HYDRAULIC DOOR CLOSER

Non contractual photo

SERVICE : SOLIDWORKS® SOFTWARE, MECA 3D®, ETAU
DIMENSIONS : 530 X 400 X 130 MM

WEIGHT : 7KG

REFERENCE : EX1520

The hydraulic door closer (groom) is a widely used product in industrial and public buildings. It allows the automatic closing of doors and thus ensures two essential functions, safety and energy saving. Pedagogically, it is very rich because it combines mechanics and hydraulics and allows studies in mechanical engineering, technology, mechanics and manufacturing. The door closet is exploded in a suitcase. A complete door closer is also provided to perform manipulations and check the influence of the settings on the overall behavior of the system.

Technical specifications :

Proposed TP Themes

The pedagogical exploitations are multiple and can be the following ones :

- Explain the operation: opening of the door, automatic closing, relaxation or final shot
- Establish the virtual assembly of the mechanism and propose an assembly or disassembly graph

System behavior, verification and sizing :

- Establish the 3D kinematic diagram for the "automatic closing" function
- Conduct the static study of the models using a simulation software
- Compare the results with the values ??recommended by EN1154
- Solve a static problem
- Calculate the stiffness of the springs
- Check the resistance of the teeth of the gear

Constructive solutions :

- Study and choose a solution for the pinion rotation guide function
- Study constructive solutions for technical functions
- Produce the definition drawings of the rack-and-pinion and the pinion
- GPS concept application, geometrical product specifications