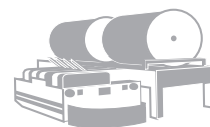




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**SHF**  
**Chargers for Small  
Traction Batteries**  
**Powerbloc**  
**Powerbloc dry**  
**Hawker® XFC™**

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# Small HF chargers for batteries and blocs

## SHF

The SHF high frequency chargers are intended for all types of vented lead acid batteries and valve regulated blocs (AGM and Gel). This is achieved by separate settings of the microprocessor. They are extremely compact in size, and light. Standard charging curve is IULaU, this means charging with maximum current until the gassing voltage has been reached. This voltage is then kept constant until the current has decreased to a limit value specific to each battery model. The charger will recharge the battery in 8 to 14 hours, dependant upon the relationship between the charger size selected and the battery capacity.

The high efficiency and power factor result in very low input current requirements allowing for larger batteries to be recharged from a single phase supply.

The charging process is illustrated by the following colours on the tri-coloured LED:

Amber – Charging

Green – Charge complete

Flashing Red – Fault

### Features and benefits

- Programmable charge profile: Multiple profiles for different battery technologies.
- EMC Compliant: Conforms to EN61000-6-3 residential, commercial and light & EN61000-6-2 industry
- Automatic equalise: Ensures the battery is always fully charged and ready for use.
- Fully automatic operation: Automatic reset and start up.
- Charge start delay: Ensures safe connection of battery.
- LED display: Shows state of charge and fault conditions, with option for remote indication.
- Ease of installation: 13 A plug and appliance socket fitted on wall mounted units and spiral cable with 13 A plug fitted for onboard units.
- Fault protection and installation: Protection from damage due to battery, charger or operator errors.
- Compact design: Can be utilised as an onboard charger as well wall mounted.
- Interlock facility: Eliminates the possibility of the machine being driven away whilst the charger is still connected to the mains.



### SHF 250, 300

The 250 and 300 Watt chargers are filled and sealed according to enclosure class IP65 and highly shockproof.



### SHF 600, 800, 1600

The 600, 800 and 1600 Watt chargers are suitable for onboard applications, with anti-vibration installation kits, remote and interlock relay available on request.

## Technical data

	SHF 250	SHF 300	SHF 600	SHF 800	SHF 1600
Supply Voltage	230 V+/- 15% Single phase		230 V+/- 10% Single phase		
Frequency	47 – 63 Hz		45 – 65 Hz		
Current	1.4 A	1.8 A	3.5 A	4.5 A	9 A
Power factor	Close to unity				
Max output	250 W	300 W	600 W	800 W	1600 W
Efficiency	90%		> 86%		
Switch frequency	50kHz – 130kHz		100 kHz		
Weight (incl.cables)	1.6 kg		1.5 kg	1.5 kg	3.1 kg
Dimensions (mm) (WxDxH)	193x99x48		251x112x73	251x112x73	299x135x87
Enclosure + IP class	IP 65, 1 earthed mains cable		IP20, installed horizontally : Electrical II protective earthed		
Safety	CE – marked and RoHs certified				
Cables	AC input & DC output cables supplied				
Ambient temp.	- 25 to 50°C		-5 to 40°C		

## Charger Selection Table


Output Current (A)	Nominal 8hr Recharge (Vented) (Ah)	Nominal 12hr Recharge (Vented) (Ah)	Nominal 12hr Recharge (Gel VR) (Ah)
8	47 - 66	40 - 103	41 - 60
10	59 - 88	91 - 122	51 - 76
15	89 - 117	123 - 183	77 - 113
20	118 - 147	184 - 244	102 - 151
25	148 - 180	245 - 305	128 - 189
30	181 - 216	306 - 366	153 - 227
35	217 - 252	367 - 427	179 - 264
40	253 - 288	428 - 488	204 - 302
45	289 - 324	489 - 549	230 - 340
50	325 - 360	550 - 610	255 - 378
60	361 - 432	611 - 732	306 - 453

## Case sizes

Output Voltage (V)	Output Current (A)												
	8	10	11	15	17	20	25	30	35	40	45	50	60
12				P4	P3	P4	P4	P4	P4	P4	P4	P4	
24	P3	P4	P3	P4		P4	P4	P4	P6	P6	P6	P6	P6
36		P4		P4		P4	P6	P6	P6				
48		P4		P4		P6	P6	P6					

Case size	Dimensions		
	W	D	H
P3 (SHF 250,300)	193	99	48
P4 (SHF 600)	251	112	73
P4 (SHF 800)	251	112	73
P6 (SHF 1600)	299	135	87

All dimensions are given in mm  
Technical details are subject to  
alterations without notice



Wherever you do business, EnerSys® can support you with motive power energy. The Hawker® branded battery range, matched chargers and systems provide trouble free performance under the most demanding service conditions. Our strategically located manufacturing plants are efficient and responsive with a culture of continuous improvement and added value for our business partners.

EnerSys has an enviable position in technology leadership and with significant investment in research and development we intend to stay at the leading edge in product innovation. The recently developed energy solutions: Hawker XFC-Li™ and Hawker XFC™ batteries, Life IQ™ and LifeSpeed IQ™ HF chargers, have defined new benefits for our customers: faster recharge, more machine availability, lower operating and investment costs, reduced carbon footprint. Our team of development engineers is driven by the desire to build the best energy solutions and works closely with our customers and suppliers to identify development opportunities. Our bias for rapid innovation means we get new products to market fast.

EnerSys's integrated sales and service network is dedicated to providing our customers with the best solutions and after-sales support for their business. Whether you require 1 battery or a complete fleet of batteries, chargers, a battery handling system and a state of the art fleet management system, you can count on us. EnerSys is the world's largest industrial battery manufacturer and we are dedicated to being the best.



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