

PBS will produce the 1,000th PBS TJ100 jet engine this year. It is going to present its latest PBS TJ150 turbine engine at the IDET trade fair

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První brněnská strojírna Velká Bíteš (PBS) is going to present its most successful and latest products for the aerospace industry at the IDET international defence and security trade fair in Brno. Visitors to the fair have the opportunity to familiarize themselves with the Sapphire 5K/G MI auxiliary power unit, which, among other things, starts the main engines of the Mi-171š helicopter used in the Army of the Czech Republic. The latest PBS TJ150 jet engine can also be seen, which excels in its excellent thrust-to-weight ratio and outer diameter. PBS will achieve two major milestones in the production of its aircraft this year.

PBS is a Czech engineering company with more than 200 years of history. It focuses on developing turbine power units, auxiliary power units (APUs) and air conditioning systems (ECS) for various types of aircraft and helicopters. It is also exhibiting one of its most successful aerospace products at IDET in Brno, the Safir 5K/G MI auxiliary power unit (APU).

“The conception of the Safir 5K/G MI unit dates back to the 1990s. It was originally intended for the Czech L-610 aircraft. However, today's modified version has found its use in medium to heavy MIL transport helicopters, which are also used by the Army of the Czech Republic. We sold the 900th unit by the end of last year, and this year we will already produce and deliver one thousand of them,” said Milan Macholán, CEO of První brněnská strojírna Velká Bíteš a.s.

The PBS TJ100 jet engine will enjoy the same success, with the company celebrating the production of the 1,000th engine by the end of this year. *“We also produced the 900th PBS TJ100 jet engine this March, which we have been supplying to world markets since 2004. We already know that we will produce, assemble, test and deliver an engine with a serial number of 1,000 to the end customer by the end of this year,”* added Milan Macholán.

The first customer of PBS TJ100 was the Spanish manufacturer of training targets, INTA. Thanks to the continuous innovation process and more than 20 customer modifications underway, it has gradually gained customers in more than fifteen countries. The degree of individual customization is a great advantage of PBS jet engines. Currently, oil-free variations or versions allowing them to land in salt water have been created. Moreover, last year PBS launched two new jet engines in the 900 and 1,500 Newtons category. The company has extended its selection to 5 types of engines with a wide range of applications. *“The most powerful PBS TJ150 jet engine is based on the innovations of the existing PBS TJ100, in which we have achieved higher tensile strengths while maintaining the same outside diameter and engine weight,”* explained Milan Macholán.

Currently, PBS is preparing projects for possible future cooperation with European defence technology manufacturers. *“We are currently working with the Swedish state-owned FMV institution, to whom we supplied our jet engines for testing. If everything goes as planned, they will be used in Swedish unmanned systems,”* disclosed Milan Macholán on their cooperation with Sweden, the partner country of this year's IDET.

Contact

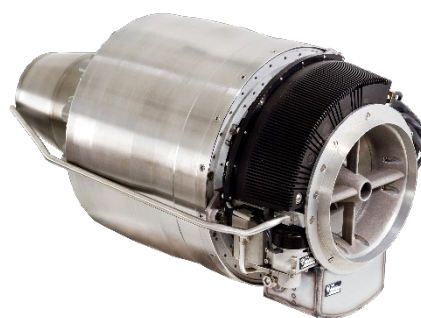
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Main parameters of the latest PBS TJ150 turbine engine

Maximum thrust	1,500 N
Maximum speed	0.9 M
Outer diameter of the engine	272 mm
Engine weight	19.6 kg
Maximum altitude	10,000 m
Electrical power output	600 W / 28 V
Ambient temperature range	-50 °C to +45 °C



PBS's Awards

- › **Prize of the Regional Governor of the Vysočina Region for Social Responsibility** – 1st place, 2018
- › **National Quality Prize** – 1st place in the highest category, Excellence, 2018
- › **Exporter of the year** – 3rd place in the category of large companies for the biggest year-on-year growth of exports, 2018
- › **Czech Top 100** – 4th place in the category of Invention – Deployment – Export – Profit, 2018

PBS products – Aerospace Technology Division

- › **jet engines** PBS TJ23U, PBS TJ40, PBS TJ80, PBS TJ100 and PBS TJ150 in the power category of maximum thrust between 200 – 1,500 N intended mainly as the propulsion unit of various types of UAV aircraft
- › **turboprop and turboshaft turbine aircraft engines** with a power output of 180 kW for the propulsion of unmanned vehicles, small aircraft and helicopters
- › **auxiliary power units (APU)** generating compressed air for starting the main engines and for supplying electrical power for aircraft and helicopters
- › **environmental control systems** for heating, cooling and ventilation of the cabin and cargo areas of aeroplanes and helicopters
- › **precision castings, precision machining, surface treatments**
- › **cryogenic products**

PBS in numbers

- › sales of more than € 52 million (2018)
- › more than 700 employees (2018)
- › 6 branches worldwide

[První brněnská strojírna Velká Bíteš, a.s.](#) engages in the development, production and testing of high-rpm turbine machines for the aviation, power engineering and transportation industries. It is also a leading European foundry for precision casting and a supplier of galvanic surface treatments and

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high-precision machining. It offers top-quality products and services with high reliability, with the added value of taking the needs and specifics of its individual customers into account.

PBS Velká Bíteš is part of the PBS GROUP holding, which governs one of the longest standing engineering brands on the world market.