High Discharge Pressure

Applications with high discharge pressures (greater than 1500 psig) have several design details to consider:

Higher pressure applications will require special review of the cylinder lubrication oil selection as well as lubrication rates. Separate lube oil supply and heavier lube oils will be required. Refer to Packager Standards Section 6: Lubrication.

Higher pressure applications may have gas condensates between stages, or operate close to critical points or dense phase regions. This will require special considerations for interstage temperature controls. The Heavy Gas, CO_2 and Sour Gas topics can provide further information on this topic.

Higher pressures may require water cooled packing cases, or limitations on piston speed. The Packager Standards and the performance software will help guide the application for water cooled packings and pressure versus speed limitations.

Much higher pressure applications will utilize forged steel cylinders. A closer review for crosshead pin reversal across the operating speed range must be made to ensure sufficient reversal.

The use of the higher pressure forged steel cylinders will require a closer review of hydrogen sulfide content. Not all of the forged steel cylinders are suitable for operation with hydrogen sulfide content.