TYPE APPROVAL CERTIFICATE

Certificate No:
TAA00000F4
Revision No:
3

This is to certify:

That the Sound Signal Appliances (Whistle / Bell & Gong)

with type designation(s)
Ships whistles, bell and gong

Issued to
Kockum Sonics AB
Malmö, Skåne Län, Sweden

is found to comply with
Convention on the International Regulations for Preventing Collisions at Sea, 1972 as am.

Application :

See page 2.

Issued at **Høvik** on **2022-02-04**

This Certificate is valid until **2027-02-03** .
DNV local unit: **Malmö**

Approval Engineer: **Frederik Tore Elter**

for **DNV**
Digitally Signed By: Sjåvåg, Trond
Location: DNV Høvik, Norway

Trond Sjåvåg
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 Approval Certificate and not to the approval of equipment/systems installed.

Product description

• Supertyfon AT 150/200 with Valve Unit TV784	Exposed (tested to -45˚C)
• Supertyfon AT 150/330 with Valve Unit TV784	Exposed (tested to -45˚C)
• Supertyfon MKT150/90 with Valve Unit TV784	Exposed (tested to -45˚C)
• Supertyfon MKT150/110 with Valve Unit TV784	Exposed (tested to -45˚C)
• Electrotyfon MT150/130	Exposed (tested to -45˚C)
• Electrotyfon MT150/140	Exposed (tested to -45˚C)
• Electrotyfon MTX150/120	Exposed (tested to -45˚C)
• Electrotyfon MTX150/130 (tested arctic)	Exposed (tested to -45˚C)
• Electronic tyfon ETD/100/350	Exposed
• Power Amplifier MTK250	Protected
• Signal Controller TLG2000	Protected
• Contactor units TK75A, TK85A, TK80A, TK90A	Protected
• Bell KB30	Exposed
• Gong KG50	Exposed
• Electronic Timer TI66	Protected
• Electronic Bell & Gong BG300 installed with;	Exposed (*tested to -65˚C)
Power amplifier BG 300 and	Protected
Signal Activator TI65M	Protected

**See Application/Limitations for test details*

Constellations:

Whistles:

- Supertyfon AT 150/200, or
- Supertyfon AT 150/330, or
- Supertyfon MKT150/90, or
- Supertyfon MKT150/110

All with Valve Unit TV784 and signal controller TLG2000

- Electrotyfon MT150/130 with contactor unit TK75A/TK85A, or
- Electrotyfon MT150/140 with contactor unit TK75A/TK85A, or
- Electrotyfon MTX150/120 with contactor unit TK80A/TK90A, or
- Electrotyfon MTX150/130 with contactor unit TK80A/TK90A, or
- Electronic tyfon ETD/100/350 with power Amplifier MTK250

All with signal controller TLG2000

Bell and gong

- Bell KB30
- Gong KG50

Tested with Electronic Timer TI66, or signal controller TLG2000

- Electronic Bell & Gong BG300

Tested with Power Amplifier BG300 and signal activator TI65M

Application/Limitation

• Supertyfon AT 150/200	: For vessels with length (LOA): 75 ≤ LOA < 200m
• Supertyfon AT 150/330	: For vessels with length (LOA): < 200m
• Supertyfon MKT150/90	: For vessels with length (LOA): ≥ 200m
• Supertyfon MKT150/110	: For vessels with length (LOA): ≥ 200m
• Electrotyfon MT150/130	: For vessels with length (LOA): 75 ≤ LOA < 200m
• Electrotyfon MT150/140	: For vessels with length (LOA): 75 ≤ LOA < 200m
• Electrotyfon MTX150/120	: For vessels with length (LOA): ≥ 200m
• Electrotyfon MTX150/130	: For vessels with length (LOA): ≥ 200m
• Electronic tyfon ETD100/350	: For vessels with length (LOA): 20 ≤ LOA < 75m

- Compass safe distance:
  - Supertyfon whistles : > 5,00 metres

- Electotyfon whistles : > 3,20 metres
- Electronic tyfon : > 4,50 metres
- Bell and gong : > 1,50 metres

- The above sound signal appliances to be installed in accordance with the Convention on the International Regulations for Preventing Collisions at Sea, 1972, Annex III/1 (e), (f), (g), rule 34 and maker's instructions.
- Marked units in product description are tested for low temperature down to – 45 ˚C, in accordance to IEC60945 low temperature testing.
- Units listed in DELTA test report: T209200-2 - DANAK19/16279 – Arctic test for Marine Type Approval of horns, are tested for icing / freezing rain as described in test report.
- In order to fulfil Convention on the International Regulations for Preventing Collisions at Sea, 1972, rule 33 (a), the Electronic Bell and Gong BG 300 shall be powered from emergency source ref. Convention for the Safety of Life at Sea, 1974, Chapter II-1, Reg 42 2.3.4 and Reg 43 2.4.4.
- Electronic Bell & Gong BG300 is tested in report KOMERI-0314-20T4061(E)-A (DNV No.: 42) for temperature condition exceeding IEC 60945 Exposed location. (6 hours at -65˚C, with following functional test performed in low temperature, -65˚C.)

Type Examination documentation

DNV No.	Document No	Rev	Title
60	SC98076(E)		Report: Test Report IP for PH 30T BG 300
59	Malmö, 2010-04-01		Report: Test Report, Sound measurements BG 300
58	DANAK-1910815		Report: Type Approval testing, Delta BG 300
57	05013		Report: EMC test rapport, Dectron BG 300
56	05013 supplement		Report: EMC test rapport, Dectron BG 300
55	120-22186-1	2020-03-31	Report: FORCE Dry heat, EMC IEC 60945: Kockum Sonics AB - Supplementary test for marine type approval of TLG2000 BG300 and TI98
54	KSM819E/1912		Datasheet: Electronic Whistle ETD 100/350 with Power Amplifier MTK 250 incl. Trio-tone
53	KSM742E-1921		Datasheet: Contactor Unit type TK 80 for Electro-Typhon
52	KSM714e-2104		Datasheet: Electronic Bell and Gong BG 300 Electronic Bell and Gong for use aboard vessels at anchor in restricted visibility
51	KSM712EN/1832		Datasheet: Signal Controller TLG 2000, Ref.no. 245.80.309
50	KSM521E/2020		Datasheet: ELECTROTYFON-MTX150/130 For vessels of 200 m or more in length
49	KSM520E/2040		Datasheet: ELECTROTYFON-MT150-130 For vessels of 75 m to 200 m in length
48	KSM481E/1948		Datasheet: Push–button Switches and Morse Key
47	KSM268EN/1732		Datasheet: SUPERTYFON MKT150/110 with Valve Unit TV 784
45	117-27575		Report: DELTA Cold Endurance and Dry heat: Arctic test of typhon, valve unit TV784, electric-typhon MTX 150/130 and MT-150/130
44	0314-20T4061	A	Report: KOMERI Low temperature exposed -65 deg C, Electronic Bell and Gong BG 300
42	KSM267-1525		Datasheet: SUPERTYFON MKT150/90
35	KSM335-1442		Datasheet: SUPERTYFON AT150-330 with Valve Unit TV 784
34	KSM334-1442		Datasheet: SUPERTYFON AT150-200 with Valve Unit TV 784
33	KSM354E_1435		Datasheet: Bell and Gong KB30/KG50
31			Track records of ship
30			Approval-Norge DNV_2
26	9822D		Report: Sound Measurements on Ships Whistle
25	3827D		Report: Sound Measurements on Ships Whistle
24	8471C		Report: Sound Measurements on Ships Whistle
23	P102120		Report: SP environmental testing of Signal Controller TLG2000

DNV No.	Document No	Rev	Title
21	A402357-1		Report: EMC Type approval testing of Whistles and Bell & Gong system
20	A402357-2		Report: DELTA Test Report EMC Type approval testing of Electronic Whistle System
17	6291/003/02		Report: BSH IEC60945 TLG 2000
15	F104186		Report: EMC test on TLG 2000
14	DANAK-198739		Report: EMC Type approval testing of Whistles and Bell & Gong system
13	DANAK-198741		Report: DELTA Test Report EMC Type approval testing of Electronic Whistle System
10		11/27/98	Report: Sound Measurements 981127

Tests carried out

- Environmental tests: IEC60945(2002)
- Performance tests COLREG-72 as am., Annex III:
  - Sound Signal Intensity
  - Directional Properties
  - Fundamental Frequency

Marking of product

The Manufacturer and Type Designation to be applied to the equipment in a clearly visible location. In addition the equipment shall be marked with serial number, safe distance to magnetic compass, power consumption and/or supply voltage.

Periodical assessment

Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.
The scope of the periodical/renewal assessment is to verify that the production quality conditions stipulated for the type approval are complied with and that no alterations are made to the product design or its components and/or materials without appraisal by the Society.

This certificate is only valid if required periodical assessments are carried out with satisfactory results. To check the validity of this certificate, please look it up in https://approvalfinder.dnv.com