

# Total Solutions System

## **STATIONARY BATTERIES**



# **WINNER<sup>®</sup>**

BATTERY



## **SUPERIOR QUALITY PRODUCT**

Range	Technology	Nominal Voltage	Capacity Range	Design Life	Positive Plate	Negative Plate	Container and lid	Characteristics	Applications
<b>SMALL SIZED VRLA</b>									
APOLLO 	AGM	6-12	0,8-265	4-10	Flat (Pasted)	Flat (Pasted)	ABS	General use both for cyclic and stand by	     
ICARUS 	AGM	6-12	3-135	5	Flat (Pasted)	Flat (Pasted)	ABS	High Rate discharge rechargeable blocks	  
PROTEUS 	AGM	12	5-260	10	Flat (Pasted)	Flat (Pasted)	ABS	Deep cycle rechargeable blocks	     
<b>STAND BY VRLA</b>									
ZEUS 	OPzV GEL	2-6-12	100-3000	20	Tubular	Flat (Pasted)	ABS	OPzV Heavy Duty GEL technology sealed cells	     
HERCULES 	GEL	12	16-200	15	Flat (Pasted)	Flat (Pasted)	ABS	Pure GEL technology rechargeable blocks	     
HELIOS 	AGM	2-6-12	105-560	12	Flat (Pasted)	Flat (Pasted)	ABS Flame retardant	High quality stand by rechargeable batteries according to EUROBAT classification "Long Life"	   
NEPTUNE 	AGM	2	100-3000	15	Flat (Pasted)	Flat (Pasted)	ABS Flame retardant	Stationary Heavy Duty rechargeable cells	     
MERCURY 	GEL	6-12	18-230	10	Flat (Pasted)	Flat (Pasted)	ABS	High performance rechargeable GEL technology batteries	     
MARS 	AGM	12	55-175	12	Flat (Pasted)	Flat (Pasted)	ABS Flame retardant	Stand by front access rechargeable batteries Suitable for 19" & 23" racks/cabinets	   
<b>FLOODED LEAD ACID</b>									
AJAX 	OPzS Vented	2-6-12	50-3000	18	Tubular	Flat (Pasted)	SAN	High endurance OPzS Heavy Duty cells & blocks	    



## WINNER APOLLO

WINNER APOLLO series is designed for general use and has a wide range of applications. Due to the life standards of the modern society, more and more markets with particular characteristics and needs demand VRLA batteries.

WINNER APOLLO performs well both in stand by and cyclic use even under hard conditions. It is made with updated AGM VRLA technology from pure materials with excellent know-how.

**Positive plate:** The positive plates are composed of a grid frame of lead - tin - calcium alloy and active material of porous lead dioxide.

**Negative plate:** The negative plates are composed to meet all needs of a grid frame of lead - tin - calcium alloy as well and with active

material of spongy lead.

**Separator:** The separators made from non - woven fabric of fine glass fibers are chemically stable in the electrolyte sulfuric acid. The high porousness fully absorbs the electrolyte and prevents shorting between positive and negative plates.

**Terminal structure:** The electrode terminals are protected by a structure which secures long adhesive - embedded paths and by the use of strong epoxy material.

**Container:** The battery case is made from ABS material and is shock resistant. Flame retardant available.

### APPLICATIONS

- UPS power supply systems
- Home alarms - security
- Emergency back up power supply
- Fire alarm devices
- Emergency lighting
- Electric toys - CATV
- Sightseeing tour carts - Golf carts
- Electrical material handling carts
- Electrical vans & traction carts
- Communication power supply



### HOTPOINTS

- Sealed lead acid rechargeable AGM batteries
- Low pressure valve regulated system
- High purity material - Low self discharge
- Fine recovery performance after over-discharging
- Maintenance free - High specific energy
- Designed service life up to 22AH: 4-6 years
- Designed service life from 24AH: 6-10 years
- For general use both for cyclic and stand by

## WINNER PROTEUS

WINNER PROTEUS series is designed for repeated Deep Cycle use, to be discharged and recharged hundreds of times. The consistency performance of group usage (groups with multiple connections) is much better than of other general series, making PROTEUS ideal for heavy duty applications.

WINNER PROTEUS provides excellent cyclic and recovery performance after over-discharging. It is made with updated AGM VRLA technology from pure materials with excellent know how to meet all needs.

WINNER PROTEUS differs from conventional VRLA batteries, as it contains more lead, heavier plates and other special materials that enable to deliver more power and capacity over many charging cycles. The use of a special plate curing process for 10 days and extra superior pasting to the grids, ensuring long service life and fast recovery from deep discharge.

**Positive plate:** The positive plates are composed of a grid frame of heavy duty lead - tin - calcium alloy and active material of porous lead dioxide.

**Negative plate:** The negative plates are composed of a

grid frame of lead - tin - calcium alloy as well and with active material of spongy lead.

**Separator:** The separators made of non - woven fabric of fine glass fibers are chemically stable in the electrolyte sulfuric acid. The high porousness fully absorbs the electrolyte and prevents shorting between positive and negative plates.

**Terminal structure:** The electrode terminals are protected by a structure which secures long adhesive - embedded paths and by the use of strong epoxy material.

**Casing:** The unique construction and sealing techniques of WINNER PROTEUS Deep Cycle series guarantee leak proof operation in any position with no adverse effect to capacity or service life. The battery case is made from ABS material and is shock resistant. Flame retardant available.

### APPLICATIONS

- Electric cars and busses
- Cleaning machines
- Wheelchairs and scooters
- Mobile elevating work platform
- Walk-behind pallet trucks
- Electrical powered tools
- Golf carts - Lawn mowers
- RW energy stations - Road lights
- Marine signal systems



### HOTPOINTS

- Deep cycle VRLA AGM 6/12 Volts rechargeable blocks
- Excellent cyclic & anti-vibration performance
- High specific energy design with high purity materials
- No liquid electrolyte - No maintenance
- Excellent recovery performance after over-discharging
- Extremely low self - discharge rate
- 300 cycles with 100% D.O.D, 1500 cycles with 20% D.O.D
- Design service life is 10 years at 25°C



## WINNER ICARUS

WINNER ICARUS series is designed for High Rate discharge performance and service life in either float or cyclic applications, even after repeated over-discharges. It is made with updated AGM VRLA technology from pure materials with excellent know how to meet all needs.

The unique construction and sealing techniques of WINNER ICARUS High Rate series guarantee leak proof operation in any position, with no adverse effect to capacity or service life.

**Positive plate:** The positive plates are composed of a grid frame of heavy duty lead - tin - calcium alloy and active material of porous lead dioxide.

**Negative plate:** The negative plates are composed of a grid frame of lead - tin - calcium alloy as well and with active material of spongy lead.

**Separator:** The separators made of non - woven fabric of fine

glass fibers are chemically stable in the electrolyte sulfuric acid.

**Electrolyte:** They utilize an electrolyte suspension system consisting a high porosity, glass fibre material, which in conjunction with plates, totally absorbs and contains the electrolyte.

**Safety valves:** The incorporated built-in design controls gas generation and induces recombination of more than 99% of gases generated during float usage. Special safety release valves, designed to operate between 2 and 5 psi automatically reseal, preventing an excessive accumulation of gas inside the battery.

**Container:** The battery case is made from ABS material, shock resistant and is shock resistant. Flame retardant available.

### APPLICATIONS

- High power output UPS systems
- High power output back up power supply
- Emergency high power output power supply
- Engine boosters / starters

### HOTPOINTS

- High Rate discharge rechargeable AGM batteries
- Sealed type with valve regulated system
- High current discharge recovery
- Very low self discharge less than 3% per month
- Maintenance free - Heavy Duty grids
- More Watts per cell than conventional series
- Designed service life below 21AH: 5 years
- Designed service life above 26AH: 10 years
- For high power output UPS/back up systems



# WINNER ZEUS

WINNER ZEUS series of 2Volts Gel type valve regulated lead acid single cells with performance characteristics to meet and exceed OPzV specification according to IEC 60896 standard.

WINNER ZEUS offers stronger constant power discharge capability with better charge reception. They are maintenance-free, leak proof and usable in any position.

WINNER ZEUS Series is highly recommended for applications which require very high degree of deep cycling during the service.

**Positive plates:** Tubular design is adopted, which can effectively prevent active material falling and special special construction which is moulded by an antimony free alloy.

**Negative plates:** Pasted type in grid radial structure with high utilization ratio of active substance.

**Electrolyte:** Primary material adopts gas silicon dioxide in Gel state without flowing.

**Battery casing:** Made from ABS material of good corrosion prevention and high strength.

**Separator:** European made PVC-SiO2 special micro-pore separator with high porosity and low resistance.

**Terminals:** Inserted copper core lead-base terminal post has strong current capacity and corrosion resistance.

**Safety valve:** Anti-explosion constant opening and closing low pressure valve with high reliability.

**Post sealing:** Built-in copper terminal post with high corrosion resistance and current capacity.



## APPLICATIONS

- Stand by power supply for telecommunications
- Power supply storage for solar/wind/hydroelectric power generators
- Stand by for signaling systems such as mobile/airports/railway
- Stand by for power systems & nuclear power stations
- Stand by power supply for UPS, medical and emergency lighting
- Stand by supply for vessels and marine signaling & navigation marking

## STANDARDS

- DIN 40742 • IEC60896-21/22 2004 • BS EN 61427 2002
- Eurobat Guide-12 years and longer "long life"

## ELECTRICAL CHARACTERISTICS

- Float voltage charge: 2.23-2.25 V/cell at 20°C
- Recharging voltage: 2.35 V/cell at 20°C
- Ambient operating temperature: -20°C ~ +50°C

## HOTPOINTS

- OPzV 2Volts VRLA Heavy Duty Gel maintenance-free sealed cells
- Superior low current discharge performance
- Better charge reception capability & high temperature performance
- Lower self discharge and better temperature resistance
- Low ventilation requirement according to EN 50272-2
- Modular and easy installation design at any position
- EUROBAT classification "Long Life"
- Designed service life under float charging of 20 years at 20°C

# WINNER HERCULES

## APPLICATIONS

- Stand by power supply for communication and signal system (telecommunications - mobile - network - airport - railway etc)
- Power supply storage for solar & wind energy
- UPS & emergency lighting systems, medical facilities
- Stand by power supply for ship & marine use
- LAN, CATV and special networks
- Stand by power supply for petrochemical, oil and gas applications

## STANDARDS

- IEC60896-21/22
- BS EN 61427-2002



## HOTPOINTS

- Pure GEL technology VRLA rechargeable blocks
- Gel electrolyte made from silicon dioxide (SiO2) in gelatin state without liquidity
- Anti explosion valve construction with low pressure design
- Anticorrosion Pb-Ca alloy grid with special active materials
- Low resistance separators specially designed for Gel battery
- Heavy Duty design - No maintenance
- Extremely low self - discharge rate
- Design service life of 15 years at 25°C

WINNER HERCULES is a range of GEL block batteries suitable for rechargeable hard industrial use with excellent deep discharge characteristics. Designed with up-to-date GEL VRLA technology, anti-corrosion Pb-Ca alloy and made from the purest materials. It is of long floating & cyclic life span, highest specific energy and low self discharge rate. PVC-SiO2 micro high aperture rate separators of low resistance especially for GEL batteries ensuring long cycle life, high recovery performance after deep discharge and high endurance of cycle under insufficient charging.

**Positive plate:** Pasted plate construction with premium thickness and strong current discharging characteristics and high corrosion resistance.

**Negative plate:** Rugged pasted grid in good combination with a positive and short distance.

**Electrolyte:** Primary material uses gas silicon dioxide forming to Gel state without flowing.

When it is injected, the material initially is a thin collosol, filling in this way a whole plate space of the cell. When it reaches a high temperature and over-charged, the specific heat capacity is big, heat elimination is fine due to good ventilation and therefore thermal runaway is avoided. Extra electrolyte quantity eliminates shortage inside the battery under high temperature and over-charging conditions.

**Battery casing:** Made from ABS material of good corrosion prevention and high strength. High pressure sealing construction of the lid by hot melting.

**Separator:** European made PVC-SiO2 special micro-pore separator of high porosity and low resistance. It provides bigger storage space for the electrolyte.

**Terminals:** Inserted copper core lead-base terminal post has strong current capacity and corrosion resistance. The double sealing structure of terminals can effectively prevent any leakage.

**Safety valve:** Anti-explosion constant opening and closing low pressure valve with high reliability.

# WINNER MERCURY

WINNER MERCURY series is designed for high cyclic performance based on VRLA Gel technology. A special assembly technology is used to enhance power density to a considerable level and provide a powerful cell pack, reducing movements in the battery case.

WINNER MERCURY features low self discharge, long cyclic life, low floating voltage and current without gas emissions and leakages. They can be stored for long time and they can be positioned in any way.

WINNER MERCURY can be recharged easily to a normal level even after being over-discharged. They can operate satisfactorily under a wide range of temperatures (-20°C +40°C).

**Positive plate:** Positive plates are composed of a grid frame of lead - tin - calcium alloy with active material of purity porous lead dioxide.

**Negative plate:** Negative plates are composed of a grid frame of lead - tin - calcium alloy with active material of spongy lead.

**Separator:** The separators made of non -woven fabric of fine glass fibres are chemically stable in gelled electrolyte.

**Electrolyte:** The high porousness of the separator fully absorbs the silicon Gel type electrolyte and prevents shorting between positive and negative plates. Gel electrolyte remains stable and non spillable even if the battery is broken.

**Container:** Made from ABS material, it is shock resistant, with very good corrosion prevention, high strength and flame retardant available on request.

**Safety valve:** Reliable venting system, which operates under low pressure, is designed to release excess gas and keep the internal pressure within the optimum range of safe and efficient performance.

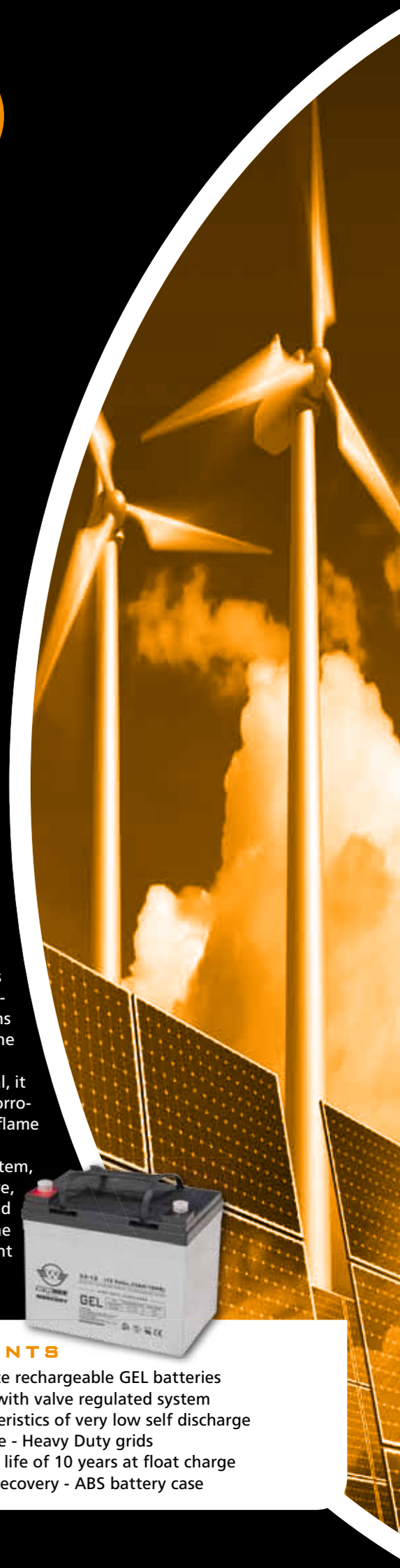


## APPLICATIONS

- Power supply storage for solar & wind energy
- Utility electric vehicles & platforms
- Marine cyclic & stand by applications
- Cleaning machines and wheel chairs
- LAN, CATV and special networks
- UPS & emergency lighting systems, medical facilities

## HOTPOINTS

- High performance rechargeable GEL batteries
- Gel sealed type with valve regulated system
- Superior characteristics of very low self discharge
- Maintenance free - Heavy Duty grids
- Designed service life of 10 years at float charge
- Deep discharge recovery - ABS battery case





## WINNER HELIOS

WINNER HELIOS series are the ideal valve regulated lead acid heavy duty battery of Absorptive Glass Mat technology. It complies with the highest international specifications and can be installed at many stand by applications required maximum reliability.

WINNER HELIOS has a thick plate construction which is utilized to increase the battery life and to deliver high power output, making the battery ideal in withstanding long deep discharges. It therefore makes HELIOS series an excellent choice for stand by use at Higher Class U.P.S. systems with high discharge current needs. A low calcium lead grid alloy and pure uncontaminated materials are used allowing extended storage with minimal capacity loss. Thanks to small distances between the battery plates these batteries have a low internal resistance providing high discharge currents. The low internal resistance of WINNER HELIOS means that the batteries can be recharged in a short and efficient way. On the other hand, it can be installed in office environments, as no special ventilation is required. Each battery undergoes a series

of strict manufacturing and quality control processes to be ready for installation as delivered.

**Plates:** Extra thick pasted Positive plates are made of pure lead grids and Negative plates provide perfect balance to ensure optimum recombination efficiency.

**Separators:** By low resistance ultra fine fibreglass to ensure optimum gas recombination efficiency

**Casing:** Made from a thick walled ABS flame retardant material for mechanical strength to ensure vibration proof of the battery. The flame retardancy is according to standard IEC 707 FV0 & UL 94 V0. Lids have reliable hot sealing and integrated flame arrestors.

**Safety valves:** With reliable self-regulating low pressure relief valves.

**Terminals:** Threaded terminals are of low resistance with inserted copper core with high conductivity. Unique structure of epoxy sealing of the post to totally prevent the acid leakage.

**Handles:** Most of the sizes have integrated handles in the lid for easy carrying & installation of the batteries.



### APPLICATIONS

- Mobile telecommunication & transmission systems
- High power stand by power source systems
- Electricity distribution
- Power generation DC systems
- Broadcasting & radio systems

### STANDARDS

- IEC 61056-1/2 2002
- BS 6290-3 1999
- Eurobat Guide – 12 years and longer “long life”

### ELECTRICAL CHARACTERISTICS

- Float voltage charge: 13.62 V (2.27 V/cell)
- Ambient operating temperature: -15°C ~ +45°C
- Self discharge: <4% per month at 25°C
- Recombination efficiency: >96%

### HOTPOINTS

- High quality stand by VRLA AGM rechargeable batteries
- Excellent deep cycle performance
- Consistence floating charging voltage
- Compact construction – Reliable sealing
- No liquid electrolyte - No maintenance
- Extremely low self discharge rate
- High energy density
- Equipped with flame arrestor devices
- Design floating service life is 12 years at 25°C
- Classification according to EUROBAT “long life”

## WINNER MARS

WINNER MARS series is the Front-access AGM VRLA 12V batteries of the program, based on an excellent know how and produced from high purity materials designed for high demanding service. A narrow and compact construction minimizes overall footprint than conventional battery series and provides easy installations in cabinets and on racks. The Front Access design reduces installation and maintenance time, when easy voltage readings can be taken from plug-in terminal protection covers.

WINNER MARS is separated into A types for monoblocks fit in 23” standard power supply racks/cabinets and B types for the 19” ones. **Plates:** Thick pasted Positive plates of pure lead grids & Negative plates provide perfect balance ensuring optimum recombination efficiency.

**Separators:** Made from low resistance ultra fine fibreglass to ensure optimum gas recombination efficiency (higher than 99%)

**Casing:** Made from thick walled ABS flame retardant material for mechanical strength to ensure vibration proof of the battery. The flame retardancy is according to standard IEC 707 FV0 & UL 94 V0.

**Safety valves:** Reliable self-regulating low pressure relief valves to prevent ingress of atmospheric oxygen thus assuring strength & safety service.

**Terminals:** Threaded terminals are of low resistance with inserted copper core with high conductivity. Unique structure of triple epoxy sealing of the post to totally prevent the acid leakage.

**Handle:** All sizes have handle for easy handling, installation & dismantling of the batteries.

Ambient operating temperature: -15°C ~ +45°C  
Self discharge: <4% per month at 25°C (Recombination efficiency: >96%)

### HOTPOINTS

- Stand by front access AGM 12V rechargeable batteries
- Narrow & long construction for easy installation & service
- Deeper cycle life – Better discharge performance
- Preferential solution for high class UPS
- No liquid electrolyte - No maintenance
- Extremely low self discharge rate
- Handles for easy transportation
- Suitable for 19” & 23” racks/cabinets
- Design service life is 12 years at 25°C



### APPLICATIONS

- Stand by power supply for telecommunications
- Power supply storage for solar/wind power generators
- UPS, transformer substation, microwave relay stations
- Power plants & control systems & remote sensing devices
- LAN power supply source systems and special networks

### STANDARDS

- IEC60896-21/22 2004 • IEC 61056-1/2 2002 • BS 6290-4 1999
- Eurobat Guide – 12 years and longer “long life”

### ELECTRICAL CHARACTERISTICS

Float voltage charge: 13.62 V (2.27 V/cell)

## WINNER NEPTUNE

WINNER NEPTUNE series is designed for stationary heavy duty applications. AGM electrolyte and high pressure of plates group, giving excellent cycling and deep – discharge recovery performance.

**Positive plates:** Thick pasted positive plates are made of pure lead grids with special multi alloy, which overcomes the shortcomings of early capacity loss. They have long service life under both float charge and cycle utilization.

**Negative plates:** Negative grid plates provide perfect balance to ensure optimum recombination efficiency. They are made from special alloy with quandrinsic lead sulphate, which improve specific energy of the battery and prolongs the cycle service life.

**Separators:** Separator is made of absorbing super-thin fibreglass, giving low internal resistance and good discharge performance at high rate.

**Electrolyte:** High purity electrolyte and special additive are used, leading to low self-discharge.

**Casing:** Made with a thick walled ABS flame resistance material for mechanical strength to ensure vibration proof of the battery. Lids are with reliable hot sealing and integrated flame arrestors. Flame retardancy containers according to standard IEC 707 FV0 & UL 94 V0 available on request.

**Safety valves:** Valves are made from ABS materials flame resistant. The valve core is in column structure, and there are dual-filtering acid mist filters. It has the function of correctly controlling the pressure, flame resistance and acid mist filtering when valve opens and closes.

**Terminals:** Threaded terminals of low resistance with inserted copper core with high conductivity and minimum installation time.

**Horizontal positioning:** Plastic sleeve is adjusted to the plate to effectively avoid a short circuit of the positive and negative plate, bending distortion of the battery when is laid horizontally.

### APPLICATIONS

- Back up power supply for communication
- Back up power supply for signal system (telecommunications – mobile – network – airport – railway etc)
- Power supply storage for solar & wind energy
- Back up power supply for UPS & emergency systems
- Stand by power supply for ship & marine use
- Stand by power supply for petrochemical, oil and gas applications

### STANDARDS

- IEC60896-21/22 2004 • BS EN 61427-2002

### HOTPOINTS

- Stationary Heavy Duty AGM 2Volts rechargeable cells
- Superior performance characteristics
- High pressure of plates group
- No liquid electrolyte - No maintenance
- Designed service life of 15 years at float charge
- Excellent deep cycle life of 1.200 cycles (at 25°C D.O.D 80%)
- Extremely low self – discharge rate



# WINNER AJAX

WINNER AJAX range of 2Volts single cells is designed to meet and exceed internationally recognized highest European specifications for OPzS flooded batteries according to EN 61427 standards.

WINNER AJAX includes a full range of stand by low maintenance batteries designed to satisfy the demands of long life installations with high reliability and requires medium and long duration discharge.

**Positive plates:** The positive electrode is composed of a tubular type plate. Special alloy grids are casted in die-casting machines that are inserted into special gauntlet tubes made of polyester fibres.

**Negative plates:** The negative electrode is a pasted lead grid plate. The active material made from the lead oxide is pasted in-

to a cast lead alloy grid, which serves both as a carrier of the active material and as an electrical conductor. Separator: A separator is made from micro porous material with high porosity and low electric resistance.

**Case:** The containers are made with styrene acrylonitrile (SAN), which is transparent, impact, corrosion proof, flame retardant, acid and shock resistant material.

**Connectors:** Flexible copper connectors, fully insulated and protected, tightened to the leak proof screw type of the high safety terminals.

**Vent plugs:** The filling holes in the cell lids are fitted with porous ceramic plugs that filter out any drops of electrolyte from the escaping gases.

## APPLICATIONS

- Solar and wind energy & hydroelectric power storage systems
- DC and stand by power for power generators and distribution systems
- Stand by power supply for ship and petrochemical industry
- Safety power supply systems
- Emergency lighting systems, medical facilities
- Signaling equipment for airports
- Telecommunications
- Railways

## STANDARDS

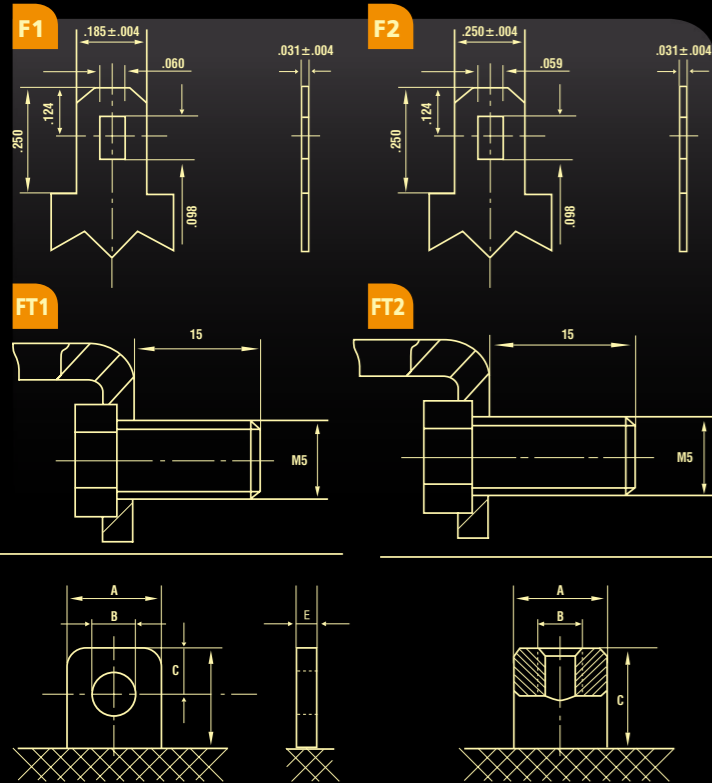
- DIN 40736
- IEC 60896-21/22 2004
- BS EN 61427 2002



## HOTPOINTS

- High endurance OPzS 2 Volts Heavy Duty single cells
- Design floating service life of 18 years at 25°C
- Superior low current discharge performance
- Excellent deep cycle performance
- Better charge reception capability
- Better temperature resistance performance
- High capacity – Complete range covers all needs
- Safe operation - Float charge voltage is 2.23 - 2.25 V/cell
- Charging after deep discharge requires voltage 2.35 - 2.40 V/cell
- Minimum maintenance - Water topping up is necessary every 1-2 years in float charge under normal stand by operation
- Modular installation design – Eco friendly
- Containers - moulded from durable, transparent SAN
- Specifications according to EN 60896, DIN 40736

## BATTERY TERMINAL



TYPE	A	B	C	D	E
F3	12,0	Ø5,5	5,0	11,5	2,0
F4	16,5	Ø 6,5	8,0	16,5	6,0
F5	15,0	Ø 6,5	8,5	18,0	5,5
F6	20,0	Ø 6,5	10,0	20,0	8,0
F7	20,0	Ø 8,5	7,5	18,0	3,0
F7.1	22,0	Ø 8,5	10,0	22,0	4,0
F8	26,0	Ø 8,5	10,5	20,0	8,0
F9	16,0	Ø 8,5	7,5	16,0	6,5
F10	25,0	Ø 9,0	10,0	20,0	8,0
F11	28,0	Ø 10,0	13,0	26,0	8,5

TYPE	A	B	C
F12	Ø 12	M5	5,0
F13	Ø 14	M6	5,0
F14	Ø 14	M6	2,0
F15	Ø 16	M6	5,0
F15.1	Ø 16	M6	3,0
F16	Ø 20	M6	6,0
F17	Ø 18	M8	7,5
F17.1	Ø 18	M8	2,0
F17.1	Ø 18	M8	3,5
F18	Ø 16	M8	5,0
F18.1	Ø 16	M8	2,5



U.P.S. systems



Security systems and alarms



Emergency lighting



Telecommunications



Solar energy systems



Wind energy systems



Industrial marine applications



Service power for ships and yachts



Railways



Medical



Toys



Electric sweepers



Pallet trucks



Fork lifts



Golf carts



Power generation and distribution stations



Electric cars



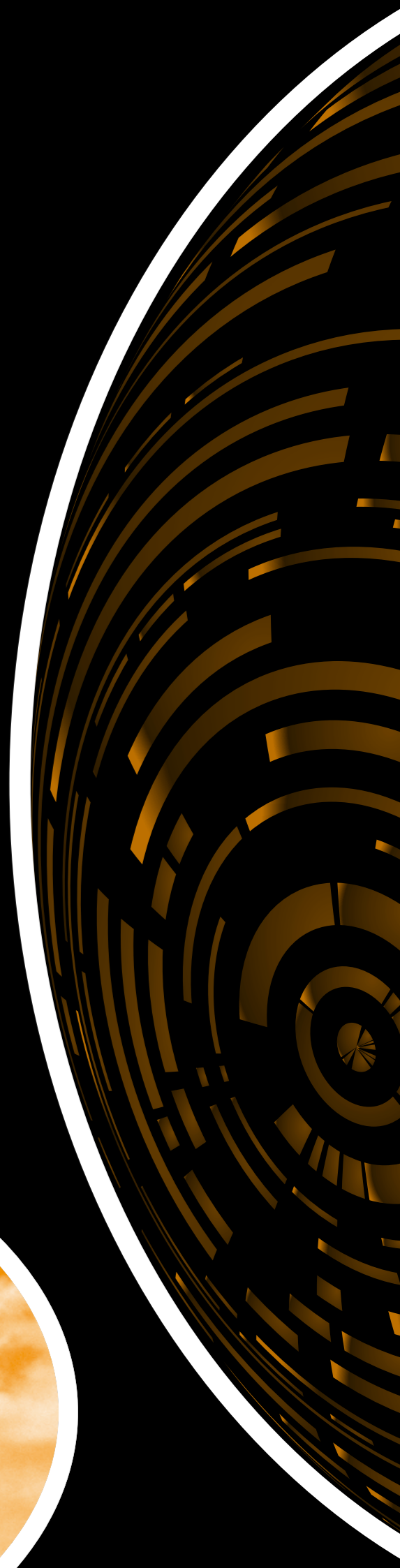
Boosters



Electric bicycles



Electric wheelchairs





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**BATTERY**

