

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 CCD-Firewire-camera (colour)
- Image acquisition and simultaneous evaluation within seconds
- Tables and images may be stored digitally
- Agar plates, nutrient disks, inhibition zone analysis, spiral plating
- Mixed cultures, up to 8 colours simultaneously
- Sectorial evaluation, 90° option
- In conformity with GLP

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

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 agar plate.

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 and in water analysis.

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.

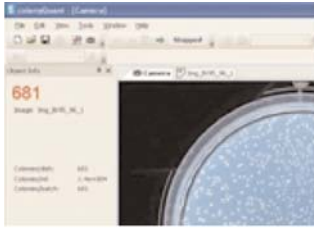
The settings may be changed at any time according to the users request and the system shows the effects on the counting result immediately. The original image, the evaluated image as well as the set parameters may be stored and re-opened at any time by using the file name.

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 reproducibly.

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.

Nutrient disks are illuminated from above for maximum contrast and colour differentiation.

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

Inhibition zones are analysed clockwise. The results are presented in a table exportable to Excel-format.

Data storage

The original image and the evaluated image are stored digitally, all relevant data of the analysis is automatically stored for later re-evaluation.

An analysis report may be printed, the user may decide which individual parameters need to be printed. Elimination of transcription errors. All data may be exported to a LIMS-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 edges of the Petri dish are difficult to evaluate, the software counts 90% of the Petri dish and calculates the total number of colonies. The software also allows for counting individual quarters of the total area.

Counting different colonies simultaneously

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

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

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 0.1 mm.

Shape:

By differentiating colonies according to their shape you may 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

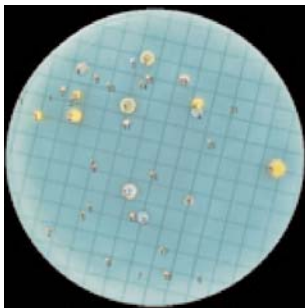
The administrator may decide which counting parameters are to be addressed by the operator.

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

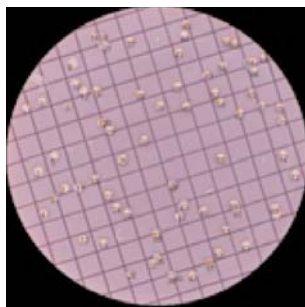
Provision for system check with a coloured disk (provided with the system) and reset function to recall manufacturer provided base settings.

ImageNo	Objects	Obj Col 1	Obj Col 2	Obj Col 3	Obj Col 4	RelativeArea %	DateTime	ImageFile
1	43	5	33	1	4	3.05	11/08/05 15:36:49	Img_Brunnen 32_564
2	46	5	37	1	3	2.44	11/08/05 15:38:18	Img_Brunnen 32_565
3	47	5	36	1	5	2.84	11/08/05 15:39:57	Img_Brunnen 32_566
4	43	5	34	1	3	2.46	11/08/05 15:39:25	Img_Brunnen 32_567
5	46	5	36	1	4	2.42	11/08/05 15:39:42	Img_Brunnen 32_568
6	46	5	36	1	4	2.49	11/08/05 15:40:20	Img_Brunnen 32_569
7	46	5	35	1	5	2.83	11/08/05 15:40:43	Img_Brunnen 32_570
8	49	5	40	1	3	2.51	11/08/05 15:41:11	Img_Brunnen 32_571
9	42	5	33	1	3	2.71	11/08/05 15:41:27	Img_Brunnen 32_572
10	41	5	32	1	4	3.45	11/08/05 15:41:47	Img_Brunnen 32_573

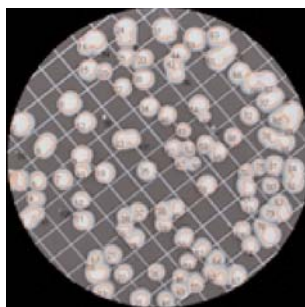
Data and facts



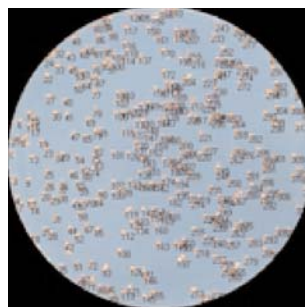
Total numbers of colonies



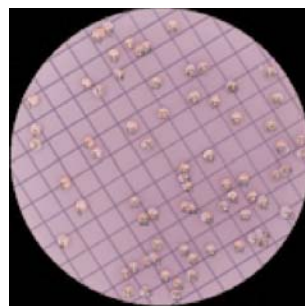
Enterobacteria



Brewer's yeast



E. coli colonies growing on LB-agar



E. coli colonies

Typical applications:

Total number of colonies: All colonies will be counted, also those being significantly different in colour, size and shape.

Enterobacteria: E. coli colonies growing on LB-agar are of a light cream colour not much different from the transparent slightly yellow colour of the agar itself and are even difficult to identify for the human eye. These colonies can easily be counted with the lateral LED-illumination of the schuett colonyQuant.

Nutrient/filter disks: Colonies growing on nutrient-/filter disks are perfectly lighted from above. The grid being shown on the surface of the nutrient disk will be ignored by the software and does not affect the counting result.

Chromogenic agar: Colonies of a particular colour can be separated from others by setting the colour characteristics of the software accordingly.

High number of colonies: schuett colonyQuant identifies and counts all those colonies that are able to be identified by the human eye as well (up to approx. 1,000 per Petri dish) – within seconds, reproducible and ready to be processed or stored.

Bacteriophage plaque assays: By using the dark field it is feasible to count bacteriophage plaques against a cell background.

Inhibition zones: For the analysis of inhibition zones all diameters and areas will be measured and shown in a corresponding table. This table is displayed together with the visual image of the Petri dish. The counting starts clockwise in the 12 o'clock position.

Agar: cloudy/clear, all colours.

Coloured, cloudy agar: colonies growing on dark agar media are evaluated with top lighting.

Spiral plater: Automated evaluation of spiral plating dishes.

Ames test: Even very small colonies may be counted.

Agar pour plates: lighting from below.

Technical Data

CCD-Firewire-camera (colour)	with autozoom and autofocus
Resolution	640 x 480 Pixel
Data transfer	high-speed data transfer by Firewire directly into the Firewire input of the PC
Sample chamber	light-proof sample chamber, prevents from reflections and outside light
Illumination	from below, from the side or above selectable (3 Ebenen)
Dimensions of the footprint (W x D)	240 x 200 mm
Height	460 mm
Weight	approx. 11 kg
Power	115 ... 230 V, 50-60 Hz, 60 W

Minimum requirements to the desktop/to the notebook:

Desktop with Intel® Core™ Duo Processor (1,80 GHz), 1024 MB mainstorage, 160 GB hard disk, IEEE-1394 Firewire adapter card, graphics card 256 MB memory (no on-board), DirectX 8 operable, Windows® XP Professional or Windows Vista™ Business (English version on request), Microsoft® Works 8.0, 16x DVD+/-RW (with writer), 19" LCD monitor (screen resolution: 1280 x 800 Pixel, colour quality: 32 Bit), incl. optical mouse and keyboard. (Status 08/2007)

Alternatively:

Notebook with Intel® Core™ Duo Processor (1.66 GHz), 1024 MB mainstorage, 120 GB hard disk, IEEE-1394 Firewire adapter card, graphics card 256 MB memory (no on-board), DirectX 8 operable, Windows® XP Professional or Windows Vista™ Business (English version on request), Microsoft® Works 8.0, 8x DVD+/-RW (with writer), 15,4" or 17" screen display (screen resolution: 1280 x 800 or 1440 x 900 Pixel, colour quality: 32 Bit). (Status 08/2007)

Ordering Information

schuett colonyQuant

Automated colony counter system, 230 V, consisting of:
 CCD-Firewire autofocus camera (colour), Firewire connection cable,
 power cord, light-proof sample chamber (illumination from below or
 above selectable) counting software Windows based structure and icons,
 system-check-disk, Windows® XP or Windows Vista™ compatible

Cat.-No.

3.082 002

schuett colonyQuant with PC

(as 3.082 002) For specifications see
 "minimum requirements to the desktop/to the notebook"

3.083 002

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