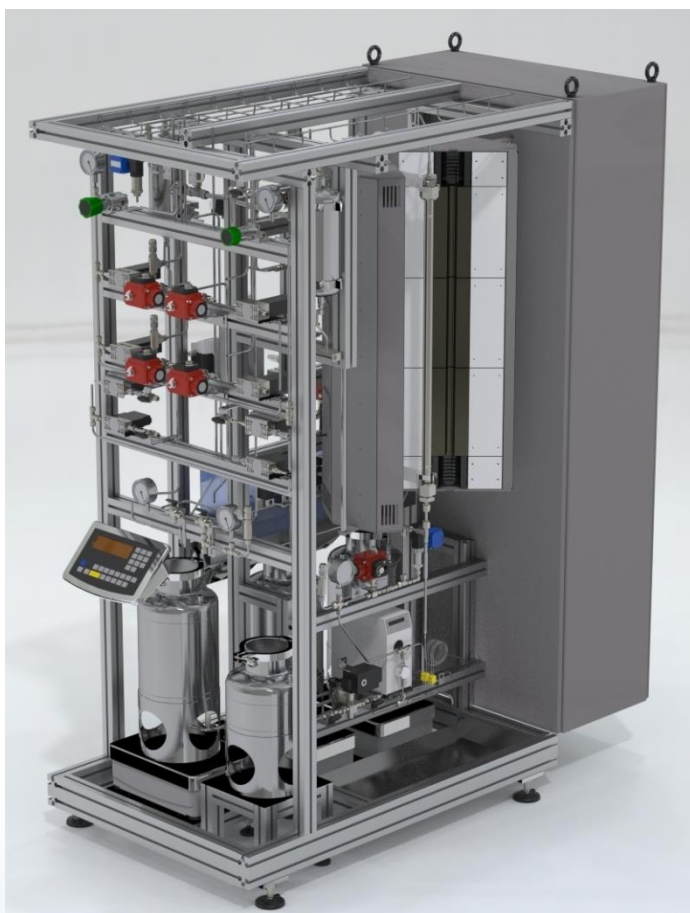


*Vinci-Technologies Catalyst Testing Versatile unit (CTV) respects very high level standards in terms of reliability, reproducibility, flexibility and safety. This unit is particularly relevant for an extended range of catalytic heterogeneous reactions occurring at conditions up to 550°C and 200 bars, and allow collecting industrially relevant and reliable data on catalyst performances, mainly: activity, selectivity to desired products, time stability, response to inhibitors, response to poisons, effect of activation (reduction, sulfidation).*

## ▼ CTV – Applications & Processes

In order to answer its customer process development purposes, Vinci-Technologies offers computerized and fully automatic CTV to match client versatile needs. This equipment is relevant to be used in a large variety of industries (refining, petrochemicals ...) and allows to cover a wide range of applications like kinetic studies, process evaluation, process modelization, stability tests of catalysts or adsorbents ...

Almost all catalytic processes regarding crude oil refining such as: dehydrogenation, hydrogenation, hydrocracking, hydrotreatment, hydroformulation, reforming, partial oxidation, isomerization, etc... can be extensively investigated with CTV.



# CATALYST TESTING VERSATILE BENCH SCALE UNIT

## CTV – Main features

Standard equipment includes : a gas feed section (HP H<sub>2</sub> and LP N<sub>2</sub>), a liquid feed section (2 tanks, 1 pump), a reaction section (various reactors sizes available, either fixed bed or CSTR), a liquid / gas separation section and a product recovery section.

It's a fully automatic unit in order to operate in a continuous mode (24hr/7d). Supervision software offers a user-friendly interface to safely control and monitor all process parameters.

## CTV – Characteristics

- System is delivered on a turnkey basis
- Fixed bed reactor catalyst capacity: 50ml, 100ml, 200ml, or higher upon request
- CSTR reactor capacity : 0.5l, 1l, 2l
- Data export to spreadsheet and database
- Utilities
  - Air instrument: air type fitting max 6 bars
  - Cooling water: 1/4" NPT
- Power (50 or 60 Hz, one or three phases)
- Dimensions
 

Height: 2m, Large: 1.4m, Depth: 0.8m

## CTV – Available Options

In order to match as much as possible to the client request, CTV system is modular and a number of options are available to order to customized the system on a common and robust base :

- Additional gas or liquid lines
- Air booster compressor skid (to recycle or to fully consume H<sub>2</sub> gas cylinder capacity)
- Heat tracing ( to allow the equipment to treat heavy or viscous feeds, like VGO for example)
- Three phases products separator
- Nitrogen stripper
- Liquid automatic sampling
- Cooling system

## CTV – Benefits

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

- Flexibility and number of options
- Fabrication quality
- Fully automatic unit
- User-friendly interface
- Full data recovery on Excel
- Proven and robust design
- Compact equipment
- Easy maintenance (quick connections)

