RIEFILT

WATER ON DEMAND

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EQUIPMENT FOR SALE · EXPOSÉ

Containerised High-Pressure Reverse Osmosis 200 m³/d

Two-stage leachate RO in an insulated 40 ft container. Refurbished before delivery, factory tested, ready to operate. Purchase or rent-to-own.

200 m³/d
feed capacity,
120 m³/d permeate

35 mS/cm
design conductivity,
COD up to 10,000 mg/l

75 bar
max. operating pressure,
2 stages

5–7 wks
ready for shipment
after order



Offer at a glance

A used two-stage high-pressure reverse osmosis system in an insulated 40 ft container is for sale. It was designed for heavily loaded landfill leachate and treats up to 200 m^3 of feed per day. Before delivery the unit is refurbished and tested in a factory acceptance test.

Item	Details
System	Two-stage RO, type ROLW 9144 ST+ 30/6, in an insulated 40 ft container
Capacity	Feed up to 8.33 m^3/h (200 m^3/day); permeate 5.0 m^3/h (120 m^3/day) at 60 % recovery
Design basis	Conductivity up to 35,000 µS/cm, COD up to 10,000 mg/l
Upgrade option	Adaptable to approx. 10 m^3/h net permeate (additional modules and high-pressure capacity, quoted separately)
Condition	Used, refurbished before delivery, FAT with NaCl solution incl. protocol
Location	Sharjah Free Zone, United Arab Emirates
Commercial model	Purchase or rent-to-own over up to 36 months, exclusively through RIEFILT GmbH



Photos of the container type: process room with ST+ module racks and control panels, container exterior on site, dosing and cleaning section.

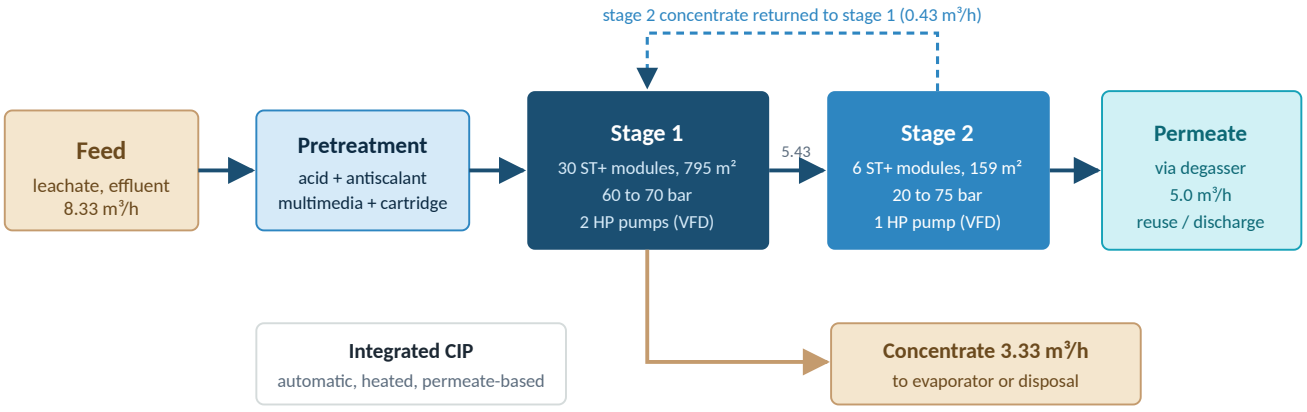
Applications

Built for saline, organically loaded wastewater, where dissolved salts, heavy metals and organics have to be removed by a dense membrane process.

Landfill leachate	Treatment of young and old leachate to discharge or reuse quality
Liquid waste treatment	Effluents from waste treatment and recycling facilities
Industrial wastewater	Process effluents with high salt and COD load
Evaporator pre-concentration	Reduces the volume that goes to thermal treatment and cuts energy cost
Temporary & emergency	Containerised, plug-in solution for rental, bridging and emergency operation

How it works

The feed is pre-filtered, conditioned and pressed through two membrane stages. The first stage separates the bulk of salts and organics, the second stage polishes the permeate. Its concentrate returns to the first stage, so only one concentrate stream leaves the unit.



Flow balance at design point (35 mS/cm, 20 °C) · values in m³/h

All main parameters (temperature, pressure, conductivity, flow) are controlled by the PLC. A motor control valve keeps the recovery constant while the operating pressure follows the fouling level of the membranes. When the permeate flow drops, an automatic cleaning cycle with heated permeate and cleaning chemicals restores the performance.

ST+ open-channel modules

The ST+ spacer tube module combines the robustness of disc tube modules with the compactness of spiral wound elements. Its open channel allows high flow velocities and avoids irreversible fouling. One ST+ module (26.5 m²) replaces about 2.65 disc tube modules, with 2 O-rings instead of 420 per module: smaller footprint, fewer parts, simpler maintenance.

Design basis and expected permeate

Parameter	Reference feed	Est. permeate
Conductivity	35,000 µS/cm	approx. 1,000 µS/cm
COD	10,000 mg/l	approx. 500 mg/l
BOD	5,000 mg/l	approx. 150 mg/l
NH_4-N	3,500 mg/l	approx. 50 mg/l
TSS	250 mg/l	< 5 mg/l
pH	7.7 to 8.1	5.0 to 6.0

Feed limits

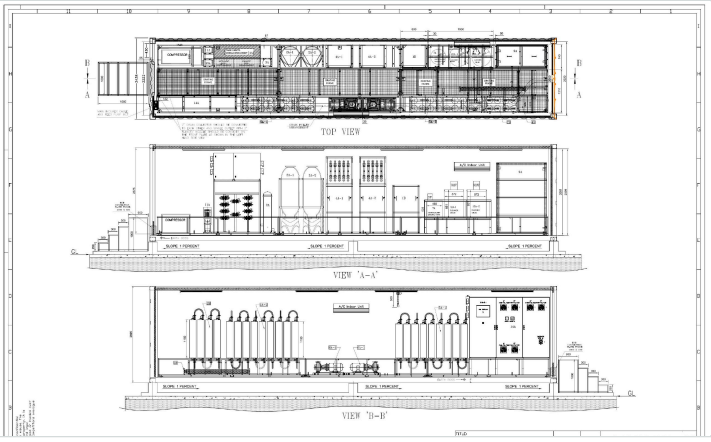
Oxidising agents (H_2O_2, free chlorine, ozone) and hydrocarbons (mineral oil, aromatic solvents) must be removed before the unit. TSS, iron, sulphur and aluminium must stay within the design basis. Final recovery and permeate quality are confirmed on the basis of your full feed analysis.

Technical data

Design point 35 mS/cm, 20 °C. Daily figures assume 22 operating hours; 2 hours per day are reserved for cleaning and service.

Parameter	Stage 1 (leachate stage)	Stage 2 (permeate stage)
Max. feed flow	8,333 l/h	5,430 l/h
Modules	30 × ST+	6 × ST+
Membrane area	795 m²	159 m²
High-pressure pumps	2, frequency controlled	1, frequency controlled
Inline blocks / pumps	1 / 1	1 / 1
Operating pressure	60 to 70 bar, max. 75 bar	20 to 75 bar, max. 75 bar

Item	Details
Overall recovery	60 % at 35 mS/cm; higher at lower salinity
Pretreatment	Automatic double multimedia filter with backwash, cartridge filter with Δp monitoring, acid and antiscalant dosing
Cleaning	Integrated CIP; alkaline and acid cleaner stations, 250 l each
Permeate	Degassing and blower station; permeate tank for installation outside
Piping	Low pressure PVC; high pressure stainless steel 1.4571
Control	PLC with panel PC, data recording, remote access
Container	Insulated 40 ft, process room and separate isolated control room; module crane, heating, lighting, ventilation, emergency shower, hand wash basin
Main brands	Grundfos, GEMÜ, GF Piping Systems, CAT Pumps, EMZ
Power supply	400 V / 50 Hz (basis)
Indicative OPEX	Electricity approx. 6 kWh/m³ feed (4.5 to 7.5); chemicals approx. 0.40 €/m³ feed



General arrangement: top view and sections of the 40 ft container. Full P&ID and layout drawings are available on request.

Scope and terms

Item	Details
Scope of supply	Two-stage RO unit incl. dosing, CIP and tank system, degasser, internal piping and wiring, central control, insulated 40 ft container
Documentation	Mechanical and electrical drawings, P&ID and layout; operation manual; in English, electronically and as hard copy
Testing	Factory acceptance test with NaCl solution; all hardware and software functions checked and documented
Availability	Ready for shipment 5 to 7 weeks after order, including refurbishment and FAT
Delivery terms	EXW Sharjah Free Zone, UAE; transport on request
Warranty	6 months from commissioning (max. 9 months from readiness for shipment) on refurbished mechanical and electrical components; membranes and consumables excluded
Commercial model	Purchase, or rent-to-own over up to 36 months with up-front payment and buyout option from month 12
Optional services	Transport, installation, commissioning and operator training, capacity upgrade to approx. 10 m^3/h, ion exchanger or activated carbon polishing, service package (remote monitoring, membrane management, spare parts)
Not included	Power supply and cabling to the container, foundations, raw water tank and feed pump, acid storage tank, concentrate handling
Price	On request

Subject to prior sale. All technical data are based on manufacturer and project documents and are not binding. Permeate quality figures are estimates and are confirmed after a full feed analysis.

What we need for a firm offer

Your feed analysis (conductivity, COD, NH_4-N, chloride, sulphate, calcium, iron, silica, TSS), the required permeate flow and discharge limits, and your target start date.

Alexander Riebe

CEO · RIEFILT GMBH

Interested? Send us your application and feed analysis. We confirm capacity and permeate quality and send you a firm offer promptly.

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