

General Technical Specifications

CAPmaster

Compact Complete Solution for the Cap Test CMC / HS



- Measurements (l X w X h) approx. 1,400 x 1,000 x 1,600 (mm)
- Feed of unsorted caps from the cooling belt or octabin, etc.
- **CAPchecker:** Cap testing system
- **CAPconveyor:** Vacuum conveyor system
- **CAPorientor:** Rotation conveyor system
- **CAPspark:** Detection of pinholes
- SPS machine control + operating unit
- All areas easily accessible by doors
- Supply voltage: 3-phase 400V/ 50 Hz

CAPconveyor

High Speed Conveyor System with Vacuum Test Belt CCV / HS

- Special vacuum belt, total length 980 mm
- High upper edge conveyor 1,100 mm (-10 +30 mm)
- Light barrier for triggering the caps and incremental encoder
- Side channel sealer to produce the vacuum
- Sorting section, adjustment area approx. 18-38 mm
- Industrial-sized understructure switching cabinet with strong ventilation
- Blow-out section for bad parts (V2A steel, DIN 1.4301)
- High speed valve with nozzle and mounting
- Aluminium light tunnel, also protection against soiling
- Camera fixing made of aluminium profile with a precision tilt device to facilitate maintenance
- Supply voltage: 1-phase 110 V / 60 Hz, 230V / 50 Hz and 3-phase 400V / 50Hz
- Pressurised air supply: pressurised air 6 bar free of oil and water, 20 µm filter
- Temperature / humidity. 0 ...+ 50°C / 20 ... 95 % (non-condensing)



CAPorientor

Rotation Conveyor COR / HS



- For feeding initially selected caps
- Measurements: (length x width x height) 1,200 mm x 980 mm x 960 mm
- Reduced air consumption, approx. 35 litres/ min at 1,000 units/ min
- Speed: up to 2.000 units/ min, 28 mm caps
- Sensor to protect against congestion
- Safety switch when opening the cover
- Pressurised air supply: pressurised air 6 bar free of oil and water, 20 µm filter
- Temperature /humidity. 0 ...+ 50°C / 20 ... 95 % (non-condensing)
- Supply voltage: 1-phase 110 V / 60 Hz, 230V / 50 Hz and 3-phase 400V / 50Hz

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CAPchecker® ***** BASE ***** PLUS ***** AROUND

Testing Systems for Inner and Outer Testing

General:

- Multi-camera system with 1 to 4 cameras which can be connected to the main unit
- Up to 2,000 caps / min (special versions with up to 3,300 / min on request)

Main Unit:

- BV PC with system cards according to use, to include high-performance hardware for high frequency of parts, operator guidance via TFT monitor, keyboard and mouse
- Storage media: HD, FD, USB stick 500 MB
- Industrial PC, 19" rack, temperature / humidity: 0 ... + 50°C / 10 ...85 % non-condensing. An industrial-sized compact switching cabinet for 19" mounting and increased cooling capacity for high durability will be provided in the newly constructed CAPconveyor
- Keyboard for operating and 19" TFT flat screen colour monitor XGA (temperature / humidity: 0 ... + 40°C / 20 ...80 % non-condensing)
- Supply voltage: 1-phase 110V / 60Hz or 230V / 50Hz

Camera and Lighting Units:

1. CAPchecker BASE:

Well-proven robust basic system, worldwide 130 installations

- High resolution CCD colour camera, incl. eye lens, (0 ...+ 45°C, 20 ... 80% non-condensing). Incl. connecting cables
- Special WHITEstrobe BASE ring flash lighting, 4 ring pairs can be parameterised and separately menu-driven, white 5500 K, software-controllable, incl. stroboscope impulse generator.
- The complete camera / lighting unit is installed in an industrial-sized housing.

- Measurements approx. (l x d x h) 170 x 150 x 380 mm

2. CAPchecker PLUS:

New: second camera for testing webs, etc.

- High resolution CCD colour camera, vertical (tele-central) coupling, e.g. for detecting webs sticking outward in parallel view from above („tele-central“). (However, no view of the generated surface from outside).
- Special WHITEstrobe PLUS ring flash lighting, 3 ring pairs can be parameterised and separately menu-driven, white 5500 K, plus 1 specialised light for the web, software-controllable, incl. stroboscope impulse generator.
- Unit camera / lighting installed in compact housing.
- For measurements, please see CAPchecker BASE

3. CAPchecker AROUND:

New: as a supplement to the CAPchecker BASE or PLUS, there another camera/lighting unit which allows all-round testing of the generated surface from the outside up to about the centre of the cap height. A patent has been filed.

- High resolution CCD black and white camera, double resolution. Special optical device for wide-angle outside testing (reversed fish eye characteristic)
- Special WHITEstrobe PLUS ring flash lighting, 2 ring pairs can be parameterised and separately menu-driven white 5500 K, plus 1 specialised light for the outer surface, all software-controllable, incl. stroboscope impulse generator.
- Unit camera / lighting installed in compact housing.
- For measurements, please see CAPchecker BASE

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CAPchecker® ***** BASE ***** PLUS ***** AROUND

Software Licence for a Workplace:

- User interface in German, English, French or Spanish
- Test modules for testing the inner part, upper edge (CAPchecker BASE),
- Testing from above with parallel view for dual testing of the sealing elements from the inside and recording even minimal overlapping of webs, for example (CAPchecker PLUS)
- Additional testing of the generated surface from the outside up to about the half of the cap height, when calculated from above (CAPchecker AROUND)
- Test functions such as: not completely spouted, damage, size of cap, deformations, ovality, soiling, congestion, shape distortion of screw thread, colour, etc.
- A manifold of testing tools for dynamic generation of test surfaces, optional fade-out or test of periodic structures such as breaks or cracks all round.
- Metric units of measure with calibrating tool – no simple pixel for pixel test
- Upgrade (optional) with ethernet connection to external server
- Sophisticated Windows user interface for setting the parameters.
- Modern PIP technology for online display of *camera picture* and *test values* simultaneously with the test!
- Optional display of the last good or bad caps or bad caps with a certain defect

- Consecutive statistics with separate details of the respective type of defect
- FIFO configurable software for discarding, e.g. on the conveyor belt
- Output of good / bad signal with toggle signal (live signal) for SPS
- Automatic detection of dust formation and close contact or touching of the caps, with automatic rejection
- No cap lands in the bulk chute untested!
- Operating system suitable for industry and protected against shut-down, re-boots automatically after power outage without any problems. No loss of data during power outage or emergency off.

Accessories:

- Top hat rail wiring with connections to terminal strips.
- (Connection of light barrier, impulse generator, blow-out valve, etc.)
- Connecting cable to the camera. (camera and flash cable 5m, longer upon request.)
- User's guide in German, English or French (new: Spanish)
- Automatic shutter (necessary for black and very dark green and blue caps)

Miscellaneous:

- System test in non-stop operation with logging for each delivery
- All equipment provided with declaration of EU conformity

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The opsis CAPchecker® in standard configuration, installed in the PSG Inshell Liner Moulding Machine at PackSys Global, Switzerland



The opsis CAPchecker® in standard configuration, installed in the PSG Slitter Machine at PackSys Global, Switzerland,