

## UNIVERSAL 225MM CHORD CARBON FRONT WING

Designed for Reverie Ltd by aerodynamics writer and designer Simon McBeath (author of Competition Car Aerodynamics) using Ansys CFD-Flo software. Data and images generated by the CFD software are displayed in this document. The wing profile was designed to give a range of downforce levels from moderate to reasonably high, depending on the deployed angle of attack and chosen span, with very good efficiency in terms of downforce to drag ratio. The wing features internal longitudinal stringers and end spars with 2 x M6 threaded inserts for mounting between supports or for affixing end plates.

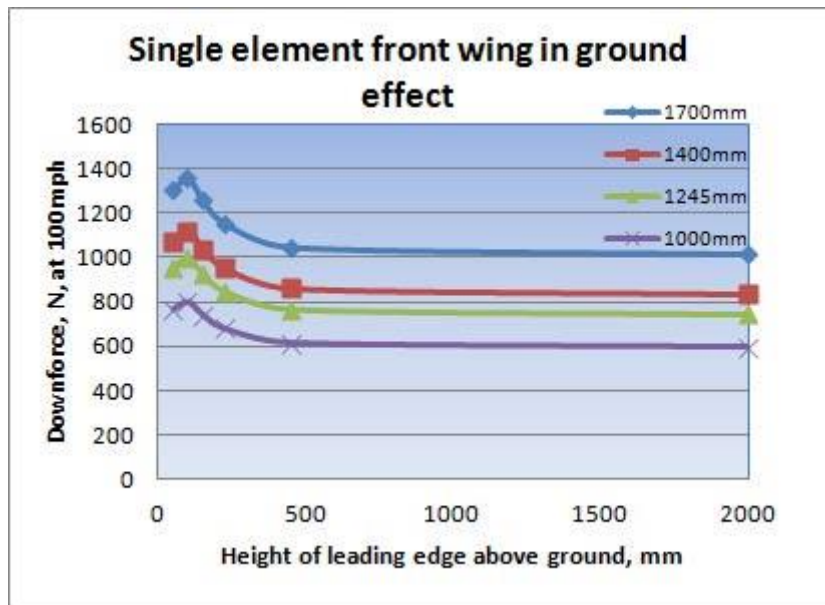
### Where to Position a Front Wing?

If you look at the front wing in ground effect data below you will see that there is a sharp rise in downforce from ground effect when the wing gets below 100mm to the ground. To keep the car stable & predictable over bumps or under heavy braking, it is advisable to mount the wing 100mm or higher so its operating in a more linear & predictable region.

The 1700mm data given was produced by Ansys CFD-Flo software, all other widths have been calculated only using the wing width approximation formula found in our FAQ document.

**\* Data marked in red show that the wing has either stalled or was close to stalling and has been omitted from the graphs \***

	1000mm Wingspan				1245mm Wingspan			
Height from Ground (mm)	Downforce (N)	Drag (N)	L/D	BHP Absorbed	Downforce (N)	Drag (N)	L/D	BHP Absorbed
2000	596	59	10.1	3.5	744	74	10.1	4.4
450	616	63	9.9	3.7	768	79	9.9	4.6
225	680	63	10.8	3.7	846	78	10.8	4.7
150	742	66	11.3	3.9	924	82	11.3	4.9
100	801	73	11.0	4.3	998	90	11.0	5.4
50	769	91	8.5	5.4	957	113	8.5	6.7
	1400mm Wingspan				1700mm Wingspan			
Height from Ground (mm)	Downforce (N)	Drag (N)	L/D	BHP Absorbed	Downforce (N)	Drag (N)	L/D	BHP Absorbed
2000	837	83	10.1	4.9	1016	101	10.1	2.8
450	862	88	9.9	5.2	1050	106	9.9	4.2
225	951	88	10.8	5.2	1155	107	10.8	5.8
150	1039	92	11.3	5.5	1261	111	11.3	6.6
100	1121	102	11.0	6.1	1361	124	11.0	7.4
50	1076	127	8.5	7.6	1307	154	8.5	9.2



**Figure 5-1** Wing terminology.

Image courtesy of Simon McBeath  
Competition Car Aerodynamics

