Application story

WANNER™
HYDRA-CELL® PRO
SEAL-LESS PUMP TECHNOLOGIES

Amine Injection

Location	India (Installation: June 2019 – July 2020)	**Hydra-Cell model**	G35XKSENNTCD
Type of application	Amine Injection	**Flow rate**	5m3/hr
Liquid	Methyl Di-ethanol Amine (30%) Water Solution	**Pressure**	68 bar (986 psi)

Application details

The purpose of this pump is to feed the lean amine into the absorption column. The amine unit removes hydrogen sulphide and carbon dioxide from the sour gas generated in the refinery. The sour gas is received in the sour gas knock out drum (KOD) to remove any water or liquid hydrocarbons and then goes to the amine absorber. Lean amine is contacted with the sour gas and removes hydrogen sulphide and carbon dioxide. The sweet gas then exits the absorber through a sweet gas KOD and on to the refinery fuel gas system. The rich amine from the bottom of the absorber goes to the three-phase separator, where the light hydrocarbons are flushed out of the amine and heavy hydrocarbons are separated from the amine. The rich amine is then heated in the lean/rich exchanger and fed to the regenerator column. Steam, generated in the reboiler heats the amine and removes the hydrogen sulphide (H2S) and carbon dioxide (CO2) from the amine. The lean amine from the regenerator is cooled, in the lean/rich exchanger and the lean amine cooler, and returned to the absorber. The H2S and CO2 removed from the amine is cooled in the overhead condenser and sent to the sulphur recovery unit for processing into sulphur.

The customer experienced leakage from the previously installed competitor pump due to the dynamic seals and packing with failure within failure within 3-4 months of installation as the pump was unable to handle the non-lubricating and corrosive nature of the amine.

Advantages of Hydra-Cell pump on this application

Reliable handing of corrosive and non-lubricating liquid with no dynamic seals or packing

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