



PW3 152 000 12 (12V)
PW3 152 000 13 (24V)

Fischio Pneumatico Omologato
(Trombe per imbarcazioni da 20m a 75m)

Approved Pneumatic Whistle
(Marine Horns for vessels between 20m to 75m in length)





Fischio Pneumatico 12V/24V

Tromba Nautica per imbarcazioni da 20m a 75m

Codice/Code
152 000 12 (12V)
152 000 13 (24V)

DESCRIZIONE DEL PRODOTTO

Avvisatore sonoro omologato completo di tromba \varnothing 300mm verniciata bianca, valvola elettrica e accessori di montaggio. Funzionamento ad aria compressa 6/12 BAR. Omologazione RINA, LLOYD'S REGISTER MCA e BUREAU VERITAS in accordo alle norme internazionali COLREG 1972 IMO classe III, approvato NMMA ABYC A-23

DATI TECNICI

TIPO	CODICE	V	A	dB (1/3 OCT.)(1m)	Hz	DIMENSIONI (mm)	PEZZI PER CARTONE
PW3	152 000 12	12	4,5	132	630	460x300	1
PW3	152 000 13	24	2,5	132	630	460x300	1

ISTRUZIONI PER L'INSTALLAZIONE DEL FISCHIO

- Montare la tromba inclinandola leggermente verso il basso (5°) per evitare il ristagno d'acqua all'interno del cono.**
- Collegare la tromba alla rete ad aria compressa attraverso il tubo rilsan ed utilizzando gli accessori del kit come da schema allegato.
- Fissare l'elettrovalvola ad un piano con delle viti M4.
- Collegare il pulsante di azionamento in serie al cavo rosso.
- Collegare l'estremo del cavo rosso al polo positivo della batteria (+) e l'estremo del cavo nero al Polo negativo della batteria (-).

DATI TECNICI ELETTRICI

Pulsante di azionamento fornito

Sezione dei cavi:

Per collegamenti alla batteria fino a 20 metri:	1,5 mmq per 24V 2,5 mmq per 12V
Per collegamenti alla batteria fino a 40 metri:	2,5 mmq per 24V 6,0 mmq per 12V

RISOLUZIONE DI PROBLEMI

Nel caso di mancato funzionamento del sistema procedere come segue :

Piccoli corpi solidi come ad esempio limatura di metallo possono arrivare alle membrane bloccandone il funzionamento. In tal caso bisogna smontare la tromba, pulire le membrane, e rimontare il tutto.

GARANZIA

- Il periodo di garanzia è di 2 anni dalla data d'acquisto come risulta dalla relativa fattura.
- Nel caso la fattura non fosse disponibile il periodo di garanzia di 2 anni, sarà calcolato dalla data di fabbricazione.
- La garanzia decade e s'intende nulla in caso d'utilizzazione non corretta o nel caso venissero ignorate le istruzioni contenute nel presente manuale.
- La garanzia copre solamente i difetti di fabbricazione.
- La garanzia non copre i costi connessi di installazione e smontaggio.
- I costi di trasporto sono rimborsabili solo nel caso in cui la garanzia è stata debitamente riconosciuta e accettata da Marco S.p.A. Questi costi saranno limitati ai costi di spedizione tra il magazzino di Marco S.p.A. e la sede del cliente.
- Nessuna nota di credito o reso sarà emessa prima di un test eseguito dal controllo di qualità di Marco S.p.A. che dichiari difettoso il prodotto.

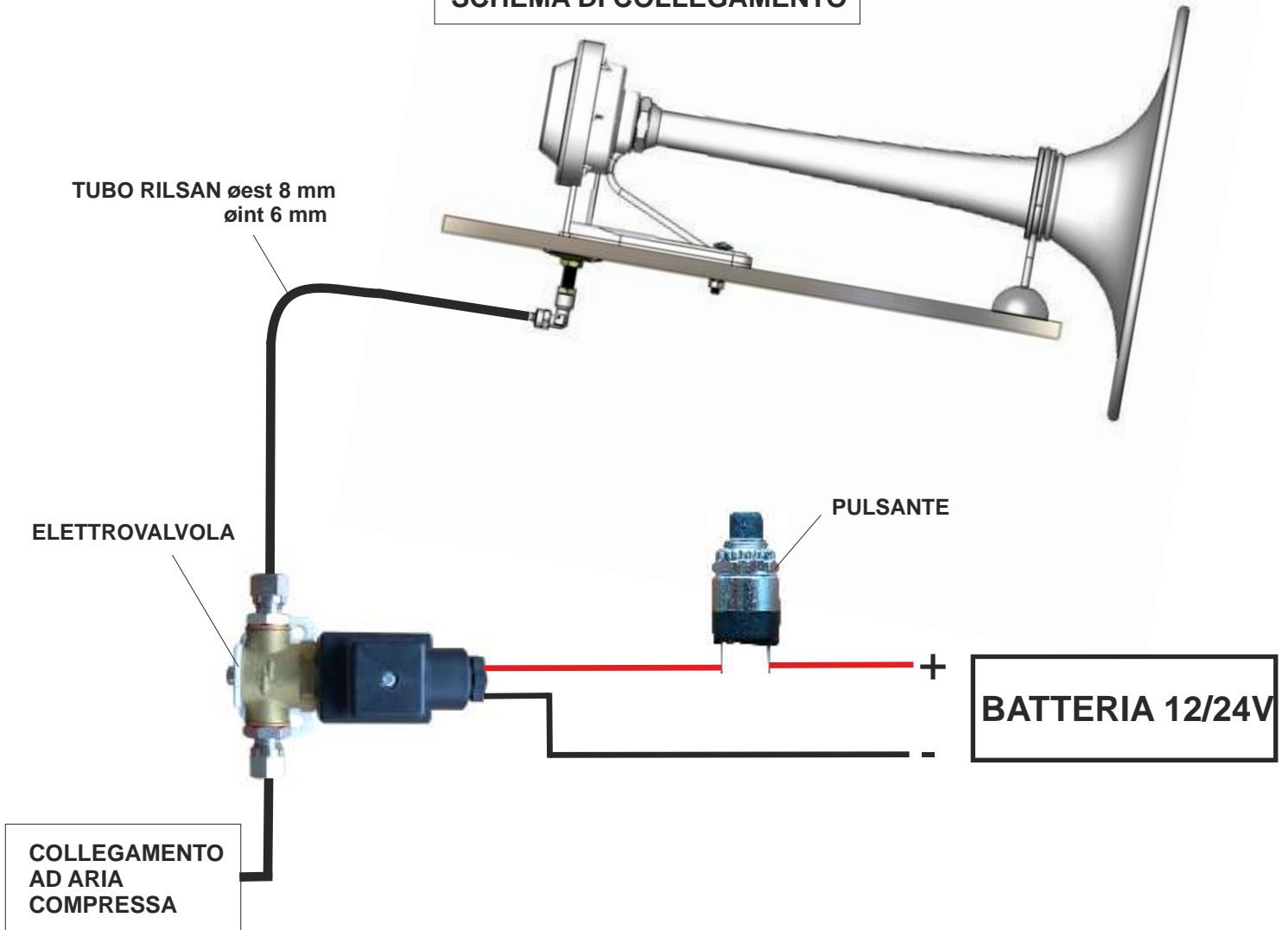
ATTENZIONE

All'interno della tromba sono montate due membrane in sequenza ordinata. In caso di apertura, e successiva manutenzione, rimontare le stesse rispettando l'ordine come segue da esploso.

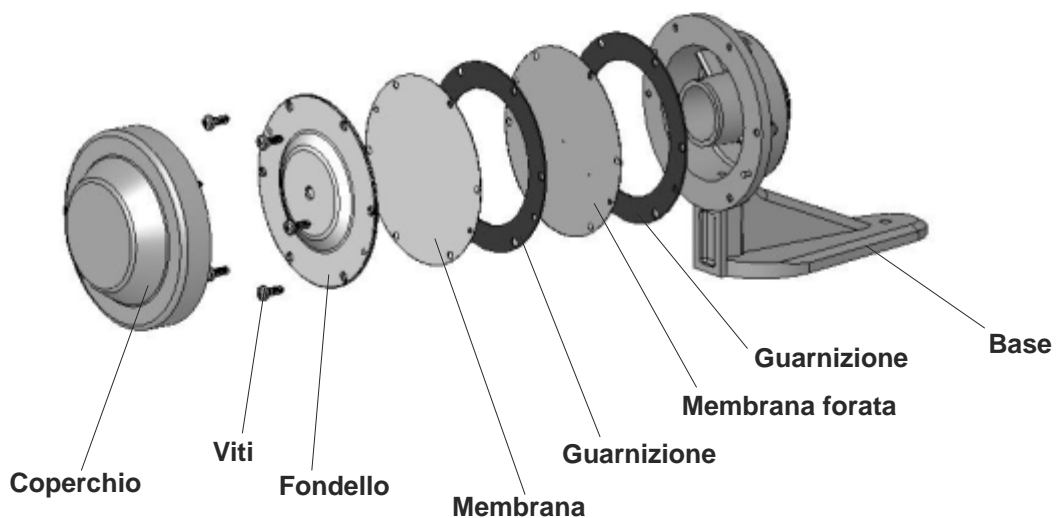
Il coperchio posteriore è applicato a pressione.

Per il fissaggio della tromba vengono forniti due tubi filettati in due diverse misure. Nella necessità di utilizzare un tubo ancora più corto, tagliare l'asta filettata e pulire accuratamente in modo da eliminare qualsiasi residuo di metallo prima di avvitare sulla tromba.

SCHEMA DI COLLEGAMENTO



SEQUENZA DI MONTAGGIO MEMBRANE





Pneumatic Whistle 12V/24V

Marine Horns for vessels between
20m to 75m in length

Codice/Code
152 000 12 (12V)
152 000 13 (24V)

PRODUCT DESCRIPTION

Approved whistle complete with white painted horn \varnothing 300 mm, electric valve and mounting accessories, for compressed air operation 6/12 bar. Meets COLREG 1972 IMO class III regulations.

Approvals: RINA, LLOYD'S REGISTER, BUREAU VERITAS and NMMA ABYC A-23

TECHNICAL DATA

TYPE	PART NUMBER	V	A	dB (1/3 OCT.)(1m)	Hz	DIMENSIONS (mm)	PCS. X CARTON
PW3	152 000 12	12	4,5	132	630	460x300	1
PW3	152 000 13	24	2,5	132	630	460x300	1

INSTALLING INSTRUCTION OF THE WHISTLE

1. **Install the horn angled slightly downward (5°) in order to avoid the water stagnation within the cone.**
2. Connect the loudspeaker to the air compressed system through the Rilsan pipe utilizing the accessories of the kit, see the layout attached.
3. Fix the compressor to a flat surface using M4 screws.
4. Connect in series the service switch to the red cable.
5. Connect the extreme part of the red cable to the positive pole of the battery (+) and the extreme part of the black cable to the negative pole of the battery (-).

ELECTRICAL TECHNICAL DATA

Service switch supplied

Section of cables:

For connections to the battery up to 20 meters :
1,5 mmq per 24V
2,5 mmq per 12V

For the connections to the battery up to 40 meters:
2,5 mmq per 24V
6,0 mmq per 12V

PROBLEM RESOLUTIONS

In the case of a system malfunction proceed as follows :

Impurities can reach the membrane blocking the normal performance of the whistle. In this case dismantle the horn, clean the membranes and re-assemble.

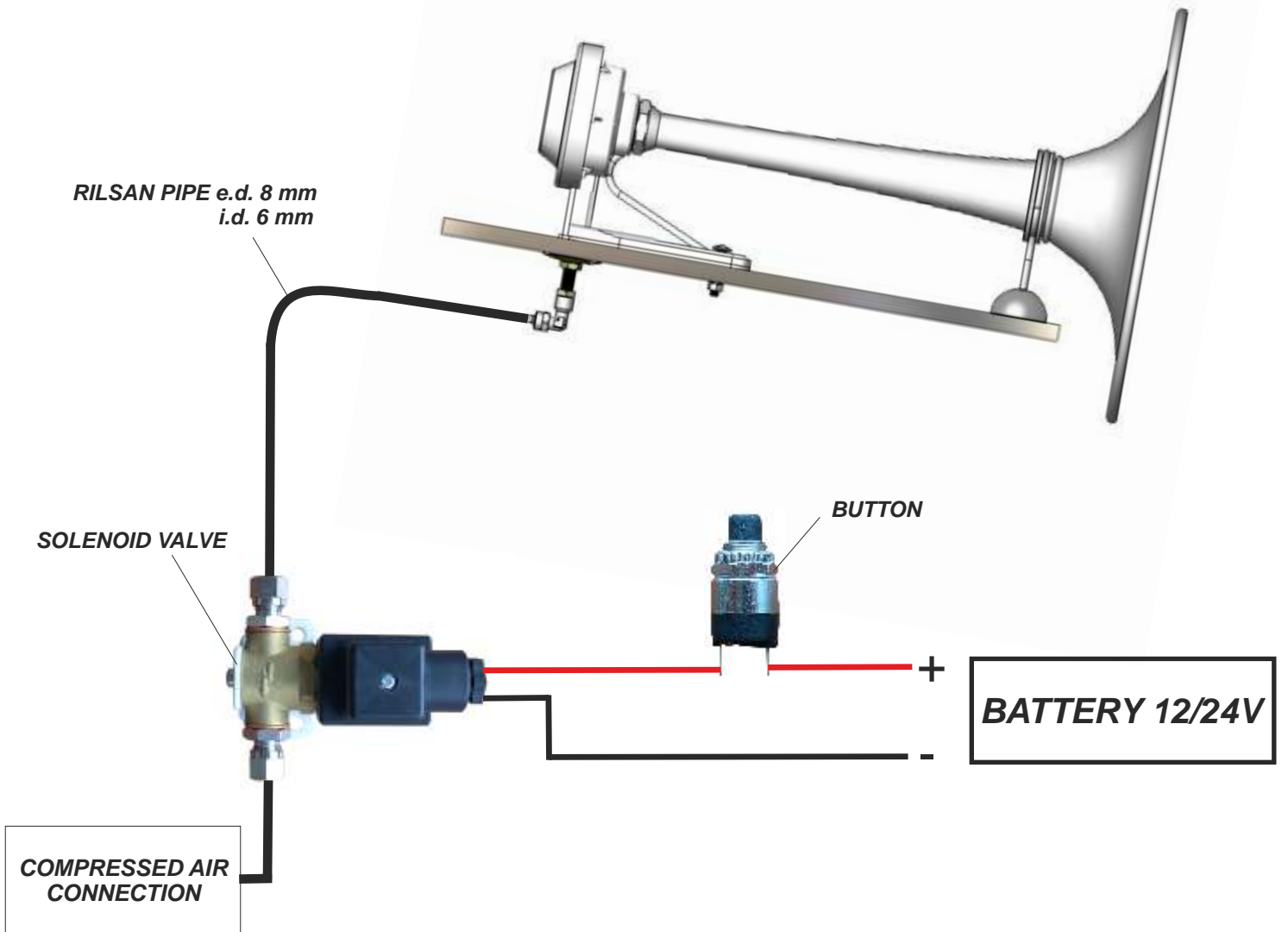
WARRANTY

- 1) The Warranty period is 2 years from date of purchase on production of the appropriate sales invoice.
- 2) Should the original sales invoice not be available, then the 2 year warranty period will be valid from date of production.
- 3) The Warranty becomes null and void in the case of incorrect utilization or disregard of the instructions contained herein.
- 4) The Warranty only covers original production defects.
- 5) The Warranty does not cover any related installation costs involved.
- 6) Transport costs are refundable only in the case where warranty has been duly recognized and accepted by Marco Spa. These costs will be limited to the actual shipment costs between Marco Spa warehouse and the client's delivery address.
- 7) No credit notes or replacement items will be issued prior to the receipt and proper testing of Any Marco goods that are deemed faulty.

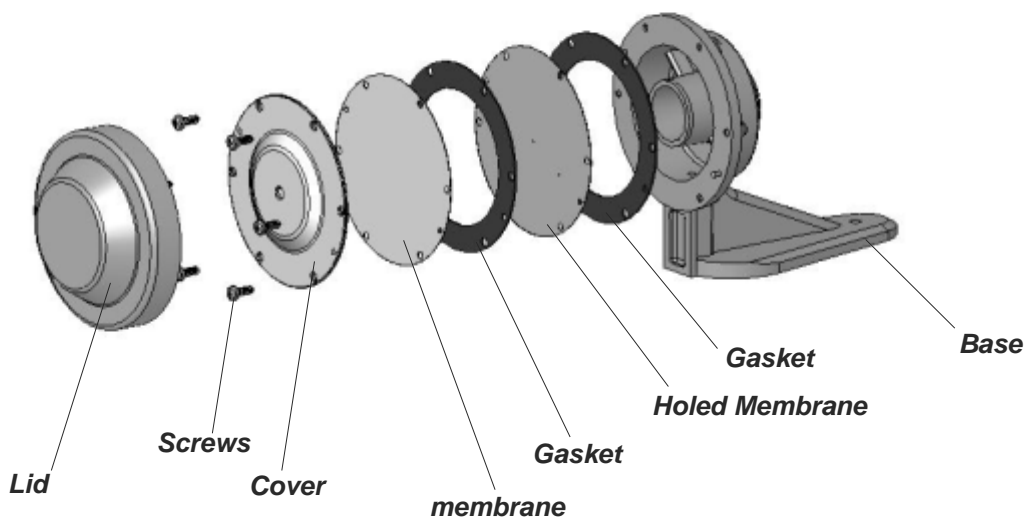
WARNING

Within the horn, two membranes have been installed in sequence. Whenever the whistle has been opened to clean the membranes it has to be reassemble following the drawing quoted underneath. The lid, which closes the horn, is pressured.

To fix the horn two threaded pipes are supplied in two different measurements. Cut part of the pipe off if shorter piped is required. Make sure to clean the pipe properly afterwards in order to eliminate any metal remains. Thereafter tighten it to the base of the loudspeaker.



MEMBRANE ASSEMBLING SEQUENCE



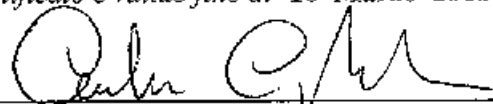
CERTIFICATO DI OMOLOGAZIONE DI TIPO
N. ELE87903CS/1



Si certifica che il seguente prodotto soddisfa alle prescrizioni delle norme RINA per l'omologazione di tipo.

<i>Descrizione</i>	SEGNALE A FISCHIO
<i>Tipo</i>	5.413
<i>Richiedente</i>	MARCO SPA VIA MAMELI 28 25014 CASTENEDOLO (BS) ITALIA
<i>Fabbricante</i>	MARCO SPA
<i>Luogo di produzione</i>	VIA MAMELI 28 25014 CASTENEDOLO (BS) ITALIA
<i>Norme di riferimento</i>	Norme Internazionali per prevenire gli abbordi in mare del 1972; di cui alla Legge 27 Dicembre 1977 N° 1085.

Rilasciato a **Genova il 10 Marzo 2003.** *Questo Certificato è valido fino al* **10 Marzo 2008**



RINA

Andrea Cogliolo

Questo Certificato e' composto di 1 pagina e di 1 allegato





CERTIFICATO DI OMOLOGAZIONE DI TIPO

N. ELE87903CS/1

Allegato - Pagina 1/1

5.413

Documenti di Riferimento

Disegno no. 5.413 vistato dal RINA in data 13 Aprile 1988.

Campo di applicazione

Navi di lunghezza $20 \leq L < 75$ metri

Alimentazione

Aria compressa.

Pressione di funzionamento : da 0,608 a 1,216 MPa.

Osservazioni.

Il presente certificato annulla e sostituisce il precedente no. ELE/35398/1 datato 03 Aprile 1998.

Genova 10 Marzo 2003

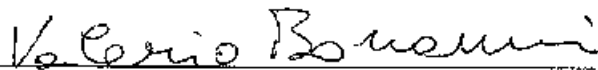
CERTIFICATO DI OMOLOGAZIONE DI TIPO
N. ELE118208CS/001



Si certifica che il seguente prodotto soddisfa alle prescrizioni delle norme RINA per l'omologazione di tipo.

<i>Descrizione</i>	SEGNALE A FISCHIO
<i>Tipo</i>	PW3
<i>Richiedente</i>	MARCO SPA VIA MAMELI, 10 25014 CASTENEDOLO (BS) ITALIA
<i>Fabbricante</i>	MARCO SPA
<i>Luogo di produzione</i>	VIA MAMELI, 10 25014 CASTENEDOLO (BS) ITALIA
<i>Norme di riferimento</i>	Norme Internazionali per prevenire gli abbordi in mare del 1972; di cui alla Legge 27 Dicembre 1977 N° 1085.

Rilasciato a **Genova** il **5 Marzo 2008**. *Questo Certificato è valido fino al* **5 Marzo 2013**



RINA

Valerio Bonanni

Questo Certificato e' composto di 1 pagina e di 1 allegato





CERTIFICATO DI OMOLOGAZIONE DI TIPO

N. ELE118208CS/001

Allegato - Pagina 1/1

PW3

Documenti di Riferimento

Disegno no. 5.413 vistato dal RINA in data 13 Aprile 1988.

Campo di applicazione

Navi di lunghezza $20 \leq L < 75$ metri

Alimentazione

Aria compressa.

Pressione di funzionamento : da 0,608 a 1,216 MPa.

Osservazioni.

Il presente certificato annulla e sostituisce il precedente no. ELE87903CS/1 datato 10 Marzo 2003.

Genova 5 Marzo 2008

TYPE APPROVAL CERTIFICATE
No. ELE118208CS/001



This is to certify that the product below is found to be in compliance with the applicable requirement of the RINA type approval system.

<i>Description</i>	SHIP'S WHISTLE
<i>Type</i>	PW3
<i>Applicant</i>	MARCO SPA VIA MAMELI, 10 25014 CASTENEDOLO (BS) ITALY
<i>Manufacturer</i>	MARCO SPA
<i>Place of manufacture</i>	VIA MAMELI, 10 25014 CASTENEDOLO (BS) ITALY
<i>Reference standards</i>	International Regulations for preventing collisions at sea, 1972 referred to Italian Law 27th December 1977 no. 1085.

Issued in **Genoa** on **March 5, 2008**. *This Certificate is valid until* **March 5, 2013**

Valerio Bonanni

RINA
Valerio Bonanni

This certificate consists of this page and 1 enclosure





TYPE APPROVAL CERTIFICATE

No. **ELE118208CS/001**

Enclosure - Page 1 of 1

PW3

Reference documents

Drawing no. 5.413 stamped by RINA on 13 April 1988.

Field of application

Vessels $20 \leq L < 75$ metres in length.

Feeder

Compressed air.

Air pressure supply : from 0,608 to 1,216 MPa.

Remarks

The present certificate annuls and supersedes the previous no.ELE87903CS/1 dated 10 March 2003.

Genova March 5, 2008

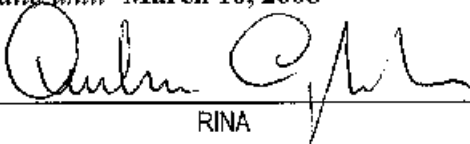
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<i>Description</i>	SHIP'S WHISTLE
<i>Type</i>	5.413
<i>Applicant</i>	MARCO SPA VIA MAMELI 28 25014 CASTENEDOLO (BS) ITALIA
<i>Manufacturer</i>	MARCO SPA
<i>Place of manufacture</i>	VIA MAMELI 28 25014 CASTENEDOLO (BS) ITALIA
<i>Reference standards</i>	International Regulations for preventing collisions at sea, 1972 referred to Italian Law 27th December 1977 no. 1085.

Issued in **Genova** on **March 10, 2003**. *This Certificate is valid until* **March 10, 2008**



RINA

Andrea Cogliolo

This certificate consists of this page and 1 enclosure





TYPE APPROVAL CERTIFICATE

No. ELE87903CS/1

Enclosure - Page 1 of 1
5.413

Reference documents

Drawing no. 5.413 stamped by RINA on 13 April 1988.

Field of application

Vessels $20 \leq L < 75$ metres in length.

Feeder

Compressed air.

Air pressure supply : from 0,608 to 1,216 MPa.

Remarks

The present certificate annuls and supersedes the previous no. ELE/35398/1 dated 03 April 1998.

Genova March 10, 2003

CERTIFICATE OF TYPE APPROVAL

This is to certify that

LLOYD'S REGISTER, specified as a "person" under the terms of The Merchant Shipping (Delegation of Equipment Approval) Regulations 1996, did undertake the relevant type approval procedures of the equipment identified below which was found to be in compliance with the essential Life Saving Appliance requirements subject to any conditions in the Design Appraisal Document hereto.

Producer	Marco SpA
Address	Via Mameli 10 25014 Castenedolo Brescia Italy
Equipment Description	SHIPS SOUND SIGNAL (WHISTLE) AIR OPERATED
Type	PW3 in versions - PW3 12V supply PW3 24V supply
Specified Standard	International Regulations for Preventing Collisions at Sea 1972, Consolidated Edition 2002, Annex III, 1(a) to (d) inclusive.

The attached Design Appraisal Document forms part of this certificate.

This certificate remains valid up to the expiry dated unless cancelled or revoked, or until such date where it is superseded by the requirements of the Marine Equipment Directive whichever is the earlier, provided the conditions in the attached schedule are complied with and the equipment remains satisfactory in service.

Date of issue	12 July 2008	Expiry date	11 April 2013
Certificate No.	MCA 0300009/M1	Signed	<i>M. A. Rufaie</i>
Sheet No	1 of 2	Name	M.H.A. Rufaie Surveyor to Lloyd's Register EMEA A Member of the Lloyd's Register Group

Note:

This certificate is not valid for equipment, the design or manufacture of which has been varied or modified from the specimen tested. The manufacturer should notify the nominated body named on this certificate of any modification or changes to the equipment in order to obtain a valid Certificate.



Maritime and Coastguard Agency
An Executive Agency of the Department for Transport

This certificate is issued under the authority given in Merchant Shipping Notice No MSN 1735 (M+F) as amended to date.

Page 2 of 2
Document number MCA 0300009/M1
Issue number 1

DESIGN APPRAISAL DOCUMENT

Date 12 July 2008	Quote this reference on all future communications LDSS/PAS/TAE/W01644471/MHR/O- 92578
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ATTACHMENT TO CERTIFICATE OF TYPE APPROVAL No. MCA 0300009/M1

The undernoted documents have been appraised for compliance with the relevant International Conventions and UK legislation for the Type Approval of Marine Equipment for use on Merchant Ships Registered in the United Kingdom.

This Design Appraisal Document forms part of the Certificate that is issued under the authority given in the MCA Merchant Shipping Notice No MSN 1735.

ADDITIONAL APPROVAL DOCUMENTATION

Request form	10.02.2008
LR Brescia email	11.03.2008
Marco letter	10.03.2008

TEST REPORTS

IQNet Certificate No. CH-21294	07.02.2006
SQS Certificate No. 21294	07.02.2006

Also all the documentation listed on Design Appraisal Document associated with MCA Certificate No. 0300009



M.H.A. RUF AIE
Lead Specialist
Product Approval / London Design Support Services
Tel: +44 (0) 20 7423 1849 (Direct line)
Email: product-approval@lr.org
Web: www.lr.org



MARINE DIVISION

Certificate number: 14450/B0 BV

File number: NAV 39/1469/02

Product code: 4005H

This certificate is not valid when presented without the full attached schedule composed of 7 sections

www.veristar.com

TYPE APPROVAL CERTIFICATE

This certificate is issued to

MARCO SpA

Brescia - ITALY

for the type of product

SHIP's SOUND SIGNALS (WHISTLES)

Air whistle type: PW2/PW3

Requirements:

Bureau Veritas Rules for the Classification of Steel Ships.

This certificate is issued to attest that BUREAU VERITAS did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.

This certificate will expire on: 02 Sep 2015

For BUREAU VERITAS,

At BV GENOA, on 02 Sep 2010,

Gianni Pirovano



This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with BUREAU VERITAS. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. This certificate is issued within the scope of the General Conditions of BUREAU VERITAS Marine Division available on the internet site www.veristar.com. Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against BUREAU VERITAS for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION:

Types	Frequency	Sound pressure level (1m)	Length of vessels
Air whistle type PW2	630 Hz	123dB	< 20 m
Air whistle type PW3	630 Hz	132dB	20 ≤ L < 75 m

2. DOCUMENTS AND DRAWINGS:

According to Manufacturer's specifications filed in NAV 39/1469/02.

3. TEST REPORTS:

3.1 - Air whistle type PW2:

Department of Trade Marine Directorate Certificate of Inspection and Tests,
EMIT Vibration test report RP 712 FIA 86,

City University London report on measurement sound output.

3.2 - Air whistle type PW3:

Department of Trade Marine Directorate Certificate of Inspection and Tests,

City University London report on measurement sound output.

4. APPLICATION / LIMITATION:

4.1 - Air whistle type PW2 to be installed on vessels < 20 m in length,

Air whistle type PW3 to be installed on vessels 20 ≤ L < 75 m in length.

4.2 - On board installation & Maintenance requirements according to the specified regulations and standard stated on the front page of the certificate.

5. PRODUCTION SURVEY REQUIREMENTS:

5.1 - The Air whistle type PW2, PW3 are to be manufactured, examined and tested by **MARCO SpA, 25014 Castenedolo (BS) - Italia**, in accordance with the type described in this certificate and Bureau Veritas Rules for the Classification of Steel Ships.

5.2 - Production sites are to be recognized by Bureau Veritas as per NR320 for HBV products. To this end **MARCO SpA, 25014 Castenedolo (BS) - Italia**, has to make the necessary arrangements for a Society's Surveyor to perform visits and product audits at the production sites.

5.3 - **MARCO SpA, 25014 Castenedolo (BS) - Italia**, has declared to Bureau Veritas that the type of product described in this certificate may be manufactured at the following production site:

**MARCO SpA
Via Mameli 28,
25014 Castenedolo Brescia
ITALY**

6. MARKING OF PRODUCT:

6.1 - Maker's name or trademark,

6.2 - Serial number of the units,

6.3 - Equipment type number or model identification under which it was type-tested.

7. OTHERS:

7.1 - This approval is given on the understanding that the Society reserves the right to require check tests to be carried out on the Whistles at any time and that **MARCO SpA, 25014 Castenedolo (BS) - Italia**, will accept full responsibility for informing shipbuilders, shipowners or their sub-contractors of the proper methods of use and general maintenance of the units and the conditions of this approval.

7.2 - This Certificate supersedes the Type Approval Certificate N° 14450/A0 issued on 31/01/2005 by the Society.

*** END OF CERTIFICATE ***

Per ulteriori informazioni vedere sito internet - www.marco.it
Marco S.p.A via Mameli 10 - 25014 Castenedolo - Brescia - Italy
tel. +39 030 2134.1 / Fax +39 030 2134.300

For further information visit the web site - www.marco.it
Marco S.p.A via Mameli 10 - 25014 Castenedolo - Brescia - Italy
tel. +39 030 2134.1 / Fax +39 030 2134.300