AIRCRAFT HANGAR DOORS & SHIPYARD DOORS

GANDHI
Automations Pvt Ltd

India's No.1 Entrance Automation & Loading Bay Equipment Company

EUROPEAN COLLABORATION AND TECHNOLOGY WITH INNOVATIVE AND CREATIVE ENGINEERING FOR MORE THAN 25 YEARS

A PARTNER WHO STANDS BY YOUR SIDE

Quality & Safety - Our Priority

Hangar Doors are CE certified, manufactured in accordance with

Standard(s) : EN 13241-1:2003+A2:2016, EN 60204-1:2006/AC:2010, IEC 61439-1:2011

Directive(s) : 2006/42/EC, 2014/35/EU

Gandhi Automations design, develop, manufacture and execute its products strictly in accordance with the above mentioned EN standards.

You are assured with our best quality products, safe operation and after sales service 24/7.

SAFETY AND QUALITY GO HAND IN HAND

ORIGINAL GUARANTEED SPARE PARTS

CRISIL An S&P Global Company Ratings

INDIAN GREEN BUILDING COUNCIL IGBC MEMBER

TÜV AUSTRIA CERTIFIED TÜV AUSTRIA GMBH
EN ISO 9001 20100233018576
EN ISO 14001 20104233018577
ISO 45001 20116233018578

CE

ORIGINAL SPARE PARTS

We guarantee original spare parts availability throughout the product lifecycle.

CONTENTS

Our Quality For Your Safety

Gandhi Automations Pvt Ltd is India's No. 1 Entrance Automation & Loading Bay Equipment Company. This widely recognized position has been achieved over years of hard work, innovation, commitment to quality and reliable customer service. Since our inception in 1996, we have been into designing, manufacturing, installing and exporting products that are easy to operate, low on maintenance, problem-free and safe to use. Our products are designed considering ergonomic aspect as per customer requirements and site conditions. Our products are built-in accordance with the relevant European Norms (EN) and are CE Certified.

Head Office

Headquartered in Mumbai; the commercial capital of India, the company has expanded its manufacturing capacity, operations, geographical reach and customer base globally. Our products are also marketed through our global distributor network in more than 70 countries.

Competent Advice

“Customer guidance and unparalleled service” is at the core of Gandhi Automations. Our experience and efficient team of consultants are at your disposal at every stage of the project: from project planning to commissioning and handing over. They help you choose a perfect solution tailored to meet your requirements.

Quality Management

Quality management and industry best practices are the backbone of our company. Thus, the company has acquired ISO 9001:2015, ISO 14001:2015 and ISO 45001:2018 certifications from TÜV Austria. This has resulted in continuous improvement in our business processes of production, human resource management, equipment calibration, machinery maintenance and logistics. This philosophy has raised our bar in improving customer experience and satisfaction.

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CERTIFIED
TÜV AUSTRIA GMBH

EN ISO 9001
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Nationwide Network

- Ahmedabad
- Bengaluru
- Bhopal
- Bhubaneswar
- Chandigarh
- Chennai
- Coimbatore
- Goa
- Guwahati
- Hyderabad
- Indore
- Jaipur
- Jamshedpur
- Kochi
- Kolkata
- Lucknow
- Mangalore
- Nagpur
- New Delhi
- Patna
- Pune
- Raipur
- Ranchi
- Surat
- Vadodara
- Visakhapatnam

Advance Manufacturing

Our operations are supported by strategically located, state-of-the-art manufacturing and warehousing facility of 800,000 sq. ft. near Mumbai. This enables us to deliver best-in-class products with minimum lead time.

Our In-house Design and Development team is always at the forefront in innovation and creative engineering to exceed the expectations of customers by delivering technologically efficient, high quality and low maintenance products. All essential product components and control technology are designed and produced by Gandhi Automations with European collaboration and technology.

Our product engineering team uses the latest software combined with technologically advanced machinery to offer our customer a precisely engineered product.

Packaging

Special care and necessary precautions are taken while packaging our products for despatch to the installation sites. Each consignment is supervised by a team of experts who ensure that material is delivered efficiently and promptly.

Installation, Commissioning & Services

Our team of dedicated engineers and technicians are at your continuous service; most of them are trained at advanced training centers in Europe to ensure perfect installation according to the specifications and trouble-free commissioning, thus assuring product reliability and longevity.

Dynamic Customer Service

Our Customer Care team offers 24x7 service. We lay great emphasis on exceptional aftersales service and provide Spares, Preventive Maintenance and Annual Maintenance Contracts for minimum downtime ensuring durability and drive maximum ROI.

Our widespread service network assures response time to a minimum.

In rare case of any product failure, all you need to do is reach for the telephone.

TOLL FREE
1800 209 0200
From Anywhere in India

One call and one of our highly trained service technicians will be on its way in a fully equipped customer service van with wide range of original spares.

Hangar Doors - Quality Engineered

Gandhi Automations is a pioneer in the manufacturing of Aircraft Hangar Doors & Shipyard Doors. It is one of the few elite door manufacturers globally, that can design and deliver Vertical Lifting Fabric Doors with swing-up mullion technology. Thus, providing hangar doors with any ultra-wide access requirement. The company offers the finest door solutions in:

- **Vertical Lifting Fabric Doors**
- **Sliding Hangar Doors**

The company conceptualizes, designs, manufactures, installs and services Hangar Doors. These Doors are designed using advanced engineering technologies and manufactured with best-in-class machinery for reliable & robust product delivery.

The product engineering team uses the latest structural and mechanical engineering software, 3D CAD packages with technologically advanced machinery to offer the customer a well-engineered product. Over the years of meticulous work on design, fabrication, and installation, Gandhi Automations has developed technical expertise in manufacturing of the doors which are designed to meet the customer's specific requirements.

A consistent quality product is the hallmark of Gandhi Automations manufacturing process, right through installation to after-sales service.

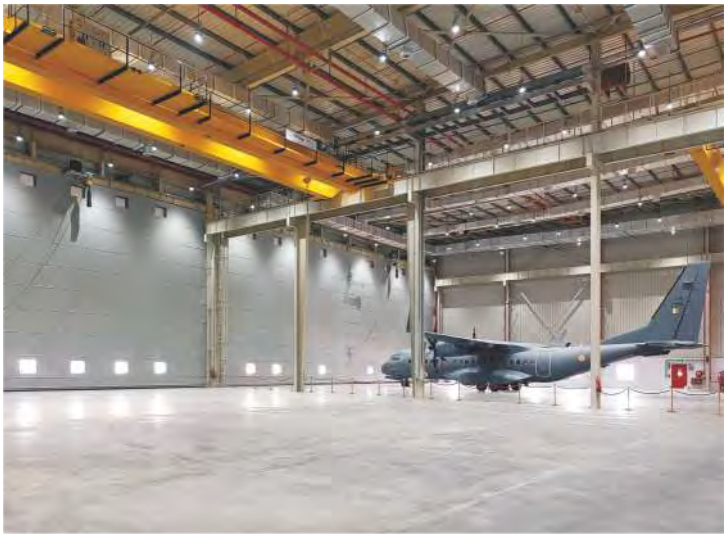
Applications

Aircraft Hangars

Helicopter Hangars

Fixed Crane Accesses

Large Industrial Requirements



Military & Aerospace Establishments

Sand-blasting and Paint Hangars

Shipbuilding

Shipyard Modernization Projects

Mining Industry

Exhibition Facilities

Stadiums and Sports Arena

Steel Processing Plant

Vertical Lifting Fabric Doors

HUGE
STRONG
FLEXIBLE

Vertical Lifting Fabric Doors are electrically operated vertical lifting doors that work on the stacking principle.

The door is constructed from a single layer of fabric fixed on both sides of the intermediate Aluminium / steel beams & bottom section. The selection of these material ensures that the door resists corrosion, thus resulting in the extended operational life of these doors.

The bottom truss of the door is connected to the motor via a heavy-duty belt system. During the door's opening operation, the bottom truss is lifted and all the intermediate beams pile over it. The fabric curtain folds on both sides of the door into pleats to form a stack above the clear opening of the door.

Unlike the conventional Sliding Doors, these doors do not require any side pocket. The vertical movement of the door obviates the need for heavy foundation below the door. Therefore, Vertical Lifting Fabric Doors are the most suitable entrance solution for a retrofit requirement as well as for a greenfield project.

The door consists of minimum movable parts, hence requires minimum maintenance and remains problem-free throughout its life-cycle.

Vertical Lifting Fabric Doors are suitable for environment with heavy wind pressure and extreme temperature variations. The door design enables the transfer of wind load from horizontal sections to vertical guides mounted on the building structures, thus transferring the complete wind load to the ground.

Gandhi Vertical Lifting Fabric Doors VLFD, VLFD-L and VLFD-T are designed for various openings and provide better thermal insulation.

- VLFD doors applicable for unlimited span
- VLFD-L doors applicable for span of 20 meters wide
- VLFD-T doors applicable for unlimited span with tail leaf

Automatic Swing-up Mullions

Gandhi Automations is capable of designing & delivering Vertical Lifting Fabric Doors with any dimensional requirements. A multi-door leaf system can be designed for ultra-wide access requirements of Aircraft hangars. The multiple door leaves are separated by swing-up mullions. These mullions act as structural support for the vertical guides when in the upright position. Each mullion is equipped with a chain hoist system with independent automation drive. The chain hoist enables the swing-up movement of mullions to facilitate clear access when the door opens.

The door is incorporated with dual safety features that provide 100% operational reliability and safety. Each door leaf is equipped with dual safety arresters or load arresters on each end of the bottom truss. These arresters lock the moving door in a very unlikely event of belt failure.

Each swing-up mullion is provided with a back-up arresting system which will engage and lock the mullions movement, if the chain hoist system falters.

Each door leaf and mullions are equipped with fixed motor & drive systems respectively. Individual automation system enables independent leaf operation, thus eliminating interdependency between adjacent door leaves. The fixed arrangement of motors & drives extends the life-span of the automation system.

Door Construction

Door Leaf

Construction of door is in compliance with the performance characteristic requirements of EN 13241-1

Each leaf consist of two layers of fabric, folded on each side of the supporting intermediate beams.

The fabric is made of one piece heavy duty vinyl coated reinforced polyester with self-extinguishing properties. The fabric's base type is 1100 dtex polyester with flame retardancy of NFP 92507:M2.

The standard fabric is UV stabilized and it can withstand temperatures between +70ºC to -35ºC. It is layered with acrylic lacquer on both sides for protection against microbial & fungal attacks.

Safety Arrestors

Each door leaf are supplied with safety arrestors that activate and support the door in an event of belt breakage.

Door Beams

The intermediate beams are constructed of aluminium with optimum width and thickness depending on the windload requirement.

Each end of the beams have a guide block of self-lubricating nylon material, or rollers that run along the guides.

Side Guides

The vertical guides are an integral part of the door, made of extruded aluminium with a suitable depth and width dependent on the size of the intermediate beams.

The guides are designed to provide sealing on the inside and the outside faces.

Wind Lock

Each door leaf are provided with wind locks which activate and lock the bottom beam when the door reaches its closed position.

Belt System

Belt are used to transmit driving force to the door unit. A Safety device is used on each door leaf belts which sense a slack belt condition and cut power to the appropriate drive unit to prevent an unsafe condition.

Bottom Beam

The bottom beam is designed with a suitable width and depth to carry the load of the intermediate beams when the door is open, and to ensure full closing and a tight floor seal in heavy winds. A heavy U-shaped bottom rubber seal shall be provided to form a tight seal with the floor, even on uneven surfaces.

Electrical Equipment

A standard door is operated by three push buttons (open-stop-close). The door is controlled by impulse pressure to open and constant pressure to close.

Performance Characteristics :

Below parameters are subjected to door design & configuration.

Opening/closing speed	:	0.15m/s to 0.25m/s
Wind Load	:	up to Class 5, EN 12424
Water Permeability	:	Class 3, EN 12425
Wind Permeability	:	Class 3, EN 12426
U value	:	0.6 W/m²K

Colours & Finishes

Standard - Translucent

WHITE
similar to RAL 9003

Optional

BLUE
similar to RAL 5002

YELLOW
similar to RAL 1018

GREY
similar to RAL 7035

RED
similar to RAL 3002

ORANGE
similar to RAL 2004

Black
similar to RAL 9005

BIG STURDY MARVELOUS

Sliding Hangar Doors are the conventional and most trusted entrance automation solution for large access requirements.

These are metal-sliding doors working on the bottom rolling principle. The metallic nature of the door structure makes it strong and secured to sustain extreme environmental conditions and resist abrasion. The bottom rolling mechanism enables load transfer of the complete door system directly to the ground.

These doors can be bi-parting, multidirectional or unidirectional depending upon the side space availability for parking the door leaves. Sliding Hangar Doors can be designed for independent leaf operation or telescopic arrangement.

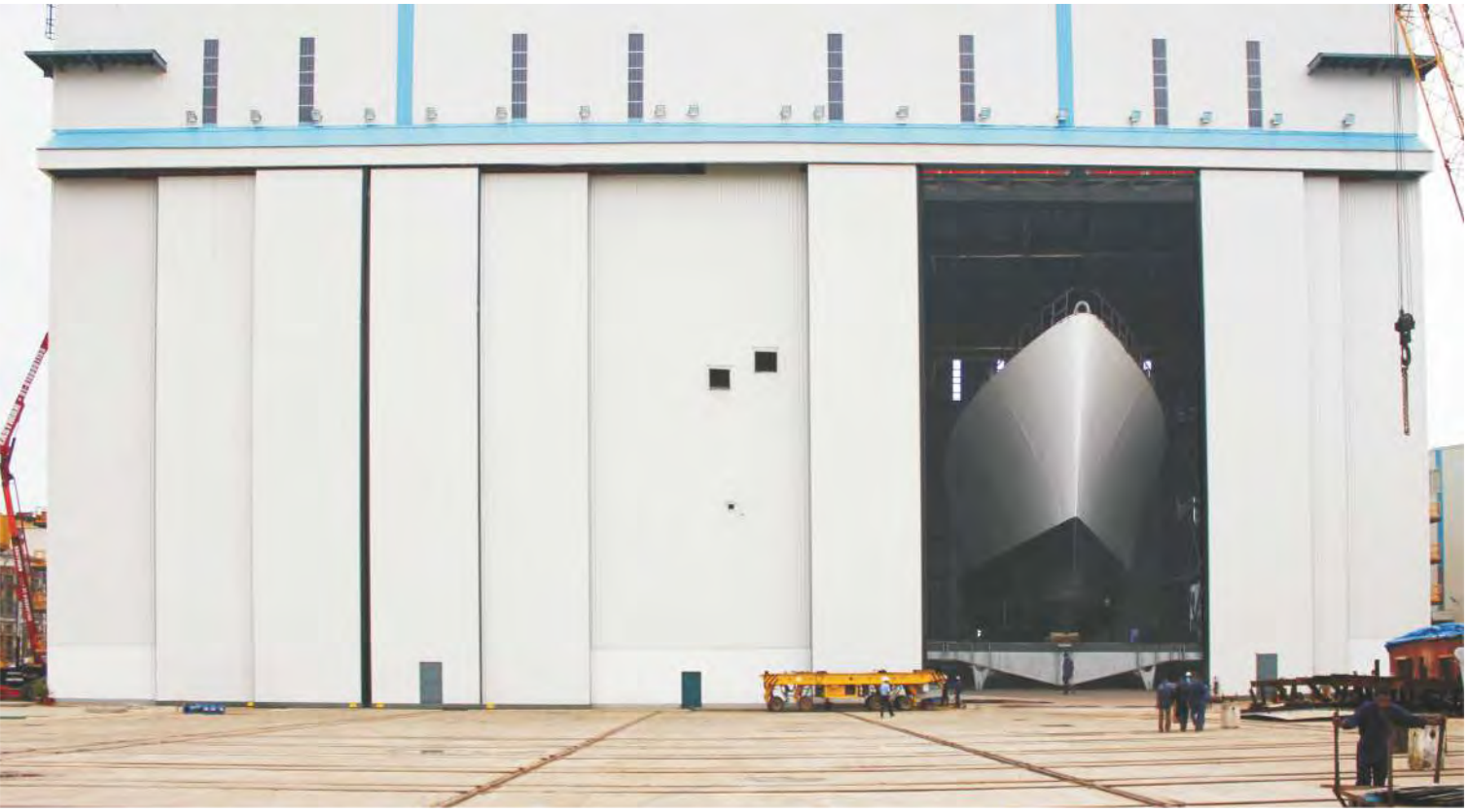
Sliding Hangar Doors can be offered in a prefabricated form with onsite assembling. Prefabrication or factory fabrication substantially reduces the on-site resource requirement. It also ensures minimum factory tolerances, thus enhancing the durability of the door structure. The modular nature of the door guarantees minimum downtime for assembling & installation of the door.

Gandhi Sliding Hangar Doors SHD39 and SHD50 models are suitable for varied wind-load requirements as well as provide better thermal insulation and acoustic properties.

- SHD39 doors withstand wind-load upto 140 kmph
- SHD50 doors withstand wind-load upto 180 kmph*

*Designs available for higher wind-load.

Door Construction



Weather Seal System

The weather sealing system for the sliding doors are designed in conjunction with the cladding system to minimize sand ingress in particular, all horizontal seals are designed to accommodate all vertical deflections of the building and door head. At the bottom, each leaf is fitted externally with a heavy-duty nylon brush seal, which is retained in aluminum extrusions.

Hardware - Bottom Of Door

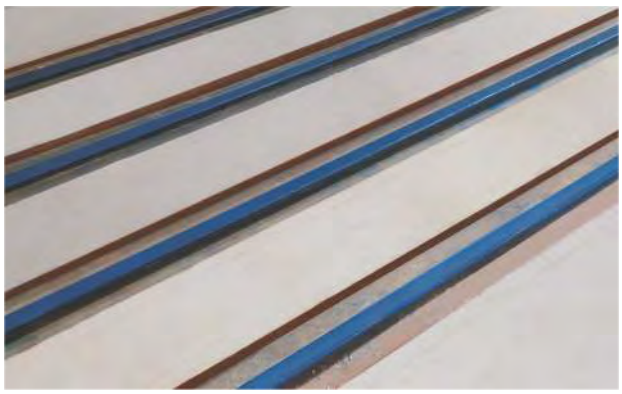
Heavy duty double flanged steel track wheels of suitable diameter are arranged so that both horizontal and vertical loads transferred to the rail only through the bearing as per design requirement.

Hardware - Top of Door

The top track section will be suitable steel section in accordance with EN or equivalent Indian standard. The track and top roller assembly are coordinated such that the roller can also support itself while moving along the track (against its own dead weight and wind loads). The top track system are designed to limit the inclination of the door leaves due to: discontinuity of bottom rail; high friction of bottom rail; blockage of bottom rail.

Drive Units

3-Phase Electric Motor of suitable rating, drive each leaf depending on site requirement.



Wind Pressure

Door leaves and tracks are designed to withstand local wind pressures as per requirement.

Protective Coating to Structural Steel

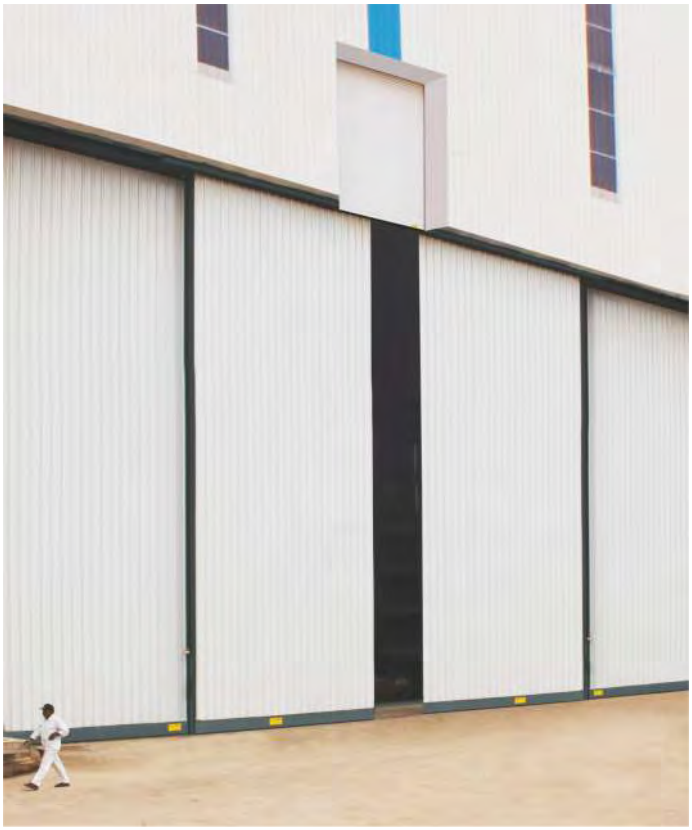
All MS structural members of the sliding door are spray painted with two coats of Polyurethane paint over one coat of epoxy primer.

Door Cladding

The entire external face of the door is covered with principal cladding of suitable thickness precoated corrugated galvalume cladding sheet with standard finish off white similar to RAL 9002 / Light Blue similar to RAL 5012. Alternate cladding can be provided as per design requirement.

Buffers

Heavy duty energy absorbing buffer stops are fitted at the extremities of the bottom tracks to prevent leaves over-running the ends of their tracks during towing-mode operation.



Manual Operation

In an event that manual operation is required, a simple system is used which allows towing operation by powered vehicle e.g. Fork Lift truck.

Door Control System

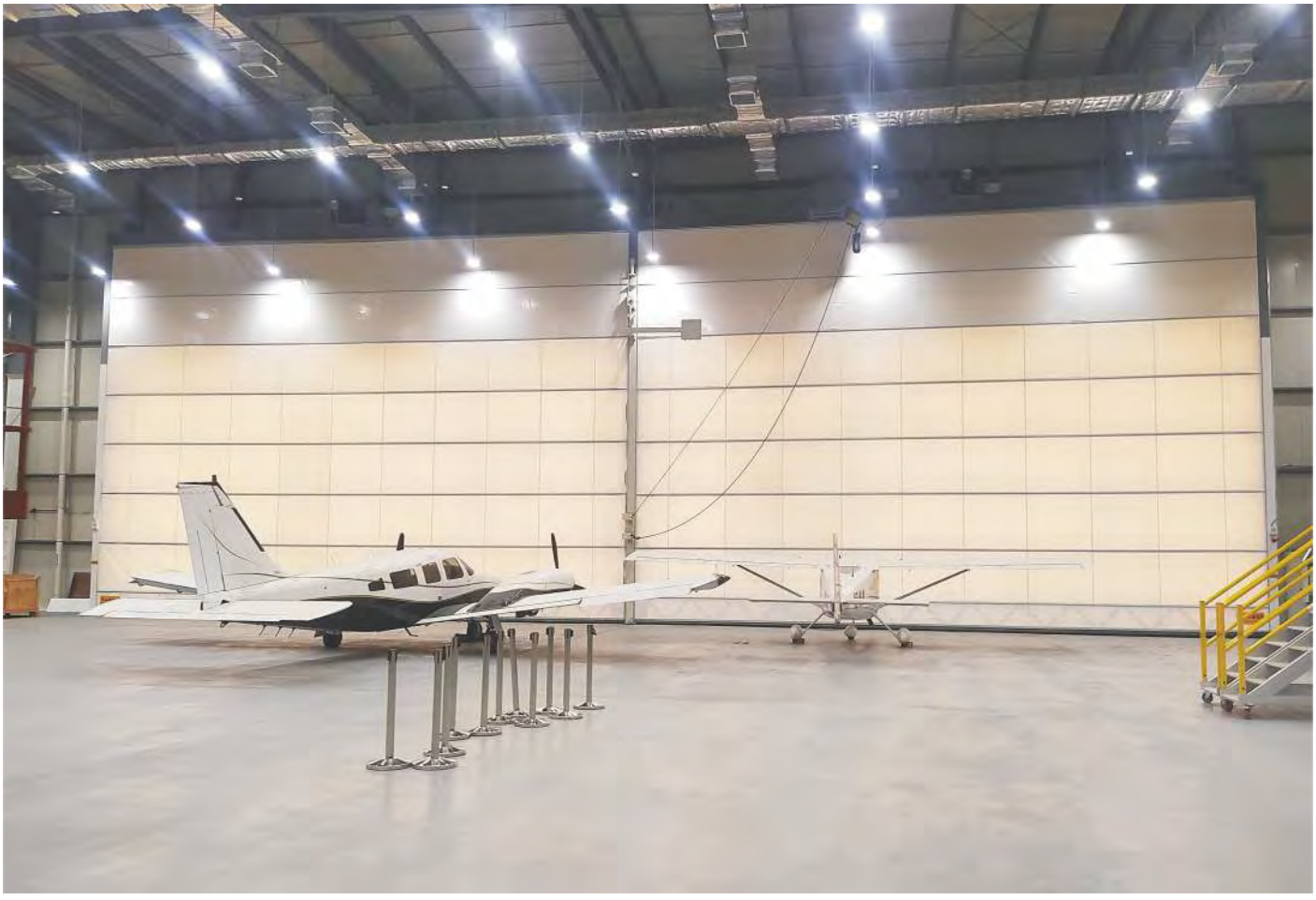
The main electrical control equipment for each drive leaf are housed in a standard steel electrical cabinet. The pendant push button is mounted to the end of the door leaf on a cord about 2 metres long that allows the operator to move from side to side to see where the door is being driven.

Safety And Warning Devices

Each drive leaf is fitted on the inside face with an audible alarm and a visual alarm. Photo-electric cells and anti collision sensors can also be provided or as per design safety requirements.

Power Supply and Wiring Materials

Fixed arrangement eliminate the wear & tear of power transmission system.




AERO DILI
TIMOR – LESTE

STAR EXPORT HOUSE
(Government of India Recognised)

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Gandhi Automations operates a policy of continuous development and reserves the right to make technical modifications / replacements without prior notice.

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