

The Solution for Particle, Sludge, Varnish, Acid and Water removal by One unit

## Oil Purification System

The Solution for Removal &  
Monitoring of Particle, Sludge, Varnish, Acid  
and Water by ONE unit.

Particle and water contaminations in lubricating  
and hydraulic oils cause serious operating  
problem such as shortening the life of system.  
Also, organic oxide such as varnish and sludge  
has an impact on machine failure and abnormal  
wear.

SOLGE developed a total purifier that can  
monitor and control all kinds of contaminations  
effectively as well as lowering Acid Number.



## Performance Result

§ Test Oil : Turbine Oil(32cSt)/200 Liter,  
EHC Oil(46cSt) /200 Liter

- Particle removal
  - below ISO17/14/12
- Acid removal
  - EHC Oil : 2.0 → ~0.08
- Water removal
  - Turbine Lub. oil : 2,000ppm → ~50ppm
  - EHC oil : 2,000ppm → ~80ppm

## Varnish MPC membrane patch



## Main Function

### ▪Particle Removal

- Removes particle with high performance particle filter (beta ratio 1,000)

### ▪Varnish & Sludge Removal

- Removes sludge and varnish (degradation products in solution with Ion Exchanged type filter (patent technology)

### ▪Acid Removal

- Removes acid with Ion Exchanged type filter (patent technology)

### ▪Moisture Removal

- Removes 100% of Free water& 90% of dissolved water with membrane and dry nitrogen.
- Effectively removes water from EHC oil

### ▪Condition Monitoring(Optional)

Cleanliness/Water/Viscosity/Color/Temperature

## Benefit

### ▪No failure and Long life of Machinery

### ▪Practice Proactive Maintenance

### ▪Reduce Maintenance & Operating Cost

### ▪Increase Asset efficiency

### ▪Reduce wastes

## General Specification

Flow rate : 46 L/min

Op. Temp : 40 °C ~ 65 °C

Power : 480ACV-3HP-3P (option)

Viscosity : max. 220cSt(at 40 °C)

Fluid : Mineral oil, Synthetic oil(EHC)

Others : Portable type

## Parts Specification

### •Particle removal filter

- Beta ratio 1,000, Absolute Filter
- Ratings : : 1 $\mu$ m, 3 $\mu$ m, 6 $\mu$ m, 12 $\mu$ m (optional)

### •Varnish & Sludge remover

- Ion Exchanged type filter (patent technology)

### •Acid remover

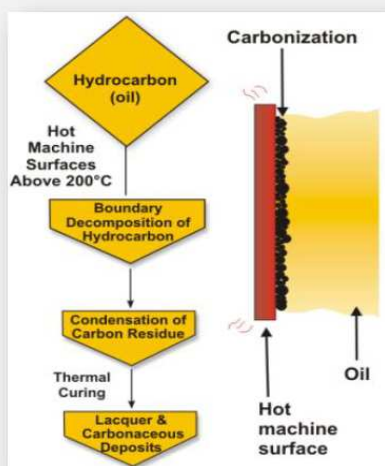
- Ion Exchanged type filter (patent technology)

### •Water remover

- Portable Membrane type (Turbine/Lubricant oil)
- Dried Nitrogen into Reservoir (Control Oil/EHC)

### •Real-time oil condition monitoring (opt.)

- Cleanliness : Laser type, ISO/SAE/Count
- Particle : Saturation % or ppm(calculated)
- Temp. : °C
- Color : ASTM D1500, Values are 0.5~8



Ref: Noria, Livingstone, Wootton

## Oil Flow Schematics

### •TOMs-F-T

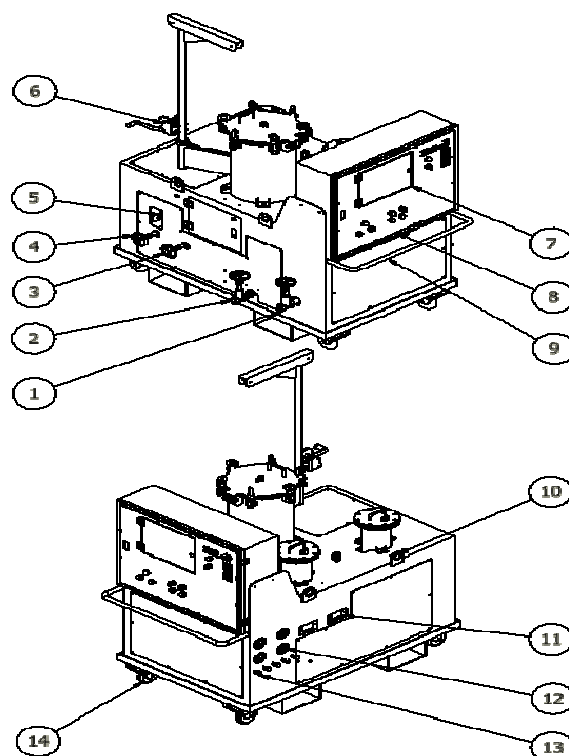
#### Purifier for Turbine Lub. oil

Reservoir → Pump → (Sensor) → Par. Filter  
→ Membrane Filter → Ion Exch. Filter → Par.  
Filter → Reservoir

### •TOMs-F-PE

#### Purifier for EHC oil

Reservoir → Pump → (Sensor) →  
Electrostatic Module → Ion Exch.  
Filter → Particle Filter → Reservoir  
(TMR : Water removal on reservoir)



## Product Specification

Part Number	TOMs-F-T	TOMs-F-PE
Flow Rate	46 lpm	46 lpm
Working pressure	8 kgf	8 kgf
Power Voltage	380V / 440V / 480V, 3phase, 60Hz (Other specifications are available)	380V / 440V / 480V, 3phase, 60Hz (Other specifications are available)
Power consumption (Max)	12Kw	12Kw
Operating Temperature	40°C ~ 60° C	40°C ~ 60° C
Viscosity (Max)	220cSt at 40°C	220cSt at 40°C
Inter port	1 1/2"	1 1/2"
Outlet port	1"	1"
Optional	Display with touch screen of water sensor in % RH, ppm, Particle Counter, Color Sensor.	
Width	1000 mm	900 mm
Length	1490 mm	1330 mm
Height	1687 mm	1457 mm
Weight (Max)	613 kg	560 kg