

型号认可证数据单
THE VALIDATION DATA SHEET

编号/No.: VTC0379E
版次/Revision: 1
型号/Type: ANETO-1 series engines

型别/Model:
ANETO-1K
ANETO-1C

批准人/Approved By:



职务/Title: Deputy Director General
日期/Date: 2026年04月13日

本数据单是型号认可证（编号：VTC0379E）的组成部分，它规定了符合中国民用航空局的适航要求所颁发此型号认可证的产品状态和限制。
This data sheet, which is part of Validation of Type Certificate (No: VTC0379E), prescribes condition and limitation under which the product for which the Type Certificate was issued meets the airworthiness requirements of the Chinese Civil Aviation Regulation.

型号认可证持有人/Validation of Type Certificate Holder:

赛峰直升机发动机，
64510 博尔德，法国
Safran Helicopter Engines
64510 Bordes, France

第1部分 概述

Section 1 GENERAL

1. 型号认可证数据单版次信息以及修订记录/ Revision and Change Record of the Validation of Type Certificate Data Sheet

	中国民用航空局认可数据单号、版次和颁发日期/CAAC Validation Data Sheet Number, Revision and issuance date	型号合格证数据单号、版次和颁发日期/Type Certificate Data Sheet Number, Revision and issuance date
当前 Current	No.VTC0379E, 版次1, 2026 年4月13 日颁发 No. VTC0379E; Revision 1; 13 April 2026	No.E.009, 版本: 12, 2024年12月19日颁发 No.E.009, Issue: 12, Date: 19 December 2024
历史 History	No. VTC0379E, 版次0, 2024 年5月28 日颁发 No. VTC0379E; Revision 0; 28, May 2024	No.E.009, 版本: 11, 2020年5月6日颁发 No.E.009, Issue: 11, Date: 06 May 2020

注：上表中出口国局方型号合格证数据单信息仅供参考
Note: Above TCDS information of Certification Authority is only for reference.

认可数据单修订记录/ Change Record of the VTCDS

版次/ Revision	相对上一版的修订记录/Change Record	备注/Remark
版次 1/Revision 1	1.新增 ANETO-1C 型别。/New Model ANETO-1C 2. 增加第 3 部分管理信息。/Add Section 3 ADMINISTRATIVE INFORMATION	

2. 类别/Category:

航空发动机/Aviation Engine
3. 认可当局/Validation Authority:

中国民用航空局/CAAC

审定当局/Certifying Authority:

欧盟航空安全局/EASA
4. 型号合格证持有人/Type Certificate Holder

赛峰直升机发动机, 64510 博尔德,法国
Safran Helicopter Engines, 64510, Bordes, France
5. 双发延程飞行/ETOPS:

不适用/NA
6. CAAC专用要求/CAAC Special Requirements:

中华人民共和国国家标准“3号喷气燃料”
(GB 6537)
National Standard of the People’s Republic of China “No.3 Jet Fuel” (GB 6537)

SC1: ANETO-1K型发动机30分钟AEO额定功率的批准
SC1: Approval of a 30-minute AEO Power Rating for ANETO-1K engine

SC2: ANETO-1K型发动机安装节不声明批准寿命
SC2: ANETO-1K Engine Mounts – Non-

Declaration of Approved Life.

SC3: ANETO-1K型发动机整机最大超转
SC3: ANETO-1K Engine Inadvertent Use of
Maximum Engine Over-speed

第2部分 数据单

Section 2 DATA SHEET

1 概述/General

1.1 型别/Model

ANETO-1K, ANETO-1C

1.2 型号合格证持有人/Type Certificate Holder

赛峰直升机发动机, 64510 博尔德, 法国, DOA参考: EASA.21J.070/
Safran Helicopter Engines, 64510 Bordes, France, DOA-ref: EASA.21J.070

2013年10月16日前: 罗罗透博梅卡/

Before 16 October 2013: Rolls-Royce Turbomeca

2013年10月16日至2016年7月18日: 透博梅卡/

From 16 October 2013 to 18 July 2016: Turbomeca

2016年7月18日后: 赛峰直升机发动机/

After 18 July 2016: Safran Helicopter Engines

1.3 生产商/Manufacturer

2013年10月16日前: 罗罗透博梅卡/

Before 16 October 2013: Rolls-Royce Turbomeca

2013年10月16日至2016年7月18日: 透博梅卡/

From 16 October 2013 to 18 July 2016: Turbomeca

2016年7月18日后: 赛峰直升机发动机/

After 18 July 2016: Safran Helicopter Engines

1.4 申请日期/Date of Application

ANETO-1K 2015年7月30日/ 30 July 2015

ANETO-1C 2020年3月11日/11 March 2020

1.5 EASA 审定参照日期/EASA Certification Reference Date

ANETO-1K 2016年12月30日/30 December 2016

ANETO-1C 2016年12月30日/30 December 2016

1.6 EASA 型号审定日期/EASA Type Certification Date

ANETO-1K 2019年12月12日/12 December 2019

ANETO-1C 2024年12月19日/19 December 2024

2 审定基础 Certification basis

2.1 EASA审定基础/EASA Certification basis

2.1.1 适航标准/Airworthiness Standards

CS-E第4修正案(2015年3月12日), 但是, 低压燃油泵组件、高压燃油泵/计量组件、IGV/VSV作动器、增压起动电磁阀4个部件适用JAR-E 640 (JAR-E change 9);

CS-E Amendment 4, dated 12 March 2015 except JAR-E 640 (JAR-E change 9) for the Low Pressure Fuel Pump Unit, the High Pressure Fuel Pump/ Metering Unit, the IGV/VSV actuator and the Pressurizing Starting Electro Valve.

2.1.2 专用条件/ Special conditions

专用条件1 – 瞬态限制/

SC1 – Transient limits.

专用条件2 – 30分钟AEO额定值/

SC2 – 30 minute All Engine Operating (AEO) rating.

专用条件3 – 发动机安装节 – 不声明批准寿命/

SC3 - Engine Mounts – Non-Declaration of Approved Life.

2.1.3 偏离/Deviations

无/None

2.1.4 等效安全/ Equivalent Safety Findings

CS-E 750 起动试验/CS-E 750 Starting Test

2.1.5 环境保护/ Environmental Protection

ANETO-1K 燃油排泄: CS-34第2修正案(2016年1月12日), 参照ICAO附件16卷II第8修正案(2016年1月25日生效)

Fuel Venting: CS-34, Amendment 2, dated 12 January 2016 in accordance with ICAO Annex 16, Volume II, Amendment 8, as applicable from 25 January 2016.

ANETO-1C 燃油排泄: CS-34第3修正案(2020年1月1日), 根据局方第RM2019-014-R号决定执行, 参照ICAO附件16卷II第9修正案(2016年1月25日生效)

Fuel Venting: CS-34, Amendment 3 as implemented through ED Decision No. RM2019 - 014 - R in accordance with ICAO Annex 16, Volume II, Amendment 9 as applicable from 01 January 2020.

2.2 CAAC认可审定基础/CAAC Validation basis

2.2.1 适用适航规章/Applicable airworthiness regulation

中国民航规章第33部R2版本/CCAR-33R2

2.2.2 专用条件/ Special conditions

专用条件1: ANETO-1K型发动机30分钟AEO额定功率的批准

SC1: Approval of a 30-minute AEO Power Rating for ANETO-1K engine

专用条件2: ANETO-1K型发动机安装节不声明批准寿命

SC2: ANETO-1K Engine Mounts – Non-Declaration of Approved Life.

专用条件3: ANETO-1K型发动机整机最大超转

SC3: ANETO-1K Engine Inadvertent Use of Maximum Engine Over-speed

2.2.3 等效安全/ Equivalent Level of Safety

无/None

2.2.4 豁免/Exemptions

无/None

2.2.5 环保要求/ Environmental Protection requirements

ANETO-1K 无/none

ANETO-1C CCAR-34R1燃油排泄要求/CCAR-34R1 Fuel venting requirement

3 技术特征 Technical characteristics

3.1 型号设计定义 Type Design Definition

ANETO-1K 通过零件清单0 620 00 001 0 定义/As defined in parts list: 0 620 00 001 0

ANETO-1C 通过零件清单0 620 00 010 0 定义/As defined in parts list: 0 620 00 010 0

3.2 描述 Description

这是一台模块化设计的涡轮轴发动机, 它包括一个三级轴流式压气机和一个单级离心式压气机、一个回流环形燃烧室、一个两级轴流式燃气发生器涡轮和一个两级轴流式动力涡轮, 通过传动轴连接到一个正向安装的输出驱动装置上。控制由双通道 FADEC 提供。附件齿轮箱由燃气发生器驱动。起动机不属于发动机型号定义的一部分。ANETO-1K 装有进气颗粒分离器。

It is a turboshaft engine of modular design, comprising a three stage axial and a single stage centrifugal compressor, a reverse flow annular combustion chamber, a two stage axial flow gas generator turbine and a two stage axial flow power turbine connected to a forward mounted output drive by a transmission shaft. Control is provided by a dual-channel FADEC. The accessory gearbox is driven by the gas generator. Starter is not part of the engine type definition. The ANETO-1K is fitted with an inlet particle

separator.

3.3 设备Equipment

- 发动机型号定义中包含的设备单元：请参阅《安装手册》或《安装和使用说明手册》。Equipment units included in the engine type definition: refer to the Installation or Installation and Operating manual.
- 由飞机制造商提供的设备单元：请参阅《安装手册》或《安装和使用说明手册》。Equipment units to be supplied by the Aircraft Manufacturer: refer to the Installation or Installation and Operating manual.

3.4 尺寸Dimensions

总体长度，毫米/Overall Length (mm): 1171

总体宽度，毫米/Overall Width (mm): 683

总体高度，毫米/Overall Height (mm): 648

3.5 干重 Dry Weight

发动机干重(千克) (含EECU)/Dry engine weight (kg) (including EECU):

ANETO-1K 260.00

ANETO-1C 261.00

3.6 额定值Ratings

3.6.1 正常功率（千瓦）Normal Power kW:

	起飞（5 分钟） Take-Off (5 min)	30分钟 AEO 30 min AEO	最大连续 Maximum Continuous
ANETO-1K ⁽⁸⁾	1063 ⁽³⁾	1063 ⁽³⁾	914 ⁽³⁾
ANETO-1C ⁽⁸⁾	1128.2 ⁽³⁾	1128.2 ⁽³⁾	1000 ⁽³⁾

3.6.2 应急功率（千瓦）Contingency Power kW:

	中级 应急 (无限期) Intermediate Contingency (unlimited duration)	最大应 急 (2 分 30 秒) Maximum Contingency (2 min 30 sec)	30秒 OEI 30 sec OEI	2分钟 OEI 2 min OEI	2分30 秒 OEI 2 min 30s OEI	30 分 钟 OEI 30 min OEI	连续 OEI Continuo us OEI
ANETO-1K ⁽⁸⁾	-	-	-	-	1572/ 1489 ⁽⁹⁾	-	1297
ANETO-1C					1589.7		1189.7

(3) 由于 EECU 中集成了直升机变速箱扭矩限制，该功率值受此影响而被削减。
(所有声明的功率均受所达到的第一个限制值（热限制或机械限制）的限制。机械限值是达到的第一个扭矩限值，它是发动机机械限值或 EECU 扭矩限值）。
This power value is flat rated due to the Helicopter gearbox torque limitation integrated into the EECU. (All declared powers are limited by the first limit reached – either thermal or mechanical. The mechanical limit is the first torque limit reached, which may be either the engine mechanical limit or an EECU torque limit.)

(8) 适用以下条件 The following conditions apply:

- a. 发动机老化 Aged engine
- b. 配有试验台排气管和试验台进气装置的发动机 额定功率等级 (kW) 通过装配有试验台进气喇叭口和试验台排气管的发动机的测量结果计算得出: Engine equipped with a test bed exhaust pipe and test bed air intake Rated power levels (kW) calculated by measurement using the test bed air inlet bell mouth and the test bed exhaust pipe;
- c. 海平面国际标准大气 (ISA) 条件 ISA conditions at sea level
- d. 静态条件 Static condition
- e. 未安装时的性能: 无安装损失 Uninstalled performance: No installation losses
- f. 进气无温度、压力或气流角畸变 No temperature, pressure or flow angle distortion at air inlet
- g. 排气管下游无背压 No back pressure downstream the exhaust pipe
- h. 无客户引气 No customer air bleed
- i. 除发动机正常运行所需的辅助设备外没有其他功率提取 No power taken off by accessories other than those required for normal operation of engine
- j. 额定输出转速: 21,000 转/分钟 Nominal output rotational speed : 21,000 rpm
- k. 燃料热值 = 43 136 千焦/千克 Fuel Heating Value = 43 136 kJ/kg
- l. 在海平面 ISA 条件下, 湿度混合比为 0.069 千克/千克干燥空气 Humidity mixing ratio of 0.069 kg/kg dry air at sea level ISA condition

(9) 由于 EECU 中集成了直升机变速箱扭矩限制, 因此前 30 秒的功率值限制为 1572 千瓦, 随后 2 分钟的功率值限制为 1489 千瓦。详情请参见《安装和使用说明手册》。This power value is limited to 1572 kW for the first 30 second and to 1489 kW for the following 2 minutes due to the Helicopter gearbox torque limitation integrated into the EECU. Refer to installation and Operating Manual for further details.

3.7 控制系统 Control System

发动机配备全权限数字发动机控制 (FADEC) The engine is equipped with a Full Authority Digital Engine Control (FADEC)

3.8 液体 (燃油、滑油、冷却液、添加剂) Fluids (Fuel, Oil, Coolant, Additives)

3.8.1 燃油 Fuel:

有关批准用于各型别的燃料和燃料添加剂清单, 请查阅相关的《安装手册》或《安装和使用说明手册》。

For list of fuels and fuel additives approved for use in each model consult the relevant Installation or Installation and Operating Manual.

3.8.2 滑油 Oil:

有关批准用于各型别的油品清单, 请查阅相关的《安装手册》或《安装和使用说明手册》。For list of oils approved for use in each model consult the relevant Installation or Installation and Operating Manual.

3.9 飞行器附件传动装置 Aircraft Accessory Drives

起动机 Starter						
旋转方向 Rotation direction	与 NG 的转速比 Rotation speed ratio	最大静态悬挂力矩 (daN.m) Maximum static overhung	保险丝轴断开扭矩 (daN.m) Fuse shaft breakaway	最大连续轴功率 (千瓦) Maximum Continuous shaft power (Kw)		最大扭矩 Maximum torque
				AEO	2 min	

		to NG	moment (daN.m)	torque (daN.m)		30s OEI	
ANET O-1K	CW	0.3784	2.82	13.6	24.6	20	参见《安装和 使用说明手 册》 See Installation and Operating Manual
ANET O-1C	CW	0.3784	2.82	13.6	18	18	参见《安装和 使用说明手 册》 See Installation and Operating Manual
CW = 从机尾看顺时针。CW = clockwise looking aft.							

3.10最大允许引气量 Maximum Permissible Air Bleed Extraction

	飞机服务的最大送风量 Maximum air delivery for aircraft services	可使用的引气速度范围 Range of speed at which bleed may be used
ANETO-1K	发动机进气质量流量的 3.3 % 3.3% of engine inlet air mass flow	请参阅《安装与使用说明手册》 Refer to the Installation and Operating Manual
ANETO-1C	发动机进气质量流量的 3.3 % 3.3% of engine inlet air mass flow	请参阅《安装与使用说明手册》 Refer to the Installation and Operating Manual

4 操作限制 Operating Limitations

4.1气候工作包线 Climatic Operating Envelope

4.1.1运行包线 Operating envelope

请查阅相关的《安装手册》或《安装和使用说明手册》/Consult the relevant Installation or Installation and Operating Manual.

4.1.2起动和重起包线 Starting and re-lighting envelopes

请查阅相关的《安装手册》或《安装和使用说明手册》/Consult the relevant Installation or Installation and Operating Manual.

4.2 温度限制 Temperature Limits

4.2.1 燃气发生器排气温度 (T46) 限制/Gas generator exhaust temperature (T46) limits:

	起动Start-up °C	重起Re-light °C	地面慢车 Ground Idle °C
ANETO-1K	参见《安装和使用说明手册》 See Installation and operating Manual	参见《安装和使用说明手册》 See Installation and operating Manual	-
ANETO-1C	参见《安装和使用说明手册》 See Installation and operating Manual	参见《安装和使用说明手册》 See Installation and operating Manual	-
A = 环境温度 ambient temperature			

	飞行 – 正常 In-flight – Normal °C			
	起飞 Take-off	30分钟AEO 30 min AEO	最大连续 Maximum Continuous	最大瞬时超温 Maximum Transient Over-temperature
ANETO-1K	918	918	893	926 (20秒限制 20 sec limit) ⁽²⁾
ANETO-1C	918	918	893	926 (20秒限制 20 sec limit) ⁽²⁾
(2) 最大非偶发瞬态Maximum non inadvertent transient.				

	飞行 – 应急 In-flight – Contingency °C						
	中等应急 Intermediate Contingency	最大应急 Maximum Contingency	30秒 OEI 30 sec OEI	2分钟 OEI 2 min OEI	30分 钟 OEI 30 min OEI	2分30 秒 OEI 2 min 30s OEI	连续OEI Continuous OEI
ANET O-1K	-	-	-	-	-	984 ⁽¹⁾	918
ANET O-1C	-	-	-	-	-	984 ⁽¹⁾	918
(1)验证了在2.2秒的时间内允许超过经批准的2分30秒OEI稳态温度限制值的非偶发瞬态温度（990 °C）。A non inadvertent transient (990 °C) has been validated over authorized limit for a period of 2.2 seconds over 2 min 30s OEI stabilized temperature.							

4.2.2 燃油温度 Fuel temperature:

4.2.2.1 最大温度 Maximum temperature:

请查阅相关的《安装手册》或《安装和使用说明手册》。Consult the relevant Installation or Installation and Operating Manual.

4.2.2.2 发动机起动最小温度 Minimum temperature for engine starting:

请查阅相关的《安装手册》或《安装和使用说明手册》。Consult the relevant Installation or Installation and Operating Manual.

4.2.2.3 防冰剂的使用 Use of anti-icing additive:

请查阅相关的《安装手册》或《安装和使用说明手册》。Consult the relevant Installation or Installation and Operating Manual.

4.2.3 滑油温度 Oil temperature:

	发动机起动最小滑油 温度 Minimum oil temperature for engine starting	起动后最小滑油温度 Minimum oil temperature for power-up	最大滑油温度 Maximum oil temperature
ANETO -1K和 ANETO -1C ANETO -1K and ANETO -1C	对于运动粘度为 $5 \times 10^{-6} \text{m}^2/\text{s}$ 的滑油, 最小温度为 -40 °C 对于运动粘度为 $3 \times 10^{-6} \text{m}^2/\text{s}$ 的滑油, 最小温度为 -50 °C -40 °C for oil with a $5 \times 10^{-6} \text{m}^2/\text{s}$ kinematic viscosity	对于运动粘度为 $5 \times 10^{-6} \text{m}^2/\text{s}$ 的滑油: 当起动高度介于 -610 米 (-2,000 英尺) 和 4572 米 (15000 英尺) 之间时, 最小 温度为 -10 °C 当起动高度大于 4572 米 (15000 英尺) 时, 最小温度为 0 °C 对于运动粘度为 $3 \times 10^{-6} \text{m}^2/\text{s}$ 的滑油: 当起动高度介于 -610 米 (-2,000 英尺)	130 °C

	-50 ℃ for oil with a $3 \times 10^{-6} \text{m}^2/\text{s}$ kinematic viscosity	和 4572 米 (15000 英尺) 之间时, 最小温度为 -20 ℃ 当起动高度大于 4572 米 (15000 英尺) 时, 最小温度为 -10 ℃ For oil with a $5 \times 10^{-6} \text{m}^2/\text{s}$ kinematic viscosity : -10 ℃ when the starting altitude is between -610m (-2,000ft) and 4572m (15,000ft), 0 ℃ when the starting altitude is above 4572m (15,000ft). For oil with a $3 \times 10^{-6} \text{m}^2/\text{s}$ kinematic viscosity : -20 ℃ when the starting altitude is between -610m (-2,000ft) and 4572m (15,000ft), -10 ℃ when the starting altitude is above 4572m (15,000ft).	
有关油温的其他限制, 请查阅相关的《安装手册》或《安装和使用说明手册》。For additional limitations related to oil temperature, consult the relevant Installation or Installation and Operating Manual.			

4.3 最大/最小允许转子速度: Maximum / Minimum Permissible Rotor Speeds:

4.3.1 燃气发生器转速 (NG) Gas generator speed (NG):

	100 % NG	地面慢车额定转速 Ground Idle nominal speed	最大瞬时超转 Maximum Transient Overspeed
ANETO-1K	36300 rpm	73%的修正NG 73% of corrected NG	37907 (所有发动机仅运行 20 秒限制 20 sec limit for all engines operating only) ⁽²⁾
ANETO-1C	36300 rpm	72%的修正NG 72% of corrected NG	37907 (所有发动机仅运行 20 秒限制 20 sec limit for all engines operating only) ⁽²⁾

	最大稳定转速 - 正常 Maximum stabilised speed - Normal		
	起飞 Take-off	30分钟AEO 30 min AEO	最大连续 Maximum Continuous
ANETO-1K	37807 rpm	37807 rpm	37628 rpm
ANETO-1C	37807 rpm	37807 rpm	37628 rpm

	最大稳定转速 - 应急 Maximum stabilised speed - Contingency						
	中等应急 Intermediate Contingency	最大应急 Maximum Contingency	30秒 OEI 30 sec OEI	2分钟 OEI 2 min OEI	2分30秒 OEI 2 min 30s OEI	30分钟 OEI 30 min OEI	连续 OEI Continuous OEI
ANETO-1K	-	-	-	-	38817 rpm ⁽³⁾	-	37979 rpm
ANETO-1C	-	-	-	-	38817 rpm ⁽³⁾	-	37979 rpm

DN = 显示数字 Display Number. 对于显示数字的定义, 请参见《安装手册》或《安装和使用说明手册》For the definition of DN, refer to the Installation and Operating Manual.

(2)验证了在2.2秒的时间内允许超过经批准的20秒瞬时转速限制值的非偶发瞬态转速 (38197 rpm)。A non-inadvertent transient (38,197 rpm) has been validated over

- authorized limit for a period of 2.2 seconds over the 20 sec transient limit.
- (3)验证了在2.2秒的时间内允许超过经批准的2分30秒OEI稳态转速限制值的非偶发瞬态转速（39,209 rpm）。A non-inadvertent transient (39,209 rpm) has been validated over authorized limit for a period of 2.2 seconds over 2 min 30s OEI stabilized speed.

4.3.2 动力涡轮转速（NP） Power turbine speed (NP):

	100 % NP	最大瞬态偶发超转 Maximum Transient Inadvertent Overspeed ⁽⁵⁾	最大瞬态正常超转 Maximum Transient Usual Overspeed ⁽⁴⁾	最小瞬态 Minimum transient	最小转速 （飞行模式） Minimum Speed (in Flight Mode)
ANETO -1K	21000 rpm	23667 rpm (112.7% 的20秒限制112.7% 20sec limit)	-	17,850 rpm (85%)	18900 rpm (90%)
ANETO -1C	21000 rpm	23667 rpm (112.7% 的20秒限制112.7% 20sec limit)	-	17,850 rpm (85%)	18900 rpm (90%)

	最大稳态转速 – 正常 Maximum stabilised speed - Normal		
	起飞 Take-off	30 min AEO	最大连续 Maximum Continuous
ANETO-1K	21987 rpm (104.7%)	21987 rpm (104.7%)	21987 rpm (104.7%)
ANETO-1C	21987 rpm (104.7%)	21987 rpm (104.7%)	21987 rpm (104.7%)

	最大稳态转速 – 应急 Maximum stabilised speed - Contingency						
	中等应 急 Intermed iate Continge ncy	最大应急 Maximum Contingency	30秒 OEI 30 sec OEI	2分钟 OEI 2 min OEI	2分30秒 OEI 2 min 30s OEI	30分钟 OEI 30 min OEI	连续 OEI Continuous OEI
ANETO -1K ⁽⁶⁾	-	-	-	-	21987 rpm (104.7%)	-	21987 rpm (104.7%)
ANETO -1C ⁽⁶⁾	-	-	-	-	21987 rpm (104.7%)	-	21987 rpm (104.7%)

- (4) 仅在 AEO 条件下（未选择 OEI 模式），允许正常瞬态高于 105.5%，时间不超过 6 秒。Normal transient authorised above 105.5% for period up to 6 seconds only in AEO conditions (OEI mode not selected).
- (5) 最大瞬态限值应视为在不超过 20 秒的时间内偶发超过经批准的限制值的最大值。出现这种情况时，不需要将发动机停止服役或采取维护措施（纠正原因除外）。Maximum transient limit is to be considered as the maximum inadvertent exceedance over authorized limit for period up to 20 seconds. This occurrence does not require rejection of the engine from service or maintenance action (other than to correct the cause).
- (6) 输出轴转速在 11,900 rpm (56.7%N₂) - 15,120 rpm (72%N₂) 之间的运行时间最长不超过 20 秒。Operation between 11,900 rpm (56.7%N₂) - 15,120 rpm (72%N₂) output shaft speed is limited to a maximum of 20 seconds.

4.4 扭矩限制 Torque Limits:

运行时发动机输出轴上的最大扭矩 Maximum torque on engine output shaft during operation:

	起飞 Take-off	最大连续 Maximum Continuous	30分 AEO 30 min AEO	30秒 OEI30 sec OEI ₍₃₎	2分钟 OEI 2 min OEI	30分钟 OEI 30 min OEI	2分半 OEI 2 min 30s OEI	连续 OEI Continuous OEI
ANETO -1K	791 Nm	766 Nm	791 Nm	-	-	-	863 Nm	791 Nm
ANETO -1C	791 Nm	766 Nm	791 Nm	-	-	-	863 Nm	791 Nm
(3) 数值适用于额定 NP。低 Np 时允许更高的值 - 详细信息请参阅《安装和使用说明手册》。Values apply at rated NP. Higher values are permitted at low Np – refer to the Installation and Operating Manual for details.								

4.5 压力限制 Pressure Limits:

4.5.1 滑油压力 (测量) Oil pressure (gauge):

	最小 Minimum	最大 Maximum
ANETO-1K ₍₂₎	请参阅《安装和使用说明手册》 Refer to the Installation and Operating Manual	840 kPa
ANETO-1C ₍₂₎	请参阅《安装和使用说明手册》 Refer to the Installation and Operating Manual	840 kPa
(2) 有关高寒条件下的最大压力, 请参阅《安装和使用说明手册》。 For maximum pressure in cold conditions, refer to the Installation and Operating Manual.		

4.5.2 燃油压力 Fuel pressure:

	最小 Minimum	最大 Maximum
ANETO -1K	请参阅《安装和使用说明手册》 Refer to the Installation and Operating Manual	请参阅《安装和使用说明手册》 Refer to the Installation and Operating Manual
ANETO -1C	请参阅《安装和使用说明手册》 Refer to the Installation and Operating Manual	请参阅《安装和使用说明手册》 Refer to the Installation and Operating Manual

4.6. 安装假设 Installation Assumptions:

请查阅相关的《安装手册》或《安装和使用说明手册》。Consult the relevant Installation or Installation and Operating Manual.

4.7. 派遣限制 Dispatch Limitations:

根据 CS-E 1030, ANETO-1K 发动机获准进行限时派遣。《安装和使用说明手册》中规定了每种可派遣状态的最大周期。The ANETO-1K engine is approved for Time Limited Dispatch in accordance with CS-E 1030. The maximum rectification period for each dispatchable state is specified in the Installation and Operating Manual.

在任何系统或设备不工作的情况下, ANETO-1C 不获准进行限时派遣。飞机起飞前, 所有发动机系统和设备必须正常工作。ANETO-1C engines are not herein approved for Time Limited Dispatch with any systems or equipment inoperative. All engine systems and equipment must be functional prior to aircraft take-off.

对于装机发动机, 请参阅《安装手册》或《安装和使用说明手册》/For installed engines, consult the relevant Installation or Installation and operating Manual.

4.8. ETOPS能力 ETOPS Capability

根据 CS-E 1040, 发动机不具备 ETOPS 能力/The engine is not approved for ETOPS capability in accordance with CS-E 1040.

5 操作和服役指南 Operating and Service Instructions

	安装手册 Installation Manual	操作指导 Operating Instructions	安装和使用说明 手册 Installation and Operating Manual	发动机基础维护 手册 Engine Base Maintenance Manual	发动机进厂维护 / 大修手册 Engine Depot Maintenance / Overhaul Manual
ANETO -1K	-	-	X 046 1K 001 2	X 046 1K 460 2	X 046 1K 500 2
ANETO -1C			X 046 1C 002 2	X 046 1C 460 2	X 046 1C 500 2
对于服务信函和服务通告，请参阅SB和SL目录/ For Service Letters & Service Bulletins refer to SB and SL directory.					

6 备注Notes

- EECU软件符合以下标准 The EECU software meets the following standards:
RTCA DO-178B /EUROCAE ED-12B, DAL A for EECU
- 电磁兼容/闪电认证 EMI/ Lightning Qualification:
详情参见安装和使用说明手册Refer to Installation and Operating Manual for details.
- 电子控制装置不得安装在指定的防火区内。安装条件见相关的《安装手册》或《安装和使用说明手册》。The electronic control unit must not be installed in a designated fire zone. The installation conditions are defined in the relevant Installation or Installation and Operating Manual.
- 在相关维护手册的适航限制章节中规定了发动机中有使用寿命限制的部件。EASA 批准持续适航文件中的适航限制章节在《发动机基础维护手册》文件的第五章“适航限制”中发布。
The engine components subjected to a limited service life are specified in the Airworthiness Limitations Section of the relevant maintenance manuals. The EASA approved Airworthiness Limitations Section of the Instructions for Continued Airworthiness is published in the Engine Base Maintenance Manual document, chapter 5 "Airworthiness Limitations".
- ANETO-1K 和ANETO-1C发动机的电子控制系统提供 "训练"功能，用于在一台发动机故障情况下训练机组人员。有关该功能的特性，请参阅《安装和使用说明手册》。The electronic control system of the ANETO-1K and ANETO-1C engines provides a "TRAINING" function for training crews in an engine failure situation. Refer to the Installation and Operating Manual for the characteristics of this function.
- ANETO-1K 型别未表明符合 CS-E800(d)。这是被CS-E 800(f)(7)允许的，但该发动机仅获准安装在多发旋翼机上。The ANETO-1K model has not shown compliance with CS-E 800(d). This is allowed by CS-E 800(f)(7), but the engine is only certified to be installed in a multi-engined Rotorcraft.
- 经批准的发动机必须遵守相应的经批准的安装或安装和操作手册（如适用）中的限制和条件。The engines are approved subject to adherence to the limitations and conditions included in the respective approved Installation or Installation and Operating manual as applicable.

第3部分 管理信息

Section 3 ADMINISTRATIVE INFORMATION

1. 型号认可证持有人记录/ Validation of Type Certificate Holder Record

序号/No.	时间/Time	持证人名称/Name of Validation of Type Certificate Holder
1	2024年5月28日之后/ After May 28, 2024	赛峰直升机发动机/Safran Helicopter Engines

-完/END-