DNV·GL

Certificate No:
MEDB000034D

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

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 GL 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) 2017/306,**
item No. MED/3.7. SOLAS 74 as amended, Regulation II-2/10 & X/3, 2000 HSC Code 7, FSS Code 3, IBC Code 14, IGC Code 14 and IMO MSC.1/Circ.1499

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

This Certificate is valid until **2022-12-12**.

Issued at **Høvik** on **2017-12-13**

DNV GL local station:
Stockholm

Approval Engineer:
Fryderyk Hoga

Notified Body
No.: **0575**

for **DNV GL AS**

Digitally Signed By: Øyvind Hoff
Location: DNV GL Høvik, Norway
on behalf of

Vidar Dolonen
Head of Notified Body

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 GL 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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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 admisible combinations:

Back plates:	(A1) - QS Harness
	(A2) - 90U Assembly
Pressure reducer:	(B1) – R401
Pressure gauge:	(C1) – Mechanical gauge
	(C2) – Spiroguide
	(C3) – Spiroguide with whistle
Facepiece:	(D2) – S-PE
	(D3) – S-PESA
	(D4) – Spiromatic S
	(D5) – Spiromatic S/Spirotroniq (with demand valve permanently attached)
Lung demand valve:	(E2) – S-PE
	(E3) – S-ESA
	(E4) – P
Pressure vessels:	(F1) – see cylinder table below
Accessories:	(G1) – Head-up display
	(G2) – Automatic distress signal unit

Admissible combinations	A1	A2	B1	C1	C2	C3	D2	D3	D4	D5	E2	E3	E4	F1	G1	G2
	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				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				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 Cpacity [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

[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.

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 Reports:

- No. 6407A/09 dated 7th May 2009, (EN 137:2006)
- No. 6640A/10 dated 22nd February 2010, (EN 136:1998/AC:1999/AC:2003)
- No. 8522/15 dated 24th August 2015, (ISO 23269-3:2011)

all from DEKRA EXAM GmbH, Essen, Germany.

Drawings from manufacturer:

- No. 30115T dated 17th November 2010 (S-ESA Breathing valve assy)
- No. 30116G dated 13th 11th April 2013 (Mask S-ESA, No tabs)
- No. 30123D dated 25th November 2008 (SpiroGuide Manifold unit)
- No. 30280J dated 25th November 2008 (SpiroGuide Manifold unit)
- No. 31250L dated 20th April 2010 (Manifold unit with gauge)
- No. 55006AE dated 15th June 2010 (Mask, Spiromatic)

- No. 55014T dated 14th December 2009 (Harness assy.)
- No. 96300M dated 14th April 2015 (S-Mask with br. Valve Without tabs)
- No. 98645B dated 15th September 2008 (Wireless HUD)
- No. 99420P dated 17th November 2010 (Breathing Valve S-PE, assy)
- No. 99855E dated 28th July 2008 (BAC III v3 Electronic Unit Assy)
- No. 99995M dated 11th April 2013 (Mask S-PE, M, no tabs)
- No. 336190002J dated 26th November 2012 (Spiromatic breathing valve)
- No. 346190345M dated 19th November 2010 (Manifold uni w. gauge 200 & 300 bar)
- No. 346190401H dated 26th June 2003 (Pressure regulator R-401)
- No. A95100BC dated 20th August 2010 (Harness)

Tests carried out

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

Marking of product

The product or packing is to be marked according to ISO 23269-3:2011 §9, EN 136:1998 incl. AC:2003 §9 and EN 137:2006 §8 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.