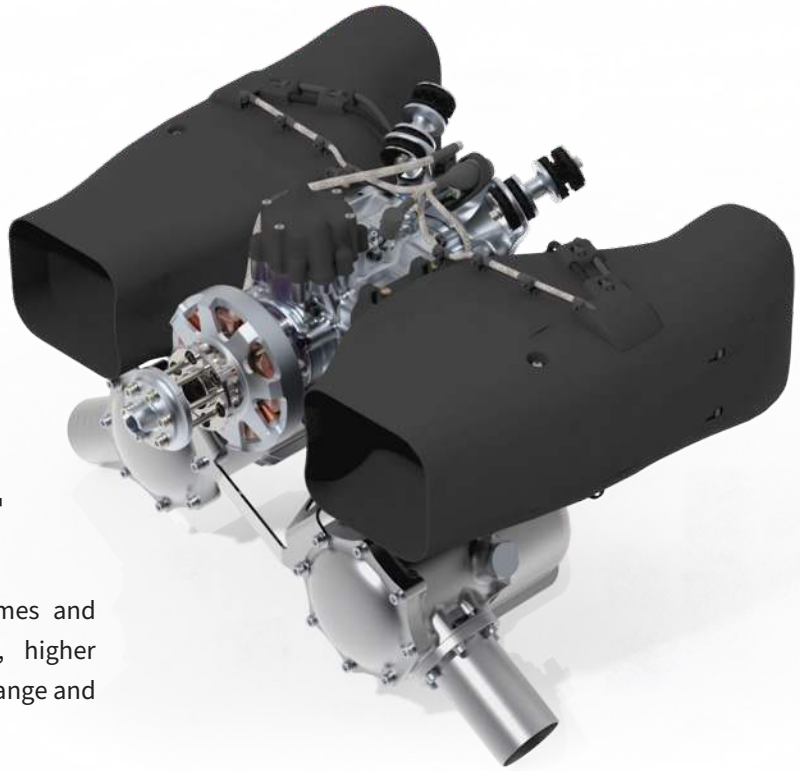
HFDI-350

HEAVY FUEL ENGINE

Heavy-Lift High Output



350cc opposed boxer twin cylinder 2-stroke FlexDI™ Fully Integrated HFE Propulsion System for UAVs

High-output endurance propulsion for larger airframes and harsher environments. Engineered for endurance, higher onboard electrical supply and missions that demand range and payload.

Plug-and-fly integration, faster to flight

Compact form, direct coupling and integrated Engine Management System mean faster install, cleaner wiring and lower integration risk.

Built for bigger airframes

Supports larger Group 3 aircraft enabling heavier payloads and longer-range mission profiles.

Power for advanced systems

High onboard electrical power to feed multi-sensor payloads, comms and onboard compute - without auxiliary power complexity.

Ultra-smooth power

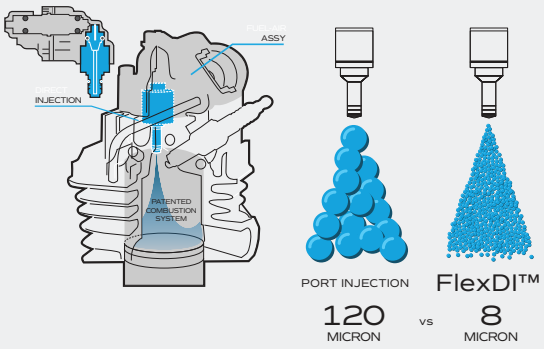
Twin-boxer layout delivers >28.4 hp with low vibration for cleaner data and reduced airframe fatigue.

FlexDI™ Fuel Injection

8-micron precision, mission-level efficiency

Orbital's FlexDI™ atomises fuel to ~8 µm droplets (vs ~120 µm conventional), delivering a cleaner, more complete burn. The result is >30% lower cruise fuel use, high specific power (>70 kW/L), and assured starts in –30 °C conditions with automatic altitude compensation to high Density Altitudes.

FlexDI™ runs JP-5/JP-8/Jet A/Jet A-1 or gasoline, meets MIL-STD-1474D noise targets, and uses electronic oil metering for consistent lubrication.



FlexDI™ turns advanced combustion control into tangible mission advantage.

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HFDI.350

350cc opposed boxer twin cylinder 2-stroke FlexDI™ Fully Integrated HFE Propulsion System for UAVs

SOLAR COLD DUST RAIN

ENGINE SPECIFICATIONS

Engine Configuration	350cc, Air-cooled, opposed two cylinder 2-stroke with Orbital Flex DI
Power	28.4hp (20.9Kw) @ 6,500rpm
Fuel Consumption (BSFC)	~325 g/kWh @ typical cruise
Fuel Compatibility	JP5, JP8, Jet A, Jet A1 (able to operate on gasoline)
Weight	~16.7kg Integrated Propulsion System (includes ECU, mount, pumps, harness, propeller)
Engine Management	Orbital FlexECU with CAN Communication
TBO	500hrs

INTEGRATED PROPULSION SYSTEM

Thermal Management	Light weight aerodynamic cowls
Exhaust System	Light weight acoustic/power optimised
Vibration Isolation	Dynafocal tuned mounting system
Electrical Power	Configurable Engine Management System alternator (with remote-start capability)
Fuel and Oil System	Integrated pumps and lines with consumption monitoring
Propeller	Orbital OptiProp propeller simulation and selection

OPERATING ENVIRONMENT

Max. Operating Altitude	20,000’ AMSL
Operating Temperature	-30 to 55 °C including start
IP Rating	MIL Spec. Sand, Dust, Rain, Salt Fog
Environmental Conditions	MILSTD810H

Orbital helps UAV manufacturers outperform their competition by delivering integrated propulsion systems engineered specifically for maximum reliability, seamless integration, **and mission-critical performance**.

Image shows Insitu’s ScanEagle3, courtesy and copyright of Insitu Inc.

1.2 Million hours of in-field service with multiple Tier 1 Defence customers - Orbital propulsion systems deliver the integrated reliability and performance to make your UAV a market leader.

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