

The logo graphic for CYPRES features a solid purple square on the left, followed by the letters 'CYPRES' in white. The 'Y' and 'P' are partially overlaid by a series of vertical purple bars of varying heights, creating a barcode-like effect.

CYPRES

Reliability made in Germany

RIGGING

TIPS

Content

Preface	2
Trademark	4
Warranty	4
Disclaimer:	5
General remarks	6
Installation	6
Reserve Pilot Chute	7
Set-Up	7
Rigging tips and suggestions	8
Instructions for CYPRES 1: (still in use until ~ 2015)	10
Instructions for CYPRES 2:	12
Display:.....	12
Switch on and off	12
Inspection of the CYPRES cutter:	13
Positioning of ferrite rings	15
Rigging Tools:	16
Temporary pin:	17
Loop routing:	17
Change of CYPRES filter after water landing:	18
Change of cutter after an activation:	19
The CYPRES Maintenance	20
Confirmation of service life	21
Scheduled maintenance program	21
Warranty time of CYPRES units.....	21
With the Cutter of the CYPRES this is a different issue	21
History of the CYPRES manufactured by Airtec GmbH & Co. KG Germany	22
Important fact to know about the CYPRES 2 and water landings	27

Preface

During the first years after introduction of the CYPRES AAD in 1991 it was necessary to establish a testing and evaluation procedure for the installation of this new AAD into the existing harness/container systems, as there was no such AAD concept on the market and the installation had to be tested and approved. This was solely done at Airtec GmbH & Co. KG in Germany.

Airtec GmbH & Co. KG undertook this task for the harness/container manufacturers to find out the best and safest possible installation for each system.

The resulting installation instructions, in all its variations, originated from the different constructions of the different harness/container systems, should not create any negative influence on the original function of the CYPRES unit, which is the cutting of the reserve closing loop.

It also had to be assured that the initiation of the reserve opening (by severing the closing loop) did not hinder the reserve development in any way.

These installation instructions were published in the CYPRES RIGGER'S GUIDE FOR INSTALLATION and compiled in the CYPRES PACKER'S CHECKLIST to give an instrument to verify an existing installation.

Nowadays, the instruction how to install an AAD into a parachute container is issued by the harness/container manufacturer only.

Therefore the above mentioned publications are history and no longer valid for current installations.

As of January 2014.

To support Rigger / Packer Airtec GmbH & Co. KG Safety Systems still offers to purchase the following spare parts:

(to purchase those parts, please contact your CYPRES dealer, see CYPRES worldwide dealer search at www.cypres.cc)

- Processing Unit Pouch (170 mm / 190 mm)
- Control Unit Pocket
- CYPRES Loop Material Pull-up Cords
- Support Discs (Smiley)
- Elasticated Release Unit Housings
- CYPRES Loop Material (50 Meter or 200 Meter)
- Finger-Trapping Needles
- Silicone Gel
- CYPRES Temporary Packing Pins

and the CYPRES Packer's Kit, containing:

- 1 spool of CYPRES loop material
- 1 fingertrapping needle
- 1 container of silicone gel
- 1 container with siliconized cloth
- 2 temporary pins
- 5 discs
- 1 filter changer
- 3 filters
- 1 CYPRES User's Guide
- 1 CYPRES Rigging Tips

Trademark

CYPRES is solely manufactured and sold at Airtec GmbH & Co. KG Safety Systems in Germany.

CYPRES is the abbreviation of CYbernetic Parachute Release System

Cybernetic is an old Greek word meaning “self regulating”.

US patents number 4858856 and 5024400, European patent number EP 0281 and German patent number P 37 07 294.3 have been granted for CYPRES.

NOTICE	The publishing of this document voids all prior installation guides and check list's.
---------------	---

Status as of January 2014

Warranty

Airtec GmbH & Co. KG grants for CYPRES 2 models, a 12,5 years warranty (on CYPRES 1 models, 12,25 years), provided that the scheduled maintenance is adhered to.

Disclaimer:

The amount of involvement and the amount of research, experiments and experience we gathered in regards to the contents of this booklet are truly not enough to give out complete recommendations and give comprehensive statements concerning this whole subject.

For this reason will such recommendations, support and statements be incomplete, wrong and untrue for certain processes and circumstances.

Airtec GmbH & Co. KG reserves the right not to be responsible for the topicality, correctness, completeness or quality of the information provided.

Liability claims regarding damage or accidents caused by the use of any information provided,

including any kind of information which is incomplete or incorrect, will therefore be rejected.

Parts of the pages or the complete publication including all information might be extended,

changed or partly or completely deleted by the author without separate announcement.

Please refrain from using this book and do not take all this information for granted and the book

as being reliable and true if you are not in agreement with this disclaimer.

Legal validity of this disclaimer.

If sections or individual terms of this statement are not legal or correct, the content or validity

of the other parts remain uninfluenced by this fact.

General remarks

▲ WARNING

The installation of the CYPRES requires considerable attention to detail. **NEVER EVER INSTALL CYPRES BY TRIAL AND ERROR ! This could cause someone's death!**

Installation

Should you wish to install a CYPRES into a container for which no instructions are available, you should contact the harness/container manufacturer for advice.

All CYPRES installations should be done by the harness/container manufacturer in collaboration with Airtec GmbH & Co. KG.

Appropriate rated riggers should contact the specific harness/container manufacturer for any information concerning the installation of CYPRES AAD's.

When installing CYPRES AAD's it is vital to ensure that:

- the installation is carried out in accordance with any written instructions issued by the harness/container manufacturer
- the manual opening system for the reserve (i.e. pins, pack flaps etc.) is not obstructed in any way
- the structural integrity of the harness is not affected (e.g. by inserting / removing stitching, etc.)
- the processing unit is positioned where it will be best protected from physical damage and extreme outside air temperatures. Additionally it has to be located in order that the air pressure readings are not affected in a negative way.
- original CYPRES AAD pockets and housings or equivalent parts produced by the harness/container manufacturer should be used for the processing, release and control units
- original CYPRES AAD loops, CYPRES support disc and pull ups or equivalent parts produced by the harness/container manufacturer should be used when packing a reserve container with CYPRES AAD's installed

Reserve Pilot Chute

NOTICE A good reserve pilot chute is an important safety factor.

Concave reserve pilot-chutes can damage the cutter reinforcement, please be aware of this when packing the reserve container. On systems with an internally-mounted pilot-chute, we recommend to equip these rigs with a reserve pilotchute that has a flat / hard top and a strong spring.

Set-Up

NOTICE Authorization to install any set-up into a reserve container can only be provided by the harness/ container manufacturer. Airtec is not authorized to provide this approval.

Rigging tips and suggestions

⚠ WARNING

Part of the final inspection should be a visual check to ensure the correct routing of the loop through the cutter hole.

Whilst carrying out equipment checks at DZ's or in Rigging lofts, extra attention must be paid to ensure that the loop is correctly routed.

Check the complete AAD and the AAD installation for condition and serviceability at each reserve repack.

We strongly suggest to replace the loop at every repack, but NOT the washer (Smiley). Please reuse the CYPRES washer !

Rapid and careless removal of the pull up cord can cause friction damage to the loop. To avoid damage remove the pull up cord by pulling it slowly against the bottom side of the ripcord pin.

Always use the loop-material pull up cord when the release unit is not positioned on the bottom of the container.

If, during packing, you need to pass the pull up cord through the loop hole in the release unit you should use the special CYPRES loop material pull up cord.

The use of any other material could cause damage to the plastic coating inside the release unit (EOS).

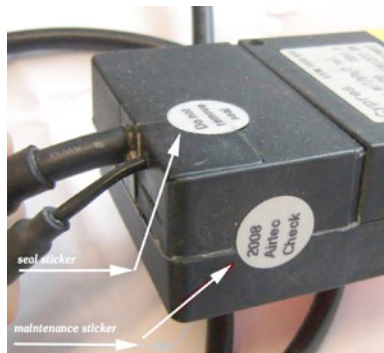
When placing the freebag into the container make sure that the connector links do not lie on top of any other cables.

Other important facts to consider:

- never ever pull, lift up or toss around the CYPRES unit by it's cables
- even when removing the CYPRES unit, don't pull on the cables
- don't twist the cables at their exit points or bend them in tight curves
- where cables cross, guide smaller cable below thicker cable
- do not curve cables in smaller circles then the outline of a Quarter/Euro (1 ¼ inch ~ 3 cm Ø)
- place cables in a position avoiding any tension
- if possible use original CYPRES loops
- the loops should be of normal length for the rig in question. Do not shorten or lengthen them unnecessarily as this can cause severe problems. Make them as short as possible but be aware of the 22 lb ripcord pull-force
- don't forget to stretch the loop prior to measuring the length
- treat the loop with silicone (except quick-loops and loops for Teardrop containers) down to ½ inch (~ 1,5 cm) above the disc
- when installing round reserve canopies into two-pin containers, the loop should be routed between the S-shaped canopy folds
- the same rule applies to suspension lines of round reserve canopies where the lines are stowed on the bottom of the container

Instructions for CYPRES 1: (still in use until ~ 2015)

- Please make sure that the maintenance schedule is adhered to.
- In general, cutters are provided with a plug in the cutter cable.
- This type of cutter plug system was implemented in the CYPRES since 1995 for 1-pin units and for 2-pin units since May 1999. They are replaceable by any rigger in the field.
- Make sure that the seal on the cutter cable connector cover, located on the processing unit is intact and undisturbed. The CYPRES unit must be returned to Airtec or SSK Inc. if the seal has been disturbed.



- Check that it has not been more than four years + max. 3 months from the date of manufacture or last factory maintenance. Refer to the date(s) on the label(s) on the processing unit.
- The battery must be replaced after two years or 500 jumps or if the low battery error code is encountered during self-test, whatever comes first. The battery can be stored in a cool and dry place for maximum 3 years.

- A CYPRES 1 must only be installed as a life saving device when the points 2-4 are fulfilled and the unit is not older than 12 years and 3months.
- CYPRES 1 - Last battery change (orange sticker on the unit and the calender graph inside the unit)
- Compare all data details, e.g serial number, cutter manufacture date on the shrink tubing (14 years service life for CYPRES cutter), the last maintenance date on the certificate, the correct maintenance sticker on the unit and the last battery change (orange sticker on the unit and the calender graph inside the unit)

Instructions for CYPRES 2:

On a CYPRES 2 it is not necessary to perform any battery replacements.

If the unit passes the self-test without showing the next maintenance date, the unit is at least 13 months away from the latest date for the next maintenance.

Test Certificate for CYPRES 2 AAD				
Prüfbescheinigung für CYPRES 2 Öffnungsautomaten				
Owner / Eigentümer:				
Serial number	Version	mfd	Prod. Batch	
Seriennummer	Ausführung	Baujahr	Prod. Charge	
25331	Expert meter / feet	6/2006	0604.086	
This AAD has been tested in accordance with current manufacturer instructions. Dieser Öffnungsautomat wurde unter Beachtung der gültigen Herstellervorschriften geprüft.				
Date of next maintenance:	earliest	12/2013	latest	12/2014
Zeitpunkt der nächsten Wartung:	frühestens	12/2013	spätestens	12/2014
NO BATTERY CHANGE necessary before next maintenance. KEIN BATTERIEWECHSEL vor nächster Wartung notwendig.				
Further notes / Weitere Eintragungen:				
Bad Wünnenberg, 23 Jul. 2013				
Airtec GmbH Tel: +49 2953 98990 Fax: +49 2953 1293 www.cypres.cc 283942				

Display:

If LCD is broken and numbers not clearly visible, return the unit to Airtec or SSK for repair.



Switch on and off

We recommend to switch the CYPRES on and off and watch the count down for any error code (see CYPRES 2 User's Guide chapter 5) before packing the reserve and closing the container.

After closing the container perform another switch on to check for any damage that may have occurred during packing.

Inspection of the CYPRES cutter:



WARNING Thoroughly inspect the complete cutter on every repack, also the plastic parts!

CYPRES cutter in perfect condition:



CYPRES cutter in good condition. Can be used without concern. Small signs of use, but no sharp scratches and no sharp corners especially on both sides around the loop-hole.



CYPRES cutter in poor condition. Can be repaired by a qualified rigger using fine emery sandpaper. Sharp scratches and sharp corners can be smoothed out and removed especially on both sides around the loop-hole.



CYPRES cutter in unacceptable condition. The only option here is to send it to Airtec GmbH & Co. KG or SSK for repair. * There the brass sleeve will be replaced free of charge and returned back to the owner in perfect condition.



* Equally the CYPRES cutter can be easily exchanged by the specially designed plug connection.

1. Switch off the CYPRES
2. Unplug cutter
3. Plug in the new cutter
4. Switch on CYPRES if the 0▼ appears it is OK!



Positioning of ferrite rings

The ferrite ring on the cutter cable should be located at least one inch (2,5 cm) away from the processing unit case. It should not be located all the way on the processing unit.

As a rule of thumb for the cutter cable, if it is located in the centre between the processing unit and the female plug, it is OK,

It is possible to slightly relocate the ring when routing the excess cable in the pocket in order to avoid kinks, but not closer than 1 inch (2,5 cm) away from the black box.

The ferrite ring on the control unit cable should not be relocated or moved.



Rigging Tools:

To avoid damage on CYPRES cutters and container parts please use a correct packing-plate while using a positive leverage device as shown in photo_4.

(Airtec GmbH & Co. KG does not necessarily recommend the use of a positive leverage device.)

Bad Example: Cutter position below flap!
No stiffener on flap!
No packing plate used while packing!



Temporary pin:

If the temporary pin is damaged or marred either change it or use fine sandpaper to smooth the damage out.

Remove temporary pins slowly and carefully during repack.

When inserting sharp pointed temporary pins into the loop holes make sure to go through the loop hole, not the loop material.

Remember, at the end of the repack, if there is any damage to the loop, open the container and replace the loop.



Loop routing:

⚠ WARNING

Make sure, that the loop is:

- routed through the cutter
- not wrapped around the cutter



Change of CYPRES filter after water landing:

NOTICE First ! switch off the CYPRES directly after the water landing!

- Open the reserve container, remove the CYPRES and dry everything thoroughly
- Wipe off any water from the CYPRES with soft dry cloth
- Use the CYPRES filter changer to remove the filter and discard it
- Insert a new filter as described in the CYPRES User's Guide chapter 4.6
- After the rig is dry, install the CYPRES as usual
- Switch the CYPRES on and monitor the selftest. It should count from 10 down to 0
- Repeat this switch on and off procedure after you have finished your packjob



Change of cutter after an activation:

NOTICE Before you remove and unplug the cutter please make sure that the CYPRES is switched off.

- Open the reserve container, remove the CYPRES.
- Unplug the activated cutter .
- Install a new cutter and mark this on the packing data card.
- Fill out the activation report and send it to info@cypres.cc .
- Switch the CYPRES on and monitor the selftest. It should count from 10 down to 0.
- Install a new CYPRES loop, please re-use the CYPRES support disc.
- Repeat this switch on and off procedure after you have finished your packjob.

The CYPRES Maintenance

Here is the summary of work done during the regular CYPRES maintenance which usually takes 10 working days.

- all applicable wear and tear is taken care of
- following points are checked and / or re-calibrated and / or replaced:
 - temperature stability check and adjustment
 - precision of pressure check and adjustment
 - precision of altitude check and adjustment
 - power consumption check and analysis
 - capability to fire
 - functionality of the cutter
 - shielding check and adjustment
 - waterproofness check and adjustment
 - condition of measurement technique and analysis
 - battery replacement if necessary
 - filter replacement
- all applicable necessary corrections are done
- all applicable hard and software is updated
- all applicable improvements (discovered in the last 4 years) are installed
- all applicable adjustments to changed environmental conditions are done

to explain this point: a construction can only be done to the known circumstances at the time of the design. Years later, things can change or new things can turn up which alter the environment of the device.

In case that the device can not cope with the new situation, it has to be adjusted. It would be fatal, if not. During the existence of the CYPRES we already had to execute such an adjustment 2 times. Without these adjustments done by Airtec, the end user would discover serious problems during use

- 4 – year warranty extension

Confirmation of service life

Scheduled maintenance program

Warranty time of CYPRES units

Airtec GmbH & Co. KG confirms that CYPRES 2 units in all its versions are currently listed with a service life and warranty period of 12,5 Years (CYPRES-1 - 12,25 years) from date of manufacture upon the condition that the maintenance schedule is adhered to.

The scheduled maintenance is due after 4 and 8 years from date of manufacture (dom).

The tolerance time frame for this maintenance is, referring to the date of manufacturer, +/- 6 month, which gives a total of 13 months.

Airtec, the manufacturer of CYPRES does not recommend to keep out of date CYPRES units in use for

life saving activities subsequently and therefore limits the warranty to 12.5 Years (CYPRES-1 - 12,25 years) in total, according to the present knowledge base and safety standards.

With the Cutter of the CYPRES this is a different issue

As the manufacturing date of the cutter system can not exactly be the same as the manufacturing date of the CYPRES unit (there are two totally different production cycles for those two objects) it is often the case that the cutter is older then the CYPRES unit itself.

But because we sell the complete CYPRES as “One” (1) unit, we always refer to the manufacturing date of the actual CYPRES unit when we talk about the 12,5 Years (CYPRES-1 -12,25 years) of warranty time.

In 2010 we finished some intensive testing and came to the conclusion that we can extend the service life and the warranty of our CYPRES cutters up to 14,5 years.

So if the cutter is up to two (2) years older then the CYPRES unit, it is in the limit and good to use.

History of the CYPRES manufactured by Airtec GmbH & Co. KG Germany

Research & Development of novel AAD from 1986-1990

- minimum attention necessary by the user
- extremely simple to handle
- invisible from outside the rig
- doesn't restrict any skydiving behavior
- capable of cutting the reserve loop
- independent of reserve ripcord (skydiver has his ripcord, the CYPRES its cutting device)
- self-test automatically at every switch on
- no need to switch off after use
- can deal with air burbles and turbulence's around a skydiver in freefall
- automatically compensates air pressure changes due to weather
- activates at low altitude
- fixed maintenance price (independent of the necessary amount of work)

April 1990

- The company Airtec GmbH was established. Major focus of the company to build and service only CYPRES devices

10. January 1991

- The first CYPRES was sold. The company operates with 7 employees
- The CYPRES loop was developed. This is an item which can save lives of skydivers independent from the CYPRES

April 1991

- First life save due to CYPRES activation in Dortmund-Hengsen, Germany

1992

- Development of the CYPRES loop and disc system, to reduce torn reserve container closing loops

1993

- Maintenance cycle extended from 2 to 4 years (all other AAD's had 1 year or less)

1994

- CYPRES factory Setup in virtually every new rig worldwide

1995

- Release element (cutter) field replaceable via fool proof plug-and-socket connection
- A record number of 7000 units were sold during the year

1996

- CYPRES cutters are used in satellites

1997

- FAI (Federation Aeronautic International) awarded Airtec the FAI gold medal for its CYPRES

1999

- Begin of the research & developing for a new generation CYPRES

2000

- The company is expanding to 35 employees now

1991 - 2003

- 12 1/2 years of CYPRES 1 without price increase, sponsored by Helmut Cloth for the sake of the skydivers

May 2003

- Market release of the improved CYPRES 2. More than 83.000 original CYPRES units had been built up to this date
- Owner never has to change a battery
- Waterproof for 15 minutes down to 15 feet or 24 hours down to 5 feet

2003

- US Natick test evaluation center approves CYPRES for the use in all armed forces branches, after 5 Years of testing

2004

- CYPRES cutters are used to open solar panels in satellites

2005

- An additional type of CYPRES 2 is being released: The SPEED CYPRES 2

2006

- Airtec production facilities and administration is expanding, moving into second building
- CYPRES 2 now offers the previous used altitude adjustment again at the beginning of the normal adjustment sequence
- CYPRES 2 now offers a flight counter, which continuously counts the flights with that unit

2007

- Actively reminds the owner of upcoming maintenance

2009

- With 40 employees and the production capacity of 10.000 units per year Airtec reached a complete market output of 140.000 units during the past 18 years
- More than 2000 parachutists have been saved with the help of CYPRES. Every month a number of new reports of life saves are received

2010

- Continuously Airtec is working on several projects
- Improving the CYPRES 2 with new features
- Researching of an option for a CYPRES 3?
- Many other very specific projects.....

2011

- 20th Anniversary celebrated throughout the year on various DZ worldwide
The extraordinary occurrences in the AAD market throughout the years show the evidence of our product philosophy: Achieving safety and reliability has been our goal for the last 20 years

2012

- Airtec reacts to the market and takes action to cope with the extreme demand for CYPRES 2 units. 4 new employees strengthen the production capacity. 75.000 CYPRES 2 have been sold to date and the British Parachute Association honors Helmut Cloth for his lifework with the Jim Crocker award. Prince Andrew presents the trophy at the ceremony in London
- STRATOS RED BULL
Of course, the highest and biggest achievement in this year was the successful jump out of the stratosphere from Felix Baumgartner with the help and security of the Stratos CYPRES.

- Record breaking news from the CYPRES headquarter on 05th December 2012
- The CYPRES 2 hits the mark of sold CYPRES 1 units
From 1991 to 2003 CYPRES 1 needs 12 years to reach number 83000. CYPRES 2 makes it within 9,5 years

2013

- Software update with user adjustable activation altitude
- CYPRES “SLS” after 7 years of development process in final stage
- New and additional 5th CYPRES model available. The Changeable Mode CYPRES 2.

2014

- 90.000th CYPRES 2 unit has been produced!

AIRTEC dedicated themselves to focus only on the production and maintenance and care taking of the best AAD worldwide.

All Research / Development, Manufacturing, Repair and Maintenance (except at the maintenance facility at SSK, ohio in the USA) is solely done in Bad Wünnenberg, Germany since 23 years.

CYPRES has changed the mentality in the skydiving world concerning AAD´s from “don´t need” to “must have”.

CYPRES units have accompanied more than 100,000,000 jumps and saved the lives of more then 3000 skydivers.

yesterday - today - tomorrow

Important fact to know about the CYPRES 2 and water landings

Background:

A jumper ended up in the water at the end of a pond swooping manoeuvre in Lillo, Spain in the summer of 2011. Approximately 30 minutes later the CYPRES 2 activated the cutter.

Analysis:

After water contact the filter of a CYPRES device can, but must not, be blocked by water staying at the entry point of the air filter. In the case of a blockage of the air intake, the pressure situation inside the AAD cannot reflect the real air pressure outside.

The measured pressure will depend on several factors, one could be created by the rapid change of temperature in the inside of the AAD.

As the airflow is blocked and cannot compensate for this physical reaction the measured pressure may indicate a wrong value.

If the blockage is removed (i.e. the water drop evaporates or drops out) the sudden pressure equalization between the inside and the outside of the AAD may produce an activation, thus, firing the cutter and severing the closing loop.

This chain of reaction is known by Airtec and, even if it did not happen until this summer of 2011, we have urged the users to prevent this **BY SHUTTING DOWN** the CYPRES **AFTER** water contact and keeping it off until the filter is changed (see CYPRES User's Guide chapter 4.6).

If the user complies with the user's guide request this activation on the ground will not happen.

Conclusion:

The user must read and understand the instructions of the user's guide. He must comply with these instructions in order to avoid adverse results.

Information:

Waterproof means that the CYPRES 2 is not damaged after water contact and can be used without a big factory inspection or repair.

During the days when the "swooping" discipline became more popular, the new goal was to create a waterproof CYPRES.

The result of all those thoughts bore so many questions for us and it was extremely difficult to verify if it would be possible to develop a waterproof AAD.

Actually the answer was no, it is not possible!

It is an air pressure measuring device and you cannot seal it off the outside environment.

The idea to use a not changeable Goretex window which keeps the water outside but the airpressure will still be able to pass through, is not usable, because if it gets in contact with dirty water it will stain and clog up the Goretex filter and might be affecting the air-flow in a not acceptable way.

To create the CYPRES filter and the fool proof filter changer technique was one of the difficult tasks during the development of the CYPRES 2 R&D.

But Airtec succeeded in this as well.

BTW, the CYPRES filter needs more then 20 steps along the way until it is suitable for the CYPRES 2.