



FUEL EFFICIENT, POWERFUL & COMPACT ENGINES

288CC / 330CC ENGINES



www.suter-aviation.ch
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TOA/TOW/HF-TOA Technical Overview 2025-05-22 Released

TOA 330

AIR COOLED, VERY FUEL EFFICIENT AND ROBUST ENGINE
SUITABLE FOR HELICOPTER AND FIX-WING INSTALLATIONS
CAPABLE TO OPERATE AT HIGH ALTITUDE

Technical Features

Two-cylinder, two-stroke boxer engine

- horizontal & vertical Installation
- crankshaft in high strength steel, single piece connecting rods with needle bearings
- Cylinders in casted aluminium, nickel-silicone coated barrel
- Throttle control by SERVO & controlled via ECU
- ECU for fuel, ignition, cold start, EGT, coolant temperature, altitude compensation & overheat protection

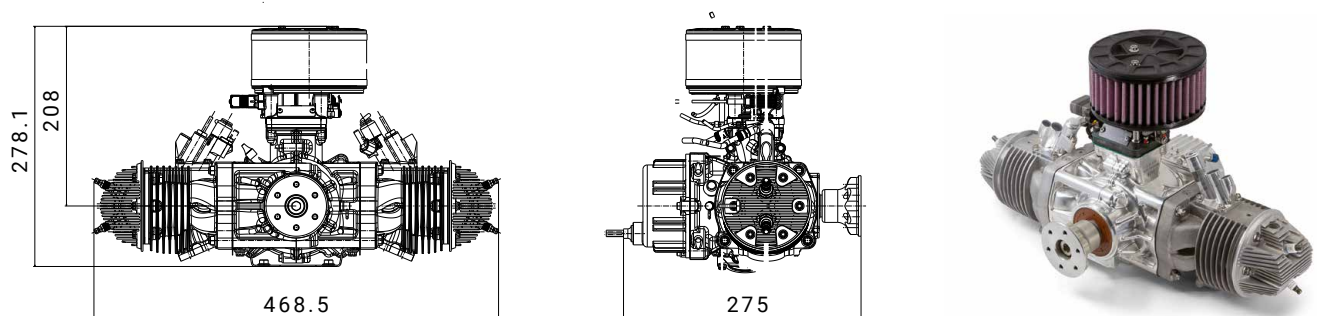
Options

- Oil injection
- 2 kW / 28 VDC Starter Generator Control Unit (SGCU)
- 0.5 kW / 28 VDC Generator Control Unit
- Double ignition
- Reduction drive

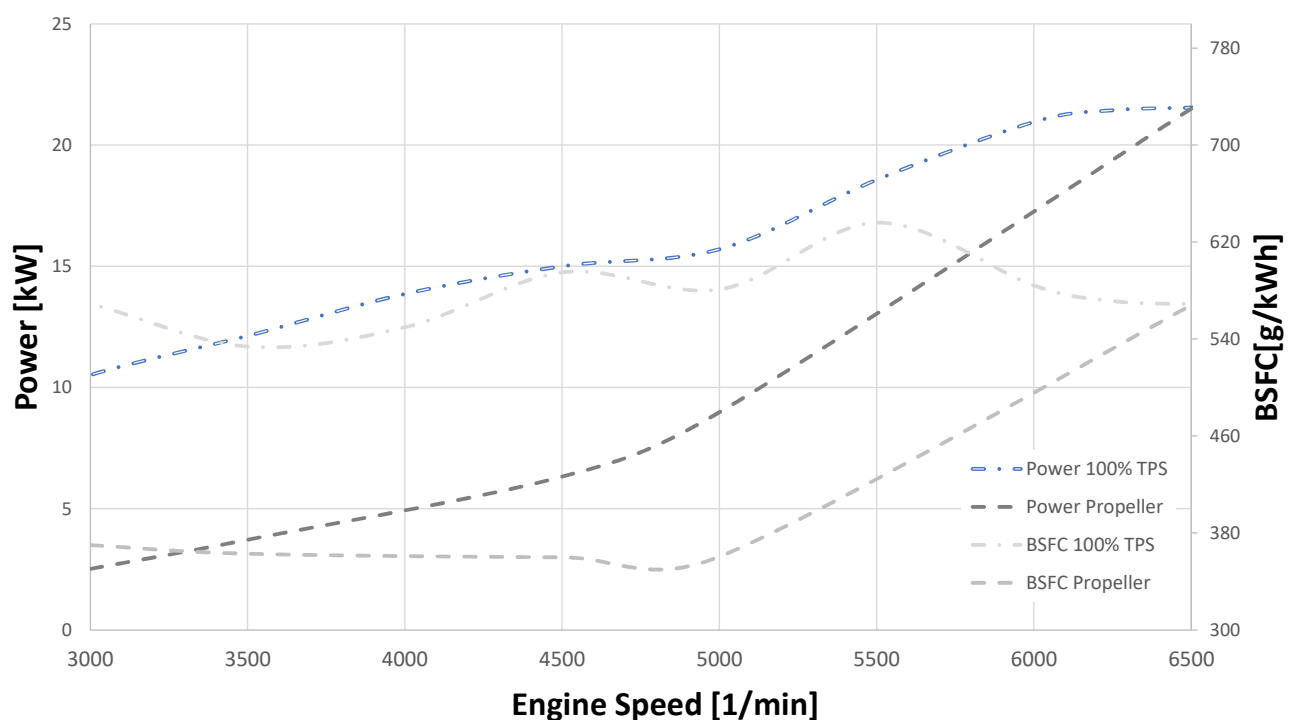
Technical Data

Service Ceiling	20'000 ft
Performance	21,5 kW at 6'750 rpm (29,2 HP) 33,4 Nm at 6'000 rpm
Fuel Efficiency	360 g/kWh (BSFC)
Displacement	330 cm ³
Weight	8,9 kg engine 1,9 kg exhaust & silencer 1,5 kg 1 kW/28V starter (SGCU)
Management & Control	ECU/12V-system Automatic via ECU
Ignition System	CDI (Capacitor Discharger Ignition)
Fuel	Min. 95RON (91MON MOGAS) or AVGAS LL100
Mixture	1:60 (1,6 %) 2-stroke oil API TC

Dimensions



Performance Curve



HF TOA 330-SDI

AIR COOLED, VERY FUEL EFFICIENT AND ROBUST ENGINE

SUITABLE FOR HELICOPTER AND FIX-WING INSTALLATIONS

CAPABLE TO OPERATE AT HIGH ALTITUDE

Technical Features

Two-cylinder, two-stroke boxer engine

- horizontal & vertical Installation
- crankshaft in high strength steel, single piece connecting rods with needle bearings
- Cylinders in casted aluminium, nickel-silicone coated barrel
- Throttle control by SERVO & controlled via ECU
- ECU for fuel, ignition, cold start, EGT, coolant temperature, altitude compensation & overheat protection

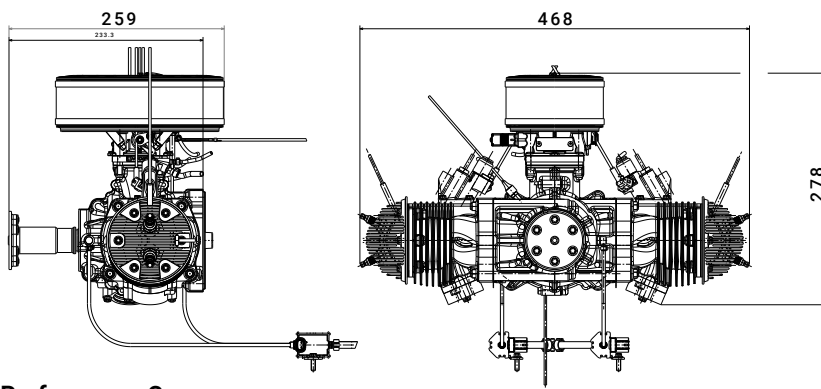
Options

- 2 kW / 28 VDC Starter Generator Control Unit (SGCU)
- 0.5 kW / 28 VDC Generator Control Unit
- Reduction drive

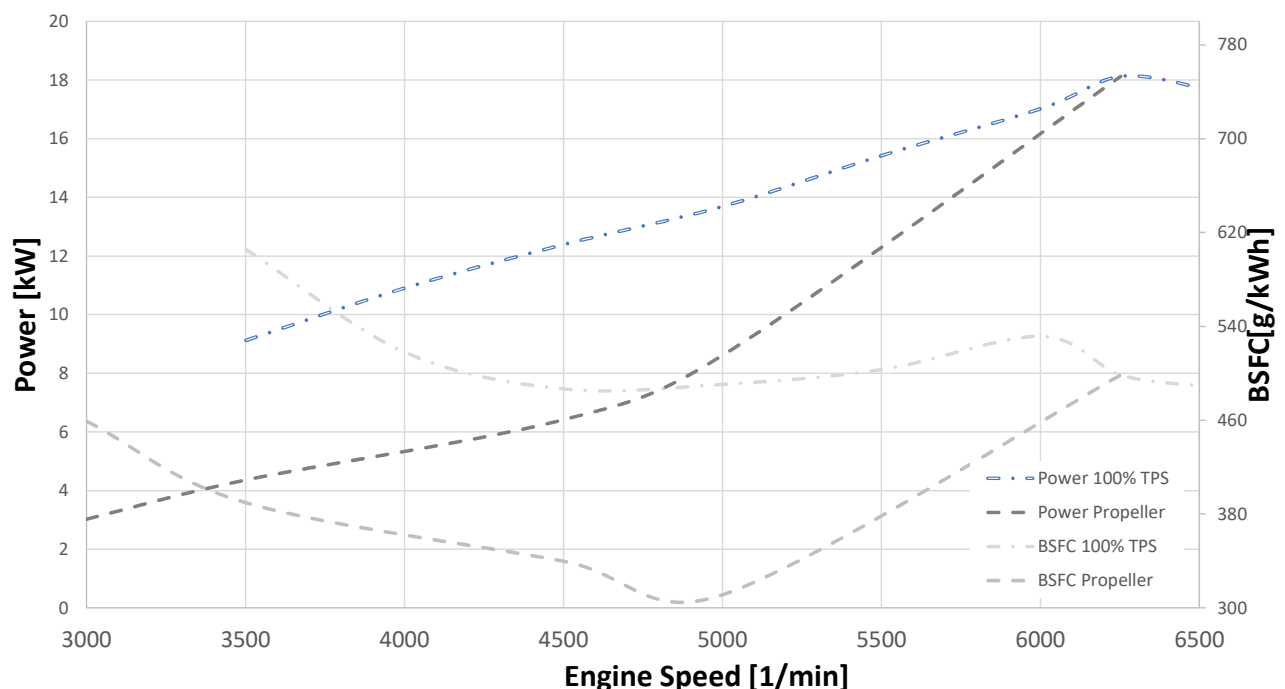
Technical Data

Service Ceiling	20'000 ft
Performance	18,1 kW at 6'250 rpm (24,5 HP) 27,7 Nm at 6'250 rpm
Fuel Efficiency	300 g/kWh (BSFC)
Displacement	330 cm ³
Weight	9,4 kg engine 1,9 kg exhaust & silencer 1,5 kg 1 kW/28V starter (SGCU)
Management & Control	ECU/12V-system Automatic via ECU
Ignition System	CDI (Capacitor Discharger Ignition)
Fuel	Jet-A1 (optional JP-5 and JP-8)
Mixture	Direct Oli Injection 2-stroke oil API TC

Dimensions



Performance Curve



TOA 330-APU

COMPACT POWER GENERATOR FOR HYBRID PROPULSION SYSTEMS
AS RANGE EXTENDER POWERING ELECTRO MOTORS
OR BATTERIES FOR INDIRECT PROPULSION SOLUTIONS

Technical Features

In its compact form, the TOA 330-APU is the perfect solution as a range extender for aircrafts with a hybrid propulsion system. The system consists of:

Engine

- TOA 330

Interface Engine-Generator

- Direct connection, no clutch

Generator

- Outrunner
- Forced ventilation

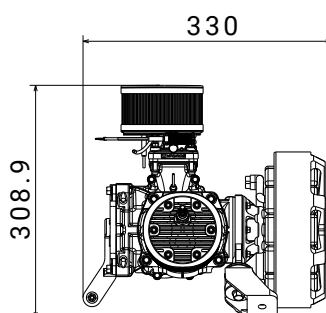
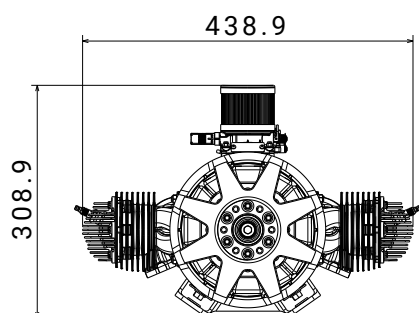
Options

- Jet-A1, JP-5, JP-8
- available also as TOA288-APU (economical version)

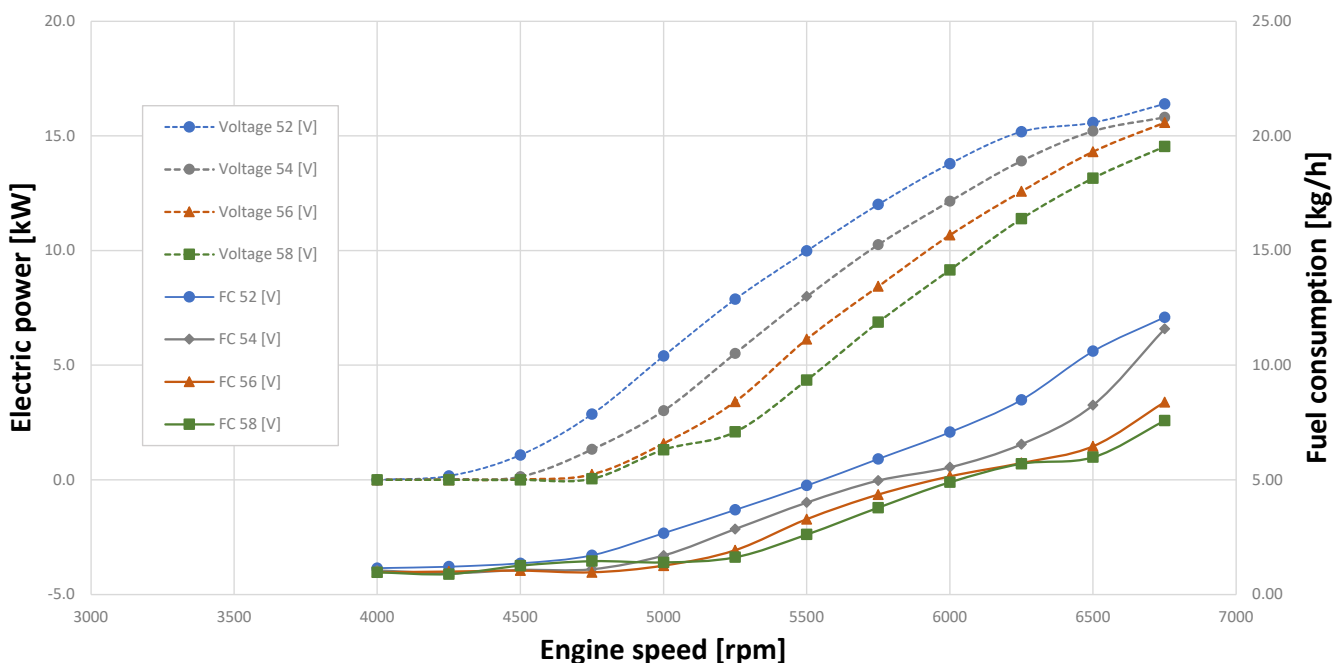
Technical Data

Service Ceiling	20'000 ft
Performance Electric	16,4 kW peak after voltage regulator 60VDC 15,0 kW continuous after voltage regulator 60VDC
Fuel Efficiency	440 g/kWh (calculated on electrical power)
Displacement	330 cm ³
Weight	8,9 kg engine 1,9 kg exhaust & silencer 9,5 kg generator (15 kW)
Management & Control	ECU/12V-system Automatic via ECU
Ignition System	CDI (Capacitor Discharger Ignition)
Fuel	95RON or AVGAS LL 100
Mixture	1:60 (1,6 %) 2-stroke oil API TC

Dimensions



Performance Curve



TOA 288

AIR COOLED, CAPABLE OF OPERATING UNDER HARSH ENVIRONMENTAL CONDITIONS
SUITABLE FOR TRACTOR AND PUSH APPLICATIONS
HORIZONTAL OR VERTICAL INSTALLATION

Technical Features

Two-cylinder, two-stroke boxer engine

- horizontal & vertical Installation
- crankshaft in high strength steel, single piece connecting rods with needle bearings
- Cylinders in casted aluminium, nickel-silicone coated barrel
- Throttle control by SERVO, controlled via ECU
- ECU for fuel, ignition, cold start, EGT, CHT, altitude compensation & overheat protection

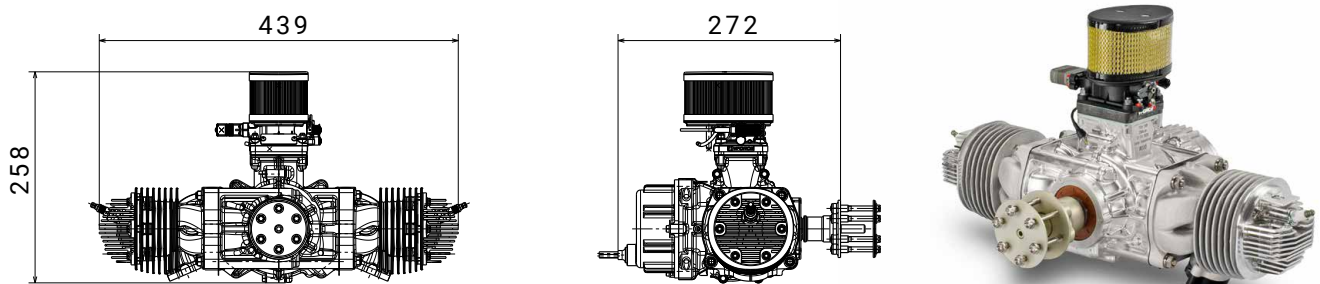
Options

- Separate lubrication system
- Oil injection
- 2 kW/28 VDC Starter Generator Control Unit (SGCU)
- 0,5 kW/28 VDC Generator Control Unit
- Double ignition
- Reduction drive

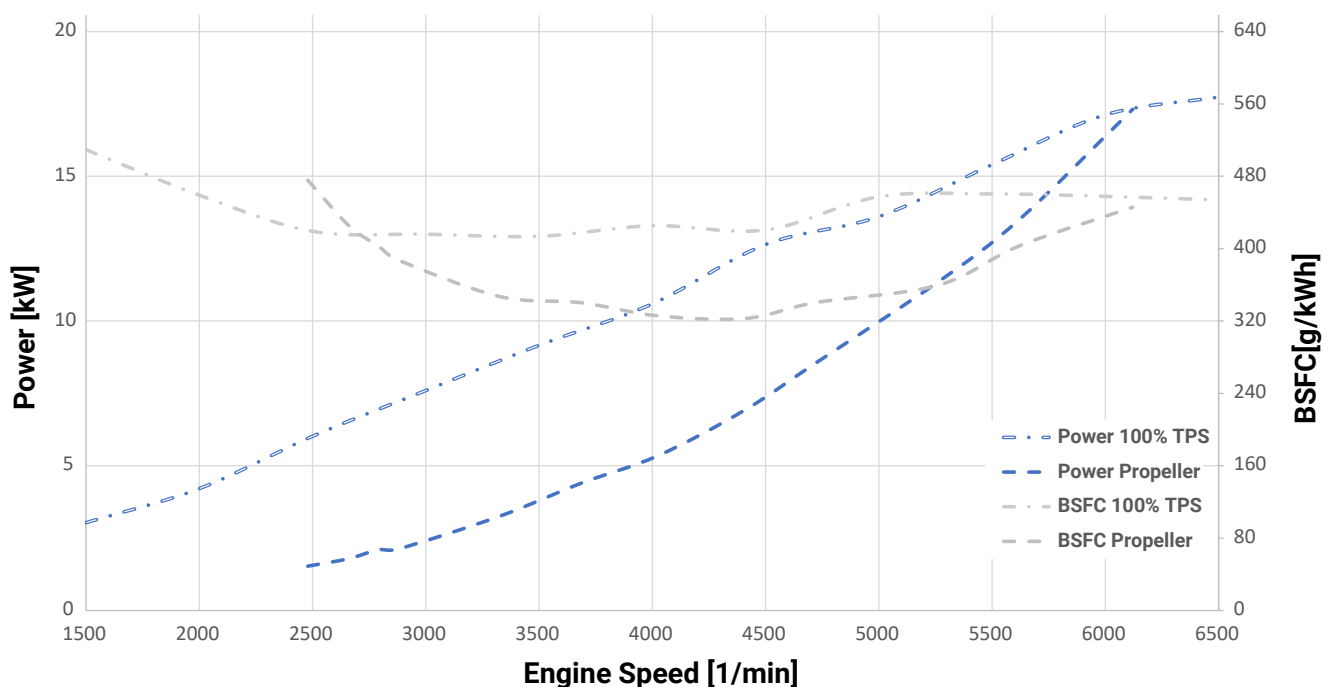
Technical Data

Service Ceiling	20'000 ft
Performance	17,6 kW at 6'500 rpm (23,9 HP) 27,2 Nm at 6'000 rpm
Fuel Efficiency	315 g/kWh (BSFC)
Displacement	288 cm ³
Weight	8,7 kg engine 1,9 kg exhaust & silencer 1,5 kg 1 kW/28VDC regulator
Management & Control	ECU / 12V-system Automatic via ECU
Ignition System	CDI (Capacitor Discharger Ignition)
Fuel	Min. 95RON (91MON MOGAS) or AVGAS LL100
Mixture	1:60 (1,6 %) 2-stroke oil API TC

Dimensions



Performance Curve



TOW 288

WATER COOLED, VERY FUEL EFFICIENT AND ROBUST ENGINE
SUITABLE FOR HELICOPTER AND FIX-WING INSTALLATIONS
CAPABLE OF OPERATING AT HIGH ALTITUDE

Technical Features

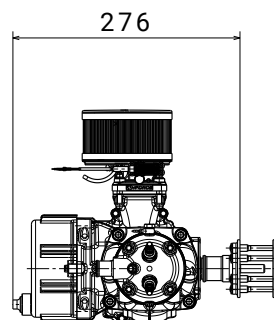
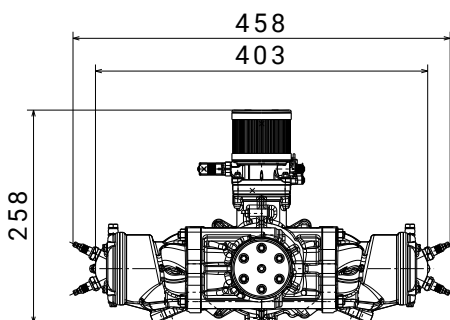
Two-cylinder, two-stroke boxer engine

- horizontal & vertical Installation
- crankshaft in high strength steel, single piece connecting rods with needle bearings
- Cylinders in casted aluminium, nickel-silicone coated barrel
- Throttle control by SERVO & controlled via ECU
- ECU for fuel, ignition, cold start, EGT, coolant temperature, altitude compensation & overheat protection

Options

- Separate lubrication system
- Oil injection
- 2 kW/28 VDC Starter Generator Control Unit (SGCU)
- 0,5 kW/28 VDC Generator Control Unit
- Double ignition
- Reduction drive

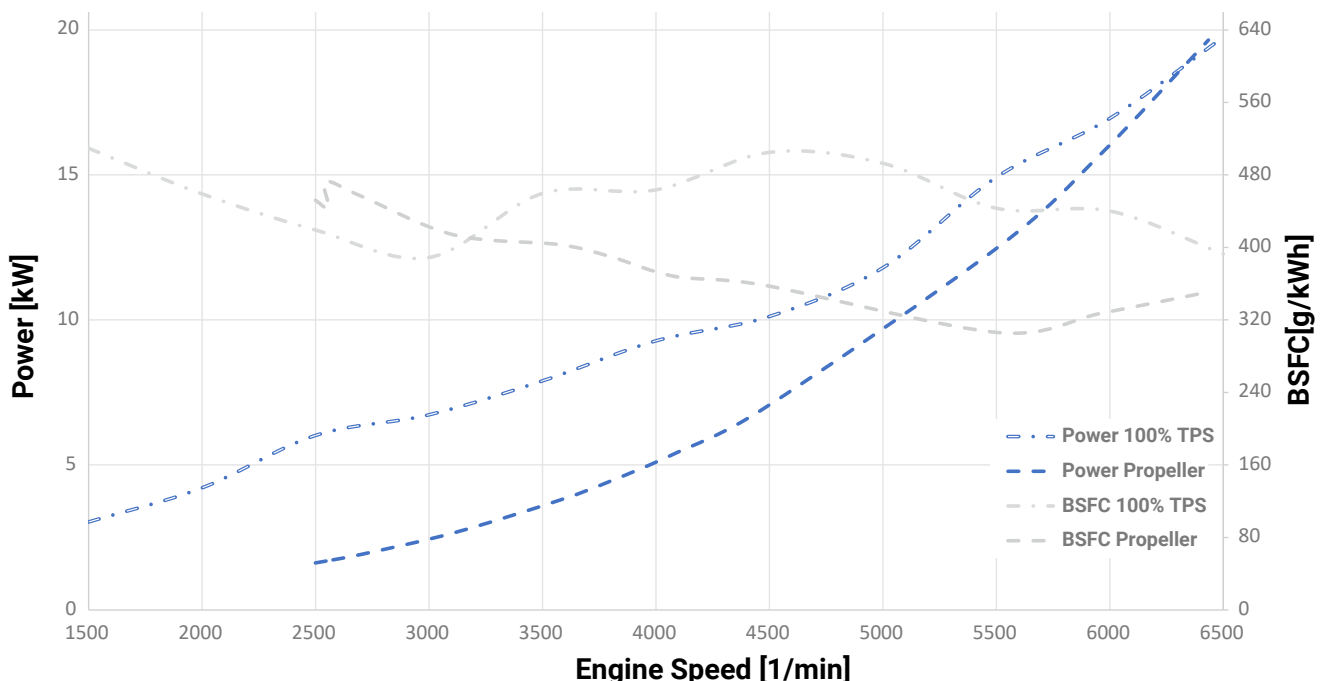
Dimensions



Technical Data

Service Ceiling	20'000 ft
Performance	20,0 kW at 6'500 rpm (27,2 HP) 29,2 Nm at 6'500 rpm
Fuel Efficiency	306 g/kWh (BSFC)
Displacement	288 cm ³
Weight	10,0 kg engine 0,5 kg water-pump 1,9 kg exhaust & silencer 1,5 kg 1 kW/28V starter (SGCU)
Management & Control	ECU/12V-system Automatic via ECU
Ignition System	CDI (Capacitor Discharger Ignition)
Fuel	Min. 95RON (91MON MOGAS) or AVGAS LL100
Mixture	1:60 (1,6 %) 2-stroke oil API TC

Performance Curve



HF TOA 288-SDI

AIR COOLED, VERY FUEL EFFICIENT AND ROBUST ENGINE
SUITABLE FOR HELICOPTER AND FIX-WING INSTALLATIONS
CAPABLE TO OPERATE AT HIGH ALTITUDE

Technical Features

Two-cylinder, two-stroke boxer engine

- horizontal & vertical Installation
- crankshaft in high strength steel, single piece connecting rods with needle bearings
- Cylinders in casted aluminium, nickel-silicone coated barrel
- Throttle control by SERVO & controlled via ECU
- ECU for fuel, ignition, cold start, EGT, coolant temperature, altitude compensation & overheat protection

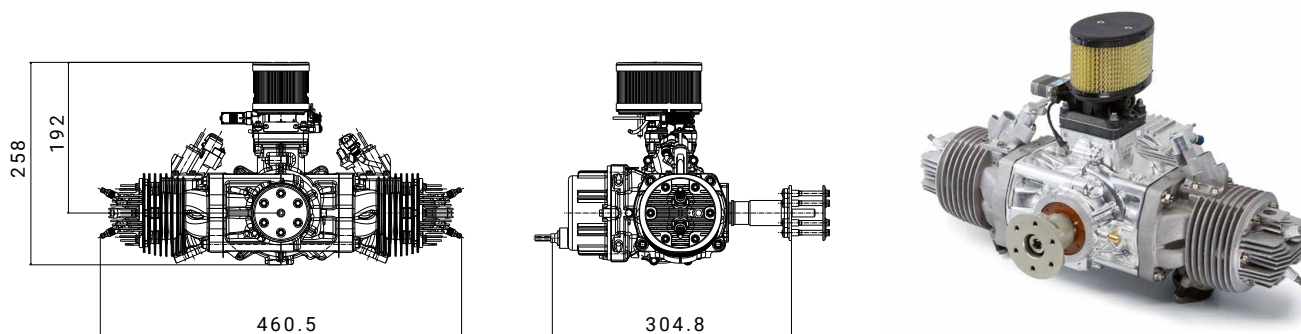
Options

- 2 kW / 28 VDC Starter Generator Control Unit (SGCU)
- 0.5 kW / 28 VDC Generator Control Unit
- Reduction drive

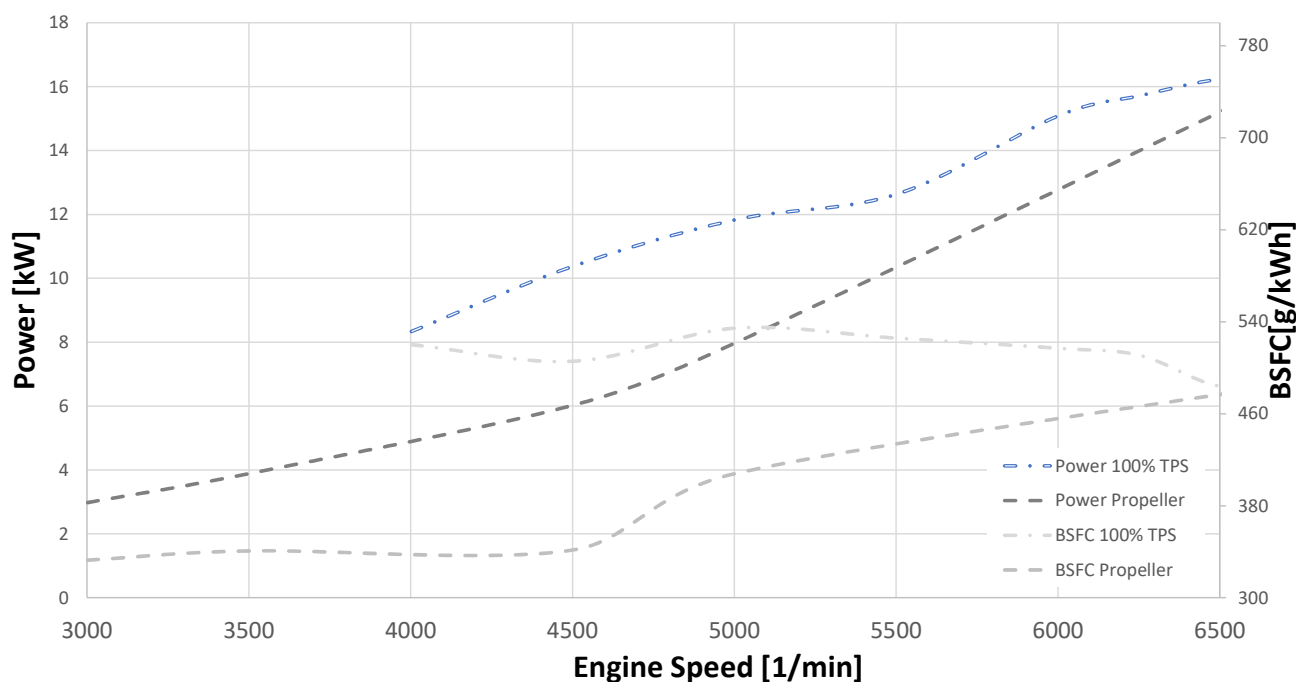
Technical Data

Service Ceiling	20'000 ft
Performance	16,5 kW at 6'750 rpm (22,5 HP) 24,0 Nm at 6'000 rpm
Fuel Efficiency	330 g/kWh (BSFC)
Displacement	288 cm ³
Weight	9,2kg engine 1,9 kg exhaust & silencer 1,5 kg 1 kW/28V starter (SGCU)
Management & Control	ECU/12V-system Automatic via ECU
Ignition System	CDI (Capacitor Discharger Ignition)
Fuel	Jet-A1 (optional JP-5 and JP-8)
Mixture	Direct Oli Injection 2-stroke oil API TC

Dimensions



Performance Curve



HIGH-TECH SOLUTIONS FOR COMPLEX PRODUCTS

THE PASSION FOR POWER

Our roots go back to motorcycle racing era of the 1990s. Eskil Suter was a successful Grand Prix racing driver from 1991 to 1998 and founded the Suter Racing company in 1996. With the Suter Clutch and other Racing Products, he brought an important technological innovation to the market. The company's activities were gradually extended to other products, such as high-performance engines, motorcycles and various components, and further consolidated through cooperations and technology partnerships with well-known companies such as Kawasaki, Liebherr or Rotax.



Today – The internationally established and independent Swiss company Suter Industries develops state-of-the-art engines, drivetrain systems and vehicles for various industries. You receive expert support from the initial concept to series production.

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