



## **YOUR PARTNER IN GENERAL AVIATION AND AIRCRAFT TURBOCHARGER TECHNOLOGY**

Pankl is your reliable partner for the development and production of turbo systems for general aviation. From the development of highly specific requirements to cost-efficient manufacturing, we offer tailored solutions for your needs. Transferring our knowledge in racing to the very special requirements for charging systems in general aviation applications.

### **Our Strengths**



#### **Cost-Efficient & Affordable**

With wide access to off-the-shelf components, we offer cost-efficient and affordable solutions without compromising on quality and reliability.



#### **Customer-Oriented Design**

Our turbo systems are specifically designed to meet your requirements in terms of altitude, consumption, performance, lifespan, and weight.



#### **Development „Build to Spec“**

We develop turbo systems according to your specific requirements and specifications.



#### **Manufacturing „Build to Print“**

Our manufacturing is based on your drawings and specifications to ensure the highest precision and quality.



#### **Experience in General Aviation:**

With our extensive experience in general aviation, we provide competent and reliable solutions.



#### **Expertise in Single- and Multi-Stage turbo systems:**

Our expertise in developing single- and multi-stage turbo systems guarantees you the highest performance and efficiency.



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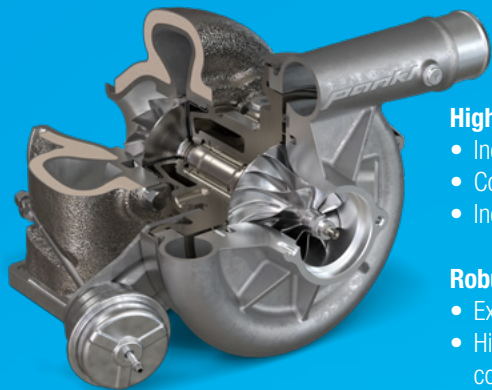
#### **Member of a big Company**

Pankl Group is an established partner with a strong reputation for quality and reliability in aerospace applications.



## ...ENABLES HIGH POWER & HIGH ALTITUDE

Pankl single-stage turbo system "stage 4" cope with aviation requirements in terms of weight, performance and lifespan.



Stage 4 turbocharger

**Less weight & space  
compared to 2-stage system**

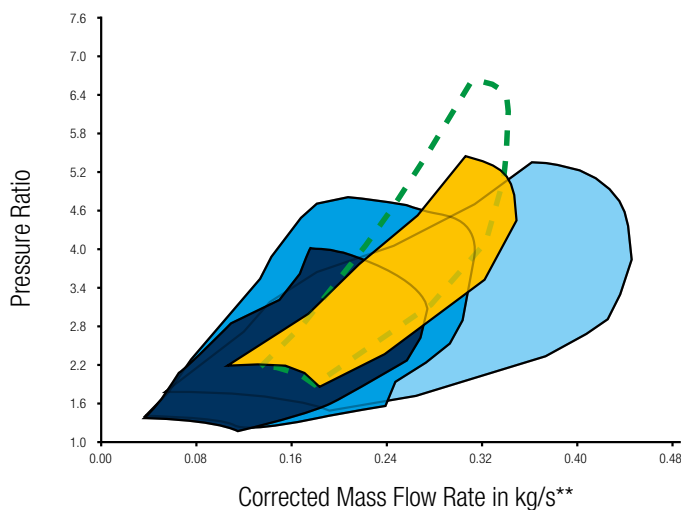
### High Performance for several aviation aspects

- Increased power for quicker take-off
- Constant power during climb to high altitudes
- Increased efficiency/range @ passenger flight level

### Robust and durable high-performance ball-bearing\*

- Excellent emergency running properties
- High rotor dynamic stability with reduced deflection of compressor and turbine wheel
- Higher capacity to absorb axial forces
- Improved robustness against poor oil quality and low oil pressures

### Compressor Map (simplified)



**Stage 1**  
 $\eta_{max}=0.74$

**Stage 2**  
 $\eta_{max}=0.79$

**Stage 3**  
2-stage system  
 $\eta_{max} \sim 0.60-0.70$

**Stage 4**  
 $\eta_{max}=0.80$

**Stage 5**  
 $\eta_{max}=0.83$   
Under development

\*Customized floating bearing variant optional

\*\*Scalable to meet specific requirements