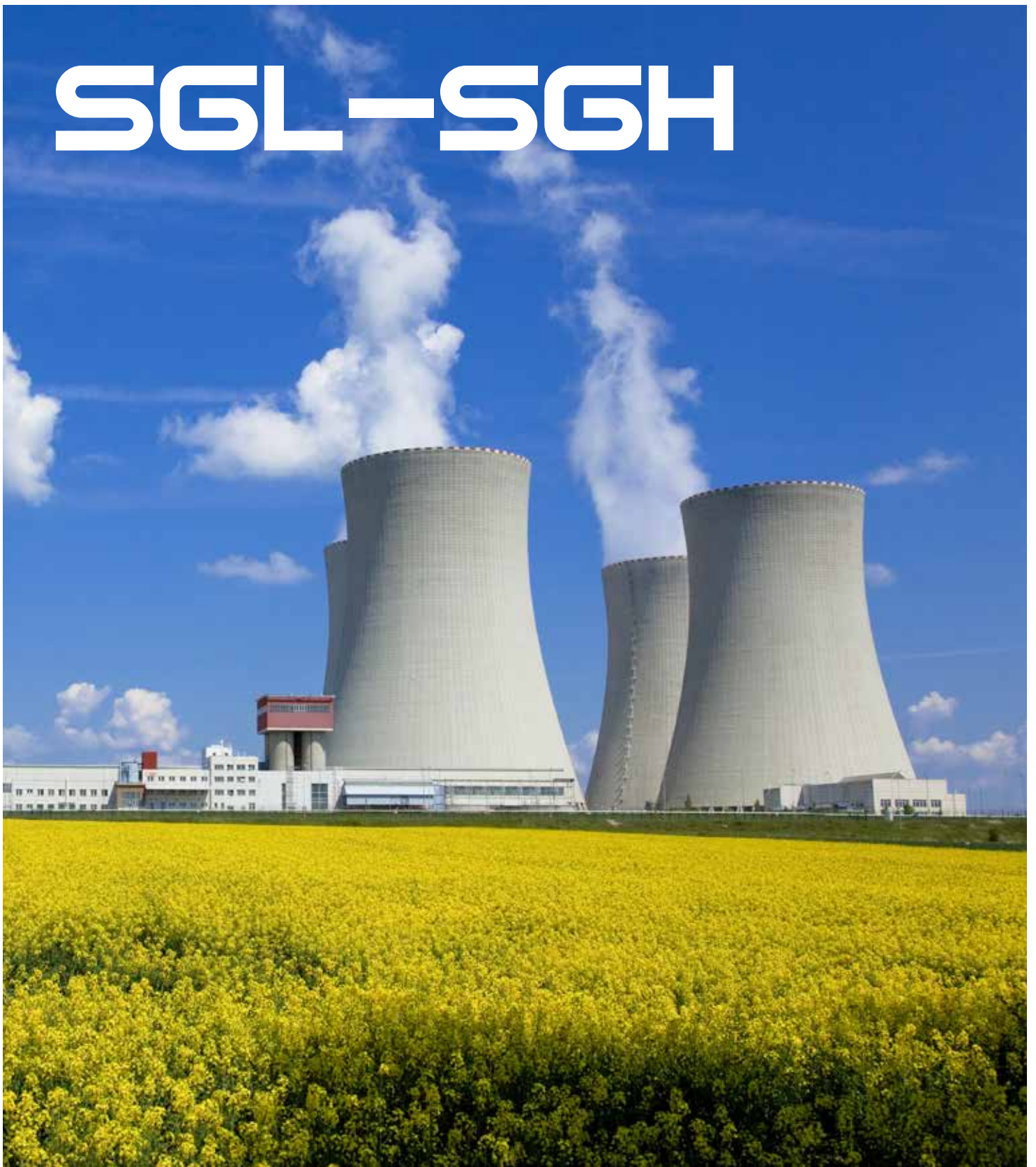


# SGL-SGH



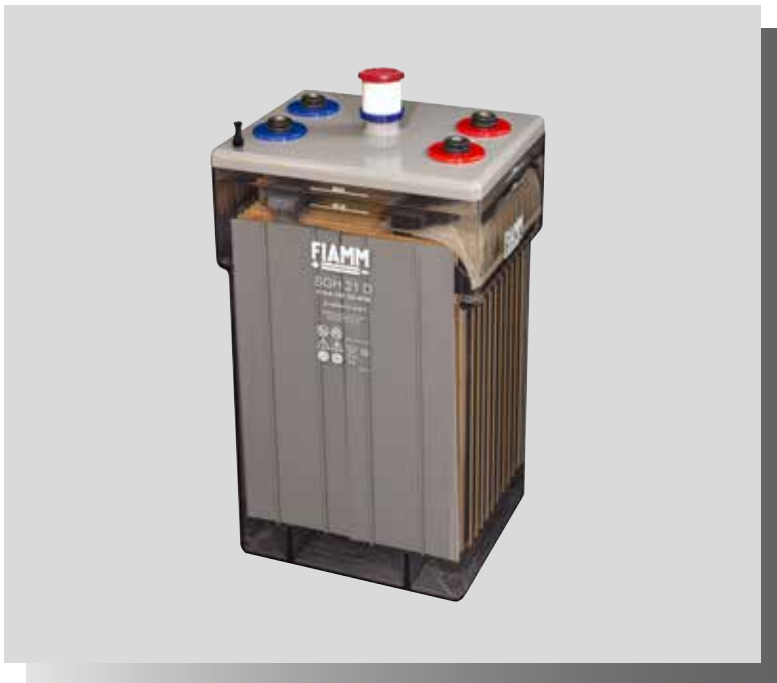
SGL-SGH Battery Range

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**T**HE SGL-SGH BATTERY SERIES THE REFERENCE RANGE IN TERMS OF GROE VENTED BATTERIES FOR FIAMM AND DESIGNED TO MEET DIN 40738 NORM.

SGL SGH CELLS DIFFERENTIATE FROM TRADITIONAL FLOODED BATTERIES THROUGH PLANTÉ POSITIVE PURE LEAD PLATE WHICH BRINGS A UNIQUE LAMINATE DESIGN. THE ROBUST DESIGN IS CONSTRUCTED TO PROVIDE A DEEP DISCHARGE AND HIGH RATE PERFORMANCES WITH AN UNSURPASSED DESIGN LIFE OF 25 YEARS. THE PURE LEAD POSITIVE ALLOY PLATE GRANTS A VERY LOW WATER CONSUMPTION THAT MEANS LIMITED MAINTENANCE DURING PRODUCT LIFE (SINGLE TOPPING UP IN 3 YEARS IN FLOAT CONDITIONS); THE DESIGN IS OPTIMIZED TO LIMIT THE SELF-DISCHARGE DURING THE STORAGE PERIOD. THE RANGE IS FULLY ECO-FRIENDLY WITH ALL COMPONENTS BEING FULLY RECYCLABLE.



#### MAIN APPLICATIONS:



## SPECIFICATIONS

The positive Planté plate is composed of 99.9% pure lead resulting in low capacity loss during life and excellent corrosion resistance

A complimentary and robust negative flat plate comprising of an armoured grid provides high reliability

Electrolyte: sulphuric acid electrolyte with low specific gravity of 1.22 kg/l at 20°C

Low internal resistant due to high porosity separators material

Transparent SAN box provides an immediate inspection of electrolyte level

The lid is composed of ABS plastic with a handy service hole to permit a quick and easy measurements of the electrolyte density

The vent plug is made of porous flameproof material for a superior safety

A long shelf life of up to six months is possible without recharge (<2% discharge per month)

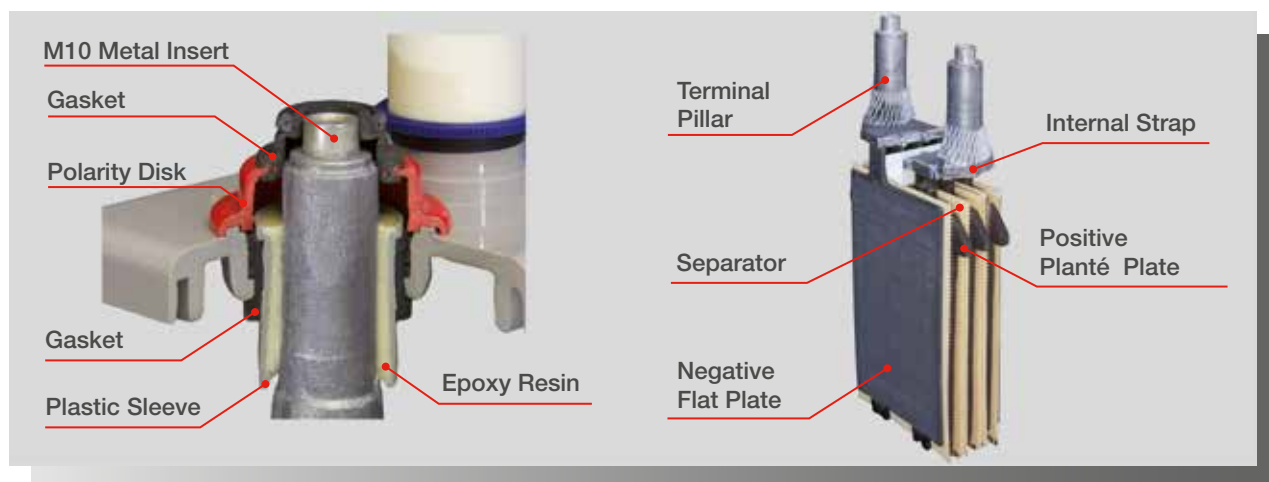
The metallic threaded insert on terminals ensures the highest conductivity and provides maximum torque retention and easy installation\*

Flexible connections ensure a safe link between terminals\*

The connecting bolt is fully insulated but with probe hole on the top to grant electrical measurements\*

\* SGL SGH range is available also with flat pillars. This version uses rigid connection and standard stainless steel screws.

## TECHNOLOGY



THE CELL CONSTRUCTION PERMITS PLATE GROWTH DURING CELL LIFE WITHOUT LEAKAGE; IN FACT POSITIVE PLATES ARE SUSPENDED STANDING ON INTERNAL BOX BACKINGS. THIS TECHNICAL FEATURE ALLOWS THE POSITIVE PLATE GROWTH WITHOUT ANY MECHANICAL STRESS ON THE LID FOR ALL PRODUCT LIFE.

THE SGL SGH RANGE DESIGN LIFE IS 25 YEARS THANKS TO HIGH RELIABILITY AND ROBUST COMPONENTS MANUFACTURE. LOW SELF-DISCHARGE ALLOWS TILL 6 MONTHS WITHOUT RECHARGE IN OPEN CIRCUIT CONDITION. ALL SGL SGH MODELS ARE AVAILABLE IN A DRY CHARGE VERSION.

CELL TYPE	REFERENCE DIN 40738	NOMINAL CAPACITY (Ah)	SHORT CIRCUIT CURRENT (A)	INTERNAL RESISTANCE (mOhm)	NOMINAL DIMENSION (mm)			ELECTROLYTE QUANTITY (liters)	TYPICAL WEIGHT (with electrolyte) (kg)
		10H to 1.8VPC at 20°C	IEC 60896-11	IEC 60896-11	Lenght	Width	Height		
SGL 7D	3 GroE 75	79	1630	1,216	182	153	415	5.4	17.5
SGL 9D	4 GroE 100	105	2160	0,915	182	153	415	5.2	19.7
SGL 11D	5 GroE 125	131	2700	0,733	182	153	415	5.1	21.9
SGL 13D	6 GroE 150	155	3190	0,620	182	153	415	4.9	24.1
SGL 15D	7 GroE 175	183	3770	0,525	182	153	415	4.8	26.3
SGL 17D	8 GroE 200	209	4300	0,460	182	228	415	7.7	33.2
SGL 19D	9 GroE 225	235	4840	0,409	182	228	415	7.5	35.4
SGL 21D	10 GroE 250	261	5380	0,368	182	228	415	7.4	37.6
SGL 23D	11 GroE 275	287	5910	0,335	182	228	415	7.2	39.8
SGL 25D	12 GroE 300	314	6470	0,306	182	228	415	7.0	42.0
SGL 27D	13 GroE 325	340	7000	0,283	182	340	415	11.6	52.5
SGL 29D	14 GroE 350	366	7540	0,263	182	340	415	11.3	54.6
SGL 31D	15 GroE 375	392	8070	0,245	182	340	415	11.1	56.7
SGL 33D	16 GroE 400	418	8610	0,230	182	340	415	10.9	58.9
SGL 35D	17 GroE 425	444	9150	0,216	182	340	415	10.6	61.0
SGL 37D	18 GroE 450	470	9680	0,204	182	340	415	10.3	63.0
SGH 11D	5 GroE 500	550	8800	0.236	328	268	607	26.6	96
SGH 13D	6 GroE 600	660	10560	0.197	328	268	607	26.4	106
SGH 15D	7 GroE 700	770	12320	0.169	328	268	607	26.2	114
SGH 17D	8 GroE 800	880	14080	0.148	328	268	607	25.4	123
SGH 19D	9 GroE 900	990	15840	0.131	328	268	607	24.6	132
SGH 21D	10 GroE 1000	1100	17600	0.118	328	268	607	23.8	141
SGH 23D	11 GroE 1100	1210	19360	0.107	328	268	607	23.0	150
SGH 25D	12 GroE 1200	1320	21120	0.098	328	348	607	32.0	174
SGH 27D	13 GroE 1300	1430	22880	0.091	328	348	607	31.1	182
SGH 29D	14 GroE 1400	1540	24640	0.084	328	348	607	30.3	191
SGH 31D	15 GroE 1500	1650	26400	0.079	328	348	607	29.5	199
SGH 33D	16 GroE 1600	1760	28160	0.074	328	438	607	40.2	225
SGH 35D	17 GroE 1700	1870	29920	0.070	328	438	607	39.3	234
SGH 37D	18 GroE 1800	1980	31680	0.066	328	438	607	38.5	242
SGH 39D	19 GroE 1900	2090	33440	0.062	328	438	607	37.7	251
SGH 41D	20 GroE 2000	2200	35200	0.059	328	438	607	36.9	259
SGH 43D	21 GroE 2100	2310	36960	0.056	328	529	607	47.5	295
SGH 45D	22 GroE 2200	2420	38720	0.054	328	529	607	46.7	303
SGH 47D	23 GroE 2300	2530	40480	0.051	328	529	607	45.5	312
SGH 49D	24 GroE 2400	2640	42240	0.049	328	529	607	45.1	320
SGH 51D	25 GroE 2500	2750	44000	0.047	328	574	607	48.4	337
SGH 53D	26 GroE 2600	2860	45760	0.045	328	574	607	47.5	346

## ELECTRICAL CHARACTERISTICS

Float Voltage: 2.23 V/cell at 20°C

Boost Voltage: 2.40 V/cell

Float Voltage Compensation with Temperature: -2.5 mV/cell/°C

Self-Discharge at 20°C: <2%/month

## STANDARDS

DIN 40738 – specification GroE cell

IEC 60896 Part 11 – vented types requirements & tests

BS 6290 part 2 – British Standard Planté specification

UK National Grid (with optional nut & bolt terminals)

## CERTIFICATIONS

ISO 9001

Quality Management System

ISO 14001

Environmental Management System

OHSAS 18001

Workplace Safety & Health

## ACCESSORIES

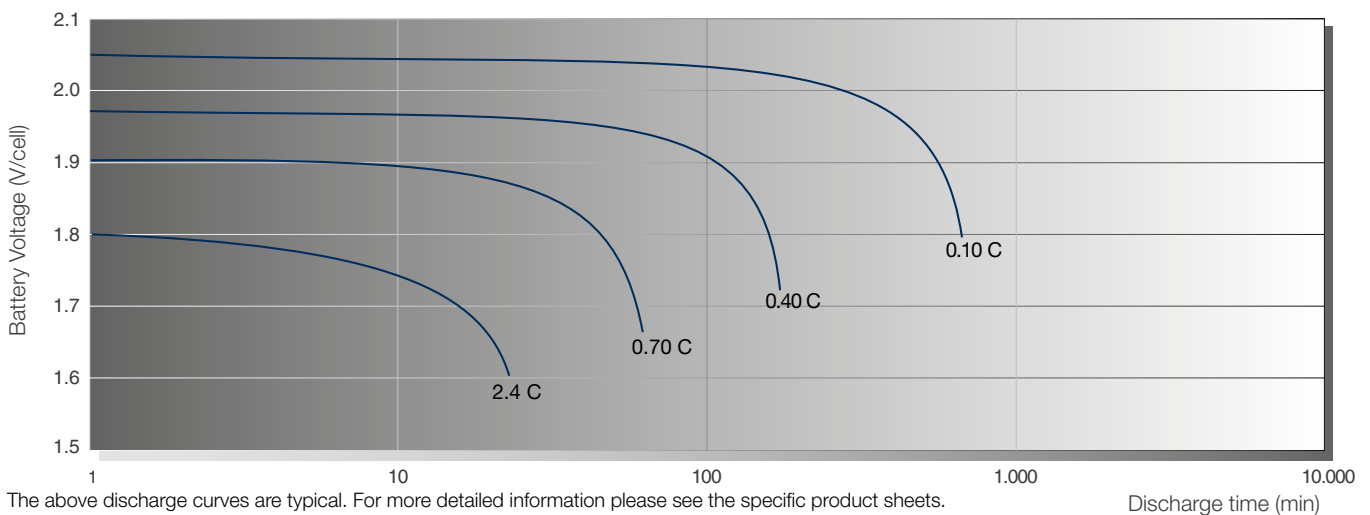
Recombination plug

Filtering plugs to DIN standard

Racks for battery installation (standard and anti-seismic)

Monitoring system

### DISCHARGE CURVES at different current / final voltage (at 20°C)

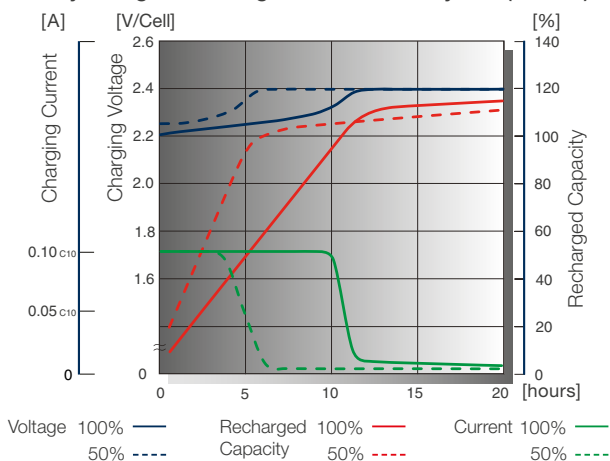


The above discharge curves are typical. For more detailed information please see the specific product sheets.

Discharge time (min)

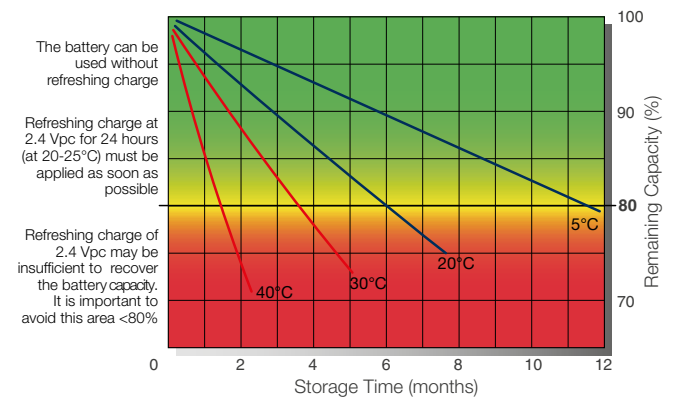
### TYPICAL CHARGE CURVES

Battery Voltage and Charge Time for Standby Use (at 20°C)



### STORAGE

Capacity loss during storage at various temperatures



The battery can be used without refreshing charge

Refreshing charge at 2.4 Vpc for 24 hours (at 20-25°C) must be applied as soon as possible

Refreshing charge of 2.4 Vpc may be insufficient to recover the battery capacity. It is important to avoid this area <80%



Headquarters  
**FIAMM Energy Technology S.p.A.**  
 Viale Europa, 75  
 36075 Montecchio Maggiore (VI) - Italy  
 Tel. +39 0444 709311  
 Fax +39 0444 694178

A Hitachi Group Company

info.standby@fiamm.com  
 www.fiamm.com

fiamm.batteries  
 fiambatteries  
 youtube.com/user/FIAMMvideo