

TWO TEST REPORTS · 20.01 — 30.03.2004

FIAC and LB-30 compressors: output rose on both under working load

UNIPAK LLC, Ukraine · reports approved by chief engineer A. D. Gorelov; treatment performed by engineers of XADO LLC together with the plant's chief process engineer

Kharkiv district, Kharkiv region, Ukraine · treatment 20.01.2004 · reports dated 30.03.2004

PRODUCT

XADO technology
treatment of the cylinder-piston
group without disassembling
the compressors

TEST OBJECTS

Two piston compressors
with electric drive
FIAC AB 500-1250, inv. No. 8 ·
LB-30 SDB-4/100, inv. No. 3/58

DOCUMENT TYPE

Two UNIPAK LLC reports
signed and stamped

COMPRESSOR	HOURS BETWEEN MEASUREMENTS	WHAT WAS MEASURED	REPORT DATE
FIAC AB 500-1250, inv. No. 8	560 h	output (receiver fill time), current and power by phase, vibration	30.03.2004
LB-30 SDB-4/100, inv. No. 3/58	410 h	output (receiver fill time), current and power by phase, vibration	30.03.2004

The "after" measurements were taken following 560 and 410 hours of operation in standard duty. At the start of the tests the LB-30 compressor was practically new, with little wear.

What was repeated on both compressors

↑ 9-25.5 %

output at working load; receiver fill 256 → 204 s and 100 → 91 s

Output: fill time of the standard receiver

COMPRESSOR	PRESSURE BUILD-UP	TIME BEFORE	TIME AFTER	OUTPUT GAIN
FIAC AB 500-1250, inv. No. 8	0 → 10 kgf/cm ²	7 min 55 s	7 min 22 s	+7.5 %
FIAC AB 500-1250, inv. No. 8	6 → 10 kgf/cm ² , working load	4 min 16 s	3 min 24 s	+25.5 %
LB-30 SDB-4/100, inv. No. 3/58	0 → 10 kgf/cm ²	210 s	208 s	+1 %
LB-30 SDB-4/100, inv. No. 3/58	6 → 10 kgf/cm ² , working load	100 s	91 s	+9 %

Both reports define the working load as the pressure build-up from 6 to 10 kgf/cm². The output gain is quoted from the conclusions of the reports.

Conclusions of the UNIPAK LLC reports

The commission of UNIPAK LLC signed two reports — one on the FIAC AB 500-1250 compressor and one on the LB-30 SDB-4/100 compressor.

1. On the FIAC AB 500-1250 after 560 hours of operation: "The output of the compressor during build-up from 0 to 10 atm increased by **7.5%**, and during pressure build-up from 6 to 10 atm (which corresponds to the working load) increased by **25.5%**".
2. On the LB-30 SDB-4/100: "Considering that this compressor is practically new and has little wear, no significant increase in output under working load was noted" — the gain amounted to **1%** and **9%**.
3. Both reports name the same cause: "the clearances in the cylinder-piston group decreased significantly and the load on the pistons increased". The compressors were not disassembled.

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The results refer to the electrically driven piston compressors FIAC AB 500-1250 and LB-30 SDB-4/100 under the production conditions of UNIPAK LLC; on other units and duty cycles the figures may differ. The originals of both reports, signed and stamped, are published in full and available for download.