

Type range - vented products

GroE



OSP.HC



OGi



OPzS



max.power



solar.power



OGi bloc



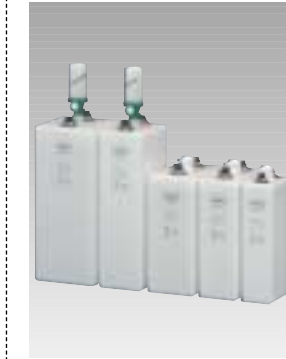
USV bloc



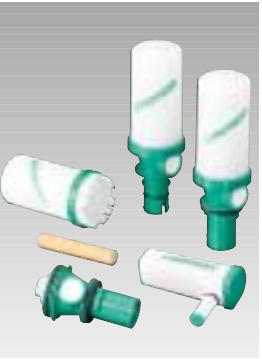
power.bloc OPzS



FNC®



AquaGen®



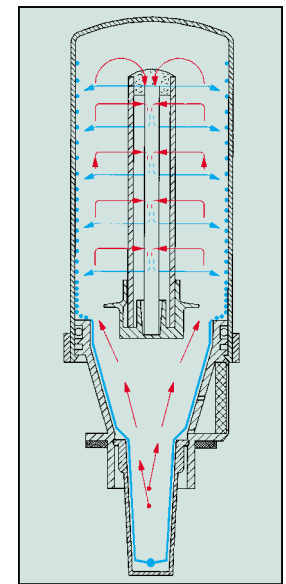
Short description

Standards	DIN 40738, IEC 896-1	IEC 896-1	DIN 40734, IEC 896-1	DIN 40736 P1, IEC 896-1	DIN 40736 P2, IEC 896-1	IEC 896-1	DIN 40739, IEC 896-1	IEC 896-1	DIN 40737-3, IEC 896-1	DIN 40763
Capacity range in Ah	75 - 2.600	340 - 1.445	200 - 3.500	200 - 3.000	3.500 - 12.000	375 - 1.500	18 - 256	21 - 336	50 - 300	10 - 1100
Nominal voltage range	2 V	2 V	2 V	2 V	2 V	2 V	4 V, 6 V	4 V, 6 V	6 V, 12 V	1.2 V
Container material	SAN, clear	SAN, clear	SAN, clear	SAN, clear	PP	PP, high translucent	PP, high translucent	PP, high translucent	PP, high translucent	PP translucent, PP-VO, Grilon, Steel
Grid alloy										
Positive	pure lead	Pb + <2% Sb	Pb + <2% Sb	Pb + <2% Sb	Pb + <3% Sb	Pb + <2% Sb	Pb + <2% Sb	Pb + <2% Sb	Pb + <2% Sb	
Negative	Pb + <2% Sb	Pb + <2% Sb	Pb + <2% Sb	Pb + <2% Sb	Pb + <2% Sb	Pb + <2% Sb	Pb + <1% Ca	Pb + <1% Ca	Pb + <2% Sb	
Positive plate	Planté	Grid	Grid	Tubular	Tubular	Tubular	Grid	Grid	Tubular	metallized fibre electrode (Ni)
Negative plate	Grid	Grid	Grid	Grid	Grid	Grid	Grid	Grid	Grid	metallized fibre electrode (Ni)
Electrolyte	H ₂ SO ₄ , liquid	H ₂ SO ₄ , liquid	H ₂ SO ₄ , liquid	H ₂ SO ₄ , liquid	H ₂ SO ₄ , liquid	H ₂ SO ₄ , liquid	H ₂ SO ₄ , liquid	H ₂ SO ₄ , liquid	H ₂ SO ₄ , liquid	KOH, liquid
Applications										
Connector design	Fully insulated bolted connector	Fully insulated bolted connector	Fully insulated bolted connector	Fully insulated bolted connector	welded connector	Fully insulated bolted connector	Fully insulated bolted connector	Fully insulated bolted connector	Fully insulated bolted connector	Fully insulated bolted connector
Current behaviour										
Design life up to (in years)	25	18	20	20	20	15	15	12	18	25
Cycles up to				1.500	1.600	1.400			1.400	>2.000
Charging voltage in V/cell										
Float charge	2.23	2.23	2.23	2.23	2.23	2.23	2.23	2.25	2.23	1.40 - 1.50 (type depending)
Boost charge	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	1.55 - 1.60 (type depending)
Float charging current/100 Ah nominal capacity (20°C, U _{float} = 2.23 / 2.25 V/cell)	20 - 40 mA	20 - 50 mA	20 - 50 mA	20 - 50 mA	20 - 50 mA	20 - 50 mA	20 - 50 mA	20 - 50 mA	20 - 50 mA	30 - 180 mA (type depending) at 1.45 V/C, 20°C
Position independent operation possible	No	No	No	No	No	No	No	No	No	No
Water-refilling intervals in years at permanent float-charging/with AquaGen®	> 5/not necessary	> 3/not necessary	> 3/not necessary	> 3/not necessary	> 3/not necessary	> 3/not necessary	> 3/not necessary	> 3/not necessary	> 3/not necessary	>3 (type depending) >10 with AquaGen®
Self discharge of nominal capacity at 20°C ambient temperature/per month	~ 3%	~ 3%	~ 3%	~ 3%	~ 3%	~ 3%	~ 3%	~ 3%	~ 3%	<7%
Operating temperature range in °C	-20 - +40	-20 - +40	-20 - +40	-20 - +40	-20 - +40	-20 - +40	-20 - +40	-20 - +40	-20 - +40	-40 - +50
Ventilation requirement	with AquaGen® similar to VRLA	with AquaGen® similar to VRLA	with AquaGen® similar to VRLA	with AquaGen® similar to VRLA	with AquaGen® similar to VRLA	with AquaGen® similar to VRLA	with AquaGen® similar to VRLA	with AquaGen® similar to VRLA	with AquaGen® similar to VRLA	with AquaGen® similar to VRLA
Storage time at 20°C before refreshing charge	3 months	3 months	3 months	3 months	3 months	3 months	3 months	3 months	3 months	>3 years, see operating instructions

Type of thread for all types M8 (exception solar.power M10)

Advantages of AquaGen® Recombination Plug

- Extends maintenance intervals up to the level of maintenance free
- No damage due to topping-up with polluted water
- Reduction of ventilation requirements
- Low costs for space technology applications
- Reduced explosion risk through integrated arc-back protection
- No significant escape of gas or of electrolyte fumes



Recombination principle in the AquaGen® vent plug D 48.
 - Gas
 - Water

Key: Emergency Power Engine Start Power Plant Power Supply Rail Signal tower Solar Switch Gear Telecom Transformer Station UPS

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Type range - valve regulated products

OPzV

power.bloc OPzV

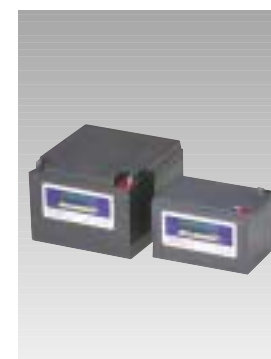
power.com SB

power.com HC

net.power

solar.bloc

dry.power



Short description

Standards	DIN 40742, IEC 896-2	DIN 40744, IEC 896-2	IEC 896-2	IEC 896-2	IEC 896-2, BS 6290-4	IEC 896-2	IEC 896-2, BS 6290-4
Capacity range in Ah	200 - 3.000	50 - 300	50 - 140	35 - 151	80 - 150	58 - 96	7.2 - 200
Nominal voltage range	2 V	6 V, 12 V	12 V	12 V	12 V	12 V	12 V
Container material (UL 94-V0 on request)	SAN	PP, talcum	PP, talcum	PP, talcum	ABS, UL 94-V0	PP	ABS
Grid alloy							
Positive	Pb + <1% Ca	Pb + <1% Ca	Pb + <1% Ca	Pb + <1% Ca	Pb + <1% Ca	Pb + <1% Ca	Pb + <1% Ca
Negative	Pb + <1% Ca	Pb + <1% Ca	Pb + <1% Ca	Pb + <1% Ca	Pb + <1% Ca	Pb + <1% Ca	Pb + <1% Ca
Positive plate	Tubular	Tubular	Grid	Grid	Grid	Grid	Grid
Negative plate	Grid	Grid	Grid	Grid	Grid	Grid	Grid
Electrolyte	H ₂ SO ₄ -Gel	H ₂ SO ₄ -Gel	H ₂ SO ₄ , fixed in AGM	H ₂ SO ₄ , fixed in AGM	H ₂ SO ₄ , fixed in AGM	H ₂ SO ₄ , fixed in AGM	H ₂ SO ₄ , fixed in AGM
Applications							
Connector design	Fully insulated bolted connector	Fully insulated bolted connector	Fully insulated bolted connector	Fully insulated bolted connector	Fully insulated bolted connector	cramp connector	bolted connector / Faston
Current behaviour							
Design life up to (in years)	18	15	12	10 - 12	12	6 - 9	3 - 5
Cycles up to	1.200	1.000				700	
Charging voltage in V/cell							
Float charge	2.25	2.25	2.25	2.25	2.25	2.25	2.25
Boost charge	2.40	2.40	2.40	2.40	2.40	2.40	2.40
Float charging current / 100 Ah nominal capacity (20°C, U _{float} = 2.23 / 2.25 V/cell)	20 - 50 mA	20 - 50 mA	10 - 40 mA	10 - 40 mA	10 - 40 mA	10 - 40 mA	10 - 40 mA
Position independent operation possible	Yes, ≤ 1500 Ah	Yes	Yes	Yes	Yes	Yes	Yes
Water-refilling intervals in years at permanent float-charging/with AquaGen®	-	-	-	-	-	-	-
Self discharge of nominal capacity at 20°C ambient temperature/per month	2 - 3%	2 - 3%	2 - 3%	2 - 3%	2 - 3%	2 - 3%	2 - 3%
Operating temperature range in °C	-20 - +40	-20 - +40	-20 - +40	-20 - +40	-20 - +40	-20 - +40	-20 - +40
Ventilation requirement	VRLA regulation; EN 50272-2	VRLA regulation; EN 50272-2	VRLA regulation; EN 50272-2	VRLA regulation; EN 50272-2	VRLA regulation; EN 50272-2	VRLA regulation; EN 50272-2	VRLA regulation; EN 50272-2
Storage time at 20°C before refreshing charge	6 months	6 months	6 months	6 months	6 months	6 months	6 months

Type of thread for all types M8 (exception dry.power)

Key: **Emergency Power** **Engine Start** **Power Plant** **Power Supply** **Rail** **Signal tower** **Solar** **Switch Gear** **Telecom** **Transformer Station** **UPS**

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Telecom/IT Battery Systems

AGV Battery Systems

Motive Power Systems

Railway Battery Systems

Power Supply

Standby

Standby Batteries product overview

