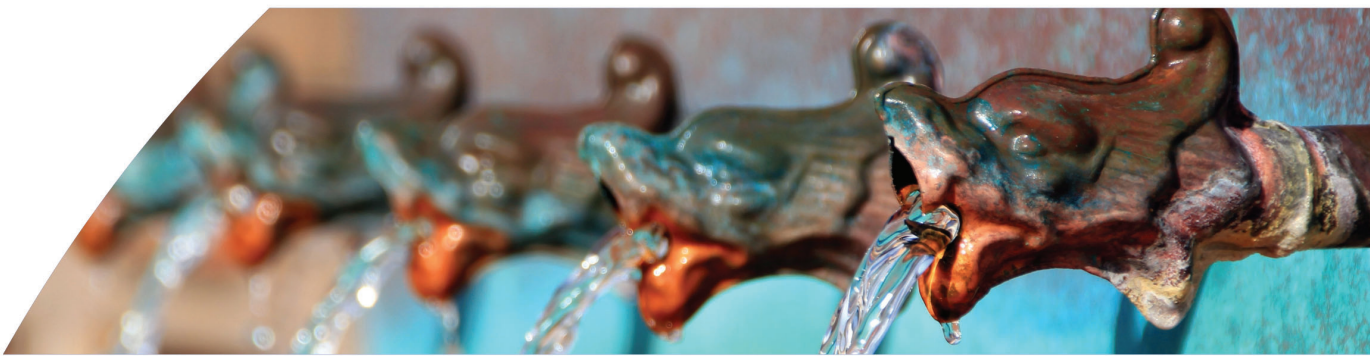


dinox[®]



**INDUSTRIAL & DRINKING
WATER TREATMENT**

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INTRODUCTION

Dinax Kft., our company, established in 1995 relies on decades of experience when serving its customers. Our activities are governed by the provisions of the MSZ EN ISO 9001 standard.

OUR PRODUCTS cover the full scope of water treatment:

- treatment for the waters of public and private swimming pools and whirlpools
- household water purification
- industrial water treatment

PRODUCTION:

The majority of our products are produced in our own plant. We rely on several decades of production experience of our chemical engineers to commercially distribute chemicals of uniquely high purity, licensed by the Office of the Chief Medical Officer.

DELIVERY:

We do not only have our own production capacity; our own ADR trucks operating scheduled round trips distribute the ordered goods nationwide, from Szeged to Sárvár and from Debrecen to Hévíz. With our short delivery deadlines and flexible shipping terms, we strive to fully meet every customer requirement.

CONSULTANCY:

Our consulting services mean the subsequent care for all our customers' needs and solutions for their problems, inclusive of the product price. For design companies, we prepare the necessary technology, from which the implementation plans can be prepared.

Our present catalogue introduces the chemicals required for the treatment of drinking water, waters for various industrial uses and wastewater. To find out about the important information in connection with the products, please visit our website, where more detailed descriptions, summaries and calculation guidelines are available.





HOUSING FOR
FILTER CARTRIDGES



HOUSING FOR FILTER CARTRIDGES

- | | |
|-----------------|----|
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Excellent drinking water quality can only be ensured by using filter elements of excellent quality. The lion's share of water purification belongs to the water filtration cartridges. Selecting a good water purification device is not enough; the continuous supply of the best replacement filter elements must also be ensured.

Drinking water of excellent quality, free from smacks is an indispensable and fundamental pillar of catering and gastronomy, as we need it for almost every food from coffee to soup, as well as for cleaning dishes.

Using filtered water multiplies the lifetime of equipment used in the catering industry; the cost of limescale removal is reduced to zero; the use of an appropriate filtering equipment effectively contributes to environment-conscious and profitable business.

FILTER CARTRIDGE HOUSING WITH BRASS

Housing with brass insert and transparent sump



Technical features:

Head	PP with brass insert
Sump	transparent SAN
Socket	PP
O-ring	NBR 70 Sh A
Working pressure	Max. 8 BAR
Burst pressure	35 BAR
Temperature	5°C — 50°C
Capacity (empty) 2 BAR pressure	1/2" F 106,60 l/min. 3/4" F 108,50 l/min. 1" F 106,60 l/min. 1" 1/4 F 230 l/min. 1" 1/2 F 230 l/min.
Life test	200.000 cycles from 0-10 BAR

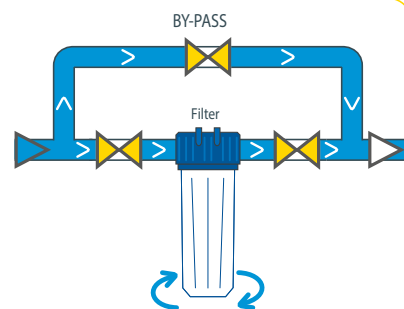
Raw water entrance

On-Off valve

Water flow

Turn clock wise to remove

Treated water exit



Sizes:

Type	Height	Inlet / Outlet	Size (width x height)
FP3	5"	1/2"	122 x 174 mm
FP3	9 3/4"	1/2"	122 x 294 mm
FP3	5"	3/4"	122 x 174 mm
FP3	9 3/4"	3/4"	122 x 294 mm
FP3	5"	1"	122 x 179 mm
FP3	9 3/4"	1"	122 x 299 mm
FP3	5"	1 1/4"	126 x 189 mm
FP3	9 3/4"	1 1/4"	126 x 319 mm
FP3	9 3/4"	1 1/2"	126 x 325 mm

Water arriving to the place of application through the piping network may contain rust, sand and limescale particles and other deposits. An important part of water treatment is the removal of the solid parts from the system. In order to implement this, we offer our clients a wide range of filter bowls of various sizes and capacities, and corresponding filter elements. These products are suitable for both household and industrial use.

FILTER CARTRIDGE HOUSING WITHOUT BRASS

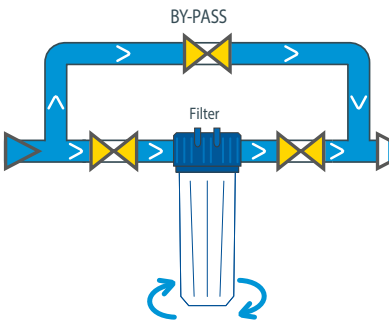
Housing without brass insert and transparent sump



Technical features:

Head	PP without brass insert
Sump	transparent SAN
Socket	PP
O-ring	NBR 70 Sh A
Working pressure	Max. 8 BAR
Burst pressure	35 BAR
Temperature	5°C — 50°C
Capacity (empty)	1/4"F 32,83 l/min. 3/8"F 86,70 l/min.
2 BAR pressure	1/2"F 106,60 l/min. 3/4"F 108,50 l/min. 1"F 105,60 l/min.
Life test	200.000 cycles from 0-10 BAR

- Raw water entrance
- On - Off valve
- Water flow
- Turn clock wise to remove
- Treated water exit



Sizes:

Type	Height	Inlet / Outlet	Size (width x height)
FP3	5"	1/4"	118x170 mm
FP3	9"3/4	1/4"	118x302 mm
FP3	5"	3/8"	118x170 mm
FP3	9"3/4	3/8"	118x302 mm
FP3	5"	1/2"	122x178 mm
FP3	9"3/4	1/2"	122x310 mm
FP3	5"	3/4"	122x185 mm
FP3	9"3/4	3/4"	122x317 mm
FP3	5"	1"	122x193 mm
FP3	9"3/4	1"	122x325 mm

The Duplex/Triplex line is a new range of filter bowls, designed to optimise the filtration process. This allows the two or three stage filtration of the fluid to be treated. It is recommended for more complex treatments, allowing simultaneous filtration of various contaminants, increasing the optimal level of filtration efficiency. They are grouped into the Duplex/Triplex series.

The filter bowls are sold without filter elements. Prepared for mural mounting for the following dimensions: 5", 10", 20".

FP3 Duplex	FP3 Triplex
2 pieces of plastic filter: - head (PP blue) female connection with brass inserts, brass relief valve, vase (transparent SAN), O-ring, console and brass nipple	3 pieces of plastic filter: - head (PP blue) female connection with brass inserts, brass relief valve, vase (transparent SAN), O-ring, console and brass nipple

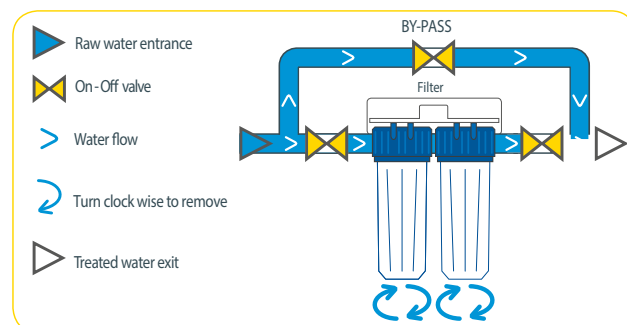
DUPLEX WITH BRASS

Duplex housing with brass insert and transparent sump



Technical features:

Head	PP with brass insert
Sump	Transparent SAN
Socket	PP
O-ring	NBR 70 Sh A
Working pressure	Max. 8 BAR
Burst pressure	35 BAR
Temperature	5°C — 50°C
Capacity (empty) 2 BAR pressure	1/2"F 106,60 l/min. 3/4"F 108,50 l/min. 1"F 106,60 l/min. 1" 1/4F 230 l/min. 1" 1/2F 230 l/min
Life test	200.000 cycles from 0-10 BAR



Sizes:

Type	Height	Inlet/Outlet	Size (width x height x depth)
FP3 Duplex	9"3/4	1/2"	258 x 365 x 145 mm
FP3 Duplex	9"3/4	3/4"	258 x 365 x 145 mm
FP3 Duplex	9"3/4	1"	258 x 365 x 145 mm

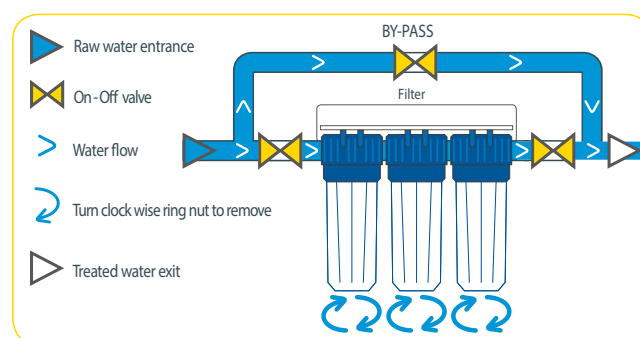
TRIPLEX WITH BRASS

Triplex housing with brass insert and transparent sump



Technical features:

Head	PP with brass insert
Sump	Transparent SAN
Socket	PP
O-ring	NBR 70 Sh A
Working pressure	Max. 8 BAR
Burst pressure	35 BAR
Hőmérséklet	5°C — 50°C
Capacity (empty) 2 BAR pressure	1/2" F 106,60 l/min. 3/4" F 108,50 l/min. 1" F 106,60 l/min. 1" 1/4 F 230 l/min. 1" 1/2 F 230 l/min
Life test	200.000 cycles from 0-10 BAR



Sizes:

Type	Height	Inlet/Outlet	Size (width x height x depth)
FP3 Triplex	9"3/4	1/2"	396 x 365 x 145 mm
FP3 Triplex	9"3/4	3/4"	396 x 365 x 145 mm
FP3 Triplex	9"3/4	1"	396 x 365 x 145 mm

The products presented in the catalogue are suitable for the filtration of drinking water or any other liquid fit for human consumption.

The filter bowls may be used at the water pressures indicated in the catalogue. If the water pressure is higher, sudden pressure variations may occur, therefore the installation of a pressure regulator is advised, in order to protect the device.

The use of filter bowls are recommended for liquids of room temperature or in the temperature range indicated in the catalogue (20-25°C). If the filter bowl is connected to a water heater piping network, install a slide valve - preventing hot water from entering the filter bowl.

Do not use translucent San filter bowls for fluid of high or low pH (solvents, detergents and chemical products)! Only use fluids of neutral pH for these filter bowls!



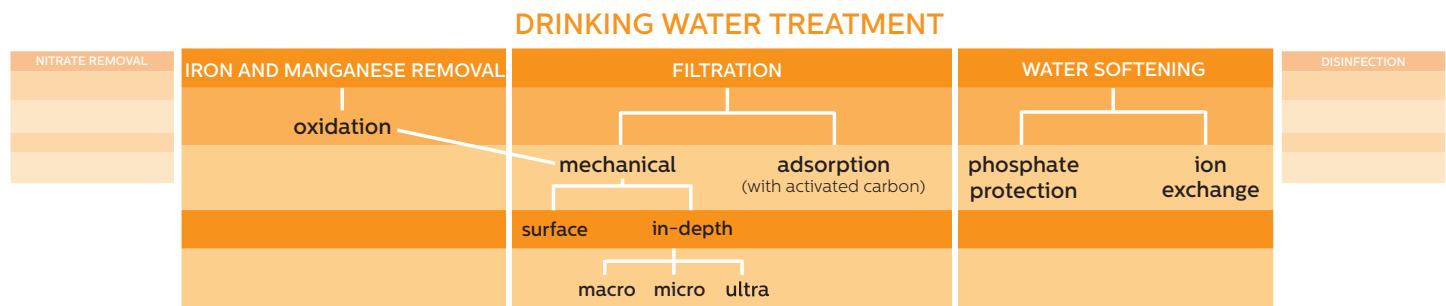
FILTER CARTRIDGES



FILTER CARTRIDGES

- surface and in-depth filtration 13.
- surface filtration 14.
- in-depth filtration 16.
- combined filtration 18.
- antibacterial filtration 20.
- adsorption filtration 21.
- prevention of scaling 22.
- iron oxidation 23.

Filtration is a fundamental method of water treatment. Depending on the principle the filter material applies to filter out the contaminants and the size range it operates in, the types of filtration may be grouped into the following categories:



Surface filtration is based on the particles larger than the gap size of the filter medium are retained on the surface of the medium (a so-called sieve effect occurs). These filter elements can be cleaned and reused, if they get clogged.

In-depth filtration means the granules are trapped in the zigzaggy cavities (pores) of the filter medium; the filter performs filtration over its entire volume. These filter elements must be replaced after they are clogged. Contaminants adhere to the **adsorption filter** media (surface binding).

The filter media may be grouped according to the following, depending on the filtration dimension ranges:

- **macro-filtration:** granules larger than 1 micron
- **micro-filtration:** between 0.1 - 1 microns
- **ultra filtration:** between 0.002 - 0.1 microns (1 micron = 0.001 millimetres)

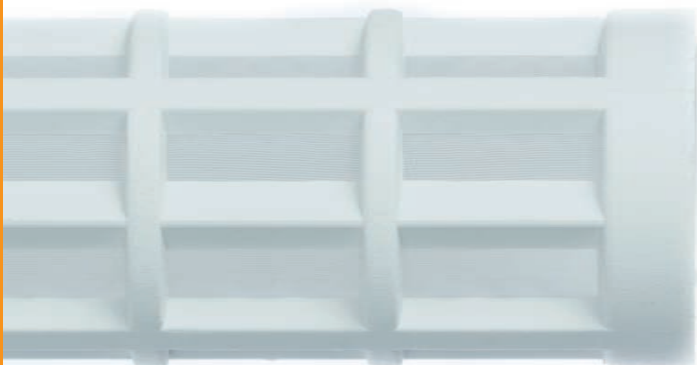
When selecting the appropriate filtration method, the following factors must be taken into consideration:

- the type of fluid to be processed
- granule size
- filtration capacity
- material permeability
- pressure drop
- chemical compatibility
- heat resistance

Further factors:

- cost/quality efficiency
- maintenance

When filtering water (especially well water), we recommend to have the quality of water thoroughly analysed, based on which, the water parameters to be treated can be determined.



SURFACE AND IN-DEPTH FILTRATION

Washable POLIPOR cartridge



- Structure: sintered and compressed polyethylene powder
- Aim of application: filtration of floating matter
- Filtration principle: in-depth and surface filtration
- Key characteristics: the filter element filters over the entire cross section, therefore it can retain large volumes of contaminants without clogging and at a small pressure difference
- Reuse: under flowing water, it may be easily cleaned with a brush, therefore its lifespan in comparison to conventional in-depth filters is longer (may be reused 2-3 times). Soaking in acetic acid or citric acid solution is recommended
- Field of application:
- filtration of mains drinking water
 - filtration of well waters
 - beverage vending machines
 - swimming pool technology
 - agriculture (irrigation equipment)

Technical features:

Size (diameter x height)	Length (col)	Micron	Flow-rate (l/h)
Ø 64 x 127 mm	5"	5-25	300-850
Ø 64 x 127 mm	5"	25-50	850-950
Ø 64 x 127 mm	5"	75-100	1100-1200
Ø 64 x 178 mm	7"	5-25	400-1200
Ø 64 x 178 mm	7"	25-50	1200-1300
Ø 64 x 178 mm	7"	75-100	1600-1700
Ø 64 x 254 mm	10"	5-25	600-1700
Ø 64 x 254 mm	10"	25-50	1700-1900
Ø 64 x 254 mm	10"	75-100	2200-2400

Max. working pressure: 8 BAR

Max. differential pressure: 0,8 BAR

Max. working temperature: 50°C

SURFACE FILTRATION

Washable net cartridge



Structure: polypropylene frame with washable net

Aim of application: filtration of floating matter

Filtration principle: surface filtration

Reuse: the contaminant retained on the surface of the filter element may be washed off easily with a jet of water, eliminating the frequent changes of filter elements necessary for other types

Field of application: - drinking water treatment
- industry
- agriculture
- household applications
- pumps

Technical features:

Size (diameter x height)	Length (col)	Micron	Flow-rate (l/h)
Ø 65 x 127 mm	5"	80	1750
Ø 65 x 254 mm	10"	80	3500

Max. working pressure: 8 BAR

Max. differential pressure: 0,8 BAR

Max. working temperature: 50°C

SURFACE FILTRATION

Washable quartz cartridge



Structure: quartz sand

Aim of application: filtration of floating matter

Filtration principle: surface filtration

Reuse: may be reused multiple times. It can be periodically cleaned by soaking for 4-10 hours in 10% hydrochloric acid and by blowing with compressed air from the outside to the inside.

Field of application: - filtration of chemicals

Technical features:

Size (diameter x height)	Length (col)	Micron	Flow-rate (l/h)
Ø 55 x 254 mm	10"	30	250

Max. working pressure: 8 BAR

Max. differential pressure: 0,8 BAR

Max. working temperature: 38 °C

IN-DEPTH FILTRATION

Wound cartridge



Structure: clean, wound polypropylene filter element

Aim of application: filtration of floating matter

Filtration principle: in-depth filtration

Key characteristics: the filter element filters over the entire cross section, therefore it can retain large volumes of contaminants without clogging and at a small pressure difference

Reuse: after filtering a certain quantity of water, it gets completely saturated over its entire cross section and it needs to be replaced

Field of application:

- water treatment
- electronics
- biotechnology
- fine chemicals
- pharmaceutical industry, cosmetics
- alimentary industry

Technical features:

Size (diameter x height)	Length (col)	Micron	Flow-rate (l/h)
Ø 64 x 127 mm	5"	1	250
Ø 64 x 127 mm	5"	5	650
Ø 64 x 127 mm	5"	10	1000
Ø 64 x 127 mm	5"	20	1250
Ø 64 x 127 mm	5"	50	1350
Ø 64 x 127 mm	5"	100	1400
Ø 61 x 254 mm	10"	1	500
Ø 61 x 254 mm	10"	5	1300
Ø 61 x 254 mm	10"	10	2000
Ø 61 x 254 mm	10"	20	2500
Ø 61 x 254 mm	10"	50	2700
Ø 61 x 254 mm	10"	100	2800
Ø 61 x 508 mm	20"	1	900
Ø 61 x 508 mm	20"	5	2300
Ø 61 x 508 mm	20"	10	3600
Ø 61 x 508 mm	20"	20	4500
Ø 61 x 508 mm	20"	50	4800
Ø 61 x 508 mm	20"	100	5000

Max. working pressure: 8 BAR

Max. differential pressure: 0,8 BAR

Max. working temperature: 50°C

IN-DEPTH FILTRATION

Melt blown cartridge



Structure: 100% polypropylene

Aim of application: filtration of floating matter

Filtration principle: in-depth filtration

Key characteristics: the filter element filters over the entire cross section, therefore it can retain large volumes of contaminants without clogging and at a small pressure difference

Reuse: after filtering a certain quantity of water, it gets completely saturated over its entire cross section and it needs to be replaced

Field of application: - water treatment
- biotechnology
- alimentary industry
- coatings/resins
- pharmaceutical industry, cosmetics

Technical features:

Size (diameter x height)	Length (col)	Micron	Flow-rate (l/h)
Ø 63 x 127 mm	5"	1	500
		3	600
		5	750
		10	1000
		20	1100
		30	1250
		50	1400
		90	1500
Ø 63 x 254 mm	10"	1	1000
		3	1300
		5	1600
		10	2000
		20	2500
		30	2600
Ø 63 x 508 mm	20"	1	1800
		3	2200
		5	2800

Size (diameter x height)	Length (col)	Micron	Flow-rate (l/h)
Ø 63 x 508 mm	20"	10	3600
		20	4300
		30	4500
		50	5800
		90	5200
Ø 63 x 762 mm	30"	1	2700
		3	3200
		5	4300
		10	5400
		20	6400
		30	6800
Ø 63 x 1016 mm	40"	50	7300
		90	7800
		1	3500
		3	4200
		5	5400
		10	6900
		20	8500
		30	9000
		50	9500
		90	9800

Max. working pressure: 8 BAR

Max. differential pressure: 0,8 BAR

Max. working temperature: 50°C

COMBINED FILTRATION

Wound cartridge with activated carbon



- Structure:** clean, wound polypropylene cartridge with activated carbon
- Aim of application:** filtration of floating matter and binding of free active chlorine, organic matter content and heavy metals
- Filtration principle:** surface and adsorption filtration
- Key characteristics:** the filter element combines the advantages of wound yarn and activated carbon filter elements. It can be successfully applied in places where a floating matter filter must be installed upstream of the activated carbon filter elements.
- Reuse:** after filtering a certain quantity of water, it gets completely saturated over its entire cross section and it needs to be replaced
- Field of application:** - water treatment
- alimentary industry

Technical features:

Size (diameter x height)	Length (col)	Micron	Flow-rate (l/h)
Ø 70 x 127 mm	5"	20	84
Ø 70 x 254 mm	10"	20	156
Ø 70 x 508 mm	20"	20	312

Max. working pressure: 8 BAR

Max. differential pressure: 0,8 BAR

Max. working temperature: 50°C

ANTIBACTERIAL FILTRATION

Antibacterial, ultra filter cartridge



Structure: 100% polysulfone

Aim of application: filtration of microorganisms

Filtration principle: antibacterial filtration
Thanks to its small pore size, the element is capable of retaining the smallest of solid particles, including even larger bacteria.

Bacteria retention ability:

Pseudomonas diminuta	99,99999989%
Pseudomonas aeruginosa	99,99999999%
Legionella pneumophila	99,9999999%
Legionella bozemanii	99,9999992%
Vírus visszatartó képesség:	99,99999% (log 8)
Endotoxin visszatartó kép.:	99,999% (log 5)

Reuse: the filter element must be replaced after it is clogged

Field of application: - household drinking water
- pharmaceutical industry, cosmetics
- alimentary industry

Technical features:

Size (diameter x height)	Length (col)	Micron	Flow-rate (l/h)
Ø 63 x 254 mm	10"	0,2	180

Max. working pressure: 8 BAR

Max. differential pressure: 0,8 BAR

Max. working temperature: 35°C

ADSORPTION FILTRATION

Carbon block cartridge



Structure: activated carbon with polyester net

Aim of application: filtration of floating matter and binding of free active chlorine, organic matter content and heavy metals

Filtration principle: surface and adsorption filtration

Key features:

GRANULE HARDNESS: the presence of residual carbon powder is negligible

LARGE FILTRATION SURFACE AREA (up to 1500 m²/g): high adsorption, longer lifespan

VERY HIGH RETENTION CAPABILITY: the volume of ash is negligible in the treated water, high degree of purity

PRE-FILTRATION: The pre-treatment of the water with a pre-filtration action extends the lifetime of the filter element

FILTERING CAPACITY OF CARBON: The capacity is determined by the quality and quantity of the carbon used. The contact time also influences the final result significantly. In reality, the longer the carbon is in contact with the water (low flow rate), the stronger the adsorption effect of the carbon.

Reuse: its complete replacement is necessary after it is clogged

Field of application: - water treatment
- alimentary industry

Technical features:

Size (diameter x height)	Length (col)	Micron	Flow-rate (l/h)
Ø 72 x 254 mm	10"	10	480

Max. working pressure: 8 BAR

Max. differential pressure: 0,8 BAR

Max. working temperature: 50°C

ADSORPTION FILTRATION

Filter cartridge with silver-doped activated carbon



- Structure:** plastic cartridge filled with silver doped activated carbon
- Aim of application:** binding of free active chlorine, organic matter content and heavy metals
- Filtration principle:** adsorption filtration
- Key features:** the filter cartridge is able to extract micro-contaminants from the water to be treated, such as detergents, plant protecting agents, phenolic compounds, oil derivatives, other organic matter – various flavouring and odourising agents – and haloform compounds, to remove the chlorine content of the water to be treated, binding the free active chlorine content of the water.
In comparison to the conventional activated carbon, the silver content of silver-doped activated carbon can prevent propagation of living.
- Reuse:** regenerate charge after complete saturation or replace the entire cartridge
- Field of application:** - household drinking water
- alimentary industry

Technical features:

Size (diameter x height)	Length (col)	Micron	Flow-rate (l/h)
Ø 72 x 127 mm	5"	20	108
Ø 72 x 254 mm	10"	20	720

Max. working pressure: 8 BAR

Max. differential pressure: 0,8 BAR

Max. working temperature: 38 °C

PREVENTION OF SCALING

Filter cartridge with silicophosphate



- Structure: plastic filter cartridge filled with silicophosphate crystals
- Aim of application: prevention of limescale deposition in case of high water hardness
- Principle of operation: water softening through the dissolution of phosphate
It prevents the separation of limescale in the pipes, or in the mechanical parts, thereby preventing the reduction of capacity.
- Field of application: - household utility water (e.g. water heater, washing machines)

Technical features:

Size (diameter x height)	Length (col)	Micron	Flow-rate (l/h)
Ø 72 x 127 mm	5"	20	360
Ø 72 x 254 mm	10"	20	720

Max. working pressure: 8 BAR

Max. differential pressure: 0,8 BAR

Max. working temperature: 38 °C

IRON OXIDATION

Filter cartridge with iron removal charge (MAZ)



Structure: plastic filter cartridge with iron removal charge

Aim of application: reduction of the iron content of the water

Principle of operation: iron oxidation
For the efficient removal of low (max. 3 ppm) iron levels. The iron and manganese binding capacity of the charge depends on the flow rate. Mechanical pre-filtration is advised, therefore its application is recommended in the middle element of the Triplex filter bowl.

Reuse: regenerate charge after complete saturation or replace the entire cartridge.
The lifespan of the filter charge depends on the iron content of the water to be treated.

Field of application: - household drinking water
- alimentary industry

Technical features:

Size (diameter x height)	Length (col)	Micron	Flow-rate (l/h)
Ø 72 x 127 mm	5"	20	360
Ø 72x254 mm	10"	20	720

Max. working pressure: 8 BAR

Max. differential pressure: 0,8 BAR

Max. working temperature: 37,5 °C



EQUIPMENTS



EQUIPMENTS

- water treatment equipment 26.
- filter media 33.
- regenerating materials 35.
- chemical dosing equipment 35.

For waters of wells, some kind of filtration or treatment method is necessary in most cases to enable the extracted water to be used for various industrial applications or human consumption. Occasionally, the quality of the mains drinking water may not meet certain industrial technological specifications, therefore it needs to be treated.

In the following, our water treatment equipment will be presented, from household size units to high-performance industrial dimensions.

Our water treatment equipment provide solutions for the reduction of the following parameters:

- total hardness
- nitrate content
- total salt content
- iron content
- manganese content
- arsenic content
- free active chlorine content

Certain filter media can be ordered separately, and chemicals are also available for their regeneration.

WATER TREATMENT EQUIPMENT

WATER SOFTENING EQUIPMENT

The dissolved calcium and magnesium salts that cause water hardness precipitate from the water as the water's temperature rises, causing very significant reductions of efficiency in boiler systems, water heaters and household appliances.

These deposits could be removed by chemical means, using acidic detergents, but they are not easily accessible, therefore the prevention of depositions requires great care.

During ion exchange softening, the resin charge of the equipment replaces the ions causing water hardness by sodium ions that do not separate from the water due to temperature differences.

Our manually and automatically controlled equipment offer solutions for softening the water. Our automatic equipment are fitted with quantity-controlled heads, which, depending on the quantity of fluid passing through, take care of regeneration according to their settings.

Depending on whether the demand for soft water is continuous or intermittent, we recommend using our single and double column (twin) units.



Our automatic softening equipment are quantity controlled, i.e. having a built-in water meter, and after the desired quantity is reached, the regeneration is automatically performed. Delays can be set for the time of regeneration.

The equipment is fitted with a built-in raw water mixing valve, with which it can ensure treated water of 5–7 °dH, perfectly suitable for human consumption.

The equipment indicates the momentary water consumption, the quantity of the remaining servable soft water (m³), the number of remaining days until forced regeneration, the exact time and the quantity of water generated since the last regeneration.

Recommended accessories: pre-filter and bypass.

By fitting the equipment with a pre-filter, the service life of the resin is: 2 - 3 years Salt tablets are recommended for regeneration.

Technical specifications:

PERFORMANCE PARAMETERS					
Type	Performance (m ³ /h)		Capacity (m ³ /°dH/reg)	Resin filling (dm ³)	Salt demand (kg/reg)
	max.	nominal			
Dinamic 10 A/T-E-1-C Micro	1,12	0.7	15	5	0,9
Dinamic 10 A/V-E-1-C Micro	1,12	0.7	15	5	0,9
Dinamic 10 A/V-E-1-C Mini	1,46	0.9	26	8	1,7
Dinamic 10 A/V-E-1-C	1,46	0.9	60	18	3,8
Dinamic 20 A/V-E-1-C	1,85	1.1	81	24	5
Dinamic 30 A/V-E-1-C	2,28	1.4	96	29	6
Dinamic 40 A/V-E-1	3,85	2,4	169	50	11
Dinamic 50 A/V-E-1	3,85	2,4	267	80	17
Dinamic 60 A/V-E-1,25	4,47	2,73	328	98	21
Dinamic 70 A/V-E-1,25	4,47	2,73	388	116	24
Dinamic 80 A/V-E-1,25	5,83	3,6	454	135	28
Dinamic 90 A/V-E-1,25	5,83	3,6	529	158	33
Dinamic 100 A/V-E-1,5	10,05	6,1	781	233	49
Dinamic 110 A/V-E-2	13,13	8,0	1099	327	69
Dinamic 120 A/V-E-2	20,51	12,5	1789	533	112

A: automatic
T: time-controlled
V: volume-controlled

E: single column
1: connection size 1"
C: cabinet

Twin softeners - Double column water softener range



The equipment is automatically controlled, and ensures continuous soft water supply. Water softening is performed by the resin charge of one of the columns at a time, the other one functioning as a reserve standby unit.

After softening a predefined quantity of water, the automatic control system starts the regeneration of the saturated ion exchange resin and it automatically performs the specific steps of the regeneration process. Regeneration of the charge is done by filling high purity salt tablets into the regenerating tank. While the saturated charge is being regenerated, the reserve column performs water softening.

Technical specifications:

Type	Column size (col)	Performance (m³/h), maximum	Resing filling(dm³)	Capacity* (m³ x °dH/reg)	Regenerating salt demand (kg/reg)	Necessary salted water container (liter)	Place requirement (mm)		
							L	W	H
Dinamatic-10 A/V-D-1	8 x 35	1,46	2 x 18	60	3,8	kabinet	1000	550	1085
Dinamatic-20 A/V-D-1	9 x 35	1,85	2 x 24	81	5	kabinet	1100	550	1315
Dinamatic-30 A/V-D-1	10 x 35	2,28	2 x 29	96	6	kabinet	1300	750	1570
Dinamatic-40 A/V-D-1	13 x 35	3,85	2 x 50	169	11	100	1450	750	1570
Dinamatic-50 A/V-D-1	13 x 54	3,85	2 x 80	267	17	100	1500	750	1925
Dinamatic-80 A/V-D-1,25	16 x 55	5,83	2 x 135	454	28	340	2000	900	1940
Dinamatic-100 A/V-D-1,5	21 x 60	10,05	2 x 233	781	49	340	2800	1250	2320

D - double column

1 - connection 1"

A/V - automatic quantity-controlled design (regeneration is performed depending on the amount of soft water produced)

Capacity* - the quantity of soft water that can be produced between two regenerations = Capacity/hardness of the raw water [°dH]



We recommend our manual water softener equipment primarily for applications where appropriate solutions are sought for periodical soft water needs:

- upon filling heating systems, or
- for the partial filling of swimming pools and bubble baths where soft water is needed.

Regeneration takes place with the help of vacuum salt, at the place of use, manually.

Equipment types:

Type	Performance (m³/h)		Capacity (m³/°dH/reg)	Resin filling (dm³)	Regenerating salt need (kg)
	max.	nominal			
DLK 8 x 17	1,1	0,8	27	8	1,7
DLK 8 x 35	1,3	1,0	60	18	3,8
DLK 10 x 35	2,2	1,7	107	32	6,7

NITRATE REMOVAL EQUIPMENT

In case of drilled wells, the high nitrate content of the water is often a problem.

Subsurface waters are contaminated by nitrate mostly as a result of human activities – artificial fertilisation, sewage desiccation animal husbandry, etc.

The consumption of nitrate is highly dangerous to infants, mainly due to its reduction to nitrite in the stomach, reducing the blood's oxygen transport capability, causing cyanosis and, at higher concentrations, asphyxia.

The nitrate content may be decreased below the limit value (50 mg/l) with the help of dinamatic equipment filled with nitrate-selective resin charge.

DINAMATIC nitrate removers - Automatic nitrate removing equipment range

Our nitrate removers are automatically operated ion exchange equipment filled with nitrate-selective resin. They are quantity controlled, i.e. having a built-in water meter, and after the desired quantity is reached, the regeneration is automatically performed. Delays can be set for the time of regeneration. They are fitted with cabinets and can be regenerated with salt tablets.

FULLY DESALINATING EQUIPMENT

The salts dissolved in the water generally do not cause water use problems, but there are certain applications where desalinated water must be produced.

Due to limescale deposition, alkalisation and corrosion, and since the salts dissolved in water change the behaviour of certain compounds, it is important to use absolutely salt-free water for the following applications:

- boiler systems
- in the pharmaceutical industry
- in the alimentary industry
- in the glass industry
- for glass and dishwashing equipment
- for laboratory analytical appliances, etc.

The mixed bed desalination equipment is used primarily for the further treatment of pre-desalinated water, or to satisfy small amounts of water needs.

DMX - Mixed bed desalinating equipment range



The charge of the equipment is a mixture of cation and anion exchanging resins in appropriate proportions, which ensures the desalination of the water.

In the course of the desalination process, the raw water is passed through the resin charge from top to bottom, which completely removes salts, carbonic acid and silicic acid from the water.

The depletion of the resin is indicated by the red light of the conductivity meter fitted to the cartridge turning on.

The charge of the equipment cannot be regenerated, the cartridge must be replaced by the replacement cartridge, and the depleted charge must be taken to the site indicated by our company for regeneration.

Technical specifications:

Type	Performance (m ³ /h)		Capacity (m ³ /dissolved content (mg/l)/reclamation)	Resin filling (dm ³)
	max.	nominal		
DMX 8 x 35	0,97	0,65	211	18
DMX 9 x 35	1,23	0,82	328	28
DMX 10 x 35	1,52	1,01	374	32

In case of drilled wells, the high dissolved iron, and occasionally, manganese content of the water is often a problem. These ions, present in the water in dissolved form, cause no discolouration, but are precipitated when exposed to the air's oxygen, causing a brownish-yellowish discolouration in the water and on the surfaces in contact with it.

When applying our iron removal equipment, the pre-oxidation of the water's iron content is necessary. As a consequence of oxidation, the iron ions dissolved in the water are precipitated, and can thus be filtered. For dosing the oxidising agent, we recommend the Navidos quantity-proportional chemical dosing device (page 35), that adds the required chemical proportionally to the quantity of the water to be treated.

Following the oxidation, the filter charge of the equipment filters out the precipitated iron and manganese ions, thereby preventing discolouration of the water and its contact surfaces.

DX-VSZ-MMF-250-760 - Automatic iron removal equipment range

Iron removal equipment with a graded fired quartz charge to filter out high iron content. Time controlled design, i.e. rinseback of the charge is performed at regular intervals.

DX-VSZ-AMF-250-760 - Automatic iron and manganese removing equipment range

An equipment developed to filter out high iron and manganese content with graded fired quartz and catalytic charge. The oxidising agent we provide may be used for the equipment.

Technical specifications:

Type	Performance (m³/h)	Reflux volume flow (m³/h)	Column	Connection (col)	Filling quantity (l)	Filter size (mm)	
						Diameter	Height (with control head)
DX-VSZ-250-MMF-A/T-1 iron removal	0,506	1,52	10 x 54	1	46	260	1580
DX-VSZ-250-AMF-A/T-1 iron and manganese removal	0,405	1,52	10 x 54	1	46	260	1580
DX-VSZ-300-MMF-A/T-1 iron removal	0,856	2,57	13 x 54	1	77	340	1570
DX-VSZ-300-AMF-A/T-1 iron and manganese removal	0,685	2,57	13 x 54	1	77	340	1570
DX-VSZ-350-MMF-A/T-1 iron removal	0,993	2,98	14 x 65	1	105	370	1850
DX-VSZ-350-AMF-A/T-1 iron and manganese removal	0,794	2,98	14 x 65	1	105	370	1850
DX-VSZ-400-MMF-A/T-1 iron removal	1,297	3,89	16 x 65	1	128	410	1860
DX-VSZ-400-AMF-A/T-1 iron and manganese removal	1,037	3,89	16 x 65	1	128	410	1860
DX-VSZ-500-MMF-A/T-1,25 iron removal	2,233	6,70	21 x 60	1,25	232	560	1910
DX-VSZ-500-AMF-A/T-1,25 iron and manganese removal	1,787	6,70	21 x 60	1,25	232	560	1910
DX-VSZ-600-MMF-A/T-1,5 iron removal	2,917	8,75	24 x 72	1,5	370	620	2110
DX-VSZ-600-AMF-A/T-1,5 iron and manganese removal	2,334	8,75	24 x 72	1,5	370	620	2110
DX-VSZ-760-MMF-A/T-1,5 iron removal	4,558	13,67	30 x 72	2	534	770	2260
DX-VSZ-760-AMF-A/T-1,5 iron and manganese removal	3,646	13,67	30 x 72	2	534	770	2260

AMF: active media filter MMF: multimedia filter A: automatic T: time-controlled 1: connection size 1"

ACTIVATED CARBON CHARGE FILTRATION EQUIPMENT

In certain industrial applications, e.g. before water treatment by reverse osmosis, it may be necessary to remove the chlorine or flavour and odour deteriorating matters from the mains water.

In these cases, we recommend our activated carbon filter equipment, whose charge media adsorbs (binds on its surface) the flavour and odour deteriorating materials from the passing water: free active chlorine, organic matter and heavy metals.

The bound contaminants may be cleaned from the clogged charge medium may by rinseback. This is controlled by the automatic control head built into the equipment.

DX-ASZ-200-760 - Activated carbon filtration equipment range

The equipment is fitted with a time controlled head, performing the rinseback of the charge at a preset time. The type of its activated carbon charge is selected depending on the chemical component to be bound.

Technical specifications:

Type	Performance (m ³ /h)	Column	Connection (col)	Filling quantity (l)	Filter size (mm)	
					Diameter	Height (with control head)
DX-ASZ-200-CF-A/T-1	0,820	9 x 35	1	24	240	1100
DX-ASZ-200-CF-A/T-1-Cl	0,410	9 x 35	1	24	240	1100
DX-ASZ-250-CF-A/T-1	1,013	10 x 54	1	46	260	1580
DX-ASZ-250-CF-A/T-1-Cl	0,506	10 x 54	1	46	260	1580
DX-ASZ-300-CF-A/T-1	1,712	13 x 54	1	77	340	1570
DX-ASZ-300-CF-A/T-1-Cl	0,856	13 x 54	1	77	340	1570
DX-ASZ-350-CF-A/T-1	1,985	14 x 65	1	105	370	1850
DX-ASZ-350-CF-A/T-1-Cl	0,993	14 x 65	1	105	370	1850
DX-ASZ-400-CF-A/T-1	2,593	16 x 65	1	128	410	1860
DX-ASZ-400-CF-A/T-1-Cl	1,297	16 x 65	1	128	410	1860
DX-ASZ-500-CF-A/T-1,25	4,467	21 x 60	1,25	232	560	1910
DX-ASZ-500-CF-A/T-1,25-Cl	2,233	21 x 60	1,25	232	560	1910
DX-ASZ-600-CF-A/T-1,5	5,834	24 x 72	1,25	370	620	2110
DX-ASZ-600-CF-A/T-1,5-Cl	2,917	24 x 72	1,25	370	620	2110
DX-ASZ-760-CF-A/T-1,5	9,116	30 x 72	1,5	534	770	2230
DX-ASZ-760-CF-A/T-1,5-Cl	4,558	30 x 72	1,5	534	770	2230

ASZ: activated carbon filter CF: carbon filter A: automatic T: time controlled Cl: designed for removal of high chlorine content 1: connection size 1"

FILTER MEDIA

For the replacement of depleted charges in our equipment, our company also distributes filter media, which we procure on order.

ACTIVATED CARBON MEDIA

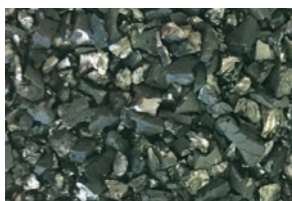
Activated carbon, used as a media in various equipment is able to extract micro-contaminants from the water to be treated, such as detergents, plant protecting agents, phenolic compounds, oil derivatives, other organic matter – various flavouring and odourising agents – and haloform compounds, to remove the chlorine content of the water to be treated, binding the free active chlorine content of the water.

Silver doped activated carbon - Steam-activated, silver particle embedded granular activated carbon



In comparison to the conventional activated carbon, the silver content of silver-doped activated carbon can prevent propagation of living organisms settling on the organic matter deposited on the carbon's surface.

Aquasorb CS - Steam-activated granular activated carbon



A granule produced from steam-activated coconut husk raw material, primarily developed for technologies related to drinking water purification. Thanks to its very large surface, indicated by the iodine value, it can adsorb large quantities of (chlorinated) organic matter, aromatic hydrocarbons and other organic matter derivatives.

IRON AND MANGANESE REMOVAL MEDIA

BIRM - Granular filter media for the removal of iron and manganese



It is a durable charge medium of especially high iron and manganese removal efficiency, with a long lifespan and a wide application temperature range.

PYROLOX - Catalytic charge for the removal of iron and manganese



Pyrolox is a granular filter medium to reduce the hydrogen sulfide, iron and manganese content of water. Pyrolox also functions as a catalytic material, but it remains unchanged. Its principle of operation is based on the oxidation of hydrogen sulfide, iron and manganese that the medium retains and the bed can be cleaned by simple rinseback. Pyrolox has a high capacity for low contaminant concentrations.

MAZ - Catalytic charge for the removal of iron and manganese



For the efficient removal of low iron levels (up to 3 ppm). Its use is recommended in iron removal cartridges. For the filtration of mains water, the preliminary check of the chlorine content is necessary. It is one of the filter charges of one of our small devices, the TriAqua.

ION EXCHANGE RESINS

Cation replacement - Charge medium for water softening equipment



It is widely used for water softening, primarily for binding Ca- and Mg-ions. The charge replaces the cations of the water causing its hardness by Na- ions.

The softening process is intermittent, as the resin charge gets depleted after a certain quantity of water (it gets saturated with bound ions), and it must be regenerated. We recommend the Dinax salt tablets for the regeneration.

Nitrate selective resin - Charge medium for nitrate removing equipment

The resin charge binds the nitrate content of the water flowing through it and replaces the removed ions with (Cl-) ions. The nitrate removal process is intermittent, as the resin charge gets depleted after a certain quantity of water (it gets saturated with bound ions), and it must be regenerated.

We recommend the Dinax salt tablets for the regeneration.

MECHANICAL FILTER MEDIA

Burned quartz sand



The burned quartz sand has far better filtration and cleaning capabilities than washed quartz sand. The reason for this is the firing process that burns out any organic contaminants. The burned quartz sand does not contain organic contamination and clay, in which bacteria and microorganisms could propagate.

Granule sizes: 0,4-0,8 mm; 0,6-1,2 mm; 1,6-2,5 mm; 3,0-5,0 mm

Packaging: 25 kg

Antracit



A filter charge for mixed charge filtration equipment, to be applied in conjunction with fired quartz sand or independently. The contaminations get stuck in the gaps between the granules, they do not stick to the granules' surfaces, therefore the filter charge can be washed easier, requiring smaller quantities of water. It ensures efficient and fine filtration.

Granule sizes: 0,8-1,6 mm, 1,4-2,5 mm

Packaging: 50 liter (1 kg=1,37 liter)

REGENERATING MATERIALS

Salt tablets - Regenerating salt



99.8% pure NaCl (table salt) in tablet form. Recommended for the automatically operated softening and nitrate removing equipment's ion exchange resin charge's regeneration.

Packaging: 25 kg

Vacuum salt - Regenerating salt



99.7% pure NaCl (table salt) in granular form. Recommended for the manually operated equipment's ion exchange resin charge's regeneration.

Packaging: 25 kg

CHEMICAL DOSING EQUIPMENT

For the continuous dosage of our drinking water and industrial water treatment agents, we recommend the Navidos quantity-proportional chemical dosing device, that ensures the appropriate concentration of the chemical to be added to the treated water proportionately to water consumption.

Dosable liquids:

- disinfectants (page 38)
- cooling circuit make-up water treatment agents (page 42)
- agents ensuring the continuous protection of RO equipment (page 43)
- boiler feedwater treatment agents (page 45)

If the water pipeline branches out after the point of dosage, or it is too short until the next technological element for the proper mixing of the chemical, it is recommended to build in a static mixing element. Its type is determined according to the water treatment technology.

Navidos



A quantity-proportional dosage device, consisting of a water meter with a built-in encoder, a Dinax Pump Control Module transducer and a Stenner pump. The equipment controls the dosing pump by impulses (according to the impulses of the water meter) which then precisely doses the disinfectant as a function of the make-up water quantity.

The equipment can be ordered with a ½"-2" connection water meter. It is especially recommended for filling and draining system tanks, where the disinfectant dosed proportionately to the quantity may represent a solution to bacteriological problems.



DRINKING WATER DISINFECTANTS



DRINKING WATER DISINFECTANTS

4



Disinfection of the water for human consumption is indispensable, be it treated (filtered or ion exchanges), or untreated water. The extracted water intended for consumption may contain microorganisms in almost all cases; surface waters are a priori contaminated by these, and in case of aquiferic waters – even if the source layer is sterile – the stored water may be exposed to airborne microorganisms or those entering via contact with groundwater due to improperly sealed piping joints or due to contamination of the pipeline itself. These living organisms propagate very fast and create their protection belts (this being the biofilm), whose removal is a very difficult and time consuming task.

Several options are available for the disinfection of drinking water, of which our company prefers chemical processes. These methods ensure a long term disinfecting effect along the entire length of the pipeline, all the way to its end point. It is however important to adjust the appropriate dosing quantity: the quantity of disinfectant must be determined in many cases for it to be measurable at the end point as well, but in only so low remaining concentrations that will not expose the consumers to harmful effects, and the water will be of neutral flavour and odour, complying with quality requirements.

From the perspective of adjusting the dosage correctly, it is very important to apply measuring instruments allowing back measurement, introduced on page 70–73 of our catalogue.

The following agents are recommended for utility water plants, public and industrial facilities for degerminating water and if necessary, to disinfect the water network. Our company provides both chlorinated and chlorine-free solutions for these purposes.



DEWASIL - chlorine-free drinking and animal drinking water disinfectant and surface disinfectant agent



A colourless, odourless, durable, hydrogen peroxide and silver-based, efficient bactericide and virucide. A completely biodegradable material, harmless to human health if used according to regulations, not changing the water's pH-value, not corrosive, not causing foaming, change of flavour or odour, and may be applicable to hot water as well (up to 95°C).

It is applicable for continuous disinfection and as a shock treatment as well, to disinfect the water network, wells and tanks.

It is efficient against the Pseudomonas and Legionella bacteria.

It is suitable for disinfecting surfaces in the alimentary industry not in direct contact with foods, such as worktops, hatcheries, bottles and tanks.

Packaging: 10 kg, 20 kg

DINAX KLORIN F - chlorinated drinking water disinfectant



Sodium hypochlorite solution containing 150 g/l of active chlorine for the continuous disinfection of drinking water.

It is also applicable for the disinfection of swimming pool waters.

Packaging: 25 kg

DINOX 03 - chlorine-free disinfectant for drinking water



A disinfectant containing 3 g/l of chlorine dioxide, of two components (to be activated at the place of use). It can be applied independently in closed systems (drinking water networks).

Its application prevents biofilm formation. It efficiently kills among others the Pseudomonas and Legionella bacteria.

Packaging: 10 kg, 20 kg



INDUSTRIAL WATER TREATMENT



INDUSTRIAL WATER TREATMENT

- cooling circuit treatment 42.
- protection of RO equipment 43.
- boiler feedwater treatment 45.
- treatment of technological water 49.

The following pages describe our water treatment and cleaning agents that industrial users may need in the following fields of application:

- water treatment of cooling circuits
- keeping water purification systems based on the principle of reverse osmosis clean
- water treatment of heating circuits
- internal protection of water jet cutting machines

COOLING CIRCUIT TREATMENT

It is recommended to fill cooling circuit systems in each case with water softened to 5 °dH or with water treated by reverse osmosis procedure, as the limescale separating during temperature change may cause serious problems in the system, reducing its efficiency and impairing its economical operation. In case of open cooling circuit systems, it is advisable to stabilise the residual hardness of the treated water, for which we recommend our **DinaFlow P-F** product.

In case of open systems, the prevention of the contamination and the algal bloom of the water are indispensable. The biological depositions forming on the convection surfaces significantly deteriorate the efficiency of the system.

For this purpose, we recommend our **DinaFlow Biocid F** product that provides protection against biological contamination in closed systems as well, dosed proportionately to the make-up water.

The functions of the two above products are combined in our product named **DinaFlow T-Biocid**, which provides a complex solution to protect open cooling circuit systems.

DINAFLOW BIOCID F - for the prevention of biological depositions



Its dosage can help prevent the formation of biological depositions. It is a non-oxidising type of chemical, which does not corrode the material of cooling systems.

Its dosage is recommended in a continuously circulated circuit in case of open systems and in case of closed circuits, it should be dosed quantity-proportionately to the make-up water.

Packaging: 20 kg

DINAFLOW-P F - hardness stabilising and corrosion prevention agent



An agent developed for the treatment of closed or partially opened cooling and cold water systems.

An agent with hardness stabilising, dispersion and corrosion protection effects. It protects metal surfaces from corrosion by forming a protective layer on them. It keeps the calcium and magnesium salts causing limescale deposition in solution, thereby preventing the deposition of limescale.

A liquid, easy to dose, and may be diluted in any ratio with soft or salt-free water.

Packaging: 20 kg



It is a product biologically inhibiting deposition and stabilising hardness with an excellent biocidal effect, mainly for open cooling water systems.

Thanks to its biocidal active ingredient, it can be effectively used against the growth of algae, fungi and bacteria, while its hardness stabilising active ingredient keeps the hardness-causing calcium and magnesium salts in solution.

Packaging: 20 kg

PROTECTION OF RO EQUIPMENT

The efficiency of the reverse osmosis equipment are greatly influenced by the state of the membranes, therefore their protection is a very important step in operating the equipment.

As a membrane protection agent, we recommend dosing it continuously to the water to be treated. We also offer solutions for contamination and blockage of the membrane: the wide range of our membrane cleaning products effectively loosen and remove biological as well as mineral deposits (see page 53).

In case of periodical cleaning and continuous chemical dosage, the equipment may be operated profitably, and its capacity may be sustained at its nominal value, decreasing the costs of periodic maintenance.

CONTINUOUS PROTECTION

A primary task is therefore the binding of the chlorine content of the mains water before releasing the water to be treated on the membrane, as the free active chlorine in the water significantly deteriorates the membrane material. In low-capacity systems, this can be practically solved by **activated carbon filtration**, and by adding **chlorine binding chemicals** in larger systems.

The hardness of the treated water significantly influences the condition of the membrane. To prevent limescale depositions forming on the material of the membrane, the addition of pre-softeners, or in case of equipment of greater performance (above 500 l/h), antiscaling agents is recommended. **Dinax Membrantreat F**, the additive recommended by our company also prevents the formation of silicate deposits besides limescale on the surface of the membrane, whose removal would otherwise require special solutions.

In pre-treated, dechlorinated water however, microbiological organisms may appear that stick into the pores of the membrane during reverse osmosis treatment and propagate there, thereby significantly reducing the performance of the former over time. The formation of contamination can be avoided by dosing **biocidal agents**, for whose selection it is an important aspect that they do not harm the sensitive material of the membrane, and have no oxidative properties. Its continuous dosage significantly helps reduce operational downtime due to cleaning maintenance.

All of the agents mentioned in the topic are recommended to be dosed proportionately to the water quantity by the NAVIDOS quantity-proportional chemical dosing device into the feedwater line. (see page 35)

DINAFLOW HALOGEN AND OXYGEN BINDER - a halogen and oxygen binder additive



A sodium-based chemical for the removal of oxygen and ACTIVE CHLORINE. By dosing it to the raw water in reverse osmosis systems, it protects the membrane from damage caused by active chlorine.

Packaging: 20 kg

DINAX MEMBRANTREAT F - antiscaling fluid



It is a highly efficient antiscaling liquid that prevents the deposition of limescale and silicates in membrane separation systems.

The proper use of the product helps increase the service life of the membrane, reducing operational and investment costs.

It is compatible with all RO membranes. It protects the membrane surface by distributing the deposition of granules.

It can be applied by continuous dosing.

Packaging: 5 kg, 20 kg

DINAFLOW BIOCID F - non-oxidising biocidal agent for membrane filtration



Its dosage can help prevent the formation of biological depositions. It can be used to halt the growth of algae, fungi and bacteria.

It is a non-oxidising type of chemical, not damaging the material of the membranes.

Packaging: 20 kg

BOILER FEEDWATER TREATMENT

On the following pages, the additives recommended for the protection of heating systems and boiler systems will be presented in the following categories:

- hot water boiler systems
- steam boiler systems

HOT WATER SYSTEMS

In case of hot water systems, it is a requirement that the hardness of the boiler feedwater should not exceed 0.1 °dH, as the salts causing hardness significantly reduce the efficiency of the system. Because of this, the softening of the feedwater is required.

The softening equipment distributed by Dinax Kft. can be found on page 26–29. The treatment of the waters of low-capacity household heating water systems refers to the treatment of the water upon filling the system, therefore it is sufficient to treat the filling water of the heating system with the help of a mobile softening equipment (page 29).

Hardness stabilising and oxygen binding agents must be added to the softened water of household systems upon filling, and at every refill in case of larger heating systems, as this procedure helps avoiding the power reduction of the systems due to residual hardness and the corrosive effect of the soft water.

DINAFLOW PASSIVATING AND OXYGEN BINDING AGENT F - combined oxygen binding and passivating agent



A sodium-based boiler feedwater conditioning chemical of combined effect, for household and low capacity hot water systems.

It removes the remaining oxygen content of the feedwater, stabilising hardness. It protects steel surfaces from corrosion.

It has a slight alkalinising effect. It ensures the phosphate content of the boiler feedwater.

Packaging: 20 kg

STEAM BOILER SYSTEMS

On the following pages, we provide guidance for the treatment of the feedwaters and circulated waters of systems below 20 bar. The water quality of the system requires significant attention, as by selecting the appropriate water treatment method, the system can be operated economically.

The corresponding requirements for the quality feedwater and boiler water, and the conditions of meeting them:

Target	Parameter	Value	Solution	Recommended product
Preventing limescale, power preservation	all hardness	< 0,1 °dH	reverse osmosis equipment	
Corrosion protection	m-basicity	1-15 mmol/l	reverse osmosis equipment, basifying insertion	Dinaflow Alkalinising Agent F Dinaflow Oxygen and Alkalinising Agent F
Corrosion protection	pH-value (feedwater)	8,5 - 9,5	basifying insertion	Dinaflow Alkalizing Agent F Dinaflow Oxygen and Alkalinising Agent F
Corrosion protection	dissolved oxygen (after degassing)	< 50 mg/l	dosing oxygen binding agent	DinaFlow Halogen and Oxygen binding Agent F Dinaflow Oxygen and Alkalinising Agent F Dinaflow Passivating and Oxygen binding Agent F
Passivation to protect surfaces against corrosion	phosphate	10-30 mg/l	dosing passivating agent	Dinaflow Passivating Agent F Dinaflow Passivating and Oxygen binding Agent F
Performance preservation	specific electrical conductivity	< 6000 µS/cm	sludge (automatic, conductivity or periodic)	
Performance preservation	iron content	< 0,3 mg/l	condensate water filtration	

It is advisable to measure the above parameters at a number of points of the system: in the feedwater, in the water downstream of the degasser, in the boiler water and the condensate water. The measurement options are introduced on page 70–75. For the dosage of the treatment agents for boiler feedwater, the use of Navidos quantity-proportionate chemical dosing devices is recommended. (See page 35)

On the following pages, the products of the DINAFLOW boiler feedwater treatment range will be introduced. To serve certain functions, our product range also includes combined chemicals, and of certain product types, potassium-based agents are also available, which contribute to ensure a lower sodium equivalent of the discharged boiler water.

The following table helps overview the key properties:

Sodium-based	Potassium-based	Oxygen binding	Alkalinization	Passivation and hardness stabilization
DinaFlow Halogen and Oxygen binding Agent F		x		
DinaFlow Alkalinising Agent F	DinaFlow (K) Alkalinising Agent F		x	
DinaFlow Passivating Agent F				x
DinaFlow Passivating and Oxygen binding Agent F	DinaFlow (K) Passivating and Oxygen binding Agent F	x		x
DinaFlow Oxygen binding and Alkalinising Agent F	DinaFlow (K) Oxygen binding and Alkalinising Agent F	x	x	

DINAFLOW HALOGEN AND OXYGEN BINDING AGENT F



oxygen binding chemical for boiler feedwaters and reverse osmosis systems

A sodium-based chemical for the removal of oxygen. In boiler water systems, it protects metal surfaces from corrosion by quickly and effectively removing oxygen.

It is recommended to adjust the dosage proportionately to the oxygen content and quantity of the feedwater to be treated, concerning which we are more than happy to assist you.

Packaging: 20 kg

DINAFLOW ALKALINISING AGENT F



boiler feedwater alkalinising chemical

A sodium-based alkalinising mixture of chemicals for feedwaters of boilers. Its task is to increase the pH value of the treated water into the alkaline range.

It is practical to dose it to boiler feedwaters after carbon dioxide and oxygen removal to adjust the pH value. Recommended pH value range: 8.5 - 9.5

Packaging: 20 kg

DINAFLOW OXYGEN BINDING AND ALKALINISING AGENT F



combined boiler feedwater conditioning chemical

Its oxygen binding component quickly binds the oxygen present in the boiler feedwater. It has a strong alkalinising effect, it significantly increases the pH value even if applied in small volumes.

It efficiently prevents corrosion and significantly reduces the residual oxygen content of the boiler feedwater. It is a product recommended for equipment of lower capacities.

Packaging: 20 kg

DINAFLOW PASSIVATING AGENT F



boiler feedwater conditioning chemical

A sodium-based boiler feedwater conditioning agent, with surface passivation effect and good dispersion properties. When added to desalinated waters, it protects steel surfaces from corrosion without binding carbon dioxide.

It provides phosphate protection to surfaces, inhibiting corrosion.

It is effective for stabilising hardness and dispersion. It loosens up old deposits and creates clean surfaces.

Packaging: 20 kg

DINAFLOW PASSIVATING AND OXYGEN BINDING AGENT F



combined oxygen binding and passivating chemical

A sodium-based boiler feedwater conditioning chemical of combined effect, for household and low capacity hot water systems. It removes the remaining oxygen content of the feedwater, stabilising hardness. It protects steel surfaces from corrosion. It has a slight alkalinising effect.

It ensures the phosphate content of the boiler feedwater.

Packaging: 20 kg

DINAFLOW (K) HALOGEN AND OXYGEN BINDING AGENT F



oxygen binding chemical for boiler feedwaters

A potassium-based boiler feedwater conditioning chemical for the removal of oxygen. It protects metal surfaces from corrosion by quickly and effectively removing oxygen. It is an environmentally-friendly potassium-based chemical, not increasing, but improving the sodium equivalent.

It is recommended to adjust the dosage proportionately to the oxygen content and quantity of the feedwater to be treated, concerning which we are more than happy to assist you.

Packaging: 20 kg

DINAFLOW (K) ALKALINISING AGENT F



boiler feedwater alkalinising chemical

Potassium-based alkalinising mixture of chemicals. Its advantage is that it contains no sodium salts, not increasing the load of sodium salts of the boiler. Its task is to increase the pH value of the treated water into the alkaline range.

It is practical to dose it to boiler feedwaters after carbon dioxide and oxygen removal to adjust the pH value. Recommended pH value range: 8.5 - 9.5

Packaging: 20 kg

DINAFLOW (K) PASSIVATING AGENT F



boiler feedwater conditioning chemical

A potassium-based boiler feedwater conditioning agent containing phosphates, with surface passivation effect and good dispersion properties. Its advantage is that it contains no Na⁺ salts, thereby terminating the effect of sewage release on the Na equivalent. It provides phosphate protection to surfaces, inhibiting corrosion. It is effective for stabilising hardness and dispersion. It loosens up old deposits and creates clean to metal surfaces. It does not evaporate with steam, and is applicable in the alimentary industry.

Packaging: 20 kg

TREATMENT OF TECHNOLOGICAL WATER

In case of other applications, auxiliary treatment may be necessary, in case the water used in the technology determines the performance of the technology, its proper operation and last but not least the magnitude of the costs of operation.

The change of the ambient circumstances in industrial water systems (temperature, pressure) may decrease the solubility of certain mineral materials, and the materials present in dissolved form may precipitate and settle on the contacting surfaces. These deposits are often not possible to remove even by chemical treatment. Besides the hardness and the iron and manganese content of the water, the high silicate content may also be problematic. If separated on the surfaces, it is difficult to remove and may form a stubborn coating, damaging the technological elements. However, by continuously adding additives inhibiting the separation of silicates, the formation of deposits can be avoided, therefore the efficient operation of the technological elements can be ensured.

DINAFLOW SI-3 F



a hardness stabilising industrial water treatment agent preventing silicate separation

The DINAFLOW SI-3 F anti-deposit chemical very effectively prevents the formation of the separation of limescale and silicate compounds in the treated water, thereby protecting the surfaces of equipment and water pipelines.

It is a yellow, translucent liquid material.

Packaging: 20 kg



INDUSTRIAL CLEANING AGENTS



INDUSTRIAL CLEANING AGENTS

- cleaning of heat exchangers 52.
- membrane cleaning agents 53.
- cleaning industrial surfaces 56.

6

CLEANING OF HEAT EXCHANGERS

The heat exchangers of bath water and industrial systems are continuously exposed to the deposition of limescale and minerals separating from the circulated water. These separations insulate the material of the heat exchanger, thereby deteriorating the efficiency of convection, or may even damage the heat exchanger permanently.

It is therefore very important to periodically clean the heat exchangers, using clean-in-place (CIP) methods, by circulating the cleaning fluid in the heat exchanger.

CIP PUMP



A high power, chemical resistant centrifugal pump, installed in a scaled, translucent and chemical resistant tank. The direction of flow of the chemical can be set with the help of a directional valve.

Application: to descale, disinfect and other chemical treatment of mural gas boilers, heat exchangers, radiators, heating systems, water treatment equipment.

DINACLEAN C 540G P



It effectively dissolves depositions left by the water in equipment containing galvanic metals (e.g. heat exchangers, evaporator condensers, air scrubbers, cooling equipment, etc.).

We recommend circulating the solution made from the product with the help of a CIP pump.

Packaging: 1 kg

DE-VÍZKŐ GW



descaling gel

An efficient descaling gel, also applicable for cleaning chrome-plated surfaces. By circulating its solution with a CIP pump, it dissolves limescale depositions.

Packaging: 1 kg, 10 kg

MEMBRANE CLEANING AGENTS

Our company offers chemical solutions for the removal of the following deposits:

- limescale
- ferrous separations
- biological contaminants
- silicate depositions

The timely periodic maintenance and cleaning of the membrane is indicated by the drop in the pressure of the equipment and the quantity of water discharged. Cleaning should be performed in each case by clean-in-place (CIP) pump circulation; in case of heavily contaminated systems, the cleaning solution should be replaced until the state of the circulated fluid improves significantly, or a pressure drop is detected in the system.

DINAX MEMBRANE CLEANER C-S F



acidic membrane cleaning fluid

A citric acid-based membrane cleaning concentrate, whose solution effectively removes limescale and iron separations by circulation on the membrane. It does not damage the material of membranes.

Packaging: 20 kg

DINAX MEMBRANE CLEANER F-S F



acidic membrane cleaning fluid

A phosphoric acid-based membrane cleaning concentrate, whose solution effectively removes limescale and iron separations by circulation on the membrane. It does not damage the material of membranes.

Packaging: 20 kg

DINAX MEMBRANE CLEANER SPECIAL F



membrane cleaning fluid

A membrane cleaning concentrate of unique composition, whose solution effectively removes limescale and iron separations by circulation on the membrane. It does not damage the material of membranes.

Packaging: 20 kg

DINAX MEMBRANE CLEANER ALKALINE P



alkaline membrane cleaning powder

A powder for the periodical alkaline cleaning of reverse osmosis membranes. It is advisable to adjust the pH value of its solution in the alkaline range with the Dinax Membrane cleaner N-L F. When circulated on the membrane, the mixture effectively removes organic depositions.

Packaging: 5 kg

DINAX MEMBRANE CLEANER N-L F



alkaline membrane cleaning fluid

For periodical alkaline cleaning of reverse osmosis membranes, independently or in combination with DINAX MEMBRANE CLEANING ALKALINE P or DINAX MEMBRANE CLEANING ALKALINE COMPLEX F, to increase the pH of the cleaning solution.

Packaging: 20 kg

DINAX MEMBRANE CLEANER ALKALINE COMPLEX F



alkaline membrane cleaning concentrate

A fluid for the periodical alkaline cleaning of reverse osmosis membranes. When circulated on the membrane, its solution effectively removes organic depositions. For better results, it may be used in combination with DINAX MEMBRANE CLEANER N-L F.

Packaging: 5 kg

DINAFLOW-STABOX OXIDISING F



organic contamination oxidising chemical

An agent for the periodical cleaning of reverse osmosis membranes. Its use is recommended after the alkaline washing of the membrane. It oxidises the organic contaminants remaining on the membrane surface, facilitating their removal by rinsing with water from the membrane.

Packaging: 20 kg

DINAFLOW SILICATE REMOVING AGENT P



silicate removing powder for RO membranes

A powder for the periodical cleaning of reverse osmosis membranes. When circulated on the membrane, its solution effectively removes silicate separations. Use together with the Dinax Membrane Cleaning Acidifier for best results.

Packaging: 10 kg

DINAX MEMBRANE CLEANER ACIDIFIER ADDITIVE F



acidifying additive for DINAFLOW SILICATE REMOVING AGENT P

For the acidification of the solution of DINAFLOW SILICATE REMOVING AGENT P, used for the periodical silicate removal of reverse osmosis membranes.

Packaging: 10 kg

DEGREASING AND OIL REMOVAL FROM INDUSTRIAL SURFACES

In the course of work processes in the alimentary industry and abattoirs the greasy contaminations of floors, walls and work surfaces may cause problems both from the hygienic and safety perspective. Likewise, the removal of oil dropping on concrete and floor tiles, including engine oil from vehicles are significant challenges for the operators.

To address these problems, our company recommends biological products instead of chemicals, which keep the treated surfaces safe and clean if applied regularly, as they perform in-depth cleaning, decomposing contaminants, thereby also having a deodourising effect.

MICROCAT BFL



biological floor cleaner

MICROCAT® BFL is a concentrated liquid detergent containing natural microbes and surfactants harmless to human health. It has been developed to replace conventional chemical cleaning agents, for cleaning and deodourising kitchen floors. It does not make the cleaned surface slippery.

Upon its regular application according to instructions, the BFL microbes clean the depths of the semi-porous surfaces, and keep the floor safe even during busy kitchen operations.

MICROCAT SMPL



liquid biological surface cleaner concentrate for hydrocarbons contaminations

MICROCAT® SMPL is a concentrated liquid detergent, containing microbes, tensides and enzymes. It specifically wets, loosens and emulsifies hydrocarbon depositions and discharges on hard surfaces such as concrete, the internal walls of drainpipes or on the ground. If used according to instructions, the microbes in the product are activated to decompose the loosened hydrocarbon depositions.

MICROCAT® SMPL is ideal for areas of chronic oil spills, such as the garage floor, car parks, factory floors, repair shops, metalworking shops, fuel stations, oil refineries and chemical plants.

QM PROZYM-CIP



enzymatic surface cleaner

QM-PROZYM-CIP is an enzymatic cleaning agent, recommended for cleaning the surfaces of industrial equipment and floors using the clean-in-place (CIP) method. It is also suitable for the removal of biofilms. QM-PROZYM-CIP eliminates and converts all residual organic matter, even the deposits in water circuits and surfaces.

QM-PROZYM-CIP can be used to clean equipment and surfaces in agri-alimentary industry applications, such as abattoirs, butcheries, chocolate factories, sauce factories, bakeries, etc. and in milking plants, animal farms and restaurant kitchens. It may be used in diluted form, in cleaning equipment.

MICROCAT ECL



enzymatic cleaning and deodourising fluid

MICROCAT®-ECL is a liquid mixture of natural enzymes and surfactants that can be widely used for cleaning and deodourisation. The operations of animal husbandry, food processing, meat and fish processing and textile industry often cause deposits in equipment that necessitate their regular cleaning and deodourisation.

MICROCAT®-ECL ensures natural surface cleaning, stain removal and deodourisation. It efficiently removes proteins and related materials.



WASTEWATER TREATMENT



WASTEWATER TREATMENT

- communal wastewater treatment 60.
- purification of industrial wastewaters 62.
- wastewater treatment of hotels
and the hospitality industry 63.
- household wastewater purification 66.



In the field of wastewater treatment, we provide a wide range of biological products to our household as well as industrial clients. All of these products are free of chemicals, as they contain bacteria and/or enzymes for the natural decomposition of contaminants.

The products can be applied safely, without causing infections.

Depending on the type of contaminant to be decomposed, our customers may choose from a variety of products that provide solutions against blockages, grease accumulation and unpleasant odours from drains to wastewater treatment units.

COMMUNAL WASTEWATER TREATMENT

MICROCAT STM+

a bioproduct for wastewater cleaning lagoon systems, facultative lagoons and aerated lagoons



MICROCAT® STM+ is a product for use in treatment plants treating sewage originating from agricultural, urban, commercial, industrial and/or alimentary processing activities and in facultative and aerated lagoons, that increases the efficiency of sewage treatment and reduces odour release.

MICROCAT® STM+ contains a combination of natural enzymes, aerobic and facultative anaerobic microorganisms that can decompose a wide range of household, agricultural and industrial wastes. These include wood celluloses, fats, oils, proteins, fibrous material and other wastes.

MICROCAT SXMRF

grease treating bioproduct for sewer systems and wastewater treatment plants



MICROCAT®-SXMRF is a synergic mixture of adapted microorganisms and enzymes, for use in urban and alimentary industrial sewage treatment plants, in aerobic and anaerobic sludge treatment technologies, pumping stations and biological sewage treatment plants. MICROCAT®-SXMRF can be used with the Microcat doser suitable for dosing powdered products. Thanks to the composition of MICROCAT®-SXMRF, it can decompose a wide range of household wastewaters and sludges. These include wood celluloses, fats, oils, proteins, fibrous material and other contaminants.

MICROCAT HX

hydrocarbon decreasing bioproduct for wastewater treatment plants



MICROCAT®-HX has been specifically developed for use in the chemical industry, oil refining, processing of primary metals, textile industry and the related industries, and the municipality wastewater treatment plants receiving wastewater generated by these industries.

MICROCAT®-HX contains a combination of aerobic and facultative anaerobic microorganisms selected from nature, which can decompose man-made organic compounds.

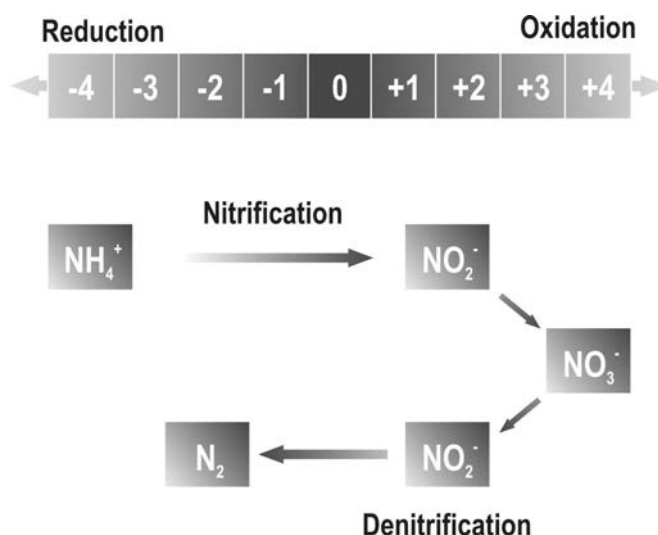
MICROCAT®-HX also contains carefully selected, powdered activated carbon, binding the low toxic matter content of the wastewater.

denitrifying bioproduct for wastewater treatment



MICROCAT-DEN is a synergic mixture of naturally occurring microorganisms to promote denitrification under anoxic conditions, significantly contributing to removing nitrate and nitrite from the wastewater.

The product contains a combination of facultative anaerobic microorganisms that use nitrates as oxygen source.



MICROCAT XNL/XNC

ammonia oxidising bioproduct for wastewater treatment plants



The MICROCAT® XNL/XNC products have been specifically developed for use in the chemical, food processing and textile industries, in oil refining and processing of primary metals, and the related industries and facilities treating water containing ammonia, in order to reduce the ammonia content of the released water.

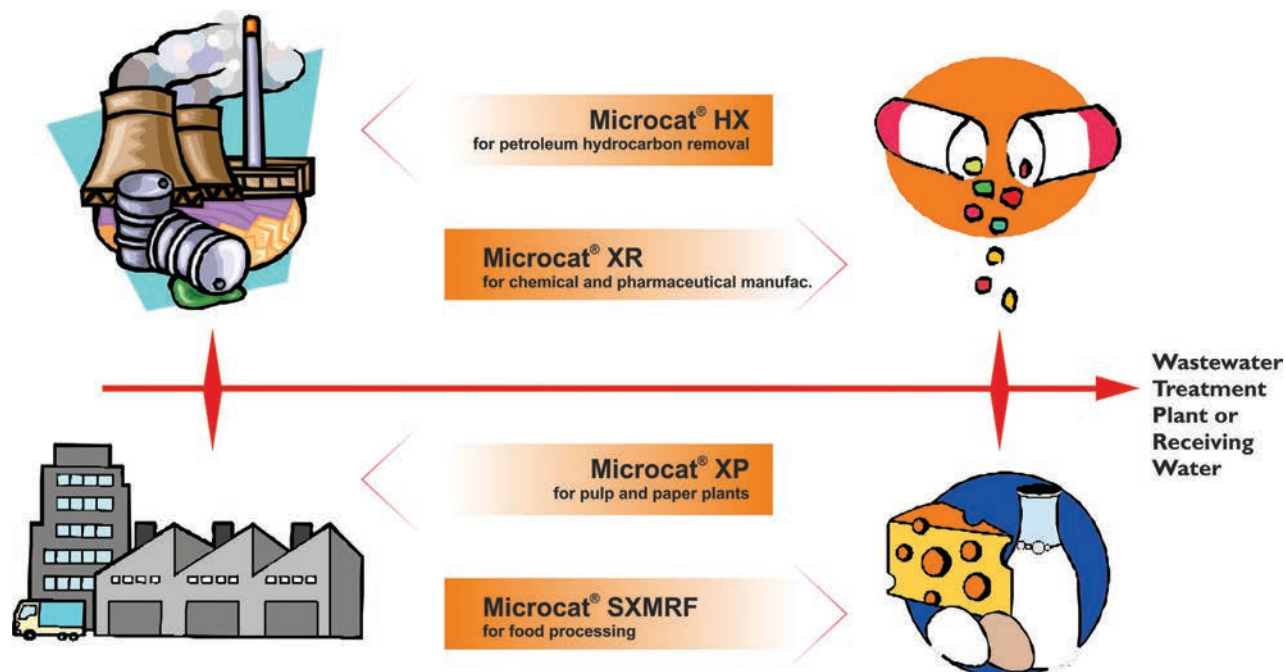
The MICROCAT® XNL/XNC intensifies the ammonia oxidising capability of the bacterial strains of nitrifying systems, increasing performance under toxic conditions or in cold weather. With a preventive maintenance purpose, it is to be added directly to the aeration zone of the wastewater treatment plant.

NITRIFICATION PROCESS

Oxidation of ammonium ions to nitrite and then to nitrate



PURIFICATION OF INDUSTRIAL WASTEWATERS



MICROCAT XR



hydrocarbon reducing bioproduct for oil separators and for plants treating industrial wastewaters

MICROCAT®-XR is a special product containing microorganisms that can be applied in biological cleaning equipment operated in the chemical industry, to treat wastewater containing organic compounds difficult to decompose. MICROCAT®-XR contains a combination of aerobic and facultative anaerobic microorganisms selected from nature, which can decompose a wide range of man-made organic compounds.

MICROCAT XP



bioproduct for wastewater treatment plants of the pulp and paper industry

MICROCAT®-XP is a synergic mixture of pre-sorted, adapted microorganisms, applicable in biological wastewater treatment equipment treating wastewaters of cellulose and paper production operations. MICROCAT®-XP contains a mixture of aerobic and facultative anaerobic microorganisms originating from nature, and can decompose a wide range of materials present in the wastewater of cellulose and paper production. These include lignin, celluloses, surfactants, fibrous materials and other wastes.

MICROCAT HX



hydrocarbon decreasing bioproduct for wastewater treatment plants

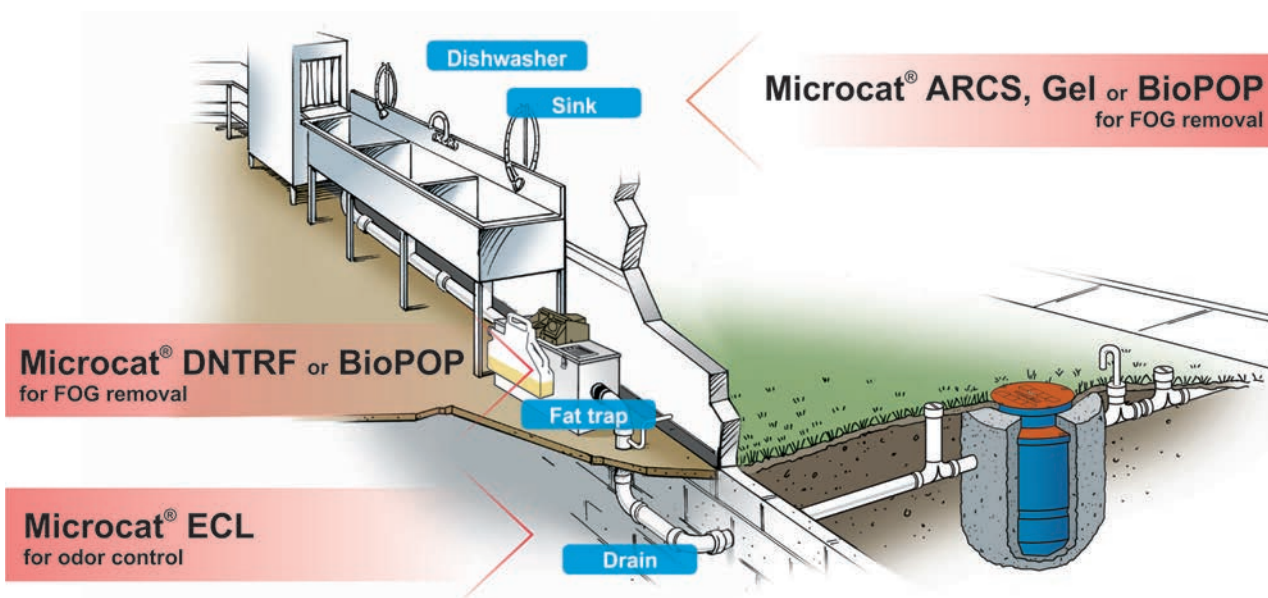
MICROCAT®-HX has been specifically developed for use in the chemical industry, oil refining, processing of primary metals, textile industry and the related industries, and the municipality wastewater treatment plants receiving wastewater generated by these industries. MICROCAT®-HX contains a combination of aerobic and facultative anaerobic microorganisms selected from nature, which can decompose man-made organic compounds. MICROCAT®-HX also contains carefully selected, powdered activated carbon, binding the low toxic matter content of the wastewater.

grease treating bioproduct for sewer systems and wastewater treatment plants



MICROCAT®-SXMRF is a synergic mixture of adapted microorganisms and enzymes, for use in urban and alimentary industrial sewage treatment plants, in aerobic and anaerobic sludge treatment technologies, pumping stations and biological sewage treatment plants. MICROCAT®-SXMRF can be used with the Microcat doser suitable for dosing powdered products. Thanks to the composition of MICROCAT®-SXMRF, it can decompose a wide range of household wastewaters and sludges. These include wood celluloses, fats, oils, proteins, fibrous material and other contaminants.

WASTEWATER TREATMENT OF HOTELS AND THE HOSPITALITY INDUSTRY



BATHROOM

Restaurants/hotels

KITCHEN



MICROCAT ARCS

cartridge dosing system



Automatic, cartridge dosing system, containing the water-based suspension of pre-sorted and adapted microorganisms to treat the oils and greasy deposits in the drainage pipes of alimentary industry facilities. The product decomposes the accumulated grease in order to prevent blockage of sewers, gutters and siphons and the presence of unpleasant odours. ARCS has been developed to remove existing grease deposits from communal and kitchen sewers, and to prevent accumulation of further contamination, thereby ensuring the unobstructed flow of sewage, while eliminating the need to use chemicals.

MICROCAT GEL



a liquid cleaning agent for drains, grease traps and dissolution tanks

The MICROCAT®-GEL is a liquid mixture of natural bacteria, enzymes and surfactants for maintaining, cleaning and deodourising SEWER SYSTEMS. The product is used for the easier removal of the grease, oils, starch, proteins, etc. accumulating in toilets, sewers, siphons and pipeline systems and dissolving tanks and to eliminate the odours originating from these. It is recommended for the maintenance of toilets, sewer systems, siphons, related pipelines and wastewater treatment systems in restaurants, commercial buildings and institutions.

BIOPOP



bioproduct for maintaining grease traps, pumping stations and sewage pipes

The MICROCAT-BioPOP products are cylinders partially submerged in water, containing microbes and enzymes that decompose fats and oils to reduce odours. The material of the cylinder dissolves in the water slowly, meaning the microbes and enzymes are released continuously. MICROCAT-BioPOP is packaged in a water-insoluble net, which must be lowered in the water to be treated, and fitted to the tank wall. BioPOP products may be used for pumping stations (BioPOP-LS) and grease traps (BioPOP-GT).

MICROCAT DNTRF



bioproduct for keeping institutional and household sewage pipes and grease traps clean

MICROCAT®-DNTRF is a synergic mixture of pre-sorted and adapted microorganisms to fluidise greases and to keep water pipelines clean and free from blockages. It contains special heat resistant microorganisms against the accumulation of grease and to regulate odours in improperly functioning grease traps, and enzymes and other auxiliary materials to keep drains and pipes clean to ensure unobstructed water flow. MICROCAT®-DNTRF can be used in the automatic Microcat dosage system suitable for powdered products.

MICROCAT ECL

enzymatic cleaning and deodourising fluid



MICROCAT®-ECL is a liquid mixture of natural enzymes and surfactants that can be widely used for cleaning and deodourisation. It can be applied to remove grease, oils, starch, proteins, etc. from food processing to wastewater treatment, and to prevent the formation of odours emanating from these compounds. Such odours are generated in the operations of alimentary industry, textile industry and waste treatment, especially in the deoxygenated processes of sludge treatment, composting and wastewater treatment (e.g. in facultative lagoons). The mixture of enzymes and surfactant emulsifies, removes and decomposes materials causing natural odours, thereby decreasing the release of odours.

MICROCAT PTL

sewage pipe and pipe siphon cleaning and deodourising agent



MICROCAT®-PTL is a liquid mixture of natural bacteria to maintain, clean and deodourise sewage pipes of kitchen sinks and shower drains and pipe siphons. It is designed for the removal of oils and other water-insoluble materials that flow down the sewer systems of kitchen sinks, floors and shower cabinets in hotels, guesthouses, institutions and commercial facilities. It contains natural thickeners that coat the surfaces of drainpipes and pipelines for extended activity.

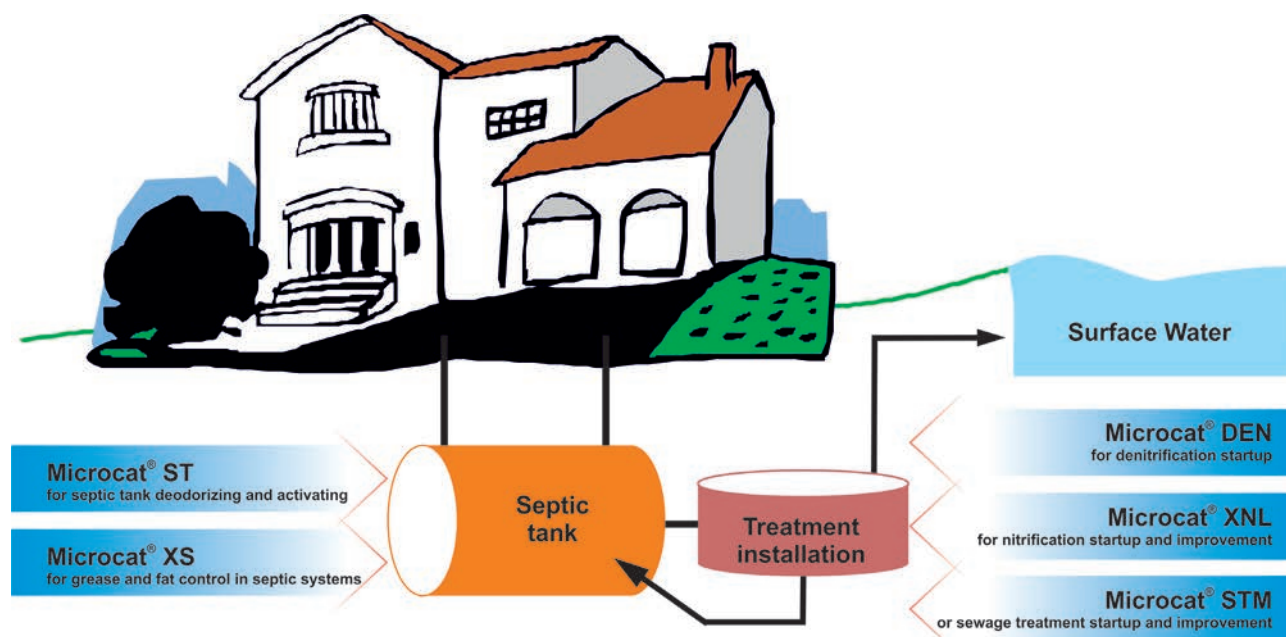
Bio Block

enzymatic urinal cube



BIO-BLOCK is a water soluble tablet containing enzymes and biodegradable soaps for cleaning and deodourising urinals. Its use facilitates the removal of limescale deposits and other contaminations from the surfaces of urinals, pipelines and fittings. The unique constituents of BIO-BLOCK – including its enzyme content – naturally cleanse and odourise, and since the product is free from hazardous chemicals, it may be used safely.

HOUSEHOLD WASTE WATER PURIFICATION



MICROCAT DEN

denitrifying bioproduct for wastewater treatment



MICROCAT®-DEN is a synergic mixture of naturally occurring microorganisms to promote denitrification under anoxic conditions, significantly contributing to removing nitrate and nitrite from the wastewater. The product contains a combination of facultative anaerobic microorganisms that use nitrates as oxygen source.

MICROCAT XNL

ammonia oxidising bioproduct



The MICROCAT® XNL/XNC intensifies the ammonia oxidising capability of the bacterial strains of nitrifying systems, increasing performance under toxic conditions or in cold weather. It is to be added to the aerator zone of household biological wastewater treatment equipment at the start of the system or when its activity needs to be intensified. To be used in diluted form.

MICROCAT STM+

a bioproduct for wastewater cleaning lagoon systems, facultative lagoons and aerated lagoons



MICROCAT® STM+ is a product for use in treatment plants treating sewage originating from agricultural, urban, commercial, industrial and/or alimentary processing activities and in facultative and aerated lagoons, that increases the efficiency of sewage treatment and reduces odour release. MICROCAT® STM+ contains a combination of natural enzymes, aerobic and facultative anaerobic microorganisms that can decompose a wide range of household, agricultural and industrial wastes. These include wood celluloses, fats, oils, proteins, fibrous material and other wastes.

MICROCAT ST

toilet deodouriser and dissolution tank activator



MICROCAT®-ST is a natural mixture of neutralisers, deodourisers and activators to clean and deodourise water network fittings and systems. The MICROCAT®-ST contains safe and natural bacteria to maintain the high activity of dissolving tanks, and to keep wastewater pipes clean and the flow of water unobstructed.

MICROCAT XS

natural additive for biological wastewater systems



MICROCAT®-XS is a synergic mixture of pre-sorted and adapted microorganisms to fluidise greases and to keep wastewater systems free from blockages. The MICROCAT®-XS contains enzymes and other synergistic constituents to maintain the biological activity of wastewater systems, and to keep wastewater pipes clean and the flow of water unobstructed.

Product	Wastew. treat. plant	Food industry	Chemical industry	Metal processing	Oil industry	Textile industry	Paper industry	Agriculture	Hospitality	Swimming pool	Household	Place of application	Function	Removes
QM SPH-CW & ENZ										x		drains, septic tank	biofilm removal	biofilm
MICROCAT ST											x	drains, septic tank	deodorization and dehydration activation	fats, cellulose
MICROCAT XS											x	drains, septic tank	septic tank activation	fats, cellulose
MICROCAT XNL	x										x	aeration zone	nitrification	ammonium
MICROCAT STM+	x										x	lake, water reservoir	degradation, deodorants	fats, cellulose, proteins
MICROCAT DEN	x										x	denitrification zone	denitrification	nitrite, nitrate
MICROCAT HX	x		x	x	x	x						aeration zone	degradation, toxic substance binding	hydrocarbon
MICROCAT XR			x	x	x	x	x					aeration zone	degradation, toxic substance binding	hydrocarbon
MICROCAT XP							x					aeration zone	degradation	papre industry contaminants
MICROCAT SXMRF	x	x					x					aeration zone, drains, digesters	degradation	fats, cellulose, proteins
MICROCAT SMPL			x	x	x							contaminated surface, oil trap	cleaning	hydrocarbon
QM PROZYM-CIP		x						x	x	x		floors, surfaces	cleaning	organic materials
MICROCAT ARCS									x			drains	degradation, deodorants	fats
MICROCAT GEL									x			drains	degradation, deodorants	fats, oils, starch, proteins
BioPop									x			grease trap sewage	degradation, deodorants	fats
MICROCAT DNTRF									x		x	drains	degradation, deodorants	fats
MICROCAT ECL	x	x				x			x			drains, surfaces	degradation, deodorants	fats, oils, starch, proteins
MICROCAT PTL									x		x	drains	degradation, deodorants	fats
Bio Block									x			urinal	descaling, deodorizing	limescale, urinary stones
MICROCAT BFL									x			floors, surfaces	cleaning	fats



MEASURING INSTRUMENTS



MEASURING INSTRUMENTS

- manual measuring instruments 70.
- colorimetric testers 70.
- digital testers 71.
- photometers 72.
- laboratory 75.

8

In order to check the quality of the water and the efficiency of treatment, our company offers a variety of options, from the simplest methods of informative measurement to more complicated and more accurate procedures.

Our product groups:

- measuring strips
- colorimetric testers
- digital testers
- portable and table photometers

MANUAL MEASURING INSTRUMENTS

TEST STRIPS



To measure DEWASIL-, chlorine-, iron and chlorine dioxide content and pH value

The measuring strip provides the simplest and fastest solution to measure the desired parameters.

COLORIMETRIC TESTERS

DINAX TOTAL HARDNESS MEASURING TESTER



measurement of total hardness

High precision pipette reagent set for the quick, on-site determination of the hardness of tap water, bath waters, surface waters, industrial waters, feedwaters and boiler waters. Measurement takes place by droplet counting.

Measurement range: 0.5–30 °dH

Number of measurements (at 10 °dH): approximately 100

DINAX RESIDUAL HARDNESS MEASURING TESTER



to measure low-range hardness

A kit for the rapid on-site determination of the residual hardness of purified waters, industrial waters, feedwaters, and primarily boiler waters.

Measurement range: 0.03–0.30 °dH

Number of measurements (at 0.1 °dH): approximately 300

CALDUR TESTERS



to measure ammonium, nitrite and nitrate

Testing kits for measuring other parameters (e.g. ammonium, nitrite, nitrate etc.) of the water.

DIGITAL TESTERS

AD12 DIGITAL TESTER



pH and temperature measuring digital tester

Very easy to handle, measuring with an accuracy of 0.01 pH in the 2-14 pH range. It shows the values on a digital display panel and temperature compensation (this further increasing accuracy).

It requires no tablets or other reagents. Its calibration requires buffer solutions (pH=4, pH=7), and KCl storage fluid for its storage.

We recommend it for household as well as commercial users. This instrument is of excellent price/performance ratio.

It is available in a starter package, including buffer solutions, storage fluids and beakers in the package.

AD31 DIGITAL TESTER



The change of the dissolved salt level of the boiler system's water can be easily checked with the help of the device. It requires no additional storage or calibration fluid.

Measurement range: 0.00 - 3.999 $\mu\text{S/cm}$

PHOTOMETERS

HANNA CHLORINE CHECKER



a colorimetric measuring instrument suitable for the measurement of active chlorine (0.00-2.50 mg/l)

An ideal mean solution between the cheap and inaccurate chemical testing kits and the highly accurate but far more costly professional measuring instruments. The values measured by the equipment can be easily read from the large display panel.

The instrument is very easy to handle; it switches off automatically when not in use.

It is suitable for the measurement of total and active chlorine, depending on the type of reagent used.

PRIMELAB PHOTOMETER



a photometer with expandable parameter list

The instrument can be ordered in a soft bag, 3 pre-installed parameters (chlorine, pH and DEWAN-50/DEWASIL), and in a measuring case, as a complete measuring set with other accessories. Its greatest advantage is that the parameter list can be expanded anytime as required.

With the right kind of accessories, it is also suitable for measuring Legionella.

With the help of a Bluetooth unit, the measurement data are accessible via computer as well.

POOLLAB PHOTOMETER



photometer for the measurement of 11 built-in parameters

A photometer with a waterproof, built-in cuvette (directly submersible in water), suitable for measuring the following parameters: chlorine (bound/free/total), pH-value, alkalinity, cyanuric acid, active oxygen, bromine, chlorine dioxide, ozone, hydrogen peroxide, total hardness, calcium-hardness.

The required parameters can be easily adjusted on the device. With the help of a Bluetooth unit, the measurement data are accessible via computer as well.

DINAX PHOTOPEROX 300



photometer for the measurement of DEWAN®-50/DEWASIL®

This product, a proprietary development of Dinax Kft., is very easy to operate, specifically for the determination of concentrations of DEWAN® and DEWASIL®.

A precise and fast instrument, for use with DINAX DEWAN®-50 reagent. It is primarily recommended for large numbers of measurements, for commercial users.

Measurement range: 0-300 mg/l, accuracy: 1 mg/l

Packaging: in box, with two cuvettes, battery and 30 ml of DINAX DEWAN®-50 reagent.

LOVIBOND MULTIDIRECT



high-precision photometer with a wide range of applications for full water analysis (with long expiry time tablet reagents)

Microprocessor controlled table photometer for full water analysis, with an exceptionally user friendly design. The device allows storage of individual settings, but it also include several factory settings tailored to the LOVIBOND reagent tablets and liquids. Then entire device is waterproof.

LOVIBOND MD 610



photometer for the measurement of 51 parameters

A fast and accurate and easy to hand instrument with waterproof cover. It is suitable for storing 1000 data that can be accessed by mobile phone and tablet via Bluetooth connectivity. The data can be managed by IOS and Android applications and may be forwarded by e-mail.

BUFFER SOLUTIONS



pH buffers and storage fluids

We hold an inventory of various pH value buffer solutions for calibrating pH meters (e.g. AD12). Types: pH=4, pH=7, pH=9.

The storage fluid of the AD12 pH-tester and other pH-electrodes is KCl buffer solution, whose application is indispensable, as it prevents drying of the electrode, avoiding its replacement due to failure.

REAGENTS



We keep a constant warehouse inventory of the reagents used for the instruments described on the previous pages for measuring activated chlorine, pH, chlorine dioxide and DEWASIL.

We distribute products of the following manufacturers:



Please contact our customer service team for specific requirements. Our staff will be happy to assist you in obtaining the desired reagent.

Parameter	Reagent	Formula	Packaging	Count of measurement	For Tester	For Photometers
pH	Phenolred tablet (pH) - „rapid“	tablet	10 pcs (foil)	10	++	
	Foto POOL Phenolred tablet	tablet	10 pcs (foil)	10	+	++
	FotoLovib Phenolred tablet	tablet	10 pcs (foil)	10	+	++
	FotoPalin Phenolred tablet	tablet	10 pcs (foil)	10	+	++
	DINAX photometer reagent Phenolred 200 ml	liquid	200 ml	2000	+	++
	Reagent Taylor #R000-4	liquid	60 ml	around 900	+	++
Free active chlorine	DPD1 tablet (free chlorine) - „rapid“	tablet	10 pcs (foil)	10	++	
	Foto POOL DPD 1 tablet	tablet	10 pcs (foil)	10	+	++
	FotoLovib DPD 1 tablet	tablet	10 pcs (foil)	10	+	++
	FotoLovib DPD 1 tablet High Calcium	tablet	10 pcs (foil)	10	+	++
	FotoPalin DPD 1 tablet	tablet	10 pcs (foil)	10	+	++
	Reagent Taylor #R000-1 + Reagent Taylor #R000-2	liquid	60 ml/reagent	240	+	++
	DINAX photometer reagent Cl-1 200 ml + DINAX photometer reagent Cl-2 200 ml	liquid	200 ml	800	+	++
	Photom. reagent. free.act. chlorine Hanna 25 measur.	powder	25 sacks	25	+	++
Total chlorine	DPD1 tablet + DPD3 tablet (combined ch.) - „rapid“	tablet	10 pcs (foil)	10	++	
	Foto POOL DPD 1 + Foto POOL DPD 3 tablet	tablet	10 pcs (foil)	10	+	++
	FotoLovib DPD 1 + FotoLovib DPD 3 tablet	tablet	10 pcs (foil)	10	+	++
	FotoLovib DPD 1 High Calcium + FotoLovib DPD 3 tablet	tablet	10 pcs (foil)	10	+	++
	FotoPalin DPD 1 + FotoPalin DPD 3 tablet	tablet	10 pcs (foil)	10	+	++
	Reagent Taylor #R000-1 + Reagent Taylor #R000-2 + Reagent Taylor #R000-3	liquid	60 ml/reagent	240	+	++
	Photom. reagent. total Chlorine 0-3,5mg/l HANNA	powder	25 sacks	25	+	++
Chlorine dioxide*	Glycin reagent (ClO ₂ for test strip) + Chlorine dioxide test strip	powder + test strip	20 g	kb. 50		
	Foto POOL Glycine tablet + Foto POOL DPD1 tablet	tablet	10 pcs (foil)	10	+	++
	FotoLovib Glycine tablet + FotoLovib DPD1 tablet	tablet	10 pcs (foil)	10	+	++
	DINAX photometer reagent Cl-E 200 ml + DINAX photometer reagent Cl-1 200 ml + DINAX photometer reagent Cl-2 200 ml	liquid	200 ml	200	+	++
Dewan-50/Dewasil/ Hydrogen-peroxid	Acidifying LOVIB tablet + Hydrogenperoxid LOVIB tablet	tablet	10 pcs (foil)	10		++
	DINAX photometer reagent Dewan-50 200 ml	liquid	200 ml	200		++
Bromine	DPD1 tablet (free chlorine) - „rapid“	tablet	10 pcs (foil)	10	++	
Cyanuric acid	FotoPalin Cianursav tablet	tablet	10 pcs (foil)	10		++
Phosphate	Photometer reagent Phosphate for HANNA	powder	25 sacks	25		++
	Foto POOL Phosphate LR 1 + Foto POOL Phosphate LR 2 tablet *	tablet	10 pcs (foil)	10		++

Signs: ++ = recommended; + = applicable; no sign = non-applicable

Our laboratory is prepared for drinking and bath water examinations beyond the inter-production quality control. Regardless of any water treatment, it is always necessary to know the quality of the water in order to provide a precise and professional suggestion for the purposeful treatment.

As a basis for developing technological solutions and suggestions for problem solving, we conduct high-precision testing of water samples to the laboratory.

We undertake the measurement of the following parameters:

PARAMETER	FORMULA	PARAMETER	FORMULA
aluminum	Al	alkalinity and acidity	Mn
ammonium	NH_4^+	nitrate	NO_3^{2-}
evaporation residue		nitrite	NO_2^-
cyanuric acid	$(\text{HNC})_3$	dissolved oxygen	O_2
conductivity		total hardness	
fluoride	F^-	total chlorine	Cl_2
phosphate	PO_3^-	total dissolved solids	
hydrogen peroxide	H_2O_2	p- and m-alkalinity	
calcium	Ca	pH-value	
chlorine dioxide	ClO_2	free active chlorine	Cl_2
chloride	Cl^-	carbon-dioxide	CO_2
chlorite	ClO_2^-	silica	SiO_2
chemical oxygen demand, permanganate process	KOl_{ps}	sulphate	SO_4^{2-}
alkalinity and acidity		sulfide	S^{2-}
magnesium	Mg	iron	$\text{Fe}^{2+}/\text{Fe}^{3+}$

From the most important elements of the above parameters we have compiled a favorable price of drinking water and bath water test packages. With the test results, we provide a free solution for the optimal water treatment solution. In addition to water analysis, our laboratory undertakes the following services:

- in the possession of material samples (e.g. tiles, pipe sections), we try to remove deposited limescale, minerals, to select a suitable cleaning agent and process
- in our laboratory, we perform the microscopic examination and purification experiments of the used sand filter cartridge, propose a suitable treatment procedure or replace it according to the state of the charge
- if the precision of its measuring instrument is questionable, we undertake to supervise, calibrate and repair it.



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