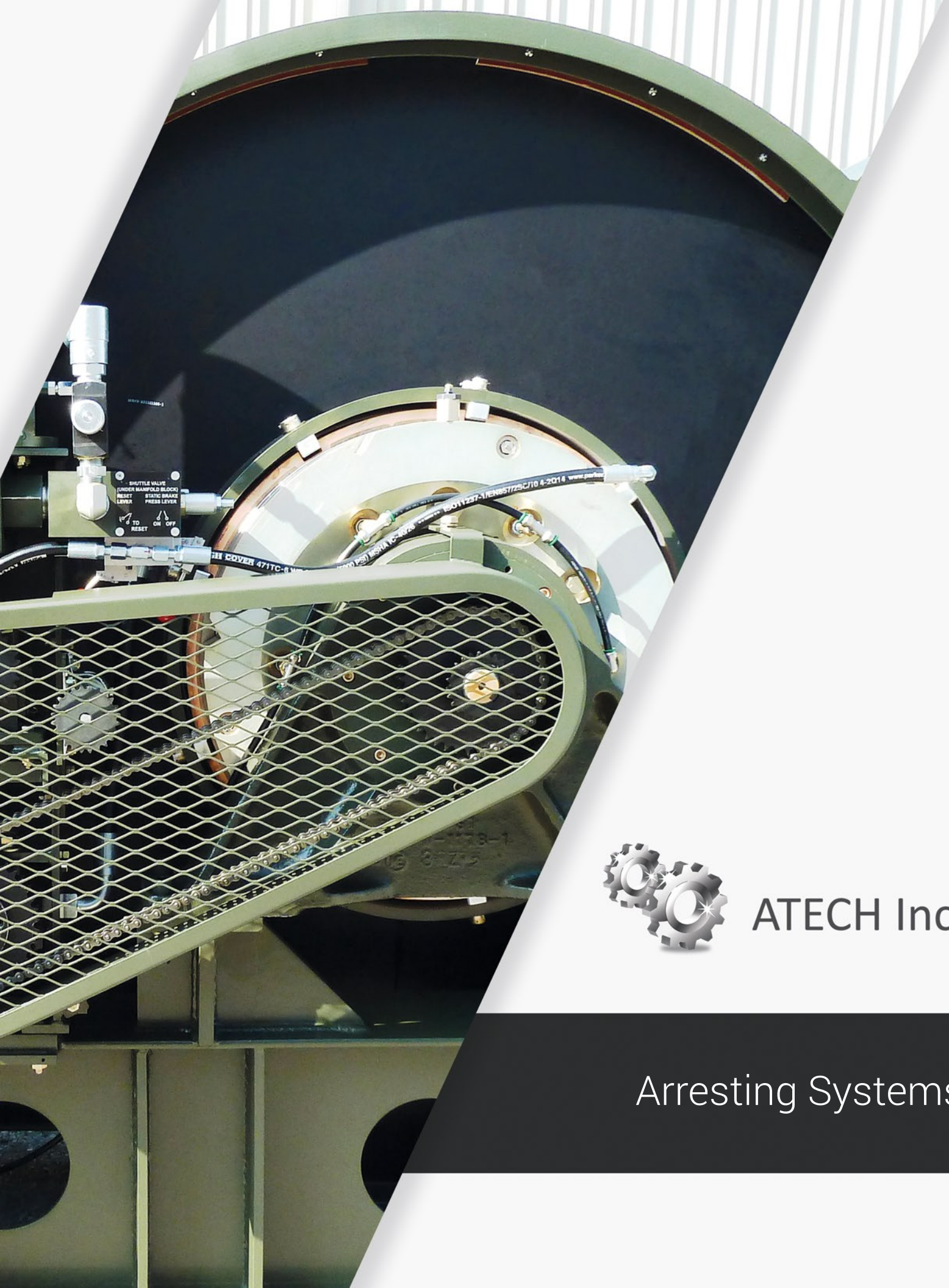


ATECH Inc.

Arresting Systems

ABOUT

ATECH Inc.

Established in 2005, ATECH began as a manufacturer of assemblies and parts for NASA and for the U.S. Department of Defense's Aircraft Launching, Landing and Ground Handling Equipment Program.

ATECH has since proved to be a reliable and responsible supplier of arresting systems parts and complete installations. Both fixed and mobile aircraft arresting systems of USAF current standard have been commissioned.

The latest generation of fighter aircraft is heavier, more sophisticated and costly. As a result, the need emerged for more advanced aircraft arresting systems as a complement or in combination with the current standard.

With the safety of pilots as priority one, ATECH set about to become a world leader in providing advanced, flexible and high performance arresting systems. We believe we have achieved that goal.

We offer current standard arresting equipment together with modern sub-system options and advanced upgrades based on customer focused service, first-class field support and reliability.

Excellent Quality

USAF MIL Standard

Customer Focus

What We Do

We design, manufacture and supply Aircraft Arresting Systems worldwide with turn-key installations, training and excellent quality support.

Who We Are

We are a devoted team of engineers and USAF veterans eager to employ our extensive technical and operational experience in arresting aircraft.

Why ATECH?

We are an exceptional supplier always determined to supply and install the optimum arresting system solution to protect your pilots and fighters.

ABOUT

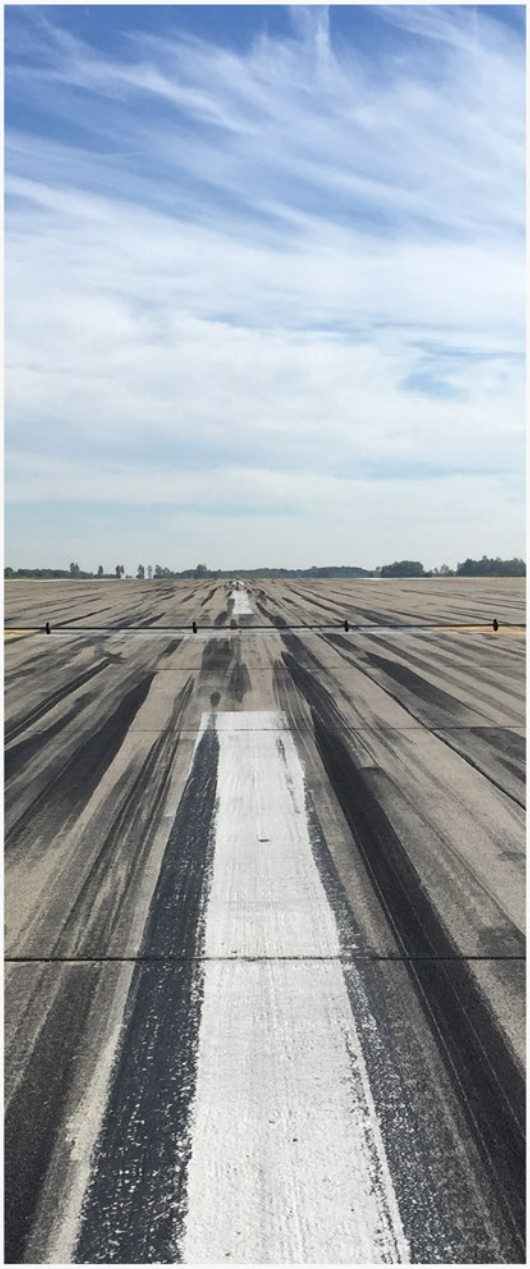
ARRESTING SYSTEMS

Runways are equipped with arrestors to safely stop fighter aircraft in case of emergency due to an aborted take-off or a troubled landing.

The task is to catch the fighter and then bring it to a safe stop within the available run-out distance. The arrest is achieved by installing a hook cable across the runway between the runway thresholds or a net barrier in the overrun area.

The catching device, cable or net, is connected to a pair of energy absorbers, also known as brakes or arresting gears, installed on both sides of the runway.

When selecting the type of energy absorber, along with performance, several key factors should be considered; main operating aircraft, flexibility for visiting aircraft, weight range, available run-out, frequency of operation, level of service and maintenance, etc.



**

ARRESTING SYSTEMS

BAK-12 & MAAS

This hydraulically actuated multi-disc rotary friction type Energy Absorber is the official USAF current standard. The BAK-12 brake is proven and based on a self-sufficient brake concept.

Each BAK-12 energy absorber consists of two multi-disc rotary friction brakes mounted on each side of a purchase tape reel on a common shaft. The BAK-12 energy absorber incorporates a hydraulic control circuit to provide preset brake pressures for specific aircraft weight ranges. The bi-directional system offers a maximum 1200ft run out and a modern Deutz diesel/multi-fuel tape rewind engine is standard.

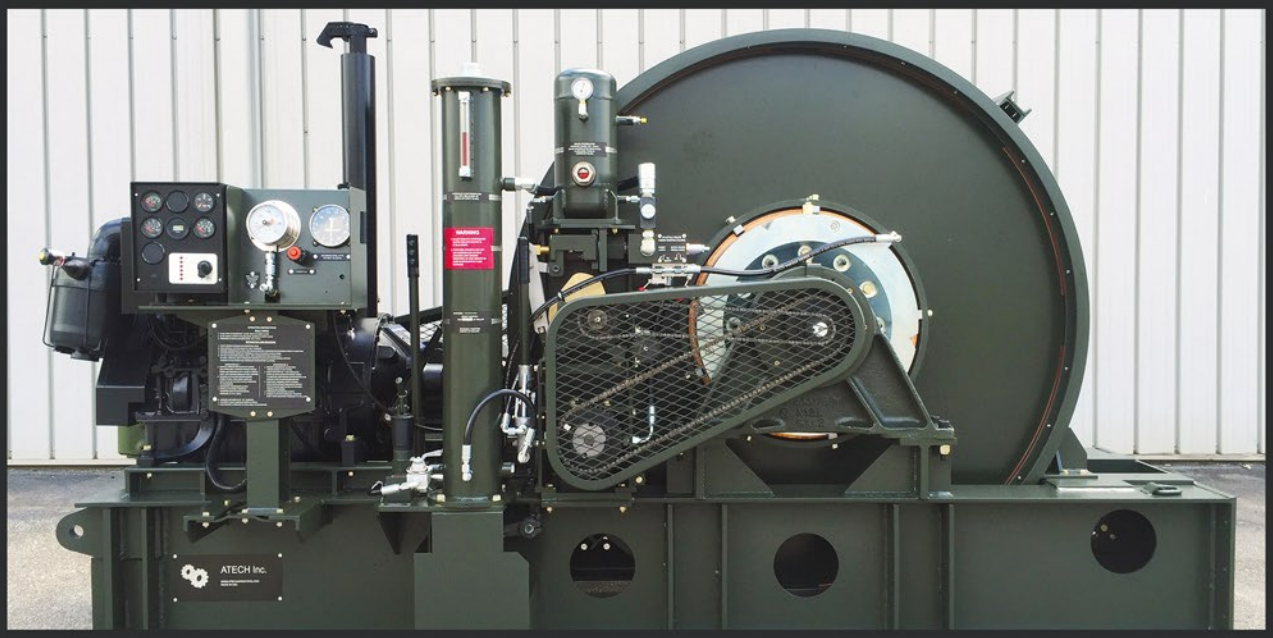
The energy absorbers are preferably placed in below grade bunkers to reduce the level of obstruction. Alternatively they are installed above grade in one of two standard configurations. When installed in a permanent surface type configuration on prepared concrete foundations optional environmental covers are available for protection against rain, sand, wind, snow and UV radiation.

From the energy absorber tape reel the purchase tape is guided towards the runway through a fairlead tube to the fairlead beam assembly installed at the runway edge. The purchase tape with a tape connector is fixed to a pendant assembly (hook cable) or a net assembly.

The USAF Mobile Aircraft Arresting System (MAAS) is a self contained and trailer mounted BAK-12 system featuring mobility and installation at unprepared sites.

The MAAS incorporates all the components necessary for a rapid deployment of the system and is supplied with all necessary equipment to be installed on a full range of surface conditions. The towable MAAS is designed to be transported by truck, train, or cargo aircraft.

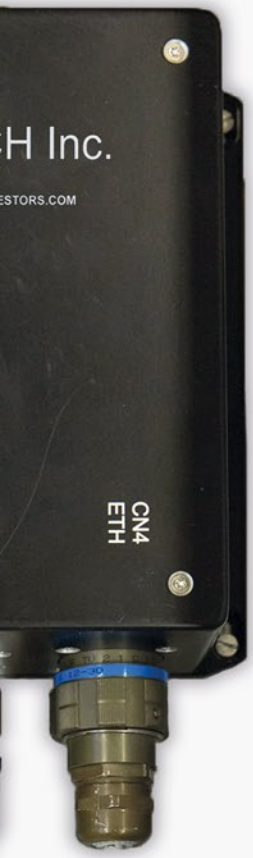
Depending on configuration and anchoring, the MAAS offers the same arresting performance as a fixed BAK-12 system.


ATECH Inc.

The monitoring and recording ARRESTO system is available as an upgrade to existing arresting system installations. It works together with all energy absorbers using nylon woven tape as pay-out media (e.g. BAK-12, WT44). The ARRESTO maintains continuous monitoring of hook cable pre-tension and records critical engagement data for registration and post analysis. When ordering aircraft arresting systems from ATECH, the ARRESTO system is available as a standard option.

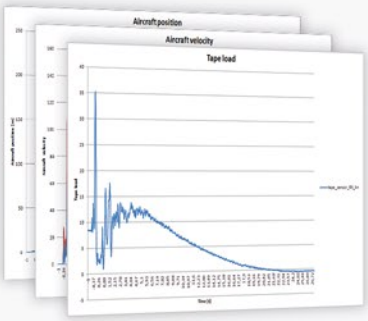
THE INNOVATIVE UPGRADE

ARRESTO™



Maintain operational status

Are you sure that the hook cable is properly tensioned as needed for a safe engagement? With the ARRESTO the pendant cable pre-tension is continuously monitored. How do you see the status? Per your request the measured value is shown on a display or configured to trigger an alarm at site or at Air Traffic Control (ATC) Tower.



Take guesswork out of the equation

Should the pilot in distress have to focus on the airspeed indicator? The ARRESTO system monitors, calculates and records the engagement speed, tape load, runout and time. All data is stored in an event log.

Retrofit installation

The inside is high technology but the installation is straight forward. The system hardware is mainly a signal processing unit using the output data from a data collection unit, both integrated into a tape guide roller. The ARRESTO can operate as a complete self-contained unit using the solar cell/battery power supply option when on-site power supply is not available.

No downsides, only upsides

The ARRESTO does not impact normal operational procedures or affect the performance of the aircraft arresting system but gives Air Forces detailed insight on what is actually happening during an engagement.

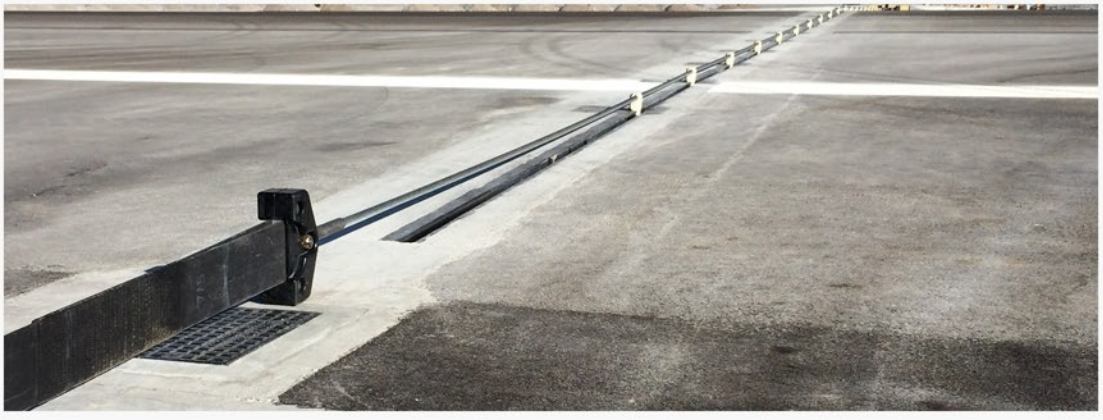
ARRESTING SYSTEMS

HOOK CABLE SUPPORT

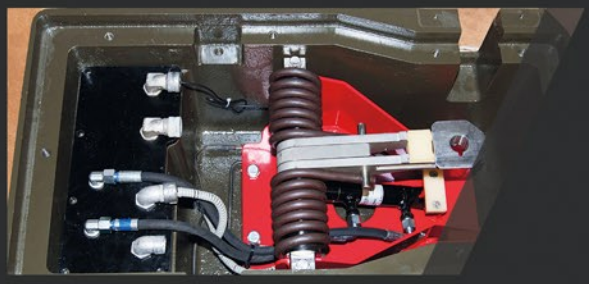
A Retractable Hook Cable system prevents damage on the pendant cable, allows unobstructed taxiing by aircraft and minimizes pavement wear below the hook cable. In raised position, the system provides an optimum cable height above the runway surface for engagements with hook-equipped fighters. When lowered in an across runway groove, below the runway surface, the pendant cable is not an obstruction for taxiing aircraft and vehicles. A retractable hook cable system is recommended on all runways with joint military and civil operations.

The ATECH retractable mechanisms are designed to be fitted into new cast-in boxes and can also be used in USAF BAK-14 cast-in boxes, featuring a straight forward upgrade of existing ageing pneumatic installations.

The system utilizes modern hydraulics for easy installation and maximum reliability. Important system features include reliable position detection with durable magnetic switches, simple replacement of support blocks and individual health monitoring of each retract mechanism in order to minimize runway down time. Efficient fault searching is supported by the operator's panel displaying all alarms in clear text. Remote control is via disturbance free digital radio, fiber optics or cable with a user friendly ATC interface.



Optional upgrades



Retrofit

The ATECH retractable system can be installed using USAF BAK-14 cast-in boxes featuring a straight forward upgrade of existing ageing pneumatic installations.

BC11

For high energy absorber performance and maximum flexibility, ATECH offers the computer controlled BC11 system with automatic retardation control system.

Pit

Energy absorbers, hook cable hydraulic systems and electrical cabinets can be installed below grade in pits to minimize obstruction close to the runway.

Arresto

The monitoring and recording ARRESTO system is available to monitor pendant cable tension and to record engagement data.

ARRESTING SYSTEMS

NET BARRIER SYSTEM

Net barriers are used as a primary catching device for non hook-equipped fighters or as redundant safety for hook-equipped fighters. The ATECH BAK-15 aircraft arresting barrier consists of an arresting net covering the width of the runway and is kept in place by two hydraulically operated and remotely controlled masts installed on each side of the runway. During an engagement the net envelopes the aircraft, the shear couplings release the net from the masts and distributes the braking force generated by the connected energy absorbers.

The hydraulic mast system features reliable position detection with durable magnetic switches. Efficient fault searching is supported by the operator's panel displaying all alarms in clear text. Remote control from the ATC is via disturbance free digital radio, fiber optics or cable.

The BAK-15 is available in an interconnect configuration offering engagement capability also for hook equipped aircraft and can be installed with a variety of suitable energy absorbers.

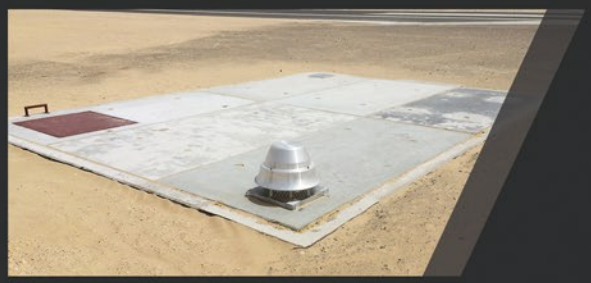
Features and options

Low profile

The stanchions can be installed parallel to the runway in a low profile configuration with a ramped concrete foundation to minimize obstruction.

WT44

A suitable energy absorber for most net barrier installations is the rotary hydraulic WT44 with electrical mini-retrieve for tape rewinding.



Pit

Energy absorbers, stanchion hydraulic systems and electrical cabinets can be installed below grade in pits to minimize obstruction close to the runway.

Control panel

The ATC control panel can be custom designed and is available as a standalone unit or fully integrated into existing instrument panel.

OUR FOCUS

CUSTOMER SUPPORT

With a strong customer focus we use our extensive knowledge in aircraft arresting systems to provide excellent service and support. Based on our experience within the Air Force and from missions abroad we are fully aware of the absolute requirement to have arresting systems operational at every single moment as well as the need for correct and rapid technical support.

In all client projects we work closely with the customer and the end user to make sure that all requirements are defined and achieved. From initial contact through to performance specification, scope of hardware, optional installation alternatives to final project site acceptance, ATECH maintains customer focus as our top priority. Our goal is to deliver an optimal arresting system solution.

ATECH offers technical support throughout the lifetime of the installed arresting system. This includes continuous updates of the registered Operational and Maintenance Technical Manuals, updates of the Illustrated Parts Breakdown, information regarding changed part numbers, obsolete parts and potential upgrades.

ATECH is able to support USAF standard arresting equipment with consumables and spare parts, as well as most known aircraft arresting systems and sub-systems including old and obsolete designs.

Everything is possible, the impossible just takes a little longer.

Welcome to ATECH – we support Air Forces worldwide.

Our services

Installation

Supervision

Classroom training

Operational training

Maintenance

Original spare parts

We supply Air Forces worldwide with proven and reliable
Aircraft Arresting Systems, outstanding support and expertise.

ATECH Inc.

171 Nick Fitcheard Rd. | Huntsville, AL 35806 | United States of America
T: +1 (256) 713 3075 | F: +1 (256) 713 3080
www.atecharrestors.com

* Image courtesy of Jose D. Lujano at Flickr.com
** Image courtesy of Harvey Brugger at Flickr.com