

SCREW COMPRESSOR TREATMENT REPORT, 2019

Bell Air AED 22A compressor: electricity savings without disassembly or repair

PT Bina Megah Indowood — customer and operating company · treatment performed and report prepared by PT XADO Indonesia

Gresik, Indonesia · treatment 01.06–01.07.2019 · verification measurement after 50 h of operation

PRODUCT

XADO Gel-Revitalizant® for hydraulic equipment

full 6-stage cycle · 54 ml of gel per 20 l of system oil

TREATED UNIT

Bell Air AED 22A screw air compressor

30 hp · 22 kW drive · capacity 220 m³/h · 1,500 l receiver

DOCUMENT TYPE

Application report signed and stamped by both parties

EQUIPMENT

Bell Air AED 22A screw air compressor, 22 kW drive

CONDITION AT START OF TESTING

In service since 2013: elevated oil temperature, noise and vibration, longer air charging time due to worn parts

WHAT WAS MEASURED

Current on all three phases of the drive motor and working pressure — under load and at idle

Treatment was carried out from 01.06.2019 to 01.07.2019 per the compound manufacturer's procedure: 6 stages, 0.45 ml of gel per 1 l of the standard oil per stage, without disassembling the unit.

Key result

↓ **15-21.4 %**

drive motor current on all three phases under load, 40.84-43.9 → 34.5-34.7 A

Current of the 22 kW drive electric motor

MODE AND PHASE	BEFORE TREATMENT	AFTER 50 H OF OPERATION	CHANGE
Under load, phase I	43.9 A	34.5 A	–21.4 %
Under load, phase II	40.84 A	34.7 A	–15.0 %
Under load, phase III	41.3 A	34.5 A	–16.5 %
Idle, phase I	19.8 A	18.2 A	–8.1 %
Idle, phase II	20.3 A	18.6 A	–8.4 %
Idle, phase III	20.9 A	17.7 A	–15.3 %

The current drop was recorded on all three phases in both modes; the results section of the report states an average reduction in power consumption of **21.4 %**.

Working pressure in the system

MODE	BEFORE TREATMENT	AFTER 50 H OF OPERATION	RATED
Idle	4.9 bar	6.3 bar	7 bar
Under load	6.9 bar	6.9 bar	7 bar

Under load the compressor held pressure close to the rated **0.7 MPa** even before treatment — there was no room to rise; the gain of **1.4 bar** came in the idle mode.

Report conclusion

Before treatment the compressor ran with elevated oil temperature, noise and vibration, and the air charging time had grown because of worn parts. The full XADO revitalizant treatment cycle was performed without disassembling the machine and without stopping production; verification measurements were taken after **50 h** of operation. The report states: «A new metal-ceramic coating has been formed on the friction pairs. As a result, the improvement of the operating parameters of the Bell Air AED 22A / 30 HP / Direct Drive screw air compressor occurred after the application of XADO revitalizant compounds without conventional repair, which demonstrates the effectiveness of the XADO technology and makes it possible to extend the residual service life and operating reliability and to reduce operating costs substantially thereafter».



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The results refer to the Bell Air AED 22A screw air compressor with a 22 kW drive and were obtained after 50 h of operation following treatment; on other units and under different operating conditions the figures may differ. The treatment was performed and the report prepared by PT XADO Indonesia. The original report, signed and stamped by both parties, is published in full and available for download.