

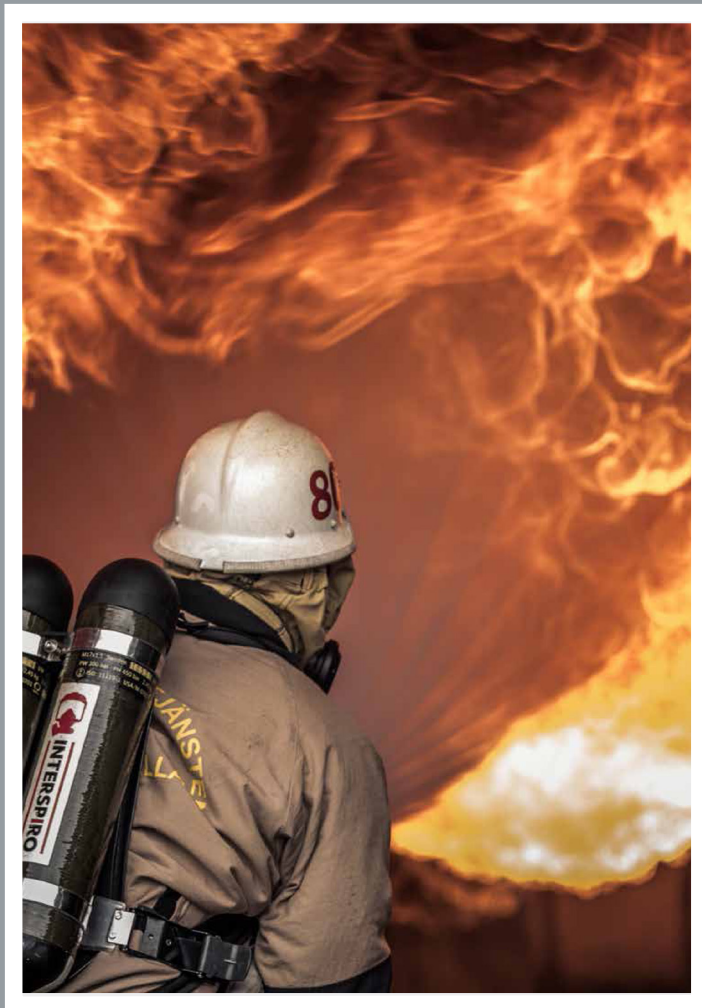


INTERSPIRO SELF CONTAINED BREATHING APPARATUS

Applications:

INTERSPIRO breathing apparatus isolates the user and his/her respiratory tract from the surrounding atmosphere and offers the safest type of protective equipment for all rescue emergency and maintenance operations which are to be carried out in polluted or lacking-in-oxygen area, the hazards potentially present in the workplace can be the following:

- Lack of Oxygen due to heavy smoke or other reasons.
- Liquid or gaseous substances which are harmful in contact with skin
- Toxic substances which are irritating to skin
- Radiations
- Mechanical stress
- Explosions in the atmosphere
- Oxygen-enriched atmosphere



- Approval : CE 89/686/EEC
- Standard : EN137 Type 2



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INTERSPIRO SELF CONTAINED BREATHING APPARATUS

The Spiromatic 90 U

The Spiromatic 90 U is a robust breathing apparatus for firefighting, excellent also for industrial and maritime environments. The configurations are CE approved according to European product standards and approved according to the Marine Equipment Directive (“ship wheel mark”).

Spiromatic 90U is built upon the proven and reliable respire ESA & S-H face mask and breathing valve and the plug-in regulator system, delivering Interspiro performance at a competitive price. The harness is equipped with padded shoulder straps and easy-to-adjust waist belt buckle.

Description of Components:

1. Mask
 - a. Standard Mask that delivered with BA: Respire ESA mask with breathing valve. Quick connection acc DIN58600.
 - b. **Optional mask that can be delivered instead of the main mask according to the customer request:** S-H mask and breathing valve in a compact design available according to the customer request. Open back plate for good ventilation and low weight.
2. Ultra-light full composite cylinder comes in volumes of 6.8 l or 9 l available according to the customer request.
3. Harness and Regulator
 - c. Easy to handle and adjustable cylinder strap.
 - d. Small and light warning whistle placed on chest.
 - e. Carrying handle integrated in backplate.
 - f. Well-proven and robust pneumatics
 - g. Pressure gauge, indicating the pressure inside the cylinder.



Technical Description:

- Material : Heat resistant polymer back plate with Kevlar webbing
- Weight : 3.05 kg (excl. mask & breathing valve)
- Air flow : 1350 l/min
- Warning : Pneumatic whistle
- The connection of the cylinder is in accordance with EN144
- Extra Advantage will be provided with INTERSPIRO Breathing Apparatus (BA): outlet connection (Y connection) ended with two female quick couplings, one to feed the main face mask and the other to feed an additional face mask to use in emergency and evacuation situations. The outlet connection provided with the valve of similar type of the low pressure hose connection



Approvals

- Approval : CE 89/686/EEC
- Standard : EN137 Type 2

INTERSPIRO SELF CONTAINED BREATHING APPARATUS

1.a. Standard Mask, Respire ESA Mask with Breathing Valve.

Type: Respire ESA Mask

- Every part of the mask is optimized to give an unrestricted and strong flow of air through the mask and directed straight up onto the visor. With this design fogging of the visor has been minimized and any fogging from stand-by mode is quickly flushed away.
- It has first breath option.
- Positive pressure version with quick connection to the mask, making it easy and fast to attach and remove the breathing valve. The positive pressure is automatically activated when the user inhales to take the first breath.
- The breathing valve located below the chin (not in front of the face), giving excellent vision.
- The mask connection also fits filters with Rd40 connection.
- Materials used are not likely to cause allergies or irritations to the wearer's skin.
- Good adaptability to most faces.
- Speech diaphragm complying with NFPA 1981 requirements for speech transmission.
- Limited dead space.
- Quick and easy to don and doff. Neck harness allows comfortable ready for use carrying of the mask.
- Long storage durability, high resistance to ozone. Main components made from synthetic resin suitable for exposure to both low and high temperatures and unaffected by humidity.
- Easy to maintain, clean and sanitize. All components can be disassembled without special tools.
- Compatible with the use of safety helmets.

Features:

1. Perfect fit with the Spirocom voice communication system.
2. Speech diaphragm with excellent sound transmission
3. Plug and play microphone connection.
4. Flushing of the visor with breathing air is optimized to prevent fogging.
5. Ergonomic head harness with easily operated buckles.
6. Respire ESA breathing valve. Quick connection acc DIN58600

Technical Description:

Country of origin	EU
Material	Natural rubber
Mask components	Face blank
	Inner mask with non-return valve
	Visor
	Exhalation valve
	Speech diaphragm
	Head Harness with 5 straps
Visor Material	Polycarbonate
Valve	Positive pressure
Face blank material	Rubber
Distinguishing color	Black
Weight	approx. 700 g.

Approval:

- Approval: EU 2016/425
- Standard: EN136 Class 3





INTERSPIRO SELF CONTAINED BREATHING APPARATUS

1.B. Optional Mask

Type: S-H Ambient air hatch

- It is an option mask can be delivered according to the customer request.
- The S-H mask is equipped with an ambient air hatch enabling the user to have the mask fully donned and still breathe ambient air to save the compressed air in the cylinder. With a very simple operation, a push on the hatch cover, the air from the cylinder is activated.
- With this solution the user is always sure to have a perfect seal. The risk for improper mounting of the breathing valve while wearing the mask is eliminated when it is kept correctly connected at all times. In addition, the breathing valve is always protected and never exposed to dirt, contamination and mechanical exposure.
- Quick and easy to don and doff. Neck harness allows comfortable ready for use carrying of the mask.
- Long storage durability, high resistance to ozone. Main components made from synthetic resin suitable for exposure to both low and high temperatures and unaffected by humidity.
- Easy to maintain, clean and sanitize. All components can be disassembled without special tools.
- Compatible with the use of safety helmets.

Features:

1. Secure positive lock connection of the breathing valve to the face mask.
2. Demand controlled and activated from inner mask providing excellent breathing performance.
3. Open ambient air hatch is indicated with a highly visible indicator arm.
4. Prepared and compatible with Spirocom voice communication system, "Heads-Up Display" and spectacle kit.
5. Ergonomic head harness with easily operated buckles.

S-H Ambient Air Hatch

Technical Description:

Country of origin	EU
Material	Natural rubber
Mask components	Face blank
	Inner mask with non-return valve
	Visor
	Exhalation valve
	Speech diaphragm
	Head Harness with 5 straps
Visor Material	Polycarbonate
Valve	Positive pressure
Face blank material	Rubber
Distinguishing color	Black
Weight	approx. 700 g.



Approval:

- Approval: CE 89/686/EEC
- Standard: EN136 Class 3



INTERSPIRO SELF CONTAINED BREATHING APPARATUS

2. Ultra-light full composite cylinders of capacities 6.8 l and 9 l

One of the two capacities will be delivered according to the customer request.

The Interspiro ultra-light full composite cylinder comes in volumes of 6.8 and 9 Liter with an unlimited service life, "NLL" – Non-Limited Life. It provides very low weight and reliable construction.



6.8 l



9 l



In-line variant valve

Technical Description:

Cylinder Capacity (l)	6.8 l	9 l	
Material of Cylinder	PET liner (thermoplastic polyester) with Carbon fibre with Epoxy resin		
Test Pressure (bar)	450		
Cylinder Pressure (bar)	300		
Working Temperature	-50°C to +65 °C		
Autonomy (with an average consumption of 40 l/min)	45 min.	60 min.	
Neck Thread Connection	M 18 x 1.5		
Service life	Non-limited Life (NLL)		
Valve	In-line variant with hand wheel pointing straight down from the cylinder		
Safety Ratchet	Mechanism preventing unintentional closing, "pull-to-close" or "push-to close".		
Pressure Gauge	Integrated small pressure gauge showing cylinder pressure.		
Nominal Weight (kg) Without Valve & Rubber Protection	2.9 kg	4 kg	
Nominal Weight (kg) With Valve & Rubber Protection	3.5 kg	4.5 kg	
Dimensions	Length	522 mm	545 mm
	Diameter	164 mm	184 mm

Approval:

- Approval: 2014/68/EU
- Standard: EN12245



INTERSPIRO SELF CONTAINED BREATHING APPARATUS

3. Standard Harness: That will be delivered with the unit.

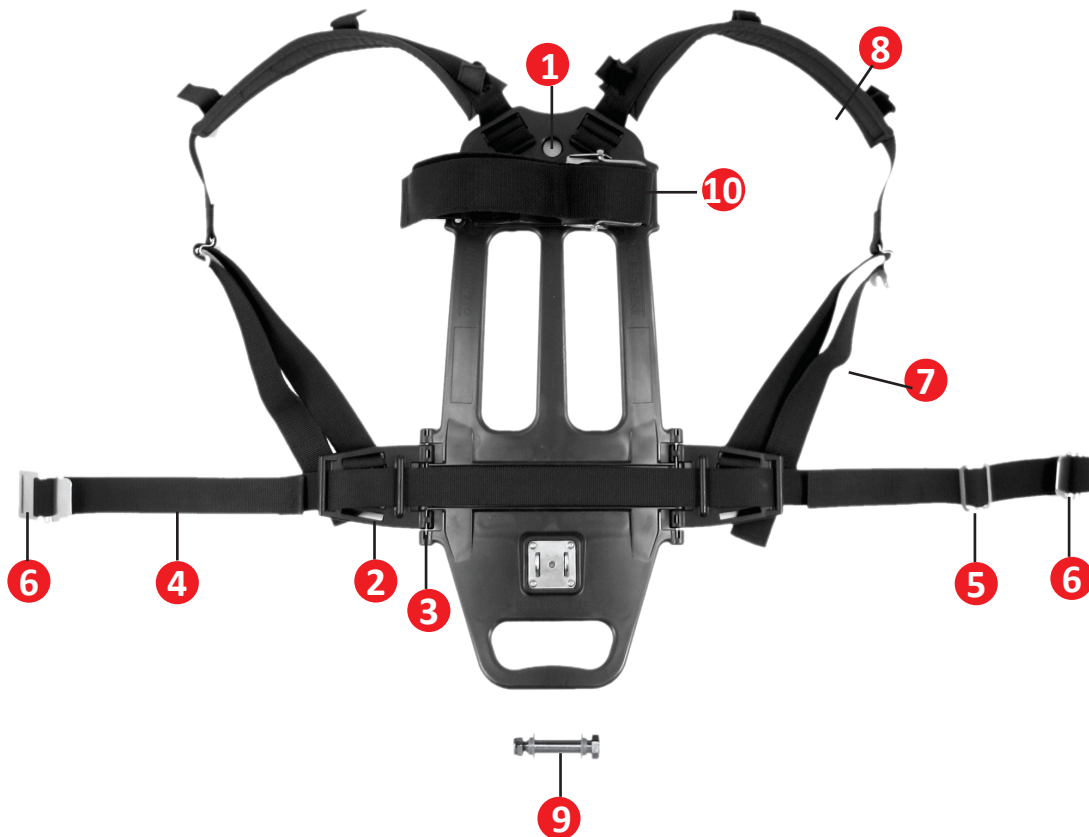
Type: **Standard Harness for Spiromatic 90U BA**

The harness is made of heat resistant polymer back plate with Kevlar webbing. The buckles are flame resistant and quickly adjustable. The shoulder straps are padded and house the medium and high pressure hoses inside, thus protecting them from fire and abrasion. The rest of the hose is also protected by the handles in the back-pack frame. The shoulder straps end with a self-adjusting ribbon for a better donning and comfort.

Back plate assy is light-weight and mechanically resistant carrying frame, is made of heat resistant polymer reinforced and is designed in order to fit ergonomically the shape of the body. The frame's special structure allows to carry the cylinder and to hook quickly and safely. Two comfortable carrying handles serve the purpose of lodging the medium.

Features:

- Easy to handle and adjustable cylinder strap.
- Open back plate for good ventilation and low weight.
- Carrying handle integrated in backplate.



Technical Description:

- | | |
|---------------------|--------------------------------|
| 1. Back plate assy | 6. Buckle (male & female part) |
| 2. Side arm | 7. Shoulder strap, lower |
| 3. Pin | 8. Shoulder strap, upper |
| 4. Waist strap assy | 9. Mounting set |
| 5. Webbing buckle | 10. Cylinder strap |



INTERSPIRO SELF CONTAINED BREATHING APPARATUS

Optional: Harness:

Type: QS II

A close cooperation with firefighters and experts in the field of ergonomics has been a defining feature when developing the QS II harness. The ergonomic design of all the components and the many integrated smart features make the harness highly versatile. Each component is carefully selected to ensure that the harness is robust enough to handle the extreme environment for which it is intended.

The harness can easily be adjusted for different body sizes in four different size settings. The selected size is clearly visible from both the front and the back. Thanks to the practical design the size adjustment can be made with the cylinder mounted and without removing the apparatus from the fire truck.

Features:

- Hip belt and shoulder straps move independently for maximum mobility.
- Ergonomically shaped shoulder straps and hip belt.
- Large rescue handle - easy to grab to drag out fire fighter in an emergency.
- Open back plate for good ventilation and low weight.
- Easy to handle and adjustable cylinder strap.
- Interchangeable hose holders.
- Flexible mounting system for accessories.
- Adjustable up/down belt, 4 positions

Technical Description:

1. Body shaped shoulder straps
2. Body shaped waist belt
3. Body shaped waist buckle
4. Drag rescue loop (300 kg)
5. Exchangeable hose reflected holders
6. Safe and easy operated buckles
7. Material : Heat resistant polymer backplate with Kevlar webbing
8. Weight : 3.5 kg

Approval:

- Approval: CE 89/686/EEC
- Standard: EN137 Type 2





INTERSPIRO SELF CONTAINED BREATHING APPARATUS

Optional: Communication

Type: **SpiroCom**

Simpler Communication-safer Work It's Easy Built-in Unit. See (A)

SpiroCom is an entirely new compact voice communication system built to handle the tough conditions that can characterize the site of a fire. It withstands the intense heat, has the simplifying functions that facilitate in critical phases and has the operating reliability that saves lives - both the firefighter's own life and those he has come to assist.

Functional Options

- **FULL DUPLEX**

The firemen in the group can communicate without problem and maintain vital contact. It means that collaboration becomes more effective, risks are minimized and the chances for a fast, successful mission increase. The Team Talk function is a voice-activated, full duplex, short-range radio for a team of firefighters. Without having to push any buttons, the voice communication is sent within the same group (team) of firefighters. Team Talk can be activated up to 16 groups (teams) with separate communication environment. Different firefighters teams don't disturb each other with team communication even when they work together or closely.

- **INTERACTION OVER LONG-RANGE RADIO**

An individual fireman can contact the firefighting commander at any time over long-range radio. It provides perfect interaction and a clear overview of the situation for everyone involved in the mission. A large, easy-to-use PTT button on the mask unit activates the long-range radio. The button is placed to be easy to find and has a "Lift and release" function that provides the best possible ergonomics for the user.

- **BUILT-IN VOICE AMPLIFIER**

Thanks to SpiroCom and its voice amplifier, the fireman can also communicate with those in danger in critical situations when the environment and the noise level demand extra volume to be heard. Vital instructions and calming words can be conveyed and an orderly evacuation can be made.



Technical Description:

- **Team Talk**
 - Short-range radio
 - Voice activated
 - Full duplex
 - Handsfree



INTERSPIRO SELF CONTAINED BREATHING APPARATUS

Optional: Communication

Type: SpiroCom

Simpler Communication-safer Work It's Easy Built-in Unit. See (A)

- **Communication over long-range radio(PTT, "Push-to-talk")**
 - Mask-mounted
 - LED indication
 - "Lift and release" function
- **Battery**
 - 3 x AAA alkaline batteries
 - Up to 25 hours (depending on talking time)
 - Up to one year "stand by"
 - Indication of low battery voltage
- **Frequency**
 - Europe 868 MHz
 - USA 915 MHz
- **Standards/Approvals**
 - Ex ia IIC T4
 - NIOSH
 - NFPA 1981
 - EN 137



Warranty:

Period of Warranty	A year
Coverage of the Warranty	Against material failure and production defects
Method of Warranty Coverage	Limited to the replacement of the defected part or product after verification that the failure is covered by the scope of the warranty
Warranty Exclusions	Failures due to misuse, mishandling, or inspection or repair by an unauthorized dealer or entity

* The illustrations may show optional extras only available at extra charge. BAVARIA retains the right to alter specifications and illustrations given herein without prior notice. Specifications will only be considered communicated at placing of order.