



CHEWING GUM TESTER

DRT

**The ERWEKA DRT is the perfect device for testing of in vitro releases of substances from chewing gums and other dosage forms, that have to be masticated, into the surrounding liquid medium. The vertical up and down strokes of the lower jaw in combination with a revolving movement of the upper jaw provide ideal mastication of the chewing gum and at the same time an agitation of the test medium.**

For manual sampling, emptying and cleaning the lower jaw with the test cell can be lowered into a down position, so that the chewing process stops. The test cell, the upper and lower jaw can then be easily removed. A water circulation system controls and regulates the water temperature in the test cell around the media. The chewing gum test apparatus is used to chew gums and analyzes then the speed at which various substances leave the gum (release). In addition, the device is very helpful for developing candy chewing gums, but it can also be used for unusual purposes such as testing of snuff bags.

As the DRT offers a modular design, any number of chewing gums can be tested with the DRT-6 at the same time, with 6 test stations the most commonly used. The cells can be equipped with additional accessories for measuring variables such as the pressure of chewing gums, torque at shear force (twisting motion), pH-value and temperature. All measurements are logged into a data collector and can then be printed out.

## THE THREE STEPS OF TESTING WITH DRT

### APPROACH

**Chewing:** A chewing gum is placed between two nets in the bowl of the lower jaw and the glass vessel is filled with fluid. The chewing gum is then processed (chewed) for approximately half an hour.

**Sampling:** The lower jaw with the test cell is lowered using the lift. In its lowered position the unit is free from the upper jaw, which facilitates manual sampling, emptying and cleaning after analysis.

**Cleaning:** The test cell and the lower and upper jaw can be easily removed and cleaned or can be replaced by clean elements, enabling a large number of test runs each day.



### **Up to 6 Test Stations**

Default configurations at delivery: 1, 2 or 3 test cells, 6 test cells or 3+3 (6) test cells



### **Temperature Controlled Water Bath**

25 to 45° C, with a water bath made of acrylic glass for 6 test cells (25 liter volume).



### **Movement by Pneumatic Cylinder With Compressed Air**

6-8 bar pressure with 20-60 cycles per minute.



### **Mobile Cart**

The DRT is positioned on a mobile cart (two-level cart with rubber wheels, made of aluminium).



### **Easy Cleaning**

Easy cleaning of the water bath and the set-up area



### **HPJ / HPJ+C**

With the HPJ or the HPJ+C option, chewing of the media can be continued after the first chewing test. With the +C option, a desired number of chewing cycles can be selected.

## EASY CLEANING

- | Chewing gum tester DRT with 1 to 6 test stations (DRT-1 to DRT-6)
- | Revolving device for upper jaw:
  - | Pneumatic drive unit, compressed air 6-8 bar (to be supplied by customer)
  - | The angle of the revolving movement can be adjusted between 10–180°

## TEST CELL

- | Double-walled and made of a glass element that allows visual inspection during the test
- | Volume for dissolution medium: 20-70 ml
- | Temperature-controlled by a water circulation system
- | In- and outlet nozzle for the water circulation system; test cell can be easily removed for cleaning and exchanging

## UPPER JAW

- | Rotation according to the revolving device
- | Mounted on a heat-insulated holder
- | Can be easily removed for cleaning and changing (recommended after each test)
- | Distance of upper and lower jaw in closed position adjustable between 0-10 mm
- | Acid-proof stainless steel with blasted surface for a better grip

## LOWER JAW

- | Vertical up and down movements
- | Mounted on a heat-insulated holder
- | Can be easily removed for cleaning and changing (recommended after each test)
- | Distance of upper and lower jaw in closed position adjustable between 0-10 mm
- | Acid-proof stainless steel with blasted surface for a better grip

## GENERAL INFORMATION

- | Device for movements: vertical pneumatic cylinder, compressed air 6-8 bar, compressed air supplied by the customer, Movement frequency adjustable between 20-60 cycles per minute
- | Temperature controlled water bath can be regulated between 25–45° C; one water bath for up to 6 test cells, volume 25 liters, made of PMMA acrylic glass; electronic pump for continuous circulation of the heated water
- | Mobile cart for easy transport of the whole equipment; two-level carrier with rubber wheels, made of aluminium
- | Individual electronic control of each test cell
- | Control of movement frequencies, operation time, temperature and warming up period; no product memory; parallel and serial interface available
- | Feasible methods: Method B according to EP
- | Power 230 VAC, 50/60 Hz, 1000 VA (W)

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**TECHNICAL DATA**

<b>Voltage</b>	230 VAC, 50/60 Hz, 1000 VA (W)
<b>Test stations</b>	1 to 6
<b>Volume for dissolution medium</b>	20-70 ml
<b>Water bath temperature</b>	25-45° C