

## Vertical Pump Problem Solving with CPI PUMPGUARD™ Materials

Due to CPI's long standing relationship with a major refinery in Spain built upon material successes with compressor solutions on site, this customer approached CPI to see if we could help to solve a recurring pump problem.

### The Problem:

The vertical pump suffered several seizures with the original metallic bearings causing severe damage to the large shaft and other metallic components and consequently the repair costs were very expensive.

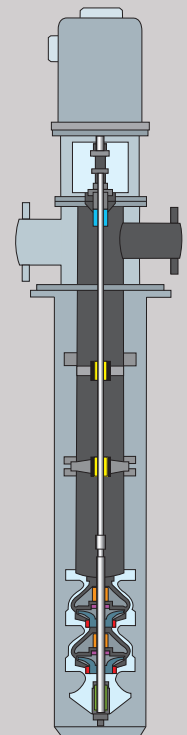
### The Solution:

Knowing that one of the features of CPI's PUMPGUARD™ 182 special polymer alloy material is that it can be designed with much tighter running clearances than the original metallic bearings, the customer wanted to try this grade of material. While the CPI material and improved clearances kept the more expensive metal parts from being damaged, there was still early pump failure. All clearances and the installation procedure were checked and were found to be correct, which indicated that the root cause of the problem lay somewhere else.

The customer therefore decided to conduct a more in-depth analysis of the pumps operating condition, this included the installation of vibration probes and thorough auditing of the operating procedures.

From this study it was found that the pump was operating without suction fluid due to the operator not opening an inlet valve. This led to serious overheating of the pump and the consequential problems.

With the root cause established, the pump was brought back online correctly and the CPI PUMPGUARD™ 182 material was found to work as intended. From this success the customer has gone on to install PUMPGUARD™ 182 into other pumps on site.



Barrel pump illustration

