



DEEP CYCLE SYSTEMS

DCS 12V 80Ah Extreme Battery

12V Bow Thruster Compatibility Report

Single Battery Power Analysis — All Major 12V Bow Thruster Models
Market Coverage: Last 20 Years (2005–2026)

April 2026

1. Executive Summary

This report analyses the capability of a single **DCS 12V 80Ah Extreme battery** to power 12V electric bow thrusters across all major brands and models sold over the last 20 years.

The critical differentiator of the DCS 80Ah Extreme is its **high-current discharge capability**, which is essential for bow thruster applications where motors draw extremely high currents for short bursts during docking manoeuvres.

Key Finding: A single DCS 12V 80Ah Extreme battery can power **the majority of 12V bow thruster models** on the market — specifically all models drawing up to 300A (covering thrusters up to approximately 3kW / 4HP). For larger thrusters (5kW+), two DCS 80Ah batteries connected in parallel (160Ah total) provide full compatibility across **100% of 12V bow thruster models** on the market. Parallel ratings account for a 20% equalisation buffer (e.g. $350A \times 2 = 700A - 20\% = 560A/1min$). DCS supplies both left-hand and right-hand positive terminal configurations, along with included busbars, enabling a clean parallel connection.

2. DCS 12V 80Ah Extreme — High Current Specifications

Nominal Voltage	12V (12.8V nominal)
Nominal Capacity	80Ah
Nominal Energy	1,024Wh (1 kWh)
Chemistry	LiFePO4 (LFP)
Weight	12 kg
Dimensions (L × W × H)	230 × 175 × 210mm

High Current Discharge Ratings (Critical for Bow Thrusters)

Duration	Maximum Discharge Current	Typical Bow Thruster Use Case
10 seconds	400A	Quick burst — single correction nudge
1 minute	350A	Standard docking approach — sustained manoeuvre
3 minutes	300A	Extended docking in challenging conditions
Continuous	200A	Sustained low-power operation

2× DCS 80Ah Parallel Ratings (with 20% Equalisation Buffer)

When two batteries are connected in parallel, the combined discharge rating is not simply doubled — a 20% buffer must be applied to account for cell equalisation differences between packs.

Duration	Single Battery	Calculation	2× Parallel Rating
10 seconds	400A	800A – 20%	640A
1 minute	350A	700A – 20%	560A
3 minutes	300A	600A – 20%	480A
Continuous	200A	400A – 20%	320A

DCS supplies both **left-hand positive (LHP)** and **right-hand positive (RHP)** terminal configurations, with **busbars included in the box**, enabling a clean, professional parallel connection.

3. Bow Thruster Operating Characteristics

Bow thrusters are high-current, short-duration devices. Key operating facts:

- **Typical use:** 5–30 second bursts during docking, rarely exceeding 1–2 minutes continuously
- **Duty cycle:** Most manufacturers rate 12V thrusters for 2–4 minutes continuous at 20°C before thermal cutout
- **Current draw pattern:** High inrush current on startup (can be 20–30% above running current), then sustained running current
- **Real-world docking:** A typical marina berth approach involves 3–8 thruster activations of 5–15 seconds each, with pauses between — well within the DCS battery's capability

Important: The DCS 80Ah Extreme's 400A/10sec and 350A/1min ratings cover the startup inrush and running current of the vast majority of 12V bow thrusters. The 80Ah capacity provides sufficient energy for multiple docking manoeuvres on a single charge.

4. Compatible Bow Thruster Models — Full Listing

The following tables list all major 12V bow thruster models sold over the last 20 years, grouped by brand, with their current draw compared against the DCS 80Ah Extreme's discharge ratings.

4.1 Vetus

Dutch manufacturer, market leader in bow thrusters globally. Extensive Australian dealer network.

Model	Thrust (kgf)	Power (kW)	Tunnel (mm)	Current Draw (A)	Boat Length (ft)	DCS 80Ah Compatible
BOW2512E	25	1.5	110	~120	18–28	✓ Full
BOW3512E / BOW3512D	35	1.5	150	~150	21–33	✓ Full
BOW4512D	45	2.2	150	~200	25–37	✓ Full

BOW5512D	55	3.0	150	~280–350	28–41	✓ Burst/Standard docking
BOW6012D	60	3.0	185	~280	30–44	✓ Full
BOW7512D	75	4.0	185	~350	34–48	△ Burst only (10s–1min)
BOW9512D	95	5.0	185	~450	38–52	✓ 2× 80Ah parallel (160Ah)
BOW12512D	125	7.0	250	~550+	45–62	✓ 2× 80Ah parallel — standard docking

4.2 Side-Power (Sleipner)

Norwegian manufacturer, premium range. Well-established in Australia through marine dealers.

Model	Thrust (kgf)	Power (kW)	Tunnel (mm)	Current Draw (A)	Boat Length (ft)	DCS 80Ah Compatible
SE20/110S	20–25	1.0	110	~100	16–23	✓ Full
SE25/110S	25–30	1.5	110	~130	18–26	✓ Full
SE30/125S	30	1.5	125	~160	20–30	✓ Full
SE40/125S	40	2.2	125	~250–315	25–35	✓ Full (up to 3min)
SE60/185S	60	3.0	185	~300	30–40	✓ Standard docking (3min)
SE80/185S	80	4.0	185	~380	33–45	△ Burst only (10s–1min)
SE100/185T	100	5.5	185	~450+	38–50	✓ 2× 80Ah parallel (160Ah)
SEP100/185T	100	5.5	185	~450+	38–50	✓ 2× 80Ah parallel (160Ah)
SRP100/185T	100	5.5	185	~450+	38–50	✓ 2× 80Ah parallel (160Ah)

4.3 Lewmar

UK manufacturer, well-known for deck hardware and thrusters. Available through all major Australian chandleries.

Model	Thrust (kgf / lbs)	Power (kW)	Tunnel (mm)	Current Draw (A)	Boat Length (ft)	DCS 80Ah Compatible
110TT	28 / 62	1.5	110	~140	18–28	✓ Full
140TT 2.0kW	36 / 80	2.0	140	~185	25–35	✓ Full

140TT 2.2kW	42 / 92	2.2	140	~200	25–37	✓ Full
185TT 3.0kW	55 / 121	3.0	185	~280	35–45	✓ Full
185TT 4.0kW	70 / 154	4.0	185	~350	37–48	⚠ Burst only (10s–1min)
185TT 5.0kW	85 / 187	5.0	185	~420	40–55	✓ 2× 80Ah parallel (160Ah)
250TT 5.0kW	100 / 220	5.0	250	~400	45–60	✓ 2× 80Ah parallel (160Ah)
250TT 6.0kW	120 / 264	6.0	250	~500+	50–65	✓ 2× 80Ah parallel (160Ah)
300TT	140+ / 308+	7.0+	300	~550+	55–70	✓ 2× 80Ah parallel — standard docking

4.4 Max Power

Italian manufacturer, popular in European and Australian sailing/powerboat markets.

Model	Thrust (kgf)	Power (kW)	Tunnel (mm)	Current Draw (A)	Boat Length (ft)	DCS 80Ah Compatible
CT35	35	1.5	125	~250	17–31	✓ Full
CT45	40–45	2.0	125	~300	20–34	✓ Standard docking (3min)
CT60	58	2.5	185	~300–350	25–39	✓ Burst/Standard docking
CT80	80	3.5	185	~380	27–40	⚠ Burst only (10s–1min)
CT100	100	4.5	185	~420	32–46	✓ 2× 80Ah parallel (160Ah)
CT125	125	5.5	250	~500+	37–52	✓ 2× 80Ah parallel (160Ah)
CT165	165	7.5	250	~600+	46–62	✓ 2× 80Ah parallel — burst docking

4.5 Craftsman Marine

Dutch manufacturer, growing presence in the Australian market. Known for high efficiency and compact design.

Model	Thrust (kgf)	Power (kW)	Tunnel (mm)	Current Draw (A)	Boat Length (ft)	DCS 80Ah Compatible
28kgf 12V	28	1.0	110	~110	15–25	✓ Full
35kgf 12V	35	1.5	125	~140	18–28	✓ Full

45kgf 12V	45	2.0	150	~190	22–33	✓ Full
60kgf 12V	60	2.5	150	~250	27–38	✓ Full
80kgf 12V	80	3.5	185	~330	30–42	✓ Burst/Standard docking
95kgf 12V	95	4.5	185	~400	35–48	△ Burst only (10sec)
110kgf 12V	110	5.0	200	~450+	38–52	✓ 2× 80Ah parallel (160Ah)
130kgf 12V	130	6.0	250	~500+	42–56	✓ 2× 80Ah parallel (160Ah)
170kgf 12V	170	8.0	250	~600+	48–65	✓ 2× 80Ah parallel — burst docking

4.6 Quick (Italy)

Italian manufacturer of marine equipment. Distributed in Australia through specialist marine importers.

Model	Thrust (kgf)	Power (kW)	Tunnel (mm)	Current Draw (A)	Boat Length (ft)	DCS 80Ah Compatible
BTQ 110-25	25	1.0	110	~100	16–25	✓ Full
BTQ 120-30	30	1.2	120	~120	18–28	✓ Full
BTQ 140-30	30	1.5	140	~150	20–30	✓ Full
BTQ 140-40	40	2.0	140	~200	25–35	✓ Full
BTQ 185-55	55	3.0	185	~280	30–42	✓ Full
BTQ 185-75	75	4.0	185	~350	35–48	△ Burst only (10s–1min)
BTQ 250-90	90	5.0	250	~430	40–55	✓ 2× 80Ah parallel (160Ah)

4.7 Imtra / Yacht Thruster

Various brands including Sideshift, Yacht Thruster, and imported brands distributed in Australia.

Model / Brand	Thrust (kgf)	Power (kW)	Tunnel (mm)	Current Draw (A)	Boat Length (ft)	DCS 80Ah Compatible
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Yacht Thruster YT50	23	0.5	Retractable	~55	15–22	✓ Full
Yacht Thruster YT100	45	1.0	Retractable	~110	22–32	✓ Full
Sideshift SS340	34	1.5	External mount	~140	18–30	✓ Full
Sideshift SS550	55	2.5	External mount	~250	25–38	✓ Full

4.8 Other 12V Bow Thruster Brands

Brand / Model	Thrust (kgf)	Power (kW)	Current Draw (A)	DCS 80Ah Compatible
ABT TRAC (various 12V)	22–45	0.75–2.5	~80–250	✓ Full
Exalto / CMC 12V range	25–55	1.0–3.0	~100–280	✓ Full
JetThruster (water-jet type)	30–60	1.5–3.0	~150–280	✓ Full
Chinese/Generic 12V thrusters	20–45	0.5–2.5	~60–250	✓ Full

5. Compatibility Summary by Power Class

Thruster Power Class	Typical Thrust (kgf)	Typical Current Draw	Boat Size (ft)	DCS 80Ah Compatibility	Approx. Models Count
Up to 1.5kW (2HP)	20–35	100–160A	15–33	✓ Fully compatible — continuous	~18
1.5–2.5kW (2–3.5HP)	35–55	160–280A	22–40	✓ Fully compatible — 3min+	~15
2.5–3.5kW (3.5–4.5HP)	55–80	280–350A	28–45	✓ Compatible — standard docking (1–3min)	~10
3.5–4.5kW (4.5–6HP)	75–100	350–420A	33–52	⚠ Burst mode only (10sec pulses)	~8
5kW+ (6HP+)	95–170+	420–600+A	38–65+	✓ 2x 80Ah parallel (160Ah)	~12
TOTAL 12V BOW THRUSTER MODELS (last 20 years)					~63

Summary: Of approximately **63 distinct 12V bow thruster models** across 8+ brands sold in the last 20 years:

- **~43 models (68%)** — Fully compatible with a single DCS 80Ah for standard docking operations (1–3+ minutes continuous)
- **~8 models (13%)** — Compatible with a single DCS 80Ah for burst/pulse operation (10-second activations with pauses)

- **~12 models (19%)** — Require 2× DCS 80Ah in parallel (160Ah) for full compatibility

With the option of a parallel pair, the DCS 80Ah Extreme provides **100% coverage of all 12V bow thruster models** on the market, covering boats from 15 to 65+ feet.

DCS supplies both **left-hand positive and right-hand positive terminal configurations**, with **busbars included in the box**, enabling a clean, professional parallel connection without additional hardware.

6. Runtime Analysis — Docking Scenarios

Based on typical bow thruster usage during docking manoeuvres:

Scenario	Thruster Size	Current Draw	Bursts per Docking	Total Active Time	Ah Used per Docking	Dockings per Charge
Light docking (calm)	25–35 kgf	~150A	3–4 × 5 sec	~20 sec	~0.8 Ah	80+
Standard docking	40–55 kgf	~250A	4–6 × 10 sec	~50 sec	~3.5 Ah	18–20
Challenging docking (wind/ current)	55–80 kgf	~300A	6–8 × 15 sec	~100 sec	~8.3 Ah	8–9
Difficult conditions	55–80 kgf	~300A	8–12 × 15 sec	~150 sec	~12.5 Ah	5–6

Key takeaway: Even in challenging conditions with a larger thruster, a single DCS 80Ah battery provides sufficient capacity for **5–6 docking manoeuvres** before requiring recharge — far more than a typical day on the water requires.

7. Installation Notes

General Guide — Mounting & Wiring: Some minor mounting hardware may be required for correct fastening of the DCS battery in the bow compartment. The following considerations apply:

- **Cable sizing:** Use minimum 70mm² (2/0 AWG) cable for runs up to 2m; 95mm² (4/0 AWG) for longer runs. Keep cable runs as short as possible — ideally mount the battery adjacent to the thruster.
- **Fusing:** Install an appropriate ANL or Class-T fuse rated per the thruster manufacturer's recommendation.
- **Battery mounting:** Secure the battery in a marine battery box or with strapping. The DCS 80Ah at 12 kg is significantly lighter than lead-acid alternatives (typically 25–30 kg), making bow installation easier.
- **Charging:** The DCS 80Ah Extreme can be charged from the vessel's alternator via a DC-DC charger off the house battery bank or engine battery bank. Never use voltage-sensing relays — best practice is

to use a dedicated LiFePO4-compatible DC-DC charger and ensure the battery is permanently isolated. It will readily accept charge between thruster activations.

- **BMS compatibility:** The DCS 80Ah's built-in BMS is designed to handle high-current discharge loads without false disconnection. The 400A/10sec and 350A/1min ratings account for the transient nature of thruster loads.

8. DCS Advantage vs Lead-Acid for Bow Thruster Applications

Parameter	Typical Lead-Acid (Group 27/31 AGM)	DCS 12V 80Ah Extreme
Capacity	80–105Ah	80Ah (100% usable)
Usable capacity (50% DoD)	40–53Ah	80Ah (100% DoD rated)
Weight	25–32 kg	12 kg
Voltage under high load	Drops significantly (10.5–11V)	Maintains ~12V+ (flat discharge curve)
Recovery between bursts	Slow voltage recovery	Near-instant voltage recovery
Cycle performance	300–500 cycles	2,000+ cycles
Self-discharge	5–15% per month	<3% per month
Maintenance	Terminal cleaning, electrolyte checks	Zero maintenance
Mounting in bow	Heavy, orientation-sensitive (wet cell)	Light, mount in any orientation

Critical advantage: Lead-acid batteries suffer severe voltage sag under the high current loads that bow thrusters demand. A lead-acid battery drawing 250A may drop to 10.5V or below, significantly reducing thruster performance. The DCS LiFePO4 battery maintains a flat voltage curve — delivering consistent thrust throughout its discharge cycle.

9. Disclaimer

This report is provided as a general compatibility guide based on publicly available manufacturer specifications. Actual current draw may vary based on installation factors including cable length, terminal condition, water conditions, and vessel characteristics. Some thruster models have been produced in multiple generations with varying specifications — installers should verify the exact current draw rating of their specific thruster model and revision before installation. The DCS 12V 80Ah Extreme's discharge ratings represent maximum safe operating limits; sustained operation at these limits will result in higher battery temperatures and may reduce cycle performance. Deep Cycle Systems recommends consulting the thruster manufacturer's battery sizing guide alongside this report. All product specifications are subject to change.

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