

# YUSOO - BREAKER

## Installation & Operation Manual for Oil-water Separator



### PRODUCT RANGE

#### ► Auto Drain Trap (Level-sensor type)

##### DRAIN MASTER

- DRAIN MASTER S Auto Drain Trap (solenoid valve type)
- DRAIN MASTER HP Auto Drain Trap for High Pressure (Max 60 bar)
- DRAIN MASTER B Auto Drain Trap (Ball valve type)
- DRAIN MASTER V Auto Drain Trap for Vacuum
- DRAIN MASTER T Auto Drain Trap (Timer type)

#### ► Oil-water Separator

##### YUSOO-BREAKER

- Filter Type oil-water Separator

#### ► Emulsion Separator

##### ENVISOL

- Chemical Type Oil-water Separator



## Table of contents

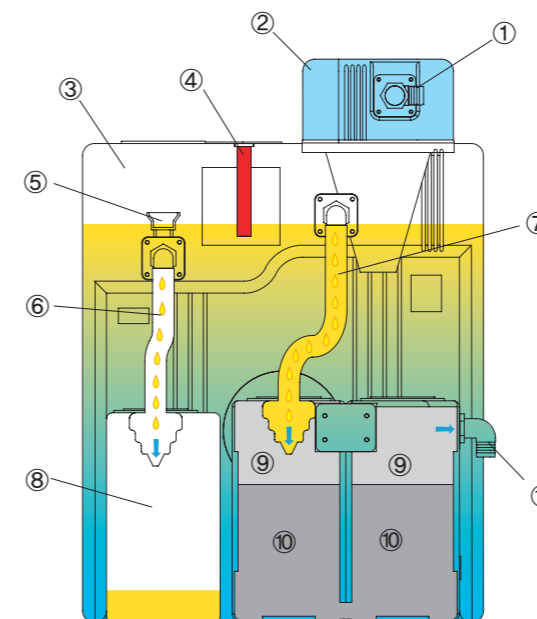
1. SAFETY INFORMATION.....	3
2. PROCESS .....	3
3. PERFORMANCE DATA .....	4
4. INSTALLATION .....	5
5. MAINTENANCE .....	6
6. FILTER REPLACEMENT .....	6
7. LABORATORY SERVICE .....	6
8. HEATING SYSTEM .....	7
9. TECHNICAL DATA .....	8
10. DIMENSIONS.....	8~10
11. ACCESSORIES & REPLACEMENT FILER .....	11
12. PRODUCT RANGE .....	12

## SAFETY INFORMATION

- ▶ YUSOO-BREAKER is designed to process condensate water generated in the air compressor system, and therefore the company shall not be held responsible for issues arising from use of the Product for purposes other than intended.
- ▶ A suitable model of YUSOO-BREAKER shall be selected depending on the compressor volume requirement.
- ▶ YUSOO-BREAKER is not suitable for heavily emulsified condensate water.
- ▶ Only the authentic filter of the Company shall be used on the Product to maintain Product Warranty valid.
- ▶ YUSOO-BREAKER shall be installed on a level floor and in a place where the contents are prohibited from being drained into sewage in the event of the Product becoming faulty.
- ▶ A heater (Option) shall be installed with YUSOO-BREAKER to prevent it from freezing when it is installed in a place exposed to freezing.
- ▶ A heater that enables automatic temperature control shall be installed while its power being turned off and by a qualified technician.
- ▶ If the manual valve, a timer trap or a floating-type trap is used to discharge condensate water it may impair the filter's functionality as it will boost emulsification of condensate water. For this reason, use of the level-sensor type trap is strongly recommended.
- ▶ Contamination on the filter and leakage from storage tank among others shall be checked periodically by the operator.
- ▶ Take sample of the condensate water when it is discharged, and compare it with the specimen. If turbidity is the same or higher than the specimen, replace the filter. (see Page 6)
- ▶ YUSOO-BREAKER shall be checked or repaired only when there is no feeding of condensate water or when it is stopped.
- ▶ The areas where the hoses and pipes are connected shall be checked frequently by the operator.

## PROCESS

※ Replace the filter when the filter level control (4) floats up as it indicates that the filter's life is expired.



Condensate water which is emulsified by oil will flow into the Pressure relief Chamber, and a low level of pressure applied to the condensate water is removed by the dropping effect of the Chamber. (Pressure drop is essential in smooth separation of specific gravity.)

From condensate water stored in the Pre Tank, oil floats on the surface of water by the first separation process and is collected into the Oil Collection Tank through the oil drain pipe. (Oil, if not emulsified, affects the filter life, and therefore must be removed.)

Condensate water is purified and discharged through the filtering stages once it is de-oiled

- |                           |                           |
|---------------------------|---------------------------|
| ① Condensate Inlet        | ⑦ Condensate Line         |
| ② Pressure relief Chamber | ⑧ Oil Collection Tank     |
| ③ Pre Separation Tank     | ⑨ Pre Filter Cartridge    |
| ④ Filter Level Control    | ⑩ Activated Carbon Filter |
| ⑤ Oil Overflow CAP        | ⑪ Water Discharge         |
| ⑥ Oil Line                |                           |

## PERFORMANCE DATA

- ▶ The maximum capacity of an oil-water separator varies depending on the type of compressor, oil in use and the surrounding environment.
- ▶ The degree of emulsification of condensate water varies depending on the type of compressor and oil in use. A suitable model shall be selected for the oil in use.

YUSOO-BREAKER®	Installed Compressor Capacity(m³/min)						
	Climate Zone	Screw compressor				Piston Compressor	
		Turbin -Oil	VCL-Oil (*)	VDL-Oil (**)	Synthetic -Oil(***)	Turbin -Oil	Synthetic -Oil
YUSOO-8	Green	9.4	7.6	9.4	6.5~7.6	7.3	5.3~6.5
	Blue	8.0	6.5	8.0	5.3~6.5	6.2	4.5~5.5
	Red	6.5	5.4	6.5	4.5~5.3	5.1	3.7~4.4
YUSOO-15	Green	17.5	14.5	17.5	13.0~14.5	14.0	10.5~12.3
	Blue	15.0	12.5	15.0	11.0~12.5	12.0	9.0~10.3
	Red	12.5	10.0	12.5	9.0~10.2	9.8	7.4~8.6
YUSOO-30	Green	35.0	29.0	35.0	26.3~29.0	27.5	19.3~22.5
	Blue	30.0	25.0	30.0	22.5~25.0	23.5	16.5~19.0
	Red	24.5	20.5	24.5	18.5~20.5	19.5	19.5~15.5
YUSOO-42	Green	49.0	41.5	49.0	37.5~41.5	34.5	25.8~31.0
	Blue	42.0	35.5	42.0	32.0~35.5	29.5	22.0~26.5
	Red	34.5	29.0	34.5	26.0~29.0	24.0	18.0~21.0
YUSOO-100	Green	117.0	87.7	117.0	76.0~87.8	79.5	60.0~70.0
	Blue	100.0	75.0	100.0	65.0~75.0	68.0	51.0~60.0
	Red	78.0	58.5	78.0	50.7~58.5	53.0	39.8~47.0

- ▶ (\*) VCL-Oil: mineral + synthetic      (\*\*) VDL-Oil: mineral      (\*\*\*) Synthetic-Oil: synthetic
- ▶ The heater unit available at the Company is strongly recommended for areas exposed to freezing.

- Green: Dry and cool climate (such as in Northern Europe, Canada, Northern states of the USA, Central Asia)
- Blue: temperate climate (such as in Central and Southern Europe, Central America)
- Red: humid, tropical climate (such as in coastal regions of South-East Asia, Oceania, Amazon and Congo regions)

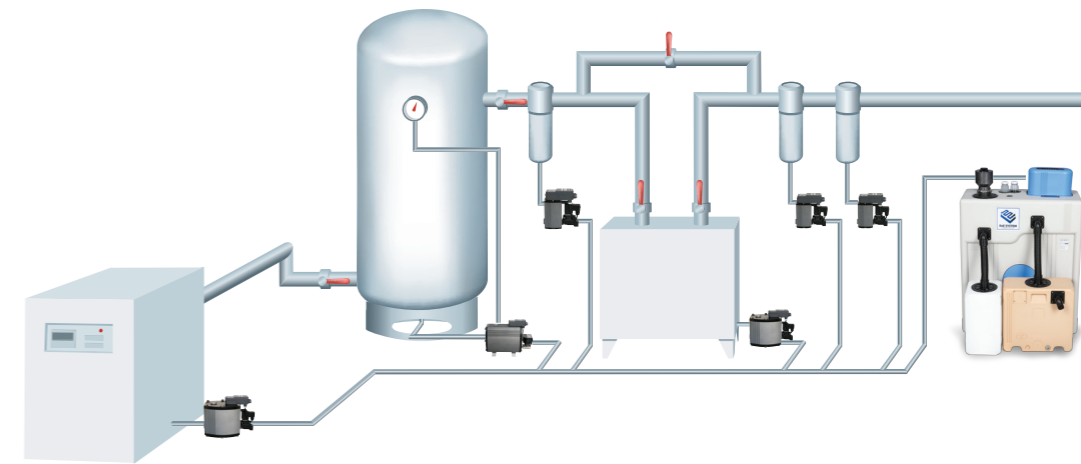
Functionality of YUSOO-BREAKER is not guaranteed for heavily emulsified condensate water.

The above data shall be considered as 'recommendation' only since it is not possible to list all compressors and oils. The actual capacity may vary from the above data. Filters may be replaced once to 4 times a year depending on the compressor's efficiency. Adequate filter replacement can maintain quality of the discharged condensate within the statutory limits.

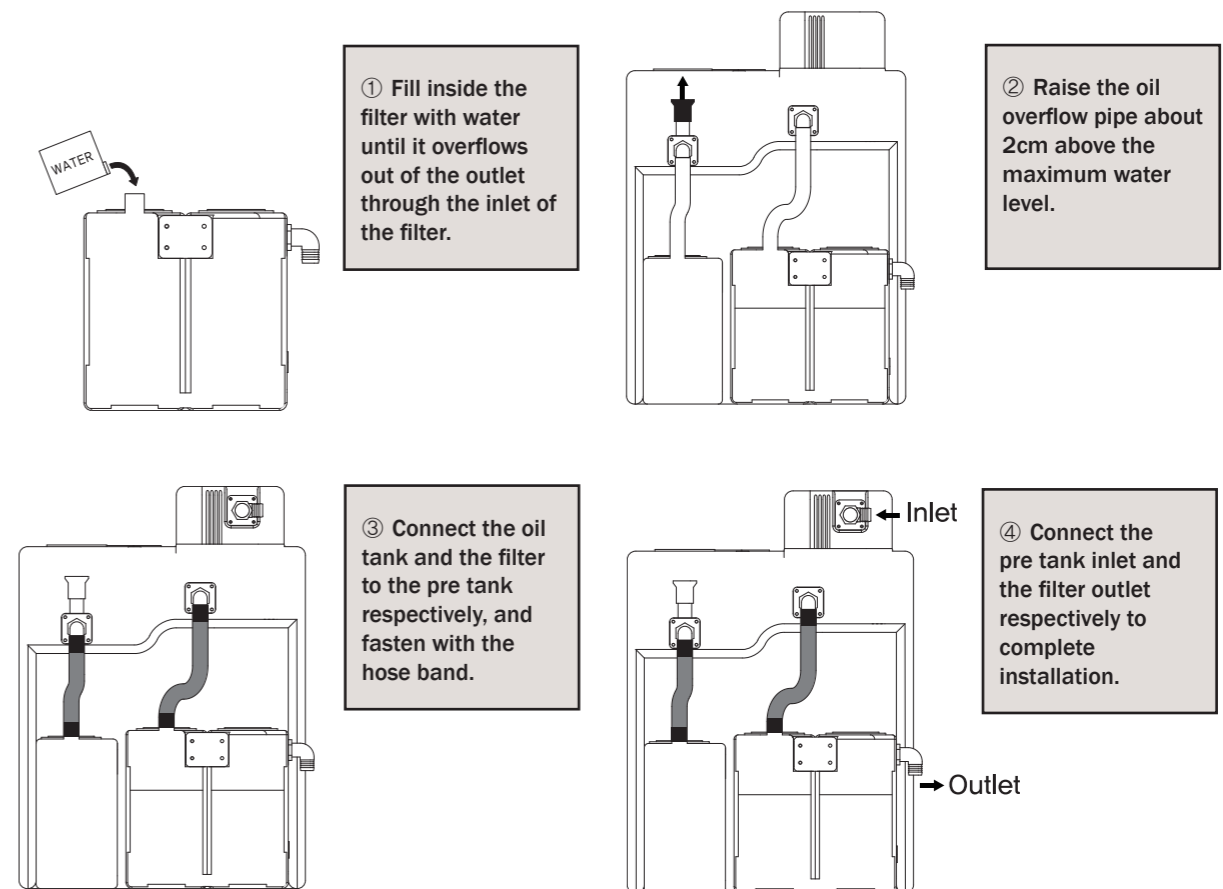
### Note:

- ▶ The less emulsification of condensate from the compressor the longer the filter life.
- ▶ Use of time control type discharge trap, discharge of condensate with compressed air (valve open), operation of compressor at high temperature, oil exchange outside the recommended cycle etc may shorten the filter life and cannot maintain water quality within the statutory limits.

## INSTALLATION



- ▶ Refer to the above diagram for the piping works so that condensate water feeds in through the YUSOO-BREAKER® chamber.
- ▶ YUSOO-BREAKER® must be installed on a level floor.
- ▶ Pipes and hoses from and to YUSOO-BREAKER® must be connected free of leakage.
- ▶ The condensate collection line shall be installed in such a way that it is free of air pocket or any other obstacles inside the pipe affecting the smooth flow of condensate water so as to ensure natural flow of condensate water.



- ▶ When connecting a discharge line for the purified condensate water, make sure that there is no blockage or air pockets towards the sewage, the pipe(hose) is sloped to <math><5^\circ</math> and the inner diameter of the pipe (hose) is 25mm or above.



## MAINTENANCE

### Condensate Check:



▶ Check the filter once a week. Compare turbidity of the condensate discharged from the Separator with that in the sample bottle. Replace the filter if it is as cloudy as the sample.



▶ If the red level indicator is raised at the upper part of the pre tank, replace the filter as it indicates that the filter is blocked.

## FILTER REPLACEMENT



▲ Loosen up the Filter Inlet Clamp to remove the hose.



▲ Loosen the clamp at the Filter Outlet to remove the hose.



▲ Replace the filter and fill with clean water into the upper part of the filter to the full.



▲ Connect the hose to the Filter Outlet.



▲ Fasten the Clamp after connecting the hose.



▲ Filter replaced!

Caution 1) Tighten the hose connected to the filter with a hose band to prevent leakage of condensate water.  
Caution 2) When connecting a discharge line for the purified condensate water, make sure that there is no blockage or air pockets towards the sewage, the pipe(hose) is sloped to <math>< 5^\circ</math> and the inner diameter of the pipe (hose) is 25mm or above

## LABORATORY SERVICE

- ▶ During normal operation, check the condensate water once a week by comparing its turbidity with that of the sample bottle.
- ▶ To analyze contents of the residual oil in the purified water, send 1 liter of condensate water in a 1-liter glass bottle to the Company. (subject to analysis fees)

## Auto-temperature Control : HEATING SYSTEM

A heater (Option) shall be installed with YUSOO-BREAKER to prevent freezing when it is installed and used in a place exposed to freezing.

An auto-temperature controller suitable for the model of your choice shall be used. The auto-temperature controller can be purchased as option when you purchase the Oil-water Separator, or installed at later stage.



### Function

When the water temperature drops below the set value the auto-temperature controller is automatically activated. The operational status of the Controller is indicated by a lamp.

When the water temperature reaches the set value, the auto-temperature controller is automatically stopped.

The temperature is set to 20°C as default, but it can be adjusted within the range of 20°C - 120°C.

### Installation

For installation of the auto-temperature controller, place it on the screw groove of the Pre Separation Tank. Electrical connections must be performed by a qualified technician.

### Caution

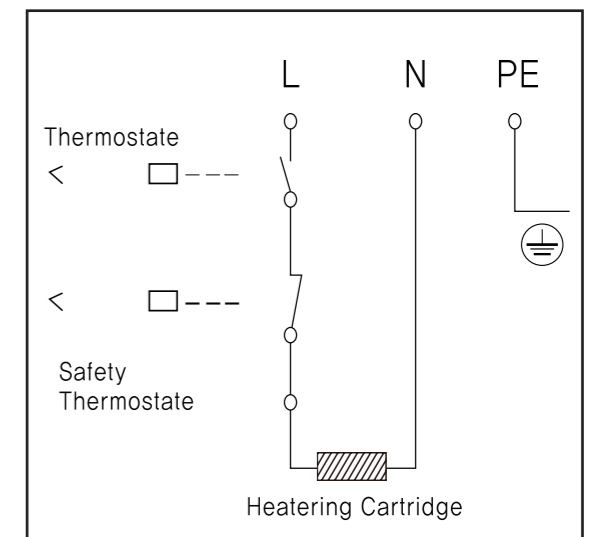
- ▶ The auto-temperature controller must be used only when it is submerged in water as it may cause damage and fire.
- ▶ The temperature shall be set to 20~30°C as anything outside this range may cause deformation of the Pre Separation Tank.

### YUSOO-8.15.30.42

- ▶ Temp set range: 20~30°C
- ▶ Operation temp range: 20°C~120°C
- ▶ Voltage: 110Vac or 220Vac / 50~60Hz
- ▶ Power consumption: 1.0 Kw
- ▶ Inlet Dia: 2"(50A)

### YUSOO-100

- ▶ Temp set range: 20~30°C
- ▶ Operation temp range: 20°C~120°C
- ▶ Voltage: 110Vac or 220Vac / 50~60Hz
- ▶ Power consumption: 2.0 Kw
- ▶ Inlet Dia: 2"(50A)

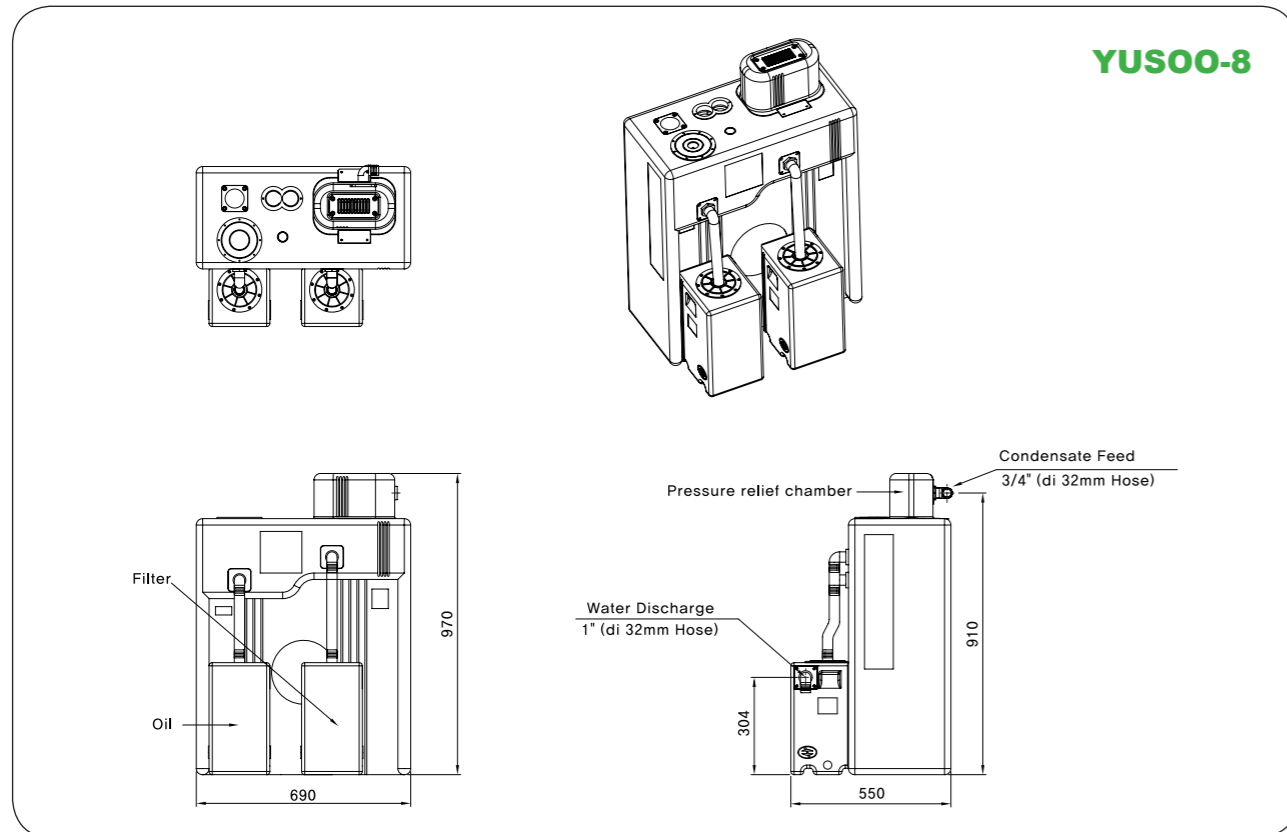


▶ Other voltages also available upon request (220VAC/ 380VAC/ 440VAC \* 3Ph)

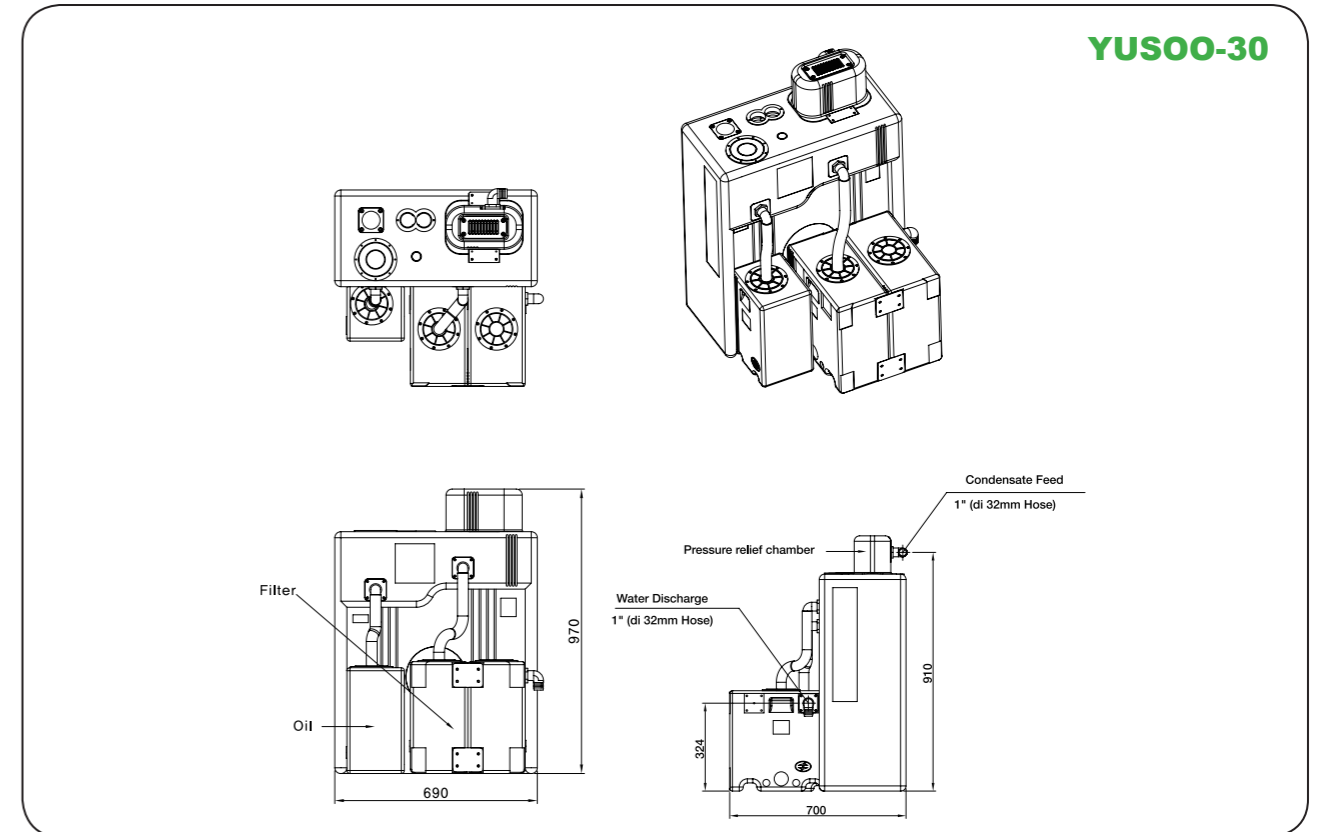
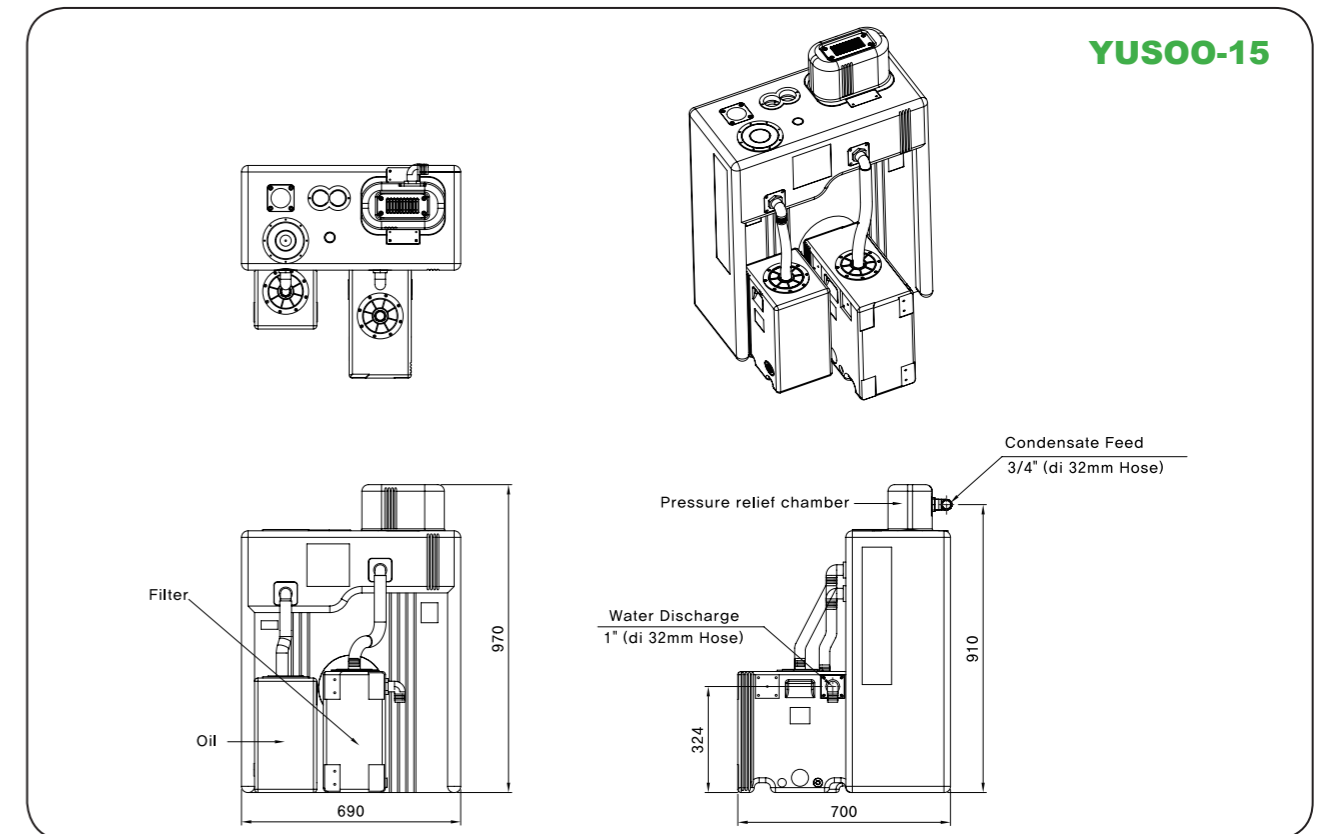
## TECHNICAL DATA

Model	YUSOO-8	YUSOO-15	YUSOO-30	YUSOO-42	YUSOO-100
Order Ref.	YUSOO 008 000	YUSOO 015 000	YUSOO 030 000	YUSOO 042 000	YUSOO 100N 000
Container + Filter Volume	169.0 Liter	180.7 Liter	207.4 Liter	227.7 Liter	726.0 Liter
Container Volume	154 Liter	154 Liter	154 Liter	154 Liter	600 Liter
Filter Volume	1×15.2 Liter	1×26.7 Liter	2×26.7 Liter	2×36.9 Liter	2×63 Liter
Condensate Feed (hose mm inside)	3/4"(di 32mm hose)		1"(di 32mm hose)		
Water Discharge (hose mm inside)	1"(di 32mm hose)				
Oil Discharge (hose mm inside)	1"(di 32mm)				
Temperature (min/max. °C)	+5 ~ 60				
Weight(empty)	Approx. 29kg	Approx. 33kg	Approx. 46kg	Approx. 53kg	Approx. 125kg
<b>Materials</b>					
Pressure relief chamber	HDPE(Poly Ethylene)				
Container	HDPE(Poly Ethylene)				
Adsorption Filter	Activated Carbon				
Pre Filter	PP(Poly Ethylene)				
Filter Container	HDPE(Poly Ethylene)				

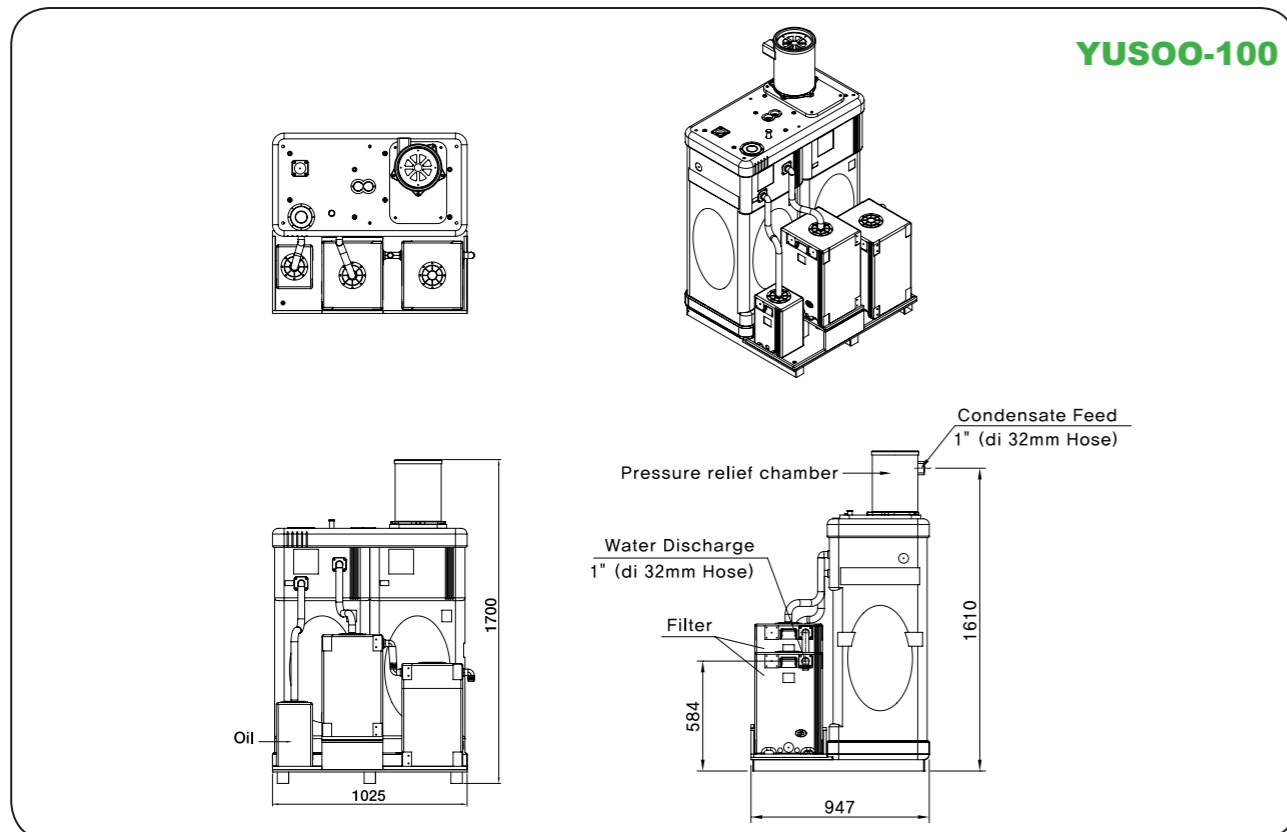
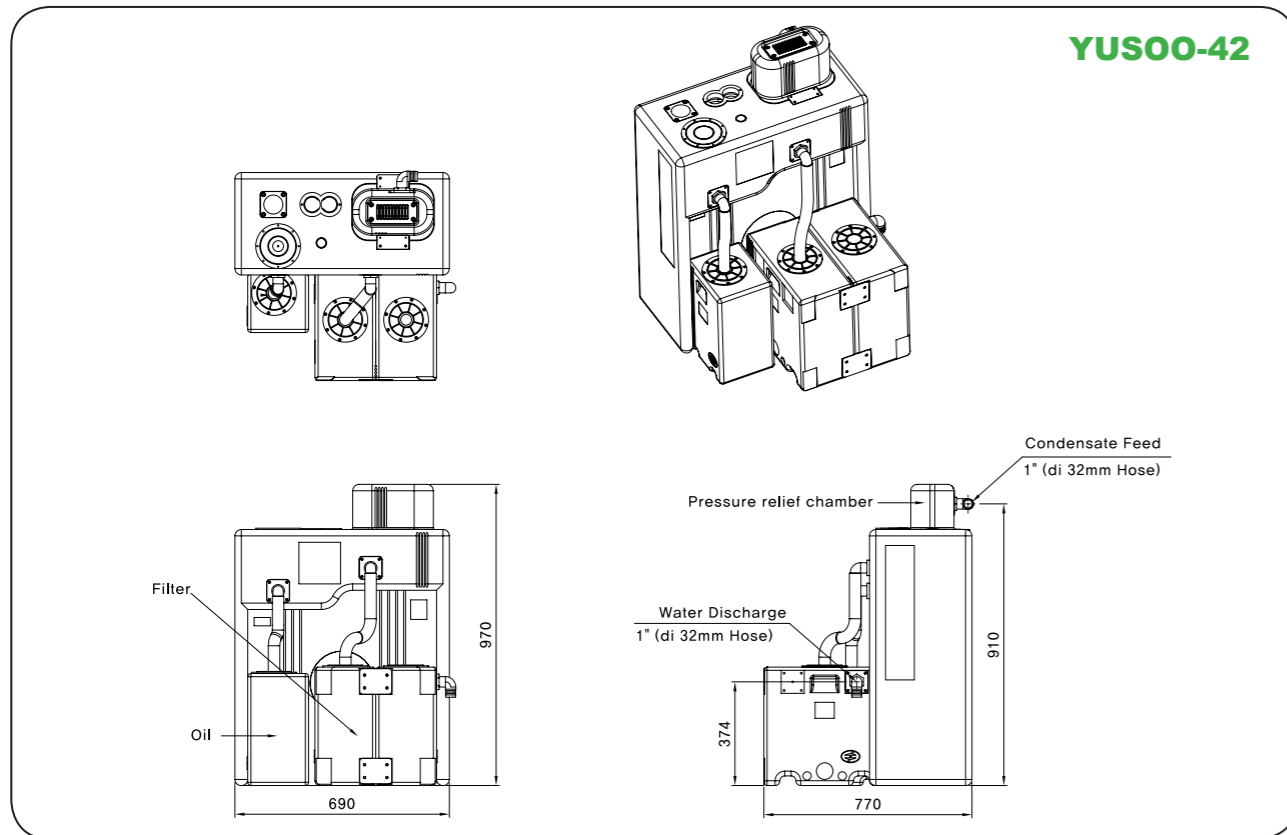
## DIMENSION



## DIMENSION



## DIMENSION



## ACCESSORIES & REPLACEMENT FILTER

### ► Replacement filter sets

Designation	Order No.	Replacement filter set	Weight
Filter set for <b>YUSOO-8</b>	EX YS08 001	1×15.2 ( ℓ )	6.5(kg)
Filter set for <b>YUSOO-15</b>	EX YS15 001	1×26.7 ( ℓ )	10.5(kg)
Filter set for <b>YUSOO-30</b>	EX YS30 001	2×26.7 ( ℓ )	23.0(kg)
Filter set for <b>YUSOO-42</b>	EX YS42 001	2×36.9 ( ℓ )	30.0(kg)
Filter set for <b>USOO-100</b>	EX YS100N 001	2×63.0 ( ℓ )	50.0(kg)

### ► Auto-temperature Controller for anti-freezing (Heater unit)

Designation	Order No.	Replacement filter set	Weight
Heater unit for <b>YUSOO-8,15,30,42</b>	HU YS00 010	200Vac 50~60Hz 1.0Kw	3.0(kg)
Heater unit for <b>YUSOO-100</b>	HU YS00 020	200Vac 50~60Hz 2.0Kw	3.5(kg)

### ► Accessories

Designation	Order No.	Replacement filter set	Weight
Pressure Relief Chamber for <b>YUSOO-8.15.30.42</b>	AC YS00 001		
Pressure Relief Chamber for <b>YUSOO-100</b>	AC YS00 002		1.5(kg)
Oil collector for <b>YUSOO-8.15.30.42</b>	AC YS00 003	15 ( ℓ )	0.9(kg)
Oil collector for <b>YUSOO-100</b>	AC YS00 004	20 ( ℓ )	1.2(kg)
Test Kit (Turbidity)	AC YS00 010		

This Manual contains information on operation and installation of all models of YUSOO-BREAKER. The contents of this Manual are subject to change without prior notice for further technical improvement.

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