# PRODUCT FOLDER

## Aircraft Arresting Systems

SCAMA

We answer your arresting needs to the highest of standards.

Our mission is to safely arrest fighter aircraft experiencing trouble at aborted take-off or emergency landing. The arresting system installation at the end of the runway can be the last resort for a pilot and aircraft in distress and we take our mission very seriously.

The requirement we face is to stop a 40 ton fighter at 190 knots within 365 meters. Based on five decades of experience in arresting military jet aircraft our high performance systems have shown to be robust, reliable and cost effective. By uniquely combining proven technology and state-of-the-art modules we answer your current needs as well as building cost effective platforms for the future.

Supported by our cutting edge scientific and engineering departments we team up with you from initial contact through specification, site survey, installation, training and site acceptance to the satisfactory commissioning of your system installation.

Welcome to the technology leader – We Arrest Fighters

**BC11**
Computer Controlled Energy Absorber

**WT44**
Rotary Hydraulic Energy Absorber

**P6 & B66**
Multi Disc Energy Absorber

**HK60/R60**
Retractable Hook Cable System

**SL24/SL35**
Arresting Net

**STH3/STH5**
Hydraulic Stanchion

**HAS**
UAV Arresting System - Hook Cable

**NAS**
UAV Arresting System - Net Barrier

# BC11

## Computer Controlled Energy Absorber

### The New World Standard

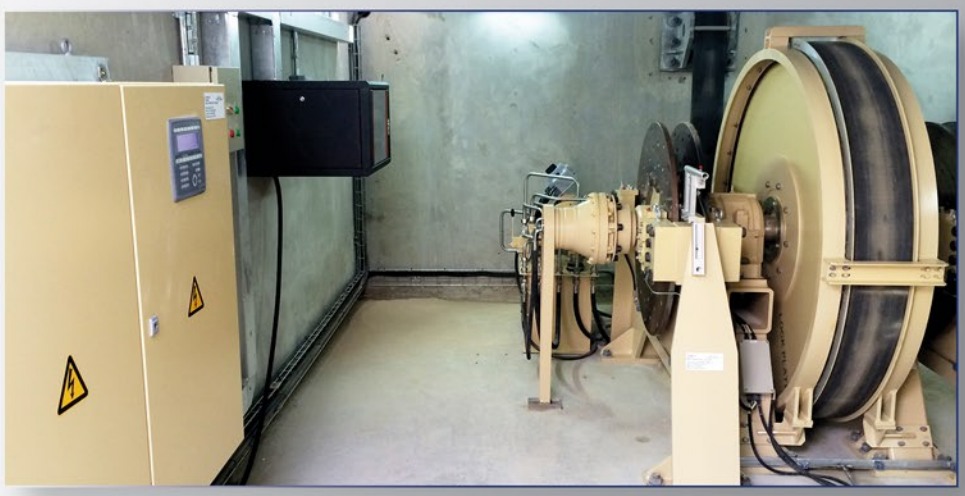
The SCAMA BC11 Energy Absorber System is designed to meet the increased capacity, availability and flexibility requirements of a modern air force. The first system commissioned over two decades ago is still in operation. The BC11 system has been delivered to North America, Europe, Middle East and Asia.

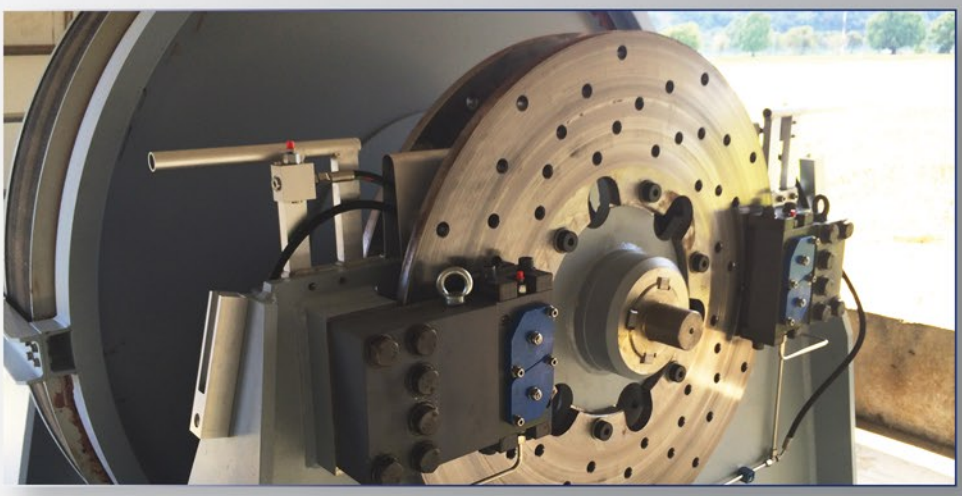
### Computerized automatic braking

The computer controlled automatic retardation system makes the BC11 especially suitable on airfields frequently operated by aircraft types with considerable weight differences. The BC11 system allows for consecutive operation of light and heavy aircraft from 10 ton to 40 ton without any manual pre-settings. From hook cable catch to a safely stopped aircraft engagement data is continuously collected and the BC11 brake computer automatically regulates the brake force as required, minimizing the hook load. The BC11 is installed on permanent prepared concrete foundations above grade or below ground level in bunkers.

### Key features of the BC11:

- High energy absorption capacity
- No need for manual pre-setting of brake force
- Fully automatic performance
- Recording of engagement data
- Detailed computer based simulations
- Health monitoring of all vital functions
- Status and alarms shown in clear text on operator's panel
- Electric/hydraulic or diesel engine/hydraulic rewind system options
- UPS for uninterrupted operation in case of main power failure
- Low level of service and overhaul requirements





# WT44

## Rotary Hydraulic Energy Absorber

### The Reliable Workhorse

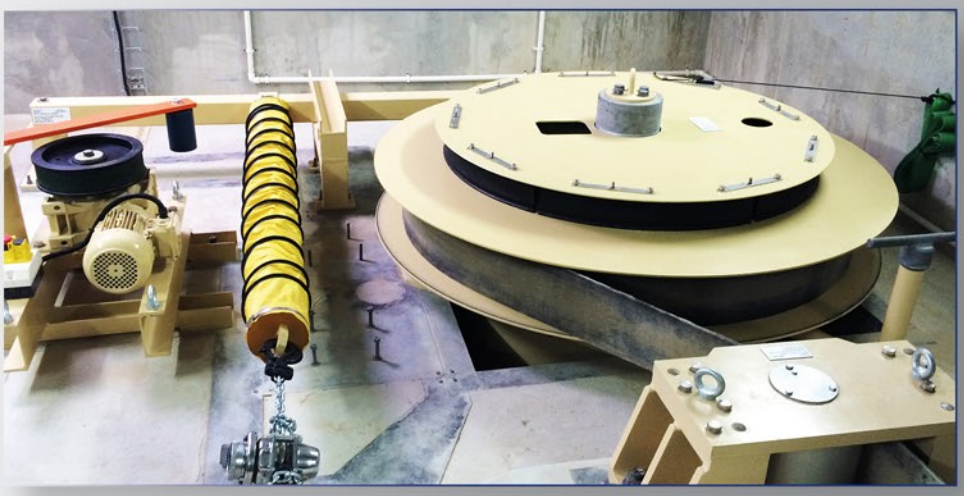
The rotary hydraulic brake concept originally designed by the US Navy and used by the US Air Force is a proven and reliable system. The improved SCAMA WT44 Energy Absorber is designed in metric system with current material standards to utilize the latest manufacturing methods and modernized with a range of tape rewind systems.

### Versatile with high capacity

The velocity sensitive WT44 Energy Absorber is suitable in both hook cable- and net barrier applications to arrest fighter aircraft with weights from 5 ton up to the 40 ton range. SCAMA provides detailed computer simulations to optimize the brake performance to match each aircraft fleet. The registration unit ARRESTO™ is available as an option to monitor hook cable pre-tension and to record engagement data. The WT44 energy absorber is designed to be installed on permanent prepared concrete foundations above grade or below ground level in bunkers.

### Key features of the WT44:

- Self-sufficient and robust designed system
- Diesel/multi-fuel or electrical engine powered tape rewind system
- Electrical mini-retrieve rewinding for net barrier applications
- Environmental cover assembly is available as an option to protect the installation from environmental degradation
- ARRESTO™ registration unit is available as an option
- Low profile minimizing the level of obstruction
- Low level of service and overhaul requirements



# P6 & B66

## Multi Disc Energy Absorber

### Proven and Cost Effective

The P6 Multi Disc Energy Absorber originally designed by the Swedish Air Force has been used worldwide for decades. The P6 brake used in the 12:3 Net Barrier is still manufactured and supported with upgrades and spare parts by SCAMA. The SCAMA B66 is the modernized version designed to maintain a cost effective long term support based on the same technology. The B66 is in operation by NATO air forces.

### Net Barrier applications

The B66 brake system is suitable in net barrier applications at military runways operated by fighter aircraft with weights up to 20 ton. The brake is designed for permanent installation on concrete foundation. Each brake consists of one housing, one air pressure system, two brake drums with two brake units each including steel and sintered discs. The dual air pressure system allows two alternative braking forces to be remotely selected by the ATC operator.

### Key features of the B66:

- Well proven
- Cost effective
- One housing with two brake drums
- Modernized dual air pressure system
- Easy installation on concrete foundation

# HK60/R60

## Retractable Hook Cable System

### Joint military and civil aircraft operation

The SCAMA HK60/R60 Retractable Cable Support System allows the hook cable to remain connected to the arresting gear and fully pre-tensioned in both retracted and raised position. When military flight operation requires the arresting system the ATC operator remotely raises the hook cable into active position. The HK60/R60 is in operation by NATO air forces.

### Robust hydraulic system and extensive health monitoring

The SCAMA HK60/R60 is a hydraulically operated retractable hook cable system for permanent installation across the runway. The modular design enables easy installation complying with different runway widths. The modern PLC based electrical control system makes the system user friendly featuring status and alarms shown in clear text on the operator's panel. Remote operation from ATC and communication is via disturbance free digital radio or fiber cable.

### Key features of the HK60/R60:

- Robust hydraulic system for up/down operation
- Reliable position indication with durable magnetic limit switches
- Individual health monitoring on each retract mechanism
- UPS for uninterrupted operation in case of main power failure
- Integrated accumulator allows for operational cycles in case of main power failure
- Easy to replace support blocks
- Heating function is available as an option when used in cold climate
- Complete retrofit kit is available to upgrade old installations reusing existing standard BAK-14 cast in boxes in the runway.


OP1
Q1
F3
F9
F10
F2
F11
F14
X20
F12
F13
( SCARA )
AIRCRAFT ARRESTING SYSTEM
ALARM
RESET
WIB ready

# SL24/SL35

## Arresting Net

### Latest Standard with Superior Properties

In co-operation with the Swedish Air Force, SCAMA designed the SL24/SL35 Arresting Net assembly based on the requirements for higher safety, improved function and increased service life in order to replace the older multiple element net. The SL24/SL35 net is in operation by NATO air forces.

### Safe escape for the pilot and minimum damage to the aircraft

The SCAMA SL24/SL35 net is designed to avoid entanglement of canopy enabling a safe escape for the pilot after an engagement. By the net design and usage of only soft material risk for the damages to engaging aircraft is reduced to a minimum. The net is designed for re-use and easy repair on the air base.

### Key features of the SL24/SL35:

- Designed to avoid net entanglement of canopy
- Designed to minimize risk for nose gear engagement
- Low point load on the air frame
- Low air resistance makes the net operational during windy conditions
- Stable net centre height in varying weather conditions
- Strong corrective force in case of oblique engagement
- Re-usable and easy to repair on air base
- Protection against UV-radiation and wear for increased service life
- Expected operational life is minimum eight (8) years

# STH3/STH5

## Hydraulic Stanchion

### Safe and Reliable

The hydraulically operated STH3/STH5 Stanchion is designed to meet high demands on safety and reliability. The ATC operator remotely erects the arresting net when required for military flight operation by pushing one button. When raised the stanchion position is confirmed and up/down status is changed on the ATC monitoring panel. The SCAMA STH3/STH5 Stanchion is in operation by NATO air forces.

### Modular design and easy to operate

Adjustable parameters make the STH3/STH5 Stanchion system very flexible and suitable in different installation conditions. Installation is either in parallel or in perpendicular direction to the runway. A low profile ramped version with rollover capability is available. The hydraulic system allows for extra activation cycles in case of main power failure. The modular design simplifies the low level of necessary maintenance. Remote operation from ATC and communication is via disturbance free digital radio or fiber cable.

### Key features of the STH3/STH5:

- Robust hydraulic system for up/down operation
- Reliable position indication with durable magnetic limit switches
- Status and alarms shown in clear text on operator's panel
- Integrated accumulator allows for operational cycles in case of main power failure
- UPS for uninterrupted operation in case of main power failure
- Activated remotely from ATC or locally at arresting system site


pmc group
SAFETY SWITCH
Q4

# HAS

## UAV Arresting System - Hook Cable

### Superior for active use

The well proven HAS Arresting System is designed by SCAMA to support hook equipped fixed wing UAVs at every landing or in emergency situations during take-off or landing. The HAS system consists of a specially designed hook cable pre-tensioned between two energy absorbers installed on each side of the runway.

### Complete weight range coverage

The UAV/BC Disc-Caliper Brake is designed specifically for frequent use and is very suitable for active operation in the HAS hook cable arresting system. For supporting heavier remotely piloted aircraft the UAV/WT Rotary Hydraulic Brake is selected.

### We solve your arresting needs

SCAMA's specialty is to tailor systems according to client's specification. Based on received key information e.g. hook strength, available runout, UAV weight and speed we present the optimal arresting solution including computer simulated performance.

### Key features of the HAS:

- Well proven and reliable
- Tailored according to client's specification
- Bi-directional
- Portable solutions available
- Supplied on turn-key basis including training

# NAS

## UAV Arresting System - Net Barrier

### Protects your investment and third party

The NAS Arresting System is designed by SCAMA to support various types of fixed wing UAVs coming into an emergency situation during take-off or landing. The NAS system consists of two stanchions, two energy absorbers (brakes) and a specially designed arresting net.

### Complete range of suitable brakes

The UAV/BT Textile Brake is preferred for low frequency use and is suitable in emergency net barrier configurations. For supporting more frequent use and heavy remotely piloted aircraft the UAV/WT Rotary Hydraulic Brake is selected.

### We solve your arresting needs

SCAMA's specialty is to tailor systems according to client's specification. Based on received key information e.g. UAV size, weight and speed, available runout and runway width we present a safe arresting solution including computer simulated performance.

### Key features of the NAS:

- Well proven and reliable
- Stanchions operated remotely and/or locally
- Electrically or hydraulically operated stanchions
- Tailored systems according to client's specification
- Supplied on turn-key basis including training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