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BAe 146 Technical Data - *at a glance*



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BAe 146 - Technical Data

The BAe 146 family combines main line passenger accommodation with high performance to provide unmatched operating potential for both major and regional operators. With complete commonality across the three fuselage length family, BAe 146 customers can optimise regional jet operations to maximise revenue at minimal cost.

Configurations of the aircraft vary from less than 70 to more than 100 seats and include four, five or six abreast, mixed class or convertible seating. The high volume and easy access freight holds allow for additional mail and cargo.

This revenue earning capability, with high standards of performance, enables both niche and prime routes to be served. Longer routes, up to 3,000km, requiring less than 100 seats are regularly operated with full multi-class service by the BAe 146.

In addition, excellent airfield performance permits comfortable jet travel to downtown, mountainous, or other restrictive airfields.

This brochure provides typical data for the BAe 146 but due to wide variations in delivery specification, BAE Systems Regional Aircraft should be consulted during the evaluation of a specific variant.



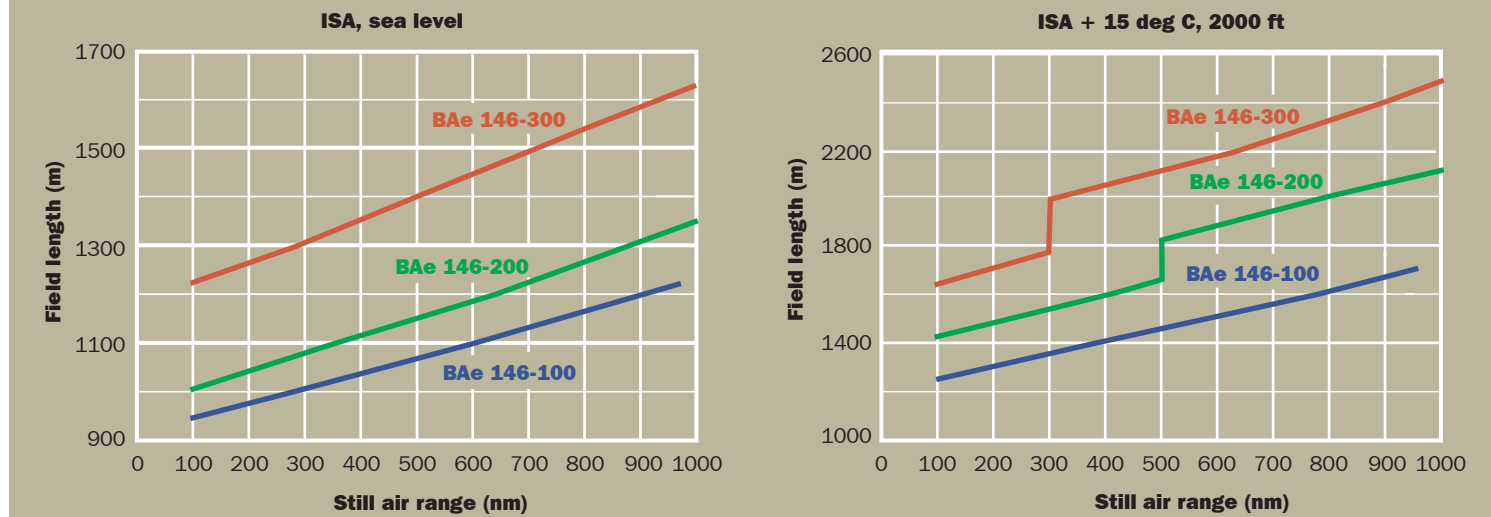
Leading Particulars

Design Weights	BAe 146-100	BAe 146-200	BAe 146-300
Maximum take-off weight	38,102 kg (84,000 lb)	42,184 kg (93,000 lb)	44,225 kg (97,500 lb)
Maximum landing weight	35,153 kg (77,500 lb)	36,741 kg (81,000 lb)	38,329 kg (84,500 lb)
Maximum zero-fuel weight	31,071 kg (68,500 lb)	34,020 kg (75,000 lb)	36,514 kg (80,500 lb)
Typical Operating Weight Empty (including crew & catering)	23,300 kg (51,368 lb)	23,800 kg (52,470 lb)	24,800 kg (54,675 lb)
Design Speeds	BAe 146-100	BAe 146-200	BAe 146-300
• Vmo	300 kt IAS	300 kt IAS	300 kt IAS
• Mmo (JAR)	M0.72	M0.72	M0.72
• Mmo (FAR)	M0.73	M0.73	M0.73
Dimensions	BAe 146-100	BAe 146-200	BAe 146-300
Wing span	26.34 m (86 ft 5 in)	26.34 m (86 ft 5 in)	26.34 m (86 ft 5 in)
Gross wing area	77.3 sq m (832 sq ft)	77.3 sq m (832 sq ft)	77.3 sq m (832 sq ft)
Overall length	26.16 m (85 ft 10 in)	28.55 m (93 ft 8 in)	30.99 m (101 ft 8 in)
Overall height	8.61 m (28 ft 3 in)	8.61 m (28 ft 3 in)	8.59 m (28 ft 2 in)
Main landing gear track	4.72 m (15 ft 6 in)	4.72 m (15 ft 6 in)	4.72 m (15 ft 6 in)
Wheelbase	10.09 m (33 ft 1.5 in)	11.20 m (36 ft 9 in)	12.52 m (41 ft 1 in)
Passenger cabin			
• Length	15.42 m (50 ft 7 in)	17.81 m (58 ft 5 in)	20.20 m (66 ft 3 in)
• Headroom	2.03 m (6 ft 8 in)	2.03 m (6 ft 8 in)	2.03 m (6 ft 8 in)
• Internal diameter	3.42 m (11 ft 3 in)	3.42 m (11 ft 3 in)	3.42 m (11 ft 3 in)
• Floor width	3.24 m (10 ft 8 in)	3.24 m (10 ft 8 in)	3.24 m (10 ft 8 in)
Capacities	BAe 146-100	BAe 146-200	BAe 146-300
Lower holds (front and rear)			
• Total volume	13.56 cu m (479 cu ft)	18.25 cu m (645 cu ft)	22.98 cu m (812 cu ft)
• Maximum loading	366 kg/sq m (75 lb/sq ft)	366 kg/sq m (75 lb/sq ft)	366 kg/sq m (75 lb/sq ft)
• Maximum weight	2,267 kg (5,000 lb)	3,026 kg (6,670 lb)	3,834 kg (8,370 lb)
Overhead bin volume	3.6 cu m (127.3 cu ft)	4.4 cu m (155.1 cu ft)	5.2 cu m (183.4 cu ft)
Fuel capacity	11,728 litres (2,580 Imp Gal, 3,099 USG)		

Airfield Performance

Elevation range	From -1,000 ft to 8,000 ft (Optional to 14,000 ft)	
Temperature range	From -40 deg C to 50 deg C (ISA + 35 deg C above 2,525 ft)	
Approach category	All series	Category B
ILS category -	JAA / FAA category II, 100 ft DH, minimum operational RVR 300m	
Maximum approach angle (with steep approach modifications)	BAe146-100 & 200	6 degrees
	BAe146-300	5.5 degrees
Demonstrated crosswind component	35 kt	
Certificated tailwind component		
• Take-off & normal landing	15 kt	
• Steep approach landing	5 kt	

Take-off Field Length



Assumptions

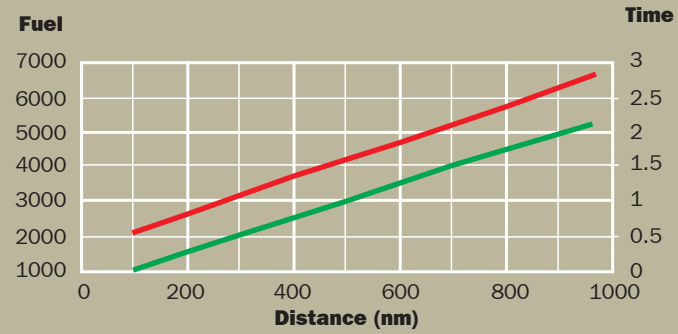
JAR reserves, 150 nm diversion, normal cruise. Dry, level, paved runway, no obstacles
Maximum passenger payload, 6 abreast configuration.

Landing Field Length	BAe 146-100		BAe 146-200		BAe 146-300	
Payload	7,600 kg (16,755 lb)		9,500 kg (20,944 lb)		10,640 kg (23,457 lb)	
Equivalent to	80 pax @ 95 kg		100 pax @ 95 kg		112 pax @ 95 kg	
Elevation	Sea level	2,000 ft	Sea level	2,000 ft	Sea level	2,000 ft
Normal Approach						
	1,054 m	1,101 m	1,106 m	1,155 m	1,176 m	1,222 m
	3,458 ft	3,613 ft	3,627 ft	3,789 ft	3,859 ft	4,009 ft
Steep Approach (35 ft screen height)						
	983 m	1,030 m	1,038 m	1,087 m	1,052 m	1,098 m
	3,223 ft	3,378 ft	3,405 ft	3,567 ft	3,450 ft	3,600 ft

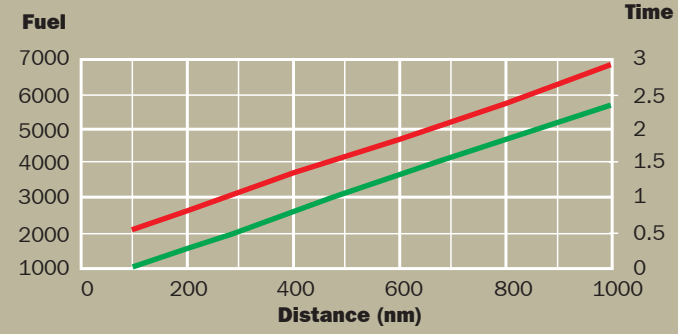
Dry runway, JAR reserves, 400 nm sector, 150 nm diversion.

Block Fuel and Time

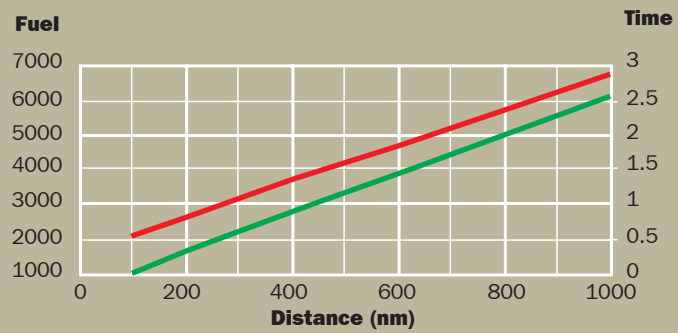
BAe 146-100 80 seat configuration



BAe 146-200 100 seat configuration



BAe 146-300 112 seat configuration



— Time (hr)
— Fuel (kg)

Assumptions

Normal cruise procedure
ISA, still air



Performance Assumptions

JAR Reserve Policy

5% trip fuel
Overshoot at destination
Diversion and approach to alternate
30 minutes hold at 1500 ft at alternate

Manoeuvre Allowances	Fuel (kg)	Time (min)
Engine start and pre-taxi checks	21	
Taxi-out (all engines)	68	5.0
Take-off and climb to 1500 ft	Varies with take-off weight	
IFR Approach and land	114	4.0
Taxi-in (2 engines - fuel from reserves)	29	3.0
No distance credit below 1500 ft		

Operating Speeds

	Normal (minimum cost) cruise	Long range cruise
Climb	250 kt / M0.60	250 kt / M0.60
Cruise	Vmo / M0.65** / MCT	230 kt*** / MCT
Descent	290 kt* / M0.70	250 kt / M0.60

* 250 kt below 10,000 ft ** M0.67 for BAe 146-300 *** 240 kt for BAe 146-300

Powerplant

Engines

Type	Honeywell ALF 502R-5
Take-off thrust (static, sea level)	31.00 kN (6,970 lb) Flat rated to 15.0 deg C
Overall pressure ratio	12 : 1
By-pass ratio	5.6 : 1
Overall length	1.44 m (4 ft 10.4 in)
Fan diameter	1.06 m (3 ft 5.7 in)
Bare engine weight	577 kg (1,272 lb)

Auxiliary Power Unit

Type	Honeywell GTCP36 or Sundstrand APS 1000
In flight start ceiling	20,000 ft
Electrical power ceiling	25,000 ft
Air conditioning ceiling	15,000 ft

Avionics

Early BAe 146 aircraft feature electromechanical instrumentation. The ADI and HSI on later aircraft however are replaced by CRT EFIS units together with Smiths LED engine information displays. The actual avionics fit on pre-owned aircraft varies from aircraft to aircraft but a typical aircraft would include the following:

Pre-EFIS Flight Deck

- Collins passenger address system
- Dual Collins 8.33Khz Comms
- Dual Collins FM Immune VHF Nav
- Dual Collins DME 860E-5
- Dual DF-206 ADF
- Honeywell GNS-XLS Nav Management
- Collins Radalt
- Sperry Primus 90 weather radar
- Sundstrand Mk 2 GPWS / Honeywell Mk VII EGPWS
- Change 7 TCAS
- Dual Mode 'S' transponders

EFIS Flight Deck

- Collins passenger address system
- Dual Collins 8.33Khz Comms
- Dual Collins FM Immune VHF Nav
- Dual Collins DME 700
- Dual DF-206 ADF
- Honeywell GNS-X or CDU-XLS Nav Management
- Collins Radalt
- Sperry Primus 708A weather radar
- Sundstrand Mk 2 GPWS / Honeywell Mk VII EGPWS
- Change 7 TCAS
- Dual Mode 'S' transponders

Cabin Features

Wide Cabin - 4, 5, 6 Abreast Configurations

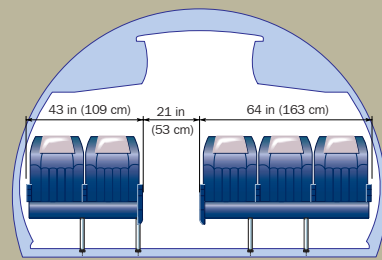
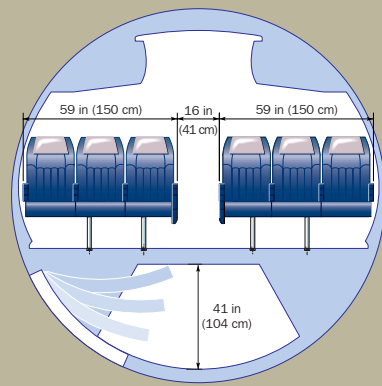
The BAe 146 matches any regional jet requirement in capacity and service standard. With six-abreast economy, five-abreast business and four-abreast first class cabin options, a whole range of existing aircraft from 50 seat turboprops to 130 seat mainline jets can be successfully replaced.

The spacious interior with its large overhead bins and two large underfloor holds can accommodate a mixture of hand luggage, checked bags and additional revenue earning freight.

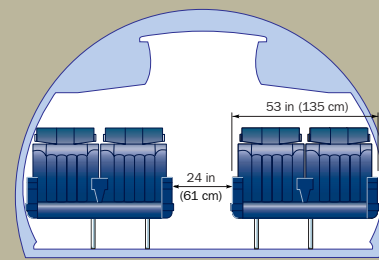
With passenger and cabin service doors, galleys and toilet locations at both ends of the cabin, the BAe 146 family matches 'big jet' standards at regional market cost levels.



Economy Class



Business Class



First Class

Typical Economy Layouts

BAe 146-100
80 seat capacity - 31 in pitch



BAe 146-200
100 seat capacity - 31 in pitch



BAe 146-300
112 seat capacity - 31 in pitch



Typical Business Layouts

BAe 146-100
70 seat capacity - 31 in pitch



BAe 146-200
85 seat capacity - 31 in pitch



BAe 146-300
100 seat capacity - 31 in pitch



Attendant seat Galley Toilet Stowage

Range Capability

5 Abreast Configuration	BAe 146-100	BAe 146-200	BAe 146-300
Seating	70	85	100
Payload	6,650 kg (14,660 lb)	8,075 kg (17,802 lb)	9,500 kg (20,944 lb)
Range	2,174 km (1,173 nm)	2,396 km (1,293 nm)	2,181 km (1,177 nm)

6 Abreast Configuration	BAe 146-100	BAe 146-200	BAe 146-300
Seating	80	100	112
Payload	7,600 kg (16,755 lb)	9,500 kg (20,944 lb)	10,640 kg (23,457 lb)
Range	1,796 km (969 nm)	2,177 km (1,175 nm)	1,966 km (1,061 nm)

Flight Envelope	Assumptions
Maximum altitude:	ISA, still air
Temperature range:	JAR reserves, 150 nm diversion
	Long range cruise
	Sea level airfields
	Payload is maximum passengers at 95 kg each.

Payload Range

