

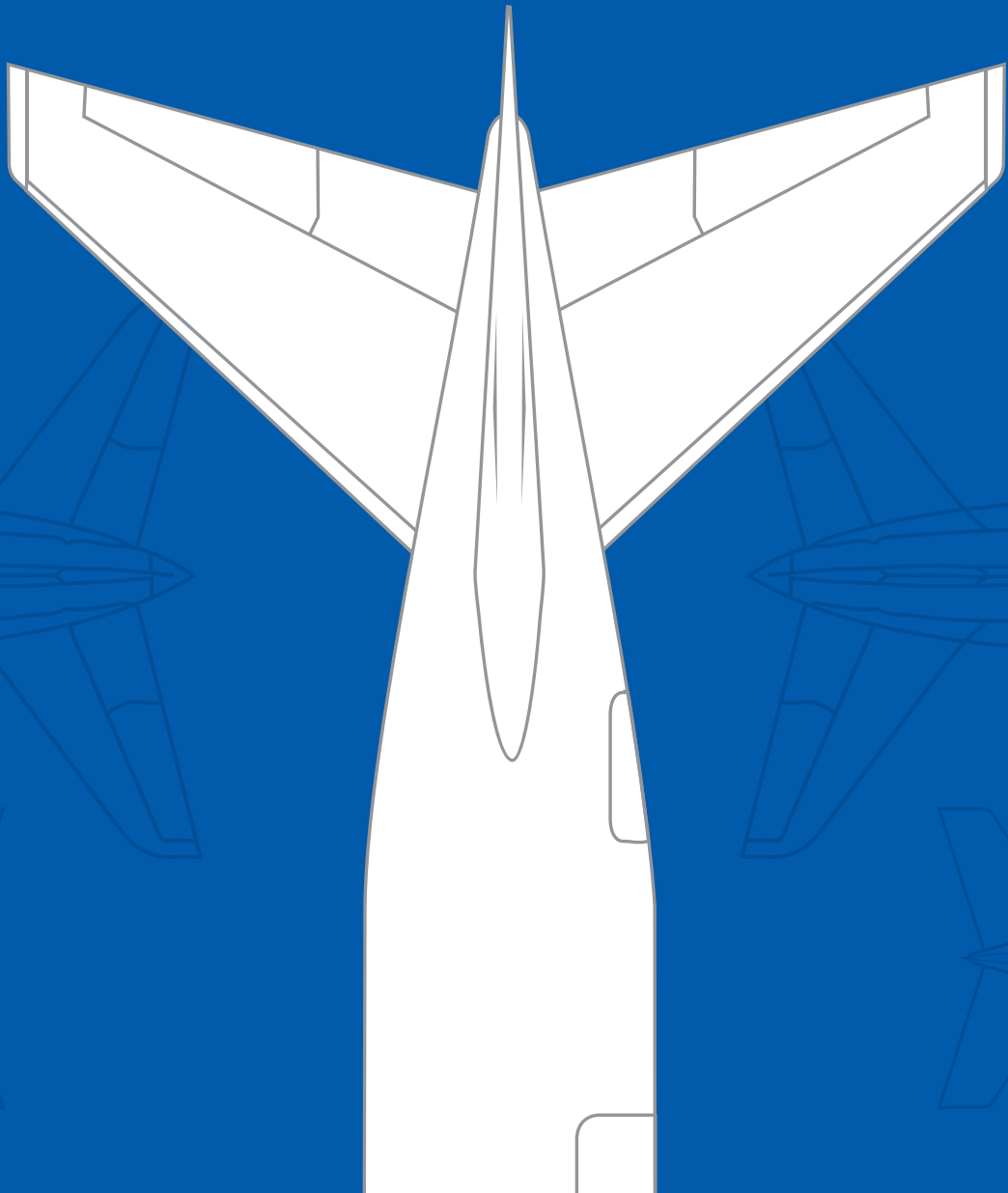


Volga  Dnepr



CARGO

AIRCRAFT GUIDE



WE WORK WITH WORLD LEADERS

For over 28 years, Volga-Dnepr Group's unique aircraft fleet has been advancing the world of air logistics, enabling our global customers to achieve fast, secure and cost-efficient transportation solutions, even for their most complex logistics challenges.





Our international reputation has been built on helping our customers to plan effectively, respond quickly and, most importantly of all, keep the promise they have made to their own customers. That's why so many of the world's leading companies choose Volga-Dnepr Group as their preferred transportation and logistics partner.

Our services connect the world's biggest centres of commerce but we also enable you to reach the most remote parts of the planet.

And, our unique aircraft fleet and the knowledge and expertise of our global team of professionals will ensure you can enjoy all of the speed, security and predictability benefits of air cargo transportation. And, with aircraft and local experts positioned at our operating hubs

...serving every continent, we are closer to you than ever before, ready to deliver the services and solutions you need, and provide visibility of your cargo's entire journey with us.

OUR GROUP OF COMPANIES

Volga-Dnepr Group consists of more than 20 companies in nine countries.

At the heart of the Group are two core cargo services:

CHARTER OPERATIONS

Global air cargo charter services delivered by Volga-Dnepr Airlines – the world's largest transporter of outsize and heavyweight air cargo, and the provider of end-to-end engineering and logistics solutions. Our air charter services combine all of the operating capabilities of our Antonov An-124-100, Ilyushin Il-76TD-90VD, Boeing 747 and B737 freighters.

SCHEDULED OPERATIONS

International scheduled cargo services are delivered by the Group's AirBridgeCargo Airlines and ATRAN Airlines onboard Boeing 747 and Boeing 737 freighters between Russia, Asia, the Middle East, Europe and North America. The combined network of both carriers covers more than 40 destinations worldwide, with all flights operated into international cargo hubs offering fast, efficient and secure handling of any type of cargo.

12x

An-124-100

5x

Il-76TD-90VD

18x

Boeing 747

4x

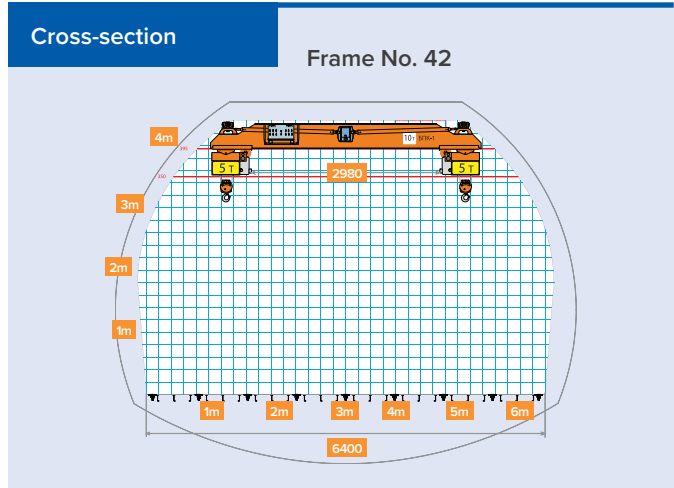
Boeing 737

AN-124-100



The An-124-100 is the world's largest civil cargo aircraft of serial production, and an acknowledged leader of the air cargo market for the transportation of oversized and super-heavy shipments.

The combination of exceptional characteristics such as its cargo compartment size, flight range and uplift capability without using special loading equipment allows the An-124 to carry super-heavy and oversized cargo up to 120 tonnes across the greatest range.



AIRCRAFT SPECIFICATIONS

Engine type	4x Lotarev D-18T
Engine take-off thrust	4x 24 T Σ= 96 T
Maximum take-off weight	392,000 kg
Operating empty weight	193,000 kg
Maximum payload incl. equipment weight	120,000 kg
Maximum landing weight	330,000 kg
Maximum zero fuel weight	306 000 kg
Cruising speed	750 km/h
Cruising altitude	31,000 – 35,000ft
Payload / Range	120,000kgs / 4,500 km
Maximum single lift with internal cranes	20,000 kg
Engineering crew	7
Flight crew	6

MAXIMUM PAYLOAD INCL. EQUIPMENT WEIGHT

120,000 kg

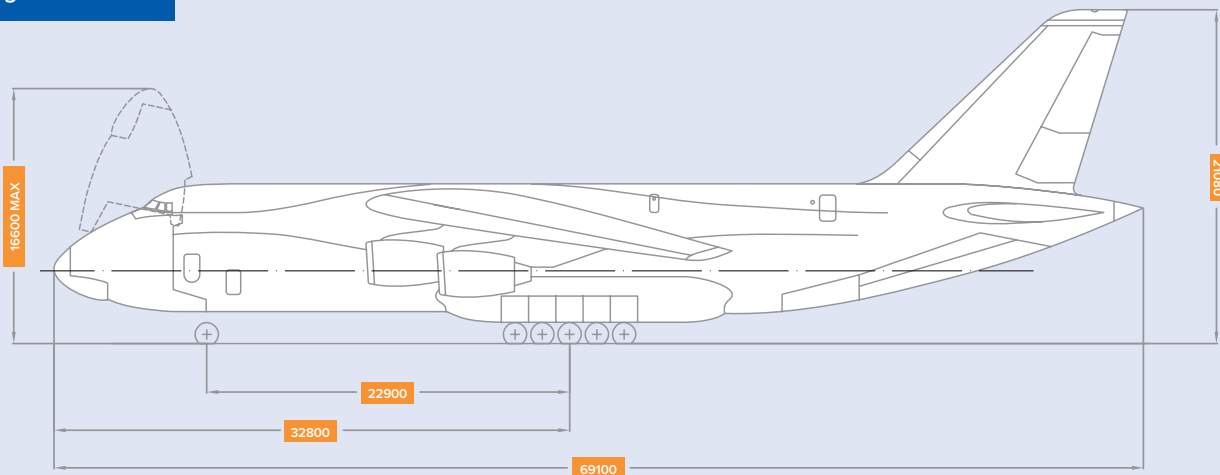
PAYLOAD / RANGE

120,000 kg
4,500 km

LOADING METHODS

- Pallets & crates loaded by forklift
- Use of the internal crane system
- Vehicles driven or winched into the aircraft
- Vehicles loaded on the Car Rack System
- Heavy or outside items winched into the aircraft using the tracking system

Drawing of aircraft



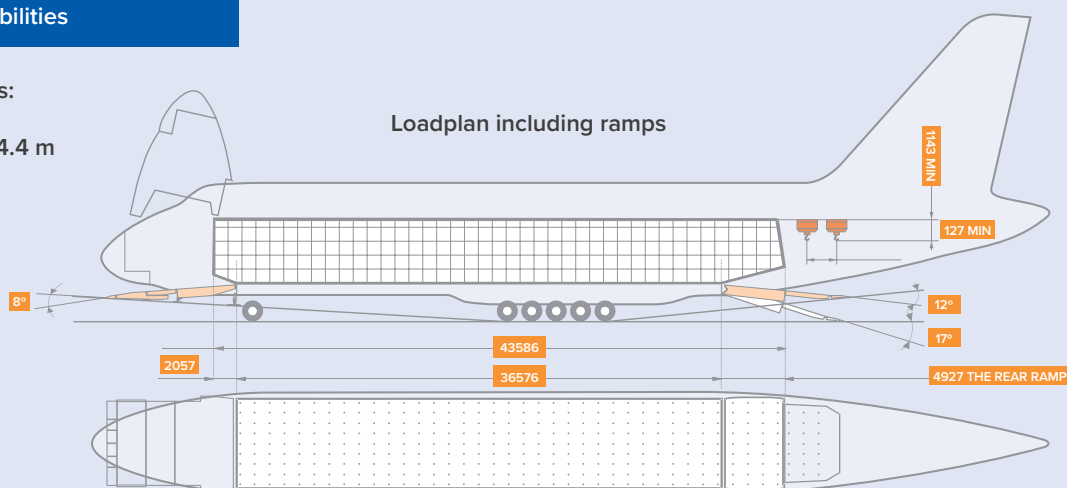


Cargo capabilities

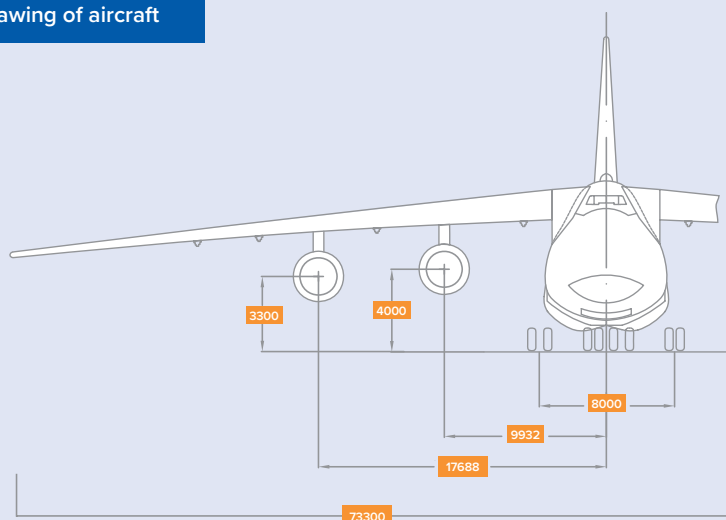
Dimensions:

L 36.5 m x

W 6.4 m x 4.4 m



Drawing of aircraft



ENVIRONMENT IN THE CARGO CABIN

G-Factors

- Forward – 2.3g
- Backward – 1.5g
- Lateral – 1.5g
- Upward – 2.0g
- Down – 2.5g

The lashing and preparation of cargo for flights must be done in respect of these maximum values.

Air Pressure

- Minimum pressure (unpressurised cargo cabin) – 260 mbar
- Minimum pressure (pressurised cargo cabin) – 480 mbar (ΔP 0.25) +0/1/-0.02 kg/cm²
- Air pressure change rate – 70 mbar/min

Temperature range

- Air Temperature – 10°-20±5 ° C
- Humidity during flight – 10-15% RH

LOADING EQUIPMENT

- Internal Crane System – The onboard system of overhead cranes consists of 2 gantries with 2 hoists, each equipped with 2 lifting hooks. They are capable of lifting single items of up to 20,000kgs. Our special extension for the onboard crane can be fitted to increase capacity to 30,000kgs but restrictions apply
- Double deck loading and transport system
Designed and patented by Volga-Dnepr, it allows the An-124-100 to transport up to 55 cars or 40 jeeps on a single flight, depending on the vehicles' characteristics. Loading does not require any additional equipment. Alternatively, cars can be driven or winched through the nose
- Bearings for elements of the front aircraft ramp or, to put it simply, under the front ramp of the An-124
- Extension ramps of various types
- Tracking systems (similar to railway tracks)
2 versions: low-profile and standard-profile
- Skate beams, roller frames or roller beams
- Platforms of various design and load-carrying capacity
- Protective weight-distributing plating

IL-76TD-90VD



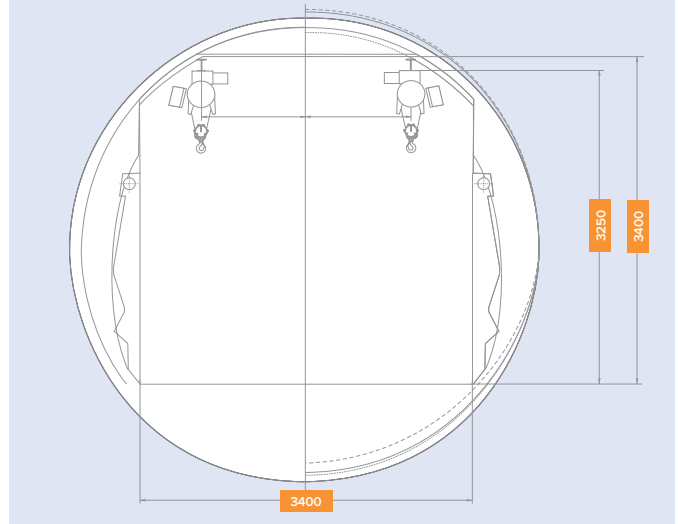
Volga-Dnepr participated in the modernisation of the IL-76TD, one of the most successful cargo aircraft with its cabin size, carrying capacity and autonomous loading capabilities.

The resulting product is the IL-76TD-90VD, equipped with new PC-90A-76 engines and modern avionics, approved for worldwide operations.

AIRCRAFT SPECIFICATIONS

Engine type	4x PS-90A-76
Engine take-off thrust	4x 16000 kg f Σ= 64000
Maximum take-off weight	195,000 kg
APS weight (average)	98,950 kg
Maximum payload incl. aircraft equipment	45,000 kg
Maximum landing weight	155,000 kg
Maximum ZFW	144,800 kg
Cruise speed	750 km/h
Flight level (typical)	9100 m – 10600 m
Cargo weight / Flight range	45,000 kg / 4500 km
Capability of onboard crane system	12,000 kg
Engineering crew	4 crew members
Flight crew	4 crew members

Cross-section



ENVIRONMENT IN THE CARGO CABIN

G-Factors

- Forward – 2.23g (up to 6.0g in case of emergency landing)
- Backward – 1.5g
- Lateral – 1.5g
- Upward – 2.0g
- Down – 2.5g

The lashing and preparation of cargo for flights must be done in respect of these maximum values.

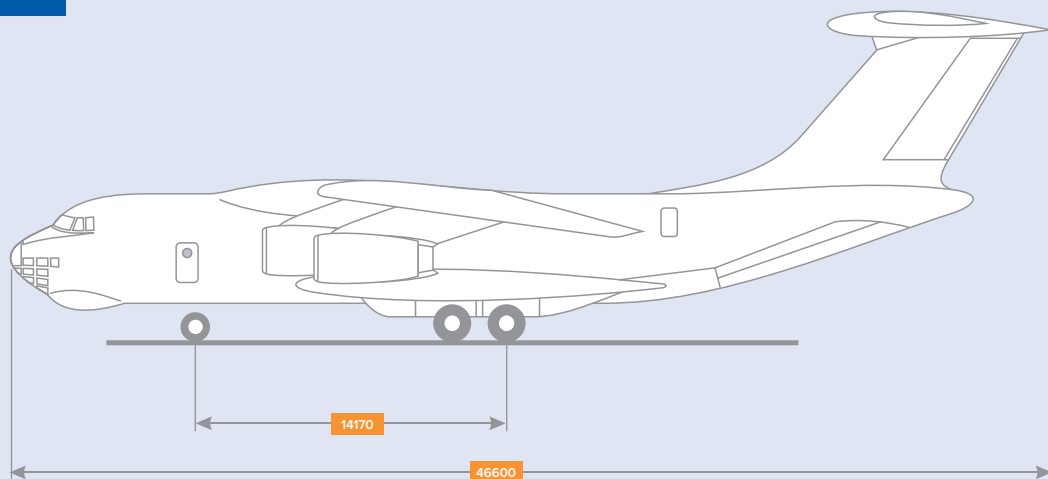
Air Pressure

- Minimal air pressure – 750 mbar (2 500m) Δ P 0.52 kg/cm²
- Air pressure change rate – 15 mbar/min

Temperature range

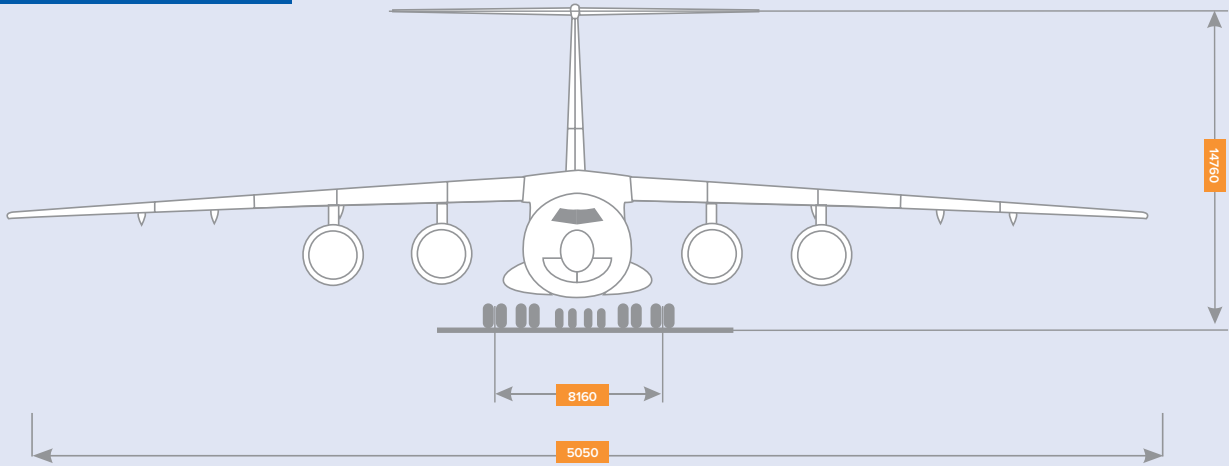
- Air Temperature – 10°-20°±5 °C
- Humidity during flight – 10-15% RH

Drawing of aircraft





Cargo capabilities



LOADING METHODS & EQUIPMENT

- Upper Loading Equipment
 - 2 onboard electric winches – 3 tonne hauling capacity
 - 4 electric hoists – 3 tonne lifting capacity each
- Loading of wheeled vehicles, trailers and tracked vehicles
 - Ramp enables wheeled vehicles to be loaded using their own power
 - Extension ramp can be applied for the loading of long and high vehicles
- Loading of heavy and outsize cargo
 - Use of special Volga-Dnepr Airlines' loading equipment
 - Mobile crane(s) and additional trailers must be used

MAXIMUM LANDING WEIGHT

195,000 kg

CARGO WEIGHT / FLIGHT RANGE

45,000 kg
4500 km

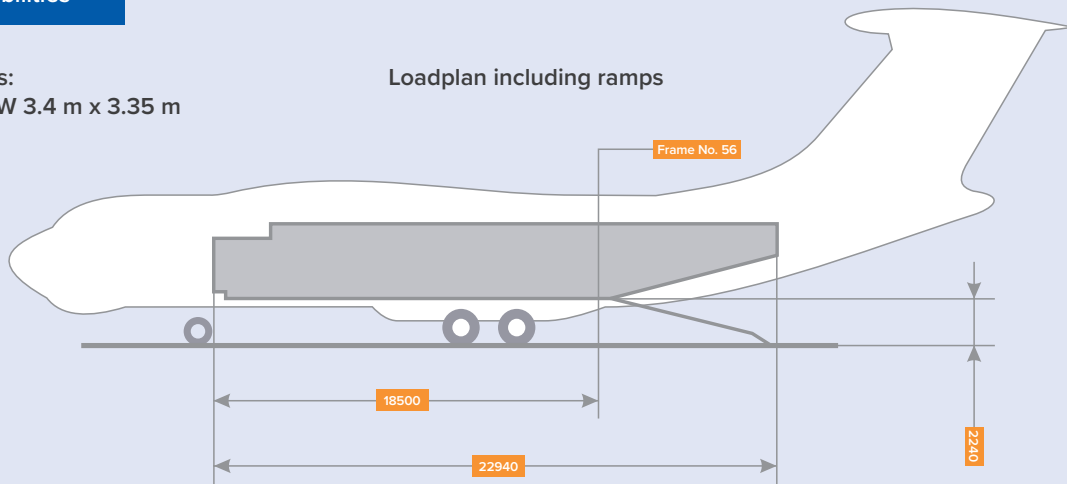
CRUISING SPEED

750 km/h

Cargo capabilities

Dimensions:
L 18.5 m x W 3.4 m x 3.35 m

Loadplan including ramps



BOEING 747



The Boeing 747 is an all-cargo aircraft and is one of the most popular choices for cargo transportation.

Features such as the large side door and nose door facilitate the ease and flexibility of loading.

AIRCRAFT SPECIFICATIONS

Boeing 747-8F

Maximum take-off weight	447,695 kg/975,000 lb
Maximum landing weight	329,761 kg/761,000 lb
Maximum payload	139,000 kg
Main deck volume	692.7 m ³ / 24,462 ft ³
Lower hold volume	150 m ³ / 5,330 ft ³
Bulk	14 m ³ / 496 ft ³
ULD main deck	34 positions

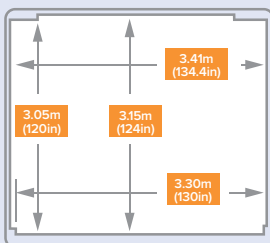
Boeing 747-400F (ERF)

Maximum take-off weight	412,796 kg/910,000 lb
Maximum landing weight	296,195 kg/653,000 lb
Maximum payload	128,500 kg
Main deck volume	607.7 m ³ / 21,462 ft ³
Lower hold volume	130.3 m ³ / 4601 ft ³
Bulk	14 m ³ / 520 ft ³
ULD main deck	30 positions

Temperature Controlled Logistics

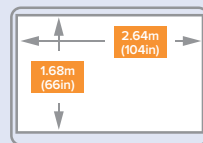
The Boeing 747-8F and 747-400F (ERF) both contain three compartments enabling different temperature settings from 4°C to 29°C.

Drawing of aircraft

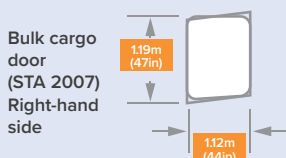
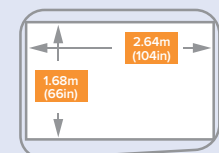


Main deck cargo door (STA 1770) Left-hand side

Fwd lower deck cargo door (STA 615) Right-hand side

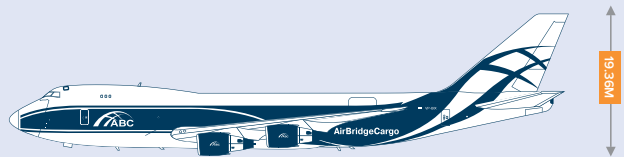
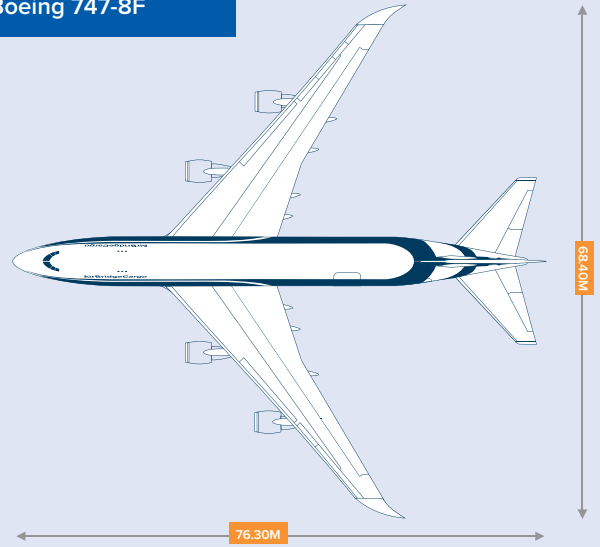


Aft lower deck cargo door (STA 1865) Right-hand side

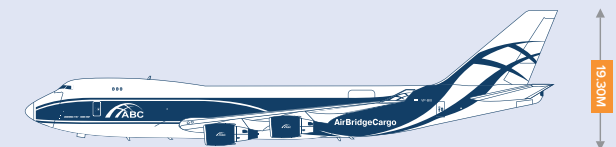
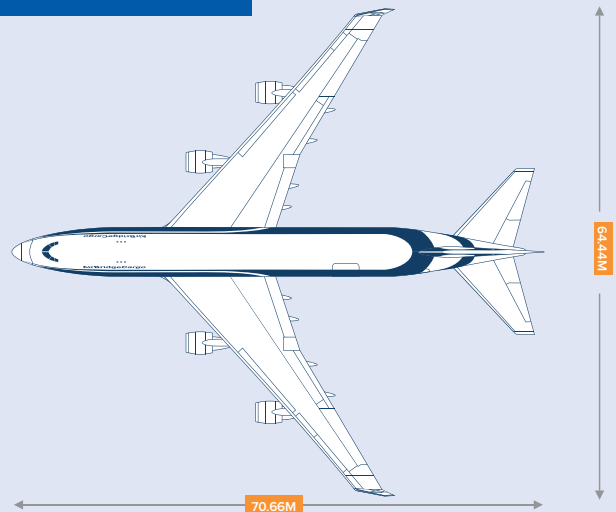


Bulk cargo door (STA 2007) Right-hand side

Boeing 747-8F

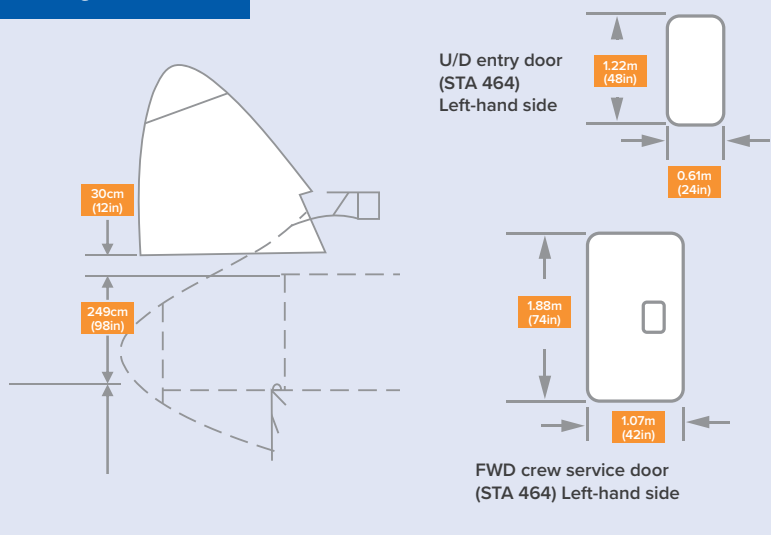


Boeing 747-400ERF

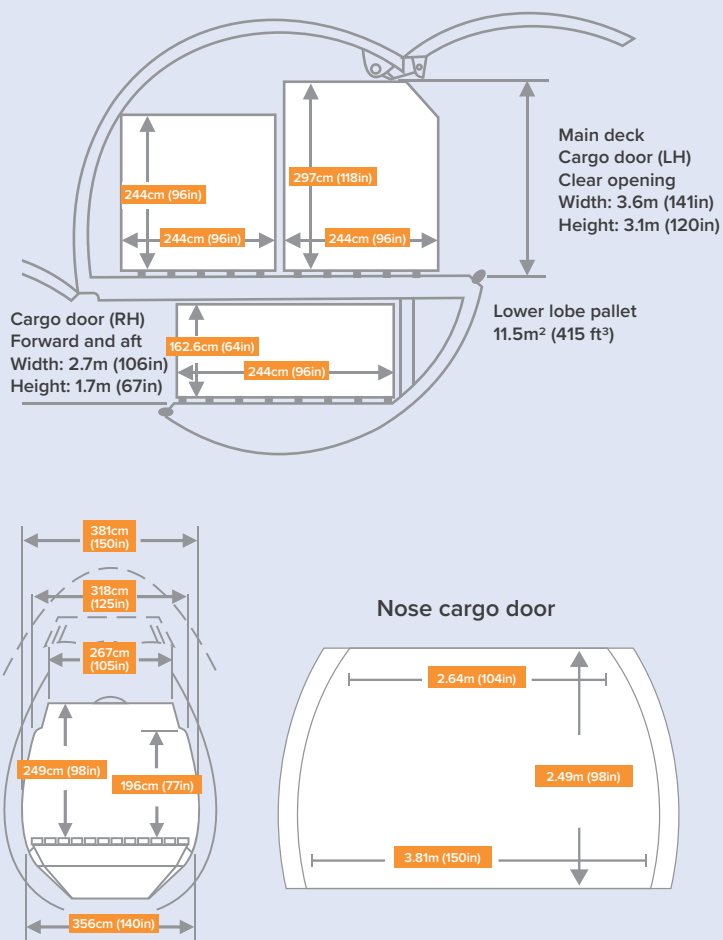




Drawing of aircraft

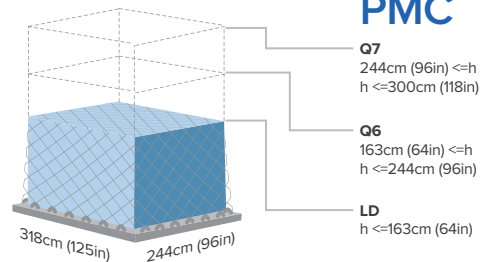


Drawing of aircraft

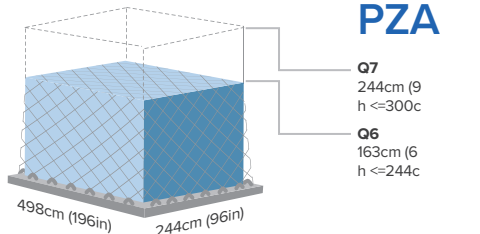


ULDs

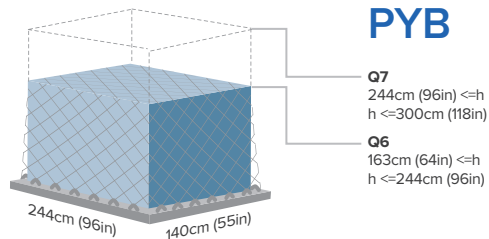
PMC



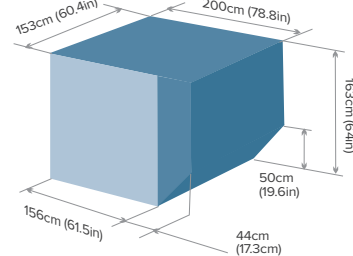
PZA



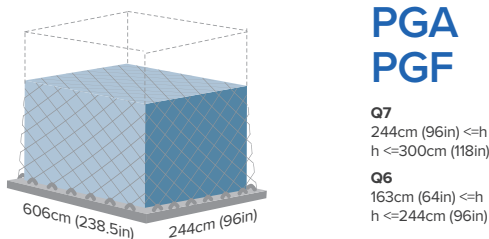
PYB



AKE



PGA PGF

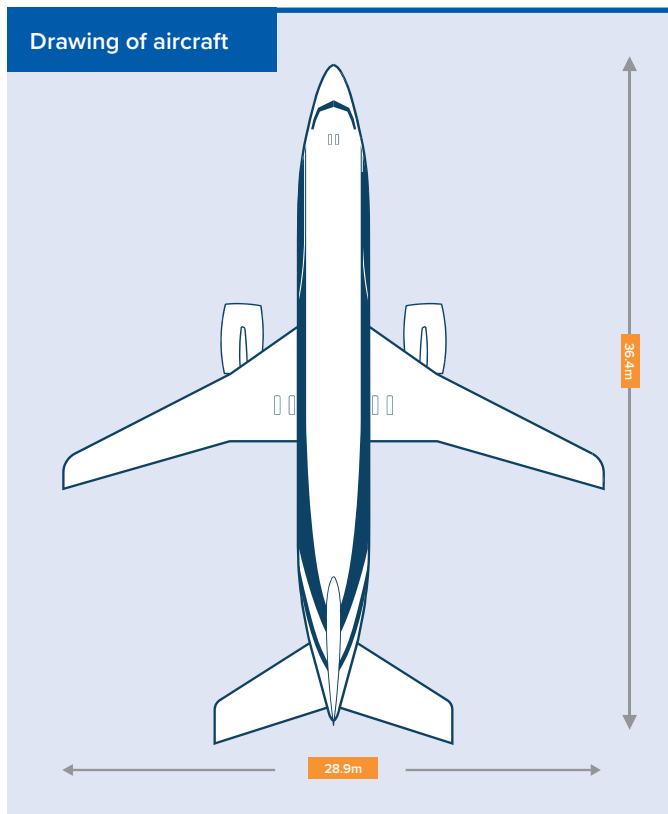


BOEING 737



The Boeing 737-400SF is a twin-engine medium-haul aircraft that is perfectly suited to short and mid-range routes.

It is able to carry up to 20 tons and 130 m3 of cargo to a distance of 2,800 kilometres. The aircraft is equipped with a main deck side cargo door and a loading system enabling it to stow 10 standard 2235×3175 mm aviation pallets and containers in the cargo hold.



AIRCRAFT SPECIFICATIONS

Boeing 737-800

Maximum take-off weight	79,000 kg / 174,200 lb
Maximum landing weight	66,350 kg / 146,300 lb
Maximum payload	23,950 kg

Cargo Volume

Main deck volume	141.5 m2 / 4,997 ft3
Pallets and containers with base 88" x 125", total number	11

Boeing 737-400

Maximum take-off weight	65,090 kg / 153,500 lb
Maximum landing weight	55,338 kg / 122,000 lb
Maximum payload	20,000 kg

Cargo Volume

Main deck volume	121.5 m2 / 4,289 ft3
Pallets and containers with base 88" x 125", total number	10+1

MAXIMUM TAKE OFF WEIGHT

65,090 kg / 153,500 lb

MAXIMUM LANDING WEIGHT

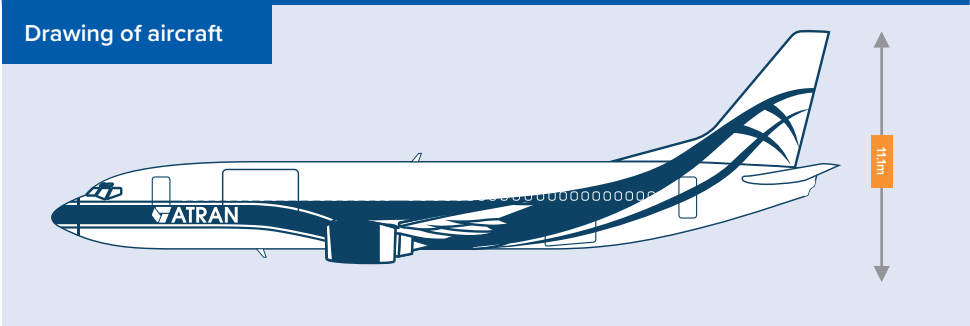
55,338 kg / 122,000 lb

MAIN DECK VOLUME

121.5 m2 / 4,289 ft3

MAXIMUM WEIGHT FOR ONE PIECE OF CARGO

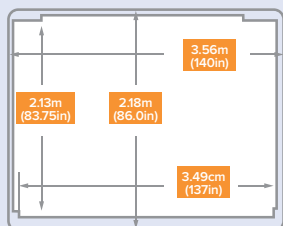
3,200 kg



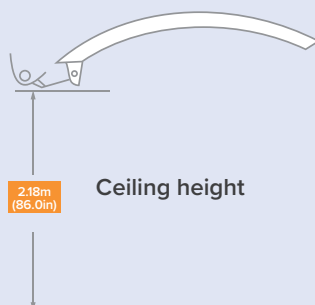
ATRAN AIRLINES OPERATES 4 BOEING 737 FREIGHTERS



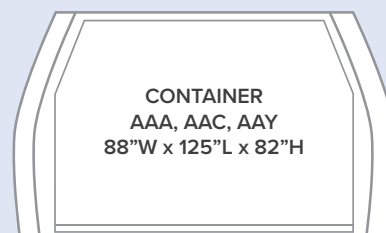
Cargo capabilities



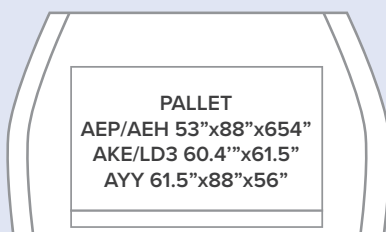
Main deck cargo deck



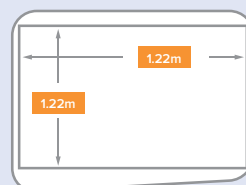
Ceiling height



Position 1-10



Position 11



Aft lower deck cargo door

LOADING HEAVY CARGO

- The maximum weight for one piece of cargo is 3,200kg, on the condition that the dimensions of this piece do not exceed the dimensions of the pallet.
- With a new scheme developed by ATRAN Airlines, should the cargo not exceed dimensions of 200 x 140 x 150cm, the weight of the cargo can be up to 6t.

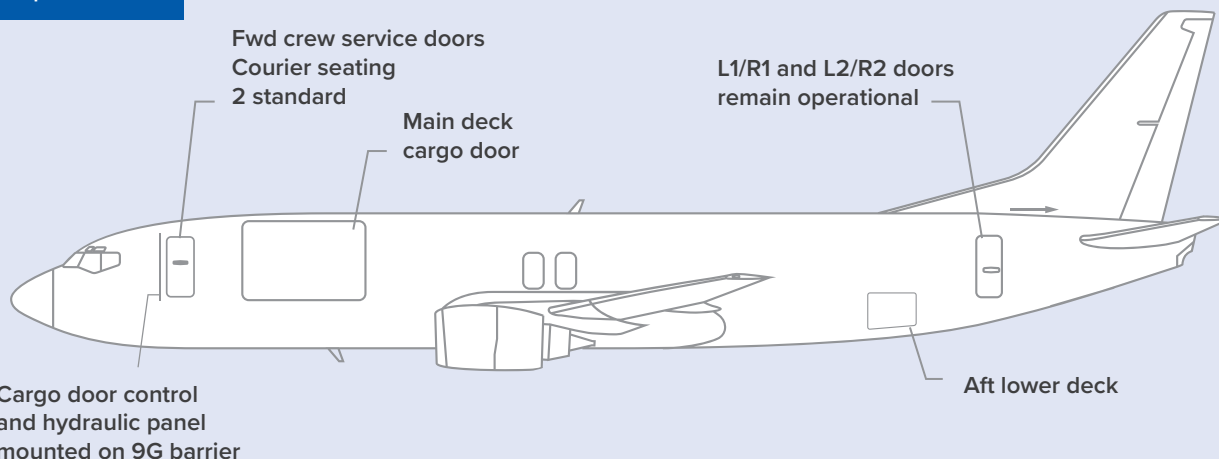
CARGO CAPABILITIES

- Dimensions
- Boeing 737-400F
 - Length 36.4 m / 119 ft
 - Height 11.07 m / 36 ft
 - Wing span 28.88 m / 94 ft

LOADING METHODS

- Loading oversize cargo (Main deck)
- Dimensions up to 380 x 100 x 100cm and must be reinforced on a pallet and loaded by the wide side of the pallets, turning 90 degrees on entrance to the main deck
- Loading cargo at an angle to the door of the main cargo decking

Cargo capabilities



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