BITMAIN · ANTSPACE

ANTSPACE HW5
V1 · 210 hydro

40 ft hydro-cooling mining container with dry-wet cooling tower



MAKER
Bitmain

COOLING
Hydro · dry-wet tower

POWER
400 V ±5% · 50/60 Hz

FORMAT
40 ft · 24 t operating

Product Manual

Setup, operation, maintenance and OneMiners hosting guide

Version 1.0
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Contains manufacturer documentation © Bitmain Technologies Inc., summarised for customer reference.

About this manual

This manual covers the **Bitmain ANTSPACE HW5, version V1**: a 40 ft container for **210 hydro-cooled** Bitmain miners with a separate dry-wet cooling tower.

Specifications and installation requirements come from Bitmain's ANTSPACE HW5 specifications page. Bitmain also publishes a full HW5 V1 dry-wet tower manual (V1.0.1, July 2024, 107 pages); use it for wiring, touch-screen operation, pressurisation and fault codes. This manual summarises and points to it.

Sections that reproduce or summarise manufacturer or reseller data carry a **Source** tag. Values that sources disagree on, or that no source confirms, are marked **Needs verification** and listed in section 1.4. Planning figures marked *calculated* are OneMiners arithmetic from the published values, not manufacturer ratings. Chapters 9 and 10 cover OneMiners services and support and are marked **OneMiners**.

Before you start

POWER	SITE	LIFTING	WATER
400 V ±5% · 3-phase	**≥ 36 t hardened ground**	**20-ton crane**	**0.7–1.3 m³/h make-up**
2 HW5 per 2,500 kVA transformer.	Tower level within ±1°.	Container 14 t shipping.	DN65 drain.

How notices are used

DANGER
Risk of electric shock, arc flash, fire, crushing or falling loads. Do not continue until the condition is met.

CAUTION
Risk of damage to the container or miners, lost uptime, or a failed inspection. Read before acting.

NOTE
Useful background, limits of a specification, or where to check further.

ONEMINERS
Applies to containers bought, deployed or hosted through OneMiners.

Copyright and disclaimer

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A mining container is electrical infrastructure. Its installation must be designed, inspected and connected by licensed electrical engineers and contractors under local codes, utility rules and permits. Nothing in this manual replaces the manufacturer's installation documents or a site engineer's design. Specifications may change without notice. Profitability and hosting information is guidance only and is not financial advice.

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CHAPTER 01

Product Overview

The ANTSPACE HW5 is Bitmain's turnkey hydro mining container. Miners plug into a pre-plumbed coolant loop; heat is rejected by a dry-wet cooling tower that runs dry most of the time and adds evaporative cooling in hot weather.



Figure 1-1 Bitmain ANTSPACE HW5 V1. Image: OneMiners product photo.

1.1 Key figures

210 units	1,062 kW	≥ 85 m³/h
S19 Hyd. / S21 Hyd. series	Operating power	Coolant flow

1.2 Specifications

ITEM	VALUE
CONTAINER	
Model / version	**ANTSPACE HW5 · V1**
Size (L×W×H)	**12,192 × 2,438 × 2,896 mm**
Weight	**14 t shipping · 24 t operating**
Capacity	**210 units, S19 Hyd. and S21 Hyd. series**
Operating power / PUE	**1,062 kW · 1.032**
ELECTRICAL	
Input	**400 V ±5%, 50/60 Hz**
Main switches	**1,200 A × 2**
Rated current	**≤ 986 A** [1]
Per miner	**≤ 10 A**
Transformer	**Two ANTSPACE per 2,500 kVA**

ITEM	VALUE
DRY-WET TOWER	
Heat dissipation	**1,200 kW**
Outlet temperature	**35 °C at 28 °C wet bulb**
Operating power	**15–29 kW**
Flow	**≥ 85 m³/h**
Water consumption	**0.7–1.3 m³/h**
Drain	**DN65 (internal thread)**
Noise	**70 dBA at 25 °C, 15 m**
ENVIRONMENT AND CERTIFICATION	
Ambient	**−25 to 40 °C**
Humidity	**10–90% RH**
Altitude	**< 2,000 m**
Container	**China Classification Society**

ITEM	VALUE
Safety	**NFPA 79 · UL 508A · CSA C22.2 No. 14 · ISO 12100 · IEC 60204**

[1] Bitmain doesn't say whether ≤ 986 A applies per main switch. Container connection DN125 and supply DN40 per Mining Store's summary of Bitmain's HW5 manual.

SOURCE Bitmain, ANTSPACE HW5 Specifications (support.bitmain.com); Mining Store, HW5 V1 dry-wet tower guide summary.

1.3 What's in the package

ITEM	STATUS
Container with pre-installed hydro manifolds and power distribution	Included
Dry-wet cooling tower, fans and guardrails	Included (installed on site)
Stairs, walkways, transformers, cables, bridges, distribution boxes	Not included (Bitmain)
Miners	Not included

From Bitmain's HW5 specifications page.

1.4 Values that need verification

These values conflict between sources or aren't confirmed by the manufacturer. Resolve them in writing with OneMiners sales before you design power, cooling or foundations around them.

ITEM	WHAT THE SOURCES SAY	USED IN THIS MANUAL
Total power and PUE	Bitmain: 1,062 kW operating power, PUE 1.032 · OneMiners: 1,200 kW and PUE 1.017 (1,200 kW is the tower's heat dissipation)	1,062 kW · 1.032 (Bitmain)
Fill calculator	OneMiners shows 210 × S21 XP Hyd = 1,192 kW, above Bitmain's 1,062 kW	Use the power-limited counts in 6.1
Compatible miners	Bitmain: S19 Hyd. and S21 Hyd. series · OneMiners also lists S23 Hyd series	S23 Hyd. **Needs verification**
Inner coolant volume	OneMiners 1.6 m³ · not on Bitmain's spec page	**Needs verification**
Product URL	OneMiners page address reads "20ft-mining-shipping-containers-for-sale" for a 40 ft unit	Rename the URL
Tower operating power	Bitmain spec page 15–29 kW · Mining Store summary 14–28 kW	15–29 kW

CHAPTER 02

Site Planning

The HW5 is a 24-ton installation with a separate cooling tower, a transformer and a water supply. Site preparation is the biggest part of the project.

2.1 Choosing the site

- Altitude below 2,000 m. Above 1,000 m with a 2,500 kVA transformer, reduce the miners per ANTSPACE by about 1%.
- Keep at least 2 m of air-inlet clearance around the cooling tower.
- The container door opens to the left by default. Specify a different opening when ordering if units will be stacked or placed side by side.
- Plan the transformer location: one 2,500 kVA transformer feeds two HW5 units.
- Plan water supply, drainage (DN65) and discharge permits for the wet mode.

2.2 Foundation, access and lifting

Ground	**Hardened to support at least 36 t**
Tower base	**Flat, level within ±1°**
Lifting	**20-ton crane for the ANTSPACE and the cooling tower**
Not included	**Stairs, walkways, cable bridges and distribution boxes: supply them locally**

DANGER · LIFTING
Lift only with equipment and rigging rated for the shipping weight, using the container's corner castings or the manufacturer's lifting points. Keep people clear of suspended loads. Never lift a container with miners installed unless the manufacturer allows it.

2.3 Climate and environment

Ambient	**−25 to 40 °C; in high-humidity areas keep ≤ 40 °C**
Humidity	**10–90% RH**
Below 0 °C	**Close the inlet and outlet shutters; start miners only after the interior is above 20 °C**
Note	**The ANTSPACE ambient isn't the miners' ambient; miners follow their own coolant specs**

PLANNING CHECKLIST
Before ordering, confirm: land rights and permits, utility interconnection and transformer, road access for the delivery truck and crane, internet connection, water supply and drainage (if the cooling uses water), noise limits at the site boundary, and insurance requirements.

SOURCE Bitmain, ANTSPACE HW5 Specifications: Environmental and Installation Requirements.

03 CHAPTER Electrical Supply

Each HW5 takes a 400 V three-phase feed into two 1,200 A main switches. Bitmain specifies the cable sizes and the transformer ratio.

3.1 Supply requirements

Supply	**400 V ±5%, 50/60 Hz, 3-phase with neutral**
Main switches	**2 × 1,200 A**
Rated current	**≤ 986 A**
Transformer	**2,500 kVA feeds two ANTSPACE units**
Inlet cable	**Rated above 600 V. L1, L2, L3, N: 600 kcmil (300 mm²) single-core × 4 each. PE: 500 kcmil (240 mm²) single-core × 2**

DANGER · ELECTRICAL
- The incoming supply, main protection, earthing and bonding must be designed and connected by a licensed electrical contractor and inspected before energising.
- Isolate, lock out and tag out the supply before opening any distribution panel. Verify absence of voltage with a rated tester.
- Never exceed the main breaker or PDU ratings. Size miner circuits for continuous load under your local code (often 80% of the breaker rating).

3.2 Distribution inside the container

Per miner	**≤ 10 A rated current**
Tower motors	**400 V ±5%, 50/60 Hz; 15–29 kW**
Control	**Touch-screen operation (see Bitmain's HW5 manual)**

HYDRO MINERS AT 400 V
Bitmain hydro miners such as the S21 Hyd. series take a three-phase supply. Check each miner's rated current against the ≤ 10 A per-miner limit before ordering.

SOURCE Bitmain, ANTSPACE HW5 Specifications: Power and Electrical.

04 CHAPTER Cooling and Airflow

Coolant circulates from the cooling tower through the container's manifolds and each miner's cold plates, then back to the tower.

4.1 Loop and tower

Flow	**≥ 85 m³/h**
Heat dissipation	**1,200 kW**
Tower outlet	**35 °C at 28 °C wet bulb**
Make-up water	**0.7–1.3 m³/h**
Connections	**Container DN125 · supply DN40 · drain DN65**

4.2 Dry and wet modes

The tower runs dry (air-cooled coil) in cool weather and adds evaporative wet cooling in hot weather. Wet mode consumes make-up water and needs drainage. Mode thresholds and switchover logic are in Bitmain's HW5 manual.

4.3 Coolant quality

- Follow Bitmain's HW5 manual for filling, pressurisation and replenishment, and the miner manuals for coolant chemistry (pH, glycol ratio, inhibitor).
- Mix antifreeze for the site's lowest temperature; frozen coolant can crack miner cold plates.
- Test coolant regularly (Chapter 8).

DANGER · FREEZING
Below 0 °C, close the inlet and outlet shutters, and start miners only after the interior is above 20 °C. A power cut in freezing weather can freeze an unprotected loop.

SOURCE Bitmain, ANTSPACE HW5 Specifications; Mining Store HW5 manual summary; coolant guidance from Bitmain hydro miner manuals.

CHAPTER 05

Installation and Commissioning

Installation turns a delivered container into a working mining site. Work through each step in order; the pre-power checklist must be complete and signed off before anything is energised.

5.1 Delivery and inspection

- Inspect the container on arrival before unloading: dents, damaged doors or seals, broken louvres or fans, water ingress, and loose fittings inside.
- Photograph any damage and note it on the delivery receipt before signing. Report it to OneMiners within 48 hours.
- Check the contents against the packing list: PDUs, shelving, fans, filters, keys, manuals and spare parts.

5.2 Placement

1. **Ground**
   Confirm the hardened ground (≥ 36 t) and the tower base (level within ±1°).
2. **Container**
   Lift the ANTSPACE with a 20-ton crane and set it on its base.
3. **Tower**
   Lift and place the dry-wet tower; install fans and guardrails per Bitmain's standalone chapter.
4. **Clearance**
   Check at least 2 m inlet clearance around the tower.

5.3 Connection

1. **Piping**
   Connect the tower to the container (DN125), the make-up supply (DN40) and the drain (DN65).
2. **Power**
   Licensed electrician lands the inlet cables (sizes in 3.1) and the tower motor supply; test insulation, earthing and phase rotation.
3. **Network**
   Connect internet and the control system.

5.4 Pre-power checklist

CHECK	DONE
Bitmain's on-site installation summary completed	☐
Loop filled, pressurised and leak-checked; air vented	☐

CHECK	DONE
Antifreeze ratio suits the site's lowest temperature	☐
Supply voltage 400 V ±5%, phase rotation and earthing recorded	☐
All miner breakers OFF	☐
Shutters set for the ambient temperature	☐
Electrical inspection signed off	☐

5.5 First power-up

1. Follow the power-on procedure in Bitmain's HW5 manual.
2. Start circulation and the tower; confirm flow ≥ 85 m^3/h and no leaks.
3. Below 0 °C ambient, heat the interior above 20 °C before starting miners.
4. Start miners in groups, checking coolant temperatures and phase currents.

SOURCE Bitmain, ANTSPACE HW5 Specifications: Installation Requirements; Mining Store summary of Bitmain's HW5 V1 manual (installation, hoisting, power-on, touch screen).

06 CHAPTER Loading Miners and Capacity

Plan the miner fleet against the container's real limits before you buy it. Then load, connect and test the miners shelf by shelf.

6.1 Capacity by miner model

A container fills up by whichever runs out first: **slots**, **power** or **cooling**. The table shows the power-limited count for common models. Use the lower of this count and the slot count, and confirm with OneMiners before you order miners.

MINER (TYPICAL RATED POWER)	POWER PER UNIT	UNITS BY POWER	SLOT LIMIT
Antminer S19 XP Hyd 257 TH/s	5,345 W	198 (calculated)	210
Antminer S23 Hyd 580 TH/s	5,510 W	192 (calculated)	210
Antminer S21 XP Hyd 473 TH/s	5,676 W	187 (calculated)	210
Antminer S21+ Hyd 395 TH/s	5,925 W	179 (calculated)	210

Units by power = 1,062 kW ÷ miner rated power, rounded down (calculated). Miner powers from OneMiners product pages and Bitmain specifications. Bitmain lists S19 Hyd. and S21 Hyd. series as compatible; confirm S23 Hyd. before ordering.

6.2 Loading miners

1. With the loop running and stable, connect each miner's coolant hoses first, then power, then network (Bitmain hydro miner procedure).
2. Record slot, breaker, phase and serial for each miner.
3. Start miners in groups and check coolant and current readings.

> **CAUTION**
> Balance miners across the three phases as you load. An unbalanced load overheats one phase and can trip the main breaker.

6.3 Network

- One IP per miner plus the control system; plan at least a /24 for 210 miners.
- Wired uplink with backup for remote monitoring.

SOURCE Bitmain HW5 specifications; Bitmain hydro miner user guides.

07 CHAPTER Operation and Monitoring

Most container problems show up first as rising temperatures or power changes. Watch the monitoring daily and act on trends, not just alarms.

7.1 Monitoring

- Touch-screen control and monitoring of the cooling system (Bitmain HW5 manual).
- Miner dashboards or fleet software for hashrate and coolant temperatures.
- OneMiners' platform monitors hosted containers.

7.2 Daily and weekly checks

WHEN	CHECK
Daily	Hashrate and online count; coolant supply and return temperatures; flow; tower mode; any alarms on the touch screen.
Weekly	Walk-round: leaks at manifolds and miner connectors; tower fan noise; make-up water and drain flowing.
Monthly	Phase currents; coolant pressure trend; compare power with the planned load.

7.3 Seasonal operation

- Summer: wet mode raises water use toward 1.3 m^3/h; check water supply and drainage.

- Winter: below 0 °C close shutters; confirm antifreeze; restart miners only after heating the interior above 20 °C.

SOURCE Bitmain HW5 specifications; Mining Store summary.

08 CHAPTER Maintenance and Troubleshooting

Clean air paths, tight connections and a healthy cooling system keep a container running. Most faults trace back to one of these three.

8.1 Maintenance schedule

INTERVAL	TASK
Weekly	Leak check at manifolds and miner couplings; clean tower inlet screens.
Monthly	Check coolant pressure and top up as Bitmain's manual describes; check filters and strainers.
Every 6 months	Coolant pH and inhibitor test; tower fan and pump inspection.
Yearly	Full coolant analysis; electrical inspection and connection tightness; tower coil cleaning.

Intervals are OneMiners recommendations unless a source is given. Shorten them at dusty, humid or coastal sites.

DANGER
Isolate and lock out the supply before working on PDUs, fans, busway or wiring. Only qualified electricians may open distribution panels.

8.2 Troubleshooting

SYMPTOM	CHECK
Miners overheating	Coolant flow below 85 m³/h, closed valves, air in the loop, blocked strainer, tower fans or wet mode not running.
Low pressure alarm	Leak or low coolant. Isolate and find the leak before topping up.
Miners won't start in cold weather	Interior below 20 °C. Close shutters and heat the interior first.
Main switch trips	Overload or fault. Check load against 1,062 kW and per-miner current against 10 A.
High water consumption	Normal in wet mode up to 1.3 m³/h; above that, check for leaks or overflow.

ONEMINERS
For a container bought or hosted through OneMiners, send the symptom, photos and monitoring screenshots to **service@oneminers.com** or WhatsApp **+1 305 867 6143**.

SOURCE Bitmain HW5 specifications; maintenance chapters in Bitmain's HW5 V1 manual; OneMiners intervals.

CHAPTER 09

OneMiners Services

OneMiners can deliver the container to your site or host it for you. This chapter summarises the options and terms as published on the product page.

9.1 Deployment options

OPTION	WHAT ONEMINERS DOES
Delivered to your site	Ships the container turnkey for your own installation. Your engineers handle site works, utility connection and commissioning.
Managed hosting	OneMiners hosts, powers, cools and monitors the container and its miners in one of its facilities, from day one.
Consultation	Use **Request Consultation** on the product page to size a site: power, transformer, cooling and miner mix.

9.2 Delivery, payment and warranty

- Orders are processed within 48 hours of verified payment; bulk orders may take longer. Estimated delivery is 5–7 business days after dispatch, plus customs time. Carriers: DHL Express, UPS, FedEx, TNT.
- Delivery is DDP by default. Where DDP isn't available, DAP applies and the buyer is the importer of record.
- Payment: BTC, LTC, SEPA bank transfer (1–3 business days), OneMiners Balance, or in person. Invoices on request.
- Miners are not included; the container is infrastructure only. Bitmain's full HW5 V1 manual should be requested with the order.
- OneMiners' 7-year warranty applies to **miners** hosted by OneMiners. Container and miner warranties are separate; the OneMiners product page doesn't publish a container warranty. Get the container warranty terms in writing at purchase.

ONEMINERS
Hosted at a OneMiners site, the container is installed, commissioned and monitored by our team. Ask sales which locations accept your container type and what the current hosting rate is.

ONEMINERS OneMiners container product pages (shipping, payment and FAQ sections) and "Best Bitcoin Mining Containers to Buy in 2026" (21 Sep 2026). Checked 7–8 Nov 2026.

CHAPTER 10

Resources and Support

Where to find manufacturer information, OneMiners services and help.

10.1 Resources

BITMAIN
HW5 specifications
support.bitmain.com/hc/en-us/articles/35745404203545-ANTSPACE-HW5-Specifications

BITMAIN
Support centre
support.bitmain.com

ONEMINERS
Product page
oneminers.com/collections/mining-containers/products/20ft-mining-shipping-containers-for-sale

ONEMINERS
Mining containers
oneminers.com/collections/mining-containers

ONEMINERS
Container buying guide
oneminers.com/blogs/news

ONEMINERS
Manuals & Firmware Library
oneminers.com/pages/manuals-and-firmware

10.2 Contact OneMiners

SUPPORT, 24/7

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CIRCLEHASH LLC
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Austin, Texas 78702, USA

Contact page

Manuals library

10.3 Sources used for this version

1. Bitmain, ANTSPACE HW5 Specifications (support.bitmain.com): all container, electrical, tower, environment and installation values.
2. Mining Store, "Bitmain ANTSPACE HW5 V1 Dry-Wet Tower Guide": summary of Bitmain's HW5 V1 manual (V1.0.1, July 2024), pipe connections, procedures covered.
3. OneMiners product page, BITMAIN Antspace HW5 V1: compatible miners and their rated power.
4. OneMiners: product page, "Best Bitcoin Mining Containers to Buy in 2026" (21 Sep 2026), site contact details, Media Kit. Checked 7–8 November 2026.

10.4 Revision history

VERSION	DATE	CHANGES
V1.0	Nov 2026	First edition. Bitmain specifications with conflicts listed in 1.4, site, electrical, cooling, installation, power-limited capacity, operation, maintenance and OneMiners services.