



## EU CERTIFICATE OF CONFORMITY

This is to certify that Lloyd's Register Verification, a Notified Body under the terms of:  
The Pressure Equipment Directive, 2014/68/EU;  
The Pressure Equipment (Safety) Regulation 2016, Statutory Instrument 2016 No. 1105, did (in accordance with Module F of the Directive) undertake an EU Product Verification on the stated pressure equipment to ensure its conformity within the requirements of the Directive which apply to it. The equipment identified below was shown to comply.

This Certificate is issued to:

**APPLICANT:**

**Faber Industrie S.p.A.  
Cividale del Friuli  
Udine  
Italy**

**PRODUCT DESCRIPTION:**

**Seamless Steel Gas Cylinder for breathing  
apparatus, drawing EN-171-372-890 Rev. 0**

**APPLICABLE STANDARD:**

**EN 1964-1:1999**

<b>Quantity</b>	<b>Capacity (L)</b>	<b>Batch and Serial No</b>	<b>Manufacture date</b>
<b>104</b>	<b>10</b>	<b>18/0119/001÷104</b>	<b>01/2018</b>

The seamless steel gas cylinders named above have been manufactured in accordance with EC Type Examination Certificate No CE-1370-PED-B-FAB 005-12-ITA issued by Bureau Veritas, Notified Body No 1370, on 27<sup>th</sup> March 2012.

As verified in the Manufacturer Test Certificate No: 18/0119 dated 30<sup>th</sup> January 2018 and Manufacturing/production Record endorsed by our Surveyors, Ref. VR VEN1790114/204, the final inspection and proof test in accordance with the requirements of Section 3.2 of the essential safety requirements was carried out on the above equipment.

Certificate No.: 0038/PED/VEN1790114/204

Date of Issue: 30<sup>th</sup> January 2018

Certificate Issue: 1

LRV Notified Body number 0038

  
G. Agozzino on behalf of Lloyd's Register Verification

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Lloyd's Register Group Limited, its affiliated and subsidiaries and their respective officers, employees or agents are, individually and collectively, referred to in this clause as the "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.

The Company Faber Industrie s.p.a. – Via dell'Industria, 23 - XI Zona Industriale Cividale del Friuli (UD) – ITALY,  
La società Faber Industrie s.p.a. – con sede in Via dell'Industria, 23 - XI Zona Industriale Cividale del Friuli (UD) – ITALIA,

**DECLARES**  
DICHIARA

that the manufactured pressure equipment:  
*che l'attrezzatura a pressione costruita:*

Definition: **CYLINDER FOR BREATHING APPARATUS**  
*Definizione: BOMBOLE PER APPARECCHIO RESPIRATORE*

Drawing N°: **EN-171-372-890 REV0**  
*N° disegno:*

Water capacity V **10** litre/ litri  
*Capacità*

Min. e max. allowable temperatures: **-50 + +65 °C**  
*Temperatura min. e max. ammissibili:*

Operating fluid: **1002 AIR**  
*Fluido contenuto:*

Max. allowable pressure: **232** bar  
*Pressione max. ammissibile:*

Manufacturer N°/ N° di fabbrica

No. of cylinders / numero di bombole

from/dal **18/0119/001** to/ al **18/0119/106**

**103**

**MEETS THE REQUIREMENTS OF DIRECTIVE PED 2014/68/EU**  
**E' CONFORME AI REQUISITI DELLA DIRETTIVA PED 2014/68/EU**

1. Conformity assessment procedures used: Module **B+F** (Category **III**)  
(Module B in compliance with Annex II and III of Directive 97/23/CE  
Module F in compliance with Annex II and III of Directive 2014/68/EU)  
*Procedura/e di valutazione di conformità utilizzata: Modulo **B+F** (Categoria **III**)*  
(Modulo B in accordo agli allegati II e III della Direttiva 97/23/CE  
Modulo F in accordo agli allegati II e III della Direttiva 2014/68/EU)
2. Notified Body charged of the conformity assessment: N° **0038 LLOYD'S REGISTER**  
*Organismo Notificato incaricato della valutazione di conformità: N°*
3. Registration number of "CE Type Examination Certificate": **CE-1370-PED-B-FAB005-12-ITA**  
*Estremi dell' "Attestato dell'esame CE del tipo":*
4. Not harmonized standards applied to designing and manufacture: **EN 1964-1:1999**  
*Norme non armonizzate applicate alla progettazione ed alla costruzione:*
5. Harmonized standards applied to designing and manufacture: **None**  
*Norme armonizzate applicate alla progettazione ed alla costruzione: **Nessuna***
6. Others European Directives applied to the equipment: **None**  
*Eventuali altre Direttive europee applicate all'attrezzatura: **Nessuna***
7. Registration number of Conformity Certificate issued by the Notified Body charged of assessment procedure  
"Module F": **0038/PED/VEN1790114/204**  
*Estremi dell'Attestato di Conformità rilasciato dall'Organismo Notificato incaricato della procedura di valutazione "Modulo F":*

It is declared that the equipment has been hydraulic tested with favourable result at the pressure of: (PT) **372** bar, it is marked CE 0038 and with identification data and the working parameters upside reported.

*Dichiara inoltre che l'attrezzatura è stata sottoposta con esito favorevole a prova di pressione idraulica di : (PT) **372** bar, che è stata marcata CE 0038 e con i dati identificativi e le caratteristiche di esercizio sopra riportati.*

The assembly must be subjected to a global conformity assessment procedure described in the directive PED 2014/68/EU.  
*L'insieme deve essere sottoposto ad una procedura globale di valutazione di conformità così come previsto dalla direttiva PED 2014/68/EU.*

Cividale del Friuli 30/01/2018

134828 

Faber Industrie S.p.A.  
**Faber**  
INDUSTRIE S.p.A.  
Cividale del Friuli

Manufacturer: **FABER INDUSTRIE SPA - CIVIDALE DEL FRIULI - UDINE- ITALY**

Inspection: **LLOYD'S REGISTER**

Specification: **EN 1964-1:1999 (PED)**

Customer: **Aerotecnica Coltri S.p.A.**

Owner stamping: **COLTRI SUB**

Manufacturer serial No. :

From **18/0119/001** to **18/0119/106**

Gas: **1002 AIR**

Total cylinders: **103**

Type of cylinder: **Seamless steel gas cylinders**

Material: **34CRMO4**

Working pressure at 15° C: **232 bar**

Working temperature: **-50° + +65° C**

**Nominal data**

Drawing no.	Test Pressure (bar)	Minimum Thickness		Nominal Diameter (mm)	Nominal Length without valve (mm)	Nominal Water Capacity ( l )	Nominal Weight (Kg)
		wall (mm)	base (mm)				
<b>EN-171-372-890 REV0</b>	<b>372</b>	<b>4.5</b>	<b>4.5</b>	<b>171</b>	<b>575</b>	<b>10</b>	<b>12.2</b>

We hereby certify that the cylinders of the batch no. **18/0119** comply with the following requirements

Manufacturing process: cylinders manufactured from **plate**

Neck thread : **M25X2 EN 144-1 2000**

Identification marks stamped on cylinders shoulder according to drawing: **PPED004 2**

**Minimum cylindrical shell thickness:**

The wall thickness of all cylinders has been measured and found to be not less than : **4.5 mm**

**Hardness range:**

All cylinders have been controlled within the following hardness values: **Min 306 HB, Max 333 HB**

**Heat treatment:**

All cylinders have been heat treated at the following temperatures:

Liquid quench: **900 °C ± 20 °C**

Temper at: **570 °C ± 30 °C**

**Chemical analysis:**

Material: **34CRMO4**

The cylinders of the batch no. **18/0119** have been manufactured from the following cast(s) of steel:

Cast Numb.	Code (*)	C (%)	Si (%)	Mn (%)	P (%)	S (%)	Cr (%)	Mo (%)	S+P (%)
<b>570357</b>	<b>DPO</b>	<b>0.34</b>	<b>0.24</b>	<b>0.76</b>	<b>0.012</b>	<b>0.002</b>	<b>1.02</b>	<b>0.21</b>	<b>0.014</b>

(\*)marked on outer bottom surface

In case of use with compressed air and its mixture, synthetic air may be used and special precautions are required to avoid condensation of moisture in the cylinder.

Date: <b>30/01/2018</b>	For and on behalf of the manufacturer: <b>Faber</b> <b>INDUSTRIE S.p.A.</b> Cividale del Friuli	For and on behalf of A.I.A. A member of the Lloyd's Register group <input checked="" type="checkbox"/> Witnessed <input type="checkbox"/> Monitored <input checked="" type="checkbox"/> Reviewed Andrea Gherardini Venice Office <i>Andrea Gherardini</i>
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30/01/2018

**MEASUREMENTS OF SAMPLE CYLINDERS:**

Cylinder Serial no.	Water Capacity (L)	Empty Weight (Kg)	Minimum measured thickness	
			of the wall (mm)	of the base (mm)
18/0119/105	10	12.30	4.8	5.1
18/0119/106	10	12.30	4.8	5.1

**MECHANICAL TESTS CARRIED OUT ON SAMPLE CYLINDERS:**

Cylinder Serial no.	Code (*)	Test piec dimension (mm)	Yield strength (MPa)	Tensile strength (MPa)	Elongation (%)	Impact test -50 °C			Bend test 180° without cracking
						Direction	Individual (J/cm <sup>2</sup> )	Mean (J/cm <sup>2</sup> )	
18/0119/105	DPO	10.2 x 4.9	937	1050	15.3	TRASV	51 54 54	53	SATISF.
Minimum values specified			890	990	14		24	30	

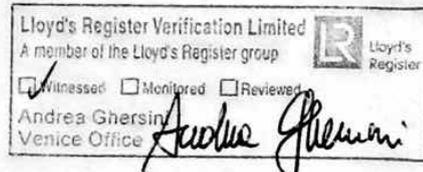
**BURST TESTS CARRIED OUT ON SAMPLE CYLINDERS:**

Cylinder Serial no.	Code (*)	Hydraulic burst test bar	Description of the fracture
18/0119/106	DPO	686	LONGITUDINAL
Minimum values specified		596	

For and on behalf of the manufacturer:

For and on behalf of A.I.A.

**Faber**  
INDUSTRIE S.P.A.  
Cividale del Friuli



**TESTING OBJECT:**

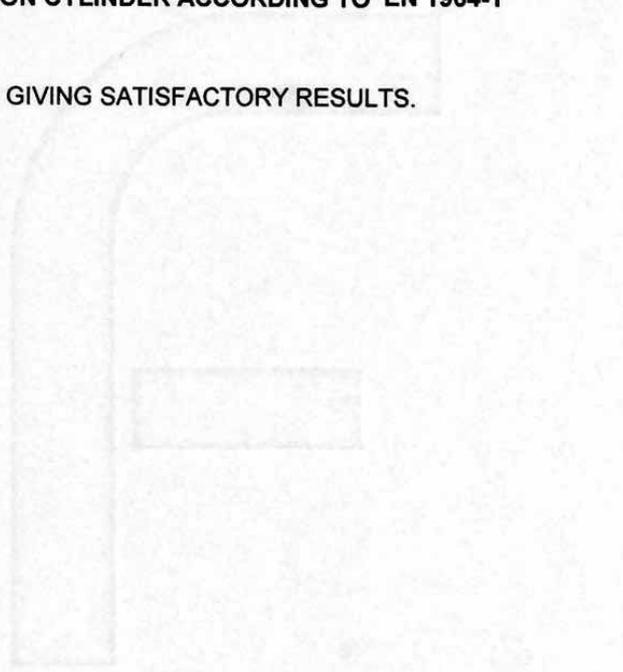
CYLINDER ACCORDING TO DRAWING: **EN-171-372-890 REV0**  
OUTSIDE DIAMETER: **171 mm**      WATER CAPACITY: **10 l**  
MIN. WALL THICKNESS: **4.5 mm**      NOMINAL LENGTH: **575 mm**  
FROM CYLINDER SERIAL No. : **18/0119/001** to **18/0119/106**

**TEST TECHNICAL DATA:**

EXAMINATION STANDARD: **EN 1964-1**  
INSPECTED PART: **CYLINDRICAL WALL**  
EXTENTION OF EXAMINATION: **100 %**  
FABRICATION STAGE: **AFTER HEAT TREATMENT (QUENCHING AND TEMPERING), SHOT BLASTING AND BEFORE PRESSURE TESTING**  
PROBES: **LONGITUDINAL, TRANSVERSAL AND THICKNESS**  
COUPLANT: **EMULSIFIED WATER**  
SCANNING DIRECTION: **CIRCUMFERENTIAL, AXIAL AND RADIAL DIRECTIONS**  
REFERENCE REFLECTOR: **CALIBRATION CYLINDER ACCORDING TO EN 1964-1**

**EXAMINATION RESULTS:**

ALL CYLINDERS HAVE BEEN CHECKED GIVING SATISFACTORY RESULTS.



For and on behalf of the manufacturer:

For and on behalf of A.I.A.

**Faber**  
INDUSTRIE S.p.A.  
Cividale del Friuli

Lloyd's Register Verification Limited  
A member of the Lloyd's Register group  Lloyd's Register  
 Issued  Monitored  Reviewed  
Andrea Ghersini  
Venice Office *Andrea Ghersini*

LOT No. 18/0119 NUMBER OF CYLINDERS: 103 TEST DATE: 01/2018

ACCORDING TO DWG.: EN-171-372-890 REV0

WORKING PRESSURE AT 15° C: 232 bar HOLDING TIME AT TEST PRESSURE : 30 sec

CYLINDER SIZE : OUTSIDE DIAMETER 171 mm LENGTH 575 mm

REMARKS: M = Mechanical Tests, B = Burst Tests, P = Prototype Tests, S = Cylinder Discarded, C = Cycling Test,

C+B = Cycling + Burst Test, F = Flattening Test.

FITTINGS : "CO" = Collar

CYLINDER SERIAL No.	CUSTOMER NUMBER	HEAT CODE AND NUMBER	TEST PRESSURE (bar)	CYLINDER WATER CAPACITY (l)	FITTINGS	MASS (Kg)	TARE (Kg)	REMARKS
18/0119/001		DPO 570357	372	10.0		12.3		
18/0119/002		DPO 570357	372	10.0		12.3		
18/0119/003		DPO 570357	372	10.0		12.3		
18/0119/004		DPO 570357	372	10.0		12.3		
18/0119/005		DPO 570357	372	10.0		12.3		
18/0119/006		DPO 570357	372	10.0		12.3		
18/0119/007		DPO 570357	372	10.0		12.4		
18/0119/008		DPO 570357	372	10.0		12.3		
18/0119/009		DPO 570357	372	10.0		12.3		
18/0119/010		DPO 570357	372	10.0		12.3		
18/0119/011		DPO 570357	372	10.0		12.3		
18/0119/012		DPO 570357	372	10.0		12.4		
18/0119/013		DPO 570357	372	10.0		12.3		
18/0119/014		DPO 570357	372	10.0		12.3		
18/0119/015		DPO 570357	372	10.0		12.3		
18/0119/016		DPO 570357	372	10.0		12.3		
18/0119/017		DPO 570357	372	10.0		12.3		
18/0119/018		DPO 570357	372	10.0		12.3		
18/0119/019		DPO 570357	372	10.0		12.3		
18/0119/020		DPO 570357	372	10.0		12.3		
18/0119/021		DPO 570357	372	10.0		12.3		
18/0119/022		DPO 570357	372	10.0		12.3		
18/0119/023		DPO 570357	372	10.0		12.3		
18/0119/024		DPO 570357	372	10.0		12.3		
18/0119/025		DPO 570357	372	10.0		12.3		
18/0119/026		DPO 570357	372	10.0		12.3		
18/0119/027		DPO 570357	372	10.0		12.3		
18/0119/028		DPO 570357	372	10.0		12.3		
18/0119/029		DPO 570357	372	10.0		12.3		
18/0119/030		DPO 570357	372	10.0		12.3		
18/0119/031		DPO 570357	372	10.0		12.3		
18/0119/032		DPO 570357	372	10.0		12.3		
18/0119/033		DPO 570357	372	10.0		12.3		
18/0119/034		DPO 570357	372	10.0		12.3		
18/0119/035		DPO 570357	372	10.0		12.3		
18/0119/036		DPO 570357	372	10.0		12.3		
18/0119/037		DPO 570357	372	10.0		12.3		
18/0119/038		DPO 570357	372	10.0		12.3		
18/0119/039		DPO 570357	372	10.0		12.4		
18/0119/040		DPO 570357	372	10.0		12.3		

Manufacturer stamp and signature:

**Faber**  
INDUSTRIE S.p.A.  
Civitate del Friuli

A.I.A. stamp and signature:

Lloyd's Register Verification Limited  
A member of the Lloyd's Register group

Witnessed  Monitored  Reviewed

Andrea Ghersini  
Venice Office

*Andrea Ghersini*

LOT No. **18/0119** NUMBER OF CYLINDERS: **103** TEST DATE: **01/2018**

ACCORDING TO DWG.: **EN-171-372-890 REV0**

WORKING PRESSURE AT 15° C: **232 bar** HOLDING TIME AT TEST PRESSURE : **30 sec**

CYLINDER SIZE : OUTSIDE DIAMETER **171 mm** LENGTH **575 mm**

REMARKS: M = Mechanical Tests, B = Burst Tests, P = Prototype Tests, S = Cylinder Discarded, C = Cycling Test,  
C+B = Cycling + Burst Test, F = Flattening Test.

FITTINGS : "CO" = Collar

CYLINDER SERIAL No.	CUSTOMER NUMBER	HEAT CODE AND NUMBER	TEST PRESSURE (bar)	CYLINDER WATER CAPACITY (l)	FITTINGS	MASS (Kg)	TARE (Kg)	REMARKS
18/0119/041		DPO 570357	372	10.0		12.3		
18/0119/042		DPO 570357	372	10.0		12.3		
18/0119/043		DPO 570357	372	10.0		12.3		
18/0119/044		DPO 570357	372	10.0		12.3		
18/0119/045		DPO 570357	372	10.0		12.3		
18/0119/046		DPO 570357	372	10.0		12.3		
18/0119/048		DPO 570357	372	10.0		12.3		
18/0119/049		DPO 570357	372	10.0		12.3		
18/0119/050		DPO 570357	372	10.0		12.3		
18/0119/051		DPO 570357	372	10.0		12.3		
18/0119/052		DPO 570357	372	10.0		12.3		
18/0119/053		DPO 570357	372	10.0		12.3		
18/0119/054		DPO 570357	372	10.0		12.3		
18/0119/055		DPO 570357	372	10.0		12.3		
18/0119/056		DPO 570357	372	10.0		12.3		
18/0119/057		DPO 570357	372	10.0		12.3		
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18/0119/061		DPO 570357	372	10.0		12.3		
18/0119/062		DPO 570357	372	10.0		12.3		
18/0119/063		DPO 570357	372	10.0		12.3		
18/0119/064		DPO 570357	372	10.0		12.3		
18/0119/065		DPO 570357	372	10.0		12.3		
18/0119/066		DPO 570357	372	10.0		12.3		
18/0119/067		DPO 570357	372	10.0		12.3		
18/0119/068		DPO 570357	372	10.0		12.4		
18/0119/069		DPO 570357	372	10.0		12.4		
18/0119/070		DPO 570357	372	10.0		12.4		
18/0119/071		DPO 570357	372	10.0		12.3		
18/0119/072		DPO 570357	372	10.0		12.4		
18/0119/073		DPO 570357	372	10.0		12.3		
18/0119/074		DPO 570357	372	10.0		12.3		
18/0119/075		DPO 570357	372	10.0		12.3		
18/0119/076		DPO 570357	372	10.0		12.3		
18/0119/077		DPO 570357	372	10.0		12.3		
18/0119/078		DPO 570357	372	10.0		12.3		
18/0119/079		DPO 570357	372	10.0		12.3		
18/0119/080		DPO 570357	372	10.0		12.4		
18/0119/081		DPO 570357	372	10.0		12.3		

Manufacturer stamp and signature:

**Faber**

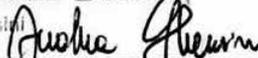
**INDUSTRIE S.p.A.**  
Civiale del Friuli

134828 

A.I.A. stamp and signature:

Lloyd's Register Verification Limited  
A member of the Lloyd's Register group 

Witnessed  Monitored  Reviewed

Andrea Gherardini  
Venice Office 

LOT No. **18/0119**      NUMBER OF CYLINDERS: **103**      TEST DATE: **01/2018**

ACCORDING TO DWG.: **EN-171-372-890 REV0**

WORKING PRESSURE AT 15° C: **232 bar**      HOLDING TIME AT TEST PRESSURE : **30 sec**

CYLINDER SIZE : OUTSIDE DIAMETER **171 mm**      LENGTH **575 mm**

REMARKS: M = Mechanical Tests, B = Burst Tests, P = Prototype Tests, S = Cylinder Discarded, C = Cycling Test,  
C+B = Cycling + Burst Test, F = Flattening Test.

FITTINGS : "CO" = Collar

CYLINDER SERIAL No.	CUSTOMER NUMBER	HEAT CODE AND NUMBER	TEST PRESSURE (bar)	CYLINDER WATER CAPACITY (l)	FITTINGS	MASS (Kg)	TARE (Kg)	REMARKS
18/0119/082		DPO 570357	372	10.0		12.3		
18/0119/083		DPO 570357	372	10.0		12.3		
18/0119/084		DPO 570357	372	10.0		12.3		
18/0119/085		DPO 570357	372	10.0		12.3		
18/0119/086		DPO 570357	372	10.0		12.4		
18/0119/087		DPO 570357	372	10.0		12.3		
18/0119/088		DPO 570357	372	10.0		12.3		
18/0119/089		DPO 570357	372	10.0		12.3		
18/0119/090		DPO 570357	372	10.0		12.3		
18/0119/091		DPO 570357	372	10.0		12.3		
18/0119/092		DPO 570357	372	10.0		12.3		
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18/0119/099		DPO 570357	372	10.0		12.3		
18/0119/100		DPO 570357	372	10.0		12.3		
18/0119/101		DPO 570357	372	10.0		12.3		
18/0119/102		DPO 570357	372	10.0		12.3		
18/0119/103		DPO 570357	372	10.0		12.4		
18/0119/104		DPO 570357	372	10.0		12.3		

Manufacturer stamp and signature:

134828 

**Faber**  
INDUSTRIE S.P.A.  
Civiale del Friuli

A.I.A. stamp and signature:

Lloyd's Register Verification Limited  
A member of the Lloyd's Register group 

Witnessed     Monitored     Reviewed

Andrea Ghersi  
Venice Office *Andrea Ghersi*

Istruzioni operative per il montaggio, la messa in servizio, l'impiego, la manutenzione e le visite periodiche delle bombole in acciaio per autorespiratori subacquei (PED 2014/68/EU).

-La bombola per l'apparecchio respiratore è soggetta ai regolamenti e alle norme per l'uso, manutenzione e le ispezioni periodiche, vigenti nel paese in cui viene utilizzata. E' responsabilità del proprietario della bombola eseguire le visite periodiche siano entro i termini prefissati. Si raccomanda di sottoporre la bombola ad un controllo visivo interno ed esterno da personale competente almeno una volta l'anno.

-L'insieme (costituito da varie attrezzature a pressione montate per costruire un tutto integro e funzionale "apparecchio respiratore") deve soddisfare i requisiti essenziali di sicurezza di cui all'allegato I della direttiva PED 2014/68/EU.

-L'insieme deve essere sottoposto ad una procedura globale di valutazione di conformità così come previsto dalla direttiva PED 2014/68/EU.

-E' di importanza vitale avere sempre estrema attenzione alla cura e alla manutenzione della bombola per respiratori subacquei. E' essenziale che il respiratore subacqueo sia accuratamente esaminato per verificare l'eventuale presenza di danneggiamenti o difetti dopo ogni utilizzo. Tutti i difetti devono essere eliminati prima che il respiratore subacqueo venga di nuovo utilizzato. La mancanza di cura durante la manipolazione, con attrezzatura impropria, può non solo innescare difetti pericolosi, ma rendere le successive manutenzioni costose o addirittura impossibili.

- Le bombole devono essere manipolate con cura non devono essere fatte cadere. Quando trasportate devono essere bloccate in maniera sicura in modo tale che non si muovano durante il trasporto.

-Le condizioni della superficie interna delle bombole possono essere mantenute integre solo se la superficie interna rimane sempre asciutta. La bombola deve essere caricata con aria secca (contenuto d'acqua < 50 mg/m<sup>3</sup> per una pressione di carica di 200 bar e contenuto d'acqua < 35mg/m<sup>3</sup> per una pressione di carica maggiore di 200 bar, secondo EN12021) e non deve mai essere completamente scaricata in quanto dell'acqua potrebbe essere risucchiata all'interno della bombola contaminandola.

Le bombole devono essere immagazzinate, preferibilmente in posizione verticale, in un posto fresco, secco e lontane da fonti di calore.

-Dopo l'uso, soprattutto in acqua di mare, dalla bombola devono essere tolti le cinghie e il fondello e accuratamente lavata con acqua dolce al fine di rimuovere le tracce di acqua salata e lo sporco, specialmente dalle cavità e poi asciugata. Prima dell'immagazzinamento, o quando la bombola è stata completamente scaricata e l'acqua di mare può essere

Operating instructions for the mounting, putting into service, use, maintenance and periodic inspection of Faber Steel Cylinders for Scuba Diving (PED 2014/68/EU).

-The cylinder for breathing apparatus is subjected to the national regulations and standards for the use, maintenance and periodic inspection, in force in the country of use. The owner of pressure equipment is responsible that periodical inspections are carried out as required by the national regulation and standards. It is recommended that the cylinder will be inspected visually (internally and externally) by a competent person at least annually.

-The assembly (that means several pieces of pressure equipment assembled to constitute an integrated and functional whole "breathing apparatus") must satisfy the essential safety requirements set out in Annex I of the directive PED 2014/68/EU.

-The assembly shall be subjected to a global conformity assessment procedure described in the directive PED 2014/68/EU.

-Strict attention to care and maintenance of all types of breathing apparatus used underwater is of vital importance at all times.

It is essential that the complete equipment be thoroughly examined for damage or defect before and after every occasion on which it is used. All defects should be rectified before the equipment is used again. Careless manipulation with inappropriate tools may not only give rise to dangerous defects, but render further maintenance expensive or impossible.

- Cylinders should be handled with care and should not be dropped. When being transported they should be firmly secured so that they cannot move about.

- The condition of the inside of the cylinder can be maintained by keeping it dry at all times. The cylinder should be filled with dry air (Water content < 50 mg/m<sup>3</sup> for a charging pressure of 200 bar and water content < 35mg/m<sup>3</sup> for a charging pressure greater than 200 bar, as for EN12021), and never completely discharged as this can lead to water getting back into the cylinder and causing contamination.

Cylinders should be stored, preferably in the vertical position, in a cool, dry place and away from excessive heat.

-After use, particularly in seawater, the outside surface of the cylinder should be removed from its harness and boot and then washed in clean, fresh water to remove all traces of salt water and dirt, especially from any crevices and then dried.

Before storage, or when the cylinder has been completely discharged and seawater may have entered the cylinder,

entrata nella bombola, la valvola deve essere rimossa dalla bombola e la bombola deve essere lavata internamente ed esternamente con acqua dolce e accuratamente asciugata. Questa operazione deve essere normalmente fatta da personale competente. Mai svitare o rimuovere la valvola con la bombola in pressione. La bombola non deve essere immagazzinata con la valvola rivolta all'ingiù. L'azione corrosiva dell'acqua di mare non deve essere mai sottovalutata, se non vengono prese opportune precauzioni per la pulizia delle bombole dopo l'utilizzo, seri danni potranno essere arrecati alla bombola durante il periodo in cui rimarrà inutilizzata. Anche se si fanno immersioni in acqua dolce, ci possono essere delle sostanze corrosive in soluzione quali rifiuti chimici e oleosi che non sono visibili al momento, ma che possono innescare una azione corrosiva se lasciate a contatto con la bombola.

- La verniciatura, la metallizzazione e i componenti devono essere mantenuti in buone condizioni. Abrasioni e graffi delle bombole devono essere evitate. Per la rimozione della vernice non devono essere utilizzati metodi chimici o a caldo. Zone di corrosione della bombola possono essere eliminate solo secondo le normative nazionali applicabili (Es.: BS 5430). Dopo la necessaria preparazione, la bombola può essere riverniciata. La bombola non deve essere modificata in nessuna circostanza. Questo può comportare seri indebolimenti della bombola e portare ad incidenti. La filettatura della bombola non deve essere alterata in alcun modo. Boccole o adattatori non devono essere utilizzati. Se la bombola non viene utilizzata per un lungo periodo di tempo si raccomanda che debba essere vista da personale competente per essere scaricata e successivamente ricaricata con una leggera pressione positiva. Se la bombola non viene ricaricata subito, deve essere lasciata con la valvola chiusa. Una bombola che è risultata scarta all'ispezione deve essere resa inutilizzabile da personale competente.

- La ricarica deve essere fatta solo con idonei impianti che assicurino che l'aria compressa sia esente da umidità, olio e altre impurità, e che è adeguata all'utilizzo per respiratori subacquei.

Mai caricare ossigeno o altri gas diversi dall'aria nelle bombole per aria.

Prima della carica della bombola, è responsabilità della ditta o persona che esegue la carica verificare che la bombola sia conforme ai regolamenti nazionali in vigore.

E' essenziale che le bombole siano caricate con attenzione e lentamente al fine di prevenire sovraccariche e surriscaldamenti, e che la pressione di carica sia tale che, dopo raffreddamento a temperatura ambiente, la pressione di carica della bombola non sia superata. La pressione di esercizio massima ammissibile a 15°C ed espressa in bar è punzonata sulla bombola. Sovraccaricare le bombole è altamente pericoloso. L'identificazione della sigla della filettatura della bombola è punzonata sulla bombola. Utilizzare valvole con filettatura diversa è vietato perché altamente pericoloso.

the cylinder valve should be removed and the cylinder washed internally and externally in clean fresh water and thoroughly dried. This operation should normally be undertaken by a competent person. Never unscrew or remove the valve when the cylinder is under pressure.

The cylinder should not be stored with the valve downwards.

The corrosion action of seawater and water-borne contaminants should never be underestimated, and if precautions are not taken to clean the apparatus properly after use, serious damage may be caused to all parts of the apparatus while it is stowed away. Even when diving in apparently fresh water, there may be corrosive substances in solution such as chemical and petroleum wastes which are not noticeable at the time, but which will start corrosive action if left in contact with the apparatus.

- The paintwork, metal spray undercoating and fittings should be kept in good condition. Scratching of cylinders should be avoided. Heat or chemical process may not be used to remove old paint. Corrosion on cylinders should also be removed in accordance with national standards in force in the country of use (Eg.: BS 5430). After the necessary preparation, cylinders should be re-painted. Cylinders should not be modified under any circumstance. This may result in serious weakening of cylinder and lead to accident. The threads in the cylinder neck should not be altered in any way. Bushes or adapters should not be used. If the cylinder is not required for a long period it is recommended that it be returned to a competent person for discharging, removal of the valve, extraction of any oil or water, drying out and refitting of the valve. The cylinder should then be recharged to a slight positive pressure. If the cylinder is not to be recharged immediately, it should be left with the valve closed. A cylinder that has failed on inspection should be left with a competent person who will then destroy it.

- Recharging should be undertaken only with proper equipment that ensures that the compressed air is free from moisture, oil and other impurities, and is fit for breathing purposes. Never put oxygen or any gas, other than air, in an air cylinder.

Before recharging a cylinder, it is the responsibility of the gas compressing firm or person to ensure that the cylinder complies with statutory regulations.

It is essential that cylinders be charged carefully and slowly to prevent overcharging and overheating, and that the charging pressure be such that, after cooling to ambient temperature, the maximum allowable pressure for the cylinder is not exceeded.

The maximum allowable pressure at 15°C, in bar, is stamped on the cylinder.

Overcharging of cylinders is highly dangerous.

The identification code of the neck tread is stamped on the cylinder. Use of valves with different threads are forbidden because highly dangerous.