

How to use the Correction factors proposed in the previous tables

A) Mixture Water and Glycol---Evaporator leaving water temperature > 4°C

- depending from the type and percentage (%) of glycol filled in the circuit (see table 4.2 and 6)
- multiply the Cooling Capacity, the Compressor Power Input by the Correction factor of Table 6
- starting from this new value of Cooling Capacity, calculate the Flow Rate (l/s) and the Evaporatore Pressure Drop (kPa)
- now multiply the new Flow Rate and the new Evaporator Pressure Drop by the Correction Factors of Table 6

Example

Unit size:

EWWD120J-SS

Mixture: Water
Working condition: ELWT 12/7°C - CLWT 30/35°C
- Cooling capacity: 121 kW
- Power input: 27.3 kW
- Flow Rate (Δt 5°C): 5.78
- Evaporator Pressure Drop: 15kPa

Mixture: Water+Ethylene glycol 30% (for a winter air temperature up to -15°C)
Working condition: ELWT 12/7°C - CLWT 30/35°C
- Cooling capacity: $121 \times 0.972 = 118$ kW
- Power input: $27.3 \times 0.986 = 26.9$ kW
- Flow Rate (Δt 5°C): $5.64 \text{ l/s (referred to 118 kW)} \times 1.074 = 6.06 \text{ l/s}$
- Evaporator Pressure Drop: $16 \text{ (referred to 6.06 l/s)} \times 1.181 = 19 \text{ kPa}$

B) Mixture Water and Glycol---Evaporator leaving water temperature < 4°C

- depending from the type and percentage (%) of glycol filled in the circuit (see table 4.1 and 4.2 and table 6)
- depending from the evaporator leaving water temperature (see table 5)
- multiply the Cooling Capacity, the Compressor Power Input by the Correction factor of Table 5 and Table 6
- starting from this new value of Cooling Capacity, calculate the Flow Rate (l/s) and the Evaporatore Pressure Drop (kPa)
- now multiply the new Flow Rate and the new Evaporator Pressure Drop by the Correction Factors of Table 6

Example

Unit size:

EWWD120J-SS

Mixture: Water
Working condition: ELWT 12/7°C - CLWT 30/35°C
- Cooling capacity: 121 kW
- Power input: 27.3 kW
- Flow Rate (Δt 5°C): 5.78
- Evaporator Pressure Drop: 15kPa

Mixture: Water+Ethylene glycol 30% (for a low evaporator leaving temperature of 0/-5°C)
Working condition: ELWT 0/-5°C - CLWT 30/35°C
- Cooling capacity: $121 \times 0.641 \times 0.972 = 75.4$ kW
- Power input: $27.3 \times 0.880 \times 0.986 = 23.7$ kW
- Flow Rate (Δt 5°C): $3.60 \text{ l/s (referred to 75.4 kW)} \times 1.074 = 3.87 \text{ l/s}$
- Evaporator Pressure Drop: $7 \text{ kPa (referred to 3.87 l/s)} \times 1.181 = 9 \text{ kPa}$