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schuett colonyQuant

rapid and reliable counting

schuett colonyQuant
automated colony counter system

- *Software for selection according to colour, size and shape*
- *Light-proof sample chamber with high-definition camera (colour), Live-image and circular LED-illumination*
- *Image acquisition and simultaneous evaluation within seconds*
- *Tables and images may be stored digitally, results for each counted colony reviewable*
- *Agar plates, nutrient disks, filters, plaque assays, inhibition zone analysis, spiral plating, drop plates, „lanes“, fluorescence*
- *Mixed cultures, separates up to 8 colours simultaneously*
- *Sectorial evaluation, 90% option*
- *In conformity with GLP, LIMS-compatible*

schuett colonyQuant is the economic solution for evaluating Petri dishes at high demand on daily sample throughput rates. Image acquisition and analysing the colonies at the push of a button. Changeover from evaluating agar plates to nutrient filter disks etc. can be effected quickly by mouse-click without difficulties.

Multifunctional and time-saving

Effective
The sample chamber with an attractive design, needs only small footprint.
Software will be delivered pre-installed on PC/Laptop, standard demo settings are stored, this allows immediate operation.

Time-saving
Significantly increases efficiency compared to manual evaluation of the colonies.

400 Petri dishes per hour, independent of 10 or 1,000 colonies growing on the sample.

No counting errors as they occur with declining concentration when counting manually.

Universal
schuett colonyQuant was designed for Quality Control in food, beverage and pharmaceutical industries, in microbiological test labs. The colonyQuant system is ideal for evaluation of Ames tests and water samples.

The system may be set and calibrated to different types of colonies and agars/nutrient disks within minutes.

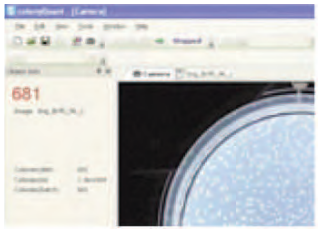
The reasoned software in German and English language helps analysing and differentiating colonies by colour, size and shape.

The settings may be changed at any time according to the users request and the system shows the effects on the counting result immediately. The original image, the evaluated image as well as the set parameters may be stored and re-opened at any time by using the file name.

The Windows based structure of the software/icons makes it easy for the operator to comprehend the system's functions.

The device centres Petri dishes Ø 60 to Ø 90 mm exactly and reproducible. The camera automatically zooms to ensure that also Ø 60 mm Petri dishes are evaluated with high resolution.

Facilitates Quality Control



State-of-the-art LED-lighting technology assures a lateral illumination of the Petri dish and results in so far unknown transparency and differentiation of the colonies on the agar.

Filters are illuminated from above for maximum contrast and colour differentiation. The grid on filter disks may be removed easily in the colonyQuant-software and will not adulterate the result.

Spiral plating dishes are counted automatically in consideration of the counting grid.

Inhibition zones are analysed clockwise.

Data storage (documentation)
The original image and the evaluated image are stored digitally, all relevant data of the analysis are automatically stored for later re-evaluation.
An analysis report may be printed, the user may decide which individual parameters are of need.
Elimination of transcription errors.
All results are presented in a table, exportable to Excel- or CVS-format. All data may be exported to a LIM-system.

Efficient
The counting settings are to be adjusted only once for each type of colony. The area to be counted is defined prior to analysis.
If the rim of the Petri dish is difficult to evaluate, the software counts 90% of the Petri dish and extrapolates the total number of colonies. The software also allows for counting individual quarters of the total area.
Further, the „lasso"-function allows counting of certain defined areas of the Petri dish.

After entering the volume and dilution, the colonies per ml are calculated automatically.

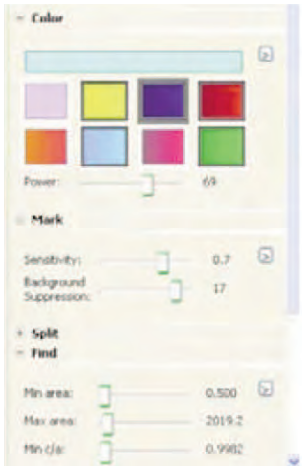
Counting different colonies simultaneously

The counting result may be corrected manually at any time by using the "Add"/"Delete"-function.

Helpful features
Measurements:
Distances and areas may be measured and are shown in a separate list.
Inscriptions:
Make your own notes in free text fields and save them in the image.

Criteria for differentiation (may be combined as needed).
Colour:
The differentiation of coloured colonies (e.g. flavine containing or colouring by chromogenic, selective agar) compared to colourless colonies may be obtained by defining the actual intensity-spectrum of the corresponding colour. In total there is a maximum of eight different colour gradients to be set. This means blue and red colonies may be counted simultaneously on one Petri dish and the result will show the total of blue colonies or the total of red colonies and total count of both.
Size:
The differentiation of colonies with different sizes is also possible, e.g. large colonies may be differentiated from the background growth.
The minimum colony size for counting is 0.05 mm.
Shape:
By differentiating colonies according to their shape it is possible to define the roundness of the colonies to be counted. This is helpful for analysing bacterial colonies on agar plates in the presence of moulds or precipitates of the same colour.

Copes with all challenges



Overlapping
The split function allows for gradually separating overlapping colonies.This is particularly advantageous with Petri dishes having a large number of colonies or with bigger colonies.

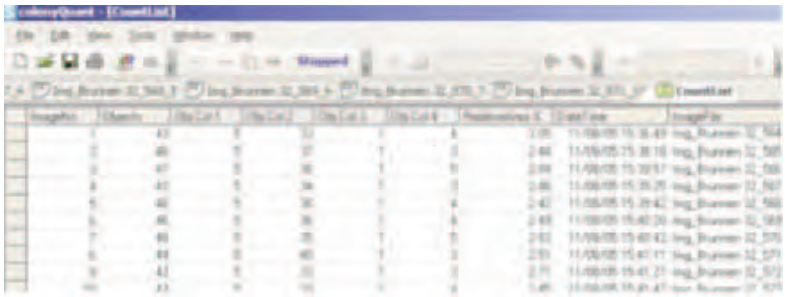
In conformity with GLP
All sensitive areas are password protected. The software is structured in three levels:

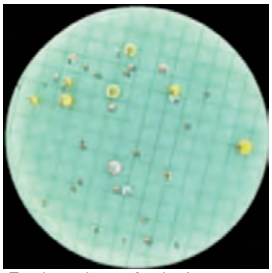
- *administrator*
- *controller*
- *operator*

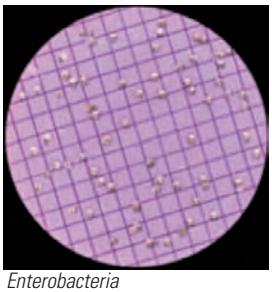
The administrator may decide which counting parameters are to be addressed by the operator.

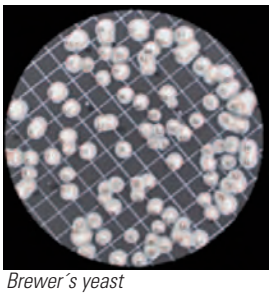
Name of the operator, batch and sample number are automatically stored with the result of the analysis.

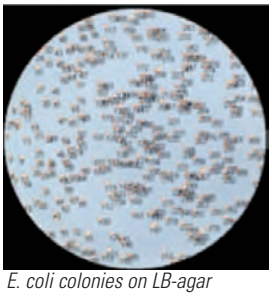
Provision for system check with a coloured disk (provided with the system) and reset function to recall manufacturer provided standard settings.

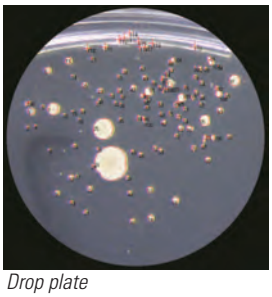


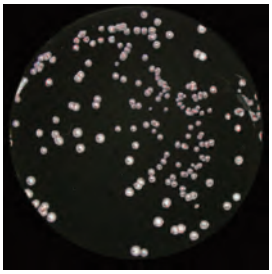

Total numbers of colonies

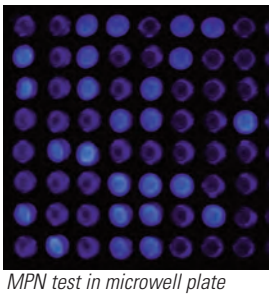

Enterobacteria


Brewer´s yeast


E. coli colonies on LB-agar


Drop plate


Legionella


MPN test in microwell plate

Data and facts

Typical Applications

Total number of colonies: *All colonies will be counted, even if they differ in colour, size and shape.*
Enterobacteria: *E. coli colonies are of a light cream colour and not much different from the transparent slightly yellow colour of the LB-agar itself, but can easily be counted with the lateral LED-illumination.*
Filters on agar or nutrient disks: *Colonies growing on filter disks are perfectly illuminated from above. The grid being shown on the surface of the filter will be ignored by the software and does not affect the counting result. Clear colonies become visible by illumination from the side at the middle level of the sample chamber.*
High number of colonies: *Up to approx. 1,000 colonies per Petri dish will be count within seconds.*
Bacteriophage plaque assays: *By using the dark field it is feasible to count plaques against a cell background.*
Agar: *Cloudy/clear, all colours, plates with sloped agar (uneven thickness).*
Fluorescence: *Evaluation of fluorescent colonies illuminated with UV light, e.g. for MPN tests in microwell plates.*

Technical Data

Camera:
HD3 model with Full HD High Definition color camera with autozoom/-focus; 3x optical/12x digital zoom
HD10 model with Full HD High Definition color camera, with autozoom/-focus; 10x optical/12x digital zoom

Resolution of the monitor:	1920 x 1080 (Laptop 17,3" monitor); 1920 x 1080 (PC with 24" monitor) alternatively 2560 x 1440 (PC with 27" monitor)
Data transfer:	USB 3.0
Light-proof sample chamber	Prevents from reflections and outside light with adjustable guide rails for Petri dishes
Illumination (3 sections)	Selectable from above, from the side or from below (3 levels) Background black or white
Fluorescence-UV-light source	366 nm
Software	colonyQuant counting software (windows user interface) Windows® 10 Professional (German/English version) Open office (or similar)
Accessories (scope of delivery)	System check disk, inlaid glass plate, centring devices, contrast plate for white or black background, Petri Dish carrier made of Plexiglas/ground clear (Greiner/Falcon)
Accessories (on request, optional)	Barcode scanner Adapter for MPN analysis in microwell plates Adapter for Drop plates; Adapter for plates with „Lanes/Spots" Adapter for 150 mm diam. Petri dishes, Adapter for Petrifilm®
Special equipment (on request, optional)	EGFP-Fluorescence Blue light scource 475 +/- 25 nm (Emmission filter 525 +/- 19,5 nm)
IQ/OQ (optional)	Available on special request
Dimensions (w x h x d)	240 x 479 x 290 mm
Weight	approx. 11 kg
Supply voltage	100-240 VAC, 50-60 Hz, 60 W

Ordering Information — Cat.-No.

schuett colonyQuant automated colony counter, 230 V, for colonies with minimum-Ø of 0.05 mm. Light-proof sample chamber with 3 sample levels (illumination from top, side or below selectable) with adjustable guide rails for centring the Petri dishes, Fluorescence-UV-light source 366 nm, inlaid glass plate, reticle plate with centring, contrast disk for white or black background, system check disk, 2 Petri dish carrier made of Plexiglas/ground clear for Greiner/Falcon-Petri dishes, power cable

schuett colonyQuant HD3
Equipped with Full HD High Definition colour camera autozoom/autofocus (3x optical; 12x digital) incl. USB 3.0 adapter cable
Incl. PC/Laptop *with Windows 10 operating system and keyboard (both optional German/English)* ***3.083 002***
as well as monitor with 17,3" (Laptop) or 24"/27" (PC), incl. counting software (German/English)
Excl. PC/Laptop*, incl. counting software with Windows user interface for self installation on* ***3.083 012***
customer-specific PC/Laptop (according to predetermined minimum requirements)
with Windows 10 operating system (German/English)

schuett colonyQuant HD10
Equipped Full HD High Definition colour camera autozoom/autofocus (10x optical; 12x digital) incl. USB 3.0 adapter cable
Incl. PC/Laptop *with Windows 10 operating system and keyboard (both optional German/English)* ***3.084 002***
as well as monitor with 17,3" (Laptop) or 24"/27" (PC), incl. counting software (German/English)
Excl. PC/Laptop*, incl. counting software with Windows user interface for self installation on* ***3.084 012***
customer-specific PC/Laptop (according to predetermined minimum requirements)
with Windows 10 operating system (German/English)

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We reserve the right to make changes in the interest of further technical developement. - 0118 2M PR