

DG-808C

The selflaunching sailplane, highest performance, comfortable and environment friendly.

The DG-808C is based on the well proven DG-808B and features important improvements:

- New engine control instrument DEI-NT (new technology) with graphic display
 - for simplified engine control
 - incorporating a stall warning device, visual and aural warning
 - many additional safety warnings like landing gear alarm, warning airbrakes not locked
 - outside air temperature gauge as standard equipment
 - logbook
- Reinforced safety cockpit according to the latest research findings
- New reinforced landing gear with steel spiral springs
- Preparation for integrated bug-wipers as standard equipment
- Permanently installed refuelling pump with automatic shut-off system
- Cockpit interior with new fashion fabric
- BBSA slipping-centrifugal clutch to reduce drive belt loads (Option)
- New winglets with improved airfoils for 15m span (Option)

Additional improvements for Version DG-808C Competition

- Max. weight increased to 600 kg with 18 m span and 540 kg with 15 m span.
- Wing tanks with 150 litre and fin tank with 6.5 litre volume

The engine

The water-cooled engine SOLO 2625 was developed by the German company SOLO especially for selflaunching sailplanes with retractable powerplant. Its main features are low weight, compact dimensions, dual ignition and long lifetime. The TBO is 400 hours engine running time without any limitation in years of operation.

Environment friendly

The engine produces its high power of 54 hp (40 kW) at only 6000 RPM. With the toothed belt reduction of 3:1 the propeller rev's with only approx. 2000 RPM. The low propeller and engine speed produce low noise emission, as the noise increases excessively with RPM. The engine and large silencer are located inside the fuselage, so the fuselage acts as a noise damping device too.

The official noise measurement resulted in noise level values - far below the limits even with 600 kg take-off mass.

With ICAO Chapter X (climb) a value of 61.3 dBA was measured with 18m span and 600 kg mass. The limit is 70.8 dBA.

Easy maintenance, compact unit

With the propeller mount extended, all parts which may need service are accessible. Removing the powerplant from the fuselage is not necessary for routine servicing.

Automatic powerplant control

The automatic powerplant control only available with DG-motorgliders is still showing the way how to make engine operation easy and comfortable, suitable even for inexperienced pilots.

The wing design

The most important detail of all **DG-800** models is the new wing with the latest state of the art wing sections designed by the famous L.M.M. Boermans of Delft Technical University. The wing planform is designed especially for 18m wingspan. The wing sections and the planform guarantee optimum performance and gentle stall characteristics.

18m wingspan with winglets

To reach a further improvement we wanted to enhance the performance with 18m wingspan. To achieve this goal we have developed together with the Delft Technical University winglets with 50cm height, using a new design philosophy. Flight tests proved a gain of 1.5 points L over D and astonishingly better performance even at high speeds.

15m wingspan

In the case of a glider ordered with wing parting devices, wingtips with winglets can be used for flying with 15m wingspan. The unusually large wing chord at the 15m tip makes such winglets much more efficient. So with the same winglet height a larger increase of performance can be achieved than with a wing planform especially designed for 15m span. The latest version of the 15m winglets was designed following the same design philosophy as the 18m winglets as described above..

The DG-800B cockpit

The energy absorbing fuselage shell is built in Carbonfibre-Aramidfibre-Hybrid-construction. The integral inner seatshell for additional pilot protection increased strength and energy absorption in the event of a crash landing. Further cockpit reinforcements according to the findings of the TÜV Rheinland research programs (consummate safety cockpit) are now incorporated, eg. Carbonfibre stringers to stiffen the cockpit brink.

The safety harness geometry minimizes the risk of "submarining" of the pilot.

The seatback is adjustable and carries an integrated headrest.

The canopy emergency release system was optimized. By activating only one handle, the canopy with the so called "Röger hook" for safe and fast canopy jettison, is released.

Quality

The wings are produced in moulds made from carbonfibre composites. To create the moulds computer milled mastermodels were used. This guarantees the highest accuracy of the wing profiles and thus constantly high gliding performance ex-factory.

Low weight

We are especially proud of the low weight of the **DG-808C**. The powerplant including cooling liquid, propeller and exhaustsystem weighs less than 50 kg (110 lbs). Such a low weight is only possible with a two-stroke engine.

The **DG-800B** weighs only about 350 kg (772 lbs). The low weight of the 18m wings of 67kg (148 lbs) each is an important advantage for ease of rigging..

Gliding performance

All pilots having flown a **DG-808C** praise the outstanding climb in thermals, especially with high waterballast loadings.

Due to the good handling at low speeds, it is possible to squeeze out every edge of a thermal, so that with every turn in uneven lift some extra altitude can be gained.

The outstanding and uncomplicated handling characteristics make it easy for the pilot to get the maximum performance out of the ship after only short training.

Comfort and independence

Thanks to its steerable tailwheel, the big main wheel and the wingtip wheels the **DG-808C** is fully manoeuvrable on the ground without the need for a helper. The fuel tank with 22 liters capacity is serial standard. It allows a large range of flights.

Refuelling is very easy with the permanently installed refuelling pump. A built-in device automatically switches off the current as soon as the fuselage tank is filled, so overfilling the tank is not possible.

A fuel tank filler opening is standard equipment so it is also possible to refuel the **DG-808C** directly from the airfield fuel station. This feature is a big advantage for cross country soaring safaris.

The installed battery system carries a capacity of 20 Ah which is more than enough for almost every purpose.

Safety

DG sailplanes provide a high level of pilot safety features. Latest findings from research programs are adopted as soon as possible into series production.

- The powerful engine allows for a very short take off roll and extremely high climb rate. This is important especially for short runways at high altitudes.
- Energy absorbing fuselage shell built in Carbonfibre-Aramidfibre-Hybrid-construction with integral inner seatshell for additional pilot protection. Safety cockpit according to the latest findings of the TÜV Rheinland research program.
All controls including the engine are operated with the left hand, which enable the right hand to remain on the control stick.
- Automatic hook-ups for all controls and the waterballast system
- Outstanding visibility
- Very effective double storey airbrakes, effective wheelbrake
- New reinforced landing gear with steel spiral springs and large 5.00-5 tyre
- Landing gear operation at the left hand side, no change of hands necessary
- "Piggott-hook" avoids inadvertent deployment of the airbrakes
- "Röger hook" for safe and fast canopy jettison
- Stall warning and other warning functions for engine operation as well as for flying with the engine retracted

Equipment especially designed for the *DG-808C*

- Wing parting at $y = 7,25$ m
- Winglets for 15 and 18 m wing span
- Polyurethane paint
- Electrical bug wipers integrated in the fuselage shell
- Solarpanel integrated in fuselage shell or mounted on the engine doors
- Disc brake for main wheel
- Electric propeller brake stopping the propeller in vertical position automatically
- Exhaust gas temperature indicator (EGT) for surveillance of mixture setting
- Big wing tip wheels
- Removable wing wheel which can be stored in the baggage compartment
- Leather or Alcantara cockpit interior, choice of colours
- Instrument panel in wood or carbon fibre design
- Separate charging socket for the main batteries
- Auxiliary power supply socket to start the engine from external source
- Adjustable headrest for tall pilots
- Rudder pedal plates
- Emergency bail-out aid NOAH
- BBSA slipping-centrifugal clutch to reduce drive belt loads

***DG-808C* - a thrilling experience of pure pleasure !**

Superior gliding performance, fast roll rates, excellent visibility and comfortable seating will make flying the *DG-808C* a thrilling experience of pure pleasure.

Thanks to the SOLO 2625 engine the *DG-808C* will fill you with enthusiasm due to the very short take off roll, extremely high climb rate and lowest possible noise emission.

The *DG-808C* is the right glider not only for competition pilots but especially for gliding safaris and last but not least, flying "just for fun".

DG-808C

Technical Data

span	m	(ft)	15	(49.2)	18	(59.1)
wing area	m ²	(ft ²)	10.68	(115.0)	11.81	(127.1)
aspect ratio	/	/	21.07		27.42	
fuselage length	m	(ft)		7.055	(23.15)	
fuselage height	m	(ft)		1.434	(4.7)	
max. speed VNE	km/h	(kts)		270	(146)	
stall speed (W=420 kg, 926 lbs)	km/h	(kts)	74	(40)	68	(37)
best glide ratio (W=525kg)	/	/	1:45		1:50	
at	km/h	(kts)	116	(63)	110	(59)
min. sink (W=420 kg, 926 lbs)	m/s	(ft/min)	0.61	(119)	0.51	(100)
at	km/h	(kts)	82	(44)	77	(42)

Powerplant

engine			SOLO 2625			
power	kW/hp		40/54			
reduction gearing	/		3 : 1			
fuel tank fuselage	l	(US.gal)	21	(5.5)		
take-off distance 15m (50 ft obst.).	m	(ft)	approx .200 (656)		W= 450kg (992 lbs)	
climb rate	m/s	(ft/min)	4.5	(885)	W= 450kg (992 lbs)	

Technical Data only Version DG-808C

empty weight						
(with min. instrumentation) approx.	kg	(lbs)	336	(741)	340	(750)
wing loading with 80 kg payload	kg/m ²	(lbs/ft ²)	39	(7.98)	35.6	(7.29)
water-ballast wings	kg	(US.gal)		100	(26.4)	
max. weight	kg	(lbs)	525	(1157)	525	(1157)
max. wing loading	kg/m ²	(lbs/ft ²)	49.2	(10.1)	44.5	(9.1)

Technical Data only Version DG-808C Competition

empty weight						
(with min. instrumentation) approx.	kg	(lbs)	346	(763)	350	(772)
wing loading with 80 kg payload	kg/m ²	(lbs/ft ²)	39.9	(8.17)	36.4	(7.46)
water-ballast wings	kg	(US.gal)		150	(39.6)	
or on request	kg	(US.gal)		120	(31.7)	
water-ballast fin tank	kg	(US.gal)		6.5	(1.72)	
max. weight	kg	(lbs)	540	(1190)	600	
(1323)						
max. wing loading	kg/m ²	(lbs/ft ²)	50.6	(10.4)	50.8	(10.4)

Data power on for MSL, 15°C

Data for 18m wingspan valid for wingtips without winglets

Optional equipment raises the empty mass accordingly

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issued: January 2006 subject to change