

# AVIATION



## **PASSENGER BOARDING RAMPS**

At FRIGATE we design, manufacture & supply custom built Passenger Boarding Ramps as per an Airline's specific requirement based on their fleet of aircrafts.

Our Boarding Ramps are affordable, user friendly, robust & can be re-configured. Our ramps are client specific to minimize the boarding & de-boarding time to meet challenging deadlines in Airlines industry.

We design Passenger Boarding Ramps in such a way that it can be configured for various aircrafts.

### **FRIGATE TEKNOLOGIES PRIVATE LIMITED**

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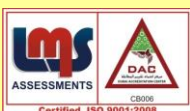
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PAX ladders are in use since the commercial aviation industry came in to existence. Now the very basic question arises; what is the need of these boarding ramps.

## Need Analysis

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### Preliminary Objectives

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- Dignified boarding to people with reduced mobility
- Ergonomic inclination
- Minimize boarding & de-boarding time

### Drawbacks in existing PAX Ramps

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- Steep Incline = Un-ergonomic climb
- Even more difficult climb for people with Reduced Mobility
- Strenuous for Ground Handlers to push wheel chairs on steep incline
- Floor slippery during monsoon

### Drawbacks in existing PAX Step Ladders

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- No provision to handle wheel chair bound passenger
- Undignified & Unsafe handling of passenger on wheel chair
- Difficult climb for people with Reduced Mobility

## Overview of features

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- CAPEX SAVINGS : No need for Ambulift
- POWER SAVINGS : Total power load of only 2.5 KW
- ADDITIONAL REVENUE : By way of advertisement on side walls
- ON-TIME PERFORMANCE : Enhanced passenger flow

- BRAND PERCEPTION : Passenger comfort (by way of ergonomic climb) will lead to better brand perception in the minds of passengers
- ZERO CARBON FOOT PRINT: 100% solar power based model is also available.
- SAFETY: Safe boarding for all passengers, including children& elderly.
- Anti-slip all weather flooring
- State-of-art Operational & Safety features
- Various Options:
  - 100% Manually Operated
  - Petrol / Diesel Generator based
  - CNG based
  - Solar Powered models
- Adaptability : Ramp can cater to the following aircraft fleet:
  - A320 family
  - B737 family
  - Embraer E170 | E175 | E190 | E195

## Design Features

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### Passenger Comfort

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- Inclination of all walkways (except last one) fixed @ 7.5 deg
- Last walkway can be inclined from  $\pm 0$  deg to (+) 8 deg.
- Ergonomic inclination = Dignified boarding of PAX
- Low center of gravity = Higher Stability

### Maintenance

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- Overall low maintenance: MOC doesn't require any special attention.
- No Hydraulics = Zero spillage.

## Operations

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- Simple operation. Only one hinged walkway
- Main Drive (FWD-REV) : Geared Motor on rear wheels. In-built brake
- Electrical (Geared Motor) Screw Jack = Luffing
- Manual luffing by spindle wheel. Also acts as manual over ride
- Steering Control – Through Tow Bar
- Joystick control on Tow bar + Control panel on landing platform

## Safety

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- PAX can disembark in front of 1<sup>st</sup> ramp. Improves flow of PAX to a/c.
- Safe queuing of PAX (funneling)
- No tripping hazard as in step ladder
- Anti Slip Flooring + Fluorescent strip on floor
- Emergency stop switch on all 4 sides
- Walkway lighting (LED lamp)
- Flashing Beacons
- Rubber bumper : Flexible leading edge
- Extension floor : Cover gap between top of ramp and top of a/c floor
- Sliding hand Rails : No gaps between aircraft and walkway
- Proximity Switch: Actuation of inching speed.
- Canopy with or without curtain
- Fully removable curtain
- Manual Screw Jack – Stability (operation)
- Separate Staircase for Ground Crew & Flight Crew



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V2.2018

Printed in India

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