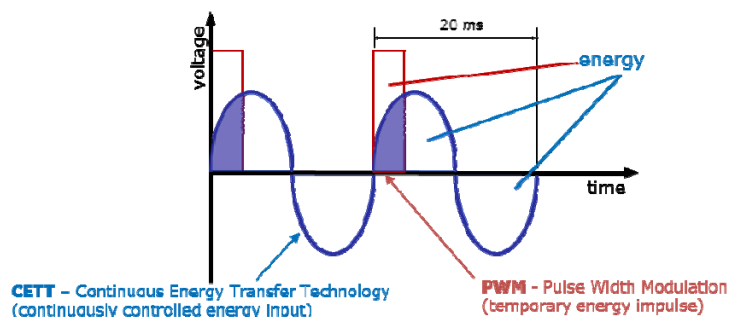


## Technical Superiority thanks to CET Technology

RETSCH has patented the **Continuous Energy Transfer Technology** (CET Technology) on which the drive of the AS 450 control is based. The CET technology provides a **substantially higher energy input** than the technology used in conventional sieve shakers. The AS 450 control **achieves the highest amplitude even with maximum load** which ensures optimum separation efficiency and high reproducibility.



The electromagnetic drive which lets the sieve stack vibrate **continuously** transfers its energy in a **controlled** way to the sieve plate, following the harmonic sinusoidal oscillation of alternating current.

Conventional electromagnetic drives of analytical sieve shakers use the pulse width modulation technology (PMW). Here, the energy is transferred to the sieve plate by short rectangular impulses. As a result, the energy input is lower and the optimum amplitude cannot be maintained during the complete sieving process. Consequently, neither the separation efficiency nor the reproducibility are very good.

The two modes of drive can be compared with a mill wheel which either operates with only one float (PMW technology – less energy, discontinuous input) or many floats to produce energy (RETSCH CET technology – more energy, continuous input).

Another mode of drive can be found in the sieve shakers with imbalance drives. In contrast to the AS 450 control, the amplitude of this type of sieve shakers cannot be controlled. As a consequence, the energy which is transferred to the sieve plate varies strongly so that the sieving results are not reproducible.

Due to the controlled amplitude, the CET technology of the **AS 450 control** guarantees the **highest separation efficiency** and thus offers **superior reproducibility**. Consequently, **manual re-sieving is no longer necessary**.



## Vibratory Sieve Shaker AS 450 control

### General Information

The analytical sieve shaker AS 450 control is used in research & development, quality control of raw materials, interim and finished products as well as in production monitoring. The controllable electromagnetic drive offers an optimal adaption for every product. Sharp fractions are obtainable even after very short sieving times.

With the sieve shaker AS 450 control RETSCH have designed their first sieve for 400 mm and 450 mm sieves which operates with a three-dimensional sieving motion. It can be used for dry and wet sieving. The optimized electromagnetic drive with RETSCH's CET Technology allows for an amplitude up to 2.2 mm even with maximum loads up to 25 kg. This makes the AS 450 superior to all other known sieve shakers based on conventional electromagnetic or imbalance drives.



### Application Examples

cement clinker, chemicals, coal, coke, construction materials, fillers, minerals, ores, plastics, sand, soils, ...

### Product Advantages

- suitable for dry and wet sieving
- excellent separation efficiency even with short sieving times
- efficient electromagnetic drive
- 3-D throwing motion which ensures optimum use of the open sieve area and lets the sample move equally over the whole sieving surface
- CET Technology for controlled amplitude even with high loads (up to 25 kg)
- up to 13 fractions in one sieving operation
- free digital adjustment of all process parameters (time, amplitude or sieve acceleration, interval)
- memory for up to 9 SOPs
- mobile operation panel for comfortable handling
- optional software EasySieve for control through RS232 serial interface, easy evaluation and documentation of results
- fulfils all criteria for measuring equipment related to ISO 9001
- maintenance-free
- easy operation (clamping), ergonomic design
- **Dry and wet sieving in one model**

## Vibratory Sieve Shaker AS 450 control

### Features

Applications	separation, fractioning, particle size determination
Field of application	chemistry / plastics, construction materials, engineering / electronics, environment / recycling, geology / metallurgy, glass / ceramics
Feed material	powders, bulk materials, suspensions
Measuring range*	25 µm - 125 mm
Sieving motion	throwing motion with angular momentum - 3D movement
Max. batch / feed capacity	25 kg
Max. number of fractions	13 / 9 (min. 3)*
Max. mass of sieve stack	50 kg
Amplitude	digital, 0.2 - > 2.2 mm
Sieve acceleration	1 -> 7.1 g
Time display	digital, 1 - 99 min
Interval operation	10 - 99 s
Storable SOPs	9
Suitable for dry sieving	yes
Suitable for wet sieving	yes
Serial interface	yes
Suitable sieve diameters	400 mm / 450 mm
Max. height of sieve stack	963 mm
Clamping devices	"standard", "comfort", each for wet and dry sieving
Electrical supply data	different voltages
Power connection	1-phase
W x H x D	705 x 440 x 635 mm
Net weight	~ 220 kg
Standards	CE

**Please note:**

\*depending on sieve height and clamping unit

## **Vibratory Sieve Shaker AS 450 control**

### **Videolink**

<http://www.retsch.com/as450control>

### **Function Principle**

RETSCH has patented the Continuous Energy Transfer Technology (CET Technology) on which the drive of the AS 450 control is based. The CET Technology provides a substantially higher energy input than the technology used in conventional sieve shakers. The AS 450 control achieves the highest amplitude even with maximum load which ensures optimum separation efficiency and high reproducibility. The electromagnetic drive which lets the sieve stack vibrate continuously transfers its energy in a controlled way to the sieve plate, following the harmonic sinusoidal oscillation of alternating current. The drive produces a 3D throwing motion that moves the product to be sieved equally over the whole sieving surface. The advantage: high stress capacity, extremely smooth operation and short sieving times with high separation efficiency.

We measure it. **testo**



# Infrared Temperature Measuring Instrument

testo 830



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Laser measurement point marker and large lens for accurate measurement at long distances

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Fast acting at two readings per second

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Adjustable emissivity

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Two selectable thresholds

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Easy to handle pistol-grip design

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Hold function and display of min./max. values

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The testo 830 non-contact infrared thermometer family is used to measure surface temperatures across a wide range of applications from the HVAC, refrigerated warehousing, transport of pharmaceuticals, to food, food service and spot checking of perishable goods. The testo 830 is used in supermarkets to check open shelf refrigerated coolers as well as by car mechanics to check the transmission fluid's temperature to assure the right filling level.

No matter what is the 830's application, testo 830 assures the highest possible recording accuracy of 0.1 °C due to the new processor and redesigned electronic components.

The three instruments in the testo 830 family share the minimum / maximum reading and hold reading functions, and allow selection of the °C or °F units.

To assure the best fit to multitude of non-contact measurement applications Testo offers three versions of testo 830:

830-T1 is an all-around with one laser point and 10:1 lens magnification. 830-2T2 clearly marks the reading area with two laser points and comes with 12:1 lens and has the Type-K port for an external probe. 830-T4 has 30:1 lens allowing to read from longer distances as well as two-point laser to mark the spot reading area. The Type-K connection port as at the bottom of the grip.