

REPORT ON THE USE OF XADO GREASE IN ELECTRIC MOTOR BEARINGS · 2004

Network pump drive: bearing lubrication cut the current draw

Kharkiv Heat Networks municipal enterprise, Kyiv branch, "Severnaya-3" boiler house · approved by branch chief engineer M. A. Dikovsky; signed by power section head M. A. Tereshchenko, electrical equipment maintenance foreman V. V. Belikov, lead engineer of XADO LLC I. N. Sharaykin
Kharkiv, Ukraine · treatment 27.10–03.12.2004 · control measurement at 720 h of operation

PRODUCT

XADO "restorative" grease
revitalizant for rolling bearings

TREATED OBJECT

Electric motor of the SN-2
network pump drive
No. 314 bearings · maximum
power 90 kW

DOCUMENT TYPE

Report of Kharkiv Heat
Networks utility, 2004

EQUIPMENT

Electric motor of the SN-2
network pump drive, No. 314
bearings, "Severnaya-3" boiler
house

DUTY AND OPERATING TIME

Round-the-clock operation;
720 h after treatment until the
control measurement

WHAT WAS MEASURED

Current draw on phases A, B, C under
identical duty before and after

The treatment was carried out without disassembling the unit, on operating boiler-house equipment, by the branch power section staff.

Key result

↓ **5 %**

current draw at no load, 64.5–66.5 → 59.7–63.7 A

Motor current draw by phase

PHASE	BEFORE TREATMENT	AFTER 720 H	CHANGE
Phase A	66.5 A	63.7 A	-4.2 %
Phase B	64.5 A	59.7 A	-7.4 %
Phase C	65.3 A	62.0 A	-5.1 %

Measured with an ATK 2200 digital instrument at no load, before treatment and at 720 hours of operation. In the conclusions of the report the reduction is assessed at 5 %.

Economic assessment per the calculation in the report

INDICATOR	VALUE PER THE REPORT
Electricity cost per month before treatment	11340 UAH
Electricity cost per month after treatment	10773 UAH
Saving on a single electric motor	567 UAH/month
Cost of treating one electric motor	92 UAH
Payback period of the treatment	5 days

The calculation was made by the commission in the report: round-the-clock operation, rated power draw 75 kW, tariff 0.21 UAH per kWh at 2004 prices.

Conclusions of the commission

The commission of the Kyiv branch of the Kharkiv Heat Networks municipal enterprise recorded: as a result of applying XADO "restorative" grease in the No. 314 bearings of the electric motor driving the SN-2 network pump with a maximum power of **90 kW**, the current draw decreased by **5 %**. With round-the-clock operation and a rated power draw of **75 kW**, the cost of the electricity consumed per month was **11340 UAH**, and after the grease was applied — **10773 UAH**; the saving after treating the electric motor by the XADO technology amounts to **567 UAH** per month. The cost of treating one electric motor is **92 UAH** and is fully repaid through the reduced electricity consumption within **5 days** of round-the-clock operation. The treatment was performed on operating boiler-house equipment, without disassembling the electric motor and without taking the pump out of the circuit.



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The results relate to the electric motor of the SN-2 network pump drive at the "Severnaya-3" boiler house and to the No. 314 bearings; on other equipment and under other duties the figures may differ. The economic part is given per the calculation in the report at 2004 prices. The original report is published in full and available for download.