



Turb'Design™

Or robust design in aerodynamics

Turb'Design™ 2 is the last product of FLUOREM software family, called *Flow'Design™ Office*. It will complete FLUOREM offer in the range of "CFD help to the decision" products. Between conventional solvers, as *Turb'Flow™*, and *Turb'Opty™* parameterization or help to the decision software, as *Turb'Opty™*, it is positioned at the cutting edge of robust design software in aerodynamics.

For which purpose ?

Between previous design and mass production constraints, the tolerances and the manufacturing constraints, the structure resistance drive to adjust both geometry and working nominal point. What are the consequences on the performances ?

What does it perform ?

Turb'Design™ 2 computes many solutions around design point and delivers integral values (global performances) and total flow field as a function of parameters. *Turb'Design™ 2* enables to evaluate successively the most sensitive parameters, and consequences on performances. It will be a great help to improve and make easier new product manufacture, from design step onwards by direct link to other design facilities as CAD.

What is the principle ?

The software is based on a technology dedicated to the needs of simulation software for laminar or turbulent flows, in an environment described in finite volumes, multi-blocs structured meshes. Based on a reference solution, issued from your in-house code or a commercial code, it computes the gradients of characteristic variables of the flow according to parameters defined by the user.

Versus *Turb'Design™ 1*, edited in the year 2004, and whose derivation order is limited to 1st order, *Turb'Design™ 2* by computing 2nd order enables to study sensitivity in the non linear areas of the functions.

From reference calculation and some *Turb'Design™ 2* runs, you will obtain an accurate knowledge of each parameter, considered separately as a function of researched target.



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What are the inputs?

To use *Turb'Design™ 2* and study different parameters sensibility, a reference solution, issued from a commercial or research solver has to be computed. *Turb'Flow™*, FLUOREM structured solver could be this one, *Turb'Design™*, package being able to be customized according to facilities and tools of the customer and request and objectives defined.

Some examples :

- 1 – You already own a commercial software: *Turb'Design™*, license purchase will enable you to carry out all sensibility studies you need.
- 2 – You don't own any aerodynamic software : FLUOREM propose you a specific package, at a preferential rate, including *Turb'Flow™* solver, and *Turb'Design™*, and both pretraetment *Turb'Mesh™*, and post-treatment *Turb'View™* software as well.

What support do you need ?

Turb'Design™, can be used under Linux, on any computer, having a minimum memory of 256Mo.

A Windows version will appear later.

Who contact, where and how to have complemenary informations ?

For any other information, commercial specially, don't hesitate to contact FLUOREM at hereunder adress and phone numbers :

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