Trailer-Mounted Water Purification Equipment

The Trailer-Mounted Water Purification Equipment is a high-efficiency box-type movable modular water treatment device designed based on Reverse Osmosis (RO) technology, specifically built for small and medium-sized freshwater demand scenarios. The equipment adopts a box-type structure, integrating core modules such as pre-treatment, reverse osmosis desalination, and intelligent control. It features rapid deployment, flexible expansion, and high efficiency and energy conservation, and can easily meet the freshwater supply needs in scenarios such as islands, ships, emergency rescue, and industrial water use.

1. Modular Design: The entire equipment is embedded in standard small or large containers, providing wind resistance, corrosion resistance, and earthquake resistance, enabling it to adapt to harsh environments. The modular structure supports "plug-and-play", facilitating transportation, and on-site installation only requires connection to water and electricity to start operation. The production capacity can be flexibly expanded according to needs (e.g., parallel connection of multiple units) to meet future water demand growth. The bottom of the equipment is equipped with tires and hooks, which can be mounted at the rear of a vehicle for deployment in different areas, ensuring convenient transportation and strong mobility.

2. High-Efficiency Reverse Osmosis Technology: It adopts high desalination rate RO membrane elements, and the quality of the produced water complies with the standards for drinking water quality. It is equipped with a high-pressure pump, and the working pressure is adjusted adaptively, improving energy efficiency and extending the service life of the membrane. The power source can use an external power supply or a matching generator; if conditions permit, a hybrid power supply such as solar/wind energy can also be optional.

3. Integrated Pre-Treatment System: It integrates multi-stage pre-filtration (PP, quartz sand, activated carbon filtration, etc.), which effectively protects the RO membrane and reduces the risk of clogging. It is equipped with an automatic chemical cleaning function to extend the service life of the membrane module.

4. Full-Process Intelligent Control: It is equipped with a PLC + touch screen human-machine interface, which can monitor parameters such as water quality, pressure, and flow in real time, supporting remote operation and fault diagnosis, and enabling fully automatic operation and unattended operation (customized solutions can be provided according to customer requirements).

Technical Parameters

Model:	M02
Water Production Rate:	1500L/hour (can be customized according to needs)
Water Purification Standard:	GB5749-2022 "Standards for Drinking Water Quality"
Water Source Type:	Class I-V surface water, I-III groundwater as specified in GB/T 14848-2017 "Standards for Groundwater Quality", brackish water
Substances Removed:	Sediment, rust, disinfection by-products, bacteria, viruses, heavy metals, salts, etc.

Desalination Rate:	≥99% (Capable of treating water sources with TDS levels below 10,000)
Filtration Media:	Quartz sand Activated carbon PP filter element Reverse Osmosis Membrane: Fully aromatic high-crosslinking polyamide (filtration precision ≈ 0.0001 microns)
Inlet Water PH:	6~9
Operating Temperature:	0℃~40℃
Structure Form:	Frame modular type
Power Supply Type:	110, 220, 380V external power supply or customized diesel power generation (optional solar/wind energy hybrid power supply)
Size:	370*220*230cm(L*W*H)

Product Images

M02 exterior view

M02 overall dimensions

M02 trailers at the factory

Applications and Product Features

M02 remote-site deployment illustration

M02 site water supply layout