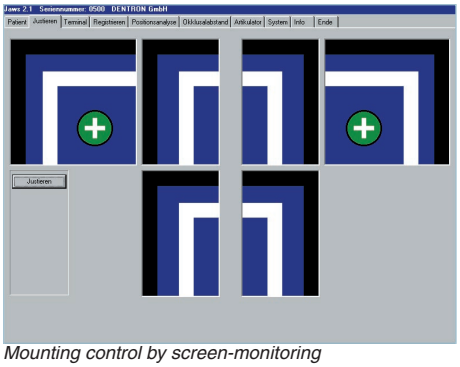
CONDYLOCOMP® LR3

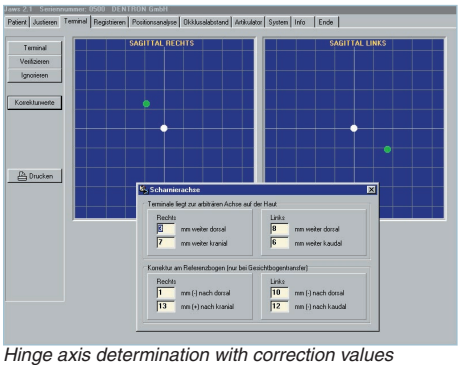
Recording device for computer-assisted TMJ and functional diagnosis

Success is no accident

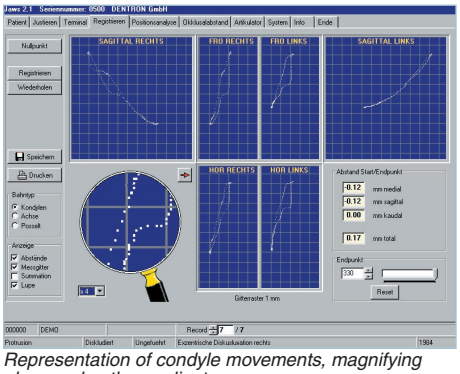
DENTRON



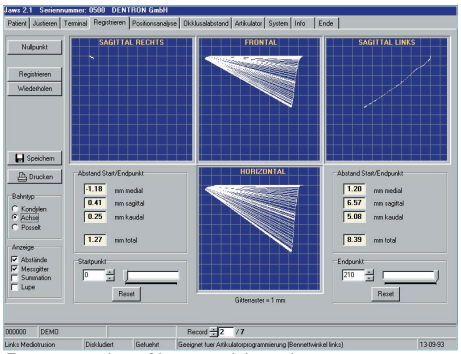
Mounting control by screen-monitoring



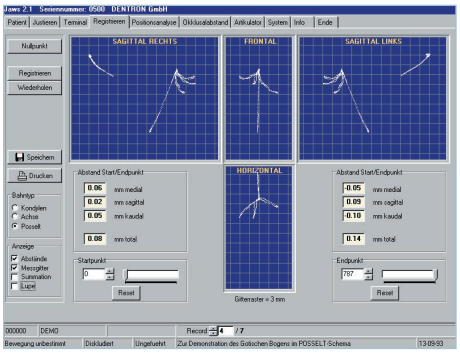
Hinge axis determination with correction values



Representation of condyle movements, magnifying glass and path coordinates



Representation of intercondylar axis movement



POSSELT diagram

Superior performance and reliability

CONDYLOCOMP® LR3 is a computer-controlled recording device for TMJ and functional diagnosis. It measures the three-dimensional mandible movements (translations and rotations) with maximum precision. These are shown and evaluated with a personal computer and the software JAWS.

Diagnosis and therapy of a functionally distored TMJ or stomatognatic system get now more reliable. It makes the daily work with articulators significantly easier for you. Furthermore it opens new horizons for dental science and research.

Over twenty years' experience in development and production of electronic recording equipment with until now over 500 installations in progressive dental practices and universities throughout the world bear witness to the superior performance and reliability of the CONDYLOCOMP® LR3.

Screen-monitoring while system is mounted

Mounting of the recording system can be accurately monitored on the computer screen. Cross-hairs and schematic mapping of the reflectors allow you to check whether sensors are aligned correctly. If necessary, adjustments can be made by turning adjustment pins while monitoring.

Determination of hinge axis in real time Automatic correction of projection errors

The hinge axis is continuously measured in real time, evaluated and displayed on the monitor. One single opening of the mouth with rotation around the hinge axis is sufficient to locate the precise axis. All other data is then automatically converted to this axis without having to readjust the recording device. In this way, hinge hinge axis errors will not distort test results.

Even while movement paths are being measured, automatic online correction eliminates all disturbing influences through geometric projection errors which always occur when measuring points are in an extracondylar position, ensuring reliable interpretation of the recorded movements.

Display and analysis of condyle movements

Movements of both condyles are shown simultaneously on the monitor, in the sagittal, frontal and horizontal plane. You can zoom in on important details and scan all movements point for point, with associated spatial coordinates being displayed automatically. This curve analysis is very useful in determining therapeutic bite location or constructing occlusal splints.

For better therapy monitoring, you can superpose and compare curves recorded at different times.

Intercondylar axis movement

If unsymmetric condyle velocities are caused by limitated movements or discoordinated TMJ the analysis of intercondylar axis movement in the frontal and horizontal planes will provide more information.

Three-dimensional POSSELT diagram

Representation of incisal point movement in the form of the 3-dimensional POSSELT diagram is a major enhancement to computer-assisted recording technology. It can provide important pointers when it comes to functional disturbances and anterior guidance.

Analysis of condyle position

If it is suspected that the temporomandibular joint is subject to undue stress due to occlusion malfunctions or various parafunctions, 3-dimensional condyle position analysis will provide important information about TMJ compression or distraction, as well as on the extent of TMJ resiliance. This analysis can be performed directly on the patient with a paraocclusal recording clutch.

Occlusal distance

A further innovation in computer-assisted recording technology is the exact measurement of interocclusal distance during speech. It can help to find out an appropriate bite height, particularly in producing a full set of dentures.

Individual articulator programming

Individual settings for the most common partially and fully adjustable articulator systems are automatically computed. The most common articulators are supported. Therefore you are not resricted to products of special manufacturers. Just select the articulator you require and the corresponding inserts and angle adjustments will be displayed. You can transfer these values directly into the articulator. Even with fully adjustable articulators, precision programming is thus just a matter of seconds. Also with TMJ dysfunction, selection of suitable curve sections allows any articulator to be programmed.

Anterior guidance

Computation and display of anterior guidance can be precision analysed and scanned point for point. At the same time, the appropriate anterior guidance table is computed for the articulator that you have selected.

Technical data sheet

The inserts and settings that have been determined for articulator programming are automatically transferred to a special technical data sheet which can be printed out as a document for your technician.

Documentation

Your measured data is managed and saved in a high-performance database according to patients. Tracings and measured data can be clearly printed out and documented.

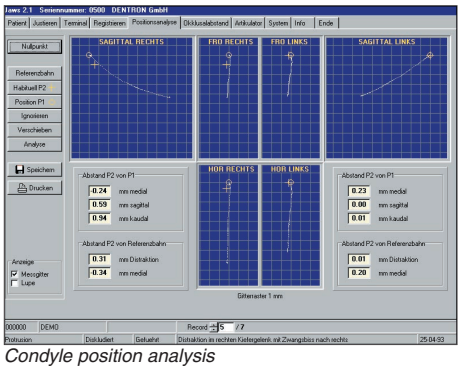
Network-compatible and multilingual

Software is network-compatible, which means that you can record, retrieve and display your data on all connected computers at any time. Software language can be switched between German and English.

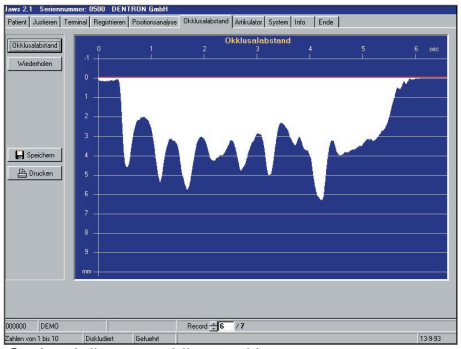
Online help

At any point in the program, you can obtain in-depth assistance. Even during the actual recording process the current measurement status is displayed. At the same time, you are given instructions as to the next step to take.

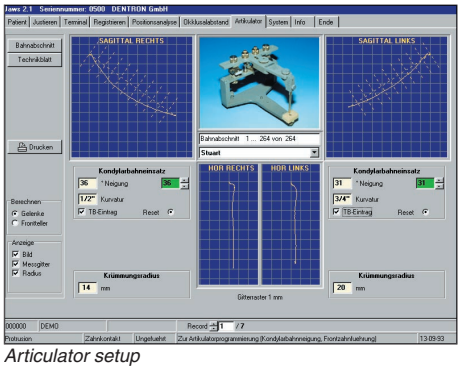
In the event of any failure or operating error, you are warned by an acoustic signal, with more details as to the cause of the error displayed on the screen.



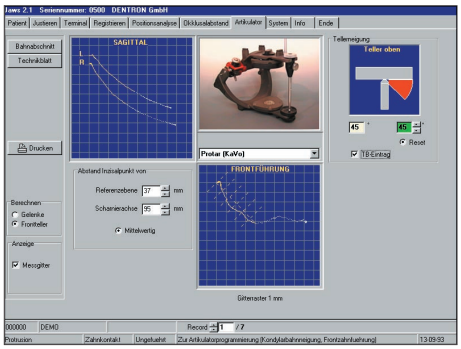
Condyle position analysis



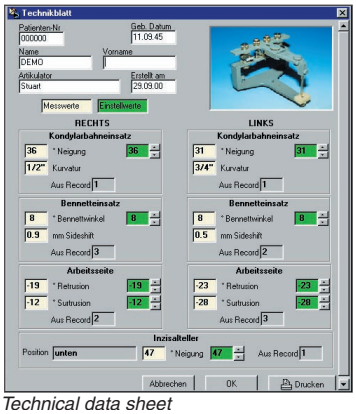
Occlusal distance while speeking



Articulator setup

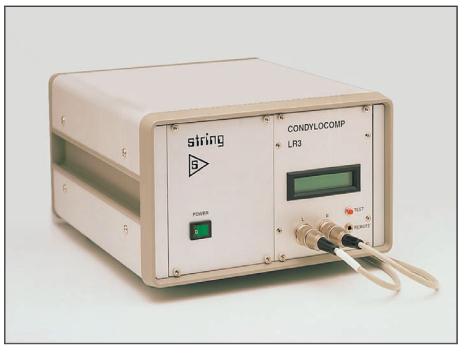


Anterior guidance



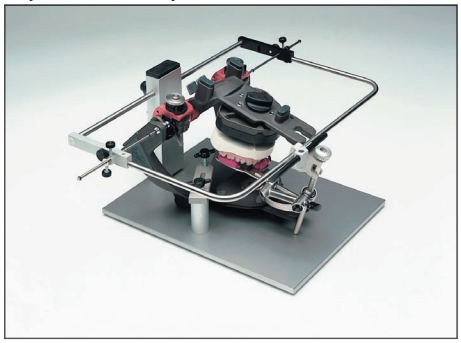
Technical data sheet

The sensor signals of the registration device ...



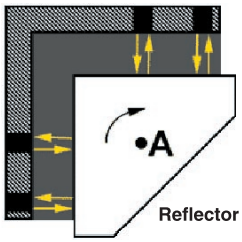
... are lead to the microprocessor-controlled data acquistion system and from there ... ...

... via serial interface to a personal computer where they are evaluated by the software JAWS.



Mounting table for quick cast transfer in any articulator

Measuring head with sensors



Measuring principle

Contact-free measurement using light reflection

Measurement is contact-free, with infrared sensors using a light reflection principle. The sensor systems on either side of the TMJs contain several measuring paths which record translation and rotational movements and thus the entire range of lower jaw movement with high precision. Perfect compensation of disturbing light ensures disturbance-free working in all lighting conditions.

Convincing advantages

It is amazingly easy to assemble the entire recording apparatus. Recording is faster and far more accurate than with conventional pantographic processes and only takes a few minutes. There are also other advantages:

- The patient's field of vision remains unobstructed
- Occlusal areas and tongue space remain unobstructed
- Nothing touches the upper jaw
- Extremely lightweight lower bow (approx. 50 g)
- No cable connections to upper or lower jaws.

TECHNICAL DATA

Principle of measurement	non-contact distance measurement via light reflection with compensation of disturbing light, 5 measuring sensors per side for recording translation and rotational movement
Linear measuring range	15 mm each for horizontal, sagittal and vertical direction
Resolution	0.01 mm
Measuring interval	10 msec
Weight on mandible	approx. 50 grams with paraocclusal clutch
Software	for Microsoft Windows 95/98/ME/NT4.0/2000/XP
Classification	MPG 93/42/EU, Class IIa, Appendix II

Subject to alteration in the interest of technical progress *Made in Germany*

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