Soaker Internal Visbreaking Technology

Creating Future Fuels

CSIR-IIP and EIL have developed a low Capex Soaker Internal Visbreaking Technology for production of ultra-stable fuel oil

About the Technology

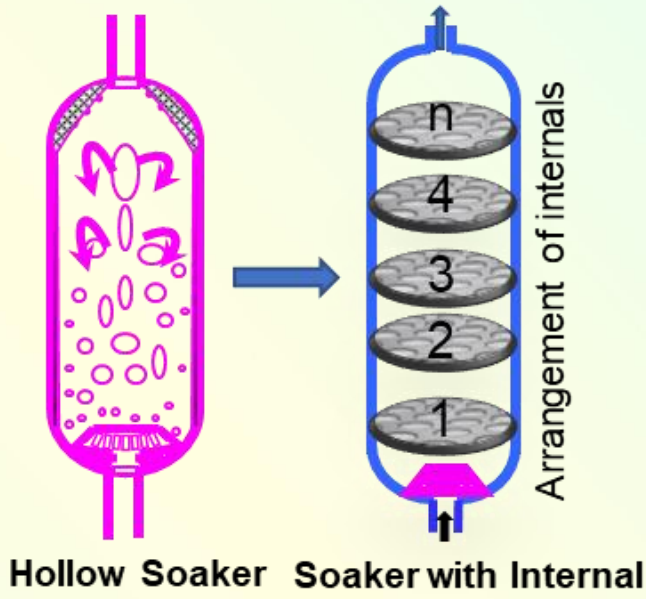
- CSIR-IIP developed soaker visbreaking technology and commercialized it in seven Indian refineries meeting more than 80% of fuel oil demand in India.
- This soaker visbreaking technology has been further upgraded to Soaker Internal Visbreaking Technology where soaker internals have been designed to reduce back-mixing, weeping and pressure drop. It also provides uniform gas-liquid hold-up, improves residence time and minimizes coking.
- CSIR-IIP Soaker Internal Visbreaking Technology produces ultra-stable fuel oil and lighter hydrocarbons from heavy vacuum residues.

Salient Features of The Technology

- Innovative design of the soaker internals and their arrangement inside the reactor.
- Superior quality stable fuel oil is produced
- Higher yield of lighter hydrocarbon fractions
- Saving of valuable diesel as cutter stock requirement is minimized
- Energy efficient process as same conversion achieved at lower temperature
- Better temperature profile is maintained across the reactor
- Less coking leading to safe and easy operation
- Longer time-on-stream is achieved
- Low Capex, easy to implement modifications without any major hardware change and need of long shutdown time.

Product yield improvement by soaker internal

Products	Yield Improvement, %
VB Fuel Gas	0 to 0.7
VB Naphtha	1 to 2
VB Gas Oil	2 to 3
VB Tar	-3 to -6



Commercialization Potential

- CSIR-IIP soaker visbreaker technology (without internal) is running at BPCL-Kochi, IOCL-Gujarat and IOCL-Panipat
- CSIR-IIP's upgraded technology of Soaker with Internal can further improve the profitability of Soaker Visbreakers

Economic Benefits

	HPCL, Vizag	IOCL, Mathura	IOCL, Haldia
Commercialization	October, 2012	November, 2013	March, 2016
Capacity (MMTPA)	1.0	1.0	0.5
Payback Period (Months)	3	4	5

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