

GEN 2.8 ARRESTING SYSTEMS AT DANISH AIR BASES

1. Types

Only hook arresting gear systems are used in Denmark. Three types of hook arresting gear systems are installed on Danish air bases/aerodromes:

- BAK-12 SmartArrest/14 CABLE: Hookwire only. Approach end arrestment on request.
- 44B-4H CABLE: Hookwire only. Approach end arrestment on request.
- 34D-1F CABLE (Mod.): Hookwire only. Departure end engagement only.

2. System Description

2.1 BAK-12 SmartArrest/14 CABLE

Type: BAK-12 SmartArrest/14 CABLE is a remote-controlled arresting system. The cable is lowered into a slot in the runway surface and may be raised by input from TWR. It is bi-directional - also for arrested landings.

Used on: EKYT Aalborg, EKKA Karup and EKSP Skrydstrup.

Reaction time: Approx. 5 seconds from up to down or vice versa + personnel reaction time.

Standard setting: When jet fighters operate:

UP (positioned for engagement) in the departure end. DOWN in the approach end. Approach end arrestment on request.

Location: Installed on primary runways approx. 1200 – 2000 ft from end of RWY. See AD 2 section (or RDAF/CENOR FLIP), Aerodrome Chart for exact location.

Modes: There are two (2) BAK-12 SmartArrest modes with different hookload diagrams:

“Active mode” – Main mode

“Fixed Orifice Mode” – Back-Up mode

Active mode

Max. capacity: 85.000 lbs. aircraft weight with 190 kts. (Higher weight = lower engagement speed, stay within green area on the diagram).

See hookload diagram on page GEN 2.8-4 SmartArrest 8 Rotor V2, Active Mode.

Fixed Orifice Mode

Max. capacity: 85.000 lbs. aircraft weight with 190 kts. (Higher weight = lower engagement speed, stay within green area on the diagram).

See hookload diagram on page GEN 2.8-4 SmartArrest 8 Rotor V2, Fixed Orifice Mode.

Max. run out: 1200 ft (366 m).

2.2 34D-1F CABLE

Type: 34D-1F Water Twister (Cable). The cable is held above the runway by spaced rubber discs. Rigging and derigging is done manually. The system is bi-directional - also for arrested landings.

Used on: EKKA Karup and EKRN Roenne (civil aerodrome).

Reaction time: From 15 MIN to 1 HR PN, depending on aerodrome. See AD 2 section (for EKRN Roenne RDAF/CENOR FLIP), Aerodrome Chart for details.

Standard setting: When jet fighters operate: RIGGED (positioned for engagement) in the departure end. DERIGGED in the approach end. Approach end arrestment on request.

Location: Installed on secondary runways (and EKRN Roenne departure end RWY 11) approx. 1000 – 2000 ft from end of RWY. See AD 2 section (for EKRN Roenne RDAF/CENOR FLIP), Aerodrome Chart for exact location.

Max. capacity: 44.000 lbs. aircraft weight with 110 kts.
39.000 lbs. aircraft weight with 160 kts.
(Higher weight = lower engagement speed, stay within green area on the diagram).
See hookload diagram on page GEN 2.8-5

Max. run out: 1007 ft (307 m).

2.3 34D-1F (Mod.) CABLE

Type: 34D-1F Water Twister (Cable). The system is the same as 34D-1F but with a shorter run out and lower capacity.

Used on: EKRN Roenne (departure end of RWY 29)

Reaction time: EKRN Roenne: 1 HR PN

Standard setting: EKSP Skrydstrup: Always rigged (in the overrun). Usable in departure direction only.

EKRN Roenne: When jet fighters operate: RIGGED (positioned for engagement) in the departure end. DERIGGED in the approach end. Approach end arrestment on request.

Location: See AD 2 section (for EKRN Roenne RDAF/ CENOR FLIP), Aerodrome Chart for exact location.

Max. capacity: 44.000 lbs. aircraft weight with 89 kts.
35.300 lbs. aircraft weight with 142 kts
(Higher weight = lower engagement speed, stay within green area on the diagram).
See hookload diagram on page GEN 2.8-6.

Max. run out: 800 ft (244 m).

2.4 BAK-12/14 CABLE

Type: BAK-12/14 CABLE is a remote-controlled arresting system. The cable is lowered into a slot in the runway surface and may be raised by input from TWR. It is bi-directional - also for arrested landings. This system differentiates from BAK-12 SmartArrest/14 Cable as it has not been upgraded with computer systems. Therefore, the velocity and weight that can be engaged on this system is lower.

Used on: EKSP Skrydstrup.

Reaction time: Approx. 5 seconds from up to down or vice versa + personnel reaction time.

Standard setting: When jet fighters operate:
UP (positioned for engagement) in the departure end. DOWN in the approach end. Approach end arrestment on request.

Location : Installed on EKSP parallel runway approx. 1200 – 2000 ft from end of RWY. See AD 2 section (or RDAF/CENOR FLIP), Aerodrome Chart for exact location.

Max. capacity: 85.000 lbs. aircraft weight with 190 kts. (Higher weight = lower engagement speed). See hookload diagram on page GEN 2.8-7 aircraft weight and velocity within green area.

Max. run out: 1200 ft (366 m).

2.5 44B-4H CABLE

Type: 44B-4H Water Twister (Cable). The cable is held above the runway by spaced rubber discs. Rigging and derigging is done manually. The system is bi-directional - also for arrested landings.

Used on: EKSP Skrydstrup and EKYT Aalborg

Reaction time: EKYT: From 15 MIN to 1 HR PN, depending on aerodrome. See AD 2 section (for EKRN Roenne RDAF/CENOR FLIP), Aerodrome Chart for details.

Standard setting: EKSP Skrydstrup: Always rigged (in the overrun). Usable in departure direction only.

Caution note: Landing short of runway threshold with hook down may cause substantial damage to the aircraft. Use the primary BAK-12 SmartArrest/14 CABLE for approach end arrestment.

Location: Installed on parallel runway in Aalborg approx. 1000 – 2000 ft from end of RWY and on Main Runway as a Back-Up system in Skrydstrup. See AD 2 section, Aerodrome Chart for exact location.

Max. capacity: 85.000 lbs. aircraft weight with 190 kts. (Higher weight = lower engagement speed). See hookload diagrams for both cases on page GEN 2.8-8 and GEN 2.8-9.

Runout: There are two 44B-4H Water Twister Cables setups in Denmark with different hookload diagrams depending on runout available:

EKSP Main RWY Back-Up

Max. run out: 600 ft (180 m)

EKYT Parallel Runway

Max. run out: 900 ft (275 m)

3. Overview of Installed Systems

Air Base / Airport	RWY	Primary System	Back-Up System
EKYT Aalborg	08L/26R	BAK-12 SmartArrest/14 CABLE	
	08R/26L	44B-4H CABLE	
EKKA Karup	09R/27L	BAK-12 SmartArrest/14 CABLE	
	09L/27R	34D-1F CABLE	
EKSP Skrydstrup	10L/28R	BAK-12 SmartArrest/14 CABLE	44B-4H
	10R/28L	BAK-12/14 CABLE	
EKRN Roenne *)	11	34D-1F CABLE	
	29	34D-1F CABLE (Mod.)	

*) Civil

BLANK