AlphaTec®

Suit Ventilation

Instructions for Use

AlphaTec® Combined Regulating Valve & Airline Passthrough MkII

Ansell

CONTENTS

1. Safety considerations

- These instructions for use (IFU) are valid only for AlphaTec® Combined Regulating Valve & Airline Passthrough MkII*.
- Do not use a damaged or incomplete valve, and do not modify the valve.
- For maintenance, only use genuine AlphaTec® (TRELLCHEM®) service-kit, or the function may be impaired.

1.1 Definitions of signal icons used in the instructions

The following icons are used in this IFU to highlight the user on situations or actions that need special attention not to risk the safety of user, suit or environment.

WARNING
Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION
Indicates a potentially hazardous situation which, if not avoided, could result in physical injury, or damage to product or environment.

NOTICE
Indicates additional information on how to use the suit.

* Formerly known as TRELLCHEM® Combined Regulating valve & Airline Passthrough MkII.

2. Description

The AlphaTec® Combined Regulating Valve & Airline Passthrough MkII:

- Is intended for use/mounting in an encapsulating gas-tight chemical protective suit.
- Provides suit ventilation for increased safety and comfort.
- Provides the possibility to use an external air supply for both suit ventilation and breathing air.
- Is available with different connection outside (to external air source) and inside (to SCBA), to fit different SCBA brands.

2.1 Components

The main parts of the valve are described below:

1) Valve housing with regulating thumb wheel
2) Inlet air, connection* to external air supply source i.e. airline (with protective cap)
3) Inlet air, connection hose** to the SCBA (with protective cap)
4) Adjustable waist belt

*Standard connection is CEJN 341 male. Other options are available
**Standard connection is a hybrid CEJN 344/345 female that fits both CEJN 344 male and CEJN 345 male. Other options are available.

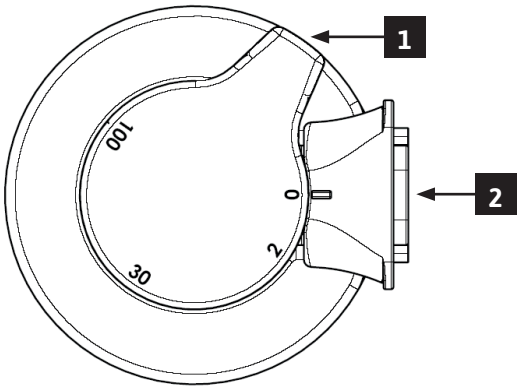
2.2 Ventilation flow rate adjustment

The suit ventilation air flow is adjusted by rotating the thumb wheel to one of the four marked positions (see sketch below):

0 litres/minute
2 litres/minute
30 litres/minute
100 litres/minute

For safety reasons, using 0 or 100 litres/minute requires a two-hand grip:
Pull the locking device (2) while rotating the thumb wheel (1) with your other hand to the desired position.

100 litres/minute shall only be used when connected to an external air source i.e. airline. If used with SCBA air cylinders only, you may empty them too fast and risk running out of breathing air.



1) Thumb wheel for selecting suit ventilation air flow rate.
2) Locking device with flow indication.

3. Approvals

AlphaTec® Combined Regulating Valve & Airline Passthrough MkII is tested and approved according to EN 943-1 and EN 943-2, as part of AlphaTec® gas-tight suits.

The internal breathing hose fulfils EN 14593 and EN 14594 standards for "Compressed airline breathing devices".

4. Pre-use

- Check that the valve is firmly attached to the suit and the inside tubing is fitted to the valve.
- Check that the connections are clean and undamaged.
- If using external air supply/airline:
  - Check that the compressed air supply hose meets EN 14593 or EN 14594.
  - Check that the external air supply fulfils the requirements for breathing air according to EN 12021.
  - Check that the external air supply has correct and sufficient air pressure:
    - Maximum inlet air pressure is 10 bars.
    - Minimum inlet air pressure 5.5 bar. *NOTE*: This applies only if used with airline.

The breathing air flow cannot be guaranteed if the pressure falls below 5.5 bar. *NOTE*: This applies only if used with airline.

Never rotate a non-pressurised valve (without an airline connected and no air being supplied) when mounted on the suit, as it may come loose.

A pressurised suit valve (with an airline connected and air being supplied) can be rotated freely in the suit.

5. In use

5.1 Connecting to SCBA

1) Take off the protective cap on the inside of the suit.
2) Connect the SCBA:
   a) On the T-piece on the SCBA
   b) On the Y-piece on the SCBA
   c) On the extra connection on the cylinder

NOTE: Different SCBAs have different connection types/configuration.

5.2 Connecting to external air supply

1) Take off the protective cap on the outside of the suit.
2) Connect the external airline hose and make sure it is property attached.

5.3 Selecting suit ventilation air flow

- **2 litres/minute**: The standard ventilation rate, which gives an overpressure in the suit and thereby helps prevent chemicals from coming into the suit in case of a puncture.

- **30 litres/minute**: When the air inside the suit gets moist and warm, the user can choose to temporarily adjust the ventilation rate to 30 litres/minute while at the same time compressing the suit (e.g. by hugging & squatting the suit). This exercise empties the suit of moist and warm air, which will help provide a slightly more comfortable environment inside the suit.

- **100 litres/minute**: Increases the comfort for the user, but shall be used only if the suit is connected to external air supply/airline.

Never use 100 litres/minute ventilation rate if only the SCBA cylinder is used, as this will empty the air quickly, leaving the user without breathing air and risk of suffocation.

6. Storage

- Store in room temperature and in a dry environment.
- When stored, make sure the protective caps are fitted, to prevent dirt and moist from getting into the connections.

7. Maintenance

7.1 General

- Handle the valve with care.
- Use the protective cap whenever the valve is not connected to SCBA or airline.
- Protect the connections from damage and dirt.
- If the suit valve has been damaged or the connections are broken, it must be sent off for repair.

Never try to repair a broken valve yourself.

7.2 Regular service

It is recommended to service the valve every 5 years. A service-kit is available (see instructions, chapter 7.2.1).

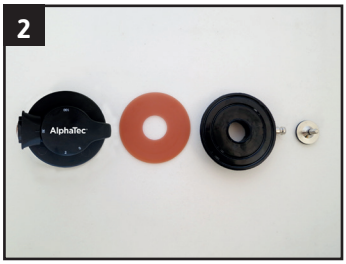
7.2.1 Service instructions

Component	**Article no**
Service-kit for Regulating valve & Passthrough MkII	K72 141 100 (1 pce) K72 141 101 (10 pcs)
Tools	
Torque wrench/screwdriver with Allen key, 5 mm	Not available from Ansell
Tweezers	

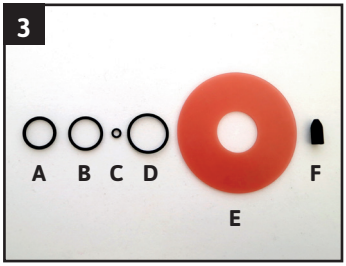
Procedure:

1) Remove the Valve from the chemical protective suit by unscrewing the Centre screw.

2) Once removed, you should have four parts. From left in the picture below: Valve body, Rubber gasket, Distribution house and Centre screw.

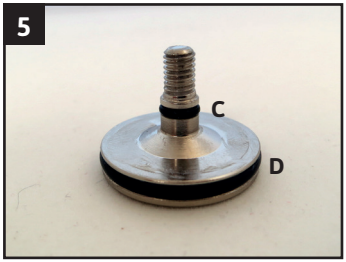


3) Service-kit contents:



4) Valve body: Carefully remove O-rings "A" and "B". Do not scratch the metal surface! Replace with the new O-rings.

5) Centre screw: Remove O-rings "C" and "D". If you use a pair of tweezers, be very careful not to scratch the metal surface!



6) Use the O-ring tool (F) to carefully put the new O-ring “C” in place.

7) Scrap the old Rubber gasket “E” and replace with the new one.

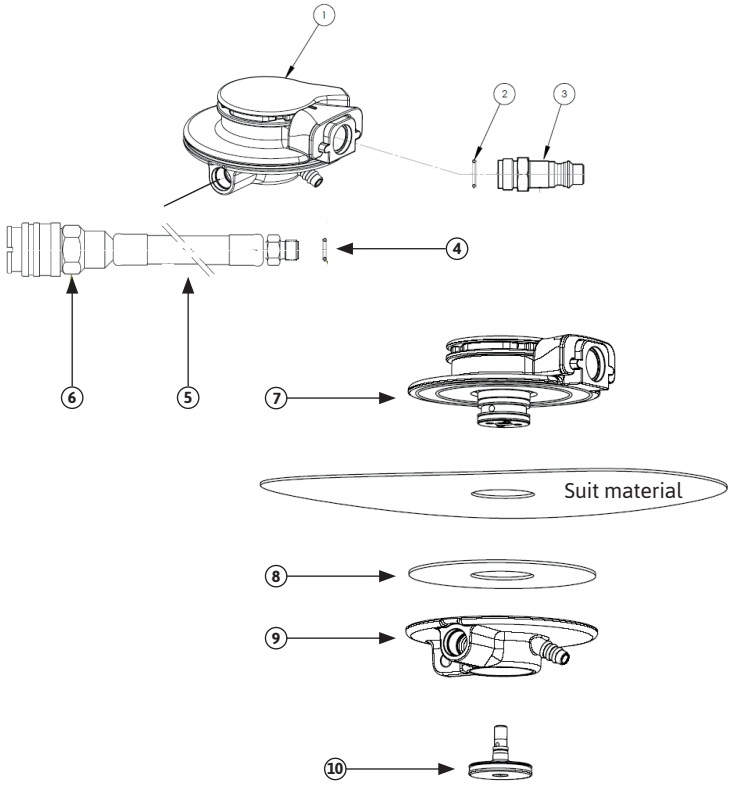
8) Mount the valve into the suit again. Tighten the Centre screw with max. torque 4 Nm.

The suit must be pressure tested before it is used again.

8. Technical Data

8.1 Materials

COMPONENTS (see sketches below)	**MATERIAL**
Thumb wheel (1)	Polyamide (nylon)
O-ring (2, 4)	Viton® rubber
Rubber hose (5)	EPDM rubber
Connections (3, 6)	Brass or Stainless steel (depends on type of connection)
Valve house (7)	Glass fibre reinforced PPS (polyphenylene sulfide)
Rubber gasket (8)	Polyurethane
Distribution house (9)	Polyamide (nylon)
Holder screw (10)	Nickel plated brass
Belt (no picture)	Polyester, antistatic



8.2 Performance

PROPERTY		VALUE
Suit ventilation air flow at 7.5 bars @ setting	2 litres/minute 30 litres/minute 100 litres/minute	1.6-2.4 litres/minute 25-35 litres/minute 90-110 litres/minute
Breathing air flow at 5.5 bar		> 310 litres per minute
Work pressure	Maximum Minimum	10 bars 5.5 bars
Temperature of use	Maximum Minimum	+70°C -40°C
Weight (valve only, no belt or hose)		Approx. 200 grams

8.3 Spare part list

DESCRIPTION	ARTICLE NUMBER
Service-kit, 1 pce (includes instructions)	K72 141 100
Service-kit, 10 pcs (includes instructions)	K72 141 101

997 101 355 ANSELL 2402 [EN]

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