

# Phenom 300 / Embraer



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## Introdução

*O Phenom 300, o mais novo super-light jet da categoria, estabelece novos parâmetros na aviação executiva e torna os concorrentes obsoletos.*

*Com capacidade para transportar 2 tripulantes + 7 passageiros, o Phenom 300 oferece conforto, luxo e exclusividade para uma viagem de até 3.300 km, voando a 45.000 pés e atingindo velocidade máxima de 834 km/h.*



Fonte: <http://www.blogdoluxo.com/aviacao/phenom-300-um-super-light-muito-luxuoso-2>



# Motorização

*Sua motorização é composta por duas turbinas **Pratt & Whitney – PW 535-E de 3.200 lb** de empuxo cada uma, gerenciadas pelo sistema Dual Fadec. O FADEC é um sistema que controla o desempenho do motor para os pilotos, a fim de que nenhum dano seja provocado por excesso de velocidade ou descuidos em parâmetros importantes. Sua finalidade principal é gerenciar o funcionamento dos motores e prevenir o desgaste de componentes importantes do motor por mau uso, principalmente nas decolagens. Simultaneamente, o sistema também reduz muito o trabalho do piloto e traz segurança para os usuários. Além disso, os motores controlados pelo FADEC têm menos inspeções obrigatórias regulares do que os outros similares, e geralmente são muito mais confiáveis.*

## Pratt & Whitney – PW 535-E

- Empuxo de Decolagem: 1.451 kg (3.200 lb)
- Incorpora DUAL FADEC
- Flat rating: ISA + 15
- TBO (horas): 5.000

[http://www.embraerexecutivejets.com/portugues/content/aircraft/phenom300\\_engine.asp](http://www.embraerexecutivejets.com/portugues/content/aircraft/phenom300_engine.asp)



	Thermodynamic Thrust Class* (Pounds)	Mechanical Thrust Class* (Pounds)	Height** (Inches)	Width** (Inches)	Length** (Inches)
PW535 Series	4,100	3,400	38	29	66.5

<http://www.pwc.ca/en/engines/pw535e>



## Curiosidade

### **Segundo site, FAA cobrou modificações no Phenom 300**

*16 de dezembro de 2009, por Guilherme Poggio*

### **Aeronave poderia ficar limitada a voos até 30.000 pés**

*O site flightglobal informou que a FAA, órgão que regula a aviação civil nos EUA, cobrou da Embraer diversas exigências como condição para o jato Phenom 300 receber a certificação final. Entre as exigências estaria a limitação da aeronave para voos acima de 30.000 pés.*

*A FAA testou o jato em altitudes mais elevadas que as autoridades brasileiras em relação à formação de gelo sobre a aeronave, exigindo da fabricante brasileira um “anti-icing” para o bordo de ataque das asas e do estabilizador horizontal quando a aeronave voar acima de 30.000 pés. A agência norte-americana, em seu relatório técnico, informou que foi reportado a presença de formação de gelo em três ocasiões acima de 30.000 pés.*

*Dentre as duas opções encontradas, proibir o voo em condições de formação de gelo acima de 30.000 pés ou restringir o voo nesta altitude, a Embraer optou pela segunda opção segundo a FAA. A reportagem da Flightglobal não consultou a Embraer sobre o caso.*

**FONTE:** Flightglobal



# Análise Comparativa

Características	PHENOM 300 <sup>®</sup> BY EMBRAER	CJ2+	CJ3	Premier IA	Hawker 400XP
Alcance (mn) <sup>1</sup>	1.971	1,527	1,688	1,105	1,333
Velocidade Máxima de Cruzeiro (KTAS) <sup>1</sup>	453	418	416	451	450
MMO <sup>1</sup>	M 0,78	M 0,737	M 0,737	M 0,80	M 0,78
Comprimento de Pista para Decolagem (m / pés) <sup>2</sup>	956 / 3.138	3.360	3.180	3.792	3.906
Altitude Máxima de Operação (pés) <sup>1</sup>	45.000	45.000	45.000	41.000	45.000
Empuxo de Motor (kN / lbs) <sup>1</sup>	15,24 / 3.360	2.490	2.820	2.300	2.965
Volume de Cabine (pés-cúbicos) <sup>3</sup>	325	248	283	315	305
Compartimento de bagagem principal (pés cúbicos) <sup>3</sup>	66	50	50	44	26

Compartimento principal de bagagem (pés cúbicos)

1 – Todas as classes de aeronaves levam em consideração Reservas NBAA IFR com 4 passageiros, 200 lb cada e mais 100 milhas náuticas, de acordo com o Manual de Planejamento de Compras B / CA de maio de 2010. Os dados de MMO, Alta Velocidade de Cruzeiro, Motor de Impulso e Teto Operacional Máximo foram obtidos a partir das mesmas fontes, e dados do concorrente.

2 – ISA, MTOW, Sea Level

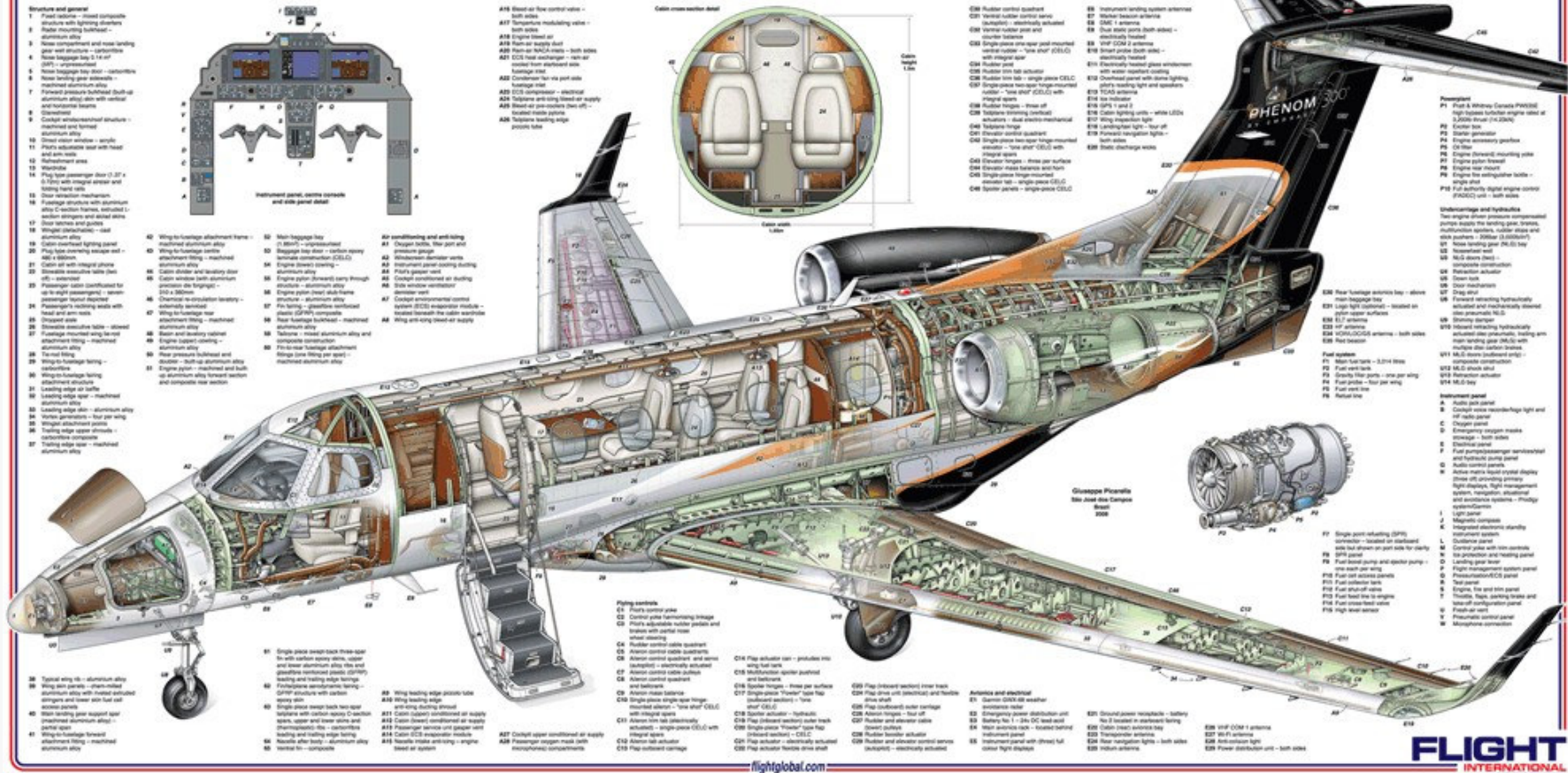
3 – Com base nos dados comparativos de Aeronaves Conklin & Decker de 2009/2010 e dados do concorrente.

[http://www.embraerexecutivejets.com/portugues/content/aircraft/phenom300\\_engine.asp](http://www.embraerexecutivejets.com/portugues/content/aircraft/phenom300_engine.asp)



# Estrutura Interna

# PHENOM 300



- Structure and general**
- 1 Front fuselage - mixed composite structure with lightning protected aluminum alloy
  - 2 Nose compartment and nose landing gear structure - aluminum alloy
  - 3 Nose baggage bay door - carbon fiber
  - 4 Main cabin floor - aluminum alloy
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- Powerplant**
- 1 Pratt & Whitney Canada PW300 high bypass turbofan engine (rated at 3,200 shaft HP (2,370 kW))
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# Documentação Fotográfica



## Especificações

PHENOM 300	
Seating Configuration (Crew + Standart Pax/Max Pax):	1+7/9* * Considering use of optional belted lavatory
Type of Certification:	PART 23 Commuter; Single pilot, VFR day/night, IFR, known icing conditions, FAA/EASA/ANAC
Propulsion:	Two P&WC PW535E, dual FADEC controlled, 3,200 lbf of thrust, flat rated at ISA + 15
Avionics:	Prodigy® Flight Deck 300
External Dimensions:	Height 16 ft 9 in; Wing Span 52 ft 2 in; Length 51 ft 4 in
Cabin Dimensions:	Max. Height 4 ft 11 in Max. Width 5 ft 1 in Length 17 ft 2 in Floorline Width 3 ft 7 in
Cabin Door Dimensions:	Height 58in; Width 29 in
Cabin Volume:	325 cu ft
Baggage Capacity:	Rear 66 cu ft; Front 8 cu ft; Internal 5 cu ft; Total 79 cu ft
Range (6 occupants, NBAA reserves):	1,971 nm
Balanced Field Length (MTOW):	3,138 ft
Landing Distance (MLW):	2,621 ft
Maximum Cruise Speed:	453 ktas
MMO:	M 0.78
Time to Climb to FL 350:	12 min
Maximum Operation Altitude:	45,000 ft
Maximum Takeoff and Landing Altitude:	10,000 ft
Systems Highlights:	Externally serviced lavatory Single -point refueling Brake -by-wire and carbon brakes Bleed-air-anti-ice systems (wing leading edges and engine inlets) Trailing link landing gear



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