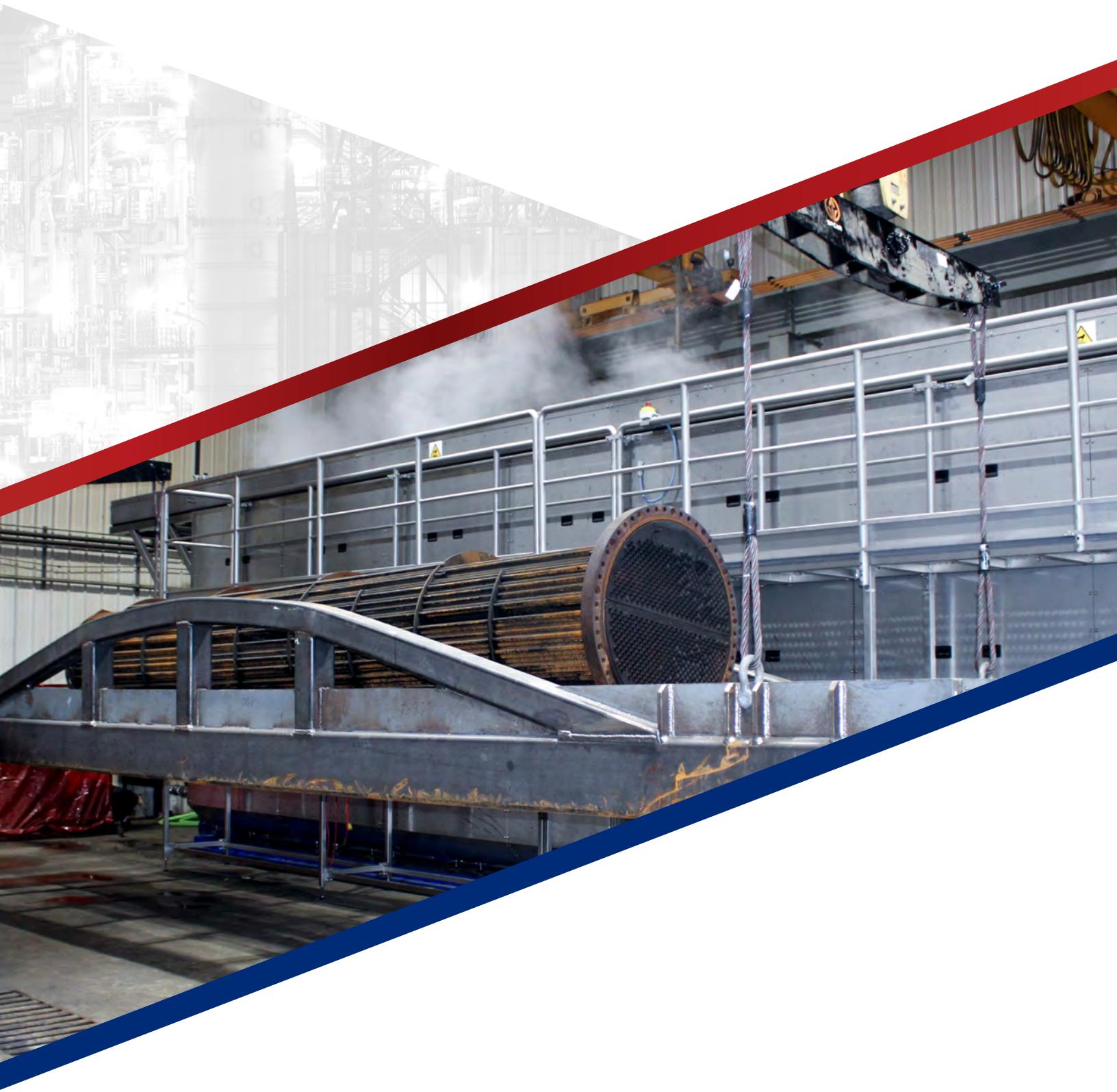




Ultrasonic Cleaning



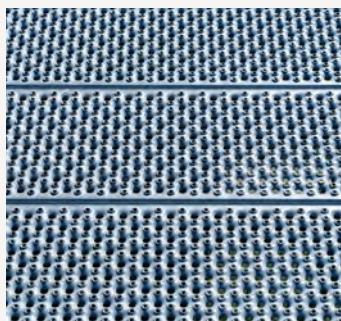
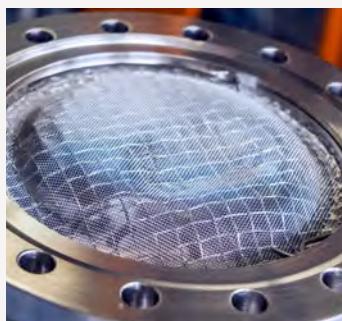
EXCHANGER SERVICES



Ultrasonic Cleaning

Ultrasonic cleaning is an advanced, non-invasive cleaning technology that uses high-frequency sound waves to create microscopic cavitation bubbles within a cleaning solution. When these bubbles collapse, they release powerful energy that dislodges contaminants from surfaces—both external and deep within complex internal geometries.

This process delivers consistent, uniform cleaning that traditional mechanical or chemical methods cannot achieve, making it ideal for restoring equipment performance, improving reliability and reducing downtime.



Why Choose Ultrasonic Cleaning?

- Removes stubborn deposits such as scale, hydrocarbons and fine particulate
- Safely cleans intricate components and internal passages
- Reduces manual labour requirements and operator exposure
- Delivers repeatable and consistent cleaning results
- Extends equipment life by eliminating abrasive cleaning methods
- Minimizes chemical consumption and waste generation
- Accelerates turnaround times during maintenance activities
- Compatible with a wide range of materials and component sizes

Industries & Uses

Oil & Gas: Heat exchangers, valves, instrumentation, turbine components, demisters, flame arrestors, spools, packing, tower trays and scaffold

Industrial: Pumps, hydraulic manifolds and rotating equipment parts

Mining: Processing equipment, slurry components and filtration assemblies

Turnarounds, maintenance shops and refurbishment facilities

How It Works

Our system uses high-power transducers to generate ultrasonic frequencies within a heated cleaning tank.

1. Components are submerged in the cleaning solution, where ultrasonic waves create rapid cycles of cavitation.
2. These microscopic bubbles form and collapse against the material surface, delivering controlled high-energy impacts that dislodge deposits without damaging the metallurgy.
3. Cavitation reaches deep into crevices, tight tube bundles and internal channels, lifting and suspending contaminants from all sides of the component.
4. The system then circulates and filters the solution to remove loosened debris.
5. A final rinse and controlled drying cycle complete the process, leaving components clean, residue-free and ready for inspection or reassembly.



Laboratory Ultrasonic Test Bath

Our 200-litre ultrasonic test bath provides a controlled, high-performance environment for evaluating chemical cleaning processes on a wide range of metal surfaces.

KEY FEATURES

Ultrasonic System: 28 kHz frequency delivers powerful cavitation for removing stubborn deposits and enhances chemical penetration

Thermal Control: Heats up to 80–85 °C to accelerate reactions, reduce oil viscosity and improve scale dissolution

Chemical Testing Flexibility: Compatible with acidic, alkaline and solvent-based formulations for removing hydrocarbons, organic fouling and inorganic scales

Metallurgy Compatibility: Evaluates material impact and compatibility on carbon steel, stainless steel (304, 316), copper alloys and other non-ferrous metals

APPLICATIONS

- Developing and optimizing cleaning formulations
- Determining optimal temperature, time and concentration
- Comparing performance across different metals and contaminants
- Simulating field-cleaning scenarios under laboratory conditions



Our Advantages

CEDA provides fully managed ultrasonic cleaning supported by experienced technicians. Our process ensures safe handling of all components, controlled cleaning parameters and complete quality assurance. Leveraging CEDA's integrated industrial capabilities, including Pressure & Vacuum, Chemical Cleaning and Mechanical services, we deliver a seamless, blind-to-blind solution.

This integrated approach reduces downtime, supports reliable asset performance and simplifies planning for both on-site and off-site exchanger maintenance.





Specializing in
industrial maintenance,
turnaround and
environmental services.

In a complex and ever-changing world, we're the ones who get it done. CEDA is where resourcefulness meets inventiveness, where experience meets innovation and where challenges inspire world-class solutions. With over 50 years of hands-on experience, our skilled workforce takes on the toughest industrial projects with determination, ingenuity and a results-driven approach—always with safety at the forefront.

We help industries thrive by delivering reliable industrial and environmental services that maximize production, mitigate risk and prevent costly outages. Powered by cutting-edge technologies, CEDA provides more than 120 specialized services and cost-effective solutions across North America, creating exceptional value for our clients.



Integrated or Stand-Alone

CEDA's service and product lines work as an integrated offering or independently.

CEDA'S CORE SERVICES & PRODUCTS

-  **PRESSURE, VACUUM & FLUID TRANSPORTATION**
-  **CHEMICAL CLEANING**
-  **TANK MAINTENANCE & CLEANING**
-  **PIGGING & DECOOKING**
-  **EXCHANGER SERVICES**
-  **MECHANICAL & FABRICATION**
-  **MANUFACTURING & PROCESS EQUIPMENT**
-  **PROJECT SERVICES**
-  **TAILINGS MANAGEMENT & ENVIRONMENTAL SOLUTIONS**



Platinum member