Operating Manual

AirGo

Compressed Air Breathing Apparatus - Modular Basic Apparatus

alpha series
make sense technology

Order No.: 10082058/00

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Contents

1. Safety Regulations

1.1. Correct Use

The MSA AirGo - referred to hereafter as compressed air breathing apparatus - is a self-contained breathing apparatus operating independent of the ambient air. The compressed air breathing apparatus is based on a modular structure which allows the creation and ordering of a unit matched to the specific requirements.

Breathable air is supplied to the user from a (several) compressed air cylinder(s) via a pressure reducer, a demand controlled dosage assembly (→ Operating Manual for the Lung Governed Demand Valve) and a face piece (→ Operating Manual for the Face Piece). The exhalation air is released directly into the ambient atmosphere.

It is imperative that this operating manual be read and observed when using the compressed air breathing apparatus. In particular, the safety instructions, as well as the information for the use and operation of the apparatus, must be carefully read and observed. Furthermore, the national regulations applicable in the user's country must be taken into account for a safe use.

Alternative use, or use outside these specifications will be considered as non-compliance. This also applies especially to unauthorised alterations to the apparatus and to commissioning work that has not been carried out by MSA or authorised persons.

Danger!

This product supports life and health. Inappropriate use, maintenance or servicing may affect the function of the device and thereby seriously compromise the user’s life.

Before use, the product operability must be verified. The product must not be used, if the function test is unsuccessful, it is damaged, a competent servicing/maintenance has not been made, genuine MSA spare parts have not been used.

Danger!

This compressed air breathing apparatus is a pure gas protection device. It is not suitable for underwater diving.

1.2. Liability Information

MSA accepts no liability in cases where the product has been used inappropriately or not as intended. The selection and use of the product are the exclusive responsibility of the individual operator.

Product liability claims, warranties also as guarantees made by MSA with respect to the product are voided, if it is not used, serviced or maintained in accordance with the instructions in this manual.

2. Description

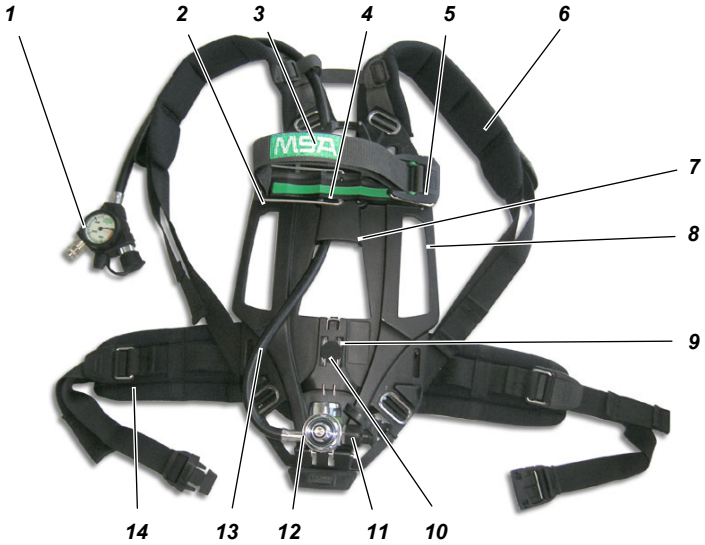


Fig. 1 Compressed air breathing apparatus AirGo (here model AirGo pro)

1	*Manifold*	*8*	*Handle*
2	*Cylinder separator*	*9*	*Stop bracket (U-clip)*
3	*Cylinder retaining strap*	*10*	*Hip belt plate (Option)*
4	*Cylinder support*	*11*	*Quick-Fill coupling (Option)*
5	*Cylinder buckle*	*12*	*Pressure reducer*
6	*Shoulder strap*	*13*	*Pneumatic system (here SingleLine)*
7	*Back plate*	*14*	*Hip belt*

The back plate consists of an anatomically designed plate of antistatic plastic with handles for easy transport of the apparatus. The pressure reducing valve is located in the lower section of the back plate. On the upper part of the back plate, a cylinder support is attached with integrated line guide.

The carrying belts and the hip belt are adjustable in length.

One or two compressed air cylinders can be placed in the cylinder support. The cylinder strap is freely adjustable and after inserting the compressed air cylinder(s), it is tightened and secured using the cylinder buckle.

The structure of the compressed air breathing apparatus is based on a modular design. This allows the user to configure the compressed air breathing apparatus from the modules available to match his specific requirements.

The following options are available:

Harness options (→ Section 2.1)	**com**	-	compact basic harness with polyester straps
	pro	-	padded harness
	mix	-	hip belt as compact and shoulder straps as pro
	MaX	-	premium harness
	eXX	-	eXXtreme, for training
Back plate options (→ Section 2.2)	**B**	-	bumper
	LG, SH	-	cylinder retaining straps (long or short)
	SW	-	swivelling hip plate (standard for harness options **MaX** and **eXX**, optional for **pro**)
Pneumatic system			
Pressure reducer (→ Section 2.3.1)	**SingleLine** – for use in SingleLine pneumatics **classic** – for use in classic pneumatics		
SingleLine (→ Section 2.3.2)	**SL**	-	"hose-in-hose", with manifold
	Q	-	with additional quick-fill coupling
	M	-	with alphaMITTER (short distance transmitter)
	3C/3N	-	with additional medium pressure connection
	C2, C3	-	with coupling system *alphaCLICK* (C2 – 200 bar, C3 – 300 bar)
classic pneumatics (→ Section 2.3.3)	**CL**	-	with separate high pressure and medium pressure lines and pressure gauge
	S	-	with signal line
	Z	-	with second medium pressure connection
	ICU/ICS	-	with integrated control unit
	CLICK	-	with coupling system *alphaCLICK*
Fix pneumatics (→ Section 2.3.4)	as classic with fixed lung governed demand valve (AE, AS, N, optional gauge cap) without coupling		

2.1. Harness

There are different types of harness (shoulder and hip belt) available, each having different properties and carrying comfort:

com – basic harness

This is the basic harness. Shoulder strap and hip belt made of flame retardant polyester material with no additional padding.

pro – padded harness

Shoulder strap and hip belt made of Aramide reinforced material with additional padding (NOMEX®). The shoulder padding and the hip belt ensure effective weight distribution and offer high levels of carrying comfort.

Optionally, the hip belt is mounted on a swivelling plate (→ Section 2.2).

mix – mixed harness

Shoulder strap made of Aramide reinforced material with additional padding (NOMEX®) as in type pro.

The hip belt is made of flame retarded polyester material with no additional padding as in type com.

MaX – premium harness

Shoulder straps and hip belt are made of Aramide reinforced material and have additional padding with the shoulder straps being preformed in an S-shape. The harness offer high levels of carrying comfort.

The hip belt is swivelling mounted (→ Section 2.2) and is known from the AirMaXX® breathing apparatus.

eXX – eXXtreme harness

The eXXtreme harness is based on the tried and tested AirMaXX®. The straps and belt are made from Aramide fibre and are particularly robust and fire-resistant. Protective sleeves in the shoulder padding protect the lines from flame and heat.

The harness is specially suited to repeated extreme demands in training situations, such as in flashover training, for example.

2.2. Back Plate

Cylinder straps

There are cylinder straps of different lengths for securing one or two compressed air cylinders.

- Short cylinder strap (**SH**) - for use with one compressed air cylinder (from 4 l to 6.9 l)
- Long cylinder strap (**LG**) - for use with one or two compressed air cylinder(s) (for one cylinder from 4 l to 9 l, for two cylinders from 4 l to 6.9 l)

Bumper (B)

The bumper is made out of rubber-like plastic and mounted on the bottom of the back plate. It prevents the apparatus from being damaged in the event that it is put down heavily.

Hip belt plate (SW)

The swivelling hip belt plate is mounted on the bottom of the back plate and is used to support the hip belt.

The hip belt can be swivelled and thus follows all movements made by the equipment user. The swivel range is limited and the cushioned reset movement increases the feeling of safety.

For models MaX and eXX the swivelling hip belt plate is standard equipment and for the pro model it is available as an option.

Cylinder Retainer (R)

The elastic cylinder retainer serves to increase friction between cylinder and back plate.

Separator (D)

Metal bracket to divide two cylinders to facilitate mounting of two cylinders and give guidance to cylinder strap.

Transponder

The back plate is equipped with a 125 kHz transponder (RFID chip) next to the label for easy identification.

2.3. Pneumatic System

2.3.1. Pressure Reducer

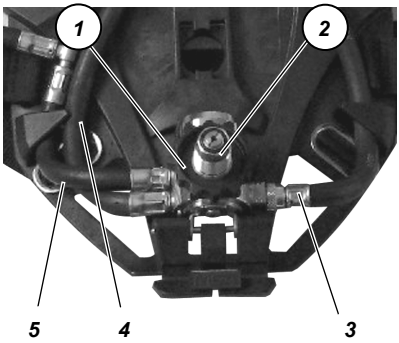


Fig. 2 Pressure reducer classic

1 Pressure reducer
2 Cylinder connection
3 Signal line
4 High pressure line
5 Medium pressure line

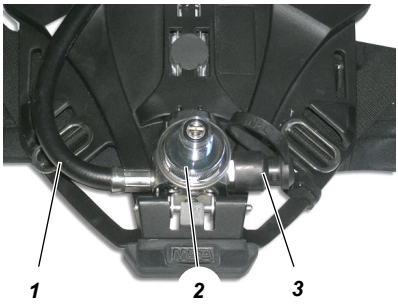


Fig. 3 Pressure reducer SingleLine

1 Single line
2 Cylinder connection
3 Quick-Fill coupling (Option)

The pressure reducer is mounted in the lower area of the back plate (→ Fig. 1). It is available in both classic and SingleLine pneumatic versions.

On the pressure reducer, there is a safety valve and the single line for connecting the manifold. The pressure reducer reduces the cylinder pressure to approx. 7 bar and the safety valve activates on non-permitted pressure rise to prevent damage insuring the continued supply of breathable air.

2.3.2. SingleLine Pneumatics

SingleLine pneumatics are available in options -Q, -M, -3C/3N, -CLICK.

The SingleLine pneumatics combines up to five hoses in one. This incorporates the lines for the lung governed demand valve, the pressure gauge, warning signal and second connection in a single line.

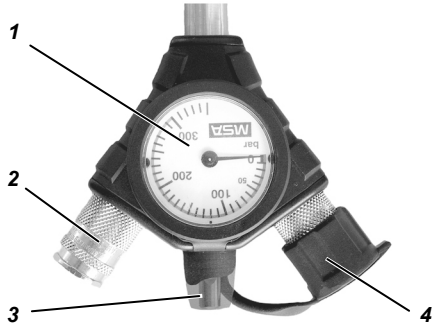


Fig. 4 Manifold

1	*Pressure gauge*	*3*	*Warning signal (signal whistle)*
2	*Lung governed demand valve coupling*	*4*	*Second connection*

In SingleLine Pneumatics, the end of the single line is connected to manifold. It consists of the pressure gauge itself, the coupling for the lung governed demand valve as well as an acoustic warning device (signal whistle). It triggers a continuous warning signal when the cylinder pressure drops below 55±5 bar.

The second connection connects a second lung governed demand valve (e.g. rescue set).

2.3.2.1. Option –Q – with Quick-Fill Coupling

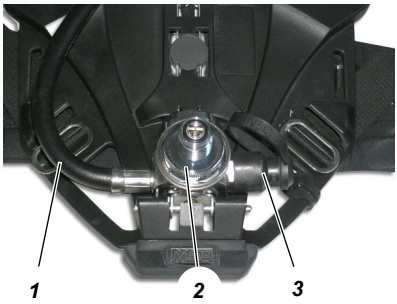


Fig. 5 Pressure reducer SingleLine

1 Single line
2 Cylinder connection
3 Quick-Fill coupling

The Quick-Fill coupling is a high-pressure safety coupling which is fitted directly on the pressure reducer (→ Fig. 2).

It is then possible to fill 300 bar compressed air cylinder(s) whilst the compressed air breathing apparatus is still donned. The connector of the pressure reducer is arranged so that a 200 bar compressed air cylinder cannot be connected in order to avoid inadvertent overfilling.

On compressed air breathing apparatus with Quick-Fill couplings, the use of 200 bar compressed air cylinders is not possible.

For further information please observe the separate Operation Manual for the Quick-Fill System (Part No. D4075049).

2.3.2.2. Option –3C/3N – with Additional Connections for Medium Pressure

The compressed air breathing apparatus can be equipped with additional connections for medium pressure. These are located on the hip belt and are used for the connection of additional units such as, for example, a second lung governed demand valve or a rescue hood.

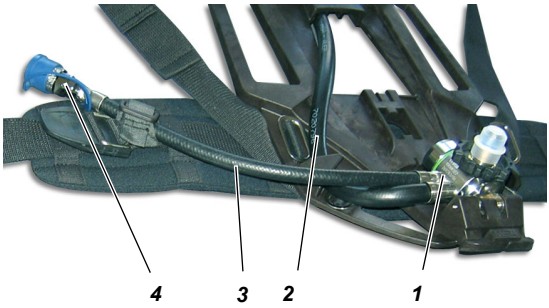


Fig. 6 Option SL-3C

1	*Pressure reducer*	*3*	*Additional medium pressure line*
2	*Single line*	*4*	*Coupling for third connection*

There is an additional medium pressure connection on the hip belt of the compressed air breathing apparatus which is available as a coupling in option 3C and as a nipple with integrated non-return valve in option 3N.

Option 3C is provided for the connection of the following units, under consideration of the specific national regulations:

- Rescue set (mask with lung governed demand valve)
- Rescue equipment e.g. Respihood
- Compressed air line equipment with or without automatic switch valve
- and for use in a protective suit during decontamination process.

Warning!

When rescuing persons with the rescue set via the second connection, more air is consumed.

Hence, the service time is considerably reduced. Always keep this in mind when using your apparatus.

Option 3N is prepared for the connection of the following equipment:

- Compressed Breathing Apparatus without automatic switch valve
- and for use in a protective suite including decontamination process.

2.3.2.3. Option –CLICK – with Coupling System *alphaCLICK*

Fig. 7 Pressure reducer

1 Single line
2 alphaCLICK coupling

The coupling system *alphaCLICK* permits the easy, quick and safe connection of the compressed air cylinders to the pressure reducer. Time-consuming threading-on of the cylinder is no longer required since the cylinder is simply slotted into the pressure reducer.

alphaCLICK is safer than the usual standard connection:

- *alphaCLICK* cannot be disconnected when the system is pressurised.
- Two steps are required to disconnect it: the cylinder can only be removed when the coupling handwheel has been turned by 20 degrees and pushed back.
- *alphaCLICK* has a built-in flow restrictor. If the valve of a cylinder which is not connected is opened by mistake, the compressed air is prevented from surging out. This prevents the cylinder from ever being out of control.

Moreover, *alphaCLICK* has a dirt screen which keeps the components clean and operative.

alphaCLICK fits all standard breathable air valve threads [EN 144-2].

alphaCLICK is available in two different coupling and cylinder adaptor models:

- Coupling and adaptor for compressed air cylinders with 200/300 bar
- Coupling and adaptor for compressed air cylinders with 300 bar

SCBA coupling and cylinder adaptor 200/300 bar (C2)

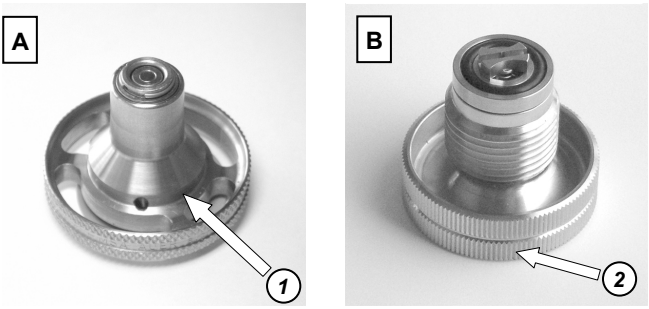


Fig. 8 SCBA coupling and cylinder adaptor 200/300 bar

A alphaCLICK coupling 200/300 bar
B Cylinder adaptor 200/300 bar
1 Offset chamfer
2 Double knurl

The main distinctive attributes of the models for air cylinders 200 bar/300 bar are:

- offset chamfer on the cone of the *alphaCLICK* coupling (→arrow 1) and
- double knurl on the cylinder adaptor (→ arrow 2)

On the *alphaCLICK* coupling knurl the model is punched in as "*alphaCLICK*200/300 bar".

Design differences mean that the coupling and adaptor can only be used in specific combinations (→ figure coupling matrix).

SCBA coupling and cylinder adaptor 300 bar (C3)

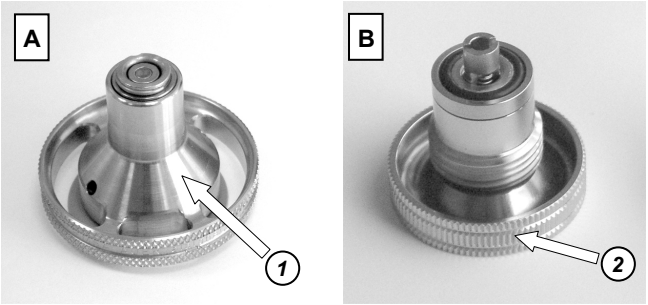


Fig. 9 SCBA coupling and cylinder adaptor 300 bar

A alphaCLICK coupling 300 bar
B Cylinder adaptor 300 bar
1 Continuous chamfer
2 Triple knurl

The main distinctive attributes of the models for air cylinders 300 bar are:

- continuous chamfer on the cone of the *alphaCLICK* coupling (→arrow 1) and
- triple knurl on the cylinder adaptor (→ arrow 2)

On the *alphaCLICK* coupling knurl the model is punched in as “alphaCLICK300 bar".

Combination options

The following diagram shows the possible combinations. The coupling set "200/300 bar" can be combined with 200 bar or 300 bar cylinders. The coupling set "300 bar" is recommended for 300 bar units.

The coupling set "300 bar-Q“ must be used if the SCBA features a Quick-Fill connection.

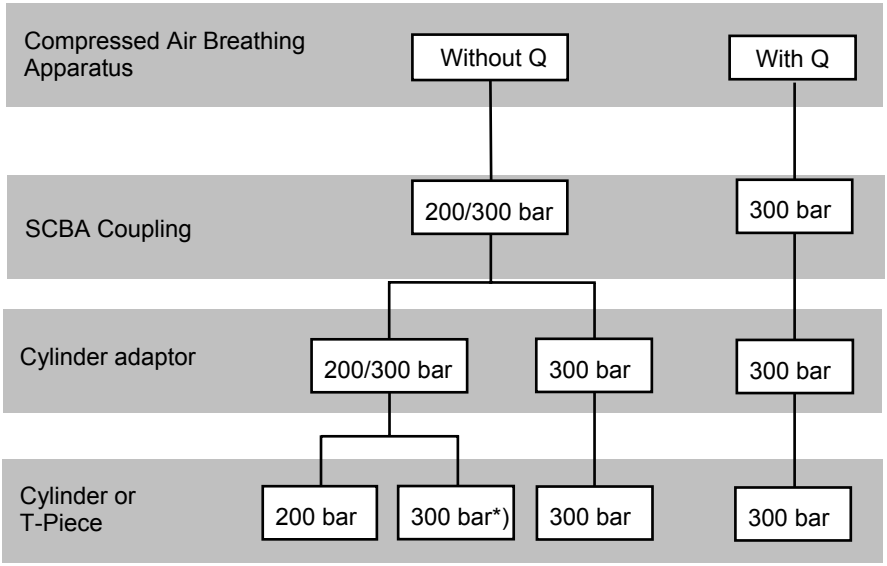


Fig. 10 Combination options

Q – Quick-Fill connection

*) – In this configuration the cylinder cannot be connected to 300 bar filling panels.

Danger!

It is generally not permitted to mount SCBA couplings and cylinder adaptors 200/300 bar on compressed air breathing apparatus with Quick-Fill couplings (model SL-Q).

When retro-fitting with alphaCLICK the type designation is made up of the imprint on the identification plate of the compressed air breathing apparatus basic apparatus and the marking on the alphaCLICK coupling.

2.3.2.4. Option –M – with *alphaMITTER* (short distance transmitter)

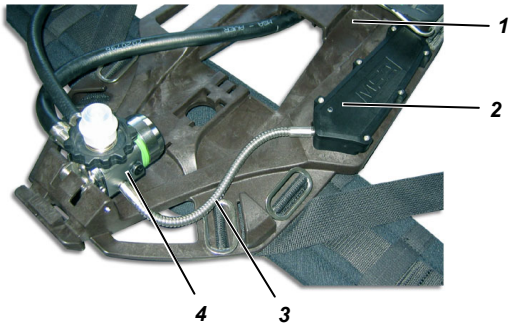


Fig. 11 alphaMITTER

1	*Back plate*	*3*	*High Pressure Line*
2	*alphaMITTER*	*4*	*Pressure Reducer*

The *alphaMITTER* is a short range transmitter which is mounted on the back plate of the compressed air breathing apparatus.

A high pressure line is used for the connection of the *alphaMITTER* to a dedicated port of the pressure reducer. It measures the high pressure in the compressed air cylinder(s) and transmits every second to the *alphaSCOUT* of the alpha personal network.

The power supply for the *alphaMITTER* is provided by 3 Alkaline batteries.

Attention!
The power supply should only be provided by certain types of battery for reasons of explosion prevention.

For detailed information on the *alphaMITTER* → Operating Manual for the "alpha personal network".

2.3.3. classic Pneumatics

classic pneumatics are available in options -S, -Z, -ICU, -CLICK.

The individual high pressure and medium pressure lines are routed separately from the pressure reducer to the individual end units or connections.

The lung governed demand valve or the coupling to the lung governed demand valve is located at the end of the medium pressure line.

The pressure gauge (→ Fig. 12) or the ICU (→ Fig. 15) is fitted at the end of the high-pressure line.

Fig. 12 Pressure gauge

The pressure gauge indicates the momentary pressure in the connected and opened compressed air cylinders.

2.3.3.1. Option –S – with Signal Line

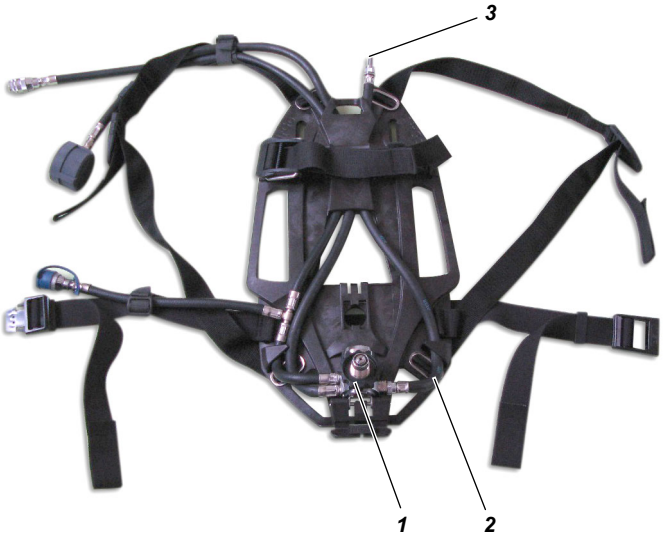


Fig. 13 Option AirGo –S (here with additional medium pressure coupling)

1 Pressure reducer
2 Signal line
3 Warning device (signal whistle)

This option is equipped with a signal line. The warning whistle is on a separate signal line near the ear of the user where it can be heard well and easily identified as his own warning signal.

2.3.3.2. Option –Z – with Second Medium Pressure Line

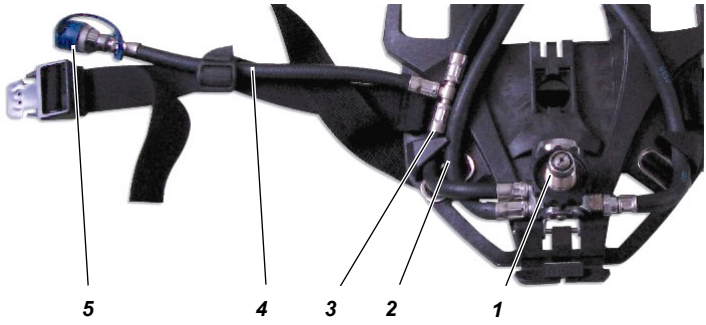


Fig. 14 Option AirGo -Z

1	*Pressure reducer*	*4*	*Second medium pressure line*
2	*High pressure line*	*5*	*Coupling for second connection*
3	*Medium pressure line*		

There is a second medium pressure connection with safety coupling on the hip belt, which is closed off with a plug when not being used.

In consideration of national regulations, you can use this connection to:

- connect a second lung governed demand valve;
- a rescue set, consisting of a normal pressure lung governed demand valve and full face mask for rescuing people;
- connect to compressed air line system using the double nipple that is available as accessory (→ Section 5), e.g. for decontamination after use or
- to connect a rescue hood.

Warning!

When rescuing persons with the rescue set via the second connection, more air is consumed.

Hence, the service time is considerably reduced. Always keep this in mind when using your apparatus.

2.3.3.3. Option –ICU/ICS –Integrated Control Unit (with or without key)

Fig. 15 Integrated Control Unit ICU

1 Connector for high-pressure line
2 Pressure gauge
3 RESET Button
4 ALARM Button
5 LCD Display

The integrated control unit serves to monitor the normal function of the compressed air breathing apparatus, the display of the compressed air data and the display and signalisation of alarm conditions. The ICU replaces the normal pressure gauge.

It is also equipped with a movement sensor and with the facility for initiating an alarm manually.

In the case of the keyed option ICU-S, the key is lodged with the incident command for identification purposes.

Further information concerning the ICU can be taken from the ICU Operating manual.

2.3.3.4. Option –CLICK – with Coupling System *alphaCLICK*

For further information concerning the *alphaCLICK* please refer to Section 2.3.2.3.

2.3.4. Fix Pneumatics

Fix pneumatics are available in options –Z, –AE, –AS, –N, gauge cap (optional equipment).

The individual high pressure and medium pressure lines are routed separately from the pressure reducer to the individual end units or connections.

The lung governed demand valve is fixed at the end of the medium pressure line.

The pressure gauge is fitted at the end of the high-pressure line.

For further information concerning the full face masks please refer to the Operating Manual of the full face masks.

2.3.4.1. Option –Z

Please see Section 2.3.3.2.

2.3.4.2. Option –N

In this option there is an AutoMaXX-N lung governed demand valve fixed at the medium pressure line.

The AutoMaXX-N lung governed demand valve is for use with negative pressure. It is fitted with thread connection RD40X1/7 and suitable for full face masks 3S, Ultra Elite, 3S-H-F1 and Ultra Elite-H-F1 with standard thread connection.

2.3.4.3. Option –AE

In this option there is an AutoMaXX-AE lung governed demand valve fixed at the medium pressure line.

The AutoMaXX-AE lung governed demand valve is for use with positive pressure. It is fitted with thread connection M45 x 3 and suitable for full face masks 3S-PF, Ultra Elite-PF, 3S-H-PF-F1 and Ultra Elite -H-PF-F1 with standard thread connection.

2.3.4.4. Option –AS

In this option there is an AutoMaXX-AS lung governed demand valve fixed at the medium pressure line.

Attention!

This lung governed demand valve is only for use with PS-MaXX full face masks.

It is not for use with PS full face masks.

The AutoMaXX-AS lung governed demand valve is for use with positive pressure. It is fitted with a plug-in connector and suitable for full face masks 3S-PS-MaXX, Ultra Elite-PS-MaXX, 3S-H-PS-MaXX-F1 and Ultra Elite-H-PS-MaXX-F1.

3. Using the Compressed Air Breathing Apparatus

Warning!

The compressed air breathing apparatus may only be put into use in a fully maintained and tested condition. If malfunctions or defects are noticed prior to use, do not use the compressed air breathing apparatus under any circumstances.

Get the apparatus checked and repaired by an authorised service centre.

Prior to the first use the apparatus must be prepared for the number and types of compressed air cylinders. Afterwards, when changing compressed air cylinders that have the same diameter, the closed loop of the tension strap is increased or again tightened by opening or closing the cylinder buckle. A readjustment of the length of the tension strap and a loosening of the Velcro closure then is no longer required.

3.1. Preparing the Apparatus for Use with One Compressed Air Cylinder

(1) Hinge down the cylinder separator that is in the middle of the cylinder support into a horizontal position until it catches

(2) If necessary, disconnect T-piece from high pressure socket of pressure reducer.

3.2. Preparing the Apparatus for Use with Two Compressed Air Cylinders

(1) Hinge up the cylinder separator to a vertical position in the middle of the cylinder support until it catches

(2) Connect T-piece to high pressure socket of pressure reducer.

3.3. Connecting one Compressed Air Cylinder

Fig. 16 SCBA with one compressed air cylinder

3.3.1. Pressure Reducer with Thread Connection

(1) Place compressed air breathing apparatus horizontally so that the back face is uppermost (see Fig. 1).

(2) Bring cylinder separator (2) into a horizontal position opposite the cylinder buckle (5) until it catches.

(3) Check gasket on pressure reducer (12) for proper condition.

(4) Open cylinder buckle on the cylinder strap eliminating any tension and extend the strap (→Fig. 21 A or Fig. 22 A).

(5) Push compressed air cylinder through the cylinder strap (3) with the cylinder valve toward the pressure reducer, so that it lies on the central support (4).

(6) Thread cylinder valve onto pressure reducer, if necessary, bring the compressed air breathing apparatus with valve up into a vertical position.

(7) Tighten cylinder strap by pulling the free end.

(8) Check position of compressed air cylinder, retighten if necessary.

(9) Hinge cylinder buckle down until it catches.

(10) Fasten end of the cylinder retaining strap onto Velcro strip.

(11) Briefly open cylinder valve and check for escaping air, retighten if necessary.

3.3.2. Pressure Reducer with *alphaCLICK*

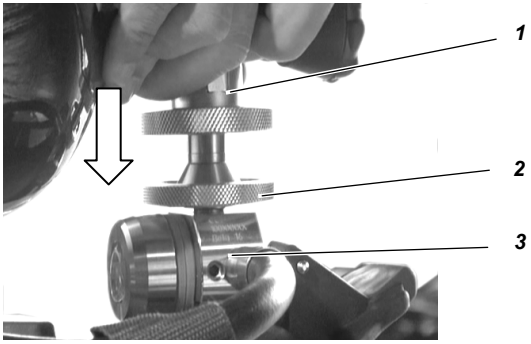


Fig. 17 Compressed Air Cylinder with alphaCLICK

1 Compressed air cylinder with cylinder adapter
2 alphaCLICK coupling
3 Pressure reducer

The structural design of the different *alphaCLICK* couplings and cylinder adaptors (→ Fig. 10 in Section 2.3.2.3) ensure that only specific ones can be combined with each other.
This ensures that only the permitted compressed air cylinders can be operated with the compressed air breathing apparatus.

(1) If necessary, thread the *alphaCLICK* cylinder adaptor handtight into the cylinder valve (→ Section 5).

(2) Proceed as described from (1) to (5) for pressure reducer with thread connection.

When fitting the compressed air cylinder on the coupling of the pressure reducer it may tip down.
In this case, support the pressure reducer with your hand.

(3) Align the compressed air cylinder with the *alphaCLICK* axially to the coupling and fit on the *alphaCLICK* coupling.

Attention!
Never push the coupling system together using excessive force.

(4) Close the coupling by pushing together using a "small amount" of force.

(5) Proceed as described from (7) to (11) for pressure reducer with thread connection.

3.4. Connecting two Compressed Air Cylinders

Fig. 18 SCBA apparatus with two compressed air cylinders

3.4.1. Pressure Reducer with Thread Connection

(1) Place compressed air breathing apparatus horizontally so that the back face is uppermost (see Fig. 1).

(2) Hinge cylinder separator (2) into a vertical position until it catches.

(3) If there is no T-piece connected to the pressure reducer (12), check gaskets on the pressure reducer and T-piece and thread in T-piece loosely.

(4) Open cylinder buckle on the cylinder strap eliminating any tension and extend the strap (→ Fig. 21 A or Fig. 22 A).

(5) Push one compressed air cylinder through the cylinder retaining strap so that the cylinder valve points to the T-piece, and lies on one of the outer supports.

(6) Loosely thread the cylinder valve onto the T-piece.

(7) Push a second compressed air cylinder through the cylinder retaining strap so that the cylinder valve points to the T-piece, and lies on the outer support.

(8) Loosely thread the second cylinder valve onto the T-piece.

With right-angled T-piece, align the compressed air cylinders by hinging the pressure reducer and pulling the cylinders together (see Operating Manual for T-pieces).

(9) Tighten all three high pressure connection handwheels.

(10) Briefly open cylinder valves and check for escaping air, retighten if necessary.

(11) Tighten cylinder retaining strap by pulling on the free end.

(12) Hinge cylinder buckle down until it catches.

(13) Fasten end of the cylinder retaining strap onto Velcro strip.

(14) Check that compressed air cylinders are held securely, retighten if necessary.

3.4.2. Pressure Reducer with *alphaCLICK*

The structural design of the different *alphaCLICK* couplings and cylinder adaptors (→ Fig. 10 in Section 2.3.2.3) ensure that only specific ones can be combined with each other.
This ensures that only the permitted compressed air cylinders can be operated with the compressed air breathing apparatus.

(1) If necessary, thread the *alphaCLICK* cylinder adaptor handtight into the cylinder valve (→ Section 5).
(2) Proceed as described from (1) to (5) for pressure reducer with thread connection.
(3) Thread the cylinder valve onto the T-piece.
(4) Push a second compressed air cylinder through the cylinder retaining strap so that the cylinder valve points to the T-piece, and lies on the outer support.
(5) Thread the second cylinder valve onto the T-piece.

When fitting the T-piece with *alphaCLICK* on the coupling of the pressure reducer it may tip down.
In this case, support the pressure reducer with your hand.

(6) Align the T-piece with the *alphaCLICK* axially to the coupling and fit on the *alphaCLICK* coupling.

Attention!
Never push the coupling system together using excessive force.

(7) Close the coupling by pushing together using a "small amount" of force.
(8) Proceed as described from (9) to (14) for pressure reducer with thread connection.

3.5. Donning the Compressed Air Breathing Apparatus

(1) Check all components of the compressed air breathing apparatus for defects and malfunctions.
(2) Don breathing apparatus with shoulder straps fully extended.
(3) Close hip belt and tighten loose ends **towards the front**.
(4) Tighten shoulder straps until back plate fits comfortably.
(5) Adjust shoulder straps to achieve a comfortable weight distribution between shoulder straps and hip belt.
(6) If required, connect lung governed demand valve to medium pressure connection (→ Operating Manual for lung governed demand valve).

3.6. Condensed Check Prior to Use

(1) Ensure that lung governed demand valve is closed.

(2) Open cylinder valve(s) and check pressure on the pressure gauge.
The pressure values must read:

for 300 bar cylinders:	minimum 270 bar
for 200 bar cylinders:	minimum 180 bar

(3) Close cylinder valve(s) and check pressure gauge.
- The pressure must not drop more than 10 bar in 60 seconds.

(4) Carefully activate flushing mode of lung governed demand valve, closing exit port as much as possible.

(5) Observe the pressure gauge.
- The warning signal must sound at 55±5 bar.

3.7. Donning the Full Face Mask

(1) Don full face mask (→ Operating Manual for mask) and carry out palm test.

(2) Open cylinder valve(s) fully.

Warning!
When using two compressed air cylinders, always open the valves of both cylinders. Only then will both cylinders empty uniformly.

(3) Connect lung governed demand valve to full face mask (→ Operating Manual for lung governed demand valve).

(4) The compressed air breathing apparatus is ready for use.

3.8. During Use

(1) Regularly check tight fit of full mask and lung governed demand valve and retighten if necessary, as well as the air supply on the pressure gauge.

(2) Leave area immediately if the warning signal sounds.

Independently of the warning signal an earlier retreat may be required whilst in the case of a longer retreat route the moment chosen is based on the reading of the pressure gauge.

Warning!
The warning signal sounds when the air supply in the compressed air cylinders is reduced.
In such cases, immediately leave the area, there is danger of air deficiency.

3.9. Use of Additional Connections for Medium Pressure

(1) Remove protection cap from the coupling of the additional connection for medium pressure.

(2) Connect medium pressure line of lung governed demand valve of second user until the coupling audibly catches.

Warning!

When rescuing persons with the rescue set via the second connection, more air is consumed.

Hence, the service time is considerably reduced. Always keep this in mind when using your apparatus.

3.10. Handling the Warning Device

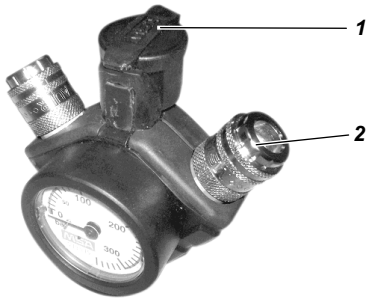


Fig. 19 Manifold

1 Warning signal with protective cap

2 Second connection

Only applicable to SingleLine Pneumatics.

After using, it is possible to reduce the volume of the warning device during the decontamination process. This is done by removing the protective cap from the second connection on the manifold and pushing it onto the warning device.

Warning!

During duty, damping down the warning signal tone is not permitted.

Remove the protective cap from the warning device again and push it onto the second connection after the SCBA Basic Apparatus has been removed.

3.11. Filling with Quick-Fill

Fig. 20 Filling with Quick-Fill (optional equipment)

1 Quick-Fill coupling

Only applicable to SingleLine Pneumatics.

With the Quick-Fill function, the compressed air cylinder(s) of the breathing apparatus can be filled during use (→ Operating Manual for Quick-Fill).

3.12. Removing the Compressed Air Breathing Apparatus

(1) Remove lung governed demand valve, or full face mask.

(2) Close cylinder valve(s).

(3) Activate flushing mode of lung governed demand valve, releasing all air pressure.

(4) Open hip belt.

(5) Extend shoulder straps by lifting the slides.

Danger!

Do not throw off compressed air breathing apparatus. This could damage the valve and any remaining compressed air could escape suddenly.

This could cause fatal injury to you or to any bystanders.

(6) Remove compressed air breathing apparatus.

3.13. Removing the Compressed Air Cylinders

3.13.1. Short Cylinder Strap

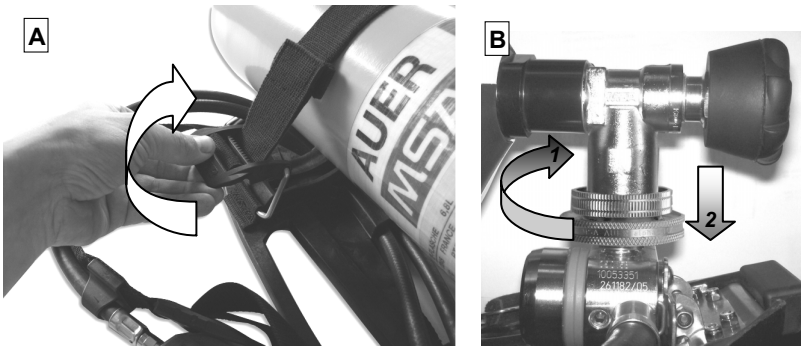


Fig. 21 Removing a cylinder with short cylinder strap

(1) Place the compressed air breathing apparatus in a horizontal position with the cylinder facing up.

(2) Hinge up cylinder buckle at cylinder strap (Fig. A) and thus loosen the strap.

When exchanging compressed air cylinders of the same diameter, only the cylinder buckle need be opened.

(3) Close cylinder valve(s), release air from system with lung governed demand valve.

(4) For compressed air cylinders with thread connection go to (6).

(5) For compressed air cylinders with *alphaCLICK* turn the handwheel on the coupling side (arrow 1) in a clockwise direction first, as shown in Figure B, and then, when closed up to the stop, push downwards in the direction of the pressure reducer (arrow 2).

- The cylinder adaptor releases from the *alphaCLICK*-coupling.
- Go to (7).

(6) Unthread cylinder valve(s) from pressure reducer and/or T-piece.

Warning!
Do not remove or transport the compressed air cylinder(s) from the cylinder strap by the handwheel.
This could accidentally open the cylinder valve.

(7) Lift compressed air cylinder(s) at the valve and pull out of cylinder strap.

(8) Close high pressure connection cylinder valve (s) with protection cap (s) (for *alphaCLICK* not required).

3.13.2. Long Cylinder Strap

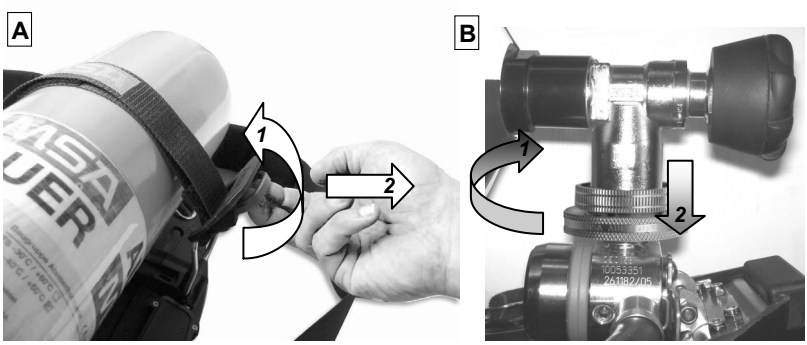


Fig. 22 Removing a cylinder with long cylinder strap

(1) Place the compressed air breathing apparatus in a horizontal position with the cylinder facing up.

(2) Hinge up cylinder buckle at cylinder strap (Figure A, arrow 1) and, if necessary, loosen the Velcro connection and by pulling the green released bracket **sidewards** (Figure A, arrow 2) loosen the strap.

When exchanging compressed air cylinders of the same diameter, only the cylinder buckle needs to be opened.

(3) Close cylinder valve(s), release air from system with lung governed demand valve.

(4) For compressed air cylinders with thread connection go to (6).

(5) For compressed air cylinders with *alphaCLICK* turn the handwheel on the coupling side (Figure B, arrow 1) in a clockwise direction first, and then, when closed up to the stop, push downwards in the direction of the pressure reducer (Figure B, arrow 2).

- The cylinder adaptor releases from the *alphaCLICK*-coupling.
- Go to (7).

(6) Unthread cylinder valve(s) from pressure reducer and/or T-piece.

Warning!
Do not remove or transport the compressed air cylinder(s) from the cylinder strap by the handwheel.
This could accidentally open the cylinder valve.

(7) Lift compressed air cylinder(s) at the valve and pull out of cylinder strap.

(8) Close high pressure connection cylinder valve (s) with protection cap (s) (for *alphaCLICK* not required).

4. Maintenance and Care

4.1. Maintenance Instructions

This product should be regularly checked and serviced by specialists. Inspection and service records must be maintained. Always use original parts from MSA.

Repairs and maintenance must be carried out only by authorised service centres or by MSA. Changes to devices or components are not permitted and could result in loss of approved status.

MSA is liable only for maintenance and repairs carried out by MSA.

Do not use organic solvents such as alcohol, white spirit, petrol etc.

When drying/washing, do not exceed the maximum permissible temperature of 60 °C.

MSA recommends the following maintenance intervals. If needed and by considering the usage, tasks may be at even shorter intervals than indicated.

Observe national laws and regulations!

If in any doubt, ask your local MSA contact person.

4.2. Maintenance Intervals

Test Intervals for all Countries (except Germany)

Component	Work to be Performed	Before use	After use	Annually	Every 3 years	Every 9 years [1]
Compressed air breathing apparatus complete	Cleaning		X		X	
	Sight, function and tightness check		X	X		
	Check by user [2]	X				
Compressed air breathing apparatus without cylinder and lung governed demand valve	Overhaul					X
alphaCLICK coupling	Cleaning		X			
	Lubricate			X [3]		
	Check by user	X				
Compressed air cylinder with valve	Filling pressure check	X				
	Technical expert test	See Operating Manual for compressed air cylinder. Please observe national rules!				
Lung governed demand valve	See Operating Manuals for lung governed demand valve / full face mask. Please observe national rules! [4]					

1) For SCBA apparatus that are frequently used, we recommend a complete overhaul after approx. 540 hours. For example, this corresponds to 1080 applications with a duration of 30 minutes.

2) The checks are performed with the respective lung governed demand valves and if required, with the respective full masks.

3) For SCBA apparatus that are frequently used, we recommend lubrication after approx. 500 coupling cycles.

4) Rubber components are subject to ageing with varying rates according to local conditions and must be checked and replaced at regular intervals.

4.3. Cleaning

4.3.1. Pre-cleaning

(1) Open cylinder valve(s) of the mounted compressed air cylinder(s) fully.

(2) Remove rough dirt from breathing apparatus with water hose. Here, we recommend using a mild detergent.

(3) Close cylinder valve(s), release air from apparatus with lung governed demand valve.

4.3.2. Cleaning, Light Soiling

(1) Remove compressed air cylinder(s) (→ Section 3.12).

(2) Clean compressed air breathing apparatus manually using a brush, damp cloth or similar.

(3) Dry apparatus completely in a drying cabinet at max. 60 °C.

4.3.3. Cleaning, Heavy Soiling

In the event of heavy soiling the compressed air breathing apparatus should be partially dismantled.

The number of lines depends upon the type of pneumatics being used.

(1) Remove compressed air cylinder(s) (→ Section 3.12).

(2) Disconnect lung governed demand valve from medium pressure line.

(3) Open the line retainer and unbutton the shoulder padding if present.

The shoulder straps and hip belt of the compressed air breathing apparatus are fastened in the back plate with metal buckles. To remove the straps and the belt, you must pull the buckles up slightly, tilt them and push them out of the slots in the back plate.

If a swivelling hip plate is fitted the belt are removed with the removal of the hip plate.

(4) If present, remove the swivelling hip plate (→ Section 4.3.4).

(5) Unbutton shoulder pads and hip belt from back plate.

(6) Do the same on the other side of the back plate.

(7) Independent of the pneumatic system, remove the lines from the guides on the back plate.

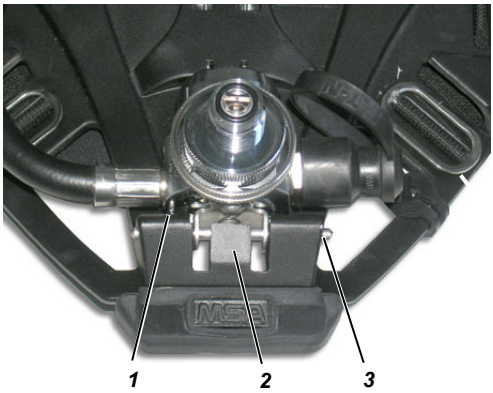


Fig. 23 Removing pressure reducer

1 U-Clip
2 Catch spring
3 Axis

U-Clip and hoses are not to be removed after removing the pressure reducer.

(8) Push the axis out of the retainer on the pressure reducer (→ Fig. 23).
(9) Remove pressure reducer from the back plate, do not push up the catch spring.
(10) Clean back plate with cylinder strap at max. 60 °C.
(11) Clean harness in a suitable washing machine at max. 60 °C.
(12) Clean lines, pressure reducer and pressure gauge preferable by hand.
If you want to clean under water: pressurise the pressure reducer and seal the warning signal (e.g. with a flexible tube)

Attention!
The pressure reducer must be pressurised if submerged in water. Make sure that no water penetrates high and medium pressure cavities.

(13) Shake out humidity from pressure reducer.
(14) Completely dry all compressed air breathing apparatus components in a drying cabinet at max. 60 °C.
(15) Assemble the compressed air breathing apparatus in the reverse order.

4.3.4. Removing the Swivelling Plate

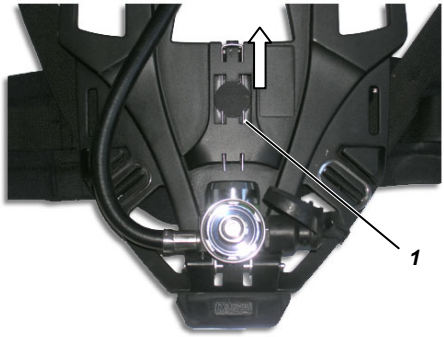


Fig. 24 Swivelling plate

1 Stop bracket

(1) Remove stop bracket (U-clip) from the back plate.
(2) Remove the hip plate from the back plate.
(3) Unbutton the hip belts from the swivelling plate (→ Note in Section 4.3.3).
(4) Assemble the hip belt and swivelling plate in the reverse order.

4.3.5. Cleaning and disinfection of AutoMaXX on Fix pneumatics

Existing Fix medium pressure line (without coupling) must be exchanged with standard medium pressure line (→ Section 9.4) for pressurised cleaning/ disinfection and/or testing on test unit.

(1) Pull off AutoMaXX protective cap as follows:

For AutoMaXX-AS

With one hand push and hold down both operating buttons, with the other hand push together both snap-on hooks and push off the protective cap.

For AutoMaXX-AE

- Turn handwheel until the safety clamp below the black operating button is visible through the handwheel opening.

Fig. 25 Housing

1 Securing clamp (only AutoMaXX-AE and AutoMaXX-N)

- Push in safety clamp with a screwdriver, simultaneously push both operating buttons and pull off handwheel.
- With one hand push and hold down both operating buttons, with the other hand push together both snap-on hooks and push off the protective cap.

For AutoMaXX-N

- Turn handwheel until the safety clamp below an operating button is visible through the handwheel opening.
- Push in safety clamp with a screwdriver, simultaneously push both operating buttons and pull off handwheel.
- With one hand push and hold down both operating buttons, with the other hand push together both snap-on hooks and push off the protective cap.

(2) Disassembly Medium Pressure Line

- With the protective cap disassembled, pull the silver coloured clamp (U-clip) out of the housing.

Fig. 26 Disassembly Medium Pressure Line

- Pull medium pressure line out of the housing.

(3) Assembly Medium Pressure Line

- Check O – ring on bend for visible damage and replace if required
- Push medium pressure line into housing till stop
- Push U–clip **from the diaphragm side** (→ arrow in Fig. 27) into holes of housing till stops. The medium pressure line is secured.

Fig. 27 Assembly Medium Pressure Line

(4) Slide on protective cap as follows:
- Push both operating buttons simultaneously and slide on protective cap until it audibly and visibly snaps into place on the snap-on hooks.

(5) Assemble handwheel as follows:

For AutoMaXX-AE and AuroMaXX-N only
- Push in safety clamp and simultaneously push and hold down both operating buttons.
- Slide on handwheel until stopper.

Attention!
Observe the right seat of positive pressure spring in the guide of the diaphragm.

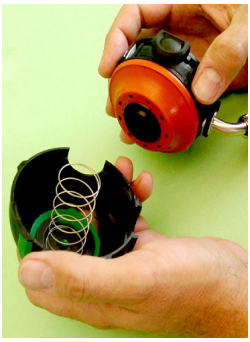


Fig. 28 Assembly Handwheel

For further information please observe the separate Operation Manual for the AutoMaXX System (Part No. 10083261).

4.4. Changing the Straps and Belt

The shoulder straps and the hip belt are fastened to the back plate with metal buckles (→ Fig. 29 and Fig. 30).

For removing the straps and the belt you must pull up the buckles slightly, tilt them and push them out of the slots in the back plate.

4.4.1. Changing the Shoulder Straps

Fig. 29 AirGo pro harness

1 Line retainer
2 Shoulder strap buckles
3 Hip belt mounting slot

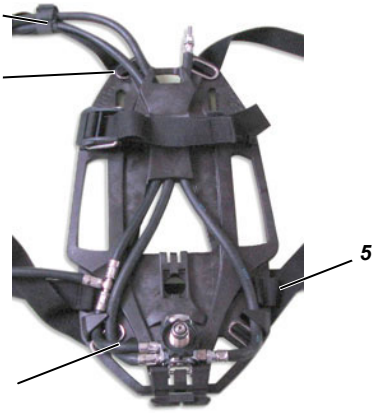


Fig. 30 AirGo compact harness

4 Shoulder strap buckles
5 Hip belt back stop

(1) Loosen the line retainer and remove the pressure line from the shoulder strap.

(2) Remove the shoulder straps from the slots on the top of the back plate.

(3) Remove the shoulder straps from the slots on the bottom of the back plate.

(4) Assemble in reverse order.

4.4.2. Changing the Hip Belt

4.4.2.1. Options MaX, eXX and pro with Swivelling Plate

In these options a swivelling hip belt plate can be fitted. The hip belt is directly mounted on the swivelling plate as shown in Fig. 31.

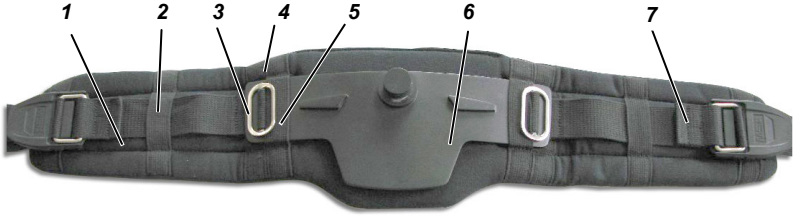


Fig. 31 Hip belt with swivelling plate

1 Hip belt with padding
2 Outer loop
3 Buckle
4 Middle loop
5 Inner loop
6 Swivelling plate
7 Back stop

Disassembling

(1) Remove one of the buckles from the swivelling plate.
(2) Push the hip plate sidewards and remove it from the loop.
(3) Repeat the procedure for the second buckle (on the other side).
(4) Remove the left and the right hip belt from the padding.

Assembling

When assembling ensure that the belt is mounted correctly using the outer belt loops on both sides of the padding.
Use the inner loops for mounting the swivelling hip plate.

(1) Thread the metal buckles and the belt as shown in Fig. 31 through the **outer** loops in the belt padding.
(2) Thread the swivelling plate into the two **inner** loops of the belt padding.
(3) Mount the metal buckles as shown at the swivelling plate.

4.4.2.2. Option pro without Swivelling Plate

In this option the hip belt is mounted to the back plate **without** a swivelling plate using the hip belt slots (→ Fig. 29).

The hip belt with padding is shown in Fig. 32.

Fig. 32 Hip belt without swivelling plate

1	*Hip belt with padding*	*4*	*Buckle*
2	*Outer loop*	*5*	*Back stop*
3	*Middle loop*		

Disassembling

(1) Remove the metal buckles from the back plate.

(2) Remove the left and the right hip belt from the padding.

Assembling

When assembling ensure that the belt is mounted correctly using the outer and middle belt loops on both sides of the padding.

Do not use the inner loops for mounting the belt. These loops are for mounting the swivelling hip plate.

(1) Thread the metal buckles and the belt as shown in Fig. 32 through the outer and middle loops of the belt padding.

(2) Mount the metal buckles in the hip belt slots at the back plate.

4.4.2.3. Options com and mix

In these options the hip belt without additional padding is mounted to the back plate using the hip belt slots (→ Fig. 30).

The hip belt is fixed at the back plate by the back stops.

(1) Remove a belt buckle at one of the ends of the hip belt.

(2) Remove the hip belt from the back plate threading the back stops through the mounting slots.

When assembling ensure that the pressure lines are located between the hip belt and the back plate.

Ensure that the belt is fixed correctly by the back stops.

(3) Assemble in reverse order.

4.4.3. Changing the Cylinder Strap

4.4.3.1. Long Cylinder Strap

Disassembling

(1) Remove metal bracket from tension lever by slightly spreading it and take it out of belt.

(2) If necessary, align cylinder separator vertically.

(3) Thread cylinder strap through cylinder separator.

(4) Push off adjustable Velcro strap from cylinder strap.

(5) Thread end of cylinder strap through the back plate and remove cylinder strap from back plate.

Assembling

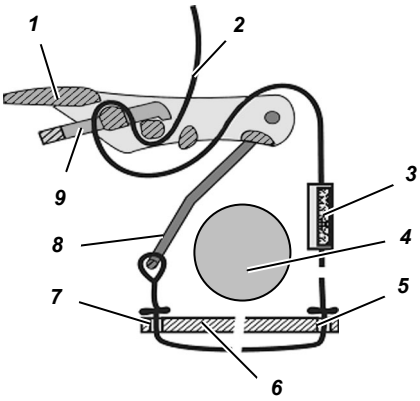


Fig. 33 Long Cylinder Strap

1	*Tension lever*	*6*	*Back plate*
2	*Cylinder strap*	*7*	*Right hand slot in the back plate*
3	*Velcro strap*	*8*	*Metal bracket*
4	*Cylinder*	*9*	*Bracket*
5	*Left hand slot in the back plate*		

(1) Thread the cylinder strap (→ Fig. 33) firstly through the slot in the back plate (on the right hand side of the equipment carrier), then through the left hand slot in the back plate and then through the cylinder bracket - align the cylinder bracket vertically.

(2) Push the Velcro strap onto the cylinder strap with the fluffy side facing outwards

4.4.3.2. Short Cylinder Strap

Disassembling

(1) Remove metal bracket from tension lever by slightly spreading it and take it out of belt.

(2) Push off adjustable Velcro strap from cylinder strap.

(3) Thread end of cylinder strap through the back plate and remove cylinder strap from back plate.

Assembling

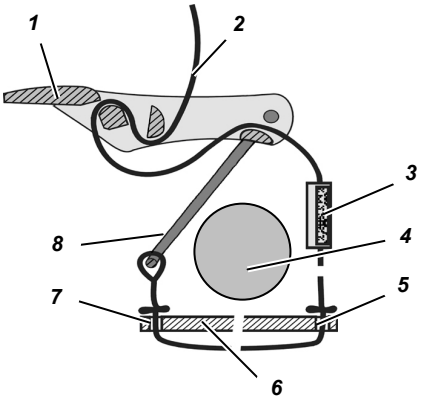


Fig. 34 Short Cylinder Strap

1	*Tension lever*	*5*	*Left hand slot in the back plate*
2	*Cylinder strap*	*6*	*Back plate*
3	*Velcro strap*	*7*	*Right hand slot in the back plate*
4	*Cylinder*	*8*	*Metal bracket*

(1) Thread the cylinder strap (→ Fig. 34) firstly through the slot in the back plate (on the right hand side of the equipment carrier), then through the left hand slot in the back plate and then through the cylinder bracket - align the cylinder bracket vertically.

(2) Push the Velcro strap onto the cylinder strap with the fluffy side facing outwards

4.5. Visual, Function and Tightness Check

(1) Visually check the high pressure gaskets (→ Section 4.7).

(2) Connect compressed air cylinder(s) to the back plate (→ 3.1 and 3.4).

(3) Check all parts of the compressed air breathing apparatus for visible defects or malfunctions, such as incorrectly assembled harness, loose compressed air cylinders, incorrectly fitted lines, etc.

(4) Open cylinder valve(s) and check operating pressure on pressure gauge.

- The pressure values must read:

for 300 bar cylinders:	minimum 270 bar
for 200 bar cylinders:	minimum 180 bar

(5) Close cylinder valves.

- After 60 seconds the pressure drop in the pressure gauge must not exceed 10 bar.

(6) Check warning device (signal whistle) (→ Section 4.6).

4.6. Checking the Warning Device

(1) Connect lung governed demand valve to medium pressure line.

(2) Open cylinder valve(s).

- The pressure on the pressure gauge must be at least 120 bar.

(3) Close cylinder valve(s).

(4) Carefully activate flushing mode of lung governed demand valve (→ Operating Manual for lung governed demand valve)

(5) Observe the pressure gauge.

- The warning signal must sound at 55±5 bar.

4.7. Checking the High Pressure Gaskets

Visually check the sealing ring of the cylinder connector in the pressure reducer. Damaged sealing rings must be replaced.

4.8. Changing the Battery *alphaMITTER* / *alphaSCOUT* / *ICU*

Various components are designed for operation with power supplied by batteries.

For detailed information of changing the batteries refer to the alpha personal network or ICU Operating Manual.

Attention!

Danger of injury!

There is a danger of explosion since the batteries can cause sparks when being changed!

Never change batteries in hazardous areas.

Used batteries must be returned to the dealer or manufacturer for disposal. They should never be disposed of in household waste.

4.9. Overhaul

The overhaul of the pressure reducer may only be performed by MSA or an authorised service centre.

Attention!

Pressure reducers are completed with a lead seal. Where the lead seal is missing or damaged, it can not be guaranteed that they are ready for use or that they correspond to the approval status.

Optimal use of the compressed air breathing apparatus is not assured in this case.

4.10. Storage

Store in a dry place, free from dust and dirt, at approx. 20°C. Protect apparatus against direct sunlight.

Secure against tilting, falling down and rolling away. Please, also take into consideration the instructions in the Operating Manual for the compressed air cylinders.

4.11. Malfunctions

In case of malfunctions in the compressed air breathing apparatus, it must be checked and repaired by a person or service centre authorised by MSA.

5. Compressed Air Cylinders with *alphaCLICK*

5.1. Changing of Compressed Air Cylinders to *alphaCLICK*

All usual compressed air cylinders with standard valve threads [EN 144-2] can be easily equipped with the *alphaCLICK* coupling system.

This means they can be used efficiently when combined with compressed air breathing apparatus and uses the advantages of the innovative coupling system.

The *alphaCLICK*-cylinder adaptor is equipped with a flow restrictor. This ensures that when a compressed air cylinder is not connected and a valve is open, the compressed air does not suddenly escape from the cylinder but does so slowly and under control.

For safety, all the compressed air cylinders involved should be fitted with an *alphaCLICK* cylinder adapter.

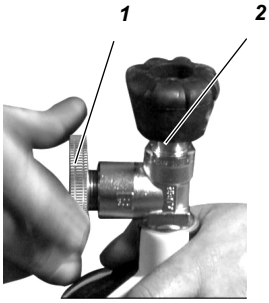


Fig. 35 Changing to alphaCLICK

1 alphaCLICK cylinder adaptor

2 Cylinder valve

Attention!

When changing the compressed air cylinder(s) do not hold on to the handwheel of the cylinder valve.

This could unintentionally open the cylinder valve through which compressed air at high pressure could escape from the cylinder, out of control.

(1) Check that the cylinder valve is closed.

(2) Thread the *alphaCLICK* cylinder adaptor hand-tight into the cylinder valve.

5.2. Filling of Compressed Air Cylinders with *alphaCLICK*

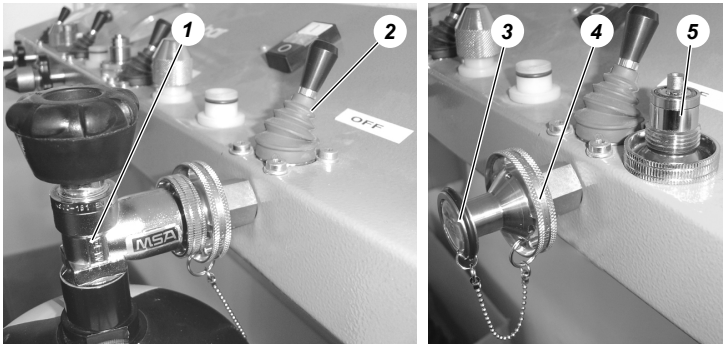


Fig. 36 Filling station for compressed air cylinders with alphaCLICK

1 Compressed air cylinder with alphaCLICK cylinder adaptor
2 Operating lever
3 Blind plug
4 alphaCLICK coupling
5 Cylinder adaptor

With the help of the filling panel, it is possible to fill several compressed air cylinders quickly and safely at the same time. Time-consuming threading-on of compressed air cylinders is no longer required thanks to *alphaCLICK*. The compressed air cylinder is simply slotted into the coupling of the filling panel.

The compressed air cylinders are filled with the help of an operating lever which has to be operated depending on the design of the filling panel for each individual cylinder or centrally for the station.

Attention!

When filling air cylinder(s) using the filling panel, secure non used *alphaCLICK*-coupling with a blind plug.

Do not pressurise a non used *alphaCLICK*-coupling without a blind plug.

This can cause damage to persons and objects.

(1) Release pressure from the filling panel.
(2) Remove the blind plug from the alphaCLICK coupling on the filling panel.
(3) Attach the compressed air cylinder to the alphaCLICK coupling and open the cylinder valve.

In case of problems to connect air cylinders to the filling panel, check accordance with the coupling matrix (→ Fig. 10 in Section 2.3.2.3).

Attention!
When being pressurised, cylinder must not be swivelled, as this can cause damage to the *alphaCLICK*-coupling.
This particularly important if a water basin for cooling is used while filling.

(4) Fill the compressed air cylinder using the operating lever.
(5) Once the compressed air cylinder has been filled, close the cylinder valve.
(6) Turn the handwheel of the *alphaCLICK* coupling (filling panel) clockwise first and upon reaching the stop, press in the direction of the filling panel.
    - The cylinder adaptor releases from the *alphaCLICK*-coupling.
(7) Remove compressed air cylinder from *alphaCLICK* coupling.
(8) Secure *alphaCLICK* coupling with blind plug.

6. Accessories

6.1. Compressed Air Cylinders

Danger!

When handling compressed air cylinders, observe the relevant Operating Manual and the safety instructions specified in it.

Improper handling of compressed air cylinders can have fatal consequences for you and others.

Compressed Air Cylinders

The compressed air breathing apparatus is compatible with a large number of different compressed air cylinders (→ Section 9.3). The MSA compressed air cylinders are made of steel or carbon fibre compound (composite). They are type approved and in accordance with the respective standards.

Applicable national regulations must be observed.

The cylinders must be ordered separately. Protective covers are available for all 6.0 l and 6.8 l composite cylinders (→ Section 9.4) as accessories.

Valves

The cylinder valves that thread into the cylinders are type approved according to EN 144. The handwheels are protected against impacts. They must be fully open for use. The fail safe cylinder valve can be closed only by also pulling the handwheel. This prevents it from closing accidentally.

T-Pieces

The T-pieces allow two compressed air cylinders to be connected to the compressed air breathing apparatus. Depending on the cylinder size, different T-pieces must be used, e.g. the 4l/200 bar steel cylinders require the Ø115/200 bar T-piece; the 6l/300 bar or 6.8l/300 bar composite cylinders require the Ø156/300 bar T-piece. T-pieces must be ordered separately (→ Section 9.4).

6.2. Lung Governed Demand Valves / Full Face Masks

The basic apparatus of the AirGo series are provided for use with various MSA lung governed demand valves and full masks. A list of compatible devices is given under Section 9.4.

7. Technical Specifications and Certifications

High pressure	:	200 bar resp. 300 bar
Medium pressure	:	5 bar to 9 bar
Operating temperature	:	-30 °C to +60 °C
Weight (approx.)	:	2.9 ... 3.8 kg
Dimensions (approx.)	:	Length 580 mm
		Width 300 mm
		Height 170 mm
Approvals	:	The compressed air breathing apparatus conforms to the Directives 89/686/EEC and 94/9/EC. It is a container unit with compressed air in accordance with EN 137.

ATEX
BVS 03 ATEX H 010 X
IM1c
II 1 G c IIC T6 -30 °C ≤ Ta ≤ +60 °C
II 1 D c

CE 0158

8. Notes for Ordering

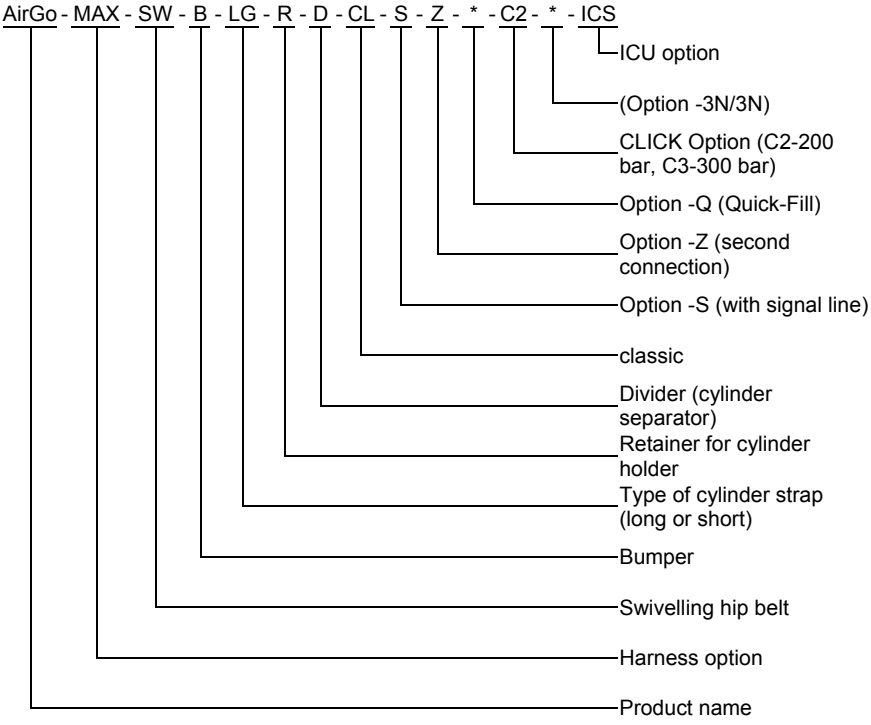
All the components listed in the table are approved to EN 137 and can be retro-fitted or changed over.

You have the possibility of assembling a compressed air breathing apparatus to match your requirements and demands from the available components by using a configurator.

You can access the configurator on the Internet at: www.MSA-AirGo.com

In order to make your choice easier you also have the option of selecting various different units pre-configured by MSA.

Example of an ATO Ordering Code:



9. Ordering Information

9.1. Compressed Air Breathing Apparatus

Description	Part No.
Basic Apparatus AirGo pro (Preset: configuration AirGo PRO-*-B-LG-R-D-SL-*-*-*-*-*-*)	10086571
Basic Apparatus AirGo compact (Preset: configuration AirGoFix COM-*-*-AS-*)	10086572

9.2. Lung Governed Demand Valve

Description	Part No.
Normal Pressure	
LA 83	D4075808
LA 88-N	D4075960
LA 96-N	D4075852
AutoMaXX N for full face masks from the 3S, Ultra Elite series	10023686
Positive Pressure Standard Thread Connection M45X3	
LA 88-AE	D4075909
LA 96-AE	D4075851
AutoMaXX AE for full face masks from the 3S-PF, Ultra Elite-PF series	10023687
Positive Pressure Plug-in Connection 88/96	
LA-88-AS	D4075906
LA 96-AS for full face masks from the 3S-PS, Ultra Elite-PS series	D4075850
Positive Pressure Plug-in Connection AutoMaXX	
AutoMaXX AS for full face masks from the 3S-PS-MaXX, Ultra Elite-PS-MaXX series	10023688

Excerpt only. For full overview please refer to SCBA leaflets.

9.3. Compressed Air Cylinders

Description	Part No.
Compressed Air Cylinders, Steel	
4 litre/200 bar, filled	D5103965
4 litre/200 bar, empty	D5103985
6 litre/300 bar, filled	D5103967
6 litre/300 bar, empty	D5103986
6 litre/300 bar, filled, with flow restrictor	10015960
6 litre/300 bar, filled, with ratchet valve	10024010
Compressed Air Cylinders; Composite	
6 litre/300 bar, filled	D5103947
6 litre/300 bar, empty	D5103976
6.8 litre/300 bar, filled	D5103962
6.8 litre/300 bar, empty	D5103979
6.8 litre/300 bar, filled, with flow restrictor	10015961
6.8 litre/300 bar, filled, with ratchet valve	D5103973
6.8 litre/300 bar, empty, with ratchet valve	D5103980
6,9l/300 bar, filled	10055167
6,9l/300 bar, empty	10055168
6,9l/300 bar, filled, with ratchet valve	10055169
6,9l/300 bar, empty, with ratchet valve	10055170
6,9l/300 bar, filled, with flow restrictor	10072889
6,9l/300 bar, empty, with flow restrictor	10072888

9.4. Accessories

Description	Part No.
T-piece 115/200 bar, for two 4 litre/200 bar cylinders	D4085817
T-piece 156/300, for two 300 bar Composite cylinders	D4075818
Protective cover blue-black for composite cylinders	D4075877
Protective cover yellow for Composite cylinders	D4075878
Quick-Fill line, 1 metre	D4075929
Quick-Fill cylinder adapter	D4075971
Rescue kit in bag	D4075720
Rescue kit in carry case	D4075723
Chest strap	D4075822
Respi-Hood, rescue hood	10045764
Standard medium pressure line	10020783

9.5. Work Shop Accessories

Description	Part No.
Open-ended 19 mm spanner for fitting the alphaCLICK to the pressure reducer	10075231
Control pressure gauge up to 400 bar cylinder pressure	D4080929
Control pressure gauge (class 1.0) for pressure gauge check (400 bar)	D5175825
Control pressure gauge (class 0.6) for pressure gauge check (400 bar)	D5175867
Control pressure gauge (class 1.6) medium pressure (10 bar)	D5175860
Control pressure gauge (class 0.6) medium pressure (16 bar)	D5175866
alphaCLICK test gauge (up to 400 bar)	10076093
alphaCLICK couplings for filling panels 300 bar (set including coupling 300 bar, blind plug, bushings for M 16 x 1.5 and G1/4 threads and seals)	10075961
alphaCLICK couplings for filling panels 200 bar (set including coupling 200 bar, blind plug, bushings for M 16 x 1.5 and G1/4 threads and seals)	10075800
Filling panels with alphaCLICK	on request
Test case Multitest ND	10073519

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