

compSUPER XXS

In recent years, the positive development and popularity of transcritical CO₂ refrigeration systems has led to increased demand for small refrigeration systems (condensing units) using CO₂ as the refrigerant. This demand can now be met through Advansor's product series, compSUPER XXS, which has a capacity adapted to, e.g., convenience stores, petrol stations and small shops. compSUPER XXS is a thoroughly tested product which meets Advansor's strict quality requirements. The series consists of four refrigeration units (MT) and two freezer units (LT). The units are designed with easy installation and maintenance in mind, and they ensure a high temperature quality at the cooling and freezing sites.

- Green and environmentally friendly refrigerant
- Lower energy consumption than traditional HFC refrigerant condensing units
- Low carbon footprint
- Future proof solution
- Compact and easy installed solution

Design

The condensing unit is designed as an integrated unit with a cabinet including compressor, liquid receiver, controller and condenser/gas cooler. This design results in a light-weight and compact unit that is easy to install in a back yard or on a roof above the cooling sites. The unit is delivered fully assembled and pressure tested, that way only the liquid line and the suction line need to be connected at installation site.

Consider using several units for the same location in the event of capacity requirement exceeding 9 kW.

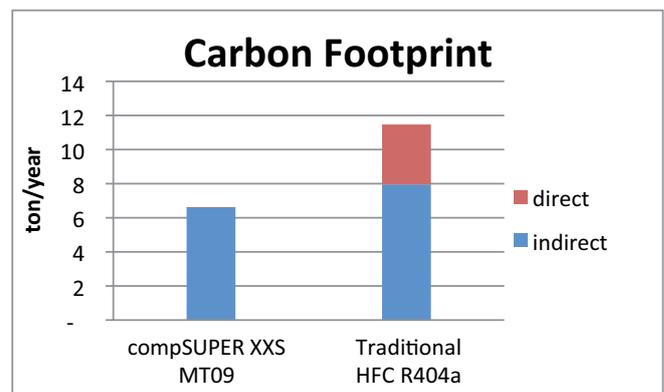


Energy consumption and carbon emissions

An energy saving of 20% can be achieved when comparing a compSUPER XXS unit from Advansor to a traditional HFC condensing unit. These savings are achieved through better evaporator regulation and frequency-controlled compressor. Also improved control of the evaporator expansion valve is gained, due to this being electronically operated. Instead of a fluctuating evaporator temperature, which is often found in a traditional HFC unit, the XXS unit will give a stable and even evaporator temperature, which also contributes to improving the unit's COP.

Carbon emissions

The energy savings achieved with a compSUPER XXS unit naturally result in reduced CO₂ emissions. CO₂ has a GWP (Global Warming Potential) of only 1, R134a and R404a have GWPs of 1300 and 3300, respectively. This means that emission of 1 kg R404a will have the same effect as 3300 kg of CO₂. If an average annual leakage rate of 10% is expected, the annual CO₂ emissions (carbon footprint) will equal those shown in the model.



The calculation is based on Pack Calculation II ver. 3.05 with a Danfoss MTZ50-4 piston compressor, using HFC refrigerant against the XXS MT09 unit with a dimensioning ambient temperature of 32°C and an evaporator capacity of 9 kW at -8°C.

Model: compSUPER	XXS 1x0MT4	XXS 1x0MT5	XXS 1x0MT7	XXS 1x0MT9	XXS 0x1 LT4	XXS 0x1 LT14
Gas cooler/Condenser	Air cooled/ water cooled					
Frequency range [Hz]	30/87	30/87	30/87	30/87	50/87	30/70
Cooling capacity [kW]*	1,6/4,3	2,1/5,6	2,7/7,2	3,4/9,0	2,5/4	6,5/14
LT cooling capacity with glycol condenser [kW]**	1,3/3,5	1,7/4,6	2,2/5,8	2,7/7,3	-	-
Noise level [dB(A) at 10 m]	45	45	45	45	45	49
Receiver volume [l]	11	11	11	11	11	2x11
Mechanical connections Liquid line Suction line	1xCU3/8" 1xCU1/2"	1xCU3/8" 1xCU1/2"	1xCU3/8" 1xCU1/2"	1xCU3/8" 1xCU1/2"	1xCU3/8" 1xCU1/2"	1xCU3/8" 1xCU5/8"
Electrical connection	3x400V/50Hz	3x400V/50Hz	3x400V/50Hz	3x400V/50Hz	3x400V/50Hz	3x400V/50Hz
Current [A]***	8,1	10,8	11,6	13,4	9,4	39,1
Length [mm]	975	975	975	975	975	1185
Width [mm]	800	800	800	800	800	1125
Height [mm]	1350	1350	1350	1350	1350	1550
Weight [kg]	320	320	320	320	325	550

***) Cooling capacities:**

MT version stated at -10°C evaporation / 32°C ambient
 LT version stated at -35°C evaporation / 32°C ambient
 MT and LT water cooled version stated at glycol 32°C / 40°C

*****) Current:**

MT version stated -10°C evaporation / 32°C ambient
 LT version stated -35°C evaporation / 32°C ambient

*****) LT cooling capacity:**

MT version stated at -35°C evaporation / 0°C condensation
 MT version can be used at low temperature by means of an optional glycol condenser.
 Especially suited for supermarkets which utilize glycol circuits at medium temperature.

Standard configurations

- High-quality, semi-hermetic reciprocating compressors
- Weather-proof cabinet
- Electrical panel mounted in cabinet door
- Frequency-controlled compressor
- Speed-controlled fan
- Electronic compressor controller
- Design pressure:
 - 60 bar on suction side
 - 90 bar in receiver and liquid line
 - 120 bar on high-pressure side

Optional extras:

- 80 bar design pressure at suction side
- Tera (monitor up to 10 units per Tera module)
- Heat recovery
- Extra fan (for operation at ambient temperature above 34°C)

