TYPE-CERTIFICATE DATA SHEET

No. E.137

for Engine
ARTOUSTE II series engines

Type Certificate Holder

Safran Helicopter Engines

64510 Bordes
France

For Models:

ARTOUSTE II C5
ARTOUSTE II C6

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I. General

1. Type / Models

ARTOUSTE II C5, ARTOUSTE II C6. These variants are approved for use on single-engine civil rotorcraft at the ratings and within the operating limitations specified below, subject to compliance with the appropriate powerplant installation requirements.

Except where otherwise noted, data applies to all variants.

2. Type Certificate Holder

Safran Helicopter Engines
64510 Bordes
France

Design Organisation Approval No.: EASA.21J.070

Until 18 July 2016 Turbomeca
After 18 July 2016 Safran Helicopter Engines

3. Manufacturer

Until 18 July 2016 Turbomeca
After 18 July 2016 Safran Helicopter Engines

4. Date of Application

Not known (before 14th January 1958)

5. EASA Type Certification Date

EASA Type Certification of the ARTOUSTE II C5 and ARTOUSTE II C6 engines is granted, in accordance with Article 2 paragraph 3(a)(i) of EU Commission Regulation EC 1702/2003, on the basis of EU Member State approvals prior to 28 September 2003.

II. Certification Basis

1. Certification Specifications:

The ARTOUSTE II engines were originally approved under Type Certificate N° 24, dated 14th January 1958, issued by DGAC-France for the EUROCOPTER (formerly SUD AVIATION) SE 3130 and SE 313 B ALOUETTE II helicopters.

The ARTOUSTE II C5 and ARTOUSTE II C6 engines meet the requirements of AIR 2051, dated 10 June, 1958.

2. Special Conditions:

None.

3. Deviations:

None

4. Equivalent Safety Findings:

None.

5. Environmental Protection Requirements:

Fuel Venting per ICAO Annex 16, Volume II, 2nd Edition, November 1993, Part 2, Chapter 2.

III. Technical Characteristics

1. Type Design Definition:

The Type Design Definition is in accordance with the following Safran Helicopter Engines Drawings. The Type Design Definition includes all engine accessories.

Complete engine part list	0 223 00 500 0
Bare engine part list	0 223 01 000 0
Equipment list	0 202 01 000 0
Definition of interfaces, installation drawing	0 202 01 900 0

2. Description:

The ARTOUSTE II series engines are single turboshaft engines with an annular air intake, a single stage centrifugal compressor, an annular combustion chamber, a two stage axial turbine and a mechanical control system. A co-axial gearbox reduces the rotation speed for the output shaft and drives the accessories.

The ARTOUSTE II C6 variant is identical to the II C5 except for changes to the air intake and the reduction gear casing that allow easier removal of the gearbox.

3. Equipment:

All equipment required for engine operation is included in the engine Type Design Definition.

4. Dimensions:

Length (mm)	Height (mm)	Width (mm)
1476	678	760

5. Dry Weight:

The dry weight of the fully-equipped engine is 143 kg.

6. Ratings:

Rated power in kW(1):

Maximum Continuous (unlimited duration)	Take-off (once per hour)
245	300

(1) Minimum values defined under the following conditions:

- static sea-level standard-day conditions (15 °C, 1 013 mbar);
- on the engine test bed with hydraulic brake system;
- with the air bleed ports closed;
- with no accessory power extraction;
- with calibrated Safran Helicopter Engines air intake duct P/N 6 102 73 725 0;
- with straight cylindrical exhaust pipe P/N 6 103 39 736 0, outlet area 1211.04 cm^2.

7. Control System:

The ARTOUSTE II C5 and ARTOUSTE II C6 engines have a mechanical control system.

8. Fluids (Fuel/Oil/Additives):

8.1 Fuel

For a list of approved fuels and fuel additives consult the Operation Manual.

8.2 Oil

For a list of approved oils and oil additives consult the Operation Manual.

9. Aircraft Accessory Drives:

None.

10. Bleed Extraction:

Maximum air bleed for aircraft services is 30 g/s at sea-level standard-day conditions.

IV. Operational Limitations

1. Temperature limits

1.1 Exhaust gas temperature limits

Takeoff	557°C
Maximum continuous	510°C
Maximum transient	550°C

1.2 Fuel temperature

Maximum operating temperature: +55°C

Minimum temperature for engine starting (standard fuel): -30°C

1.3 Oil temperature

Minimum temperature for engine starting: -30°C (AIR 3513, AIR3514 or AIR 3515 oil)
-10°C (AIR 3512 oil)

Operating temperature range: + 20 to + 85 °C (for external temperature above -10°C)
0 to + 30 °C (for external temperature below -10°C)

2. Maximum / Minimum Speeds:

Steady state, normal operating conditions: 34 000 rpm ± 200 rpm
Transient, sudden loading and unloading: 34 000 rpm ± 1 000 rpm

The output shaft speed is reduced from the above in the ratio 1/5.8025

3.Thrust / Torque Limits:

Maximum torque on engine output shaft during operation: 488.9 Nm

4. Pressure Limits:

4.1 Fuel pressure

Minimum pressure (gauge) at engine inlet: 30 kPa

4.2 Oil pressure

Operating range (gauge): 200 to 410 kPa

5. Installation Assumptions:

See the Operation Manual.

6. Time Limited Dispatch:

All engine systems and equipment must be functional prior to aircraft take-off. ARTOUSTE II C5 and ARTOUSTE II C6 engines are not herein approved for Time Limited Dispatch with any systems or equipment inoperative.

V. Operational and Service Instructions

Operation Manual	Maintenance Manual	Overhaul Manual
202 01 932	223 00 933	202 01 930

For Service Letters and Service Bulletins, refer to the SB and SL directory.

VI. Notes

1. The ARTOUSTE II C5 and ARTOUSTE II C6 engines have no provision for anti-icing of the air inlet and have not been substantiated for use in icing conditions.

2. Life-limited engine components are listed in Chapter 5 of the Maintenance and Overhaul Manuals.

3. An Artouste II C5 or Artouste II C6 engine can be created by converting another ARTOUSTE II variant originating from a user not controlled by a civil authority. The compliance of such an engine with the European rules enabling issuance of an aircraft standard certificate of airworthiness must be checked. Its configuration, including design changes and repairs, does not necessarily conform to the type definition approved by EASA, and it is possible that in operation the engine has exceeded the limits approved by EASA. Before a standard certificate of airworthiness is issued to an aircraft in which such an engine is installed, an EASA Form 1 must be issued for the engine. This requires incorporation of Safran Helicopter Engines Mandatory Service Bulletin A223 72 0069, Original Issue (or any subsequent approved issue).

VII SECTION: ADMINISTRATIVE

I. Acronyms and Abbreviations

n/a

II. Type Certificate Holder Record

Until 18 July 2016 Turbomeca
After 18 July 2016 Safran Helicopter Engines

III. Change Record

Issue	Date	Changes	TC issue
Issue 01	20 August 2008	Initial Issue	Initial Issue, 20 August 2008
Issue 02	01 August 2016	Name change from Turbomeca to Safran Helicopter Engines	01 August 2016

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