

Reserve Power Systems Product Overview



Motive Power Systems

Reserve Power Systems

Special Power Systems

Service

Your benefits with HOPPECKE standby batteries

- **Highest safety** - more than 80 years experience in manufacturing first-class energy storage systems
- **Maximum project flexibility** - optimized product range fulfills requirements of various applications
- **German quality standard** - equal product quality around the world
- **Comprehensive competence** - one source for planning, installation, operation, service and training
- **Individual support** - worldwide distribution- and service network

Typical applications of HOPPECKE standby batteries

- IT/Telecom
- UPS
- Power Generation
- Emergency Lighting
- Signaling systems
- Engine start
- Solar



Similar to the illustrations



HOPPECKE

POWER FROM INNOVATION

Type range - vented products

Short description

GroE









OSP.HC



OSP.XC



Standards	DIN 40738, IEC 60896-11	IEC 60896-11	IEC 60896-11
Capacity range in Ah	75 - 2.600***	105 - 3.780***	120 - 4.140***
Nominal voltage range	2 V	2 V	2 V
Container material	SAN, clear	SAN, clear	SAN, clear
Grid alloy			
Positive	pure lead	Pb + <2% Sb	Pb + <2% Sb
Negative	Pb + <2% Sb	Pb + <2% Sb	Pb + <2% Sb
Positive plate	Planté	Grid	Grid
Negative plate	Grid	Grid	Grid
Electrolyte	H ₂ SO ₄ , liquid	H ₂ SO ₄ , liquid	H ₂ SO ₄ , liquid
Applications			
Connector design	Fully insulated bolted connector	Fully insulated bolted connector	Fully insulated bolted connector
Current behaviour			
Design life up to (in years)	25	20	18
Cycles up to			
Charging voltage in V/cell			
Float charge	2.23	2.23	2.25
Boost charge	2.40	2.40	2.40
Float charging current/100 Ah nominal capacity (20 °C, U _{fl} = 2.23/2.25 V/cell)	20 - 40 mA	20 - 50 mA	20 - 50 mA
Position independent operation possible	No	No	No
Water-refilling intervals in years at permanent float-charging/with AquaGen®	> 5/not necessary	> 3/not necessary	> 3/not necessary
Self discharge of nominal capacity at 20 °C ambient temperature/per month	~ 3%	~ 3%	~ 3%
Operating temperature range in °C	-20 - +40	-20 - +40	-20 - +40
Ventilation requirement	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

Type of thread for all types M8

Key:

Emergency Power 
 Engine Start 
 Power Plant 
 Power Supply 
 Rail 
 Signal tower 
 Solar 

Reserve Power Systems

OPzS



DIN 40736-1, IEC 60896-11

OPzS solar.power


 IEC 60896-11, IEC 61427
 Design according to DIN 40736-1

OGi bloc



























DIN 40739, IEC 60896-11

OGi bloc HC



IEC 60896-11

200 - 3.250***	280 - 4.700****	18 - 256***	140 - 364***
2 V	2 V	4 V, 6 V, 12 V	4 V, 6 V
SAN, clear	SAN, clear	PP, high translucent	PP, high translucent
Pb + <2% Sb Pb + <2% Sb	Pb + <2% Sb Pb + <2% Sb	Pb + <2% Sb Pb + <2% Sb	Pb + <2% Sb Pb + <2% Sb
Tubular Grid	Tubular Grid	Grid Grid	Grid Grid
H ₂ SO ₄ , liquid	H ₂ SO ₄ , liquid	H ₂ SO ₄ , liquid	H ₂ SO ₄ , liquid
 	 	 	  
		  	
Fully insulated bolted connector	Fully insulated bolted connector	Fully insulated bolted connector	Fully insulated bolted connector
		  	   
20	1.500	15	≥ 12
2.23 2.40	2.23 2.40	2.23 2.40	2.23 2.40
20 - 50 mA	20 - 50 mA	20 - 50 mA	20 - 50 mA
No	No	No	No
> 3/not necessary	> 3/not necessary	> 3/not necessary	> 3/not necessary
~ 3%	~ 3%	~ 3%	~ 3%
-20 - +40	-20 - +40	-20 - +40	-20 - +40
with AquaGen® similar to VRLA	with AquaGen® similar to VRLA	with AquaGen® similar to VRLA	with AquaGen® similar to VRLA
3 months	3 months	3 months	3 months

* C₁ = Capacity at 1 h discharge

** C₅ = Capacity at 5 h discharge

*** C₁₀ = Capacity at 10 h discharge

**** C₁₀₀ = Capacity at 100 h discharge

Type range - vented products

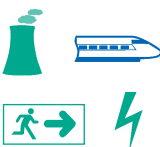



Short description

power.bloc OPzS



OPzS bloc solar.power



Standards	DIN 40737-3, IEC 60896-11	IEC 60896-11, IEC 61427 Design gem. DIN 40737-3
Capacity range in Ah	50 - 300***	70 - 400****
Nominal voltage range	6 V, 12 V	6 V, 12 V
Container material	PP, high translucent	PP, high translucent
Grid alloy		
Positive	Pb + <2% Sb	Pb + <2% Sb
Negative	Pb + <2% Sb	Pb + <2% Sb
Positive plate	Tubular	Tubular
Negative plate	Grid	Grid
Electrolyte	H ₂ SO ₄ , liquid	H ₂ SO ₄ , liquid
Applications		
Connector design	Fully insulated bolted connector	Fully insulated bolted connector
Current behaviour		
Design life up to (in years)	18	
Cycles up to		1.400
Charging voltage in V/cell		
Float charge	2.23	2.23
Boost charge	2.40	2.40
Float charging current/100 Ah nominal capacity (20 °C, U _{min} = 2.23/2.25 V/cell)	20 - 50 mA	20 - 50 mA
Position independent operation possible	No	No
Water-refilling intervals in years at permanent float-charging/with AquaGen®	> 3/not necessary	> 3/not necessary
Self discharge of nominal capacity at 20 °C ambient temperature/per month	~ 3%	~ 3%
Operating temperature range in °C	-20 - +40	-20 - +40
Ventilation requirement	with AquaGen® similar to VRLA	with AquaGen® similar to VRLA
Storage time at 20 °C before refreshing charge	3 months	3 months

Type of thread for all types M8

Key:

Emergency Power



Engine Start



Power Plant



Power Supply



Rail



Signal tower



Solar



FNC®



DIN 40763, IEC 60623

FNC® VR



DIN 40763, IEC 60623

Li-ion



–

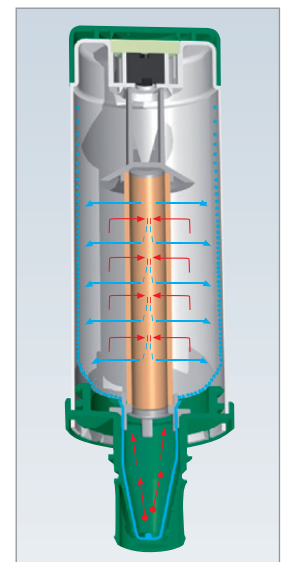
AquaGen® premium.top



New patented technology

Advantages of AquaGen® premium.top

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



Recombination principle in the AquaGen® premium.top

- Gas
- Watervapour
- Water

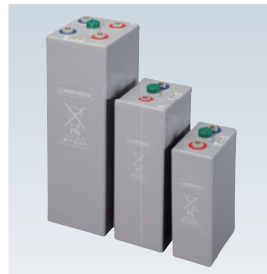
12 - 1100**	20 - 518**	40/50*
1.2 V	1.2 V	25.9 V/37.0 V
PP translucent, PP-VO, Grilon	PP, PPVO	–
metallized fibre electrode (Ni) metallized fibre electrode (Ni)	metallized fibre electrode (Ni) metallized fibre electrode (Ni)	NMC Graphit
KOH, liquid	KOH, liquid	Organic
		Bolted connector
25	25	>15
>2.000	>2.000	1.500 - 2.500
1.40 - 1.50 (type depending) 1.55 - 1.60 (type depending)	1.40 - 1.45 1.55 - 1.60	29.0 V/41.4 V
30 - 180 mA (type depending) at 1.45 V/C, 20 °C	30 - 180 mA (type depending) at 1.45 V/C, 20 °C	–
No	No	Yes
>3 (type depending) >10 with AquaGen®	1.40 V/Cell: 20 years at 20 °C	–
<7%	<7%	<0,5%
-50 - +60	-50 - +60	-10 - +50
with AquaGen® similar to VRLA	similar to VRLA	None
>3 years, see operating instructions	>3 years	>12 months

* C₁ = Capacity at 1 h discharge
 ** C₅ = Capacity at 5 h discharge
 *** C₁₀ = Capacity at 10 h discharge
 **** C₁₀₀ = Capacity at 100 h discharge

Type range - sealed (VRLA) products

Short description

OPzV



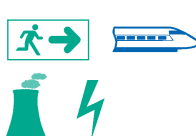






OPzV solar.power



power.bloc OPzV



Standards	DIN 40742, IEC 60896-21/22	IEC 60896-21/22, IEC 61427 Design according to DIN 40742	DIN 40744, IEC 60896-21/22
Capacity range in Ah	200 - 3.000***	250 - 3.500****	50 - 300***
Nominal voltage range	2 V	2 V	6 V, 12 V
Container material (UL 94-V0 on request)	ABS/ABS-V0	ABS/ABS-V0	PP, talcum
Grid alloy			
Positive	Pb + <1% Ca	Pb + <1% Ca	Pb + <1% Ca
Negative	Pb + <1% Ca	Pb + <1% Ca	Pb + <1% Ca
Positive plate	Tubular	Tubular	Tubular
Negative plate	Grid	Grid	Grid
Electrolyte	H ₂ SO ₄ -Gel	H ₂ SO ₄ -Gel	H ₂ SO ₄ -Gel
Applications			
Connector design	Fully insulated bolted connector	Fully insulated bolted connector	Fully insulated bolted connector
Current behaviour	 excellent  good		
Design life up to (in years)	18		15
Cycles up to		1.600	
Charging voltage in V/cell			
Float charge	2.25	2.25	2.25
Boost charge	2.40	2.40	2.40
Float charging current/100 Ah nominal capacity (20 °C, U _{float} = 2.25/2.27 V/Cell)	20 - 50 mA	20 - 50 mA	20 - 50 mA
Position independent operation possible	up to 1500 Ah (optional)	up to 1500 Ah (optional)	Yes (optional)
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%
Operating temperature range in °C	-20 - +40	-20 - +40	-20 - +40
Ventilation requirement	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	12 months	6 months

Type of thread for all types M8

Key:

Emergency Power



Engine Start



Power Plant



Power Supply



Rail



Signal tower



Solar



OPzV bloc solar.power



IEC 60896-21/22, IEC 61427
Design according to DIN 40744

power.com SB/HC/XC



IEC 60896-21/22

net.power



IEC 60896-21/22, BS 6290-4

solar.bloc



IEC 60896-21/22

70 - 370****

6 V, 12 V

PP, talcum

Pb + <1% Ca
Pb + <1% Ca

Tubular
Grid

H₂SO₄-Gel



Fully insulated bolted connector



1.300

2.25
2.40

20 - 50 mA

Yes (optional)

-

2 - 3%

-20 - +40

VRLA regulation; EN 50272-2

12 months

50 - 400***/35 - 151***/44 - 338***

2 V, 6 V, 12 V/2 V, 12 V/2 V, 12 V

PP, talkum/PP-V0

Pb + <1% Ca
Pb + <1% Ca

Grid
Grid

H₂SO₄, AGM



Fully insulated bolted connector

SB: HC/XC:

≥ 12/12/10 - 12

2.25/2.25/2.27
2.40

10 - 40 mA

Yes

-

2 - 3%

-20 - +40

VRLA regulation; EN 50272-2

6 months

85 - 166***

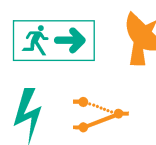
12 V

ABS, UL 94-V0

Pb + <1% Ca
Pb + <1% Ca

Grid
Grid

H₂SO₄, AGM



Fully insulated bolted connector



≥ 12

2.25/2.27
2.40

10 - 40 mA

Yes

-

2 - 3%

-20 - +40

VRLA regulation; EN 50272-2

6 months

58 - 250****

6 V, 12 V

PP

Pb + <1% Ca
Pb + <1% Ca

Grid
Grid

H₂SO₄, AGM



cramp connector, bolted connector



750

2.25
2.40

10 - 40 mA

Yes

-

2 - 3%

-20 - +40

VRLA regulation; EN 50272-2

6 months

* C₁ = Capacity at 1 h discharge
** C₅ = Capacity at 5 h discharge
*** C₁₀ = Capacity at 10 h discharge
**** C₁₀₀ = Capacity at 100 h discharge



Motive Power Systems



Reserve Power Systems



Special Power Systems



Service



HOPPECKE subsidiaries and factories - European sales and service network

Industrial batteries - Complete energy systems - Full Service

- VRLA batteries in Gel or AGM Types
- VLA batteries
- Single cell or block design
- Battery accessoires
- Battery management systems and software
- Batterie/charger servicing
- Battery recycling
- Applications engineering and technology
- Battery room design
- Technical training and seminars
- Leasing
- Power by the hour

Your partner for sustainable energy solutions!

Further information on www.hoppecke.com

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