



Cooling lubricant supply

Heidelberger Druckmaschinen AG is a global provider of products and services for advertising and packaging printing. The company's offerings focus mainly on sheet-fed offset and digital printing solutions and on the manufacture of components and assemblies for the precision engineering sector.

Customer:

Heidelberger Druckmaschinen AG,
Brandenburg a. d. Havel

Commissioned:

2011



Incredible energy savings of 90 % thanks to comprehensive system optimisation

At its production site in Brandenburg an der Havel, Heidelberger Druckmaschinen AG manufactures shafts, cylinders, sections and prefabricated assemblies. Until November 2011, the cooling lubricant circuit serving the grinding machines was driven by four fixed speed pumps with motor ratings of 37 kW each. Together, they represented a substantial cost factor in terms of power consumption. The analysis revealed that the old pumps were designed for an operating point which was obviously too high, so it took an elaborate set of downstream throttle valves to reduce the flow rate. The customer decided to completely replace the existing pump sets and modernise the control system. The new pumps are all fitted with KSB SuPremE® motors which allow tremendous savings to be achieved, in particular in the part-load range. This decision is expected to yield a drop in energy consumption of roughly 78 percent and to pay for itself in 1.6 years.



"Astounding efficiency: 90 % energy savings with our cooling lubricant pumps."
Uwe Ricker, Heidelberger Druckmaschinen AG



The newly installed pumps from the Etanorm range are all equipped with a PumpMeter and KSB SuPremE® motors including PumpDrive variable speed systems. Each pump has been selected for a flow rate of 100 m³/h, so on average a single pump is sufficient to cover the demand. For higher capacity utilisation, the control system starts up a second pump, with the third remaining available as a stand-by unit. The installed swing check valves were replaced by pneumatically actuated butterfly valves with a low resistance coefficient. The piping layout was also optimised, and unnecessary bends were removed in order to reduce the system's hydraulic resistance. The plant's control system was replaced with a

Simatic S7. The new system's central operating element is a touch display which visualises the entire plant in the form of a clearly arranged schematic diagram. The PumpDrives are controlled by a Hyamaster® programming module integrated into the Simatic S7. In order to exploit as much energy saving potential as possible, the upgrade was made using FluidFuture®, KSB's comprehensive energy efficiency concept. The upgrade included the optimisation of all relevant system components. The pumps are now optimally matched to the actual demand, both hydraulically and electrically. The first set of measurements already indicated sustainable **savings in the order of 90 percent.**

Heidelberger Druckmaschinen AG – Scope of supply and project details

3x Etanorm pumps, type G065-200 G9 PD
Flow rate: 50-150 m³/h
Head: 45 m

3x PumpDrive variable speed system, MM

3x PumpMeter

3x KSB SuPremE®-motor (22kW)

3x DYNACTAIR 12

3x ISORIA 10 (DN125), automated with
AMTRONIC control unit

If you require further information, please do not hesitate to contact me:

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