



Ecological solutions for the use of water
Soluciones ecológicas para el aprovechamiento del agua
Soluciones ecológicas para o uso da água
Solutions écologiques pour l'utilisation de l'eau
Soluzioni ecologiche per l'utilizzo dell'acqua
Экологические решения по использованию воды

SMART ECO WATER GROUP, S.L.
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TECHNICAL DATA SHEET - WASTEWATER TREATMENT SYSTEM SMART ECO WATER GROUP, S.L.

GENERAL COMPANY DATA

Company: Smart Eco Water Group, S.L.
Technology: Vortex Wave Reactors (ROVs)
Type of System: Physical-chemical with electromagnetic field
Patent: World's Unique Patented Technology

MAIN TECHNICAL SPECIFICATIONS

PARAMETER	VALUE
Standard Model	LOS-400
Processing capacity	17-400 m ³ /day
Energy consumption	0.4 kW/m ³
Installation Area	100-200 m ²
Configuration	40ft container (12.5 x 2.5 m)
System Weight	System Weight
Life	Minimum 20 years
Required personnel	Required personnel

DETAILED TECHNICAL FEATURES

ELECTRICAL SYSTEM

- Voltage: 380V three-phase
- Frequency: 50 Hz
- Installed power: 25 kW maximum
- Operating Current: 50-85 A

HYDRAULIC PARAMETERS

- Inlet pressure: 0.3-1.2 MPa
- Hydraulic resistance: <0.05 MPa
- Maximum flow rate: 17 m³/hour

TREATMENT PROCESS

- Reactor time: 1.5 seconds
- Localized temperature: 1700°C
- Localized pressure: 180 atm
- Electromagnetic field: High power rotary

PURIFICATION EFFICIENCY

Parameter	Before	After	Norm
pH	7.79	7.06	6-9
Suspended solids (mg/l)	432.0	2.0	10
Ammonium salt (mg/l)	49.98	4.04	2.0
Nitrates (mg/l)	19.60	12.69	40.0
Nitrites (mg/l)	2.91	0.22	.0
Sulfates (mg/l)	-	6.25	500
Chlorides (mg/l)	80.85	12.76	350
Phosphates (mg/l)	7.98	Undetected	0.05
BOD ₅ (mg/L)	124.0	3.83	3.0
Dry residue (mg/l)	911.0	380.0	1000
Coliform bacteria	-	Not found	100
Coliphages	-	Not detected	100
Fecal strep	-	Undetected	100

SYSTEM COMPONENTS



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1. Vortex wave reactor with cooling system
2. Electromagnetic inductor with ferromagnetic needles
3. Automated control panel with remote monitoring
4. Special Power Transformer
5. High-efficiency sedimentator
6. **Filtration system** (sand and charcoal)
7. **Reagent dosing station**
8. **Coagulant preparation unit**
9. **Sludge management system**
10. **Storage hoppers**

COMPARISON WITH BIOLOGICAL SYSTEMS

Aspect	Traditional Biological Treatment	Smart Eco Water System	Advantage
Personnel	3-5 operators	1 operator	80% less
Operation	Unstable during outages	24 hours continuous or cyclical as needed	100% better
Energy consumption	3.2 kW/m ³	Less than 1 kW/m ³	87% less
Odors	Permanent unpleasant odor	Odorless	100% better
Processing capacity	Unable to process surfactants and petroleum derivatives	100% guaranteed disinfection	100% better
Dimensions	Impressive overall dimensions	Compact and modular	90% less
Required Area	>1 hectare + filtration fields	100-200 m ²	90% less
Waste	Bacteriologically dangerous sludge	Sludge usable as fertilizer	100% usable
Construction Costs	High infrastructure costs	Requires only flatbed	95% less
Maintenance	Complex and expensive	Minimal, automated	95% less

OPERATING COSTS

Concept	Cost per m ³
Reagents (CaON ₂)	0.0047 €
Electrical energy	0.0280 €
Personnel	0.3623 €
OTAL	0.395 €/m ³

CERTIFICATIONS

- Declaration EAEU N RU D-RU. AZh22 V.01341
- TR CU 010/2011 - Machine Safety
- TR CU 020/2011 - Electromagnetic Compatibility
- ISO 14001 - Environmental Management
- CE Certification

COMPLIANCE

- **Europe:** Urban Waste Water Directive 2024
- **WHO:** Safe Wastewater Use Guidelines
- **Russia:** SanPiN 2.1.5.980-00, Order 552/2016
- **International:** Exceeds all standards

APPLICATIONS AND SECTORS

INDUSTRIAL

- Food processors
- Dairy plants
- Service stations
- Galvanic industry
- Oilfield

URBAN

- Municipalities (500-50,000 inhabitants)



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- Hotel complexes
- Hospitals
- Housing estates
- Sports facilities

AGRICULTURAL

- Livestock farms
- Poultry farms
- Manure processing
- Fertilizer production

SPECIAL

- Mobile installation (trucks)
- Marine systems (ships)
- Environmental emergencies

PRODUCTS OBTAINED

1. TECHNICAL WATER

- Suitable for irrigation
- Industrial use
- Urban cleaning
- 100% reusable

2. FERTILIZERS

- Organic-minerals
- Secure certificates
- High nutritional value

3. SYNGAS

- Power generation
- Alternative fuel

WARRANTY AND SERVICE

- Warranty: 36 months
- Guaranteed service life: 5 years minimum
- Maintenance: Preventive monthly
- Technical service: Spain, Bulgaria, Turkey, Russia
- Support: 24/7 remote

INSTALLATION AND COMMISSIONING

- In-plant manufacturing: 95%
- On-site installation: 5%
- Installation time: 5-10 days
- Requirements: Flat platform, electrical connection
- Training: Included

MODULARITY AND SCALABILITY

- Expandable modular system
- No stopping operations
- Increments of 200 m³/day
- Parallel connection
- Adaptable on demand

HEALTH PROTECTION ZONE

- Required: 15-30 meters
- Traditional Biological System: 500-1000 meters
- Reduction: 95%

AUTOMATION

- Fully automated control



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- SCADA remote monitoring
- Automatic alerts
- Continuous data logging
- Predictive maintenance

ENVIRONMENTAL ADVANTAGES

- ✓ Zero air emissions
- ✓ No groundwater contamination
- ✓ Hermetic closed process
- ✓ No use of chlorine
- ✓ Complete circular economy
- ✓ SDG Contribution 6, 7, 9, 11, 12

NOTE: This datasheet summarizes the main features of the system. For detailed information on specific applications, please request complete technical documentation.

Smart Eco Water Group, S.L.
Technical Commercial Department