

PILOT PLANT SERVICES

Intertek Pilot Plant Services offers the flexibility to modify our existing equipment and flow schemes, install client provided equipment or acquire new commercially available equipment, as needed, to closely replicate the preferred process configuration.



Located in Pittsburgh, Pennsylvania at the site of the legacy Gulf Oil Research and Development Center, Intertek Pilot Plant Services helps clients evaluate catalyst and process technologies as well as generate real time process data to support the design basis for commercial applications, optimization of production facilities, post mortem troubleshooting of process operations and toll production. The pilot plants can support a wide array of process technologies including delayed coking, desalting, distillation, fixed-bed reactor processing, solvent refining and visbreaking.

The Proposition

Mitigation of technical risk via a low-cost determination of processing technology feasibility and commercial scale-up success is done quickly and effectively through process pilot plant research working hand-in-hand with our client base which is comprised of academia, cleantech startups, engineering firms, government organizations, process technology licensors and commercial processors.

Processing options include conversion processing, separation processing and thermal processing applications.

Our Solutions

Around-the-clock fully attended unit operations and analytical controls enable accurate, cost effective and timely process technology evaluations. Each and every program is treated with the utmost level of confidentiality. Any data generated during the performance of a pilot plant testing program remains the intellectual property of our respective clients.

As an independent testing services provider for more than 25 years, our evaluations include processing biostocks, chemicals, petrochemicals, petroleum, petroleum derivatives, and unconventional feedstocks.

Intertek Advantages

Intertek is a leading Total Quality Assurance provider to industries worldwide. Through our network of more than 1,000 laboratories and offices and over 42,000 people in more than 100 countries, the Group is re-defining the industry with our Total Quality Assurance proposition.

We go beyond physical quality control to provide total peace of mind through our innovative and bespoke Assurance, Testing, Inspection and Certification solutions for our customers' operations and supply chains. Intertek Total Quality Assurance expertise, delivered consistently, with precision, pace and passion, enabling our customers to power ahead safely.



Fixed Bed Reactor Processing

- P63 & P67 each include two 2.5 L catalyst capacity reactors with the option of inter-bed hydrogen quench, gas recycle, liquid recycle, one pressure tower, two atmospheric towers and feed rates from 1-5 L/h.
- P84-P88 each include two 0.434 L catalyst capacity reactors with the option of gas recycle, liquid recycle, one pressure tower, one atmospheric tower and feed rates from 0.1-0.8 L/h.
- P106-109 and P110-113 each include four 0.120 L catalyst capacity reactors housed in a common alumina heating block with feed rates from 0.06-0.3 L/h.
- Small scale batch autoclaves for process screening and rapid depressurization. Batch autoclave capacity from 1.0-4.0 L.

These process pilot plants include computer data logging, on-stream refinery gas analyzers and hourly material balance reporting.

Additionally, through a secure internet based access point, our clients can access real-time hourly unit operating data for process monitoring anywhere in the world.

Common process applications include:

- Aromatics Saturation
- Catalytic Dewaxing
- Fisher-Tropsch
- Hydrocracking
- Hydrodeoxygenation
- Hydrodesulfurization
- Hydrodenitrification
- Hydrogenation
- Hydrofinishing
- Isomerization
- Reforming

Crude Oil and Heavy Oil Upgrading

- P2 and P3 are dual purpose units that can either operate in delayed coking mode or in thermal cracking (visbreaking) mode. P2 nominally operates with a feed rate of 5 L/h and P3 nominally operates with a feed rate of 0.8 L/h.
- P13 is a continuous atmospheric and vacuum distillation unit that can fractionate up to 538°C with feed rates of 38-57 L/h.

- P73 is a light hydrocarbon solvent deasphalting unit with feed rates from 1.9-5.7 L/h utilizing co-processing propane, butane, pentane or mixtures thereof.
- P96 is a two stage, skid mounted Howe-Baker type electrostatic desalter with feed rates ranging from 10-57 L/h.
- Small scale batch equipment for desalting, fractionation and clay treating are available for preliminary project scoping and specialized product yield and quality determinations. Batch distillation capacity from 0.1-568.0 L.

FOR MORE INFORMATION



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