

Test Bench 1853  **DOORS OPENING/CLOSING FATIGUE TEST**

Applications



This Bench is a sum of specifications by Fiat but also Ford, Peugeot, Volvo, Pininfarina about doors testing and electric glasses lift.

This bench is very up to date and complete system to fulfil door testing expectations. It is possible open and close doors by an angle more than 150° with different speed, ramps, accelerations, stop points with a very wide range of possibilities.

The benches are made of stainless and aluminium to work in climatic chamber from -30° to +80° C (from -40 °C as option).



There are three kinds of opening the door: by a rope linked to the door, by an electric signal opening electric door or by a small electric actuator with a bowden that open the door (this is only for INSIDE GROUP). **The Bench is able to test all kinds of door system**, using some microswitches mounted in the correct places; door movements are controlled by a brushless motor equipped with a resolver, so it ensures an high precision. **Test Report** is stored in the PC; it is possible attach to it comments, digital photos and more **to have full test life cycle documented.**

The electronic equipment can controls **two independent benches:** the first, **Outside Bench**, open and close the door from outside of the car; the other one, **Inside Bench**, make the same action from inside of the car. The benches can works, one at a time, both together in the same car or each one in a different cars.



The Inside Bench is to be mounted at the place of a seat and open and close a door according the same program as the outside bench, it open with different speed pushing a door and it close the door by a rope linked to the door itself



The Outside Bench is very compact to work also with cars very low, it is locked to the car frame, customers should point out the minimum and maximum height of the cars they want to test.

Tests that can be carried on.



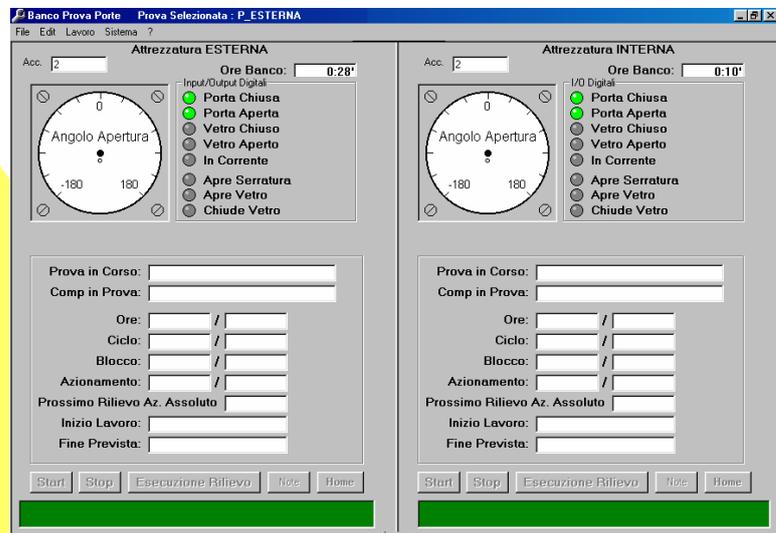
- ☛ Opening and closing cycles of one door by outside, including door lock (mechanic or electric) driving.
- ☛ Opening and closing cycles of one door by inside, including door lock (mechanic or electric) driving.

AN EXAMPLE OF TEST CYCLE IS:

- > Opening arms to 90° angle position pulling the door by rope.
- > Start Opening, speed 0,3 mt\sec untill 75° angle
- > Stop in position 75° angle, delay
- > Start Closing speed 0,5 mt\sec
- > Accelerate closing in the point 68° speed 1 mt\sec
- > Arms stop in position 55° and let the door go by itself, close freely.



Software Wind-Data©, running on WINDOWS™ environment, is the application program that manages the Test Bench; it can shows in real-time the arm position, everything happen during the test and all testing parameters. Our proprietary software is easy and fast to upgrade on board at any time, saving time.



Main Features

- AC Power Supply:** 400 VAC, 6 KVA, 3-phase
- Compressed Air Supply:** 6 Bar, free of oil and moisture
- Air drying unit:** included in equipment
- Test Benches (2):** Mechanical structure including rotation motor, actuator, arm regulation tools and monitoring sensors.
 - Arm motor:** Brushless motor with gearbox; Load: up tu 500 Nw; velocity: 3 m/s max;
 - Arm rotation:** from 0 to 180 degrees, adjustable
 - Temperature range** from -30 to +80 degrees;
 - Overall sizes (mm)** 2000 (L) x 1800 (W) x 2000 (H) *Weight* about 200 kg
- Electronic Cabinet** PC, CPU Pentium class, includes TFT monitor, keyboard, mouse,; Brushell inverter; commands panel, electric circuitry
 - Overall sizes (mm)** 600 (L) x 600 (W) x 1820 (H) *Weight* about 100 kg
- Optionals**
 - /a1** Electric glass test (n.2 independent electric glasses) by car power supply
 - /a2** Test Bench extended range from -40 to 80 °C
 - /a3** Instrument to detect closing/opening door speed.
 - /a4** External DC Power Supply for glass testing without car's supply