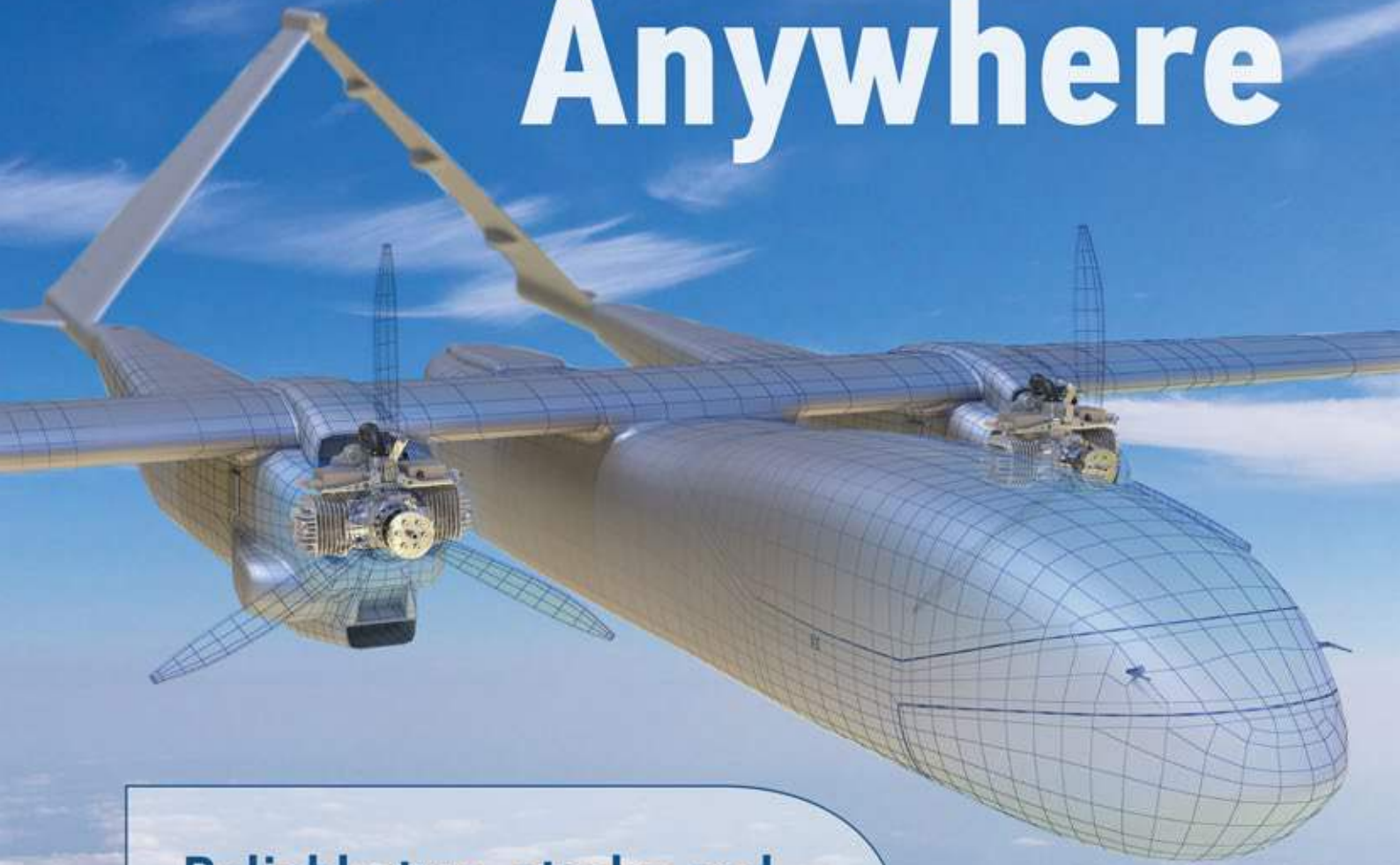


# Anytime ... Anywhere



Reliable two-stroke and  
Wankel engines for UAVs

MADE IN GERMANY



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vary from  
original product

## ABOUT SKY POWER INTERNATIONAL

Sky Power International is a leading manufacturer of 2-stroke internal combustion engines and Wankel engines for UAS (Unmanned Aerial Systems) and hybrid applications. Our mantra is to provide services beyond engine systems. With a wide range of engine sizes and configurations, including carbureted or fuel injected, with or without starter generator, and the ability to customize, Sky Power International has redefined UAS propulsion.

Sky Power International designs, develops and manufactures all engines in Germany. Our commitment to continuous innovation is led by a highly experienced team that can tailor the engine system directly to your needs. Whether it's increased performance, efficiency or subsystem customization, Sky Power International has it covered.

When you choose Sky Power International, you're choosing more than just an engine - you're choosing a partnership built on trust, quality and unmatched expertise.

Feel the difference with Sky Power International - Made in Germany

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# SP-28 Series

The 2-stroke single cylinder Sky Power International SP-28 CR with 28 ccm is the longest standing engine in our lineup and well known by industry veterans for its robustness and longevity for many years. The Sky Power International SP-28 CR is still our most requested system and particularly suited for fixed wing aircraft on the upper end of the 'below 55 lb' or 'up to 25 kg' class UASs. In the standard configuration, the Sky Power International SP-28 CR engine is equipped with one spark plug and a single ignition unit. The carburetor is rear (CR) mounted.

## SP-28 CR



|                    |                                   |
|--------------------|-----------------------------------|
| Type               | 1-Cylinder Gas Engine             |
| Capacity           | 28 ccm / 1.71 cu in               |
| Power              | 2.2 hp / 1.6 kW                   |
| Speed Range        | 2500 – 10000 rpm                  |
| Weight             | incl. ignition 2.95 lbs (1.34 kg) |
| Crankshaft         | 3 ball bearings                   |
| Oil/Gasoline ratio | 1:50 / 2 % mix                    |
| Operating Voltage  | 6 – 8.4 V DC                      |
| Bore diameter      | 1.42 inch (36.00 mm)              |
| Stroke             | 1.10 inch (28.00 mm)              |
| Torque             | 2.3 Nm @ 6600 rpm                 |





# SP-55 Series

The 2-stroke single cylinder Sky Power International SP-55 TS ROS with 55 ccm is the largest single cylinder engine in our lineup and well known by industry veterans for its robustness and longevity for many years. The Sky Power International SP-55 TS ROS is equipped in the standard configuration with two spark plugs per cylinder, a twin ignition unit, as well as a rear output shaft (ROS) for additional equipment mounting. The engine is used by clients for fixed wing, heli and VTOL aircraft on the upper end of the 'below 55 lb' or 'up to 25 kg' class UASs as well as hybrid configurations to produce electricity.

The cylinder is casted aluminum and has been manufactured in it's current form for over a decade. The crankcase is CNC machined in order to be able to adjust customer specific parts to it.

**All engines can be delivered in the following configurations from carburetor to fuel injection, and with or without a starter generator.**

## SP-55 TS ROS



|                    |                                   |
|--------------------|-----------------------------------|
| Type               | 1-Cylinder Gas Engine             |
| Capacity           | 55 ccm / 3.35 cu in               |
| Power              | 3.9 hp / 2.9 kW @ 6500 rpm        |
| Speed Range        | 2200 – 10000 rpm                  |
| Weight             | incl. ignition 5.68 lbs (2.58 kg) |
| Crankshaft         | 4 ball bearings                   |
| Oil/Gasoline ratio | 1:50 / 2 % mix                    |
| Operating Voltage  | 6 – 8.4 V DC                      |
| Bore diameter      | 1.77 inch (45.00 mm)              |
| Stroke             | 1.38 inch (35.00 mm)              |
| Torque             | 4.7 Nm @ 5500 rpm                 |





## CASE STUDY



## SP-55 FITS ROS



|                    |  |
|--------------------|--|
| Type               | 1-Cylinder Gas Engine                    |
| Capacity           | 55 ccm / 3.35 cu in                      |
| Power              | 4.1 hp / 3.0 kW @ 7000 rpm               |
| Speed Range        | 2200 – 8000 rpm                          |
| Weight             | without subcomponents 6.08 lbs (2.76 kg) |
| Crankshaft         | 4 ball bearings                          |
| Oil/Gasoline ratio | 1:50 / 2 % mix                           |
| Operating Voltage  | 12 – 15 V DC                             |
| Bore diameter      | 1.77 inch (45.00 mm)                     |
| Stroke             | 1.38 inch (35.00 mm)                     |
| Torque             | 4.8 Nm @ 5500 rpm                        |



## SP-55 FITS Generator Application



|                    |                       |
|--------------------|-----------------------|
| Dimensions         | 31.6 × 26.1 × 25.2 cm |
| Type               | 1-Cylinder Gas Engine |
| Capacity           | 55 ccm / 3.35 cu in   |
| Power              | 2 kW pure electrical  |
| Crankshaft         | 4 ball bearings       |
| Oil/Gasoline ratio | 1:50 / 2 % mix        |
| Bore diameter      | 1.77 inch (45.00 mm)  |
| Stroke             | 1.37 inch (35.00 mm)  |





# SP-56 Series

The 2-stroke twin cylinder Sky Power International SP-56 TS ROS with 56 ccm and rear output shaft is the smallest dual cylinder engine in the Sky Power International portfolio. It is also the newest, forged from using the proven SP-28 parts. The Sky Power International SP-56 TS ROS is equipped in the standard configuration with one spark plug per cylinder due to the compact size. The twin cylinder boxer style offers a low vibration power dense 2-stroke for the below '77 lbs or up to 35 kg'.

The engine is used by customers in small heli configured UAS as well as fixed wing platforms.

The cylinder is casted aluminum and the crankcase is CNC machined in order to be able to adjust to customer specific requirements or special mounting options.

**All engines can be delivered in the following configurations from carburetor to fuel injection, and with or without a starter generator.**



## SP-56 ROS



|                    |                                   |
|--------------------|-----------------------------------|
| Type               | 2-Cylinder Gas Engine             |
| Capacity           | 56 ccm / 3.42 cu in               |
| Power              | 4.6 hp / 3.4 kW @ 7000 rpm        |
| Speed Range        | 2200 – 10000 rpm                  |
| Weight             | incl. ignition 5.54 lbs (2.52 kg) |
| Crankshaft         | 4 ball bearings                   |
| Oil/Gasoline ratio | 1:50 / 2 % mix                    |
| Operating Voltage  | 6 – 8.4 V DC                      |
| Bore diameter      | 1.42 inch (36.00 mm)              |
| Stroke             | 1.10 inch (28.00 mm)              |
| Torque             | 4.6 Nm @ 6500 rpm                 |

## SP-56

(exhaust direction to air intake)



|                    |                                   |
|--------------------|-----------------------------------|
| Type               | 2-Cylinder Gas Engine             |
| Capacity           | 56 ccm / 3.42 cu in               |
| Power              | 4.6 hp / 3.4 kW @ 7000 rpm        |
| Speed Range        | 2200 – 10000 rpm                  |
| Weight             | incl. ignition 5.54 lbs (2.52 kg) |
| Crankshaft         | 4 ball bearings                   |
| Oil/Gasoline ratio | 1:50 / 2 % mix                    |
| Operating Voltage  | 6 – 8.4 V DC                      |
| Bore diameter      | 1.42 inch (36.00 mm)              |
| Stroke             | 1.10 inch (28.00 mm)              |
| Torque             | 4.6 Nm @ 6500 rpm                 |



# SP-110 Series

This 2-stroke twin cylinder Sky Power International SP-110 TS ROS (rear output shaft) with 110 ccm is a common engine system on UAV programs. Designed and built from the same proven core architecture as other dual cylinder engines in the portfolio, this engine system offers power density and reliability in all operational scenarios. The Sky Power International SP-110 is equipped with two spark plugs per cylinder, the crankcase is CNC machined and the cylinder is casted aluminum. The ROS feature allows for greater operational diversity, to include a starter generator which can be configured into a hybrid or power generation capability.

The Sky Power International SP-110 TS ROS has achieved thousands of hours globally in all environmental conditions. E.g. a key user flying in desert conditions with high continuous ambient temperature and sand particles.

**All engines can be delivered in the following configurations from carburetor to fuel injection, and with or without a starter generator.**

## SP-110 TS ROS



|                    |                                   |
|--------------------|-----------------------------------|
| Type               | 2-Cylinder Gas Engine             |
| Capacity           | 110 ccm / 6.7 cu in               |
| Power              | 9.4 hp / 6.9 kW @ 6000 rpm        |
| Speed Range        | 1500 – 10000 rpm                  |
| Weight             | incl. ignition 8.80 lbs (4.00 kg) |
| Crankshaft         | 4 ball bearings                   |
| Oil/Gasoline ratio | 1:50 / 2 % mix                    |
| Operating Voltage  | 6 – 8.4 V DC                      |
| Bore diameter      | 1.77 inch (45.00 mm)              |
| Stroke             | 1.37 inch (35.00 mm)              |
| Torque             | 11 Nm @ 5750 rpm                  |



**Sky Power International - global leader in precision and power**



## SP-110 TS ROS

(exhaust direction to air intake)



|                    |                                  |
|--------------------|----------------------------------|
| Type               | 2-Cylinder Gas Engine            |
| Capacity           | 110 ccm / 6.7 cu in              |
| Power              | 7.48 hp / 5.5 kW @ 6000 rpm      |
| Speed Range        | 2200 – 10000 rpm                 |
| Weight             | incl. ignition 8.80 lbs (4.0 kg) |
| Crankshaft         | 4 ball bearings                  |
| Oil/Gasoline ratio | 1:50 / 2 % mix                   |
| Operating Voltage  | 6 – 8.4 V DC                     |
| Bore diameter      | 1.77 inch (45.00 mm)             |
| Stroke             | 1.37 inch (35.00 mm)             |
| Torque             | 10 Nm @ 5000 rpm                 |



## SP-110 FI TS ROS



|                    |  |
|--------------------|--|
| Type               | 2-Cylinder Gas Engine                    |
| Capacity           | 110 ccm / 6.7 cu in                      |
| Power              | 9.8 hp / 7.2 kW @ 6000 rpm               |
| Speed Range        | 1800 – 7000 rpm                          |
| Weight             | without subcomponents 9.66 lbs (4.39 kg) |
| Crankshaft         | 4 ball bearings                          |
| Oil/Gasoline ratio | 1:50 / 2 % mix                           |
| Operating Voltage  | 12 – 15 V DC                             |
| Bore diameter      | 1.77 inch (45.00 mm)                     |
| Stroke             | 1.37 inch (35.00 mm)                     |
| Torque             | 12.4 Nm @ 5250 rpm                       |



CASE STUDY



# SP-170 Series

The Sky Power International SP-170 2-stroke twin cylinder with 170 ccm is the mid range propulsion system designed for aircraft from 60-80 kg MTOW. This engine size has successfully completed hundreds of hours of maritime operations for EMSA and proved itself in all associated operating conditions. The Sky Power International SP-170 TS ROS is equipped with two spark plugs per cylinder for redundancy and a rear output shaft for user adaptability. Optional, a starter generator can be included, allowing for hybrid functionality increasing the operational capacity for this engine.

**All engines can be delivered in the following configurations from carburetor to fuel injection, and with or without a starter generator.**

## SP-170 TS ROS



|                    |                                    |
|--------------------|------------------------------------|
| Type               | 2-Cylinder Gas Engine              |
| Capacity           | 170 ccm / 10.37 cu in              |
| Power              | 12.6 hp / 9.3 kW @ 5250 rpm        |
| Speed Range        | 1500 – 10000 rpm                   |
| Weight             | incl. ignition 10.03 lbs (4.56 kg) |
| Crankshaft         | 4 ball bearings                    |
| Oil/Gasoline ratio | 1:50 / 2 % mix                     |
| Operating Voltage  | 6 – 8.4 V DC                       |
| Bore diameter      | 2.00 inch (51.00 mm)               |
| Stroke             | 1.60 inch (41.00 mm)               |
| Torque             | 18.1 Nm @ 4750 rpm                 |



## SP-170 TS ROS (exhaust direction to air intake)



|                    |                                    |
|--------------------|------------------------------------|
| Type               | 2-Cylinder Gas Engine              |
| Capacity           | 170 ccm / 10.37 cu in              |
| Power              | 12.6 hp / 9.3 kW @ 5250 rpm        |
| Speed Range        | 1500 – 10000 rpm                   |
| Weight             | incl. ignition 10.03 lbs (4.56 kg) |
| Crankshaft         | 4 ball bearings                    |
| Oil/Gasoline ratio | 1:50 / 2 % mix                     |
| Operating Voltage  | 6 – 8.4 V DC                       |
| Bore diameter      | 2.00 inch (51.00 mm)               |
| Stroke             | 1.60 inch (41.00 mm)               |
| Torque             | 18.1 Nm @ 4750 rpm                 |



## SP-170 FI TS ROS

|                    |                               |
|--------------------|-------------------------------|
| Type               | 2-Cylinder Gas Engine         |
| Capacity           | 170 ccm / 10.37 cu in         |
| Power              | 13.60 hp / 10.0 kW @ 5500 rpm |
| Speed Range        | 1500 – 8000 rpm               |
| Crankshaft         | 4 ball bearings               |
| Oil/Gasoline ratio | 1:50 / 2 % mix                |
| Bore diameter      | 2.00 inch (51.00 mm)          |
| Stroke             | 1.60 inch (41.00 mm)          |
| Torque             | 18.98 Nm @ 4750 rpm           |



## SP-170 HF FI TS ROS

|                    |  |
|--------------------|--|
| Type               | 2-Cylinder Gas Engine                    |
| Capacity           | 170 ccm / 10.37 cu in                    |
| Speed Range        | 2000 – 7000 rpm                          |
| Weight             | without subcomponents 20.24 lbs (9.2 kg) |
| Crankshaft         | 4 ball bearings                          |
| Oil/Gasoline ratio | 1:50 / 2 % mix                           |
| Operating Voltage  | 12.5 – 16 V DC                           |
| Bore diameter      | 2.01 inch (51.00 mm)                     |
| Stroke             | 1.61 inch (41.00 mm)                     |
| Torque             | 18.19 Nm @ 4750 rpm                      |



# SP-210 Series

This 2-stroke twin cylinder Sky Power International SP-210 with 210 ccm is the most popular boxer engine in the propulsion portfolio, positioned in the 60~100 kg UAS tier. Current operational conditions include maritime and desert environments with thousands of hours achieved to date. The Sky Power International SP-210 comes with two spark plugs for redundancy and a rear output shaft for user flexibility.

**All engines can be delivered in the following configurations from carburetor to fuel injection, and with or without a starter generator.**

## SP-210 TS ROS



|                    |                                    |
|--------------------|------------------------------------|
| Type               | 2-Cylinder Gas Engine              |
| Capacity           | 210 ccm / 12.81 cu in              |
| Power              | 17.1 hp / 12.6 kW @ 6000 rpm       |
| Speed Range        | 1500 – 10000 rpm                   |
| Weight             | incl. ignition 14.43 lbs (6.56 kg) |
| Crankshaft         | 4 ball bearings                    |
| Oil/Gasoline ratio | 1:50 / 2 % mix                     |
| Operating Voltage  | 6 – 8.4 V DC                       |
| Bore diameter      | 2.16 inch (55.00 mm)               |
| Stroke             | 1.77 inch (45.00 mm)               |
| Torque             | 22.5 Nm @ 5000 rpm                 |



### CASE STUDY



## SP-210 TS ROS

(exhaust direction to air intake)



|                    |                                    |
|--------------------|------------------------------------|
| Type               | 2-Cylinder Gas Engine              |
| Capacity           | 210 ccm / 12.81 cu in              |
| Power              | 17.1 hp / 12.6 kW @ 6000 rpm       |
| Speed Range        | 1500 – 10000 rpm                   |
| Weight             | incl. ignition 14.43 lbs (6.56 kg) |
| Crankshaft         | 4 ball bearings                    |
| Oil/Gasoline ratio | 1:50 / 2 % mix                     |
| Operating Voltage  | 6 – 8.4 V DC                       |
| Bore diameter      | 2.16 inch (55.00 mm)               |
| Stroke             | 1.77 inch (45.00 mm)               |
| Torque             | 22.5 Nm @ 5000 rpm                 |





## SP-210 FI TS ROS

|                    |   |
|--------------------|---|
| Type               | 2-Cylinder Gas Engine                   |
| Capacity           | 210 ccm / 12.81 cu in                   |
| Power              | 19.0 hp / 14.0 kW @ 7000 rpm            |
| Speed Range        | 1500 – 7000 rpm                         |
| Weight             | without subcomponents 20.7 lbs (9.4 kg) |
| Crankshaft         | 4 ball bearings                         |
| Oil/Gasoline ratio | 1:50 / 2 % mix                          |
| Operating Voltage  | 12 – 15 V DC                            |
| Bore diameter      | 2.16 inch (55.00 mm)                    |
| Stroke             | 1.77 inch (45.00 mm)                    |
| Torque             | 20.5 Nm @ 6000 rpm                      |



## SP-210 HF FI TS ROS

|                    |   |
|--------------------|---|
| Type               | 2-Cylinder Gas Engine                     |
| Capacity           | 210 ccm / 12.81 cu in                     |
| Speed Range        | 2200 – 7000 rpm                           |
| Weight             | without subcomponents 21.65 lbs (9.84 kg) |
| Crankshaft         | 4 ball bearings                           |
| Oil/Gasoline ratio | 1:50 / 2 % mix Jet-A, Jet-A1, JP-8        |
| Operating Voltage  | 12.5 – 16 V DC                            |
| Bore diameter      | 2.16 inch (55.00 mm)                      |
| Stroke             | 1.77 inch (45.00 mm)                      |
| Torque             | 17.3 Nm @ 5500 rpm                        |



# SP-275 Series

The Sky Power International SP-275 2-stroke twin cylinder with 275 ccm is the largest and most powerful twin cylinder, making it the most versatile 2-stroke engine in our portfolio. This power dense propulsion system is most suited to programs from 100-150 kg MTOW due to its dimensions and power output. This engine size has been manufactured for over a decade and accrued more than 10000 operational hours. Internal development and testing has accumulated over 800 hours on dynamo meter simulating various mission profiles and conditions. With over thousand engine systems produced to date, the robustness and durability of the Sky Power International SP-275 TS ROS has been proven in all global scenarios, from extreme cold to heat, humid and salty conditions, to dust. Many customers fly over twelve hours continuously and BVLOS, due to this engine's target market system. With the starter generator mounted on the ROS, the Sky Power International SP-275 is a dynamic propulsion system capable of several different configurations.

**All engines can be delivered in the following configurations from carburetor to fuel injection, and with or without a starter generator.**

## SP-275 TS ROS



|                    |                                    |
|--------------------|------------------------------------|
| Type               | 2-Cylinder Gas Engine              |
| Capacity           | 275 ccm / 16.78 cu in              |
| Power              | 21.7 hp / 16.0 kW @ 6000 rpm       |
| Speed Range        | 1500 – 10000 rpm                   |
| Weight             | incl. ignition 17.29 lbs (7.86 kg) |
| Crankshaft         | 4 ball bearings                    |
| Oil/Gasoline ratio | 1:50 / 2 % mix                     |
| Operating Voltage  | 6 – 8.4 V DC                       |
| Bore diameter      | 2.32 inch (59.00 mm)               |
| Stroke             | 1.97 inch (50.00 mm)               |
| Torque             | 27.9 Nm @ 4750 rpm                 |





## SP-275 TS ROS

(exhaust direction to air intake)

|                    |                                    |
|--------------------|------------------------------------|
| Type               | 2-Cylinder Gas Engine              |
| Capacity           | 275 ccm / 16.78 cu in              |
| Power              | 21.7 hp / 16.0 kW @ 6000 rpm       |
| Speed Range        | 1500 – 10000 rpm                   |
| Weight             | incl. ignition 17.29 lbs (7.86 kg) |
| Crankshaft         | 4 ball bearings                    |
| Oil/Gasoline ratio | 1:50 / 2 % mix                     |
| Operating Voltage  | 6 – 8.4 V DC                       |
| Bore diameter      | 2.32 inch (59.00 mm)               |
| Stroke             | 1.97 inch (50.00 mm)               |
| Torque             | 27.9 Nm @ 4750 rpm                 |



## SP-275 FI TS ROS

|                    |  |
|--------------------|--|
| Type               | 2-Cylinder Gas Engine                    |
| Capacity           | 275 ccm / 16.78 cu in                    |
| Power              | 21.5 hp / 15.8 kW @ 6000 rpm             |
| Speed Range        | 1500 – 8000 rpm                          |
| Weight             | without subcomponents 20.35 lbs (9.25kg) |
| Crankshaft         | 4 ball bearings                          |
| Oil/Gasoline ratio | 1:50 / 2 % mix                           |
| Operating Voltage  | 12 – 15 V DC                             |
| Bore diameter      | 2.32 inch (59.00 mm)                     |
| Stroke             | 1.97 inch (50.00 mm)                     |
| Torque             | 28.3 Nm @ 3250 rpm                       |



# SP-275 Series

## SP-275 TS CR



|                    |                                   |
|--------------------|-----------------------------------|
| Type               | 2-Cylinder Gas Engine             |
| Capacity           | 275 ccm / 16.78 cu in             |
| Power              | 21.4 hp / 15.7 kW @ 6000 rpm      |
| Speed Range        | 1500 – 10000 rpm                  |
| Weight             | incl. ignition 17.16 lbs (7.8 kg) |
| Crankshaft         | 3 ball bearings                   |
| Oil/Gasoline ratio | 1:50 / 2 % mix                    |
| Operating Voltage  | 6 – 8.4 V DC                      |
| Bore diameter      | 2.32 inch (59.00 mm)              |
| Stroke             | 1.97 inch (50.00 mm)              |
| Torque             | 27.8 Nm @ 4750 rpm                |



## SP-275 TS CR Ø3



|                    |                                  |
|--------------------|----------------------------------|
| Type               | 2-Cylinder Gas Engine            |
| Capacity           | 275 ccm / 16.78 cu in            |
| Power              | 21.7 hp / 15.9 kW @ 6000 rpm     |
| Speed Range        | 1500 – 10000 rpm                 |
| Weight             | incl. ignition 16.1 lbs (7.3 kg) |
| Crankshaft         | 3 ball bearings                  |
| Oil/Gasoline ratio | 1:50 / 2 % mix                   |
| Operating Voltage  | 6 – 8.4 V DC                     |
| Bore diameter      | 2.32 inch (59.00 mm)             |
| Stroke             | 1.97 inch (50.00 mm)             |
| Torque             | 27.6 Nm @ 5000 rpm               |



# Engine testing and calibration capabilities

Sky Power International offers comprehensive testing capabilities for their UAV engines to analyze their performance, condition and to proof the engine durability. Our Engine testing standards are specifically designed to perform both routine checks and detailed analysis.



## Break-in test for Sky Power engines

A break-in test is an essential running-in process that Sky Power carries out for its UAV engines. The engine is operated under controlled conditions to ensure that the moving parts are optimally tuned.

At Sky Power, the break-in test is carried out on specially equipped test benches, where each engine is subjected to a defined load and runtime sequence. This ensures that the engine reaches its maximum performance and offers a high level of operational reliability. This running-in process not only extends the service life of the engines but also ensures their reliability under real operating conditions.

## Routine test on the engine test bench

To ensure the performance and functionality of the engine, every engine is tested on our test bench before delivery.

## Our test procedures for analysis

Engine tests for analysis are depending on the condition of the engine. If any abnormalities occur during a performance test, we dismantle after consultation with the customer specific engine components for more detailed examinations. Cylinders, pistons and piston rings can be checked for wear and damage. After a thorough inspection, we carry out any necessary maintenance work.

Sky Power is committed to the highest quality standards and thoroughly tests each engine to meet the requirements of demanding UAV applications. If you need more information about our testing procedures, please contact us.



# SP-180 Series

The Sky Power International SP-180 hybrid Wankel propulsion system is the flagship of the Sky Power International propulsion portfolio. This system has class leading performance figures that are achieved through a new clean sheet design, centered around a single cylinder 180 ccm configuration. Due to the nature of Wankel, this propulsion system is exceptionally light and has a much smaller space envelope than the comparable 2-stroke equivalents. Minimal radial or torsional vibrations make this system specifically attractive for applications with high powered optics or sensors. The ability to mount this engine at 90 degrees (vertically) adds to user flexibility – suited e.g. for helicopter applications. The Wankel system has an integrated starter generator, which allows to have several different operating functions:

- Mechanical only: Up to 22 kW mechanical shaft power as primary form of propulsion.
- Hybrid boost mode: Combination of both mechanical and electrical simultaneously for maximum performance.
- Range extender / Electrical power generator: This setup transforms mechanical to electrical power.
- Direct drive with electrical backup operation.

Another feature of this integrated hybrid technology is to act as a form of redundancy, to allow for emergency decent in the event of a critical scenario.

## SP-180 HF SRE



|                    |   |
|--------------------|---|
| Type               | Wankel rotary   |
| Capacity           | 180 ccm / 10.98 cu in   |
| Power              | 27.2 hp / 20.0 kW @ 6000 rpm combustion power<br>up to 23.0 hp / 15.0 kW electrical power<br>*power is depending on cooling concept |
| Speed Range        | 2000 – 6000 rpm   |
| Weight             | without subcomponents 24.25 lbs (11.0 kg)   |
| Oil/Gasoline ratio | 1:200 / 2 % mix   |
| Cooling            | water cooled housing<br>& oil rotor cooling (active cooling)  |
| Torque             | 27.5 Nm @ 5500 rpm  |





## SP-180 SRE hybrid



|                    |  |
|--------------------|--|
| Type               | Wankel rotary  |
| Capacity           | 180 ccm / 10.99 cu in  |
| Power              | 29.9 hp / 22 kW @ 6000 rpm<br>*power is depending on the cooling |
| Speed Range        | 1500 – 10000 rpm   |
| Weight             | without subcomponents 20.9 lbs (9.5 kg)                          |
| Oil/Gasoline ratio | 1:50 / 2 % mix   |
| Cooling            | Water and oil  |
| Torque             | 36.8 Nm @ 5500 rpm   |

## SP-180 SRE Hybrid Demonstrator



|                    |  |
|--------------------|--|
| Type               | Rotary engine  |
| Capacity           | 180 ccm / 10.98 cu in  |
| Power*             | 29.9 hp / 22.0 kW @ 6000 rpm combustion power up to 20.4 hp / 15.0 kW electrical power (power is depending on cooling concept) |
| Speed Range        | 2000 – 7000 rpm  |
| Weight             | w/out subcomponents 20.94 lbs (9.50 kg)  |
| Oil/Gasoline ratio | 1:200 mix  |
| Cooling system     | water cooled housing & oil rotor cooling (active cooling)  |
| Torque             | 36.8 Nm @ 5500 rpm   |



## SP-180 SRE APU Demonstrator



An Auxiliary Power Unit (APU) is a small, self-contained power source that is used in land and rail vehicles as well as in general aviation or maritime applications. These units provide an independent power supply that allows the main engine to remain switched off while electrical devices continue to operate. Based on the SP-180 SRE-hybrid Wankel engine, Sky Power International offers the SP-180 SRE APU demonstrator mobile APU test and evaluation system.

# SP-360 series

The SP-360 DRE is based on the established concept like the SP-180 SRE and has a displacement of 360 cc. By doubling the displacement, the power of the engines is increased. The SP-360 DRE is a twin-disc Wankel engine with up to 51 hp at 6000 rpm.

As with the SP-180 SRE, the SP-360 DRE is equipped with two independent cooling systems. A water cooling circuit takes over the cooling of the engine housing, a second oil cooling circuit takes over the internal cooling of the piston. This is a basic requirement for a propulsion system in aeronautical applications, where continuous performance is a fundamental requirement. Thermal stability is essential, which can be guaranteed by the cooling concept.

The SP-360 DRE can be used with a combination of electric and mechanical propulsion. In the case of pure power generation, an on-board battery is required, as the Wankel engine generates electricity by means of the generator system. This electrical power can also be used as the primary drive. However, a hybrid boost mode can also be used, in which the mechanical and electrical drive can be combined for maximum power. Thanks to this integrated hybrid technology, a redundancy function is available that enables a controlled emergency landing in the event of a critical scenario.

## SP-360 DRE



|                      |  |
|----------------------|--|
| Type                 | Wankel rotary                            |
| Capacity             | 360 ccm / 20.98 cu in                    |
| Power*               | 51.3 hp / 37.7 kW @ 6000 rpm             |
| Speed range          | 1500 – 6000 rpm                          |
| Weight               | without subcomponents 20.9 lbs (15.5 kg) |
| Oil / Gasoline ratio | 1:200 mix                                |
| Cooling              | Water and oil                            |

\* Power is depending on cooling concept.



# SP-540 series

The SP-540 TRE is based on the established concept like the SP-180 SRE and has a displacement of 540 cc. By doubling the displacement, the power of the engines is increased. The SP-540 TRE is a three-disc Wankel engine with up to 74 hp at 6000 rpm.

As with the SP-180 SRE, the SP-540 TRE is equipped with two independent cooling systems. A water cooling circuit takes care of the cooling of the engine housing, a second oil cooling circuit takes care of the internal cooling of the piston. This is a basic requirement for a propulsion system in aeronautical applications, where continuous performance is a fundamental requirement. Thermal stability is essential, which can be guaranteed by the cooling concept.

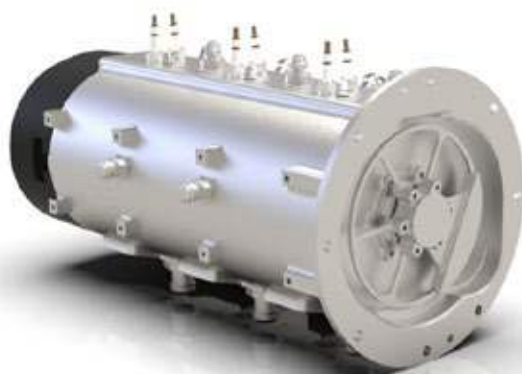
The SP-540 TRE can be used with a combination of electric and mechanical drive. In the case of pure power generation, an on-board battery is required, as the Wankel engine generates electricity by means of the generator system. This electrical power can also be used as the primary propulsion. But a hybrid boost mode can also be used, in which the mechanical and electrical propulsion can be combined for maximum performance. Thanks to this integrated hybrid technology, a redundancy function is available that enables a controlled emergency landing in the event of a critical scenario.

## SP-540 TRE



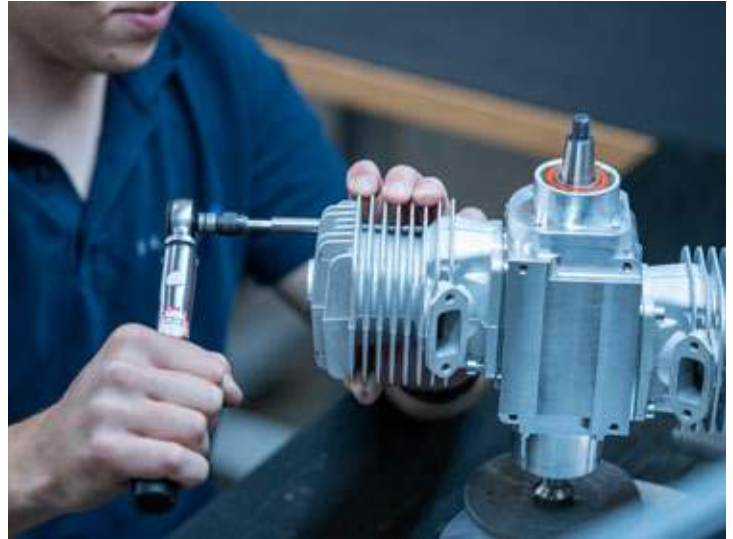
|                    |  |
|--------------------|--|
| Type               | Wankel rotary                            |
| Capacity           | 540 ccm / 32.94 cu in                    |
| Power*             | 73.6 hp / 54.1 kW @ 6000 rpm             |
| Speed range        | 1500 – 6000 rpm                          |
| Weight             | without subcomponents 20.9 lbs (21.0 kg) |
| Oil/Gasoline ratio | 1:200 mix                                |
| Cooling            | Water and oil                            |

\* Power is depending on cooling concept.



# Engine services for reliable propulsion systems

Sky Power International provides as a UAV engine manufacturer a comprehensive service and maintenance for UAV propulsion systems to ensure optimum engine performance and durability. Maintenance is carried out either according to a fixed maintenance schedule or individually according to customer requirements, so that each engine is serviced according to its operating conditions and operating times. This guarantees maximum operational reliability and minimizes unexpected failures, which is particularly important for critical UAV missions.



- The scheduled maintenance service includes a visual inspection and check of all relevant components. If necessary, additional inspections such as compression tests and examinations of cylinders, pistons and piston rings are carried out. A final performance test is then carried out on the company's own engine test bench to ensure that the 2-stroke and rotary engine continues to meet the desired performance parameters.
- If an engine is no longer functional, Sky Power offers a detailed fault analysis and repair. The engine is completely dismantled and examined to make a precise diagnosis. Customers benefit from a fast and efficient engine repair, which avoids costly new purchases and optimizes operating costs.



Sky Power also offers an extensive spare parts portfolio via its own online store, which helps customers to carry out simple service and maintenance tasks themselves. In addition to spare parts, customers therefore also receive complete toolboxes with all the necessary tools for reliable basic maintenance of their drive systems. Sky Power also offers packages of consumables based on the flight hours.

## Spare Parts



Here you will find an extensive selection of spare parts for our motors. Our range includes everything from electronic components to mechanical parts and carburetors.



## Consumables



Here you will find a wide range of products to help you keep your engine running efficiently. From 2-stroke oils, spark plugs and filters to propellers, we offer everything you need to keep your engine running reliably.



## Tools



Here you will find all the tools you need to use your engine reliably and carry out maintenance and service work efficiently.



Please visit our website  
for more accessories  
and spare parts.



[www.skypower.online](http://www.skypower.online)



# Additional information

## Engineering services

Individual consulting, workshops and project management for successful product development



## Project development

Project consulting, project workshops and project management

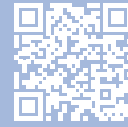


## Engine configurator



## News

In our news archive you will find all current and past news about Sky Power International.



## Events

Sky Power International attends leading trade shows around the world to showcase the latest developments in UAV propulsion technology.



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