

REPORT ON COMPRESSOR TREATMENT WITH XADO TECHNOLOGY

PKS-3.5A compressor: less power, less oil, less vibration — no teardown

Kharkiv Distillery · approved by: chief engineer S. F. Verbitsky · signed by: chief mechanic N. N. Kaydan,
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Kharkiv, Ukraine · work carried out 23.09–25.12.2001 · repeat measurements after 276 h of operation

PRODUCT

XADO revitalizant
added with the oil during
routine top-up in normal service

TREATED UNIT

PKS-3.5A piston
compressor
plant air system, receiver
charged to 6.2 kgf/cm²

DOCUMENT TYPE

Report on measurement of
operating
parameters, signed and
stamped by the plant

EQUIPMENT**CONDITION AT START OF WORK****WHAT WAS MEASURED**

PKS-3.5A compressor

Oil consumption **0.15 l/h** — twice
the rated **0.075 l/h**

Oil pressure, receiver charging time, oil
consumption, noise, vibration, power
draw

Treatment performed without teardown and without taking the compressor out of service; repeat measurements after 276 hours of operation on oil with the revitalizant.

Key results

↓ **7.6 %**

power draw at 6.2 kgf/cm², 23.6 →
21.8 kW

↓ **20 %**

oil top-up consumption, 0.15 → 0.12
l/h

↓ **2.1×**

compressor vibration velocity, 8.2 → 3.9 mm/s

↑ **21.9 %**

operating oil pressure, 3.2 → 3.9 kgf/cm²

Compressor operating parameters before treatment and after 276 hours

PARAMETER	BEFORE TREATMENT	AFTER 276 H	CHANGE
Operating oil pressure	3.2 kgf/cm ²	3.9 kgf/cm ²	up by 21.9 %
Power draw at 6.2 kgf/cm ²	23.6 kW	21.8 kW	down by 7.6 %
Oil top-up consumption	0.15 l/h	0.12 l/h	down by 20 %
Vibration velocity	8.2 mm/s	3.9 mm/s	2.1× lower
Noise level	108.5 dBA	96 dBA	quieter by 12.5 dBA
Receiver charging time to 6.2 kgf/cm ²	10 s	9 s	faster by 1 s

Measurements taken on the fully assembled unit, charging mode up to 6.2 kgf/cm². Rated oil consumption for the PKS-3.5A is 0.075 l/h.

What the report recorded

Before treatment the compressor used twice as much oil as its rating allows — **0.15** against **0.075 l/h**. After **276 hours** of operation on oil with XADO revitalizant the plant repeated the measurements, and all six parameters improved: operating oil pressure rose from **3.2** to **3.9 kgf/cm²** — the pump holds its clearances again; oil top-up fell to **0.12 l/h**; vibration velocity dropped from **8.2** to **3.9 mm/s**, noise from **108.5** to **96 dBA**; the receiver reaches working pressure in **9** seconds instead of **10**. Power draw at the same pressure of **6.2 kgf/cm²** fell from **23.6** to **21.8 kW** — direct electricity savings on a unit running in shifts. All of this was achieved without teardown and without stopping the compressor: the product was added with the oil topped up in normal service.

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The results apply to a PKS-3.5A piston compressor under the conditions of the Kharkiv Distillery at a working pressure of 6.2 kgf/cm²; on other units and in other duty cycles the figures may differ. The original signed and stamped report is published in full and available for download.