RYCOLAB catalog

Testing equipment for measuring product characteristics.

Measure

Improve

Service

rycobelgroup

ABOUT RYCOBEL: 3 DIVISIONS

Rycobel is a dynamic and growing company located in Deerlijk, Belgium. Rycobel is made up in 3 divisions:

OUR MISSION: BRINGING COMPETITIVE ADVANTAGE

Rycobel brings competitive advantage by supplying and maintaining equipment to measure and improve product characteristics. To engage a loyality mission, the company strives to close partnerships that offers customers an absolute added value. The goal of Rycobel is to think together with the customer about the business or technical need and propose the adequate solution to bring competitive advantage.

ISO CERTIFICATION

Over the past 40 years Rycobel has built up experience and knowledge in many industrial sectors.
To help reassure clients and deliver the highest levels of service, Rycobel gained the ISO 9001 certification. ISO certification guarantees that the company has fully submitted its quality control procedures.

OUR VALUES: THE HEART OF OUR COMPANY CULTURE

- Integrity
- Experience
- Engagement
- Teamwork
- Helpful

SERVICE TEAM

Our talented team of testing specialists and engineers work together to provide you with the best possible on-going support. Whether you need a:

- Turnkey installation with start-up
- Warranty maintenance & calibration contracts
- Maintenance for the departments 'Measure' and 'Improve'
- Full-service contract
- Calibration for your testing equipment
- Hands-on training on equipment
- Application training
- Telephone support by a product specialist specialist
- IQ, OQ and PQ documentation for equipment

Do not hesitate to contact our service team via service@rycobel.com or +32(0)56 78 21 70.

Management of Rycobel, from left to right: Frederik Castelain, Kurt Rommens, Vincent Rius

Rycobel's headquarter in Deerlijk, situated in Belgium, Europe.

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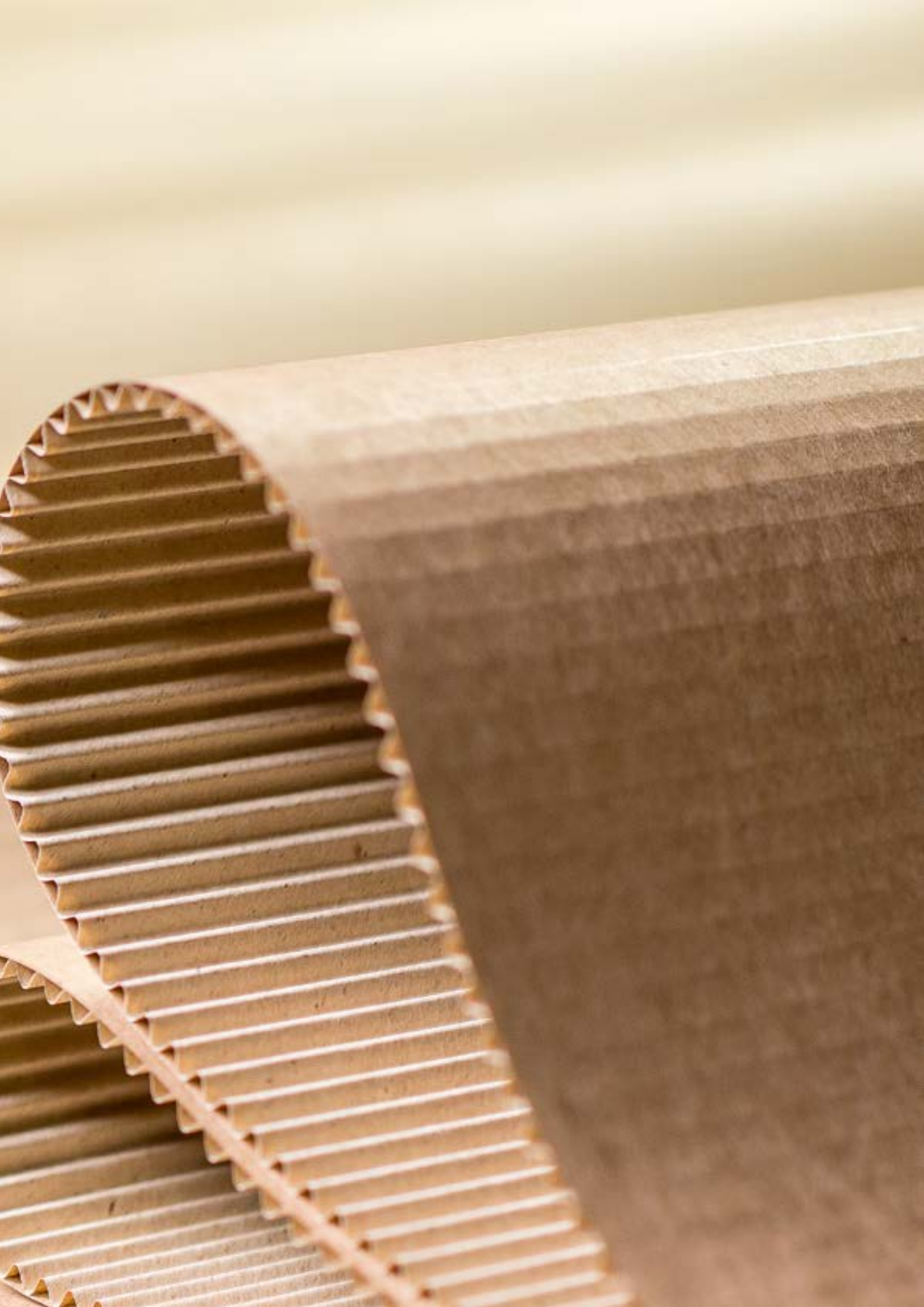
CONTENT



PAPER, TISSUE & CARDBOARD TESTING EQUIPMENT – DRY LAB

Box Compression Tester

Product code RL-BCT-A

RYCOLAB

Usage

For carrying out compression tests on packing boxes.

Applicable standards

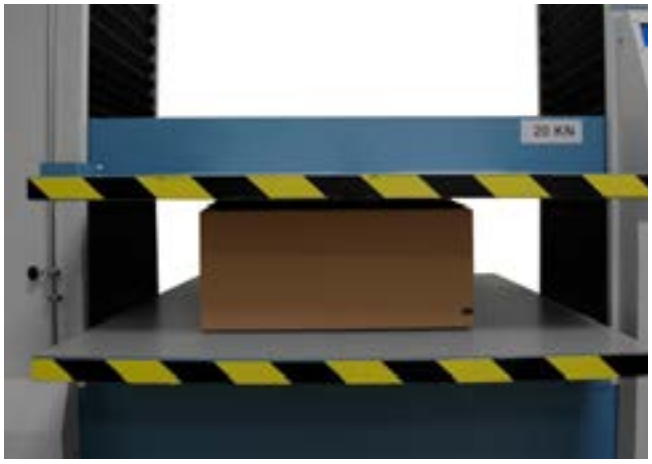
DIN EN 22872, ISO 12048, TAPPI T804, UNE 57163/5, FEFCO Nº50, AFNOR, H13-001

Characteristics

- High rigidity steel frame
- The guiding of the movable plate is made by means of four cylindrical column-guide and low friction linear bearings.
- Two low friction balls spindles
- Force capture system equipped with 3 load cells placed under the lower plate
- Driven by D.C. Servo-motor and reductor to achieve stable speeds in the full scale
- Possibility of two types of upper movable plate: fix and parallel to the inferior plate and movable with omni-directional ball, oscillating plate
- Optical deformation encoder
- Configuration of testing and approaching speeds between 1 and 400 mm/min.
- RS-232 or USB interface for connection to management and control programs
- Force readings with a resolution of 0.004 % of the FS, and extension readings with a resolution of 0.01 mm.
- Accuracy <1% of the applied force in a range between 2% and 100% of the full scale

User Interface

- Machine controlled by means of a touch screen and two auxiliary buttons.
- Through the visualization and control screen, the total control and configuration of the machine can be managed. Easy and intuitive operation of the control menu, configurable in different languages.
- Pre-programmed test methods
- Possibility of selecting and defining multiple test results. Two result tables with a maximum of 10 result types and 20 test results per table.



Platens with sample box

Touch screen controlled operation and display of results, stats and graphs.

Video

- Possibility of display the test results in graphic way.
- Statistical control. Mean value, standard deviation and maximum and minimum values.
- Different configurable units for the force, extension and speed parameters.
- Test maneuver with automatic return to initial position at maximum speed (400 mm/min).
- Setting of different breaking and preload levels.
- Automatic .pdf generator

Test description

The corrugated box or packaging to be tested must be placed centered in the lower plate of the compression tester. When the test begins, the upper plate will displace downward and a load will begin to be applied to the specimen. This force is captured by means of the three load cells located under the lower plate. When the system detects the sample breaking, the upper plate returns to the initial position at maximum speed.

Software control (optional)

The machine, through its RS-232 or USB connection, allows the total control and management of the test by means of the RYCOLAB software. It will be possible to preset tests, save test results, graphical curves, carry out test reports, etc.

Models

The Box Compression Tester BCT can be manufactured with different plates sizes and force ranges. Consult your provider about special dimensions.

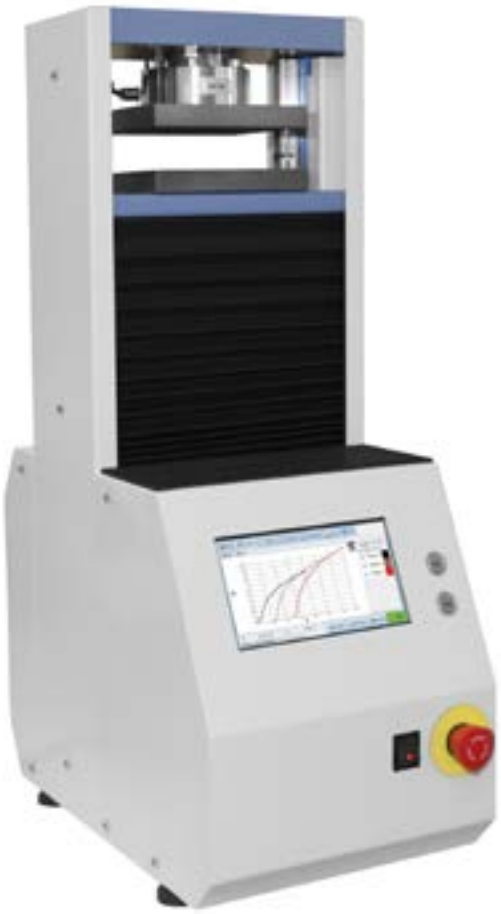
Connections

Electricity: 110 - 220V, 50-60Hz

Crush Tester

Product code RL-CT-A

RYCOLAB



Usage

For measuring the compressive strength of board and corrugated board.

Applicable standards

ISO 3035, ISO 3037, TAPPI, T808, T809, T811, T818, T821, T825, T839, FEFCO Nº 6-8 & 11, AFNOR 23035, etc.

Device description

This device is delivered with a built-in touch screen and controlled by an industrial computer. All parts are built into a sturdy frame. Measuring range up to 5000N with an accuracy of ±1% of the displayed value. Automatic test cycle with break detection and after break automatic return to starting position. Easy to select test on the display.

Test description

The sample to be tested is placed on the crush platens. By pushing the start button on the touch screen (or the separate start-button) the lower plate is moved with the selected speed (normally 12.5 mm/min) up to the higher platen. The sample between the platens is crashed, the necessary force for this test is registered and the curve is displayed on the screen. After break detection the plate goes back to the start position.

Specifications

- Possibility to carry out different type of tests on paper and corrugated board.
- By means of exchanging the sample holder accessory, it is possible to make RCT, CMT, ECT, CCT, FCT and PAT tests. Sample holders not included.
- High rigidity steel and aluminum frame.
- Driven by servo motor and high accuracy ball screw.
- Adjustable feet for the equipment leveling.
- Measuring range from 0 to 5.000 N.
- Maximum travel: 140 mm. Consult your provider about other extensions.
- Compression Plates dimensions: 150x150 mm.
- Testing and approaching speeds between 1 and 150 mm/min.

- RS-232 interface for connection to management and control programs.
- USB connection for maintenance works and for connection with USB printer.
- Force readings with a resolution of 0.004 % of the FS, and extension readings with a resolution of 0.01 mm.
- Accuracy <1% of the applied force in a range between 2% and 100% of the FS.

Delivery content

- Instrument
- PC-connection cable
- Operating manual

Dimensions

	Net	Gross
Width [mm]	360	600
Depth [mm]	500	700
Height [mm]	650	850
Weight [kg]	45	70

Connections

Electricity: 110-230V, 50-60Hz AC

Video

Crush Tester Accessoires

Product code RL-CT-1

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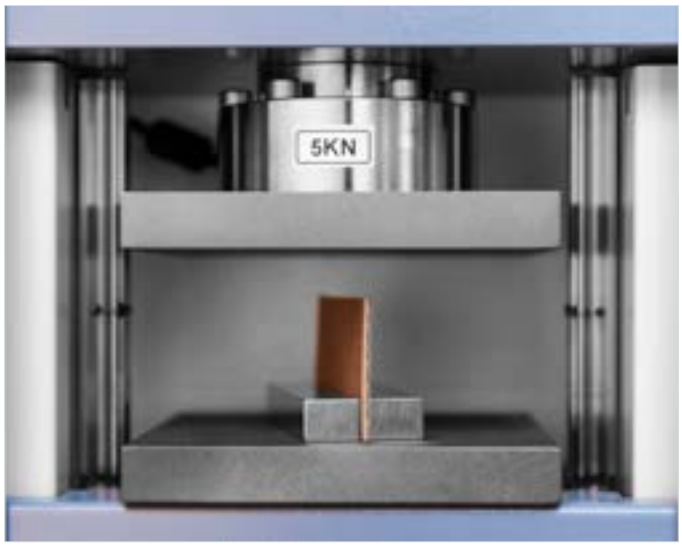
Holders Usage

For measuring different purposes with the crush tester sample holder for various crush tests.

Applicable standards:

- ECT Holder
- RCT Holder
- CCT Holder
- PAT Holder



Edge Crush Test (ECT)

Concora Crush Test (CCT)

Ring Crush Test (RCT)

Pin Adhesive Test (PAT)

Cobb sizing tester

Product code RL-COBB

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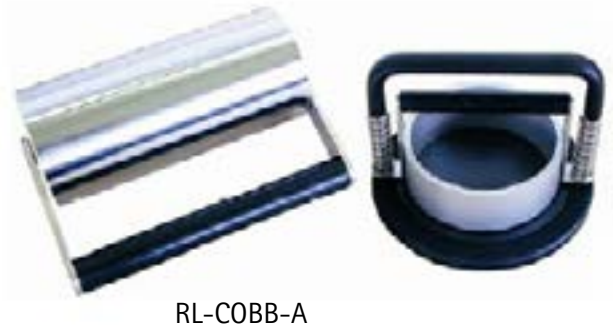
RL-COBB-B



RL-COBB-A

Usage

For determing the water absorbance of paper or board

Device Description

- Quick clamping of the sample
- 100 cm² area of paper
- Stainless steel hand roll 10 kg
- Soft rubber seal, all stainless materials

Test Description

The Cobb method application requires:

1. Apparatus built with rigid cylinder, lower section is 100 +/- 0.2 cm², weight about 5 cm with automatic clamping.
2. Reference NVR: roller in polish metal, 200 mm length, with 90 mm diameter +/- 10 mm and weight is 10 kg +/- 0.5 kg.
3. Reference NVB: blotting paper with basis weight equal at 250 g/m² +/- 25 g/m². Applicable standard ISO 5269-1
4. Basis weight with accuracy at 1 mg
5. Chronometer to read time in second until 30 minutes

Standards

ISO535 SCANP12, DIN53132, TAPPI T441, EN20535, BSEN20535 & PAPTACF.2

Weight and dimensions

Only equipment:
200 x 300 x 180 mm (WxDxH) / 13 kg
With packaging box:
300 x 400 x 200 mm (WxDxH) / 15 kg

Concora Medium Fluter

Product code RL-CMF-A

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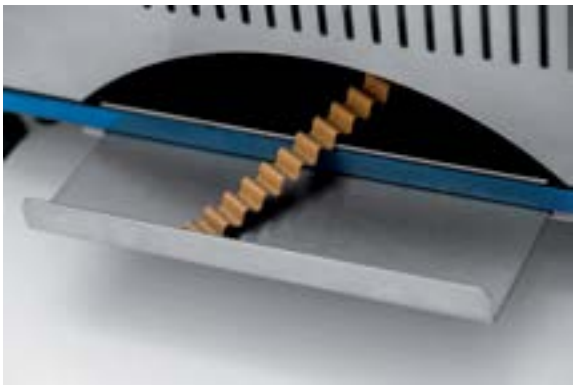


Usage

For the preparation of corrugates samples for CMT and CCT tests

Applicable standards

ISO 7263, DIN-EN ISO 7263, TAPPI T809, SCAN P27, PAPTAC D29, etc.

Characteristics

- Energy optimized due to its excellent design. Power consumption only 200w instead of the approximately 2.000w that consumed by the horizontal machines
- Heating system. Directly heated rifle plates. The heating is built into the riffle segments. Therefore heat transmission is very efficient and uniform. The instrument takes approximately 15 minutes until the working temperature of 175°C is reached. The temperature can be set accurately to 1°C.
- Test samples are introduced from above.
- Standard delivery with a fixed set of "A" riffle segments. It can be optionally ordered with one or more exchangeable sets of riffle segments. Flute A, B and C are available (others on request).
- Changing the riffle plates is very easy and only takes about 2 minutes.
- Distance between teeth: 8.5 ± 0.05 mm.
- Height of teeth: 4.75 ± 0.05 mm.
- Contact pressure of the riffle segments: 100 ± 10 N.
- Rotational speed of riffle segments: 4.5 ± 1 rpm.
- "Third Hand" for correct application of adhesive tape is included in delivery (10 flutes of approx.19mm length and 3 ± 0.1 mm height).
- The instrument is optionally available with a double sample inlet for samples of 12.7 mm and samples of 15 mm (according to GOST standard). Consult your provider.

Test description

A sample of 6 x ½" (152 x 12.7 mm) is prepared by means of a sample punch. It is inserted into the sample inlet at the top of the instrument. When the start button is pressed, it is introduced and molded by the heated riffle plates. The sample is then ejected from below and can be taken out. The riffle plates return to their initial position. It is important that the sample has the correct width of 12.7 mm.

Dimensions

	Net	Gross
Width [mm]	480	580
Depth [mm]	200	380
Height [mm]	360	380
Weight [kg]	20	30

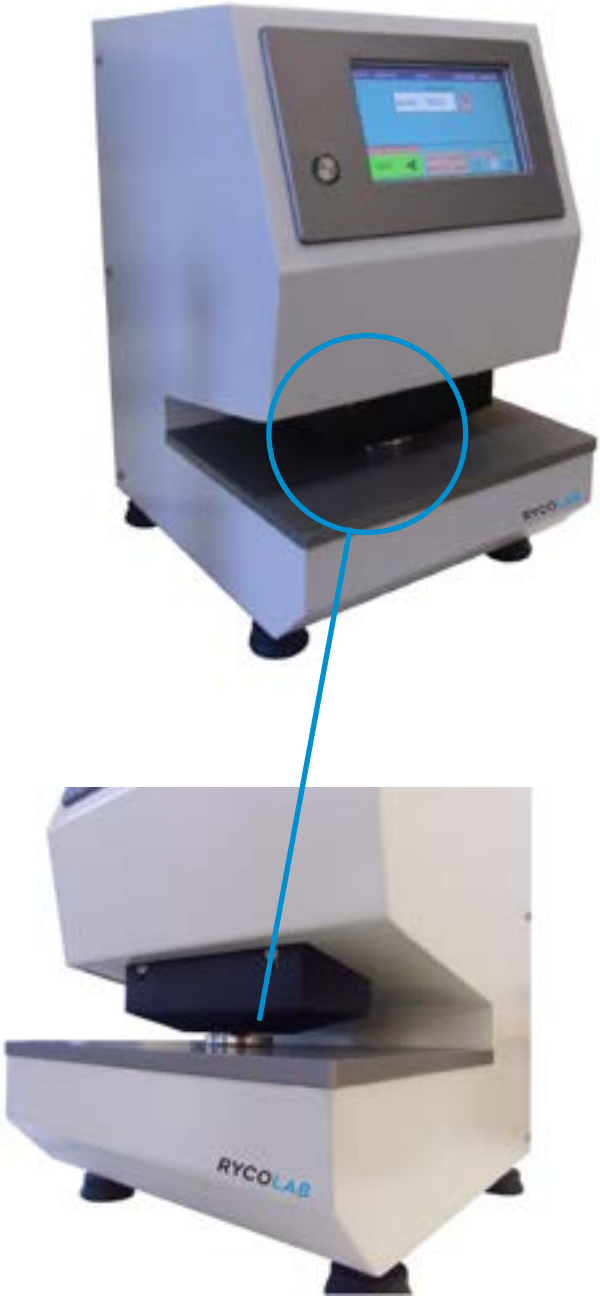
Connections

Electricity: 110-220 V, 50-60 Hz

Bekk Smoothness tester

Product code RL-BST-A

RYCOLAB



Usage

For measuring the smoothness of the papers according to Bekk method.

Applicable standards

ISO 5627, Tappi T479, DIN 53107

Characteristics

- Fully automated measuring cycle, sample is not influenced manually.
- Adjustable feet for the equipment leveling.
- Big Color Touch Screen.
- Full Statistics, with graphs, average, deviation, min and max value, etc.
- 3 volume selectable (380, 38 and 19 ml)
- Built in weight of 10 kg.
- Selectable measuring ranges:
  -50.7 to -48.0 kPa & 50.7-29.3 kPa
- Measuring area of 10 cm^2.
- Photocell for automatic test when positioning the sample, or manual test.
- RS-232 interface for connection to management and control programs.
- USB connection for maintenance works and for connection with USB printer.

Test description

The sample is placed below the measuring head. On pushing the start button, the 10 kg weight lowers onto the sample and helps to hold it tight to the glass plate. The built-in vacuum pump evacuates the selected tank to a vacuum of -50.7 kPa. Dependent on the surface roughness of the sample, atmospheric air is drawn in between the glass plate and the sample. The time taken for the vacuum to reach -48.0 kPa (res. 29.3 kPa) is displayed in BEKK seconds. Ten seconds after the test has started a preview is displayed to give an estimation of the result in advance.

Specifications

- Selectable measuring ranges: 50.7-48.0 kPa and 50.7-29.3 kPa
- Measuring area: 10 cm^2
- Selectable volumes: 380 ml (1:1), 38 ml (1:10), 19 ml (1:20)
- Measuring accuracy: 0.01 sec
- Preview calculation already after 10 sec
- Measuring mode: Underside
- Easy handling due to touchscreen
- Parallel printer connection
- Serial data interface RS 232

Connections

Electricity: 110-230 V, 50-60 Hz AC
Air: 400-600 kPa

Dimensions

Dimensions: 27 x 68 x 60 cm (W x D x H)
Net weight: 23 kg
Gross weight: 38 kg

Video

Bendtsen Roughness and Air Permeability Tester

Product code RL-BRAPT-A

RYCOLAB

Usage

For measuring the roughness and the air permeability according to the Bendtsen method, Gurley porosity is calculated from the measured values.

Applicable standards

ISO 5636-3, ISO 8791-2, TAPPI UM 535, SCAN P21, SCAN P60

Characteristics

This device comes with a built in touch-screen and an industrial computer. All the parts are built into a sturdy aluminum frame. The device is equipped with up to 2 measuring heads for top and bottom roughness measurements as well as for air permeability. Flow rate range is 25 – 5000 ml/min. Other flow rates ranges upon request.

Test description

The sample to be tested is placed in the measuring area. By pushing the start button on the touch screen the measurement cylinders lower onto the sample. The measuring head is set free and actuated by gravity on the sample. A pressure difference is generated between the inner measuring head and the environment. The device detects the air that's flowing out between the blade of the measuring head and the sample. As soon as the flow is stable the device shows the values in ml/sec on the display. The air permeability head lowers on the surface of the sample as well and locks the measuring area towards the outer air. An air stream through the paper is established and as soon as the flow rate is stable the device shows the values in ml/min and in Gurley seconds (calculated) on the display.

Specifications

- Fully automatised measuring cycle
- Flow rate of 5-1000ml; other or extended flow rates upon request
- Up to two measuring heads: roughness top and air permeability
- Test pressure selectable according to standard: 0,74 kPa, 1,47 kPa, 2,20 kPa

Testing heads for air permeability and for roughness with photo detection cell

Touch screen with multilingual display option

- Statistic with graphs, max, min, mean, standard deviation
- Photocell detection of the sample, automatic start of the measurement
- RS232 and USB port, Windows based software
- Holder for automatic alignment of the sample made from acrylic glass
- Automatic compensation of atmospheric pressure
- Paper thickness range from 60 g/m² up to 200 g/m² and from 40 µm to 200 µm thickness
- Testing heads for air permeability and for roughness with photo detection cell
- Display of the values (Instrument with 2 heads) and calculation of the Gurley values in seconds

Dimensions

	Net	Gross
Width [mm]	270	450
Depth [mm]	680	800
Height [mm]	600	800
Weight [kg]	28	43

Connections

Electricity: 110-230 V, 50-60 Hz AC
Air: 600 kPa

Video

Internal Bond Tester

Product code RL-IBT-A

RYCOLAB

Video

Usage

For the determination of internal bonding force of paper.

Applicable standards

TAPPI T 569, TAPPI T 833, ISO 16260/2016

Device description

This device comes with a built-in digital display and is microprocessor controlled. The standard configuration is delivered with a medium range pendulum. All the parts are built into a sturdy steel frame. A pendulum mechanism pulls the pendulum back to starting position if the test is carried out. Push down sample holder for quick changing of the base plate with the sample and the aluminum angle.

Test description

The sample that needs testing is placed in the measuring area. By pushing the start button the pendulum is released and hits the aluminum angle, glued on the sample with double adhesive tape. The sample is pushed away and the needed energy is measured and displayed in J/m².

Specifications

- Digital display, microprocessor controlled
- Automatic pendulum return to starting position
- Easy inserting of the sample base with quick changing mechanism
- Delaminating angle of the pendulum to the surface of the sample: 90°
- Easy insertion of the sample base with quick changing mechanism
- 5 support base and 5 aluminum angles as standard delivery
- Display of values selectable in J/m², kg/cm, ft.lb/in²
- RS232 Port

Connections

Electricity: 110-230 V, 50-60 Hz AC
Air: 600 kPa

Automatic sample preparation (left).
Manual sample preparation (right).

Models

Article code	Device
RL-IBT-A4	Device with manual sample preparation station
RL-IBT-A2	Device with automatic sample preparation station

Delivery content

- Instrument with sample preparation station
- 5 base plates
- 5 aluminum angles
- 1 double adhesive tape
- Standard delivery with medium range pendulum (1.050 J/m²). More optional pendulums: see below
- Connection cable
- User manual

Optional

- Low weight pendulum with range of 525 J/m²
- High range pendulum with 2.100 J/m²
- Double adhesive tapes
- Set aluminum angles (set = 5 pcs)
- Set base plates (set = 5 pcs)

Dimensions

	Net	Gross
Instrument		
Width [mm]	600	750
Depth [mm]	300	450
Height [mm]	550	700
Weight [kg]	20	32
Sample Preparation station		
Width [mm]	380	500
Depth [mm]	400	500
Height [mm]	350	550
Weight [kg]	30	45

Bending Resistance Tester

Product code RL-BRT-A

RYCOLAB

For the determination of bending resistance and stiffness of paper and paperboard

Applicable standards

ISO 2493, SCAN P29, DIN 53121, BS 3748, TAPPI T556, NFQ 03- 048, IS 3748

Test description

Bending resistance in paper and board is a complex property depending upon the network characteristics of the sheets as well as the fundamental fibre properties to which it relates. It varies with the type of paper, the fibres used, the making process and the bulk and grammage of finished sheet. The two main criteria which govern stiffness are fibre dimensions and bulk. Rigidity has been found to be linearly proportional to the square root of thickness for a given grammage. Since the bulk density of a sheet is closely related to the degree of bonding and fibre strength, a change in any of the fundamental fibre properties will affect bending resistance.

After configuring test conditions, the test can start immediately. By pressing the "Start", button the sample is moved automatically. The sample-holder now moves to the preselected angle-position and the curve with the determined values are indicated on the large touch screen The test will be started automatically as soon the load-cell is touching the sample (pre-load selectable).

With the holding function, a holding time can be selected and then a second measurement can be taken. The holding times is very useful for testing label-paper, when the bending-resistance on wet samples should be tested. After the test has been done the sample holder returns to its starting position and the sample can be taken out. By means of the statistic function, the statistic values can be read (maximum, minimum, average, standard, deviation, ratio MC/CD,..) on the graphic display.

Characteristics

- Universal equipment for paper applications. Measurement of paper and paperboard.
- Manual sample clamping or Pneumatic sample Clamping. Must be spicified in the order.
- Large graphic touch screen.
- Clear acrylic security cover.
- Verification kit included (Weight + Support).
- Sample template 38x80 mm included.
- Bending resistance, bending resistance index results.
- Fatigue. Strength of split, Split recovery.
- Creaseability Test : BS, Slop, B. Moment, etc.
- Taber Measurement Units.
- Test length from 0,1 to 50 mm.
- Test speed from 0,1 to 50º/s.
- Pre-settable bending angle (0.1 to 90 degrees).
- 2 times of test and 2 points of measurement angles.
- Load cell 10N- Range 0 -10000mN- Accruracy ±2% (up to 100 mN) and ±5% rest of range.

User interface:

- Machine controlled by means of a touch screen and an auxiliary Test button.
- Through the visualization and control screen, the total control and configuration of the machine can be managed. Easy and intuitive operation of the control menu, configurable in different languages.
- 2 result tables with a maximum of 20 test results. One table for MD results and other for CD results.
- Possibility of display the test results in graphic way.
- Statistical control. Mean value, standard deviation and maximum and minimum values.
- Different configurable units.
- Periodical programme updatings (without additional cost).

Measurement values

- Bending stiffness.
- Slop.
- Max bending moment.
- Bending moment at 90o.
- Bending moment on relaxation.
- Angle at max bending moment.
- Angle at zero-moment on return movement.
- Bending work (area under the curve).

Connections:

- Electric: 110V-230V, 50-60Hz (40W)
- Air supply: Max 6 Bar (Pneumatic model).

Weight and dimensions

270 x 500 x 270mm (WxLxH)
15 kg

Twin Folding Tester

Product code RL-TFT-A

RYCOLAB

Connections

Electricity: 110–230 V, 50/60 Hz AC
Data Transfer: RS 232

Usage

Determines the folding resistance of paper, according to the Schopper principle.

Applicable standards

ISO 5626, TAPPI T523, NF Q03-062, NFISO 5626

Device description

The device measures the number of folds until the sample breaks. The test requires two samples to be tested simultaneously. It is equipped with a touch screen displaying the temperature, the number of folds and statistical values. The heads are equipped with temperature sensors to convey the temperature inside the heads.

Test description

Two samples are clamped in the folding heads for a simultaneous test. The spring loaded sample supports are pulled apart, so that the samples are clamped at the specified force. After pushing the start button, the folding knives begin to guide the sample around the sapphire supported folding rolls. That way the samples are folded on both sides at a radius of 0.25 mm. If one sample breaks, the folding process of the second sample continues until it also breaks. The movement of the folding heads stop after test termination, so that the samples can be removed. The device records the number of folds until the sample breaks and displays them on the touch screen.

Specifications

- Paper thickness up to 0.25 mm
- Easy to use due to touch screen
- Statistic functions
- Display of each head temperature and the ambient temperature.
- Spring force: min. 7.55 N/max. 9.81 N
- Testing length: 90 mm
- Sample length: 100 mm
- Sample width: 15 mm
- Speed: 115 ±10 strokes/min
- Stroke: 20 mm
- RS 232 interface for result transfer

Short Span Compression Tester

Product code RL-SSC-A

RYCOLAB

Specifications

- Pneumatic clamping of the sample
- Test speed adjustable
- Ratio calculation between MD and CD samples
- Range: 1 – 500N equal to 0,06 - 3,3 kN/m
- Sample width: 15 mm
- Short Span value (SSV) in kN/m
- SCT curve, SCT value and SCT index
- Span of clamps: 0,7 mm
- Clamping pressure: 2300 +/- 50 N (adjustable)

Video

Usage

For measuring the compression strength on paper or board samples

Applicable standards

ISO 9895, TAPPI T 826, SCAN P46, DIN 54518, Appita/AS 1301.450

Device description

The Short Span Compression tester is used for paper or board stripes with 15 mm width. The jaws clamps the stripe with definite force and then the clamps move from 0,7 mm towards the middle till a break is detected. On the touch screen display the curve is displayed and the value is shown.

Test description

The sample is put into the open clamps. By pressing the start-button the clamps close and move together with a speed of 3 +/- 0,1 mm/ min. The curve is displayed and as soon the break is detected, the value is shown on the touch screen. After several tests the statistic values and the ratio between MD and CD are displayed. Optionally a sample feeder can be delivered, which moves the sample stripe for the next test sequence. The sample feeder moves the sample approx. 3 cm and allows several tests on one stripe.

Results

- SSV (Short Span Value) in kN/m
- Fmax (Maximum force) in N
- CI (Compression Index) in Nm/g

Dimensions

	Net	Gross
Width [mm]	450	600
Depth [mm]	520	650
Height [mm]	360	500
Weight [kg]	22	35

Connections

- Electricity: 110-230 V, 50-60 Hz AC
- Air: 600 kPa

Horizontal Tensile Machine

Product code RL-HTM-A

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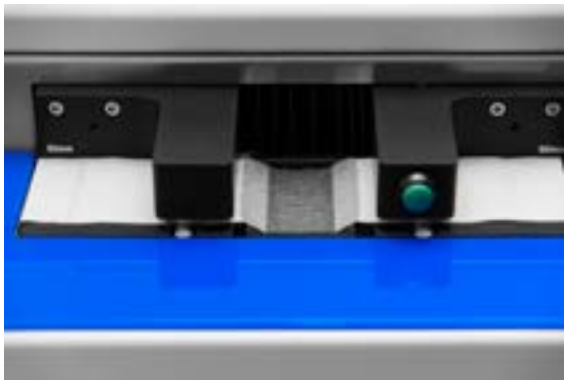
Tensile tester with integrated wet basket for tissue samples



Water bath for wet tensile measurements. Measurements for up to 50 mm wide stripes possible. The tensile test ranges from 50 mm to 180 mm distance between the clamps.

Video

Usage

For the determination of tensile resistance in dry or wet state, elongation and tensile energy absorption (TEA) in paper or tissue.

Applicable standards

ISO 1924-2, UNE-EN ISO12625-4/5, TAPPI T456, T494, PAPTAC D34, BS4415/2, etc.

Device description

This device is delivered with a built-in touch screen and controlled by an industrial computer. All parts are built into a sturdy frame. Measuring range up to 1000N with an accuracy of ±1% of the displayed value. Automatic test cycle with break detection and after break automatic return to starting position. Easy to select test on the display.

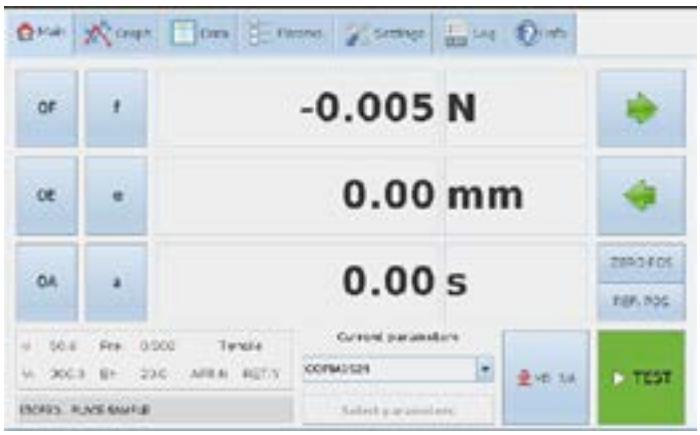
Test description

The user chooses the test to be performed on the touch screen. The clamps automatically drive into position. Now the sample support is placed into the space between the clamps and the sample is placed. The sample is automatically detected and the clamps close. According the test the sample is either watered for the pre-set time, pulled out of the water and stretched till it breaks or it is directly stretched. The figures, curves, statistics with max, min, mean as well as the standard deviation are shown on the touch screen and can be printed. The clamps automatically open and return into start position after testing.

The software comes with the pre-installed tests as they are described in the standards. Company specific tests can be set as well. All the parameters like testing speed, testing length, breaking- and pre-load levels can be adjusted individually. The software can be set into different languages.

Specifications

- Easy to operate due to touchscreen controls
- Automatic sample detection and automatic return into initial position
- Test speed adjustable between 0.2 and 330 mm/sec
- Multiple safety installations (limit switch, photocell barrier, emergency switch)



Figures: With the device it is possible to preset tests, configure the test parameters, save test results, graphical curves, generate test reports, etc.

- RS 232 and USB interface
- Water or standard tensile tests
- Regular software updates
- Accuracy: < 1% of the applied force (between 2% and 100% of the FS)
- Resolution: Force: 0.0004% of the FS, Travel: ± 0.01mm

Load cell and options

- Load Cells: 150.00 or 1000 N
- Calibration kit
- Display (service menu) and some graphs on another menu
- Water bath for wet tensile measurements. 50 mm wide stripes can be measured. 50 mm up to 180 mm distance between the clamps selectable
- Clamps can be used for 15 mm, 25 mm or 50 mm wide samples

Connections

Electricity: 230 V, 50 Hz AC
Air: 600 kPa

Burst Tester Paper & Cardboard

Product code RL-BT-A

RYCOLAB

Usage

For measuring the bursting strength op paper according to the MULLEN method.

Applicable standards

ISO 2758, ISO 2759, TAPPI T403, T807, T810, BS3137, FEFCO 4, SCAN P25/P24, etc.

Device description

This device is delivered with a built in touch-screen and is controlled by an industrial computer. All parts are built into a sturdy aluminum frame. The device is equipped with 1 measuring head for bottom measurement of the bursting strength. Measuring range up to 5000 kPa with an accuracy of +/-1% of the displayed value. Clamping force for the sample holder is adjustable between 1000 N and 7500 N. Maximum sample height is 12 mm. Display of burst value as also BEA (Burst Energy Absorption). Automatic test cycle with break detection and after break automatic return to starting position.

Test description

The sample to be tested is placed in the measuring area. By pushing the start button on the touch screen first the acrylic glass protection cover and then the clamping bell lowers and fixes the sample. Glycerin under the membrane is compressed and the membrane is pressed against the sample. When the sample breaks, the hydraulic cylinder stops and returns to starting position. The protection cover and the clamping are opened automatically. The maximum pressure is shown on the display as breaking force. The next sample can be tested.

Specifications

- Top-quality materials and manufacturing
- Flow rate of glycerin acc. ISO 275895 +/- 5 ml
- Pneumatic clamping force adjustable between 1000 N and 7500 N
- Safety covers lowers before the clamping bell can lower

Touch screen display

Burst measuring head

- Measuring range up to 5000kPa with accuracy of +/- 1% of the displayed value
- Touch screen operation and display of breaking force, values, graphs, statistic values
- Top and bottom values can be stored separately in the memory, ratio can be calculated
- RS232/USB port for data transfer
- Windows based software
- USB printer output
- Different languages are selectable (English, French, Spain, Russian,..etc)
- Setting of different breaking levels (as example: 20%, 15% or 10% of the max. force)
- Graph of Force / Time can be shown on the display
- Easy to use touch screen display

Dimensions

	Net	Gross
Width [mm]	360	840
Depth [mm]	600	600
Height [mm]	530	790
Weight [kg]	70	120

Connections

Electricity: 110-230 V, 50-60 Hz AC
Air: 600 kPa

Video

Puncture Tester

Product code RL-PT-A

RYCOLAB

Connections:

- Electric: 220/110 V, 50/60 Hz

Weight and dimensions

1050 x 500 x 1220mm (W x L x H) - 250 kg
1380 x 810 x 1400mm (W x L x H) - 350 kg

For measuring the required energy to puncture corrugated board and cardboard.

Applicable standards

ISO 3036, TAPPI T803, DIN 53 142, FEFCO N°5, SCAN P23, ASTM D781

Test description

The test consists of puncturing a board sample with a triangular pyramid-shaped puncture head, which is fixed to a pendulum. The required energy for the puncture head to cross the sample completely is measured. This means, to do the initial puncture, tear and open the board.

Characteristics

- High rigidity steel frame, designed to avoid energy losses due to vibrations during the test.
- Pendulum with arm in circular arc shape (90°).
- Puncture head in triangular pyramid shape (under specifcations of international standards).
- Collar with soft adjustment to the puncture head basis.
- Exchangeable load weights : A, B, C and D to select the work range.
- Pendulum releasing mechanism with security system.
- Security protection covers.
- Sample fixing clamps with regulable holding pressure.
- Microprocessor controlled.
- Control panel with 4 buttons and an alphanumerical display of liquid crystal glass.
- Easy and intuitive operation of the control menu.
- Statistical control. Mean value, standard deviation.
- RS-232 connection.
- 4 work ranges (Joules) :
  - » - 0 – 6 J with resolution of 0,025 J.
  - » - 0 – 12 J with resolution of 0,050 J.
  - » - 0 – 24 J with resolution of 0,100 J.
  - » - 0 – 48 J with resolution of 0,200 J.
- Software control (optional)

Wet Shear Test

Product code RL-WST-A

RYCOLAB

The WET SHEAR automatic equipment is a variation of the Tappi T842 Standard, which allows to obtain the time of shear (in seconds) of the glue in a sample of corrugated board submerged in water with a certain constant load applied (Wet Shear Adhesion Test). A weight of 1 or 2 kilos is applied depending on the strength of the cardboard. It is a test extremely important in boxes for fruits specially in banana boxes were the humidity and low temperature are very demanding, similar to the ice cream and fish boxes that are going to be in high frozen ambient.

Specifications

- Used to test the shear strength of corrugated cardboard.
- Corrugated paper is submerged in water.
- Device accurately measures failure time with a predefined weight applied.
- Digital counter with touch screen.
- Easy to use.

Ink Rub Tester (Sutherland® method)

Product code RL-RUB-A

RYCOLAB

Video

To determine the ink abrasion resistance and dirtiness characteristics on different supports (paper, cardboard, ceramic, etc.).

Applicable standards

ASTM D 5264 -98, TAPPI T830

General description

The test consists in rubbing a sample against a defined weight (2 lb or 4 lb) at different speeds. After ending the test, the results will be visually observed.

The equipment presents four different speeds :

- 21 cycles/minute. Half the speed of the old Ink Rub Testers. This speed facilitates the wet tests and tests under 5 cycles.
- 42 cycles/minute and 85 cycles/minute. Same speeds as in the old Ink Rub Testers.
- 106 cycles/minute. Fast speed.

This new speed characteristics allow users to adequate the test process to their own products.
The highest speed will reduce test times, necessary for some substrate types (plastics, UV varnishes, printed films, etc.).

The equipment incorporates a touch panel, from which the test speed and cycles are controlled.

Optionally, the equipment can be supplied with heating weights (2 lb and 4 lb) with a work temperature up to 200 °C. This option is useful when needed a faster test process (for high resistance inks and varnishes).

Test process:

The test process is simple. Just introduce the desired number of cycles for the test and the equipment will end the test automatically after reaching the programmed cycles.
The touch panel will display the speed and cycles values, the weight used in the test and the temperature conditions (in case using heating weights).

Weight and dimensions

290 x 200 x 313 mm (AxFxA), 13 Kg

Spectrophotometer

Product code RL-SPM-A

RYCOLAB

Usage

Equipment to measure the ISO brightness, colour, fluorescence and opacity in paper. Calibration Standards included. Touch Screen with special program for the paper industry.

Applicable standards

IISO 2469, 2470, 2471, 3688, 5631, 9416, 11475, 11476, 12625-7, 12625-15 / TAPPI T519, T525, T527 / DIN 53145bis, 53147, 54500

Device description

The Spectrophotometer is a modern, easy to use and feature rich Color-QC application for paper and packaging industries and automotive supply chain members. It enables customers to analyze, report, communicate and visualize accurate color QC results. It incorporates the indices, tolerance methods, graphs and sight sources D65, C, UV ex. The device either comes with a built in touch screen or can be connected to a PC. The software supports Windows 7 and Windows 8.

Control and calibration of device

The device is easy to control due to its touch screen and the Windows similar use of the program. The dates can be saved into files directly on the computer on in the network. A printer can be connected to the USB port of the device where direct printout is possible. The light source is filtered according D65, C and UV ex level.

Specifications

- Measurements: Color, Color difference, Absolute and Delta values, E for CIE XYZ, xyz, L*, a*, b*, C*,h*, u* v*, CIE, Opacity, Fluorescence, etc...
- Illumination/viewing system: Reflectance: 0° (diffuse illumination, 0° viewing)
- Light-Receiving element: Silicone photodiode array (dual 40 elements)
- Spectral separation device: Diffraction grating
- Wavelength range: 360 – 740 nm
- Wavelength pitch: 10 nm
- Reflectance range: 0 – 200%, resolution: 0.01%
- Light source: 3 x pulsed xenon lamps
- Measurement time: 1.5 seconds for measurements of fluorescent colors, 9600 bps
- Measurement area: Ø 30 mm
- Illumination area: Ø 34 mm

Billerud type pneumatic sample cutter for ECT

Product code RL-ECT-A

RYCOLAB

Preparation of corrugated board samples for ECT test.

Applicable standards

ISO 3037, TAPPI T838, T839, etc.

Characteristics

- Pneumatic Cutting that guarantees clean and parallel cuts.
- Digital cuts counter for planning blades substitutions.
- Cutting system with two parallel blades (blades with one edge, to obtain samples without lateral deformations).
- Automatic sample rejection.
- Easy operation equipment.
- Special sample inlet that facilitates the introduction of the sample to be tested.
- Methacrylate protection cover.
- 2 models available : Samples of 25 mm (CB-25) or 2 inches (CB-2i).
- Maximum sample thickness : 15 mm.

Connections:

- Air supply: Max 600 kPa

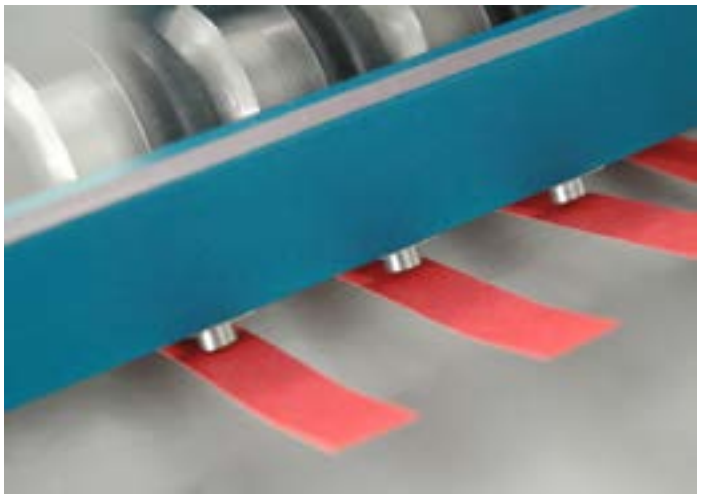
Weight and dimensions

610 x 250 x 140mm (W x L x H) / 10 kg (only equipment)
720 x 520 x 320mm (W x L x H) / 20 kg (with packing box)

Multicutter

Product code RL-MC-A

RYCOLAB



Usage

For the preparation of several samples simultaneously.

Device description

This apparatus allows to cut several strips simultaneously (edges being parallel). The precision is lower than 0.1 mm and the length depends on the sample. The samples are cut out by small wheels. There is no risk of fingers cutting.

Models

Exist in various dimensions
Variable length

X= Number of strips
Y= Width of strips

Y	X	
1/2	1 to 5	12.7 mm width
15	1 to 5	15 mm width
25	1 to 5	25 mm width
01	1 to 5	25.4 mm width
30	1 to 5	30 mm width
50	1 to 4	50 mm width
100	1 to 2	100 mm width

Video

Strip Punch Cutter

Product code RL-SPC-A

RYCOLAB

Usage

For cutting strips according to the »punch and die« principle.

Applicable standards

ISO 7263, DIN-EN ISO 7263, TAPPI T809, SCAN P27, PAPTAC D29, etc.

Description

Sturdy punch fully made from metal with feeder table and hand lever for easy operation. The punch and die cutting unit consists of an upper and lower blade and guarantees accurate sample strips. The sample material is placed on the feeder table and supported by the feeder edges placed under the punching unit. By pushing the hand lever down the sample is clamped automatically and a safety guard covers the punching unit. The samples strips fall through the lower part of the punching unit and are collected on a metal plate.

Dimensions

	Net	Gross
Width [mm]	600	800
Depth [mm]	500	600
Height [mm]	450	500
Weight [kg]	45	80

Tissue Absorption Tester A

Product code RL-TAT-A

RYCOLAB

Usage

Defines the absorbency of tissues.

Applicable standards

DIN EN ISO 12625-8

Device description

Automatic equipment to measure the absorption capacity and immersion time in tissue paper. Consists in an arm where a 3 grams net is placed with the paper to be tested. The start button is pressed and the equipment releases the sample on the water tank. The equipment indicates the needed time for the sample to be immerse, and after 30 seconds immersed, it de-waters. By means of the difference in weight, the absorption is calculated.

Test description

A tissue is put into the standardized immersion basket (3.000 ± 1mg). This is weighed together with the basket. The operator clamps the immersion basket to the holding device of the immersion tester. After starting the instrument, the holder sinks into the water asin, which is filled with distilled water. There, the sample rest for one minute, and subsequently is lifted to stay for 30 seconds in a defined angle to drain. After this, the sample and the basket are weighted again. The operator defines water absorptive capacity. After five measurements, the distilled water has to be changed. Therefore the operator opens large outlet valve at the left side of the instrument.

Connections

- Electricity: 230V, 50Hz
- Water supply: Destillied water for test

Dimensions

- Weight and dimensions:
  600 x 250 x 700 mm / 20-28 kg

Specifications

- Made of stainless steel
- Water tank with 5l capacity
- Lowering and elevating device to support the immersion basket
- Automatic test cycle
- Outlet valve for quick water change
- Quick clamping device to support the immersion basket

Tissue Absorption Tester B

Product code RL-TAT-B

RYCOLAB

Usage

Water-absorption time and water-absorption capacity basket-immersion.

Standards

DIN EN ISO 12625-8

Test description

This device for measuring the water absorption time and the water absorption capacity has been designed in full compliance with the ISO standard 12625-8 to which it refers in two particular points very important:

- The basket should be dropped horizontally to a height of (25 ± 5) mm above the surface of the water
- When it falls, the basket must be free so that its weight, strictly controlled to comply with the Standard, is not changed by contact with any other metal parts that could play during the immersion time.

Specification

Water-absorption time and water-absorption device automatically allows:

- To measure the dry weight of the paper
- To measure the water-absorption time
- To measure the draining time
- To measure the wet weight of the paper
- To calculate the water-absorption capacity

The devise is made of:

- A removable container for receiving demineralised water. A small tap is placed on the side to bring / to let the surface of the liquid to a known level.
- A system for attaching the basket at the start of the test
- A touchscreen display showing the results of the test as well as the weight variation curve.
- An "elevator" system to put the water container in position.
- Several buttons
- USB output
- One Ethernet output

Procedure for entirely automatic measurement according the following steps:

- Measure and weight recording of the basket and the weight of the sample to be measured.
- The water tank will rise to position itself so that the surface of the water is always 2.5 cm from the basket.
- After a short time to stabilize the water level, the basket falls into the water.
- The time required for complete water absorption of the test piece is detected and it is raised.
- The basket remains completely immersed for 30 seconds.
- Once these 30 seconds have elapsed, the container goes down and the basket stays on the skimmer.
- The cylindrical basket is thus removed from the water, holding it in a horizontal position, and then it is inclined to form an angle of 30 ° with the horizontal
- The basket is held in this position for (60 ± 1 sec) to allow water to drain.
- The basket and its contents are then weighed immediately.

The test is then completed and the results are displayed on the screen:

- The reference of the measurement
- Date and time
- Immersion time
- The weight of the dry sample
- The weight of the sample wetted at the end of draining
- The calculated ratio of water absorbed / weight of the paper sample
- Water absorption capacity (Wa), in grams per gram of each test piece.
- The water temperature at the time of measurement

Basket

Cylindrical basket, made of gauge wire, constructed of any non-corroding steel gauge wire with:

- A diameter of 0,5 mm to yield a total mass of the cylindrical basket of (3 ± 0,1) g, having a material density of 8,05 g/cm^3.
- Height: 80 mm ± 1 mm
- Diameter: 50 mm ± 1 mm
- Weight: 3 g ± 0.1 g
- Square mesh of 20 mm

PULP TESTING EQUIPMENT – WET LAB

Valley Laboratory beater

Product code RL-VB-A

RYCOLAB

Usage

For beating pulp under standardized conditions for laboratory purposes

Standards

TAPPI T200, TAPPI T205, ISO 5264-1, SCAN C25, CPPA C.2

Characteristics

- Completely stainless steel made.
- Good reproducibility of refining pressure, adjustable by means of weights.
- Volume : 35 L.
- Refining roller speed : 500 r.p.m.
- Calculation of the power used for obtaining the desired refining grade.
- Beatable amount of pulp, maximum : 360 g.
- Coloring and sizing tests.
- Control panel with :
  - » Digital Ampere meter, to follow during refining power consumption variations produced by the different pulps, different concenrations and / or pressures over the refining roll
  - » Timer for indicate the end of the test.
- Protection cover.

Test description

360 g of wet paste in portions of about 25 x 25 mm in size are cut. The sample is diluited in 23 liters of water and the suspension is poured into the refining container. Before placing the weights on the lever, it is advisable to take a sample unrefined to have a set of test sheets. During refining, the first sample after 5 minutes is taken, and the following after every 15 minutes (sulphite pulps) or 20 minutes (Kraft pulps) to reach or exceed the maximum power.

The obtained samples can be used to make uniform sheets of paper to be tested. Thus, they can be plotted different curves refining through which pulps can be classified. These curves show not only the final effort of the paste, but also the ratio of stress developed, which is the most important.

Connections

Electrical : 400 V, 50 Hz Water drainage : ¾"

Specifications

- Dimensions:
  1200 x 600 x 1300 mm
- Dimensions (including transport box):
  1500 x 900 x 1600 mm
- Weight Net / Gross:
  200 kg / 285 kg

PFI Laboratory Mill

Product code RL-PFI-A

RYCOLAB

For use in the laboratory for beating of chemical pulps under standardized conditions and also for the desfibration of semi-digested raw material fibers.

Applicable standards

ISO 5264/2, DIN-EN 25 264-2, SCAN C24, TAPPI T248, PAPTAC C7

Description

A weighted and disintegrated amount of pulp is put inside the housing. This operation must be done manually, placing the pulp along the housing wall. The roll is lowered and introduced into the housing. The security cover is also put.
After pushing Test button, the test initiates. The housing will turn at 710 r.p.m and the roll (with its 33 blades) at 1458± 30 r.p.m, both in the same sense. The roll exerts a pressure of 3,33 N/mm against the housing wall, where the pulp is located. This way, due to the pressure applied between the housing wall and the roll blades, the pulp is refined. The refining times vary from 2 to 10 minutes (depending on the type of pulp). After having rotated the preselected revolutions, the roll and the housing stop and the refining process ends. Finally, the roll is situated in the centered initial position and the refined pulp is extracted to measure the freeness of the pulp °SR or CSF.

Characteristics

- The roll, the housing and the body of the machine are manufactured in stainless steel.
- The machine is capable to refine between 5-40 g of pulp in concentrations from 5 to 50 %.
  (max. 450 ml in suspen sion).
- High versatility due to an easy operation and low amount of pulp (30 g).
- Excellent repeatability. Adequate to be used in quality control and investigation.
- Security element for machine and operator protection
- Ascent and descent of the roll by means of automatic maneuver.
- Refine pressure by means of load weights.
- Easy to operate. With pre-selection of the number of revolutions of the roll.

- Pneumatic movement of the roll-head, for loading, and once the refine is finished, for unloading to the rest posi tion. Automatic switching off of the motors, which allows the operator to carry out other tasks simultaneously.
- Time, absorved power in Watts (continous measure) and consumed energy in KW per hour calculations during the refining process.
- Distance screw for adjusting the separation between the roll and the housing during the grinding process.
- Draining system incorporated for sample collection after the test.
- Modern design (ergonomic). High functionality, with all the operating elements integrated in a front and elevated con trol panel.
- Optional electric and frequency characteristics. Consult your provider.
- Each PFI Mill is checked and calibrated with standard reference pulps (Paprican Institute Canada or KCL Institute). If it is desired the calibration with other pulps, must be indicated in the order. It will be necessary to send a sample of the desired pulp.

Connections:

- Electric: Three phase 400 V, 50 Hz (other requirements must be specified in the order).
- Air supply: 6 Bar

Weight and dimensions

770 x 600 x 1730mm (WxLxH)
380 kg

Disintegrator

Product code RL-DSG-A

RYCOLAB

Usage

For disintegration of pulp suspensions acc. to different standards. Lightweight pot made from acrylic glass or heavy stainless steel pot.

Applicable standards

ISO 5263-1 / SCAN C18 M2 / TAPPI T205 / PAPTAC C.6

Specifications

- Made from robust stainless steel and aluminium
- Hinged head for easy take-out of the vessel
- Safety interlock
- Motor: 370 W
- Digital display of the revolutions
- Agitator speed according to standard: 2,980 +- 30 rpm applicable for TAPPI and ISO

Delivery content

- Disintegrator
- Acryl pot
- Measuring gauge
- Calibration certificate
- Operation manual
- Connection cable

Connections

Electric: 230 V / 50 Hz

Dimensions

Weight and dimensions: 270 x 400 x 460 mm / 36 kg

Equalizer / Distributor

Product code RL-EQU-A

RYCOLAB

General

Before sheet forming with beaten and disintegrated pulp, the pulp shall have the same content of fibers for the first sheet and also for the last sheet, which is made from one suspension. Therefore the Equalizer stirs the suspension permanent so, that the pulp properties will not change significantly. This requirement will be realized by the Equalizer / Distributor ideally.

Standards

The Equalizer / Distributor corresponds to German standard of the Verein der Zellstoff- und Papier-Chemoker und – Ingenieure (Zellcheming Association): Zellcheming Merkblatt V/6/61 (Zellcheming Instruction V/6/61 part F)

Equalization and distribution of beaten pulp.

CAUTION !!!
Cleaning chemicals containing solvents must never be used on the acrylic glass container.

Maintenance

Because the gearbox is lubricated for lifetime, no regular maintenance is necessary besides cleaning

Rapid-Köthen Automatic sheet forming machine

Product code RL-ASF-A

RYCOLAB

Usage

For the production of standardized paper sheets in the laboratory (ø 200 mm)

Applicable standards

ISO 5269/2, DIN 54358, Zellcheming Merkblatt V/8/76

Characteristics

- PLC controlled automatic process.
- Full colour control touch screen. Through this screen, the operator can manage all the equipment functions.
- The process can be also controlled in "manual" mode.
- Strong and robust construction equipment. Made of stain less steel and polypropylene.
- Integrated electric cabin with protection system (CE).
- Light weight dryer cover for easy handling.
- Spacious work surface with an area for accessories and utensils.
- Simple push-button control for start / stop of the drying process.
- Drying temperature 93 ± 1 C with water recirculation (ac cording to standard).
- Four models available: with 1, 2, 3 or 4 dryers.
- White Water recirculation system (as optional).

Test description

Once the liter of pulp is prepared as indicated by the standard, the sheet forming process with the RK former commence by pressing the START button. When the volume of 4 liters is reached, we will add the prepared sample. Once the level of 7 liters is reached, the equipment stops automatically with its level detectors. The suspension is then shaken with compressed air for 5 seconds, with a micro bubble system. The suspension will rest 5 seconds before starting to drain automatically, and start the formation of the sheet on the forming screen. The drainage first occurs, facilitating an escape of air during 2 seconds under the screen and applying suction for 10 seconds after the water level has passed through the new sheet formed. Open the forming column and position the carrier board on the newly formed wet sheet (with its soft face toward the wet sheet). Apply now the supplied couch roll on the

packet formed by the wet sheet and the carrier board. Remove now the packet formed by carrier board + wet sheet + forming wire screen from the cloumn. Hit the set in a slight angle on the rubber basis to release the sheet from the forming wire screen.

Adjust the timer of each dryer to the required drying time. This time will depend on the sheet weight and can vary between 5 and 10 minutes. Place the wet sheet, still adhered to the carrier board, on the support mesh of the dryer, with the carrier board facing to the dryer surface. This operation must be done within 1 minute from the moment the formed sheet has been removed from the forming column.

Place a cover sheet on the wet sheet and close immediately the dryer lid, exercising some force to achieve an hermetic closing. Push the "Start" button of the dryer, the main Pump will commence to operate to achieve a vacuum pressure. The dryer "Start" button will light, indicative that the dryer is operating.The system will apply a vacuum pressure of approximately -950 mbar.

When the configured drying time has ended, an acoustic signal will activate during some seconds and the dryer red "Stop" button will light (in this moment, both dryer buttons, "Start" and "Stop" will light). For ending the drying process and removing the sheet from the dryer, push the "Stop" button.

The sheet forming process has a total duration of about 1 minute. The drying times have an average duration of 6 minutes. Therefore a machine with three dryers can produce about 30 sheets per hour.

Dimensions

- RL-ASF-1-A: 1510 x 860 x 1450 mm (WxDxH) + with KWT: 1840 (H).
- RL-ASF-2-A: 1690 x 860 x 1450 mm (WxDxH) + with KWT: 1840 (H).
- RL-ASF-3-A: 2020 x 860 x 1450 mm (WxDxH) + with KWT: 1840 (H).
- RL-ASF-4-A: 2350 x 860 x 1450 mm (WxDxH) + with KWT: 1840 (H).
- Transport box : + 200 mm
- RL-ASF-1-A: 350 Kg. / Gross 500 Kg
- RL-ASF-2-A: 370 Kg. / Gross 520 Kg
- RL-ASF-3-A: 390 Kg. / Gross 540 Kg.
- RL-ASF-4-A: 450 Kg. / Gross 560 Kg.

Connections

- Electrical : 400 V, 50 Hz or 440/460V, 60Hz (indicate in the order)
- Connection for ½ " pipe . Min. 50 mm drain.
- Compressed air : 600 kPa.

Speed Dryer

Product code RL-SD-A/B

RYCOLAB

Usage

For drying purposes of paper or pulp sheets. Also for mass determination of sludge

Specifications

- Special heating plate with equal heat distribution
- Lightweight drying cover
- On-off switch in the front-panel
- Temperature adjustable (+/- 1 °C max. deviation)
- Regulator with digital display
- Special air permeable fabric for perfect steam evaporation
- Dryer temperature adjustable up to 180 °C
- Spare cloth easy to change
- Size of heating plate:
  350 x 350 mm (RL - SD - A)
  580 x 430 mm (RL - SD -B)

Standards

- TAPPI T 20

Option

- Size of heating plate: 580 x 420mm or 900 x 400mm

Connections

- Electric: 230 V / 50Hz

Dimensions & weight

- Only machine:
  380 x 420 x 180mm (WxLxH) / 18 kg
- With packaging box:
  500 x 600 x 300mm (WxLxH) / 30 kg

Sheet Press

Product code RL-TSP-A

RYCOLAB

For de-watering and pressing of hand-sheets produced on sheet machines acc. to TAPPI or SCAN .

Applicable standards

ISO 5269, SCANC26/M5, TAPPI T 205

Characteristics

- Plates dimensions : 245 x 245 mm
- Maximum opening: 150 mm
- Pressure of 400 kPa adjustable in relation with the dimensions of the sheets.
- Evacuation of the water at the back of the apparatus.
- Adjustment of the pressure time from 0 to 100 minutes.
- Adjustment of the different speeds

GENERAL TESTING EQUIPMENT

Box Compression Tester

Product code RL-BCT-A

RYCOLAB

Usage

For carrying out compression tests on packing boxes.

Applicable standards

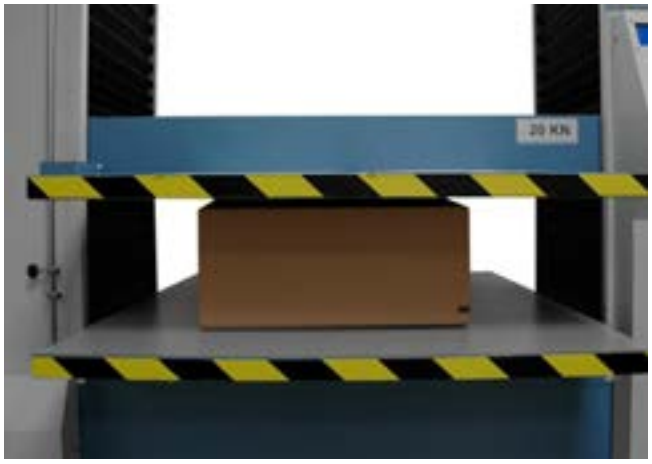
DIN EN 22872, ISO 12048, TAPPI T804, UNE 57163/5, FEFCO Nº50, AFNOR, H13-001

Characteristics

- High rigidity steel frame
- The guiding of the movable plate is made by means of four cylindrical column-guide and low friction linear bearings.
- Two low friction balls spindles
- Force capture system equipped with 3 load cells placed under the lower plate
- Driven by D.C. Servo-motor and reductor to achieve stable speeds in the full scale
- Possibility of two types of upper movable plate: fix and parallel to the inferior plate and movable with omni-directional ball, oscillating plate
- Optical deformation encoder
- Configuration of testing and approaching speeds between 1 and 400 mm/min.
- RS-232 or USB interface for connection to management and control programs
- Force readings with a resolution of 0.004 % of the FS, and extension readings with a resolution of 0.01 mm.
- Accuracy <1% of the applied force in a range between 2% and 100% of the full scale

User Interface

- Machine controlled by means of a touch screen and two auxiliary buttons.
- Through the visualization and control screen, the total control and configuration of the machine can be managed. Easy and intuitive operation of the control menu, configurable in different languages.
- Pre-programmed test methods
- Possibility of selecting and defining multiple test results. Two result tables with a maximum of 10 result types and 20 test results per table.



Platens with sample box

Touch screen controlled operation and display of results, stats and graphs.

Video

- Possibility of display the test results in graphic way.
- Statistical control. Mean value, standard deviation and maximum and minimum values.
- Different configurable units for the force, extension and speed parameters.
- Test maneuver with automatic return to initial position at maximum speed (400 mm/min).
- Setting of different breaking and preload levels.
- Automatic .pdf generator.

Test description

The corrugated box or packaging to be tested must be placed centered in the lower plate of the compression tester. When the test begins, the upper plate will displace downward and a load will begin to be applied to the specimen. This force is captured by means of the three load cells located under the lower plate. When the system detects the sample breaking, the upper plate returns to the initial position at maximum speed.

Software control (optional)

The machine, through its RS-232 or USB connection, allows the total control and management of the test by means of the RYCOLAB software. It will be possible to preset tests, save test results, graphical curves, carry out test reports, etc.

Models

The Box Compression Tester BCT can be manufactured with different plates sizes and force ranges. Consult your provider about special dimensions.

Connections

Electricity: 110 - 220V, 50-60Hz

Air Permeability Tester

RYCOLAB

The Akustron air permeability tester measures the air permeability of filter papers, non-wovens and textile fabrics within seconds. Easily transportable, this unit is ideal for monitoring material on the production line, inspecting incoming material on-site and on-going quality control in the lab. Constructed of the most rugged materials, the Akustron withstands the demands of constant usage.

Features

- A quick and comfortable way to measure air permeability: it's as simple as inserting the sample and operating the lever - after 3 seconds, the value is shown on the display
- Hand lever, automated testing
- 14,2 mm high digital display
- RS-232 interface cable option that allows reading the measured value directly to a per sonal computer
- The included software is able to list the values
  - » into each standard spreadsheet as well as into
  - » your quality control program

Operation

Automated testing ensures there are no user related variables. The sample is inserted into the slot, and the lever is pulled forward. This clamps the sample and begins the testing automatically.

The method of measurement is based on two, long-life approved speakers. The speaker in the lower enclosure generates an oscillating aircolumn which displaces air through the test sample. A second speaker in the upper enclosure works as a sensor and measures the amount of air that passes through the clamped sample

The measurement is completed in about 3 seconds, and results are shown immediately on the integrated digital display. An RS-232 interface is able to send the test data directly to a PC.

Akustron software is included and automatically displays the test data into an already opened spreadsheet. The data can also be downloaded directly to a company's existing quality control program. The ease of operation ensures highly repeatable results and studies have proven that the results correlate accuratly with DIN 53 887, DIN 53 120, ISO 9237 and ASTM D 737-96. A brass test-plate is available to check the accuracy on a regular basis.

Technical specifications

Measurement range

Air permeability between :
4 to 400 cfm (cb.ft/sq.ft min) at rp = 0.5 inch H2O = 127 Pascal
3 to 3000 l/m2 s at rp = 200 Pascal
3 to 3000 mm/s at rp = 200 Pascal

Power requirements

110-120 / 220-240 V, 50/60 Hz

Power usage

30 V/A

Power fuse

500 mA

Physical specifications

Dimensions

16 x 27 x 20 cm (W x L x H)

Net Weight

5 kg

Sample dimensions

Size: 5 x 12 cm minimum
Thickness: 3 mm maximum

Options

- Two brass testplates for accuracy verification
- RS-232 interface cable option that allows reading the measured value directly to a personal computer

Package Integrity Tester

RYCOLAB

The package integrity tester (P.I.T.) uses a vacuum method to measure the gasleaking from a wide range of flexible pack types and sizes. Items are placed manually into the unit, and the handle is closed to initiate the test sequence. Results are displayed as a Pass or Fail, along with a quantitative measure of the leakage rate.

The tests are fast—as short as 5 seconds for small packs–objective, easy to use and reliable. They do not stress or inflate the package, are dry and non-destructive. 20 test methods can be programmed and stored with simple access if modifications to test methods are required. For ease of operation and traceability there are menu prompted diagnostic functions and calibration routines. The tester includes test data logging for the past 30 days operation.

Options

- Vacuum pump and reservoir for highest testing speeds
- Power input 115V or 230V AC
- Trolley mounted version for testing larger packs

Specifications

- Accepts a wide range of pack sizes and shapes without adjustment
- Rapid testing – From 5-15 seconds for most standard packs
- Simple operation – test initiates from handle closure
- Test results shown on lamps: Pass – Fine Fail – Coarse Fail
- Quantitative result on backlit display
- Methods/Tests 20 methods (numbered 0 to 19). User programmable to optimize for different sized products. Memory - 30 days of results (1 file per day). On the 31st day, the first days results are cleared.- 30 days of tracking the test counters progress (1 file per 10 days). On the 31st day the first 10 days are cleared.
- Allows periodic upload for mandatory record keeping and trend identification.
- Test parameters stored and accessible under password access
- Setting and control of test times and parameters from keyboard
- Internal generation of test vacuum from compressed air
- High resolution measurement of leak rate
- Recall of most recent test data to review test parameters
- Calibration port for pressure and leak rate
- Stainless steel construction
- Accepts items up to 400 x 300mm (depending on the thickness)
- Compressed air consumption: 60 L/min intermittent
- Power consumption: 50 Watts
- Shipping weight : 35 Kgs

Water Column

RYCOLAB

This instrument is used to determine the water impermeability limit in different materials. It can be used in two different ways:

1. To establish the minimum pressure that induces the passage of water through the specimen
2. To establish the time of impermeability under a known
3. pressure.

The specimen surface of 100 cm2 is clamped in place by a special device that ensures water tightness.

Technical specification

Pressure

- 0 - 9999 mm / H2O; pression values can be read on the display

Speed of pressure increase

- 60 cm/min - 10 cm/min

Supply

- One phase 220 V 50 Hz +/- 10 %

Physical Specifications

Dimension

540 mm x 540 mm x 1700 mm

Net weight

50 kg

Standards

EN ISO 20811, DIN 53886, AFNOR G-07 057, ISO 811, BS 32823, BS EN 3321, BS EN 3424, AATCC 127

Electrical circular sample cutter

Product code RL-ECC-A

RYCOLAB

Video

Usage

For preparing 100 cm² circular samples on paper, cardboard, textile and other materials. For grammage or other properties determination.

Also available in smaller sizes: 50 cm² or less.
Contact us for more information about the smaller versions.

Specifications

- Electric drive.
- Cutting thickness up to 7 mm.
- Autonomous and portable use. Possibility of working with batteries or electric supply feeding.
- Standard cutting area 100 cm².
- Cutting by means of three blades simultaneously.
- Fast, clean and safe cut.

Included accessories

- Power source.
- Allen wrench to replace the blades.
- Spare blades set.
- Support mat for cutting.

Connections

Electric: Rechargeable battery

Dimensions and weight

Only equipment:
210 x 210 x 160 (W x L x H) / 8 kg
With packaging box:
300 x 300 x 250 (W x L x H) / 10kg

Circular Sample Cutter

RYCOLAB

Circle cutters perform round specimens for determination of the basic weight of paper, paperboard and textiles and for the preparation of sample material for numerous test methods. The cutter provides a rapid accurate preparation of test samples.

The 4 replaceable knives are mounted around the perimeter. The sample is cut out by turning the handle 90°. A safety lock makes sure the knives are not accessible while not cutting. Circle cutters of several sizes are available. The standard equipment can be used for samples up to 5 mm thick. Optionally a unit for 10 mm thick samples can be supplied.

The supplied cork cutting plates assure a perfect cut and longer lifetime of the knives. To cut textile samples the cork cutting plates can be replaced by rubber cutting board.

Performance data

Type 100-5

- Cutting area: 100 cm^2
- Diameter: 113 mm
- Depth: 5mm

Type 100-10

- Cutting area: 100 cm^2
- Diameter : 113 mm
- Depth: 10 mm

Type 50-5

- Cutting area: 50 cm^2
- Diameter: 80 mm
- Depth: 5 mm

Type 10-5

- Cutting area: 10 cm^2
- Diameter: 36 mm
- Depth: 5 mm

Features

- Cut circles in order to determine basic weights of paper, paperboard, textiles and other sheet materials
- Practical and safe operation
- Standard size : 100 cm^2
- Other available sizes : 10 and 50 cm^2
- Knives can easily be replaced through the side opening on the instrument (only for the 100 cm^2 unit)

Standards

ISO 536, BS 3432, DIN 53104, SCAN P6, TAPPI T-410, NF Q 03- 019, CPPA D.3 and others

Options

- Unit for 10 mm thick samples (100 cm^2)
- Cutting areas 10 and 50 cm^2

Physical specifications

- Dimensions: 17 x 17 x 15 cm(WxDxH)
- Net weight: 2 kg

Service

Installation

By having your equipment and systems professionally installed, you can be confident that your equipment will be up and running perfectly right from the start. Our Rycobel service team will install and configure your equipment according to your specific needs and technical requests.

Calibration service

A Rycobel engineer will come to your site to carry out a calibration and verify your equipment's performance. Calibrations and repairs are driven by our ISO 9001-2008 system. The result of using ISO 9001-2008 is shorter lead times, high delivery reliability and consistently high quality of services and products.

Equipment qualification

We offer three types of protocol that are used to validate instrument performance satisfies regulatory requirements: IQ OQ & PQ.

Application training

After 40 years of expertise, Rycobel can provide in-depth training services that assist you in developing and applying the best test methods for your products. We help you to gain confidence and foresight into your product to improve your competitiveness.

rycobel academy

Educational programs:

- Seminars
- Workshops
- In-House Programs
- Product training

Analysis

We analyze your production process for static electricity & compressed air consumption.

Repair and service

Rycobel repairs your equipment either on site or at our repair center, fast and reliably.

Contact

Do you have any technical or application-related questions? Talk to us directly by calling our technical helpline: +32 56 78 21 79 or fill in the form on our website **www.rycobel.com/service.**

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