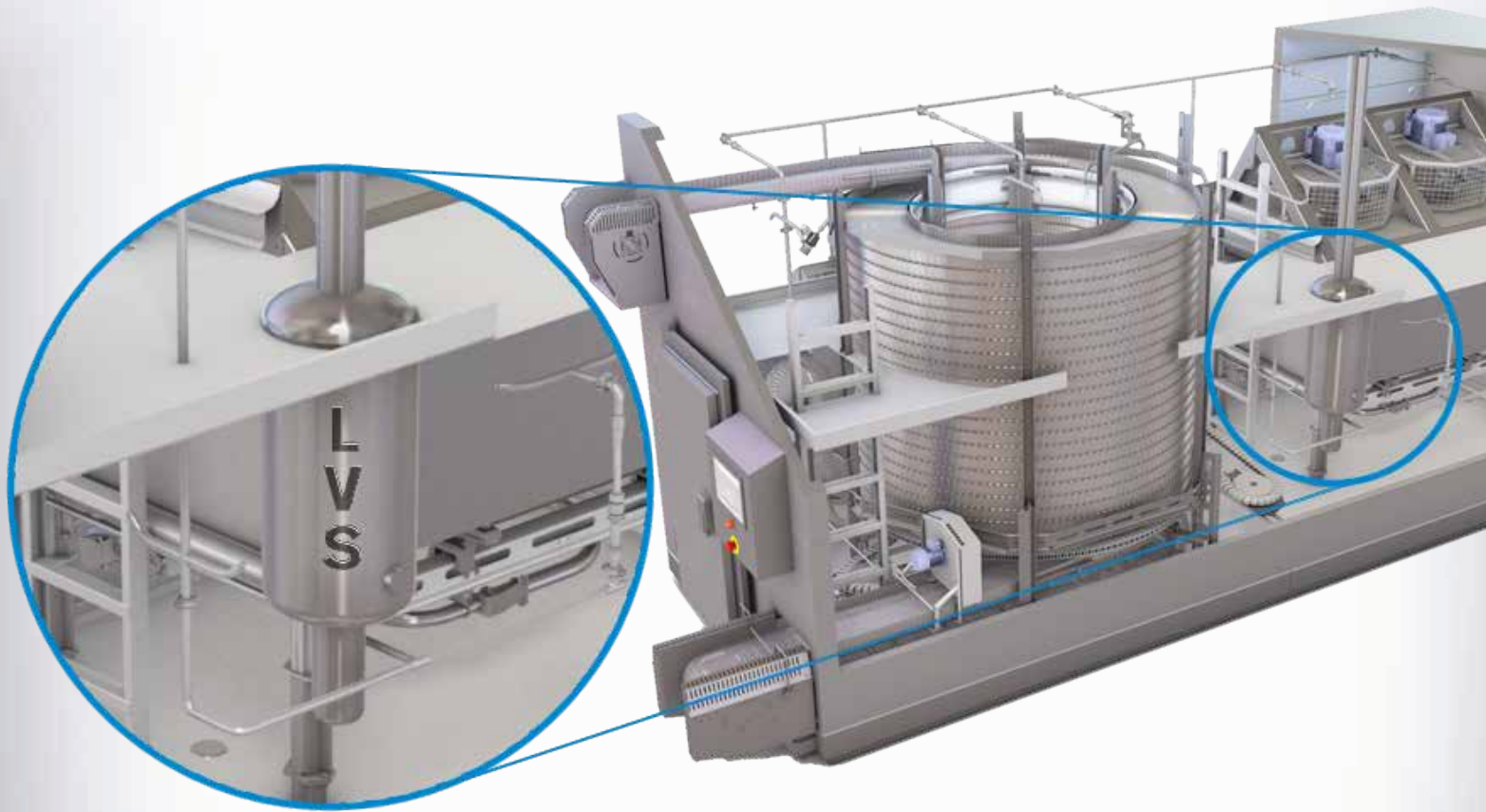


FRIGOSCANDIA®

LVS Refrigeration™ System

Optimising refrigeration systems

Now with LVS Quick Dry*
*Patent Pending



The power behind freezing and chilling

FREEZING



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Frigoscandia LVS Refrigeration™ System

Optimising refrigeration system, *Now* with optional **LVS Quick Dry***

Engineered for low energy consumption and optimum freezer performance

Frigoscandia LVS (Low Volume System) Refrigeration™ is up to 20% more efficient than traditional pumped refrigerant systems, as it provides a dry return from the compressor eliminating the need for a refrigerant pump. The dry return also means that a Frigoscandia LVS system typically has pressure drops between **0.5 and 1°C**, where traditional systems often have pressure drops of 3 - 5°C.

Requires **15% less energy** than traditional systems

Due to the lower pressure drop LVS Refrigeration can operate at lower temperatures than other systems. The freezer usually **reaches operating temperature in only 20 – 30 minutes**. Low pressure drops at lower temperatures generate additional savings.

Requires **50% less refrigerant charge** than traditional systems

The evaporators connected to LVS Refrigeration can never be fully flooded with ammonia. There is also a completely dry return to the compressor. This means the refrigerant charge is **minimum 50% less** than in traditional refrigeration systems.

Dry return eliminates liquid build-up

The dry return on the Frigoscandia LVS System eliminates liquid build-up problems that often cause temperature fluctuations and liquid distribution problems in traditional 'wet' systems.

Flexibility in positioning and plant layout

Because the pressure drop on the Frigoscandia LVS System is equally low in horizontal and vertical lines, there are more flexible options in plant layout and positioning, for both location and height.

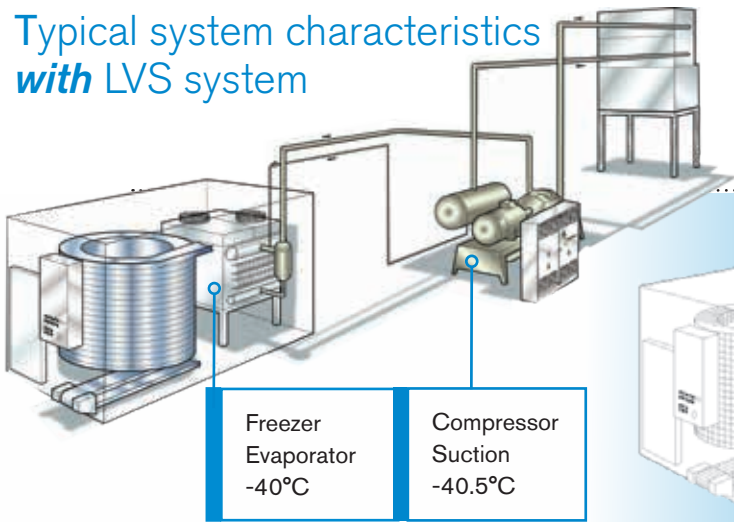
Small footprint, easy installation

The dry return and the low amount of refrigerant necessary also allows for a much smaller footprint than traditional refrigeration systems, as there are less components, and no need for refrigeration pumps, a large pump separator or a low pressure receiver. This means a more compact refrigeration plant in a much smaller engine room.

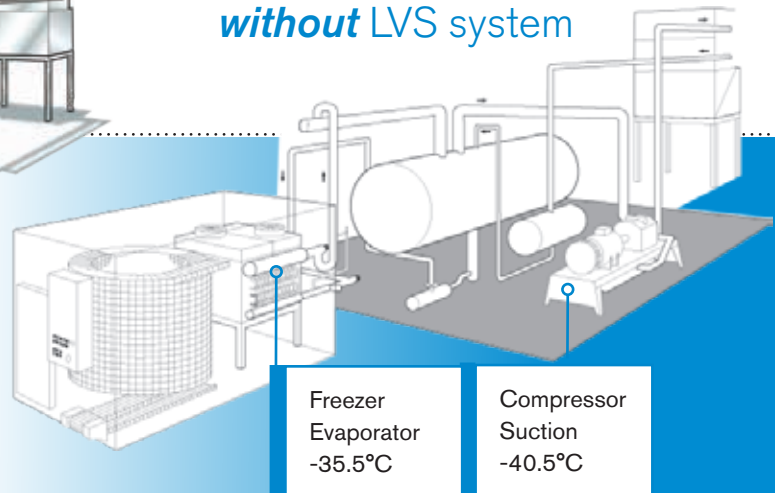
Environmentally-friendly

The high evaporator performance on the LVS Refrigeration System provides the highest heat transfer efficiency of all liquid feed systems, and its dry vapour return gives the lowest losses. Coupled with the minimised refrigerant charge, the LVS System delivers environmental, as well as economic benefits.

Typical system characteristics *with* LVS system



Typical system characteristics *without* LVS system



Well-proven system with over 1,000 installations worldwide

Frigoscandia LVS Refrigeration™ System (no-pump system with 'dry' return)

- LVS function fully integrated with freezer controls
- Pressure drop rarely over 1°C
- Free positioning (eg. on roof)
- No refrigeration pumps required = no leaks or maintenance
- All evaporators are fed the required amount of refrigerant
- Freezer evaporator, -40°C
- Compressor suction, -40.5°C
- No need for low pressure receiver due to dry return
- Positive effect on Process Safety Management programmes

Traditional pumped refrigeration system (pump system with 'wet' return)

- Refrigeration system operated without direct control of freezer requirements
- Pressure drop of 3 – 5°C
- Limited positioning and slope requirements for the wet return
- Refrigeration pumps required = more engine room space required
- Refrigerant goes where it is not needed
- Freezer evaporator, -35.5°C
- Compressor suction, -40.5°C
- Need for low pressure receiver in plant room
- Tough demands on safety

Want to have up to an hour of extra production?

- LVS Quick Dry*
- A unique option to the LVS-system
- Dries your freezer efficiently and quick for smooth and efficient freezer turn-around
- Requires hotgas availability



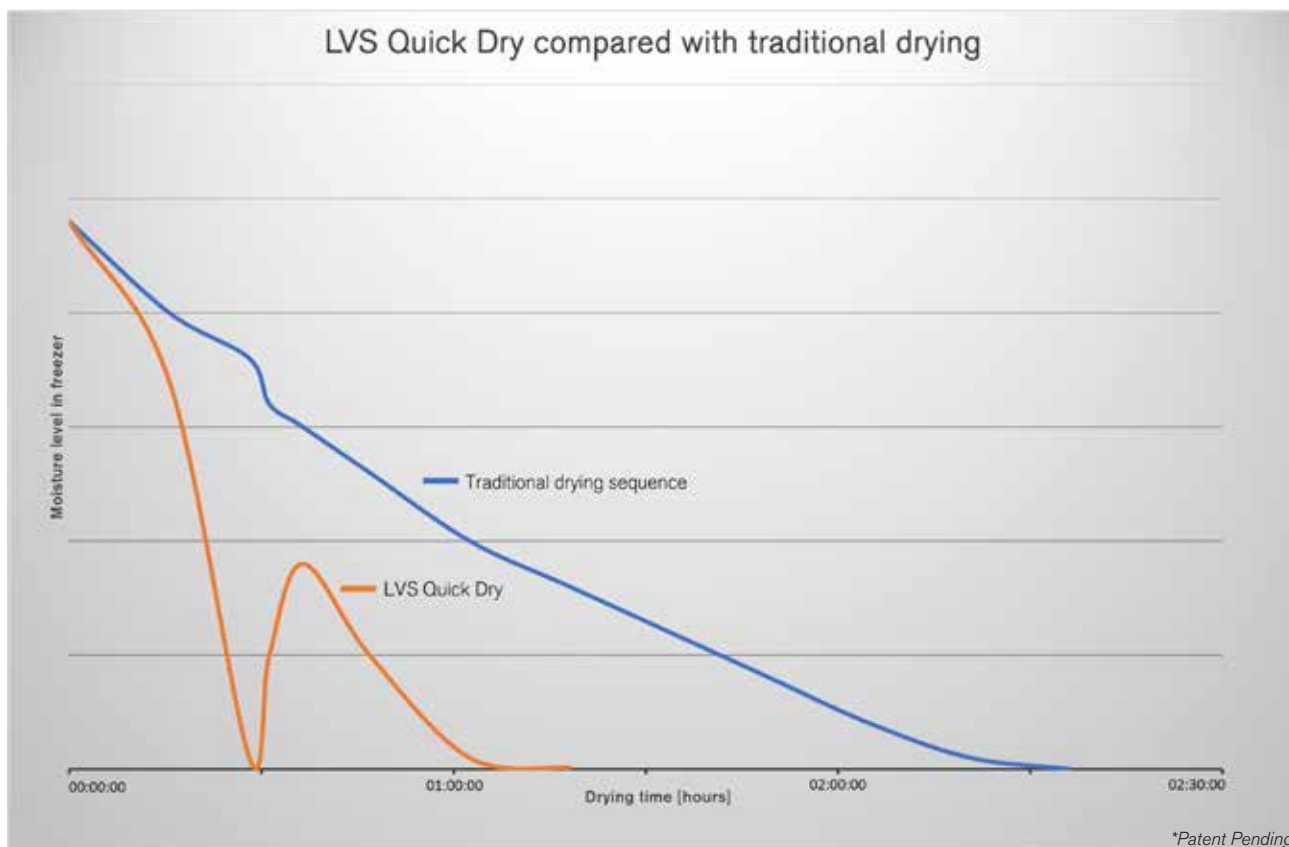
LVS Quick Dry* - find out more how it works

**Patent Pending*

LVS Quick Dry* - Reduce your drying time to half?

The purpose of LVS quick dry is to make the freezer turnaround as efficient as possible, from it's turned off for defrost until the freezer is back in production. The LVS concept includes many features such as saving energy, increased performance, reduced refrigerant charge and makes the entire freezer turnaround process as efficient as possible.

The LVS Quick Dry is in line with the LVS concept, saving time and energy!



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JBT is a leading provider of integrated food processing solutions. From single machines to complete processing lines, we enhance value and capture quality, nutrition and taste in food products. With a local presence on six continents, JBT can quickly provide our customers and partners in food processing industry with the know-how, service, and support needed to succeed in today's competitive marketplace.

FRIGOSCANDIA

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DSI



SCHRÖDER



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