

SUCCESS STORY

ON-SITE MACHINING OF A HYPER CRANKCASE DURING THE OVERHAUL OF A LDPE PLANT

The high market demand for LDPE required Transformadora de Etileno A.I.E. (TDE), a manufacturer of low-density polyethylene in Tarragona, Spain, to run its production lines with the highest possible performance.

After 180'000 hours in operation, TDE detected hard fretting damages on contact the surfaces between Hyper Compressor crankcase and distance pieces.

Thanks to a detailed planning, Burckhardt Compression was able to machine the crankcase on-site and therefore reduce the overhaul time and transport risks.

PROJECT CHALLENGES

- Perform all maintenance activities for the general overhaul after nine years of continuous operation on a Hyper Compressor within 28 days
- Repair of damaged surfaces on crankcase and distance pieces during plant shutdown
- Perform the on-site machining of the crankcase and distance pieces within this time frame
- Avoid unplanned downtimes

APPLICATION DESCRIPTION

On-site crankcase machining of a Hyper Compressor

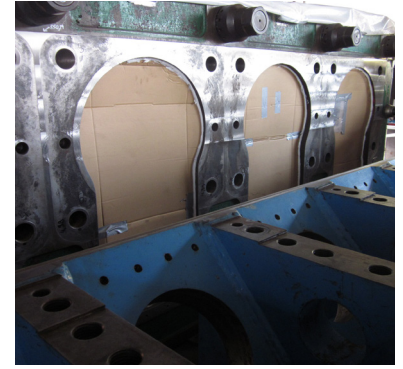
Type	F8 Hyper Compressor	Gas	Ethylene
Power	7.5 MW / 10'200 hp	Suction pressure Discharge pressure	234 barg / 3'394 psi 2'650 barg / 28'435 psi
Speed	187.5 rpm		

BURCKHARDT COMPRESSION SOLUTION

- General overhaul with two Burckhardt Compression Supervisors on-site on double shift
- Crankcase machining on-site (including prior levelling check) instead of dismantling the entire compressor and transporting the crankcase to a workshop
- Machining of distance pieces and other internal parts carried out in a local workshop
- This was the first time such a repair is done on-site in a F-type worldwide
- Machining controlled by a dedicated Field Service Representative from Burckhardt Compression

CUSTOMER BENEFITS

- Smoother and safer operation of the compressor with a significant reduction of movement and vibrations on distance pieces and cylinders during operation
- Minimized oil leakage between crankcase and distance piece
- Easier alignment of distance pieces and cylinders after overhaul
- Extended lifetime of plunger, packing and elastic rod
- Zero safety incidents due to highest safety standards



Crankcase machining on-site



Machining of the F8 crankcase surfaces were performed within 4 working days.

"Before machining it was possible to see the movement between crankcase and distance pieces, mainly on the 2nd stage, and a quite high oil leakage between both surfaces. Now all is much more stable and "static".

Alberto Munarriz
Mechanical Maintenance Manager TDE

Burckhardt Compression AG

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