

TYPE: RED A03

MODEL: RED A03 Hybrid Generator Units – customized up to 380kW & 800VDC



RED A03 **Hybrid** Generator Units are derivatives of the proven A03 engine type providing maximum versatility for different Serial Hybrid propulsion solutions - such as Hybrid Electric Aircraft, eVTOL or Auxiliary Power Unit (APU) applications.

RED A03 **Hybrid** Generator Units are purpose-designed for aviation, to deliver the highest safety level combined with a compact and weight-optimized design.

The RED A03 engine type is a lightweight, all-aluminium, compression-ignition, internal combustion 12-cylinder engines, with two six-cylinder banks capable of independent operation.

ENGINE DESCRIPTION

NUMBER OF CYL. + ARRANGEMENT	V-12
FUEL TYPE	JET FUEL
DISPLACEMENT	6.1 L
BORE X STROKE	86MM X 88MM
VALVES PER CYLINDER	4
TURBOCHARGER	SINGLE STAGE
FUEL SYSTEM	COMMON RAIL INJECTION
ELECTRICAL SYSTEM	28V
DRY MASS*	350 kg
FADEC	DESIGN ASSURANCE LEVEL B CERTIFIED IN COMPLIANCE TO RTCA DO-254, DO-178C & DO-160G RED AIRCRAFT DEVELOPED IP

*) **Depends** on chosen electric generator(s) and final customer configuration.

Application Fields

- Hybrid Electric / **Genset**
- **eVTOL** & electric Aircraft
- Auxiliary Power Unit **APU**

Benefits

- **Less CO₂** emission
- **Less noise** emission
- **Lower operating** cost

Design Features

- Diesel cycle engine, designed to operate with Jet Fuel types & **SAF**
- High Safety Level
- FADEC – **DAL-B**

Certification

A03 type design is certified in compliance to **EASA CS-E / TYPE-CERTIFICATE-DATA-SHEET No.: E.150.**

Included Equipment

- FADEC & electric looms
- Exhaust system and turbochargers
- Generator & Invertor with integrated cooling system

Optional

- **Installation KIT** including
 - ✓ airduct
 - ✓ radiators
 - ✓ intercoolers

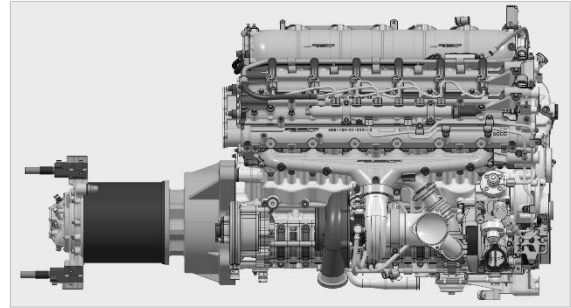
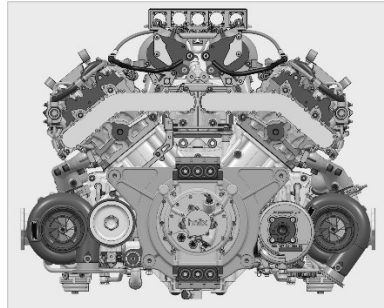
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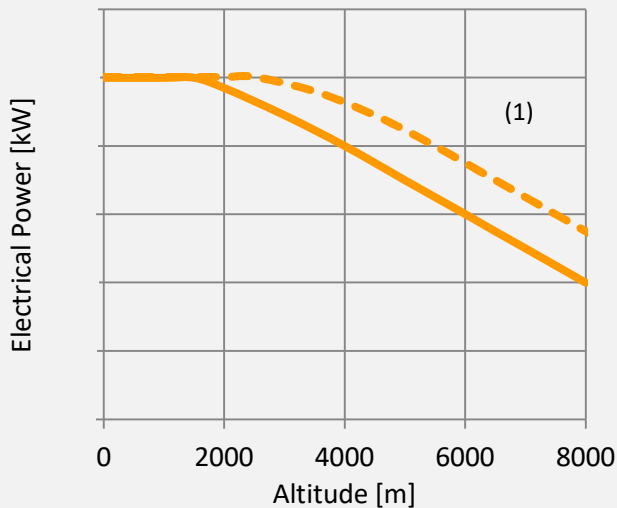
DIMENSIONS

WIDTH	850 mm
HEIGHT	697 mm
LENGTH*	1190 mm

*) **Depends** on chosen electric generator(s) and gearbox (with or w/o)



Pictures with customized helix generator SPX177 and planetary gearbox 1:5.4



(1) Enhanced altitude performance available on request (dotted line).

PERFORMANCE & RATINGS

PEAK POWER FOR 5 MIN: ICE* VS GEN**	405kW	383kW
MAXIMUM ENGINE SPEED FOR 5MIN	4000 RPM	
MAXIMUM CONTINUOUS POWER (MCP): ICE VS GEN	338 kW	327kW
MAXIMUM CONTINUOUS ENGINE SPEED	3750 RPM	
BSFC (BEST)	218 g/kWh	
FUEL FLOW:		
AT PEAK POWER	97 kg/h	
AT MCP	77 kg/h	
AT 294 kW ICE /<277 kW GEN	65 kg/h	
AT 220 kW ICE /<208 kW GEN	47 kg/h	

ICE* Integrated Combustion Engine

GEN** Generator

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