

Let's talk about money



A pump's electricity consumption is the most expensive part of owning a pump and in most countries it accounts for more than 85% of the total costs. Being one of the world's leading manufacturers of pumps and pumping equipment we know that our customers demand long-term and cost-efficient pump solutions.

High efficiency motors should accompany high efficiency pumps – that is our belief. EFF1 electrical motors are now a standard on the world-famed Grundfos multi-stage CR pumps. All our 3-phase 50Hz motors for CR pumps are consequently marked with the EFF1 designation.

What's in it for you?

The answer to that question is simply: Money! Compared to a conventional motor, the new EFF1 motor in the CR range makes a real difference in how much energy it consumes. EFF1 motors mean reduced energy consumption and consequently reduced operating costs. Reduced energy consumption also means reduced harmful impact on the environment – a fact that no one with a clear conscience can neglect.



High efficiency equals reduced costs

The savings you can obtain with the new standard EFF1 motor is everything but a one-off affair. Every single year the savings will continue and contribute to unmatched low costs of ownership.

Calculate your savings on-line

If you want to know exactly how much electricity you can save per year with the new standard EFF1 motor for Grundfos CR pumps, visit the special EFF1 site on www.grundfos.com/cr. Here you can enter information on your specific pump and installation and a special programme will calculate your yearly reduction in kWh with the new standard CR EFF1 motor.

Less noise

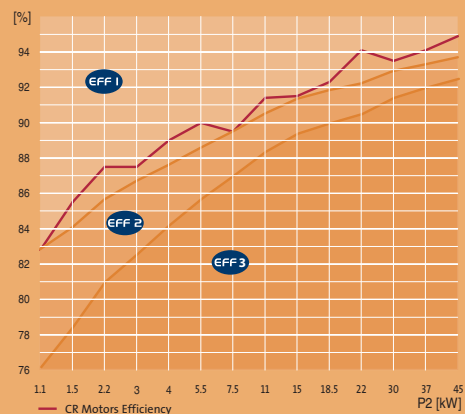
The cooling fan is the main source of noise in electrical motors. But because of the high efficiency of EFF1 motors, less cooling air is needed to maintain a stable low motor temperature. This allows for a smaller cooling fan, which in turn produces less noise.

Higher ambient temperature

Due to the construction of the EFF1 motor, the motor temperature is quite a bit lower than the one of a conventional motor. The CR EFF1 motor is suitable for applications located in ambient temperatures up to 60°C.



Sectional drawing



Savings with Grundfos EFF1 motor compared to average EFF2 motors

Application type	Typical duty point	Motor size [kW]	Operating hours per day	Grundfos EFF 1	Average EFF 2	kWh reduction per year
Water supply	80 m³/h at 6 bar	22	24 hours	94,1	91,5	5.200
Water treatment	2 m³/h at 15 bar	2,2	15 hours	87,4	83,3	600
General industry	6 m³/h at 10 bar	3	10 hours	87,5	84,5	400

$$\text{Saving} = P2 \cdot \text{load} \cdot \text{hours} \cdot (1 / \eta_{\text{old}} - 1 / \eta_{\text{new}})$$

$$\text{Calculation example water supply: } 22\text{kW} \cdot 0.9 \cdot (24 \cdot 365) \cdot (1/0.915 - 1/0.944) = 5.238 \text{ kWh}$$