



Superior overall winner:
 the BIOSWING 460 (formerly called Twist)

Superior overall winner

BIOSWING 460 was a step ahead in the BGIA's assessment of chairs

Along with its function of providing statutory accident insurance, the Administrative Professional Association (Verwaltungs-Berufsgenossenschaft [VBG]) in Hamburg advises companies with respect to the design and modification of work spaces. After all, more than 40 per cent of those employed in Europe today work with computers – a growing trend. In some industries, such as the financial sector, this percentage rises to almost 90 per cent. Regular and sustained work in static positions often leads to tension. Thus, the selection of the right chair is crucial. Against this backdrop and in cooperation with the BGIA – the Institute for Occupational Safety and Health of the German Social Accident Insurance in Sankt Augustin (for more information on the VBG and the BGIA, please see the box on page 2) and the Netherlands Organisation for Applied Scientific Research (TNO) in Delft, the VBG initiated an ergonomic study to evaluate four specific dynamic office chairs in comparison with a conventional office

chair. Representing HAIDER BIOSWING in the ring was the BIOSWING 460 (formerly called Twist), which depending on the configuration offers height-adjustable armrests and backrests, an individually adjustable headrest, adjustable seat tilt and seat depth, with a fully adjustable seat.

Diverse survey methods

The subjective evaluation of the chairs was carried out using various survey methods. Subjects completed a questionnaire for each chair comprised of a preliminary evaluation, daily logs and a final evaluation, as well as an additional follow-up survey.

The results of this field test are presented in greater detail later in this report. Further details on BGIA report 05/2008 in addition to the tables and explanations presented here – such as the names of the individual products included in the test – can be found at www.dguv.de/bgja.

Foreword



Ten subjects in the laboratory test and 40 in the field test were tasked with testing and evaluating a total of five chairs in accordance with scientifically established methods.

Four "special dynamic chairs" – including the BIOSWING 460 – were evaluated against a reference chair. The following is from BGIA report 05/2008, a scientific study, and the results speak for themselves: a clear majority of subjects in the field trial, which extended over a period of six months, chose the HAIDER BIOSWING chair as their "personal test winner". It is consequently considered the clear first-place winner. Last place was incidentally also taken by a chair with a special dynamic concept – proof that there remain huge differences between products in this area.

Eduard Haider
 Managing Director of HAIDER BIOSWING

Highlights



Expectations were raised high – and exceeded

During the preliminary evaluation, the 40 field test subjects had already rated the BIOSWING 460 the best based solely on the look of the chair from a perspective of a neutral presentation of all chairs. This positive assessment was to be confirmed through practical use: as part of the final assessment, the BIOSWING 460 proved to be the only chair that not only met the expectations placed upon it, but even surpassed them.



It was rated the best in all individual outcomes

The BIOSWING 460 received not only the best preliminary assessment of all the chairs, but also the best evaluation in all areas in field trials following the subjects' practical trials – sometimes scoring considerably higher than the others being tested.



Superior overall winner with 168 points

A clear majority of the field trial subjects chose the BIOSWING 460 as their "personal test winner". This allowed HAIDER BIOSWING to secure its place as the clear overall winner of the field trial with 168 points.

Preliminary evaluation – great expectations

25 female and 15 male subjects from four different companies in the banking, insurance and service sectors participated in the field test. They were selected according to different criteria; for example, they were required to be employed full-time and had to possess many years of experience in working in an office and in front of a computer screen. Body size and body weight varied amongst both the female and the male subjects.

At the beginning of the field test, each of the four companies held a launch event where all five chairs were presented and their various settings were demonstrated. Afterwards, the subjects had to provide a preliminary evaluation of the chairs without even touching them, let alone sitting on them. The subjects had already rated the BIOSWING 460 (Chair B) the best out of all the chairs. They rated the comfort of the HAIDER BIOSWING as "good" (2.4), as well as

the impact of the chair on their own health (2.1).

★ *In the preliminary evaluation, the BIOSWING 460, with its 2.5 rating, peaked significantly higher expectations than the reference chair (Chair D) and outperformed the three comparison chairs.*

Field survey in practice – "overall" assessment

The subjects indicated that they would be "happy" (1.9) to have this chair at work; they liked the HAIDER BIOSWING even "better" (2.3) compared with the first day.

★ *Although the BIOSWING 460 had already raised expectations during the preliminary evaluation, it was the only*

chair to not only be able to fulfil these expectations in practice, but even exceed them.

| Overall | Key | Chair A | Chair B | Chair C | Chair E | Chair D | Response levels from to |
|---|------------|---------|---------|---------|---------|---------|---|
| How would you rate the comfort of this chair? | E.F29 | 2.5 ▲ | 1.7 ▲ | 4.0 ▼ | 3.3 ≈ | 3.3 | 1 very good - 6 very bad |
| How confident are you about this chair? | E.F30 | 2.3 ≈ | 1.8 ▲ | 3.4 ▼ | 3.0 ▼ | 2.6 | 1 very confident - 6 not at all confident |
| Does this chair promote your physical well-being? | E.F31 | 1.8 ≈ | 1.3 ▲ | 2.5 ▼ | 2.3 ≈ | 2.2 | 1 applies - 3 does not apply |
| What impact would this chair have on your job performance? | E.F32 | 2.7 ▲ | 2.5 ▲ | 3.4 ▼ | 2.9 ≈ | 2.9 | 1 very positive - 5 very negative |
| What impact would this chair have on your health? | E.F33 | 2.5 ▲ | 2.1 ▲ | 3.5 ▼ | 3.0 ≈ | 2.8 | 1 very positive - 5 very negative |
| How happy would you be to have this chair at your desk at work? | E.F35 | 3.1 ▲ | 1.9 ▲ | 4.8 ▼ | 3.8 ≈ | 3.7 | 1 very happy - 6 very unhappy |
| Compared to the first day, how do you like the chair now? | E.F36 | 3.1 ≈ | 2.3 ▲ | 4.0 ▼ | 3.6 ≈ | 3.3 | 1 much better - 6 much worse |
| Discomfort (evenings - mornings) | F2-13 T1-5 | 1.1 ≈ | 1.1 ▲ | 1.2 ≈ | 1.6 ≈ | 1.2 | 1 none - 2 some - 3 moderately - 4 strongly |

★ *Compared to the overall rating from the preliminary evaluation and the final evaluation, only one of the chairs saw a significant increase in its rating: the BIOSWING 460.*

| Comparison | Chair A | Expectation | Experience | Trend | Response levels from to |
|---|-------------|-------------|------------|-------|-------------------------|
| Overall, how would you rate this chair? | Chair A | 2.9 | 2.7 | ≈ | 0.146 |
| | Chair B | 2.5 | 1.8 | ▲ | 0.001 |
| | Chair C | 3.6 | 4.1 | ▼ | 0.010 |
| | Chair D ref | 3.5 | 3.2 | ≈ | 0.315 |
| | Chair E | 2.6 | 3.1 | ▼ | 0.009 |

Detailed survey – Dynamics and mobility

The subjects noticed the mobility of the seat "clearly" (2.1) with the BIOSWING 460, and rated this as "good" (2.2). When asked about the dynamics and

mobility in general, the HAIDER BIOSWING chair received by far the best reviews here as well.

★ *In the set of questions about "dynamics", the BIOSWING 460 again received better ratings than the comparison chairs and reference chair on all questions.*

| Dynamics | Key | Chair A | Chair B | Chair C | Chair E | Chair D | Response levels from to |
|--|-------|---------|---------|---------|---------|---------|-----------------------------------|
| How much did you perceive the mobility of the seat? | E.F7 | 2.6 ▲ | 2.1 ▲ | 2.6 ▲ | 2.5 ▲ | 3.4 | 1 very clearly - 4 not at all |
| How do you like the mobility of the seat? | E.F8 | 3.2 ▲ | 2.2 ▲ | 3.7 ≈ | 3.6 ≈ | 3.7 | 1 very good - 6 very bad |
| How do you like the overall dynamics and mobility of the chair? | E.F24 | 2.8 ▲ | 2.0 ▲ | 3.8 ▼ | 3.2 ≈ | 3.4 | 1 very good - 6 very bad |
| How did the dynamics of the chair affect the performance of your work? | E.F25 | 2.6 ▲ | 2.2 ▲ | 3.2 ▼ | 2.9 ≈ | 2.8 | 1 very positive - 5 very negative |

Ranking according to points – HAIDER BIOSWING ahead again

Once the weeks of testing were completed, each subject created a ranking of the chairs. First place was awarded to their personal test winner,

fifth place for their personal loser. From this, the total score was calculated for each chair – five points were awarded for each first place ranking and one

point for last place. Thus, the BIOSWING 460 secured its place as the clear superior overall winner of the field trial with 168 points. Interesting: the chair that took last place with only 73 points is also an active motion chair with a special design. This is proof: even among the range of dynamic chairs, there are huge differences.

Standings and rankings

| | 1. | 2. | 3. | 4. | 5. | Points | Rank |
|---------|----|----|----|----|----|--------|------|
| Chair A | 5 | 19 | 9 | 3 | 2 | 136 | 2 |
| Chair B | 25 | 6 | 5 | 2 | 0 | 168 | 1 |
| Chair C | 2 | 1 | 7 | 9 | 20 | 73 | 5 |
| Chair D | 3 | 7 | 7 | 14 | 7 | 99 | 4 |
| Chair E | 4 | 11 | 9 | 7 | 8 | 113 | 3 |

★ *A clear majority of the field trial subjects chose the BIOSWING 460 as their "personal test winner".*

Brief outline: VBG and BGIA

The VBG is one of Germany's major professional associations, with nearly 580,000 member companies in over 100 different industries and approximately 7.8 million insured workers. The VBG's role as issued by the Social Security Code (Sozialgesetzbuch) is the prevention of occupational accidents, occupational diseases and work-related health hazards, and ensuring first aid. In the event of an accident or an occupational illness,

the VBG is responsible for restoring people to health, as well as restoring their ability to participate in working life and society.

Research, testing and advice

The BGIA – the Institute for Occupational Safety and Health of the German Social Accident Insurance in Sankt Augustin is a research and testing institute for statutory accident insurance providers

in Germany. The BGIA supports the statutory accident insurance providers in Germany and their institutions when dealing with scientific and technical issues in occupational health and safety, including through research, development and testing, product testing and material samples, operational measurements and consultations, as well as participation in the standardisation and regulatory process.

BIOSWING seating technology – the most unique in the world

Always in motion and always in the right rhythm

Anyone who wants an idea of the HAIDER BIOSWING seating system only really needs to do one thing: take a seat. Because, despite all the technical finesse, the deciding factor for the user is usually the comfort of the seat. And that comfort is extremely high with HAIDER BIOSWING chairs, as the field test subjects in the BGI report 05/2008 confirm: a clear majority of the field trial subjects chose the BIOSWING 460 as their "personal test winner". But what distinguishes HAIDER BIOSWING chairs from the competition? "First and foremost, the unique seating technology", said inventor and company president Eduard Haider. "The principle is based on completely disconnecting the frame from the seat. In doing so, the position of the seat is so stable that the body is always in equilibrium, allowing the user to make the most of their own vital rhythms at all times." Another crucial advantage for the seating system: it uses the seated person's



BIOSWING seating technology

natural energy potential by responding to their movements in the form of vibrations. To compensate for these vibrations, the body reacts intuitively by activating certain muscles. The result is a constant interplay of vibration and body movement – the key muscles of the seated person are continuously strained and relieved without this active

give-and-take. The effect is similar to that of jogging or dancing. Haider says: "HAIDER BIOSWING seating systems embrace the principle that works so perfectly in our bodies. The seat recognises the user's individual rhythms and dynamically reflects the kinetic energy. The reflected impulses simultaneously excite the muscles and their control centres in the nervous system. Thus, the brain continuously sends control signals back to the muscular system. The user's own well-being is enhanced and performance is increased."

Similar to jogging or dancing

With the BIOSWING seat system, a person's natural vital rhythms are automatically used in a simple and pleasant way, simultaneously increasing well-being and performance. Haider says: "It couldn't be simpler: you sit down on the BIOSWING and it works."

Joint research with Dr Eugen Rašev

Scientific and medical background

Company founder Eduard Haider and Dr Eugen Rašev have undertaken joint research and development work in the field of healthy seating and therapeutic systems since 1991. Dr Eugen Rašev is a specialist in physical and rehabilitative medicine, and a guest lecturer in the Department of Physiotherapy and

Rehabilitation at Charles University in Prague. In Schweinfurt, he heads the Institute for Neuro-Orthopaedic Rehabilitation and Pain Management.

The POSTUROMED and PROPRIOMED training and therapeutic devices, developed as part of this research and which reach the deep-seated intersegmental postural muscles, are now used in 7,000 surgeries and rehabilitation clinics and also have sport and fitness applications. Many top athletes optimise their reaction times and coordination abilities with HAIDER BIOSWING. The experience and scientific knowledge gained from working with POSTUROMED and PROPRIOMED have been incorporated into the development of the HAIDER BIOSWING seating system.



Dr Eugen Rašev

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