

REPORT ON THE RESULTS OF TREATMENT UNDER CONTRACT No. 1

Pump K-80-60-160: less electricity for the same work

DKS MZU "Smena" — client · contractor: ChPKP "Rigonda", director A. B. Boyko · report signed on the client's side by the chief physician and the engineer

Ukraine · contract No. 1 of 05.02.2003 · treatment carried out in March 2003 · control measurement after 430 hours of operation

PRODUCT

XADO technology
single-stage treatment, four
assemblies of the unit, without
taking the pump out of service
for repair

TEST OBJECT

Pump unit K-80-60-160
electric motor AK11212U1 · 7.5
kW · 3000 rpm · $\cos \varphi$ 0.86

DOCUMENT TYPE

Report under contract No.
1,
signed by client and
contractor

UNIT	SPECIFICATION	WHAT WAS MEASURED
Pump K-80-60-160	Centrifugal, overhung type; 4 assemblies of the unit treated	Current on all three phases under load
Electric motor AK11212U1	7.5 kW · 3000 rpm · $\cos \varphi$ 0.86	Current on all three phases at no load

The control measurement was taken after {{430 hours}} of unit operation following the treatment, not immediately upon its completion.

Key result

↓ **16.7-29.7 %**

current on all three phases under load, 10.2-12.8 → 8.5-9.0 A

Current under load — the unit's operating mode

PHASE	BEFORE TREATMENT	AFTER TREATMENT	CHANGE
Phase A	12.8 A	9.0 A	↓ 29.7 %
Phase B	11.6 A	9.0 A	↓ 22.4 %
Phase C	10.2 A	8.5 A	↓ 16.7 %

The report records a drop in the unit's current load of **2.7 A** after **430 hours** of operation.

No-load current — the motor's own losses

PHASE	BEFORE TREATMENT	AFTER TREATMENT	CHANGE
Phase A	12.8 A	7.8 A	↓ 39.1 %
Phase B	11.4 A	7.7 A	↓ 32.5 %
Phase C	9.8 A	7.0 A	↓ 28.6 %

Before the treatment the no-load current was practically the same as the current under load: friction inside the unit consumed almost as much as the pumping itself.

Conclusion of the report

The contractor, ChPKP "Rigonda", stated in the report under contract No. 1: "The use of XADO technology reduces mechanical losses in the electric motor and in the unit as a whole, which leads to lower electricity consumption". The measurements confirm this at all six points — the current fell on each of the three phases both in the operating mode and at no load. The initial condition of the unit is evident from the figures themselves: under load it drew almost as much current as without it, meaning friction was eating up a considerable share of the power. After the treatment the current under load came down to **8.5-9.0 A**, and this value held after **430 hours** of operation — the effect is not a one-off reading taken right after the product was added. The saving over six months of round-the-clock operation was estimated by the contractor's formula at **6686 kWh**.

XADO

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The results refer to the pump unit K-80-60-160 with an AK11212U1 electric motor rated at 7.5 kW; on other units and duty modes the figures may differ. The electricity saving was calculated by formula by the contractor performing the treatment, ChPKP "Rigonda", and was not verified by measurement. The original report is published in full and available for download.