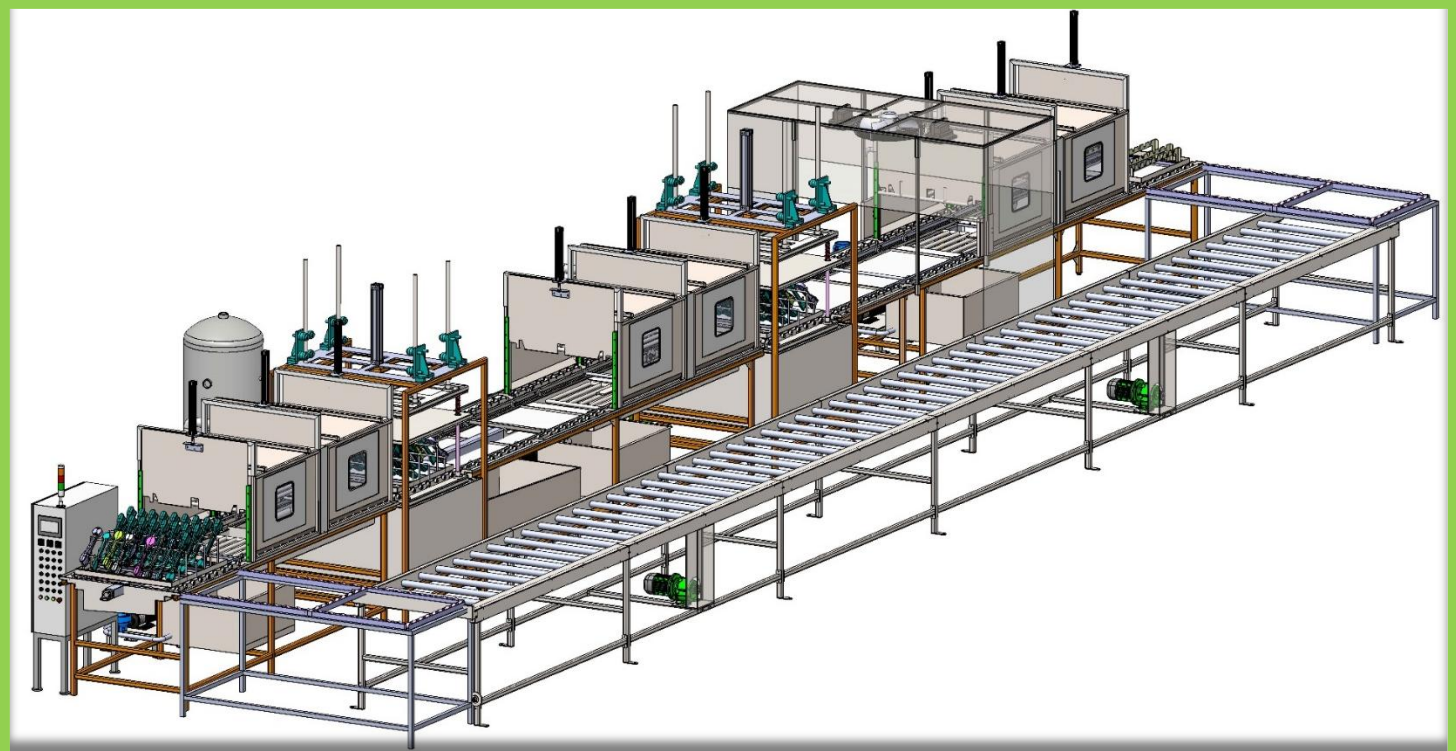




Vibrant NDT Services Pvt Ltd
Quality Innovation Reliable

PENETRANT TESTING SYSTEM



F, 16, 2nd Cross Main Rd, Ambattur Industrial
Estate, Chennai, Tamil Nadu 600058.



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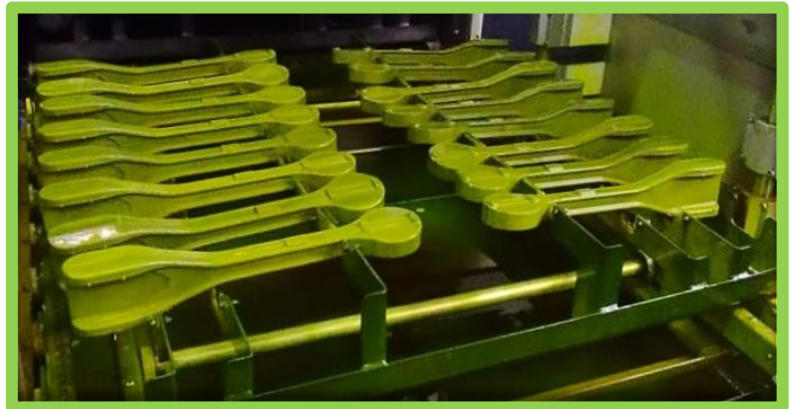


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The Liquid Penetrant Testing (PT) System is a highly effective non-destructive testing (NDT) solution designed to detect surface-breaking defects such as cracks, porosity, seams, and laps in non-porous materials.



Based on the principle of Capillary Action, the system ensures reliable and repeatable inspection across a wide range of industrial applications.

Key Features:

- High sensitivity defect detection.
- Suitable for complex geometries and critical components.
- Available in Visible Dye and Fluorescent PT systems.
- Manual, Semi-Automatic, and Fully Automatic configurations.
- Optimized chemical consumption and process control.



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Technical Specifications (Customizable as per requirement):

- Inspection Type: Visible Dye / Fluorescent.
- Sensitivity Level: Level 1 to Level 4.
- Component Size: As per customer requirement.
- Throughput: Designed for batch / continuous production.
- Dryer Temperature Range: 50°C – 120°C.
- UV Intensity: $\geq 1000 \mu\text{W}/\text{cm}^2$ (for fluorescent systems).
- Compliance: ASTM E1417 / ISO 3452.

Applications:

- Automotive Components (Gears, Shafts, Castings).
- Aerospace Components.
- Weld Inspection.
- Forgings and Machined Parts.
- Valves and Pressure Components.

System Configuration:

- Pre-Cleaning Station (Degreasing / Washing)
- Penetrant Application Tank / Spray System
- Dwell Zone (Controlled Penetration Time)
- Excess Penetrant Removal (Water Wash / Solvent Cleaning)
- Developer Application (Dry / Wet Type)
- Drying Oven (Temperature Controlled)
- Inspection Booth (White Light / UV Light)
- Post Cleaning Station (Optional)





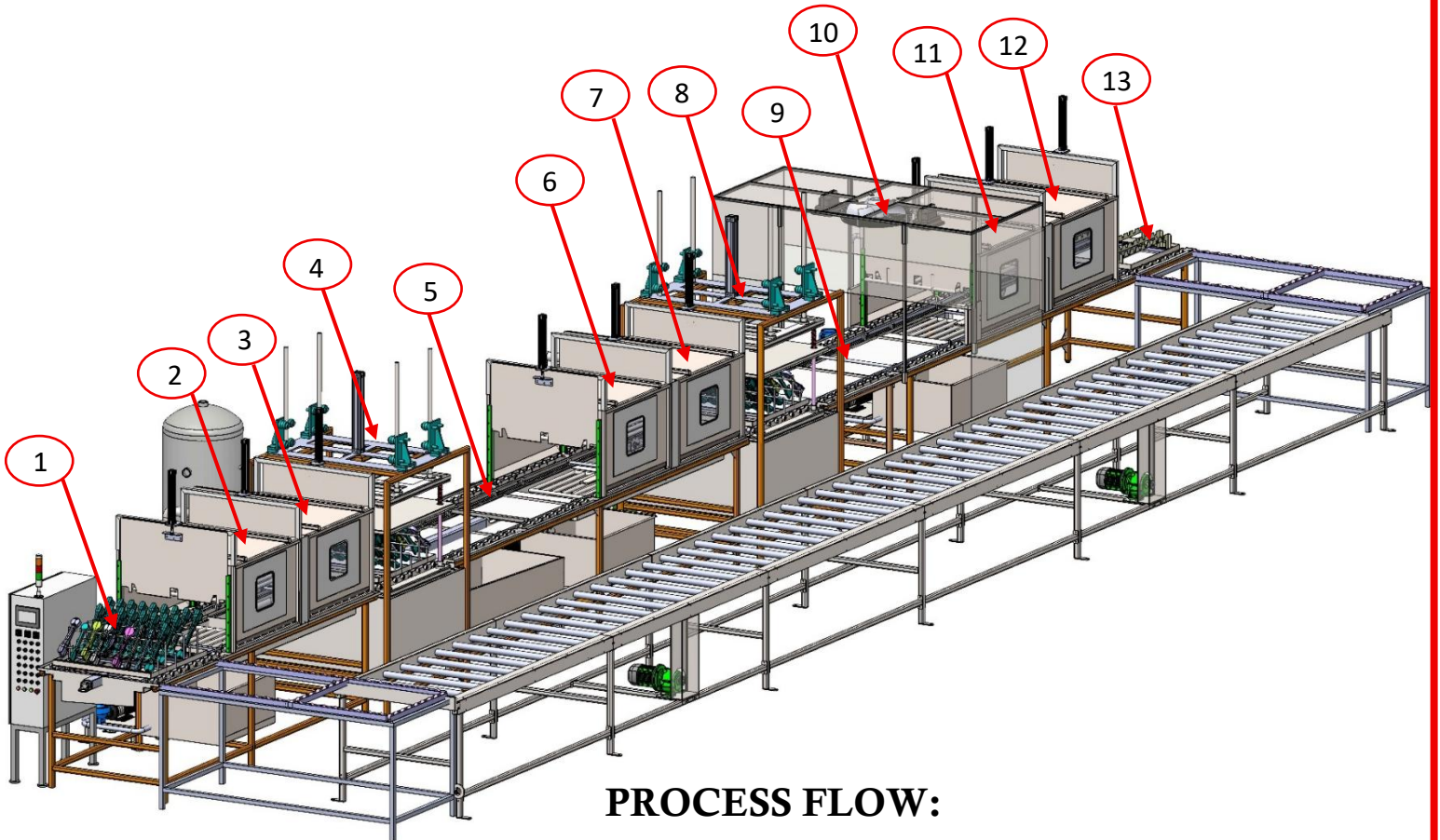
Vibrant NDT Services Pvt Ltd

Quality

Innovation

Reliable

AUTOMATIC WATER WASHABLE PENETRANT TESTING SYSTEM



PROCESS FLOW:

1. LOADING STATION
2. PRE-WASHING STATION
3. HOT AIR DRYER
4. PENETRANT DIPPING STATION
5. DWELL STATION 1,2
6. EXCESS PENETRANT WASHING STATION
7. DRYING STATION -2
8. DWELL STATION
9. DRY DEVELOPER CLOUD CHAMBER
10. INSPECTION STATION 2 PERSON
11. POST WASHING STATION
12. HOT AIR DRYER
13. UNLOADING STATION



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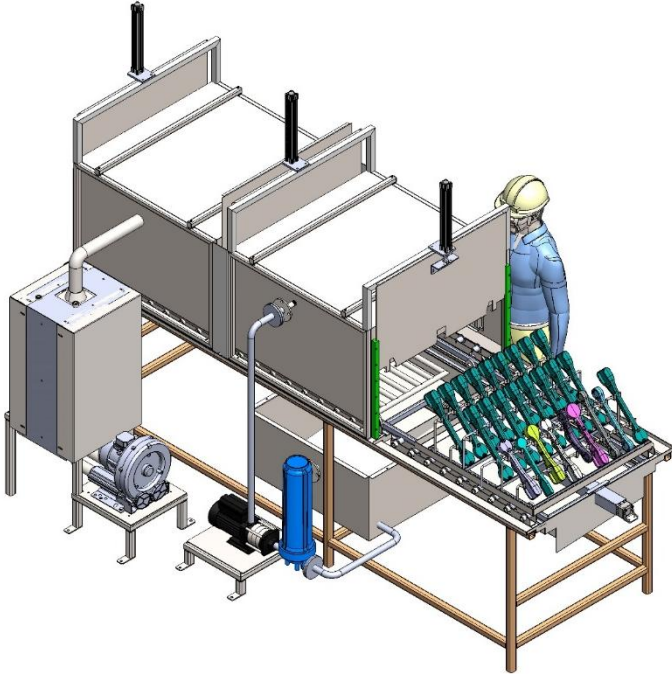
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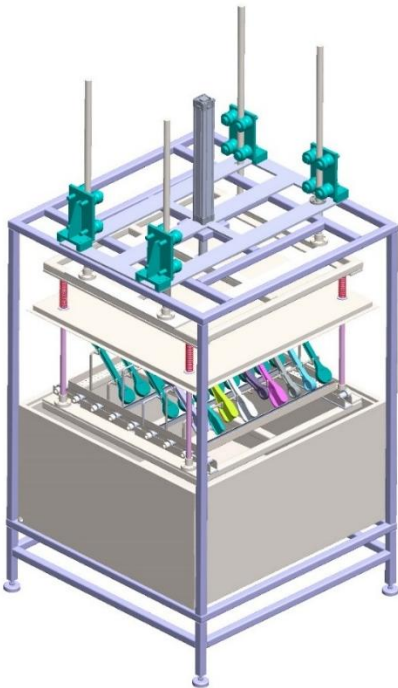
PRE-WASHING STATION



The Pre-Washing Station is the first and most critical stage in a Liquid Penetrant Testing (PT) system. Its job is simple: **remove all contaminants** (oil, grease, dirt, scale, paint) so defects are fully open and detectable.

If this stage is weak, the entire PT inspection becomes unreliable—no matter how good the rest of the system is.

PENETRANT DIPPING STATION



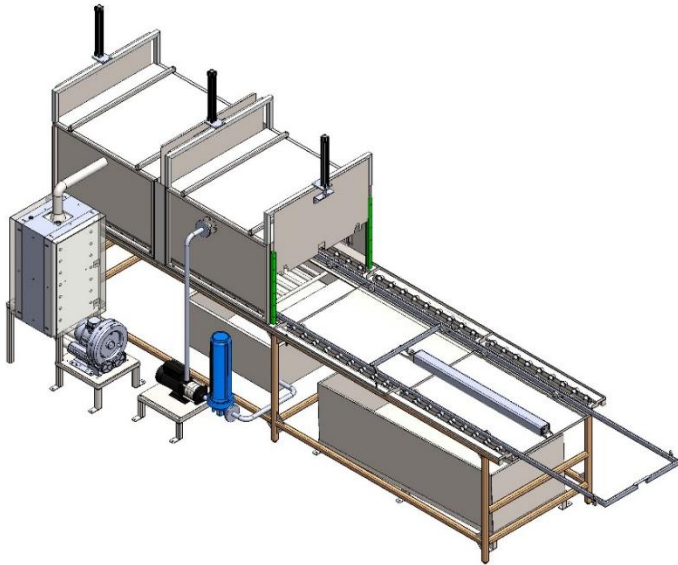
The Penetrant Dipping Station is where components are **fully immersed in penetrant liquid** so it can enter surface defects like cracks, porosity, and laps.

This is the **core stage** of the PT process—if penetration is poor, detection fails. No recovery later.





DWELL TO DRYER STATION

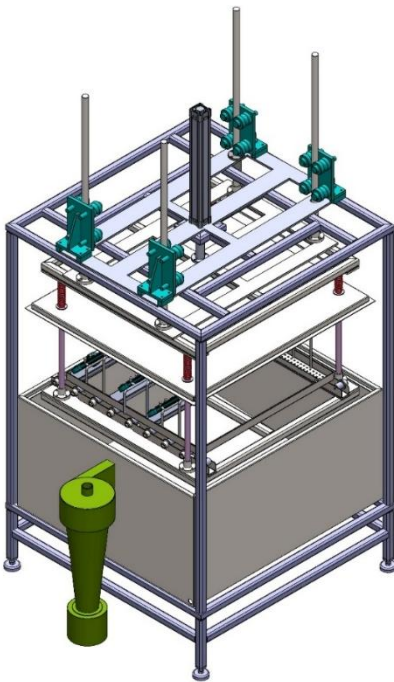


The Dwell to Dryer Station is the transition stage between penetrant application and developer/inspection stages.

It ensures that penetrant has enough time to enter defects (**dwell**) and that parts are properly dried before further processing.

This is where most people quietly destroy inspection quality without realizing it.

DEVELOPER CLOUDE CHAMBER STATION



The Developer Cloud Chamber Station is where a fine, uniform layer of developer is applied to the component after penetrant processing.

Think of it as the stage that makes **invisible defects visible**. If this is poorly done, even perfectly penetrated cracks won't show up clearly.





INSPECTION AND UNLOADING STATION

The Inspection & Unloading Station is the final stage where components are evaluated for defects and cleared or rejected.

This is where all previous steps either prove their worth—or get exposed as useless.

