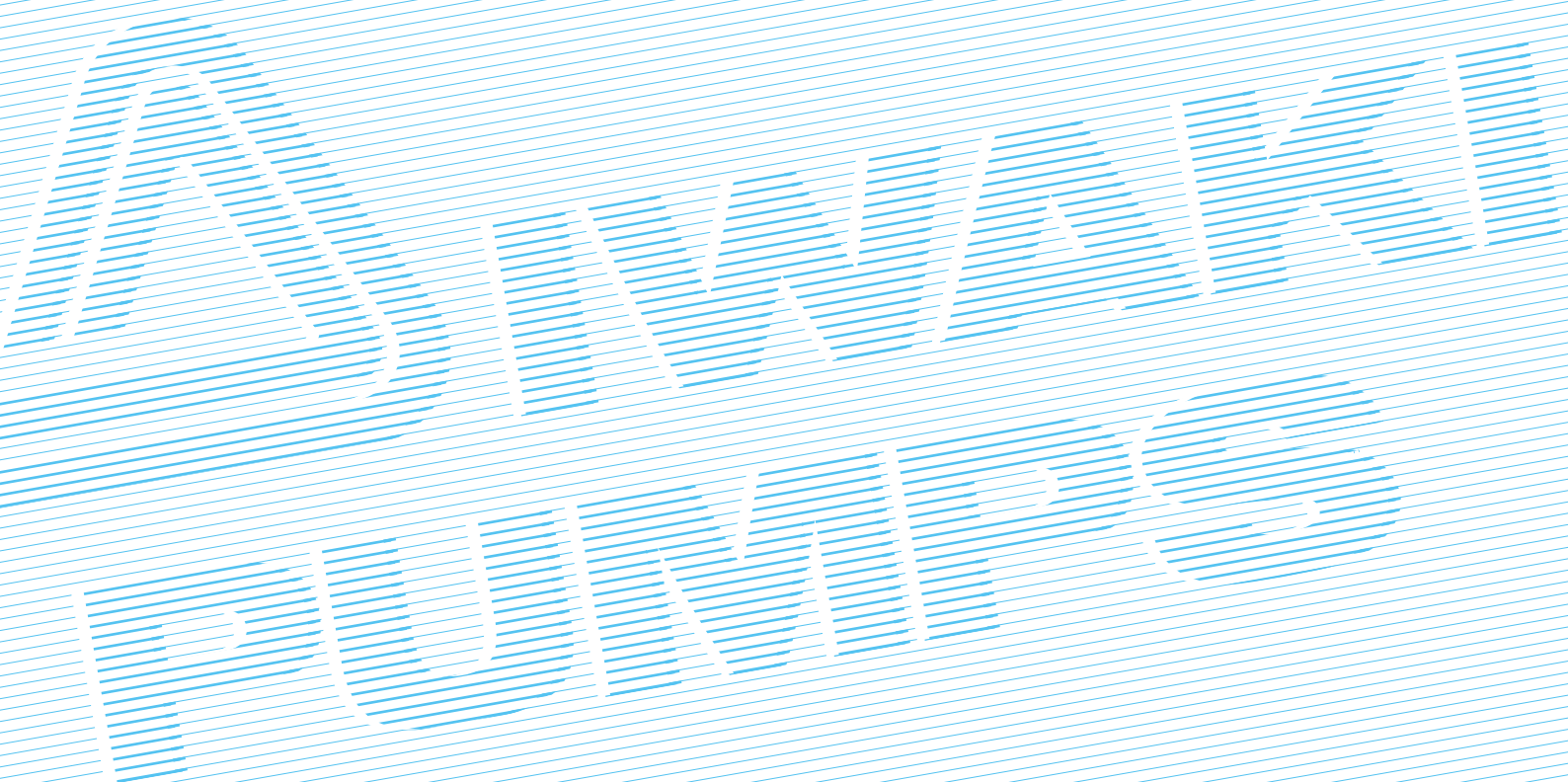
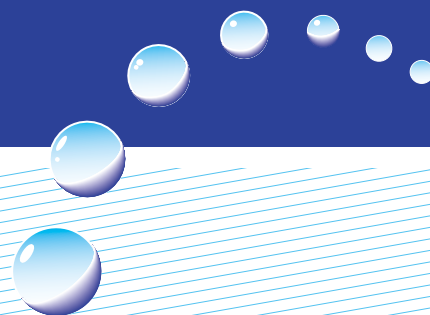




IWAKI Magnetic Drive Pump

MDW Series (Europe Edition)

Instruction Manual

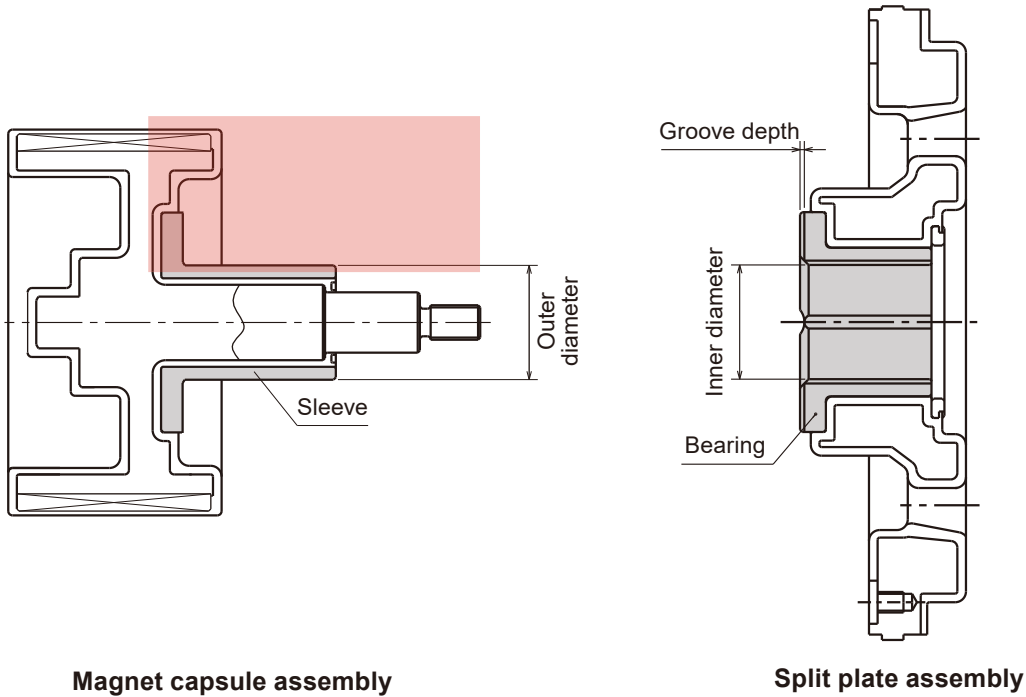
⚠ Read this manual before use of product

Maintenance

■ Wear limit of the bearing and sleeve

Check the wear depth of the sleeve on the magnet capsule assembly and the bearing on the split plate assembly.

The bearing is a wear part. Note that a bearing life varies with operating conditions such as chemical characteristics and pressure. Replace the parts according to the following wear limit.



Part names		Before use	Wear limit
Magnet capsule assembly	Sleeve outer diameter	ø58 mm	0.25 mm
	Baring inner diameter	ø58 mm	0.25 mm
Split plate assembly	Bearing groove depth	3 mm	1 mm

1. The above table shows wear limits of the bearing and sleeve.
2. If the clearance between the bearing and the sleeve exceeds 0.25 mm, replace them regardless of the wear limit.
3. Sliding parts such as the bearing and sleeve may suffer initial wear in an initial operation phase. Note that this is not abnormal. The initial wear stops hours later.

Maintenance

■ Wear parts

Place an order for spares with the pump model, a part name and a part number. The time for replacement shown below is based on an operating condition with ambient temperature clean water and changes with operating conditions such as a liquid characteristic and temperature. Take the time for replacement as a guide. Stock wear parts such as bearing and sleeve for emergent replacement or repair.

Part No.	Part names		Time for replacement
310	Bearing		10,000 Hr (NOTE1)
370	Sleeve		10,000 Hr (NOTE1)
321	Ball bearing		15,000 Hr at 50 °C or below (NOTE2)
400.1	Gasket		At every periodic inspection (NOTE3)
400.2	Gasket		At every periodic inspection (NOTE3)
400.5	Drain gasket		At every periodic inspection (NOTE3)
400.6	Air vent gasket		At every periodic inspection (NOTE3)
412.1	O ring	Kalrez®	At every periodic inspection (NOTE3)
		FKM	At every periodic inspection (NOTE3)
		EPDM	At every periodic inspection (NOTE3)
412.2	O ring	Kalrez®	At every periodic inspection (NOTE3)
		FKM	At every periodic inspection (NOTE3)
		EPDM	At every periodic inspection (NOTE3)
420	Oil seal		Replace it along with the ball bearing.
-	Fluorinated grease		Apply when assembling the pump unit (NOTE4).

NOTE 1: Replace the bearing and sleeve with new ones when they have been worn badly before the time for replacement. See page 33 for detail.

NOTE 2: The ball bearing life may be reduced under a harsh operating condition. Try to replace wear parts before they are badly worn.

NOTE 3: Replace gaskets and O rings every time the pump unit is disassembled for maintenance. Note that sealing performance is reduced if gaskets and O rings are reused.

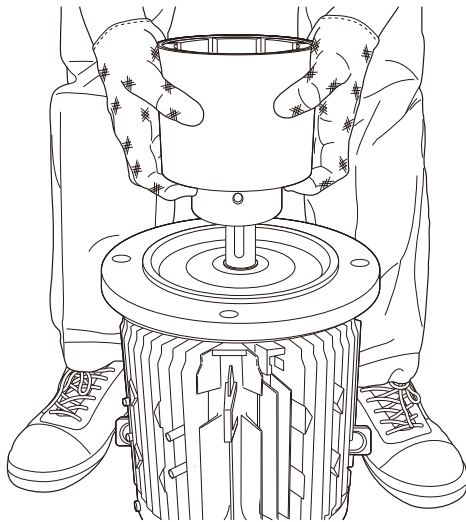
NOTE 4: Contact us for the fluorinated grease.

Maintenance

■ Drive magnet assembly (flange type)

• Precautions for assembly

Make sure the motor is electrically-disconnected in advance. If the motor were to run in this process, personal injury would result.



1. Clean the motor shaft surface and the shaft hole of the drive magnet. Use a sand paper or sand blaster to remove burrs if necessary.

*Be careful not to drop the drive magnet, or it may break.

2. Adjust the depth of the hex. soch set screws (908.2) in the drive magnet so they won't hinder the insertion of the drive magnet to the motor shaft.

3. Mount the key to the motor shaft in place beforehand.

4. Slide the drive magnet down to the motor shaft until it bottoms out. Remove burrs or debris or any other obstacles if any. Adjust the key position if necessary.

*If a shaft spacer is provided, slide it to the motor shaft before the drive magnet installation.

5. Tighten the hex. soch set screws (908.2) by the rated torque shown below to fix the drive magnet to the motor shaft. Apply the **LOCTITE** onto the screw threads.

Tightening torque: 20 N·m

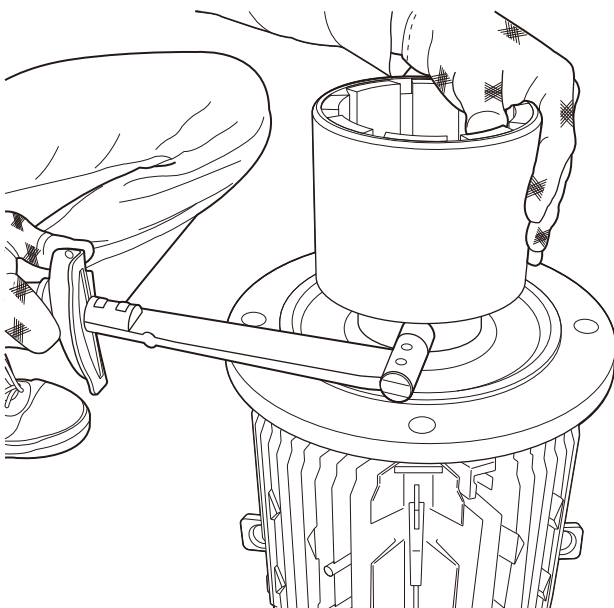
Recommended adhesive: **LOCTITE # 243**

6. Check the drive magnet is fixed tight and won't loose in operation.

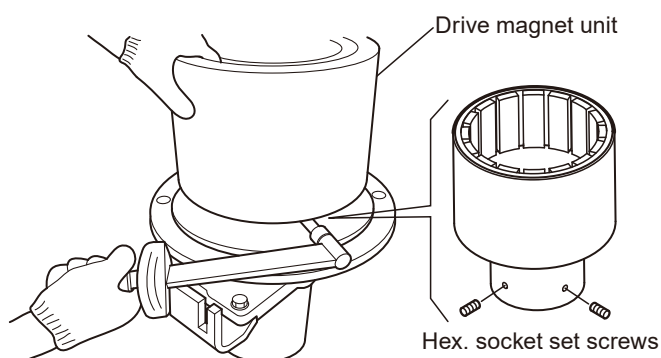
7. Remount the bracket to the motor.

*Always fit the "single" bracket part to the motor first, and then the pump head (driven magnet) to the bracket, on the step by step basis!

Do not fit the combination of the bracket and the pump head (driven magnet) to the motor. There is a very strong magnetic force between the drive magnet and the driven magnet, and there is always the risk of personal injury which could happen when they strongly pull each other.



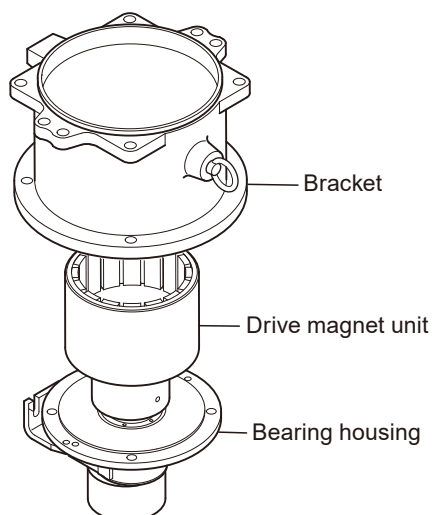
Maintenance



7. Unscrew the hex. socket set screws (908.2) once and apply the **LOCTITE** to threads. And then screw them to fix the drive magnet unit by the tightening torque below.

Tightening torque: 20 N·m

Recommended adhesive: **LOCTITE** # 242

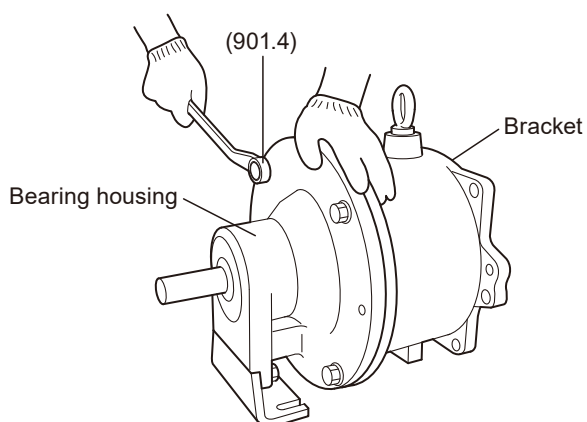


8. Place the bracket to the bearing housing.

*Note that strong magnetic force is attracting the bracket. Be careful not to hit the bracket against the drive magnet unit.

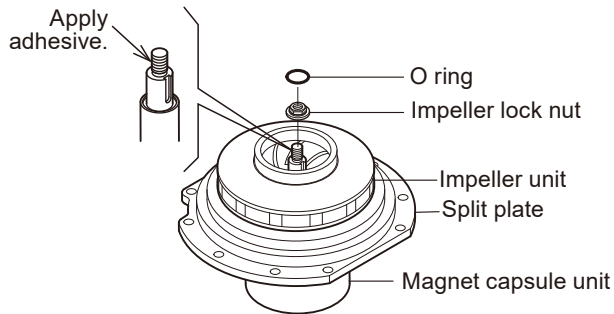
⚠ CAUTION

Be careful not to catch the finger or hand in between the bracket and bearing housing.



9. Place the bracket and bearing housing on the level and fix them with hex. head bolts (901.4).

Maintenance

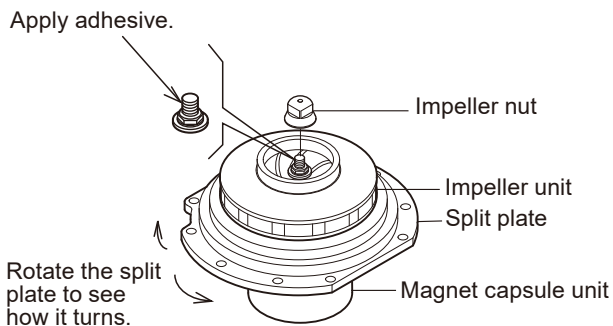


6. Fit the O ring into the groove on the impeller unit in place.

7. Tighten the impeller lock nut while holding the magnet capsule unit. Apply a small amount of adhesive onto the threads of the shaft so as not to allow the nut to loosen.

Tightening torque: 38 N·m

Recommended adhesive: **LOCTITE # 222**

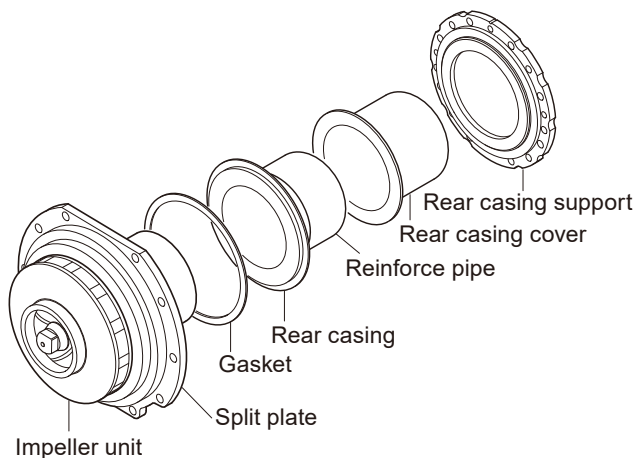


8. Tighten the impeller nut while holding the impeller unit. Apply a small amount of adhesive onto the threads of the shaft so as not to allow the nut to loosen.

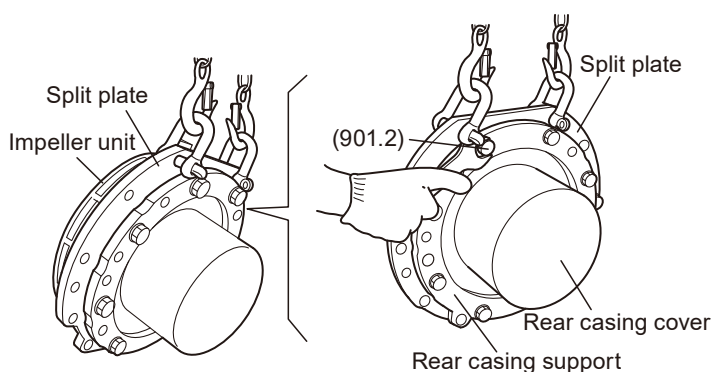
Tightening torque: 25 N·m

Recommended adhesive: **LOCTITE # 222**

*Rotate the split plate right and left to see if it turns smoothly. If the split plate does not rotate, reassemble them.



9. Remove foreign matter from the magnet capsule unit. Then place the gasket in the split plate. And then fit the rear casing and the rear casing cover.



10. Hold up the split plate with the crane for the impeller unit not to be pressed onto a floor. Then temporary mount the rear casing with the hex. head bolts (901.2).

*Keep the impeller unit free from the load of the split plate or magnet capsule unit.

11. The hex. head bolts (901.2) are going to be tightened at tightening torque when mounting the split plate assembly to the front casing later.

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