



Product information

Double test rig for chair testing

Seat/backrest testing, side-to-side testing and arm rest testing (e.g. acc. EN 1335, EN 581-2, EN 1728, BIFMA X5.1, BIFMA X5.4, BIFMA X6.5, BS 5459), Calmar I series



Application:

Alternating bending double test rig for various seat/backrest tests, side-to-side tests and arm rest testing. PLC controlled with data export to a personal computer. The PLC with analogue value processing is directly mounted to the test rig in a handy panel, tiltable in the up/down and left/right direction to fit the user point of view. The touch panel allows the parameterization of tests and depicts the real time status of the connected test axis. The parameterization can be done individually and saved as a template or based on an prevalent standard conform template. For example parameters such as the amount of cycles, time intervalls, maximum and minimum values can be set. During the test run the user can view the test status. The cycle number, failure messages and a graphical visualization of the test run can be observed. Specifically for the testing application an adaptive controller was developed, which allows the closed-loop controlled testing performance with a substantial time saving and in consequence an enhanced cycle time. At test end the control saves automatically all for the documentation necessary parameter and allows the export of the data to a computer for test reporting. The computer software is not included. Optionally H&P offers a flexible report generator tool.

consisting of:

- 1 test frame based on a steel base plate 1,2 x 2.4 m, 12 mm strong, steel galvanised, with underscrewed enforcement, on vibration damped feet, M10 thread pattern for flexible fixation possibilities. The column of the seat-backrest-tester will be placed outside of the base plate, so that the dimension of the frame will be greater than the base plate in one direction.
- 1 vertical column with easy motion electrical height adjustment and horizontal displacement of the test axis
- 1 portal frame work with manual height adjustable horizontal carrier for arm rest test axis
- 1 PLC with touch display in a handy panel tiltable in the up/down and left/right direction to fit the user point of view

- centralized pressurized air connection (NW7,2) with air conditioning unit consisting of filtering systems, pressurized air distributor and switch-on-valve
- 1 test axis for backrest testing, angular adjustment and +/- 50mm lateral positioning, an additional guiding minimizes the risk of crossloads and avoids the twist away of the chair, sidewise
- end positions to also fix the chair at excentric load applications, F_{max} 1500 N
- 1 test axis for seat loading, flexible front/rear positioning, depending on test requirements spring balanced fixation (EN1335) or controlled 400 mm moveable to different load application positions (BS 5459), F_{max} 2500 N; the travel range of the seat loading pad allows the testing of chairs with seat depth beyond the dimensions described in the standards.
- 2 test axis for side-to-side and arm rest testing, angular adjustment, incl. fixation to cross bar. Adjustable stopper restrict the tilting angle to the inside. During loading the test axis can follow the arm rest movement to the outside displacement. F_{max} 1500 N
- 4 load cells

included:

- 1 seat loading pad; clamping connection $\varnothing 20$ cardanic; EN 1335, made of GF-UP (41-006-220)
- 1 backrest loading pad 250x200-R450/R12; clamping connection $\varnothing 20$ cardanic; DIN EN 1335, made of GF-UP (41-006-303)
- 2 fixation elements for office chairs (40-001-050, 40-001-056)
- 2 stop bars (40-001-056)
- 1 set of fixation elements for free swinging chairs (40-001-055)
- 1 accessories box including 2 eye bolts, 2 straps to avoid chair twisting (40-001-059)
- Further accessories can be delivered on request.

Technical data:

- power connection: 230VAC, 50 Hz
- pneumatic connection: pressurized air 6 .. 10 bar; quality acc. ISO/DIS 8573-1 (oil content

less than class 2; impurity content better as class 3; water content less than class 4)

- control accuracy: $\pm 5\%$ of set value above 20% of nominal load
- load resolution: 0.5 N
- load accuracy: $\pm 1\%$ of end value

Optional accessories:

computer & monitor for data export

18-350-001 report generator

40-001-117 fixation set for table testing
(12mm high, also for 4 leg chairs)

41-006-101 loading pad $\varnothing 200\text{mm-R}300/\text{R}12$;
clamping connection $\varnothing 20$ cardanic; acc. DIN EN
1335 (2x for side-to-side test)

41-006-5xx loading pad for arm rests; type
depending of test regulation