

Newterra CIRO™ - Configurable Industrial Reverse Osmosis



CIRO™: Designed For Industrial Needs

Newterra's CIRO™ (Configurable Industrial Reverse Osmosis) systems are specifically designed to streamline industrial reverse osmosis (RO) applications. Our experienced engineering and design team will work with you to minimize your engineering needs. We'll ensure you have the right pretreatment and post-treatment systems, or seamlessly integrate with your existing operations. This makes the entire RO solution easy to install and manage. With our comprehensive support, including service, parts, and monitoring, we take the complexity out of water treatment. You'll benefit from **long-term system operation** and a **maximized return** on your investment.

Newterra CIRO™ System Advantages

Unmatched Purification: Our systems **remove up to 99.4% of total dissolved solids (TDS)** from your raw feed water, ensuring consistent and exceptional water quality.

Efficiency You Can Count On: Designed for a minimum **75% recovery rate**, we help you get the most out of your water usage. We can also customize systems for even greater recovery depending on your specific needs.

Advanced Control & Monitoring: Our modern **Allen-Bradley PLC controls** allow for remote data monitoring and control, or seamless integration with your existing DCS system.

Fast & Easy Installation: Skid-mounted and **fully tested**, our systems are designed for **quick, cost-effective installation**.

Pre-Engineered for Simplicity: Our systems come **pre-programmed** with automated alarms and cleaning processes, minimizing maintenance needs and maximizing uptime.

Simplified Design, Maximum Reliability: Our two-stage design with concentrate recycle capabilities ensures **efficient operation**.

Built to Last: High-quality pumps and components keep your system running smoothly, **minimizing energy consumption and maintenance costs**.

Expert Support: Our **professional field service team** is there to guide you through commissioning and offer ongoing support.





Ideal For Many Industrial Applications



Ideal For Many Industrial Applications, Ranging from 50 GPM to 300 GPM (Including Higher Flow Rates By Using Multiple Systems)

Companies may need different-sized RO units for several reasons, depending on their specific requirements, scale of operations, and water treatment needs. Newterra RO Systems come pre-assembled and tested for easy installation and start-up.

Model No.	Nominal Permeate Flow (GPM)	No. of Membrane Elements	No. of Vessels
CIRO™ - 50	40-50	12	2
CIRO™ - 90	50-90	18	3
CIRO™ - 120	90-120	24	4
CIRO™ - 150	120-150	30	5
CIRO™ - 180	150-180	36	6
CIRO™ - 210	180-210	42	7
CIRO™ - 240	210-240	48	8
CIRO™ - 270	240-270	54	9
CIRO™ - 300	270-300	60	10



Design Features & Operating Parameters

Design Features

Controller: Allen-Bradley

HMI: Red Lion

Cartridge Filter: 5 micron depth filter, easy swap, high flow, Brother Filtration

Flowmeters (3): GF Signet*

Conductivity Sensors (2): IFM*

Pressure Gauges (5): Ashcroft

Pressure Transmitters (5): IFM*

pH Sensor: GF Signet*

Temperature Sensor: IFM*

VFD: Danfoss

Power: Single power connect, system disconnect included

Housing: Protec (Pentair Optional), FRP

Electrical: 208-575 in 50Hz and 60Hz options, 3 Phase

Membranes: Newterra selected Membranes based on water quality

Pump: Vertical, multi-stage centrifugal booster pump with stainless steel wetted parts

Piping: Stainless Steel SS316 High Pressure Piping;
PVC Lower Pressure Piping with Options of SS316

Recycle: Standard

CIP System: Optional

ORP Sensor: Optional

Seismic Rated: Optional

ASME Rated: Optional

* Available upgrade to Endress Hauser

Operating Parameters

Design Recovery: 75-80%

Operating Temperature Range: 35-85 °F (2-29 °C)

Nominal Rejection: 97-99%

System Inlet Pressure Requirements: 30-60 PSI

TDS: 300-750 PPM

Components

High-Pressure Piping: 316 SS

Low-Pressure Piping: PVC

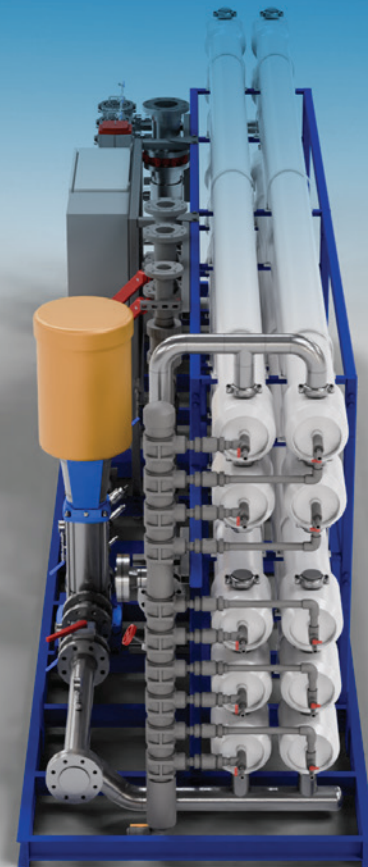
Valves: Lug-style pneumatically actuated feed butterfly valve with stainless steel disc & stem
EPDM seat stainless steel globe valve for reject flow control
Pneumatically actuated 316SS flash flush valve

Frame: Painted Blue Carbon Steel

Enclosure: NEMA 4



Companies require various sizes of RO units based on their unique needs and scale. Newterra RO Systems are pre-assembled and tested, ensuring straightforward installation and immediate use.





Newterra CIRO™ – Designed for Diverse Industrial Applications from 50 GPM to 300 GPM

RO Model Number	50	90	120	150	180	210	240	270	300
Feed Rate	80	120	160	200	240	280	320	360	400
Permeate Rate	50	90	120	150	180	210	240	270	300
Concentrate Rate	20	30	40	50	60	70	80	90	100
Pump Horsepower	15	25	30	40	40	50	50	60	60
Membrane Quantity	12	18	24	30	36	42	48	54	60
Membrane Housing	2	3	4	5	6	7	8	9	10
Banking Arrangement	1:1	2:1	3:1	3:2	4:2	4:3	5:3	6:3	6:4
Prefilters	1	1	1	2	2	2	2	2	3
Inlet Flange	3"	3"	3"	3"	4"	4"	4"	4"	6"
Permeate Flange	2"	3"	3"	3"	3"	4"	4"	4"	4"
Concentrate Flange	1"	1-1/2"	1-1/2"	2"	2"	2"	2"	3"	3"
Length x Width (in)	275" x 62"	275" x 62"	275" x 62"	275" x 62"	275" x 62"	275" x 62"	275" x 62"	275" x 62"	275" x 62"
Height (in)	81"	81"	81"	81"	85"	85"	94"	94"	94"



With our comprehensive support, including service, parts, and monitoring, we take the complexity out of water treatment. You'll benefit from long-term system operation and a maximized return on your investment.





A Comprehensive Range of Solutions & Support

We're Always Here To Support with Comprehensive Solutions, Service, and Data Management

In addition to the **RO** systems, Newterra has a full range of **Media Filtration**, **Industrial Water and Wastewater**, as well as **Air And Soil Remediation** solutions to support your needs.

All Systems Come With Newterra Digital Service™ – Remote Data Collection and Analysis

Newterra Digital Service is an advanced cloud-based data acquisition and customer portal for the monitoring and operations of Newterra Systems and equipment – **all in real-time!** Since the Newterra Digital Service customer portal is solely cloud-based, there is no need for any software application download, as it is compatible with all devices, including computer, laptops, tablets or any smartphone. Easily access your data with credentials from anywhere internet/cellular is available, in real time and in one place. Multiple users can access the same system(s) using the familiar HMI screen employed by on-site systems.

In addition to the HMI screens, the following is also easily available on Newterra Digital Service:

- Up-to-the minute system data
- Historical data analysis
- Accessible operation & maintenance manuals
- Informative how-to instructional videos in HD
- Troubleshooting guides
- Searchable system parts list
- Access to Newterra Service & Parts Teams
- Warranty statement, spare parts list, and service requests

Newterra Digital Service isn't just a service. It's a platform providing data analysis and support, directly from a **Newterra Technical Service Expert**. Elevate your operations, empower your team, and ensure the longevity of your systems with the state-of-the art digital solution.

Continuum: Lifecycle Services by Newterra

The Newterra Service Team is here to assist with maintaining and operating your water treatment solution. Our dedicated OEM Trained Service Team and engineering experts are here to help support you and your equipment needs.

We offer a range of water treatment services including:

- Routine Maintenance Services
- Scheduled Equipment Maintenance / Repair
- On-site Training
- 24/7 Monitoring Digital Services
- Water Analysis
- Operations Consultations
- Equipment Audits
- Newterra Digital Service

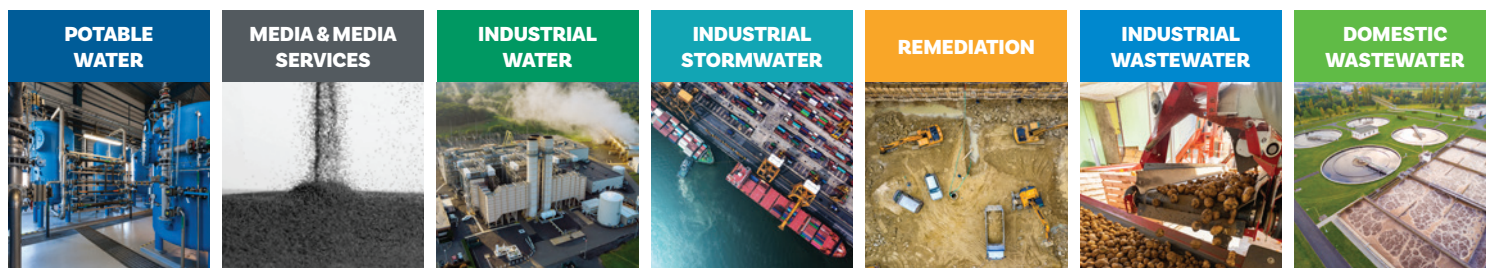
Newterra's equipment performance services have been established over years of service experience to help you keep your system operating at design capacity. We recommend full-service support with routine service checks to help you properly maintain, monitor, log performance, and operate your system. We also provide direct services such as inspection, CIP cleaning, prefilter and membrane replacement and spare parts installation.

For more information regarding Newterra Continuum service offerings specific to your equipment and needs, please reach out to the Newterra team at **+1 800.420.4056** or **info@newterra.com**.





“With Newterra, it’s more than a service; it’s a partnership... minimizing media consumption and maximizing efficiency.”



From Source to Solution – Choose Newterra

Your trusted partner for comprehensive environmental solutions

With technology brands whose histories expand back for more than 150 years, Newterra has steadily grown from its roots to become a global solutions provider in water and wastewater treatment. Our journey is a testament to our deep understanding of the multifaceted challenges across various markets and applications.

Our “One Newterra” ethos is a commitment to providing a comprehensive array of technical solutions, ensuring we address the full spectrum of our clients’ needs. This dedication extends beyond technology, as we nurture enduring partnerships with our clients, standing by them throughout every phase of their challenges. At the heart of Newterra is our unwavering commitment to sustainability.

Our people, our technologies and our practices contribute meaningfully to a sustainable and brighter future.



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