


**KSB Solutions**


Electronics / Domestic Appliances

The long-standing, family-run company Miele & Cie. KG produces high-quality domestic appliances and employs a workforce of approx. 16,700. Washing machines, tumble dryers and electronics are made at Miele's main production facility in Gütersloh. The economic use of resources forms an integral part of the company's philosophy and is reflected in both the operation and production of Miele appliances.

**Customer:**

Miele & Cie. KG, Gütersloh,  
Germany

**Commissioned:**

System: May 2011

KSB SuPremE® motors: June 2012



### Maximum efficiency thanks to optimised technology

In 2011, a new refrigeration system exclusively employing variable speed pumps from KSB was brought into operation at Miele's main production facility in Gütersloh. Fitted with PumpDrive speed control systems, the pumps' output can be continuously matched to the refrigeration system's demand. Two of the pumps operate continuously and are equipped with KSB SuPremE® motors which already meet upcoming IE4 efficiency requirements from the EU. In addition, they are extremely well-suited to continuous operation. High-efficiency drives and demand-driven operation are important aspects of FluidFuture®, KSB's comprehensive energy efficiency concept.

The combination of high-efficiency refrigeration units and KSB's pump technology has helped Miele to cut energy consumption in the refrigeration process by about **40 % compared with** the old system.



*"What connects us with KSB? Pushing the boundaries in energy efficiency technology."*  
Bernhard Neumann, Miele & Cie. KG, Gütersloh



The KSB pumps from the Etanorm or Etaline range are employed in pairs of two. They are operated in parallel under part-load conditions, with each individual pump being capable of producing around 80 % of the required maximum output. This is cheaper in terms of energy than using a single larger pump. Although a single pump could produce the total

output required, it would only use a fraction of its capacity under real operating conditions. All pumps are fitted with PumpMeter units designed to measure the data required for flow rate control and to identify potential energy savings. The system's improved efficiency will reduce CO<sub>2</sub> emissions by 400 tonnes a year.

### Miele & Cie. KG – Scope of supply and project details

1x ETALINE GN 080-160/114 G11

Flow rate Q = 40 m<sup>3</sup>/h

Head H = 6.50 m

2x ETALINE GN 080-210/304 G11 PDA

Flow rate Q = 85 m<sup>3</sup>/h

Head H = 8 m

2x ETALINE GN 080-210/404 G11 PDA

Flow rate Q = 100 m<sup>3</sup>/h

Head H = 9 m

1x ETANORM G 100-315 G11 PD

Flow rate Q = 195 m<sup>3</sup>/h

Head H = 30 m

3x ETALINE GN 100-200/404 G11 PDA

Flow rate Q = 92 m<sup>3</sup>/h

Head H = 10,5 m

2x ETANORM G 125-250 G11 PD equipped with KSB SuPremE® motors

Flow rate Q = 200 m<sup>3</sup>/h

Head H = 18 m

3x ETALINE GN 080-210/224 G11 PDA

Flow rate Q = 70 m<sup>3</sup>/h

Head H = 8 m

2x ETANORM G 032-200 G11 PD

Flow rate Q = 20 m<sup>3</sup>/h

Head H = 40 m

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

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