



FISCHIO PNEUMATICO OMOLOGATO

(Trombe per imbarcazioni da 12m a 20m)

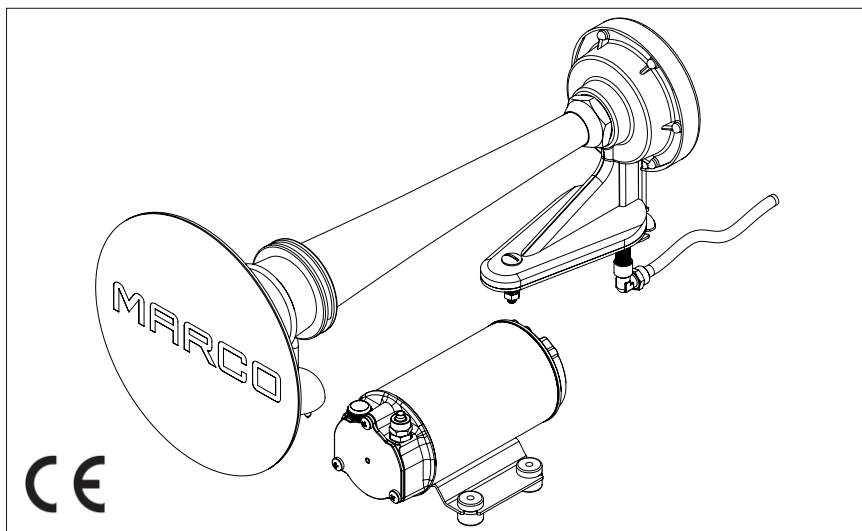
APPROVED PNEUMATIC WHISTLE

(Marine Horns for vessels between 12m to 20m in length)

**AVVERTENZE D'USO
INSTRUCTIONS FOR USE**

150 000 12 PW2 - 12V

150 000 13 PW2 - 24V



04/10/13 Rev.06

A

DESCRIZIONE DEL DISPOSITIVO

Avvisatore sonoro omologato completo di tromba ø200mm verniciata bianca, compressore elettrico e accessori di montaggio. Omologazione RINA, LLOYD'S REGISTER MCA e BUREAU VERITAS in accordo alle norme internazionali COLREG 1972 IMO classe IV, NMMA ABYC A-23.

B

DATI TECNICI

CODICE	TIPO	VOLT	FUSIBILE	dB (1/3 Oct.) (1m)	Hz (2a)	PESO	P.ZI x CART.
150 000 12	PW2	12	25 A	123	630	4,5 kg	1
150 000 13		24	20 A				

C

CONDIZIONI AMBIENTALI

TEMPERATURA : min. -10 °C / max. +60 °C **UMIDITA' RELATIVA** : max. 90 %

Lo stoccaggio deve avvenire in luogo asciutto.

D

ALIMENTAZIONE ELETTRICA

Il dispositivo deve essere alimentato da un generatore di corrente continua (batteria o alimentatore) con un amperaggio superiore a 15A (12V), 10A (24V) e protetto da fusibile.

E

CICLO DI LAVORO

Il fischio è progettato per un uso discontinuo.

Le temperature limite indicate si applicano ai componenti del dispositivo e devono essere rispettate per evitare possibili danneggiamenti o malfunzionamenti.

F

APPLICAZIONI

Dispositivo per segnalazione acustica.

G

MOVIMENTAZIONE E TRASPORTO

Peso e dimensioni del dispositivo non richiedono per la movimentazione l'uso di mezzi di sollevamento particolari. In caso di movimentazione manuale utilizzare i normali dispositivi di prevenzione individuale (scarpe di sicurezza con puntale, etc...). Prima della spedizione il dispositivo viene accuratamente imballato.

Controllare l'imballo al ricevimento ed immagazzinare in luogo asciutto.

INSTALLAZIONE

H

Si raccomanda l'uso secondo le disposizioni vigenti in termini di sicurezza e le precauzioni di seguito riportate.

SMALTIMENTO IMBALLO

H-1

Si invita l'utente ad effettuare un'adeguata raccolta differenziata in modo da favorire il riciclo dei materiali di cui è composto l'imballo; smaltimento con CER 15.01.01/02.

CONTROLLI PRELIMINARI

H-2

Controllare che il fischio non abbia subito danni durante il trasporto o lo stoccaggio. Pulire con cura la bocca di mandata rimuovendo eventuale polvere o materiale d'imballo residuo. Verificare che l'alimentazione elettrica disponibile corrisponda a quella richiesta dal dispositivo.

POSIZIONAMENTO DEL DISPOSITIVO

H-3

Il compressore elettrico può essere installato in qualsiasi posizione utilizzando viti adeguate e gli antivibranti a corredo.

COLLEGAMENTO DELLE TUBAZIONI

H-4

Evitare strozzature del tubo in mandata in modo da ottimizzare le prestazioni del fischio.

INSTALLAZIONE DEL DISPOSITIVO

H-5

Il compressore va installato con collegamento elettrico dotato di protezione a fusibile dimensionato come indicato sull'etichetta del motore.

IL MANCATO UTILIZZO DEL FUSIBILE FA DECADERE LA GARANZIA

Montare sempre gli antivibranti in gomma forniti nel kit del compressore. Il loro utilizzo consente una riduzione consistente della rumorosità e attenua le vibrazioni generate. Il dimensionamento dei cavi di alimentazione del compressore va effettuato in funzione della distanza del compressore dalla batteria generatore.

Sezione dei cavi:

per collegamenti alla batteria fino a 5 metri: 4,0 mm² per 12V - 2,5 mm² per 24V

L'utilizzo di cavi sottodimensionati provoca il surriscaldamento degli stessi con reale pericolo di incendio. In tutti i casi si verifica caduta di tensione ai capi del compressore con relativa perdita di prestazioni.

Le prestazioni indicata sull'etichetta del compressore si ottengono utilizzando un tubo di diametro interno di 6 mm. Tubi di diametro inferiore provocano un maggior assorbimento di corrente con conseguente rischio di surriscaldamento del motore.

ATTENZIONE: è responsabilità dell'installatore eseguire una installazione a norma e con corretto dimensionamento del circuito. È da considerarsi il grado di rischio dell'ambiente in cui viene installato il dispositivo.

1. **Montare la tromba inclinandola leggermente verso il basso (5°) per evitare il ristagno d'acqua all'interno del cono.**
2. Collegare il gruppo altoparlante al compressore attraverso il tubo rilsan ed utilizzando gli accessori del kit come da schema allegato.
3. Fissare il compressore ad un piano con delle viti M5. Utilizzare gli appositi antivibranti in gomma in modo da evitare le vibrazioni durante il funzionamento.
4. Collegare il pulsante di azionamento in serie al cavo rosso.
5. Collegare l'estremo del cavo rosso al polo positivo della batteria (+) e l'estremo del cavo nero al polo negativo della batteria (-).

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 sull'unità acustica.

I PROBLEMI E SOLUZIONI

Nel caso di mancato funzionamento del sistema procedere come segue :

1. Verificare la continuità del fusibile ed eventualmente sostituirlo.
2. Piccoli corpi solidi come ad esempio limatura di metallo possono causare lo stesso inconveniente. In tal caso procedere alla pulizia come detto precedentemente.

I-1 MANUTENZIONE ORDINARIA

Controllare mensilmente che i cavi di alimentazione elettrica siano in buone condizioni;
Sostituire ogni 1000 ore di funzionamento la calotta del compressore.

I-2 INDICATORI DEL CORRETTO FUNZIONAMENTO DEL DISPOSITIVO

- Temperatura della carcassa del motore contenuta tra 60°C - 70°C.
- Emissione sonora costante.

I-3 APERTURA DEL DISPOSITIVO

- Si consiglia di far intervenire del personale specializzato per effettuare riparazioni o sostituzioni di materiale d' usura all' interno del dispositivo, esclusivamente con ricambi originali;
- Nel periodo di garanzia solo personale autorizzato di Marco S.p.A., pena decadimento della stessa.

Non gettare le trombe dismesse tra i rifiuti domestici: esse debbono essere raccolte separatamente ed inviate ad una riutilizzazione ecologica.

GARANZIA

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

A

PRODUCT DESCRIPTION

Approved signalling whistle complete with white painted horn ø200 mm, with electric compressor and mounting accessories. Meets COLREG 1972 IMO class IV regulations.

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

B

TECNICAL DETAILS

CODE	TYPE	VOLT	FUSE	dB (1/3 Oct.) (1m)	Hz (2nd)	WEIGHT	P.CS x BOX
150 000 12	PW2	12	25 A	123	630	4,5 kg	1
150 000 13		24	20 A				

C

AMBIENT CONDITIONS

Temperature: min. -10 °C / max. +60 °C **Relative humidity:** max. 90 %

Store the product in a dry area.

D

ELECTRICAL CONNECTIONS

The electric product must be connected to a source of direct current (either battery or DC power supply) with an amp rating of 15A (12V), 10A (24V). The product must be protected by a suitable rated fuse.

E

OPERATING CYCLE

The product has been designed for discontinuous use.

The above indicated temperature ranges are applicable to all components of the product and these limits must be respected in order to avoid any possible damage or malfunctioning.

F

APPLICATIONS

Acoustic signalling horn.

G

TRANSPORTATION AND HANDLING

Due to limited weight and dimensions the product does not require the use of any special handling or lifting equipment. When handling manually, normal personal protective gear should be worn (safety shoes with toe piece, etc.)

The product is carefully packed prior to shipment. Upon receiving, the product packaging should be inspected for damages and the product stored in a dry area.

INSTALLATION

H

It is recommended that the use of the product be according to normative safety standards and also as per the precautions listed below.

PACKAGING ENVIRONMENTAL DISPOSAL

H-1

The user is invited to effect a proper waste separation, in order to facilitate the recycling of the materials of which the packing is composed; disposal like CER 15.01.01/02

PRELIMINARY CHECKS

H-2

Check that there has been no damage to the product during transportation or storage. The outlet port should be carefully cleaned removing possible dust or residual packaging material. Verify that the available electrical power supply corresponds to the product specification requirements.

POSITIONING OF THE PRODUCT

H-3

The electric air compressor can be mounted in any position. Fix the product utilizing suitable screws corresponding to the antivibration mounts supplied with the product.

TUBING CONNECTIONS

H-4

Avoid choking the outlet tube so that product efficiency is optimized.

PRODUCT INSTALLATION

H-5

The electrical installation of the product must include a protection fuse which is suitably rated as indicated on the motor label and sized.

WARRANTY EXPIRES IF NO FUSE IS UTILIZED

Always mount the anti vibration rubber fittings supplied with the product kit. Their usage ensures a consistent reduction in noise and vibration levels.

Electrical cabling size should depend on the distance between product and battery power supply.

Section of cables:

For connections to the battery up to 5 meters: 4,0 mm² per 12V - 2,5 mm² per 24V

The use of undersized cabling can cause overheating of the electrical wiring and subsequent fire hazard. There will also be a voltage drop at the motor terminals with a consequent reduction in efficiency.

The flow rate value indicated on the motor label is obtained with a 6 mm internal tube diameter. Tubes with inferior diameters will cause an increase in current with potential risk of motor overheating.

WARNING: it is the responsibility of the installation technician to ensure a correctly designed circuit installation fitted according to regulations. Environmental risks must be taken into account with the installation.

1. **Install the horn angled slightly downward (5°) in order to avoid the water stagnation within the cone.**
2. Connect the loudspeaker to the compressor through the Rilsan pipe using the accessories in the kit, see the layout attached.
3. Fix the compressor to a flat surface using M5 screws. Use the rubber vibration-damping in order to avoid any vibrations during the execution.
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 (-).

Within the horn, two membranes have been installed in sequence. Whenever the whistle has been opened to clean the membranes, it has to be reassembled 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 pipe 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 acoustic unit.

I

TROUBLESHOOTING

In the case of a system malfunction proceed as follows :

1. Check the continuity of the fuse and eventually change it.
2. Small solid bodies such as metal filings can cause the same problem . In this case clean the membranes as said above.

I-1

NORMAL MAINTENANCE

Check every month that electrical wiring is in good condition;
Every 1000 hours of compressor operation substitute the motor brushes.

I-2

INDICATORS THAT THE PRODUCT IS FUNCTIONING CORRECTLY

- Temperature of motor frame within 60°C - 70°C;
- Regular sound emission level;

I-3

TO OPEN THE PRODUCT

- It is recommended that a specialized service technician be consulted for any pump repair work or the replacement of worn out internal components, exclusively with original spare parts;
- During the warranty period, only by authorized Marco S.p.A. personnel, failing which the warranty will expire.

ENVIRONMENTAL DISPOSAL

L

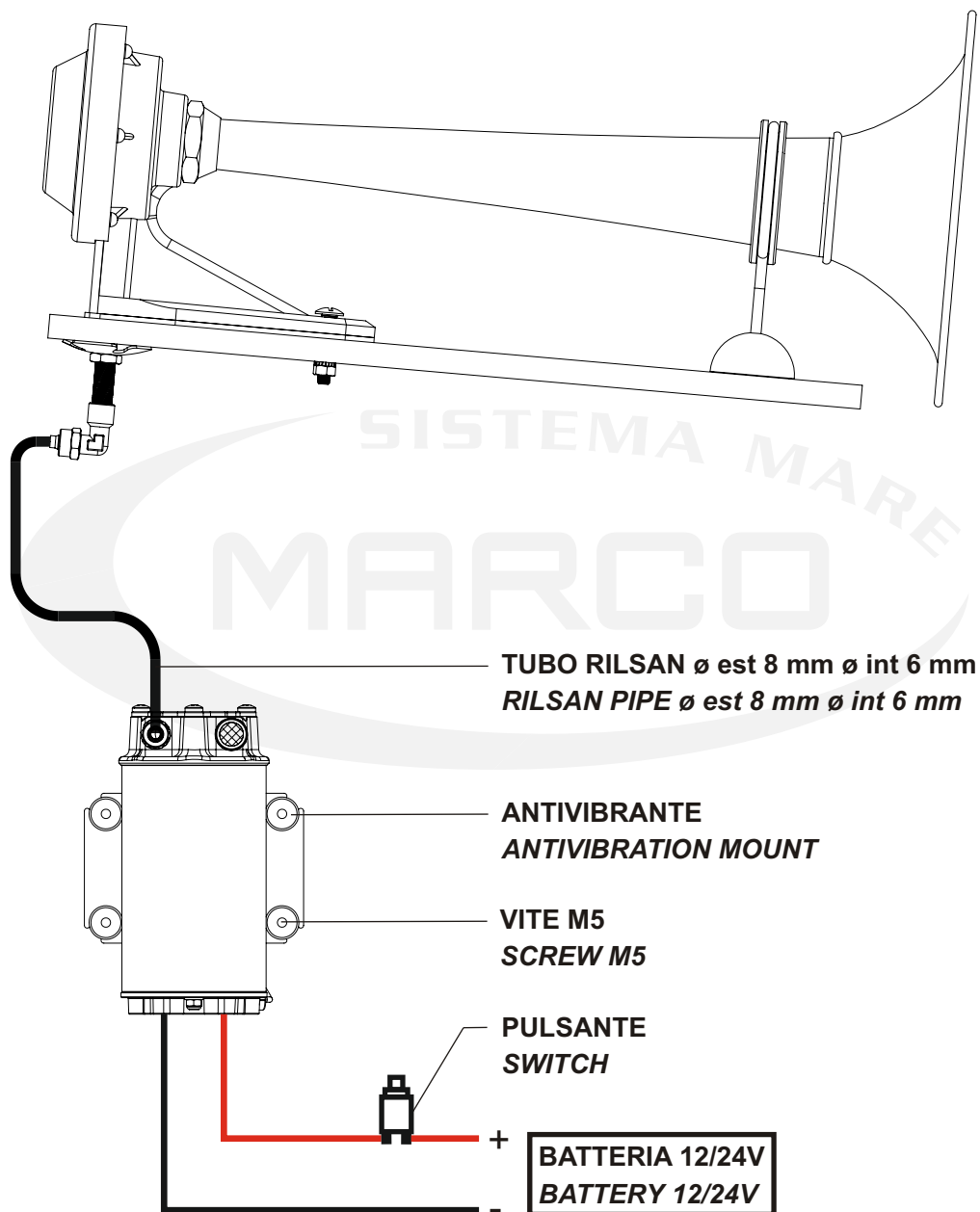
Do not dispose of horns into household waste. Horns that are non longer usable must be collected separately and disposed of in an environmentally correct manner.

WARRANTY

M

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 production date.
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 accepted by Marco Spa and they 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.

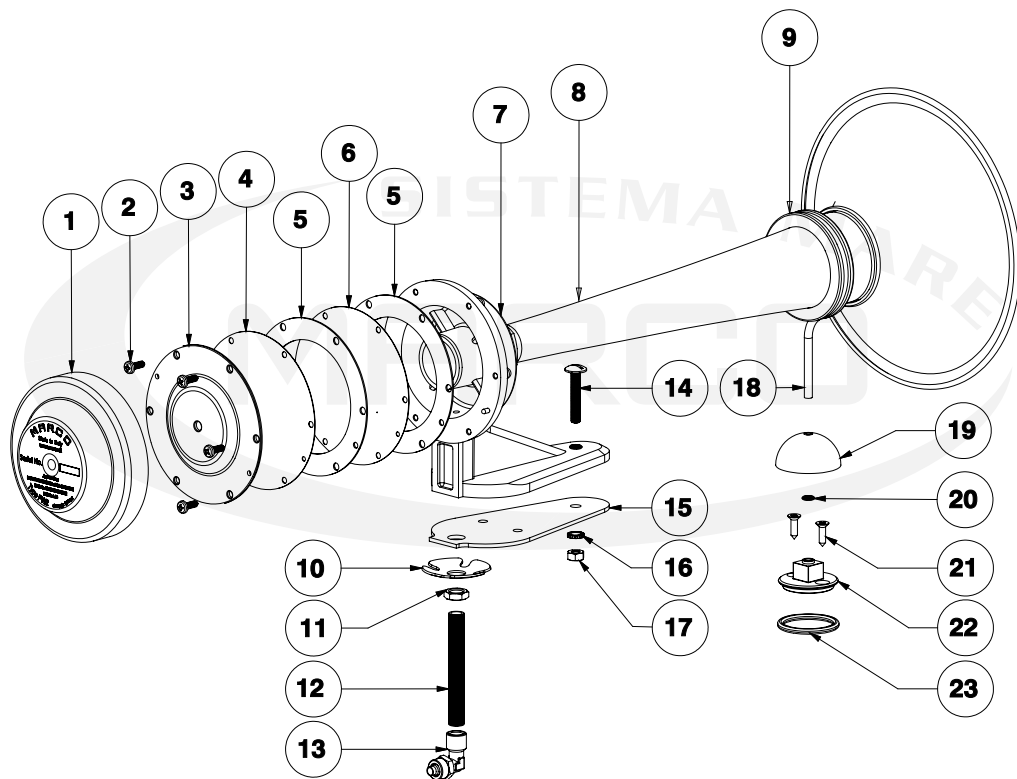
N SCHEMA DI COLLEGAMENTO / CONNECTING LAYOUT



SCHEDA DI ASSEMBLAGGIO / EXPLODED VIEW

Pos.	Q.tà	Descrizione
1	1	COPERCHIO
2	6	VITE
3	1	FONDELLO
4	1	MEMBRANA
5	2	GUARNIZIONE
6	1	MEMBRANA FORATA
7	1	BASE
8	1	CORNETTO
9	1	ANELLO
10	1	MOLLA
11	1	DADO
12	1	ASTA

Pos.	Q.tà	Descrizione
13	1	RACCORDO
14	1	VITE
15	1	TAPPETO
16	1	RONDELLA
17	1	DADO
18	1	GANCIO
19	1	COPERCHIO
20	2	O-RING
21	1	VITE
22	1	SOSTEGNO
23	1	O-RING



Pos.	Q.ty	Description
1	1	LID
2	6	SCREW
3	1	COVER
4	1	MEMBRANE
5	2	GASKET
6	1	HOLED MEMBRANE
7	1	BASE
8	1	TRUMPET
9	1	RING
10	1	SPRING
11	1	NUT
12	1	ROD

Pos.	Q.ty	Description
13	1	NIPPLE
14	1	SCREW
15	1	CARPET
16	1	WASHER
17	1	NUT
18	1	INOX HOOK
19	1	COVER HOOK
20	2	O-RING
21	1	SCREW
22	1	SUPPORT HOOK
23	1	O-RING

Technical drawing of the S.M. 10000 speaker, showing front and side views with dimensions in millimeters (mm).

Front View Dimensions:

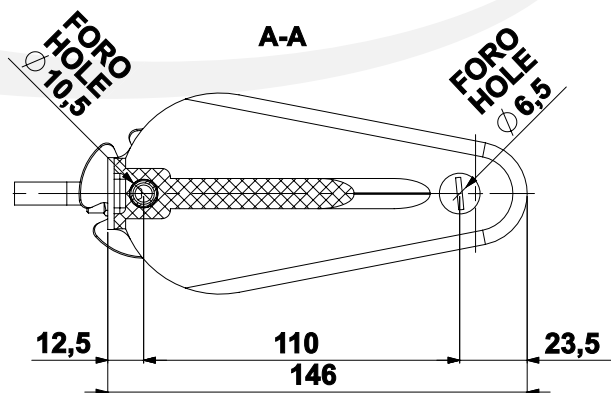
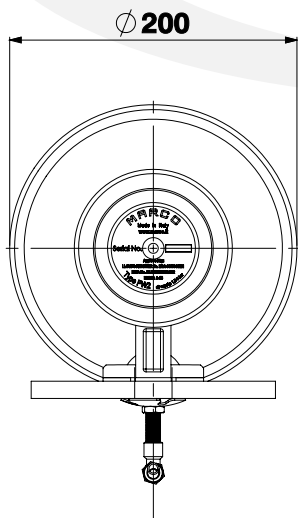
- Overall width: 460 mm
- Overall height: 192,5 mm
- Mounting bracket height: 45 mm
- Speaker grille height: 55 mm
- Distance from mounting bracket to grille: 92,5 mm
- Distance from mounting bracket to center of speaker: 147,5 mm
- Mounting bracket width: 64 mm
- Mounting bracket hole diameter: $\varnothing 8$ mm
- Mounting bracket hole offset: 39 mm

Side View Dimensions:

- Overall depth: 421 mm
- Mounting bracket depth: 7,5 mm

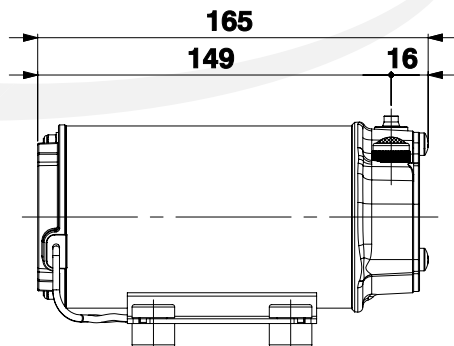
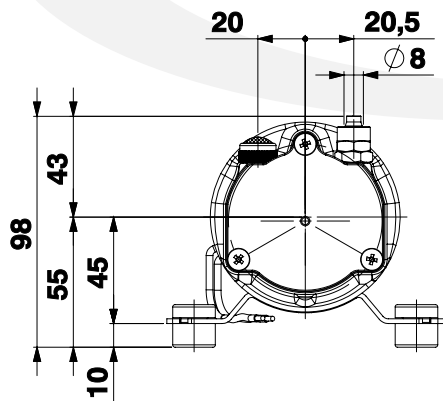
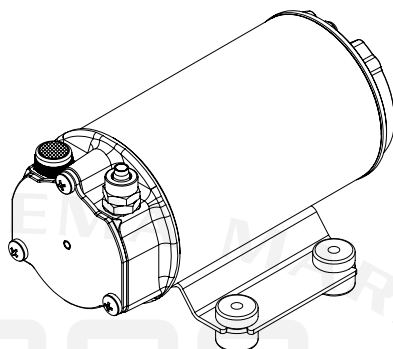
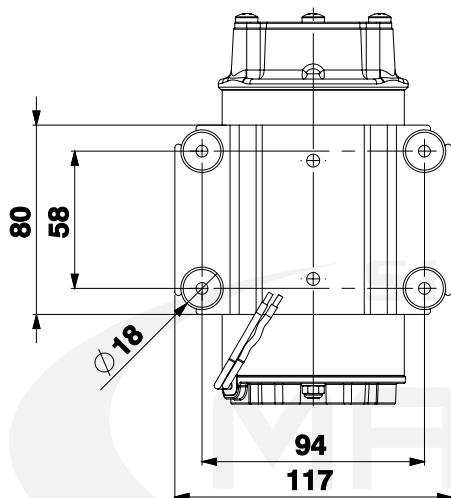
Other Details:

- Two mounting points labeled 'A' are indicated on the side view.
- The speaker is shown with a mounting bracket and a cable.



INGOMBRI / DIMENSIONS

P2





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

1/2

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



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

2/2

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

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
Address**

Marco SpA
Via Marneti 10
25014 Castenedolo
Brescia
Italy

Equipment Description

SHIPS SOUND SIGNAL (WHISTLE) AIR OPERATED

Type

PW2 in versions: PW2 12V supply
PW2 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 10 April 2013

Certificate No. MCA 0300010/MI

Signed



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.

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Page 2 of 2
Document number MCA 0300010/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 0300010/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
I.R 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. 0300010



M.H.A. RUFAIE

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

TO WHOM IT MAY CONCERN,

Messrs MARCO spa

Via Mameli 10

25014 Castenedolo

Brescia

Date 04 April 2013

Your ref CONSALV1/MARCO

Our ref Malvicini/M027/
MARCO

We acknowledge that Messrs MARCO S.p.A of Castenedolo, Brescia Italy.

Did timely made a formal application to Lloyd's Register EMEA to get Type Approval certificates as per list below relevant to the products listed therein and intended to be used on board classed ships, further extended for a period of five years.

Messrs MARCO advise no change affect the conditions of assignment of the below TA certificates

Messrs MARCO application is proceeding in accordance with the procedures for Type Approval.

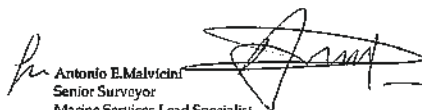
Once the above completed, the Type Approval Certificates as below are going to be extended each one with validity for five year from the date of individual expiry.

Product: 'Navigation Equipment & Group 1 (MCA)'

Manufacturer: 'Marco S.p.A.'

Manufacturer	Certificate	Country	Expiry Date
Marco SpA	MCA 0300005/M1	Italy	10 th Apr th 2013
Marco SpA	MCA 0300006/M1	Italy	10 th Apr th 2013
Marco SpA	MCA 0300007/M1	Italy	10 th Apr th 2013
Marco SpA	MCA 0300008/M1	Italy	10 th Apr th 2013
Marco SpA	MCA 0300009/M1	Italy	11 th Apr th 2013
Marco SpA	MCA 0300010/M1	Italy	10 th Apr th 2013

Messrs MARCO extension application automatically extend the TA's certificates as listed above for a period of six months in order to ensure continuity of appraisal during the extension procedure.


Antonio E. Malvicini
Senior Surveyor

Marine Services Lead Specialist
TA/ SSA Coordination - Italy

Enhancing the safety of life and property for the benefit of the public and the environment

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LIFE MATTERS



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 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 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 Mancini 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 ***

NOTE / NOTES

SISTEMA MARE
MARCO

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Handwriting practice lines (dashed lines) for notes.

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Per ulteriori informazioni vedere nostro sito internet - www.marco.it
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