



TECHNICAL REPORT OF 20 DECEMBER 2000

CHIRANA turbine handpiece and compressor: play gone, faster air charging

Vitadent dental office, sole proprietor V. I. Olovyatenko — customer · treatment performed by the private firm Stimul-plus, I. A. Almakaev

Kremenchuk, Poltava region, Ukraine · report signed 20.12.2000, signatures and stamps of both parties

PRODUCT	TREATED EQUIPMENT	DOCUMENT TYPE
XADO technology units treated in normal operating mode, without disassembly	CHIRANA turbine handpiece No. 9257 and CHIRANA compressor handpiece bearings · compressor piston group	Bilateral report by the customer and the contractor

EQUIPMENT	CONDITION BEFORE TREATMENT	WHAT WAS MEASURED
CHIRANA turbine handpiece No. 9257	Play in the bearings, bur runout during operation	Bearing play, bur runout during operation
CHIRANA compressor, made in Czechia	Oil passed through the piston group into the receiver; charging to 4 kgf/cm ² — 35 s	Receiver charging time, oil ingress into the receiver

Both units were treated on site, without disassembly and without taking the office out of service.

Key result

↑ **16.7 %**

compressor output: receiver charging to 4 kgf/cm², 35 → 30 s

CHIRANA compressor — before and after treatment

PARAMETER	BEFORE TREATMENT	AFTER TREATMENT
Receiver charging time to working pressure 4 kgf/cm²	35 s	30 s
Oil ingress into the receiver through the piston group	Oil entered the receiver	Significantly reduced

Both time measurements were taken at the same receiver working pressure — 4 kgf/cm².

CHIRANA turbine handpiece No. 9257

PARAMETER	BEFORE TREATMENT	AFTER TREATMENT
Play in the handpiece bearings	Present	Gone
Bur runout during operation	Present	Stopped

The handpiece was restored without disassembling the unit and without replacing the repair group.

Cost of restoring the units

UNIT	STANDARD ROUTE	WITH XADO TECHNOLOGY
CHIRANA turbine handpiece No. 9257	Replacement of the repair group made in Russia, Kazan — 96.00 UAH	40.00 UAH
CHIRANA compressor	Repair of the piston group with the equipment taken out of service	80.00 UAH

December 2000 prices as calculated by the organisation that performed the treatment; labour costs and equipment downtime are not included.

Conclusion of the report

Before treatment, the bearings of CHIRANA turbine handpiece No. **9257** had play and the bur ran out during operation; the compressor let oil through the piston group into the receiver and reached the working pressure of **4 kgf/cm²** in **35 s**. After treatment with XADO technology the play disappeared, the runout stopped, oil ingress into the receiver decreased significantly, and the receiver reaches the same pressure in **30 s**. The worn units returned to service on site: replacement of the handpiece repair group was not required. Verbatim conclusion of the report: "Repair using the 'XADO' technology is carried out in normal operating mode and requires no special equipment, premises or spare parts".

XADO

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The results refer to CHIRANA turbine handpiece No. 9257 and the CHIRANA compressor of the Vitadent dental office, Kremenchuk; on other equipment and under other operating conditions the figures may differ. The original report with signatures and stamps is published in full and available for download.