

UAVHE RW79P

Rotary (Wankel type) engine for UAV planes and VTOLs



Air-cooled engine with integrated starter-generator.
Electronic fuel injection with forced electric supercharging.
Fuel inlet through the rotor with the centrifugal acceleration of the pre-atomized mixture.
The Stator is made of a precision CNC-milled cast iron sleeve in an aluminum shell.
Aluminum rotor with reinforced channels. Stationary steel gear. Hollow shaft. Apex seal plates made of tungsten carbide. Titanium spring seals.
Electronic control (FADEC) over twisted pair/CANBus.
Forced cooling by an impeller on the generator rotor.
Forced cooling of the generator stator. Intake air filter, cooling system air filter.
Dual ignition system, duplicated fuel supply system, duplicated control systems.
2:1 Poly-v gear

1. Key Features:

- Standout features include a rotary hybrid APU, an air-cooled engine with an integrated starter-generator, and electronic fuel injection with forced electric supercharging.
- 11kW genset for UAV
- Wankel-type e-supercharged fuel injection air-cooled engine
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2. Performance:

- Consistent performance over a wide range of altitudes and temperatures
- Low fuel consumption
- Ability to operate on heavy fuel, jet fuel, SAF.
- Flexible output voltage configuration options, 48/96/144/196/400 volts

3. Application:

- Several RW79 can work in parallel or in hot-swap mode. A power balance controller can integrate batteries, supercapacitors, and one or more generators into a common bus.
- High reliability and stability of characteristics, coupled with smart governors, allows the RW79 to be used as the main power source for flight systems and as a backup.

4. Advantages:

- Low fuel consumption. Ultra-lightweight. Easy to configure and manage.

5. Technology:

- Noteworthy technologies include electronic fuel injection with forced electric supercharging, precision CNC-milled cast iron sleeve, and an aluminum rotor, all contributing to the powerplant's performance.

6. Reliability and Redundancy:

- The dual ignition system, duplicated fuel supply/control systems, and robust design ensure high reliability and operational security.

7. Control and Monitoring:

- Electronic control (FADEC) is implemented over twisted pair/CANBus, providing advanced control capabilities. The powerplant features monitoring systems for operational oversight.

Technical specifications

Power	24hp @11500rpm
Electric power output	3kW
Weight	4705g.
Dimensions:	170(L) x 197 (H) x 152 (W) mm
Fuel type	Aviation Kerosine (Jet A-1, JP8, SAF)
Specific Fuel consumption	245gr/kWh
Fuel consumption @max load	3.9 L/h
Cooling	Forced Air cooling
Intake	Electronic Fuel Injection, e-Supercharger
Ignition	CDI
Starter	Electric, integrated.
Lubrication	Automix oil lubrication system / or %1 Premix API TC Oil
Control	FADEC, CAN Bus 2.0, J1939 ADLM/TrueTorque3
Control interface	CANBus (twisted pair), Ethernet RJ45
Electric output	5V, 14.4V, 27V, 48V / 400V
Operation altitude	Up to 6100m (FL200, 20000ft)
Operational temperature range (cold start)	-45C +55C
Operational temperature (full load)	-45C +55C
Power deviations under adverse conditions. A rarefied atmosphere, extreme ambient temperature values.	>5%
MTBF	1000H
Service intervals	100H











