

HELIPORT LIGHTING

HBA

Helicopter Approach Path Indicator



Compliance with Standards

ICAO: Annex14 Volume II (Current Edition)

FAA: AC 150/5390-2B

STAC: French

Uses

The HBA is a system that enables the pilot to have the necessary visual information to place the helicopter on the ideal approach slope, being possible to be used both in day and night conditions. This fixture has following application area:

- HAPI - Helicopter Approach Path Indicator

Features & Benefits

- Only one unit per approach path.
- Power supply: 230 VAC 50/60 Hz.
- Light intensity controlled by a voltage of 230 VAC 50/60Hz.
- Excellent frangibility without sacrifice of any stability.
- Front glass protecting lenses against sand, wind and engine blast.
- Easy site adjustment by using an inclinometer (precision 1 minute).
- Design ensures water-tightness and protection against corrosion.
- Easy maintenance: replacement of main elements (lamps, front glass, filters or reflectors) does not require either unit adjustment or any special tools.
- Very easy access to all components by removing the cover.
- Use of dichroic filters with high transmission factor and good thermal resistance.
- The units of a system could be, as an option, fitted with heating resistors for use in cold or wet areas.
- The light shall be automatically switched off when a vertical misalignment or a failure of flashing is detected.

Technical characteristics

Characteristic	Description
Lamp:	Two 24V GY9.5 of 250 W pre-focused halogen lamps, powered at 21 V to increase the lifetime.
Power Supply:	From 220 to 240 VAC 50/60 Hz. For connections use a three wires cable (Two phases + Earth).
Remote Control	Light dimming : 3 levels of light intensity remote controlled with a voltage of 220 - 230 VAC 50/60 Hz. Alarm: using a dry contacts of a relay (Contact capacity = 250 V / 1A maximum).
Photometry and colours:	Compliant with ICAO Annex 14 volume II requirement.
Frangibility:	The HBA unit is mounted on 4 frangible legs.
Security	As recommended by ICAO the HBA is fitted with dedicated sub assemblies which permit to switch off automatically the HBA when: 1) A vertical misalignment greater than +/- 0,5° (+/- 30 minutes) is detected. 2) A failure of the flashing mechanism is detected.
Finish:	The body is made of aluminum alloy painted in black by an electrostatic process (powder coating), the cover and the legs are made of aluminum alloy painted in yellow by an electrostatic process (powder coating). All fixings and fastenings are stainless steel.
Working temperature	Between -40° and +55 °C. The units could be fitted with heating resistors (with independent power supply 220/240 VAC) for use in very cold or wet and humid areas.
IP:	54
Class:	1

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Operating Theory

The system can be used by all helicopters as soon as it is set up since it does not require any airborne instrumentation.

The HBA is a light box which emits in elevation four distinct types of light:

1. Flashing green light = helicopter above the optimal approach slope optimum (too high).
2. Fix green light = helicopter on the slope.
3. Fix red light = helicopter slightly below the optimal slope (slightly too low).
4. Flashing red light = helicopter below the optimal slope (too low).

The signal repetition rate of the flashing sectors must be greater than 2 Hz.

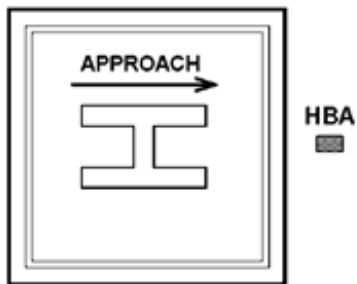
In accordance with ICAO recommendations the HAPI shall be capable of adjustment in elevation at any desired angle between 1° and 12° (1,75 % and 21,25 %) above the horizontal with an accuracy of +/-5 minutes of arc.

The angular size of the fix green sector (on the slope) must be 45 minutes of arc.

Location on the Field

In compliance with ICAO requirements, the HAPI must be located adjacent to the nominal aiming point and aligned in azimuth with the preferred approach direction.

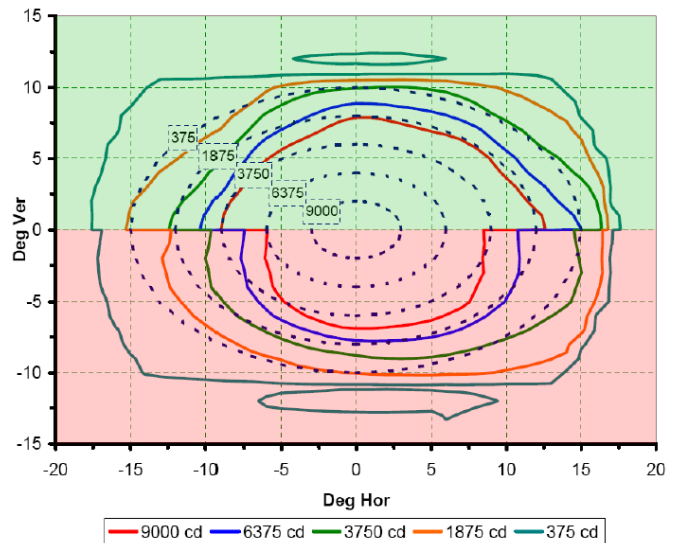
The angle of elevation setting of HAPI must be such that, during approach, the pilot of the helicopter observing the upper boundary of the "below slope" signal (flashing red) clears all objects in the approach area by a safe margin.



Packaging

Designation	Volume m ³	Dimensions mm	Weight Kg
HBA box alone	0.19	1200 × 630 × 290	27
One set of 4 complete legs	0.030	520 × 260 × 220	4
Setting tool suitcase	0.025	530 × 385 × 120	5.1

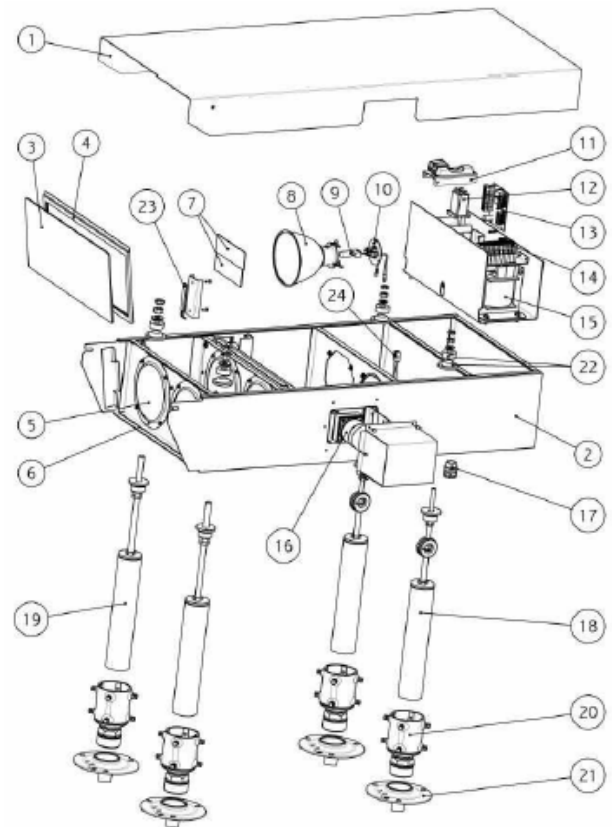
Photometric Data



Design

Components

1. HBA cover
2. HBA box
3. Protection front glass
4. Front glass gasket
5. Optical lens (× 4)
6. Optical lens fixing device and screws (× 4)
7. Dichroic filters (green and red) (× 2)
8. Reflector made in aluminium (× 2)
9. 250W 24 V (× 2)
10. Lamp terminal (× 2)
11. Tilt switch module
12. Remote control relay (× 3)
13. Alarm management PCB
14. Connection terminal
15. Transformer module
16. Motor for flaps module
17. Compression packer for cable entry (× 2)
18. Complete rear leg (× 2)
19. Complete front legs (× 2)
20. Frangible coupling (× 4)
21. Tripod stand (× 4)
22. Cups and pivot joints
23. Heating resistor and accessories (option)
24. Cable terminal

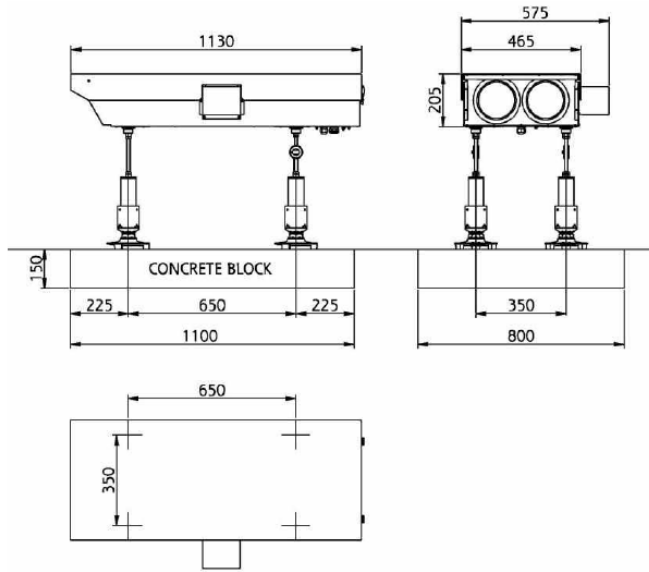


HBA

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Installation



Note: Dimensions of concrete block are given for information and must be review according of the site

For more information about the product, including manuals and certifications, please see the ADB SAFEGATE Product Center at www.adbsafegate.com.

Ordering Codes

The table below is a guide to order codes for a fitting with available component parts.

Component	Order Code
HBA box (alone)	
* HBA without heating resistors	10146
* HBA with heating resistors	10145
Legs and ground fixing accessories	
* One set of for legs with 400 mm tube	10149 See Doc 1401.E
* Tripod stands and ground fixing accessories	
Installation tools	
* Setting tools	10147

Note: All descriptions and photometric characteristics in this publication present only general particulars and shall not form part of any contract. The right is reserved to change them without prior notification.