

Engineered for Today Trusted for Decades





At ROCH Mechatronics, we understand that modern laboratories require precise sample processing solutions that ensure accuracy, reliability, and preservation of sensitive biological and chemical materials. Guided by our vision of “Developing Sustainable Future Technologies,” we manufacture advanced Refrigerated Centrifuges designed to deliver high-performance separation while maintaining controlled low-temperature conditions essential for sample integrity.

With decades of engineering expertise, ROCH Mechatronics has established itself as a trusted manufacturer and exporter of laboratory equipment that meets international standards of quality, safety, and operational excellence. Our Refrigerated Centrifuges are engineered to provide efficient separation of biological samples, blood components, proteins, nucleic acids, pharmaceuticals, and other temperature-sensitive materials, ensuring consistent and reproducible results in critical laboratory applications.

Driven by a team of experienced engineers and scientific professionals who believe in “Working Beyond Horizon,” we continuously develop innovative centrifugation solutions that enhance laboratory productivity, improve workflow efficiency, and support advanced research activities. Equipped with precise temperature control systems, user-friendly interfaces, and robust safety features, our Refrigerated Centrifuges are designed to perform reliably even under demanding laboratory conditions.

Today, ROCH Mechatronics Refrigerated Centrifuges are widely utilized in research laboratories, biotechnology facilities, pharmaceutical industries, hospitals, diagnostic centers, universities, and quality control laboratories for a broad range of analytical, clinical, and scientific applications. Alongside serving the domestic market, we proudly supply our equipment to clients across the USA, Europe, East Asia, Gulf countries, and Africa, delivering dependable laboratory solutions trusted by professionals worldwide.

ROCH Mechatronics remains committed to empowering scientific innovation through reliable technology, precision engineering, and customer-focused solutions that contribute to the advancement of research, healthcare, and industrial development.

At **ROCH Mechatronics**, quality is not just a certification — it is our commitment to delivering reliable, safe, and high-performance laboratory solutions that industries and research organizations can trust with confidence. Our manufacturing practices, engineering standards, and customer-focused services are backed by globally recognized certifications and industry acknowledgements that reflect our dedication to excellence.

We continuously ensure that every product meets stringent quality, safety, and operational standards through internationally accepted compliance systems, including:

ISO 9001:2015 Certification for maintaining a robust Quality Management System focused on consistency, efficiency, and customer satisfaction.

CE Certification demonstrating conformity with European safety, health, and environmental protection standards.

GMP Compliance ensuring pharmaceutical-grade manufacturing practices for dependable and contamination-free equipment production.

ICH Q1A (R2) Stability Guidelines Compliance validating our expertise in manufacturing precision stability chambers for pharmaceutical and research applications.

MSME Registration recognizing ROCH Mechatronics as an established and trusted manufacturing enterprise.

Our dedication towards innovation, dependable engineering, and customer assurance has also earned us recognition across the scientific and industrial sectors. These achievements reflect the trust our clients place in our products and services worldwide.

Awards & Milestones

National Award for Innovation in Laboratory Instruments

Recognized as a Top Exporter of Scientific Chambers by the Chamber of Commerce

Best Emerging Brand for Research Lab Equipment – 2024

Through continuous innovation, strict quality assurance, and advanced engineering practices, ROCH Mechatronics remains committed to providing sustainable and future-ready laboratory technologies that deliver precision, reliability, and long-term performance.

Refrigerated Centrifuge



Make: Roch Mechatronics Inc

The ROCH Refrigerated Centrifuge is a high-performance laboratory instrument designed for the efficient separation of biological, chemical, and pharmaceutical samples while maintaining precise temperature control throughout the centrifugation process. Combining advanced refrigeration technology with high-speed centrifugal force, the system ensures the integrity of temperature-sensitive specimens, preventing sample degradation and preserving analytical accuracy.

Engineered for reliability and precision, the refrigerated centrifuge provides consistent temperature regulation and uniform separation performance, making it ideal for applications involving blood samples, cell cultures, proteins, nucleic acids, vaccines, pharmaceuticals, and other sensitive laboratory materials. Its intelligent microprocessor-based control system allows users to accurately set and monitor speed, temperature, and operating time, ensuring reproducible results across a wide range of research and testing procedures.

Constructed with a robust chamber, corrosion-resistant materials, and advanced safety features, the ROCH Refrigerated Centrifuge delivers dependable operation in demanding laboratory environments. The ergonomic design, user-friendly interface, and low-noise operation further enhance laboratory productivity and user convenience.

Widely used in biotechnology laboratories, pharmaceutical industries, clinical diagnostics, research institutes, hospitals, universities, and quality control facilities, the ROCH Refrigerated Centrifuge is an essential solution for laboratories requiring precise sample separation, superior temperature stability, and long-term operational reliability.

- **Advanced Refrigeration System:** Maintains precise low-temperature conditions during centrifugation to protect temperature-sensitive samples from degradation.
 - **High-Speed Separation Performance:** Delivers powerful centrifugal force for rapid and efficient separation of biological, chemical, and pharmaceutical samples.
 - **Microprocessor-Based Control:** Ensures accurate control of speed, temperature, and operating time for reliable and reproducible results.
 - **Digital Display Interface:** User-friendly control panel with real-time monitoring of operating parameters for enhanced convenience and accuracy.
 - **Wide Temperature Range:** Provides stable temperature control for diverse laboratory applications requiring sample preservation.
 - **Multiple Rotor Compatibility:** Supports various rotor configurations to accommodate different sample volumes and tube types.
 - **Low Noise & Low Vibration Operation:** Engineered for smooth and quiet performance, creating a comfortable laboratory working environment.
 - **Robust Safety Protection System:** Equipped with lid-lock protection, overspeed protection, imbalance detection, and fault alarm functions for safe operation.
 - **Corrosion-Resistant Construction:** Manufactured using high-quality materials to ensure durability, easy maintenance, and long service life.
- Programmable Operating Parameters:** Allows users to store and recall frequently used centrifugation programs for improved workflow efficiency.
- Energy-Efficient Cooling Technology:** Optimizes refrigeration performance while reducing power consumption and operating costs.
- Reliable Continuous Operation:** Designed for intensive laboratory use with consistent performance and long-term operational reliability

- **Clinical & Diagnostic Laboratories:** Used for the separation of blood components, plasma, serum, and other biological samples for diagnostic testing and medical research.
- **Pharmaceutical Industry:** Supports drug development, vaccine research, quality control testing, and pharmaceutical sample preparation requiring controlled temperature conditions.
- **Biotechnology & Life Science Research:** Ideal for cell culture processing, protein purification, DNA/RNA extraction, molecular biology studies, and genetic research applications.
- **Hospitals & Blood Banks:** Facilitates blood component separation, sample preservation, and routine clinical laboratory procedures.
- **Research Institutes & Universities:** Widely used for scientific experiments, biological studies, microbiology research, and academic laboratory investigations.
- **Chemical & Analytical Laboratories:** Suitable for separating chemical compounds, suspensions, and particulate matter during analytical and quality control processes.
- **Food & Beverage Industry:** Used for product testing, quality assurance, microbiological analysis, and research involving temperature-sensitive samples.
- **Environmental Testing Laboratories:** Supports water analysis, environmental monitoring, and sample preparation for research and compliance testing.
- **Forensic Laboratories:** Assists in forensic sample processing, biological evidence analysis, and investigative research applications.
- **Quality Control Laboratories:** Ensures accurate sample preparation and separation for routine inspection, validation, and quality assurance procedures across various industries.



The ROCH Refrigerated Centrifuge operates on the principle of centrifugal force, where samples are rotated at high speeds to separate components based on their density. During operation, sample tubes are placed inside a rotor that spins rapidly, generating centrifugal force many times greater than gravity. This force causes heavier particles to move outward and settle at the bottom of the tube, while lighter components remain suspended or form distinct layers.

Simultaneously, an advanced refrigeration system maintains the chamber at a controlled low temperature throughout the centrifugation process. The cooling system continuously removes heat generated by rotor motion, preventing temperature rise and protecting heat-sensitive biological, pharmaceutical, and chemical samples from degradation.



The microprocessor-based control system allows precise adjustment of speed (RPM), relative centrifugal force (RCF), temperature, and operating time, ensuring accurate and reproducible separation results. Once the programmed cycle is completed, the rotor gradually decelerates, allowing the separated sample fractions to be safely removed for further analysis or processing.

This combination of high-speed centrifugal separation and precise temperature control makes the refrigerated centrifuge ideal for applications involving blood samples, proteins, DNA/RNA extraction, cell cultures, vaccines, pharmaceuticals, and other temperature-sensitive laboratory materials

The ROCH Refrigerated Centrifuge is robustly constructed to provide reliable performance, precise temperature control, and long service life in demanding laboratory environments.

The outer body is fabricated from high-quality powder-coated mild steel or stainless steel, offering excellent structural strength, corrosion resistance, and durability. The centrifuge chamber is manufactured from stainless steel, ensuring easy cleaning, resistance to chemical exposure, and hygienic operation.

At the core of the system is a high-performance brushless motor directly coupled to a precision-balanced rotor assembly, enabling smooth, vibration-free operation at high rotational speeds. The rotor is designed to accommodate various tube sizes and sample capacities, providing flexibility for different laboratory applications.

The refrigeration unit consists of an energy-efficient hermetically sealed compressor, condenser, evaporator, and environmentally friendly refrigerant. This cooling system maintains uniform low-temperature conditions within the chamber, protecting temperature-sensitive samples during centrifugation.

The equipment is equipped with a microprocessor-based control system featuring a digital display for accurate setting and monitoring of speed, temperature, and operating time. An intuitive control panel allows easy operation and real-time parameter monitoring.

For enhanced safety, the centrifuge incorporates electromagnetic lid-lock protection, overspeed protection, imbalance detection, automatic fault alarms, and emergency shutdown mechanisms. The lid is fitted with a strong locking arrangement and transparent viewing window (where applicable) for safe operation.

The entire unit is mounted on vibration-dampening supports to minimize noise and ensure stable operation, making it suitable for continuous use in research laboratories, hospitals, pharmaceutical facilities, and biotechnology applications.

PARAMETER	SPECIFICATION
Product Type	Refrigerated Bench-Top Centrifuge
 Maximum Speed	Up to 20,000 RPM
 Maximum Relative Centrifugal Force (RCF)	Up to 30,000 × g
 Temperature Range	-10°C to +40°C
 Temperature Control Accuracy	±2°C
 Motor Type	Maintenance-Free Brushless DC Motor
 Rotor Type	Angle Rotor / Optional Rotor Configurations
 Rotor Capacity	Various capacities available including 1.5 mL, 2 mL, 5 mL, 15 mL, 50 mL tubes and microplates
 Maximum Sample Capacity	Up to 48 × 1.5/2.0 mL tubes or equivalent
 Rotor Recognition	Automatic Rotor Identification System
 Speed Control	Microprocessor-Based Digital Control
 Display	LCD / Digital Display for RPM, RCF, Temperature & Time
 Timer Range	30 Seconds to 99 Hours 59 Minutes or Continuous Operation
 Acceleration / Deceleration	Multiple Programmable Profiles
 Refrigeration System	Hermetically Sealed Compressor-Based Cooling System
 Chamber Construction	Stainless Steel Inner Chamber with PUF Insulation
 Outer Body Construction	Powder-Coated Mild Steel / Stainless Steel Construction

	Lid Lock System	Automatic Electronic Safety Lid Lock
	Safety Features	Overspeed Protection, Imbalance Detection, Automatic Shutdown, Fault Alarm System
	Noise Level	Less than 60 dB(A)
	Condensate Drain System	Integrated Drainage Facility
	Power Supply	220–240 V AC, 50/60 Hz
	Operating Ambient Conditions	0°C to 50°C, Relative Humidity up to 90%
	Certifications	CE Compliant / Equivalent International Standards
	Accessories	Standard Rotor Set, Rotor Wrench, Spare Fuse, User Manual & Installation Guide
	Warranty	1–3 Years (Model Dependent)