



Life Sciences

Vaccine Cold Chain Refrigeration Range

**Powering global health
for over 40 years**





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The Dulas group

Clean energy. Healthy lives.

Dulas' forty-year history has seen the company pioneer innovative uses of solar, hydro and wind renewable energy in the UK and across the globe. Operating in two distinctive fields; Life Sciences and Renewables, Dulas continues its growth championing its core values: People, Purpose and Planet.



Temperature Controlled Equipment for Life Sciences

For decades, Dulas has led UK manufacturing in delivering essential off-grid vaccine storage to support global immunisation efforts. Our WHO PQS-accredited solutions are engineered to perform reliably in even the most remote environments.

Medical and Scientific Refrigeration

Harnessing on our expertise in medical cold chain with advanced pharmacy and laboratory refrigeration, and cooled incubation. We are turning our combined expertise and years of experience to this sector, bringing products with a focus on trust, sustainability, reliability and quality, straight from the manufacturer and made in the UK.



Connected Cold Chain

Our upgraded Solar Direct Drive (SDD) refrigerators now feature integrated WHO PQS accredited Equipment Monitoring System (EMS) technology. With Level 3 monitoring, your data won't be isolated as real-time remote visibility ensures that your vaccines remain safely protected within the critical +2 °C to +8 °C range.

Should a temperature excursion occur, the proactive Dulas EMS Connected Range will ensure you will **be informed** so that action can be taken.



Connected Communication

With EMS Level 3 remote monitoring, you can focus on broader healthcare delivery with absolute peace of mind. By ending the silence of unmonitored equipment, our system actively broadcasts real-time alerts directly to you, ensuring vaccines **stay protected** no matter where you or your clinics are located.²



Operational Visibility: Tracks critical parameters beyond temperature, including door openings, compressor health, and power availability, so you always know your refrigerator is running efficiently.



Smartphone Alerts: Automatically sends notifications to your phone anywhere in the world when an irregularity is detected, helping you to intervene before vaccines spoil.



Targeted Maintenance: Gives technicians remote diagnostic insights before they travel, helping them arrive on-site with the exact tools and spare parts needed for a first-time fix.



Streamlined Reporting: Replaces manual USB data collection with automated reporting that feeds data into dashboards accessible at a national level, future-proofing your supply chain.

Connected Portal

Never suffer from operational blindness again. Our advanced online portal makes it easy to **get connected**, track real-time information, and manage maintenance globally. Remote diagnostics empower technicians to achieve first-time fixes, significantly cutting logistics costs.

Be Informed. Stay Protected. Get Connected.



Connected Vaccine Refrigeration



Key features



WHO PQS Accredited

Dulas SDD vaccine refrigerators exceed the stringent World Health Organisation PQS standards



British Made

Manufactured in our factory in West Sussex, we supply the only British made WHO PQS accredited refrigerators available



Grade A, Freeze Free

Dulas products have Grade A User Independent Freeze Protection (UIFP)



PCM Energy Store

Dulas refrigerators use an advanced non-corrosive phase change material (PCM) which thaws at exactly +5 °C



Hot Zone Rated

Dulas Refrigerators will operate at a stable +2 °C to +8 °C in an extended ambient operating range of +5 °C to +43 °C



Long Autonomy

With long lasting autonomy on all refrigerators, you can rely on Dulas products to keep your vaccines safe



Temperature Monitoring

All Dulas refrigerators have integrated EMS Level 3 remote temperature monitoring



R600a Refrigerant

Climate friendly and CFC free



Plug and Play

Power system for easy installation



Solar Panel Kit

Includes a solar array and mounting system



Wire Baskets

For optimum airflow



Heavy Duty Castors

For easy handling



In-built Handle with Lock

To keep vaccines safe

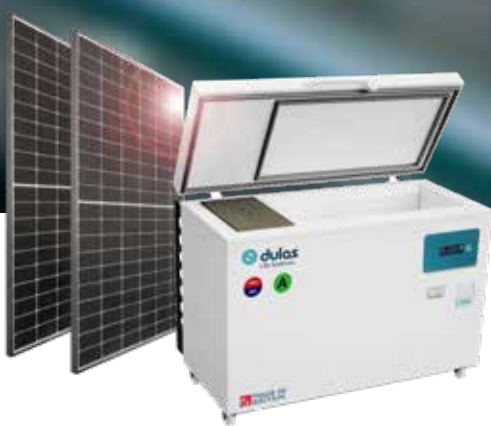


Long Life Products

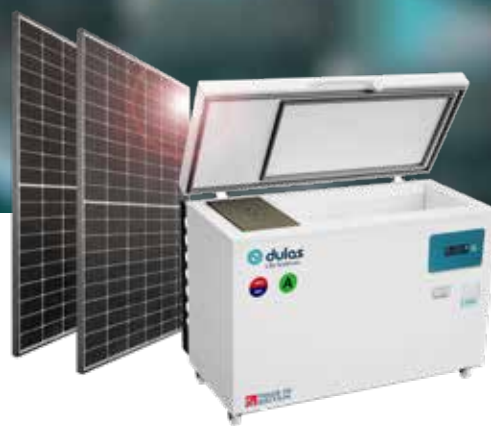
Built to perform effectively in challenging environments over long periods of time



Solar Direct Drive Vaccine Range



VC60SDD
Refrigerator/Freezer



VC150SDD
Refrigerator/Freezer

Vaccine storage
Water pack storage
Temperature range
Freeze protection
PQS reference
Baskets
Autonomy
Solar Array
EMS

57 litres

23 x 0.6 litre water packs

+ 2 °C to + 8 °C internal

Grade A, Freeze Free (UIFP)

E003/084

4

82 h 48 min

>900 Wp min

Level 1, 2 and 3

102 litres

20 x 0.6 litre water packs

+ 2 °C to + 8 °C internal

Grade A, Freeze Free (UIFP)

E003/048

6

77 h 57 min

>900 Wp min

Level 1, 2 and 3



VC88SDD Refrigerator

88 litres

N/A

+ 2 °C to + 8 °C internal

Grade A, Freeze Free (UIFP)

E003/059

4

80 h 10 min

>900 Wp min

Level 1, 2 and 3



VC200SDD Refrigerator

132 litres

N/A

+ 2 °C to + 8 °C internal

Grade A, Freeze Free (UIFP)

E003/040

6

79 h 29 min

>900 Wp min

Level 1, 2 and 3

Solar Direct Drive Bloodbank

VC200SDD-B Bloodbank Refrigerator

Blood storage

120 x 280ml blood bags

Temperature range

+ 2 °C to + 6 °C internal

Freeze protection

Grade A, Freeze Free (UIFP)

Baskets

6

Autonomy

79 h 29 min

Solar Array

>900 Wp min

EMS

Level 1, 2 and 3



Key features



Grade A, Freeze Free

Dulas products have Grade A User Independent Freeze Protection (UIFP)



Made in Britain

Manufactured in our UK factory in West Sussex, our British-made refrigerators are built to be relied on for their quality



Hot Zone Rated

Dulas Refrigerators will operate at a stable +2 °C to +6 °C in an extended ambient operating range of +5 °C to +43 °C



PCM Energy Store

Dulas refrigerators use an advanced non-corrosive phase change material (PCM) which thaws at exactly +5 °C



Temperature Monitoring

All Dulas refrigerators have integrated EMS Level 3 remote temperature monitoring as standard



Long Autonomy

With long lasting autonomy on all refrigerators, you can rely on Dulas products to keep your contents safe



Plug and Play

Power system for easy installation



R600a Refrigerant

Climate friendly and CFC free



Wire Baskets

Six dedicated blood baskets for easy stock management and optimum airflow



Solar Panel Kit

Includes a solar array and mounting system



In-built Handle with Lock

To keep contents safe



Heavy Duty Castors

For easy handling



Long Life Products

Built to perform effectively in challenging environments over long periods of time



Specifications

SDD Vaccine Cold Chain and Blood Storage



	SDD Refrigerator		SDD Refrigerator / Freezer		SDD Bloodbank
Model	VC88SDD	VC200SDD	VC60SDD	VC150SDD	VC200SDD-B
Net storage capacity	88 litres	132 litres	57 litres	102 litres	120 x 280ml bloodbags
Water pack storage capacity	N/A	N/A	23 x 0.6 litres or 13.8 kg	20 x 0.6 litres or 12 kg	N/A
Gross Volume	205 litres	205 litres	124/42 ltr fridge/ freezer	158/42 ltr fridge/ freezer	205 litres
Climate Zone	Hot Zone (+43 °C)	Hot Zone (+43 °C)	Hot Zone (+43 °C)	Hot Zone (+43 °C)	Hot Zone (+43 °C)
Minimum rated ambient temp	+5 °C	+5 °C	+5 °C	+5 °C	+5 °C
Autonomy time *	80hr 10min at +43 °C	79hr 29min at +43 °C	82hr 48min at +43 °C	77hr 57min at +43 °C	79hr 29min at +43 °C
Solar array size	>900 Wp	>900 Wp	>900 Wp	>900 Wp	>900 Wp
Refrigerator weights and dimensions					
Refrigerator (HxWxD)	980 x 1280 x 750mm	980 x 1280 x 750mm	980 x 1280 x 750mm	980 x 1280 x 750mm	980 x 1280 x 750mm
Shipping dimensions (HxWxD)	1180 x 1355 x 825mm	1180 x 1355 x 825mm	1180 x 1355 x 825mm	1180 x 1355 x 825mm	1180 x 1355 x 825mm
Net weight	153 kg	153 kg	153 kg	153 kg	153 kg
Shipping weight	199 kg	199 kg	199 kg	199 kg	199 kg
Solar system weights and dimensions					
Shipping dimensions (HxWxD)	350 x 1810 x 1220mm	350 x 1810 x 1220mm	350 x 1810 x 1220mm	350 x 1810 x 1220mm	350 x 1810 x 1220mm
Net weight	64 kg	64 kg	64 kg	64 kg	64 kg
Shipping weight	104 kg	104 kg	104 kg	104 kg	104 kg
Technical details					
Operating voltage	24 to 45 V d.c.	24 to 45 V d.c.	24 to 45 V d.c.	24 to 45 V d.c.	24 to 45 V d.c.
Minimum starting voltage	24 V d.c.	24 V d.c.	24 V d.c.	24 V d.c.	24 V d.c.
Minimum starting power	50W	50W	50W	50W	50W
Minimum solar radiation	200W/m2	200W/m2	200W/m2	200W/m2	200W/m2
Compressor	Secop (Danfoss)	Secop (Danfoss)	Secop (Danfoss)	Secop (Danfoss)	Secop (Danfoss)
Refrigerant	R600a	R600a	R600a	R600a	R600a
EMS	Level 1, 2 and 3	Level 1, 2 and 3	Level 1, 2 and 3	Level 1, 2 and 3	Level 1, 2 and 3
WHO pre-qualification					
PQS reference	E003/059	E003/040	E003/084	E003/048	N/A
Test procedure	E003/RF05-VP.2	E003/RF05-VP.2	E003/RF05.3-VP.3	E003/RF05-VP.2	N/A
Performance specification	E003/RF05.2	E003/RF05.2	E003/RF05.3	E003/RF05.2	N/A

* Autonomy is the amount of time that the refrigerator can maintain the vaccine load within the temperature range of +2 °C to +8 °C without power or minimum solar radiation available and at the maximum rated ambient temperature.



Seamless delivery and professional support

At Dulas, we can manage the entire journey of your life-saving equipment from our manufacturing facility in the UK to its final destination. By integrating our extensive network of accredited global partners with our sophisticated in-house logistics expertise, we provide a comprehensive end-to-end service.



Made in the UK

Manufactured at our factory in the UK, we supply the only British made WHO PQS accredited refrigerators available.



Shipped Globally

We manage the entire shipping process to over 80 countries worldwide, including Latin America, Sub-Saharan Africa, Middle East and Asia.



Last Mile Delivery

Working with certified local partners, we can navigate complex terrain and deliver to the most remote locations and healthcare facilities.



Installation Services

Our local partners provide professional installation, hands-on user training and ongoing maintenance to keep your equipment running reliably.



Global logistics

The logistics team at Dulas is committed to ensuring that your goods arrive on time and in perfect condition. Our experienced and friendly team will handle the processing and export logistics to any destination in the world. Personalised service ensures you will get frequent updates on your order progress. Our carefully developed packaging system is specified and tested to protect your equipment against the rigours of transportation.



Worldwide partner network

With fully trained and accredited partners around the world, we can offer in-country support to deliver, install and maintain your cold chain equipment.

By using our certified partner network, your project will be installed by knowledgeable, highly trained technicians who are committed to provide the best installation and customer service.

International cold chain equipment training

At Dulas, we are committed not only to supplying vital cold chain equipment, but also to ensuring that every installation is supported by high-quality, practical training. We provide comprehensive training for Ministry of Health staff, cold chain technicians, and other key personnel, equipping them with the knowledge and confidence to install, operate, and maintain our systems effectively. By ensuring that all end-users are fully familiar with our products, we help safeguard their longevity, reliability, and performance in even the most challenging environments.

Our training programmes are designed to be flexible and accessible, delivered through a combination of **in-country**, **online**, and **virtual** formats. Whether through hands-on sessions led by experienced engineers or digital learning via the Dulas Academy and live virtual workshops, we ensure that participants can access the knowledge they need, wherever they are.

This commitment to training and knowledge-sharing is central to our approach to technology transfer and the development of in-country capabilities. By strengthening local skills and supporting sustainable system management, our solar refrigeration training complements broader vaccine logistics and cold chain initiatives. Together, these efforts help ensure that life-saving vaccines are protected and delivered safely, even in some of the world's most remote locations.



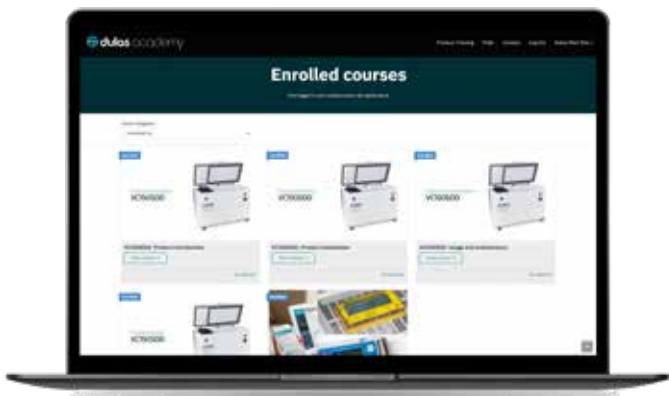
In-country training

Dulas provide comprehensive training, covering installation and maintenance of our entire range of solar refrigeration systems. We believe that this essential service helps our customers to get the most from their investment, whilst prolonging the life of the system. Our training courses are delivered by experienced teaching staff and engineers and can be tailored to suit your needs.



Online training

The Dulas Academy provides comprehensive online training on all aspects of our cold chain equipment installation, operation, and maintenance, featuring videos, presentations, downloadable resources, and certification.



Virtual training

We also deliver engaging and interactive online training sessions via a range of video conferencing platforms. This cost-effective approach allows multiple participants to benefit from tailored content with flexibility and easy worldwide access.





Medical and Scientific Solutions

Cold chain expertise

We have been manufacturing refrigerated appliances for decades in our UK factory. Harnessing on our expertise in medical cold chain with advanced pharmacy and laboratory refrigeration, and cooled incubation. We are turning our combined expertise and years of experience to this sector, bringing products with a focus on trust, sustainability, reliability and quality, straight from the manufacturer and made in the UK.



Cooled Incubators

Our cooled incubators offer optimum temperature control from -10 °C to +50 °C with an average variation of 0.5 °C and fluctuation of 0.1 °C, or 0 °C to +60 °C upon request.

Renowned for their quality and longevity, our cooled incubators are used all over the world for a range of bio-scientific needs – from tissue and fruit fly cultures, to enzyme testing and seed storage. All equipment is manufactured in our own UK factory, which gives us the flexibility to accommodate a range of specification requirements.

Our bespoke service allows you to tailor every product to your specific needs, offering unrivalled flexibility to suit the requirements of any laboratory.



Pharmacy and Laboratory Refrigeration

Our intuitive range of Pharmacy & Laboratory refrigerators feature built in wireless monitoring software, enabling you to access the refrigerator's performance remotely, via our portal.

We understand that the contents of your refrigerator are valuable and that it's imperative they are kept within temperature.

In 2022 almost **£2.9m** worth of vaccines were lost due to cold chain issues¹



Easy to use, touch screen controller



Dual temperature probes



Antimicrobial handle



Battery back up



Forced air cooling (ATEX)



Spark free (Laboratory only)



Self closing doors



Wireless temperature monitoring



For more information on this range, scan the QR code

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