RIEFILT

WATER ON DEMAND

GmbH | EUROPE · MEDITERRANEAN · MENA

EQUIPMENT FOR SALE · EXPOSÉ

HF-RO Desalination Skid approx. 2 m³/h

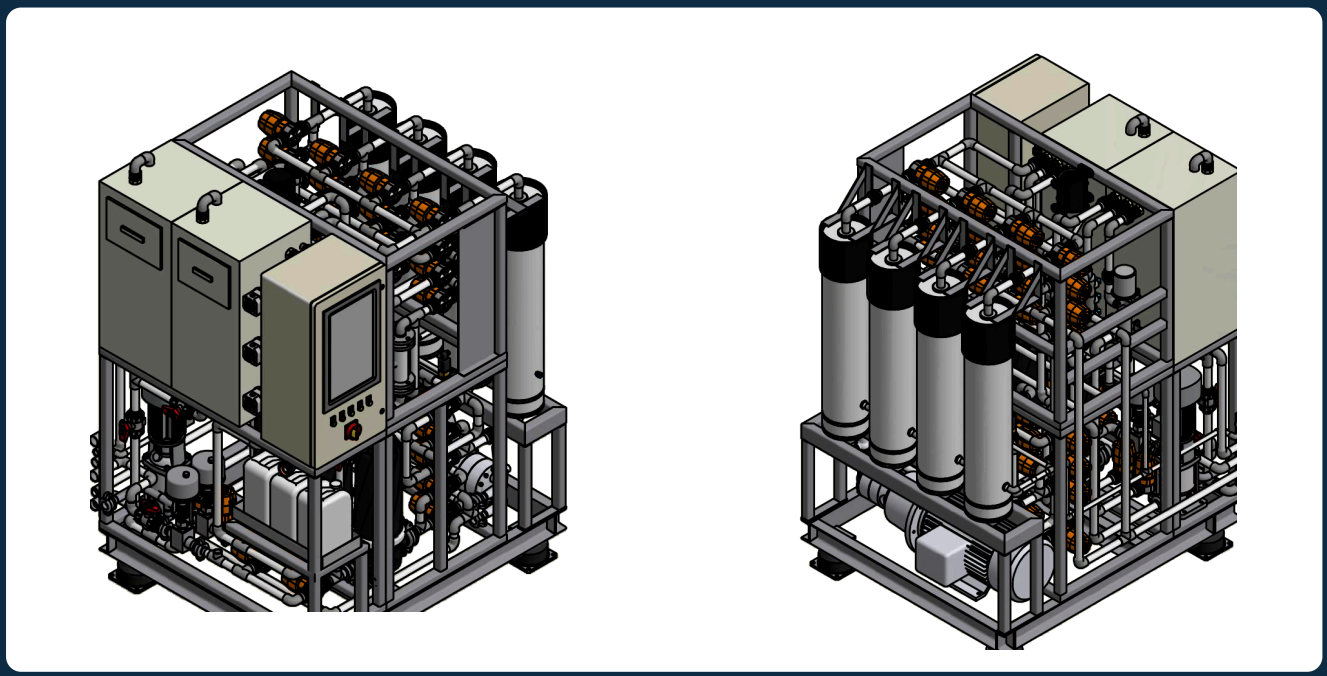
Hollow-fibre ultrafiltration and reverse osmosis in one compact unit. Produces fresh water from turbid sea, brackish or river water, fully automatic and in continuous operation.

5.0 m³/h
feed,
up to 43,000 mg/l TDS

≈ 2 m³/h
permeate,
approx. 48 m³/day

300 NTU
max. feed turbidity
thanks to UF stage

1.4 × 1.2 m
footprint main skid,
height approx. 2.0 m



Offer at a glance

A compact seawater desalination unit with an integrated hollow-fibre ultrafiltration stage is for sale. The UF stage removes sediments, colloids, bacteria and viruses and feeds the reverse osmosis directly, without an intermediate tank. The unit therefore handles raw water that would quickly block a conventional RO with cartridge pre-filtration.

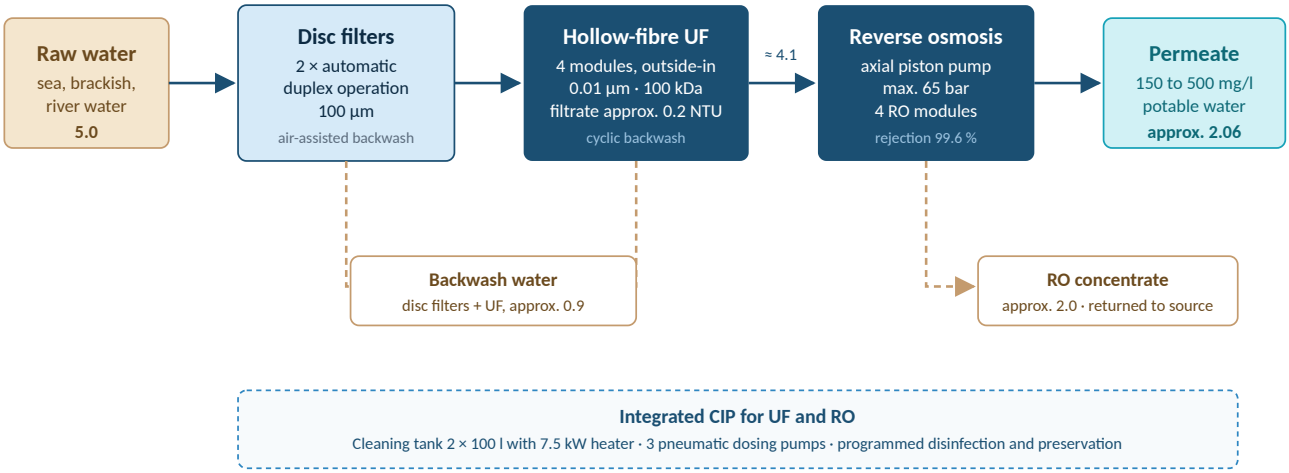
Item	Details
System	HF-RO desalination skid, type ROMF 15304: automatic disc filters, hollow-fibre UF, single-stage seawater RO, integrated CIP
Capacity	Feed 5.0 m³/h; permeate approx. 2.06 m³/h nominal (approx. 48 m³/day at 24 h operation) at 36,000 mg/l and 25 °C
Feed range	Salinity 250 to 43,000 mg/l; temperature +2 to +33 °C; turbidity up to 300 NTU; sediment up to 150 mg/l
Permeate quality	150 to 500 mg/l TDS, 300 to 1,000 µS/cm; RO rejection 99.6 %
Footprint	Main skid approx. 1,400 × 1,200 × 2,020 mm; separate RO module rack approx. 600 × 550 × 1,990 mm
Year · condition	On request
Location	On request
Commercial model	Purchase or rent-to-own, exclusively through RIEFILT GmbH

Applications

Field	Use
Coastal and island supply	Potable and process water for resorts, villages, camps and remote sites
Harbours and estuaries	Desalination of turbid, particle-laden water with changing salinity
Industry on the coast	Process water, boiler make-up pre-treatment, washing water
Emergency supply	Compact, quickly installed unit for disaster relief and bridging operation
Pilot and test operation	Feasibility trials for larger UF/RO projects on difficult raw water

How it works

An external feed pump delivers the raw water. Two automatic disc filters in duplex mode retain coarse particles. The hollow-fibre UF (outside-in, dead-end) produces particle-free filtrate, which flows directly to the high-pressure pump of the reverse osmosis. While one UF module is backwashed with air and filtrate, the others keep producing, so the RO runs without interruption.



Flow scheme at design point (36,000 mg/l, 25 °C) · values in m³/h

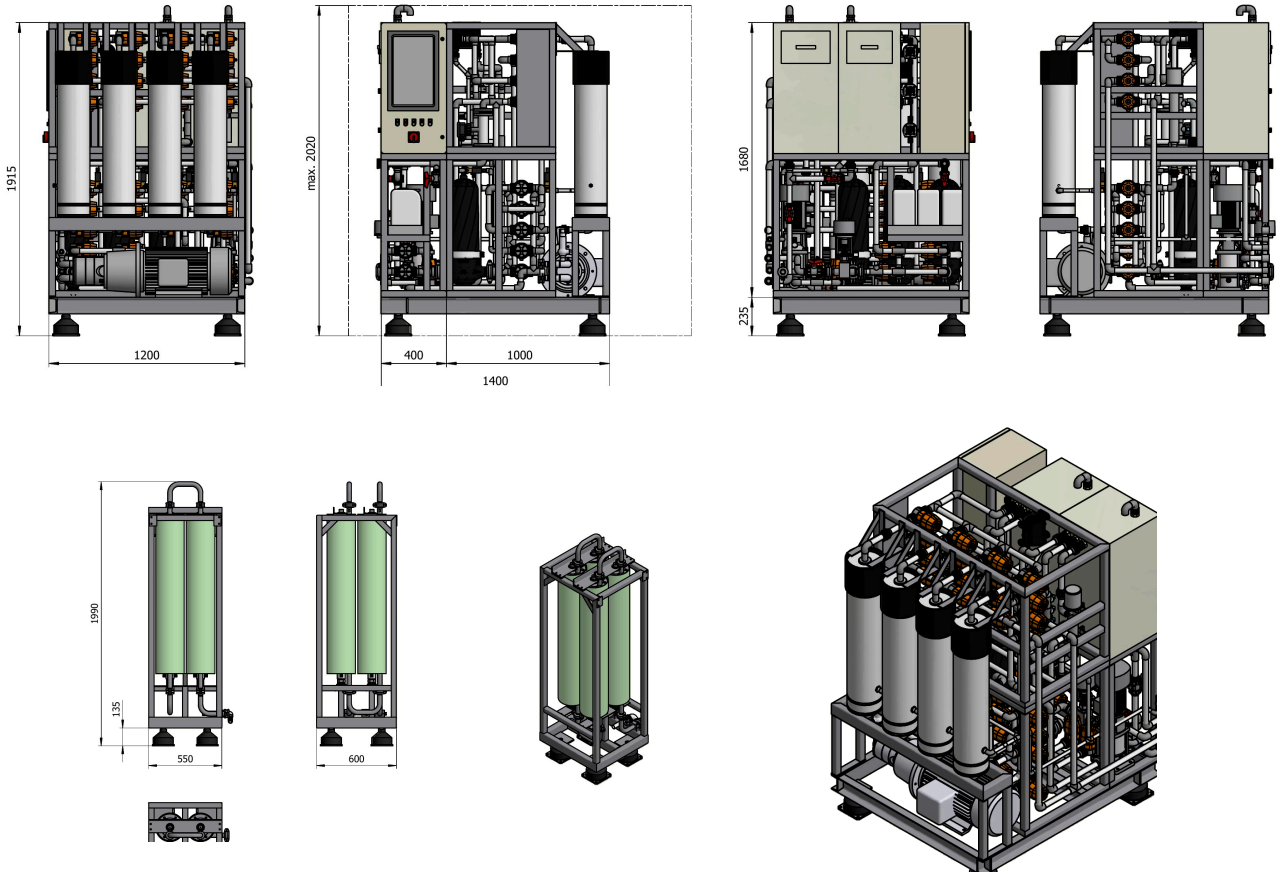
Key design features

Feature	Benefit
Hydrophilic hollow fibre, 0.01 µm	Low fouling, easy backwash, filtrate approx. 0.2 NTU even at high feed turbidity
Axial piston high-pressure pump	Low pulsation, high efficiency, duplex / super duplex materials
Frequency-controlled feed pump	Driven from the control cabinet: low pressure peaks, gentle operation of UF modules and pumps, energy saving
Integrated CIP and CEB	Automatic chemical cleaning of UF and RO, programmed disinfection and long-term preservation
Few component types	Only two valve sizes and interchangeable pumps reduce spare parts stock

Feed limits. Free chlorine must be 0 ppm at the RO. Below +2 °C feed temperature an upstream heater is required. Oils and hydrocarbons must be removed before the unit. Final output is confirmed on the basis of your feed water analysis.

Technical data

Section	Specification
Disc filtration	2 × automatic disc filter 2", duplex, 100 µm, air-assisted backwash with UF filtrate, max. 10 bar
Hollow-fibre UF	4 modules, outside-in, dead-end, cut-off 100,000 Da (approx. 0.01 µm), max. 2.5 bar, cyclic backwash with air
Reverse osmosis	4 RO modules with open feed channel, cross-flow, FRP pressure vessels, specific flux 11 to 17 l/m²h, max. 65 bar
High-pressure pump	Axial piston pump, 4.08 m³/h at 63 bar, motor 8.5 kW, IE2
CIP / CEB	Cleaning tank 2 × 100 l PP, immersion heater 7.5 kW (30 to 85 °C), centrifugal cleaning pump, 2 pneumatic cleaner pumps, pneumatic chlorine dosing pump
Materials	Low pressure ABS; high pressure 1.4539 and 1.4410 (super duplex); HP pump 1.4462 (duplex); tanks PP; frame stainless steel
Control	PLC, 15.6" full-HD touch panel, push buttons for main programs, Ethernet interface for remote monitoring
Electrical	400 V / 50 Hz, approx. 18 to 20 kW, main switch 63 A, cabinet IP65
Utilities on site	Feed pump, compressed air, potable or permeate water for cleaning, drain



Main skid views with dimensions (top), separate RO module rack and rear view of the main skid (bottom). P&ID and full drawing set available on request.

Scope and terms

Item	Details
Scope of supply	Main skid with disc filters, UF modules, high-pressure pump, CIP system and control cabinet; RO module rack; internal piping and wiring
Documentation	P&ID, layout drawings, process description, main component list; operating manual on request
Inspection	Inspection and function test before sale can be arranged
Delivery terms	EXW location; transport on request
Optional services	Transport, installation, commissioning, operator training, membrane replacement, container housing, remote monitoring and service package
Not included	Feed pump or sea intake, compressed air supply, power cabling, foundations, permeate storage
Price	On request

Subject to prior sale. All technical data are based on manufacturer and project documents and are not binding. Output and permeate quality depend on feed salinity and temperature and are confirmed after a feed water analysis.

What we need for a firm offer
Feed water source and analysis (TDS or conductivity, temperature range, turbidity, TSS), required permeate flow and quality, site location and 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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