

# H2 PSA TECHNOLOGY

## Competitive & Cost-Effective PSA Technology

Hydrogen is a key utility in the refineries which is essential for many secondary processing units in refinery. Generally, hydrogen is produced using feed stocks like Naphtha / Gas through Steam Reforming process or as a by-product of Catalytic Reforming unit. However, Hydrogen needs to be further purified to be suitable for various applications. Pressure swing adsorption (PSA) is the most widely used technology for purification of hydrogen from a mixture of gases. This technology is currently offered only by a few foreign licensors.

HPCL R&D in collaboration with Korean Institute of Energy Research (KIER) and GENS Engineering, Korea has developed a cost effective H<sub>2</sub> PSA Technology.

A Demonstration H<sub>2</sub> PSA unit is installed at HPCL Visakh Refinery for purification of off gas to produce hydrogen with 99.5 mole% purity. This Unit has a capacity to process 36000 Nm<sup>3</sup>/hr of feed gas having hydrogen content of 87 mole%. The exquisite feature of this PSA plant is the capability for capacity augmentation up to 150% with incorporation of Vacuum-Regeneration system and minor hardware modifications.



H<sub>2</sub> PSA Technology is being offered by HPGRDC along with its Korean partner for H<sub>2</sub> purification in process industries.