



OUR MISSION

With a deep passion for water and the development of a simple yet effective product, our company has specialized since 1986 in promoting the efficient use of liquid resources. Originally started in the household sector, we quickly transitioned into large-scale industries and have been offering solutions for agriculture since 2010. Our goal is to support both industry and agriculture economically, while simultaneously protecting nature and ensuring a sustainable approach to our water resources.

WE ARE HERE FOR WATER!



OUR BRANCHES





Performance Excellence Award

SKW-SYSTEM IN AVIATION

BOEING „Performance Excellence Award“

BOEING has over 15,000 suppliers worldwide and annually presents this award to recognize above-average performance.

SKW-System is one of only 82 suppliers that received a Gold Category Award in 2016.

The SKW-System is used in the central cold-water supply of aircrafts and prevents clogging in water-bearing systems, including vacuum toilets.

SKW-System-General Supplier

Airbus GmbH and BOEING Commercial Airplane Group since 2000.

Production according to national / international standards:



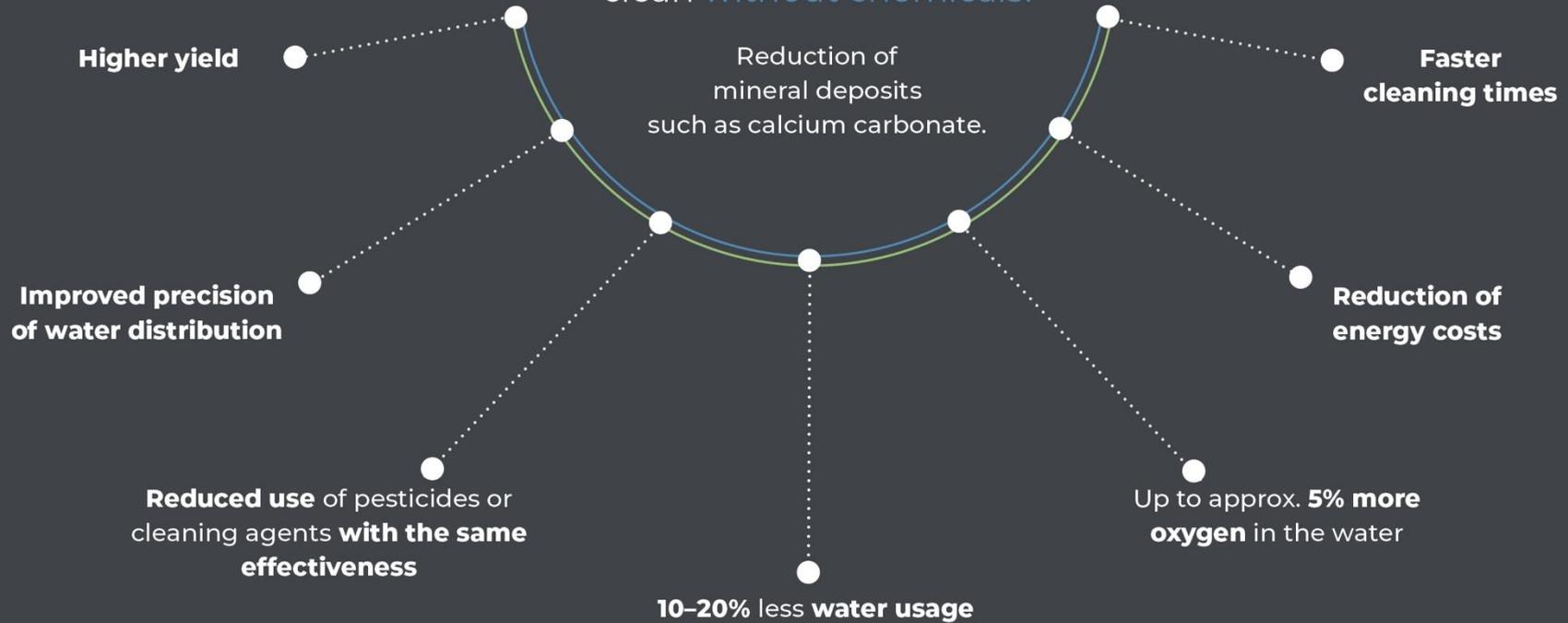
- ✓ Quality Management Manual DIN EN ISO 9001-2000
- ✓ Material 1.4571 according to DIN 17440 or DIN EN 10088-1/-2 for fluid-contacting parts
- ✓ Inspected by TÜV NORD CERT GmbH, Essen

National / International certification for the aviation industry:

Airbus / BOEING Water Conditioner, ATA 38 for drinking water in accordance with §12 Para. 4 AVB WasserV

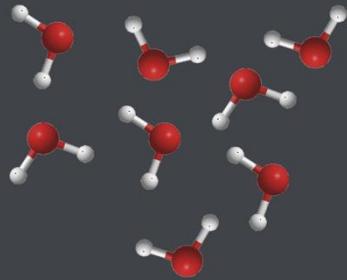
HOW SKW-SYSTEM REDEFINES WATER

We keep **pipng systems**
clean **without chemicals!**

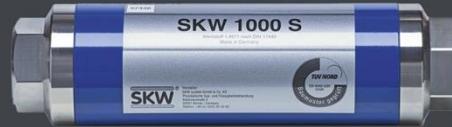


A TECHNOLOGY IN HARMONY WITH PHYSICS

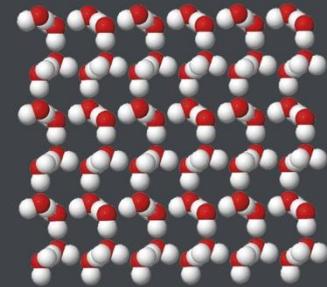
The Lorentz Force



Structure of natural water molecules without SKW-System



**Dynamic viscosity –
resistance due to the internal
friction of adjacent molecules.**



Restructuring of water molecules through SKW-System

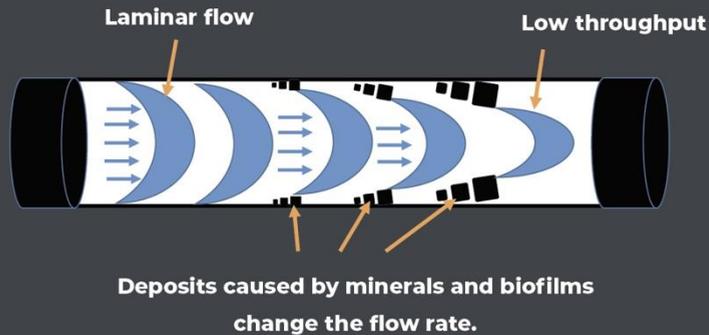
FUNCTIONALITY

Crusted and clogged pipeline systems

The use of SKW-System prevents the clogging of water-bearing systems with nutrients (organics) and solid CaCO_3 deposits (calcium carbonate).

Causes:

- ✓ Flow rate too low
- ✓ Sedimentation during standstill
- ✓ Adhesion intensified by heat



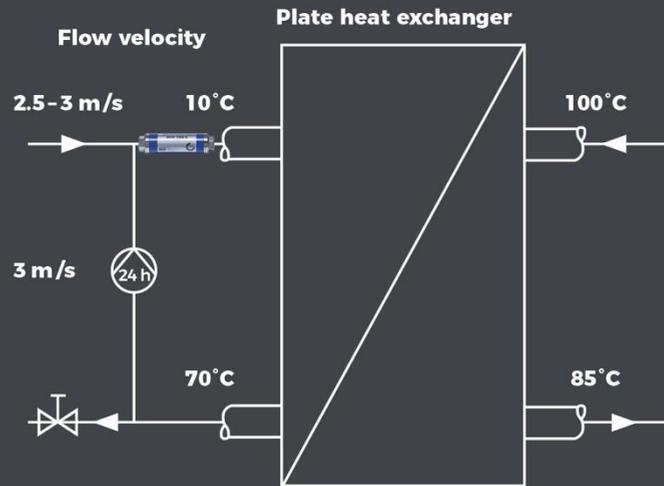
The Solution:

SKW-System prevents the clogging of water-bearing systems with nutrients (organics) and solid CaCO_3 deposits (calcium carbonate).



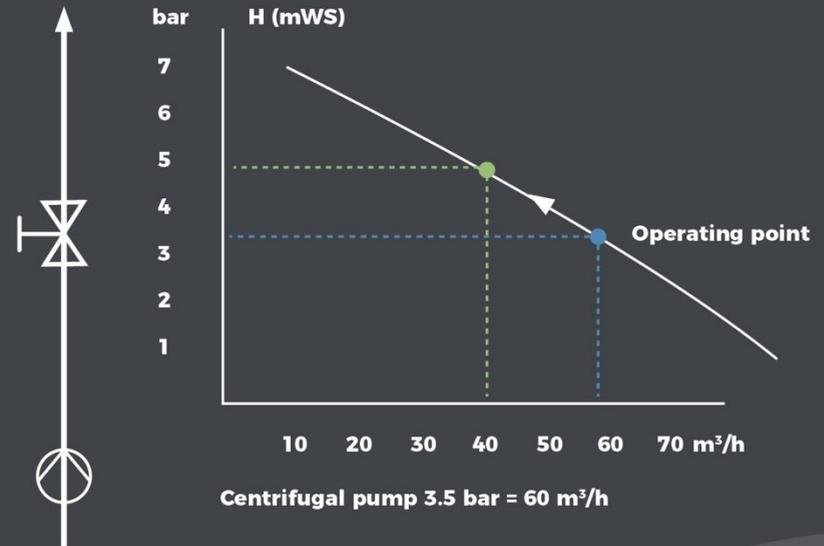
Pump Physics

24-hour operation prevents standstill corrosion and solid CaCO_3 deposits.



Pump diagram

Due to the changed dynamic viscosity, we achieve a reduction of the operating point on the pump's characteristic curve, resulting in higher volume performance.





APPLICATION AREAS OF THE SKW-SYSTEM SOLUTION

for horticulture and agriculture

We are here for water!





Crop protection



Field irrigation



Fruit and vegetable
washing



Greenhouse



Animal husbandry
and watering



Greenkeeping



Vertical farming and
DWC systems



Wetting with
SKW-System



Wetting without
SKW-System

PLANT PROTECTION

The distribution accuracy of plant protection agents and soil conditioners using the SKW-System is the key to healthier plant growth and improved market quality.

-  Reduction of plant protection agents and soil conditioners through faster absorption and more efficient effectiveness
-  High precision of water distribution and better dosing
-  Faster drying on plants and fruit
-  Less rinsing of the sprayer when changing active substances



Nozzle pattern with SKW-System



Nozzle pattern without SKW-System



Deposits dissolved after rinsing with SKW-treated water



Installation position of the SKW-System (Horsch LEEB 12 TD)



HOMOGENEOUS WATER DISTRIBUTION

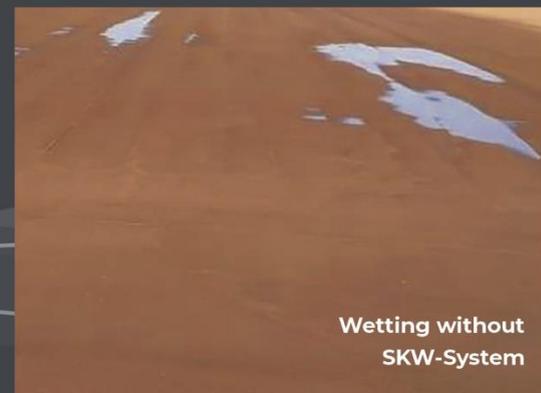
| | | | | | | | |
|---------------------------|--------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| With SKW-System | 5 l/m ² | 10 l/m ² | 15 l/m ² |
| Without SKW-System | 3 l/m ² | 5 l/m ² | 10 l/m ² | 15 l/m ² | 20 l/m ² | 25 l/m ² | 28 l/m ² |

The irrigation of the field with the SKW-System shows an even distribution of water applications across the entire length.

FIELD IRRIGATION

Field irrigation with the SKW-System guarantees faster and more uniform water absorption and ensures rapid water drainage.

-  No waterlogging
-  Shorter irrigation cycles due to higher water flow rate at the nozzle
-  Faster drying on the plant and fruit
-  No adhesion of biofilm or minerals in the pipes
-  Better root formation and faster growth due to improved wetting and up to 5% more oxygen in water and soil
-  Higher value creation per m² / increased yield per m²



FRUIT & VEGETABLE WASHING

Faster sedimentation and flotation of dirt particles in the SKW-System is the key to better washing results and consistent quality.

-  Better removal of dirt particles
-  Shorter process times and lower operating costs
-  Faster absorption and drying of water
-  Better sedimentation and flotation
-  Removal of existing lime deposits
-  Short payback period for the investment
-  Increase in specific separation performance of flotation (undissolved COD) by approx. 10–20%
-  Increased dry solids content in the flotante
-  Lower COD in clear water
-  Adjustment of water chemistry (e.g. significant reduction of additives possible)
-  Operational reliability in continuous processes







GREENHOUSE

Through the use of the SKW-System, we achieve even water distribution in the soil and thus more compact and faster root development.



With SKW-System –
irrigation hose after 2 years of use.

- 🌿 No clogged pipes
- 🌿 Even and better water distribution
- 📊 Higher value creation / more yield per m²
- 🌱 Better root formation and growth
- 🌿 No adhesion of surfactants or minerals in pipes and removal of existing encrustations
- 🌱 Better soil penetration
- 🌿 More oxygen saturation in the water



Without
SKW-System

With
SKW-System





ANIMAL DRINKING SYSTEMS

In animal husbandry, water with low viscosity supports digestion and ensures that oxygen, nutrients, and minerals can be absorbed more effectively in the intestines. This leads to better feed utilization and allows optimal daily weight gain.

- 🌿 Excellent feed and mineral utilization
- 🌿 Calmer animals
- 🌿 Less ammonia
- 🔧 Easy installation in the central cold-water supply
- 📦 Reduction of veterinary costs
- 🔧 Clean water-bearing systems
- 🔧 Removal of existing lime deposits and biofilm
- 📦 Low-maintenance, no follow-up costs



Drinking hose
without SKW-System



Drinking hose
with SKW-System







GREENKEEPING

Through the use of the SKW-System, we achieve uniform water distribution in the soil and more compact root development.

-  Faster drying of turf
-  No waterlogging
-  Oxygen entry into the soil with the water
-  Reduction of leaf fungal diseases (Gray Leaf Spot)
-  Successful SKW applications in many football stadiums, training grounds, and golf courses
-  Regular monitoring and inspection of the turf by sports field and sod experts
-  Tested and recommended by DFB / DFL





VERTICAL FARMING & DWC-SYSTEM

Through the use of the SKW-System, intense and more compact root growth is monitored.

-  Better removal of dirt particles
-  Shorter process times, higher yield
-  Breakdown of existing lime deposits
-  Improved oxygen input
-  Fewer algae
-  Short payback period for the investment
-  Maintenance- and operation-free



Growth at different pH levels with SKW water:
pH level 7.0 pH level 5.8





AREAS OF APPLICATION OF THE SKW-SYSTEM SOLUTION

for Industry and Commerce



We are here for water!



Aviation



Shipping and Marine



Paper Industry



Wastewater
Treatment Plants



Beverage Industry



Cooling Circuits



Evaporation Plants /
Compressors



Dairy Industry



Aluminum Plants



Swimming Pools



INDUSTRY

OPTIMIZATION POTENTIALS

Fewer
resources

More
yield



BETTER PENETRATION



HOMOGENEOUS AND WIDE-AREA
DISTRIBUTION AND CLEANING



FASTER CLEANING WITH LESS AGENT
AND EFFORT



LOW MAINTENANCE WITHOUT
FOLLOW-UP COSTS



AVIATION

The SKW-System prevents calcification in water-bearing systems and is the key to low-maintenance operation.

The SKW-System prevents lime buildup in aircraft drinking water systems, at faucets, and water heaters. Any slight formation of lime deposits can easily be removed.

Maintenance intervals are extended, susceptibility to failures and repair times are reduced. The use of the SKW-System also affects the vacuum toilet system connected to the drinking water system — each flush uses 0.2 liters of water.

To prevent the 50 mm vacuum pipes from clogging within a year, these pipes are cleaned every six months with high pressure or flushed with crushed ice under pressure. Often, a chemical liquid (Honey Bee 60) is added weekly.

With the SKW-System installed, no chemicals are required. Any build-up on the inner walls remains soft and is gradually sucked into the waste tank during flushing.



General supplier for Airbus GmbH and Boeing Commercial Airplane Group since 2000.





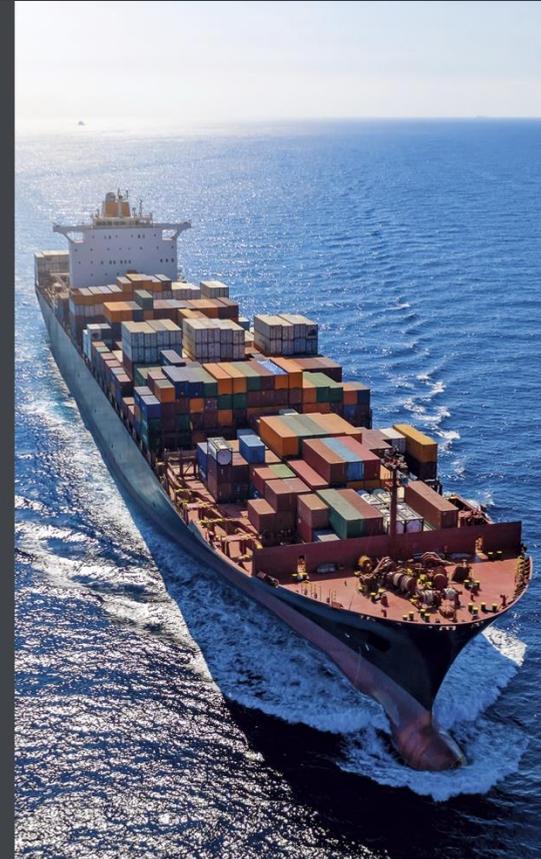
Since 2004, SKW-System has been successfully used on ships of the Royal Navy of Bahrain.

SHIPPING

Efficient use of the SKW-System in various cooling applications and significant extension of membrane service life.

With the SKW-System, we guarantee optimal separation performance of undissolved substances and a substantial increase in membrane lifespan.

-  Seawater desalination via reverse osmosis
-  Seawater cooling of engines
-  Seawater cooling of air conditioning systems
-  Optimal separation of undissolved substances
-  Significant extension of membrane
-  Improved permeate flow – approx. 10% higher
-  Minimization of chemical operating agents





Empfangen 30 t/m
Tragfähigkeit 16.000 kg



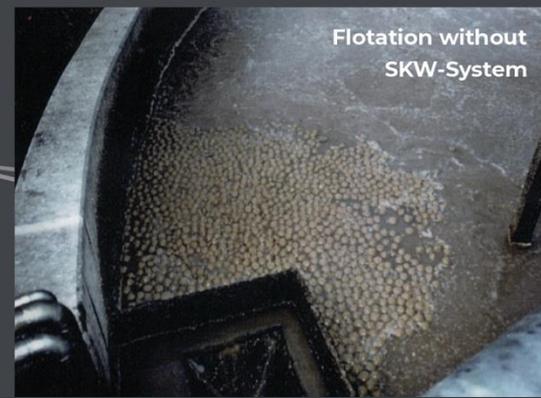
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PAPER INDUSTRY

Faster dewatering and improved wet strength, as well as increased runnability.

-  Freshwater treatment for the preparation of homogeneous additive dispersions such as starch slurry, retention agents, etc.
-  Process water treatment in partial flow mode to prevent deposits and conglomerates in the production system
-  Cooling water treatment for oil coolers to prevent internal scaling in the piping system
-  Faster dewatering – approx. 1–2 % increase in dry content after the press section
-  Improved initial wet strength (INF)
-  No anaerobic conditions, no H₂S
-  Reduction in water chemistry usage
-  Short amortization time!

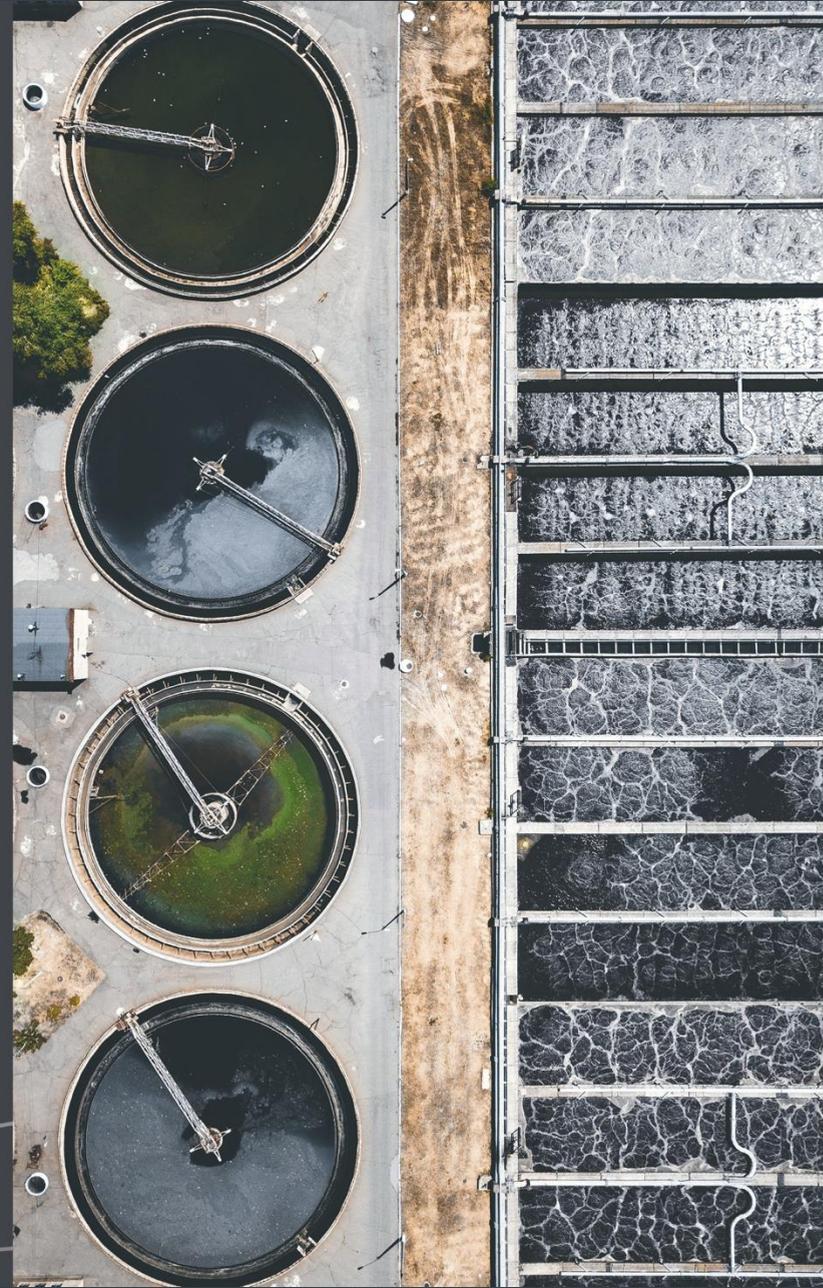


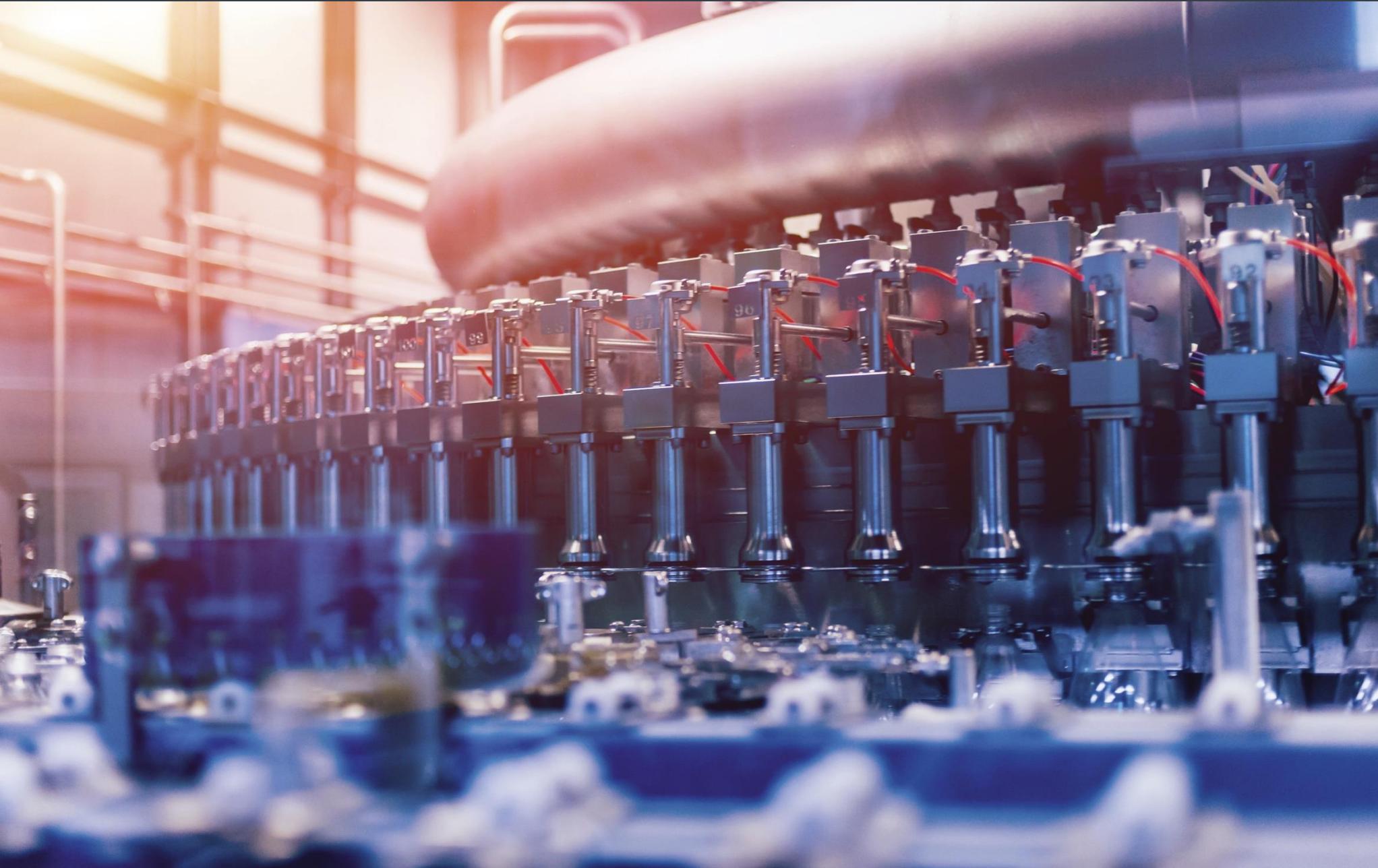


WASTEWATER TREATMENT/ AERATION TANKS

Faster settling speed during sedimentation and flotation.

- 🌀 Specific separation performance of flotation (undissolved COD) = approx. 10–20% higher
- 🌀 Increased dry solids content in the flotage
- 🌀 Lower COD in clear water
- 🌀 Adjustment of water chemistry (e.g., ferric chloride / polymer)
- 🌀 Flotation system insensitive to fluctuations in feed solids
- 🌀 Outflow result (clear water) unaffected by inflow variations
- 📦 Short amortization period and operational safety during continuous operation



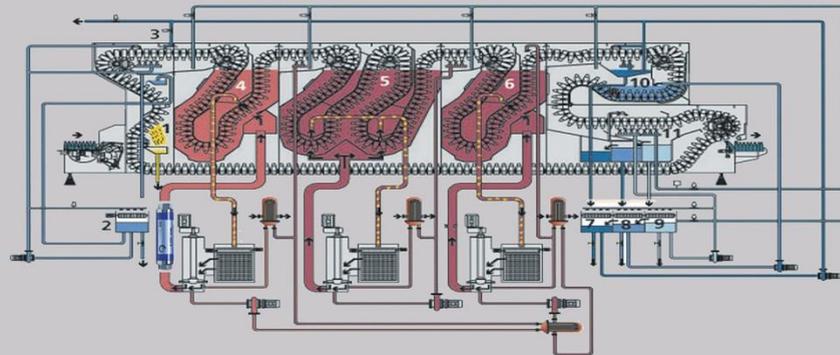


CIP SYSTEMS / BEVERAGE INDUSTRY

Through precise definition of cleaning agents, pressure, temperature, and time, a reproducible process is established. Advantages with the SKW-System arise from improved lye conditioning, higher intensity, and better distribution accuracy.

- Clear lye, no foam formation
- Prevention of lye deposits on tank and pipe walls
- Longer service life and lifespan of the system
- Maintenance-free

**SKW-System
in lye-circuit**



**SKW-System
in fresh water**

**Bottle washing machine
type Krones**



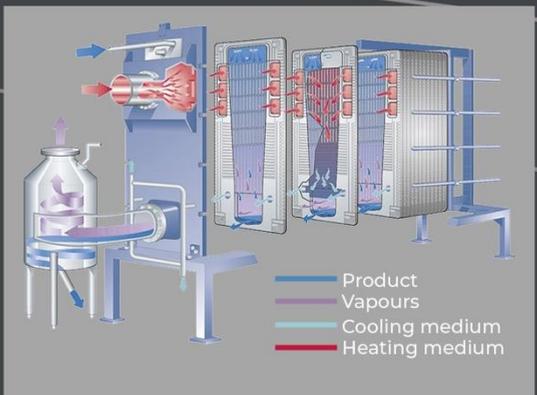


COOLING CIRCUITS

The SKW-System reduces operating costs and additive use, ensuring more efficient operation of cooling circuits.

- 🌀 No salt system (ion exchanger)
- 🌀 No operating costs for this
- 🌀 No corrosion inhibitors
- 🌀 No hardness stabilizers
- 🌀 No pH-reducing agents
- 🌀 No biocides
- 🌀 Thus, no wastewater contamination
- 🌀 Clean air when used in air scrubbers
- 📦 Energy savings



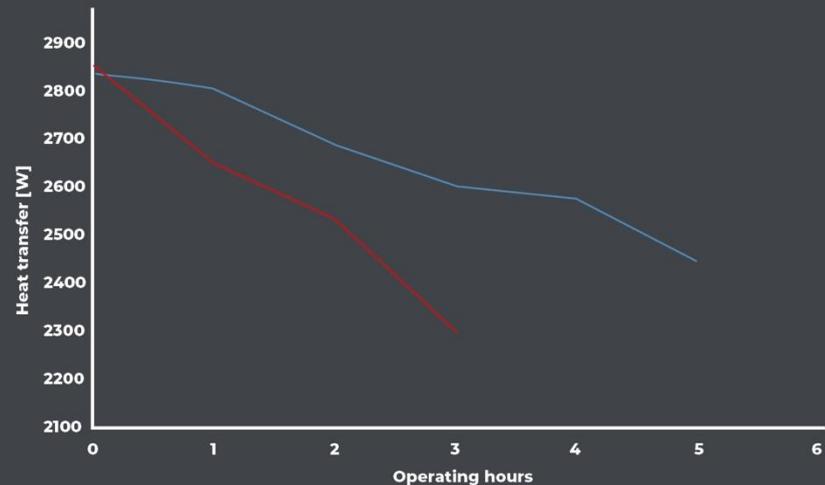


- Product
- Vapours
- Cooling medium
- Heating medium

EVAPORATION AND COMPRESSION SYSTEMS

Advantages arise in operation with the SKW-System through increased service life and reduced cleaning time.

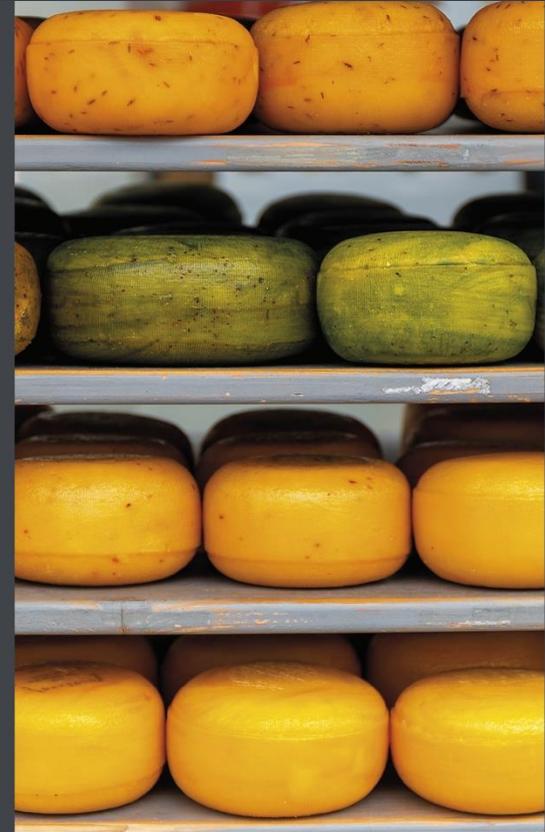
- 📊 Significant energy savings during ongoing processes
- 📊 Up to approx. 40% longer operating time
- 📊 Reduction of cleaning time
- 📊 Increased service life
- 🧼 No biological deposits on heat transfer surfaces
- 📊 Short amortization period!



— With SKW

— Without SKW



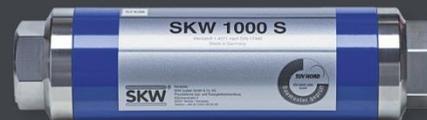


DAIRY / CHEESE FACTORIES

Faster settling speed during sedimentation and flotation.

Salt bath conditioning / Ice water

- Stable biology / no more turbidity and foaming
- More uniform and faster salt absorption into the cheese
- Removal of existing salt and lime deposits
- Prevention of circuit contamination
- Energy savings (compressors)
- No biological deposits on heat transfer surfaces
- Cold and hot water circuits
- Heat exchangers
- Cooling circuits (open and closed cooling towers)
- Vacuum pumps, bottle washing plants
- UHT systems, milk and whey evaporators
- Product cooling
- CIP systems, pasteurization, mold washing plants
- Wastewater technology – biological pre-clarification, treatment plants / aeration, static sludge thickeners, flotation plants, grease separators





ALUMINUM PLANTS

Through the use of the SKW-System, we achieve uniform water distribution and better cleaning effects with reduced caustic usage.

100% closed-loop water system

For aluminum water cooling during DC casting, Alu-Billets GmbH in Kempten operates a circulating water system of approx. 1,000 m³.

Before installation of the SKW-System, chemicals such as biocides and corrosion inhibitors were used. Since the biology quickly became resistant to these products, they had to be changed every three months.

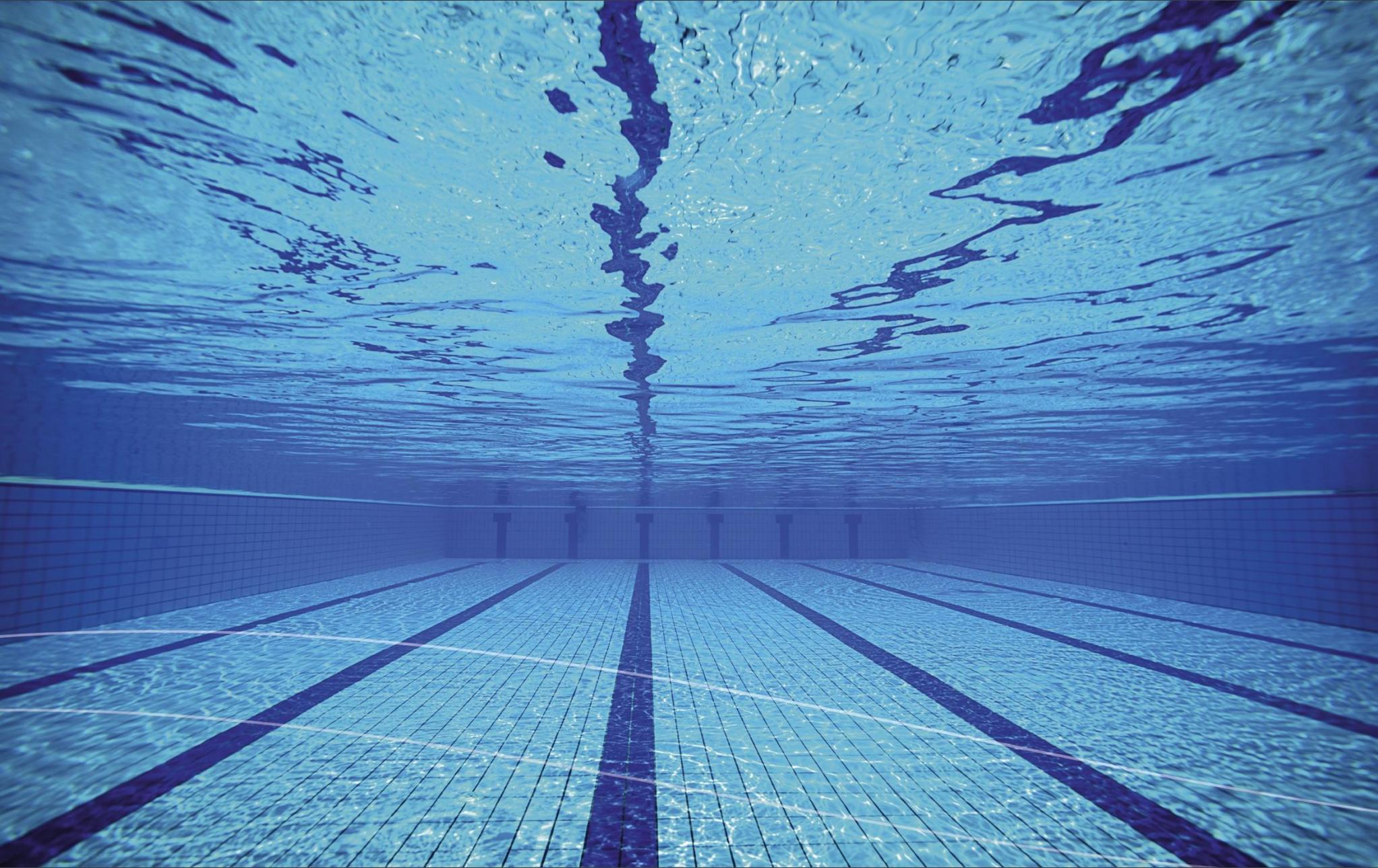
In August 1998, the SKW-System was installed in both the circulation and fresh water inlets. The result: the casting oil used during casting no longer emulsifies but separates on the bath surface, making disposal easier and preventing clogging in water-bearing systems.

The second effect is self-cleaning of the entire water hydraulics, which remains clean. Furthermore, Alu-Billets GmbH now has oxygen-rich, stable circulating water.

Since September 1998, no chemicals have been used for water treatment. This results in an annual cost saving of approx. €102,000, according to operations manager Paul Sommer.

For more information about SKW-System applications at Alu-Billets GmbH, please contact us.





SWIMMING POOLS

Through the use of the SKW-System, we achieve even water distribution and no lime deposits in the piping systems.

The physical-chemical properties of the water are of fundamental importance for a balanced water condition. Oxygen is essential. The goal is to treat pool water so that it can be returned to the circulation in excellent, hygienically safe quality, creating added value and sustainability.

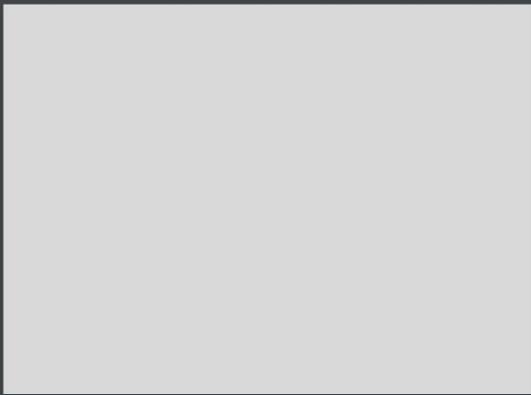
-  Operational safety
-  Significant energy savings
-  No clogging of filter media
-  Reduction of additives for optimizing water quality





APPLICATION AREAS OF THE SKW-SYSTEM SOLUTION

for households



We are here for water!



Household Supply

H_2O

SKW H_2O



HOUSEHOLD SUPPLY

Through the use of the SKW-System, we achieve even water distribution and no lime deposits in the piping systems.

The SKW-System reduces the dynamic viscosity of water. For the hydraulic system, this provides the following benefits:

1. Prevents clogging of water-bearing systems with solid CaCO_3 deposits (calcium carbonate).
2. Lime deposits in water pipes have long been a problem, typically resolved only through time-consuming and costly methods. The SKW-System offers an effective, simple solution—without chemicals or electricity.





SKW H₂O

By using the SKW-System, we achieve better oxygen saturation in the blood and improved metabolism of supplied energy.

The SKW-System H₂O is a physical water treatment device for households, leisure, or sports. It is designed to improve water quality. Through the kinetic energy of flowing liquid, positive and negative charge carriers (cations and anions) are guided and aligned by a special magnetic field within the SKW-System.

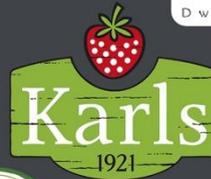
SKW-System improves metabolism and blood circulation.

Through a physical process, blood becomes thinner and more fluid after drinking about 1-2 liters of mineral-rich water, allowing it to penetrate the finest capillaries and significantly improve circulation. The immediate increase in brain oxygenation can, with regular drinking habits, relieve pain blockages over time. Many users and migraine sufferers have long benefited from these positive effects. All statements are based on personal experiences and reports from users.



COMPANIES THAT TRUST US





SKW-SYSTEM IN USE



House – Cold water



Heat exchanger



Paper mill



Cooling tower



House – Hot water



Car wash



Field sprayer



Sugar factory



Cooling lubricant



Field sprayer



Golf course



Strip plant



Football training field



Aluminum plant



Carrot washing



Potato washing



Drip irrigation



Swimming pool



Potato washing



Greenhouse



CIP-system



Brewery



Irrigation systems

SKW-SYSTEM IN USE





SKW-SYSTEM IN USE



Disk filter
after first rinse with SKW water



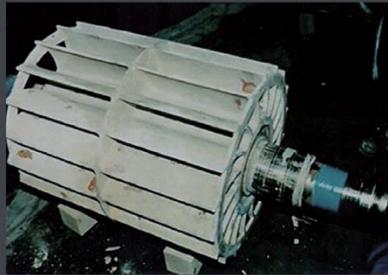
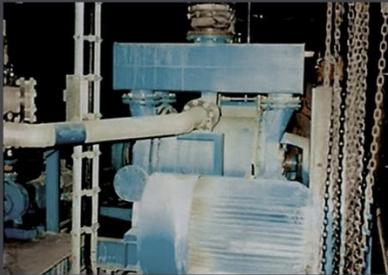
Dissolved deposits
in water



SKW-SYSTEM IN USE

Vacuum pump application

Visual inspection after 1 year



Cooling circuits

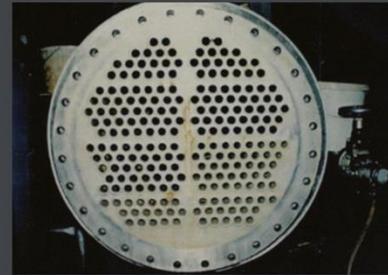
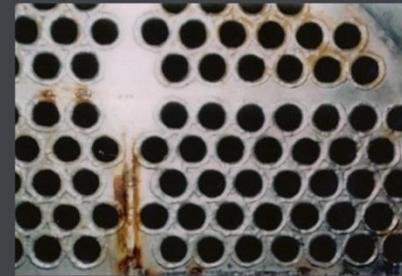
Flue gas scrubber



NH₃ pipe cooler –
circulation contamina-
tion due to CaCO₃



Refrigeration system free
of CaCO₃ and biological
build-up



APPLICATION IN MIXING TANKS – WITH AND WITHOUT SKW-SYSTEM



Wastewater technology / Mixing tank
without SKW-System



Wastewater technology / Mixing tank
with SKW-System



SKW-SYSTEM PRODUCT LINE

| Type/ Design PN 16 | Thread connection DIN 2999 | Flange DIN 2501 | Length L (mm) | Outer Ø (mm) | Weight netto G (kg) | Flow rate Vmax m ³ /h |
|-----------------------|----------------------------------|--------------------|------------------|-----------------|---------------------------|--|
| SKW 100 S | 1/2" | DN 10 | 135* | 38 | 0.6 | 1.2 |
| SKW 380 S | 1/2" | DN 15 | 200* | 48 | 1,7 | 2.5 |
| SKW 1000 S | 1" | DN 25 | 290* | 80 | 6.2 | 5,5 |
| SKW 1600 S | 1 1/4" | DN 32 | 450 | 120 | 24 | 13 |
| SKW 1800 S | 1 1/2" | DN 40 | 540 | 120 | 28 | 18 |
| SKW 4000 S | 2" | DN 50 | 780 | 170 | 55 | 40 |
| SKW 5000 S (Navy) | 3" | DN 80 | 1100 | 200 | 160 | 72 |
| SKW 6000 S | 3" | DN 80 | 1500 | 200 | 182 | 110 |



SKW Niederlande BV
7991 TG Dwingeloo
Niederlande

SKW System Vertrieb España SL
Cartagena / Murcia
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Pakistan

CSMT Pte.Ltd.
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Regina Saskatchewan
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RT Weber GmbH
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