

A-A

NEO200 - The "UltraLight" Turbine

Output Power ISA: 147kW / 200hp @ 6000rpm
 Installed Weight: 40kg / 105lbs
 Compatible Fuels: Jet A, Petroleum, Diesel
 Specific Consumption: TBD

Technical Highlights:

Single Spool Turboshaft, inexpensive to operate and to maintain. All accessories electrically powered to eliminate heavy and bulky accessory drive pads on reduction gearbox. Fully automatic FADEC system with "Black Box" functionality.

1. Power output flange compatible with Solar T-62T-32, hence ideal replacement with increased power for existing installations.

2. Compact, highly efficient epicyclic gearbox with dry sump lube system. "Last Chance Filters" installed in all supply lines.

3. Integral inertial lube scavenge pump.

4. Planetary gear duplicates as brushless starter generator. This machine is arranged as a high speed three phase, permanent magnet outrunner. The starter generator also provides the RPM feedback signal to the FADEC.

5. Central compressor casing arranged as an ultra-light weight high-temperature tolerant magnesium alloy casting. It still provides good damping characteristics and is super-rigid.

6. Compressor impeller of modern aerodynamics, machined of a solid forged billet of titanium alloy.

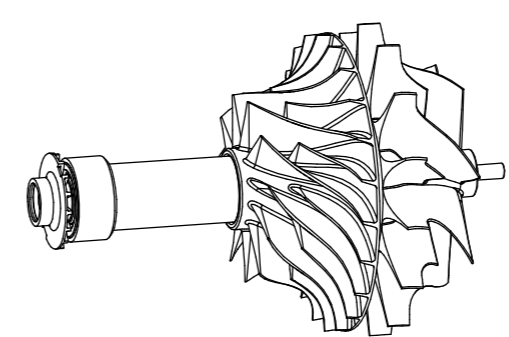
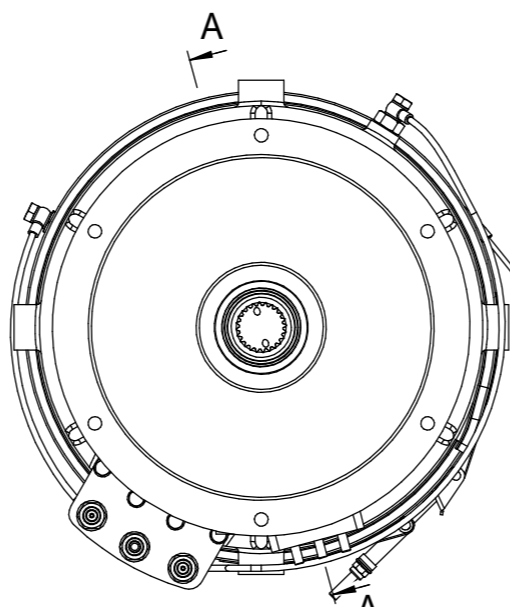
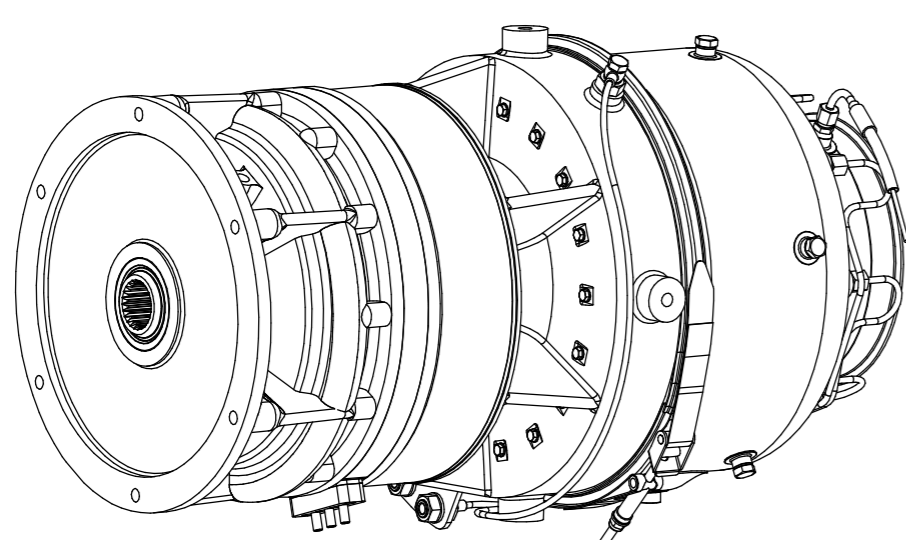
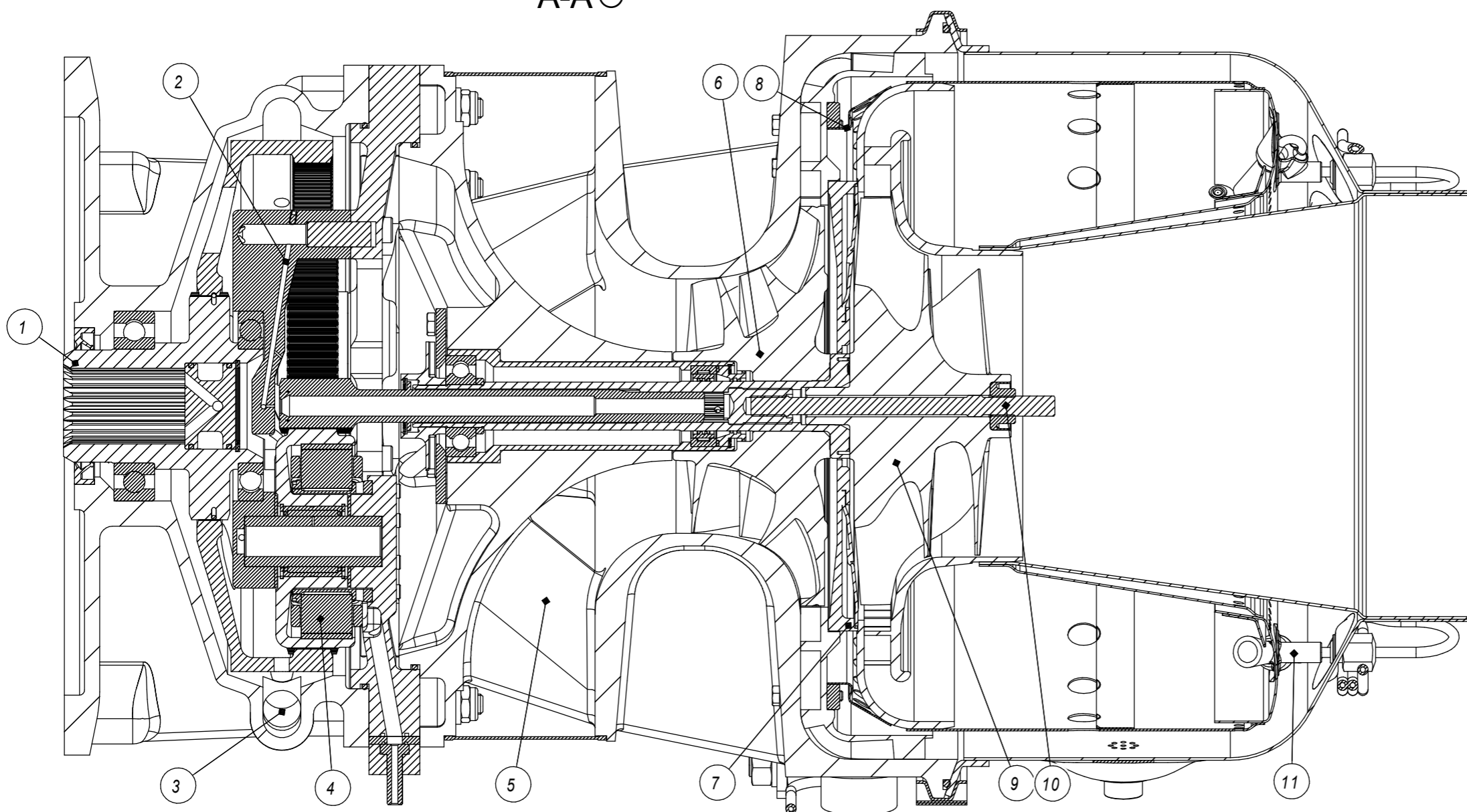
7. Thermal-cycling tolerant design of the seal plate that isolates the cold compressor area from the hot turbine section.

8. The NGV (turbine nozzle assembly) is supported by a diaphragm-type assembly, permitting limited axial movement to compensate for thermal expansion while radially it's rigid to keep rotor clearance within limits.

9. Designed to withstand the extreme thermal and centrifugal stress conditions for thousands of hours, the turbine wheel is a rotary vacuum precision cast component made of INCO 713LC nickel-base super alloy. It's of a 14 blade splitter-design which means that only every second blade extends into the exducer area, providing a higher flow cross-section.

10. The turbine tie rod is made of an ultra-high strength nickel-base alloy and cooled by compressor bleed air. During assembly of the rotor, tensioning is accomplished by a hydraulic spanner instead of application of mechanical torque. This keeps the tie rod free of torsional stress.

11. The combustor features a single start fuel (atomizing) nozzle while once burning and heated up, the main fuel is supplied through eight (low-pressure) air-blast nozzles. The start fuel is eventually shut down after the engine has reached idle speed.



				ZEICHNUNG NICHT SKALIEREN/REVISION	
ABSCHLUSS:				Neo Engines Baumgart & Rupp GbR	
NAME	SIGNATUR	DATUM		BENENNUNG: NEO200 Shaft Turbine Engine	
GEZ. BM					
GEPR.				ZEICHNUNGSNUMMER	A3
MATERIAL:					1
GEWICHT:	35,28	MASSSTAB: 1:2		BLATT	