



Pulsation Study for two 2,250 bar Hyper Compressors – Measurement, Theory, Measures –

by:

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Abstract:

In a LDPE-plant two hyper compressors are operating in parallel. In order to improve the blend performance, it was planned to increase the static pressure on the discharge side of the compressors up to 2,400 bar. By means of suitable measures the release of the safety valves caused by pulsation related pressure peaks had to be prevented for the further operation. Additionally, a safe and reliable operation of the plant from vibration technical aspects had to be ensured. For processing a pulsation study in conjunction with pressure and pipe vibration measurements was conducted. It turned out that in order to avoid the release of the safety valves due to pulsations a synchronisation of both compressors at a fixed phase relationship is the favourable solution. Additionally, high pipe vibrations were reduced by installation of orifices and new pipe supports. Finally, after realisation of the measures the discharge pressure has been raised up to 2,400 bar without any pulsation or vibration problems.