

LSSU Compact

Revolutionizing  
temperature  
controlled  
storage



**LOWENCO**

**VDW**   
Crucial Temperature Solutions

Creating a better world - one unit at a time

# A compact stand-alone storage and blast freezer protecting your products

The LSSU Compact offers stand-alone large scale temperature controlled storage capabilities specific for biotech and pharmaceutical environments.

In addition to large scale storage the LSSU Compact holds the functionality of a blast freezer as well and will then be part of the process for producing vaccines, medicine or any other biotech and pharmaceutical products.

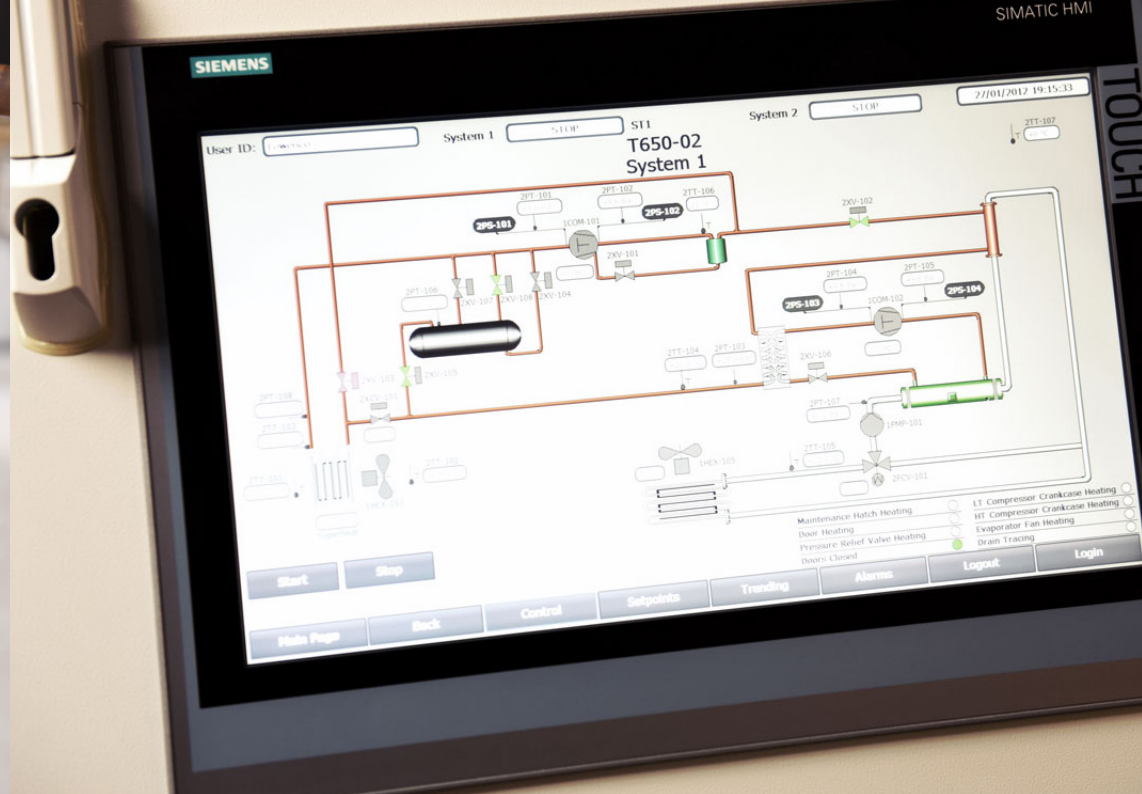
The LSSU Compact holds a storage capacity up to 3,200 kg. fluid products in bottles, bags or vials per unit, in a temperature range from +10°C to -80°C. The capacity of a LSSU Compact is approximately equal to 40 well-known standard uprights freezers. Think about installation cost of electronical feeds, BMS connections, HVAC system, the footprint needed – and not to mention the yearly total cost of operation in terms of power consumption of freezers and HVAC

system, validation of BMS probes etc. for 40 unites versus 1 unit. Our calculations show us a saving of nearly 90% in yearly total cost of operation.

The LSSU Compact are designed very compact and can be installed nearly anywhere in an existing building.

To offer the best possible utilization of the capacity of the LSSU Compact, full pullout drawers are standard and can be selected in different sizes to cover your specific needs for now – but also for the future. The drawers can be changed whenever the requirements changes.

With the LSSU Compact – we are reducing complexity – and – we make you problems go away.



## How does our LSSU Compact differentiate from traditional upright freezer units?

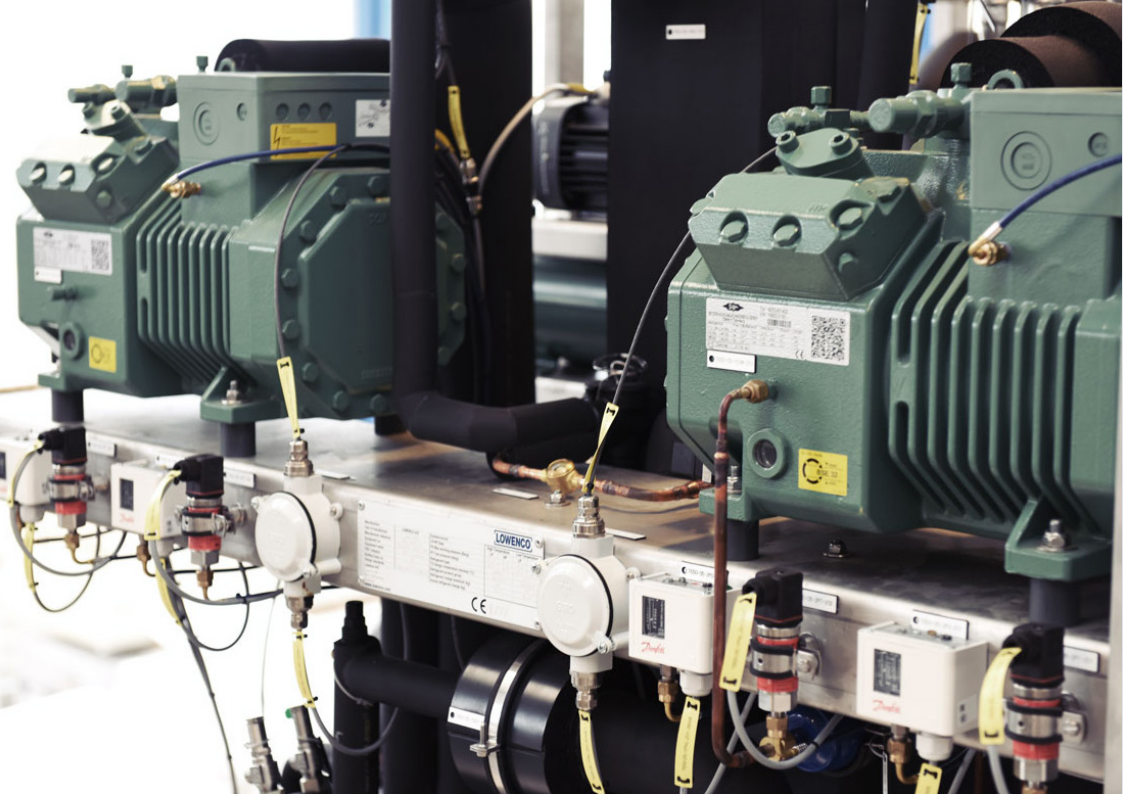
### Lowenco LSSU Compact

- ✓ Build on proven technology
- ✓ Full redundancy
- ✓ Custom-made solutions
- ✓ Process step and storage step in one unit
- ✓ Control rate of freeze and rate of thaw
- ✓ Fully integrated with BMS/VBMS
- ✓ Full pullout drawers in different height and volume
- ✓ Individual and flexible interior design of drawers
- ✓ SW compliance with GMP guidelines
- ✓ Documentation according to GDP

### Traditional upright freezer

- Small capacity per unit
- Single compressor system
- Large footprint needed for more capacity
- High power consumption
- No drawers with fully flexible interior design
- Fixed shelves with difficulty to utilize full capacity
- No blast capability





## Key features



### Blast freeze

Blast freezing of 1.600 kg fluid products from +25°C to -60°C in less than 21 hrs.



### Low deviation

Extreme stable storage temperature with low deviation ( $\pm 1^\circ\text{C}$ ).



### Fire Rating FR60

Fire rating FR60 ensures up to 60 minutes of fire resistance. Enables insurance.



### Individual interior design

Flexible and full pullout drawers in different sizes



### Low power consumption

Low power consumption compared to similar solutions.



### Fast delivery

Possibilities for delivery within 20 to 24 weeks from Purchase Order.

## Individual and highly flexible interior design

**Whatever products your need to store in your freezers, we have the solution.**

LSSU Compact are design for drawers, and which we are offering with full pullout for a fully flexible and adjustable interior design, matching your specific requirements. This gives you the full flexibility, even to have different products in the same drawer.

The drawers are available in three different heights and can even be mixed in the same drawer rack, again to give you the full flexibility whether you are storing small vials, all different sizes of bottles or bags or any other products. The three heights

inside the drawers are 158 mm. for the Small, 225 mm. for the Medium and 358 mm. for the Large drawer.

Alternative to the drawers, we are offering trollies. Trollies are typically used for storage of bigger bottles and larger bags. By using trollies, you can eliminate the handling of the fluid products, and just pull the trollies from the filling into a free space in the LSSU for storage. By using trollies, you need to have a small loading ramp for reach the same floor height.



## About Lowenco

**There are many different thoughts of how to change the future, and at Lowenco, we are designing some of them with our cold storage facilities.**

We are one of the leading manufacturers of cold storage facilities, and we have formed a strategy on how to change the expensive, inefficient, and non-environmental friendly temperature controlled storage. The solution has been developed under the brand names CON20 and LSSU and more cold storage facilities are under development.

At Lowenco, we produce high-end cold storage facilities, refrigerated units, and freezers from well-known quality components in our facilities in Denmark, but we are also able to deliver custom-made freezers and cold storage facilities where GMP guidelines must be applied worldwide.

We have strong experience with cold storage facilities for high demand markets like the biotech and pharmaceutical industries. We are performing Factory Acceptance Tests including performance tests documented according to customer requirements and to GDP.

For further information  
– please visit our website:  
[www.VDWCoolSystems.nl](http://www.VDWCoolSystems.nl)