

# Clean Oven

Suitable for temperature test in a dust-free environment

## DE411/611 DT411/611

Operating temp. range Room temp. +30~260°C (DE)  
Room temp. +30~360°C (DT)

Temp. distribution accuracy ±2.5°C (at 260°C) (DE)  
±4.0°C (at 360°C) (DT)

Internal capacity 91L (411 model)  
216L (611 model)

### Operation and functions

- Improved visibility and operability with its V type controller
- Displays power consumption, CO<sub>2</sub> emissions and heater manipulated variables on the control panel
- Adopts anti-fouling casters which prevents wheel contamination during transportation
- Improved visibility of HEPA filter replacement timing by three color indication
- Enhanced safety with its phase-reversal relay detecting incorrect power source at installation
- Lower equipment height compared to previous models (DE/DT411 approximately ~200 mm shorter)
- Larger cable port from φ30mm to φ33mm
- Improved optional accessories and more customization options

### Safety features

- Self-diagnostic functions, calibration offset, independent overheat prevention, over current leakage breaker, key lock and auto recovery after power failure

### Specifications



Model	DE411	DE611	DT411	DT611
Circulation method	Forced convection			
Operating temperature range	Room Temp +30~260°C		Room Temp +30~360°C	
Temp. control accuracy	±0.3°C at 260°C		±0.3°C at 360°C	
Temp. fluctuation	±0.5°C at 260°C		±0.5°C at 360°C	
Temp. distribution accuracy	±2.5°C at 260°C		±4.0°C at 360°C	
Temp. gradient	±10.0°C at 260°C		±20.0°C at 360°C	
Maximum temp. reaching time	~70 min.		~80 min.	
Clean level	Class100 (when temperature is stable)			
Interior / Exterior material	Stainless steel / Cold rolled steel plate with melamine resin baking finish			
Heat insulating material	Glass wool			
Door	Single side left swing			
Heater	Stainless steel pipe heater			
Fan type	Sirocco fan, Condenser motor 400W			
Differential pressure meter	Analog type (0~300 Pa)			
Cable port / Exhaust port	Inner diameter: 33mm×1 (right side) / Outer diameter 61mm			
Filter	Heat resistant HEPA filter (dust-collection efficiency >99.97% up to 0.3μm particle filtering)			
Caster wheels / adjuster	Free swivel caster wheels without stopper / level adjuster (2 at front)			
Temperature control / setting system	PID V control / Digital setting with ▲/▼ keys			
Temperature display system	Top screen: green 4-digit digital LED (resolution 1°C), Bottom screen: orange 5-digit digital LED (resolution 1°C)			
Other indications	LED indicates temperature patterns for heating/stabilizing/cooling			
Operation functions	Constant temperature operation, Programmed operation (Maximum 99 steps, up to 99 patterns, repeat operation function), Duration/time select operation function (auto start/auto stop/quick auto stop, program operation)			
Additional functions	Variable fan speed, Accumulated on time, operation time function (up to 65,535 hours); calibration offset; accumulated power consumption monitoring, total CO <sub>2</sub> emission monitoring, heater output monitoring; power recovery; setting data save and restore			
Sensor	K type Thermocouple dual sensor (temperature control and independent overheat prevention device sensors)			
Heater control	Triac with Zero-cross control			
Safety device	Self-diagnostic functions (Detection for Temp. Sensor Failure, Triac Short Circuit, Automatic overheating prevention, Fan motor failure detection, Heater Line Disconnect, Main Relay Contact Damage), Earth leakage breaker, Key Lock Function, Independent overheating prevention device, Phase reversal relay, Door switch			
Earth leakage breaker	15A	15A	15A	20A
Door switch	Current leak /short circuit/surge protection, rated sensitivity 30mA			
Door open / closed	Door open: fan motor and heater circuit OFF / Door closed: fan motor and heater circuit ON			
Internal dimensions (W×D×H mm)	450×450×450	600×600×600	450×450×450	600×600×600
External dimensions (W×D×H mm)	700×1025×1570	850×1175×1720	700×1025×1570	850×1175×1720
Internal capacity	91L / 3.21 cu. ft.	216L / 7.62 cu.ft.	91L / 3.21 cu.ft.	216L / 7.62 cu.ft.
Weight	~200 kg / ~441 lbs.	~270 kg / ~596 lbs.	~200 kg / ~441 lbs.	~270 kg / ~596 lbs.
Shelf rest / pitch	12 steps / 30mm	17 steps / 30mm	12 steps / 30mm	17 steps / 30mm
Withstand load of shelf	~30 kg / shelf			
Power supply 50/60Hz (V±10%)	220V 3 phase 7A (no plug, round terminal)	220V 3 phase 10A (no plug, round terminal)	220V 3 phase 10A (no plug, round terminal)	220V 3 phase 14A (no plug, round terminal)
Included accessories: shelf plate / bracket	2 pcs. / 4 pcs.	3 pcs. / 6 pcs.	2 pcs. / 4 pcs.	3 pcs. / 6 pcs.

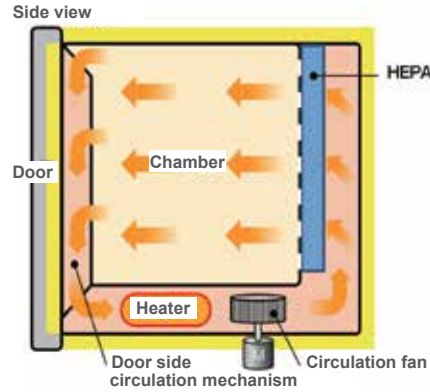
\* Conditions: temperature and humidity: 23°C+, 65% RH ±20%, atmospheric pressure 86kPa ~106kPa (no load), exhaust damper and intake closed

## Interior

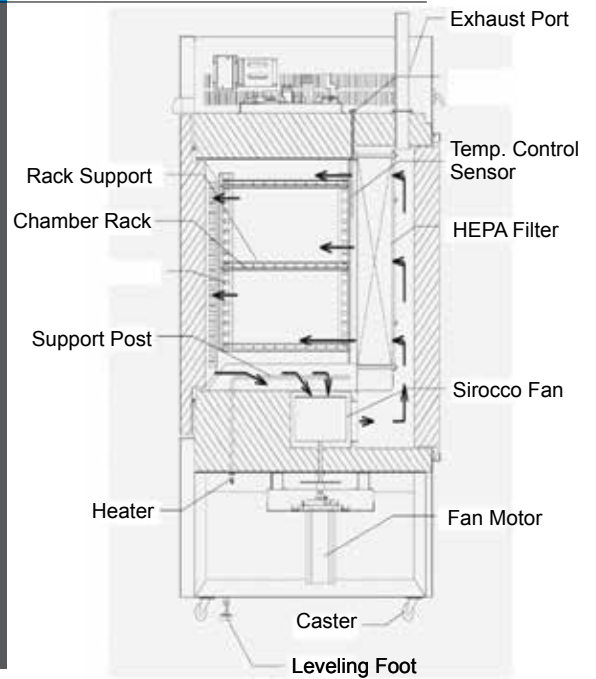


DE411

## Method



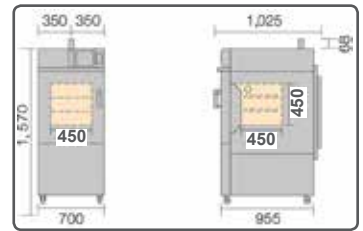
## Components



## Optional Items

Product code	Model	Description	Suitable models
212686	---	Stainless steel wire shelf and bracket set. Withstand load up to 30 kg/shelf	DE/DT411
212687	---	Stainless steel wire shelf and bracket set. Withstand load up to 30 kg/shelf	DE/DT611
212688	---	Stainless steel punching shelf and bracket set. Withstand load up to 15 kg/shelf	DE/DT411
212689	---	Stainless steel punching shelf and bracket set. Withstand load up to 15 kg/shelf	DE/DT611
212924	ODT12	Basket-type shelf placed on top of standard shelves. Withstand load up to 15kg/shelf	DE/DT411
212925	ODT14	Basket-type shelf placed on top of standard shelves. Withstand load up to 15kg/shelf	DE/DT611
212946	ODT48	Sheath sensor (K thermocouple)	All models
212947	ODT52	Silicon plug (φ2mm opening in center)	DE models
212926	ODT16	Duct connection port for clean room application	DE/DT411
212927	ODT18	Duct connection port for clean room application	DE/DT611
212928	ODT22	Auto damper	DE/DT411
212929	ODT24	Auto damper	DE/DT611
212930	ODT26	N <sub>2</sub> gas introduction device (with flowmeter)	DE/DT411
212931	ODT28	N <sub>2</sub> gas introduction device (with flowmeter)	DE/DT611
212935	ODT32	Emergency stop switch	DE/DT411
212936	ODT34	Emergency stop switch	DE611
212937	ODT36	Emergency stop switch	DT611
212938	ODT38	Data logger	DE/DT411
212939	ODT42	Data logger	DE/DT611
212954	ODT68	High efficiency filter (Class 100) maximum resistance temperature 200°C	DE411
212955	ODT70	High efficiency filter (Class 100) maximum resistance temperature 200°C	DE611
212940	ODT44	Power cord 10m. No plug included.	All models
212949	ODT56	Temperature Output Terminal (4-20mA)	All models
212950	ODT58	External Alarm Output Terminal	All models
212951	ODT62	Time-up Output Terminal	All models
212952	ODT64	Operation Signal Output Terminal	All models
212953	ODT66	Event Output Terminal	All models

## Dimensions (Unit:mm)



DE/DT411



DE/DT611



Stainless steel wire shelf  
212686 / 212687



Stainless steel punching shelf  
252688 / 252689



Basket type shelf  
212924 / 212925

### ⚠ Attention

- Never use in flammable or explosive gas atmosphere
- Never use explosive or flammable material
- Caution: High temperature components