

# MARCO<sup>®</sup>

MARINE TECH

## Fischio Pneumatico Omologato

(Trombe per imbarcazioni da 20m a 75m)

## Approved Pneumatic Whistle

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

152 000 12 - PW3 12V

152 000 13 - PW3 24V



25/09/21 Rev.10

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**DESCRIZIONE DEL PRODOTTO**

Avvisatore sonoro omologato completo di tromba ø300mm 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**

CODICE	TIPO	VOLT	FUSIBILE	dB (1/3 Oct.) (1m)	Hz	P.ZI x CART.
152 000 12	PW3	12	4,5 A	>130	315	1
152 000 13		24	2,5 A			

TEMPERATURA : min. -25 °C / max. +60 °C    UMIDITA' RELATIVA : max. 90 %

**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 mm <sup>2</sup> per 24V 2,5 mm <sup>2</sup> per 12V
Per collegamenti alla batteria fino a 40 metri:	2,5 mm <sup>2</sup> per 24V 6,0 mm <sup>2</sup> 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.

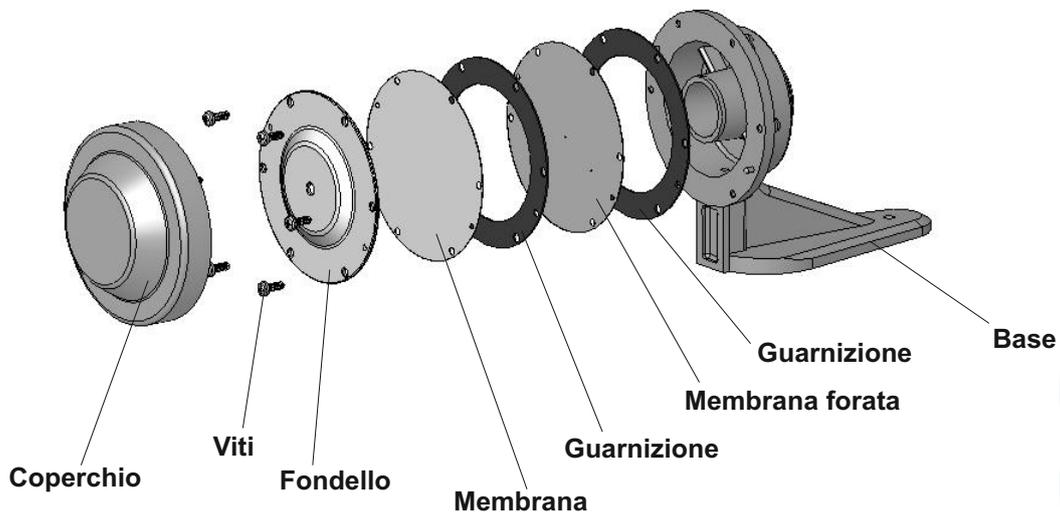
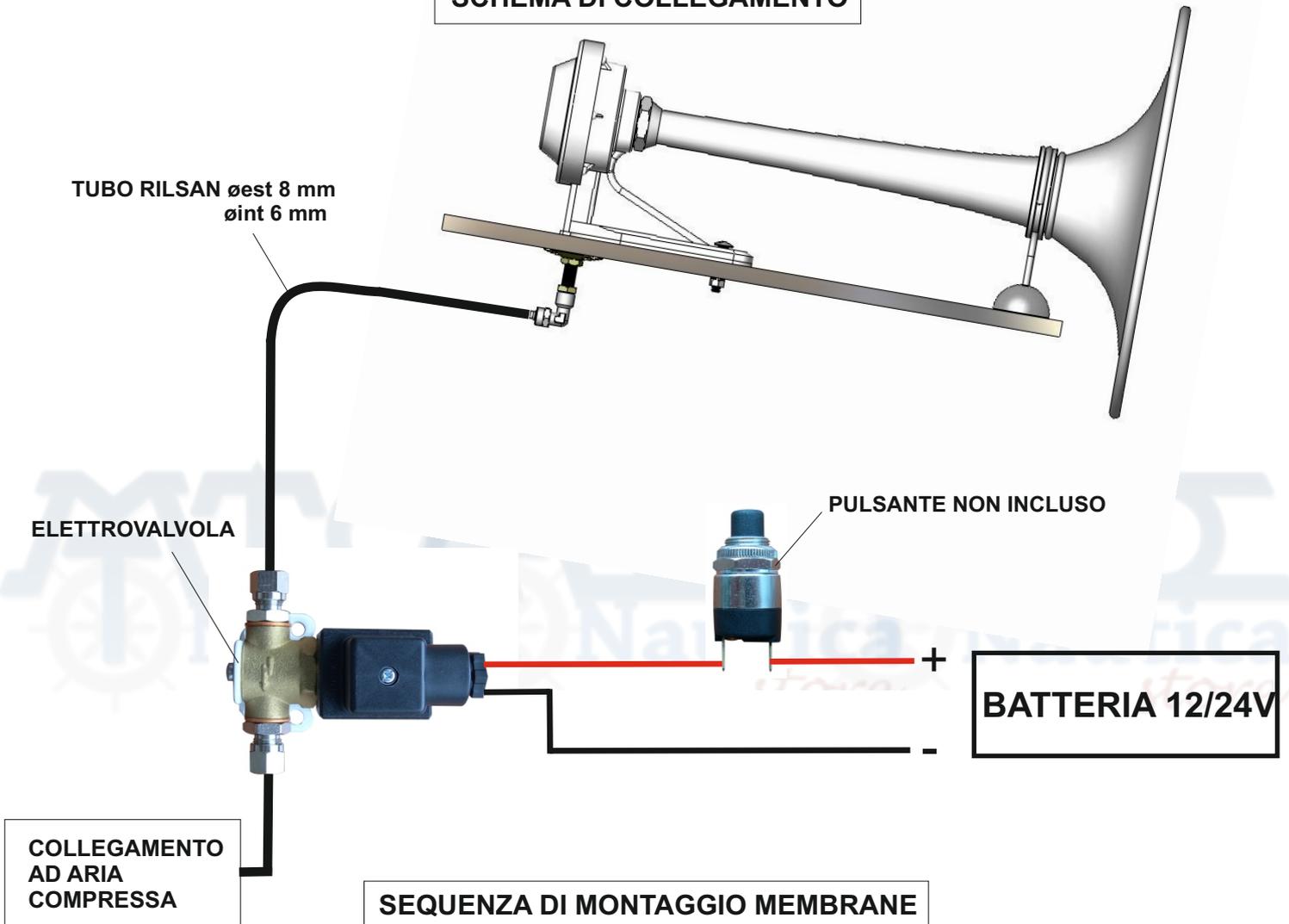
## ATTENZIONE

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

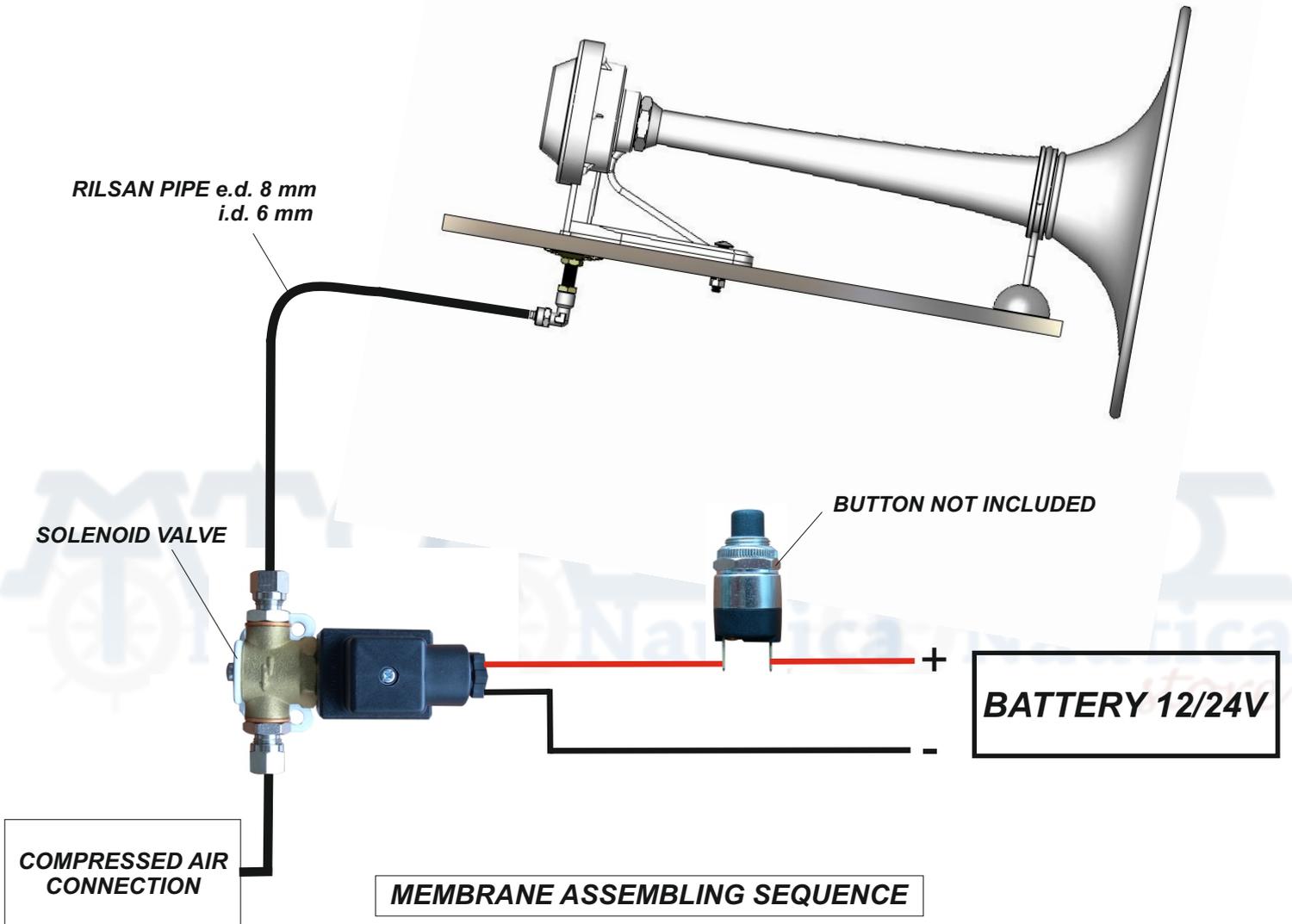




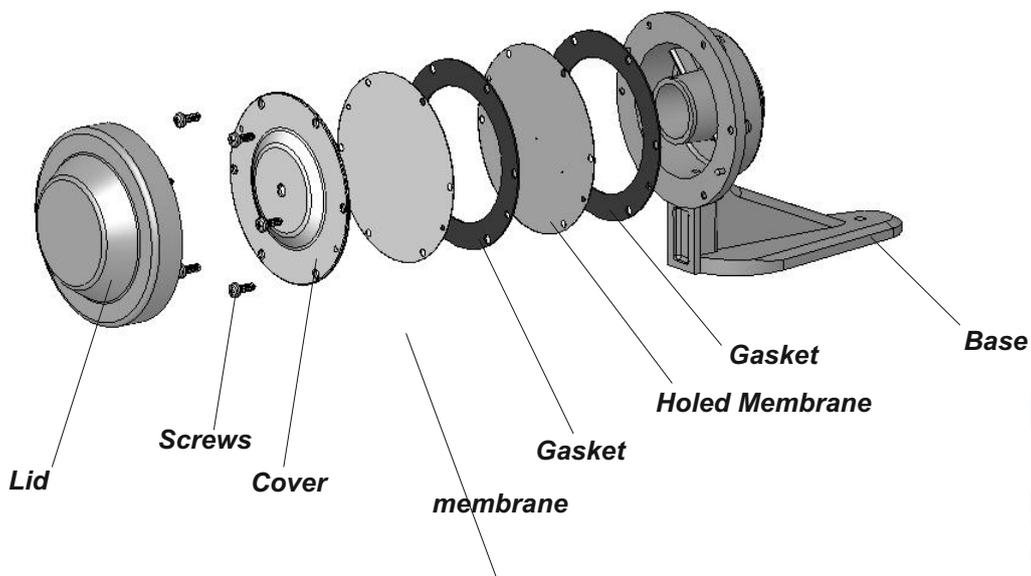
**WARNING**

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**





**PROTOTYPE DESIGN ASSESSMENT CERTIFICATE**  
No. **ELE333323CS**

**This is to certify** that the product identified below is in compliance with the regulations herewith specified.

<i>Description</i>	<b>SHIP'S WHISTLE</b>
<i>Type</i>	<b>PW2 and PW3</b>
<i>Applicant</i>	<b>MARCO SPA VIA MAMELI, 10 25014 CASTENEDOLO (BS) ITALY</b>
<i>Manufacturer</i>	<b>MARCO SPA</b>
<i>Place of manufacture</i>	<b>VIA MAMELI, 10 25014 CASTENEDOLO (BS) ITALY</b>
<i>Reference standards</i>	<b>Convention on the International Regulations for preventing collisions at sea, 1972 (ref. to Italian Law 27th December 1977 no. 1085.)</b>

This certificate is issued on request of the Manufacturer based on the PDA certification scheme according to RINA Rules for Testing and Certification of Marine Materials and Equipment

*Issued in* **Genova** on **October 30, 2023**. *This Certificate is valid until* **October 29, 2028**

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**RINA Services S.p.A.**  
**Luigi Benedetti**

This certificate consists of this page and 1 enclosure

**PROTOTYPE DESIGN ASSESSMENT CERTIFICATE**

No. **ELE333323CS**  
**Enclosure - Page 1 of 1**  
**PW2 and PW3**

**Whistle Type PW2**

Field of application (acc.to COLREG Regulation)  
Vessels having length  $L < 20$  meters  
Sound pressure level 1/3 octave band @ 1m: 120 dB  
Audibility: 0,5 mile

Feeder  
Compressed air  
Air pressure supply: from 0,15 to 0,30 MPa

**Whistle Type PW3**

Field of application (acc.to COLREG Regulation)  
Vessels having length  $L < 20 < 75$  meters  
Sound pressure level 1/3 octave band @ 1m: 130 dB  
Audibility: 1 mile

Feeder  
Compressed air  
Air pressure supply: from 0,60 to 1,20 MPa

Test Report and drawing:  
RINA Report n.2013/CS/01/534 (19/07/2013): frequency and sound pressure measurements (19/07/2013)  
MARCO Letter on 06/02/2008  
SQS Certificate dated 14.06.2021  
Drawing no. 5.413 stamped by RINA on 13/04/1988

Reference documents:  
Offer n° 2023/22330 (dated 11/09/2023)  
TAO APP dated 31/08/2023  
<https://leodrawplus.rina.org/projects/40216/detail>

**Genova October 30, 2023**

RINA Services S.p.A.  
Via Corsica, 12 - 16128 Genova  
Tel +39 010 53851  
Fax +39 010 5351000

## Certificate Of Type Approval (MCA)

This is to certify that LLOYD'S REGISTER, specified as a "person" under the terms of The Merchant Shipping (Marine Equipment) Regulations 2016 (SI2016 No. 1025), did undertake the relevant type approval procedures of the equipment identified below which was found to be in compliance with the International Regulations for preventing Collisions at Sea, 1972 (COLREG 72), as amended, requirements subject to any conditions in the Design Appraisal Document hereto.

<b>Manufacturer</b>	<b>Marco S.p.A.</b>
<b>Address</b>	Via Mameli 10, 25014 Castenedolo, Brescia, Italy
<b>Type</b>	SHIPS SOUND SIGNAL (WHISTLE) AIR OPERATED
<b>Description</b>	SHIPS SOUND SIGNAL (WHISTLE) AIR OPERATED
<b>Trade Name</b>	PW3
<b>Specified Standard</b>	International Regulations for Preventing Collisions at Sea 1972, Consolidated Edition 2002, Annex III, 1(a) to (d) inclusive. EN 60945 (2002)

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 Lloyd's Register EMEA of any modification or changes to the equipment in order to obtain a valid Certificate.

The attached Design Appraisal Document forms part of this certificate.

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



**Lijo Thomas**

Senior Surveyor to Lloyd's Register EMEA  
A member of the Lloyd's Register group

71 Fenchurch Street, London, EC3M 4BS, United  
Kingdom

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DESIGN APPRAISAL DOCUMENT

Page 2 of 3  
Certificate No: LR21191228MC  
Issue Date: 11 Mar 2021  
Expiry Date: 10 Mar 2026  
Reference: UKITSO/LSA/TA/LT/WP43048498/PRJ11100305257

**ATTACHMENT TO CERTIFICATE OF TYPE APPROVAL No. LR21191228MC**

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 1874.

This Certificate is a renewal of Certificate No. MCA 1600002

**EXAMINED DOCUMENTATION**

LR Brescia email	11.03.2008
Marco letter	10.03.2008
PW3 Data Sheet, Rev 4 (Trumpet)	04.10.2013

**TEST REPORTS**

IQNet Certificate No. CH-21294	07.02.2006
SQS Certificate No. 21294	07.02.2006
Environmental and Vibration Test, Test Report No: AERO15_C16, Rev 0	15.09.2015
Sound Pressure Test after Environmental and Vibration test, Rev 0	18.12.2015

**CONDITIONS OF CERTIFICATION**

1. The PW3 whistles may only be fitted to vessels greater than 20 meters, but less than 75 metres in length
2. The onboard arrangements and installation of this whistle is not part of this certificate, all such arrangements are to be to the satisfaction of the attending surveyor
3. Each whistle is to be delivered with a copy of this certificate
4. Instructions for use and maintenance are to be supplied with each whistle
5. If the specified standards are amended during the validity of this certificate, this product type is to be re-approved prior to it being supplied to vessels to which the amended standards apply
6. Production items are to be manufactured in accordance with a quality control system which shall be maintained to ensure compliance with SOLAS Regulation III/5
7. Production tests are to be conducted in accordance with the applicable requirements of IMO Resolution MSC.81 (70), Part 2 and each item, batch, or lot be delivered with an LR Certificate of SOLAS Production Testing issued by the attending LR Surveyors following their witness of the tests. This does not preclude any further testing to additional requirements of the Marine Administration of the country where the ship is registered (i.e. the flag state) or those acting on behalf of that Administration
8. Should a change of Place of Production from that stated below be required i.e. where the stages of manufacture/assembly/testing of this product take place, the new Place of Production is to be advised to us prior to the change taking place. This Certificate will require to be updated for Approval to be maintained

**PLACE OF PRODUCTION**

Lloyd's Register Group Limited, its affiliates and subsidiaries and their respective officers, employees or agents are, individually and collectively, referred to in this clause as 'Lloyd's Register'. Lloyd's Register assumes no responsibility and shall not be liable to any person for any loss, damage or expense caused by reliance on the information or advice in this document or howsoever provided, unless that person has signed a contract with the relevant Lloyd's Register entity for the provision of this information or advice and in that case any responsibility or liability is exclusively on the terms and conditions set out in that contract.





DESIGN APPRAISAL DOCUMENT

Page 3 of 3  
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Issue Date: 11 Mar 2021  
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**ATTACHMENT TO CERTIFICATE OF TYPE APPROVAL No. LR21191228MC**

Marco SpA  
Via Mameli 10  
25014 Castenedolo  
Brescia  
Italy

Lijo Thomas  
Senior Specialist  
Fire & Safety, Statutory Discipline Team  
UK&I Technical Support Office, Marine & Offshore  
Lloyd's Register EMEA

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Marine &amp; Offshore

Certificate number: 14450/D0 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**

Castenedolo (BS) - 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 Marine & Offshore 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: 04 Sep 2025****For Bureau Veritas Marine & Offshore,**

At BV GENOA, on 04 Sep 2020,

Sandro BRUSEGAN



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 Marine & Offshore. 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 & Offshore 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 Marine & Offshore 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 mm

### 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 above products are to be supplied by **MARCO SpA** in compliance with the type described in this certificate.

5.2 - This type of product is within the category HBV of Bureau Veritas Rule Note NR320 and as such does not require a BV product certificate.

5.3 - **MARCO SpA** has to make the necessary arrangements to have its works recognised by Bureau Veritas in compliance with the requirements of NR320 for HBV products.

5.4 - For information, **MARCO SpA** has declared to Bureau Veritas the following production site(s):

**MARCO SpA**  
**Via Mameli 10,**  
**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 - It is **MARCO SpA**'s responsibility to inform shipbuilders or their sub-contractors of the proper methods of fitting, use and general maintenance of the approved equipment and the conditions of this approval.

7.2 - This Certificate supersedes the Type Approval Certificate No.14450/C1 BV issued on 21 May 2015 by the Society.

\*\*\* END OF CERTIFICATE \*\*\*

BSH  
Az.: 4615/6023034/16

Marco  
Via Mamelì 10  
25014 CASTENEDOLO Brescia  
Italien

Ihr Antrag auf Baumusterprüfung von Navigationsausrüstung vom 12.04.2016  
*Your application for type examination of navigation equipment dated 12.04.2016*



BUNDESAMT FÜR  
SEESCHIFFFAHRT  
UND  
HYDROGRAPHIE

Hamburg,  
19.04.2016

## Bescheid über die Anerkennung der nationalen Zulassung eines EU-Mitgliedstaates

*Notification of acceptance of a national type approval of a EU member state*

Sehr geehrte Damen und Herren,  
*Dear Madam and Sir,*

für die Navigations Ausrüstung mit der Bezeichnung **PW2, PW3**  
*For the navigation equipment with the type designation PW2, PW3*

wird die mit anliegendem Zertifikat Nr. **MCA1600002, MCA1600003**  
*the approval granted with attached certificate no. MCA1600002, MCA1600003*

für MCA(UK) ausgesprochene Zulassung vom Bundesamt für Seeschifffahrt und Hydrographie (BSH) für die Anwendung auf Schiffen unter Deutscher Flagge akzeptiert.  
*Will be accepted by the Federal Maritime and Hydrographic Agency (BSH) for the use on german flag vessels.*

### Bedingungen

*Conditions*

Diese Anerkennung erlischt bei Fristablauf, Rücknahme oder Widerruf. Der Widerruf kann ausgesprochen werden, wenn die serienmäßig gefertigten nautischen Ausrüstungsgegenstände nicht mit dem zugelassenen Baumuster übereinstimmen.

*This acceptance expires after lapse of time, withdrawal or revocation. A revocation may be ordered if navigational equipment manufactured in serial production is not in compliance with the type-tested prototype.*

### Auflagen

*Obligations*

Der Hersteller oder sein bevollmächtigter Vertreter hat sicherzustellen, dass alle auf Grund dieses Bescheids gefertigten nautischen Ausrüstungsgegenstände mit den geprüften Unterlagen und mit dem Baumuster übereinstimmen.

*The manufacturer or his authorized representative has to ensure that navigational equipment manufactured on the basis of this acceptance, is in compliance with the approved documentation and the type-approved prototype.*

Jeder serienmäßig auf Grund dieses Bescheids gefertigte Bestandteil des nautischen Ausrüstungsgegenstandes muss an gut sichtbarer Stelle und in dauerhafter Form mit der Gerätebeschriftung entsprechend der europäischen Norm EN 60945 gekennzeichnet sein und darf mit der Baumusternummer (Nummer der Baumusterprüfbescheinigung) versehen werden. Ausgenommen davon sind Bauteile, die in der unter Wasser liegenden Außenhaut des Schiffes eingebaut werden.

*Every navigational equipment component which is produced in series on the basis of this acceptance must be marked permanently and visibly with the equipment identification according to the european standard EN 60945 type and may be marked with the approval number (number of the type approval certificate). This does not apply to components installed in the vessel's outside plating below the waterline.*

Der Hersteller oder sein bevollmächtigter Vertreter hat den vom Bundesamt für Seeschifffahrt und Hydrographie betrauten Personen zu gestatten, durch stichprobenartige Nachprüfungen festzustellen, ob serienmäßig hergestellte Ausrüstungsgegenstände dem geprüften Baumuster entsprechen. Das Bundesamt für Seeschifffahrt und Hydrographie kann zu diesem Zweck beim Hersteller oder seinem bevollmächtigten Vertreter Proben anfordern oder entnehmen.

*The manufacturer or his authorized representative has to allow to persons authorized by the Federal Maritime and Hydrographic Agency to take random samples to prove whether equipment manufactured in serial production is in compliance with the type-approved prototype. Therefore, the Federal Maritime and Hydrographic Agency may take or demand samples from the manufacturer or his authorized representative.*

Es wird empfohlen, jedem ausgelieferten Ausrüstungsgegenstand eine vollständige Kopie der Anerkennung beizufügen.

*It is recommended that a complete copy of the admission certificate is provided with each equipment delivery.*

#### Hinweise

*remarks*

Das Bundesamt für Seeschifffahrt und Hydrographie behält sich vor, weitere Auflagen zu erteilen.

*The Federal Maritime and Hydrographic Agency reserves the right to impose additional obligations.*

#### Rechtsbehelfsbelehrung

*Notice on legal remedies available*

Gegen diesen Bescheid kann innerhalb eines Monats nach Bekanntgabe Widerspruch erhoben werden. Der Widerspruch ist beim Bundesamt für Seeschifffahrt und Hydrographie, Bernhard-Nocht-Str. 78, 20359 Hamburg, schriftlich oder zur Niederschrift einzulegen.<sup>1</sup>

*Objection to this document may be filed within one month after notification. The objection must be filed in writing to, or put on record at, Federal Maritime and Hydrographic Agency, Bernhard-Nocht-Str. 78, 20359 Hamburg, Germany.*

Anlage(n) Baumusterprüfbescheinigung Nr. **MCA1600002, MCA1600003**  
Gebührenbescheid 790056064143

Attachment(s) *Type examination certificate no. MCA1600002, MCA1600003*  
*Invoice 790056064143*

Mit freundlichen Grüßen

Im Auftrag

  
Doreen Thoma

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<sup>1</sup> Der deutsche Text ist verbindlich.  
*The german text is authentic.*

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tel. +39 030 2134.1 / Fax +39 030 2134.300

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Marco S.p.A Via Mameli 10 - 25014 Castenedolo (Brescia) – Italy  
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