



*AMT Netherlands
Spaarpot 32/34
5667KX Geldrop
the Netherlands*

2020 Company Profile



The company

Advanced Micro Turbines Netherlands (AMT Netherlands) designs and produces small gas turbine engines. The engines are primarily used for the propulsion of radio-controlled airplanes, UAV's and experimental aircraft. Our engines are also certified as a bring-home device for full size gliders. Various universities use our specially modified engines for research and educational purposes. On request, an engine can be adapted so that it may be used as a remote heat and/or power generator, or as an auxiliary power unit.



In 2012 a new production facility was opened in Geldrop, the Netherlands. Using state of the art equipment including 5-axis CNC milling machines and an indoor test facility, AMT Netherlands designs, tests and produces 95% of all critical engine components in house.



In 2015 a factory expansion was realized initially for all our CNC equipment however it became quickly to small therefore after 5 years the above did become our central warehouse.

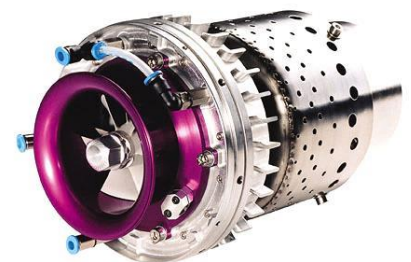
AMT Netherlands is totally committed to develop efficient engines and associated equipment while continuously ensuring safety and reliability.

All materials are carefully selected according extensive calculations, operational tests and our stringent quality control process.

Every engine is assembled by skilled engineers and rigorously tested before dispatch to ensure that it meets precise performance and safety parameters.

History

Our first gas turbine engine, the Pegasus, was developed in 1991 and had a thrust of 90 Newton at 90,000 RPM. Soon the news spread and a large demand enfolded. AMT Netherlands was founded in 1994 by owners Bennie and Anita van de Goor in order to enable commercial production. Its legendary reliability and performance have quickly become a benchmark in the industry.



Over the years as the demand increased, the company gradually expanded, not only physical but also in experience and know-how of gas turbine engine design and manufacturing, resulting in new and more powerful engines.

Today, our Pegasus HP engine is still being manufactured and used in several applications including military. In time the thrust of the Pegasus HP engine has increased from 90 Newton to 167 Newton.

Engine range

Currently AMT Netherlands has a range of 5 engines:

- | | | |
|--------------|------|----------------|
| - Pegasus HP | 167 | Newton thrust. |
| - Olympus HP | 235 | Newton thrust. |
| - Titan | 392 | Newton thrust. |
| - Nike | 784 | Newton thrust. |
| - Lynx | 1569 | Newton thrust. |

A new 600 Newton thrust engine is under development and will be available middle of 2020.

These engines have specifications and performance which have never been achieved before in a gas turbine engine of this size.

All engines are regulated by a fully automatic digital electronic Engine Control Unit (ECU).

Starting is accomplished using an electric starter motor and a ceramic kerosene igniter.

Except for Nike and Lynx, on request the engines can be modified to start using compressed air and/or propane.

For more detailed information visit our specification page at: <http://www.amtjets.com/specs.php>

General engine description

All engines are based on our own revolutionary design using a centrifugal radial flow compressor and our unique axial flow turbine stage, giving exceptional thrust-to-weight ratios with low fuel consumption and very fast acceleration times.

For the higher thrust class engines like Titan, Nike and Lynx, the software limits the spool up and down time to approximately 10 seconds. This greatly improves engine reliability for operation at high altitudes.

The combustion chamber is of the annular type, fitted with a unique low pressure fuel system, also developed by AMT Netherlands. Both front and rear hybrid bearings are lubricated and cooled by the fuel system, therefore our engines require no separate lubrication system or oil tank.

Engine start, running and cool down is controlled by our own design automatic digital electronic Engine Control Unit (ECU).

For the high thrust engines Nike and Lynx, the ECU, solenoid Valves and fuel Pump and are integrated into an EVP unit. The modular design of the EVP unit requires only three connections to the engine: a single cable with a military grade connector, a main fuel line and an igniter fuel line. This ensures problem free operation and fast service times.



The single 50 cm* EPV to engine connection cable insures problem free operation and fast service times. (* different lengths cable on request)

On request, the original ECU layout with all its separate components is also available.

CNC manufacturing facilities

Since the year 2012 AMT Netherlands owns a state of the art CNC machine park including 5-axis milling machines which can produce parts for 400-500 gas turbines engines per year, depending on engine type.

Our CNC machine park is since the end of 2019 located in a new building besides our existing building with a floor area of 1000 square meter from which we have approx. 50% floor space is in use at the moment.



Picture above:

On the left, our main office and on the right side our in 2018 acquired building in where now our CNC workshop is located.



Picture above:

Part of our current CNC park of three Doosan puma CNC machines and two Hermle 5 axis CNC milling machines.

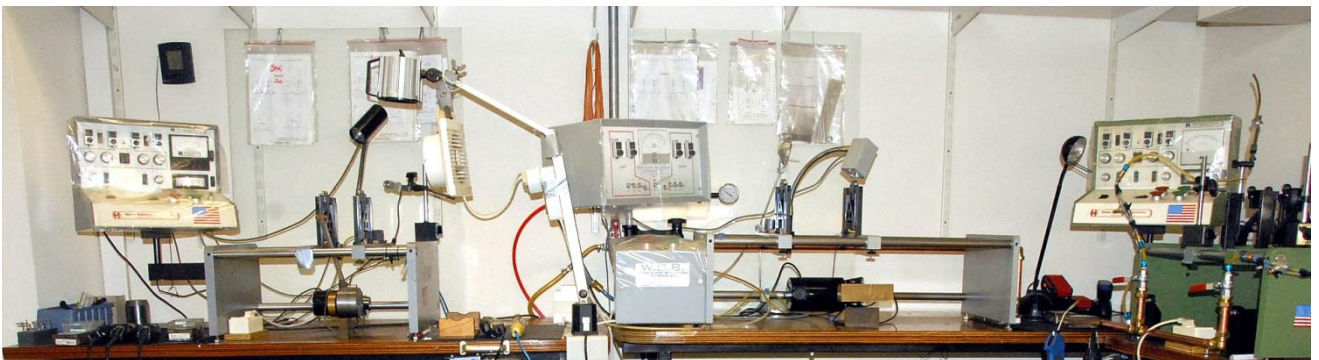
Engine assembly

Presently we have 2 fully equipped engine assembly areas where our specialized engineers perform assembly, repair and maintenance.

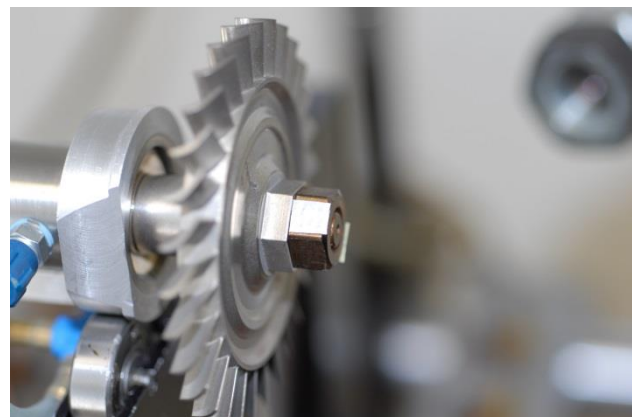


Balancing

For dynamic balancing of the rotor assembly, AMT Netherlands uses dynamic balancing machines. After the initial test run of each engine the rotor balance is measured and if necessary corrected before an engine is subjected to its final 3 test runs.

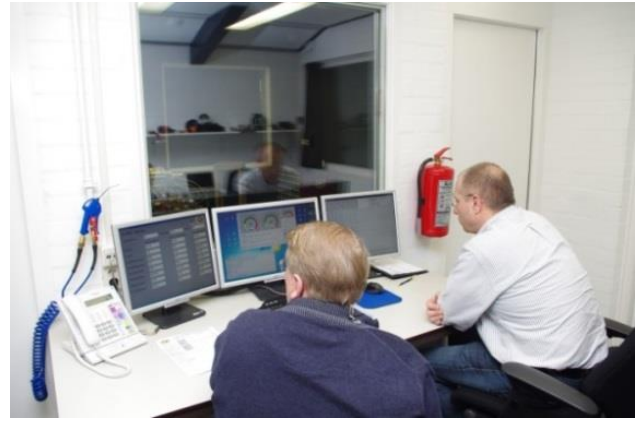
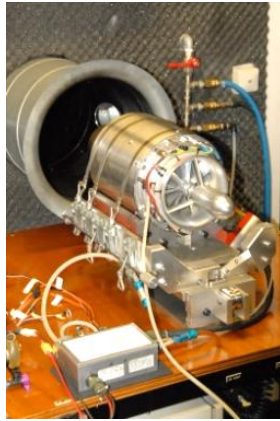
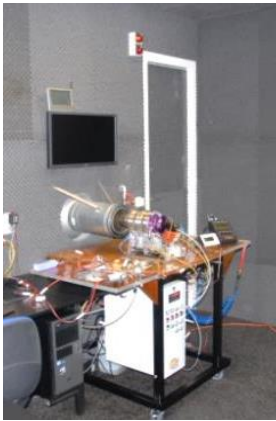


All engines are balanced up to quality grade 6.3 which is normal for the use in aircraft gas turbine engines. Grade 6.3 represents the result of the eccentricity in millimetres multiplied by the operating frequency in Hertz.



Test facilities

Turbines are tested manually and during test runs fully automatically using company designed software. The know-how of our test facilities is available for our professional customers.



Nike & Lynx engines are shipped standard with comprehensive engine run test data* from our automatic test facility, recalculated to Standard Temperature and Pressure (STP). This data can be used in an operator Engine Condition Monitoring program.

* on request we can also ship our Pegasus HP, Olympus HP and Titan engines with test data.

Range of customers

AMT Netherlands has a global range of customers, each with their specific use. A short reference list is available of customers using various types of our gas turbine engines.

Visiting AMT Netherlands

Prospective and existing customers are welcome to visit our facilities by prior arrangement.

Office hours Monday to Thursday, 08.30 to 17.00 CET

Office hours Friday, 08.30 to 13.00 CET

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