

**CAZZARO 1996**  
**PAMY COLLECTION - MEDICAL TEST**



## PAMY COLLECTION

Launch in 1996 resulted as one of the most innovative office furniture collection seen in recent years.

The project began with an extensive study program dedicated to applied ergonomics and biomechanics having the ambitious goal of objectifying the concept of comfort.

Design and functional logic were the results of an experimental research that transcended existing stereotypes to represent evolution, change, and the true spirit of invention which takes the user immediately into the future.

This rather unconventional approach to design originating from the objective search for comfort, rather than form, led to the creation of products with broad practicality and competitive prices as primary requisites.

Pamy Collection has received a special recognition for its special approach to ergonomics: Seats and backrests in technopolymers are specially designed with microspheres for a more even distribution of weight over the support surfaces. For a contact-comfort effect.

The ergonomic solution was successfully tested for a "Seat Comfort Quantification" by a Research Lab recognized by European Community. Following is the detailed process and result of the test.

## EXPERIMENTAL PHASE REPORT

The experimental phase conducted required the creation of a prototype for comfort assessment

The following assessment system was developed:

A) Microprocessor with interface for:

- 3 pressure sensor matrices (256 sensors x 3)
- 1 remote ultrasound sensor
- 1 inclination sensor
- 1 keypad
- 1 serial communication line

B) Microprocessor software capable of managing the various data acquisition phases

C) PC software for the data acquisition/storage phases

### System description (overall)

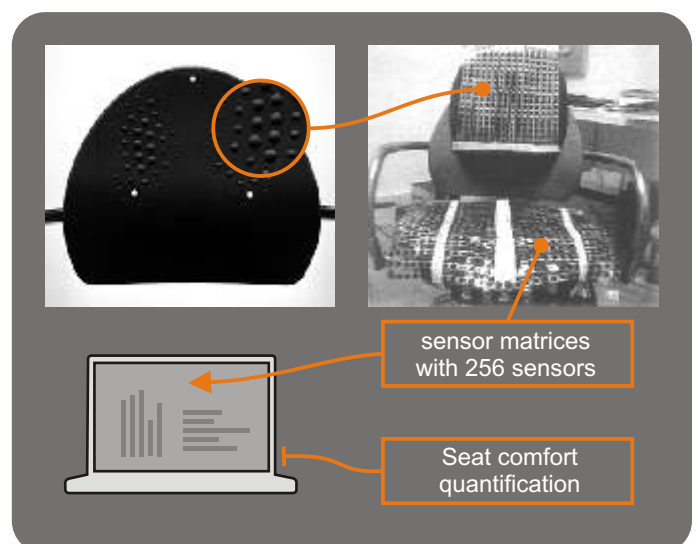
The system required the positioning of three sensor matrices with 256 sensors each

### Objective

Seat comfort quantification.

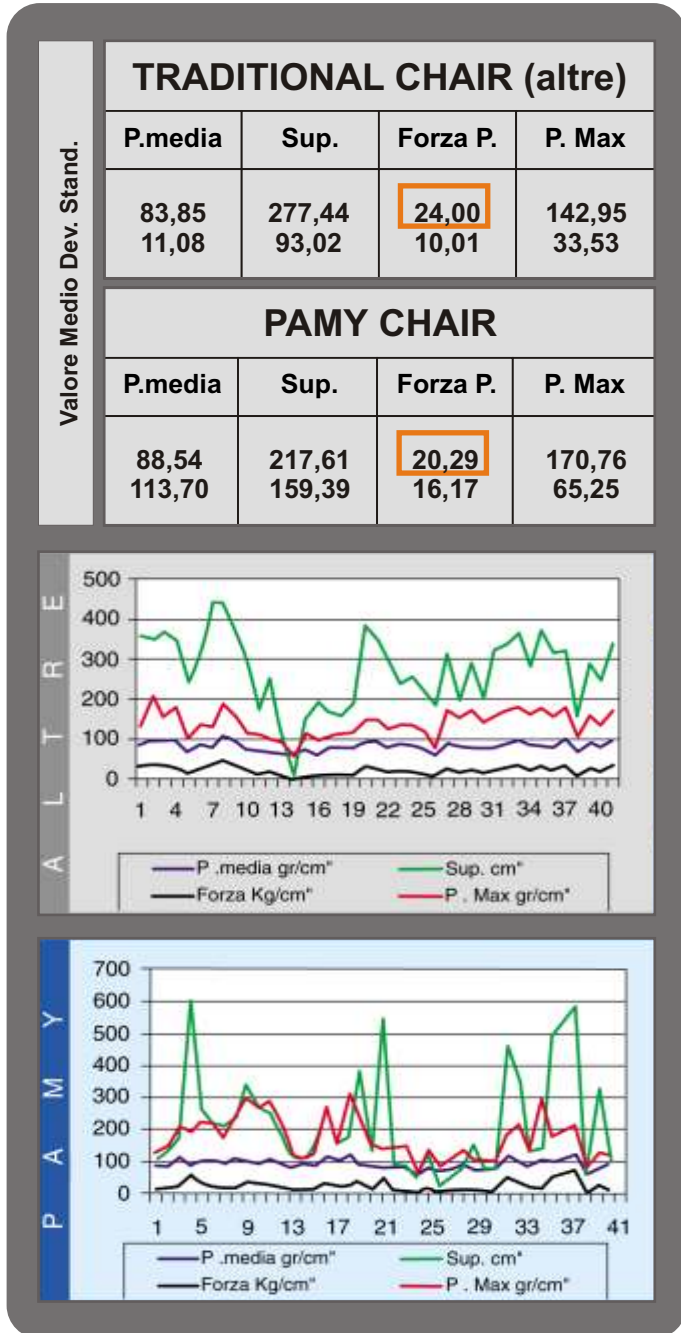
## TEST PROTOCOL

The test was performed in a person of about 80 kg and seating time of 20 and 45 minutes. The seating pressures on the support surface were measured, and a subjective opinion comparing the comfort of the PAMY chair and the traditional chair was requested after the 45 minute seating.



TEST

This following table summarises the values with the averages and standard deviation. Graphs for the two chairs are provided below.



As shown, the average pressure of the PAMY chair is about 4 kg less than the traditional chair

The standard deviation of the various parameters is higher in the PAMY chair than in the traditional chair.

This is probably due to the greater possibility for movement which the PAMY chair offers while maintaining a total support surface area less than that of the traditional chair.

The pressure values calculated must be considered valid only for purposes of comparing the two chairs and not as absolute values. Even though the reference support surface area was calculated using active sensors associated with a subtle area of influence, actual pressure was measured only in a certain part of such area.

RESULTS

Note that this kind of test requires extremely long assessment periods because the benefits offered by any given type of chair can be understood only after more than 50 tests are taken. We observed that, thanks to its special conformation, the distribution of pressure in the PAMY chair was more homogenous; above all, no significantly greater support pressure was observed in the biceps femoris area compared to the traditional chair. The position adopted by the test subject was also seen to be more homogenous and continuous in the PAMY chair than in the traditional chair.

This indicates greater seating comfort. Below, it is enclosed diagrams which provide a graphic summary of the two tests performed

