



RADITECH HYDROMATICS PVT. LTD.

An ISO 9001:2015 Company

RadiTech Hydromatics Pvt. Ltd. is an engineering organization delivering advanced, integrated solutions in radiation processing and material handling technologies. With a strong foundation in precision engineering and safety-critical system design, we specialize in conceptualization, design, manufacturing, installation, and commissioning of high-performance radiation processing infrastructure.

OUR CORE COMPETENCIES



OUR COMMITMENT

At RadiTech Hydromatics, engineering is not just about systems it is about delivering dependable solutions that perform under critical conditions. Our multidisciplinary expertise enables us to provide turnkey solutions tailored to client-specific operational requirements.

We Engineer What Others Imagine

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RADITECH HYDROMATICS PVT LTD

ADVANCED MATERIAL HANDLING & AUTOMATED CONVEYOR SYSTEMS

SYSTEM INSIGHTS

RADITECH HYDROMATICS DELIVERS ROBUST, FLEXIBLE MATERIAL HANDLING SOLUTIONS DESIGNED TO AUTOMATE THE MOVEMENT, TRANSFER, ACCUMULATION, AND POSITIONING OF UNIT LOADS ACROSS INDUSTRIAL PROCESSES. BY INTEGRATING POWERED ROLLER, CHAIN-DRIVEN, AND GRAVITY CONVEYORS, OUR SYSTEMS ENSURE SMOOTH PRODUCT FLOW, HIGH THROUGHPUT, AND SAFE HANDLING OF HEAVY, IRREGULAR LOADS. ENGINEERED FOR RELIABILITY, THESE SYSTEMS ARE ESSENTIAL FOR CONTROLLED, SYNCHRONIZED MATERIAL MOVEMENT IN MANUFACTURING, PACKAGING, AND HEAVY ENGINEERING FACILITIES

180 degree Turn Table



CHAIN-DRIVEN ROLLER



ADVANTAGES OF ROLLER AND CHAIN CONVEYOR INTEGRATED SYSTEMS

- ✓ HIGH RELIABILITY AND LONG SERVICE LIFE
- ✓ MODULAR DESIGN FOR EASY EXPANSION AND MODIFICATION
- ✓ OPTIMIZED MATERIAL FLOW AND REDUCED MANUAL HANDLING
- ✓ IMPROVED SAFETY AND OPERATIONAL EFFICIENCY
- ✓ SUITABLE FOR HARSH INDUSTRIAL ENVIRONMENTS

**PROCESS CONVEYER SYSTEM
WITH TURN TABLE**



INDUSTRIAL APPLICATIONS

- ✓ RADIATION PROCESSING AND IRRADIATION FACILITIES
- ✓ MANUFACTURING AND ASSEMBLY PLANTS
- ✓ PACKAGING AND PALLETIZING LINES
- ✓ WAREHOUSING AND LOGISTICS CENTRES
- ✓ HEAVY ENGINEERING AND PROCESS AUTOMATION PLANTS

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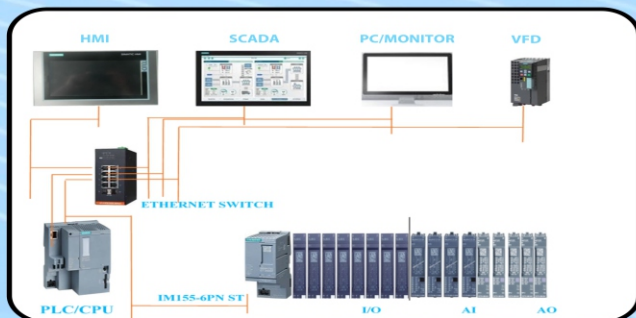
RADITECH HYDROMATICS PVT LTD **INDUSTRIAL PLC AUTOMATION & CONTROL PANEL**

About the System

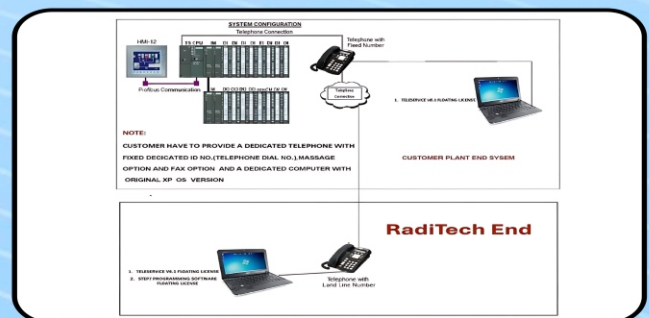
RADITECH specializes in the design, engineering, and fabrication of high-performance PLC Automation Panels tailored for critical industrial applications. These panels are engineered for reliability, operational safety, and seamless integration with modern industrial processes.



Core System Architecture



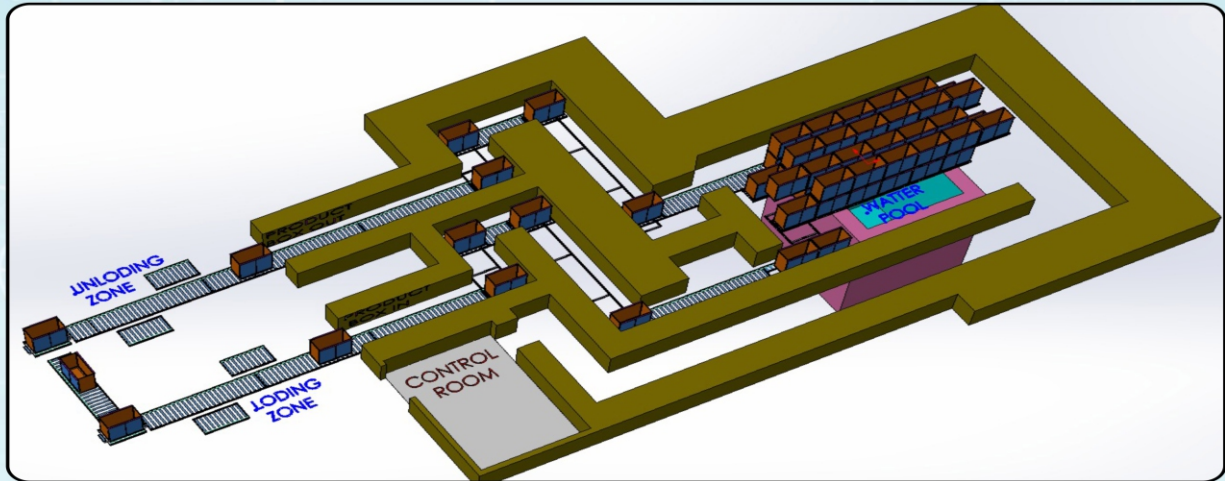
- **Integrated PLC Control Platform**
 - ✓ High-performance CPU-based PLC system
 - ✓ Modular I/O configuration (Digital & Analog)
 - ✓ Real-time deterministic control execution
 - ✓ Expandable architecture for complex automation requirements
- **Ethernet-Based System Integration**
 - ✓ Unified Industrial Ethernet communication network
 - ✓ Seamless connectivity between PLC, HMI, SCADA, PC Station & VFD
 - ✓ High-speed synchronized data exchange
 - ✓ Scalable and future-ready network topology



- **SCADA Supervisory & Monitoring System**
 - ✓ Centralized Supervisory Control and Data Acquisition
 - ✓ Real-time plant monitoring & visualization
 - ✓ Alarm management with event logging
 - ✓ Historical data trending & performance analysis
- **Field Instrumentation & Drive Integration**
 - ✓ AI/AO modules for precision process control
 - ✓ Structured I/O signal management
 - ✓ VFD integration for motor speed optimization
 - ✓ Reliable instrumentation feedback & closed-loop control

RADITECH HYDROMATICS PVT LTD **3MCI MULTIPURPOSE RADIATION PLANT**

Radiation Processing Plant Facilitates the Exposure of products to Ionizing Radiation, In a Highly Controlled Environment, at levels to create desired, Improvement Effects in Exposed Products.

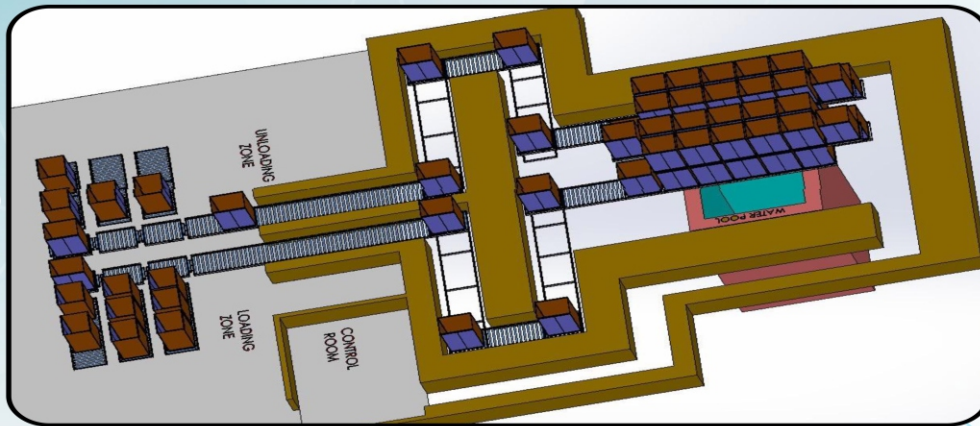


- ✓ Category IV, Wet Storage Multipurpose Gamma Irradiator.
- ✓ Batch cum Continuous Operation with Split Type Source Frame.
- ✓ Maximum Design Capacity 3MCI. Product Overlap Design.
- ✓ Two Tier Roller Bed Conveyor System with Inside Shuffling Mechanism. Maximum Speed 60 Boxes/Hr.
- ✓ Aluminium Tote Box of 350 Kg

APPLICABLE CODES & GUIDELINES

- ✓ AERB safety standard for land based Stationary Gamma Irradiators (Design Code) AERB/RF-IRRAD/SS-6 (Rev-1) -- 2007.
- ✓ AERB/RF-RPF/SC-1 (Rev-1) 2016 For Radiation Processing Facility.
- ✓ AERB/RF-Rs/SG-1 – 2011 Security of Radiation Sources in Radiation Facilities.
- ✓ AERB/RF-RPF/SG-1 – 2015 Plant Commissioning/ Re-commissioning Dosimetry for food and Allied Products in Gamma Radiation Processing Facilities for category II & IV

RADITECH HYDROMATICS PVT LTD **HIGH THROUGHPUT IRRADIATOR FOR FOOD AND AGRO PRODUCTS**



IRRADIATED



NON IRRADIATED



IRRADIATED



NON IRRADIATED



- Continuous Irradiator with Split Type Source frame for Agro Products. Maximum Design Capacity 1000 KCi.
- Maximum Throughput for Potato/ONION 30Tons/Hr.
- Several other Seasonal Fruits & Vegetables can be Treated.
- Integration of Cold Chain and Gamma Radiation Processing.

Phytosanitary Irradiation Treatment in India - NPPO India and USDA-APHIS Signed an Work Plan in 2006.

Agencies Involved-

- APEDA
- NPPO
- AERB
- DAE
- FSSAI
- Irradiation Facility.
- Regulators of Importing Country.

CHALLENGES -

- Post-harvest Handling of Agro Produce.
- Pre and Post Irradiation management.
- Strategic Location of plant to Reduce Transportation.



RADITECH HYDROMATICS PVT LTD

CATEGORY 1

LOW TEMPERATURE IRRADIATOR FOR MARINE PRODUCT



✓ KEY FEATURES:

- ✓ 20 Ton Lead Shielded Source Cask
- ✓ Maintains Sub-Zero Temperature during Irradiation
- ✓ Suitable for Fish, Seafood, and Poultry Products
- ✓ Achieves Post-Irradiation Shelf Life 25–30 Days

IN COLLABORATION WITH BRIT

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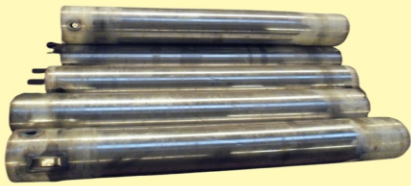
RADITECH HYDROMATICS PVT LTD

FABRICATION OF GAMMA IRRADIATION CHAMBER /BLOOD IRRADIATOR

TECHNICAL PRODUCT OVERVIEW

THE RADITECH GAMMA IRRADIATION CHAMBER IS A HIGH-PRECISION MEDICAL DEVICE ENGINEERED FOR SAFE, UNIFORM BLOOD COMPONENT IRRADIATION TO PREVENT TA-GVHD. UTILIZING A COBALT/CESIUM SOURCE WITHIN A MULTI-LAYERED, LEAD-SHIELDED ASSEMBLY, THE SYSTEM GUARANTEES SUPERIOR RADIATION CONTAINMENT. DESIGNED FOR MAXIMUM RELIABILITY AND STRICT COMPLIANCE WITH AERB SAFETY STANDARDS, IT ENSURES PRECISE DOSE DELIVERY FOR CRITICAL CLINICAL APPLICATIONS.

FABRICATION METHODOLOGY



Bottom Drawer



**Bottom Dish
Outer Shell**



Inner Shell

• **ADVANCED METALLURGY & MATERIAL SELECTION**

- ✓ UTILIZATION OF SS304L TO PREVENT SENSITIZATION AND ENSURE HIGH-PERFORMANCE CORROSION RESISTANCE

• **PRECISION WELDING**

- ✓ EXECUTION OF 100% TIG WELDING FOR HIGH-INTEGRITY, CONTAMINANT-FREE JOINTS.

• **RIGOROUS INSPECTION VALIDATION**

- ✓ HIGH-PRESSURE HYDROSTATIC TESTING TO CERTIFY STRUCTURAL INTEGRITY AND LEAK-PROOF PERFORMANCE

• **RADIATION ATTENUATION ENGINEERING**

- ✓ HIGH-PRESSURE HYDROSTATIC TESTING TO CERTIFY STRUCTURAL INTEGRITY AND LEAK-PROOF PERFORMANCE

• **ELECTROMECHANICAL INTEGRATION & LOGISTICS**

- ✓ INSTALLATION OF AUTOMATED SAMPLE SYSTEMS FOR SUB-MILLIMETER LOADING ACCURACY.



RADITECH HYDROMATICS PVT LTD **Making of Radiography Devices**

Product Overview

- **Advanced Material Selection & Shielding**
 - **Outer Casing: Stainless Steel 304**
 - ✓ High corrosion resistance
 - ✓ Superior structural integrity
- **Internal Shielding: High-Density Tungsten**
 - ✓ Maximum attenuation of gamma radiation
 - ✓ Exceptional durability

ROTEX-1

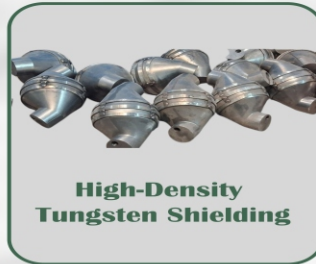


Fabrication Stages



Outer SS-304 Encasing

Corrosion resistant SS-304 casing



High-Density
Tungsten Shielding

Maximum shielding efficiency
via tungsten core



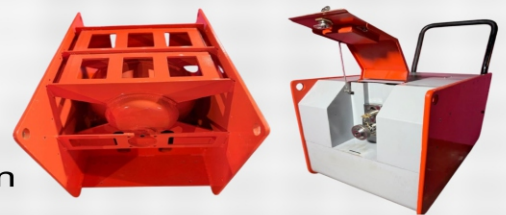
Safety Interlock
System

Stringent compliance testing
of safety interlocks

Product Overview

- **Model:** COCAM - 120
- **Application:** Industrial Gamma Radiography
- **Shielding Material:** SS-304L Tungsten; Lead
- **Compliance:** As per AERB/ International Radiation Safety Guidelines.

COCAM-120



Final Assembled
COCAM-120 Units

Fabrication Stages



ENCASED SHIELD UNIT
FABRICATED FROM SS-304L



HYDROTEST & PRESSURE TEST-
RIGOROUS PERFORMANCE
TESTING



DYE PENETRATION TEST