HFDI-75

HEAVY FUEL ENGINE

Field Proven Mission Ready

Single-Cylinder FlexDI™ Fully Integrated HFE Propulsion System for UAVs

Built for endurance, the HFDI-75 uses FlexDI™ to deliver efficient heavy-fuel combustion with minimal vibration and simplified integration. Field-proven with over **700,000+ hours** of multiple operating environments across the globe.

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.

~345 g/kWh, multi-fuel longer missions, no re-tune

Efficient and seamless operations across fuels and altitudes - no downtime for re-tuning.

5+ hp in a 4.4 kg, low-vibration package

For cleaner sensor data, more endurance or more payload from every litre.

Proven in 700,000+ operating hours

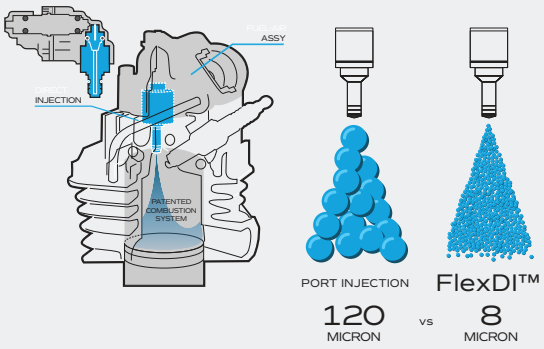
Multiple Tier 1 Defence customers and a proven record in numerous operating environments worldwide.

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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ENGINEERED TO WIN ORBITAL®

HFDI-75

2-Stoke FlexDI™ Fully Integrated
HFE Propulsion System for UAVs

SOLAR COLD DUST RAIN

ENGINE SPECIFICATIONS

Engine Configuration	75cc, Air-cooled 2-stroke with Orbital Flex DI
Power	5.1hp (3.8Kw) @ 6,500rpm
Fuel Consumption (BSFC)	~345 g/kWh @ typical cruise
Fuel Compatibility	JP5, JP8, Jet A, Jet A1 (able to operate on gasoline)
Weight	~7.8kg Integrated Propulsion System (includes ECU, mount, pumps, harness, propeller)
Engine Management	Orbital FlexECU with CAN Communication
TBO	500 Hours

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
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 Aerosonde MK 4.7 Fixed Wing, courtesy and copyright of Textron Systems.

700,000+ 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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