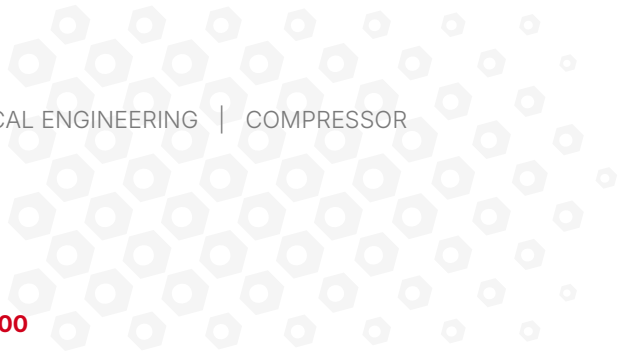




XADO RVS APPLICATION REPORT · DECEMBER 1999 — FEBRUARY 2000

Compressor 4VM10-100/8: capacity increased without dismantling the unit

JSC “Kharkiv Machine-Building Plant Svet Shakhtera” · chief engineer A. N. Kovalchuk, head of the compressor section P. V. Miller · contractor — XADO LLC
Kharkiv, Ukraine · contract No. 44/1pr dated 23.09.1999 · treatment 14–16.12.1999 · report February 2000

PRODUCT	TREATED OBJECT	DOCUMENT TYPE
XADO RVS repair-and-restoration compound · treatment without dismantling the unit	Compressor 4 VM 10-100/8 stationary No. 4 · cylinder piston group and crank mechanism	Company report with signatures and seals

EQUIPMENT	CONDITION AT START OF TESTS	WHAT WAS MEASURED
Reciprocating compressor 4 VM 10-100/8, stationary No. 4	Pressure build-up in the system from 0 to 6 kgf/cm ² took 20 min 30 s	System pressure build-up time, compressor capacity

The cylinder piston group and the crank mechanism were treated; the control measurement was taken after 440 hours of operation.

Key result

↑ **36.7 %**

compressor capacity, pressure build-up to 6 kgf/cm² 20 min 30 s → 15 min 00 s

Compressor 4 VM 10-100/8 — before treatment and after 440 hours of operation

PARAMETER	BEFORE TREATMENT	AFTER 440 h	CHANGE
System pressure build-up time from 0 to 6 kgf/cm ²	20 min 30 s	15 min 00 s	capacity +36.7 %

The measurement limits before and after treatment are identical — pressure build-up from 0 to 6 kgf/cm² on stationary compressor No. 4.

Economic section of the report

CALCULATION ITEM	PER YEAR PER COMPRESSOR
Cost of routine repair of the compressor	14 900 UAH
Cost of restoration by XADO RVS technology	4 644 UAH
Savings on repair	10 256 UAH
Electricity savings — per the calculation appended to the report	154 865 UAH
Total annual effect — per the conclusions of the report	165 360 UAH

Costs and the repair cost are input data of the calculation appended to the report; electricity savings and the total effect are given as recorded in the report, in 1999–2000 prices.

Conclusions of the report

Before treatment the compressor raised the system pressure from 0 to 6 kgf/cm² in **20 min 30 s**; after treatment of the piston group and the crank mechanism and **440 hours** of operation — in **15 minutes**. The commission of JSC "Kharkiv Machine-Building Plant Svet Shakhtera" and XADO LLC recorded in the report:

1. With savings on routine repair of more than **10000 UAH** after restoration of the 4VM10-100/8 compressor by RVS technology®, an additional economic effect of **154865 UAH** was obtained from electricity savings.
2. The total annual economic effect of implementing RVS technology® per 4VM10-100/8 compressor unit amounted to **165360 UAH**.
3. RVS technology® is a resource-saving and energy-saving technology with a very short payback period.



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The results relate to the 4 VM 10-100/8 reciprocating compressor of the compressor section at JSC KhMZ "Svet Shakhtera"; on other equipment and under other operating conditions the figures may differ. RVS is an obsolete XADO designation, zero-generation compounds; the current product generation is revitalizants. The original report is published in full and available for download.