



Reverse osmosis system



ROS 2,000 gpd shown with atmospheric tank

Delivering the water you need to run an efficient waterjet system

Enhance production with reverse osmosis

The Hypertherm reverse osmosis system (ROS) features a compact, free-standing design, excellent pre-filtration, and high-quality components. Able to support 500–2,000 gallons per day (gpd), the ROS offers high performance, high recovery rates, and low energy consumption, allowing you to experience greater savings with lower maintenance and operation costs.

How the system works

Reverse osmosis works by forcing the incoming softened water through a semi-permeable membrane to remove dissolved solids and hard ions. The resulting water is sent directly to the waterjet pump.

Waterjet-specific design

Designed specifically for the waterjet industry, it produces high-quality reverse osmosis water at a rate that supports waterjet pumps up to 75 hp.

Plug-and-play

The reverse osmosis system includes all the necessary parts and connections to seamlessly connect your softened water to your waterjet pump.

On-demand reverse osmosis

The onboard boost pump and accumulator, combined with the atmospheric tank, provide a readily available source of pressurized reverse osmosis water directly to your system.

Mazimize water consumption

The reverse osmosis unit is designed with oversized water filters and cold water membranes that efficiently and effectively process the incoming water, producing at a 63% recovery rate.

This means you waste less water down the drain and send more pure reverse osmosis water directly to the cutting head.

Blending options

The reverse osmosis system is equipped with a digital total dissolved solids (TDS) meter for instant TDS readings. With this, you can monitor the quality of the water being produced. The blending valve allows you to instantly adjust the water to any specific setting.

Specifications

| Models | ROS 500 | ROS 2000 |
|--------------------------------------------------------------|-----------------------------------------------|----------------------------------------------|
| Design and rates | | |
| Gallons per day (gpd) | 500 | 2,000 |
| Feed water source | Softened | Softened |
| Standard recovery rate | 26% | 63% |
| Permeate flow | 0.35 gpm (1.32 lpm) | 1.38 gpm (5.22 lpm) |
| Feed rate | 1.5 gpm (5.67 lpm) | 2.5 gpm (9.46 lpm) |
| Connections | | |
| Inlet (feed) | 1" FNPT | 1" FNPT |
| Outlet (permeate) | 3/8" tube | 3/8" tube |
| Drain (concentrate) | 3/8" tube | 3/8" tube |
| Electrical, reverse osmosis | | |
| Motor | 1/3 HP (0.24 kW) | 3/4 HP (0.55 kW) |
| Standard voltage | 110 V, 60 Hz, 1-PH | 110 V, 60 Hz, 1-PH |
| Voltage options* | 220 V, 60 Hz, 1-PH 220 V, 50 Hz, 1-PH | 220 V, 60 Hz, 1-PH 220 V, 50 Hz, 1-PH |
| Voltage amp draw (110 V, 60 Hz/220 V, 60 Hz/220 V, 50 Hz) | 6.6/3.2/3.7 | 11/5.6/6.6 |
| Electrical, boost | | |
| Motor | 1/2 HP (3.7 kW) | 1/2 HP (3.7 kW) |
| Standard voltage | 115 V, 60 Hz, 1-PH | 115 V, 60 Hz, 1-PH |
| Voltage options* | 220 V, 60 Hz, 1-PH 220 V, 50 Hz, 1-PH | 220 V, 60 Hz, 1-PH 220 V, 50 Hz, 1-PH |
| Voltage amp draw (110 V, 60 Hz/220 V, 60 Hz/220 V, 50 Hz) | 7.2/3.7/4.3 | 7.2/3.7/4.3 |
| System dimensions | | |
| Length x width x height | 35" x 30-3/8" x 30" (89 cm x 77 cm x 76.2 cm) | 35" x 30-3/8" x 49" (89 cm x 77 cm x 124 cm) |
| Weight | 196 lb. (88.9 kg) | 241 lb. (109.32 kg) |

*Must specify voltage options when ordering. Longer lead times apply.

The facts on water quality

Poor water quality raises your operating cost through accelerated wear on components, shortening uptime between maintenance. There are two important factors when monitoring water quality: suspended solids and total dissolved solids.

Suspended solids

Suspended solids refer to small solid particles which remain suspended in water. Removal of these solids is generally achieved through use of filtration found on most waterjets.

A guide to water solution

| Water | TDS | Treatment | Action |
|----------------|--------------------------------|------------------------------------------|--------------------------------------|
| High quality | TDS < 50 ppm | No treatment | No action |
| Good quality | 50 ppm < TDS < 150 ppm | Soften only | Contact local specialist |
| Medium quality | 150 ppm < TDS < 250 ppm | Soften or total dissolved solids removal | Specialist or reverse osmosis system |
| Poor quality | TDS > 250 ppm, Silica > 15 ppm | Total dissolved solids removal | Soften and reverse osmosis system |

TDS testing

The TDS Testing Pen (13897) offers an inexpensive solution to test your water. By testing a sample you will be able to quickly evaluate the results and take the proper steps to treat.



All water should be tested to ensure TDS readings are at a suitable level.

Total dissolved solids

Total dissolved solids refer to sub-molecular particles or ions found in solution in water. TDS can include hard elements like iron, silica, and calcium that can precipitate out of the water as scale on the inside of high-pressure plumbing. This scale can break off the inner walls and damage downstream valve components and orifices.

Moderate amounts of TDS are controlled by using water softening. Softeners remove the hard ions that can scale and replace them with soft ions, usually salt, that stay in solution.

High levels of TDS are addressed first by softening and then with reverse osmosis. Reverse osmosis removes the hard ions and lowers the TDS to appropriate levels.

Filtering products

Water filters

Water filters remove suspended solids from your incoming water supply.



Reverse osmosis systems

Reverse osmosis systems are the most efficient and effective means for controlling TDS levels.



In-line filters

In-line filters eliminate suspended contaminants from high pressure water.



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