

Capacity: 40 TPD

Year Built: 1989

Raw Materials: FCC gasoline

End Products:

- Light Cat Cracked Spirit (LCCS)
- Intermediate Cat Cracked Spirit (ICCS)
- Heavy Cat Cracked Spirit (HCCS)

Process Information

The purpose of the Full Range Cat Cracked (FRCCS) Splitter is to fractionate FCC gasoline from the bottom of the debutanizer into the three cuts LCCS, ICCS, HCCS. **LCCS:** This has the lowest sulphur content so can be treated through the SHU unit to produce gasoline. If the SHU unit is unavailable then it can be routed to the USGP gasoline MEROX. Sometimes some of the LCCS is slip streamed via the gasoline MEROX direct to the gasoline pool to reduce sulphur giveaway. **ICCS:** This goes to 4PTR for hydro-treating; however this causes a loss in octane content that is then boosted by the Continuous Catalytic Reformer (CCR) before going to gasoline blending. **HCCS:** This is the heaviest cut and hence the highest sulphur content product. The sulphur can be removed by hydrotreating but this causes a loss in octane, and this cannot be recovered via the CCR as this cut also has the highest nitrogen content. Therefore, the majority of the heavy cut is processed through the CHD and then goes to form ULSD (ultra low sulphur diesel) usually with a final sulphur content of less than 10 ppmw. Some can be upgraded into SHU feed to produce gasoline.

40 TPD FRCCS Splitter Unit for Sale



BRIEF PLANT DESCRIPTION

The Gasoline Splitter column was originally designed to split full range FCC naphtha into three streams as it currently does but for different reasons. The original design was to have a light cut, a heart cut and a heavy cut. The light and heavy cuts were to be combined as a feed to the gasoline MEROX and the heart cut was to go to the CCR to produce reformat. However after the column was built in 1989 it was never commissioned in this service. In 1992 it was then suggested that it could be commissioned in a similar service to help meet legislated sulphur specifications proposed for 1995. A few modifications were made and the unit was finally commissioned in December 1994 with the heavy cut (with high sulphur content) going to 2PTR for hydrotreating. The new sulphur specifications came into force in 1995 but weren't as severe as first proposed and so the splitter was rarely used. In 1999 the strippers function changed again with the introduction of new sulphur specifications coming into the new millennium. This meant that the stripper was put into its current role as a gasoline splitter as it was originally designed.

Performance

Typical LCCS Yield: ~40%. The maximum volumetric throughput is 2807m³/d.

Typical ICCS Yield: ~10%. The maximum volumetric throughput is 1100m³/d

Typical HCCS Yield: ~50%. The maximum volumetric throughput is 1350m³/d

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