

ENVIRONMENT/WATER ANALYSIS

The use of HettCube incubators to detect the presence of *Pseudomonas aeruginosa* in drinking water

Pseudomonas aeruginosa is an opportunistic pathogen that is ubiquitous in environments containing sufficient moisture. The micro-organism thrives in a wide range of conditions, from 9 °C to 42 °C, and has a high natural resistance to antibiotics. It does not generally pose a danger to healthy people who ingest the organism through drinking water, but it can cause inflammation if it comes into contact with skin lesions. The danger lies in the risk of nosocomial infections. The risk is highest for immunosuppressed patients and those in intensive care. It is therefore necessary for clinics and other facilities caring for people to make certain that their water is free of *P. aeruginosa*. It must therefore be tested every 6 months in accordance with a guideline of the Robert Koch Institute.

Methods of detection

The presence of *P. aeruginosa* is determined by the method given in EN ISO 16266 through membrane filtration and incubation of the filter on Cetrimide agar. The colour change and fluorescence under UV light indicate its presence. Presumptive colonies are cultured further on agar and tested to establish if they form ammonia from acetamide, are oxidase-positive or fluoresce in King B agar.

Importance of the test for the presence of *Pseudomonas aeruginosa* in practice

Drinking water is tested at regular intervals to protect consumers. One such test is for the presence of *P. aeruginosa*. The nature and frequency of the tests is laid down in national regulations such as the "Trinkwasserverordnung" [Drinking Water Act] in Germany and the Safe Drinking Water Act in the USA.

Incubation conditions in accordance with EN ISO 16266:2008

	Temperature	Duration
Agar and broth	36 ± 1 °C	40 - 48 h

Advantages of HettCube incubators

- Maximal validated usable space on a small footprint
- 4.3 inch touch display for intuitive operation
- Very homogeneous and stable temperature, as well as precise temperature control
- True "one-hand-operation" and flexible positioning of the shelves
- Minimal energy consumption of < 0.06 kW/h at 37 °C
- Low noise level of ≤ 44 dB(A)
- Optimierte Beladungskapazität durch einzigartiges Zubehör und Optionen



Fig. 1 *: Detection of *P. aeruginosa* on Cetrimide agar



Fig. 2 *: Demonstration of its presence using the oxidase test (left) and acetamide broth (right)

* Image by courtesy of the CVUA Karlsruhe

Hettich solution

Model	Cat. No.
HettCube 200	62000
HettCube 400	64000
HettCube 600	66000

Model without IVD	Cat. No.
HettCube 200	62001
HettCube 400	64001
HettCube 600	66001