EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate No:
MEDB000034D
Revision No:
2

Application of: Directive 2014/90/EU of 23 July 2014 on marine equipment (MED), issued as "Forskrift om Skipsutstyr" by the Norwegian Maritime Authority. This Certificate is issued by DNV AS under the authority of the Government of Norway.

This is to certify:

That the Self-contained compressed-air-operated breathing apparatus

with type designation(s)
Spiromatic 90 U, also named INTERSPIRO QS, QSII, SpiroGuide or SpiroGuide II, complete with its full face mask

Issued to
Interspiro AB
Täby, **Sweden**

is found to comply with the requirements in the following Regulations/Standards:
Regulation **(EU) 2022/1157,**
item No. MED/3.7. SOLAS 74 as amended, Regulation II-2/10 & X/3, 2000 HSC Code 7, FSS Code 3, IBC Code 11, IGC Code 11 and IMO MSC.1/Circ.1499, IMO MSC.1/Circ.1555.

Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2027-12-19**.

Issued at **Høvik** on **2022-12-20**

DNV local unit:
Sweden NB

Approval Engineer:
Helge Bjørnarå

Notified Body
No.: **0575**

for **DNV AS**

Sverre Olav Bergli
Head of Notified Body

NORWEGIAN ACCREDITATION PROD 019

The mark of conformity may only be affixed to the above type approved equipment and a Manufacturer's Declaration of Conformity issued when the production-surveillance module (D, E or F) of Annex B of the MED is fully complied with and controlled by a written inspection agreement with a Notified Body. The product liability rests with the manufacturer or his representative in accordance with Directive 2014/90/EU.
This certificate is valid for equipment, which is conform to the approved type. The manufacturer shall inform DNV AS of any changes to the approved equipment. This certificate remains valid unless suspended, withdrawn, recalled or cancelled.
Should the specified regulations or standards be amended during the validity of this certificate, the product is to be re-approved before being placed on board a vessel to which the amended regulations or standards apply.

Product description

"SPIROMATIC 90 U" (also named "INTERSPIRO QS")
is a self-contained, compressed air open-circuit positive pressure breathing apparatus comprised of a high pressure air cylinder(s) carried on a backplate moulded in a high strength engineering polymer by means of a webbing harness which is adjustable for comfort. Flow of air from the cylinder(s) to the face mask is controlled by a 2 stage unit consisting of a pressure reducer and a demand valve.

A whistle is activated by high pressure decay, medium pressure air being used to sound the warning.

The apparatus is designed for 200 or 300 bar use with one or two cylinders.

The air supply shall meet the requirements for breathable air according to EN 132.

Mass of apparatus: below 18 kg

List of admissible combinations:

Back plates: (A2) – 90U Assembly (55 014)
Pressure reducer: (B1) – R401 (346 190 401)
Pressure gauge: (C1) – Mechanical gauge (31 250)
Facepiece: (D5) – Spiromatic S/Spirotroniq (with demand valve permanently attached) (96 300)
Lung demand valve: (E2) – S-PE (99 420-01/02)
(E3) – S-ESA (30 115-01/02/03)
Pressure vessels: (F1) – See cylinder table below

Admissible combinations	A2	B1	C1	D5	E2	E3	F1
		X	X		X		X
	X	X	X		X		X
		X	X			X	X
	X	X	X			X	X
		X	X	X			X
	X	X	X	X			X

List of accepted pressure vessels together with their characteristics are presented in table below:

Model type	Manufacturer	Volume [dm^3]	Pressure [bar]	Free air capacity [dm^3]	Cylinder shell material
	Worthington Cylinders	4.0	300	1200	Seamless steel
	Worthington Cylinders	6.0	300	1800	Seamless steel
	Worthington Cylinders	6.0	300	1800	Steel
	Interspiro AB	6.7	300	2000	Composite
ALT 688C	Structural Composites Industries	9.0	300	2700	Composite
	Interspiro AB	3.4	300	1020[1)]	Composite
	Luxfer Gas Cylinders	6.8	300	2040	Composite
	Luxfer Gas Cylinders	9.0	300	2700	Composite
0090_300 Rev. 1	Composite Technical Systems	9.0	300	2700	Composite
0068_300 Rev. 2	Composite Technical Systems	6.8	300	2040	Composite
20 year	Stako	6.8	300	2040	Composite
30 year	Stako	6.8	300	2040	Composite
Non Limited Life	Composite Technical Systems	3.0	300	900	Composite
Non Limited Life	Composite Technical Systems	3.5	300	1050	Composite

[1]At least two such tanks shall be installed together in order to fulfil requirement for minimum required free air capacity.

For additional information please see documentation under Type Examination documentation below.

Application/Limitation

Approved for use as self-contained compressed air breathing apparatus of fire-fighter's outfit.

The complete apparatus shall undergo practical performance tests under realistic conditions to check for imperfections.

All air cylinders for breathing apparatus shall be interchangeable.

The pressure vessels shall be designed in accordance with national regulations.

Each SCBA shall be used together with an approved lifeline (complying with the requirements of MED/3.44 and ISO 23269-2 Para 4.28.) as part of the fire-fighters outfit according to FSS Code Ch.3.2.1.3.

The apparatus is approved for use in accidents with cargoes.

Each product is to be supplied with its manual for installation, maintenance and use.

Type Examination documentation

Test report No. 6407A/09 dated 7 May 2009 from DEKRA EXAM GmbH, Essen, Germany.
Test report No. 6640A/10 dated 22 February 2010 from DEKRA EXAM GmbH, Essen, Germany.
Test report No. 8522/15 dated 24 August 2015 from DEKRA EXAM GmbH, Essen, Germany.

Drawing No. 346190401 Rev. H dated 26 June 2003 from manufacturer.
Drawing No. 55 014 Rev. T dated 14 December 2009 from manufacturer.
Drawing No. 31 250 Rev. AA dated 20 April 2010 from manufacturer.
Drawing No. 30 115 Rev. AD dated 17 November 2010 from manufacturer.
Drawing No. 99 420 Rev. W dated 17 November 2010 from manufacturer.
Drawing No. 96 300 Rev. P dated 14 April 2015 from manufacturer.

Tests carried out

Tested according to EN 136:1998 including AC:2003 (Class 3), EN 137:2006 (Type 2), ISO 23269-2:2011 and ISO 23269-3:2011.

Marking of product

The product or packing is to be marked according to ISO 23269-2:2011 §9 and with name and address of manufacturer, type designation, MED Mark of Conformity (see first page).

The pressure vessel marking shall include the charging pressure, capacity and stamp of the authorised inspection body.