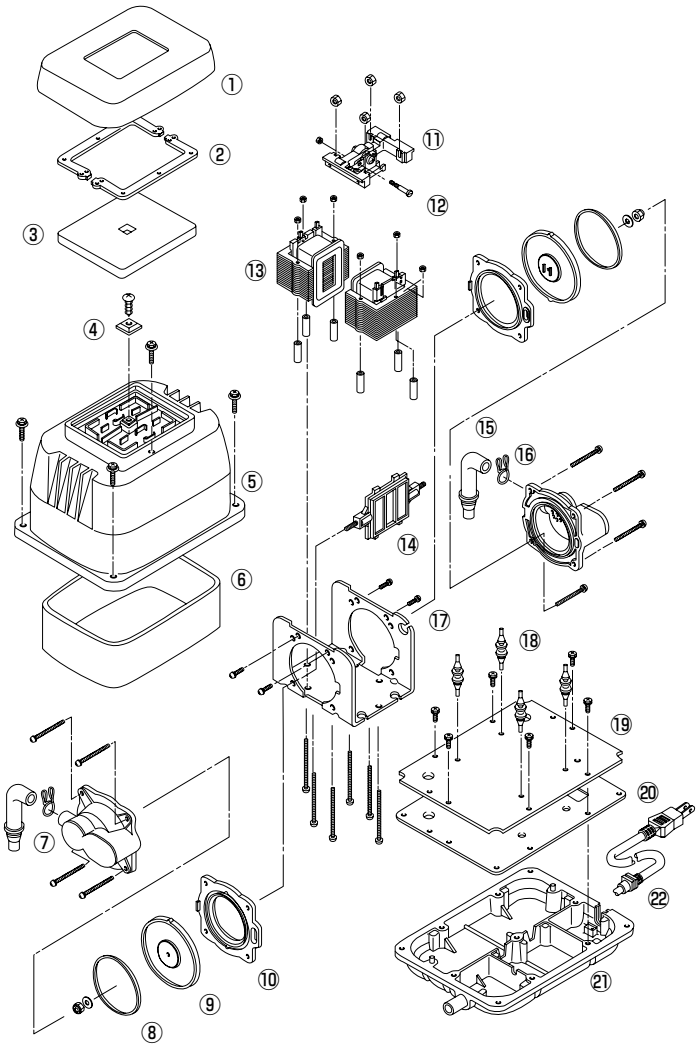
Air pump	Start of production	Discontinuance of production
HP-60	1995/ 9	—
HP-80	1995/ 9	—

HP Series

STRUCTURE AND PART NAMES



HP-60/80

① Filter Cover
② Semi Cover Packing
③ Filter
④ Fitting Boss
⑤ Upper Housing
⑥ Sound Absorber
⑦ Casing Block
⑧ Diaphragm Ring
⑨ Diaphragm
⑩ Diaphragm Base
⑪ SP Switch
⑫ Safety Screw
⑬ Electromagnet
⑭ Actuating Rod
⑮ L-Tube
⑯ Hose Band
⑰ Frame
⑱ Vibration Control Rubber
⑲ Center Plate
⑳ Gasket
㉑ Lower Housing
㉒ Power Cord

REPLACING THE CHAMBER BLOCK

⚠ CAUTION

- **Be sure to unplug the pump unit.**
- **Replace the diaphragms and the valves with new ones at least once a year or one and a half years in order to maintain their initial performance.**
- **For chamber block replacement, be sure to change both chamber blocks at the same time.**
- **The rod employs powerful permanent magnets. Therefore, be sure to remove your watch and precision machine before starting the work as it may fail due to their strong magnetic force.**
- **Do not put the actuating rod close to a magnetic card, a magnetic disk or any other magnetic media as their data may be lost.**

STEP 1 REMOVAL OF THE CHAMBER BLOCKS

Remove the Upper Housing.
(See page18 "REMOVING UPPER HOUSING")

STEP 2

Remove the sound absorber.
Pull out the L-tube from the casing nozzle.
Remove the four screws hold the chamber block and the casing block on both side.
(4screws on each side)

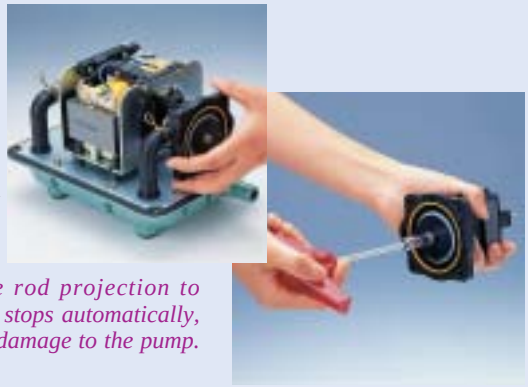
STEP 3

Remove one of the U-lock nuts hold the diaphragm mounting block to the rod.

- *Use the box driver to loosen (or tighten) the U-lock nut.*

STEP 4

Remove one of the diaphragm mounting blocks from the actuating rod and pull out the other diaphragm mounting block with the rod and finally, separate the diaphragm mounting block and rod.
This completes the chamber block removal procedure.



- *When pull out the rod, take care not to allow the rod projection to accidentally hit the lever of the SP switch. If the pump stops automatically, the safety screw must be broken to prevent any further damage to the pump. Be sure all debris is removed from unit. (See Step8)*

STEP 5

FITTING THE CHAMBER BLOCKS

Install the new diaphragm mounting block on the actuating rod.

- *Use new U-lock and washer only that come as replacement parts to prevent loosening and causing failure of the pump.*

STEP 6

Insert the actuating rod in accordance with the gap of the frame.
Secure the diaphragm mounting block on the other side and tighten the U-lock nut with the box driver.
Make sure the gaps between the actuating rod and the electromagnet are even.

STEP 7

Connect L-tube to the casing block and secure the casing with the screws.
(4screws on each side)
Install the other casing block at the same way.

STEP 8 REPLACEMENT OF SAFETY SCREW

Dispose of broken screw.

- *Be sure all debris is removed from unit as it can result in damage to the permanent magnets and or even in a failure of the pump.*

STEP 9

Draw a new safety screw through a hole in the different direction of the terminal.
(Threading order : The L-shaped lever–the spring electrode)

STEP 10

Fasten the screw with a nut.
The screw is designed so that the nut will turn freely when it is properly fastened, stop tightening when this happens.

STEP 11

This completes the replacement of the safety screw procedure.
Make sure the gaps between L-shaped lever and lug of the actuating rod are even.

- *When checking the movement of the switch while the power is connected, touching the terminal will result in an electric shock.*
- *Unplug the pump immediately after the check.*

STEP 12

Install the sound absorber.

STEP 13

Place the upper housing back on body.

• *Be extremely careful not to pinch the Sound Absorber in the Upper Housing.*

Secure it with the bolts.

Then place the filter and filter cover on the upper housing. (See page17 **"FILTER CLEANING AND REPLACEMENT"**)

⚠ CAUTION

- **Be sure to unplug the pump.**
- **When performing replacement work, the pump body may be still hot and you may get burnt. Therefore, wait until the pump has been allowed to cool.**
- **Be sure to remove the chamber block and the actuating rod before replacing the electromagnet.**
- **It is better to let an experienced technician handle the soldering process.**

STEP 1 REMOVAL OF ELECTROMAGNET

Cut the wire from terminals on the electromagnets with nippers.

• It is recommended that you make a note of the wiring.

STEP 2

Undo the frame screws and remove the SP switch.

STEP 3

Remove the mounting nuts with the box driver. (7㎜ wrench)
Pull out the electromagnets from the pump body.

STEP 4

FITTING THE ELECTROMAGNET

Secure the electromagnets to the body by the nuts.
Use the boxdriver. (wrench)


STEP 5

Secure the SP switch to the frame by the screws.

• *Be careful of the direction.*


STEP 6

Tie the wires in a bundle with a silicon tube.
Strip off the coating each of the wires.
(7mm from the end)
Connect the wires to the terminals.
The wire requires a soldered connection.


STEP 7

This completes the electromagnet replacement procedure.