



ARELIS

ÇEVRE SİSTEMLERİ

**Next-Generation Advanced
Biological Treatment Systems**



ARELIS

ÇEVRE SİSTEMLERİ

ABOUT OUR TECHNOLOGY

- ARELIS is built on the technology of our manufacturing partner, which has produced biological wastewater and drinking water treatment stations in a wide range of capacities since 1997.
- İleri Biyolojik Arıtma Teknolojileri brings this technology to Türkiye and the region: sales, engineering, installation and service, with local production planned.
- The product line is continuously modernized, together with the production technologies behind it.
- The fourth-generation **ARELIS** treatment station was introduced in 2009, followed by **ARELIS PRO** technology for difficult ground conditions.

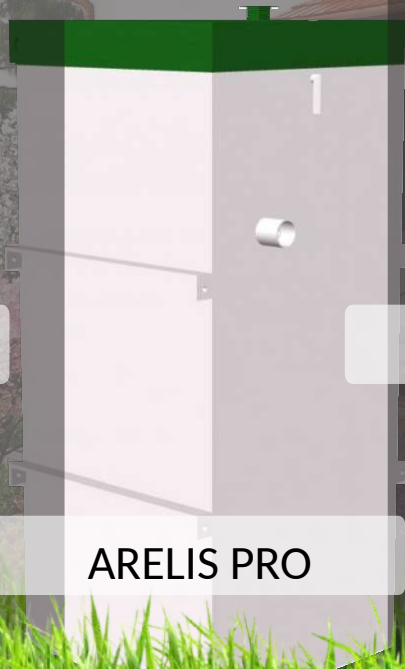


OUR PRODUCTS

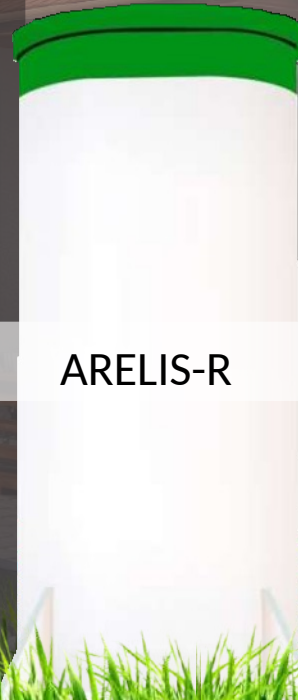
TREATMENT SYSTEMS FOR HOMES, BATHHOUSES AND FLOATING VESSELS



ARELIS



ARELIS PRO



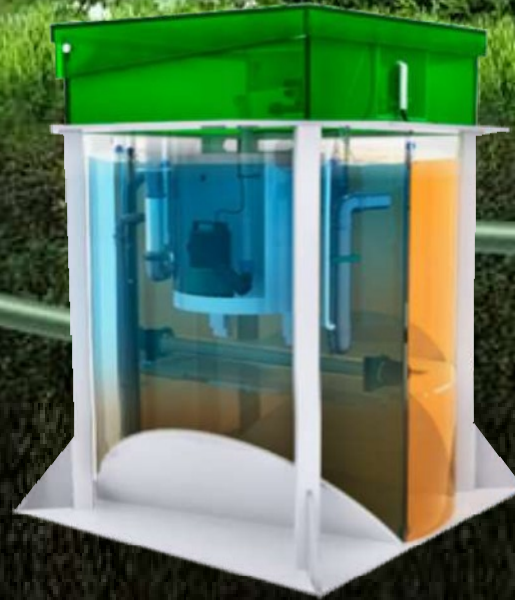
ARELIS-R



ARELIS MARIN

OUR PRODUCTS

TREATMENT SYSTEMS FOR DIFFICULT GROUND CONDITIONS



ARELIS PRO

OUR PRODUCTS

HIGH-CAPACITY TREATMENT SYSTEMS



ARELIS
ÇEVRE SİSTEMLERİ



ARELIS COMFORT

OUR PRODUCTS

TREATMENT SYSTEMS FOR HOTELS AND FACILITIES



ARELIS HOTEL

OUR PRODUCTS

SYSTEMS FOR FLOATING HOMES AND OTHER SEA/RIVER VESSELS



Introduced in 2019, ARELIS MARIN is a treatment system designed specifically for floating homes and vessels.

The system has been installed in floating homes, where testing has confirmed its efficiency and environmental performance.

ARELIS MARIN is a revolutionary solution that protects and enhances the ecology.

ARELIS MARIN

OUR PRODUCTS

AIRSAF – CHEMICAL-FREE DRINKING WATER TREATMENT



- A patented, chemical-free drinking water treatment technology.
- The technology is based on the "natural self-purification mechanism of water" observed in high waterfalls such as Niagara Falls.
- AIRSAF fits these natural self-purification processes of high waterfalls into an extremely compact system.



AIRSAF

OUR ADVANTAGES



4th-Generation Treatment Technology

Across all parameters, ARELIS belongs to the fourth-generation aero-septic class. Very few systems in the world qualify for this class today. Other systems either require "raw sludge" removal by vacuum truck or are very expensive to operate.



Suited to Urban Water Consumption

ARELIS can even handle the sudden draining of a large jacuzzi. Thanks to the integrated three-stage "Aerosliv" system, even the smallest unit copes with high-volume inflows without issue.



Operating and Maintenance Savings

Simple maintenance you can do yourself once every six months. No need for regular vacuum-truck visits, quarterly service fees or other extra costs.



Water Reuse (Recovery)

Excellent treatment quality allows the treated water to be reused for technical purposes (e.g. irrigation, vehicle washing, street cleaning). The odorless activated sludge makes an excellent organic-mineral fertilizer for your garden – completely safe and equivalent to natural humus.



Treatment Quality

Provided the manufacturer's recommendations on limiting cleaning agents, hard-to-oxidize household chemicals and toxic substances are followed, it achieves treatment efficiency of **up to 98%** for all biologically oxidizable substances.



Compact Design and Low Weight

The system suits even tight spaces and small plots. Thanks to its minimal weight, it can be installed easily without heavy machinery.

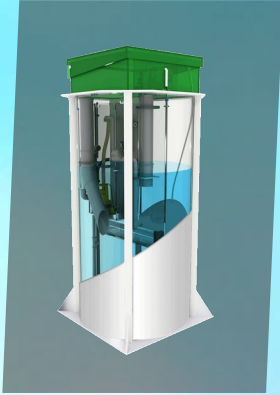
PRODUCTION CAPACITY



- Our manufacturing partner's R&D and production facilities are equipped with the most modern, optimized production equipment to meet global demand at the highest level.
- Production goal: maximum quality in minimum time.
- A major capacity expansion in 2013 grew the partner's production network, bringing new facilities with state-of-the-art equipment online for assembling "ARELIS" and "AIRSAF" stations. Our plan is to establish ARELIS and AIRSAF production in Türkiye.



ADDITIONAL PRODUCTS



FILTRA-PRO

The "FILTRA-PRO" unit is one of our most important recent R&D products. It is a strong alternative to ultrafiltration biofilters, but unlike them it lasts far longer (at least 10 years) without regeneration. It offers hydro-automatic or pump-driven automatic self-cleaning in case of clogging, and a very large surface area.



GREASE SEPARATOR

Our grease separator is designed to capture and separate non-emulsified fats and oils in wastewater from kitchens, restaurants, canteens, bakeries, meat processing plants and other businesses before it is discharged to the main treatment plant or municipal sewer.

INDUSTRIAL ADVANCED BIOLOGICAL TREATMENT STATIONS

ARELIS – GRAND SYSTEM



ARELIS-GRAND is a fully chemical-free system based on intensive circulation of activated sludge biomass under different oxygen regimes.



The patented TVB (Vertical Biodynamic) technology provides deep biological treatment of all pollutants found in domestic wastewater.



For final (tertiary) treatment, ARELIS-GRAND comes standard with the unique FILTRA-PRO system – a self-cleaning equivalent of MBR (Membrane Bioreactor) systems.



Self-cleaning FILTRA-PRO units at the outlet ensure the treated water meets the standards (the strictest norms) for discharge even into natural fishery waters.



The system produces no anaerobic "raw sludge" requiring transport to special disposal sites. Excess mineralized "activated sludge" does not exceed 50 g per kg of incoming BOD5 (Biochemical Oxygen Demand). Minimal staffing is required (mainly security and general waste removal).

TECHNICAL DATA



ARELIS single-tank stations – standard version (inlet pipe up to 60 cm deep)

Model	Users	Capacity (m ³ /day)	Peak discharge (L)	Weight (kg)	Dimensions L×W×H (mm)
ARELIS-5	5	0.9	320	130	1080 × 1080 × 2380
ARELIS-8	8	1.6	630	235	1350 × 1350 × 2380
ARELIS-10	10	2.0	800	265	1750 × 2000 × 2380
ARELIS-15	15	3.0	1025	325	1930 × 1930 × 2380
ARELIS-20	20	4.0	1250	355	2160 × 2160 × 2380

- Single-tank range 0.4–20 m³/day (up to 100 users), sized at 200 L per person per day. Larger flows: ARELIS COMFORT, HOTEL and GRAND.
- Inlet depth versions: standard (up to 60 cm), MIDI (up to 80 cm), LONG (up to 120 cm). Design inlet load: BOD5 150–400 mg/L.
- Power: 220 V / 50 Hz; aeration compressor below 12 W per user. Housing: polypropylene–ethylene copolymer, service life 30+ years.
- ARELIS GRAND: energy use below 0.1 kWh per m³ treated; excess sludge below 50 g per kg of incoming BOD5; FILTRA-PRO filter pores below 10 µm.

TREATED WATER QUALITY



Average effluent values, domestic wastewater (manufacturer quality certificate)

Parameter (mg/L)	ARELIS outlet	With FILTRA-PRO
BOD5	≤ 4	≤ 2
COD	≤ 30	≤ 15
Ammonium nitrogen	≤ 2.0	≤ 1.0
Nitrite	≤ 3.3	≤ 1.8
Nitrate	≤ 45	≤ 9
Surfactants	≤ 0.5	≤ 0.25
Phosphate	≤ 3.5	≤ 1.8

Independent laboratory test

Accredited laboratory, ARELIS-8 effluent:

BOD5 2.2 mg/L

Suspended solids 4.9 mg/L

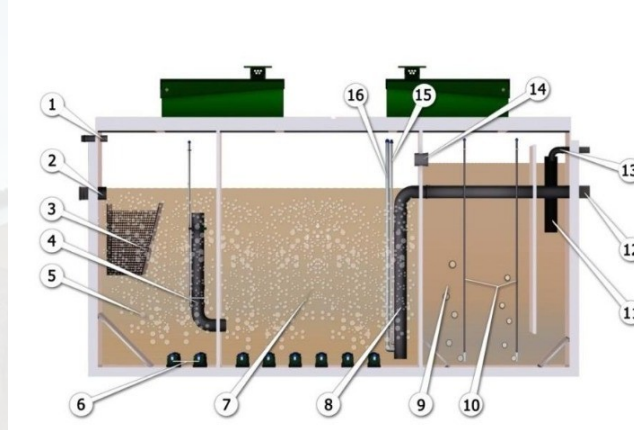
Treatment efficiency

Up to 98% removal of biologically oxidizable pollutants once the biomass is established (about 40 days after start-up).

Values assume typical domestic wastewater (BOD : N : P = 100 : 5 : 1).

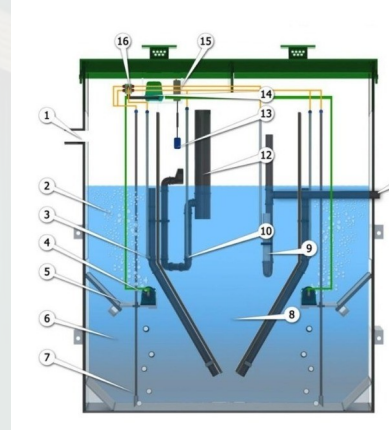
PROCESS SCHEMATIC

ARELIS BIOMATRIX modular plant – inlet, bioreactor and outlet modules



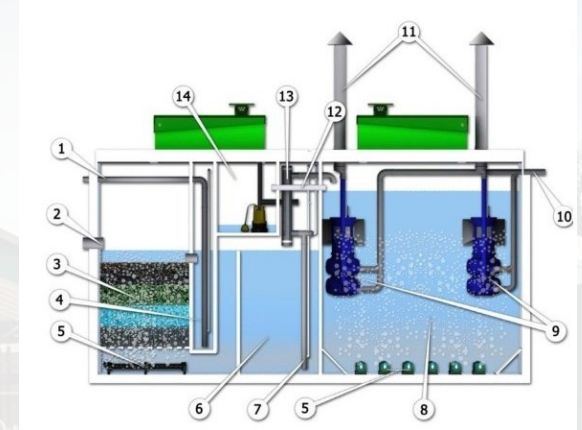
Inlet module

- | | |
|-----------------------|---------------------------|
| 1 Inlet pipe | 9 Sludge stabiliser |
| 2 Recirculation pipe | 10 Coarse-bubble aerators |
| 3 Debris basket | 11 Stilling baffle |
| 4 Turbo-screen | 12 Recirculation outlet |
| 5 Inlet reservoir | 13 Sludge pump |
| 6 Membrane aerators | 14 Sludge-water return |
| 7 Inlet aeration tank | 15 Pump air supply |
| 8 Recirculation pump | 16 Turbo-mode air supply |



Bioreactor module (x2)

- | | |
|------------------------------|--------------------------|
| 1 Inlet pipe | 9 Aerosliv air discharge |
| 2 Vertical oxidation channel | 10 Biofilm remover |
| 3 Circulator | 11 Outlet pipe |
| 4 Membrane aerator | 12 Degasser |
| 5 False bottom | 13 High-level sensor |
| 6 Activation reservoir | 14 Compressor |
| 7 Coarse-bubble aerator | 15 Control unit |
| 8 Secondary clarifier | 16 Air distributor |



Outlet module

- | | |
|------------------------------|-------------------------|
| 1 Filtrate return | 8 Treated water tank |
| 2 Inlet pipe (from Aerosliv) | 9 Submersible blowers |
| 3 Porous filter | 10 Air channel |
| 4 Filtrate collection tank | 11 Air inlet |
| 5 Membrane aerators | 12 Clean-water overflow |
| 6 Clarified water | 13 UV disinfection |
| 7 Disinfection pump | 14 Outlet storage tank |

WASTEWATER REUSE FOR IRRIGATION



Design example: campus plant treating and reusing 8,000–10,000 m³ per month

Treatment plant – ARELIS BIOMATRIX-40

- Four factory-built modules: inlet tank with turbo-screen, two bioreactors with integrated vertical clarifiers, outlet tank
- Footprint 4.0 × 9.3 m, height 2.53 m; underground or semi-underground on an RC slab
- Tertiary stage: bio-loaded porous filter and UV disinfection
- Fully automatic; no chemicals or added biological products
- Stabilised, odourless sludge: about 3–6 m³ every 4–6 months

Smart irrigation system

- 350 m³ reclaimed-water storage tank
- Duplex booster set with VFD, about 40–50 m³/h at 60 m head
- Automatic mains-water top-up with approved backflow preventer
- HDPE PE100 mains; purple reclaimed-water valves and marking tape
- Pop-up rotors (10–15 m radius) for full turf coverage
- Weather-based scheduling and soil-moisture sensors prevent over-watering

About 108,000 m³ of mains water saved every year.

9,000 m³ of treated water per month replaces mains water for irrigation and vehicle washing. Savings = reused volume × your local water tariff.

TECHNOLOGY REFERENCE PROJECTS

ARELIS GRAND municipal installation



TECHNOLOGY REFERENCE PROJECTS

ARELIS GRAND for a residential development





İLERİ BİYOLOJİK

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