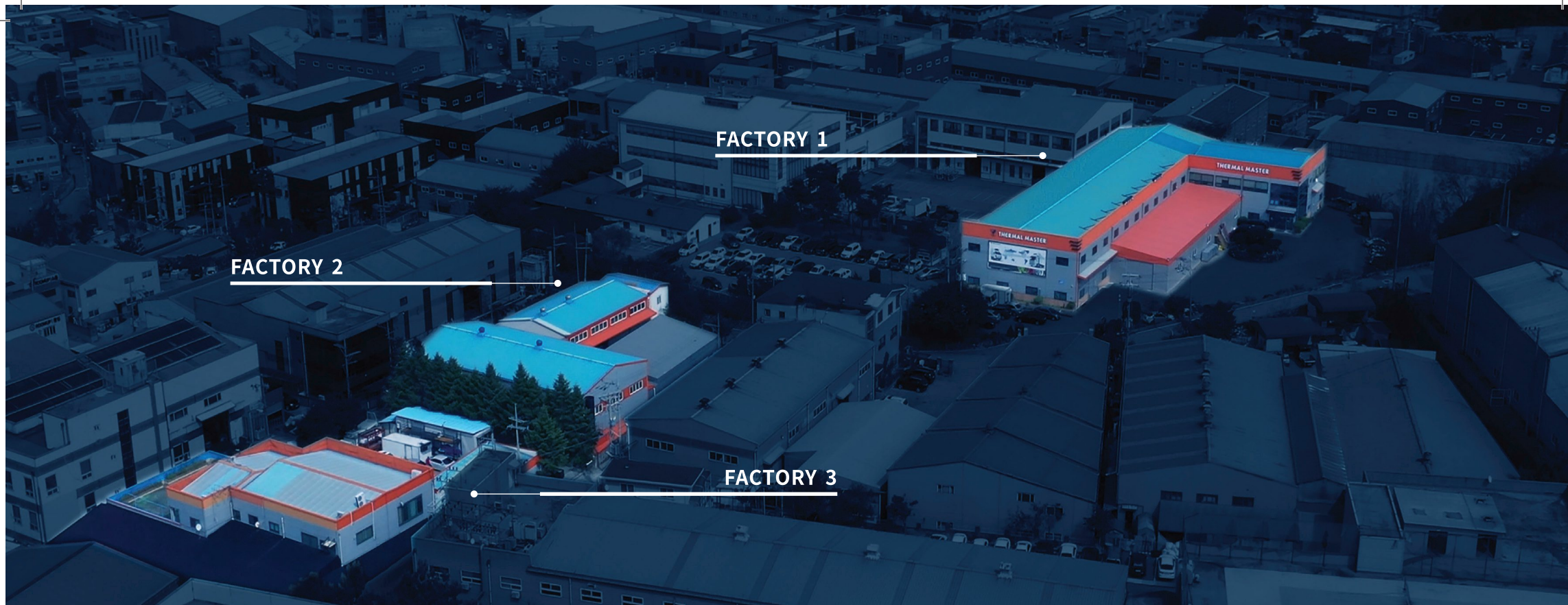




Eco-friendly EV Refrigeration unit
e-THERMAL 1000/1300

THERMAL MASTER 





THERMAL MASTER
Your Best Refrigeration Partner on the Road.



Specialist in manufacturing vehicle refrigeration units
Since 1987 Thermal Master

ATP approved manufacturer,
In house R & D center

70 service locations in Korea
Exports to over 80 countries with global service network

ODM Partner of Hyundai Commercial Vehicles Since 1997



FACILITIES

02 Factory

- Assembly of Diesel-powered refrigeration units and Standby units
- Plate work : Manufacture frames for condensers / evaporators and Frame bending
- Test before shipment : pressure test / PDI test

01 Factory

- Assembly of small to medium-sized Direct drive refrigeration units
- Operation of warehouse for finished products and materials

03 Factory

- Manufacture of fin and tube heat exchangers (coil)
- Copper tube bending
- Coil tube expansion
- Welding

R&D center

20% of all employees are R&D professionals
Operates test facilities and professionals
according to ATP regulation (EU)

- Indoor and outdoor chambers
- Measuring cooling capacity and pull down speed
- 2D and 3D modeling design
- Revision of modeling meeting

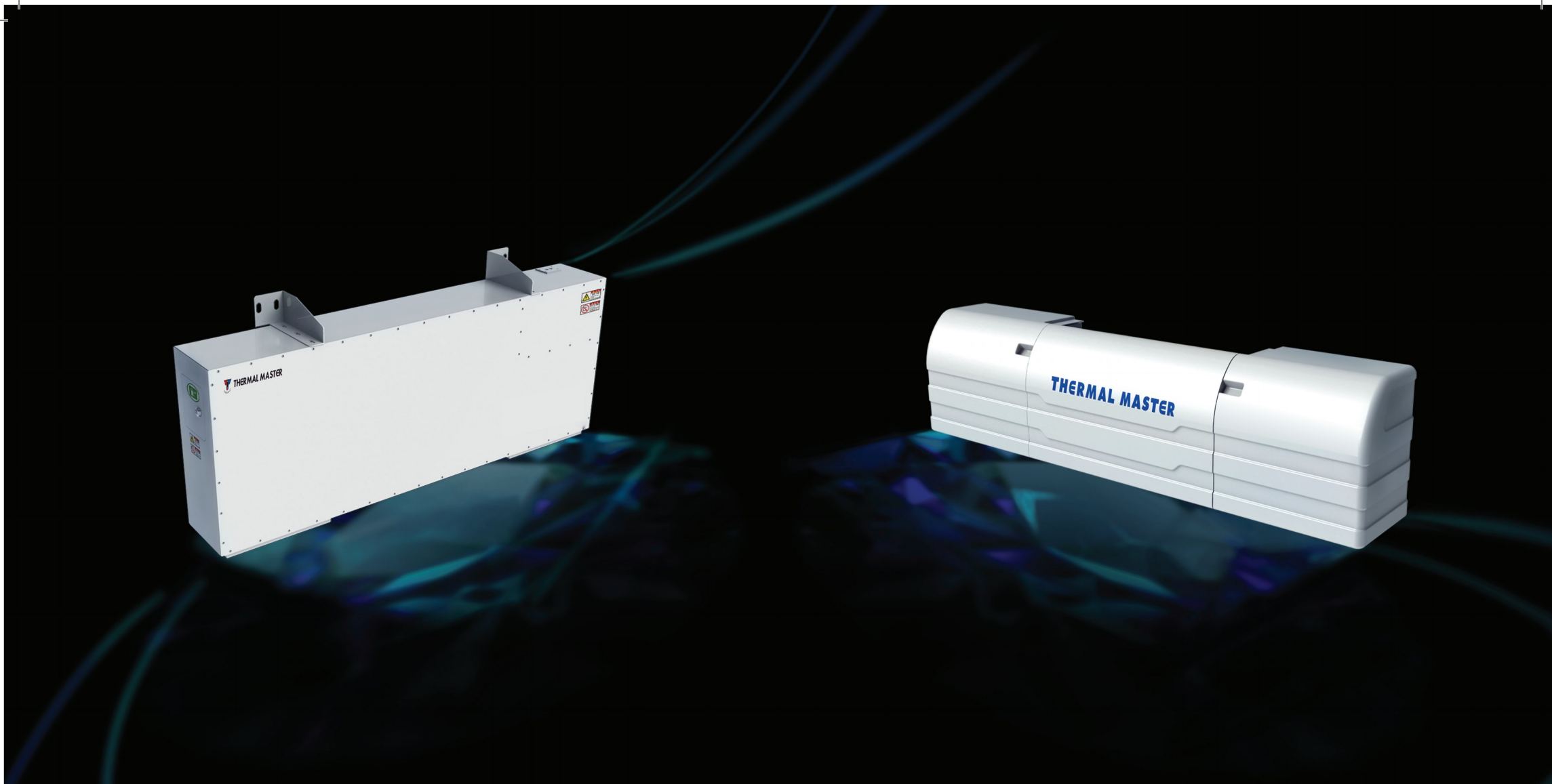


GLOBAL NETWORK

Think globally, act locally



- THERMAL MASTER's Partners
- THERMAL MASTERS



Eco-friendly EV Refrigeration unit e-THERMAL 1000/1300

Product Overview



Eco-friendly



Independent power supply (Lithium ion battery powered)
gives no exhaust gas and no emission



Compatibility



- A. Compatible with both EV (Electric vehicles)
and diesel engine powered vehicles
- B. Quick charging, long operation time

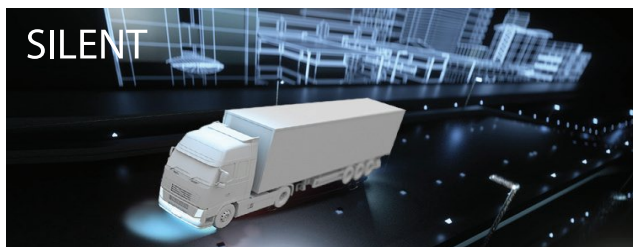


Smart Control



Smart refrigeration unit that controls temperature according to
the cold which is different from vehicle engine driven units controlled by
engine RPM

Smart temperature control maximizes cooling capacity
while keeping current consumption minimum



Low noise level



With no engine related noisy is produced during operation,
keep the noisy level low during the night / dawn

Structure

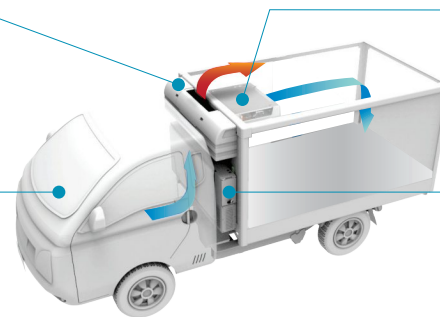
e - THERMAL 1000/1300 are electric refrigeration units for small-sized EV trucks to offer the best cooling performance

01 Condenser / Compressor

- Structure for the best cooling capacity
- Design that minimizes air resistance
- Easy maintenance design

02 Smart temperature control system

- Temperature control system for smart operation of refrigeration unit
- User friendly user interface(UI) is applied



03 Evaporator

- High efficiency BLDC fan is applied
- Slim structure allows more loading space
- Defrost enhanced case design

04 Battery pack

- Exclusive lithium ion battery for refrigeration unit is applied
- One hour quick charge allows long operation time
(1 hour quick charge = 80% charged)
- IP64 Grade dust and waterproof design

e-Thermal 1000

Refrigerant	R134a		R404A		R452A		Volume (m3)
	Capacity (W)	Operation hours	Capacity (W)	Operation hours	Capacity (W)	Operation hours	
0°C	1,100W	8	1,000W	8	900W	8	16m3
-20°C	N/A	N/A	650W	5	600W	5	8m3

Airflow : 721m3/h

Optional 16KW battery allows 60% longer operation time

e-Thermal 1000H - optional heater

e-Thermal 1300

Refrigerant	R134a		R404A		R452A		Volume (m3)
	Capacity (W)	Operation hours	Capacity (W)	Operation hours	Capacity (W)	Operation hours	
0°C	2,966W	8	2,966W	8	2,669W	8	24m3
-20°C	N/A	N/A	1,813W	5	1,632W	5	10m3

Airflow : 1,347m3/h

Optional 16KW battery allows 60% longer operation time

e-Thermal 1300H - optional heater

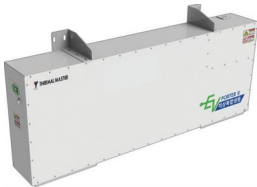
· Cooling capacity and operation hours may depends on individual user's setting / environment

Eco-friendly electric refrigeration unit, e-THERMAL 1000/1300

Specification

Condenser (e-THERMAL 1000)	Condenser (e-THERMAL 1300)
	
W : 1515 / L : 250 / H : 370 (mm)	W : 1515 / L : 250 / H : 370 (mm)
Evaporator (e-THERMAL 1000)	Evaporator (e-THERMAL 1300)
	
W : 779 / L : 650 / H : 196 (mm)	W : 1026 / L : 650 / H : 196 (mm)



Battery pack	Capacity	10 KWH	16.4 KWH (Optional)
	Recharge	Quick Charge	About 1 hour (80% charge) About 90 min (full charge) Charger: DC Combo type 1
W : 1544 / L : 239 / H : 625 (mm)		Standard Charge	About 4 hours (full charge) Charger: AC 220V portable charger
	Operational Voltage	DC 350V	Lithium ion battery
			IP Grade: IP 64

e- THERMAL 1000/3000 Installation Solutions

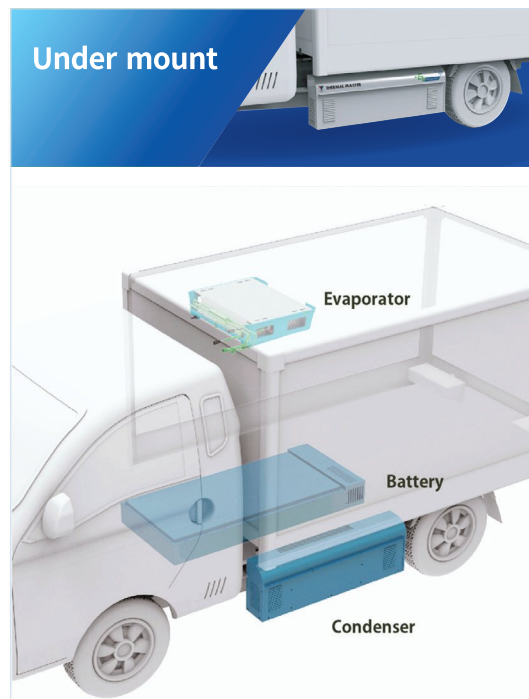
Nose mount



· Battery (Nose mount)



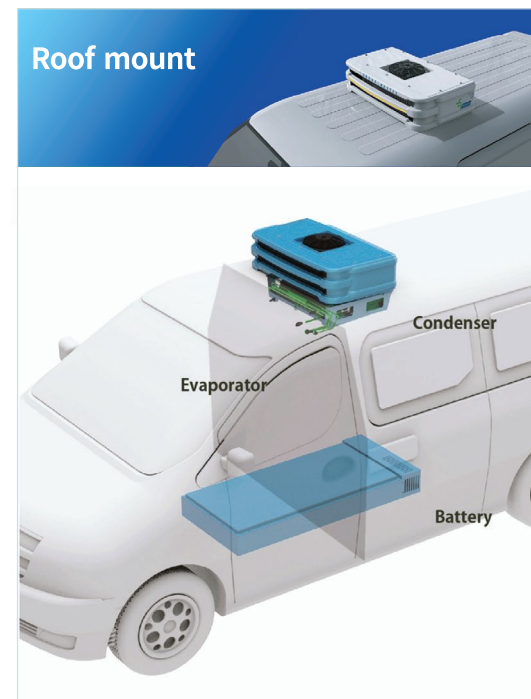
Under mount



· Evaporator



Roof mount



· Battery (Under mount / Roof mount type)



Eco-friendly refrigeration unit - Alternator powered refrigeration unit, T-1000E SE

Specification

Condenser (T-1000E SE)



W : 1515 / L : 250 / H : 370 (mm)

Evaporator (T-1000E SE)



W : 724 / L : 563 / H : 185 (mm)

Refrigeration capacity (temperature outside 30°C)

Specification	Road mode	Stand by mode
Refrigerant	R-134A	R-134A
0°C	1,108W	1,112W
-5°C	928W	939W

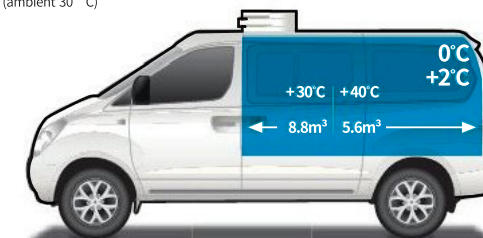
Controller : Smart temperature control function and battery protection function applied

Compressor : Rotary compressor



Internal volume

0 ~ +2°C
*Cooling capacity (ambient 30 °C)





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