PurePower® PW1000G Engine

This Changes Everything™

MTU Aero Engines

PurePower® PW1000G – technology features

The PurePower® engine family is Pratt & Whitney's new family of next-generation engines that offers double-digit improvements in fuel burn, environmental emissions, engine noise and operating costs. It uses an advanced gear system allowing the engine's fan to operate at a speed different from that of the low-pressure compressor and turbine.

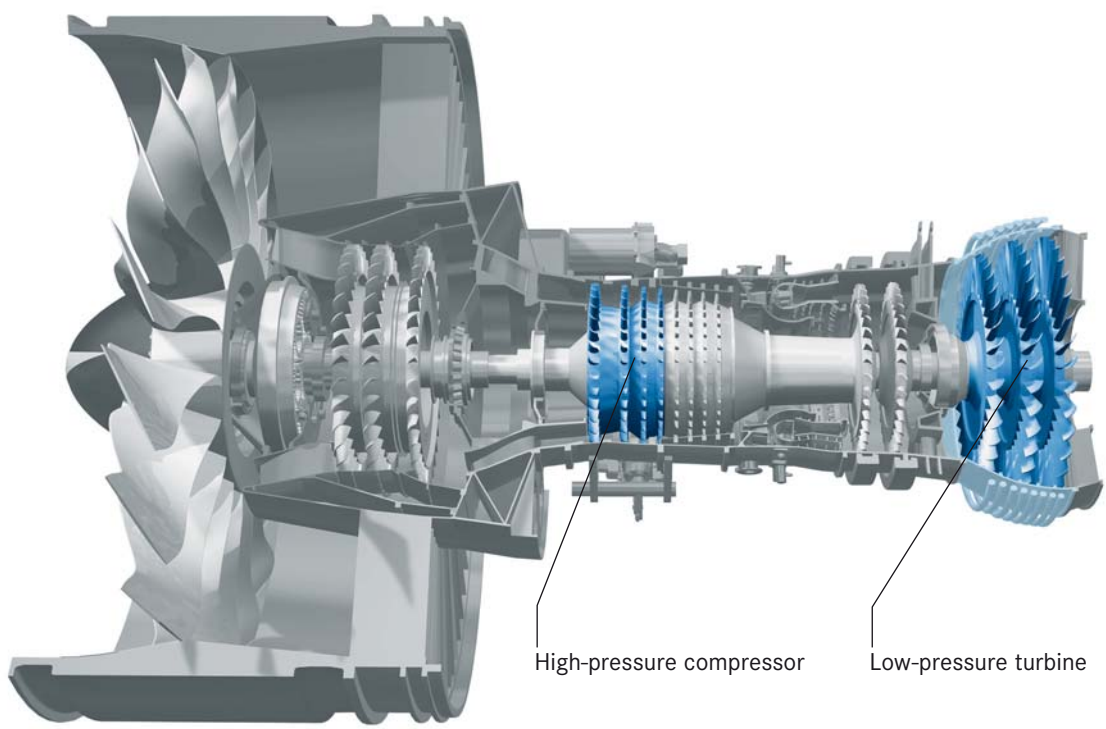
The PW1000G has entered service with the A320neo since January 2016. The CSeries will follow in Q2/2016, MRJ, MS-21 and the second-generation E-Jets are slated for 2018.

MTU Aero Engines is Germany's leading engine manufacturer, also providing maintenance, repair and overhaul services for a wide range of gas turbine engines. The company's share in the PW1000G varies between 15 and 18 percent (depending on the application). MTU is responsible for the first four stages of the high-pressure compressor and the high-speed low-pressure turbine. MTU also provides brush seals and nickel IBR for the rear stages of the high-pressure compressor.

Key features:
- 15 k to 35 k thrust range (initial product focus)
- Up to 15 percent reduction in fuel burn over current engines for single-aisle aircraft
- Noise levels 15-20 dB below Stage 4 limits
- 50 percent reduction in NO_x emissions over 2009 standard (CAEP 6)

Engine models:
- PW1215G/PW1217G
- PW1519G/PW1521G/PW1524G
- PW1124G-JM/PW1127G-JM/PW1133G-JM/PW1135G-JM
- PW1428G-JM/PW1431G-JM
- PW1700G
- PW1900G

Aircraft powered by the PurePower® PW1000G Engine:
- Mitsubishi Regional Jet MRJ
- Bombardier CSeries
- Airbus A320neo
- Irkut MS-21
- Embraer E-Jets Gen2



PurePower® PW1000G Engine Family Product Specifications	PW1200G	PW1500G	PW1100G-JM	PW1400G-JM	PW1700G PW1900G
Thrust (lbf.)	15,0-17,0 k	19,0-23,3 k	24,4-35,0 k	28,0-31,0 k	17,0-23,0 k
Fuel Burn (vs. current engines)	-12-15 %	-12-15 %	-15 %	-15 %	-12-15 %
Noise (vs. stage 4)	-15 dB	-20 dB	-20 dB	-20 dB	-15-20 dB
Emissions–CO_2 reduction per a/c (tonnes annually)	-2,700	-3,000	-3,600	-3,600	-2,700-3,000
Emissions–NO_x (margin to CAEP 6)	-50 %	-55 %	-55 %	-55 %	-50-55 %
Fan diameter (inches)	56	73	81	81	56/73
Stage count	1-G-2-8-2-3	1-G-3-8-2-3	1-G-3-8-2-3	1-G-3-8-2-3	1-G-2-8-2-3 1-G-3-8-2-3
Applications	MRJ	CSeries	A320neo	MS-21	E-Jets Gen2
Entry into service	2018	Q2/2016	Jan. 2016	2018	2018

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