

DG-808S

The **DG-808S** is the latest Version of the **DG-800S**.

The **DG-808S** is the uncompromising glider for flying in the 15m and 18m competition classes.

The **DG-800S** was already a completely new design compared to its predecessor **DG-600**. The wings with their modern profiles are the latest state of the art. Of course you will find again those details which the experts won't want to miss on a DG, as for example the comfortable cockpit with its splendid visibility, the high spring mounted landing gear with its large 5.00-5 wheel or the tailwheel as standard equipment.

DG offers 2 versions of the **DG-808S**

The **DG-808S Classic** has the well proven waterballast system of the **DG-800S** with waterbags in the wings and a fin tank to compensate the C.G. shift due to the waterballast in the wings.

The **DG-808S Competition** features a unique new waterballast system which has been especially designed for competition and record flying.

- The new waterballast system consists of two watertanks in the fuselage and two separate integral tanks in each wing. The integral tanks reduce the filling and dumping time compared to waterbags.

The unique feature of the new system is that the **DG-808S Competition** is equipped with two completely independent waterballast systems which can be drained separately. With both systems the respective fuselage tank compensates the C.G. shift due to the wing-ballast.

The respective fuselage tank will be drained together with its wingtanks by operation of one handle only.

The inboard wingtanks (2 x 62 liters / 2 x 16.38 US.gal) are combined with the first fuselage tank (30 liters / 7.93 US.gal) which results in a system with a total capacity of 154 liters (40.7 US.gal).

The outboard wingtanks (2 x 35 liters / 2 x 9.25 US.gal) are combined with the second fuselage tank (13 liters / 3.43 US.gal) which results in an additional system with a total capacity of 83 liters (21.9 US.gal).

The following items are the most important distinguishing features of all **DG-808S** Versions over the well proven version **DG-800S**:

- Increase of the max. take-off mass from 525 kg up to 570 kg (15 m) and 600 kg (18 m).
- Alternatively: flaperon sealings on wing lower sides with Mylar combi tape turbulator or with dimple tape turbulator and modified sealings for reduced aileron control frictional forces.
- Parking brake combined with the Piggott-hook. The so called Piggott-hook is an absolute world-first to improve safety in our sport. This feature is only available in DG-aircraft at the moment. The Piggott-hook avoids inadvertent deployment of the airbrakes, in case they mistakenly haven't been locked! The hook was named after the famous instructor and author Derek Piggott who pioneered the idea for this safety device.
- Structural reinforcements in the Cockpit area are increasing the crashworthiness of the DG-800 Cockpit for better pilot protection without reducing the splendid visibility or the interior cockpit space. With this measure the idea of the consummate safety cockpit is now realized as standard equipment.

The wing design

The most important detail of all **DG-800** models is the 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 wingplanform 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-800S cockpit

The energy absorbing fuselage shell is built from glassfibre reinforced plastics. The integral inner seatshell and further reinforcements according to the findings of the TÜV Rheinland research programs are increasing pilot protection, strength and energy absorption in the event of a crash landing.

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-808S**.

The **DG-800S** weighs only about 270 kg (595 lbs). The low weight of the 18m wings of 67kg (148 lbs) each should be specially noted.

Gliding performance

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

The outstanding performance potential can be optimally adopted to different weather conditions with the two independent waterballast systems. The wing loading can be changed in a so far unknown rang

So in a competition with the **DG-808S** you have the optimal glider for all weather conditions.

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.

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.

- Safety cockpit with integral inner seatshell and reinforced structure according to the latest findings
- All controls 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
- Well proven spring mounted landing gear with 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

Equipment especially designed for the *DG-808S*

- Wing parting at $y = 7,25$ m
- Winglets for 15 and 18 m wing span
- Polyurethane paint
- Bug wipers integrated in the fuselage shell
- Solarpanel integrated in fuselage shell
- Large wing tip wheels
- Leather interior equipment, different colours and materials to chose from
- Instrument panel in wood or carbon fibre design
- Adjustable headrest for tall pilots
- Holder for cans and bottles
- Rudder pedal plates
- Emergency bail out aid **NOAH**

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

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

The *DG-808S* is the ideal glider for competition pilots as it combines the best climb capabilities due to its large wing-surface, with outstanding high speed performance due to the possibility to load for very high wing-loadings.

But the *DG-808S* is also a superb glider for gliding club operation and last but not least for flying "just for fun".

Technical Data DG-808S

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)	6.86	(22.5)		
fuselage height	m	(ft)	1.39	(4.6)		

DG-808S Classic

waterballast wings	kg	(US.gal)	120	(31.7)	or 174	(46.0)
waterballast fin tank	kg	(US.gal)	6	(1.6)		
empty weight (no parting) approx.	kg	(lbs)	/	/	265	(584)
empty weight (with parting) approx.	kg	(lbs)	264	(582)	268	(591)
wing loading with 80 kg payload	kg/m ²	(lbs/ft ²)	32.2	(6.5)	29.5	(6.0)

DG-808S Competition

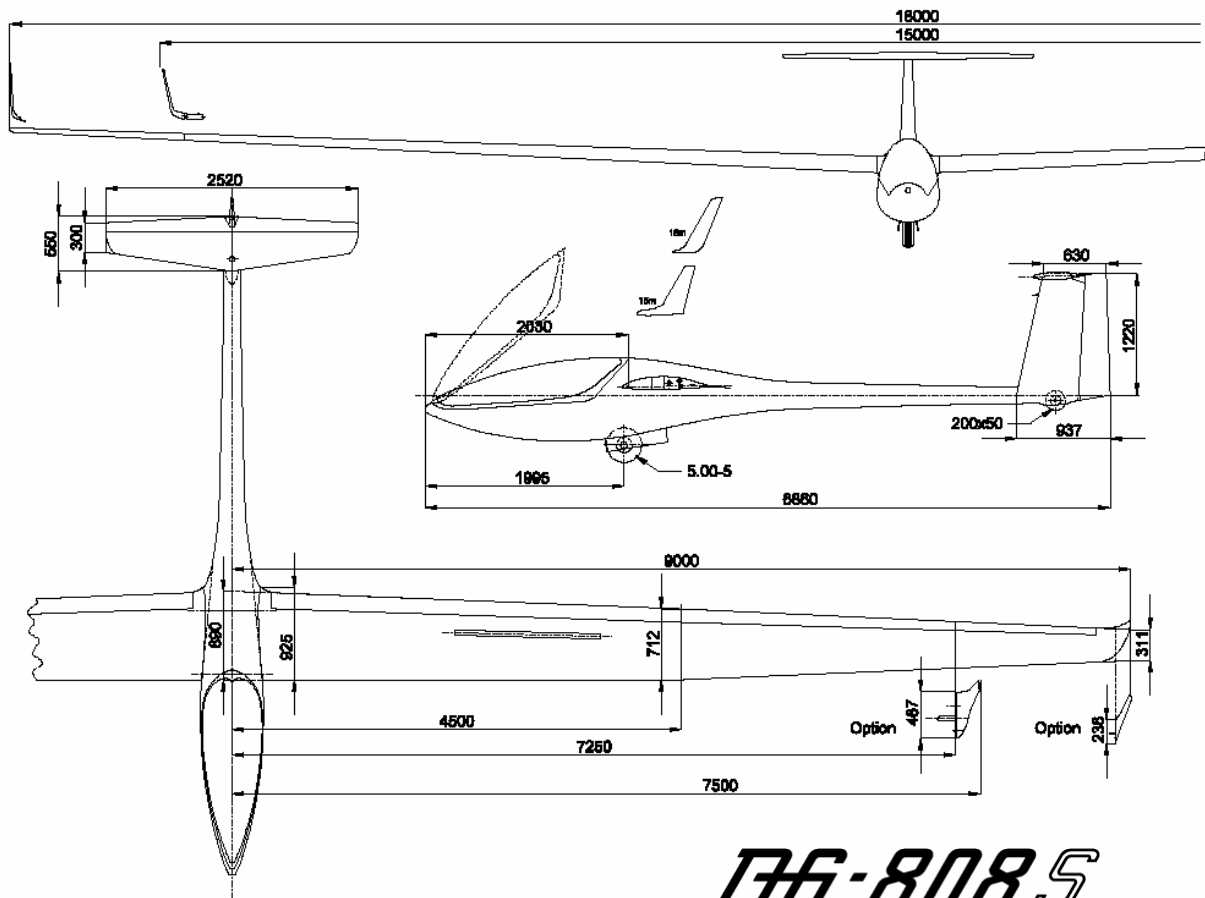
waterballast inboard wingtanks	kg	(US.gal)	124	(32.8)		
waterballast outboard wingtanks	kg	(US.gal)	70	(18.5)		
waterballast fuselage tank 1	kg	(US.gal)	30	(7.93)		
waterballast fuselage tank 2	kg	(US.gal)	13	(3.43)		
empty weight (no parting) approx.	kg	(lbs)	/	/	273	(602)
empty weight (with parting) approx.	kg	(lbs)	272	(600)	276	(608)
wing loading with 80 kg payload	kg/m ²	(lbs/ft ²)	33.0	(6.75)	30.1	(6.16)

DG-808S Classic and DG-808S Competition

max. weight	kg	(lbs)	570	(1257)	600	(1323)
max. wing loading	kg/m ²	(lbs/ft ²)	53.4	(10.93)	50.8	(10.41)
max. speed VNE	km/h	(kts)		270	(146)	
stall speed (W=340 kg, 750 lbs)	km/h	(kts)	64	(34.5)	61	(32.9)
best glide ratio (W=525kg, 1157lbs)	/	/	1:45		1:50	
at	km/h	(kts)	119	(64)	110	(59)
min. sink (W=340 kg, 750 lbs)	m/s	(ft/min)	0.55	(108)	0.47	(92)
at	km/h	(kts)	79	(43)	75	(40)

Data for 18m wingspan valid for wingtips without winglets

Empty masses for gliders with common instrumentation. Optional equipment raises the empty mass accordingly



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DG Flugzeugbau GmbH

Otto-Lilienthal-Weg 2 / Am Flugplatz · D-76646 Bruchsal · Germany

Postbox 1480, D-76604 Bruchsal · Germany

Tel. 07251 3020-100 · Telefax 07251 3020-200 · eMail: dg@dg-flugzeugbau.de

www.dg-flugzeugbau.de

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