

# Portable Suction Machine

## User's Manual



**Model : TFS30**



## ◆ INTRODUCTION

This small-sized TFS-30 is light weight and portable. Using oil-less piston type vacuum pump, TFS-30 solved problems of oil type vacuum pump.

It can be effectively used for general surgery, operation, I.C.U, and in emergency room as well. For proper usage, please carefully read this manual in advance.

## ◆ FEATURES

- With the simple and convenient design, TFS-30 is easy to carry.
- The vacuum pump with high-suction and strong motor uses diaphragm type
  - ★ No damage to the motor during the continuous operation, and maximum vacuum can be kept as 650 mmHg and low noise level (Under 70dB)
  - ★ No need to replenish oil, and no discomfort caused by the smell from oil-evaporation.
- The hose is made of 100% silicone, and there is no distortion during long-term operation.
- P.C ( Poly Carbonate ) bottle is unbreakable and can be used for autoclave.
- Built-in anti-overflow device guarantees safe usage.
- The cap of bottle can be easily opened and closed (One-touch type).

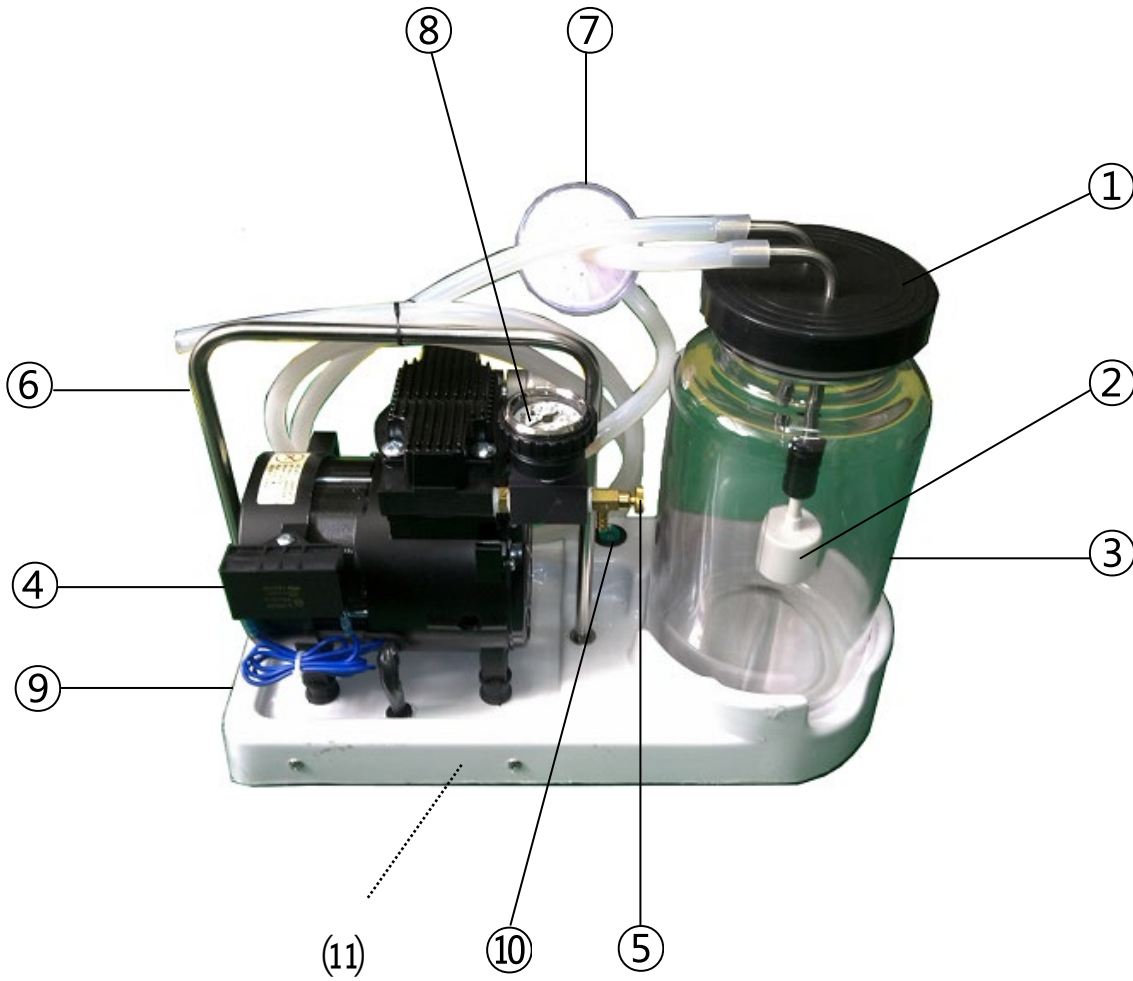
## ◆ CAUTIONS IN INSTALLATION

- To be installed on steady flat surface.
- ★ If installed on inclined surface, vibration and self-moving can be occurred during the operation.
- ★ Before using, Connect the power supply cord firmly.
- ★ Please check the rated voltage before using.  
We have two version of voltages for AC110V or for AC220V.

## ■ How To Use - (Refer to the 『Parts Name』 on the next page)

- ① Check the correct rated voltage.  
Plug in AC power cord located on the pump body to electric outlet.
  - ② Make sure if the hoses are properly inserted into the correct place.
  - ③ Turn 『ON』 the power switch located on the control panel to start operating.
  - ④ Adjust the vacuum adjusting knob 「parts name ⑤」 to the required capacity.  
(The vacuum capacity is indicated on the vacuum gauge 「parts name ⑧」)
  - ⑤ During the operation, do not fill up the bottle more than scaled range.  
(Although anti-overflow device is installed, hose can be clogged depends on the substance. The clog may inhibit maximum operation, so be careful not to fill up the bottle.)
  - ⑥ After each use, clean the bottle completely for the next usage.  
(The bottles can be used for autoclave. in order to clean up the piping and bottle, operates the suction for several times with clean water.)
- ★ Suction Bottle could be sterilized under the 121 Celcius Degree only after Cotton Fabric Covering before Autoclave.
- Otherwise, Suction Bottle could be melt or transformed on bottle.

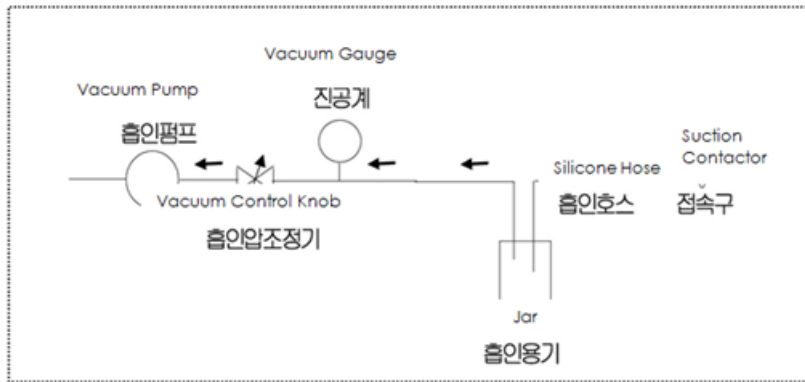
■ PARTS NAME



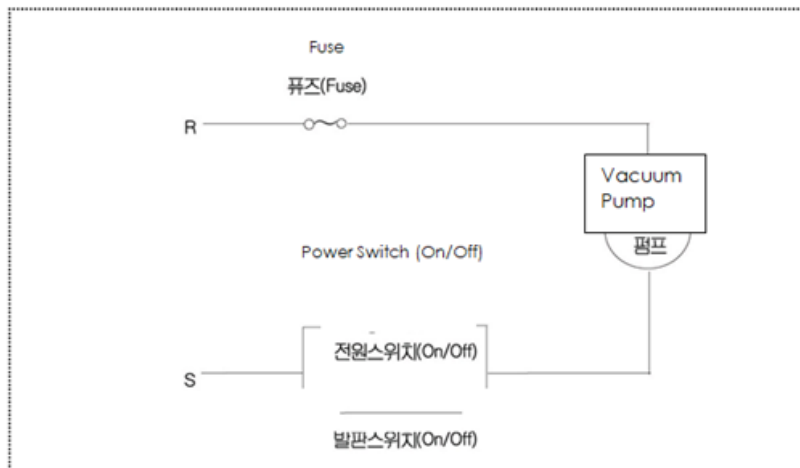
- |                          |                         |
|--------------------------|-------------------------|
| 1. Bottle cap            | 2. Anti-overflow Device |
| 3. Collection Bottle     | 4. Vacuum Pump          |
| 5. Vacuum Adjusting Knob | 6. Handle               |
| 7. Bacterial Filter      | 8. Vacuum Gauge         |
| 9. Power Cord            | 10. Operating Switch    |
| 11. Main Body (Base)     |                         |

## ■ TUBING AND WIRING SYSTEM FOR TFS-30

### ■ TUBING SYSTEM



### ■ WIRING SYSTEM



## ■ TROUBLE SHOOTING

TROUBLE	CAUSE	REMEDY
Though power cord is plugged in, NO 'POWER IN' lamp	<ol style="list-style-type: none"> <li>1. Power is not supplied</li> <li>2. Defected or slack in power cord</li> </ol>	<ol style="list-style-type: none"> <li>1. Check the voltage</li> <li>2. Check and replace/repair power supply cord.</li> </ol>
Cannot operate when 'POWER IN' lamp is on	<ol style="list-style-type: none"> <li>1. Trouble in motor</li> <li>2. Slack in connection between motor and body</li> <li>3. Trouble in wiring</li> <li>4. Trouble in 'Start Switch'</li> </ol>	<ol style="list-style-type: none"> <li>1. Repair or replace motor</li> <li>2. Check the power voltage which is connected to the unit.</li> <li>3. Check and repair wiring.</li> <li>4. Check and repair switch</li> </ol>
Motor operates, but vacuum pressure does not increase. ( Vacuum gauge is fixed at '0')	<ol style="list-style-type: none"> <li>1. Disconnection of the connecting hose.</li> <li>2. Trouble in vacuum adjusting knob.</li> <li>3. Bottle lid is opened.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check the inner/outer piping.</li> <li>2. Check the vacuum adjusting knob Inspect and repair or replace.</li> <li>3. Check the bottle lid.</li> </ol>
Motor is working, but vacuum pressure is low. ( When vacuum gauge is working)	<ol style="list-style-type: none"> <li>1. Clog in piping.</li> <li>2. The float valve in anti-overflow device is stuck due to the clog.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check the inner/outer piping.</li> <li>2. Check the float valve and clean.</li> </ol>

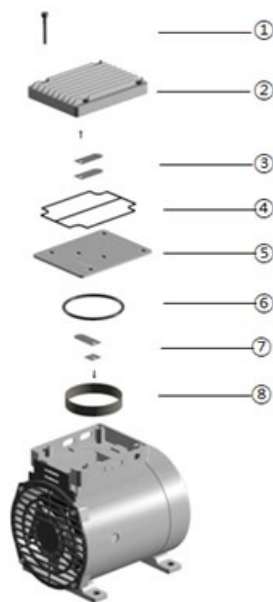
## ■ CAUTIONS

- Suction Bottle is PC (Poly Carbonate) and it is very strong from external shock but not strong by Chemical reaction like various Disinfectant, Benzen or Sodium Hypochlorite (Bleach)
- Various chemical reaction could be made Crack or state of Poly Carbonate Bottle.
- The Suction Bottle should be washed as Water or Water with Neutral detergent only before autoclave or stocking.
- Suction Bottle should be sterilized under the 121 Celcius Degree after Cotton Fabric Covering before Autoclave.

## ■ PLEASE REMEMBER BELOW

- WHILE USING , DO NOT COLLECT IT OVER THAN SCALED RANGE.
- AFTER USING , MAKE CLEAN INSIDE OF SUCTION TUBE THROUGH SUCKING CLEAN WATER.
- AFTER USING , WASH / STERILIZE BOTTLE SUCTION CANNULAS , AND THEN STORE THEM FOR NEXT USING.
- COLLECTION JAR ( SUCTION BOTTLE ) , SUCTION TUBE AND LID CAN BE STERILIZED WITH HIGH PRESSURE AND TEMPERATURE STEAM STERILIZER , BUT, ANTI OVER FLOW DEVICE CAN NOT BE.
- DO NOT STERILIZE ANTI OVER FLOW DEVICE IN STEAM STERILIZER.
- IN CASE OF NOT USING FOR LONG TIME, DISCONNECT THE POWER SUPPLY CORD FOR MAXIMUM SAFETY.
- WHILE DOING EVERY REQUIRED CHECKING AND REPAIRING DISCONNECT THE POWER SUPPLY CORD FOR MAXIMUM SAFETY.

## ■ HOW TO DIS-ASSEMBLE VACUUM PUMP



DISASSEMBLE PUMP FOLLOWING THE NUMBERS ON THE ABOVE PICTURE. THEN, CLEAN THE INNER PARTS WITH THINNER USING GAUZE OR SPONGE.

※ WARNING : DO NOT USE STEEL WIRE BRUSH FOR CLEANING.

IF ⑤,⑥,⑦,OR ⑧ IS DAMAGED, MAXIMUM VACUUM PRESSURE MAY DECREASE.

※ TO ASSEMBLE, TAKE THE REVERSE ORDER OF DISASSEMBLY.

※ REQUIRED TOOLS : + SHAPED DRIVER ( MEDIUM, SMALL )  
"L" SHAPED HEX-WRENCH SPANNER ( 6 MM)

## ■ SPECIFICATIONS OF TFS-30

DIMENSIONS .....	340(W) X 200(L) X 250(H) mm
Max. Vacuum .....	650 mmHg
Free Air Flow Rate .....	35 L/m at 60Hz
Noise Level .....	Under 70dB ( at 1 Meter Distance)
1 <sup>st</sup> Overflow Prevention Stopper .....	1 Each
Bacterial Filter .....	1 Each
Pump .....	Oil-less Piston Pump
Collection Bottle.....	Autoclavable, Poly-Carbonate Material, 3,000 CC X 1 Each
Tube .....	1.5 Meter Silicone Tube
Power Source (Power Consumption) .....	220V or 110V, 50/60Hz
Weight .....	6.5 KG

## ■ STANDARD ACCESSORIES

Main Unit : 1 Set  
 Power Supply Cord (3 Meter) : 1 each  
 Collection Bottle (3,000 CC) : 1 each  
 Silicone Hose : 1.5 meter  
 1<sup>st</sup> Overflow Prevention Stopper : 1 each  
 Bacterial Filter : 1 each

### **ALOPS CO., LTD.**

(B, 3~4F) 186, LS-Ro, Gunpo-Si, Gyeonggi-Do, Republic of Korea

TEL : +82-31-456-3890 FAX : +82-31-456-3892

E-MAIL : intl@alops.co.kr

Web : www.alops.co.kr