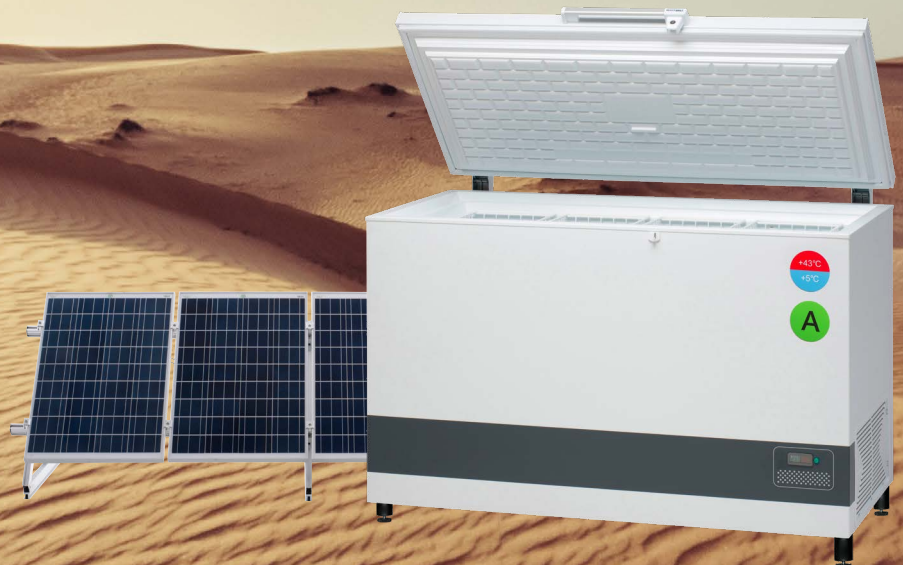


DESIGNED  
FOR  
REMOTE  
PLACES



# COLD CHAIN SOLUTIONS

More than 30 years of WHO PQS approved products

# TABLE OF CONTENT



- 3 Introduction**
- 5 Unique Cold Chain Solutions**
- 9 Solar Direct Driven – SDD**
- 10 Refrigerators**
- 11 Combined refrigerator and freezer**
- 13 Freezer**
- 14 Mains powered – AC**
- 14 Refrigerators (ILR)**
- 16 Combined refrigerator and freezer**
- 18 Total Cost of Ownership**

# THE SAFEST STORAGE

**Vestfrost Cold Chain Equipment Solutions are reliable and self-regulating refrigerators and freezers specially designed for tropical use and are all +43°C hot zone approved.**

### Solar Direct Driven

Our Solar Direct Driven units are designed for use in areas with unstable electricity or no power grid and therefore the need for alternate power source. The powerful 4 x 90W solar panel kit combined with our integrated ice bank ensures safe storage of vaccines.

### WHO PQS approved

All our Cold Chain units are approved according to the strict WHO PQS (Performance, Quality and Safety)

standards for storage of vaccines. Vestfrost Solutions offers a wide range with net capacities from 19.5 litres to 242 litres.

### Low Total Cost of Ownership

Vestfrost Solutions products are high-end products with low Total Cost of Ownership. Our units are developed for use in remote areas in challenging conditions, with this in mind, our units still perform outstandingly with accurate and reliable operation.



**GLOBAL REACH, LOCAL KNOWLEDGE**

## VESTFROST SOLUTIONS IS YOUR PREFERRED PARTNER

Vestfrost Solutions is a global developer and manufacturer of innovative and efficient refrigerators and freezers for the professional market.

A/S Vestfrost was founded in Esbjerg, Denmark in 1963 with one vision in mind: To create the world's best refrigerators and freezers. After gaining worldwide recognition through half a century with sales exceeding 15 million units, the vision remains the same, while our business model has been sharpened.

Our approach is to continuously provide highest value for money by offering the right solution with the lowest operating costs for each of our customers – and their customers.

In close cooperation with you, Vestfrost Solutions can turn innovative ideas into efficient refrigerators and freezers. This is how we define being your preferred partner.



CCE SOLUTIONS

“More than 30 years of cold chain solutions.”

# UNIQUE COLD CHAIN SOLUTIONS

We are well aware that vaccines need the utmost reliable and stable conditions for full efficacy. At Vestfrost Solutions, we continuously research, develop and enhance our units to keep up and raise the standards for vaccine storage all across the globe.



## USER-INDEPENDENT GRADE A FREEZE PROTECTION

**WHO PQS APPROVED** WHO PQS defined three grades of freeze protection: A (user-independent), B (requiring one user intervention to prevent freezing), C (requiring more than one user intervention to prevent freezing). The Cold Chain Optimization Platform subsidizes equipment that is Grade A only, i.e., not requiring any user intervention to prevent freezing.

VLS 056 RF SDD - Inside



VLS 094A SDD with open lid



## OUR BENEFITS

Vestfrost Solutions has always developed new innovative functions to be ahead of the high demands for vaccine cooling.



### Grade A freeze protection

WHO PQS approved grade A freeze protection ensures any stored vaccines in the Vestfrost Solutions refrigerator from freezing – despite placement in the compartment or basket.



### Long product lifetime

Our quality Cold Chain Equipment is designed for remote areas and tough environments. We always have this in mind and therefore we have ensured that our equipment is made to be an investment for years and years to come.



### Reliable and safe operation

Through dedicated innovation, research, and development we constantly seek to improve our equipment, with uncompromised focus on safe operation and reliable temperatures. This is your guarantee for potent vaccines anywhere in the world.



### Turnkey solutions

With our turnkey solution model, any project will experience full yield of the procured Cold Chain Equipment. We strive to create a “best practice” for our projects, and therefore we continuously improve our knowledge and execution of any project; regardless size and geographical location.



### Low energy consumption

Low energy use means lower operating costs and better value for money. We constantly seek to improve and enhance our products to perform better, and meet and exceed future requirements.



### Temperature precision

Reliable and precise temperatures preserve stored vaccines in any conditions. Our products are all hot zone approved, which means stable +2°C to +8°C in ambient temperature range from +5°C to +43°C.



### Total Cost of Ownership

Vestfrost Solutions’ eco-friendly and energy efficient product portfolio has limited impact on the environment. Furthermore, our customers will benefit from low operating costs compared to market standards.

VESTFROST SOLUTIONS ENSURING POTENT VACCINES FOR CHILDREN GLOBALLY





#### OUR KNOWLEDGE:

**“Vaccine needs to be cold, even miles from the power outlet.”**

# THE SOLAR SERIES SOLAR DIRECT DRIVEN VACCINE REFRIGERATORS

Our Solar Direct Driven units are designed for use in areas with unstable electricity or no access to electricity and therefore the need for alternate power source. The powerful 4 x 90W solar panel kit combined with our integrated ice bank ensures safe storage of vaccines.

New integrated ice bank technology with increased storage capacity provides selfcontrolling and reliable temperatures in the area of +2°C to +8°C within a large ambient temperature area of +5°C to +43°C.

Solar panels are connected directly to the appliances. Hydrocarbon DC compressor, cyclopentane blown enhanced insulation foam. No harm to the ozone layer and global warming, as well as no additional running costs. Vestfrost Solutions products are high-end products with low Total Cost of Ownership. Our units are developed for use in remote areas in challenging conditions, with this in mind, our units still perform outstanding with accurate and reliable operation.

#### VLS SDD IN A PACKAGE

- WHO PQS approved unit
- Grade A freeze protection
- R600a refrigerant
- Integrated ice-bank technology
- Reliable storage for vaccines
- Suitable for hot climate zone
- 4 x 90 W solar panels
- Plug and play installation
- 20 meters cable

Temperature range at 43°C AMB: +2 to +8°C



## SOLAR DIRECT DRIVEN REFRIGERATORS

### WHO Grade A freeze protection

New integrated ice bank technology with increased storage capacity provides selfcontrolling and reliable temperatures in the area of +2°C to +8°C within a large ambient temperature area of +5°C to +43°C. Solar panels are connected directly to the appliances. Hydrocarbon DC compressor, cyclopentane blown enhanced insulation foam. No harm to the ozone layer, no global warming, as well as no additional running costs.

### VLS 154A SDD

- WHO PQS code E003/108
- Grade A freeze protection
- 73.4 hours autonomy time
- 170.0 litres net volume
- R600a refrigerant
- 4 baskets
- Plug and play installation
- With adjustable legs
- Temperature range at 43°C AMB : +2 to +8°C



H: 95.0 D: 70.0 W: 127.0 cm

### VLS 024 SDD

- WHO PQS code E003/069
- Grade A freeze protection
- 81.7 hours autonomy time
- 25.5 litres net volume
- R600a refrigerant
- 1 basket
- Plug and play installation
- With adjustable legs
- Temperature range at 43°C AMB : +2 to +8°C

H: 95.0 D: 64.5 W: 55.5 cm



### VLS 054A SDD

- WHO PQS code E003/106
- Grade A freeze protection
- 72.4 hours autonomy time
- 55.5 litres net volume
- R600a refrigerant
- 1 basket
- Plug and play installation
- With adjustable legs
- Temperature range at 43°C AMB : +2 to +8°C

H: 95.0 D: 70.0 W: 72.0 cm



### VLS 094A SDD

- WHO PQS code E003/107
- Grade A freeze protection
- 72.5 hours autonomy time
- 92.0 litres net volume
- R600a refrigerant
- 1 basket
- Plug and play installation
- With adjustable legs
- Temperature range at 43°C AMB : +2 to +8°C

H: 95.0 D: 70.0 W: 93.0 cm



## SOLAR DIRECT DRIVEN COMBINED REFRIGERATOR AND FREEZER

**Our VLS RF series is a combination of our state-of-the-art technologies. An icelined refrigerator for safe vaccine storage, and an efficient icepack freezer for programme field trips – ALL IN ONE UNIT!**

### Safe Icelined Refrigerator

Our Icelined Refrigerator is "Grade A Freeze Protected" according to WHO PQS standards. Any vaccine stored in our ILR cannot freeze, no matter where in the compartment the vaccine is placed, with this safe storage options all vaccines will be fully potent!

### Efficient Icepack Freezer

With our efficient Icepack Freezer, the icepacks for programme field trips are always frozen and ready to go.

When returning from field trips, just place the water-packs in the freezer, and within 24 hours they turn into icepacks ready for the next vaccination field trip.

### Solar Direct Driven

Our Solar Direct Driven units are designed for use in areas with unstable electricity or no power grid and therefore the need for alternate power source. The powerful 4 x 90W solar panel kit combined with our integrated ice bank ensures safe storage of vaccines.

### VLS 026 RF SDD

#### FREEZER COMPARTMENT

- WHO PQS code E003/091
- 2 x independent systems
- 1.8 kg freezing capacity
- 29 x 0.6 litres icepack storage capacity
- Integrated ice-bank technology
- Suitable for hot climate zone
- 2 x 4 x 90W solar panel kits
- R600a refrigerant
- Plug and play installation
- 20 meters cable
- With adjustable legs

H: 98.0 D: 65.0 W: 111 cm



### VLS 026 RF SDD

#### VACCINE COMPARTMENT

- WHO PQS code E003/091
- 2 x independent systems
- 20 litres net volume
- Grade A freeze protection
- 1 basket
- Integrated ice-bank technology
- Reliable storage for vaccines
- Suitable for hot climate zone
- 2 x 4 x 90W solar panel kits
- R600a refrigerant
- Plug and play installation
- 20 meters cable
- With adjustable legs
- Temperature range at 43°C AMB : +2 to +8°C

H: 98.0 D: 65.0 W: 111 cm

**VLS 056 RF SDD**  
FREEZER COMPARTMENT

- WHO PQS code E003/092
- 2 x independent systems
- 1.8 kg freezing capacity
- 29 x 0.6 litres icepack storage capacity
- Integrated ice-bank technology
- Suitable for hot climate zone
- 2 x 4 x 90W solar panel kits
- R600a refrigerant
- Plug and play installation
- 20 meters cable
- With adjustable legs

H: 98.0 D: 65.0 W: 111 cm



**VLS 056 RF SDD**  
VACCINE COMPARTMENT

- WHO PQS code E003/092
- 2 x independent systems
- 36 litres net volume
- Grade A freeze protection
- 1 basket
- Integrated ice-bank technology
- Reliable storage for vaccines
- Suitable for hot climate zone
- 2 x 4 x 90W solar panel kits
- R600a refrigerant
- Plug and play installation
- 20 meters cable
- With adjustable legs
- Temperature range at 43°C AMB : +2 to +8°C

H: 98.0 D: 65.0 W: 111 cm

# SOLAR DIRECT DRIVEN ICE PACK FREEZER

**Our VFS series ensures icepacks ready for vaccination programme field trips. Due to our SDD technology the VFS unit will turn waterpacks to icepacks anywhere in the world, just plug in the solar panel kit to the unit!**

**Efficient Icepack Freezer**

With our efficient Icepack Freezer, the icepacks for programme field trips are always frozen and ready to go. When returning from field trips, just place the waterpacks in the freezer, and within 24 hours they turn into icepacks ready for the next vaccination field trip.

**Solar Direct Driven**

Our Solar Direct Driven units are designed for use in areas with unstable electricity or no power grid and therefore the need for alternate power source. The powerful 4 x 90W solar panel kit combined with our integrated ice bank ensures safe storage of vaccines.



2 independent systems



Solar powered front display



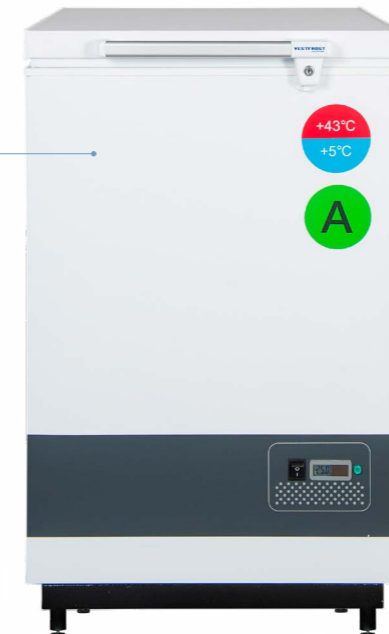
**SOLAR SYSTEM**

Preserving highest quality of stored vaccine with reliable temperatures.

**VFS 048 SDD**

- WHO PQS code E003/099
- 48 hours autonomy time
- 34.3 litres gross volume
- 1.6 kg freezing capacity
- Icepack storage capacity 29 x 0.6 litres
- R600a refrigerant
- Integrated ice-bank technology
- Suitable for hot climate zone
- 4 x 90 W solar panels
- Plug and play installation
- 20 meters cable
- With adjustable legs

H: 95.0 D: 65.0 W: 55.5 cm



Efficient icepack freezing compartment



# THE GRADE A SERIES MAINS POWERED REFRIGERATORS (ILR)

The vital vaccines must be stored in reliable, safe and precise surroundings. Our grade A freeze protection models ensures exactly that!

With a completely user-independent grade A refrigerator from Vestfrost Solutions, you can rest assured that the vaccines will remain potent and effective – whether it is our grade A series of Icelined Refrigerators or the 100 percent nature powered Solar Direct Driven Refrigerators.

All our Icelined Refrigerator mains powered units are ready for plugin when received.

## Icelined refrigerator

Probably the most energy efficient icelined refrigerator available today. A sustainable solution con-

structed with hydrocarbon refrigerant, cyclopentane insulation and recyclable components. Net capacity is increased by at least 40 percent due to the specially developed integrated icelining, which is covered with a prepainted aluminium inner liner surface. Reliability and usability are secured through the self-regulating cooling system.

## Controller junction box

Safeguarding the electrical parts, eases services as well as maintenance on the unit. In addition the unit is now supplied with an appliance socket for simple adaptation of customized plug types. Integrated voltage stabilizer can be supplied as an option.

## VLS 504A AC

- WHO PQS code E003/113
- Grade A protection
- 55.27 hours hold-over time
- 242 litres net volume
- R600a refrigerant
- 10 baskets
- Energy consumption: 0.64 kWh/24h
- Only 4 hours electricity required per 24 hours at +43
- With adjustable legs
- Temperature range at 43°C AMB : +2 to +8°C

H: 95.0 D: 70.0 W: 156.3 cm

THE LARGEST  
ILR AC  
ON MARKET



## VLS 404A AC

- WHO PQS code E003/112
- Grade A freeze protection
- 55.0 hours hold-over time
- 145.0 litres net volume
- R600a refrigerant
- 7 baskets
- Energy consumption 0.67 kWh/24h
- Only 4 hours electricity required per 24 hours at +43
- With adjustable legs
- Temperature range at 43°C AMB : +2 to +8°C

H: 95.0 D: 70.0 W: 127.0 cm



## VLS 204A AC

- WHO PQS code E003/109
- Grade A freeze protection
- 54.0 hours hold-over time
- 60.0 litres net volume
- R600a refrigerant
- 3 baskets
- Energy consumption: 0.57 kWh/24h
- With adjustable legs
- Temperature range at 43°C AMB : +2 to +8°C

H: 96.0 D: 70.0 W: 73.0 cm



## VLS 304A AC

- WHO PQS code E003/110
- Grade A freeze protection
- 55.5 hours hold-over time
- 98.0 litres net volume
- R600a refrigerant
- 5 baskets
- Energy consumption 0.60 kWh/24h
- With adjustable legs
- Temperature range at 43°C AMB : +2 to +8°C

H: 95.0 D: 70.0 W: 92.0 cm



## VLS 354A AC

- WHO PQS code E003/111
- Grade A freeze protection
- 54.7 hours hold-over time
- 127.0 litres net volume
- R600a refrigerant
- 7 baskets
- Energy consumption 0.62 kWh/24h
- Only 4 hours electricity required per 24 hours at +43
- With adjustable legs
- Temperature range at 43°C AMB : +2 to +8°C

H: 95.0 D: 70.0 W: 113.0 cm





## MAINS POWERED REFRIGERATOR AND FREEZER

**Our combined icelined refrigerator and icepack freezer provides stable temperatures for storage of vaccines, as well as strong freezing capacity for water/ice-packs. A separate compartment for icepack freezing simultaneously with vaccine storage in the icelined refrigerator compartment.**

The VLS 064A RF AC has been further upgraded since its initial design, by now having all electrical parts, incl. the two controllers, placed in a splash and dust proof, corrosion free, metal junction box on the rear of the appliance.

The junction box further from safeguarding the electrical parts, eases service as well as maintenance on the appliance. In addition the appliance now is supplied with an appliance socket for simple adaptation of customized plug types.

VLS 064A RF AC inside



Controller junction box



### VLS 064A RF AC

- WHO PQS code E003/070
- 45 hours hold-over time
- 52.5 litres net volume
- Icepack storage capacity 6 x 0.6 litres
- Energy consumption 0.63 kWh/24h
- Grade A freeze protection
- R600a refrigerant
- Integrated ice-bank technology
- Reliable storage for vaccines
- Suitable for hot climate zone
- With adjustable legs
- Temperature range for vaccine compartment at 43°C AMB : +2 to +8°C

H: 95.0 D: 71.0 W: 73 cm



WE HAVE A  
WORLDWIDE  
NETWORK OF  
PARTNERS

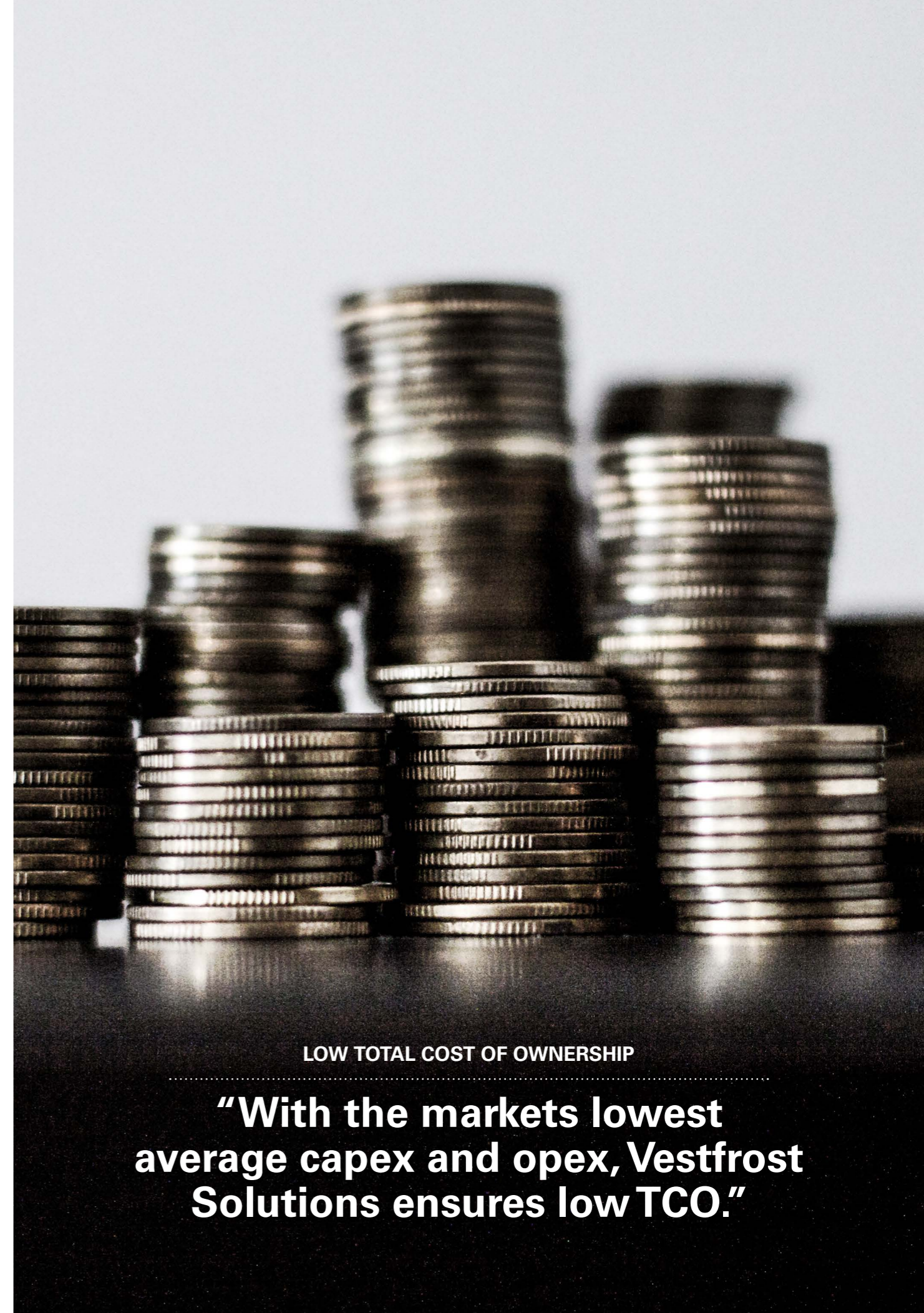


# LOW TOTAL COST OF OWNERSHIP

Vestfrost Solutions constantly strives to improve and enhance our existing models to perform better and better.

Vestfrost Solutions products are high-end products with low Total Cost of Ownership. Our units are developed for use in remote areas in challenging conditions, with this in mind, our units still perform outstandingly with accurate and reliable operation.

These calculations are directly from "PATH Cold Chain Equipment Total Cost of Ownership Tool - v1.2". Our VLS 400A model has a TCO which is more than 25 percent cheaper than the nearest competing product - and more than 50 percent of the most expensive competing product.



LOW TOTAL COST OF OWNERSHIP

**“With the markets lowest average capex and opex, Vestfrost Solutions ensures low TCO.”**

ISO 9001, 14001  
& 18001 OHSAS  
CERTIFIED

## PARTNERSHIP

The word “solution” is widely defined as the method, process or act of solving a problem. When we say that we offer solutions, we mean it by its purest definition.