

PROTOCOL No. 1007 OF 21.10.2002 · CHUGUNOLEENE INVEST 97 AD

UKPD 100 compressor and AFL hydraulic unit: lower current, faster start-up

Chugunoleene Invest 97 AD, Parvomay · signed by: executive director D. Tonev, head of the electromechanical department I. Dimitrov, foreman N. Dakov · treatment performed by MAY OOD, manager A. Iliev

Parvomay, Bulgaria · treatment 27.09–17.10.2002 · protocol No. 1007 of 21.10.2002

PRODUCT

XADO revitalizant gel
and XADO grease
compressor — gel into the
crankcase system; hydraulic
unit — grease into the bearings
of the drive electric motor

TEST OBJECT

UKPD 100 compressor
and AFL hydraulic unit
two units at the same plant ·
electric drives of 18 and 13 kW

DOCUMENT TYPE

Committee protocol
with signatures and stamps

UNIT	DRIVE	WHAT WAS MEASURED
UKPD 100 compressor, in service	18 kW	Motor current on all three phases; time to reach working pressure
AFL hydraulic unit, in service	13 kW	Motor current on all three phases — at no load and under load

Treatment was carried out from 27.09 to 17.10.2002 while the units stayed in service: gel added to the crankcase system of the compressor, grease to the bearings of the hydraulic unit motor. Readings were taken before and after treatment.

Key results

↓ **25 %**

power consumption of the hydraulic unit, current under load 31-33 → 24 A

↓ **10 %**

power consumption of the compressor, phase currents 22-24 → 20-21 A

↓ **14.1 %**

time for the compressor to reach working pressure, 440 → 378 s

UKPD 100 compressor — motor current and time to working pressure

PARAMETER	BEFORE TREATMENT	AFTER	CHANGE
Current, phase I	22 A	20 A	–2 A
Current, phase II	22 A	20 A	–2 A
Current, phase III	24 A	21 A	–3 A
Time to reach working pressure	440 s	378 s	–62 s

Compressor drive — **18 kW**. Current dropped on all three phases; the machine now reaches working pressure **62 s** sooner.

AFL hydraulic unit — motor current in two operating modes

MODE AND PHASE	BEFORE TREATMENT	AFTER	CHANGE
No load, phase I	26 A	18 A	–8 A
No load, phase II	23 A	18 A	–5 A
No load, phase III	25 A	20 A	–5 A
Under load, phase I	33 A	24 A	–9 A
Under load, phase II	32 A	24 A	–8 A
Under load, phase III	31 A	24 A	–7 A

Hydraulic unit drive — **13 kW**, readings taken on cold oil. Current dropped on all three phases in both modes: by **22.6-27.3 %** under load and by **20.0-30.8 %** at no load.

Protocol conclusion

The committee of Chugunoleene Invest 97 AD — the executive director, the head of the electromechanical department and the foreman — recorded in the protocol: after treatment with XADO technology, the power consumption of the UKPD 100 compressor fell by **10 %** and that of the AFL hydraulic unit by **25 %**. The current of the drive motors dropped on all three phases of both machines, and the time for the compressor to reach working pressure was cut from **440** to **378 s**. The economic section of the protocol, prepared by the company that carried out the treatment — MAY OOD — puts the saving at **4.15 BGN** per day for the compressor and **3.12 BGN** for the hydraulic unit over eight hours of continuous operation; at a treatment cost of **71.10** and **32 BGN**, it pays for itself in **17** and **10 working days** respectively. The treatment was performed while both units remained in service, from 27.09 to 17.10.2002.



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The results relate to the UKPD 100 compressor with an 18 kW drive and the AFL hydraulic unit with a 13 kW drive at the Chugunoleene Invest 97 AD site in Parvomay; figures may differ on other units and operating modes. The economic section of the protocol was prepared by MAY OOD, which performed the treatment. The original protocol with signatures and stamps is published in full and available for download.