

EDDY CURRENT SORTING SYSTEM



Eddystar Max

Precision | Speed | Reliability



Eddy Current Sorting is a highly reliable **Non-Destructive Testing (NDT)** technique used to identify variations in **material composition, hardness, heat treatment condition etc.** in metallic components.

The system works on the principle of **electromagnetic induction**, where an alternating current passing through a coil generates a magnetic field. When a conductive material enters this field, **eddy currents** are induced, and any variation in the material alters the signal response, enabling precise sorting.

Working Principle

- Alternating current flows through the probe coil
- Generates a changing magnetic field
- Induces eddy currents in the test component
- Variations in material properties affect impedance
- Signal is analyzed and classified for sorting



Eddystar Max – Key Features

- **High-Speed Sorting Capability** – Designed for continuous production lines
- **Advanced Signal Processing** – Ensures accurate differentiation of materials
- **Thresholds/Gates**- 2 Upper & 2 Lower gates for more precise defect discrimination.
- **User-Friendly Interface** – Intuitive controls for easy operation
- **Wider Display** – 150x90mm screen enables better signal visibility and easier analysis.
- **Multi-Parameter Sorting** – Supports multiple inspection criteria simultaneously
- **Real-Time Monitoring** – Live signal display and sorting feedback
- **Robust Construction** – Suitable for industrial environments
- **Data Logging & Traceability** – Ensures quality documentation
- **Minimal Maintenance** – Long-lasting components and stable performance

Sorting Criteria

Our Eddystar Max system can sort components based on:

- Material grade differences
- Heat treatment variations
- Hardness differences
- Alloy composition
- Coating thickness (selective applications)
- Case depth (in certain applications)

Applications

Widely used across industries such as:

- **Automotive Industry**
Fasteners, shafts, gears, bearings & many more
- **Aerospace**
Critical safety components
- **Forging & Heat Treatment Units**
Sorting of mixed batches
- **Steel & Metal Processing**
Alloy verification
- **Manufacturing & Assembly Lines**
100% inspection of components



Automation & Feeding Systems

We specialize in **fully automated sorting solutions** tailored to your production needs:

Feeding Systems Available

- Vibratory Bowl Feeders
- Linear Feeders
- Conveyor-Based Systems
- Gravity Feed Systems

Advanced Automation Integration

- Cobot-Based Handling Systems
- Industrial Robot Integration
- PLC-Based Control Systems
- Sensor-Based Part Tracking

Custom Design Capabilities

At Vibrant NDT Services, we go beyond standard solutions:

- Custom-built machines based on component geometry
- Integration with existing production lines
- Multi-channel sorting systems
- High-speed rejection mechanisms
- Online and offline inspection setups



Why Choose Us

- Modern manufacturing facility in Ambattur, Chennai
- Experienced engineering team with real-time field expertise
- Strong application support and training
- Proven track record in core industries
- End-to-end solutions: Design → Manufacturing → Installation → Support

Our Deliverables

- Complete Eddy Current Sorting System
- Customized Fixtures & Coils
- Automation Integration
- Installation & Commissioning
- Operator Training
- After-Sales Support

Quality & Reliability

Our systems are designed to ensure:

- 100% Inspection accuracy
- Reduction in human error
- Improved productivity
- Consistent quality control



Our Other Capabilities

In addition to the Eddy Current Sorting System, we offer a comprehensive range of advanced NDT systems and automation solutions:

- ✚ **Magnetic Particle Inspection Systems**
- ✚ **Eddy Current Crack Detection Systems**
- ✚ **Water Washable Penetrant Testing Systems**
- ✚ **Industrial Washing Machines & Dryers**
- ✚ **Automation & Robotics Solutions**
- ✚ **All Types of Feeding Systems (Viz. Conveyors, Step Feeders, Vibratory Bowl Feeders, etc.)**
- ✚ **All Types of Standard Calibration Blocks**

Get in Touch

We would be happy to understand your application and provide a **tailor-made solution**.

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