

Dornier Aircrafts

In March 2022, the Indian and Sri Lankan government signed a Memorandum of Understanding to provide two Dornier 228 aircrafts to the Sri Lankan Navy.

The Memorandum of Understanding is among the host of agreements signed in the Sri Lankan capital on 28 March 2022, during the visit of External Affairs Minister S Jaishankar, who met Sri Lankan President Gotabaya Rajapaksa, Prime Minister Mahinda Rajapaksa and Finance Minister Basil Rajapaksa.

This article will give details about the Dornier 228 as well as other variants for the UPSC Exam.

Dornier 228

The Dornier 228 is a twin- turboprop utility aircraft of the STOL (Short-Take off and Landing) variety. It was designed by DASA Dornier, Fairchild - Dornier (previously Dornier GmbH from 1918-1998). In 1983, a production licence was bought by Hindustan Aeronautics Limited (HAL) who set up a manufacturing unit of these aircrafts in Kanpur. About 124 aircrafts were built here.

The fuselage, wings and tail units are manufactured by HAL in Kanpur while its assembly is done by RUAG aviation in Oberpfaffenhofen in Germany.

Design and Characteristics of Dornier 228

The Dornier 228 is a general aircraft with twin engines capable of carrying at least 19 passengers. With its STOL capability, it is capable of operating on short runways as well as in hot environments.

The Dornier 228 has been marketed as a general-service aircraft capable of operating in many roles such as military transport, courier aircraft or cargo hauler.

It carries out special missions such as:

1. Maritime Surveillance
2. Border Patrol
3. Medical Evacuations
4. Search and Rescue
5. Parachutes
6. Environmental research.

It is fitted with special equipment such as 360-degree surveillance radar, searchlights, operator stations, enlarged fuel tanks, satellite uplink etc.



Characteristics of the Dornier 228 are given in the table below:

Dornier 228 Characteristics	
General characteristics	Performance
<ul style="list-style-type: none"> ● Capacity: 19 pax ● Crew: 2 ● Length: 16.56 m (54 ft 4 in) ● Wingspan: 16.97 m (55 ft 8 in) ● Height: 4.86 m (15 ft 11 in) ● Wing area: 32 m² (340 sq ft) ● Airfoil: Do A-5^[50] ● Empty weight: 3,900 kg (8,598 lb) ● Max takeoff weight: 6,575 kg (14,495 lb) ● Fuel capacity: 1,885 kg (4,156 lb) ● Powerplant: 2 × Honeywell TPE331-10 turboprop, 579 kW (776 shp) each ● Propellers: 5-bladed MT-Propeller, 	<ul style="list-style-type: none"> ● Cruise speed: 413 km/h (257 mph, 223 kn) ● Stall speed: 137 km/h (85 mph, 74 kn) ● Range: 396 km (246 mi, 214 nmi) with 1,960 kg (4,321 lb) payload ● Ferry range: 2,363 km (1,468 mi, 1,276 nmi) with 547 kg (1,206 lb) payload ● Endurance: 10 hours ● Service ceiling: 7,620 m (25,000 ft) ● Fuel consumption: 0.945 kg/km (3.35 lb/mi) at 413 km/h (257 mph; 223 kn) IAS ● Take-off run: 792 m (2,600 ft)

2.5 m (8 ft 2 in) diameter fully-feathering constant-speed propellers	(MTOW, ISA, SL) <ul style="list-style-type: none"> ● Landing run: 451 m (1,480 ft) (MLW, ISA, SL)
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Other Types of Dornier Aircrafts

There are other types of Dornier aircrafts in service some of the are as follows:

1. Dornier 328: The Dornier 328 is a larger version of the Dornier 228. It also has a jet version known as the Fairchild Dornier 328JET. It is used for both civilian and military purposes in many countries such as Australia, Canada, United States etc.

The general characteristics and performance of the Dornier 328 is given in the table below:

Dornier 328 Characteristics	
General characteristics	Performance
<ul style="list-style-type: none"> ● Crew: 3 (2 Pilots, one Flight Attendant) ● Capacity: 30 to 33 (14 in First Class Config) / 4,890 kg (10,781 lb) payload ● Length: 21.23 m (69 ft 8 in) ● Wingspan: 20.98 m (68 ft 10 in) ● Height: 7.05 m (23 ft 2 in) ● Wing area: 40 m² (430 sq ft) ● Airfoil: Do A-5 ● Empty weight: 9,100 kg (20,062 lb) ● Max takeoff weight: 13,990 kg (30,843 lb) ● Powerplant: 2 × Pratt & Whitney Canada PW119B turboprop engines, 1,625 kW (2,179 hp) each 	<ul style="list-style-type: none"> ● Cruise speed: 620 km/h (390 mph, 330 kn) ● Range: 1,852 km (1,151 mi, 1,000 nmi) ● Service ceiling: 9,492 m (31,142 ft)



3. Dornier Do 28: The type designation Dornier Do 28 comprises two different twin-engine STOL utility aircraft, manufactured by Dornier Flugzeugbau GmbH. It is a smaller version of Dornier aircrafts used in communications and utility roles.



The general characteristics and performance of the Dornier Do 28 is given in the table below:

Dornier 328 Characteristics	
General characteristics	Performance
<ul style="list-style-type: none"> ● Crew: 1 or 2 ● Capacity: 12 or 13 passengers ● Length: 11.41 m (37 ft 5 in) ● Wingspan: 15.55 m (51 ft 0 in) ● Height: 3.90 m (12 ft 10 in) ● Wing area: 29.00 m² (312.2 sq ft) ● Aspect ratio: 8.3:1 ● Airfoil: NACA 23018 (modified) ● Empty weight: 2,304 kg (5,079 lb) ● Max takeoff weight: 4,015 kg (8,852 lb) ● Fuel capacity: 893 L (236 US gal; 196 imp gal) ● Powerplant: 2 × Lycoming IGSO-540-A1E air-cooled flat-six engines, 280 kW (380 hp) each ● Propellers: 3-bladed Hartzell 	<ul style="list-style-type: none"> ● Maximum speed: 325 km/h (202 mph, 175 kn) at 3,000 m (10,000 ft) ● Cruise speed: 241 km/h (150 mph, 130 kn) at 10,000 ft (3,000 m) (econ cruise, 50% power) ● Stall speed: 104 km/h (65 mph, 56 kn) (power off, flaps down) ● Minimum control speed: 65 km/h (40 mph, 35 kn) (power on, flaps down) ● Range: 2,950 km (1,830 mi, 1,590 nmi) (with max fuel) ● Service ceiling: 7,680 m (25,200 ft) ● Rate of climb: 5.3 m/s (1,050 ft/min)

constant-speed propellers	
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Frequently Asked Question about Dornier Aircraft

Is Dornier 228 pressurized?

The Dornier 228 is a high-winged unpressurized 19 seat twin-engine turbo-prop utility aircraft. The aircraft is capable of transporting up to 19 passengers or various cargos and is capable of operations on both paved and unpaved strips. The Dornier 228 is powered by two Garrett TPE331 turboprop engines.

What is STOL?

A short takeoff and landing (STOL) aircraft is a conventional fixed-wing aircraft that has short runway requirements for takeoff and landing. Many STOL-designed aircraft also feature various arrangements for use on airstrips with harsh conditions (such as high altitude or ice).

In what way was the Dornier 228 designed?

The 19 seater HAL - DO - 228 aircraft is a highly versatile multi-purpose light transport aircraft. It has been developed specifically to meet the manifold requirements of utility and commuter transport