Programmable Refrigerant Eco Incubator

Ecological Economical

Forced Air Convection

INE800

Temperature range	0~+60°C
Temp. distribution accuracy	±0.5°C (at 37°C during continuous operation)
Internal capacity	286L
Inverter control	Energy savings

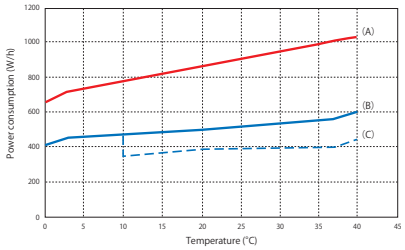
Upgraded inverter control improved refrigeration efficiency, reduced frost significantly and minimized wasted power during refrigeration.

- 44% power savings compared to previous models
- Controller upgraded for easier viewing and operability
- Temperature distribution accuracy improved for better incubation
- Standard equipped with program operation, auto-stop, auto-start, self-diagnostic, timer, calibration off-set, memory, and electricity & CO_2 emission monitor
- Designed with Analog Output (4-20mA) and External Communication Port (RS485)

Specifications

Model	INE800
System	Forced air convection
Operating temperature range	0~+60°C
Setting temperature range	-5~+65°C
Temperature adjustment accuracy	±0.2°C (at 37°C during continuous operation), ±0.5°C (at 37°C cycle operation)
Temperature fluctuation	±0.3°C (at 37°C during continuous operation), ±1.0°C (at 37°C cycle operation)
Temperature distribution accuracy	±0.5°C (at 37°C during continuous operation)
Temperature gradient	2.0°C (at 37°C during continuous operation)
Max. temperature reaching time	20~60°C 35min.
Min. temperature reaching time	20~0°C 50min.
Cooling Mechanism	Continuous operation, Cycle operation, Cooling-stop operation
Interior	Stainless steel
Exterior	Chromate-free electrogalvanized steel plate Baked chemical resistant finish
Heat insulator	Styrene foam (non-freon)
Freezer	200W Rotary Unit
Cooling Medium	R134a 350g
Operation range of freezer	Below 40°C
Defrosting mechanism	Hot Gas Bypass Method, Manual (random) Defrost / Auto (time) Defrost
Blower fan	DC Axial flow fan 4-Step, Equipped with Error Signal when stopped
Heater	Iron-chrome wire heater : 750W
Sensor	Double sensor: Platinum resistance temperature detector: Pt100Ω (temperature controller), K-thermocouple (overheat preventation device)
Cable port	I.D.: 50 mm (right side of main unit)
Temperature controller	PID control by microprocesser
Temperature Display	Setting Temp. Display : 5-digit orange LED digital display, Actual Temp. Display : 4-digit green LED digital display
Timer / timer resolution	0~99hr. 59min. / 1min.
Operation function	Fixed temperature, Auto start, Auto stop, Quick auto stop, Program (99 steps, 99 patterns)
Additional function	Timer, Calibration off-set, Electricity & CO_2 Emission Monitor, Voltage Recovery Optional, User Setting saving/readout, Calendar timer (24 hours)
Safety device	Self diagnostic function (temp. sensor error, heater disconnection, SSR short-circuit, main relay error, automatic overheat prevention), Key lock, Overcurrent electric leakage breaker, Overheat preventation device, Fan malfunction detector, Cooling high-pressure detector, Inverter malfunction detector
External dimensions	W710 x D645 x H1730mm
Internal dimensions	W600 x D477 x H1000 (effective 800) mm
Internal capacity	286L
Shelf load capacity	15 kg/pc.
Shelf rest step number / pitch	23 steps / 30mm
Power supply (50/60 Hz)	AC100V~240V
Weight	~135kg
Included accessories	Stainless steel punched metal 5 pcs. shelf / 10pcs. brackets, 2 keys, silicon stopper for cable hole 1 pc

Power Consumption Comparison



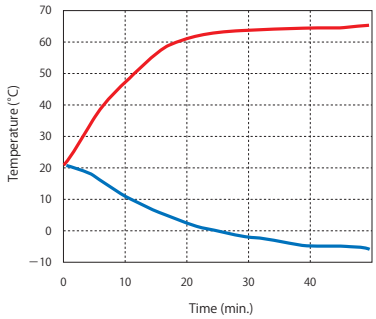
Unit: Wh

	0°C	3°C	20°C	37°C
IN804	648	712	864	1007
INE800	409	446	498	560
Reduction Rate	37%	37%	42%	44%

Comparison with IN804
1. Condition : AC115V/50Hz, Room Temp 23°C, 5 shelves, no load
2. Data was taken when each setting was stable

CO_2 emissions reduced by approx 1,269 kg
(Calculated for 1 year operation with 37°C setting)

Falling / Rising Temp. Curve

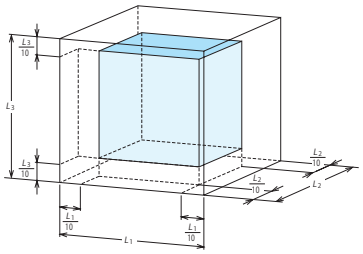


9 Point Temperature Distribution

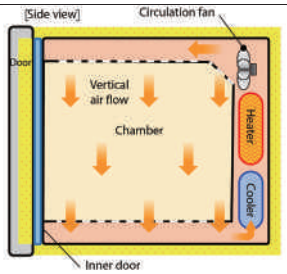
	Upper Front Left	Upper Back Left	Upper Front Right	Upper Back Right	Lower Front Left	Lower Back Left	Lower Front Right	Lower Back Right	Center Side
No load	37.1	36.2	37.2	36.9	36.8	36.8	37.1	36.9	37.0
Loaded	37.1	36.3	37.0	36.9	36.5	35.9	36.7	36.1	37.0

(°C)

Condition
1. Above 9 measurement points were taken from the effective internal capacity down-scale by 10% (as the image on the right)
2. Room Temp. 23°C, AC115V, 50Hz, Average temperature during stable setting temp. set at 37°C
3. No Load condition: 5 shelves
4. Loaded condition: each of the 12 shelves were loaded with 20 Petri Dishes (Total : 240 Petri Dishes)



Method



Control Panel

Overheat Prevention Device

External Output Terminal (Top: optional Bottom: standard)

Cable Port (I.D.Φ50mm standard)

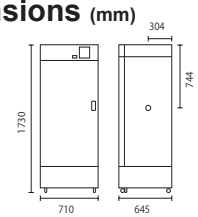
Shelf & Bracket Set

Optional items

Description	Product code
(1) Stainless steel punched metal shelf up to 15kg	211221
(2) Stainless steel wire shelf up to 20kg	212918
(3) External communication adapter	211880
(4) External alarm terminal	211881
(5) Time-up output terminal	211882
(6) Earthquake resistant fixture	211883

* (4) and (5) please specify when ordering main unit
External Communication Adapter is equipped with RS485-USB interchange adapter, 1m USB cable, 3m RS485 connection cable and utility software CD (accepts Windows XP, Vista, 7)

Dimensions (mm)



INE800