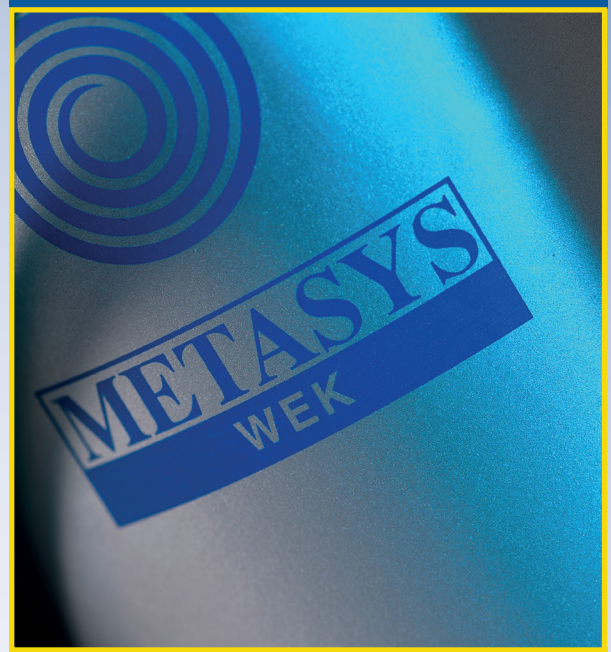
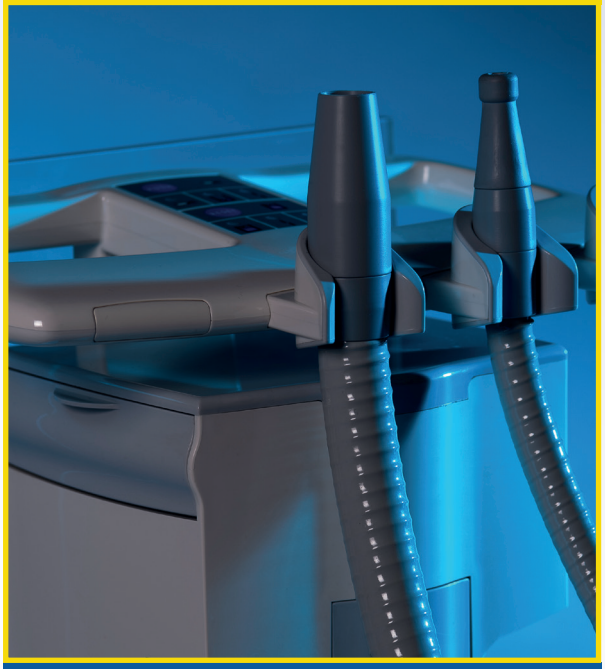




HYGIENE OF THE DENTAL UNIT

Disinfection of the suction system

Decontamination of the process water

Protection from biofilm and limescale

METASYS

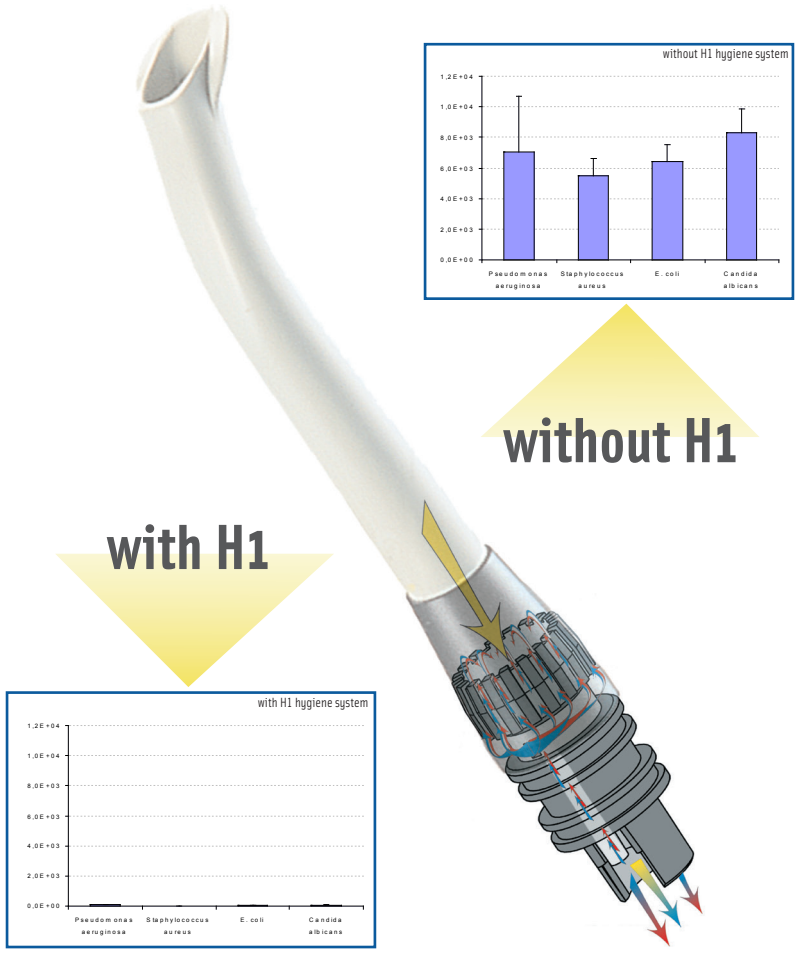
H1 hygiene system

Disinfection, deodorization and defoaming of the suction system

Risk caused by backflow

The Robert Koch Institute points out that the backflow of cooling water, blood and saliva may enter the patient's mouth. If a suction cannula is blocked by sucked in soft tissue, a backflow of contaminated liquids can enter the patient's oral cavity through the suction pipe. This presents a risk of infection (cf. Recommendation on Infection Prevention in Dentistry, Hygiene Requirements, 2006).

The METASYS H1 hygiene system effectively prevents this path of infection. Using specially constructed suction tubes, the GREEN&CLEAN H1 preparation is atomized in retrograde directly at the suction cannula. This results in a continuous cleaning and disinfection of the dental tubes. The fully automatic H1 hygiene system is economical in its consumption and caters for optimal disinfection of the whole suction system. The suction system doesn't need to be cleaned and disinfected manually daily and the service life of the suction tubes is extended.



Proven efficiency

Two suction systems - one of them equipped with the METASYS H1 hygiene system - have been part of the following experiment. A test solution, enriched with microorganisms (each 108 KBE ml-1), was sucked into both of the systems. Afterwards the suction tubes were flushed with a sterile, watery solution. The rinsing solution was then collected in a sterile container and examined in regard to its microorganisms (cf. Prof. Dr. Dr. Gräf, Institute for Medical Hygiene at the University of Erlangen-Nuremberg, Germany). The sample taken from the suction tube treated with the hygiene system H1 showed a considerable reduction of microorganisms.

Therefore, it can be stated that a considerable improvement of the suction hygiene in regard to the infection hygiene can be achieved when using H1. This reduces the infection risk for patient and dental team to a minimum.

GREEN&CLEAN H1

In connection with the METASYS H1 hygiene system, the cleaning and disinfection preparation GREEN&CLEAN H1 guarantees economical care and disinfection of the whole suction system especially after the removal of the suction tube. Enzymes cater for a high protein solubility and thus manage to also remove old deposits. It contains active defoamers and is biologically degradable.

BR biofilm removing system

Protection from biofilm and limescale

Biofilm and limescale: No, thanks!

Studies of the Institute of Medical Microbiology and Hygiene at the University of Vienna show that the contamination of dental treatment units with microorganisms marks a long-standing and severe problem. Characteristics such as temperatures of 37°C within the pipe systems, relatively long standing times and backflow in handpieces promote the growth of bacteria and fungi, which can cause microbial contamination of the process water as well as of the water-bearing pipes and suction hoses. The large surface of the hose system and the plastic which they are made of also promote the rapid growth of bacteria which start to form deposits on the walls of the hose system after only a few days.

The water passing these deposits becomes contaminated by these microorganisms, thus presenting a considerable health risk. It is therefore absolutely necessary that the supply lines of the dental unit are disinfected, for the safety of both the patient and the dental staff. However, not only bacteria and fungi can cause problems. Specially in areas with very hard water, limescale in water-bearing pipes can damage the dental unit. By using the WEK water decontamination system by METASYS, the formation of limescale can be effectively prevented.

No chance for legionella!
Legionella infections are one of the most common health risks in the dental practice. The transmission takes place through inhalation of aerosols. Aerosols can cause infections that are hazardous to human health to a varying extent. With the METASYS water decontamination systems, the risk of legionella can be successfully countered. Legionella in process water can be eliminated, even at very high levels of contamination.

Problem: Limescale formation
Calcification in the dental unit causes significant problems. Limescale deposits provide optimal conditions for the growth of germs, and also cause blockages in pipes and valves which may impair the proper function of the entire dental unit. METASYS water decontamination systems effectively prevent calcification through the addition of limescale inhibitors.

How to prevent biofilm

Dripping instruments or unpleasantly smelling water are usually the first signs that something is wrong with the water-bearing pipes of the dental unit. The most common cause for this is biofilm on the inner surfaces of the pipe system which contaminates the dental process water. Biofilm is not only a source of infection but may also damage dental units and instruments, e.g. hand and angle pieces.

The water decontamination system WEK prevents the formation of biofilm. Prior to the installation of a WEK, it is recommended to remove existing biofilm in the water-bearing pipes. With its biofilm removing device and the specially formulated preparation GREEN&CLEAN BR, METASYS offers the suitable tools to do so.

GREEN&CLEAN BR

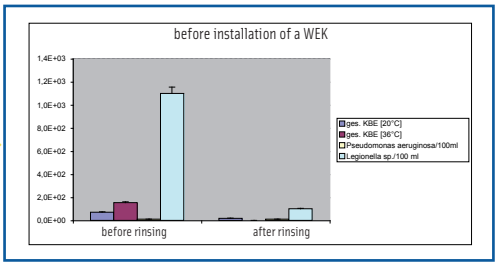
GREEN&CLEAN BR is a ready-to-use hydrogen peroxide solution (4%) for the removal of biofilm. Due to its pH-value, it splits the hydrate coat of the biofilm and facilitates its oxidation. This is how the GREEN&CLEAN BR disinfectant advances to the inner walls of the dental unit's pipe system and is able to remove biofilm there as well.

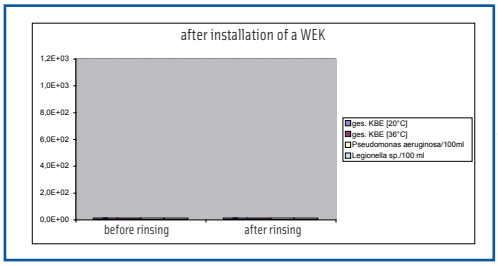
WEK/WEK Light water decontamination system

Decontamination of dental process water / DIN EN 1718

Water as a health risk

without WEK





with WEK

Dental process water shows massive contamination after longer stagnation phases. It is therefore strongly recommended to rinse the water-bearing pipes before first use after longer stagnation phases. This measure alone, however, does not suffice for the supply of hygienically clean process water at any time. Only a continuous decontamination device guarantees that no microorganisms can settle in the pipe systems of the dental unit even after longer stagnation phases (e.g. at weekends).

The Ruhr Hygiene Institute in Marl (Germany) examined the microbiological situation within dental units. After a longer stagnation phase (Monday morning) two samples of water were taken. The first one before, the second one after flushing twice. The same samples were taken after the installation of a WEK water decontamination 3 weeks later.

METASYS water decontamination WEK: DIN EN 1717

The water decontamination system WEK is a system that effectively prevents limescale and decontaminates the process water of water-bearing pipes with the help of the GREEN&CLEAN WK disinfectant. This solution has been specially developed for the WEK. The WEK is generally used to supply numerous consumers (e.g. syringes, turbines, or water glass filler) in the dental unit with decontaminated water.

The German Technical and Scientific Association for Gas and Water (DVGW) has issued a regulation according to which water is not allowed to re-enter the public water system after having got into contact with patients or chemicals. This is why the WEK is equipped with an additional air gap, which guarantees the separation of contaminated water from fresh water. The WEK water decontamination system is in compliance with the DIN EN 1717.

GREEN&CLEAN WK

The decontamination preparation GREEN&CLEAN WK is a concentrate based on hydrogen peroxide (2%). It is highly suitable for the continuous reduction of germs in process water. With the use of limescale inhibiting ingredients, the GREEN&CLEAN WK is furthermore effective against calcifications within the dental unit. It combines excellent disinfection effects and high material compatibility. 750 ml concentrate suffice for 63 l of dental process water.

METASYS solutions

WEK and WEK Light water decontamination / H1 hygiene system

Prevent the formation of biofilm in the water-bearing pipes of your dental unit! The METASYS water decontamination system WEK guarantees a continuous decontamination of the dental process water and protects your unit from harmful limescale - for long durability of your equipment and optimal hygienic conditions during treatments.

The H1 hygiene system combines perfect cleaning with highest hygiene. For the dental practice, this means new hygienic standards of suction. Prevention of infection risks, highest material compatibility and reduced maintenance time speak for the carefully thought through solution of H1.

WEK

- Floor model, order no: 05020001

Customized versions of the WEK water decontamination system are available for various dental units. The respective order numbers are listed in the price list and on www.metasys.com.

WEK water decontamination system - available as floor and integrated models	
Mains voltage	230 V AC (floor model) 24 V AC (installation)
Frequency	50/60 Hz
Max. current consumption	0,8 A
Permitted water pressure range	2 - 6 bar
Permitted air pressure range	3.5 - 8 bar
Operating pressure (water)	2.5 bar
Operating pressure (air)	3 bar
Max. water flow rate	1 l/min (depressurized)
Mixing ratio	1:85 standard setting 1:42 intensive decontamination
Working solution	235 ppm
Dimensions (H x W x D)	335 x 265 x 160 mm

WEK Light

- Installation, Order no: 05020019
- Floor model, Order no.: 05020026

WEK Light water decontamination system - available as floor and integrated models	
Mains voltage / Frequency	24 V AC / 50/60 Hz
Max. current consumption	0,1 A
Permitted water pressure range	1 - 2.8 bar
Permitted air pressure range	3 - 8 bar
Operating pressure (water)	2.5 bar
Operating pressure (air)	3 bar
Max. water flow rate	6 l/min (depressurized)
Mixing ratio	1:85 standard setting
Working solution	235 ppm
Dimensions (H x W x D)	modular construction

Hygiene system H1

- with suction tube holder,
  Order no.: 05010003

H1 hygiene system - available as integrated model or complete with suction tube holder	
Mains voltage / Frequency	24 V AC / 50/60 Hz
Max. current consumption	0,45 A
Average water consumption	approx. 2.4 l/day
Cartridge volume	130 ml
Average refill interval	approx. 6 days
Dimensions (H x W x D)	200 x 190 x 200 mm

METASYS

METASYS ... makes the difference!

Amalgam separation technologies
Dry and wet suction systems
Compressors
Water decontamination
Automated hygiene systems
Hygiene and disinfection
Amalgam recycling

METASYS has established itself worldwide as a producer of high quality dental products.

Main part of the corporate identity is the high sensibility for environmental problems which can be noticed in all our products and services. Our high-grade technologies protect our water reserves from contamination through mercury and dangerous chemicals as well help avoid unnecessary drinking water waste.

Especially with amalgam separation, METASYS still sets new standards. METASYS is still known as one of the leading companies concerning amalgam separating technologies.

To meet the demands of both customers and the market, METASYS meanwhile offers a wide range of products around dental office equipment: suction systems, compressors, hygiene systems, water decontamination systems and a wide range of disinfectants.

With ECOTRANSFORM, METASYS offers also a complete recycling system for amalgam. A special amalgam recycling plant processes dental amalgam waste according to the law.

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