

Fine Oven

High accuracy temperature control

DF412/612 DH412/612



Operating temp. range

Room temp. +15~260°C(DF)
Room temp. +15~360°C(DH)

Temp. distribution accuracy

±1.5°C(at 260°C) (DF) / ±2.5°C (at 360°C) (DH)

Internal capacity

91L (412 model)
216L (612 model)

Circulates uniformed heated air in a horizontal air flow pattern



Highly reliable and accurate oven with improved visibility and operability of control panel

Operation and functions

- Precise temperature stability & uniformity
- Standard equipped with adjustable air speed function and displays of power consumption, CO₂ emission and heat timer
- Enhanced program operation function (maximum 99 steps, 99 patterns, repetitive operation function)
- Improved safety with fan motor error detection
- Exhaust damper allows quick exhaust and cooling of inside chamber
- Equipped with exhaust and cable ports

Safety features

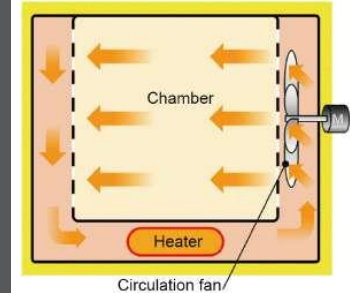
- Self-diagnosis circuit (abnormal temp. sensing, heater disconnection, auto overheat prevention, SSR short circuit), overheat protector, earth leakage breaker, key lock, etc.

Specifications

Model	DF412	DF612	DH412	DH612
Circulation method	Forced air circulation and ventilation			
Operating temp. range *1	Room temp. +15°C~260°C		Room temp. +15°C~360°C	
Temp. adjustment accuracy *1	±0.1°C (at 260°C)		±0.2°C (at 360°C)	
Temp. distribution accuracy *1	±1.5°C (at 260°C)		±2.5°C (at 360°C)	
Max temp. reaching time *1	~40 min. (reaches 260°C when setting at 270°C)		~50 min. (reaches 360°C when setting at 370°C)	
Temp. control / setting	PID Z control / Digital setting with ▲/▼ keys			
Temp. display system	Temperature reading display: green 4-digit digital LED / Temperature setting display: orange 5-digit digital LED			
Other indications	LED indicates temperature patterns for heating/stabilizing/cooling			
Timer display range	Fixed value operation for 1 min. to 99 hrs. 59 mins. 24 hr time system: clock operation			
Operation functions	Fixed temperature, auto start, auto stop, program (max. 99 steps or 99 patterns with repeat operation)			
Additional functions	Variable air flow function, power on time and timer accumulation monitor (up to 65535 hrs), calibration offset, power consumption display, total CO ₂ emissions and heat operation output, power failure recovery mode, setting data backup and recovery			
Sensor	Double K-thermocouple			
Heater / heater control	Stainless pipe heater with fan / Triac with zero-cross control			
Heater capacity	2.1kW	3.0kW	2.7kW	3.75 kW
Blower fan (motor)	Axial flow fan (capacitor motor: 20W)			
Cable port	I.D. 33 mm X 1 pc. (rear)			
Interior / Exterior / Insulation	Stainless steel / Chrome-free electro-galvanized steel sheet metal, chemical-proof baked-on finish / Glass wool			
Door	Single swing (left side)			
Exhaust port	Automatic exhaust damper I.D. 80 mm (rear panel)			
Safety device	Self-diagnostic functions (temp. sensor error, TRIAC short circuit, heater disconnection, SSR short-circuit, fan motor failure, main relay contact damage and overheating), key lock function, door switch (door open, fan motor and heater circuit OFF / door close: fan motor and heater circuit ON), independent overheat prevention (temp. setting range: 0~300°C for DF and 0~400°C for DH)			
Earth leakage breaker	15A	20A	20A	30A
	Leak current/short circuit / Over-current protection, rated current sensitivity 30mA			
Internal dimensions (mm)(WxDxH) *2	450×450×450	600×600×600	450×450×450	600×600×600
External dimensions (mm)(WxDxH) *2	1050×630×850	1,200×780×1000	1050×630×850	1200×780×1000
Internal capacity	91L	216L	91L	216L
Shelf max. load	~30kg / pc			
Shelf support qty. / pitch	9 steps / 45mm	9 steps / 60mm	9 steps / 45mm	9 steps / 60mm
Power source (single phase)	AC 220V 12.5A	AC 220V 17.5A	AC 220V 15.5A	AC220V 17.5A
Weight	~112kg	~156kg	~112kg	~156kg
Shelf / bracket	2 pcs. / 4 pcs.	3 pcs. / 6 pcs.	2 pcs. / 4 pcs.	3 pcs / 6 pcs

Method

[Front view]



Control Panel



Interior



*1. Performance data above based on rated source voltage, single phase 220V AC ±5%, supplied power, 23°C±5°C (room temperature), 65%RH ±20% humidity, 86kPa atmospheric pressure, exhaust damper closed, and no sample load.
*2. Protrusions excluded.