REPORT OF THE YALTA WASTEWATER TREATMENT PLANT

TV-176/1.6 air blower: bearing play in the blower and in the motor decreased

Production Enterprise of Water Supply and Sewerage of the Southern Coast of Crimea (PPVKKh YuBK), Yalta wastewater treatment plant · approved by: Director D. E. Namyak · signed by: Deputy Director S. M. Poliyanskiy

Yalta, Ukraine · treatment 14.09.2004 · repeat measurement after 450 hours of operation

PRODUCT

XADO revitalizants

treatment of the bearing assemblies of the blower and the electric motor, performed by ChPKP Rigonda

TEST OBJECT

TV-176/1.6 air blower unit

capacity 1000 m³/h · A-113-2 drive, 320 kW · 2314 bearings in an oil bath, 3222 and 222 bearings on grease

DOCUMENT TYPE

Report of PPVKKh YuBK with signatures and the enterprise seal

EQUIPMENT	BEARING HOURS BEFORE TREATMENT	WHAT WAS MEASURED
TV-176/1.6 air blower unit, **1000 m³/h**	**7500 h** against an average service life to replacement of **8000 h** — **94 %** used up	radial play of the front and rear bearings (2314, oil bath)
A-113-2 electric motor, **320 kW**	**3500 h** against an average service life to replacement of **5000 h** — **70 %** used up	radial play of the front bearing (3222 and 222, grease)

The average bearing service life to replacement is the standard used at the Yalta wastewater treatment plant according to the enterprise data.

Key results

↓ 39-67 %

radial play of the blower bearings, 0.18-0.28 → 0.06-0.17 mm

↓ 2.7×

radial play of the electric motor bearing, 0.16 → 0.06 mm

Radial bearing play — before treatment and after 450 hours of operation

ASSEMBLY	PLAY BEFORE	PLAY AFTER 450 H	REDUCTION
TV-176/1.6 unit, front bearing	**0.28 mm**	**0.17 mm**	**0.11 mm · 39 %**
TV-176/1.6 unit, rear bearing	**0.18 mm**	**0.06 mm**	**0.12 mm · 67 %**
A-113-2 electric motor, front bearing	**0.16 mm**	**0.06 mm**	**0.10 mm · 62.5 %**

Measurements were taken before the treatment on 14.09.2004 and repeated after 450 hours of unit operation.

Report conclusion

The Production Enterprise of Water Supply and Sewerage of the Southern Coast of Crimea states: “As a result of applying XADO technology, the play in the bearing assemblies decreased by **0.1 mm** on average, which indicates the restoration of their geometric dimensions and, accordingly, an increase in service life.” The work was not done on a new assembly: the blower bearings had run **7500 hours** out of the **8000** accepted at the enterprise as the average life to replacement — the unit had come close to a scheduled bearing replacement. Over **450 hours** of operation after the treatment, the play decreased on all three bearings, both in the oil bath of the blower and on the grease-lubricated motor: the clearance was restored regardless of how the assembly is lubricated.

XADO

The results relate to the TV-176/1.6 air blower unit with the A-113-2 electric motor at the Yalta wastewater treatment plant; on other equipment and under different operating conditions the figures may differ. The original report with the signatures and seal of the enterprise is published in full and available for download.