



REDO Water Systems

Water Treatment without Chemical Additives and with best possible Energy Efficiency



Water – the most valuable resource

Water Treatment today

Water is one of the most valuable commodities on planet earth. Despair and serious illness are irresistible consequences where supply of clean drinking water is compromised by contamination and pollution.

Protection and Disinfection of Drinking Water evoked various different Treatment Technologies over the decades – but only a few are without negative side effects.



The water treatment issue

Primary problems of water treatment

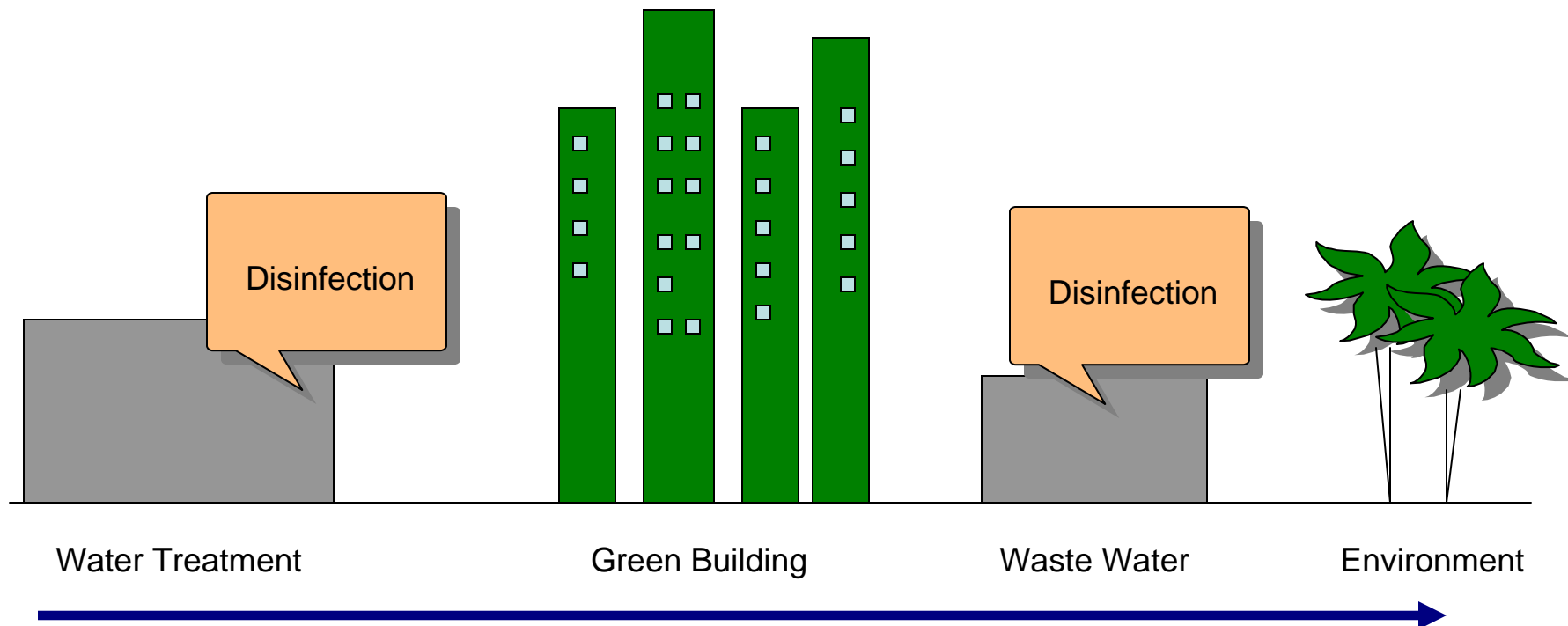
The use of chemicals or chlorine gas to fight microbiological contaminations and risks often aggravates the situation by resulting in unwanted toxic by-products, even cancer risks and (at least) unwanted qualitative disadvantage like smell and taste.

Moreover, some Treatment Technologies are characterized by either high energy consumption and inefficiency or need harmful chemicals as base products.

The water treatment issue

The way of our water

Water Treatment is a pure technical challenge from the source to the effluent.



Contradicting requirements of water treatment

Primary Treatment

- Microbiological Safeness
- Reliable and safe Processes
- Low Energy Consumption
- Safe Transportation
- Lowest possible leakage

Building

- Protected Infrastructure
- Microbiological Cleanness
- High Water Quality
- Unpolluted effluents

Residents

- Health protection
- No harmful by-products
- Reduced Chemicals
- Taste and Smell
- Reliability

Environment

- Safe effluent
- Lowest chemical discharge
- Over all energy efficiency
- Avoidance of toxic side effects

Superior Technology gives the answer

REDO[®] Water Systems' award winning technology is a great answer to drinking water supply problems and hygiene challenges.

REDO[®] Water Systems offer a great variety of innovative, multipurpose, highly efficient and economical units that are environmentally friendly for water purification and disinfection.

REDO[®] units are developed based on superior technology, which, in contrast to conventional forms of water treatment, makes chemical additives redundant. With small amounts of salt and electricity, the highly reliable units that clean, disinfect, and purify water to ensure a high quality of drinking water.

REDO Water Systems has been awarded by the German Federal Ministry of Economics and Labor with the Federal Award 2004 for an outstanding innovative product.



REDO Application Areas

Public

- Water Treatment Plants
- Sewage Water Plants
- Compact Treatment Stations
- Emergency Disinfection
- Emergency water supply
- Infrastructural Development

Commercial

- Food and Beverage
- Airports and Shipyards
- Transportation / Aviation
- Buildings and Infrastructure
- Hotels and Resorts
- Hospitals and Clinics

Agriculture

- Poultry Industry
- Cattle and Pig Farming
- Fish Industry
- Fruits and Vegetables

Immediate Operation

- Natural Disasters
- Refugee Camps
- Mobile Medical Facilities
- Aid Organisations
- NGO / NPO
- Military

REDO – A „four-in-one“ Process

REDO[®]lyt – Simultaneous Disinfectant Agent made of pure salt

REDO Disinfection Systems use water, pure salt and energy to produce the four strongest disinfection agents. They are now available in one single and safe solution.

REDO Technology combines Chlorine + Chlorine Dioxide + Ozone and Oxygen to one unbeatable effective, biodegradable and liquid active agent – REDO[®]lyt.

Exploiting the advantages and reducing the disadvantages of the well known single disinfection agents at the same time is the reason for the unmatched capabilities of REDO when it comes to water treatment.



A real break-through in disinfection technology

A 'multi-barrier' concept for disinfection

The unique combination of the advantages of ozone, chlorine dioxide and chlorine results into an insuperable 'multi-barrier disinfection process' – the final removal of bacteria, germs, spores and other harmful vermins. The disinfection solution is biodegradable, nonhazardous in operation and without dangerous side effects or by-products.

REDO Disinfection Technology combines and accumulates the power of the best disinfection agents to exceptional short contact time with an outstanding long-term effectiveness. Safe and microbiological clean drinking water becomes available for the price of a few grams of salt.



REDO – Efficiency and Safeness

Highly innovative and safe Technology

With a multi disinfectant agent produced on-site, transportation, handling and dosing of hazardous and additional chemicals becomes obsolete in all steps of Water Treatment. Our highly effective REDOlyt solution is dosed directly into the water according to the required values and as prescribed by regulations. Only salt and water are the base products that have to be handled.

Economical Efficiency

REDO[®] means very low installation and operational costs; the preparation of 1,000 litres (approx. 265 gallons) of drinking water would usually require only 3 to 4 grams of common salt and a low amount of electricity.

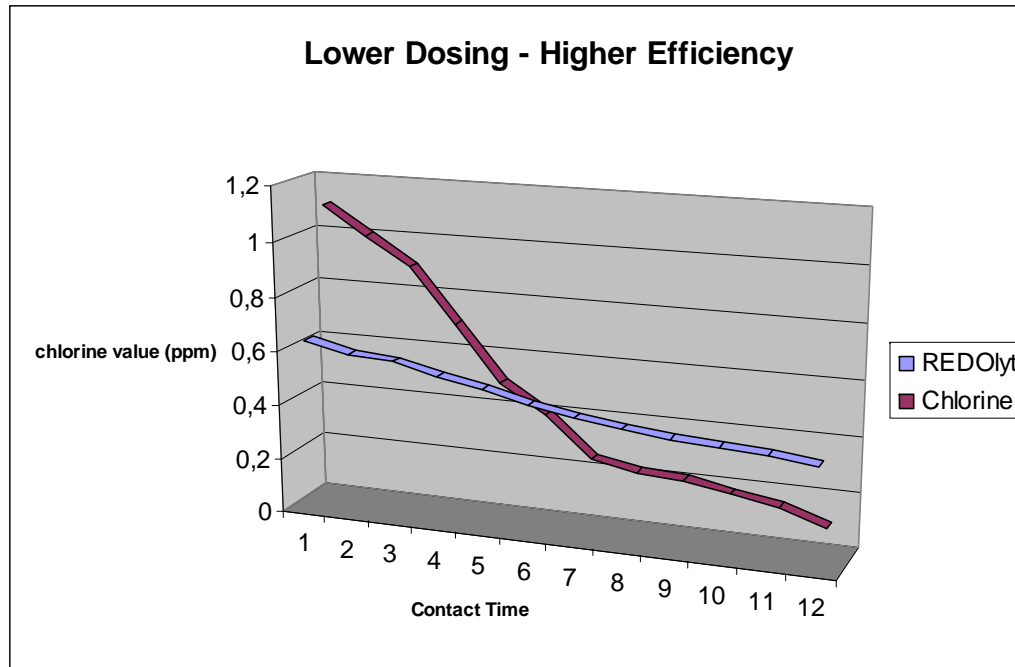


REDO – Efficiency and Safeness



A Multi Disinfectant Technology for lowest possible dosing

Depending on the application the efficiency of REDOlyt exceeds the effect of chlorine by factor 5 to 50 with improved long-lasting efficiency.



Essential Advantages for all Treatment Stages

- ✓ No chemical additives used
- ✓ Totally safe treatment process
- ✓ Lowest possible level of active agents
- ✓ Best Energy Efficiency – 16 Watts for 1.000 liters of water
- ✓ Base product salt is a natural resource
- ✓ No health risks – no harmful by-products
- ✓ Agents are 100% biodegradable and environmentally friendly
- ✓ Water Quality not effected regarding taste and smell
- ✓ Maximum protection for the infrastructure

Advantages of the REDO Technology

Primary Treatment

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- ✓ Reliable and safe Processes
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- ✓ Lowest possible leakage

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REDO Stationary Units

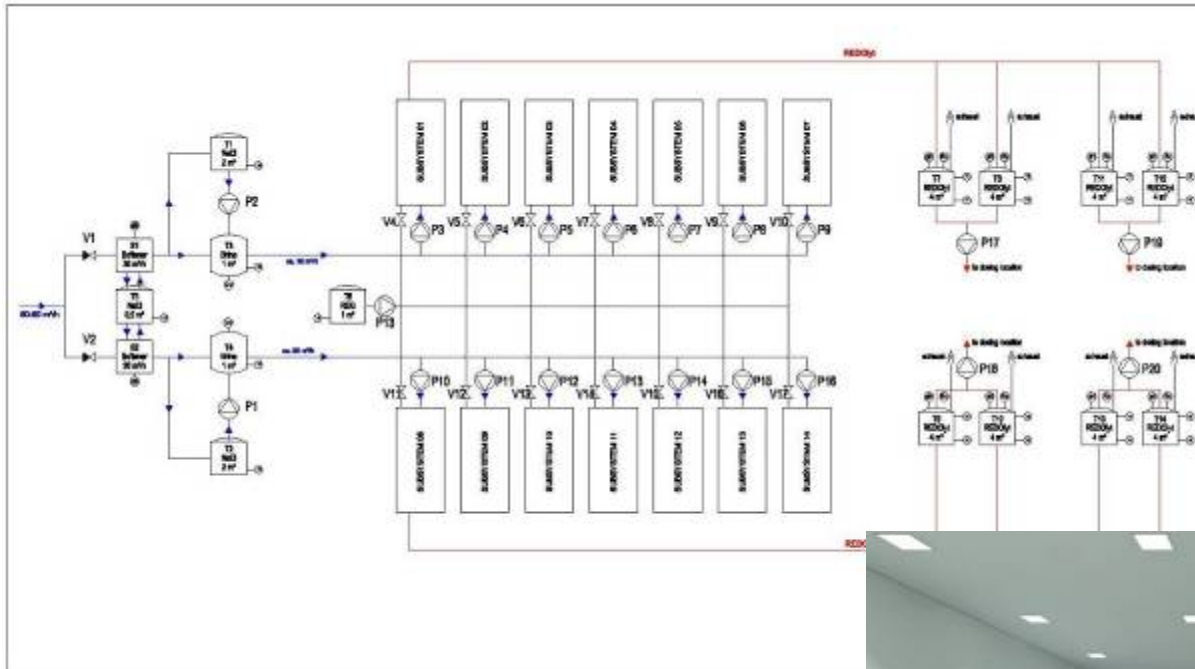
REDO[®] Stationary Units cover a wide range of disinfection capacities

The REDO[®] stationary units are compact and extremely powerful when it comes to disinfection. Disinfection capacity for single units range from 250.000 up to 5.000.000 litres per day (depending on the process, raw water quality and contamination levels) with full scalability for bigger designs.

Stationary units can be easily installed in any building or application and are available as Semi Automatic and Full Automatic Designs. No specifically experienced personnel is required and demands for maintenance are low.



Scalable Solutions for Water Treatment Plants



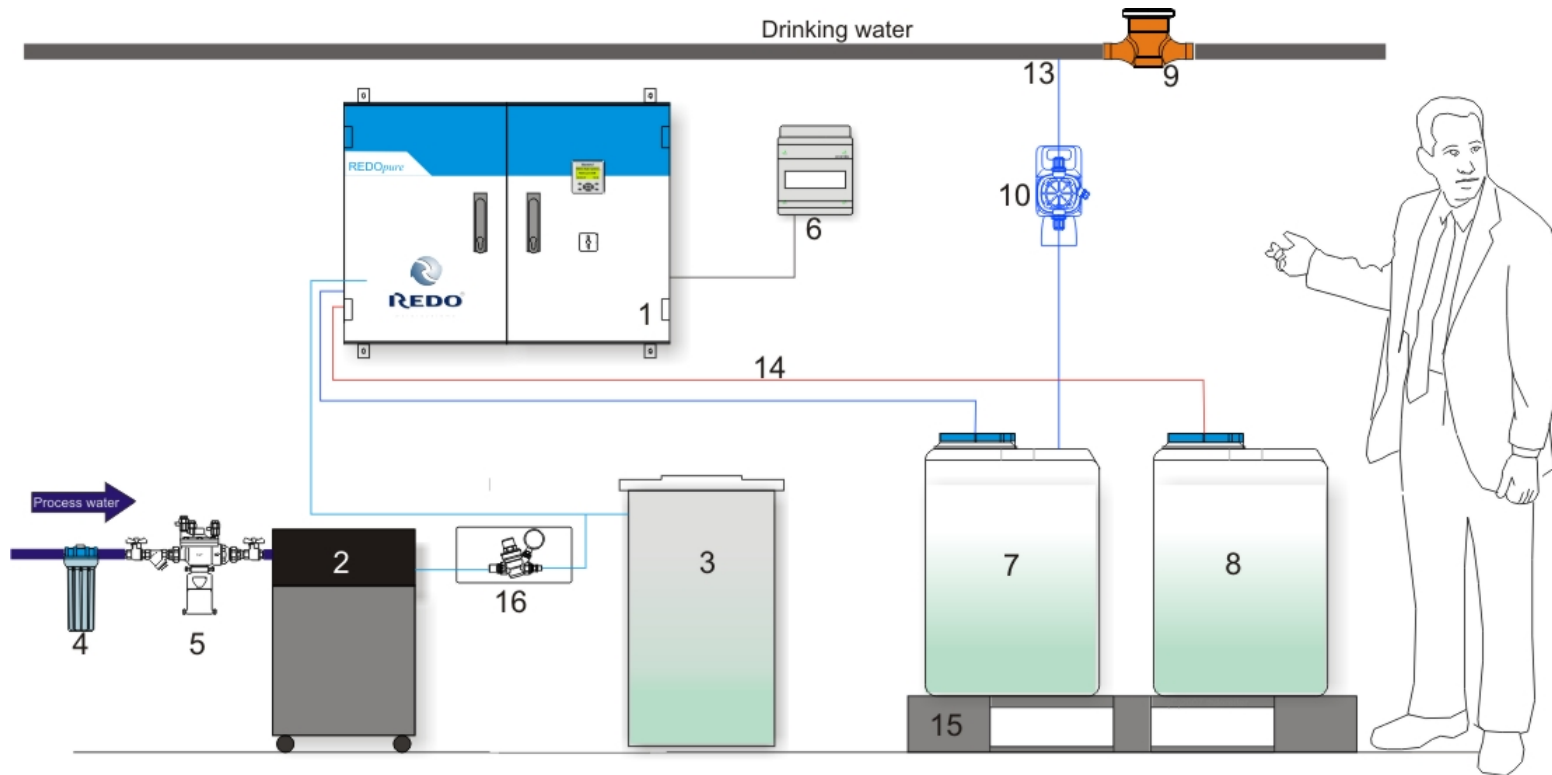
The Zagazig Water Treatment Station, Egypt. Contractor: Al-Eman Engineering Co. – Disinfection REDO - 17.000 m³/d

REDO Installations around the world



REDO Systems are already in operation in Germany, Switzerland, Portugal, Spain, Czech Republic, Venezuela, Mexico, Brazil, Peru, India, Indonesia, Malaysia, Sri Lanka, Korea, Egypt, Somalia, Sudan, Nigeria.

Installation Scheme – Drinking Water Treatment



1	REDOpure unit	5	Back flow inhibitor	9	Threaded water meter
2	Softener	6	Elec. Connection box	10	Dosing pump
3	Brine container	7	Container for REDOlyt	13	Dosing point
4	Fine filter	8	Container for REDOkat	16	Pressure reducer

Easy Integration into any Building Infrastructure



Example – Office Building of a German Bank

Quality and Flexibility

A Superior Product Quality with full Scalability

- Reliable German Quality Products with a long-term lifecycle
- No chemical additives and a totally safe treatment process
- No harmful by-products such as AOX / THM are produced
- Highest Energy and Treatment Efficiency
- Agents are 100% biodegradable and environmentally friendly
- Low Maintenance – easy to operate
- Available as manual or fully automatic units: mobile and stationary
- REDO Consultancy Service based on extensive experiences
- Manufacturing tailored to specific application needs
- Units with disinfection capacities from 80.000 to 5.000.000 l/d
- Full Scalability allows capacities for up to 50 Mio. litres a day



Mission Statement

Our mission is to improve world-wide the quality of drinking water, reduce chemicals and, thereby, make a significant contribution to environmental protection, safeness, efficiency and health promotion.

We will achieve this through our outstanding technology and quality, highly qualified employees, an excellent market oriented corporate strategy and by continuous development.

REDO Water Systems – March 2008



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