KSB SuPremE® in IE5: the world’s most efficient magnet-less pump motor
KSB SuPremE® in IE5*: The energy diet for your pump system – interview with experts

Energy efficiency is at the top of the priority list at KSB. This is why the highly efficient KSB SuPremE® motor also meets IE5* requirements, thereby ensuring the highest possible savings during operation. To further optimise the efficiency of hydraulic systems, KSB employs its comprehensive FluidFuture® energy-saving concept.

KSB SuPremE® motors now correspond with efficiency class IE5 in line with the new IEC/TS 60034-30-2 standard. How much better are the motors now?

Daniel Gontermann: IE5 class motors have 20% less losses compared with IE4 class motors.

Why is this?

Dr. Jochen Schaab: As regards KSB SuPremE® motors, we previously based the efficiency class on a now outdated draft standard – IEC/CD 60034-30 Ed.2. This standard defined more stringent requirements on the efficiency of KSB SuPremE® motors. This is why the majority of KSB SuPremE® motors have already been 20% better than IE4 motors as per IEC/TS 60034-30-2.

Does this mean that KSB SuPremE® motors were always IE5-compliant?

Dr. Jochen Schaab: I guess if you put it that way – yes!

One more question: How much energy do customers save in pump applications as a result of the IE5 motor technology?

Daniel Gontermann: The savings can be as high as 15 percentage points, depending on the operating speed and load. The efficiency of a 7.5 kW KSB SuPremE® motor operated at full speed and full load already exceeds that of an equivalent IE3 motor by up to 3 percentage points. At a quarter of the speed, and consequentially 25% of the flow rate, this advantage can be as high as 15 percentage points. You can therefore find a convenient comparison calculator on our web site.

Can it therefore be said that it is important to remember that the benefits of the drives heavily depend on the respective application?

Dr. Jochen Schaab: That’s exactly right. This is why KSB consultants continually point out how critical it is to know the load profile, i.e. the number of operating hours in the required flow rate range. This load profile is key to choosing not only the best motor but also the best pump system for the application in order to achieve maximum efficiency.

Understood! But where do I get this information?

Dr. Jochen Schaab: KSB has several different solutions: Starting with the KSB Sonolyzer app, which interprets the noise of a...
pump with an old asynchronous motor, our PumpMeter pump monitoring unit with flow rate estimation and memory for the load profile, and a host of services such as our Pump Operation Check and SES System Efficiency Service.

The motors are then apparently just one aspect to consider when optimising efficiency.

Daniel Gontermann: Despite all the euphoria surrounding maximum motor efficiency, it must not be forgotten that maximum efficiency is only possible when one is prepared to optimise the entire hydraulic system and operate it in line with demand. To assist with this complex task, almost ten years ago, KSB developed a corresponding action guideline known as the FluidFuture concept.

A system is only as good as its weakest component.

Is that what you mean?

Daniel Gontermann: Maximum system efficiency requires systems expertise. And that’s exactly what we offer at KSB. ■

For more information, visit www.none-more-efficient.com

*IES in accordance with IEC/TS 60034-2-2 up to 15/18.5 kW (only for 1500 rpm types rated 0.55 kW, 0.75 kW, 2.2 kW, 3 kW, 4 kW: IES in preparation)