

Foldaway Wing

The mere combination of coated high-strength materials and air pressure gives the wing of the PNEUWING its strength. On its inside, there is no rigid structure to support it. Furthermore, the landing flaps are able to change shape pneumatically: an example for adaptive pneumatic textile structures.



Filled with 0.7 bar, which is only one third of the typical tire pressure, the wing is able to meet the legal requirements for a two-seater airplane. It features neither wing struts nor a rigid spar or other solid structural parts. While the ailerons are operated in the traditional way by means of wires, the landing flaps change their curvature by varying the air pressure, which is a plus for the aerodynamics. The airplane PNEUWING was built in order to gain insight in terms of slender structures made of high-strength fibers, and defined by differential pressure. Since its first flight in 1998 in St. Stephan, PNEUWING has completed over 150 flights, for example as one of the main attractions of the flight show in Oshkosh's Experimental Aircraft Exhibition.

PNEUWING features a traditional undercarriage as well as inflatable floats (see FLOATS).

Wingspan	8.2 m
Length	6.2 m
Max. take off weight	320 kg
Wing area	16.5 m ²
Engine	Rotary Wankel 814
Power	80 PS
Min. speed	50 km/h
Max. speed	150 km/h
g-load	6 g
Differential pressure	700 mb



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