

TYPE EXAMINATION CERTIFICATE

This is to certify:

That the Battery (Accumulator)

with type designation(s)
AH-S/MC, MA, MB, LPH, MF, ESMA, MMB & AHH-S

Issued to
The Furukawa Battery Co., Ltd.
Yokohama City Kanagawa Pref., Japan

is found to comply with
IEC 60623 (2001-09)

Application :

Issued at **Høvik** on **2017-03-01**

This Certificate is valid until **2022-02-28**.

DNV GL local station: **Yokohama**

Approval Engineer: **Nicolay Horn**

for **DNV GL**

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Andreas Kristoffersen
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid.
The validity date relates to the Type Examination Certificate and not to the approval of equipment/systems installed.

Job Id:
Certificate No: **TAE00001NR**

Product description

Type	Rated voltage (V)	Capacity (Ah)	Drawing
AH20S	1.2	20	A
AH30S	1.2	30	A
AH40S	1.2	40	A
AH50S	1.2	50	A
AH60S	1.2	60	A
AH80S	1.2	80	A
AH100S	1.2	100	A
AH120S	1.2	120	B
AH150S	1.2	150	B
AH200S	1.2	200	B
AH250S	1.2	250	B
AH300S	1.2	300	B
AH350S	1.2	350	B
AH400S	1.2	400	B
AH450S	1.2	450	B
AH500S	1.2	500	B
AH600S	1.2	600	C
AH700S	1.2	700	C
AH800S	1.2	800	C
AH900S	1.2	900	C
AH1000S	1.2	1000	C
AH1200S	1.2	1200	C

Type	Rated voltage (V)	Capacity (Ah)	Drawing
AH6MC	1.2	6	D
AH10MCA	1.2	10	D
AH20MCA	1.2	20	D
AH30MCA	1.2	30	D
AH20MCH	1.2	20	D
AH30MCH	1.2	30	D
AH30MCF	1.2	30	D
AH40MCF	1.2	40	D
LPH100A	1.2	100	F
LPH120A	1.2	120	F
LPH140A	1.2	140	F
LPH150A	1.2	150	F
LPH160A	1.2	160	F
LPH180A	1.2	180	F
LPH200A	1.2	200	F

Type	Voltage of Block (V)	Capacity (Ah)	Drawing
6M20B	7.2	20	A
6M30B	7.2	30	A
6M40B	7.2	40	A
6M50B	7.2	50	A
6M60B	7.2	60	A
6M70B	7.2	70	A

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6M80B	7.2	80	A
6M90B	7.2	90	A
6M100B	7.2	100	A
6M105B	7.2	105	A
6M10A	7.2	10	B
6M20A	7.2	20	B
6M30A	7.2	30	B
6M40A	7.2	40	B
6M50A	7.2	50	B
6M60A	7.2	60	B

Type	Voltage of Block (V)	Capacity (Ah)	Drawing
6M20F	7.2	20	A
6M30F	7.2	30	A
6M40F	7.2	40	A
6M50F	7.2	50	A
6M60F	7.2	60	A
6M70F	7.2	70	A
ES6M10A	7.2	10	B
ES6M20A	7.2	20	B
ES6M30A	7.2	30	B
ES6M40A	7.2	40	B
ES6M50A	7.2	50	B
ES6M60A	7.2	60	B
5M20B	6.0	20	A
5M30B	6.0	30	A
5M40B	6.0	40	A
5M50B	6.0	50	A
5M60B	6.0	60	A
5M70B	6.0	70	A
5M80B	6.0	80	A
5M90B	6.0	90	A
5M100B	6.0	100	A
5M105B	6.0	105	A
9M50	10.8	50	C
9M60	10.8	60	C
9M70	10.8	70	C
9M80	10.8	80	C
9M90	10.8	90	C
9M100	10.8	100	C

Type	Voltage og Block (V)	Capacity (Ah)	Drawing
1MM120B	1.2	120	D
1MM180B	1.2	180	D
1MM240B	1.2	240	D
1MM300B	1.2	300	D
1MM360B	1.2	360	D
1MM420B	1.2	420	D
1MM480B	1.2	480	D
1MM500B	1.2	500	D

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1MM540B	1.2	540	D
1MM600B	1.2	600	D
1MM630B	1.2	630	D
2MM120B	2.4	120	E
2MM150B	2.4	150	E
2MM180B	2.4	180	E
2MM200B	2.4	200	E
2MM240B	2.4	240	E
2MM250B	2.4	250	E
2MM300B	2.4	300	E
2NN315B	2.4	315	E
3MM120B	3.6	120	F
3MM140B	3.6	140	F
3MM150B	3.6	150	F
3MM180B	3.6	180	F
3MM200B	3.6	200	F
3MM210B	3.6	210	F

Type	Rated voltage (V)	Capacity (Ah)	Drawing
AHH20S	1.2	20	A
AHH30S	1.2	30	A
AHH40S	1.2	40	A
AHH50S	1.2	50	A
AHH60S	1.2	60	A
AHH80S	1.2	80	A
AHH100S	1.2	100	B
AHH120S	1.2	120	B
AHH150S	1.2	150	B
AHH200S	1.2	200	B
AHH250S	1.2	250	B
AHH300S	1.2	300	B
AHH350S	1.2	350	B
AHH400S	1.2	400	B
AHH450S	1.2	450	B
AHH500S	1.2	500	C
AHH600S	1.2	600	C
AHH700S	1.2	700	C
AHH800S	1.2	800	C
AHH900S	1.2	900	C
AHH1000S	1.2	1000	C

Application/Limitation

Industrial Nickel-Cadmium batteries for mobile and stationary application

Installation and maintenance to be done in accordance with the Installation and Operating Instructions and/or the Technical Manual.

Type examination documentation

Test carried out

Type tests in accordance with IEC 60623 (Fourth edition 2001 - 09)

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item 4.2 - Discharge performance

- 4.2.1 - Discharge performance at 20°C
- 4.2.2 - Discharge performance at + 5°C
- 4.2.3 - Discharge performance at - 18°C
- 4.2.4 - High rate current test

item 4.3 - Charge retention

item 4.4 - Endurance

- 4.4.1 - Endurance in cycles
- 4.4.2 - Permanent charge endurance

item 4.5 - Charge acceptance at constant voltage

item 4.8 - Electrolyte retention

- 4.8.1 - Test procedure
- 4.8.2 - Acceptance criteria

item 4.9 - Storage

Marking of product

The product to be marked in accordance with section 2 in IEC 60623: Manufacturers name, IEC 60623, type and manufacturing date.

Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the Type Examination is complied with and that no alterations are made to the product design or choice of materials.

The main elements of the assessment are:

- Inspection on factory samples, selected at random from the production line (where practicable)
- Review of Type Examination documentation
- Review of possible change in design, materials and performance
- Ensuring traceability between manufacturer's product type marking and Type Examination Certificate.

Assessment to be performed after 2 and 3.5 year.

END OF CERTIFICATE