

CASE STUDY

A chemical plant asked HOERBIGER as MBH know-how holder to manufacture new crankcase and crosshead guide.

Restored availability by repair of a badly damaged crankcase

Compressor manufacturer: MB HALBERSTADT

Type	4HB12K-400/290	Gas	H ₂ mix
Power	5100 kW (6934 hp)	Suction pressure	12 bar (174 psi)
Speed	375 rpm	Discharge pressure	37 bar (537 psi)
Lubrication	yes		



Crosshead guide



Finished crankcase



Assembly of crankcase and crosshead guide



New crankcase and cross head guide in operation

Facts in Brief

- Severe failure occurred following a badly executed design modification
- Crankcase and other components were damaged by high collision forces

Customer requirements

- Inspection of broken crankcase and approval for limited operation pending delivery of new crankcase
- Delivery of one crankcase and one crosshead guide including auxiliary equipment (supports, anchor bolts, etc.)

Solution applied

- Inspected damaged crankcase
- Took 6th row out of service and clamped crankcase to stop crack growth
- Approved for limited operation (balanced operation mode)
- Cast and machined new crankcase following original MBH drawings, to which HOERBIGER has the rights
- Sourced all necessary auxiliary equipment
- Specified installation procedure
- Project management and documentation

Results

- Trouble free operation after repair
- Crankcase, crosshead guide and all auxiliary equipment delivered in time
- All goods inspected and approved for dimensions and quality
- All delivered parts installed and compressor is in operation again