

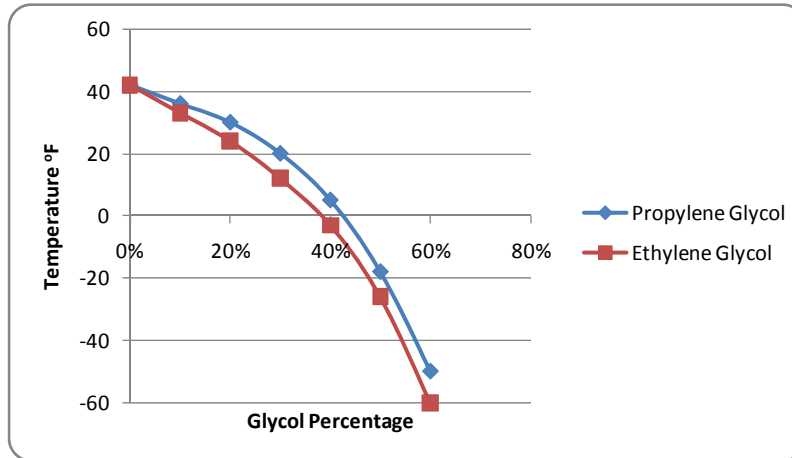
Fluid Specifications For Low Temperature Chillers & Full Range Systems



Mokon Chillers and Full Range Systems are designed and manufactured to utilize water or water/glycol solutions as the cooling media to handle process temperatures. Standard Mokon systems are set to operate between 50°F and 70°F (10°C to 21°C) but are engineered to operate as low as 20°F (-7°C) depending on the model. Unless the chiller was set to operate below 50°F (10°C), do not attempt to operate below 50°F (10°C) without first contacting Mokon as it will be necessary to change the controller default settings and review the fluids being used to insure that freeze up will not take place and cause damage to the system. - Note the chiller capacity will be de-rated once the system drops below 50°F (10°C). In addition, if the chiller is equipped with an automatic water fill option, water will dilute the new fluid mixture unless the auto fill system is converted accordingly.

Water /Glycol Mixture

The following graph is a guideline for typical minimum operating temperatures at various water/glycol mixtures. Please consult with the specific glycol manufacturer for their recommended operating temperature ranges.



NEVER use automotive glycol in a chiller system as they contain silicone and/or paraffin which over time or due to low temperature operation will plate out or coat the wetted surfaces thereby acting as an insulator and reduce the heat removal capacity and the system efficiency.

ALWAYS use industrial “**Ethylene**” or “**Propylene**” type glycols mixed to suit the fluid operating temperatures and approved by Mokon and the production and/or process equipment manufacturer. Note that propylene glycol is not as efficient as ethylene glycol when it comes to heat transfer; however, propylene has a lower toxicity level than ethylene.

Listed below are acceptable and non-acceptable fluids for use in Mokon chiller and heating-cooling systems in industrial applications:

Acceptable Glycols:

- Pure Ethylene Glycol
- Pure Propylene Glycol
- Dowtherm SR-1
- Dowfrost HD
- Protocol LT Dynalene PG
- Wintrex
- Safe T Therm
- Dow Ambitol

Non-acceptable Glycols:

- Paratherm CR
- Nu-Calgon (liquid scale dissolver)
- Syltherm 800
- Syltherm XLT
- Bleach or Chlorine

Note not all glycols are suitable for use in sanitation, laboratory, food or medical process applications and caution must be used when selecting the grade of glycol or if glycol is suitable for use in the specific application.

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Maintenance Notes:

Glycol based fluids are suitable for use in Mokon Chiller & Full Range Systems although we would recommend the concentration be dropped to 10-15% in order to keep the viscosity and Ph levels in check so we do not promote premature pump seal or component failures. Please review and minimize the concentration levels for the proper freeze protection of the system at the temperatures you are operating at.

Typical Blends of Glycol from Dowtherm:

Dowtherm SR-1 is the industrial grade Ethylene glycol that we specify for use in our chillers. The glycol is an ethylene glycol blend, without the silicone, and a full array of system corrosion and rust inhibitors.

Dowtherm SR-1 is available in a wide variety of blends that can be shipped pre-mixed with de-ionized water to minimize particles and contaminants found in standard city or well water.

Dowtherm SR-1 is factory dyed “Pink” in color for ease of visual leak detection, and fluid identification.

Food / Medical Applications:

Propylene Glycol has a much lower toxicity level than Ethylene Glycol.

Dowfrost is an industrial grade propylene glycol blend, without the silicone, but with a full array of system corrosion and rust inhibitors.

Dowfrost is available in a wide variety of blends that can be shipped pre-mixed with de-ionized water to minimize particles and contaminants found in standard city or well water.

Dowfrost is clear in color from the production plant and is dyed “Blue” in color at our facility with an FDA approved dye for ease of visual leak detection, and fluid identification.