



# COLD CHAIN SOLUTIONS



MADE IN DENMARK



## UNIQUE COLD CHAIN SOLUTIONS

We understand that vaccines need the utmost reliable and stable conditions for full efficacy, if they get too cold, they can be completely ineffective and if they get too warm, they could lose efficiency. At Vestfrost Solutions, we continuously research, develop and enhance our appliances to keep up and raise the standards for vaccine storage across the globe.

## WHO PQS approved

All our Cold Chain appliances are approved according to the strict WHO PQS (Performance, Quality and Safety) standards for the storage of vaccines. Vestfrost Solutions offers a wide range with net capacities ranging from 19.5 liters to 242 liters.

## Low Total Cost of Ownership

Vestfrost Solutions products are high-end products with a low Total Cost of Ownership. Our appliances are developed for use in remote areas in challenging conditions. Here they perform outstandingly, with accurate and reliable operation, all the while maintaining lower operating costs compared to market standards.

## Sustainability Journey

In Vestfrost solutions we have a clear sustainability agenda. In fact, we have sustainability as one of 7 key strategic levers to become the company we want to be in the future.

Our sustainability journey ensures a strong commitment to supporting the most ambitious aims of the Paris agreement with two clear goals..

### Goal 1

Become net carbon neutral in all our locations latest by 2030

Our levers to ensure this goal includes:

- Energy savings across our sites and operations
- Purchasing green energy
- Carbon offset (for the potential last part where there is no green solution)

### Goal 2

Reducing carbon emissions in our product life cycle with 15% by 2030

Our levers to ensure this goal includes:

- Reducing carbon emissions for materials used. This includes considerations on how to reduce materials needed, choice of materials and focus on recycled materials.
- Usage of products sold, with a dedicated effort to develop and sell low energy appliances.

# UNIQUE COLD CHAIN SOLUTIONS

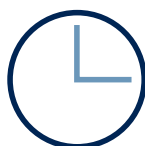
Vestfrost Cold Chain Equipment Solutions are reliable and self-regulating refrigerators and freezers specially designed for tropical use and are all +43°C hot zone approved.

# OUR BENEFITS



## Grade A freeze protection

WHO PQS-approved grade A freeze protection ensures any stored vaccines in the Vestfrost Solutions refrigerator is safe 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.



## Temperature precision

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



## Reliable and safe operation

Through dedicated innovation, research, and development we constantly seek to improve our equipment, with an uncompromised focus on safe operation and reliable temperatures. This is your guarantee of potency. Thinking about the environment, 90% of the components are recyclable materials and we use nature refrigerant R600a.



## Equipment Monitoring System

Our integrated EMS systems available for our complete range of VLS cold chain appliances is the most sophisticated real-time temperature and equipment monitoring system, currently on the market of PQS-approved vaccine refrigerators and freezers.



## 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 of size and geographical location.

## Certification

**Vestfrost Solutions A/S is an ISO 9001-certified company, which means we:**

- Produce products that meet customers' quality requirements
- Produce products in accordance with customer specifications
- Provide a high degree of process control

**ISO 9001, 14001  
& 45001 OHSAS  
CERTIFIED**



# NEW REMOTE MONITORING SYSTEM

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Introducing the EMS short for equipment monitoring system which is available as an option to our full range of CCE products.

NEWS

# NEW FEATURE



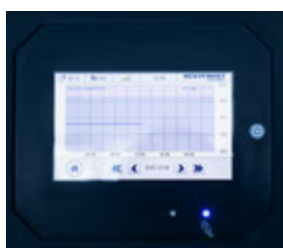
## EMS

### Comes with following features:

- Realtime temperature and functionality monitoring
- 5" touch display
- Setpoint settings showed in online dashboard
- Option to remote control unit setpoints
- 3 Internal Temperature sensors
- 1 Ambient sensor
- Open Lid sensor
- Remote alarms
- GPS coordinate
- 24/7 GSM connectivity
- PV Solar Panel output sensor
- Compressor temperature sensor
- 2 x USB energy harvesting option charging e.g.phone
- Will inform health staff when weakly/monthly maintenance is required



// 5" touch display



// Real time temperature monitoring



// Remote alarm logs



// Password access



// GPS coordinates & GSM connectivity



# THE SOLAR SERIES

Solar Direct Driven Vaccine refrigerator and waterpack freezer.



# SOLAR DRIVEN

## POLE MOUNTED



## Solar Direct Driven Vaccine refrigerators and Waterpack freezers

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

The VLS SDD series has been further upgraded since its initial design, by now having all electrical parts, placed in a splash and dustproof, corrosion-free, metal junction box, on the rear of the appliance. The junction box helps to safeguard the electrical parts, and eases service, as well as maintenance on the appliance. On the junction box you will also find a USB A port 5v, for Energy harvesting.

Solar panels following the VLS SDD and VFS SDD series are 2 x 180 W and for the VLS SDD RF series are 4 x 180W, these are to be connected directly to the appliances. The solar panels can be mounted on roof, ground (optional) or on a pole (optional)

All our SDD models are PQS certified according to the newest performance standards.



// Installation of solar panels in Ethiopia

## Solar Direct Driven vaccine refrigerator

Our VLS SDD series has a corrosion resistant inner lining and an integrated ice-bank technology with increased thermal energy storage and a built-in heating element to ensure that the appliance can maintain stable temperatures between +2°to +8°C in all ambient temperatures, setting a new industry standard beyond the PQS requirement. The VLS SDD models are developed to keep vaccines fully potent with no additional running costs.

The VLS SDD models comes with 2 x 180 W solar panels ready to be installed.



### VLS 154A SDD

**WHO PQS code:** E003/108

**Grade:** A freeze protection

**Autonomy:** 73.4 hours

**Net/Gross Volume:** 170/248 liters

**Net/Gross Weight:** 102/134 kg

**Baskets:** 4

**Port:** USB A 5V

**EMS as an option**

**Dimension:** H: 91 W: 126 D: 70 cm

**Packed:** H: 102.5 W: 132 D: 72.7 cm







## VLS 024 SDD

**WHO PQS code:** E003/069

**Grade:** A freeze protection

**Autonomy:** 81.7 hours

**Net/Gross Volume:** 25.5/33 liters

**Net/Gross Weight:** 49/74.5 kg

**Baskets:** 1

**Port:** USB A 5V

**EMS as an option**

**Dimension:** H: 95 W: 55 D: 65 cm

**Packed:** H: 105.5 W: 61 D: 67.5 cm



## VLS 054A SDD

**WHO PQS code:** E003/106

**Grade:** A freeze protection

**Autonomy:** 72.4 hours

**Net/Gross Volume:** 55.5/108 liters

**Net/Gross Weight:** 85/110.5 kg

**Baskets:** 1

**Port:** USB A 5V

**EMS as an option**

**Dimension:** H: 91 W: 72 D: 70 cm

**Packed:** H: 102.5 W: 78.5 D: 72.7 cm



## VLS 094A SDD

**WHO PQS code:** E003/107

**Grade:** A freeze protection

**Autonomy:** 72.5 hours

**Net/Gross Volume:** 2/151 liters

**Net/Gross Weight:** 107/128 kg

**Baskets:** 1

**Port:** USB A 5V

**EMS as an option**

**Dimension:** H:91 W:92 D:70 cm

**Packed:** H:102.5 W:98 D: 72.7 cm

## Combined Solar Direct Driven vaccine refrigerator and waterpack freezer

Our VLS RF series are a combination of our state-of-the-art technologies. The inner lining is corrosion resistant and the integrated ice-bank technology with a Built-in heating element is ensuring that the vaccine compartment can maintain stable +2° to +8°C in all ambient temperatures, setting a new industry standard beyond the PQS requirement. The efficient freezer will freeze waterpacks within 24 hours, to ensure that they are ready for vaccination field trips.

The VLS RF models comes with 4 x 180 W solar panels ready to be installed.

### VLS 026 RF SDD

#### // VACCINE COMPARTMENT

**WHO PQS code:** E003/119

**Grade:** A freeze protection

**Net/Gross Volume:** 20/35 liters

**Net/Gross Weight:** 110/141 kg

**Baskets:** 1

**Autonomy:** 73.2 hours

**Port:** USB A 5V

20 meters cable

#### EMS as an option

**Dimension:** H: 95 W: 110 D: 65 cm

**Packed:** H: 106.5 W: 116.8 D: 67.7 cm

#### // FREEZER COMPARTMENT

**Waterpack freezing capacity:** 1.8 kg/24 h

**Waterpack storage capacity:** 29 x 0.6 liters





## VLS 056 RF SDD

### // VACCINE COMPARTMENT

**WHO PQS code:** E003/092

**Grade:** A freeze protection

**Net/Gross Volume:** 36/50 liters

**Net/Gross Weight:** 100/133 kg

**Baskets:** 1

**Autonomy:** 72 hours

**Port:** USB A 5V

20 meters cable

### EMS as an option

**Dimension:** H: 95 W: 110 D: 65 cm

**Packed:** H: 106.5 W: 116.8 D: 67.7 cm

### // FREEZER COMPARTMENT

**Waterpack freezing capacity:** 1.8 kg/24 h

**Waterpack storage capacity:** 29 x 0.6 liters



## VLS 076 RF SDD

### // VACCINE COMPARTMENT

**WHO PQS code:** E003/119

**Grade:** A freeze protection

**Net/Gross Volume:** 61,25/111 liters

**Net/Gross Weight:** 125/162 kg

**Baskets:** 2

**Autonomy:** 72.4 hours

**Port:** USB A 5V

20 meters cable

### EMS as an option

**Dimension:** H: 95 W: 110 D: 70 cm

**Packed:** H: 107.3 W: 138.8 D: 72.5 cm

### // FREEZER COMPARTMENT

**Waterpack freezing capacity:** 1.8 kg/24 h

**Waterpack storage capacity:** 29 x 0.6 liters



# WATERPACK FREEZER

## Solar Direct Driven waterpack freezer

The efficient SDD icepack freezer is making sure that waterpacks for vaccination field trips are always frozen and ready to go. Due to our SDD technology, the VFS will freeze waterpacks within 24 hours after placing them in the freezer.

The VFS SDD model comes with 2 x 180 W solar panels ready to be installed.

### VFS 048 SDD

**WHO PQS code:** E003/099

**Autonomy:** 48 hours

**Gross Volume:** 34,3 liters

**Waterpack freezing capacity:** 1.6 kg/24 h kg

**Waterpack storage capacity:** 29 x 0.6 liters

**Port:** USB A 5V

20 meters cable

**Dimension:** H: 95 W: 55 D: 65 cm

**Packed:** H: 105.5 W: 61 D: 67.5 cm



**WATERPACK FREEZER**





# NEW PRODUCT

## VLS 096A RF SDD

This product is part of a newly developed series and brings the latest innovation with new features such as an automatic drainage system and a replaceable gasket.



### // VACCINE COMPARTMENT

**WHO PQS code:** E003/132

**Grade:** A freeze protection

**Net/Gross Volume:** 110/147 liters

**Net/Gross Weight:** 150/190 kg

**Baskets:** 3

**Autonomy:** 114 hours

**Port:** USB A 5V

20 meters cable

Adjustable wheels

Automatic drainage system

Replaceable sealing strip

### EMS as an option

**Dimension:** H: 94 W: 151 D: 75 cm

**Packed:** H: 106.5 W: 156 D: 78.5 cm

### // FREEZER COMPARTMENT

**Waterpack freezing capacity:** 2.4 kg/24 h

**Waterpack storage capacity:** 29 x 0.6 liters

# THE ICELINED VACCINE REFRIGERATOR SERIES

Mains powered Vaccine refrigerators



# SAFE AND CONTROLLED

## With a completely user-independent grade A refrigerator from Vestfrost Solutions

Vital vaccines must be stored in reliable, safe, and controlled surroundings. With a completely user-independent grade A refrigerator from Vestfrost Solutions, you can rest assured that the vaccines will remain potent and effective.

All our VLS AC units are ready to be plugged in when received. The VLS AC series is probably the most energy-efficient vaccine refrigerator available today. Net capacity is increased by at least 40% due to the specially developed integrated ice lining.

The appliance comes standard as 220-240V/50/60Hz. In addition, the appliance now is supplied with M, G and F (B for 100-127V/50/60Hz) appliance plugs.

All our VLS AC models are PQS certified according to the newest performance standards.



### VLS174A AC

**WHO PQS code:** E003/120

**Grade:** A freeze protection

**Autonomy:** 57.5 hours

**Net/Gross Volume:** 38/50.5 liters

**Net/Gross Weight:** 63.8/84.7 kg

**Baskets:** 1

**Port:** USB A 5V

**EMS as an option**

**Dimension:** H: 95 W: 55 D: 65 cm

**Packed:** H: 105.5 W: 61 D: 67.5 cm

## Energy-efficient Icelined vaccine refrigerator

Our energy-efficient icelined refrigerator series, VLS AC, has a corrosion resistant inner lining and a built-in heating element to ensure that the appliance can maintain stable temperatures between +2° to +8°C in all ambient temperatures, setting a new industry standard beyond the PQS requirement. The VLS AC model is one of the most energy-efficient icelined refrigerators available and was developed to keep vaccines fully potent.

All VLS AC models have a built-in extended voltage stabilizer and come with a temperature logger. Input voltage regulation range 110-278V/50/60Hz (for 220-240V) and 82-159V/50/60Hz (for 110-120V).

**THE LARGEST  
ILR AC  
ON MARKET**



### VLS 504A AC

**WHO PQS code:** E003/113

**Grade:** A freeze protection

**Hold-over time:** 55.5 hours

**Net/Gross Volume:** 242/314 liters

**Net/Gross Weight:** 172/193.7 kg

**Baskets:** 10

**EMS as an option**

Optional as 115V

**Dimension:** H: 95 W: 55 D: 65 cm

**Packed:** H: 105.5 W: 61 D: 67.5 cm

// Junction box with safety thermostat



## VLS 404A AC

**WHO PQS code:** E003/112

**Grade:** A freeze protection

**Hold-over time:** 55 hours

**Net/Gross Volume:** 145/235 liters

**Net/Gross Weight:** 127/159 kg

**Baskets:** 7

**EMS as an option**

Optional as 115V

**Dimension:** H: 91 W: 126 D: 70 cm

**Packed:** H: 102.5 W: 132 D: 72.7 cm



/// Solar powered front display



## VLS 204A AC

**WHO PQS code:** E003/109

**Grade:** A freeze protection

**Hold-over time:** 54 hours

**Net/Gross Volume:** 60/113 liters

**Net/Gross Weight:** 91.4/116.4 kg

**Baskets:** 3

**EMS as an option**

Optional as 115V

**Dimension:** H: 91 W: 72 D: 70 cm

**Packed:** H: 102.5 W: 78.5 D: 72.7 cm



## VLS 304A AC

**WHO PQS code:** E003/110

**Grade:** A freeze protection

**Autonomy:** 55.5 hours

**Net/Gross Volume:** 98/157 liters

**Net/Gross Weight:** 104.8/132.2 kg

**Baskets:** 4

**EMS as an option**

Optional as 115V

**Dimension:** H: 91 W: 92 D: 70 cm

**Packed:** H: 102.5 W: 98 D: 72.7 cm



## VLS 354A AC

**WHO PQS code:** E003/111

**Grade:** A freeze protection

**Autonomy:** 55 hours

**Net/Gross Volume:** 127/209 liters

**Net/Gross Weight:** 118.4/148.4 kg

**Baskets:** 7

**EMS as an option**

Optional as 115V

**Dimension:** H: 91 W: 112 D: 70 cm

**Packed:** H: 102.5 W: 118.5 D: 72.7 cm

## Combined Icelined vaccine refrigerator and icepack freezer

Our energy-efficient combined refrigerator and freezer series, VLS A AC RF, has a corrosion resistant inner lining and a built-in heating element that ensures the vaccine compartment can maintain stable +2° to +8°C in all ambient temperatures, setting a new industry standard beyond the PQS requirement. The efficient icepack freezer will freeze icepacks within 24 hours, to ensure that they are ready for vaccination field trips.

All VLS A AC RF models have a built-in extended voltage stabilizer and come with a temperature logger.



### VLS 064A RF AC

**WHO PQS code:** E003/070

**Grade:** A freeze protection

**Holdover time:** 45 hours

**Net/Gross Volume:** 52.5/75 liters

**Net/Gross Weight:** 79/104.5 kg

**Baskets:** 1

**EMS as an option**

Optional as 115V

**Waterpack storage capacity:** 6 x 0.6 liters

**Waterpack freezing capacity:** 1.6 kg/24 h

**Dimension:** H: 91 W: 72 D: 70 cm

**Packed:** H: 102.5 W: 78.5 D: 72.7 cm



# THE MF SERIES

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Energy efficient vaccine and waterpack freezer.



# VACCINE/ WATERPACK FREEZER

**With two compartments:  
one for vaccine and one for waterpack freezing**

The MF series is a vaccine storage freezer and waterpack freezer.

The MF vaccine freezer is equipped with a heavy-duty compressor that can operate at voltages 22% below the nominal voltage. The MF series has been further upgraded since its initial design, with a new advanced controller with LED display and it has transferred from R134a to R600a refrigerant.

The appliance comes standard as 220-240V/50/60Hz. In addition, the appliance is supplied with M, G and F (B for 100-127V/50/60Hz) appliance plugs.

All our MF models are PQS certified according to the newest performance standards.

## MF 114

**WHO PQS code:** E003/024

**Holdover time:** 2.8 hours

**Gross volume:** 105 liters

**Net/Gross Weight:** 54/69.9 kg

**Waterpack freezing capacity:** 7.2 kg/24 h

**Waterpack storage capacity:** 64 x 0.6 liters

Optional as 115V

**Dimension:** H: 91 W: 72 D: 70 cm

**Packed:** H: 102.5 W: 78.5 D: 72.7 cm



## Energy efficient vaccine and waterpack freezer

Our energy-efficient MF models ensure stable temperatures in the range of  $-15^{\circ}\text{C}$  to  $-25^{\circ}\text{C}$ . The 100mm thick insulation guarantees exceptional hold-over time in case of a power cut. The corrosion-proof steel cabinet protects against rust, while the evaporator tubing is zinc coated.

All MF models have a built-in extended voltage stabilizer and come with a temperature logger.



### MF 214

**WHO PQS code:** E003/025

**Hold-over time:** 2.9 hours

**Gross volume:** 171 liters

**Net/Gross Weight:** 71.3/93 kg

**Waterpack freezing capacity:** 7.2 kg/24 h

**Waterpack storage capacity:** 160 x 0.6 liters

Optional as 115V

**Dimension:** H: 91 W: 112 D: 70 cm

**Packed:** H: 102.5 W: 118.5 D: 72.7 cm





## MF 314

**WHO PQS code:** E003/023

**Hold-over time:** 4 hours

**Gross volume:** 281 liters

**Net/Gross Weight:** 80/117.2 kg

**Waterpack freezing capacity:** 7.2 kg/24 h

**Waterpack storage capacity:** 256 x 0.6 liters

Optional as 115V

**Dimension:** H: 91 W: 156 D: 70 cm

**Packed:** H: 102.5 W: 162 D: 72.7 cm

// FridgeTag w. external sensor





# WHO WE ARE

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

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

In close cooperation with you, Vestfrost Solutions can turn innovative ideas into efficient refrigerators and freezers. We deliver the right solutions, quality products, and consistent performance – all with minimum effort for you. This is how we define being your preferred partner.



# The Journey



**VESTFROST**  
SOLUTIONS



## Production



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 over half a century with sales exceeding 18 million appliances, the vision remains the same, while our business model has been sharpened. With over 135 employees working around the clock purely on the production side we continue to meet the market demands.



## Shipment

Our products are packed and sealed according to UN regulations and shipped to all corners of the world. Our products are very sought after in extremely rural areas, where electricity and other infrastructure may be lacking. This means we utilize a multitude of delivery options; our products travel by boat, plane, and truck to get to the country where they'll be installed



## Distribution

Vestfrost Solutions have over 120 partners worldwide to ensure that we reach out to the end users as fast as possible. The partners get continuous training and receive support from headquarters within 24 hours. It's important to offer the partners the same support we expect from them for the end users. Our network of partners allows us to operate on a global scale and maintain a local connection at the same time.



## Remote Monitoring

If you purchase a Vestfrost Solutions product with the EMS installed, you will have the opportunity to access remote monitoring of your appliances. We also have access to the available data and can therefore in close collaboration with our partners be readily available to make adjustments if necessary.

**VESTFROST**  
SOLUTIONS







# OUR PROJECTS

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A small selection of projects we have participated in.



**Ghana****Cameroon****Pakistan****Malawi****Panama****Vietnam**

## Our projects over the years in collaboration with our trusted service partners

We work in close collaboration with our network of over 120 partners worldwide, to ensure our appliances are able to reach the end users. When taking on a new project, our responsibility does not end with production. We ensure delivery and installation on-site, where-ever in the world it may be. Furthermore, providing training to relevant health staff to ensure our partners are capable of performing maintenance on the appliances is also vital.



MADE IN DENMARK

# VESTFROST

*SOLUTIONS*

Please see our website for more information:  
[www.vestfrostsolutions.com](http://www.vestfrostsolutions.com)

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MORE THAN 30 YEARS OF WHO PQS APPROVED PRODUCTS