



New Generation of Heavy Fuel Engines for UAVs

3W-International announces new HFE range of 2-stroke, Twin Spark heavy fuel engines for UAVs.

3W has developed a new range of 10 heavy fuel engines, designed to increase reliability and reduce fuel consumption by 20%, compared with gasoline engines of the same class. The German manufacturer has designed and produced high quality 2-stroke engines for the last 25 years and the new models in the HFE range feature a modified air intake system, fuel injection, patented 3W-muffler and patented pre-heating crankcase solution.

The majority of 3W's HF engines with a cylinder capacity over 34ccm, are produced in Twin Spark (TS) versions for advanced engine reliability and safety. The TS engines enable the second ignition to run autonomously in the event of first ignition failure, allowing the engine to run further with reduced RPM between 100-150, depending on the type of engine. 3W engines also feature a microprocessor controlled ignition system to start the engine easily.

All HFE models run 20°C to 35°C cooler than gasoline engines and the fuel pre-heating system automatically reduces the fuel consumption when fuel passes the pre-heating unit. The engines operate with 2-stroke gasoline mix, JET A1, JP 5 and JP 8 without recalibration of the system. For cold start, cartridge heaters are powered for 3-6 minutes, depending on the engine type, by an external power supply until the starting temperature of +65°C is reached in the combustion chamber. When the engine is running, the external power supply of the cartridge heaters is switched off, eliminating the requirement for an external power supply source.

Heavy fuel is activated in the pre-heated crankcase, which is made from rapid prototyping, solid or castings, depending on quantities. The casted crankcases of the larger engine types are built in 4 parts and consist of a front crankcase, main crankcase (2 part system) and an engine mounting plate. The 4 part design allows precise and safe machining of all ball bearing seats and the front crankcase can be supplied in different lengths to meet customers requirements. Besides the manual operated valve, 3W heavy fuel engines can also feature 3W's automatic compression release valve to easily stop and restart the engine in the air if an onboard starter, or alternator and starter unit, is on board. To reduce the noise level the patented 3W-muffler system is part of the delivered engine unit and compression ratio can also be reduced to 1:9,5/10,5 in certain 3W heavy fuel engine models, compared with 1: 11/12 in gasoline engines.

Karsten Schudt, Managing Director of 3W-International, said, "With the UAV industry growing rapidly internationally, we are providing the market with next generation heavy fuel engine technology that focuses on increasing power, reliability and lifetime. We are very happy with the industry's response to 3W's latest engine models and will be launching the HFE range at AUVSI in August."

For further information, please visit www.3w-international.com

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3W International:

Located in Bad Homburg, Germany, 3W-International is a company focused on providing 2-stroke heavy fuel and gasoline engines of the highest quality to the Unmanned Aerial Vehicle industry. 3W-International GmbH signed exclusive contracts with 3W-Modellmotoren GmbH for marketing and selling the complete line of heavy fuel engines and gasoline to the industry worldwide, production and R&D of HF-Engines and gasoline engines, and purchase of 3W-Modellmotoren GmbH's patents in Germany and USA.

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