



ContiTech Vibration Control GmbH
Hannover

Part of the ContiTech Group, the company manufactures environmentally and climate-friendly elastodynamic components for vibration and noise dampening equipment for automotive suppliers and the general industry, for example in wind power stations.



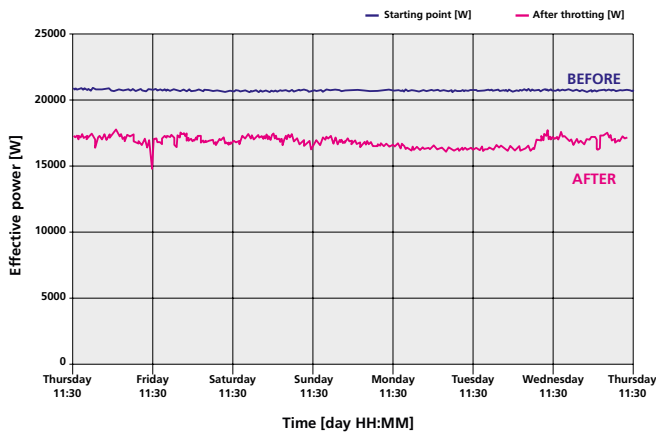
Once optimised, achieves energy and cost savings three-fold

ContiTech Vibration Control GmbH has defined environmental targets for all of its company divisions. For example, power and water consumption as well as the volume of waste are to be reduced by 3 per cent annually. That these ambitious targets can, in fact, be achieved is demonstrated by the optimisation of the closed-circuit cooling system employed by the company for air-conditioning and cooling of its production facilities. An analysis of the system built in 1997 clearly showed that there was a lot of room for improvement. So far the single-stage centrifugal pumps running in by-pass mode had delivered cooling water at a constant operating pressure of 6 bar and a flow rate of 108 cubic metres per hour. The pump sets were kept in operation around the clock at a constant speed of 2950 revolutions per minute, even after production had come to a standstill.

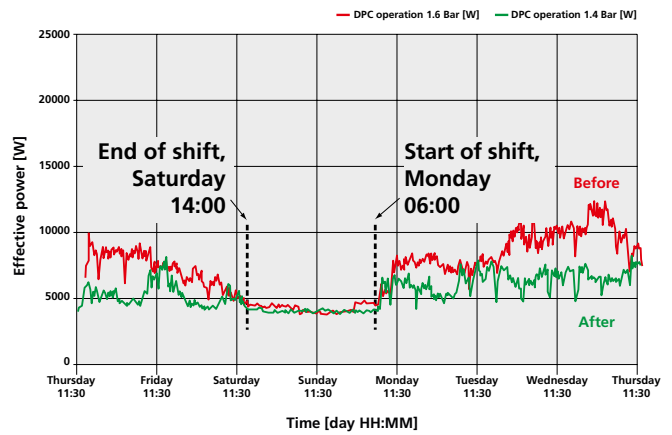
The system did not have any form of control.

ContiTech decided to replace one of its centrifugal pumps with a controlled system made by KSB. It consists of a single-stage Etabloc pump, an 18.5 kW synchronous motor with 15 per cent lower losses than motors conforming to IE3, the highest efficiency class, a PumpDrive speed control unit and a PumpMeter characteristic curve monitoring device.





Consumption of closed-circuit cooling system before and after installing KSB's energy-efficient solution



Consumption of closed-circuit cooling system without and with PumpDrive function DPC

Efficiently on target with KSB's PumpDrive and PumpMeter.

The KSB system installed at the ContiTech plant combines two important KSB developments. PumpMeter measures the pressures on the suction and discharge sides, and calculates the duty point which is permanently indicated on the unit's display. It does not only serve for monitoring purposes, but also feeds the PumpDrive speed control system with all necessary characteristics and facilitates parameterisation. After no more than 3.5 hours of commissioning with the system in full operation, which included linking up the system to the plant process control system, ContiTech was able to use the system

and take advantage of a special function of PumpDrive: the dynamic pressure setpoint compensation function (DPC) moves up and down the power consumption curve depending on the load. This enables the client to save an enormous amount of energy, particularly at weekends. In addition, the operating pressure is reduced to 1.4 bar and the power input to 5.4 kW without any disadvantages for production, and to around 3.0 kW at weekends. Based on an average 7-day working period, this means a 74.7 per cent reduction of the power input.

ContiTech Vibration Control GmbH – scope of supply and technical specifications

Scope of supply:

- Etabloc
- PumpDrive 50-200 With 210 mm impeller diameter
18.5 kW synchronous motor made by REEL, 3000 rpm.
- Fluid handled: Cooling water
- Flow rate: Approx. 20 to 100 m³/h variable
- Operating pressure: 1.4 bar constant

Commissioning:

September 2010

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