

U.S. DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION TYPE CERTIFICATE DATA SHEET E00081EN	TCDS NUMBER: E00081EN REVISION: 3 DATE: December 23, 2015 MODELS: E4 E4P
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Engines of models described herein conforming with this data sheet (which is part of Type Certificate Number E00081EN and other approved data on file with the Federal Aviation Administration, meet the minimum standards for use in certificated aircraft in accordance with pertinent aircraft data sheets and applicable portions of the Federal Aviation Regulations, provided they are installed, operated, and maintained as prescribed by the approved manufacturer's manuals and other approved instructions.

TYPE CERTIFICATE (TC) HOLDER Austro Engine GmbH
 Rudolf-Diesel-Straße 11
 A-2700 Wiener Neustadt
 Austria

I. MODEL	E4	E4P
TYPE	The E4 engine is a 4-cylinder, four stroke Diesel piston engine with an displacement of 1991 cm ³ , equipped with common rail high pressure direct injection, turbocharger, gearbox with reduction ratio of 1.69:1 and an Electronic Engine Control Unit (EECU)	The E4P engine is a 4-cylinder, four stroke Diesel piston engine with an displacement of 1991 cm ³ , equipped with common rail high pressure direct injection, turbocharger, gearbox with reduction ratio of 1.69:1 and an Electronic Engine Control Unit (EECU)
RATINGS (Note 1) (minimum values defined under the conditions of ICAO or ARDC standard atmosphere)		
Takeoff (5 minutes)	123.5 kW at 3880 rpm (2300 prop rpm)	132 kW at 3880 rpm (2300 prop rpm)
Max Continuous	123.5 kW at 3880 rpm (2300 prop rpm)	126 kW at 3720 rpm (2200 prop rpm)
Maximum Recommended Cruising		
FUEL (See NOTE 4)	JET-A and JET-A1 (ASTM-D1655).	JET-A and JET-A1 (ASTM-D1655).
OIL	See Operation Manual E4.01.01 for approved oils	See Operation Manual E4.01.02 for approved oils
OIL SUMP CAPACITY Max. Level, liters Min. Level, liters	7 5	7 5
PRINCIPAL DIMENSIONS Length, mm Width, mm Height, mm	738 574 855	738 574 855
CENTER OF GRAVITY	Refer to Installation Manual E4.02.01	Refer to Installation Manual E4.02.01

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LEGEND: "-" INDICATES "SAME AS PRECEDING MODEL"
 "----" NOT APPLICABLE

NOTICE: ALL PAGES ARE REFORMATTED. SIGNIFICANT CHANGES, IF ANY ARE BLACK.LINED IN THE LEFT

MARGIN

DRY WEIGHT, kg	185	185
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I. MODEL (Continued)	E4	E4P
DISPLACEMENT TOTAL	1,991 cm ³ (121.5 in ³)	1,991 cm ³ (121.5 in ³)
BORE	83.00 mm (3.268 in)	83.00 mm (3.268 in)
STROKE	92.00 mm (3.622 in)	92.00 mm (3.622 in)
COMPRESSION RATIO	17.5 : 1	17.5 : 1
PROPELLER ROTATION	CCW	CCW
GEAR REDUCTION (crankshaft to propeller)	1.69:1	1.69:1
CONTROL SYSTEM (See NOTES 7-10)	Electrical Engine Control Unit (EECU): P/N E4A-92-100-00-010 or later approved standard Software : VC33_0_01_01 or later approved standard	Electrical Engine Control Unit (EECU): P/N E4A-92-100-00-010 or later approved standard Software : VC33_2P_05_18_pre1 or later approved standard
FLUIDS (FUEL/OIL/ADDITIVES) :	See Operation Manual, E.01.01 for approved fluids	See Operation Manual, E.01.02 for approved fluids

CERTIFICATION BASIS

14 CFR Section 21.29 and 14 CFR Part 33 effective February 1, 1965, and Amendments 33-1 through Amendment 33-24.

Model	Date of Application	Date Type Certificate Issued
E4	June 2, 2008	July 29, 2009
E4P	May 6, 2015	December 23, 2015

IMPORT REQUIREMENTS

To be considered eligible for installation on U.S. registered aircraft, each new engine to be exported to the United States shall be accompanied by a Certificate of Airworthiness for export with EASA Form 1, Authorized Release Certificate. The EASA Form 1 should state that the engine conforms to the type design approved under the U.S. Type Certificate E00081EN, is in a condition for safe operation and has undergone a final operational check.

Additional guidance is contained in FAA Advisory Circular 21-23, "Airworthiness Certification of Civil Aircraft, Engines, Propellers, and Related Products Imported into the United States."

II. ENGINE LIMITS:**1. Temperature limits:**

	E4	E4P
	Temperature in °C/ °F	Temperature in °C/ °F
Minimum opening up Oil Temperature	50 °C / 122 °F	50 °C / 122 °F
Oil Temperature (normal operation)	50 °C - 135 °C / 122 °F - 275 °F	50 °C - 135 °C / 122 °F - 275 °F
Max. Oil Temperature:	140 °C / 284 °F	139 °C / 282 °F
Minimum Ambient Temperature for Starting	-22 °C / -8 °F, Normal	-22 °C / -8 °F, Normal

	-30 °C / -22 °F Special procedure required, see Operation Manual	-30 °C / -22 °F Special procedure required, see Operation Manual
	E4	E4P
Minimum Fuel Temperature during operation	-30 °C / -22 °F with Jet Fuels -10 °C / 14 °F with Diesel Fuel Class D, E or F -5 °C / 23 °F with Diesel Fuel Class C +5 °C / 41 °F with Diesel Fuel Unknown Class	-30 °C / -22 °F with Jet Fuels -10 °C / 14 °F with Diesel Fuel Class D, E or F -5 °C / 23 °F with Diesel Fuel Class C +5 °C / 41 °F with Diesel Fuel Unknown Class
Minimum opening up Cooling Fluid	60 °C / 140 °F	60 °C / 140 °F
Max. Cooling Fluid Temperature	105 °C / 221 °F	100 °C / 212 °F
Max. Gearbox Temperature	120 °C / 248 °F	120 °C / 248 °F

2. Speed Limits:

	E4	E4P
Maximum Engine Over-speed (Crankshaft Speed)	4220 rpm (2500 prop rpm)	4220 rpm (2500 prop rpm)
Take-off speed, maximum 5 minutes	3880 rpm (2300 prop rpm)	3880 rpm (2300 prop rpm)
Max. continuous speed	3880 rpm (2300 prop rpm)	3880 rpm (2300 prop rpm)

3. Pressure Limits:

	E4	E4P
Minimum Fuel Pressure (at inlet of HP engine pump)	4 bar (58 psi)	4 bar (58 psi)
Maximum Fuel Pressure (at inlet of HP engine pump)	7 bar (101.5 psi)	7 bar (101.5 psi)
Minimum Oil Pressure at Idle Conditions	.09 bar (13.05 psi)	.09 bar (13.05 psi)
Minimum Oil Pressure at Max Continuous Conditions	2.5 bar (36.3 psi)	2.5 bar (36.3 psi)
Maximum Oil Pressure	6.5 bar (94.3 psi)	6.5 bar (94.3 psi)

4. Operating Altitude:

	E4	E4P
Maximum altitude	5490 m (18 000 ft)	6096 m (20 000 ft)

NOTES

NOTE 1:	Engine model numbers may include suffixes to define minor engine changes related to installation specific configurations. See Service Bulletin (SB) SB-E4-002 for configuration specifications. The software of the electronic engine control for each application has specific software application data. See SB-E4-003 for the installation versions. Refer to Installation Manual E4.02.01 for appropriate installation
NOTE 2:	Manuals required by 14 CFR Sections 33.4 and 33.5: Installation Manual : E4.02.01 Operating Manual: E4.01.01 (E4.01.02 for E4P) Maintenance Manual: E4.08.04 Overhaul Manual E4.12.01 Overhaul Manual Gearbox E4.12.02 Repair Manual Gearbox E4.08.16

NOTE 3:	The engines are approved for installation in Part 23 Normal and Utility aircraft categories only.
NOTE 4:	The E4 series engines have been certified to use Jet A and JetA1 fuel (see Operation Manual E4.01.01 and E4.02.01). For the E4 engine model, a minimum cetane number of 30 (determined according to EN ISO 5165/ASTM D613) is recommended. For the E4P engine model, a minimum cetane number of 36 is recommended.
NOTE 5:	Deleted.
NOTE 6:	Deleted
NOTE 7:	The electronic control unit must not be installed in a dedicated fire zone. The installation conditions are defined in the Installation Manual.
NOTE 8:	Engine Electronic Control Unit (EECU) must have a backup power source which are independent and isolated from the primary power supply when installed on an aircraft.
NOTE 9:	Dispatch Limitations: No Time Limited Dispatch has been approved. : All engine systems and equipment must be functional prior to aircraft take-off. Any detected engine system or equipment failure must be corrected before next flight. Refers to Operation Manual E4.01.01(E4) or E4.01.02 (E4P) for special instructions.
NOTE 10:	The software of the ECU has been validated according to RTCA Document DO-178 B, level C.
NOTE 11:	EMI/Lightning: The engine control system has been tested according to RTCA Document DO-160 D for lightning protection and magnetic interference. The demonstrated levels are provided in the Installation Manual.
NOTE 12:	<p>Service Information:</p> <p>Each of the documents listed below must state that it is approved by the European Aviation Safety Agency (EASA). Any such documents including those approved under a delegated authority, are accepted by the FAA and are considered FAA approved.</p> <ul style="list-style-type: none"> • Service bulletins, • Structural repair manuals, • Vendor manuals, • Overhaul and maintenance manuals. <p>These approvals pertain to the type design only.</p>
NOTE 13:	<p>Sales name of the E4 model: AE300</p> <p>Sales name of the E4P model: AE330</p>
---THE END---	