

CO₂

Transcritical Unit





SAUVERAIN



CO₂ TRANSCRITICAL UNIT:

Environmentally friendly and efficient refrigeration solutions



As global environmental awareness continues to increase and refrigerant regulations continue to upgrade, transcritical CO₂ units have become an ideal choice in the commercial refrigeration field due to their excellent environmental performance and efficient operation.

Why choose CO₂ ?

→ **Dual protection of environmental protection and future value**



Green and environmentally friendly

As a refrigerant, CO₂ is non-flammable, non-toxic, and has no ozone depletion potential, thus avoiding the destruction of the ozone layer from the root. It is an environmentally friendly choice that conforms to the concept of sustainable development.



Fit for the future

In the face of constantly updated environmental regulations and market demands, CO₂ refrigerants do not need to worry about being eliminated due to policy changes and have long-term use value. Choosing a transcritical CO₂ unit can not only meet current environmental protection requirements, but also provide stable and reliable refrigeration support for future business development.



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CO₂ TRANSCRITICAL UNIT

Easy installation



Save space

It adopts a highly integrated structure, integrating the compressor, oil separator, liquid receiver, gas cooler and all necessary valves; small units integrate the compressor unit and gas cooler into a weatherproof casing, greatly reducing the installation space.



Easy installation

Supports indoor and outdoor installation. The small all-in-one unit with integrated air cooler only needs to connect the liquid pipe and the suction pipe on site, without complicated assembly, which reduces the installation difficulty and time cost and can be put into use quickly.



System Design — Efficient, intelligent Safe stable



High Efficiency & Smart Temperature Control

- Variable frequency compressor adapts to 25%~140% load range for precise temperature control and energy savings
- Intelligent gas cooler with EC fan and optional adiabatic kit enhances heat exchange efficiency
- Parallel compression technology reduces throttling loss and improves efficiency, especially under high load



Flexible Performance for Various Conditions

- EC fan automatically adjusts speed to reduce noise at low load and ensure cooling at high load
- Optional adiabatic humidification kit improves cooling performance in diverse environments



Stable Oil Management & Reliable Safety

- Efficient oil separation and automatic oil return extend compressor life
- High-pressure design: 120 bar (high side), 75 bar (liquid), 60 bar (suction)
- Integrated with pressure relief valves, switches, and intelligent protection systems



Intelligent Control & Easy Monitoring

- CAREL controller supports customized control and real-time parameter adjustment
- Enables remote monitoring and network communication
- Simplifies operation and improves management efficiency

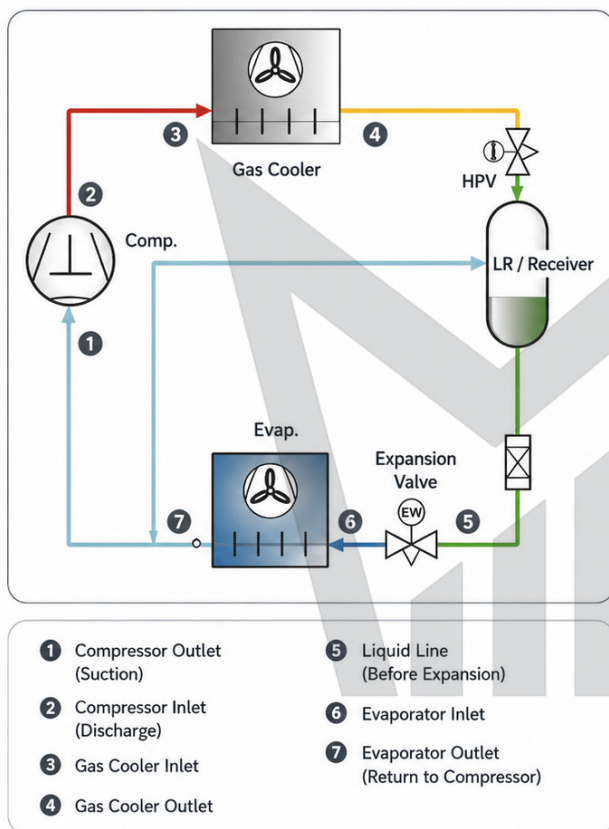


CO₂ Transcritical Air-Cooled Series – High Temp. Models

	Parameter		SZ-H1	SZ-H2	SZ-H3	SZ-H4
	Comp.	Model Qty.	2MTE-5K 1unit	4MTE-10K 1unit	4KTE-12K 1unit	4HTE-20K 1unit
High Temp. series	Evap. Temp. / Amb. Temp.	°C	-10 / 35	-10 / 35	-10 / 35	-10 / 35
	Refrigeration Capacity	kW	9.73	19.14	28.6	36.7
	Input Power	kW	5	10.13	14.3	17.79
	COP	/	1.95	1.89	2.00	2.06
	Liq. Pipe Size	mm	DN10	DN15	DN15	DN20
	Suct. Pipe Size	mm	DN15	DN20	DN20	DN25
	Fan Dia. × No.	mm*n	500*2	500*2	500*3	910*2
	Fan P.	kW	1	1	1	3.2
	Dimensions (L×W×H)	L mm	2200	2500	2750	3200
		W mm	1100	1100	1100	1300
		H mm	2100	2100	2100	2500
	Weight	kg	2000	2200	2300	2500



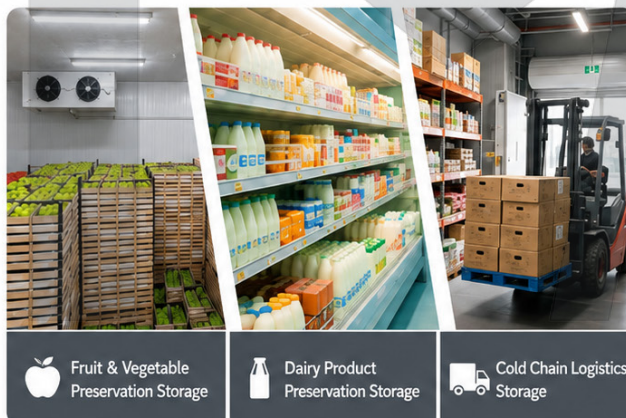
High Temp Series Flow Chart



Adapt to medium and high temperature refrigeration needs:

Widely used in small cold storage in the field of food processing: (fruit, vegetable and dairy product preservation storage) production and processing workshop air conditioning system

Also suitable for small logistics cold storage: (such as cold chain logistics storage at fresh food distribution stations) to provide stable refrigeration support for small medium and high temperature storage scenarios.





CO₂ Transcritical Air-Cooled Condenser – Booster Low Temp Series

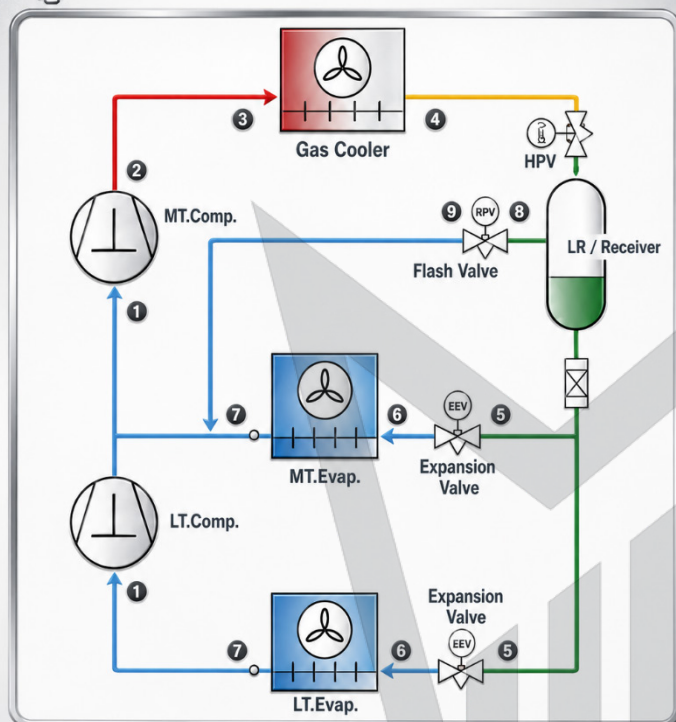


BOOSTER Low Temp. Series

Parameter			SZ-B1	SZ-B2	SZ-B3
Low Temp. Comp.	Model Qty.		2FME-5K 1unit	2DME-5K 1unit	4DME-10K 1unit
High Temp. Comp.	Model Qty.		4MTE-10K 1unit	4KTE-12K 1unit	4FTE-30K 1unit
Evap. Temp. / Amb. Temp.	°C		-32/35	-32/35	-32/35
Refrigeration Capacity	kW		17.18	25.1	47.4
Input Power	kW		14.17	19.96	37.12
COP	/		1.21	1.26	1.28
Liq. Pipe Size	mm		DN15	DN15	DN20
Suction Pipe	mm		DN20	DN20	DN25
Fan Dia. × No.	mm*n		500*2	500*2	910*2
Fan P.	kW		1	1	3.2
Dimensions (L×W×H)	L mm		2500	2500	3200
	W mm		1100	1100	1300
	H mm		2100	2100	2500
Weight	kg		2450	2500	3000



Booster LT Series Flow Chart



- | | |
|----------------------------------|--|
| 1 Compressor Suction (Low Temp.) | 6 Evaporator Inlet |
| 2 MT Compressor Discharge | 7 Evaporator Outlet (Return to Compressor) |
| 3 Gas Cooler Inlet | 8 Flash Valve Inlet |
| 4 Gas Cooler Outlet | 9 Flash Valve Outlet to LR / Receiver |
| 5 Liquid Line (Before Expansion) | |



Specializing in low temperature and quick freezing conditions:

Suitable for small to medium-sized cold storages in food processing (e.g. meat and seafood), quick-freezing rooms for pre-prepared foods (e.g. buns, dumplings), e-commerce cold warehouses, and supermarket display cabinets (e.g. ice cream and meat cases).

The system is also scalable and can support medium and high temperature refrigeration scenarios as needed.



Food Processing
(Meat & Seafood)



Quick-Freezing Rooms
(Pre-prepared Foods)



E-commerce Cold
Warehouses &
Supermarket Display
Cabinets



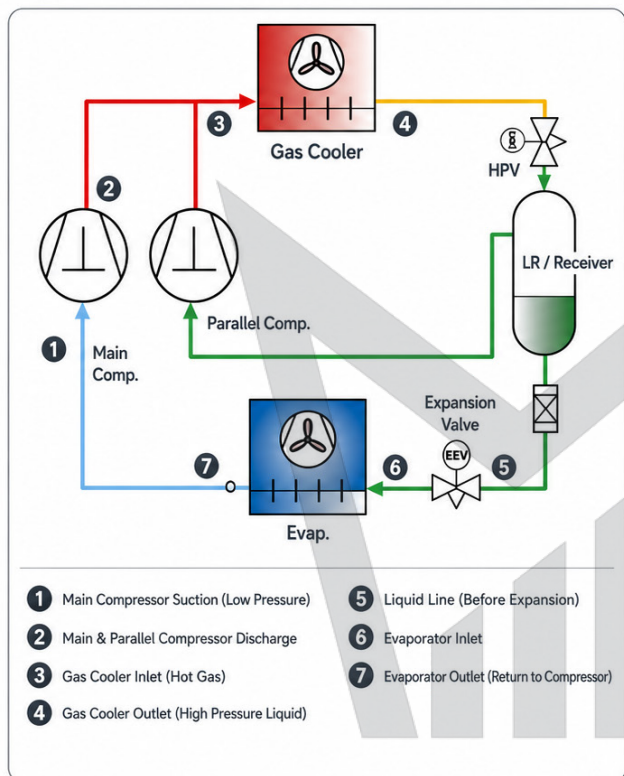
CO₂ Transcritical SZ-C Series

SZ-C

Parameter			SZ-C1	SZ-C2	SZ-C3	SZ-C4
Main Comp.	Model Qty.		4KTE-12K 1unit	4FTE-30K 1unit	4GTE-30K 2unit	4FTE-30K 2unit
Parallel Comp.	Model Qty.		2MTE-5K 1unit	4MTE-10K 1unit	4HTE-20K 1unit	4FTE-30K 1unit
Evap. Temp. / Amb. Temp.	°C		-10/35	-10/35	-10/35	-10/35
Refrigeration Capacity	kW		41.2	82.8	124.2	166.2
Input Power	kW		17.9	34.02	51.83	70.6
COP	/		2.30	2.43	2.40	2.35
Liq. Pipe Size	mm		DN20	DN25	DN32	DN40
Suct. Pipe Size	mm		DN20	DN25	DN32	DN40
Fan Dia. × No.	mm*n		910*2	910*2	910*3	910*6
Fan P.	kW		3.2	3.2	3.2	3.2
Dimensions (L×W×H)	L mm		2900	2900	4000	4150
	W mm		1300	1300	1300	2240
	H mm		3300	3300	3300	4200
Weight	kg		2700	3200	4300	5400



SZ-C Series Flow Chart



Focus on medium and high temperature refrigeration scenarios:

Ideal for small to medium-sized cold storages in the food processing industry (e.g. pickled goods and beverage storage), and workshop air-conditioning in processing areas such as seafood and sauce production. Also suitable for regional cold chain distribution centers, offering efficient refrigeration solutions for medium and high temperature applications.



Food Processing Industry

Pickled goods, beverage storage, etc.



Workshop Air-conditioning

Seafood and sauce production areas



Regional Cold Chain Distribution

Efficient solutions for medium and high temperature applications

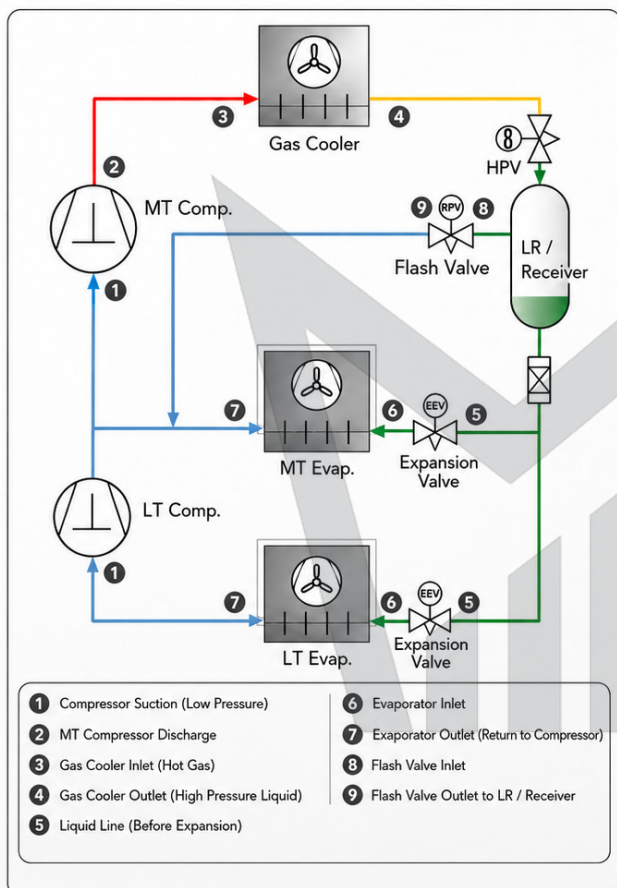
CO₂ Transcritical SZ-F Series

SZ-F

Parameter			SZ-F1	SZ-F2	SZ-F3	SZ-F4
	Low Temp. Comp.	Model Qty.	4FME-7K 1unit	4FME-7K 2unit	4FME-7K 3unit	4TME-20K 2unit
	High Temp. Comp.	Model Qty.	4HTE-20K 1unit	4HTE-20K 2unit	4HTE-20K 3unit	6DTE-50K 2unit
	Evap. Temp. / Amb. Temp.	°C	-32/35	-32/35	-32/35	-32/35
	Refrigeration Capacity	kW	33.4	66.8	100.2	163
	Input Power	kW	25.01	50.02	75.03	122.5
	COP	/	1.34	1.34	1.34	1.33
	Liq. Pipe Size	mm	DN20	DN25	DN32	DN40
	Suct. Pipe Size	mm	DN20	DN25	DN32	DN40
	Fan Dia. × No.	mm*n	500*3	910*2	910*3	910*6
	Fan P.	kW	1	3.2	3.2	3.2
	Dimensions (L×W×H)	L mm	2450	2900	3700	4150
		W mm	1100	1300	1300	2240
		H mm	3300	3300	3300	4200
	Weight	kg	2900	3100	4500	5800



SZ-F Series Flow Chart



For low temperature and quick freezing applications:

Designed for small to medium-sized cold storages in the food processing industry (e.g. bulk storage of frozen meat and raw materials), quick-freezing rooms for poultry and seafood, and urban cold chain logistics warehouses. Also suitable for supermarket display cabinets, including modular island freezers and vertical quick-freeze showcases. This series offers flexible system combinations and can also support medium and high temperature refrigeration applications as needed.



Food Processing Industry
Bulk storage of frozen meat and raw materials



Quick-Freezing Rooms
For poultry and seafood



Cold Chain Logistics
Urban cold chain warehouses



Supermarket Applications
Display cabinets, modular island freezers and vertical quick-freeze showcases