

AIR DROPPING CONTAINER-150

Model: ADC-150



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AIR DROPPING CONTAINER 150 (Model: ADC-150)

It is upgraded version of **SHYAK-NG**. The **ADC-150** was designed, upgraded, manufactured and tested jointly by Defence Research Development Organization (**DRDO**) **NSTL** Visakhapatnam and **Neometrix Engineering** (Noida). The ADC-150 will help to provide critical engineering stores to ships that are deployed more than two thousand kilo meters from the coast. It is compatible with **MIL Std.810G** testing included **Shock, Vibration, Cath** (combined altitude, temperature & humidity), **Salt & fog**.

Acceptance test for ADC-150 assembly

- **Internal Pneumatic Pressure Test (0.5 bar)**
- **External Hydraulic Pressure Test (5 bar)**
- **Functional Test**
- **Vibration Test (10-1000Hz, 1.44g rms MIL Std-810G)**
- **Shock Test (The equipment shall be subjected to Three shocks each of)**
- **CATH Test (CEMILAC SOFT Directive 14/2015 carriage condition Altitude is 0 to 50000 feet.)**
- **Salt & Fog Test (As per MIL Std-810 G Method 509.5)**

It can be dropped from heavy aircraft. The rate of descent of ADC-150 container is controlled by a parachute system and the test trials of ADC-150 were conducted by the Indian Navy and DRDO. Its have automatic light controlled system and Gps controlled system.

Technical Specifications:

- Length $2416 \pm 2\text{mm}$
- OD $425 \pm 0.8\text{ mm}$
- Weight (empty) $110 \pm 1\text{ kg}$
- Night time identification- Led beacon with self power
- Location identification – latitude & longitude coordinates by GPS signal transmission for every 3 minutes
- Power source –Lion rechargeable battery for 24 Hrs power supply to GPS Unit
- Operating Temperature $-10\text{ to }+60^{\circ}\text{ C}$
- Pressure switch (operating depth of 1m (0.1 bar) for battery activation
- Vibration withstand ability (random ,10-1000Hz-1.44 g rms as per MIL Std

810 G)

- Shock withstand ability (30 g for 8 millisecond, half sine pulse as per MIL Std 810G)

Led Beacon Technical Details

- Optical - 29 cd peak intensity (as per IALA rating), High flux surface mounted LED, IALA complaint chromaticity-orange.
- Dimensions – Ø115± 0.1mm x 30mm
- Energy collection – solar cells 0.6 W panel, NIMH AA batteries rated for (- 40 to 85°C).
- Shell life – 5 years
- Automatic light control 2.0 – When enabled, ALC adjusts output intensity in response to unusually low amounts of sunlight to ensure continued operation.
- Temperature – - 20 to +60°C operating and storage.
- Weight – 0.37 kg
- Mounting – flange mounting type.

GPS Technical Details

- Temperature range : -10°C to 60°C
 - Relative Humidity : Max 98% (at a temperature of +40°C)
 - Shock : 30 g for mili sec, half since pulse as per MIL STD. 810G
 - Vibration : Random,10-1000Hz-1.44g rms as per MIL STD.810G
 - Software Module testing : Complete monitor software tested for setting the Frequency , terminal ID etc in SBRT unit.
- Complete application software tested for serial data, GPS data along with transmission interval for observing on Portable Test Jig panel or in Hub station.

Lithium Ion Battery Technical Details

- Battery Type : Li-ion rechargeable
- Nominal voltage : 28V
- OCV at 100% SOC : <33V
- Discharge Deliverable : continuous 0.3 A
- Capacity Deliverable : 10 Ah
- Cut of voltage : 24 V
- Connector Details : MIL grade Connector
- Dimensions : Ø250 mm, and Height 160mm
- Battery Weight : 10 kg
- Storage temperature : 15 to 55°C

- Capacity loss due to shelf discharge and power consumption by protective components : 1 Ah per month

Pressure Switch Technical Details

- Range : 0.1 – 1 bar
- Sensitivity : ± 0.01 bar
- Shell Life : 5 years
- Capacity Type : Normally open (NO)
- Diaphragm : Standard
- Threading : 1/4 inch BSP male
- Current rating : 5 A
- Proof Pressure : 30 Bar
- Dimension : 54 x 24mm (L x D)
- Case : Passivated AVP steel
- Weight : 70 gms

ADC-150 Color:

- DARK ORANGE

Suggested Oil Specification:

This ADC-150 is recommended to carry payload 150 kg weight should be higher than SHYAK-NG in any working condition for better and performance of the load carrying . Additional features and other specification can be provided on Customer request.

Test Results:

➤ Pneumatic Test

ADC-150 container assembly is checked for internal pneumatic leak by applying 0.5 bar internal pneumatic pressure for 30 min duration. No leak is observed.



Fig 1- Pneumatic Testing

Hydraulic Testing

The chamber pressurized at 5 bar for 30 minutes and no drop of pressure in the gauge is permitted. After the test no water entered.



Fig 2- Hydraulic Testing