

APPLICATION SHEET: Lyophilization

Application:

Lyophilization is the process of dehydrating a frozen substance under conditions of sublimation.

There are two major steps in a lyophilization cycle:



- Freezing, where the products are frozen at temperatures between - 20 °C to - 80 °C and the water turns to ice.
- Vacuum freeze drying, which consists of subliming the ice and extracting the water molecules.

The constraints are:



- The same circuit, and therefore same pump, must be used for heating and cooling
- Temperature range from -70 to + 130°C
- Risk of thermal shock on the tightness to be held

The **POMPES GROSCLAUDE** solution



Technical descriptions

Two options are available, depending on your needs:

MX/S 414X-120-2,2-2I

Economic assembly with buffer chamber to absorb differences in temperatures and allow use of a "standard" mechanical seal

MGX 414X-120-2,2-2I

Alternative to the magnetic coupling that makes it possible to not have a mechanical seal assembly.

Analyzing the solution

The 1st solution isolates the mechanical seal in a chamber that provides a thermal buffer effect, thus protecting the chamber from rapid temperature fluctuations.

The 2nd solution is a more advanced solution that makes it possible to replace dynamic tightness with a magnetic coupling.

Main advantages

- Min. operating T°C
 - MX/S - 70°C
 - MGX - 100°C
- Materials
 - 100% stainless steel for parts in contact with fluid

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COUPLING

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