

# Aircrew CYPRES 2 User's Guide

This English user's guide is the original user's guide. It will not be further processed. The actual version of the manual can be downloaded at [military.cypres.aero](http://military.cypres.aero) The latest revision is applicable for all herein mentioned CYPRES 2 models only and replaces and supercedes all previous applicable revisions\*. See [military.cypres.aero](http://military.cypres.aero) to verify / obtain the latest revision. Subject to change without notice. Aircrew CYPRES2 User Guide as revised 1/2024 Art. No. 991013.

\*If your CYPRES does not have the latest upgrades / updates installed it is possible that your unit does not have all options available, which are stated in the newest English user's guide.



## Aircrew CYPRES 2

### User's Guide

- English version -

Dieses Handbuch ist in Deutsch erhältlich.

Este manual está disponible en español.

**CYPRES 2**  
Reliability made in Germany

Congratulations on choosing CYPRES 2, without doubt the safest and most accurate AAD ever produced.

Like most airmen, you probably assume that you will always have time to deploy your canopy yourself and that situations requiring the use of an automatic activation device will always happen to others. We do hope you can avoid such trouble and that your CYPRES 2 will never have to take action to save your life. Nevertheless, situations requiring the activation of CYPRES 2 can happen to any parachutist, no matter how careful and experienced. Should CYPRES 2 ever decide to initiate your reserve opening, you will know that you have not left your safety to chance.

*Airtec GmbH & Co. KG Safety Systems*

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## What an Aircrew CYPRES 2 is

The Aircrew CYPRES 2 is an Automatic Activation Device for the needs of the staff of an aircraft.

It initiates the opening of the emergency parachute, if an airman has bailed out from his aircraft, is below activation altitude (see chapter 2.1.1) and has a vertical speed of more than 35 meters per second (that equivalents approx. 6.900 feet per minute).

The Aircrew CYPRES 2 does its job by severing the closing loop allowing the spring loaded pilotchute to push away the flaps of the container and to jump out into the airstream and initiate the canopy opening.

CYPRES is truly the most reliable piece of skydiving equipment ever produced.

### **WARNING**

CYPRES is not able to open your parachute container. It is only intended to sever your reserve closing loop. CYPRES is strictly a backup device and does not replace proper training or timely execution of emergency procedures. It may display a wrong status, fail whenever and for whatever reason and may cause injury or death. If you are not comfortable with these risks you must not use CYPRES. You must make sure that the loop passes through the cutter's passing hole. If you loan, rent or sell your CYPRES to somebody it is your responsibility to inform him about the above circumstances.

# 1. Function

## 1.1 How the Aircrew CYPRES 2 works

The processing unit contains a factory-programmed microprocessor that is capable of real-time calculations of the airman's altitude and rate of descent based on barometric pressure.

By monitoring this data, certain criteria are generated from which conclusions are drawn. Should the conclusion be that the airman is lower than activation altitude and in freefall, the processing unit triggers the release unit to initiate the opening of the reserve parachute container.

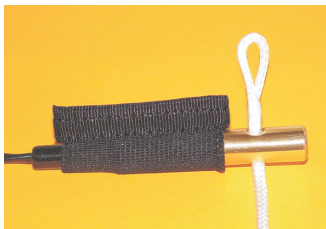
The release unit (cutter) system for the canopy container is completely independent of the rig's primary system. It does not pull the ripcord pin out of the closing loop, but rather cuts the loop inside the canopy container to release the pilot chute.

Opening a canopy container by severing the closing loop is a method invented and patented by the founder of Airtec, Helmut Cloth, in 1987.

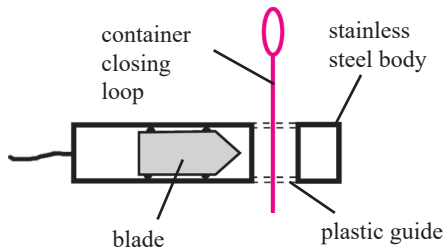
The CYPRES' canopy activation system has these advantages:

- The canopy container can be opened in two different ways. One method is used by the airman pulling the ripcord handle. The other method is used by CYPRES when it cuts the closing loop.
- Mechanical components are reduced to a single movable piston in the release unit.
- The activation system is located inside the canopy container where it is not exposed to excessive shock or other adverse influences.
- The system is unobtrusive and can be installed so that it is undetectable from the outside.

Release unit (cutter) with elastic keeper



Functional diagram:



The distance which the piston moves in case of an activation is approx. 5 mm.

The release unit (cutter) is completely self-contained and specifically developed for CYPRES. In the event of activation, nothing escapes or is expelled.

During an 18 month long investigation by BAM (Bundesanstalt für Materialprüfung), Berlin, 99 release units were tested. The result is that BAM and the U.S. DOT have classified the CYPRES as being non-hazardous.

Due to its high reliability and other properties, the CYPRES release unit is currently being used in aerospace applications (satellites).

## 1.2 Components

The Aircrew CYPRES 2 consists of a control unit, a processing unit with the attached release handle cable housing and one release unit (cutter) for a 1-pin canopy container or two release units (cutters) for a 2-pin canopy container.



arming by static line



manual arming  
by slider



release unit  
(cutter)



processing unit



control unit

### **⚠ WARNING**

Do not pull, lift, carry or throw CYPRES by the cables

### 1.3 Power supply

No user attention should be needed for the power supply of CYPRES 2.

The unit should function from the date of manufacture (DOM) until the end of its service life. If CYPRES 2 ceases to function or displays an error code during the self-test please contact Airtec or SSK.

No CYPRES 2 user has ever had to pay for a battery since 2003, provided that the maintenance intervals have been adhered to.





## 2. How to handle the Aircrew CYPRES 2

### SAFETY INSTRUCTIONS

**Always check the operativeness of the Aircrew CYPRES 2 prior to the first action of the day:**  
Perform a self-test. Do it on the ground before boarding.

#### 2.1 How to use it

The Aircrew CYPRES 2 is dedicated to assist an airman in the emergency situation after a bail out from his aircraft or an unintentional fall out of the aircraft (working at open tailgate etc). The primary action for the airman is to pull the ripcord handle of the emergency parachute. If this should not be possible for whatever reason, the Aircrew CYPRES 2 can step in and help.

The operation method of the Aircrew CYPRES 2 is very safe and simple. It's only armed when the arming cable is pulled out. In this condition it will permanently monitor the situation and initiate the canopy opening in case it detects a vertical speed higher than 35m/s (6.900 ft/min) below the selected activation altitude (see chapter 2.1.1) above sea

level. These two parameters have to be fulfilled to make the unit activate. After arming, the unit stays on for 14 hours or until the cable is pushed back in again.

When the arming cable is inserted, the unit is off (disarmed). In this condition the Aircrew CYPRES 2 will not interfere with all possible flight scenarios or pressure chamber situations.

manual arming by slider



arming by static line



The Aircrew CYPRES 2 can be operated in two different ways:

1. manual arming by handle (airmen working in the plane at the door or open tailgate etc).

The emergency parachute is equipped with a manual handle at the end of the arming cable. When the situation requires an arming of the Aircrew CYPRES 2 (tailgate opening, upcoming work at open door), this handle has to be pulled at least 5



centimeters out of the cable housing. Now the unit is armed. This is indicated by a „0“ in the display. When the work is finished (no further protection needed) the arming cable has to be pushed back into the housing to switch the unit off (display goes blank). The unit is now disarmed again.

2. static line (for pilots or airmen who are permanently seated).

The emergency parachute is equipped with a static line at the end of the arming cable. The static line is connected by a shackle with the seat (or other suitable spots). It has to be connected when the



pilot takes seat. The arming cable stays inserted completely and the static line stays connected all times during flight. In case of an emergency bail out, the static line will automatically arm the Aircrew CYPRES 2 by pulling out the arming cable.

## 2.1.1 Selectable activation altitude

### **⚠ WARNING**

**Settings: Make sure all settings are correct before use. Wrong settings can cause injury or death.**

After changing settings as described in chapter 2.1.1 and following, switch the unit ON and verify the settings within the unit information sequence (see chapter 3)

Any adjustment is made exclusively at the user's own risk.

The Aircrew offers the option to select the upper edge of the activation altitude between approximately 14.000 ft above MSL and approximately 2000 ft above MSL in steps of 1000 feet.

The unit will show the selected upper edge of the activation altitude during the self-test between the pressure and the **0°**.  
(see user's guide chapter 2.2 How to check the operativeness).



indicating 14.000 ft upper edge of activation altitude during self-test

To change the activation altitude:

1. execute a self-test
2. switch the unit on. When **0°** appears **instantly press+hold the button**
3. you will see a series of information (serial number, etc), wait until you see the activation altitude setting (default **14000ft** )
4. state that you want to change the setting by **briefly release and press+hold the button**
5. CYPRES confirms by turning on the LED for 1 sec
6. when LED is off **instantly release the button**
7. then you see a sequence of the different setting possibilities **14000ft** thru **02000ft** (repeated) on the screen **click your new choice**
8. unit switches itself off immediately
9. **repeat** step 2 to 7 identically without doing anything else in between to confirm the new setting.

To check your setting, perform a new self-test (operativeness check) and verify your setting.

## SAFETY INSTRUCTIONS

**Making a decision:** The decision to change the activation altitude by how much is the user's choice and decision, and can be made in consultation with the reserve & main canopy and harness/container manufacturers.

### WARNING

Because of the variables involved, it is the user alone who bears all responsibility and consequences of the activation altitude setting. Airtec GmbH & Co. KG, the manufacturer of the CYPRES device, does not take any responsibilities thereof.

### WARNING

**An inappropriate activation altitude is likely to injure or kill you or others.**

Always use this unit set at the appropriate activation altitude. Never, under any circumstances and for any reason at an inappropriate activation altitude.

### WARNING






**Malfunction: A malfunction can easily injure or kill you or others.**

Every technical device can fail. So everything imaginable can happen with the CYPRES, including, but not limited to: displaying a status which is not true, failing to function, or functioning at a wrong moment or at a wrong occasion.

If you or your friends or family are not willing to accept these uncertainties and risks, then you must not use CYPRES.

## 2.2 How to check the operativeness




Check the operativeness of the Aircrew CYPRES 2 prior to the first action of the day. This is achieved by a self-test, best done on the ground before boarding. Preferably repeat the self-test each 14 hours of continuous operation.

The self-test is started by pressing the push button on the control unit four times as described below in the illustration. After the switch on procedure you will see a  in the display, followed by a countdown to . Between  and  the unit will show the actual ambient air pressure in hpa followed by the selected upper edge of the activation altitude. The  is displayed for 2 seconds, confirming a positive self-test. Operativeness is given. Then the display switches off automatically.

### Switch on



Please take this opportunity to check the proper position of the arming cable.

If the self-test should detect any irregularities, the display would not show the  but a four digit error code like  or  etc. In this case, the operativeness is not given. Please contact your service point or Airtec directly.

Error codes are explained in chapter 4.


### ⚠ WARNING

**Malfunction can result in false activation / no activation:** Every technical device can fail. So everything imaginable can happen with the CYPRES, including, but not limited to: displaying a status which is not true, failing to function, or functioning at a wrong moment or at a wrong occasion. Such inappropriate act can easily injure or kill you or others. If you or your friends or relatives are not willing to accept these uncertainties and risks, then you must not use CYPRES.

### 2.3 Access to unit information

The Aircrew CYPRES 2 provides an easy way to view

1. the activation counter
2. the units serial number
3. the next voluntary maintenance date\*
4. the revision number
5. the upper edge of the set activation altitude in feet

When the  appears at the end of the switch-on procedure press the button immediately and hold it down. Each value is displayed for 5 seconds, then the next value will appear.

You can stop the information sequence at any time by simply releasing the button.

\* After the last maintenance has been performed, the words 'maint. no' and the final date of the unit's service life (end of life) are displayed. This procedure is valid for units manufactured or maintained from 12/2010.

1. display of the activation counter



2. display of the serial number



3. next voluntary maintenance possible in 08 / 2023



4. display of the rev. number



5. upper edge of activation altitude



## 2.4 Water contact

Because of its arming cable, the Aircrew CYPRES 2 is not waterproof.

If an Aircrew CYPRES 2 is exposed to water, please send it in for a free inspection.

### 3. Installation

When the CYPRES AAD was introduced it was necessary to establish a testing and evaluation procedure for the installation of this new AAD



into existing harness/container systems, as no such AAD concept existed on the market. The installation had to be tested and approved. This testing was exclusively performed at Airtec GmbH & Co. KG in Germany until 2012. Airtec GmbH & Co. KG took on this task in preference to the

harness/container manufacturers in order to establish the optimal installation for each system. The variation in the resulting installation instructions was due to the different designs of the various harness/container systems. It was vital not to

impede the CYPRES unit's primary function, which is to cut the reserve closing loop. It was also important to ensure that the initiation of the reserve opening (by cutting the reserve closing loop) did not hinder the reserve deployment in any way.

All CYPRES 2 installations should be performed and approved by the harness/container manufacturer in collaboration with the AAD manufacturer. If you want to install a CYPRES 2 into a container that has not been set up for CYPRES 2 you should contact the harness/container manufacturer for advice. CYPRES 2 can be integrated into rigs with existing setups. If in doubt, please contact the harness/container manufacturer.

#### NOTICE

"Each parachute manufacturer approves the installation of the AAD on their equipment" 12/04/13 AC No: 105-2E Page 4 Part 2.b. of the Advisory Circular of the U.S. Department of Transportation, Federal Aviation Administration.

#### ⚠ WARNING

**Retrofit:** Comply with the specific retrofit instructions of the harness/container manufacturer.



The processing unit must be placed into the pouch in such a way that the cables lie flat on the bottom of the pouch. No tension must be placed on the control unit cable and cutter cable(s).

Any excess cable is stowed in the flat part of the pocket underneath the velcro-adjustable flap. If you are stowing both the thinner cutter cable and the thicker control unit cable, be sure to place the thicker cable so that it lies on top of the thinner one. Cables should be placed in a circle in order to avoid twists. Always avoid pulling, bending, twisting, or kinking the cables.

CYPRES 2 can easily be removed by the owner. Do not pull on the cables - instead, push the processing unit, cutter and control unit from their keepers.

### **⚠ WARNING**

**Poor installation can impede the proper opening of the container.**

This may cause injury or death. Never install a CYPRES 2 by trial and error.



### **Wrong**

- Cables not flat on bottom
- Unit is inserted upside down
- Thin cable on top of thicker cable
- Cable is bent



## 4. Error display

If an error condition is detected during the self-test countdown, CYPRES 2 will show an error code on the display.

**1111** or **2222** One or both of the attached release units are not correctly electrically connected to the unit. This could be due to a cable break, the cutter plug could be disconnected, or the release unit(s) may have activated. Check/replace the release unit(s).

**3333** Excessive variations in ambient air pressure have been measured during the self-test period. The unit is unable to obtain consistent values for the ambient air pressure at ground level. Possible reasons could be that the user has attempted to switch CYPRES 2 on while driving uphill or downhill in a car, or while in an elevator or in an aircraft in flight.

The switch-on procedure can be repeated several times after a **3333** error has appeared. If **0'** appears, the unit's self-test has been successful. Codes 1-3 are displayed for approx. 2 seconds, then the unit switches itself OFF (display goes blank).

**RGE** will appear within the last month of the unit's service lifetime and the unit will continue to display

this through the future. It will appear for approx. 5 seconds before continuing to **0'**

**7777** low battery. Please contact Airtec or SSK prior to next use.

After one of the following three error codes appears, the unit switches OFF and cannot be switched on again. Please discontinue use and send the unit in for service.

**Pdo** Power down

**CH5** Checksum error

**PSE** Pressure sensor error

If other error codes appear, if the unit switches itself off and cannot be switched on again, if the unit does not switch off after 14 hours, if there is no red light when the button is pressed, or if anything else unusual occurs please record the error code and contact Airtec or SSK before further use.

### **WARNING**

**A malfunction can cause a false activation/failure to activate:** Any technical device can fail. Every fault imaginable can happen with the CYPRES 2 including, but not limited to: displaying a faulty status, failing to function, or functioning at the wrong moment or in the wrong circumstances. Such a failure could easily injure or kill you or others. If you or your friends or relatives are unwilling to accept these uncertainties and risks you must not use CYPRES 2.

## 5. Changing the release unit(s)

After an activation the release unit can be changed by any rigger (packer) via the plug-and-socket connection.

### Disconnecting the release unit:

Hold the plug and socket by their aluminium grips and pull them apart using a smooth straight motion. Do not tilt or bend!



1-pin cutter



### Connecting the release unit(s):

Hold the plug and socket by their aluminium grips. Place the plug directly in front of the socket and connect them by pushing them together with a smooth straight motion until the plug is fully seated. Do not tilt or bend, do not insert at an angle.



It is easy to change a 1-pin CYPRES 2 to a 2-pin CYPRES 2 or vice versa by swapping cutter types.

2-pin cutter



## Notes:

1. Release units (cutters) have a serial number on heat shrink tubing attached to the cable. This number identifies the cutter and can be used to determine the end of service life. The number can be used to query the respective assigned end of service life date at [www.cypres.aero](http://www.cypres.aero).
2. It is possible that the cutter plug may separate from the socket after a CYPRES 2 activation. In the unlikely event of this occurring in combination with a water landing, the socket must be dried out before further use. To do this, tap the open end of the socket onto a flat surface such as a table top. Keep tapping the socket until no more water comes out, then store the CYPRES 2 with the open end of the socket facing down for another 24 hours in a dry area to allow the socket to fully dry out. When completely dry, insert the plug of the new cutter. Never insert an object (such as a Q-tip) to dry out the plug.
3. Use a one-pin cutter in a one-pin container and a two-pin cutter in a two-pin container.

### **WARNING**

Do not use release units (cutters) after the end of the cutter service life (16.5 years after DOM) Used release units (cutters) that are/were attached to a CYPRES unit are also subject to technical servicing/maintenance. See Section 12.1. New release units (cutters) that have never been attached to a CYPRES unit and were in storage (according to the manufacturer's instructions) do NOT need to be sent in for maintenance within the service time frame.

## 6. Technical servicing/maintenance





CYPRES 2's extremely reliable functioning is attributable to four factors: the exclusive use of carefully pretreated and approved parts, strict and detailed manufacturing procedures, continuous quality control and monitoring throughout the manufacturing process, and regular periodic technical servicing (maintenance). We offer maintenance for four main reasons:





1. Deviations between nominal and actual values are corrected to ideal values. Every detail is observed. Signs of wear and tear are often corrected and sometimes even 'cosmetic' treatment is performed.
2. The technical condition of each unit is analyzed. The fact that a very high percentage of units are returned for periodic maintenance allows us to see statistical trends and predict potential problems at a very early stage. This means that it is often possible to prevent situations by making modifications during the maintenance process, rather than having to fix problems that result in downtime later.

3. Experience has shown that during the period of a maintenance cycle (4 or 5 years), changes and improvements do happen. Applicable updates are performed during maintenance. Such updates may arise from technical improvements or enhanced knowledge or may result from environmental changes or changes in the sport (e.g., new disciplines), which Airtec is always researching and taking into consideration.
4. The most important maintenance element is the individual pre-adjustment of each unit for the next cycle. A unit will not be returned until a high level of confidence is reached in terms of predicting the unit's correct function for the next cycle.

CYPRES 2 offers two scheduled maintenance events within the unit's service life.

## 6.1 Maintenance reminder

Approaching the beginning of the first maintenance window your CYPRES 2 will start to show you that maintenance is available and the unit will display the proposed month and year (e.g.,  for unit DOM 11/2020). This will happen after the unit is switched on during the self-test between the unit showing  and . From the day when this appears you have 13 months to send in the unit and be within the maintenance window. After these reminders the unit will continue and switch to .

Starting time/display duration	Display (DOM 11/2020)
6 months prior to the maintenance date, the beginning of the maintenance window appears for 2 seconds.	
At the maintenance date, this appears for 3 seconds.	
3 months after the maintenance date, this appears for 5 seconds.	
6 months after the maintenance date, the end of the maintenance window appears for 5 seconds.	

If the first maintenance has been performed on your CYPRES 2, then your unit will notify you of the second (and last) maintenance as it approaches the beginning of the second maintenance window. This will happen regardless of when the first maintenance was performed. The reminders are only deactivated during maintenance.

After the second maintenance, your CYPRES 2 should be usable until the end of its service life. For the service life schedule see Section 10.

During the service life of a CYPRES 2 unit, the parachutist should not incur any costs of operation other than the two maintenance fees (except for any replacement cutters or waterproof filters that may be required).

Please contact your local CYPRES 2 dealer regarding maintenance. See <https://www.cypres.aero/dealers/> or contact Airtec or SSK if you do not know who your local dealer is.

The CYPRES Service Center for the USA, Canada, South America and other countries in the Western Hemisphere is:

SSK Military Industries, Inc.,  
1008 Monroe Road  
Lebanon, OH 45036 - USA  
Tel: ++ 1 513 934 3201  
Fax: ++ 1 513 934 3208  
email: [info@SSK.us](mailto:info@SSK.us)  
[www.SSK.us](http://www.SSK.us)

### **WARNING**

**Reliability:** As nothing lasts forever, the longer you use a device without having it thoroughly checked the greater the chance that it does not work properly every time you need it. If you choose not to have maintenance performed on your device you are assuming the risk that it will be less reliable (see Section 10 for the CYPRES 2 maintenance/utilization cycle).

## 6.2 Timing of maintenance

If we receive your unit at our facilities for maintenance from exactly 6 months before the proposed date until 6 months after the proposed date (in other words, within the 13-month maintenance window), our maintenance procedures will be performed using our highly standardized process. This maintenance will be charged at the flat CYPRES maintenance rate, even when a unit requires extensive individual attention.

### **NOTICE**

We strongly encourage every CYPRES 2 owner who decides to have their unit maintained to stay within the maintenance windows. Please do not be late, because this will result in higher costs and longer turnaround times.

Due to the significantly greater technical and organizational demands for individual unit processing, a service outside the prescribed maintenance windows may take considerably longer and incur significantly higher costs.

## 7. Important notes for users

- CYPRES 2 is shielded against radio-transmitter signals. Extreme concerted efforts have been taken to protect the Aircrew CYPRES 2 from „radio pollution“. Although the extraordinary shielding system of the Aircrew CYPRES 2 has been investigated thoroughly, it is impossible to have 100% protection. It is still recommended to avoid strong radio-transmitters. Please contact Airtec if you have questions.
  - A release unit that has activated builds up a high internal pressure and will remain pressurized. Never attempt to open it by force. It can, however, be stored safely for an indefinite period of time, provided that it has not been damaged.
  - Please do not post process or alter the Aircrew CYPRES after receipt of the goods from the manufacturer.
    - do not apply any kind of super-glue/glue to any parts of the Aircrew CYPRES system. This may cause severe damage to the system and will void the guaranty.
    - do not retighten any attached lid's or screws of the Aircrew CYPRES. Some lid's on the processing unit are not plain with the casing, and it needs to be kept this way.
- Any altering of the original parts will void the guaranty of the complete system
- Since 2007 we only use a black covered arming cable housing. The former version (without cover) is too flexible, during use the arming cable can get partialy pulled out, arming the unit unintentionally. To avoid this, the black covered arming cable housing must be used.
  - When exposing your emergency parachute with an Aircrew CYPRES to the outside (of the cabin) air pressure and your arming cable is pulled out, do not exceed a flying height of 38,000 feet (11,700 meter) above sea level.
- When exposing your emergency parachute with an Aircrew CYPRES manufactured or maintained 11/2021 and after to the outside (of the cabin) air pressure and your arming cable is pulled out, do not exceed a flying height of 65,000 feet (20,000 m) above sea level.



## 8. Rigging/Parachute Issues

Previous reserve closing loops were made from old parachute suspension lines or similar material made of Kevlar, Dacron, Spectra, etc. They were often thick and rough and became stiff while under tension in a packed container for a prolonged period of time. As a result, these loops could delay the reserve container opening or even prevent it after the ripcord was pulled because they became trapped between the grommets.

A number of parachutists died because the reserve flaps did not open in time.

Riggers and packers used normal metal washers to fasten the reserve closing loops at the bottom of the container. Sometimes these washers had sharp edges. A loop that was under a lot of tension in the container could be damaged and cut accidentally by those sharp edges, particularly when coupled with vibration in a car or in an aircraft.

Parachutists were killed by premature reserve openings caused by fraying loops. In one case, an aircraft actually crashed because of a premature reserve opening.

Our intention is to make parachuting safer, so we addressed this issue. In 1991 and 1992 we designed a loop and disc solution to reduce these risks as much as possible.

The CYPRES loop is woven like a tube so it can be inserted into itself to create the closing loop's eye. At the same time it is only 11/16 inch in diameter (1.8 mm), is extremely flexible and has an extra smooth surface to make it extremely slippery. In addition, CYPRES loops are treated with a special silicone on the top 1.5 inches (4 centimeters) to maximize the smoothness of its surface, thereby further reducing the friction.

Although the loop is very narrow, its breaking strength is in excess of 410 lbs (185 kg).

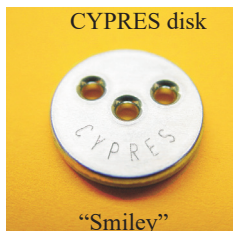
The CYPRES disk washer (often called a smiley due to its appearance) is a round aluminum disk with no sharp edges on its outer contour. It has three holes. The finger-trapped loop is threaded through the middle hole and then through the left hole. The loop then gets threaded through the right hole and knotted.

The three holes have no sharp edges. It is a very complex procedure to manufacture this disc, but loop-tearing has reduced to almost zero by using this product.

There is no doubt that both the loop and washer working together as a system have certainly made parachuting much safer, quite apart from CYPRES itself.



- Extremely flexible
- Extremely slippery
- Breaking strength: 408 lbs
- Diameter: 11/16 inch



- no sharp edges
- minimal loop tearing

Since the system was introduced to the parachuting scene in 1992, approximately 1,010,000 disks and around 4,000,000 loops have been manufactured by Airtec and given to rig manufacturers, riggers and packers around the world to improve safety. These days you are unlikely to find a rig worldwide with a reserve container that is not closed using the CYPRES reserve closing loop system.

In addition to achieving its technical purpose inside the reserve container, this CYPRES closing loop system has another advantage: It reduces the necessary pull force on the reserve ripcord handle by up to 50%. This is a huge help for all those parachutists who, for one reason or another, have difficulties with the pull force.

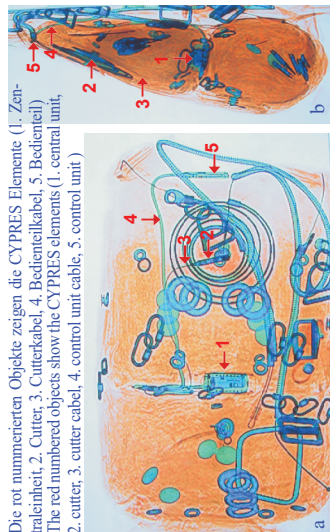
## 9. Air travel

A CYPRES 2-equipped rig may be transported in freight and passenger aircraft without restrictions. All of its components (e.g., measuring systems, electronics, power supply, loop cutter, control unit, plugs, cables, and casing) as well as the entire system, contain parts and materials that are approved by U.S. DOT and other competent agencies worldwide, and are not subject to any transport regulations.

Given the size of a rig we recommend that it be checked in as normal luggage and not taken on board as hand luggage. Should your rig prompt any queries or objections from security personnel, please use the card shown on the right which you'll find in the back cover of this book. It shows an x-ray of a complete rig fitted with CYPRES 2. The x-ray imagery may vary depending on the type and design of the rig.

The Parachute Industry Association and the USPA have worked with the Transportation Security Agency in relation to traveling with parachutes.

Please refer to USPA's website ([www.USPA.org](http://www.USPA.org)) for the latest documents and recommendations.



Original card located in the back cover

If you've lost your card you can get a new one from Airtec or SSK.

## 10. Technical Data

for the Aircrew CYPRES 2 excluding the ripcord housing for the activation handle:

Length, width, height of the processing unit: .....	approx. 85 x 43 x 32 mm
Length, width, height of the control unit: .....	approx. 65 x 18 x 6,5 mm
Length, diameter of the release unit: .....	approx. 43 x 8 mm
Cable length of the release unit: .....	approx. 500 mm
Cable length of control unit: .....	standard approx. 650 mm or 1200 mm
Volume .....	standard approx. 144 cm <sup>3</sup>
Weight: .....	standard approx. 260 grams
Standard activation altitude: .....	user adjustable between approx. 14.000 feet and 2000 feet MSL,
Activation speed: .....	approx. 35 m/s (6,900 feet/min)
Storage temperature: .....	+71° to -50° Celsius
Working temperature: .....	+63° to -32° Celsius *
Maximum allowable humidity: .....	up to 98 % rel. humidity
Operating range for units manufactured prior to 11/2021 .....	-1,600 feet to + 38,000 feet MSL .....(-500 m to +11,700 m)
Operating range for units manufactured or maintained 11/2021 and after ....	- 1,600 feet to + 65,000 feet MSL .....(-500 m to +20,000 m)
Minimum operating altitude: .....	700 ft / 200 m / + deployment distance of parachute in use
Functioning period (once activated by pulling the arming cable): .....	14 hours
Maintenance (voluntary): .....	5 and 10 years from date of manufacture
Power supply: .....	lifetime warranty**
Total lifetime: .....	15,5 years from date of manufacture***

\* These temperature limits do not mean the outside (ambient) temperatures but rather temperatures inside the processing unit. Therefore, these limits won't have any meaning until the processing unit itself has reached the temperatures in question.

\*\* If maintenance has been performed.

\*\*\* Anticipated, according to the present knowledge base.

## 11. Warranty

Airtec GmbH & Co. KG grants the legally prescribed warranty of two years. Provided it is technically possible and economically justifiable, we intend to carry out repairs free of charge on a voluntary basis for a further three years for all non-intentional or non-negligent damage.

Provided it is technically feasible and economically justifiable, and the affected device has been regularly maintained on schedule, Airtec will thereafter, at its sole discretion, consider repair or replacement free of charge for all non-intentional or non-negligent damage. This has been a long-standing Airtec practice since 1991.

The manufacturer reserves the right to decide whether the unit will be repaired or replaced. Neither repair nor replacement will affect the original warranty.

When a CYPRES2 unit is returned to the manufacturer or service center, it must be packed in the original box or an equivalent shipping package including a fully completed service form/proper documentation for billing purposes, return ship-

ping information, contact information, and any other relevant notes.

No claims will be accepted if the unit has been damaged or opened by an unauthorized individual or if an attempt has been made to open the processing unit, release unit (cutter) or control unit.

## 12. Disclaimer

In designing and manufacturing CYPRES 2, the aim of Airtec GmbH & Co. KG Safety Systems is that the device should not accidentally sever the reserve closing loop, but that the device should attempt to sever the reserve closing loop when the activation criteria are met.

All investigations and experiments performed during the product's development and all laboratory and field tests accompanying the device's trial and production phases have indicated that CYPRES 2 meets both of these goals.

However, as an electromechanical device the possibility of CYPRES 2 malfunctioning cannot be excluded. Such a malfunction may cause injury or death. We accept no responsibility for any damage or loss resulting from any malfunction.

Airtec GmbH & Co. KG Safety Systems also accepts no responsibility for any damage or problems caused by the use of non-original Airtec parts and accessories. In conjunction with persons parachutes, all spare parts and components of the device are to be used exclusively with a CYPRES AAD. They are not permitted to be used with any non-CYPRES device.

The use of CYPRES 2 is voluntary and does not automatically prevent injury or death. Risk can be

reduced by ensuring that each component has been installed in strict compliance with the manufacturer's instructions, by obtaining proper instruction in the use of this system, and by operating each component of the system in strict compliance with this User Guide. If used in the USA, CYPRES 2 shall be used in accordance with USPA BSRs.

Automatic activation devices (AADs) sometimes display an incorrect status, fail to operate or fail to operate properly, and activate when they should not, even when properly installed and operated. The user therefore risks serious injury or even death to themselves and others during each use.

By using or allowing others to use CYPRES 2, you acknowledge that you accept responsibility for the proper use of this device, as well as accepting the consequences of any and all use of this device.

The sole and complete responsibility of Airtec GmbH & Co. KG Safety Systems, its dealers, service centers and agents is limited to the repair or replacement of any defective device.

CYPRES 2 is strictly a backup device and is not intended to replace proper training or timely execution of appropriate emergency procedures. If you, your friends or family do not agree to these disclaimers please do not use CYPRES 2.

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## 14. Packing List

In addition to the Aircrew CYPRES 2 unit and the user's guide, the following items will be delivered:

For 1-pin Aircrew CYPRES 2:

- 1 metal ripcord cable housing for the activation handle
- 1 arming cable
- 2 1-pin loops
- 1 pull up
- 1 disc

For 2-pin Aircrew CYPRES 2:

- 1 metal ripcord cable housing for the activation handle
- 1 arming cable
- 2 1-pin loops
- 2 pull ups
- 2 discs

For 3-pin Aircrew CYPRES 2:

- 1 metal ripcord cable housing for the activation handle
- 1 arming cable
- 2 1-pin loops
- 1 2-pin loop
- 2 pull ups
- 1 disc

## Trademarks

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Cybernetic is an historic Greek word which means "self regulating".

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**CYPRES 2**  
Reliability made in Germany



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