



Introduction to SMC's Non F-Gas (CO₂ Refrigerant) Thermo-chillers for the Semiconductor Industry

GWP: 1
(Natural refrigerant)

**EU refrigerant regulations:
GWP150 or less*¹**
**US refrigerant regulations:
GWP700 or less*¹**
**California, US refrigerant
regulations: GWP750 or less**

*¹ As of December 2023

**Air transport
possible**

**No air transport restrictions
for non-toxic and non-
flammable*² refrigerants**

*² A1 (ASHRAE34 standard)

**Footprint reduced
by 21%*³**

**Slim design allows for efficient
chiller layout.**

*³ SMC comparison

**Improved
workability**

**The circulating fluid can be refilled
from the front.**

**No F-Gas management
required**

**Eliminates the need for periodic
inspections based on the Fluorocarbon
Emissions Control Act (Japan)**

**No F-Gas recovery
& disposal costs**

**Eliminates the need to pay for F-Gas
recovery & disposal**



INR-495-042/043

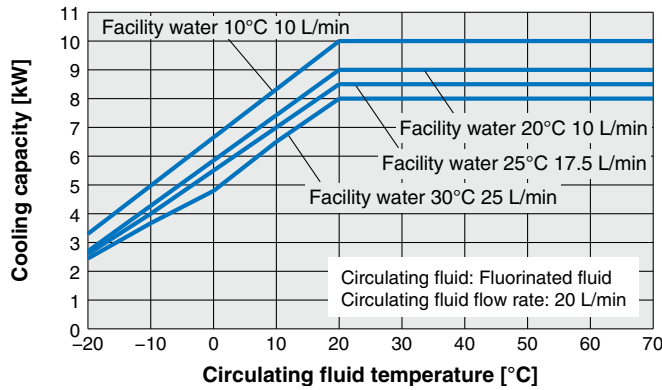
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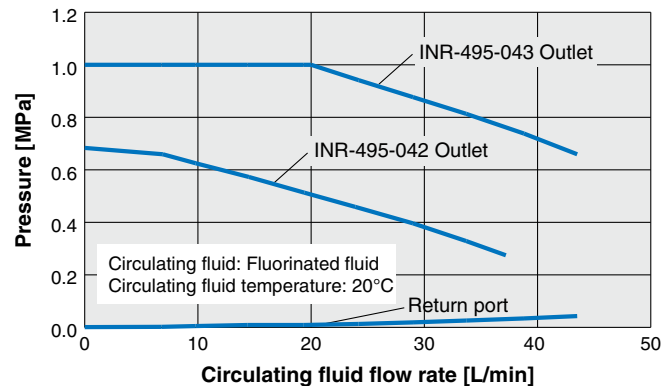
- Refrigerant in use: CO₂ (R744)
- GWP: 1
- Standards: SEMI/CE/UL

Specifications	Series	INR-495-042	INR-495-043	New HRZ
Set temperature range [°C]		-20 to 70		-20 to 90
Temperature stability [°C]		±1.0		±0.1
Cooling capacity [kW] (@20°C)		8.5 (@20°C)		10 (@20°C)
Breaker capacity [A]		20		30
Dimensions [mm]		307 (W) x 849 (D) x 1640 (H)		380 (W) x 870 (D) x 950 (H) (Dimensions equivalent to those of the existing HRZ)
Release date		Currently available		Scheduled for September 2024

Cooling Capacity (INR-495-042/043)



Pump Capacity (INR-495-042/043)



GWP Comparison

Environmental burden	Smaller				Larger
GWP*1	1	150 or less	151 to 1000	1001 to 2999	3000 or more
Air transport	Yes	No	No	Yes	Yes
Refrigerant (Example)	R744 (CO₂)	R454C	R32	R410A	R404A

*1 Global Warming Potential

SMC's Global Maintenance Network

Thanks to a solid inventory of maintenance parts and an experienced chiller support team capable of conducting repairs and replacements, SMC is able to respond to customers' issues quickly and precisely. As SMC's high-quality services are available to customers all over the world, you can rest assured that you'll have our continued support long after purchase.



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Sweden
Switzerland
Turkey
U.K.

Asia and Oceania
Australia
China
Hong Kong
India
Indonesia
Japan
Korea
Malaysia
New Zealand
Philippines
Singapore
Taiwan
Thailand
Vietnam

* The names of countries and regions listed in each area are alphabetically indexed

⚠ Safety Instructions Be sure to read the "Handling Precautions for SMC Products" (M-E03-3) and "Operation Manual" before use.

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