suction hose for suction side.** Please purchase suitable hose to fit to connection dia and suitable length.



**Please firmly connect hose with coupling and hose band** when you connect suction or delivery hose to pump.

### LABEL

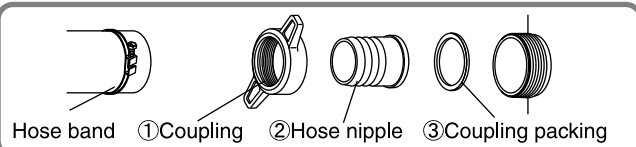


Replace name plate if damaged/peeled, please order with sales store.

## 1 How to install Coupling

### ⚠ CAUTION

Different accessories are suitable for different models. Please check connection diameter and install correct parts.



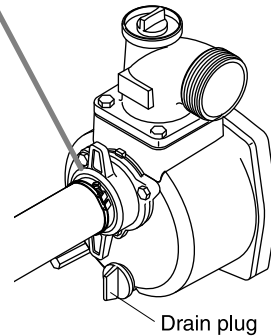
### ⚠ CAUTION

Please install coupling in order of :

① → ② → ③

If you install coupling packing not in above order, air leakage may result, affecting water suction efficiency.

Do not change pump diameter by altering suction hose.



## 2 Make sure suction hose is connected properly

In case of no self-priming after filling pump with water and motor is started, check suction hose connection carefully again.

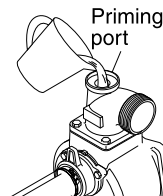
Most cases of no self-priming are caused by improper hose connection.

### ⚠ CAUTION

Use suction hose for suction side. Use couplings/hose band as provided in accessory and attach hose properly. Installation of strainer at the end of suction hose is necessary.

## 3 Fill pump with water before use

As pump is self-priming type, fill water fully from priming port into pump before running. Insufficient water can cause damage to pump.



### ⚠ CAUTION

Running without filling water can damage mechanical seal.

## HOW TO USE

1 Ensure pump is fully filled up with water.

2 Ensure strainer at the end of suction hose is in water.

(If any mud or sand is at the bottom of water, suspend hose avoiding the bottom.)

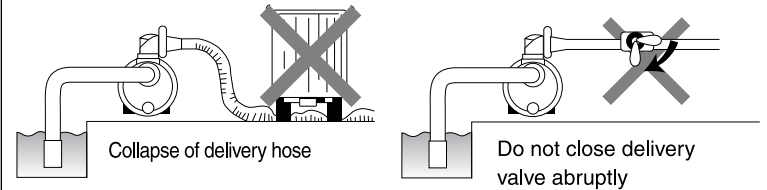
3 Ensure no obstacle is at delivery hose side.

### **Beware of water hammering**

Do not allow any vehicle to run over the delivery hose. Do not close the delivery valve abruptly because water-hammer may occur.

This may result in heavy damage to the pump.

### ⚠ CAUTION

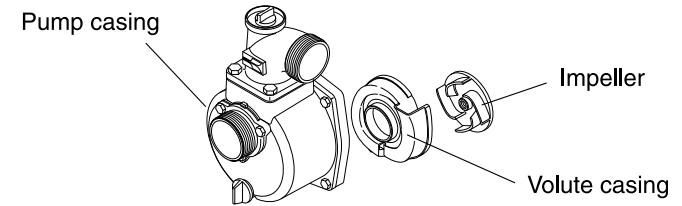


## TROUBLESHOOTING GUIDE

PROBLEM	POSSIBLE CAUSE	SOLUTION
Pump dose not run.	Damage of bearing.	Replace bearing.
	Sticking of impeller.	Disassemble & clean ⇒ SOLUTION ①
Pump volume is small.	Air leakage at drain plug.	Tighten drain plug.
	Air leakage at suction side.	⇒ SOLUTION ②
	Damage of mechanical seal.	Replace mechanical seal.
	Suction lift is too high	Make suction lift lower
	Suction pipe is too long or small.	Shorten suction pipe or enlarge diameter.
	Leak of water from water passage.	Replace of mechanical seal.
	Obstacles at impeller.	Adjust revolution of motor.
Pump does not prime water.	Air leakage at suction side.	Check drain plug, connection of suction hose and hose band tighten drain.
	Insufficient priming water inside pump casing.	Pour more water into pump casing for priming.
	Imperfect tightening of drain plug.	Tighten drain plug firmly.
	Damage of mechanical seal.	Replace mechanical seal.

### SOLUTION ①

Remove obstacle in impeller.  
(Please don't remove impeller)



### SOLUTION ②

#### Check suction pipe.

In case of no suction or small delivery, the cause is usually due to air leakage at suction side.

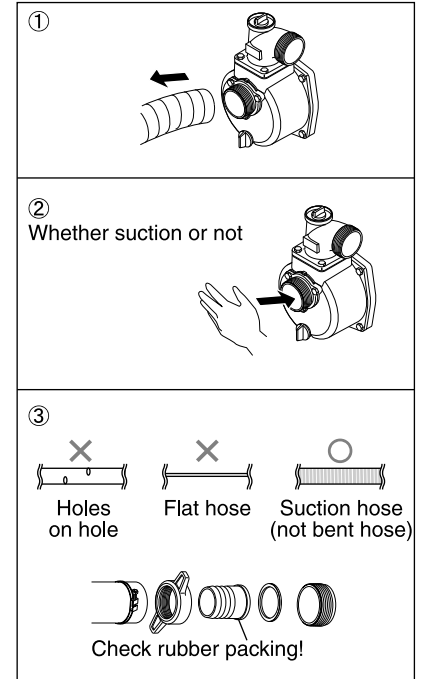
In such case :

① Remove suction hose

② Start motor with water inside the pump.

Press the palm of your hand to cover the suction hole and wait 30 seconds. If you feel suction on your palm, the pump is working fine but hose connection needs correction.

③ Please check if rubber packing is installed and if there is any hole on suction hose



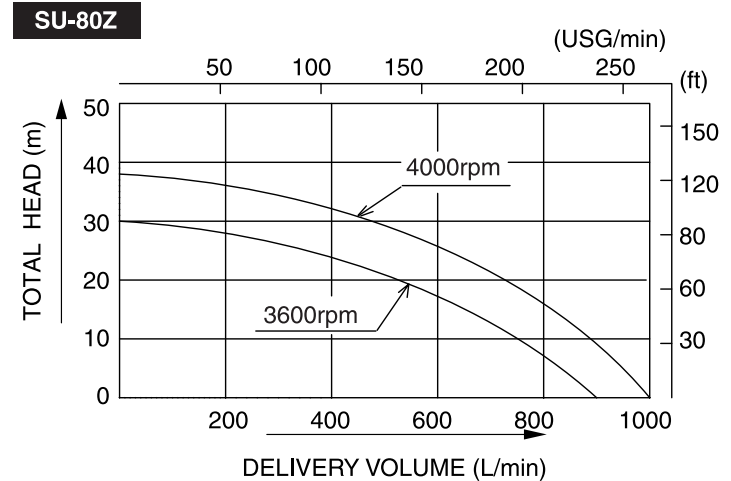
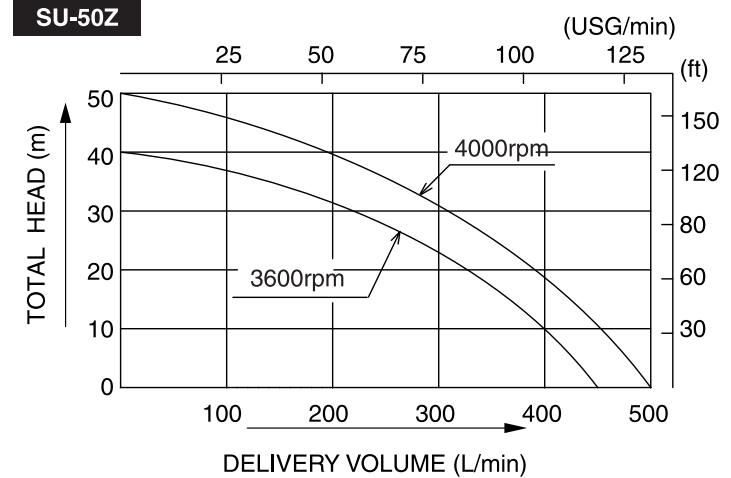
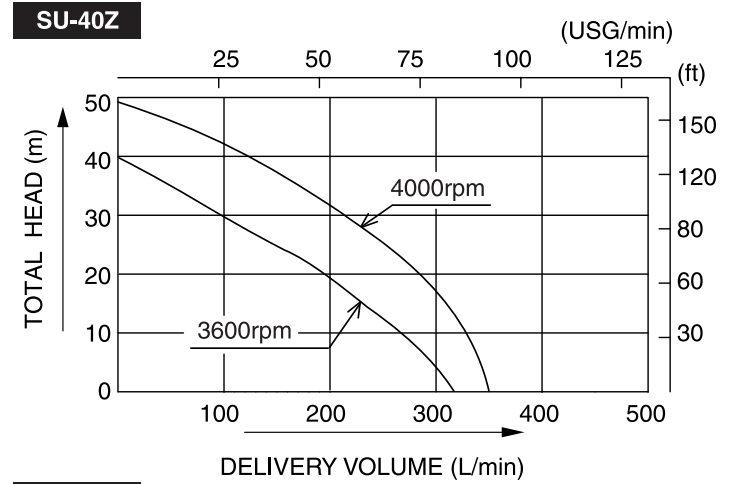
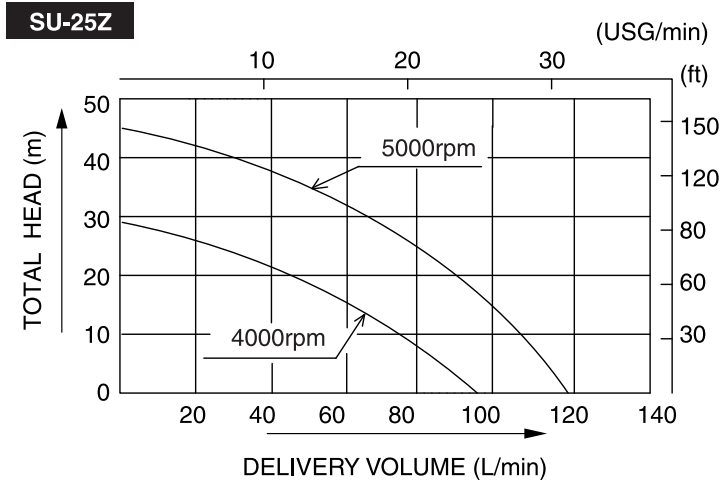
### ⚠ CAUTION

For check assistance and repair, please ask your nearest sales store for after sales service.

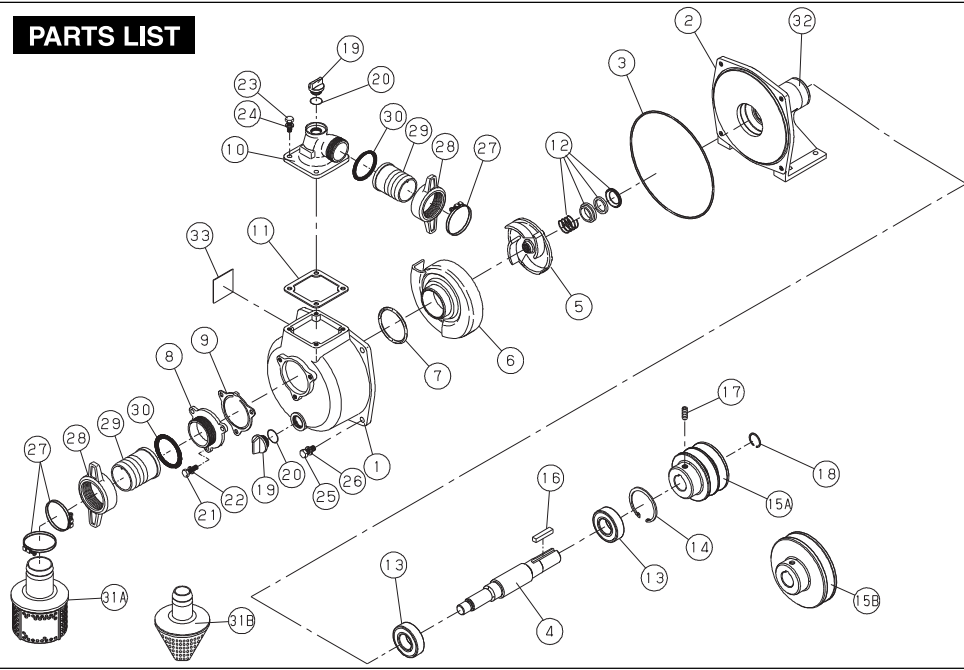
## SPECIFICATION

Model	SU-25Z		SU-40Z		SU-50Z		SU-80Z	
Connection Dia (mm)	25(1")		40(1½")		50(2")		80(3")	
Connection Thread	G(Parallel pipe threads)							
Revolution (rpm)	4000	5000	3600	4000	3600	4000	3600	4000
Total Head (m)	29	45	40	50	40	50	30	38
(Feet)	95	147	131	164	131	164	98	124
Delivery Volume (L/min)	96	120	315	350	450	500	900	1000
(USG/min)	25	31	83	92	118	132	237	264
Power (PS)	2	3	4	5	5	7.5	7.5	10
(kw)	1.5	2.2	3.0	3.7	3.7	5.5	5.5	7.5
Pulley Size (inch)	2½ × A2 4 × B1(BAD)		3 × A2		3 × B2			
Weight (kg)	8		12		14		16	
(lb)	17.7		26.5		30.9		35.3	
Standard Accessory	Strainer × 1 Couplings × 2 Hosebands × 3							

## PERFORMANCE CURVE



# PARTS LIST



## SU-25Z/40Z/50Z/80Z

No.	PARTS CODE	PARTS NAME	REMARKS	QTY
1	0730019	PUMP CASE ADC	SU-25	1
	0730088	PUMP CASE ADC	SU-40	1
	0730020	PUMP CASE ADC	SU-50	1
	0730008	PUMP CASE ADC	SU-80	1
2	0730009	HOUSING FC	SU-25	1
	0730089	HOUSING FC	SU-40	1
	0730010	HOUSING FC	SU-50/80	1
3	0730032	O-RING 1517-37	NBR SU-25	1
	0730099	O-RING 1517-42.5	NBR SU-40	1
	0730044	O-RING 1517-46.5	NBR SU-50/80	1
4	0730016	SHAFT SC	SU-25	1
	0730087	SHAFT SC	SU-40	1
	0730018	SHAFT SC	SU-50/80	1
	0730066	SHORT SHAFT SC	SU-25Z-BAD	1
5	0730011	IMPELLER FC	SU-25	1
	0730090	IMPELLER FC	SU-40	1
	0730013	IMPELLER FC	SU-50	1
	0730021	IMPELLER FC	SU-80	1

No.	PARTS CODE	PARTS NAME	REMARKS	QTY
6	0730012	VOLUTE CASING FC	SU-25	1
	0730091	VOLUTE CASING FC	SU-40	1
	0730014	VOLUTE CASING FC	SU-50	1
	0730022	VOLUTE CASING FC	SU-80	1
7	0730031	O-RING P42	NBR SU-25	1
	0730100	O-RING P48	NBR SU-40	1
	0730043	O-RING P54	NBR SU-50	1
	0730050	O-RING P74	NBR SU-80	1
8	0730026	SUCTION FLANGE ADC	SU-25	1
	0730092	SUCTION FLANGE ADC	SU-40	1
	0730038	SUCTION FLANGE ADC	SU-50	1
9	0730051	SUCTION FLANGE ADC	SU-80	1
	0730027	CHECK VALVE NBR	SU-25	1
	0730094	CHECK VALVE NBR	SU-40	1
	0730039	CHECK VALVE NBR	SU-50	1
10	0730052	CHECK VALVE NBR	SU-80	1
	0730023	DELIVERY FLANGE ADC	SU-25	1
	0730093	DELIVERY FLANGE ADC	SU-40	1

No.	PARTS CODE	PARTS NAME	REMARKS	QTY
10	0730024	DELIVERY FLANGE ADC	SU-50	1
	0730025	DELIVERY FLANGE ADC	SU-80	1
11	0730028	FLANGE PACKING NBR	SU-25	1
	0730098	FLANGE PACKING NBR	SU-40	1
	0730040	FLANGE PACKING NBR	SU-50	1
12	0730054	FLANGE PACKING NBR	SU-80	1
	0730068	MECHANICAL SEAL		1
13	0730064	BEARING 6204 DDU	SU-25/40	2
	0730065	BEARING 6205 DDU	SU-50/80	2
14	0730062	STOP RING 47	SU-25/40	1
	0730063	STOP RING 52	SU-50/80	1
15A	0730011	V-PULLEY 2.5A2 FC	SU-25	1
	0730101	V-PULLEY 3A2 FC	SU-40	1
	0730017	V-PULLEY 3B2 FC	SU-50/80	1
15B	0730067	V-PULLEY 4B1 FC	SU-25Z-BAD	1
16	0730060	KEY 5x5x32	SU-25/40	1
	0730061	KEY 8x7x36	SU-50/80	1
	0730104	KEY 5x5x25	SU-25Z-BAD	1
17	0730069	HEXAGON SOCKET BOLT		1
18	0730077	STOP RING 19	SU-25/40	1
	0730078	STOP RING 24	SU-50/80	1
19	0730029	PLUG 15A PA+GF	SU-25	2
	0730041	PLUG 20A PA+GF	SU-40/50/80	2
	0730030	O-RING P18 NBR	SU-25	1
20	0730042	O-RING G25 NBR	SU-40/50/80	2
	0730070	HEXAGON BOLT M6 x 20	SU-25/40	3
21	0730072	HEXAGON BOLT M8 x 20	SU-50	3
	0730082	HEXAGON BOLT M10 x 25	SU-80	3
22	0730071	WASHER φ6	SU-25/40	3
	0730073	WASHER φ8	SU-50	3
	0730081	WASHER φ10	SU-80	3
23	0730070	HEXAGON BOLT M6 x 20	SU-25	4
	0730079	HEXAGON BOLT M8 x 25	SU-40/50	4
	0730082	HEXAGON BOLT M10 x 25	SU-80	4
24	0730071	WASHER φ6	SU-25	4
	0730073	WASHER φ8	SU-40/50	4
	0730081	WASHER φ10	SU-80	4
25	0730079	HEXAGON BOLT M8 x 25	SU-25/40	4
	0730080	HEXAGON BOLT M10 x 22	SU-50	4
	0730082	HEXAGON BOLT M10 x 25	SU-80	4
26	0730073	WASHER φ8	SU-25/40	4
	0730081	WASHER φ10	SU-50/80	4

No.	PARTS CODE	PARTS NAME	REMARKS	QTY
27	0730034	HOSE BAND φ32	SU-25	3
	0730086	HOSE BAND φ48	SU-40	3
	0730046	HOSE BAND φ60	SU-50	3
	0730056	HOSE BAND φ90	SU-80	3
28	0730035	COUPLING ADC	SU-25	2
	0730095	COUPLING ABS	SU-40	2
	0730047	COUPLING ABS	SU-50	2
29	0730057	COUPLING ABS	SU-80	2
	0730036	NIPPLE ABS	SU-25	2
	0730096	NIPPLE ABS	SU-40	2
30	0730048	NIPPLE ABS	SU-50	2
	0730058	NIPPLE ABS	SU-80	2
	0730037	COUPLING PACKING NBR	SU-25	2
31A	0730097	COUPLING PACKING NBR	SU-40	2
	0730049	COUPLING PACKING NBR	SU-50	2
	0730059	COUPLING PACKING NBR	SU-80	2
31B	0738006	STRAINER PP	SU-25	1
	0738007	STRAINER PP	SU-40	1
	0738009	STRAINER PP	SU-80	1
32	0738008	STRAINER PP	SU-50	1
33	0730053	LABEL		1
	0730118	NAME PLATE	SU-25Z-BAA	1
	0730001	NAME PLATE	SU-25Z-BAB	1
	0730126	NAME PLATE	SU-25Z-BAC	1
	0730105	NAME PLATE	SU-25Z-BAD	1
	0730119	NAME PLATE	SU-40Z-BAA	1
	0730103	NAME PLATE	SU-40Z-BAB	1
	0730127	NAME PLATE	SU-40Z-BAC	1
	0730120	NAME PLATE	SU-50Z-BAA	1
	0730002	NAME PLATE	SU-50Z-BAB	1
34	0730128	NAME PLATE	SU-50Z-BAC	1
	0730121	NAME PLATE	SU-80Z-BAA	1
	0730003	NAME PLATE	SU-80Z-BAB	1
	0730129	NAME PLATE	SU-80Z-BAC	1
	0730074	MANUAL		1
	0730112	PACKING CASE	SU-25Z-BAA	1
	0730005	PACKING CASE	SU-25Z-BAB/BAC	1
	0730132	PACKING CASE	SU-25Z-BAD	1
	0730113	PACKING CASE	SU-40Z-BAA	1
	0730102	PACKING CASE	SU-40Z-BAB/BAC	1
35	0730114	PACKING CASE	SU-50Z-BAA	1
	0730006	PACKING CASE	SU-50Z-BAB/BAC	1
	0730084	PACKING CASE	SU-80Z-BAA	1
	0730007	PACKING CASE	SU-80Z-BAB/BAC	1