



CONVERSION OF WATER INTO DRINKING WATER

Areas of application



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PTM INVEST HOLDING A.S.
PRAGUE-CZECH REPUBLIC-WWW.PTMAS.CZ-info@ptmas.cz

OASIS
EDITORS
WATER SURFACE AND GROUNDWATER



USE OF WATER TREATMENT PLANTS

CONTAINER WATER TREATMENT PLANTS

The purpose of the OASIS container treatment plants is to treat surface and groundwater sources for the supply of water to the population, industry, civic amenities of towns and villages. As it is not possible to use this water directly due to the quality indicators of raw water, our aim is to supply such equipment enabling the use of these water sources for these purposes.



ARMY SECTOR

- use in military field hospitals
- in military camps
- in field kitchens
- in army exercises or direct deployment in peacekeeping missions, etc.



HUMANITARIAN AID

- use in humanitarian actions
- in peacekeeping field operations
- in refugee camps
- the provision of drinking water in regions suffering from drinking water shortages
- provision of drinking water from a contaminated source



CIVIL SECTOR

- - deployability in flood-affected areas
- - deployment in areas suffering from contaminated drinking water from traditional sources

- deployment in environmental disasters
- temporary alternative source of drinking water in case of infrastructure disruption, etc.
- permanent source of water for the supply of drinking water to the population
- source of treated water for industrial sectors
- source of water for civic amenities
- Provision of drinking water in areas affected by flooding



BUSINESS SECTOR

- own source or backup source of drinking water for hotels, industries, agriculture, as a source of swimming pool water for swimming pools, sports grounds and recreation centres
- providing sufficient clean water for irrigation and livestock production
- provision of clean water for industrial and mining operations



BASIC DESCRIPTION OF THE DEVICE

The OASIS Container Water Treatment Plant, is a modern technological unit that has been developed through more than 40 years of improvement, modernization and research in the water treatment segment. The technology used allows the treatment of different groundwater and surface water sources and is environmentally friendly. The treated water retains its natural taste and character.

The entire technology is designed as an integrated system, installed in a standardized ISO 668 1C (6058 x 2438 x 2438 mm) or 1CC (6058 x 2591 x 2438 mm) container, allowing immediate deployment in the field with low operating costs.

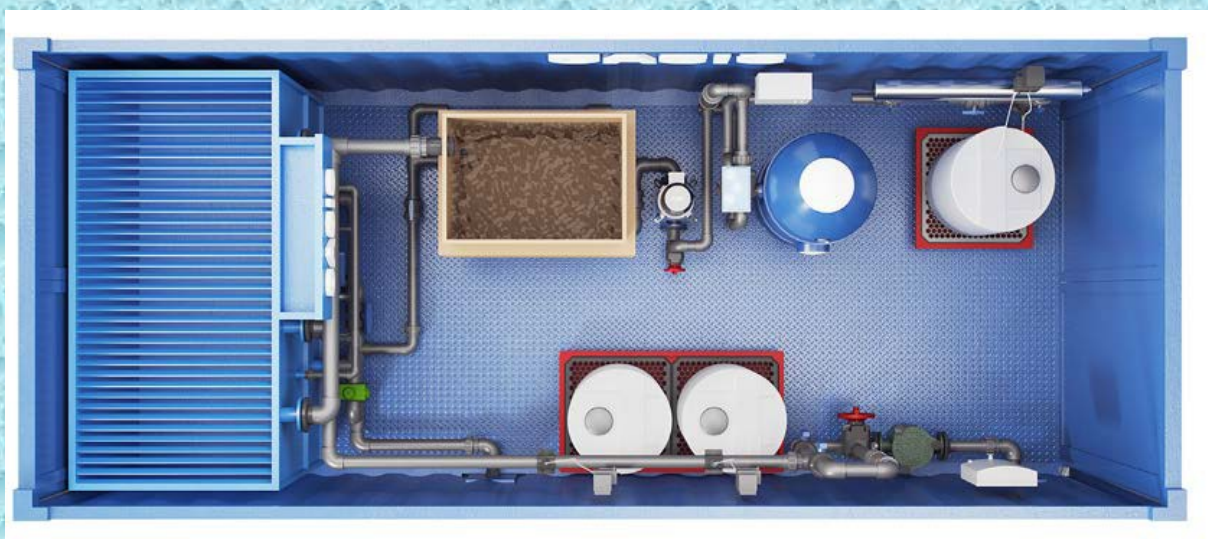
USE

The containerised water treatment plant is designed for three-stage treatment of surface and groundwater. The use and application of these water treatment plants is intended for:

treatment of surface water by clarification in the acidic, neutral or alkaline range of pH values with inorganic flocculants or with the use of organic flocculants

for the separation of suspensions resulting from de-icing and de-manganisation of water by partial decarbonisation

for the separation of suspensions resulting from the reduction of calcium and magnesium ions, in particular during their subsequent flocculation with inorganic coagulants or organic flocculants



WATER TREATMENT TECHNOLOGY

The water treatment plant is designed for three-stage treatment of surface and groundwater. The first separation stage consists of a New Generation Clarifier (pulse clarifier). The second separation stage consists of closed sand-filled filters. This is a post-filtration. The third stage consists of adsorption and oxidation. Chemical solutions used for water reaction correction and coagulation are dosed into the raw water line upstream of the Clarifier (clarifier). The treated water is health-safe after filtration. The quality parameters of surface water intended for subsequent treatment for drinking purposes should not exceed the values given below:

pH 6 7,5

HCO₃ 1 3 mmol/l

CODMn up to 40 mg/l

Colour 20 200 mg/l Pt

Suspended solids content up to 2 500 mg/l

Raw water should not be subject to rapid changes in temperature and raw water quality parameters.

LAYOUT SOLUTION

The layout corresponds to the performance of containerised water treatment plants. For outputs up to 10 12 m³/h, the water treatment plant process equipment is located in one ISO 668 1C or 1CC container. For higher outputs, the equipment is housed in two separate containers. The containers are equipped as standard with fans for five times the air change per hour. In locations with low temperatures, the containers will be equipped with an electric heater - not included as standard. The process equipment can also be placed in a new or existing building.

PERFORMANCE PARAMETERS

The performance range of containerised water treatment plants is designed for performance:

Type	Pwer series		Amount of treated water	Number of persons	Number of persons	
	l/s	m ³ /h			I.	II.
OASIS 1	0,5	1,8	43,2	288	14 400	
OASIS 3	1,0	3,6	86,4	576	28 800	
OASIS 5	1,5	5,4	129,6	864	43 200	
OASIS 7	2,0	7,2	172,8	1 152	57 600	
OASIS 10	3,0	10,8	259,2	1 728	86 400	
OASIS 12	3,5	12,6	302,4	2 016	100 800	

OASIS 18	5,0	18,0	432	2 880	144 000
OASIS 36	10,0	36,0	864	5 760	288 000

I. = use of treated water for normal consumption (150 l / person)

II. = use of treated water for drinking only (3 l/person)

TECHNOLOGIES, STANDARDS

- The performance of these treatment plants and their equipment can be otherwise modified based on the customer's requirements.
- OASIS container water treatment plants can be connected in various ways for higher capacity. Other capacities on request from the manufacturer.
- OASIS water treatment plants are delivered fully assembled in containers. Spare parts for the first equipment as well as the regulations for operation, operation and maintenance of the equipment are also included in the delivery.

WATER FROM THE OASIS WATER TREATMENT PLANT MEETS THE FOLLOWING STANDARDS:

- Ministry of Health of the Czech Republic No. 252 Coll. of 22 April 2004, which sets out the sanitary requirements for drinking water, Decree No. 83 of the Ministry of Health of the Czech Republic of 30 April 2014, which amends Decree No.
- No. 354/2006 Coll. of the Government of the Slovak Republic laying down requirements for water intended for human consumption and quality control of water intended for human consumption.
- According to the WHO 2004 Guidelines for Drinking Water Quality
- According to the DWD Council Directive 98/83 /EC ("European Drinking Water Directive")
- NATO standard AMedP-4.9, STANAG 2136
- Ministry of Health of the Czech Republic No. 238/2011 Coll. on the determination of hygienic requirements for swimming pools, saunas and hygienic limits for sand in outdoor play areas, as amended by 97/2014 Coll., 1/2016 Coll.

The output of the OASIS containerised water treatment plant is always water that meets the requirements of the standard.



OASIS

The OASIS containerised water treatment plant is primarily designed for civil use and is housed in a standard ISO 668 20' 1CC container. OASIS is listed in the basic equipment. Retrofitting of the container is carried out according to the customer's requirements.

BASIC TECHNICAL DATA AND EQUIPMENT

Container type ISO 668 20' 1CC

Container outside dimensions:

Container length 6 058 mm

Container width 2 438 mm

container height 2 591 mm

Transport possibility freight / rail / air / ship

CSC plaque no

Container manoeuvrability:

- with the KALUS KM container transporter
- by the Steelbro KL300/61 side transporter
- crane

Insulation not insulated

Ventilation yes

Technology weight 3400-4000 kg

Source of electricity:

according to destination 3~400V/50Hz

3 ~ 220V/60Hz

as required

Installed power 3,5 ÷ 8 kW

Manual filter control

**Sand filter content (grain size 0.4-0.8 mm) 375-530 kg
(grain size 1.0-1.6 mm) 100-165 kg**

Standard pump discharge 18-21 m depending on power

Standard pump suction 6-8 m depending on power

Water treatment plant control manual

Unit CE certification

The containerised water treatment plant is equipped with a portable manual laboratory for quick and easy water quality control.

SUPPLEMENTS

- **Automatic control of the water treatment plant (pump control, chemical dosing, control measurement)**
- **Semi-automatic water treatment plant control (manual pump control, automatic dosing and pH control, automatic sand filter control)**
- **PLC, comprehensive monitoring of the unit and chemical inventory via internet, remote access**
- **Stackable CSC container plaque**
- **Heating, air conditioning, insulation**
- **Backup power generator**
- **Solar system (separate container)**
- **Camera system and electronic security of the unit**
- **Transport chassis**
- **Inflatable collapsible storage tank for treated drinking water (30, 50, 80, 100 m3)**
- **Mobile packaging unit for treated water (bags, PET bottles) in a separate container**
- **Other according to requirements**



OASIS Special

The OASIS Special containerised water treatment plants are designed into ISO 668 20' 1C containers that take STANAG into account in their design. The containers are handled by ISO 3874 approved means for the ISO 1C container category. The OASIS Special can be used for humanitarian and military applications due to their transportability and manoeuvrability. Water treatment plants are featured in the basic equipment. Retrofitting of the container is carried out according to the customer's requirements.

- **BASIC TECHNICAL DATA**
- **Container type ISO 668 20' 1C (according to STANAG)**
- **Container dimensions outside:**
- **Container length 6 058 mm**
- **container width 2 438 mm**
- **container height 2 438 mm**
- **Possibility of transport by freight / rail / air / ship**
- **Container stackability according to ISO 3874 (8+1)**
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- **Container handling: according to ISO 3874**

- - by KALUS KM container transporter
- - Multilift Mk.IV., Multilift MSH165 SCA with an adapter for attachment to the front lower and upper corner elements, where the container is tilted at an angle of 30° during loading
- - with the Steelbro KL300/61 side transfer unit
- - FLATRACK 20' transport platform "M" variant

Climatic conditions: temperatures from -30°C to 50°C
 relative humidity up to 90% at temperatures around 30°C
 air velocity up to 20 m/s from all directions
 atmospheric precipitation in the form of rain at an intensity of 3 mm/min, falling at an angle of 30° in all directions

Weight of technology according to performance 3400-4500 kg

Ventilation yes

Heating yes

Electricity source:

according to destination 3 ~ 400V / 50Hz

3 ~ 220V / 60 Hz

as required

Standard pump discharge 18-21 m depending on power

Standard pump suction 6-8 m according to power

Water treatment plant control manual

Container colour variable

CSC plaque yes

CE certification of the unit

SUPPLEMENTS

- Automatic control of the water treatment plant (pump control, chemical dosing, control measurement)
- Semi-automatic water treatment plant control (manual pump control, automatic dosing and pH control, automatic sand filter control)
- PLC, comprehensive monitoring of the unit and chemical inventory via internet, remote access
- Backup power generator
- Solar system (separate container)
- Camera system and electronic security of the unit
- Transport chassis
- Inflatable collapsible storage tank for treated drinking water (30, 50, 80, 100 m³)
- Mobile packaging unit for treated water (bags, PET bottles, as required) housed in a separate 20' container
- Portable hand-held laboratory for water quality control
- Other as required



SLUDGE MANAGEMENT

The water treatment plant is automatically desludged

Sludge can be discharged to the public sewer or to sludge tanks or sludge lagoons

After the sludge has dried in the sludge lagoons, the sludge can be used as a high-quality fertilizer for agricultural purposes

Sludge volume 6-8 % of treated water

BENEFITS OF OASIS WATER TREATMENT PLANTS

Reliable and trouble-free water treatment operation

Variability of operation automatic / semi-automatic / manual

Compactness of the equipment

Minimal maintenance requirements

Easy operation

High efficiency of the water treatment process

Easy connection to a new or existing treated water distribution system

Low energy consumption

Low operating costs

Fast return on investment

OTHER SUPPLIER SERVICES

According to the customer's requirements, the supplier of the container water treatment plant provides expert technical assistance during the first commissioning of the plant and, upon request, servicing of the equipment not only during the warranty period, but also after-warranty service.

REFERENCE

REFERENCE 1

OASIS 7 containerised water treatment plant

Source: surface water

Technology: three-stage water treatment

Output: $Q = 7.2 \text{ m}^3/\text{h}$

The output of the water treatment plant is water complying with the WHO 2004 Directive



REFERENCE 2

Surface water pre-treatment plant for the Přerov Swimming Complex

Source: Strhanec stream

Technology: two-stage water treatment

Output: $Q = 18 \text{ m}^3/\text{h}$

The output of the water treatment plant is water complying with the Regulation of the Ministry of Health of the Czech Republic No. 238/2011 Coll.



REFERENCE 3

Supplying the Jirásek swimming pool in Náchod with service water

Source: Radechovka stream

Technology: two-stage water treatment

Output $Q = 2 \times 20 \text{ m}^3/\text{h}$

The output of the water treatment plant is water complying with the Regulation of the Ministry of Health of the Czech Republic No. 238/2011 Coll.

REFERENCE 4

Supplying the swimming pool in Horní Stropnice with operating water

Source: Stropnice watercourse

Technology: two-stage water treatment

Output $Q = 10\text{m}^3/\text{h}$

The output of the water treatment plant is water complying with the Regulation of the Ministry of Health of the Czech Republic No. 238/2011 Coll.

...and more references







Company contacts:

- ▶ **Headquarters**
PTM Invest holding a.s.
Beranových 735
199 00 Praha 9
Czech republic
- ▶ **Affiliate:**
Drtinova 221/10
503 11 Hradec Králové
Czech republic
- ▶ CEO: +420 776 271 800;
miroslav.panacek@ptmas.cz
- ▶ Executive assistant +420 778 744 581;
info@ptmas.cz
- ▶ www.ptmas.cz



WWW.PTMAS.CZ