

(DASH-12) DS-12 Aircraft Specifications

Dimensions:

Basic data:

Overall length, m	11,13
Overall height (ground),m	3,58
Overall height (flight), m.....	4,05
Static ground angle, deg	7°
Anti nose-over angle, deg.....	11°
Propeller clearance (ground), m	0,8
Propeller clearance (flight), m.....	0,5
(landing gear tire deflection):	
Landing gear base, m.....	4,35
Minimum ground turnback radius	
(outer wing leading edge), m.....	12,2

Fuselage:

Overall length, m	8,58
Length, m.....	6,7
(cowling and rudder excluded)	
Overall width, m	1,6
Maximum height, m	1,65
Pilot cabin length, m.....	1,68
(cockpit and load compartment inclusive)	
Passenger cabin width, m	1,39
Passenger cabin length, m.....	3,68
2 Passenger door dimensions (width x height), m	1,55x1,20
2 Cockpit door dimensions (width x height), m	1,05x1,20

Wing:

Wingspan, m	16,85
Geometric square, m ²	23,8
Length MAC, m.....	1,40
Extension	10,6
Taper(ratio)	1,0
Profile P-301M-15%.....	15
Dihedral angle, deg.....	2°
Angle of wing setting, deg.....	+3°
Angle of twist	-2°

Aileron:

Total square of two ailerons, m ²	3,05
Span, m.....	2,45
Chord, m.....	0,465
Setting angles, deg:	
Up.....	25°
Down.....	10°

Flap:

Total square of two flaps, m ²	4,20
Span, m.....	3,62
Chord, m.....	0,445
Setting angels, deg.....:	
Take-off.....	20°
Landing.....	40°

Fin:

Height, m.....	2,65
MAC, m.....	1,768
Area, m ²	3,96
Rudder area, m ²	1,76
Rudder Setting angles, deg.....	25°±1

Stabilizer:

Span, m.....	5,53
Area, m ²	6,64
Chord (elevator inclusive), m.....	1,20
Elevator area, m ²	3,0
Elevator chord, m.....	0,535
Stabilizer setting angle, deg.....	0°
Elevator setting angle, deg:	
Up.....	20°
Down.....	26°
NACA-23010 profile (reversed) %.....	10

Landing gear:

Ground track, m.....	4,55
Ground base, m.....	7,65
Main wheels identification and dimensions.....	KT-318 0,704x0,229
Tail wheel identification and dimensions.....	44-10,400x0,150
Main wheels camber, deg.....	4°

Weights and loadings:

Take-off and landing weight, (max) kg.....	3 500 (4 000)
Fuel internal, kg.....	656 (820L)
Max. fuel weight, kg.....	976(1220L)
(for ferry flight with supplementary fuel tanks)	
Payload (max), kg.....	1500
Aircraft empty weight, kg.....	1730
Oil weight, kg.....	6
Operational CofG limits	
- forward, % MAC.....	20
- aft, % MAC.....	50
Empty aircraft CofG, % MAC.....	25±1

Performance:

Speed:

Maximum level speed (5 minutes, TAS), km/h.....	305
Maximum cruise speed (TAS), km/h	285
Long range speed (TAS), km/h	190-220
Stall speed, flaps up (G=3500kg), km/h.....	110
Stall speed, flaps down (G=3500kg), km/h.....	95

Climb and landing:

Rate of Climb, (G=3500kg, 5 minutes), m/s	9,5
Rate of Climb, continuous throttle (G=3500kg), m/s.....	8
Time to altitude 4 km, (13,120 ft) (G=3500kg), minutes.....	11
Time of descent from 4 km, minutes.....	5
Rate of glide, propeller feathered, $V=1.3V_S$, m/s.....	3
Max. operating altitude, m	6 000

Range:

Range (payload 430kg, fuel 820 L, 40 min reserves), km:	
Low altitude, speed 290 km/h	750
Low altitude, speed 190 km/h	850
Altitude 3 000 m, speed 290 km/h	945
Altitude 3 000 m, speed 200 km/h	1070
Altitude 6 000 m, speed 280 km/h	1145
Altitude 6 000 m, speed 220 km/h	1330
Ferry range (fuel 820 L, altitude 6 000 m, 40 min reserves), km.....	1580
Ferry range (fuel 1220 L, altitude 6 000 m, 40 min reserves), km.....	2160
Time in flight (max), fuel 820 L, hours.....	8

Take-off and landing:

Take-off run (G=3500, ISA, no wind), m:	
Dry concrete runway	270
Ground density 4-5kg/cm ²	300
T-O to 15 m (50 ft).....	460
Landing run with propeller reversal (G=3500, ISA, no wind), m:	
Dry concrete runway	175
Ground density 4-5kg/cm ²	160