

MARUZEN

HYDRAULIC WATER PUMP

MODEL PH300

OPERATING MANUAL



CAUTION

FOR THE SAFETY PURPOSE, PLEASE READ THIS MANUAL THOROUGHLY BEFORE ATTEMPTING TO USE THIS WATER PUMP. ANY FALES OPERATING PROCEDURES WILL CAUSE DAMAGES OF THE MACHINE. ALWAYS KEEP THIS MANUAL TO AN EASILY ACCESSABLE PLACE.



MARUZEN KOGYO CO., LTD.

(Revised Apr. 20, 2017)

FOREWORD

This manual is an important part of your equipment. It provides rules and guidelines which will help you use this machine safely and effectively. You **MUST** familiarize yourself with the functions and operations by reading the manual thoroughly before you begin using this machine. For your safety, it is especially important that you read and observe all precautions in this manual and on the machine. The precautions **MUST** be followed strictly at all times when performing operation and maintenance. * Fail to follow the guidelines and safety alerts in the manuals and on the machine, or use this machine in alternative ways from the manuals may result in system failure or serious personal injury.

Keep this manual with the equipment or in an easily accessible place in all times for future reference. Make sure all personnel involved in working on this machine can consult it periodically. In case this manual should be lost or damaged, immediately contact us or your dealer to purchase a new copy.

We recommend you always use Maruzen genuine components and parts. Replacing components and parts from other sources may cause damages to this machine and endanger operators.

MARUZEN KOGYO CO., LTD.
155-8 NAGABUSE, MISHIMA-SHI,
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CONTENTS

Safety Information.....	4 ~ 7
Safety Alert Classifications.....	4
Safety Alerts	5 ~ 7
Specifications & Descriptions.....	8
Precaution Labels and Positions	9
Inspection before Each Operation.....	10
Operation.....	11 ~ 12
Guidelines	13
Periodically Inspection	13
Troubleshooting.....	14 ~ 15
Exploded View.....	16
Parts List.....	17

SAFETY INFORMATION

To enable you to use this machine safely, safety precautions and labels are given in this manual and affixed to the machine to give explanations of situations involving potential hazards and of the methods of avoiding such situations.

SAFETY ALERT CLASSIFICATIONS

The following safety alert symbols are used to inform you that there is a potential hazardous situation that may lead to personal injury or damage.

In this manual and on machines labels, the following safety alert symbol are used to express the potential level of hazard.



DANGER

Indicates an imminently hazardous situation which, if not avoided, could result in death or serious injury.



WARNING

Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



CAUTION

Indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury.

**** Safety alert symbols are to emphasize all operation which, if not strictly followed, could result in a life-threatening situation, bodily injury or damage to equipment.**

SAFETY ALERTS

DO NOT OPERATE THE MACHINE UNLESS THE FOLLOWING SAFETY INSTRUCTIONS HAVE BEEN THOROUGHLY READ AND UNDERSTOOD!



WARNING

Before operating the equipment, be sure to wear personal protective equipments such as follows:

1. Helmet
2. Protective goggles
3. Protective boots
4. Safety gloves
5. Hearing Protection



WARNING

Do not operate the equipment if you are or if your

1. taking medication, feeling drowsy, feeling unwell or feeling tired.
2. under the influence of drugs or alcohol.
3. hands, feet, lower back or other parts of your body hurt or being injured.

* Failure to observe this precaution can result serious injury or even death.

**CAUTION**

Do not touch the machine with your bare hands

1. The oil tank may become hot under continuous running.
Do not touch the equipment with your bare hands.

2. Tools may become hot under continuous use, make sure to wear gloves before any contact with the tools.

* Failure to observe this precaution can result getting burned

**CAUTION**

When lending someone the equipment

Make sure the safety instructions have been thoroughly read and fully understood by the person who is going to use the equipment.

**WARNING**

Be special cautions to high pressure gas

1. High pressure gas was held inside the accumulator of the breaker.

2. Do not loosen the nut unless it is necessary for maintenance.

Failure to observe this precaution can result serious injury

INTRODUCTION

1. This hydraulic pump is designed to be used for pumping clean water, muddy water, and sewage water (contains no chemical substances).

2. **DO NOT** operate this pump on the following situations:
 - (1) DO NOT use for fluid other than water.
 - (2) DO NOT use for fluid which contains chemical substances, such as hot springs or any fluid which might cause corrossions of the machine.
 - (3) DO NOT use water which its temperature exceed 50°C.
 - (4) DO NOT use for fluid which contains inflammable substances or evaporating substances. Inflammable substances or evaporating substances may result fire and explosion.

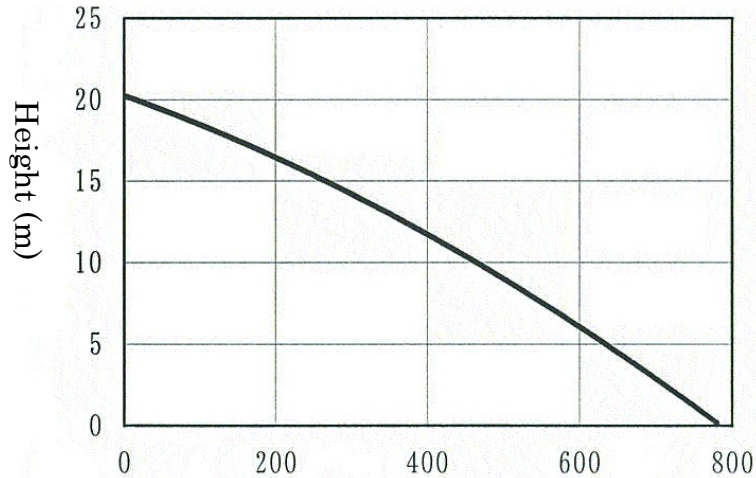
3. DO NOT connect or use with power source which its oil flow is in different range. (The oil flow should be 25L/min or less)

4. DO NOT use this pump for other purposes.

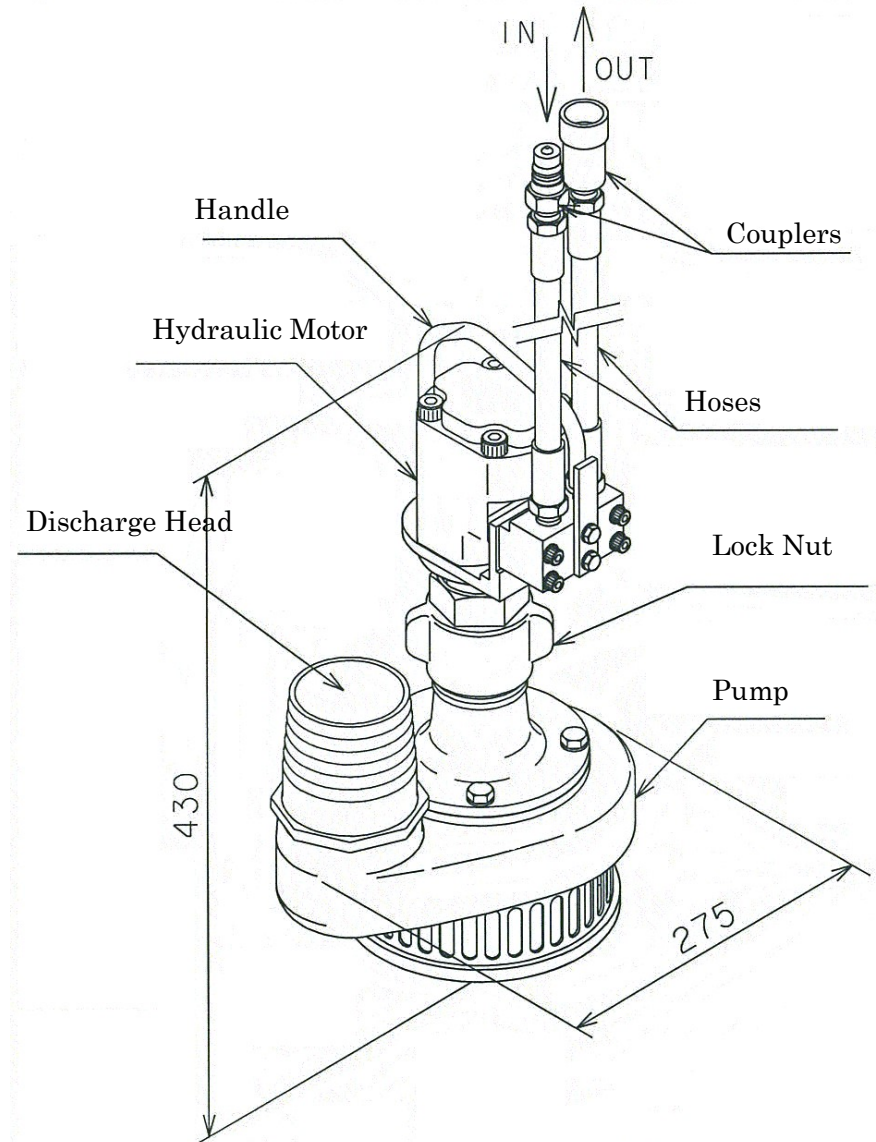
SPECIFICATIONS & DESCRIPTIONS

Overall Weight	12.4kg
Overall Dimensions	275mm X 430mm(Hoses not included)
Working Pressure	9.8MPa
Oil Flow	20.5 L/min
Max. Oil Flow	25L/min
Max..Discharge	780L/min (at 20.5L/min)
Max. Discharge D	∅ 75mm (3")
Max. Delivery Height	20m (20.5 L/min)
Coupling	3/8" Couplers

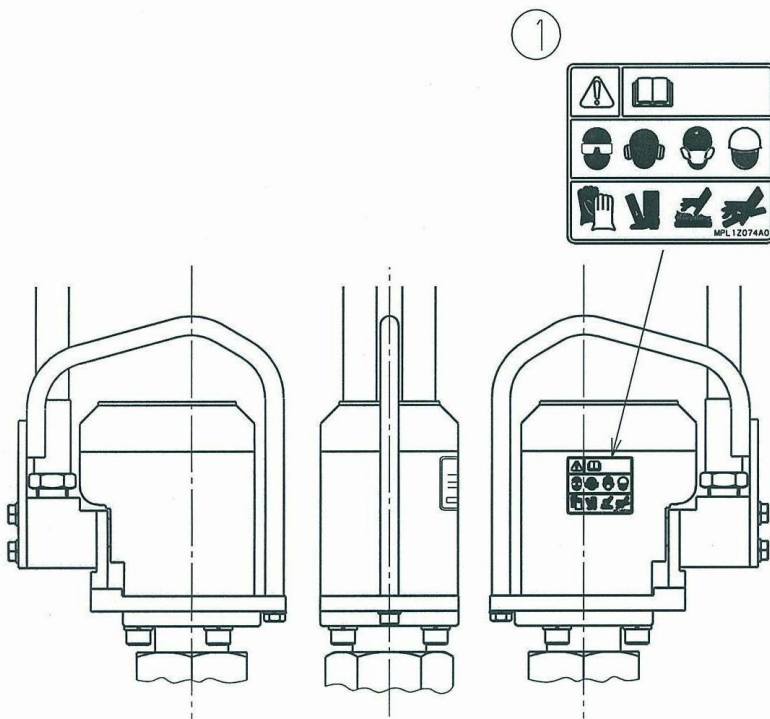
Performance Curve



Discharge Rate (L/min)



PRECAUTION LABELS AND POSITIONS



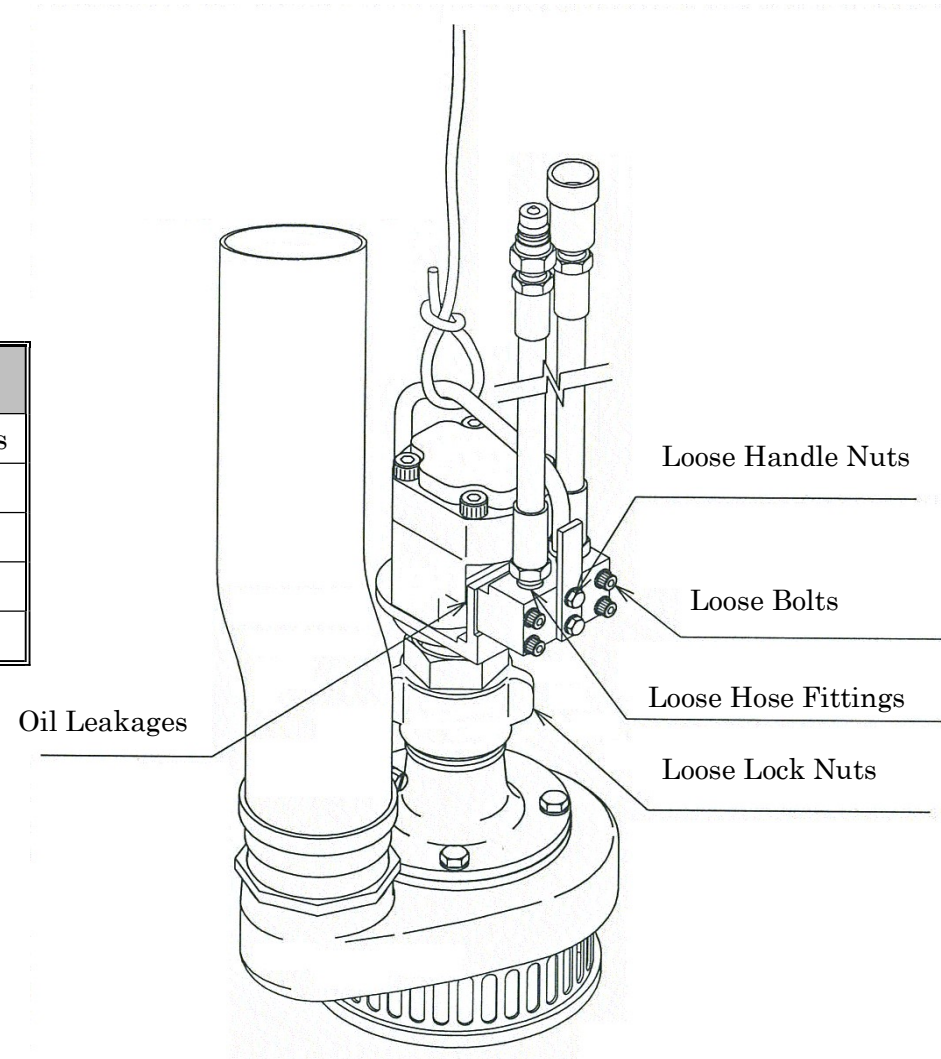
Make sure labels are legible.
Replace new one when they are illegible.

NO.	CODE	DESCRIPTION
①	MPL1Z098A0	SAFETY LABEL

INSPECTIONS BEFORE EACH OPERATION

For the purpose of keeping this water pump in good condition, make sure the following inspection items are done each time before using. (Refer the drawing on the right)

Inspection Items	Countermeasures
Loose Lock Nuts	Tightening the loose lock nuts
Loose Handle Nuts	Tightening the handle nuts
Loose of Hose fittings	Tightening the hose fittings
Oil Leakages	Repair
Loose Bolts	Tightening all the loose bolts



OPERATION

Make sure this water pump is being connected to a suitable power source before operating.

OPERATION

1. Attach sunny hose to the water pump and tighten with hose band to make sure that sunny hose does not being detached from water pump during the operation.
2. Connect water pump and power unit with hydraulic hoses. (Make sure the male coupler is being connected to IN side)
3. Locate the water pump into water. Always use ropes to lift or suspend the water pump.
4. Start the power unit.
5. Turn the control lever “ON” on power unit to start pumping water.

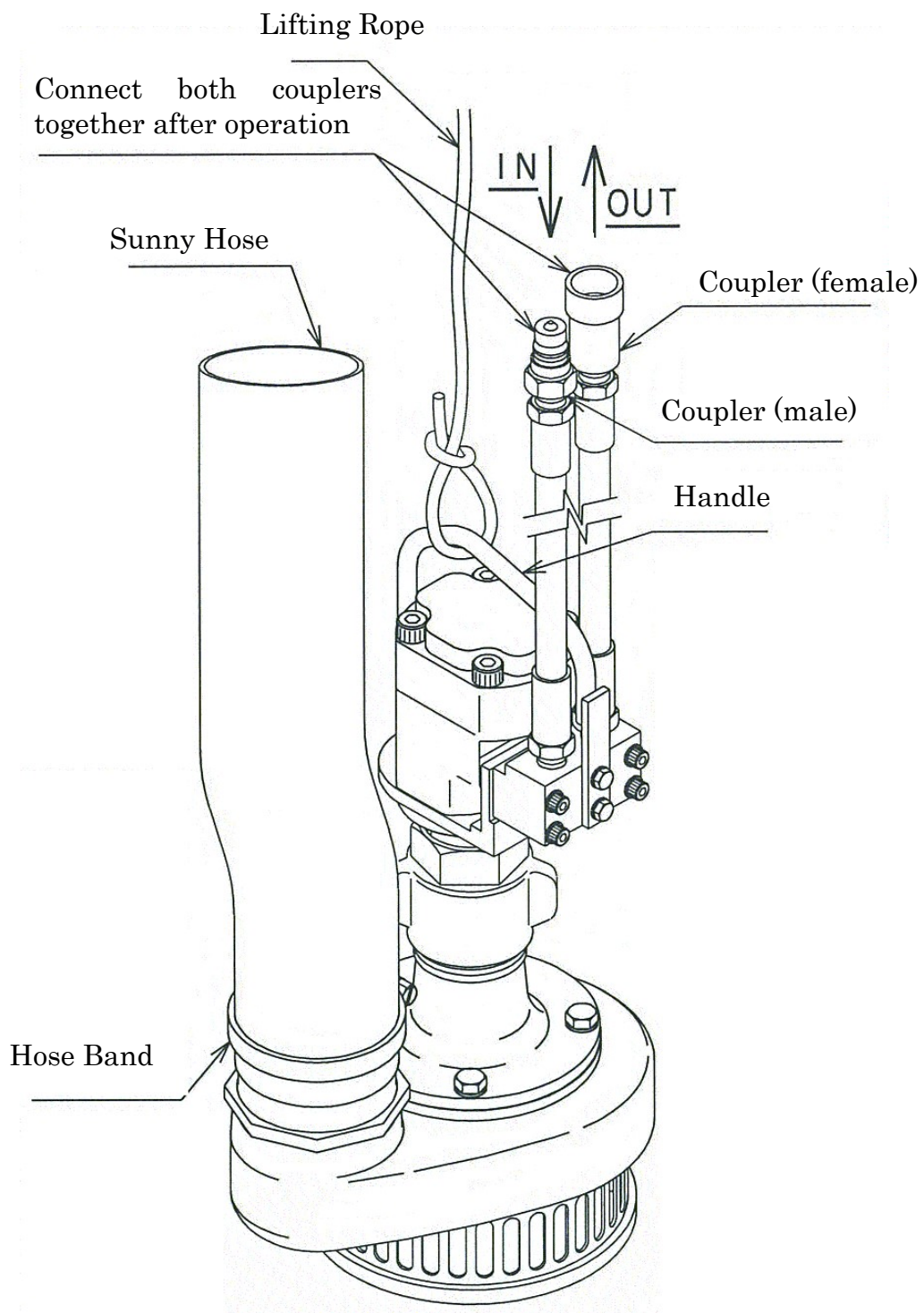
AFTER THE OPERATION

1. Turn off the control lever on power unit.
2. Stop the power unit.
3. Lift the water pump with ropes. (DO NOT pull hydraulic hoses. Fail to follow this

instruction may cause the damage to the machine)

4. In order to prevent dirt or dust entering hoses, connect both couplers of hoses on pump after detaching them from extension hoses.
5. Remove sunny hose and clean the pump thoroughly to make sure all the dirt and dust inside has been removed. Air dry the machine after cleaning.

* Refer to the drawing next page.



GUIDELINES

Following these guidelines for operating this water pump:

1. Pay attention to the followings while operating the water pump:
 - (1) Be cautious for not being tripped by the extension hoses
 - (2) Be cautious for your footing. Clear the work area of objects which might cause the operators tripped and fell.
2. Contact us while intend to use this pump with the power source other than Maruzen power units.
3. Be cautious not to connect IN and OUT to different side.
4. DO NOT pull the hose or lift the water pump by its hoses.
5. In case of sudden hydraulic hose breakage and hydraulic oil belch out. STOP the power source IMMEDIATELY.
6. There will be slight oil leak from couplers while detaching hoses. Make sure the oil does not smear the work place.
7. Connect both couplers on pump together to prevent dust or dirt entering hoses.

INSPECTION

1. Daily Inspection

- (1) Check if there is any oil leakage from hose or the water pump itself.
- (2) Make sure all the lock nuts are tightened properly.

2. Periodically Inspection

Ask your Maruzen's nearest dealers for every 200 hours inspections

- (1) Remove bolts from pump casing to have internal inspections.
- (2) Replace a new impeller if necessary. (Impeller was seriously worn) Left turn the impeller to remove it from the pump.

INSPECTION ITEMS	PERIODIC INSPECTIONS
Check The Impeller	Every 200 Hours
Replace O Rings	Every 3 Years

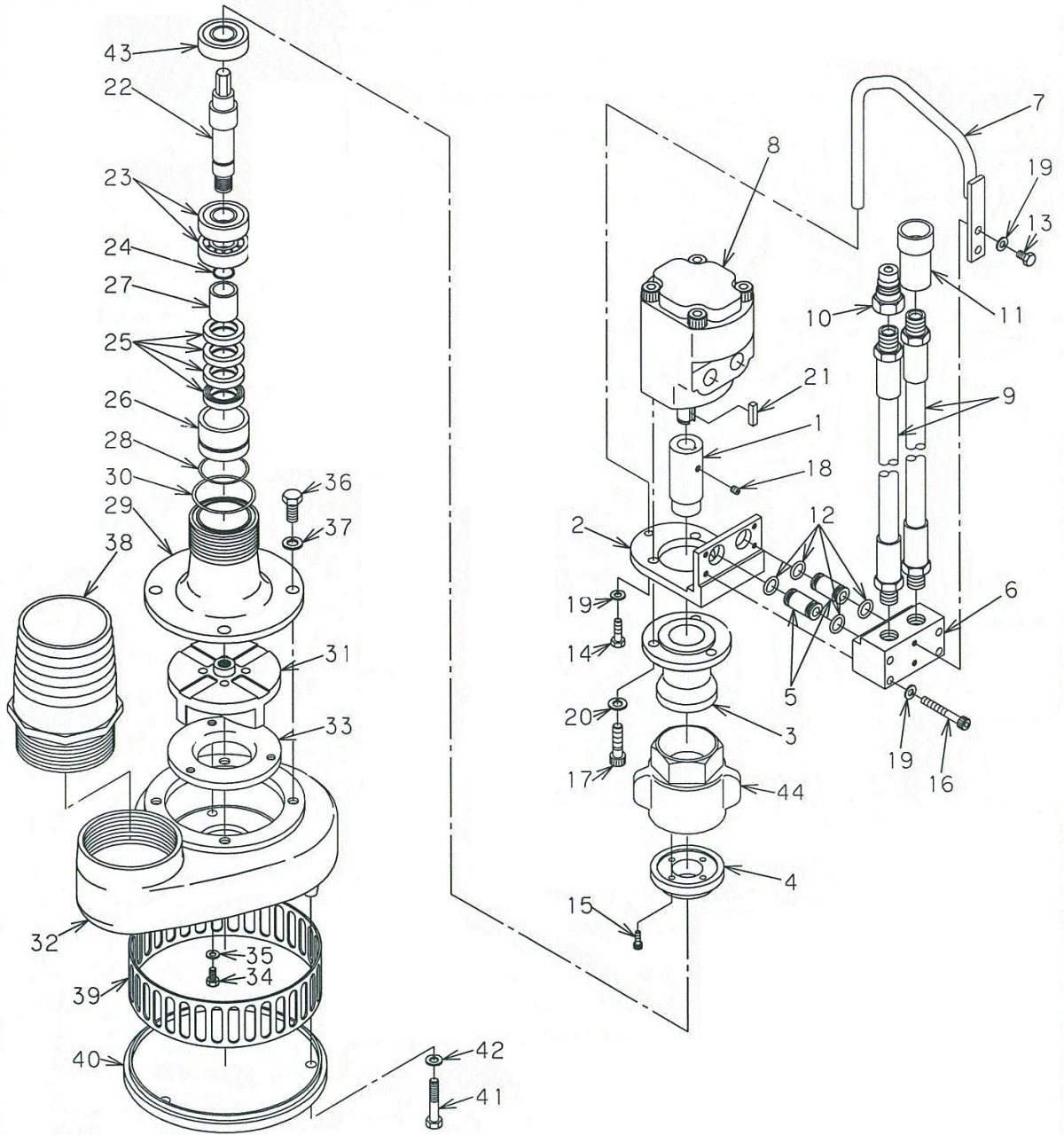
TROUBLE SHOOTINGS

For items with * mark , ask Maruzen dealers for service and maintenance.

SYMPTOMS	CAUSES	COUNTERMEASURES
DO NOT pump water	1. Hoses are not connected properly	1. Connect hoses properly
	2. Couplers are not connected properly	2. Connect couplers properly
	3. The power source was OFF	3. Start the power source
	4. Damage of motor	☆ 4. Replace new motor
	5. Damage of pump	☆ 5. Repair or replace a new pump
	6. IN, OUT are connected to the different side	6. Connect IN, OUT on the right sides
	7. Damage of impeller	☆ 7. Replace a new impeller
Weak Pumping	1. Low rate of oil flow	☆ 1. Inspect the frequency of the rotation and hydraulic pump
	2. The pressure on relief valve was set too low	☆ 2. Adjust the pressure to be in the range of 11.7 to 17.2 MPa
	3. Hydraulic oil was not enough	3. Refill hydraulic oil to recommended level
	4. Wear of Motor	☆ 4. Replace a new motor
	5. Wear of Pump	☆ 5. Replace a new pump
	6. Wear of Impeller	☆ 6. Replace a new impeller
	7. Clogging on suction nozzle	7. Clean and remove dirt from suction nozzle
	8. The discharge head is too far from the pump	8. Shorten the distance (height) between discharge head and pump

SYMPTOMS	CAUSES	COUNTERMEASURES
Sudden stop during operation	1. Couplers were disconnected	1. Make sure all the couplers are connected properly
	2. Damage of motor	☆ 2. Repair or replace a new motor
Oil leakage from motor	1. Wear or damage of seals	☆ 1. Replace new seals
Leakage From Manifold Or Connecting Parts Between Hoses	1. Loose of bolts and hydraulic hoses	1. Tightening all the bolts and hydraulic hoses properly
	2. Wear or damage of O Rings	2. Replace new O rings
	3. Wear or damage of hoses	3. Replace new hoses
	4. Damage of couplers	4. Replace new couplers

EXPLODED VIEW MODEL PH300



PARTS LIST MODEL PH300

NO.	CODE	DESCRIPTION	Q'TY	NO.	CODE	DESCRIPTION	Q'TY
1	MW01Z001A	DRIVE JOINT	1	23	0410-06204	BEARING 6204Z	2
2	MW01Z002A	MOTOR BRACKET	1	24	0509-10170	O RING JASO1017	1
3	MW01Z003B	CASE	1	25	0602-02020	OIL SEAL SC-25387	4
4	MW01Z004B	JOINT GUIDE	1	26	7014-14590	HOLDER, OIL SEAL	1
5	MW01Z005A	OIL TUBE	2	27	7010-10010	INNER LACE FIR202530	1
6	MW01Z006A	MANIFOLD	1	28	0503-00440	O RING S-44	1
7	MW01Y007A	HANDLE	1	29	7013-39720	BEARING CASE	1
8	GMM-B60R	HYDRAULIC MOTOR	1	30	0501-00500	O RING G-50	1
9	21091·1-- 50 --	HYDRAULIC HOSE	2	31	7013-22410	IMPELLER	1
10	QC-03M	COUPLER (MALE)	1	32	7011-16180	CASING	1
11	QC-03F	COUPLER (FEMALE)	1	33	7014-06140	SIDE PLATE	1
12	OP-11	O RING	4	34	0012-40612	BOLT 6 X 12 U	3
13	B - 6 X 12 (SUS)	BOLT	2	35	0302-06150	SW M6	3
14	B - 6 X 20 (SUS)	BOLT	1	36	0012-41025	BOLT 10 X 25 U	4
15	BH - 6 X 12 (SUS)	BOLT	4	37	0302-10250	SW M10	4
16	BH - 6 X 45 (SUS)	BOLT	4	38	7010-10021	DELIVERY PIPE (P)	1
17	BH - 8 X 30 (SUS)	BOLT	3	39	7013-16930	FILTER	1
18	SH - 4 X 4 (SUS)	SCREW	1	40	7013-09040	FILTER COVER	1
19	WS - 6 (SUS)	SPRING WASHER	7	41	0012-40845	BOLT 8 X 45 U	3
20	WS - 8 (SUS)	SPRING WASHER	3	42	0302-08200	SW M8	3
21	C201 - 5 X 5 X 20	KEY	1	43	0425-06204	BEARING 6204ZZSG	1
22	7014 - 54180	IMPELLER SHIFT	1	44	7013-04480	LOCK NUT	1

EC DECLARATION OF CONFORMITY
DECLARATION DE CONFORMITE CE
EG-KONFORMITÄTSEKTLÄRUNG
EG-VERKLARING VAN OVEREENSTEMMING



MARUZEN KOGYO CO., LTD
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Declare that the machine described below
Déclare que la machine décrite ci-dessous
Eklärt, da ß die unten beschriebene Maschine
Verklaart dat onderstaande beschreven machine

Hydraulic Water Pump / Pompa Per Acqua
MODEL PH300

Serial number/Numéro de série/Serien nummer/Reeksnummer/ : From R-4852

Complies to the provision of the "machinery directive" 98/37/EC
est conforme aux dispositions de la directive "machines" 98/37/CE
mit den Anforderungen der Richtlinie 98/37/EG übereinstimmt
overeenstemt met de voorschriften inzake "machine richtlijnen" 98/37/EC

Manager/le directeur/Direktor/Direttore

Yukio Suwabe