



## HYPER PRODUCTS

Sealing elements for Polyethylene production

SELECTED SEALING MATERIALS FOR A LONG SERVICE LIFE  
OPTIMIZED GEOMETRIES FOR MAXIMUM RELIABILITY AND TIGHTNESS  
HIGHEST PRECISION AT THE PRODUCTION OF WEAR PARTS

Hyper compressors are a key element in the production of low-density Polyethylene (LDPE). STASSKOL understands that these machines place the highest possible demands on the material and manufacturing quality of the sealing elements. Processing of the selected materials is subject to strict quality control at STASSKOL to maximize the reliability and availability of hyper compressors.

## THE APPLICATION

The synthesis of highly branched Polyethylene takes place by means of free radical polymerization within the gas phase. For this purpose, the Ethylene is compressed up to a pressure of 3500 bar.

Piston compressors perform this task in a multi-stage process whereby the hyper compressor compresses the gas to the final pressure. Polymerization of the compressed gas begins in the reaction chamber with the use of suitable initiators. The result is branched low-density Polyethylene, which is an important part of our everyday lives.

## THE PRODUCT

The demands placed on the sealing elements of hyper compressors are much higher than those for piston compressors in standard applications. In order to meet the challenges of these machines, all details from material procurement to design, as well as the manufacturing processes and quality assurance, must be coordinated precisely.

STASSKOL only uses materials of certified quality from selected suppliers. The design of the sealing elements (piston and guide rings as well as internal packing parts) is based on geometries, which have been tested and successfully used over many decades.

Parts are produced using the most elaborate production technologies and are finished on programmable lapping and polishing machines in order to achieve the required surface quality. The process is completed by sophisticated methods to ensure the demanded quality, e.g. ultrafine testing by means of optical interference of a monochromatic light source.

The high standard that hyper compressors place on their sealing elements can only be met if all the links in the production chain, from material procurement to quality inspection, work together seamlessly.



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