# MARINE & LEISURE BATTERY SOLUTIONS













Made in Europe by Exide Technologies - Original Equipment Manufacturer

# ENSURE SAFER & LONGER TRIPS BY CHOOSING THE RIGHT BATTERY

The battery is critical to safety and comfort. It powers key operations like engine start, radio, GPS, lighting, heating and refrigeration, allowing passengers to feel sheltered, entertained and connected to the outside world.

Exide's new marine range covers all the energy needs of both professional installers and private users. It offers the very best in reliability and electrical performance, allowing you to extend average trip length, experience improved luxury and comfort on board, and benefit from exceptional battery lifespan.

Exide's premium marine batteries are a preferred choice for boat builders. Exide's Gel and AGM batteries are DNV-GL approved, the highest endorsement for a marine market product, making it easier to align with European naval regulations for newly built boats.

# HOW TO SELECT THE BEST BATTERY SOLUTIONS

1 IDENTIFY THE BOAT'S ENERGY NEEDS 2 FIND THE RIGHT BATTERY COMBINATION **3 SELECT THE BEST** BATTERY TECHNOLO

# IDENTIFY THE BOAT'S ENERGY NEEDS

## EQUIPMENT SUPPLY NEED

An uninterrupted supply to emergency or comfort equipment uses power at consistently high levels, causing deep battery discharge during the journey. The electrical unit used to measure equipment supply need is Wh\*.





**DUAL SUPPLY NEED** 

Starting engine in combination with the supply to other electrical equipment requires high peaks of power and also a variable power drain, causing battery discharge during the journey. The electrical unit used to measure dual supply need is Wh\*.



Starting a combustion engine requires high peaks of power during a short time, leaving batteries unused for the rest of the journey. The electrical unit used to measure engine start need is MCA\*.



JOURNEY DURATION

\*MCA = Marine Cranking power in Amps at 0°C \*Wh = Available Watt x hour at 20h rate from a battery, without exceeding its recommended depth of discharge



# FIND THE RIGHT BATTERY COMBINATION



# **EXAMPLES OF DIFFERENT** CONFIGURATIONS

### Case A - Engine only

Boats for which batteries are applied to engine start only. The electrical equipment is not supplied with energy when the engine is switched off. This configuration corresponds to Engine start need.



### **Case B - Engine & Equipment**

Boats for which one unique bank of battery has to supply power for engine start and electrical equipment. This configuration corresponds to Dual supply need.



### Case C - Engine + Equipment

Boats for which 2 separated banks of batteries are dedicated to supply power, one for engine start and the other for electrical equipment. This configuration corresponds to two needs: Engine start plus Equipment supply. In total, 2 different batteries are required.



### Case D - Engine + Equipment + Other

Boats for which, in addition to 2 main battery banks (engine + equipment), other batteries are installed to supply power directly to electrical winches, thrusters or trolling motors. This configuration corresponds to three needs: Engine start plus Equipment supply plus Dual supply. In total, 3 different batteries are required.





# **EACH ENERGY NEED HAS** ITS OPTIMAL BATTERY SOLUTION

## EQUIPMENT SUPPLY NEED

EQUIPMENT battery range is designed to supply power for boats with dedicated battery banks for equipment such as navigation, emergency, safety and comfort (cases C&D). The batteries are partially or even deeply discharged during use. This means that the EQUIPMENT's special design, together with a good recharging procedure, is the key to providing the most reliable result and service life duration. EQUIPMENT range, with Wh\* performance from 290Wh to 2400Wh, is the choice to cover all equipment supply needs, from small electronics to emergency power.





# DUAL SUPPLY NEED

Exide DUAL battery range is designed to supply power for boats having one battery bank for all consumers (case B). It is also suitable for additional batteries directly applied to electrical winches, thrusters and trolling motors (case D). The batteries are partially discharged during use. This means that the DUAL's reinforced design, together with a good recharging procedure, is key to providing the best result and service life duration. DUAL battery range, with Wh\* performance from 350Wh to 2100Wh, is the choice to cover all dual supply needs for the most popular recreational boats.

## ENGINE START NEED

Exide START battery range is designed to supply high power for engine start when installed alone for boats with basic equipment (case A). It can also be used when installed in engine-dedicated battery banks for the most sophisticated yachts (cases C&D). The batteries are usually charged after starting the engine, as the alternator quickly returns consumed power. The START design provides good performance and service life duration. START battery range, with MCA\* performance from 500A to 1100A, is the choice to cover all engine start needs from small outboards to big sterndrives.



# SELECT THE BEST BATTERY TECHNOLOGY

# EQUIPMENT SUPPLY NEED



# EQUIPMENT

Standard flooded with glass mat separators and plug venting.

### **Benefits**







# EQUIPMENT GEL

Gel (electrolyte fixed in a gel) with VRLA venting.



#### VV+ Superior cycling Internal gas recombination $(\sim)$ No location constraints (safe for cabin mount) Safe and clean

(spark & spill-proof)



Space saving of up to 30%

#### SHELF LIFE AT 20°C





**EQUIPMENT** LI-ION

Lithium-Ion technology

## **Benefits**



maintenance free Suitable for long resting periods

#### **VIBRATION RESISTANCE AT 6G/35HZ\***



\* Referred to EN50342

# DUAL SUPPLY NEED

Upright mount

Medium vibration & tilt resistant

& charge inspection (except ER660)

Top indicator for electrolyte



• Start & supply

VERIFIED DUAL

4







# DUAL AGM

AGM flat or orbital with VRLA venting

### **Benefits**

ð





Faster recharge

• Up to 50% faster recharging

ं

- High inclination High vibration & tilt resistant
  - Internal gas recombination No location constraints (safe for cabin mount)
  - Safe and clean (spark & spill-proof)

٧٧..**»** 

 $\overline{\mathcal{N}}$ 

**Benefits** 

 Low gas emission • To be installed in special container

Low maintenance

CYCLING PERFORMANCES VS DEPTH OF DISCHARGE AT 20°C



#### SHELF LIFE AT 20°C



#### **VIBRATION RESISTANCE AT 6G/35HZ\***



# **ENGINE START** NEED



START

Standard flooded with plug venting

Very low gas emission

for safe gas conduction

Spark arrestor & central degassing

### **Benefits**









Superior starting power

Slight inclination

 $\overline{m}$ 

335



8

ð

#### $\mathcal{M}$ Superior starting power

 Absolutely maintenance free Suitable for long resting periods



• Up to 50% faster recharging

 High inclination High vibration & tilt resistant

**START** AGM

Internal gas recombination ಂ No location constraints

AGM flat or orbital with VRLA venting

- (safe for cabin mount)
  - Safe and clean (spark & spill-proof)

#### **MARINE CRANKING** POWER AT 0°C



\* Referred to BCI standard for Marine Cranking Amperes (MCA)

#### SHELF LIFE AT 20°C



#### **VIBRATION RESISTANCE AT 6G/35HZ\***



# FINALIZE YOUR CHOICE BY CALCULATING THE ENERGY REQUIRED IN WATTS PER HOUR

### 1. START BY CALCULATING DEVICE CONSUMPTIONS

Power x 🕑 Daily usage = ENERGY CONSUMPTION (Wh)



2. APPLY A SAFETY FACTOR TO COVER OVERUSE



DUAL

Reference: EP 900

2 x 900 Wh\*

2 x 32 kg

AGM

Energy:

Weight:

TOTAL REQUIRED 1284 Wh

DUAL

Energy:

Weight:

Reference: ER 450

3 x 450 Wh\*

3 x 23 kg

### 3. SELECT YOUR BATTERY SET ACCORDING TO THE REQUIREMENTS



\*Wh = Available Watt x hour at 20h rate from a battery, without exceeding its recommended depth of discharge



#### **DID YOU KNOW?**

When selected battery technology does not achieve the required Wh for a vehicle, either the number of batteries connected in parallel has to be increased or the technology has to be upgraded to Equipment Gel.

Jet-skis and scooters, often used as service vehicles, are fitted with the Exide Poxwersport offer.

# MORE THAN BATTERIES

Because marine battery use is seasonal, tools such as testers and chargers are essential for marine professionals and end users alike. Exide has a comprehensive range of accessories and support for batteries of all kinds of applications. We help you test, charge, select, replace and recycle batteries – everything workshops need to keep work in-house, provide quality service and grow profitability.





# BATTERY FINDER ONLINE NEW

The new Online battery finder features a modern interface and all-new user experience, it supports battery selection and fitting for the most comprehensive range of boats and vehicle types.

It propose now an exclusive tool that allows to make the best choice based on the specific electrical needs of the user.

www.exide.com/eu/en/battery-finder



# TYPE LIST

NEW		Technology					Performances			Dimensions			Technical Characteristics				
	CODE	GEL	AGM Flat	AGM Orbital	Li-on	Flooded	Wh*	Capacity Ah (20h)	CCA A (EN)	L (mm)	W (mm)	H (mm)	Polarity	Terminal	Weight (kg)	Box	( <u></u> )
EQUIPMENT LI-ION	EV1600				•		1600	125	-	318	202	165	1	M08	15	27F	
	ES 200						200	25	_	165	175	125	0	Elat Lug (M5)	10	D24	
	ES 450						450	40	-	210	175	125	0	Flat Lug (M3)	10	F Z4	
	ES 650						650	56	-	278	175	190	0	Standard	21	1.03	
	ES 900						900	80	-	350	175	190	0	Standard	26	L05	
	ES 950	•					950	85	-	350	175	235	1	Standard	28	D02	•
	ES1000-6	•					1000	195 (6V)	-	245	190	275	0	Standard	29	GC2	•
EQUIPMENT	ES1100-6	•					1100	200 (6V)	-	245	190	275	0	Threaded insert	31	GC2	•
GEL	ES1200	•					1200	110	-	285	270	230	2	Standard	38	D07	·
	ES1300	•					1300	120	-	350	175	290	0	Standard	38	D03	•
	ES1350	•					1350	120	-	513	189	223	3	Standard	40	D04	•
	ES1600	•					1600	140	-	513	223	223	3	Standard	47	D05	•
	ES2400	•					2400	210	-	518	279	240	3	Standard	64	D06	•
	ET550					•	550	80	-	278	175	190	0	Standard	21	L03	
	ET650					•	650	100	-	350	175	190	0	Standard	27	L05	
eee	ET950					•	950	135	-	513	189	223	3	Standard	40	D04	
and and a second	ET1300					•	1300	180	-	513	223	223	3	Standard	50	D05	
EQUIPMENT	ET1600					•	1600	230	-	518	279	240	3	Standard	65	D06	

# **CODE** STRUCTURE





	0005	Technology					Performances			Dimensions			Technical Characteristics				$\frown$
	CODE	GEL	AGM Flat	AGM Orbital	Li-on	Flooded	Wh*	Capacity Ah (20h)	CCA A (EN)	L (mm)	W (mm)	H (mm)	Polarity	Terminal	Weight (kg)	Box	
	EP450						450	50	750	260	173	206	1	Standard + Threaded	19	G34	•
DUAL AGM	EP500		•				500	60	680	242	175	190	0	Standard	18	L02	•
	EP600		•				600	70	760	278	175	190	0	Standard	21	L03	•
	EP650		•				650	75	775	270	173	222	1	Standard + Threaded	23	D26	·
	EP800		•				800	95	850	353	175	190	0	Standard	26	L05	•
	EP 900		•				900	100	800	330	173	240	1	SAE M 3/8«- 5/16» taper&stud	31	G31	·
	EP1200		•				1200	140	700	513	189	223	3	Standard	41	D04	•
	EP1500		•				1500	180	900	513	223	223	3	Standard	50	D05	·
	EP2100		•				2100	240	1200	518	279	240	3	Standard	70	D06	•
0																	
	ER350					•	350	80	510	260	175	225	1	Standard	18	D26	
Area and	ER450					•	450	95	650	310	175	225	1	Standard	22	D31	
DUAL	ER550					•	550	115	760	350	175	235	1	Standard	28	D02	
	ER650					·	650	142	850	350	175	290	1	Standard	35	D03	
	ER660					•	660	140	750	513	189	223	3	Standard	37	D04	
	ER850					•	850	180	1000	513	223	223	3	Standard	46	D05	

	CODE	GEL	AGM Flat	AGM Orbital	Li-on	Flooded	MCA* A (BCI)	Capacity Ah (20h)	CCA A (EN)	L (mm)	W (mm)	H (mm)	Polarity	Terminal	Weight (kg)	Box	() Internet
	EM900			•			900	42	700	230	173	206	1	Standard + Threaded	16	G86	•
	EM960		•				960	100	800	330	173	240	1	SAE M 3/8» taper&stud	31	G31	
START AGM	EM1000			•			1000	50	800	260	173	206	1	Standard + Threaded	18	G34	•
	EN500					•	500	50	450	210	175	190	0	Standard	12	L01	
	EN600					•	600	62	540	242	175	190	0	Standard	14	L02	
- DALLA	EN750					•	750	74	680	278	175	190	0	Standard	17	L03	
	EN800					·	800	90	720	353	175	190	0	Standard	20	L05	
****	EN850					•	850	110	750	350	175	235	1	Standard	25	D02	
START	EN900					•	900	140	800	513	189	223	3	Standard	34	D04	
	EN1100					•	1100	180	1000	513	223	223	3	Standard	43	D05	

	COMPLEMENTARY RANGE FOR OLD FITMENTS														
	EU72L			•	-	72	640	278	175	190	1	Standard	16	L03	
10 10 Al	EU77-6			•	-	77 (6V)	360	215	169	184	0	Standard	18	H02	
	EU80-6			·	-	80 (6V)	600	158	165	220	0	Standard	11	M02	
	EU140-6			•	-	140 (6V)	900	257	175	236	0	Standard	18	M04	
111	EU165-6			•	-	165 (6V)	900	330	174	234	0	Standard	25	M05	
VINTAGE	EU200-6			•	-	200 (6V)	1150	398	174	234	0	Twin EN taper posts	28	M06	
	EU260-6			•	-	260 (6V)	1300	350	175	290	0	Standard	39	M08	

\*MCA = BCI Marine Cranking power in Amps at 0°C \*Wh = Available Watt x hour at 20h rate from a battery, without exceeding its recommended depth of discharge

#### **DID YOU KNOW ?**

Exide also produces batteries for light vehicles, commercial vehicles, motorcycles and caravans. Contact your local sales representative or visit www.exide.com to find out more.

Exide Technologies, with operations in more than 80 countries and more than 130 years of experience, is one of the world's largest producers and recyclers of lead-acid batteries. The company develops state-of-the-art energy storage solutions for the automotive and industrial market. Leading car, truck and lift truck manufacturers trust in Exide Technologies as an original equipment supplier. Exide also serves the aftermarket through a portfolio of successful and well-known brands.

Exide Transportation manufactures batteries for light and commercial vehicles, as well as agricultural and marine leisure applications. Industrial markets - under the division GNB Industrial Power - include efficient energy storage solutions for motive power applications such as lift trucks, cleaning machines and other commercial electrical vehicles, and network power applications such as telecommunications systems, renewables, and uninterruptible power supply (UPS).

Exide's engineers have always been at the forefront of bringing important innovations to the industry. Exide's IATF 16949 certified manufacturing facilities ensure that customers receive products that are produced with maximum efficiency and fulfill the highest quality standards, while minimizing impact on the environment.

Exide's extensive sales and distribution network provides quality service and delivers on time to its customers. Its world-class recycling facilities ensure that batteries will be reused, helping to make a positive contribution to the environment. Exide also provides services, accessories and energy consulting to its clients.



Manufacturing plants ISO 9001 and ISO 14001 certified

Automotive plants IATF 16949 certified

#### **EMEA HEADQUARTERS**

EXIDE TECHNOLOGIES SAS **5 ALLÉE DES PIERRES MAYETTES** 92636 GENNEVILLIERS FRANCE

TEL: +33141212300

FAX +33 1 41 21 27 15

