# Low Temperature Incubator (Programmable)

Forced Air Convection

## IN604/604W/804

| Operating temp. range | -10°C~+50°C | Temp. distribution accuracy | ±1.0°C (at 37°C) | Internal capacity | 143L IN604/604W | 286L IN804 |

## Best selling machines for low temperature tests and environmental tests.

- Applicable for a wide variety of applications from various constant temperature tests to environmental tests
- High accuracy temperature control and temperature distribution
- Designed with a large dual glass door and inner door that forms a triplex glass door for improved heat retention (IN604W)
- Optional slide shaker table available to put it and take out sample easily (IN604W)
- Interior light for better sample visibility (IN604W)
- Inner glass door keeps temperature stable during sample observation
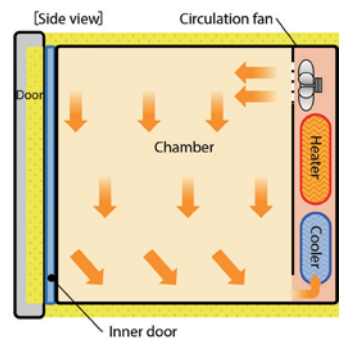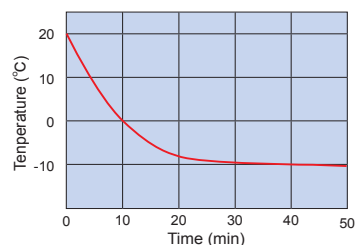- Employs R404A coolant that complies with Freon regulations

Observation window dimension: W516×H416mm

143L IN604    143L IN604W

(Stand optional)

## ■ Specifications

| Model | IN604 | IN604W | IN804 |
|---|---|---|---|
| System | Forced air convection | | |
| Operating temperature range | -10°C~+50°C | | |
| Temperature adjustment range | ±0.3°C (during continuous operation of freezer) | | |
| | ±1.0°C (during operation of freezing cycle) | | |
| Temperature distribution accuracy | ±1.0°C(continuous operation of freezer at 37°C) | | |
| Time to attain the max. temperature | 20~50°C   Approx. 20min | | 20~50°C   Approx. 30min |
| Time to attain the lowest temperature | 20~-10°C Approx. 45min/20~4°C Approx. 55 min | 20~-10°C Approx. 55min. | 20~-10°C   Approx. 65min |
| Interior material | Stainless steel plate | | |
| Exterior material | Chrome free electronic galvanized plated steel plate Chemical proof baking finish | | |
| Observation window | - | W516 x H416 mm | - |
| Heat insulator | Styrene foam (non-freon) | | |
| Freezer | Air-cooled fully closed compressor 250W | | Air-cooled fully closed compressor 300W |
| Freezer cooling medium | R134A | | R404A |
| Defrosting mechanism | Manual ON/auto OFF, timer operation, cycle operation | | |
| Blower fan | Axial flow fan | | |
| Heater | Iron-chrome wire heater: 550W | | Iron-chrome wire heater: 750W |
| Sensor | Double sensor: Platinum resistance temperature detector :Pt100Ω(temperature controller), K-thermocouple (Overheat preventive device) | | |
| Cable port | I.D.: 32 mm (right side) | I.D.: 50 mm (right side) | I.D.: 32 mm (right side) |
| Room light / service outlet | - | Fluorescent lamp: 10W / 5A with a grounding terminal | - |
| Temperature control system | PID control | | |
| Temperature setting system | Digital setting system with UP/DOWN keys | | |
| Temp. display / information display | 4-digit LED digital display / Fluorescent tube display | | |
| Timer/timer resolution | 0~999hrs 59min/1min | | |
| Operation functions | Fixed temperature, Program operation, Auto stop, Auto start | | |
| Program mode | Up to 32 steps, Repeat, Gradient operation | | |
| Additional functions | Timer function (Accumulated time to 49,999 hrs, Calibration offset function, Clock display) | | |
| Safety device | Self diagnostic function (Temp. sensor error, Heater disconnection, SSR short-circuit, Main relay error, Automatic overheat prevention function), Key lock, Over current ELB, Overheat preventive device | | |
| Internal dimensions | W600×D477 x H500 mm | | W600×D477×H1,000mm |
| External dimensions | W710×D645 x H913 mm | | 710×D645×H1,630 mm |
| Internal capacity | 143L | | 286L |
| Shelf plate load | 15 kg/pc. | | |
| Shelf rest step number/pitch | 13 steps/30 mm | | 23 steps/30 mm |
| Power supply (50/60Hz) | AC115V/AC220V Single phase with step-down transformer | | |
| Weight | Approx. 89 kg | | Approx.120 kg |
| Accessories | Shelf/shelf support | Stainless steel punched metal 3 stages/6 | | Stainless steel punched metal 5 stages/10 |
| | Door keys | - | 2 keys | - |

**286L**
IN804

## Control Panel



## Method



[Side view] — Circulation fan, Door, Chamber, Heater, Cooler, Inner door

## Temperature Drop Curve (IN604)



## Interior



IN604W with MK161 shaker



IN604

## Interior Light



For models with observation window

### ■ Optional items

| Description | Model | | Product code |
|---|---|---|---|
| Stand | IN604/604W | ON61 | 211856 |
| Stacking support | IN604/604W | OD60 | 212823 |
| Stainless punching metal shelf (Loading up to 15kg/shelf) | All models | - | 211221 |
| Stainless wire shelf (with support 2 pcs., Loading up to 20 kg/shelf) | All models | - | 213464 |
| *External communication Function (RS422A) | All models | - | 281166 |
| *External communication Adapter (Changeable to RS232C) | All models | - | 281167 |
| *Temperature output terminal | All models | - | 281168 |
| *External alarm terminal | All models | - | 281169 |
| *Time-up output terminal | All models | - | 281170 |
| Shaker setting stage with slide rail | IN604W | - | 211318 |
| Drain water tray | All models | - | 213466 |

* Please specify when ordering main unit.

## Dimensions (mm)



IN604    IN604W    IN804

## Shelf & Bracket Set



Stainless punching metal



Stainless wire