



Save resources, Save nature

# THERMO JETTER ULG-9000series



**Ueshima**

## FEATURES

- No need of LN<sub>2</sub>. Just supply electric power and dry air to realize very low temperature!
- Even a small rate of 100L/min of air can realize -120°C in approximately 60 minutes. (250L/min max.)
- Not like using LN<sub>2</sub>, it allows all-night operation without attendance of personnel for watching.
- It enables stable temperature control as it doesn't make condensation in the piping.
- It realizes remarkable reduction of running cost with a small initial cost.
- Adopting our unique single compression multi-cascaded condensation refrigerating system.
- Use of a special dryer for controlling dew point temperature.
- ULG-9300 reaches 200°C by micro-heater control.
- The vibration free system is good to use in combination with precision equipment.
- Energy saving design of small, lightweight, quiet equipment needs no help of LN<sub>2</sub>.
- Safe, simple and maintenance free pump less design
- Optional air supply chamber enables local temperature control (DUT).

## APPLICATIONS

### ULG-9100series

Airflow control (no temperature control)

- For connection with analyzers/testers
- Frozen food manufacturer
- Polymer manufacturer
- Mold cooling
- Air cooled grinding (semi-dry process)
- Storage of bio material (blood, cell, etc.)
- Can interconnect with various equipment(option)

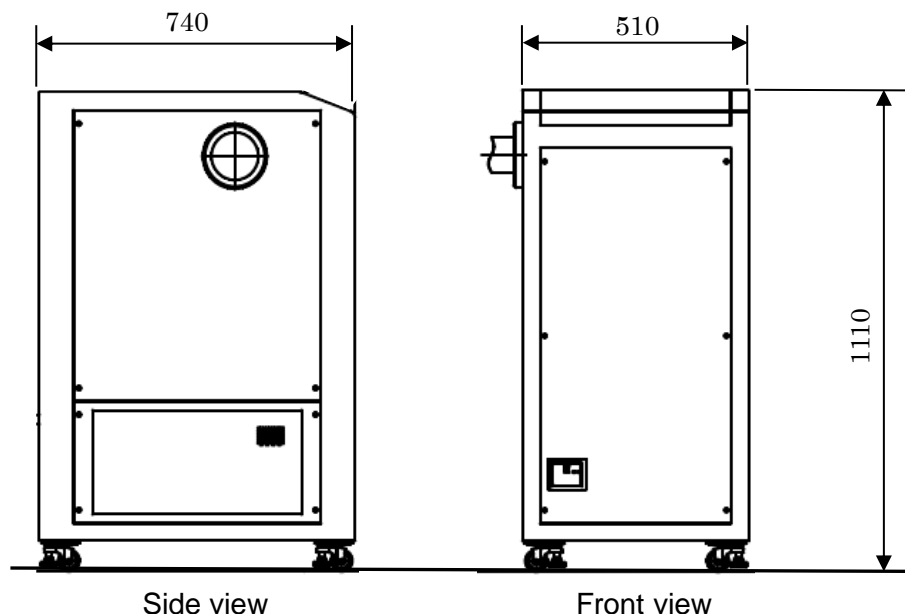
### ULG-9300series

Environmental Test Type

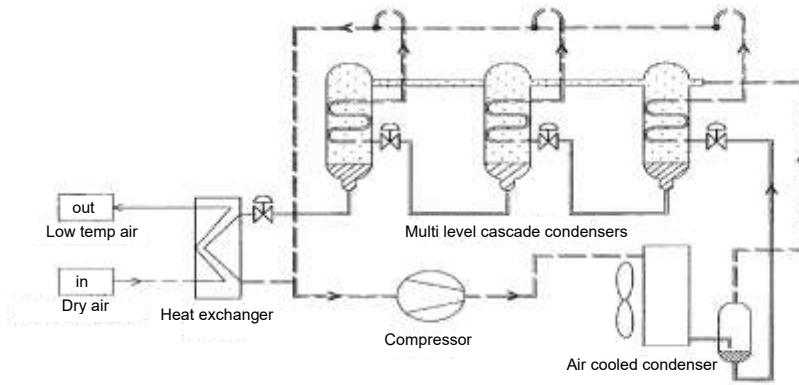
- For analyzers/testers (cooling and heating)
- Heat cycle tests of mounted device
- Environmental test (big change of temp.)
- Degradation process tests
- Can interconnect with various equipment(option)

## DIMENSIONS & CONNECTION

- Air jet outlet can be connected to a chamber section of a tester directly to get efficiency of cooling specimens.
- Air supply required: Industrial dry air
- Power supply required: 3-ph 200V 50/60Hz

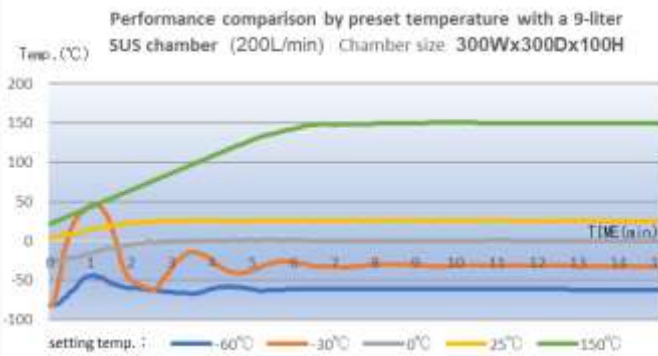


# PRINCIPLE

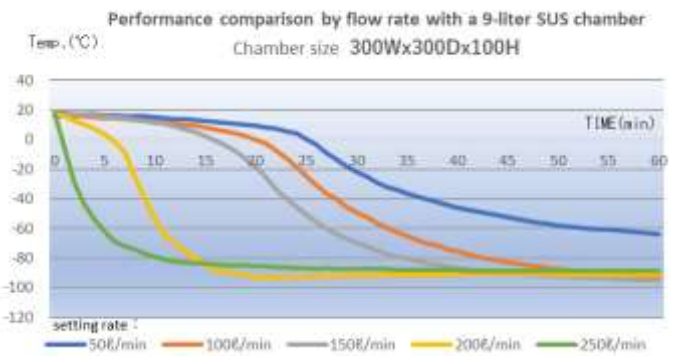


- Originally blended refrigerants of different boiling points are condensed sequentially in cascaded condensation process to achieve very low temperature.
- Not like a conventional two-stage refrigerating system, it has only one compressor, saving energy and space, making light weight equipment. The simple structure reduces cost of maintenance.

# PERFORMANCE

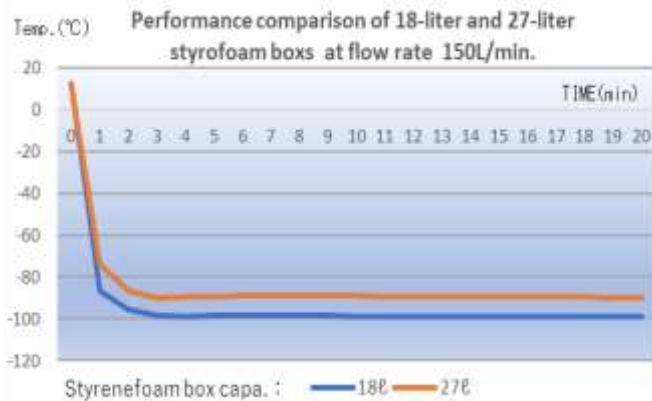


- Arrival time example to setting temperature at 200L/min. of air flow. (Test example of 9L-SUS-chamber )

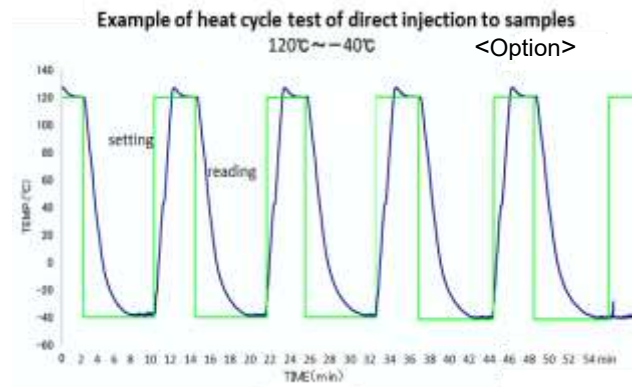


- Reachable to low-temperature range by controlling air flow. (Test example of 9L-SUS-chamber )

# APPLICATION EXAMPLE



- Reachable to low-temperature range by chamber content. (It depends on content or material)



- Heat cycle test example repeating cooling/heating. (Required related instrument and software separately)

## SPECIFICATIONS

MODEL	ULG-9100series	ULG-9300series
Weight & Dimensions	Approx. 200kg · 510(W)×740(D)×1,110(H)mm	
Power Supply	3φ 200V 50/60Hz	
Rated Current	9.8A	12.3A
Circuit Breaker	30A	
Compressor	2.2kw	
Heater	n/a	1kw
Cooling Performance	Approx.500W(200ℓ/min. at -95°C output	
Air Flow	30~250ℓ/min (Variable)	
Startup Time	Approx. 60min (Outlet temperature -120°C, at Air Flow 100ℓ/min)	
Lowest Temperature	-120 °C (at Air Flow 100ℓ/min *depends on environment)	
Condensation Method	Air cooled	
Port	IN: Rc3/8" female OUT: 3/8" Stainless Steel	
Temperature Control	n/a	-120 °C ~ +200°C Arbitrary setting available
Utility	Compressed Dry Air (0.4~0.6Mpa more than 150ℓ/min air supply required for ≥100ℓ/min)	

## OPTION

- Dew indicator (for monitoring heatless dryer)
- Air Supply Unit (Heat resistant)
- Chamber Unit (Consult us for Design)
- Heat cycle test (depend on specifications)

### •For maintenance

1)Defrost a week and change dried wood a year

. We recommend that heatless dryer be defrosted a week and dried wood be changed a year.

2) Strict adherence to operation procedure when stopping

When stopping low-temperature output, first stop the cooling machine and confirm the temperature of output gas is over 0°C, then stop the compressed air, finally stop the main SW of the Thermo Jetter to prevent from malfunction of freeze and dew drop in the pipe.

3)Regular maintenance service

Feel free to contact us about regular maintenance service for remuneration.

UESHIMA SEISAKUSHO CO., LTD.

# Ueshima

<Manufacturer>

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