

ECONOMIC EFFECT CALCULATION, 25.12.2000

Press hydraulics: NAR 224/32 pumps back in service without replacement

MMK im. Ilyicha OJSC, press equipment shop · signed by: head of the press equipment shop V. A. Tkachev, shop mechanic V. A. Borodin, head of the planning bureau of the Chief Mechanic's Department B. F. Shuvalov

Mariupol, Ukraine · bench tests at the press equipment shop from 25.12.2000 · running tests on press DO-242 No. 2 on 10.01.2001

PRODUCT

XADO RVS
XADO repair-and-restoration
compounds — generation zero
of the technology

TREATED EQUIPMENT

Press shop hydraulic
equipment
high-pressure pumps NAR
224/32 · directional control
valve 1VE10.574 AV110

DOCUMENT TYPE

Economic effect
calculation
signed by officials of the
press shop and the Chief
Mechanic's Department

EQUIPMENT**CONDITION AT THE START OF TESTS****WHAT WAS ASSESSED**

High-pressure pump
NAR 224/32 · **3 units**

Residual working pressure **12 MPa**
(unstable) and **3 MPa**

Working pressure on the test bench,
fitness for further service

Directional control valve
1VE10.574 AV110 · **1 unit**

Leaks past the piston: the pump does
not reach rated pressure

Pressure developed by the pump,
fitness for further service

Tests on a bench built by the press equipment shop; the hydraulic equipment runs on IGP-30 oil under standard operating conditions.

Key results

↓ **2.23×**

cost of returning a NAR 224/32 pump to service, 6030
→ 2700 UAH

280 UAH

hydraulic booster 1VE10.574V110 was beyond repair —
no purchase of a new unit was needed

Condition of the hydraulic equipment before and after treatment

UNIT	BEFORE TREATMENT	AFTER TREATMENT
Pumps NAR 224/32, 3 units	Residual working pressure 12 MPa (unstable) and 3 MPa	Rated parameters, fully fit for further service
Directional control valve 1VE10.574 AV110	Leaks past the piston — the pump did not reach rated pressure	Rated parameters, fully fit for further service

The post-treatment assessment is based on running tests of the restored equipment on press DO-242 No. 2, **10.01.2001**.

Cost of restoration versus factory repair and replacement

UNIT	FACTORY REPAIR OR REPLACEMENT	RESTORATION WITH XADO RVS	SAVINGS
Pump NAR 224/32, 1 unit	6030 UAH — repair at the Kharkiv Hydraulic Drives Plant	2700 UAH	3330 UAH
Hydraulic booster 1VE10.574V110	280 UAH — the unit is beyond repair and must be replaced	restored together with the hydraulic equipment	280 UAH

Prices are given in hryvnia as of the date of the document, **2000–2001**.

Conclusion of the plant commission

The commission of MMK im. Ilyicha OJSC recorded that as of **10.01.2001** the hydraulic equipment had been restored and had passed running tests on press DO-242 No. 2 — "the said equipment has rated parameters and is fully fit for further service". Three pumps were returned to service, on which wear had brought residual working pressure down to **3 MPa** and **12 MPa**, together with a hydraulic booster that by factory practice was beyond repair and had to be replaced. According to the commission's calculation, repair of one NAR 224/32 pump at the Kharkiv Hydraulic Drives Plant costs **6030 UAH**, while restoration with XADO repair-and-restoration compounds costs **2700 UAH**: savings of **3330 UAH** per pump, meaning that factory repair is **2.23×** more expensive. Savings on the hydraulic booster amount to **280 UAH**.



© XADO. All rights reserved.

The results relate to press shop hydraulic equipment — high-pressure pumps NAR 224/32 and directional control valve 1VE10.574 AV110 running on IGP-30 oil; on other units and under other operating conditions the figures may differ. Costs are given at 2000–2001 prices; the economic effect calculation was signed, among others, by a representative of the organisation that carried out the treatment. RVS is an obsolete XADO designation for generation zero compounds; the current generation of products are revitalizants. The original document is published in full and available for download.