

COMMISSION REPORT ON THE RESULTS OF COMPRESSOR TREATMENT

Reciprocating shop compressors: higher output and oil pressure — without teardown

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LLC "KASKAD", V. N. Dyudin · report approved by A. A. Zinkevich

Kursk, Russia · treatment 12.04–14.06.2003, 400 h of operation · report dated 22.07.2003

PRODUCT

Treatment with XADO
technology
compound added without
teardown, during regular
operation

TEST OBJECT

Two reciprocating
compressors
2VM-10-63/9 and VP3-20/9 ·
compressor shop of the plant

DOCUMENT TYPE

Commission report of
OJSC "Pribor"
with signatures and seal

COMPRESSOR	TREATMENT	WHAT WAS MEASURED
Reciprocating 2VM-10-63/9	400 h of operation, 12.04–14.06.2003	Receiver fill time, oil pressure, 1st- and 2nd-stage pressures, current draw
Reciprocating VP3-20/9	400 h of operation, 12.04–14.06.2003	Receiver fill time, oil pressure, current draw

The machines were neither taken out of service nor disassembled: the compound was added during the regular operation of the compressor shop.

Key results

↑ **22 %**

output of VP3-20/9, receiver fill 11 → 9
s

↑ **9.5 %**

output of 2VM-10-63/9, receiver fill 6
min 45 s → 6 min 10 s

↑ 38.5 %

oil pressure of VP3-20/9, 2.6 → 3.6
per the shop instrument

↑ 30 %

oil pressure of 2VM-10-63/9, 3 → 3.9
per the shop instrument

Compressor 2VM-10-63/9 — measurements before and after treatment

PARAMETER	BEFORE	AFTER	CHANGE
Receiver fill time	6 min 45 s	6 min 10 s	output higher by 9.5 %
Oil pressure	3	3.9	+30 %
2nd-stage pressure	8.1	8.4	+0.3
1st-stage pressure	1.8	1.6	-0.2

Measurements were taken with the standard in-line instruments of the compressor shop of OJSC "Pribor"; pressures are given on the scale of those instruments.

Compressor VP3-20/9 — measurements before and after treatment

PARAMETER	BEFORE	AFTER	CHANGE
Receiver fill time	11 s	9 s	output higher by 22 %
Oil pressure	2.6	3.6	+38.5 %
Current draw	120 A	120 A	no change

Current draw remained the same: the gain in output was obtained without any rise in power consumption.

Commission conclusion

The treatment ran for 400 h of regular compressor operation, without teardown and without taking the machines out of service. The commission of OJSC "Pribor" recorded in the report: "According to the measurement results, on compressor 2VM-10-63/9 the oil pressure rose (by over **30%**), the receiver fill time decreased (by 5-**6%**), and the current draw decreased slightly. On compressor VP3-20/9 the change of parameters likewise shows an improvement of its technical characteristics: the oil pressure rose (by over **35%**), the receiver fill time decreased (by 10-**15%**). In view of the improvement of the overall technical characteristics of the compressors and the economic benefit arising therefrom for the enterprise, the commission recommends the further use of XADO technology".



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The results relate to the reciprocating compressors 2VM-10-63/9 and VP3-20/9 of the compressor shop of OJSC "Pribor"; on other machines and operating modes the figures may differ. The original report dated 22.07.2003 with signatures and seal is published in full and available for download.