Clean Oven (with Heat-resistant HEPA)

Class 100, Compact

DT300/300H

| Operating temp. range | Room temp. +20°C to 300°C | | Temp. distribution accuracy | ±3°C (at 300°C) | | Internal capacity | 27L |

Compact, high-performance clean ovens

- DT300 maintains Class 100 cleanliness at a stable temperature of 300°C.
- DT300H maintains Class 100 cleanliness in all heating conditions (stable, increase, decrease).
- Program operation (Max.99 steps, 99 patterns, repeat operation) is available.
- Safety measures are enriched, including self-diagnosis function and an independent overheating prevention device.

Control Panel

27L
DT300

27L
DT300H

Low stand with casters, manual exhaust valve, N₂ gas introduction device is optional.

■ Specifications

Product Code	212614	212615
Model	**DT300**	**DT300H**
Circulation method	Forced air circulation	
Operating temp. range*1	Room temp. +20°C to 300°C	
Temp. control accuracy*1	±0.3°C (at 100°C, 200°C, 300°C) JTM K05	
Temp. fluctuation*1	1.0°C (at 100°C, 200°C), 2.0°C (at 300°C) JIS	
Temp. distribution accuracy*1	±2.0°C (at 100°C), ±4.0°C (at 200, 300°C) JTM K05	±1.5°C (at 100°C), ±2.5°C(at 200°C), ±3.0°C (at 300°C) JTM K05
Temp. gradient*1	5°C (at 100°C), 10°C (at 200°C), 12°C (at 300°C) JIS	3°C (at 100°C), 5°C(at 200°C), 7°C (at 300°C) JIS
Max. temp. reaching time*1	Approx. 150 min.	
Clean level	Class 100 (JIS Class 5: Grain size: 0.5μm) (when the temp. is stable)	Class 100 (JIS Class 5: Grain size: 0.5μm) (constantly)
Interior material	Stainless steel	
Heat insulating material	Glass wool	
Heater	Stainless pipe heater, 1.2kW	
Fan type / Motor	Sirocco fan / Condenser type motor	
Differential pressure meter	Indicator type (tricolor)	
Cable port	33 mm I.D. (right side) 1 pc.	
Air in-take port	33 mm I.D. (right side) 1 pc.	
Exhaust port	R1/2 (16 mm I.D., top side)	
Filter	Heat resistant HEPA filter (dust collect : more than 99.97% at 0.3μm)	High performance HEPA filter (dust collect : more than 99.97% at 0.3μm)
Temp. controller	PID control by micro processor	
Temp. setting method	Digital setting with UP/DOWN key	
Temp display method	Temp. display: Green LED digital display (Resolution: 1°C) Setting temp. display: Orange LED digital display (Resolution: 1°C)	
Other display	Temp. pattern LED display to indicate temp. rise/stabilization/descent status	
Timer / Timer resolution	Time: 1 min. to 99 hrs, 59 min. / 1 min. Time: 24 hrs. / 1 min.	
Operation function	Fixed temp., Quick auto stop, Auto-start, Auto-stop, program (Max.99 steps, 99 patterns, repeat)	
Additional functions	Calendar timer (max. 24 hrs.), Integration time (max. 65535hrs.), Clock, Calibration off-set, Display the amount of Power consumption / CO₂ discharge / Heater operation amount, Power failure recovery mode, User setting information save and recall	
Heater circuit control	Triac zero-cross control	
Temp. sensor	K-thermocouple (for temp. control and independent overheat protection)	
Safety device	Self diagnosis functions (Sensor, Fan, Heater, Relay, Triac, Automatic overheat prevention), Independent overheat prevention, Key lock function, Electric leakage breaker, Door switch	
Internal dimensions	W300×D300×H300mm	
External dimensions*2	W500×D720×H840mm	
Internal capacity	27 L	
Shelf loading	Approx. 15 kg / pc	
Shelf rest step number / pitch	6 steps / 30mm	
Power source (50/60Hz)	AC115/220V Single-phase with step down transformer	
Weight	Approx. 87 kg	Approx. 86 kg
Shelf	Stainless wire shelf, 2 pcs	
Shelf bracket	4 pcs.	

The length of the power cord is about 2m outside the unit.
*1 Conditions : Temperature and humidity 23°C±5°C, 65%RH±20%, Atmospheric pressure 86kPa to 106kPa (no load), Power supply voltage：AC100V
*2 Do not include protrusions

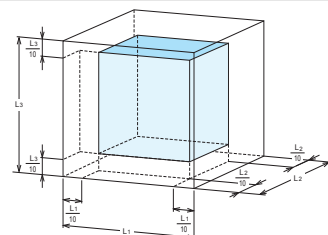| Forced convection circulation	Auto overheat prevention	Independent overheat protector	Self-diagnosis	Key lock	Overcurrent ELB

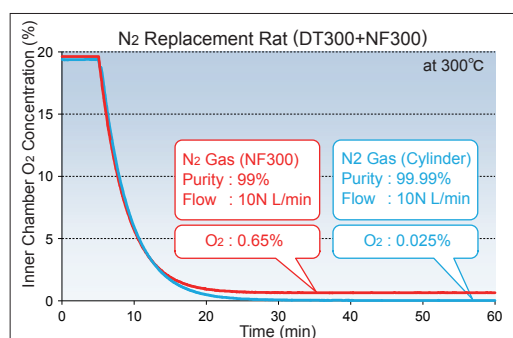## 9 Points Distribution Reference Data (no load) DT300

(°C)

	Top right back	Top left back	Top right front	Top left front	Bottom right back	Bottom left back	Bottom right front	Bottom left front	Center
100°C	98.0	98.0	97.4	97.4	96.8	97.0	97.0	97.0	99.1
200°C	194.9	195.2	195.4	194.4	193.6	193.7	194.1	193.4	198.0
300°C	293.2	294.2	295.4	294.8	296.5	297.0	296.9	294.4	299.5

Conditions
1. Measured by 9 points including 1/10 distance to the the opposite wall and center measuring point according to internal dimensions.
2. Average temperature at room temperature 23°C, 100V AC, 50Hz, at constant temperature for each setting, and reference data.
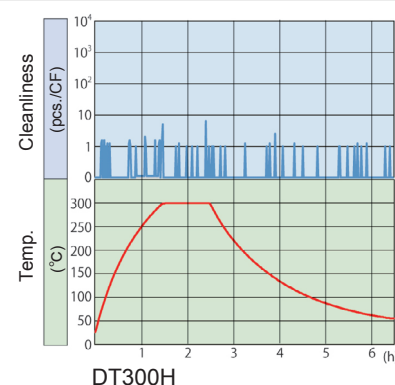3. No load, 2 shelf plates installed.

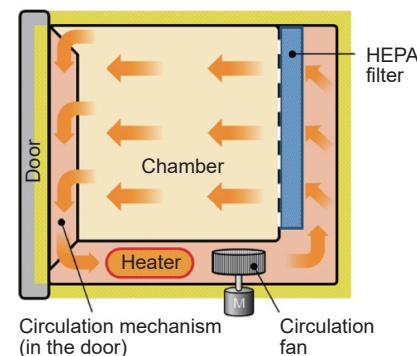## Example of installing with N₂ Gas Generator, Model: NF300

DT300   NF300

N₂ Replacement Rat (DT300+NF300)
at 300℃

N2 Gas (NF300)
Purity : 99%
Flow : 10N L/min
O₂ : 0.65%

N2 Gas (Cylinder)
Purity : 99.99%
Flow : 10N L/min
O₂ : 0.025%

Note: The substitution rate depends on the N2 gas supply flow rate and temperature.

Performance Curve

DT300H

Method

[Side view]

Door

Chamber

Heater

HEPA filter

Circulation mechanism (in the door)

Circulation fan

Cable Port

33mm I.D. (Right side)

Interior

DT300H

⑩ Exhaust valve (manual)

⑥ Stainless mesh basket shelf
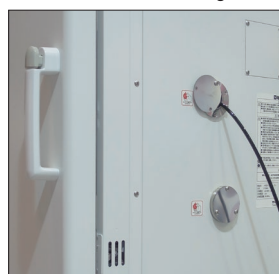
■ Optional Items

No.	Description	Option Model	Product Code
①	Stand	ODE16	213430
②	Low stand with caster	ODE18	213431
③	Stacking Support	ODE20	213432
④	Fixing Support	ODE22	213433
⑤	Stainless wire shelf (with shelf support 2 pcs.)	ODE24	213434
⑥	Stainless mesh basket shelf	ODT26	213435
⑦	Sheath sensor	ODT48	212946
⑧	Silicon Plug (with one hole, φ2)	ODT52	212947
⑨	*External Communication Adapter Set	OIN90	211880
⑩	*Exhaust valve (manual)	ODE28	213436
⑪	*N₂ Gas injection unit (with flow meter)	ODE30	213437
⑫	*Simple clean room support	ODE32	213438
⑬	*External Communication Terminal (RS485)	ODE34	213439
⑭	*Temperature Output Terminal (4-20mA)	ODE36	213440
⑮	*External Alarm Output Terminal	ODE38	213441
⑯	*Time-up Output Terminal	ODE40	213442
⑰	*Operation Signal Output Terminal	ODE42	213443
⑱	*Event Output Terminal	ODE44	213444

*Please specify when ordering main unit.

■ Stacking support and Low stand with caster

■ Stand

③

①

②

■ Shelf

Stainless wire shelf

Stainless mesh basket shelf

⑤   ⑥

Shelf support

Yamato Scientific Co., Ltd.

DT300/300H

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