



COMMISSION REPORT · MTA COMPANY, PLOVDIV

# VERMUT grinding machine: smooth carriage feed without monthly overhauls

MTA Company, Plovdiv, Bulgaria · commission: chief mechanic Toni Tonev, operator Velichko Bazelkov,  
manager of MAY Ltd Angel Iliev

Plovdiv, Bulgaria · report dated 10.01.2004

| PRODUCT                                           | TEST OBJECT                                                                                   | DOCUMENT TYPE                                          |
|---------------------------------------------------|-----------------------------------------------------------------------------------------------|--------------------------------------------------------|
| XADO revitalizant<br>treatment by XADO technology | VERMUT internal grinding machine<br><br>hydraulic system · high-speed electric motor bearings | Company commission report<br>with signatures and stamp |

| EQUIPMENT                                                             | CONDITION BEFORE TREATMENT                                                     | WHAT WAS MONITORED                                                  |
|-----------------------------------------------------------------------|--------------------------------------------------------------------------------|---------------------------------------------------------------------|
| VERMUT internal grinding machine (Switzerland), in service since 1986 | Uneven longitudinal carriage feed, spool seizure, oil leaks, metallic knocking | Oil pressure in the hydraulic system, feed uniformity, leaks, noise |
| Machine electric motor, high-speed bearings                           | Operation with elevated noise                                                  | Noise level in operation                                            |

The hydraulic control valves had to be dismantled every month: the spool pairs seized due to wear and misalignment.

## Key result

↑ **2 bar**

oil pressure in the machine hydraulic system, 17 → 19 bar

## Hydraulic system of the machine

| PARAMETER                  | BEFORE TREATMENT                                     | AFTER TREATMENT                                |
|----------------------------|------------------------------------------------------|------------------------------------------------|
| Oil pressure               | <b>17 bar</b>                                        | <b>19 bar</b>                                  |
| Longitudinal carriage feed | Uneven, the carriage came to a stop                  | Uniform, regardless of the length of operation |
| Hydraulic control valves   | Spool seizure, dismantling <b>every month</b>        | The need for repair disappeared                |
| Oil leaks                  | Caused uneven operation and stopping of the carriage | Reduced considerably                           |
| Noise in operation         | Metallic knocking, noisy hydraulic pump              | The metallic knocking disappeared              |

The changes were recorded by the company commission: the chief mechanic, the machine operator and the representative of the contractor.

## Second treated unit — electric motor bearings

| PARAMETER                         | BEFORE TREATMENT                          | AFTER TREATMENT        |
|-----------------------------------|-------------------------------------------|------------------------|
| Noise level of the electric motor | Elevated noise of the high-speed bearings | Decreased considerably |

The electric motor bearings were treated by the same XADO technology as the machine hydraulic system.

# Commission conclusion

The company commission recorded in the report: the hydraulic system of the machine was treated with XADO revitalizant, **the oil pressure increased by 2 bar**, and the carriage movement became uniform, regardless of the length of operation. Oil leaks were reduced considerably and the need to repair the hydraulic control valve disappeared. The metallic knocking during machine operation disappeared. The high-speed bearings of the electric motor, whose operation was accompanied by elevated noise, were also treated by XADO technology; after the treatment the noise level of the electric motor decreased considerably. By the time of treatment the machine had worked in the shop for eighteen years: the carriage feed drifted, the spool seized due to wear and misalignment, and the hydraulic control valves were opened up every month.



© XADO. All rights reserved.

The results apply to the VERMUT internal grinding machine and its hydraulic system under the conditions of MTA Company, Plovdiv; on other equipment and in other operating modes the figures may differ. The original report dated 10.01.2004 with signatures and stamp is published in full and available for download.