European Aviation Safety Agency

EASA

TYPE-CERTIFICATE
DATA SHEET

Number : E.108
Issue : 1
Date : 31 October 2014
Type : Draline b.v.
PSR T01 Engine

Models

PSR T01

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I. General

1. Type/Models:

Type: PSR T01

Models: PSR T01

The PSR T01 engine is approved for use on self sustaining sailplanes only, at the ratings and within the operating limitations specified below, subject to compliance with the powerplant installation requirements appropriate to approved installations. It is not approved for take-off operation.

2. Type Certificate Holder:

Draline b.v.
Pannenweg 270
6031 RK Nederweert
The Netherlands

Design Capability: EASA.AP235

3. Manufacturer:

Draline b.v.

EASA Production Organisation Approval

4. Certification Application Date: 20 July 2006

5. Certification Reference Date: 30 August 2011

5. EASA Certification Date: 31 October 2014

II. Certification Basis:

1. Certification Specifications and Environmental Protection Requirements:

    - CS-22, Subpart H dated 14 November 2003
    - CS-34.2 Smoke Number
    - CS-34.1 Fuel Venting

2. Special Conditions:

SC 1	Applicability	SC 10	Endurance Test
SC 2	Functioning	SC 11	Operation Test
SC 3	Accessory Attachment	SC 12	Cyclic Endurance Test
SC 4	Engine Control System	SC 13	Rotor Containment
SC 5	Vibration	SC 14	Containment
SC 6	Fuel and Induction System	SC 15	Continued Rotation
SC 7	Lubrication System	SC 16	Amendment to CS22.1823(c)
SC 8	Vibration Test	SC 17	Safety Analysis
SC 9	Calibration Test	SC 18	Selection of engine power and/or thrust rating

3. Equivalent Safety Findings: none

4. Deviations: none

III. Technical Characteristics

1. Type Design Definition:

The Engine Type Design is defined in PSR T01 Build Standard Version 13, Standard J

2. Description:

Single shaft turbojet engine featuring a single stage centrifugal compressor, a single stage axial turbine, an annular combustor and a single lane digital electronic control system.

3. Equipment:

The Engine equipment is specified in the Installation Manual.
The engine Type Design covers an aircraft mounted Control Unit and an aircraft mounted Fuel Board consisting of electrical pump, filter and valve.

4. Dimensions:

- Overall Length: 380 mm
- Diameter: 140 mm

5. Dry Weight:

- 4530g (without fluid and instrumentation)
- Control unit: 540g
- Fuel board: 1800g

6. Ratings:

- Max. Thrust (5 Minutes): 230N
- Max. Continuous Thrust: 180N

7. Control System:

The engine is equipped with a single lane digital electronic control unit.

8. Fluids

Approved fuels and oils are listed in chapter 3.4.2 of the Instruction Manual

9. Aircraft Accessory Drives:

The engine design does not provide accessory drives.

IV. Operating Limitations:

1. Temperature Limits:

Gas Temperatures EGT:

- Max. and continued thrust: 680°C
- Starting on Ground: 850°C

Fuel Temperatures:

- 0°C up to +30°C

2. Permissible Rotational Speeds:

Max. Thrust:	108500 rpm
Max. Continuous Thrust:	100000 rpm

3. Installation Assumptions:

Refer to Installation Manual for details.

4. Time Limited Dispatch:

The engine is not approved for Time Limited Dispatch Operation

5. Operating altitude:

Maximum permissible: 5000ft

V. Operating and Service Instructions:

Installation Manual:	PSR T01 Installation Instructions, Version 2, 10 November 2013
Instructions Manual:	Version 12, 10 October 2014
Maintenance Manual:	PSR T01 Maintenance Manual, Version 4, 20 November 2014
Engine Manual:	not yet published
Service Bulletins:	As issued by Draline b.v.

VI. Notes:

1. The engine must not be used for performing take-off operation, flights in rain and hail conditions and in icing conditions.

2. The engine is approved for installation in powered sailplanes according to CS-22 only.

3. Information on electromagnetic compatibility is contained in chapter 3.1.5 of the Installation Manual.

4. Overhaul is not permitted until an approved Engine Manual has been published.

5. The ratings shown under III.6. are achieved at sea level and ISA standard day conditions using a defined test bed configuration for the air intake and exhaust system at a lower fuel heating value of 42798 kJ/kg.

6. The EASA approved Airworthiness Limitations Section of the Instructions for Continued Airworthiness is published in the applicable PSR T01 Maintenance Manual", chapter 3.1, "Airworthiness Limitations".
