Disassembly and Assembly Instructions

DX SERIES

Flygt

ITT Industries

NOTES:

- The pump should be serviced by qualified personnel only, after having been disconnected from the power mains.

- The DX pump components listed in this manual are accompanied by identification numbers that refer to the drawings on pages 28 - 29.

- These numbers identify spare parts as listed in our specific catalogue.
- The assembly and disassembly procedure for the DX S versions is the same.
- The mechanical seal and O-rings should be replace each time you assemble the pump.
- In the event of damage to the head we recommend that you replace it with the pre-assembled one (contact our Service Center).

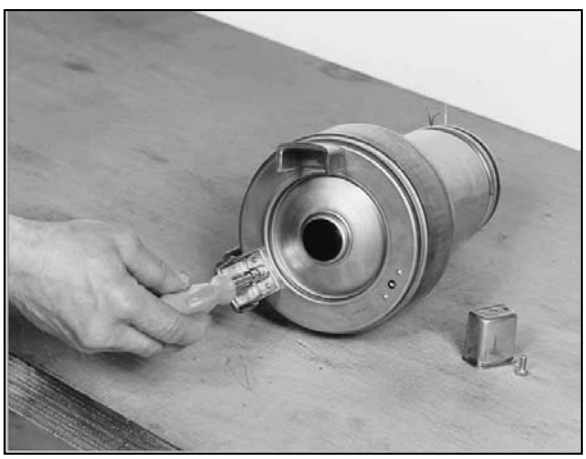
- Place the pump on a clean and well-lit workbench.

- Loosen the screw in the center of the head.

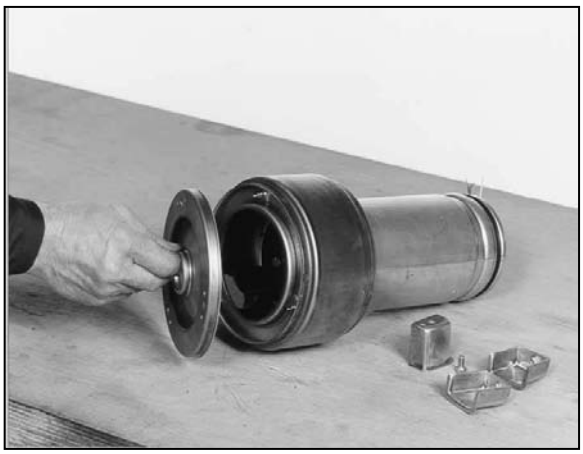
- Unscrew the three socket head screws from the head.

- Remove the head as shown in the picture, using a plasti hammer and chisel. Be careful not to damage the head.

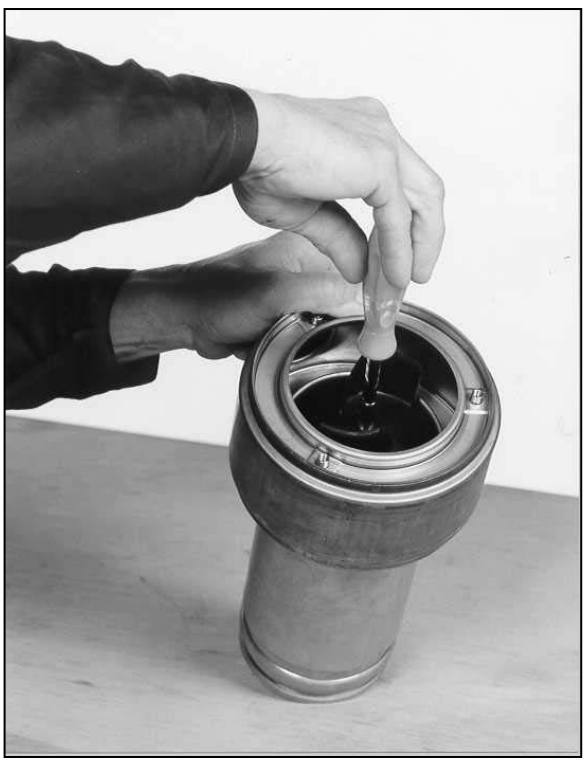
- Loosen the terminal box screws and disconnect all the wires, then remove the capacitor. (18 if any).



- With a socket wrench, loosen the screws that hold the feet (12).



- Remove the suction flange (5).



- Loosen the impeller fastening hex screw. To secure the impeller, insert a screwdriver* through the pumps' delivery port.

* Not shown in the picture.

- Remove the impeller (2); if necessary, use a pair of pliers. On the DX 10-15-20 models, retrieve the impeller lock tab. Remove the V-ring (24). Loosen the oil chamber fastening screw (23) and drain the oil.

- Loosen the stop ring screws (15).

- Remove the stop ring and place the pump in a pan to collect the oil. (if necessary, prize it out with a screwdriver).

- Tap the pump body (1) gently with a rubber hammer to separate from the shell with wound stator (3).

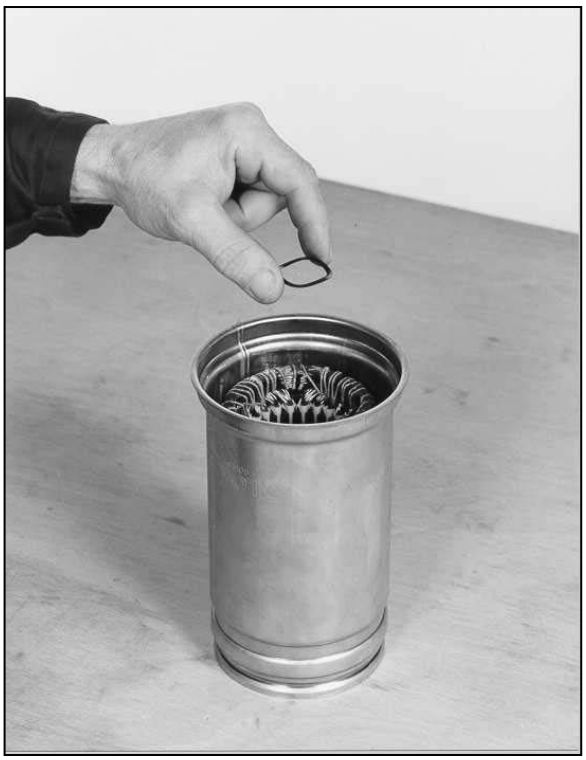
- Remove the shell with stator after the oil residues have crained. Remove the fixed part of the mechanical seal (9) from the pump body.

- Extract the oil conveyor (10).

- Use a screwdriver to prize out the rotating part of the mechanical seal. Remove the washer underneath.

- Tap the shaft gently (4) on the head side, through the hole in the bearing seat.

- Slide out the rotor shaft and lower support. Separate the shaft from the support and remove the bearing ring (20) and the seal ring (21).



- Remove the compensation ring (11) located in the bearing seat.

- View of motor casing with wound stator (3).

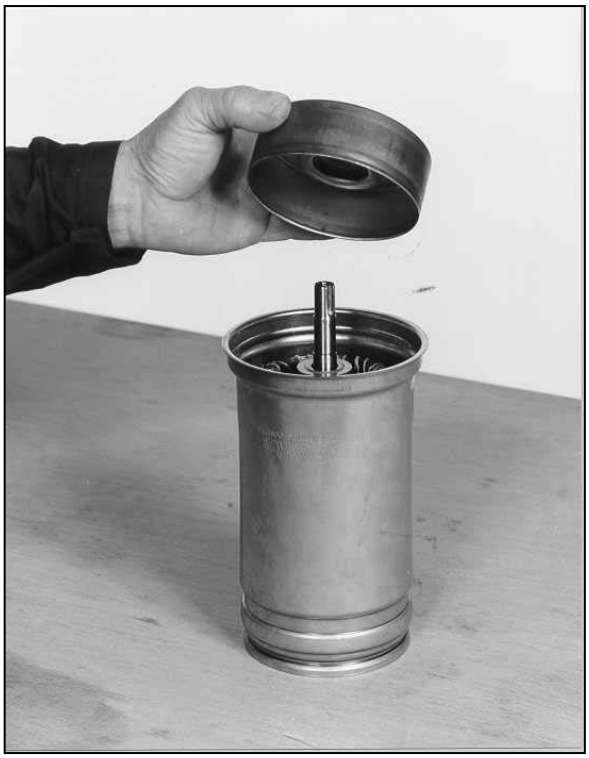
- Insert the compensation ring(11) in the bearing seat, inside the motor casing with wound stator (3).

- Insert the rotor shaft with pre-assembled bearings (4).

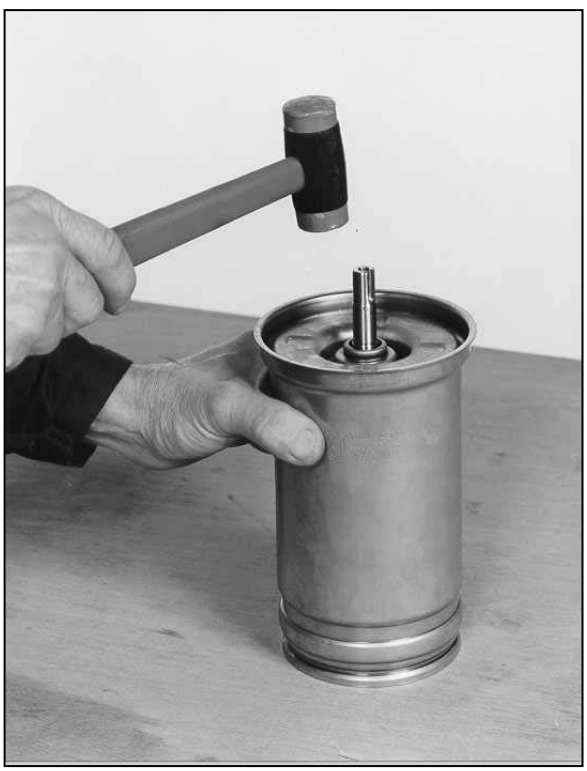
- Insert the lower bearing ring (20) with the lipped side upwards.

- Insert the seal ring (21) over the bearing's lower support (6). During assembly make sure that the open side, where the spring is visible, is turned towards the inside of the bearing's lower support.

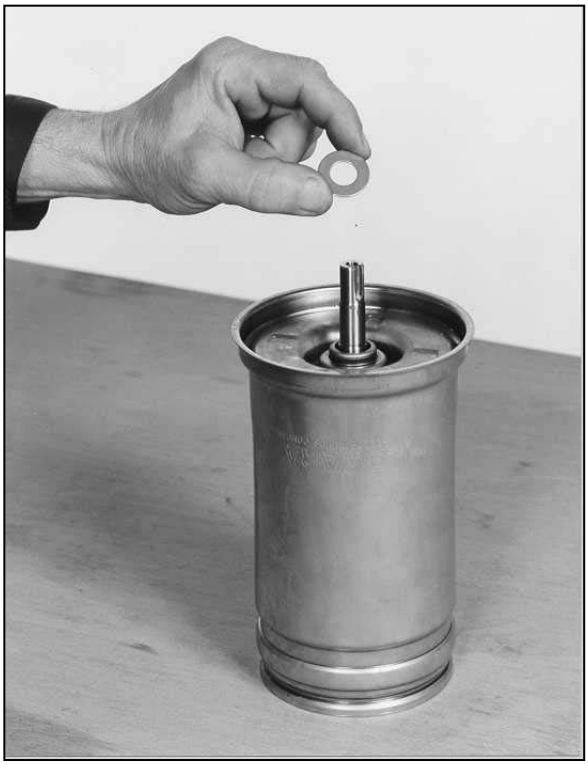
- With the plastic tap, position the lip seal ring in its seat in the lower support (6).



- Insert the bearing's lower support in the motor casing with wound stator.



- Using a rubber hammer, gently tap the bearing's lower support on alternate sides to slide it into place.



- Put the mechanical seal's washer (9) on the pump shaft.

- Using the seal guide, install the rotating part of the seal with the polished side up.

- With the plastic tap, position the rotating part of the seal in its seat as shown in the picture.

- After installing the seal, position the oil conveyor (10) over the seal (9).

- Position the gasket (19) over the bearing's lower support.

- Install the fixed part of the seal (9) in the pump body (1), with the polished side up. Be careful not to damage it.

- With a plastic tap, slide the fixed part of the seal into position.

- Carefully position the pump body (1) on the motor casing with wound stator (3).

- Assemble the fastening ring (15).

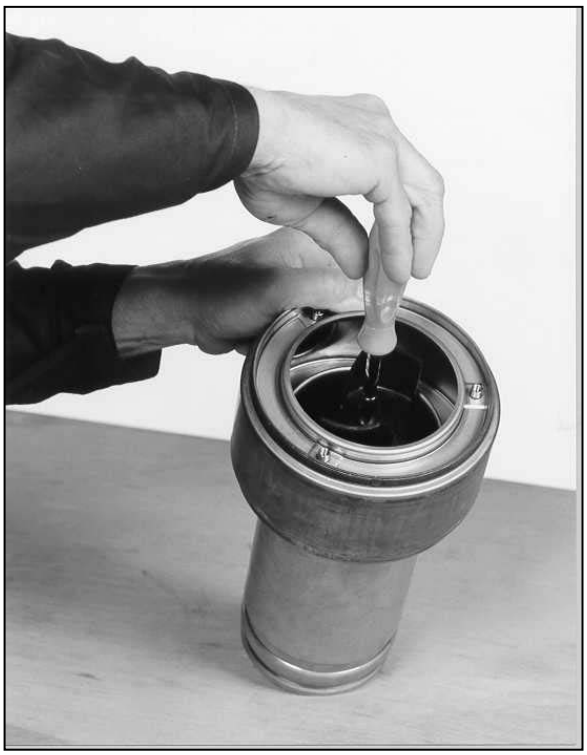
- Tighten the fastening ring screws in cross sequence (driving torque 6Nm).

- Place the pump upside down and add “Esso Marcol 82” oil slowly through the hole in the pump body, allowing the air to escape (quantity 0.080 liters).

- Fasten the screw with gasket (23). (driving torque 5-6Nm)

- Position the sandscreen V-ring (24) on the impeller (2); make sure that the squared side rests against the impeller.

- For the DX 50 models: position the impeller lock tab in the shaft and install the impeller on the pump shaft.



- Using a socket wrench, tighten the impeller screw with its washer. (driving torque 5.5-6Nm).

- Install the suction flange (5).

- Using a socket wrench, fasten the feet (12) to the pump body (1) through the flange (5). (driving torque 5.5-6Nm)

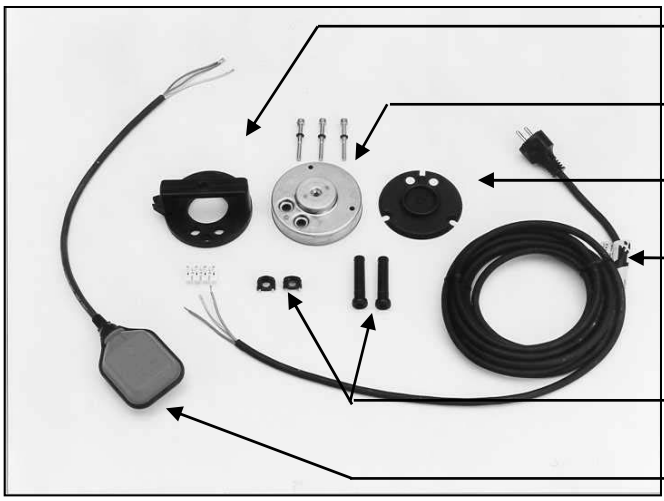
- Turn the pump upside down and install the gasket (19) in its seat in the motor casing with wound stator.

- Install the electrical connection box (16), threading the wires through the holes.

- Take the pre-assembled head (7+8+13+14+17+22) and connect the wires. (for the wiring procedure, see diagram on pages 30-31).
- The capacitor (18) on the DX 35-5 & 50-7 single-phase versions is installed inside the head. On the DX 50-11 single-phase version the capacitor (28) is mounted the control panel.

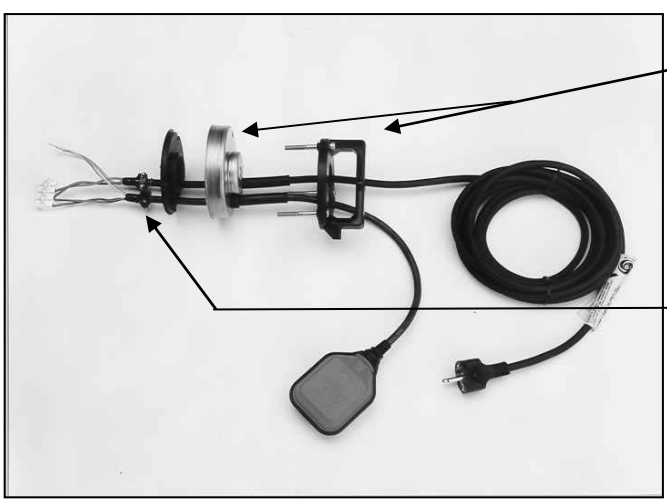
- Tap the head into position with a rubber hammer, being careful not to damage it. Lubricate the thread with HT1800 or equivalent type qrease, and tighten the screws. Make sure that the washers are in place under the plastic part of each screw. (driving torque 5-6Nm).

- Fasten the screw in the center of the head and make sure that the O-ring is in place. (driving torque 5-6Nm)

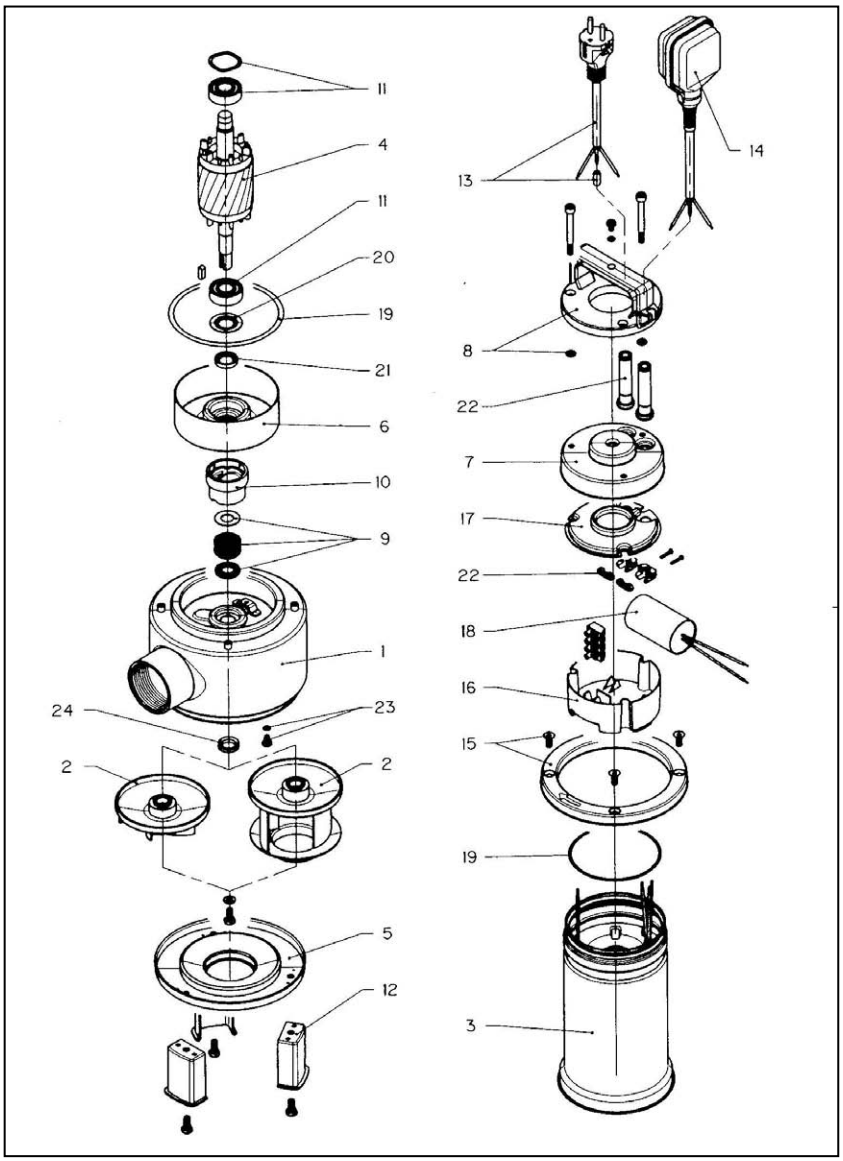


- 8 Handle
- 7 Upper cover
- 17 Electrical connection cover
- 13 Supply cable
- 22 Cable guide and cable fastener
- 14 Float

- Resin bonding is a procedure that requires experience and special materials. We therefore recommend that you purchase the head fully assembled. (for information contact our service center).



- Pre-assembled head
- Resin-bonded components



1 Pump body

2 Impeller

3 Motor casing + wound stator

4 Shaft + rotor and bearings

5 Suction flange

6 Bearing's lower support

7 Upper cover

8 Handle and O-ring

9 Mechanical seal and washer

10 Oil conveyor

11 Bearings and compensation ring

12 Support feet

13 Supply cable and connector

14 Float

15 Fastening ring and screw

16 Electrical connection guard

17 Electrical connection guard cover

18 Capacitor

19 O-ring

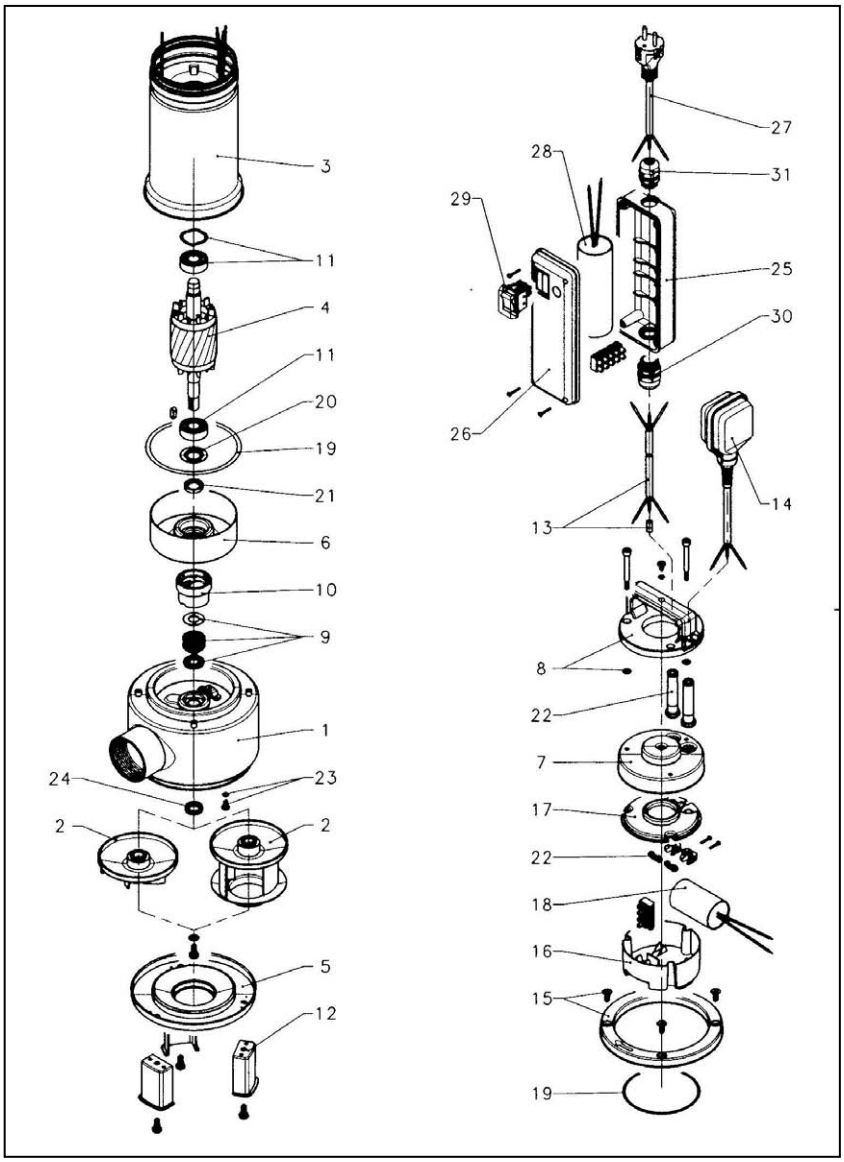
20 Ring for lower bearing

21 Lip seal ring

22 Cable guide and cable fastener

23 Screw and O-ring for oil chamber

24 V-ring



1 Pump body

2 Impeller

3 Motor casing + wound stator

4 Shaft + rotor and bearings

5 Suction flange

6 Bearing's lower support

7 Upper cover

8 Handle and O-ring

9 Mechanical seal and washer

10 Oil conveyor

11 Bearings and compensation ring

12 Support feet

13 Supply cable and connector

14 Float

15 Fastening ring and screw

16 Electrical connection guard

17 Electrical connection guard cover

18 Capacitor

19 O-ring

20 Ring for lower bearing

21 Lip seal ring

22 Cable guide and cable fastener

23 Screw and O-ring for oil chamber

24 V-ring

25 Capacitor holder

26 Capacitor holder cover

27 Cable with plug

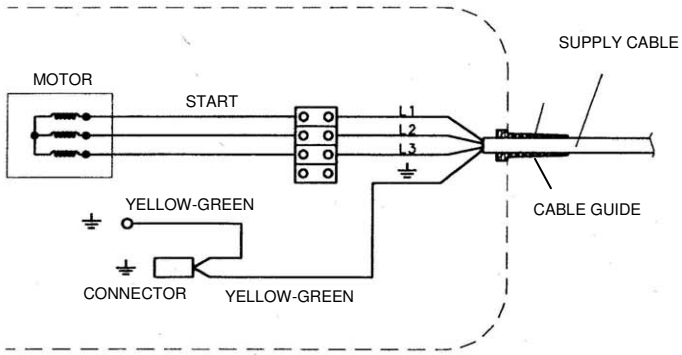
28 Capacitor

29 Switch

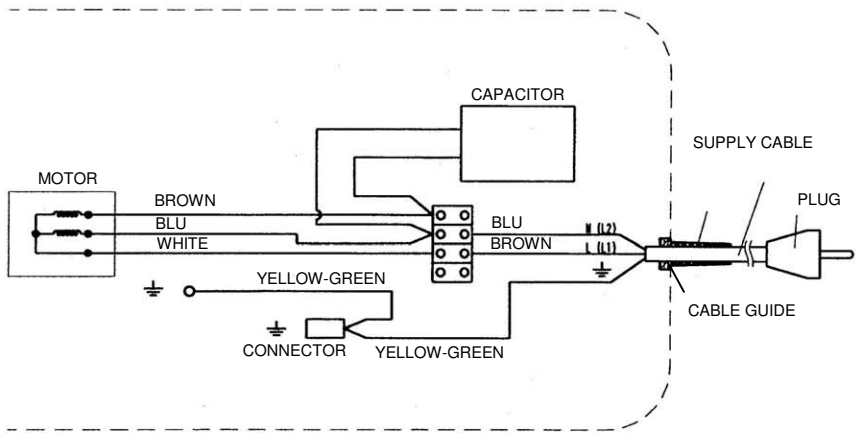
30 Cable gland, pump side

31 Cable gland, plug side

50 AND 60 Hz THREE-PHASE CONNECTION DIAGRAM



50 AND 60 Hz SINGLE-PHASE CONNECTION DIAGRAM (WITHOUT FLOAT)



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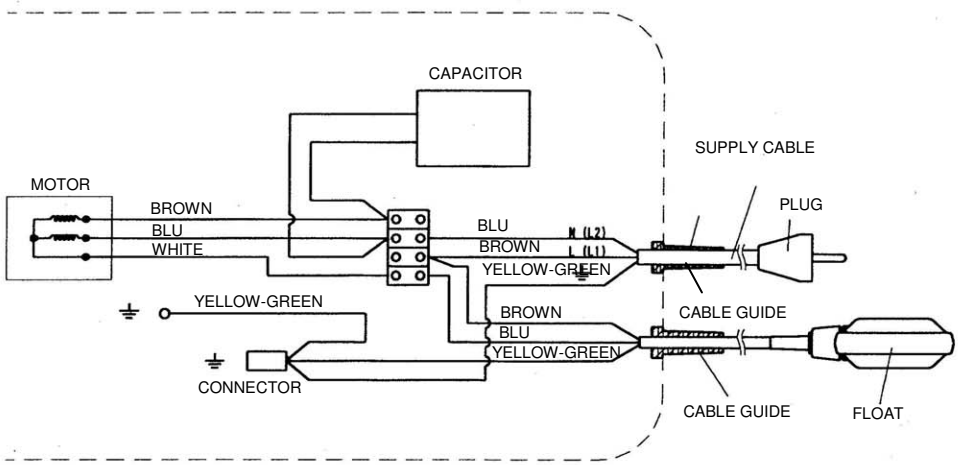

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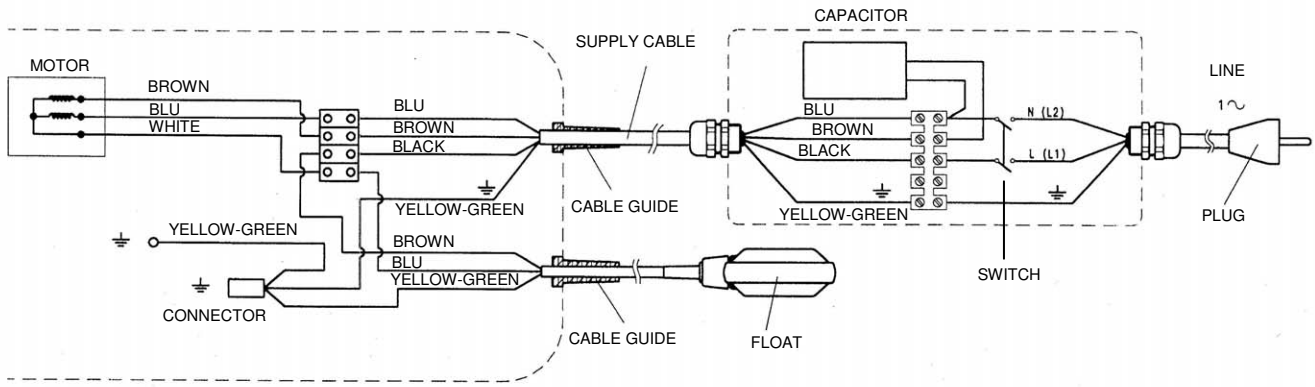

50 AND 60 Hz SINGLE-PHASE CONNECTION DIAGRAM (WITHOUT FLOAT)