

Biological Organisation Systems

BOS



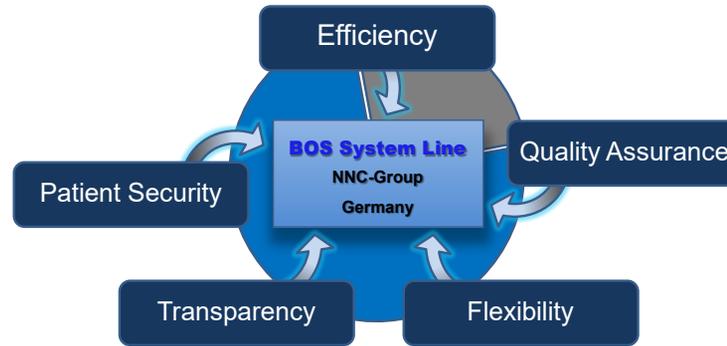
Tubes

Blood/Plasma bags in various sizes, with or without packaging



Storage plates, modules and trays

Components of the **BOS system line**



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Flexibility has a name

Biological Organisation Systems

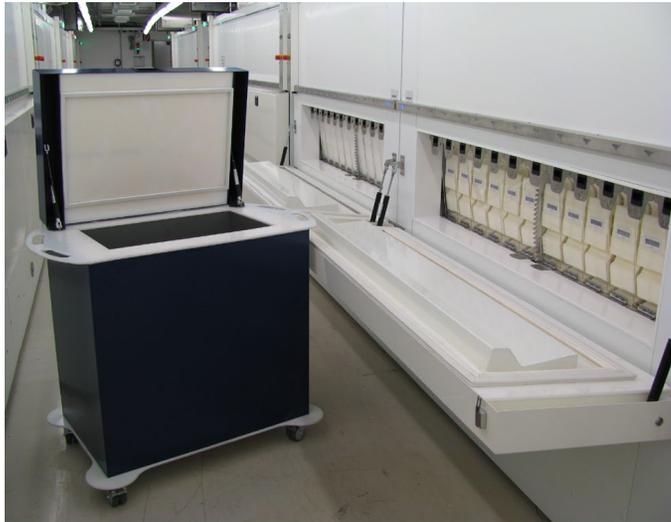


Handling
from + 10°C to **-160°C**

High-bay Warehouse

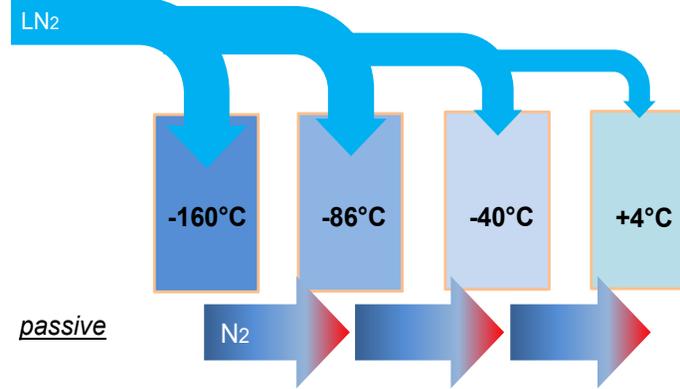


Storagesystem University Düsseldorf



Cascading

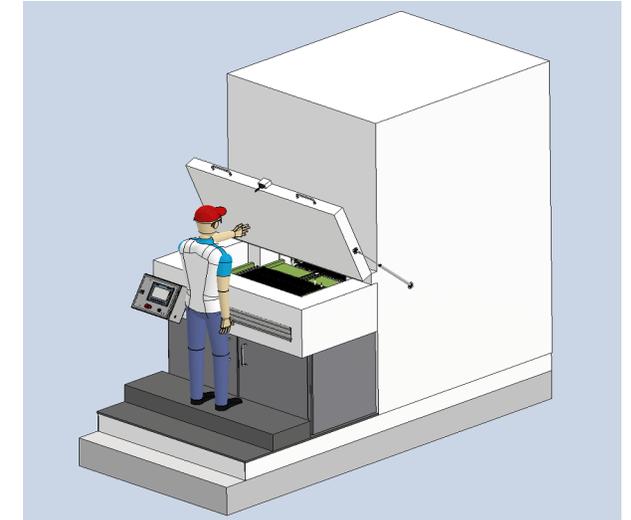
active



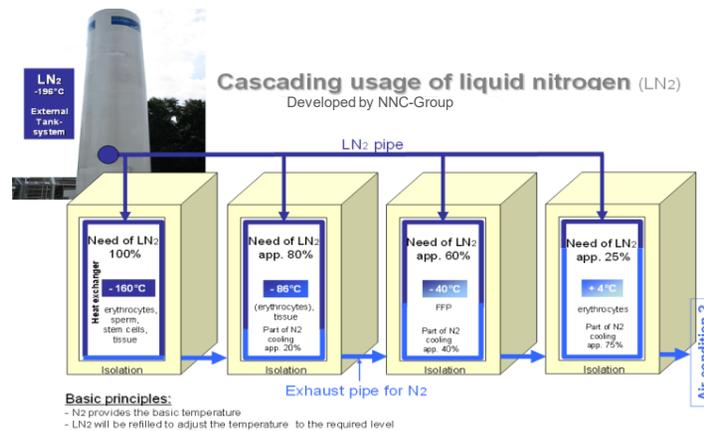
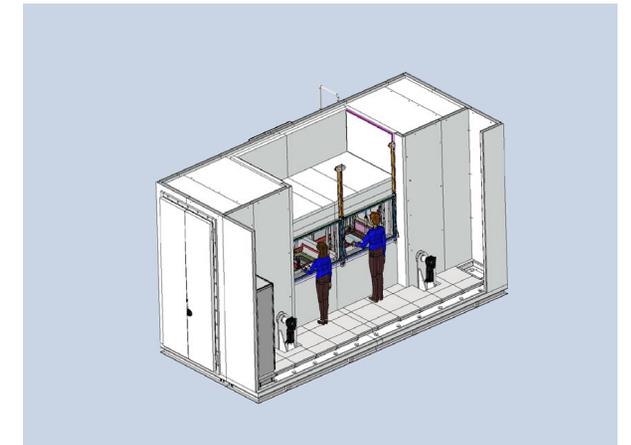
passive



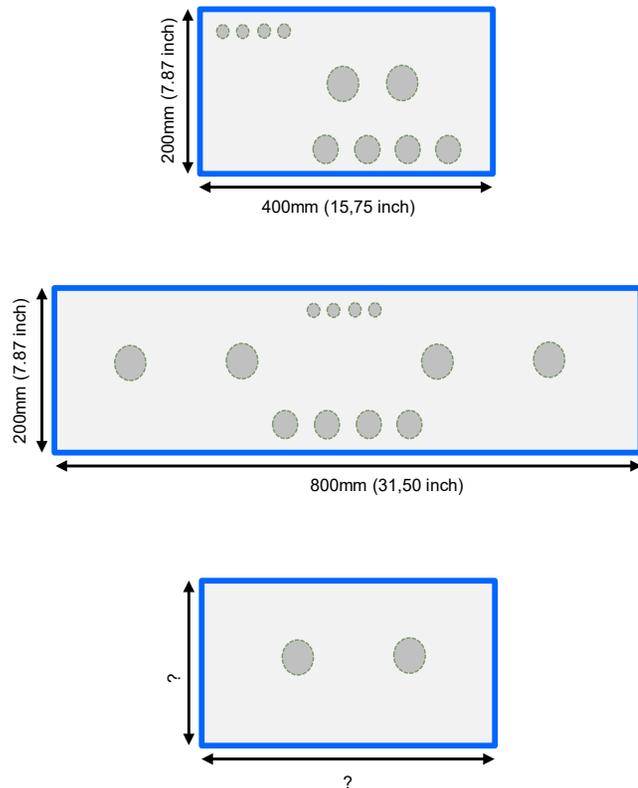
„Akelop“ semi automated 800



„Akelop“ fully automated

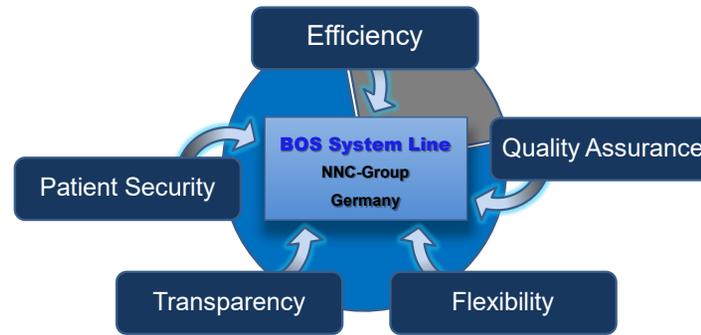


Our standard models are available with dimensions of 200x400mm (7,87 inch x 15,75 inch) or 200x800mm (7,87 inch x 31,50 inch) and are produced with the openings you require.



If you need other dimensions,
talk to us and
we will find a solution!

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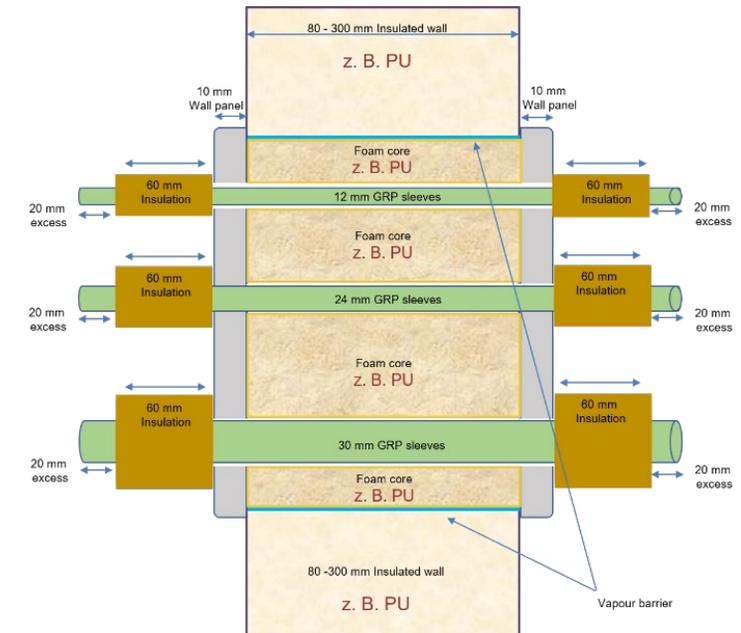
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Flexibility has a name

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Thermoblock

BOS Thermoblock for pipes, electrical and data cables through insulated walls in cold rooms
"Highly efficient thermal protection passage"

BOS Thermoblock

Trademark protected (IPC: F16L 5/02 – Nr.20 2020 101 452)

The highly efficient thermal protection passage for cold rooms

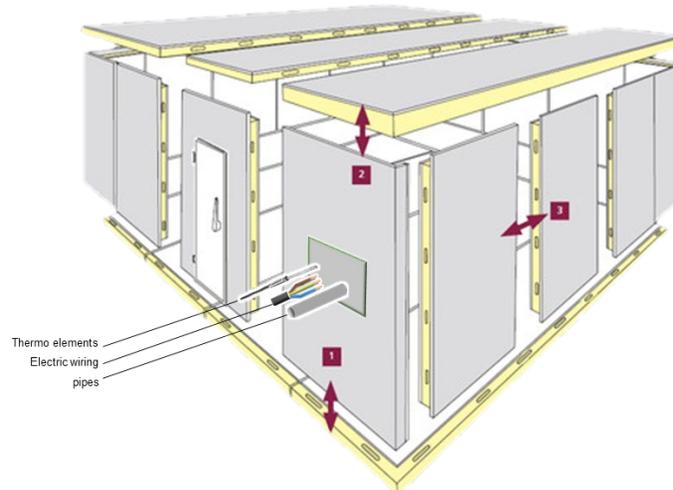
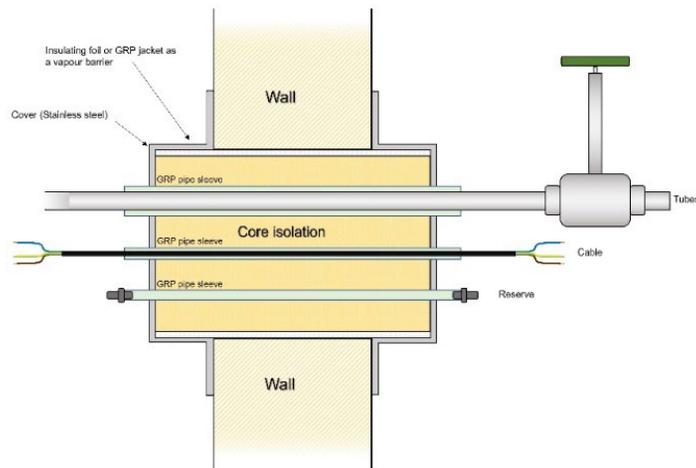
How do you lay your pipes and other lines in cold storage rooms today?
protected / unprotected

The damage caused by unsuitable wall duct in cold rooms is enormous.

In addition, the effort for maintenance, replacement and expansion is very high. The most common problems are:

- Attenuation of the walls by condensation
- This results in a loss of insulation efficiency
- Corrosion from condensation
- Subsequent installation of lines is not possible
- Subsequent laying of pipelines is not possible

With one component, all these problems are a thing of the past.



BOS Thermoblock

Trademark protected (IPC: F16L 5/02 – Nr.20 2020 101 452)

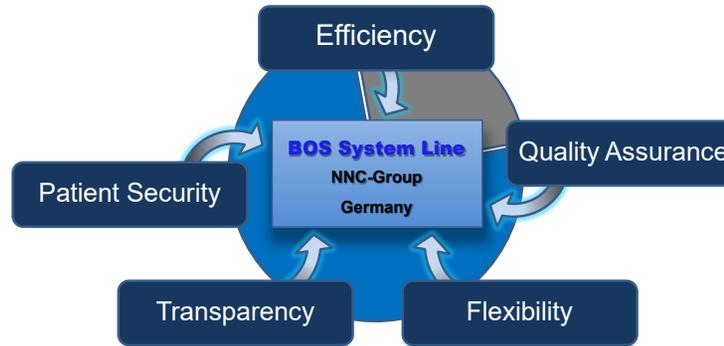


**Cold storage room
-80 °C (-112 °F)**



We will find the solution
for your requirements!

Components of the
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Storage
from + 10°C to **-160°C**

Storage Complex



Corridor area (-20 °C = -4,0 °F)

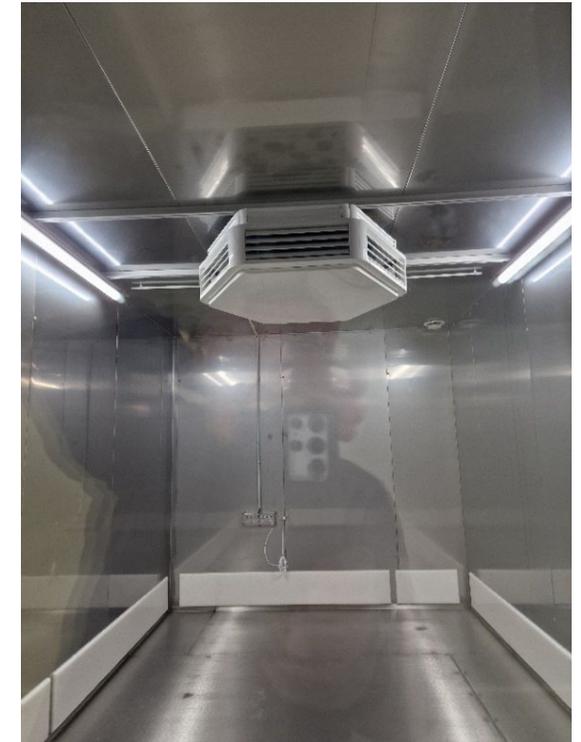


The correct storage of viral vaccines, gene and cell therapeutics and biologics plays a decisive role in modern medicine and the biopharmaceutical industry. The substances are often extremely complex and react very sensitively to temperature fluctuations. If stored improperly, they can lose their function or even be destroyed.

Storing pharmaceutical products (e.g.) at very low temperatures and preserving their properties and functions is made possible by cryogenic storage. Liquid nitrogen (LN₂) is a favoured method to reach temperatures as low as -196 °C (-321,20 °F) and to ensure long-term storage.

In addition to user and product safety there is a particular focus on sustainability. The performance of LN₂ is almost unlimited and can be customised to user requirements.

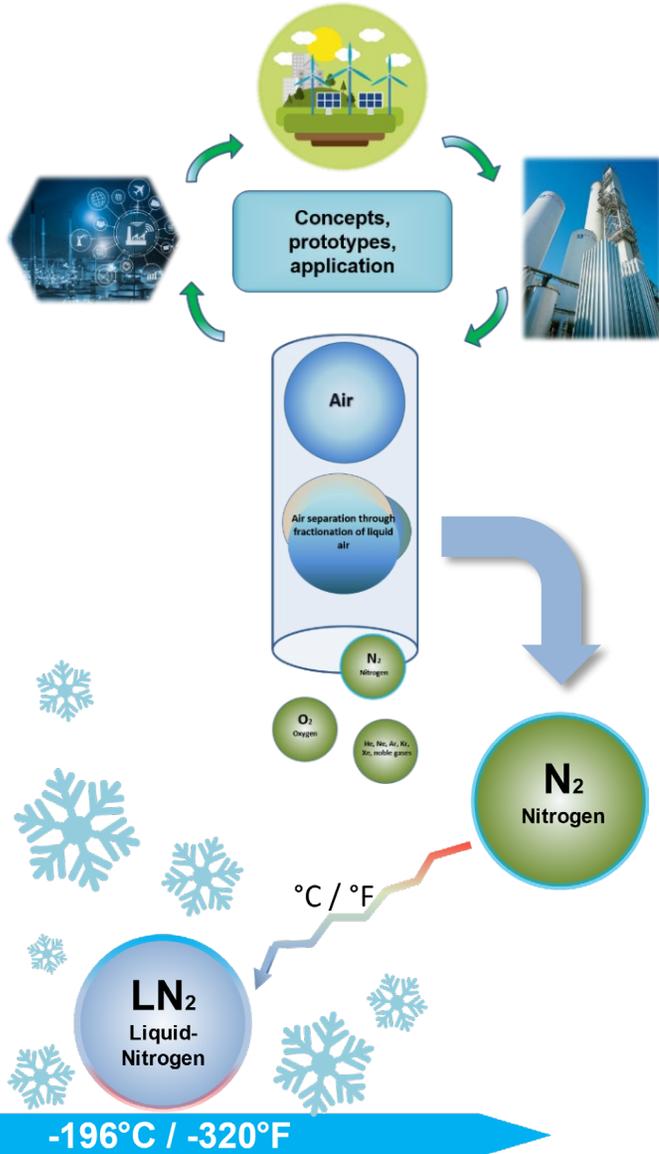
Accumulation room (+35 °C = 95 °F)



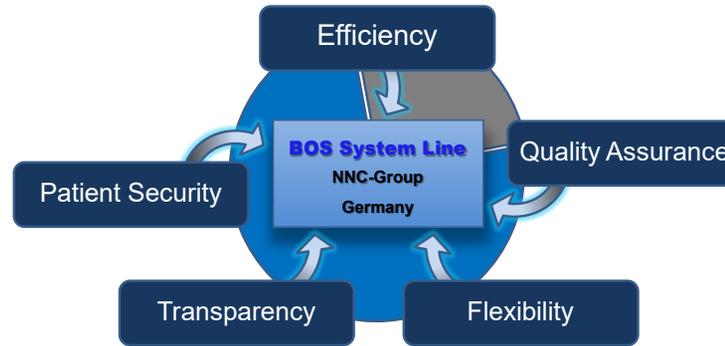
Furthermore, LN₂ can be stored in large quantities. No waste heat is generated during the processes, which means that further cost-intensive technical installations can be avoided.

Beyond that, the warehouse systems have a life expectancy of at least 25 years.

The power of Liquid Nitrogen



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Data centres

Food industry

Pharmaceutical industry

Logistics industry

and more ...

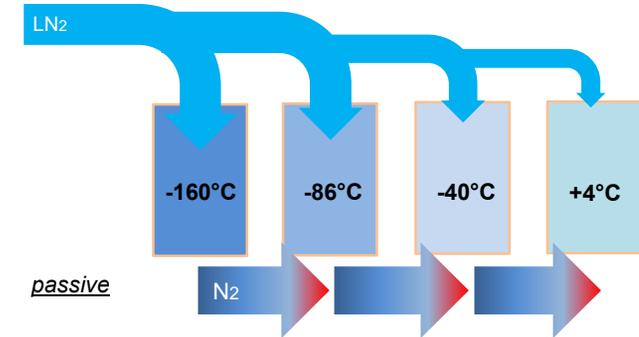
Industrial
use

Cascading

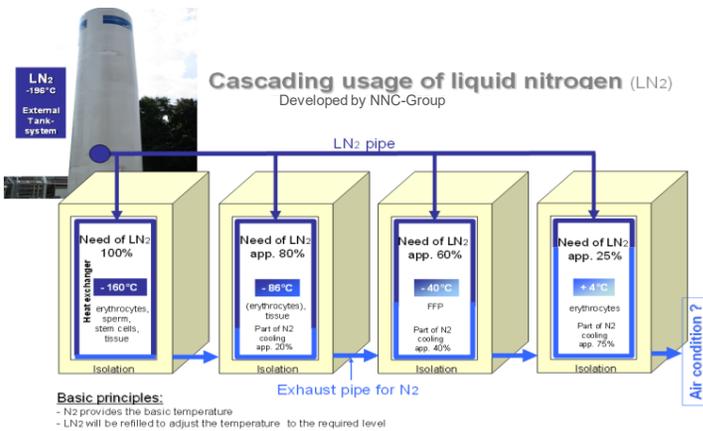
Using and reusing the LN₂ at different temperatures in a series of applications makes sure that less energy is wasted.

Systems with the highest rate of consumption are at the beginning. The „used“ LN₂ gets warmer and will turn into the gaseous state N₂. It is cascading from one system to the next, each needing less energy to reach the desired temperature.

active



passive

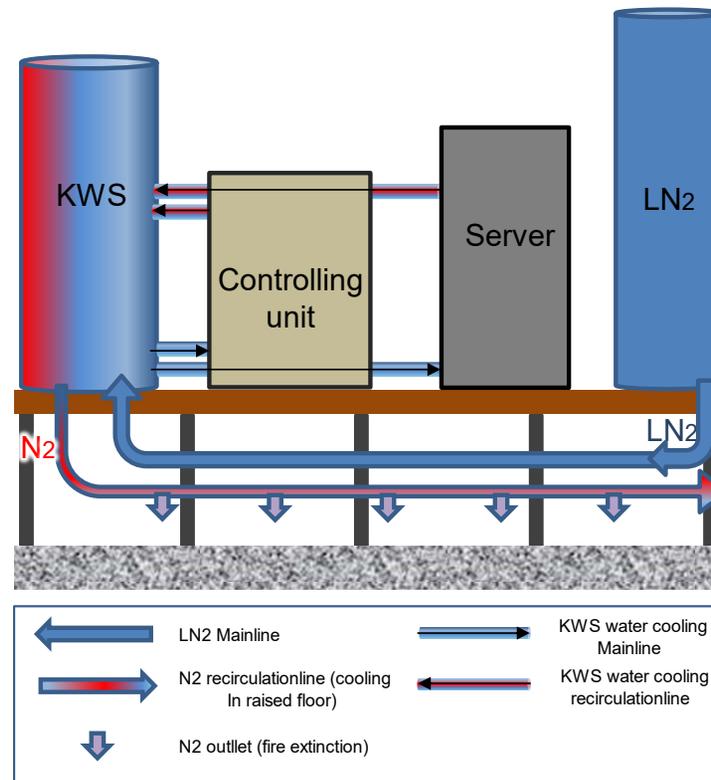


LN₂ the versatile solution

Data Center cooling and protection

Depending on requirements, data centres can be cooled with a customized LN₂ solution or combined with water cooling.

In conjunction with heat and smoke sensors, the N₂ gas outlets can be used to detect and eliminate possible fires.



Cooling of food and other products

LN₂ can be used to cool a storage room for various products including food.

In addition, the developing N₂ can be used to keep the oxygen content around the root and vegetables low, slowing down the ripening process.

