



Core Product Brochures
Black Stump Technologies
2017



Black Stump Technologies' purpose is to empower individuals, communities and the organisations that support and protect them in times of their greatest need and for the longer term.

Our solar-powered refrigeration and energy technologies specifically developed for remote areas enable us to provide rapidly deployable solutions to the issues of clean water, food, sanitation, medical storage, cold-supply-chain and energy.

Chillers

Preserve perishables in this energy independent, mobile chiller. Available in a range of sizes, Black Stump Solar chillers maintain an internal temperature of +4°C regardless of external conditions, 24 hours a day.

100% Solar Powered

Independent power:
no fuel, generator or grid
connection required.

Quiet, clean and green

No operating costs and
low maintenance

Transportable and securable

Operates 24 hours in any
environment, 365 days a year

Customisable energy storage

Hybrid and micro grid friendly

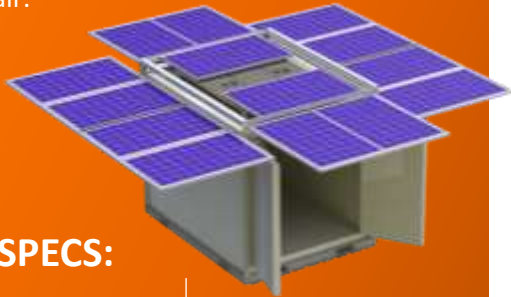
Remote operation and
monitoring available

10 minutes from unload
to operation



NATO 463L

Designed for rapid transport and emergency deployment around the world, these models meet NATO 463L Master Pallet specifications for air cargo and are transportable by land, sea or air.



KEY SPECS:

Power Source	Solar Only
External dimensions for transport	2.7m x 2.2m x 2.4m
External dimensions when deployed	6.2m x 5.6m x 2.4m
Internal Dimensions	2.3m x 1.7m x 1.7m
Storing Zone	Refrigerator (+4°C)
Operating times	Non-stop (24 hours a day)
Duty Style	Medium
Operational Description	Bulk Storage
PV panel type	Tier 1
Battery type	Transport Safe AGM Gel-Cell

CHILLER 20FT

20ft ISO Hi-Cube shipping container. Transportable by road or sea.

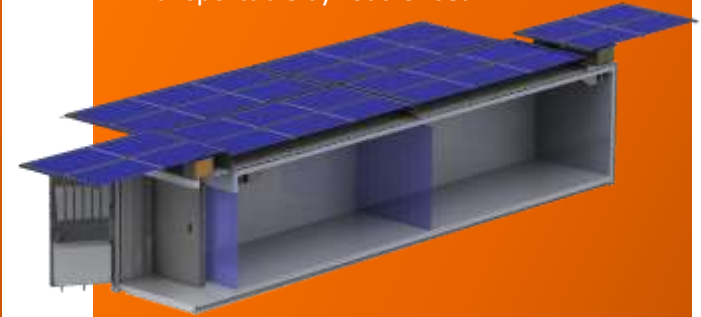


KEY SPECS:

Power Source	Solar only
External dimensions for transport	6.1m x 2.44m x 2.9m
External dimensions when deployed	8.2m x 7.2m x 2.9m
Internal Dimensions	5.1m x 2.1m x 2.2m
Storing Zone	Refrigerator (+4°C)
Operating times	Non-stop (24 hours a day)
Duty Style	Medium
Operational Description	Bulk Storage
PV panel type	Tier 1
Battery type	Transport Safe AGM Gel-Cell

CHILLER 40FT

40ft ISO Hi-Cube shipping container. Transportable by road or sea.



KEY SPECS:

Power Source	Solar only
External dimensions for transport	12.2m x 2.44m x 2.9m
External dimensions when deployed	14.2m x 7.2m x 2.9m
Internal Dimensions	11.1m x 2.1m x 2.2m
Storing Zone	Refrigerator (+4°C)
Operating times	Non-stop (24 hours a day)
Duty Style	Medium
Operational Description	Bulk Storage
PV panel type	Tier 1
Battery type	Transport Safe AGM Gel-Cell

Blast Chillers

Preserve perishables in this energy independent, mobile blast chiller. Available in a range of sizes, Black Stump Solar Blast Chillers maintain an internal temperature of +4°C regardless of external conditions, 24 hours a day.

100% Solar Powered

Independent power:
no fuel, generator or grid
connection required.

Quiet, clean and green

No operating costs and
low maintenance

Transportable and securable

Operates 24 hours in any
environment, 365 days a year

Customisable energy storage

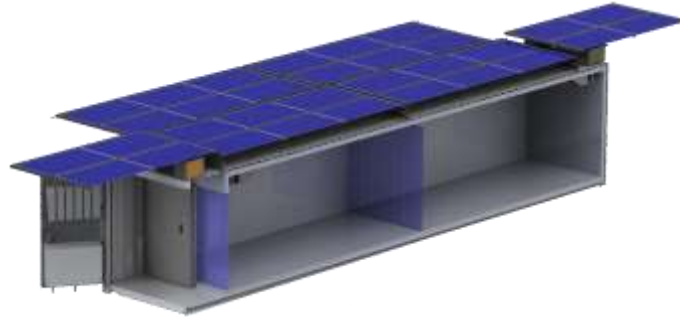
Hybrid and micro grid friendly

Remote operation and
monitoring available

10 minutes from unload
to operation



BLAST CHILLER 40FT



**40ft ISO Hi-Cube shipping container.
Transportable by road or sea.**

Model	Chiller 40ft
Power Source	Black Stump Power Station
External Colour	White (others available)
External dimensions for transport	12.2m x 2.44m x 2.9m
External dimensions when deployed	12.2m x 2.44m x 2.9m
Internal Dimensions	11.1m x 2.1m x 2.2m
Temperature Style	Single Zone
Design life	20 years plus
Common options	
Remote monitoring and control	Yes
CSC plating	Yes
Door curtains	Yes
Stainless steel sheet floor	Yes
Hybrid switching (Diesel, Mains)	Yes
Storing Zone	Refrigerator (+4°C)
Operating times	Non-stop (24 hours a day)
Duty Style	Heavy
Operational Description	Bulk Storage - Hot Load

Solar Power System	50kW Black Stump Power Station
PV panel type	Tier 1
Voltage control	Yes
Wiring system	Heuch
Electrical wiring standards	AUSNZ:3000
Over-current protection	Fuse
Disconnect switch/type	Per string/manual
Mounting structure	Anodised Aluminium
Voltage controller	MPPT
Standard	IATA DGR Clause A67
Recyclable	Yes
Deep discharge protection	Yes
Temperature monitored	Yes

Refrigeration System	
Type	Chiller (+4°C)
No. of cooling zones	1
Environmental style	Fully sealed
Condensor	Air cooled
Compressor	Hermetic
Evaporator	Induced draft air
Control system	Digital display/Push button
Defrost	N/A
Structure & Insulation	
Chassis	ISO 40ft container
CSC plating	Yes
Floor type	Insulated with wearing surface
Doors	Sliding
Door curtains	Yes
Condensate drain	External
LED internal lighting	Yes
LED entrance lighting	Yes
LED security lighting	Optional

FREEZERS

Preserve perishables in this energy independent, mobile freezers. Available in a range of sizes, Black Stump Solar Chillers maintain an internal temperature of -18°C regardless of external conditions, 24 hours a day.



100% Solar Powered

Independent power:
no fuel, generator or grid
connection required.

Quiet, clean and green

No operating costs and
low maintenance

Transportable and securable

Operates 24 hours in any
environment, 365 days a year

Customisable energy storage

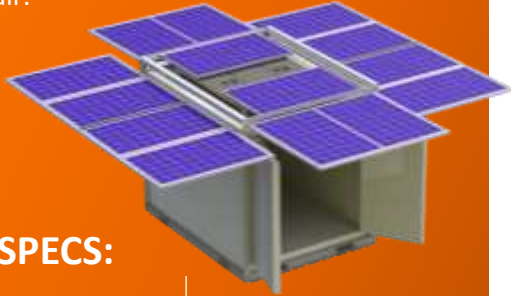
Hybrid and micro grid friendly

Remote operation and
monitoring available

10 minutes from unload
to operation

NATO 463L

Designed for rapid transport and emergency deployment around the world, these models meet NATO 463L Master Pallet specifications for air cargo and are transportable by land, sea or air.



KEY SPECS:

Power Source	Solar only
External dimensions for transport	2.7m x 2.2m x 2.4m
External dimensions when deployed	6.2m x 5.6m x 2.4m
Internal Dimensions	2.3m x 1.7m x 1.7m
Storing Zone	Freezer (-18°C)
Operating times	Non-stop (24 hours a day)
Duty Style	Medium
Operational Description	Bulk Storage
PV panel type	Tier 1
Battery type	Transport Safe AGM Gell-Cell

FREEZER 20FT

20ft ISO Hi-Cube shipping container. Transportable by road or sea.

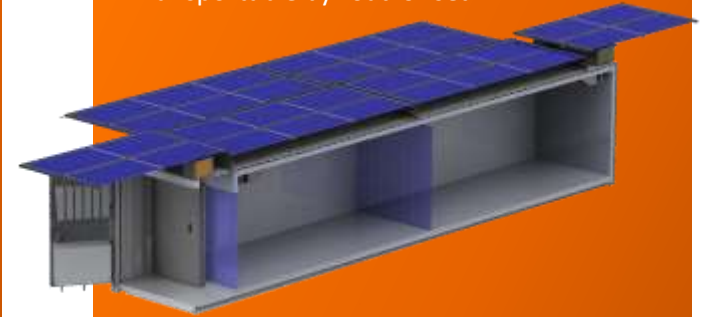


KEY SPECS:

Power Source	Solar only
External dimensions for transport	6.1m x 2.44m x 2.9m
External dimensions when deployed	8.2m x 7.2m x 2.9m
Internal Dimensions	5.1m x 2.1m x 2.2m
Storing Zone	Freezer (-18°C)
Operating times	Non-stop (24 hours a day)
Duty Style	Medium
Operational Description	Bulk Storage
PV panel type	Tier 1
Battery type	Transport Safe AGM Gell-Cell

FREEZER 40FT

40ft ISO Hi-Cube shipping container. Transportable by road or sea.



KEY SPECS:

Power Source	Solar only
External dimensions for transport	12.2m x 2.44m x 2.9m
External dimensions when deployed	14.2m x 7.2m x 2.9m
Internal Dimensions	11.1m x 2.1m x 2.2m
Storing Zone	Freezer (-18°C)
Operating times	Non-stop (24 hours a day)
Duty Style	Medium
Operational Description	Bulk Storage
PV panel type	Tier 1
Battery type	Transport Safe AGM Gell-Cell

WATER PURIFICATION

Black Stump Water Wizards provide safe and clean drinking water in the most difficult environments. Available as 'turn-key' packages offered in a range of sizes and output volumes, water is filtered to <math><0.02</math> microns, without using chemicals, to meet current WHO and ADWG guidelines.

100% Solar Powered

Water filtered to <math><0.02</math> microns

3 years maintenance free filtration

Independent power:
no fuel, generator or grid
connection required.

Quiet, clean and green

Operates 24 hours in any
environment, 365 days a year

Transportable and securable

Hybrid and micro grid friendly

Remote monitoring and
water analysis

10 minutes from unload
to operation



NATO 463L

Designed for rapid transport and emergency deployment around the world, these models meet NATO 463L Master Pallet specifications for air cargo and are transportable by land, sea or air.

The following standard models are available:

Air Transportable 463L Water Wizard 10K
- 10,000 litre daily average

Air Transportable 463L Water Wizard 30K
- 30,000 litre daily average



ISO CONTAINER

Multiple water filtration systems housed inside solar powered, 20' and 40' ISO shipping containers provide scalability to permanent and semi-permanent locations. Transportable by land, sea or air, increased space allows for optional internal water tanks, food storage or preparation areas, medical storage or energy storage for an uninterrupted power supply.

These custom filtration and cold storage models are available as standard in 20 and 40ft configurations.



POWER STATIONS

Black Stump power stations make solar power immediately accessible, affordable and easy to deploy. Delivered pre-assembled in ISO shipping containers, power stations are fully transportable and offer 'plug and play' connection.



10 FT ISO CONTAINER

15kW array in 10ft ISO shipping container



KEY SPECS:

Power Source	Solar only
External Colour	White (others available)
Dimensions for transport	3m x 2.4m x 2.6m
Dimensions when deployed	3m x 54.45m x 2.6m
Style	Power Supply
Peak Capacity	15kW
No. of PV panels	50

Common options

Remote monitoring and control	Yes
CSC plating	Yes
24 hour operation	Yes
Stainless steel sheet floor	Yes
Hybrid switching	Yes

20 FT ISO CONTAINER

30kW array in 20ft ISO shipping container



KEY SPECS:

Power Source	Solar only
External Colour	White (others available)
Dimensions for transport	6.1m x 2.4m x 2.6m
Dimensions when deployed	6.1m x 54.45m x 2.6m
Style	Power Supply
Peak Capacity	30kW
No. of PV panels	100

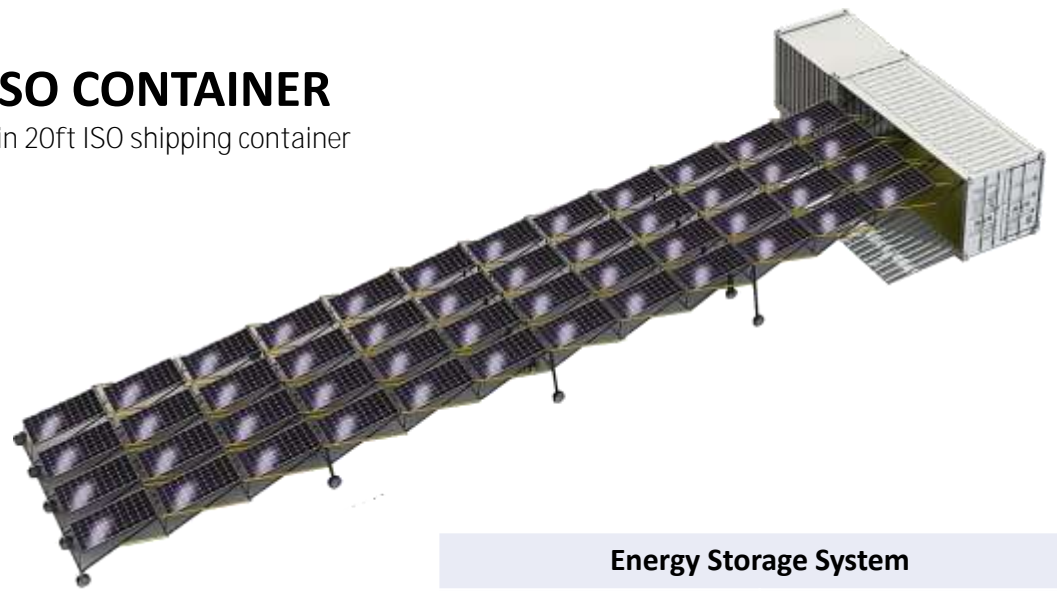
Common options

Remote monitoring and control	Yes
CSC plating	Yes
24 hour operation	Yes
Stainless steel sheet floor	Yes
Hybrid switching	Yes



20 FT ISO CONTAINER

25kW array in 20ft ISO shipping container



Model	20ft ISO PWRSTATION
Power Source	Solar only
External Colour	White (others available)
Dimensions for transport	6.1m x 2.4m x 2.6m
Dimensions when deployed	6.1m x 54.45m x 2.6m
Style	Power Supply
Peak Capacity	25kW
Common options	
Remote monitoring and control	Yes
CSC plating	Yes
Stainless steel sheet floor	Yes
Hybrid switching	Yes



Solar Power System	
PV panel type	Tier 1
Voltage control	Yes
Wiring system	Heuch
Electrical wiring standards	AUSNZ:3000
Over-current protection	Fuse
Disconnect switch/type	Per string/manual
EXOrac	Anodised Aluminium

Energy Storage System	
Battery type	Industrial AGM Gel Cell (VRLA)
Batteries approved for international transport	Yes
Maintenance type	Maintenance free
Design life	5 years*
Voltage controller	MPPT
Standard	IATA DGR Clause A67
Recyclable	Yes
Deep discharge protection	Yes
Temperature monitored	Yes

*Working life of batteries is a function of duty use and discharge cycle. Speak to your Black Stump representative regarding getting the most out of your batteries or alternative energy storage options.

ICE MAKERS

Make ice while the sun shines. Pre-cool ice tolerant produce and keep your catch fresh for longer using ice from our 100% solar powered ice making range.

Black Stump Technologies provide customers access to a large range of CE certified Ice Makers in a mobile, 100% solar powered, turn key package. Fresh or Sea water units are available, along with a range of output volumes and types: flake, tub, crushed block ice and more. Ice is produced during daylight hours for both immediate use or stored as an "Ice Bank" inside the container for use anytime.



KEY FEATURES:

Easy transportation world wide – ISO 20' Hi-Cube standard shipping container chassis.

100% solar powered

Independent power: no fuel, generator or grid connection required.

Operate in any environment; 24 hours a day, 365 days a year.

No operating costs and low maintenance.

Quiet & non-polluting.

Hybrid and micro-grid friendly.

Remote operation & monitoring available.

Secure.

Optional refrigerated "Ice Bank".

MODELS AVAILABLE:

Ice makers are classified by daily average output and are offered in the following standard outputs or combinations thereof:

300kg daily average

500kg daily average

1,000kg daily average

