



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)



05/08/08 Ed.00 Rev.02

Schiffsausrüster
TOPLICHT
Tel.: +49 (0)40 - 8890100
www.toplicht.de



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

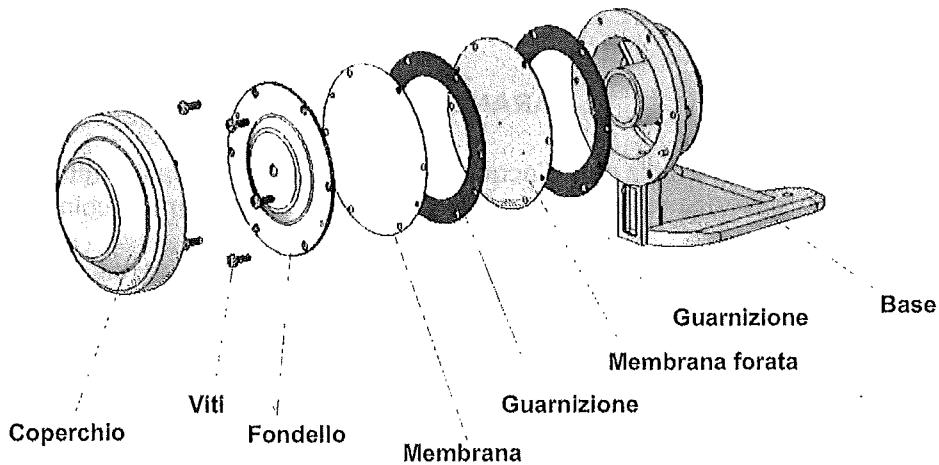
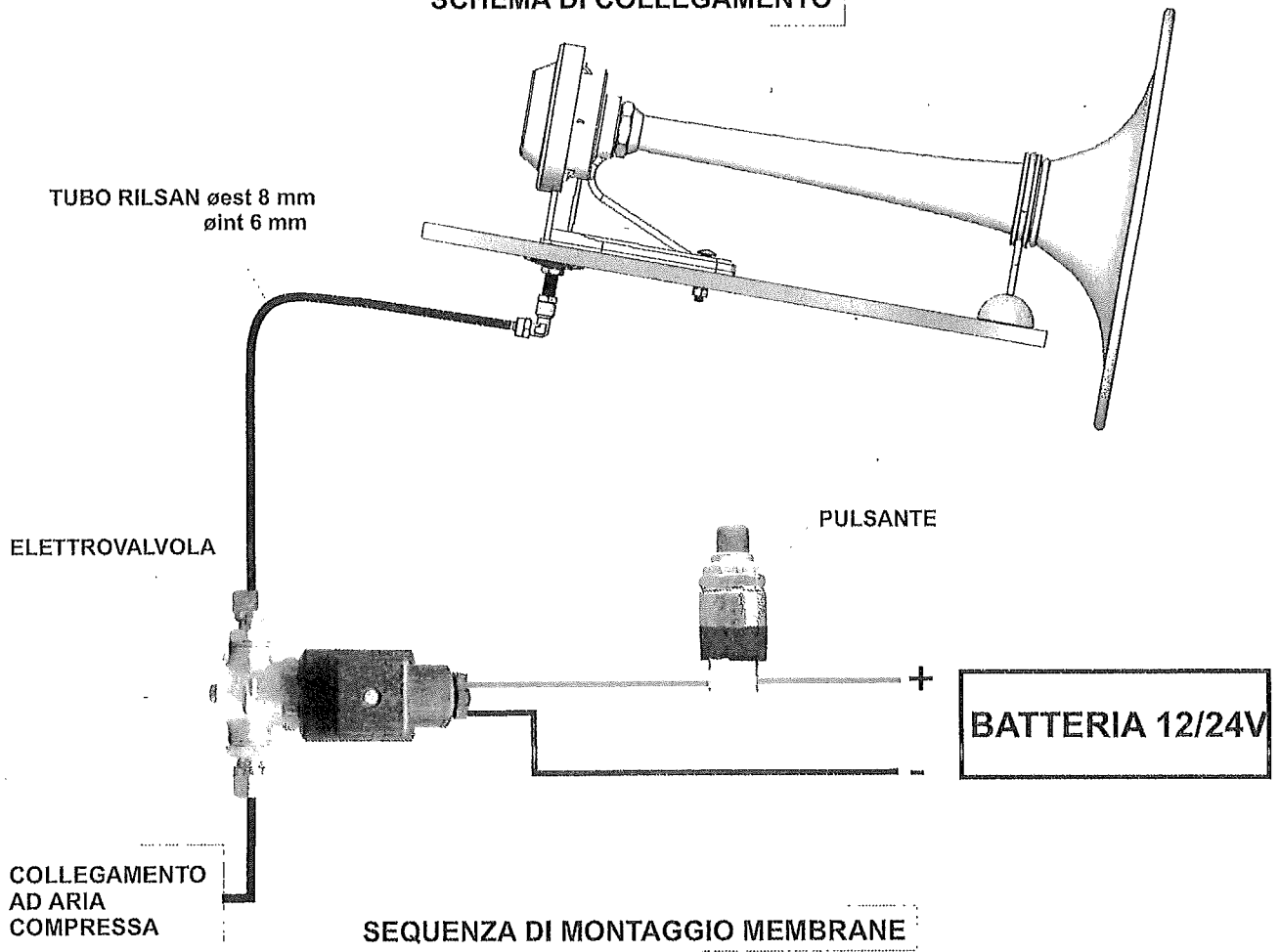
ATTENZIONE

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





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 mm² per 24V
2,5 mm² per 12V

For the connections to the battery up to 40 meters:
2,5 mm² per 24V
6,0 mm² 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.

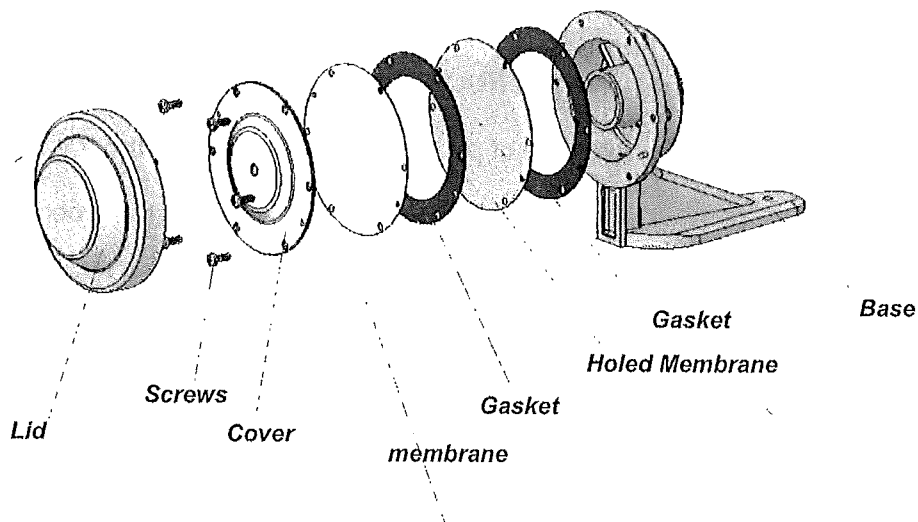
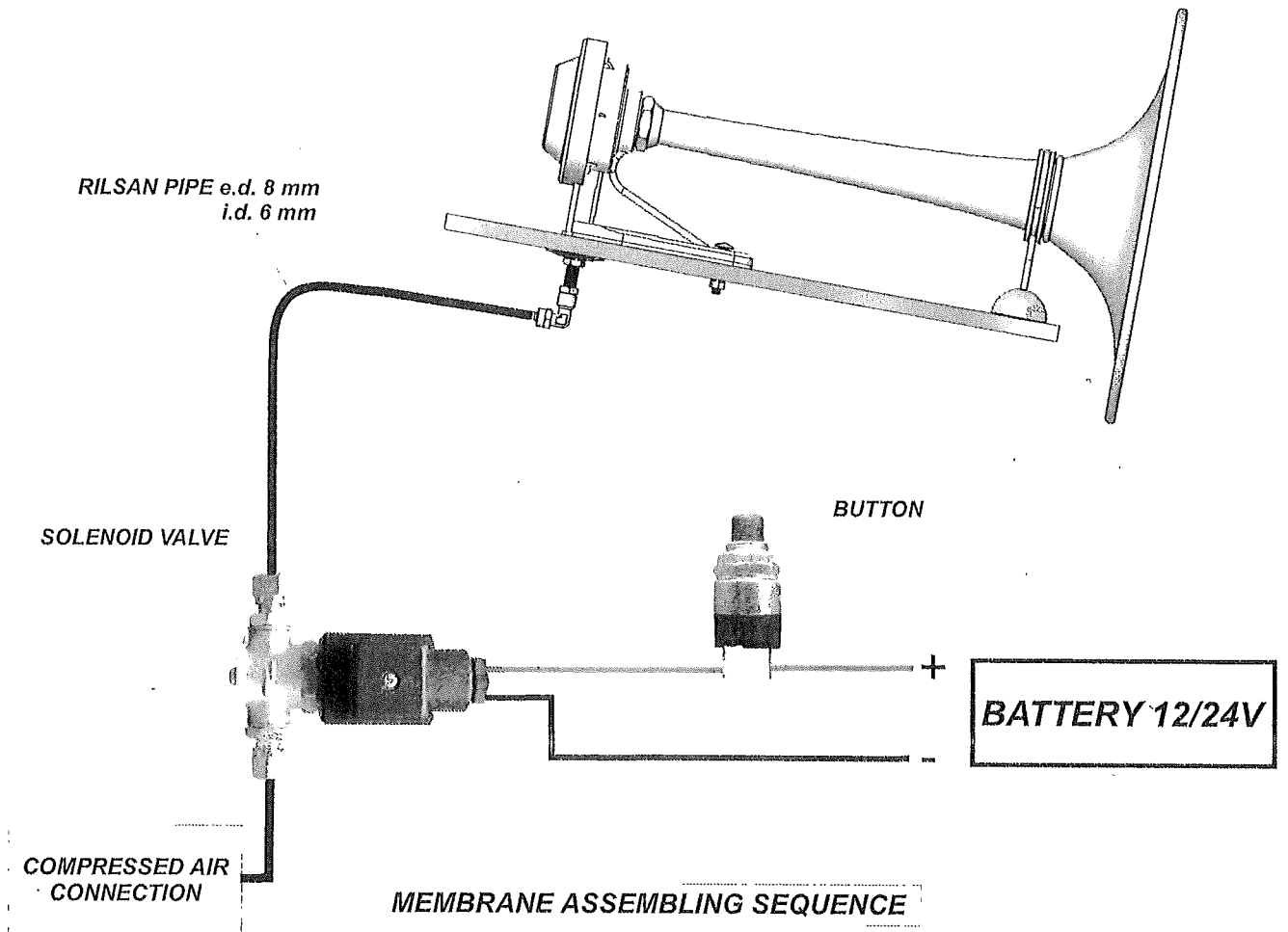
WARRANTY

- 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.





TYPE APPROVAL CERTIFICATE
N. ELE053413CS003



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

<i>Description</i>	Ship's Whistle
<i>Types</i>	PW2 and PW3
<i>Applicant</i>	Marco SpA Via Mameli, 10 25014 Castenedolo (BS) ITALY
<i>Manufacturer</i>	Marco SpA Via Mameli, 10 25014 Castenedolo (BS) ITALY
<i>Testing Standards</i>	Convention on the International Regulations for preventing collisions at sea, 1972 _ COLREG (Ref. to Italian Law n. 1085 _27th December 1977)

Issued in Genova on September 11, 2013

This certificate is valid until September 11, 2018

RINA Services S.p.A.

Valerio Bonanni

Genova, September 11, 2013

RINA Services S.p.A.
Via Corsica, 12 - 16128 Genova

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TYPE APPROVAL CERTIFICATE
N. ELE053413CS003



Whistle type PW2

Field of application

Vessels having length $L < 20$ meters
Sound pressure level 1/3 octave band @ 1 m : 120 dB

Feeder

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

Reference documents:

RINA Report n. 2013/CS/01/534 (19/07/2013): frequency and sound pressure measurements (19/07/2013)
MARCO Letter on 06/02/2008.
Drawing no. 5.412/ S stamped by RINA on 03/06/1988

Whistle type PW3

Field of application

Vessels having length $20 \leq L < 75$ meters

Feeder

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

Reference documents:

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

Genova, September 11, 2013

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RINA Services S.p.A.
Via Corsica, 12 -- 16128 Genova



Lloyd's
Register

Registered company in the United Kingdom

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 COLREG 72 requirements subject to any conditions in the Design Appraisal Document hereto.

Producer	Marco SpA
Address	Via Manfredi 10 25014 Castenedolo Brescia Italy
Equipment Description	SHIPS SOUND SIGNAL (WHISTLE) AIR OPERATED
Type	LW3
Specified Standard	International Regulations for Preventing Collisions at Sea 1972, Consolidated Edition 2002, Annex III, 1(a) to (d) inclusive. EN 60945 (2002)

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 when 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	11 March 2016	Expiry date	10 March 2021
Certificate No.	MCA 1600002	Signed	
Sheet No	1 of 3	Name	U. Thomas 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 &
Coastguard
Agency

This certificate is issued under the authority given in
Merchant Shipping Notice No MSN 1735
MCA has amended to date



Lloyd's
Register

Lloyd's Register EMEA

London Design Support Office
71 Fenchurch Street, London EC3A 4BS
Telephone 020 7423 2416 Fax 020 7423 2053
Email info@lr.org

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Document number MCA 1600002
Issue number 1

DESIGN APPRAISAL DOCUMENT

Date 11 March 2016	Quote this reference on all future communications MIES/SFS/1A/LI/WP2449231
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ATTACHMENT TO CERTIFICATE OF TYPE APPROVAL No. MCA 1600002

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

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. C11-21294	07.02.2006
SQS Certificate No. 21294	07.02.2006
Environmental and Vibration Test, Test Report No. AERO15 01a, 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



Lloyd's
Register

Lloyd's Register EMEA

London Design Support Office
71 Fenchurch Street, London, EC3M 4BS
Telephone 020 7423 2416 Fax 020 7423 2053
Email med@lr.org

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Document number MCA 1600002
Issue number 1

DESIGN APPRAISAL DOCUMENT

Date 11 March 2016	Quote this reference on all future communications MIES/SFS/LA/LI/WP2449231
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ATTACHMENT TO CERTIFICATE OF TYPE APPROVAL No. MCA 1600002

PLACE OF PRODUCTION

Manco spa
Via Mameli 10
25014 Castenedolo
Brescia

Ego Huan-as
Senior Specialist
Statutory Fire & Safety
Marine Technology and Engineering Services
Lloyd's Register EMEA



Marine & Offshore
Division

Certificate number: 14450/C1 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 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 2020

For BUREAU VERITAS,
At BV GENOA, on 21 May 2015,
Carlo Bozzetti



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 & Offshore 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 electronic version is available at: <http://www.veristarpm.com/veristarnb/jsp/viewPublicPdfType.jsp?id=mjoghqcrjm>
BV Mod. Ad.E 530 October 2014

This certificate consists of 2 page(s)

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	$20 \leq L < 75$ 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 $20 \leq L < 75$ 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.

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 :

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 - 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 No.14450/C1 BV issued on 07 May 2015 by the Society.

*** END OF CERTIFICATE ***

BSH
Az.: 4615/6023034/16



Marco
Via Mameli 10
25014 CASTENEDOLO Brescia
Italien

BUNDESAMT FÜR
SEESCHIFFFAHRT
UND
HYDROGRAPHIE

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

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.¹

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

¹ Der deutsche Text ist verbindlich.
The german text is authentic.

CERTIFICATE

We hereby certify that the SIGNALLING APPARATUS

Product 15200012

PW3 12V Electr. whistle 20/75 m, ø300 mm + Electric valve

SERIAL No 7P6159

Has been manufactured according to

INTERNATIONAL REGULATIONS FOR PREVENTING COLLISIONS AT SEA (COLREG 1972) as amended Annex III, 1(a) to (d) inclusive and is suitable for vessels from 20 up to 75 meters in length (I.M.O. CLASS III)

Questo prodotto è stato approvato da:

Registro Italiano Navale - RINA S.p.A. No. ELE053413CS003 of 11/09/2013

Lloyd's Register of Shipping, London No. MCA1600002 of 11/03/2016

MARCO S.p.A.



CERTIFICATO

Dichiariamo che l'APPARATO DI SEGNALAZIONE

Art. 15200012

PW3 12V Fischio 20/75 m, \varnothing 300 mm + elettrovalvola

SERIE N. 7P6159

E' stato costruito in conformità a:

NORME INTERNAZIONALI PER LA PREVENZIONE DEGLI ABBORDI IN MARE (COLREG 1972)
di cui alla Legge 27 Dicembre 1977- No.1085 ed è adatto per imbarcazioni da 20 a 75 m di
lunghezza (I.M.O. CLASS III)

Questo prodotto è stato approvato da:

Registro Italiano Navale - RINA S.p.A. No. ELE053413CS003 del 11/09/2013

Lloyd's Register of Shipping, London No. MCA1600002 del 11/03/2016

MARCO S.p.A.

