

An aerial photograph of a boat's wake in deep blue water. The wake is a turbulent trail of white foam and churning water that curves from the top right towards the bottom left. The water is a rich, dark blue, and the sky is not visible, suggesting a high-angle shot from above the water.

*Aquamot*

Batteries  
Charger

# Aquamot Longlife silicone batteries



## Benefits

- » Superior lifetime (up to 950 cycles at 50% DOD)
- » High-temperature resistant up to 65°C
- » More power per cycle: up to 30% more current consumption from the battery per cycle
- » Innovative silicone technology
- » Maximum performance through the deep-cycle technology
- » High continuous-discharges-rates possible
- » Sturdy and leak proof case construction
- » Absolutely safety



## Our Batteries

An absolutely reliable partner on board at any time, at every place and for every application. The Aquamot Longlife Silicon Deep-Cycle battery is a VRLA-battery for different operating ranges with higher constant current.

It is possible to charge and discharge the Aquamot AGM Deep-Cycle Silicone battery up to 9 times more (up to 950 cycle at 50% DOD or 750 cycles at 75% DOD and 25°C) as a customary battery. This is absolutely market-leading in our understanding. The result of using lead grids with very thick meshes, own-developed paste and own-developed silicone technology allows this long service life.

Therefore the inner resistance is decrease distinct. So in combination with the Deep-Cycle ability (up to 80% discharge) up to 30% more current can be taken out of the battery per cycle than out of an conventional battery. Also the high temperature ability up to 65 °C can be reached because of this new silicone technology.

Through the use of one of the latest ABS technology for the housing and the inner structure, the batteries are extremely tough and moreover extremely shock and vibration resistant. The battery is also tolerant against the positioning and can be mounted in every position.

## Model overview

Type	ALS12085	ALS12105	ALS12115	ALS12145	ALS12200	ALS12260	ANC12120 <sup>1</sup>
<b>Voltage</b>	12 V	12 V	12 V	12 V	12 V	12 V	12V
<b>Capacity (C20)</b>	85 Ah	105 Ah	115 Ah	145 Ah	200 Ah	260 Ah	120 Ah
<b>Length</b>	260 mm	307 mm	331 mm	341 mm	532 mm	520 mm	331 mm
<b>Width</b>	169 mm	169 mm	176 mm	173 mm	206 mm	268 mm	176 mm
<b>Height total</b>	215 mm	216 mm	220 mm	288 mm	222 mm	226 mm	221 mm
<b>Weight</b>	26,2 kg	30,7 kg	33,7 kg	42,3 kg	59,0 kg	77,5 kg	33,4 kg
<b>Terminal</b>	M6	M6	M8	M8	M8	M8	M8
<b>Temperature range</b>	-25°C to 65°C						
<b>Self-discharge</b>	<2% per month (25°C)						
<b>Cycle voltage</b>	14,4 V to 14,9 V						
<b>Floating voltage</b>	13,6 V to 13,8 V						
<b>Warranty</b>	2 years						

<sup>1</sup> no traction battery (no Deep-cycle ability and lower cycle count) ;



## Superior lifetime

It is possible to charge and discharge the Aquamot AGM Deep-Cycle Silicone battery up to 9 times more (up to 950 cycle at 50% DOD or 750 cycles at 75% DOD and 25°C) as a customary battery. This is absolutely market-leading in our understanding. This long service life is the result of using lead grids with very thick meshes, own-developed paste and own-developed silicone technology.

## Immaculate performance

Generally customary batteries can only be discharged maximum 50% of their capacity, this means that only the half of their capacity can be used. Aquamot AGM Deep-Cycle batteries can be discharged up to 80% of their capacity. Therefore 30% more energy is available at the same range of capacity. So all loads can be used 30% longer without an external power supplier.

## Far reaching temperature range

Commercial batteries only have a temperature range from -10°C up to +40°C. Especially for the boat sector, where the temperatures in summer can reach up to 60°C in the engine room, this would not be enough. Therefore the Aquamot Deep-Cycle batteries are very high temperature resistant and can be used up to 65°C ambient temperature.

## Tough and leakproof construction

Through the use of one of the latest ABS technology for the housing and the inner structure, the batteries are extremely tough and moreover extremely shock and vibration resistant. At this battery type is used no fluid electrolyte, but the electrolyte is bounded in fibreglas separators so there is no risk that the electrolyte could leak out of the housing. The battery is also tolerant against the positioning and can be mounted in every position.



## Absolutely safety

Often new battery technologies are given to overheat faster. In the worst case this could cause fire. Our batteries are virtually not burnable and if pressure builds up inside the batteries this will be no problem. There are intelligent overpressure valves which would take away the gas inside. So this is a completely safe construction.



## Completely free of maintenance

Who can't remember to one of the following situations? Refilling distilled water, checking the acid level, doing grease on the pole and so on... You can forget everything with the absolute maintenance free battery technology of Aquamot because the electrolyte is absorbed in the fibreglass separators and not liquid. The poles are also screws as it is written in the guideline. Therefore it isn't necessary anymore to do any grease between poles and cable lugs.

## Brilliant storability

Because of using the latest materials in the separators and the paste material, a very low internal resistance could be reached. This causes the advantage that the storability got increased very much and the self discharge got extremely decreased therefore. That means that the self discharge is less than 2% after one month.

## Batteries according to both US and European standards

All Aquamot Longlife Deep-Cycle AGM Batteries conform the huge numerous of European and US guidelines. Therefore the battery can be used worldwide without thought.



# Charger



## Benefits

- » Ultimate high-frequency technology
- » Fully automatic, processor-controlled charging procedure
- » Soft-start function
- » HFM-types with integrated LCD display (current [A], voltage [V], charging hours [h], charged Ah [Ah])
- » Configuration of the charging curves with DIP switches
- » Several safety functions
- » Suitable for lead-acid, GEL and AGM batteries



## Model overview

Type	HFS 12V/10A	HFM 12V/30A	HFS 24V/10A	HFM 24V/30A	HFM 36V/25A	HFM 48V/20A	HFM 48V/50A
<b>Voltage</b>	12 V	12 V	24 V	24 V	36 V	48 V	48 V
<b>Current</b>	10 A	30 A	10 A	30 A	25 A	20 A	50 A
<b>Length</b>	130 mm	310 mm	130 mm	310 mm	310 mm	310 mm	520 mm
<b>Width</b>	164 mm	190 mm	164 mm	190 mm	190 mm	190 mm	330 mm
<b>Height total</b>	56 mm	130 mm	56 mm	130 mm	130 mm	130 mm	180 mm
<b>Weight</b>	1,2 kg	2,6 kg	1,2 kg	2,6 kg	2,6 kg	2,6 kg	7,3 kg
<b>Suitable for</b>	SILKON, AGM, Gel and lead-acid batteries; adjustable with DIP-switches						
<b>Suitable up to</b>	150 Ah	400 Ah	150 Ah	400 Ah	300 Ah	260 Ah	600 Ah

## HFM - Series

### ADDITIONAL LED-SPOTS FOR THE CHARGING-STATUS

Furthermore 3 integrated LED-spots (green, yellow, red) provide you information regarding the charging status.

### HEAT-RESISTANT ABS-HOUSING

Safety is the prime principle at Aquamot. Therefore our engineers decided to produce the housing of the HFM-series chargers at the same material as the batteries.

The plastic ABS is very light and extremely heat-resistant which can be very safety-relevant.

### EXTRA INTEGRATED RELAY

This relay can be used for example at a moving off-protection. Consequently this is an extra safety feature of the Aquamot HFM charger.

### MOUNTING HOLES

The large designed mounting holes allow a comfortable mounting in the boat.

### INTEGRATED DISPLAY FOR SHOWING THE CHARGING STATUS

The integrated LCD display provides you detailed information about the current charging status.

It shows the effective voltage [V], current [A], charged capacity [Ah] and the time of charging [h].

It also shows error codes on this display. Therefore this charger is a reliable partner onboard.

### ULTIMATE HIGH-FREQUENCY TECHNOLOGY

The batteries will be charged very efficiency and sparing through the using of the latest high-frequency charging technology.

Therefore the lifetime of the batteries will increase during the energy costs will be reduced.

### IN- & OUTPUT CABLE

Both cables are included in the standard equipment and they are 1.5m long. The plug of the input cable is a SCHUKO-plug.



## HFS - Series

### ULTIMATE HIGH-FREQUENCY TECHNOLOGY

Also this type uses the advanced Aquamot high-frequency charging technology.

Therefore the HFS-series has all advantages of HFM-series: efficient charging process, sparing and lifetime promoting charging of the batteries.

### ROBUST ALUMINUM HOUSING

The aluminum housing is very robust and shock-resistant. Therefore Aquamot HFS chargers are a reliable and versatile partner onboard.

### LED-SPOTS FOR THE CHARGING-STATUS

3 integrated LED-spots (green, yellow, red) provide you information regarding the charging status incl. errors.

### MOUNTING HOLES

The large designed mounting holes allow a comfortable mounting in the boat.

### IN- & OUTPUT CABLE

Both cables are included in the standard equipment and they are 1.5m long. The plug of the input cable is a SCHUKO-plug.



# Air cooled charger



## Benefits

- » Extremely quiet because of convection cooling
- » The charger charges the batteries gently without radiator fan or water pump
- » Ultimate High frequency technology
- » Waterproof IP65
- » Fully automatic processor controlled charging procedure
- » Soft-Start function
- » Robust aluminum housing

### LED-SPOTS FOR THE CHARGING-STATUS

3 integrated LED-spots (green, yellow, red) provide you information regarding the charging status incl. errors.

### COOLING RIPS FOR CONVECTION COOLING

No fan, no water pump, only a few cooling rips. This is the whole cooling of the new HFL series.

### WATERPROOF ALUMINUM HOUSING IP65

The robust aluminum housing is waterproof according to IP65.

### IN- & OUTPUT CABLE

Both cables are included in the standard equipment and they are 1.5m long. The plug of the input cable is a SCHUKO-plug.

### ULTIMATE HIGH-FREQUENCY TECHNOLOGY

The batteries will be charged very efficiency and sparing through the using of the latest high-frequency charging technology.

Therefore the lifetime of the batteries will increase during the energy costs will be reduced.

### MOUNTING HOLES

The large designed mounting holes allow a comfortable mounting in the boat.



## Model overview

Type	HFL 12V/54A	HFL 24V/27A	HFL 36V/18A	HFL 48V/13,5A
Voltage	12 V	24 V	36 V	48 V
Current	54 A	27 A	18 A	13,5 A
Length	260 mm	260 mm	260 mm	260 mm
Width	230 mm	230 mm	230 mm	230 mm
Height total	105 mm	105 mm	105 mm	105 mm
Weight	3 kg	3 kg	3 kg	3 kg
Suitable for	SILIKON, AGM, Gel and lead-acid batteries			
Protection class	IP65			
Cooling	Connection cooling			
Suitable up to	600 Ah	300 Ah	200 Ah	200 Ah

# Aquapedia

You ask - We answer

## **WHAT IS THE LIFETIME OF AN AQUAMOT BATTERY?**

Generally the lifetime of a consumer battery depends on four essential factors.

### **1. Cycles**

The battery cycle means the discharge with following recharge of the battery. Causes to the duration and the intensity of using, a very small or a very huge discharge current can be denote as an cycle. The deeper you discharge the battery, the lower is the cycle number. The Aquamot Longlife Silicon batteries reach a top level on the lead battery market up to 950 cycles with 50% discharge.

### **2. Discharge current**

Generally: the higher the discharge current in case of the capacity (C-value), the lower the lifetime of the battery. The reason is that the battery is a resistor for itself. The higher the current, the higher the power loss (=heat). Aquamot batteries have an extremely low internal resistance because of the innovative silicone technology.

### **3. Temperature**

Commercial batteries are applicable only up to 40°C according to fabricator declaration. Over this temperature the internal cells will get too hot and this will cause dramatically damage to the batteries. Especially in the boat sector temperatures up to 60°C are no rarity in the engine room, therefore are in the electrolyte of our batteries special additives which causes an high temperature ability up to 65°C.

### **4. Age of the battery**

Batteries can get older without any use of them. The lead plates will get a thin corrosion coat. If this coat is getting bigger the battery can not be used any more. Unfortunately this procedure can not be prevented but only delayed. Because of adding some additives in the electrolyte, the lifetime of the Aquamot battery got increased essentially.

## **HOW LONG CAN I USE MY CONSUMER WITH A CERTAIN BATTERY?**

Generally: The higher the discharge current in case of the capacity (=C-discharge rate), the fewer power you get out of the battery. This is because of the internal resistance of a battery. This resistance causes losses which become to heat. Also the electro-chemical process of the fast discharge can not happen in the same tempo. We suggest you to ask in this case an Aquamot service Partner or Aquamot to get the best information for you.

## **HOW DOES THE BATTERIES BE HANDLED IN WINTERTIME?**

ALS batteries can stay in the boat and don't have to be dismantled, because the self discharge is at colder temperature lower than at warmer. Furthermore a main cable should be dismantled from one of the poles to prevent for hidden discharges. Once in a quarter the battery should get recharged.

## **WHAT IS THE DIFFERENCE BETWEEN COMMERCIAL BATTERIES AND AQUAMOT BATTERIES?**

Aquamot Longlife Deep-Cycle batteries have all the features which are decisive for the boat sector. Superior Lifetime - maximum performance through the deep-cycle technology – high temperature resistance – tough and leakproof – free of maintenance, and much more. All these special features make the Aquamot battery unique and superb.

## **ARE THE BATTERIES FREE OF MAINTENANCE?**

Aquamot batteries are of course absolutely free of maintenance and clean – no leaking of acid, no gas at charging.

## **WHAT IS IMPORTANT BY CHARGING THE BATTERIES?**

Aquamot batteries principally can be charged with every charger which has an AGM characteristic curve. The maximum charging voltage has to be between 14,4V and 14,9V and the floating voltage between 13,6V up to 13,9V. It is very important that you don't increase the voltage like with lead-acid batteries. This will cause an overvoltage and it will totally damage the battery.





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