Simple and Precise – the zebris Jaw Measurement Analysis System

JMA SYSTEM

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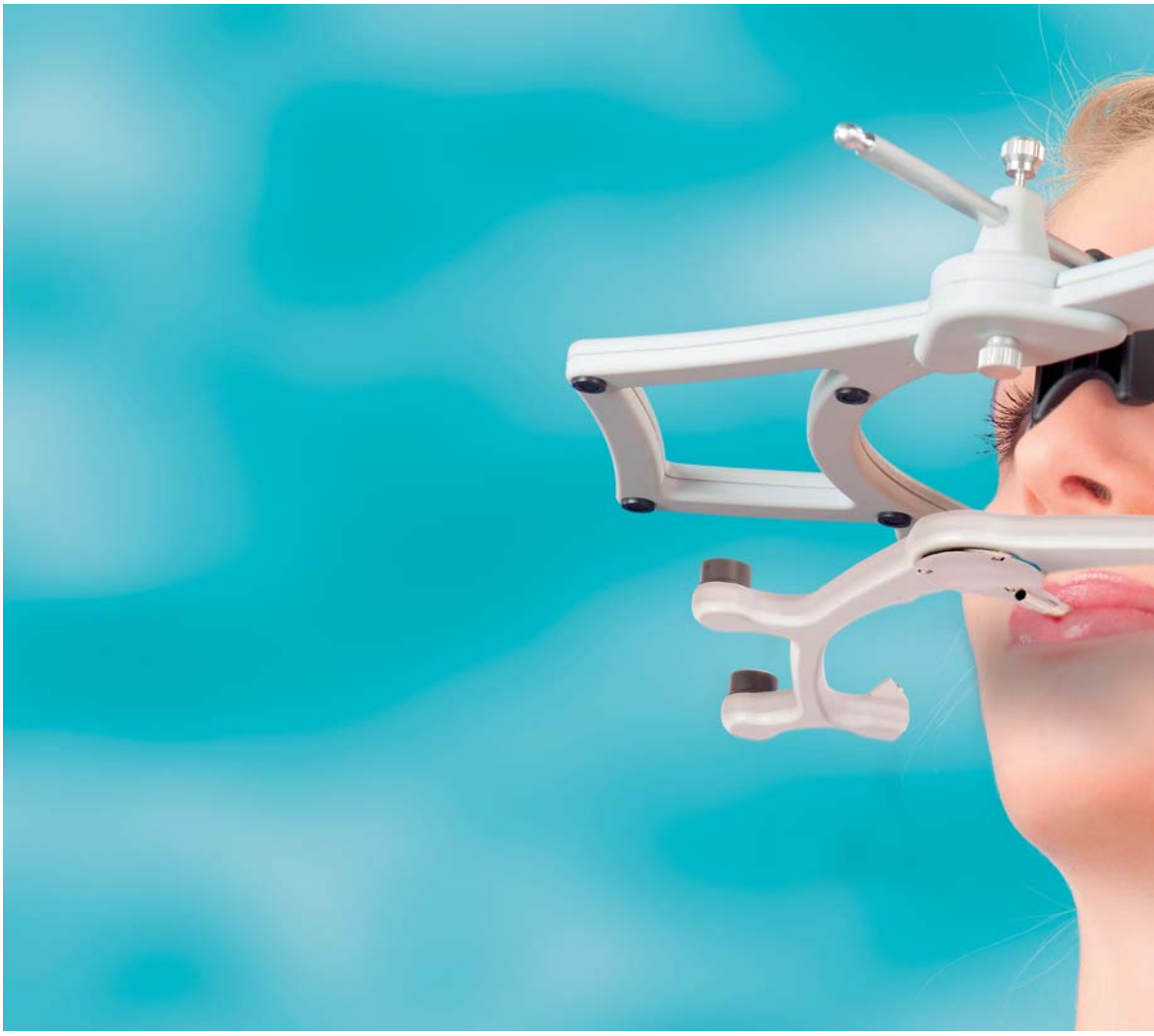
The New Measuring Sensor Equipment

The face bow is applied manually together with the integrated receiver sensors in just a few steps. There is no longer any need to carry out any adjusting measures on the patient. The lower jaw sensor is extremely light and fastened to a paraocclusal bite fork with a magnetic holder.



The zebris Jaw Measurement Analysis System records all the 3D movements of the lower jaw without contact, using the principle based on measuring the travel time of ultrasound impulses. This system consists of a face bow with integrated receiver sensors and a lower jaw sensor for measuring near the joint, that is optimally balanced. The reference plane, e.g. the axial-orbital plane, is entered using a probe

–Simple, Precise and Balanced

The automatically calculated axis points can be indicated on the patient using the probe tip.
The probe tip function also enables the facial profile or any random points on the occlusal surface to be recorded.

tip. The system enables a hinge axis to be determined i.e. in a central condyle position or as a kinematic axis from the protrusion and opening movements.
The WinJaw PC measuring program that is supplied with the system, calculates articulator setting values, numerous function parameters and is able to determine a neuromuscular, centric, lower-jaw position.

Safe and comfortable- the face bow has a cushioned supporting surface and a supporting band running over the head.

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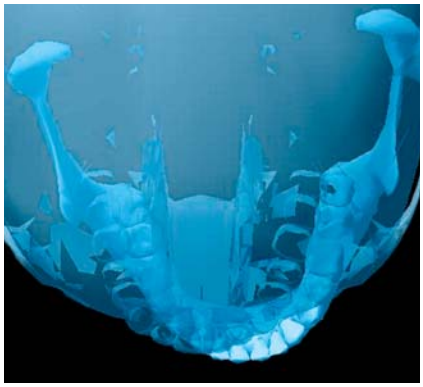
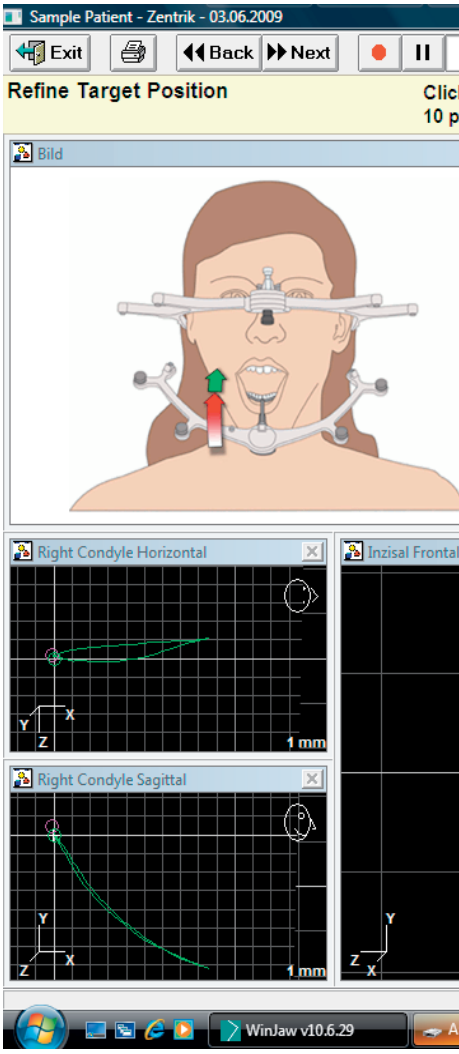
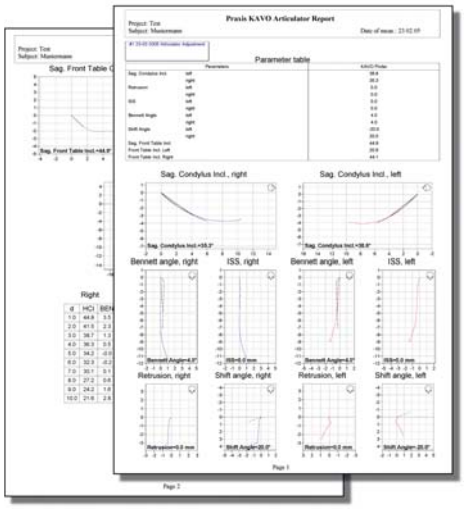
The WinJaw Evaluation Software for Articulator Setting Values and Functi

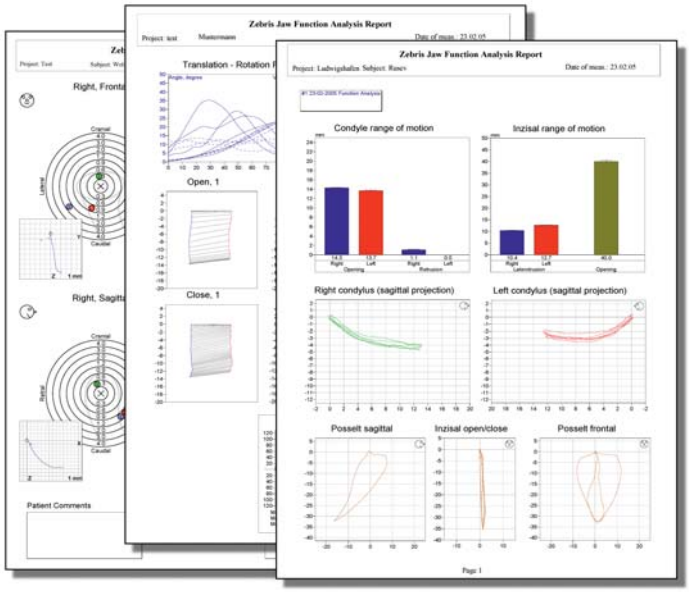


The program contains a 3D model that is animated according to the movement data. In this way, disturbances of movement can be explained to the patient visually. The model can be rotated in all viewing planes and details can be magnified.



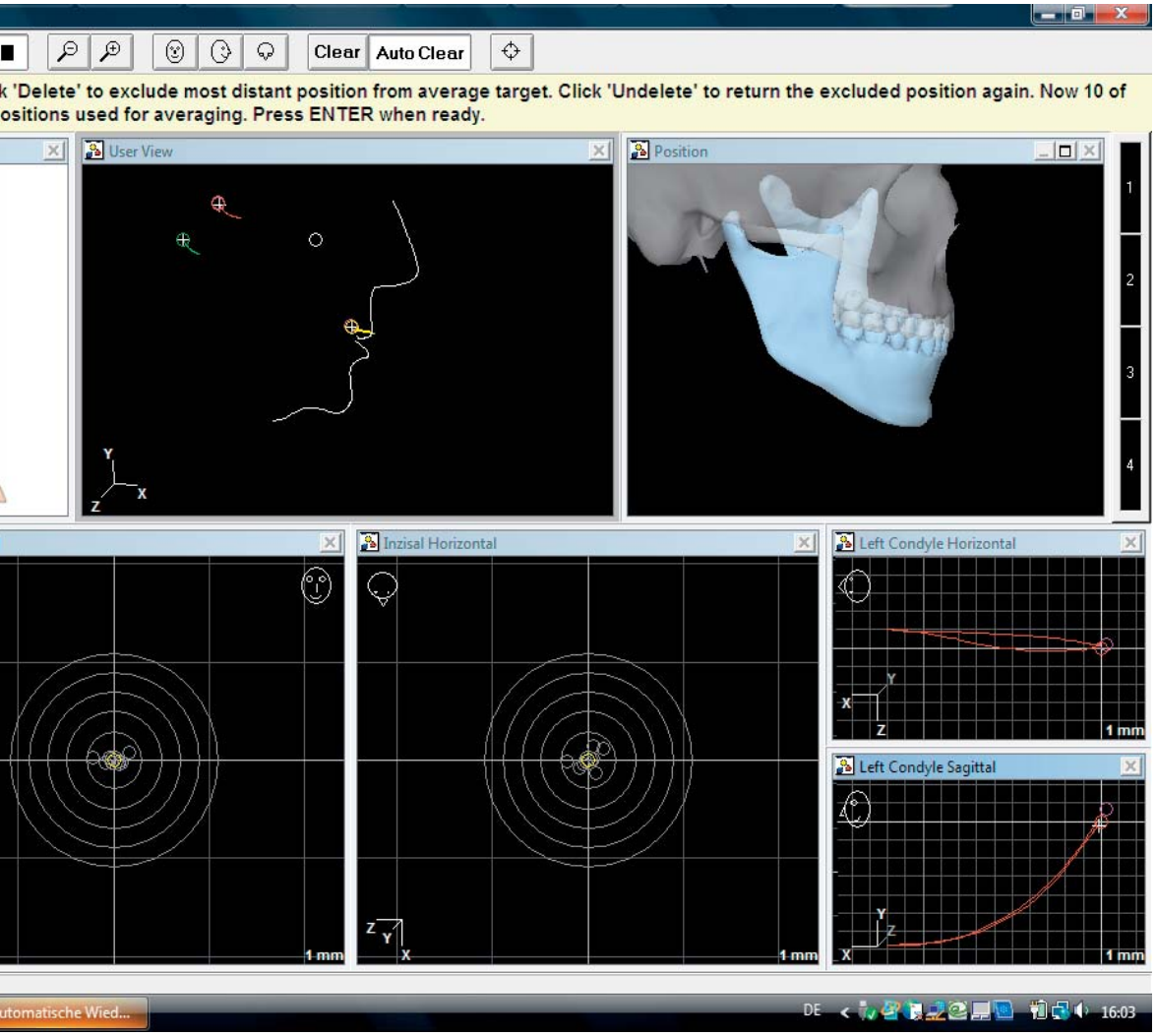


For programming fully adjustable articulators, tables for the settings and measuring curves are shown clearly in the report. The transfer to the articulators Protar, SAM, ARTEX, Reference, Panadent™ and STRATOS is carried out using commercially available face bows.



The system allows the lower jaw to be positioned therapeutically in a neuromuscular, centric position. For doing this, the patient carries out ballistic closing movements on a flat front plate. The optimum position calculated by the system can be navigated back and encoded with the Measurement Analysis material.
For determining the setting values on fully adjustable articulators, the lower jaw movements such as protrusion

Determining Centric Relation, on



On the measuring screen for determining the neuromuscular jaw relation, the position of the incisal point is shown together with the condyle positions. Once the optimum jaw position has been determined, it can be compared for checking purposes with the retruded, habitual position. The incisal point can be superimposed with arrow angular movements.

The result reports for the Function Analysis are printed out on commercially available printers. The movement track of the condyles and the incisal point is analyzed when carrying out the different movement sequences.

and laterotrusion are carried out in a specified measuring sequence. The movements are determined and the parameters automatically printed out in the report.

In a functional, preliminary examination, any discoordinations and limitations of movement can be analyzed and documented.

The Electronic Position Analysis of the condyles (EPA) enables different occlusion positions to be compared and can thereby indicate possible pain vectors in the joint. The palatinal, anterior tooth contour and the analysis of the chewing movements can be determined using optional measuring modules.

After recording the data, the measuring sequences can be repeated and details can be measured with a computation module.

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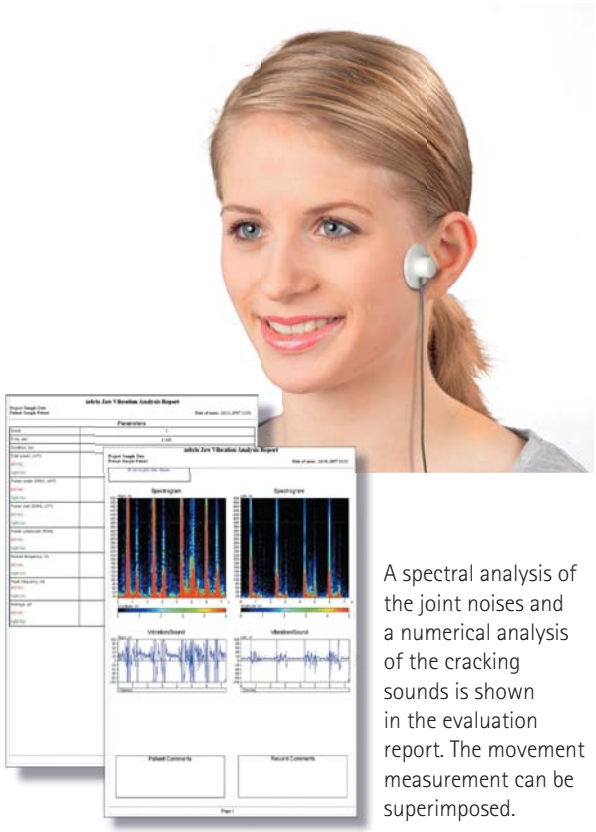
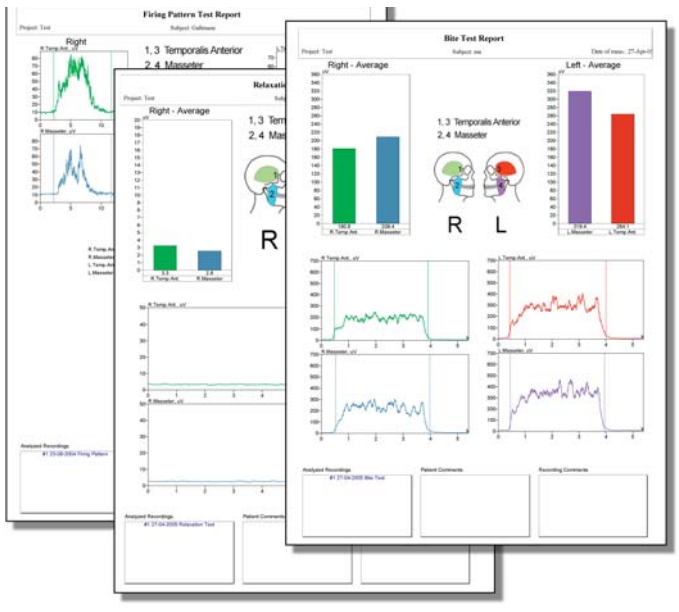
The System for Analysing Joint Vibration and the Muscular Function

The Bluetooth Measuring System is available as an option and enables noises in the jaw joint to be analyzed using highly sensitive, ultrasound microphones for placing on the body in the jaw region.
The report is produced automatically and comprises a frequency analysis and a numerical quantification of the sound intensity. Furthermore, the measuring system records the muscular action potential by means of bipolar, skin-surface electrodes.
The system enables function tests to be carried out on different groups of muscles, such as the temporalius anterior and masseter. The conductance is effected on both sides via electrode cables with integrated measuring amplifiers.
The EMG activity can thereby be detected precisely and reliably without any cable artifacts.



A spectral analysis of the joint noises and a numerical analysis of the cracking sounds is shown in the evaluation report. The movement measurement can be superimposed.



These EMG evaluation reports show the analyses for: muscle resting tonus, muscular activity during bite, firing pattern and muscle fatigue. Up to three measurements of one type can be compared directly with each other.

The JMA System – the Complete Solution

The JMA System is supplied as a complete unit and includes the following components:

- Basic unit with power supply unit
- Face bow with receiver sensors
- Lower jaw and pointer sensor (approx. 40g)
- Footswitch
- Bite fork
- Software package WinJaw basic version
- Instruction Manual
- Suitcase

Can be supplied as an option:

- Software extension modules
- 2 channel joint-noise system
- 4/8 channel EMG system
- Device trolley

The operation is carried out on a commercially available PC with Windows XP/Vista

The optional, cordless Bluetooth Measuring System contains the measuring adapter, up to 8 EMG amplifier cables and/or 2 ultrasound microphones for placing on the body, as well as the evaluation software.

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