ENGINES LIMITED

Multi-Fuel Engines for **all** applications

Air Cooled

HYBRID | AIR | SEA | LAND

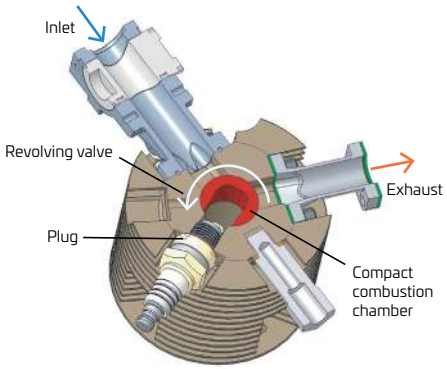
- 2 kW to 4 kW
- JP8 | JP5 | Jet A1
- Gasoline
- SAF
- Single and Twin
- Fuel Injection
- 4 Stroke
- Air Cooled
- Hybrid Suitable

For further details see **www.rcvengines.com/technology**

RCV Engines Ltd produce a range of engines that operate equally well on a variety of fuels including gasoline, heavy fuel and the new sustainable aviation fuel.

The RCV combustion system is based our unique patented revolving valve. A combination of high levels of in-cylinder turbulence and a compact combustion chamber ensures the engine will start readily and run well on all major fuel types. This has given our engines the ability to switch between fuel types with no mechanical changes apart from selecting a different fuel map in the ECU.

- Four-stroke cycle for low emissions and fuel consumption
- Large valve area gives high power with a wide power band
- High reliability, low maintenance with long MTBO:
  - No injectors in the combustion chamber to carbonise
  - No valve clearances to adjust
  - Shielded spark plug for minimum plug fouling and long life
- Specifically designed as a high spec engine:
  - Electronic fuel injection system with altitude compensation
  - Dedicated mounting system for 100 W to 3 kW alternators
- Well suited to hybrid systems due to easy self-starting and high operating RPM giving better power density
- Excellent combustion system ensures engine is insensitive to changes in AFR or ignition timing
- Excellent starting over a wide temperature range -20°C to +55°C
- Resistant to detonation – heavy fuel operation without de-rating
- No combustion chamber hot spots – minimising carbon build up
- Up to 4 preset fuel maps can be saved and selected via CAN



Technical specification →

SPECIFICATION

For further details see **www.rcvengines.com**

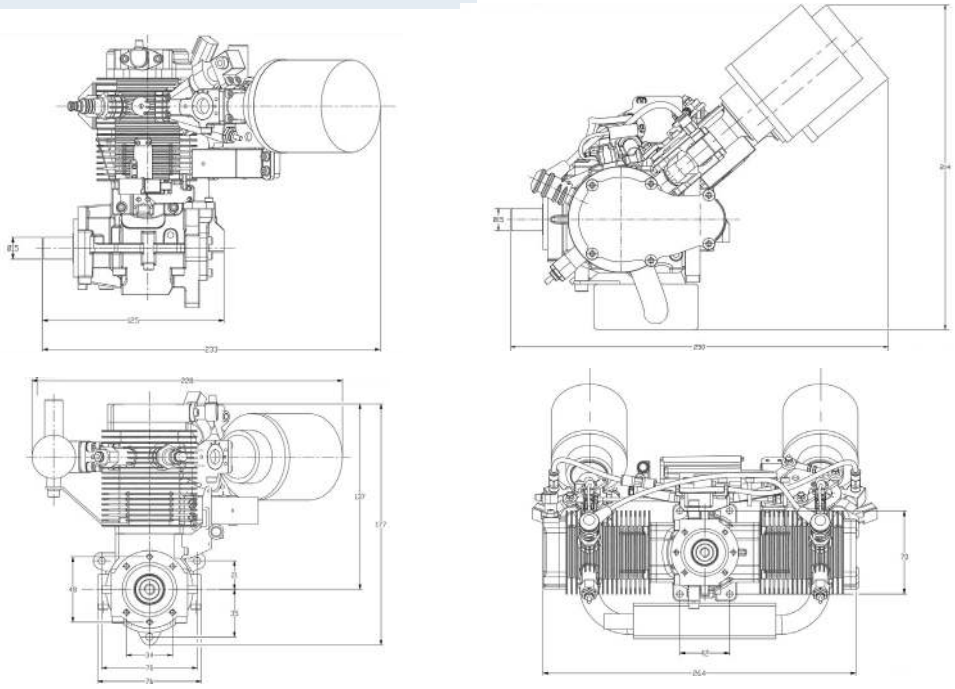
Standard build	**DF35**	**DF70**
Type	35 cc Single cylinder	70 cc Twin cylinder
Power (JP8)	2.2 kW (3.0 hp) at 8500 rpm	4.2 kW (5.7 hp) at 8500 rpm
Weight complete*	2.0 Kg (4.4 lb)	3.0 Kg (6.6 lb)
Combustion system	Revolving valve, 4-stroke	
Lubrication	Oil in fuel 1:25	
Fuelling	Low pressure manifold injection with altitude compensation	
Heavy fuel starting	Cold start assisted with installed cartridge heaters	
Fuel consumption (JP8)	330 g/kW.hr (0.54 lb/hp.hr)	
TBO	250 hrs (VTOL), 500 hrs (Fixed Wing)	

Options

Rotation	Available as Clockwise or Anti-Clockwise (viewed at the prop drive)
Starting	Starter Generator compatible – low compression engine enables easy starting
Cooling	Air Cooled: PWM Controlled Cowling / Electric fan not supplied

* Weight includes engine assembly ready to run with fuel system, ECU, wiring and exhaust. Weight does **not** include prop, generator or cowling.

TYPICAL DIMENSIONS (MM)



APPLICATIONS

Fixed wing / VTOL
Helicopter – Rotary Wing
Hybrid
Marine
Portable Power

ENQUIRIES

RCV Engines has complete design control providing additional flexibility to supply to the end user's needs:

Initially engines are supplied as standard packages. These include: Core engine, ECU with fuel pump, std wiring loom, std throttle servo, std air intakes & filters, std exhaust and calibrated to a fuel of your choice.

As the platform evolves and specific parts are required, RCV can establish a customisation package that is then supplied as part of the engine. Std Packages are intended to allow engine use immediately without requiring any additional items. It is expected that platform specific parts will be required as the design progresses and requirements become better defined.

This approach provides a formalised specification that is fully configuration controlled. The result is a simplified procurement process, efficient product management and consistent supply.

For all enquiries contact **sales@rcvengines.com**