

Multi Reactor catalyst Testing unit - **MRT**

Vinci-Technologies Multi Reactor catalyst Testing unit respects very high level standards in terms of reliability, reproducibility, flexibility and safety. These units are particularly relevant for an extended range of catalytic reactions (heterogeneous or homogenous) occurring at conditions up to 550°C and 200 bars, both in gas or liquid phases and allow collecting industrially relevant and reliable data on catalyst performances, mainly: activity, selectivity to desired products, stability, response to inhibitors, response to poisons, effect of activation (reduction, sulfidation)

▼ **MRT – Industries served**

In order to answer its customer process development purposes, Vinci-Technologies offers computerized CTV to match client versatile needs. This equipment is relevant to be used in a large variety of industries/

- Oil refining / Petroleum field / Bio-refining
- Chemicals / Petrochemicals
- Speciality chemistry / Alternative fuels



▼ **MRT – Applications & Processes**

The equipment allows to cover a wide range of applications like kinetic studies, process evaluation, process modelization, stability tests of catalysts or adsorbents ...

Due to its design based from 2 to 4 reaction section in parallel, this equipment fits exactly with catalyst screening purposes and allow to get a large amount of data.

Almost all catalytic processes regarding crude oil refining (dehydrogenation, hydrogenation, hydrocracking, hydrotreatment, hydroformulation, oxidative decomposition, partial oxidation, isomerization ...) can be extensively evaluated with MRT.

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MRT – Main features

Standard equipment is built with several reaction lines (2 to 4 in parallel), each one including:

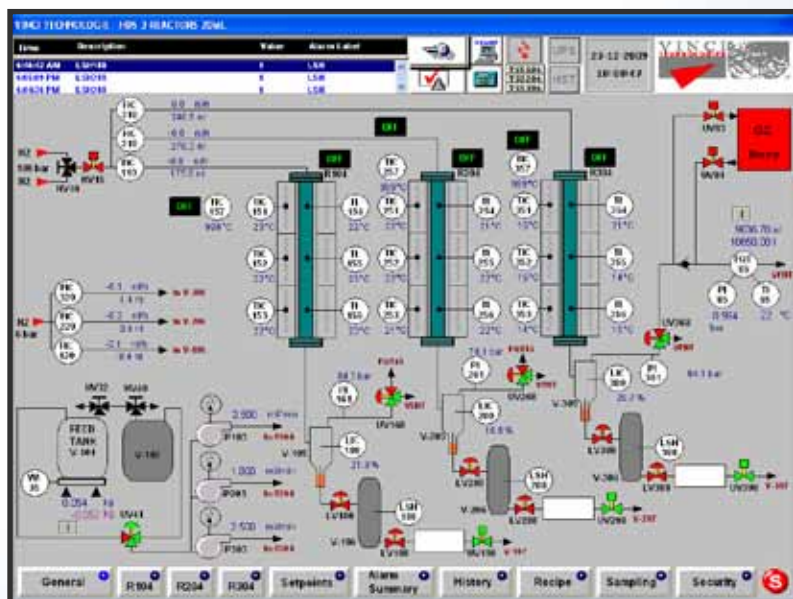
- Gas feed section (HP H₂ and LP N₂)
- Liquid feed section (2 tanks, 1 pump)
- Reaction section (different sizes available, either fixed bed or CSTR)
- Liquid / gas separation section
- Product recovery section

The equipment is fully automatic in order to operate the unit in a continuous mode. Supervision software offers a user-friendly interface in order to control and monitor safely all process parameters.

A large range of option from air booster, heat tracing, inter reactor sampling, nitrogen stripping, liquid product sampling, gas recycle module, liquid recycle module, configuration bypass and automatic mass balances are available in order to customized equipment.

MRT– Characteristics

- System can be delivered on a turnkey basis
- Fixed bed reactor catalyst capacity : 10ml, 100ml, 200ml.
- Data export to spreadsheet and database
- Battery limits
 - Nitrogen: ¼” OD max 7 bars
 - Hydrogen: ¼” OD max 200 bars
- Utilities
 - Air instrument: air type fitting max 6 bars
 - Cooling water: ¼” NPT
- Power (50 or 60 Hz, one or three phases)
- Dimensions
 - Height: 2.2m, Large: 3 m, Depth: 0.8m



MRT – Advantages

Vinci-Technologies MRT design is the fruit of extensive world wide operation and major key points of the equipment are :

- Fabrication quality
- User-friendly interface
- Customization according options
- Proven and robust design
- Compact equipment
- Easy maintenance