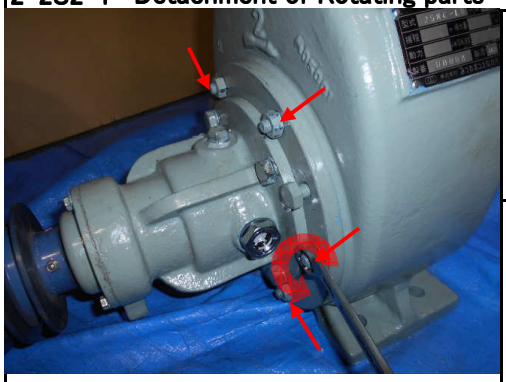
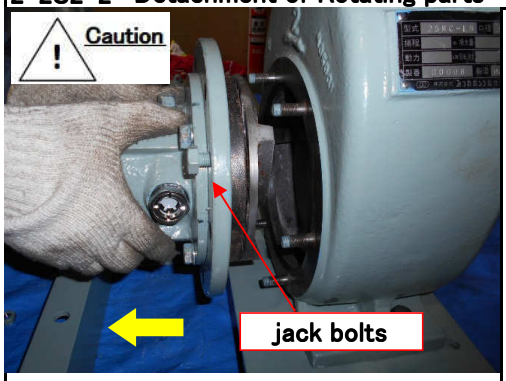
【2. Method of Detaching Rotating Part】

2-2S2-1 Detachment of Rotating parts



Working Process	Remove six nuts of the rotating part using the combination spanner (17).	**Tools to Be Used** ・Combination Spanner(17)
point	A small amount of fluid will flow out in some cases. As a precaution against this, it is recommended to use a waste cloth, heavy-duty plastic bag, or the like.	

2-2S2-2 Detachment of Rotating parts

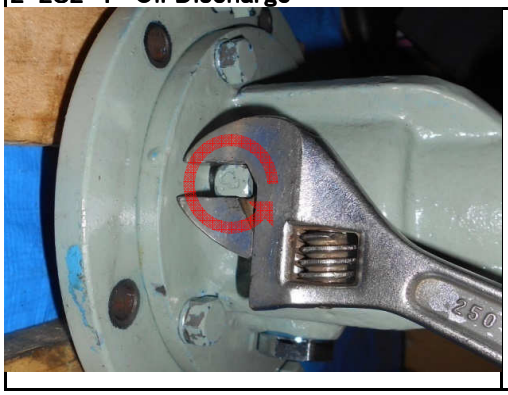


Working Process	Detach the rotating part slowly.If transfer fluid flows out, you must dispose of it in an appropriate place or return the fluid to its original place. If the rotating part adheres to the casing and is hard to get out, detach the rotating part while slowly tightening jack bolts at two positions with the combination spanner (17) .	**Tools to Be Used** ・Combination Spanner(17)

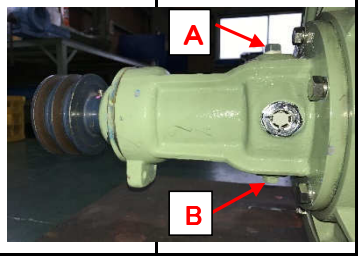
2-2S2-3 Detachment of O-ring in Rotating Part

Working Process	Detach the drain O-ring. Replace the O-ring with a new piece.	**Tools to Be Used**

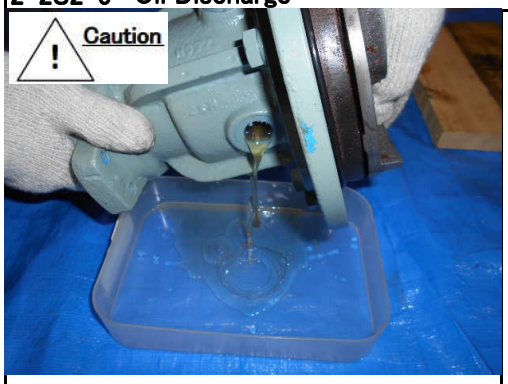
2-2S2-4 Oil Discharge



Working Process	Loosen the plug of the bearing case with a monkey wrench and detach the plug. (It is sufficient to detach any one of the plugs at the A and B positions.) Note that there is oil inside the case. Pay attention to any oil leakage.	**Tools to Be Used** ・Monkey wrench



2-2S2-5 Oil Discharge



Working Process

Discharge the oil. The discharged oil should be safely processed.

Tools to Be Used

2-2S2-6 Detachment of V Pully or Coupling

Working Process

Loosen all the set bolts for the V pully (coupling) with a hex key (6 mm) (the set bolts are present in one or two positions).

Tools to Be Used

・Hex key (6mm)

2-2S2-7 Detachment of V Pully or Coupling

Working Process

As shown in the drawing on the left, hit the V pully with a plastic hammer and detach it.
* Do not use a metallic hammer.
The V pully may break when it is hit in some cases.
Clean the V pully with a brush, and keep it in a safe place.

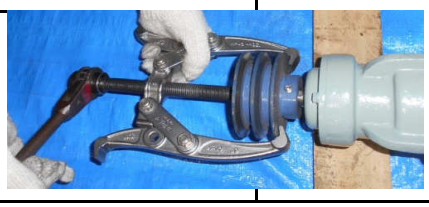
Tools to Be Used

・Plastic hammer

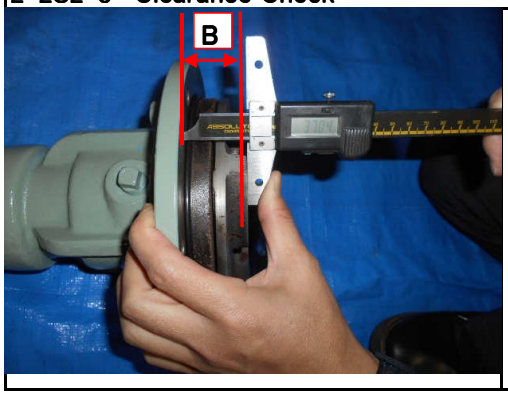
(・Crankshaft Balancer)

point

If it is hard to detach the V pully, use a crankshaft balancer puller as shown in the drawing on the right.



2-2S2-8 Clearance Check



Working Process

Measure dimension B, shown in the drawing on the left, using a depth gauge.The design dimension of the specifications for motor 4P is 37.2 mm. (For the specifications for motor 2P, please contact the sales agent of the product.) If dimension B has become smaller due to wear, the pumping power will be affected by that dimension change. (for example, 36 mm or less) In such a case, please replace the impeller.

Tools to Be Used

・Depth gauge

2-2S2-9 Detachment of Impeller retention nut

Working Process

Do not rotate the shaft.
Pinch the shaft with a monkey wrench and lock the key part.
A vice can be used as well.

point

Take care not to damage the shaft.

Tools to Be Used

・Monkey wrench
(・Vice)

2-2S2-10 Detachment of Impeller retention nut

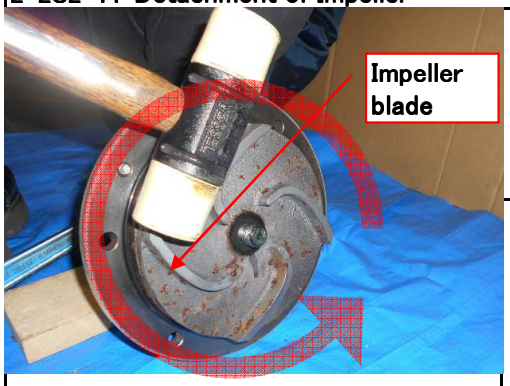
Working Process

Loosen impeller retention nut using a combination spanner (27) and detach it.

Tools to Be Used

・Combination Spanner(27)

2-2S2-11 Detachment of Impeller



Working Process

Hit the impeller blade part with a plastic hammer to loosen the impeller, and detach it.
(The impeller is screwed in.)
Clean the impeller and keep it in a safe place.

point

Use a belt chain if the impeller cannot be detached with the plastic hammer. If maintenance is frequently carried out, it is advisable to use a special tool as shown in the drawing on the right. Please contact the sales agent.

Tools to Be Used

・Plastic hammer

(・Belt chain)
(・Special tool)

2-2S2-12 Fixing of Bearing Case

Working Process

Place the bearing case vertically.
Place blocks of wood on the bottom part so as to avoid damaging the screw part at the leading end of the shaft.

Tools to Be Used

・Blocks of wood

2-2S2-13 Detachment of Bearing case cover

Working Process

Loosen three bolts using a combination spanner (10) and detach the Bearing case cover.
Clean the Bearing case cover and keep it in a safe place.

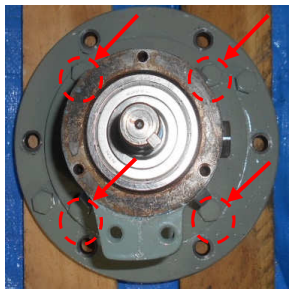
Tools to Be Used

・Combination Spanner(10)

2-2S2-14 Detachment of Bearing case

Working Process

Loosen three bolts using a combination spanner (17).



Tools to Be Used

・Combination Spanner(17)

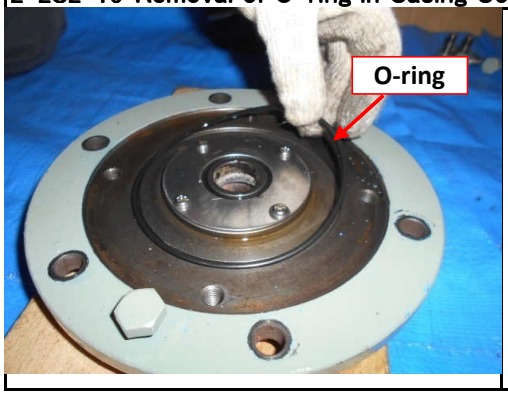
2-2S2-15 Detachment of Bearing case

Working Process

Lift and detach the bearing case.

Tools to Be Used

2-2S2-16 Removal of O-ring in Casing Cover

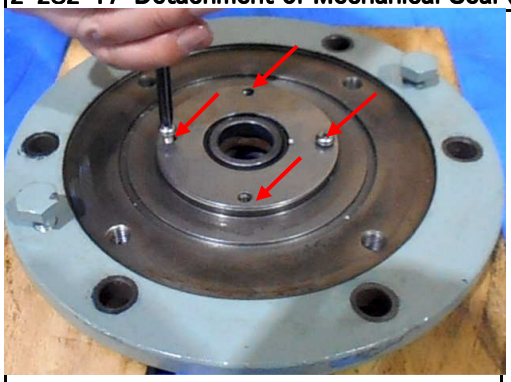


Working Process

Remove the O-ring from the casing cover.
Replace the O-ring with a new piece.

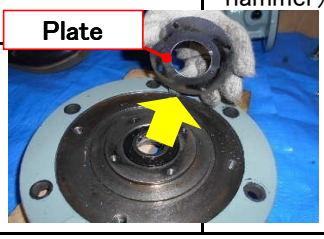
Tools to Be Used

2-2S2-17 Detachment of Mechanical Seal (Stationary sealg of impeller side)



Working Process

Loosen five screws with a cross slot screw driver, and detach the plate.



Tools to Be Used

- Cross slot screwdriver
- (・Plastic hammer)

2-2S2-18 Detachment of Mechanical Seal (Stationary sealg of impeller side)

Working Process

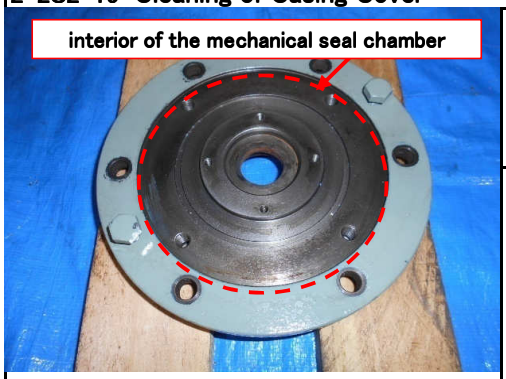
Detach the stationary seal on the impeller side using the principle of leverage.
Be sure to replace the mechanical seal with a new one after you have disassembled it.

point

The seal can also be detached by hitting it lightly from the rear of the casing cover.

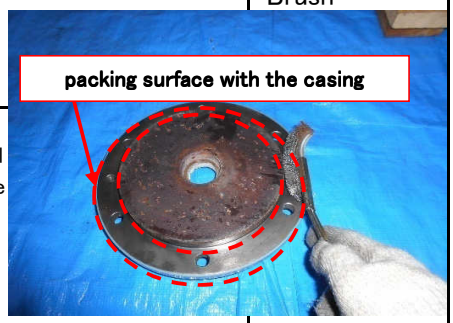
Tools to Be Used

2-2S2-19 Cleaning of Casing Cover



Working Process

Clean the casing cover with a brush, and keep it in a safe place.



point

Clean the casing cover by focusing on the interior of the mechanical seal chamber (drawing on the left) and the packing surface with the casing (drawing on the right). * Note that insufficient cleaning may lead to a leakage, breakdown, or the like.

Tools to Be Used

- Brush

2-2S2-20 Fixing of Bearing Case

Working Process

Place the bearing case on blocks of wood.

Tools to Be Used

- Blocks of wood

2-2S2-21 Detachment of Mechanical Seal (Rotating seal of impeller side)

Working Process	Detach the Rotating seal of impeller side using the principle of leverage.	Tools to Be Used
point	Take care not to damage the shaft. If it is hard to detach the seal, proceed to 2-2S-25.	

2-2S2-22 Detachment of Spring

Working Process	Detach the spring.	Tools to Be Used

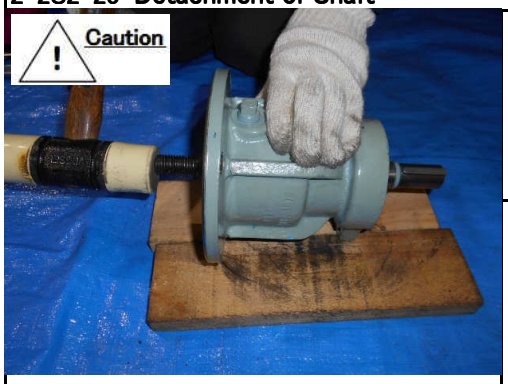
2-2S2-23 Detachment of Cushion ring

Working Process	Detach the cushion ring.	Tools to Be Used

2-2S2-24 Detachment of Mechanical Seal (Rotating seal of bearing side)

Working Process	Detach the rotating seal on the impeller side using the principle of leverage in the same manner as in 2-2S2-21.	Tools to Be Used
point	Take care not to damage the shaft. If it is hard to detach the seal, proceed to 2-2S-25.	

2-2S2-25 Detachment of Shaft



Working Process

While pressing the bearing case, hit the shaft with a plastic hammer and detach the shaft.

point

* Do not use a metallic hammer. The screws of the shaft will be crushed.

Tools to Be Used

- Plastic hammer

2-2S2-26 Detachment of Bearing

Working Process

Hit each bearing with a hammer to detach it. Hit the bearing evenly in order to prevent it from tilting. Detach the bearings in descending order of bearing size. Lay blocks of wood, a waste cloth or the like over the area so that the shaft will not be damaged.

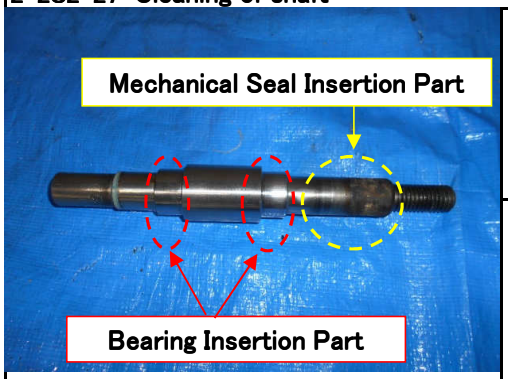
point

If it is hard to detach the bearing, use a crankshaft balancer puller or hydraulic press as shown in the drawing on the right.

Tools to Be Used

- Hammer
- blocks of wood
- Waste cloth

2-2S2-27 Cleaning of shaft



Working Process

Clean the shaft with a waste cloth.

point

Clean the shaft by focusing on the mechanical seal insertion part and the bearing insertion part. If the shaft is found to have considerable dirt, wear, corrosion, or the like then replace it with a new one.

Tools to Be Used

- waste cloth

2-2S2-28 Detachment of Mechanical Seal (Stationary seal of bearing side)

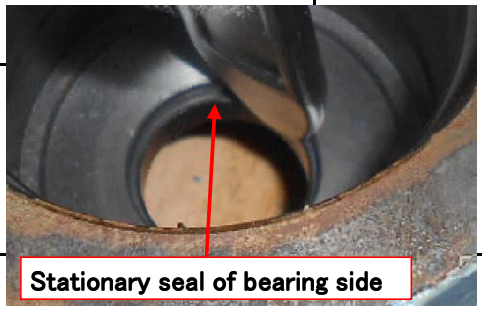
Working Process

Place the bearing case as shown in the drawing on the left, and hit the stationary seal on the impeller side with a rod-shaped tool to detach the mechanical seal.

point

Tools to Be Used

- rod-shaped tool



2-2S2-29 Detachment of Oil gauge

Working Process

Loosen the oil gauge using a combination spanner (27) and detach it.

point

Tools to Be Used

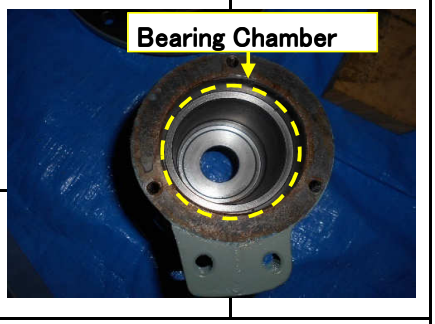
- combination spanner (27)

2-2S2-30 Cleaning of Bearing case

Working Process

Clean the interior of the mechanical seal chamber and bearing chamber, and keep the case in a safe place.

Check whether or not there is any wear, damage, or the like in the bearing insertion area. If any abnormality is found, replace with a new bearing chamber.



point

* Note that insufficient cleaning may lead to a leakage, breakdown, or the like.

Tools to Be Used

2-2S2-31 Disassembly Completed

No image

Working Process

The disassembled components should be divided into a group of components to be re-used and a group of components to be disposed of. Then, clean the components to be re-used and keep them in a safe place.

point