

CHILLVENTA

Cold Plate

economy and ecology in supermarkets



SUPER ColdPlate 

A DOVER COMPANY

Cold Plate | efficiency

Environmental and commercial support

Many synthetic refrigerants have unwanted global warming and ozone depletion effects, and system manufacturers and specifiers are increasingly favoring natural refrigerants such as CO₂. Although CO₂ presents technical challenges, SWE^P has already built up expertise in CO₂ from more than 100 supermarket installations. SWE^P knows how to keep costs down and reliability high.

Favorable characteristics

Non-toxic and non-flammable, CO₂ is a very suitable refrigerant for applications such as supermarket chiller cabinets. Nevertheless, its physical characteristics impose tough demands on equipment that must operate from -50°C to 5°C at up to 45 bar. Our brazed plate heat exchangers (CBEs) are designed specifically to operate economically and reliably to protect the cooled food chain in supermarkets.

Economic and performance advantages

Refrigeration can account for up to 50% of supermarket energy consumption. Our optimized CBEs enable CO₂-based systems to recover much of the energy used for cooling and re-use it for heating, resulting in a high coefficient of performance (COP).

Pumped CO₂ circulation also has advantages over typical brine-based systems. The faster response time increases flexibility, while pipe diameters and pumps are smaller, which saves capital and running costs as well as valuable retail space.

Comply with legal requirements

Environmental and other standards applying to supermarket cooling installations are being applied with more and more force, including legislation on the critical charge. Systems based on CO₂ and the low-holdup volume in CBEs enable you to plan and purchase now, ready for the future.





CBE CO₂ | systems

For supermarkets of all sizes

We offer a comprehensive range to meet the needs of food cabinet producers, and supermarkets of all sizes in all climatic conditions. In particular, the low holdup volumes of our CBEs help to minimize critical charges across these applications. For typical LT and MT capacity requirements, our standard products perform efficiently, safely and reliably at up to 45 bar. For heat recovery in transcritical installations, we offer proven CBEs for working pressures up to 140 bar. For additional safety, our ECO B16U is available for working pressures up to 70 bar – without heavy support – on request.

Heat Recovery

As environmental, legal and financial pressures rise, it is becoming increasingly important to recover and re-use heat from supermarket cooling systems. Our CBEs are highly cost-effective in this role, in terms of both capital and running costs, and the B16U is tailored to the transcritical operation required.

Cascade

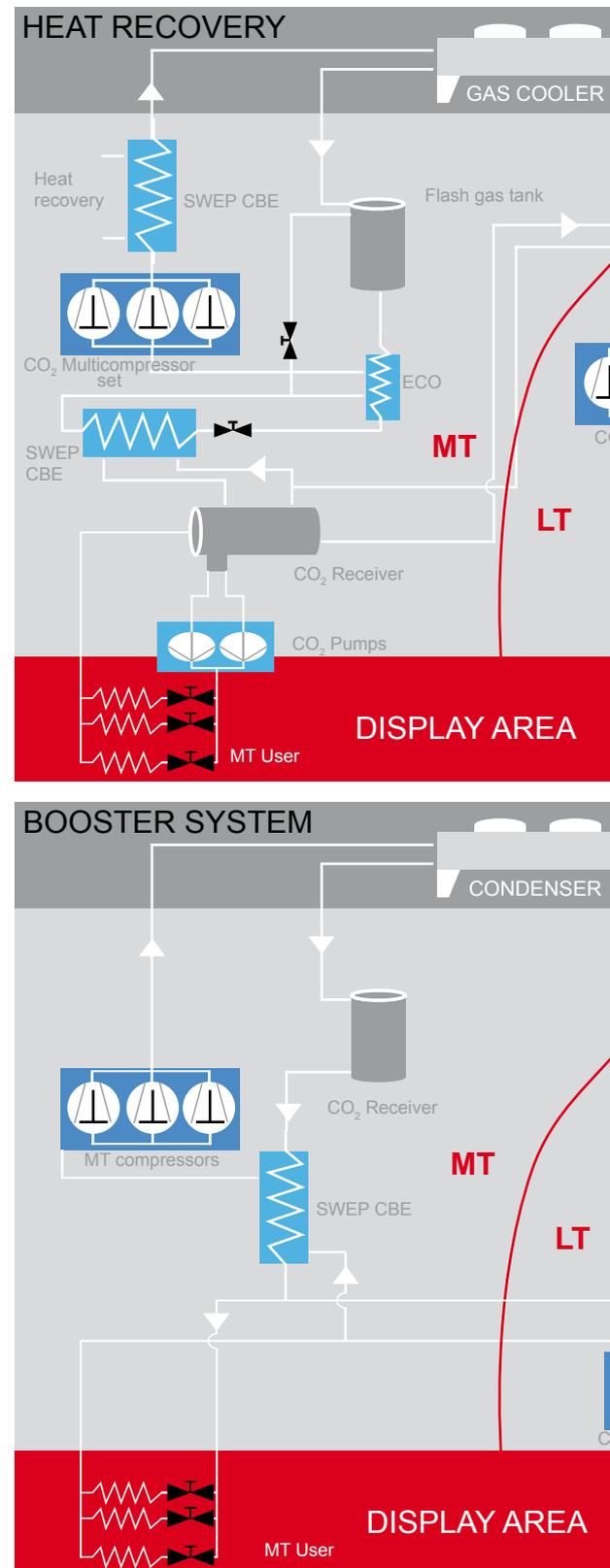
R404A/CO₂ systems minimize the use of HFC refrigerants and employ standard pressure lines (31 bar). Our B80M, B200M and B400M, with a maximum working pressure of 45 bar, are a safe and economical choice. Our B16U, which is approved for operation at up to 140 bar, is suitable for CO₂-only cascade systems that operate transcritically with condensing units at very high pressure.

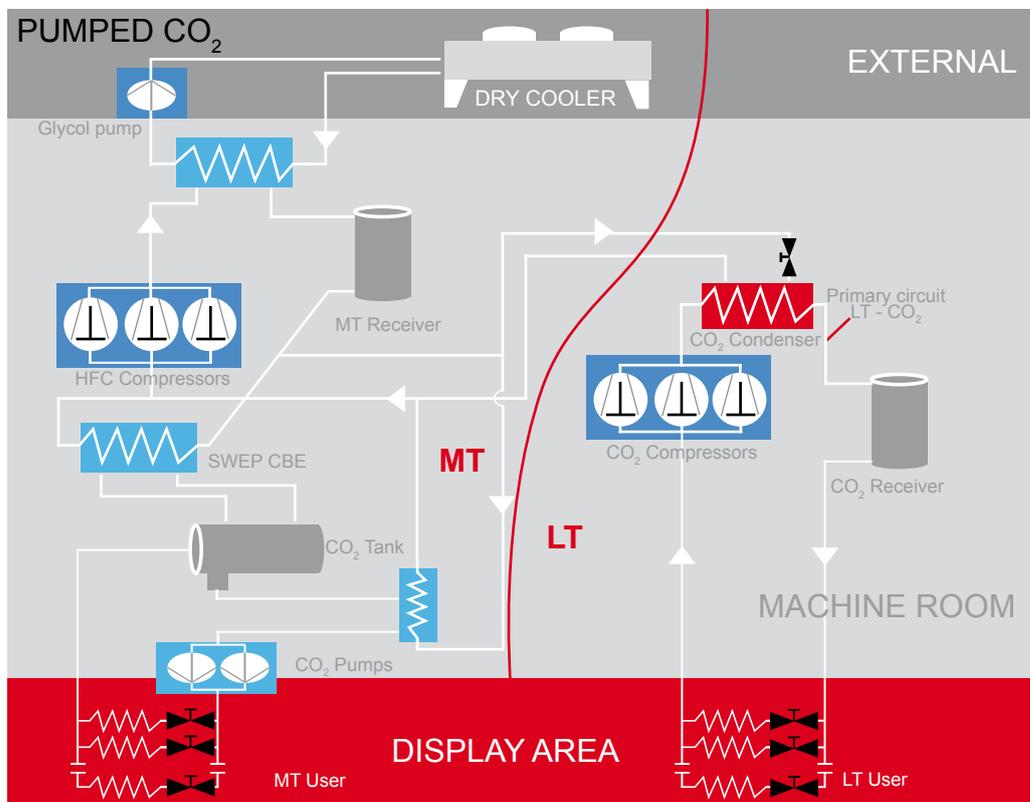
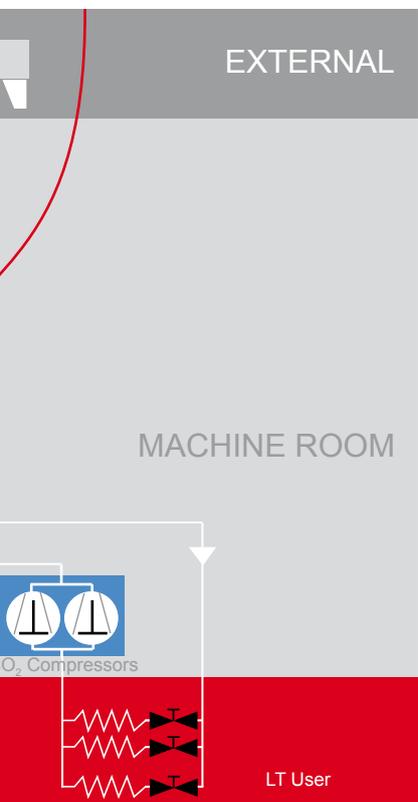
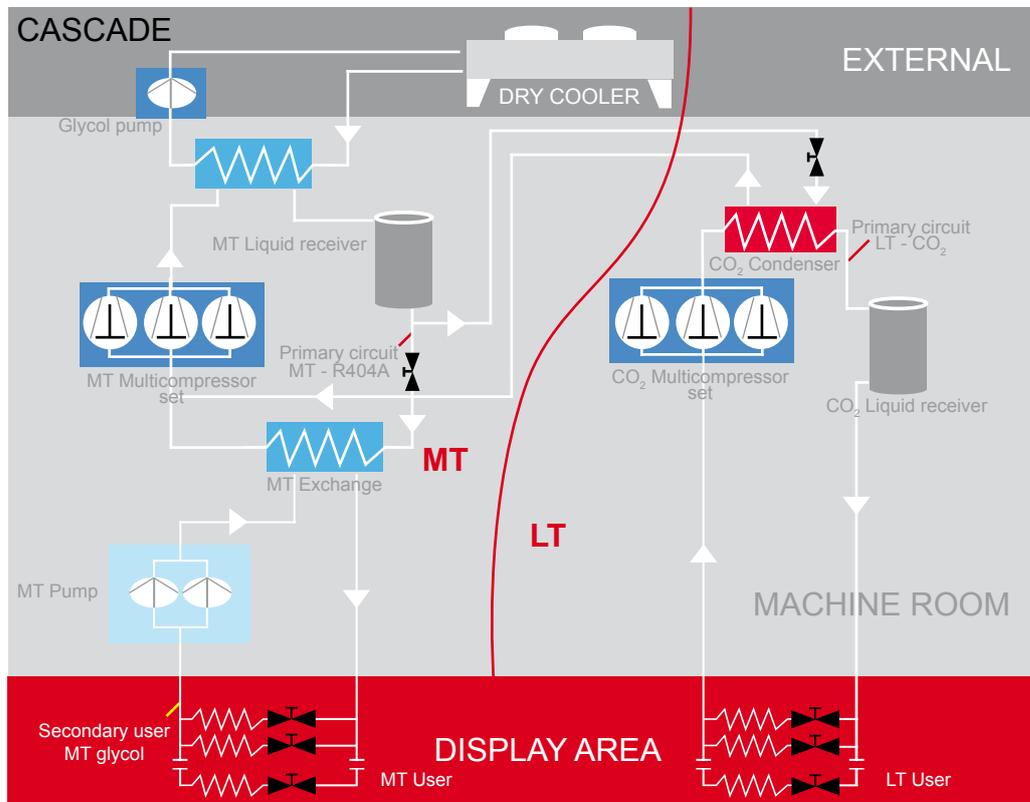
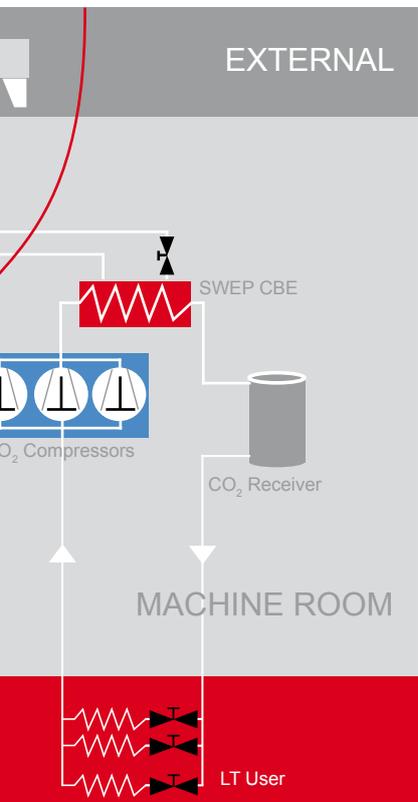
Booster systems

Our B16U and B12U ranges are effective economizers for sub-cooling the liquid line for the display cases. They achieve low flash-gas values, which increases performance, and the smaller diameter liquid lines make them an economical solution.

Pumped CO₂

In indirect systems using pumped CO₂, the high vapor density of CO₂ imposes a lower load on the pump compared with secondary fluids such as glycol, saving energy and expense. Our B200M, B400M and B500M models are ideal heat exchangers for these systems.





Cold Plate | products

Discount

Plug-in display cases are being replaced by centralized CO₂-based systems with heat recovery. Our B16U CBE, designed to work safely and efficiently at up to 140 bar, is ideal for systems providing up to 80 kW MT and 10 kW LT cooling. Systems can also be configured with a cascade heat exchanger to limit the requirement for HFC (hydrofluorocarbon) refrigerants. SWEP has developed the B80M for this role.

Supermarket

The cooling capacity required (50-250 kW MT, 10-50 kW LT) favors centralized systems with heat recovery. We offer CBEs that are designed specifically for this role and perform economically in direct or indirect operation. Our B200M and B400M CBEs are ideal for indirect systems using CO₂ as a single phase pumpable fluid, which are increasingly popular for both LT and MT duty.

Hypermarket

Our B400M and B500M heat exchangers provide an economical and versatile solution for cooling capacities up to 500 kW MT and 100 kW LT. Parallel configurations are available to enable pumped CO₂ systems achieve the highest capacities. Our B16U, approved for operation at up to 140 bar, is ideal for recovering heat from high-pressure transcritical systems.

Fully tested and approved

Our CBEs are delivered with full traceability and verified functionality, with third-party approvals such as PED, ULC and KHK. We leak- and pressure-test all heat exchangers for both internal and external leakage at a pressure higher than the maximum working pressure. Certificates accompany deliveries on request.

HEX	DISCOUNT
B80M	 CO ₂ pump Cascade
B200M	
B400M	
B500M	
B16U	 Heat recovery
B12U/ B16U	
B120M	



	SUPERMARKET	HYPERMARKET
	● ECO	● ECO
	● CO ₂ pump Cascade	
	● CO ₂ pump Cascade	● CO ₂ pump Cascade
		● CO ₂ pump Cascade
	● Heat recovery ECO	● ECO
	● ECO	● ECO
	● ECO	● ECO



SWEP is the world's leading supplier of compact brazed heat exchangers (CBEs). These products are used where heat needs to be transferred efficiently in air conditioning, refrigeration, heating and industrial applications. SWEP has annual sales of USD 250 million and is close to its customers, with representation in more than 50 countries and its own dedicated sales force in more than 20 countries. Highly efficient production units in Sweden, Switzerland, the USA, Malaysia, Slovakia and China enable SWEP to serve customers all over the world. SWEP is part of the global Dover Corporation, which is a multi-billion-dollar, NYSE-traded, diversified manufacturer of a wide range of proprietary products and components for industrial and commercial use.

swep.net

