

ZKMK

**«WEST KAZAKHSTAN MACHINE
BUILDING COMPANY» JSC**

- THERMAL ENGINEERING EQUIPMENT
- PRESSURE VESSELS
- ELECTRODE DEHYDRATORS
- SERVICE MAINTENANCE AND MAJOR REPAIRS
OF GAS TURBINE UNITS (GTU) AND GAS PUMPING UNITS (GPU)
- WATER HEATING INSTALLATIONS
- OIL AND GAS SEPARATORS
- HEAT EXCHANGE EQUIPMENT



ABOUT THE COMPANY



JSC "West Kazakhstan Machine Building Company" (ZKMK) is a high-tech, modern manufacturing complex that includes the following facilities: forging, stamping, mechanical processing, welding and assembly, tool production, and a testing center for quality control of materials and finished products.

The company provides a full cycle of order fulfillment, including design development of equipment, manufacturing, delivery, installation, and commissioning services.

The plant is one of the leading enterprises in the Republic of Kazakhstan for the development and production of high-tech equipment:

- For oil and gas extraction and preparation;
- For oil and gas transportation;
- Energy equipment;
- Complex metal structures;
- Construction fittings;
- Other machine engineering products.

Service Maintenance and Major Repairs of Gas Turbine Units (GTU).

The range of services includes repairs of:

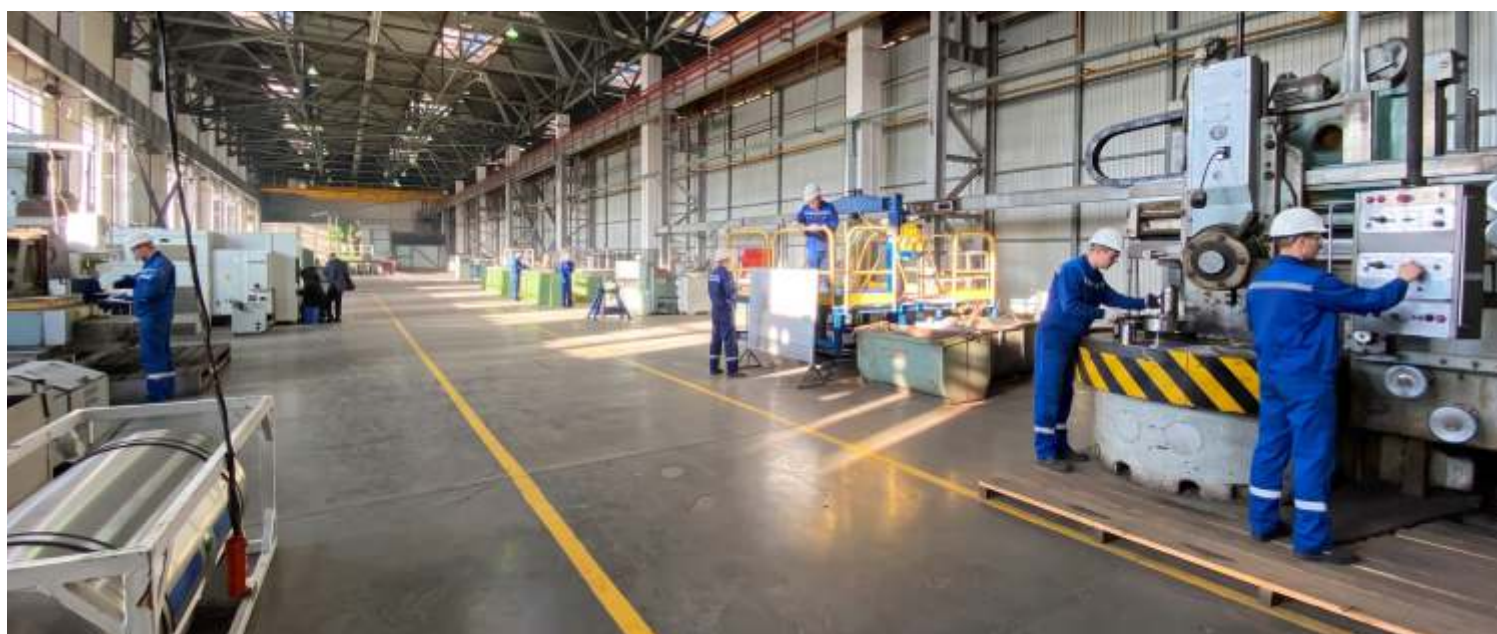
- Rotors (complete)
- Blades
- Combustion chamber components
- Casings
- Fuel injectors
- Hot path components
- Compressor rotors
- Inlet guide vanes
- Stators, shafts, turbine disks



The company holds the following state licenses:

- State license for the design, manufacture, installation, and repair of control equipment, emergency protection systems, and signaling, as well as pressure vessels and pipelines.
- State license for the design, manufacture, installation, and repair of drilling oil and gas production equipment and energy equipment.
- State license for architectural, urban planning, and construction activities.

Since 2011, JSC "ZKMK" has been the only official service center in the Republic of Kazakhstan and Central Asia certified by Baker Hughes (formerly General Electric).



The Testing Center of the "West Kazakhstan Machine Engineering Company" is accredited by the Committee for Technical Regulation and Metrology of the Ministry of Industry and New Technologies of the Republic of Kazakhstan, in accordance with ISO/IEC 17025-8007: "General requirements for the competence of testing and calibration laboratories" (Certificate of Accreditation KZ.I.09.0071 from January 23, 2012).



THERMAL ENGINEERING EQUIPMENT



JSC "ZKMK" designed and manufactured the PPN-10 oil pre-heating furnace with a capacity of 600 tons per hour. A unique feature of the furnace is the electronic control of gas supply, which has reduced gas consumption. The plant has the capacity to produce 4 furnaces per year.

Heat capacity: Gcal/h	8
Capacity: t/h	600
Inlet/Outlet temperature: °C	+25 / +60
Gas consumption: m³/h	≤ 1 000
Weight: kg.	125 900
Dimensions: LxWxH m.	16,5 • 7,5 • 22
Efficiency: %	85



JSC "ZMKM" manufactures oil preheaters of various capacities and productivity for oil and gas extraction enterprises in the Republic of Kazakhstan, providing installation, commissioning, and staff training services.

OIL PREHEATERS MANUFACTURED

Name	Type	Power (Gcal/h)
UN-0,2MA	Wellhead heater	0,2
PP-0,63A	Track heater	0,63
PT-1,5	Tube furnace	1,5
PP-1,6A	Track heater	1,6
PT-16/150M	Tube heater	1,7
PT-2,5	Tube furnace	2,5
PNE-2,7	Tube furnace	2,7
PT-3,5	Tube furnace	3,5
PTB-10A	Modular tube furnace	10
PTB-10E	Modular tube furnace	10
PPN-10	Direct-fired furnace	10

Since 2003, more than 440 units of thermal engineering equipment have been produced.



PRESSURE VESSELS

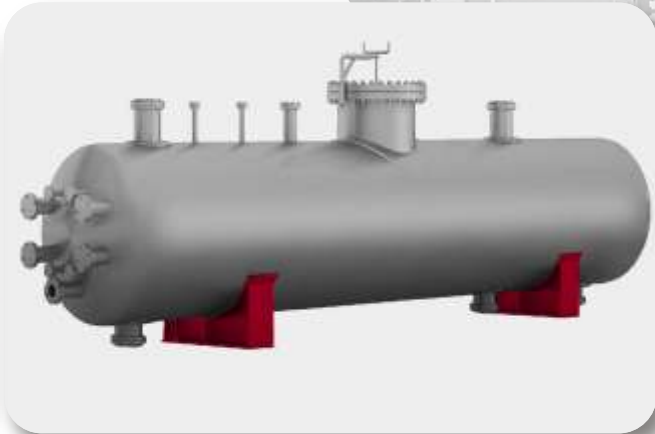
Since 2003, JSC "ZMK" has been manufacturing pressure vessels widely used in the oil and gas industry for storing, cleaning, and transporting oil and gas.



ELECTRODE DEHYDRATORS AND SEPARATORS

An electrode dehydrator is a device for separating water from crude oil by breaking an inverse type oil-water emulsion in an electric field.

GAS SEPARATORS



JSC "ZKMK" manufactures gas separators for extracting and storing natural gas at oil and gas production, processing, and chemical enterprises. Separators perform the function of pre-cleaning natural or associated petroleum gas from mechanical impurities, condensate, oil, and water droplets before further processing or transportation through main pipelines. They are also part of gas and oil preparation units, gas cleaning devices, and water discharge systems.

Capacity, t/h	10200-16500	12800-29400	19500-66100	23300-115000	54200-150800
Volume: m³	0,8	1,6	4,0	8,0	16,0
Internal diameter of the equipment, mm.	600	800	1200	1600	2000

GAS SEPARATORS



Efficiency						
- Capacity (liquid): m³/h	20-100	45-225	86-430	160-800	300-1500	450-2250
- Capacity (gas): th. Nm³/h	21-75	13-55	23-62	83-220	124-330	165-440
Volume: m³	6,3	12,5	25	50	100	200

Since 2003, more than 460 units of pressure vessel equipment have been produced.

GAS TURBINE POWER STATION

54
megawatt



Installed electrical power	54 MW
Volume of electricity generated last year	370 000 kW
Volume of heat energy generated last year more than	70 000 Gcal

The Ural Gas Turbine Power Station (UGTPS) was constructed and commissioned in April 2011. This is one of the significant projects in the innovative-industrial development of the Republic of Kazakhstan. Its main task is to provide electrical and thermal energy to the population and enterprises.

The UGTPS supplies electricity to the West Kazakhstan region, reducing the amount of electricity imported from Russia. For electricity consumers, it has also contributed to reducing energy costs. UGTPS is a strategically important infrastructure project. Currently, the station produces a fifth of the electricity in the region and supplies heat to new residential areas of the city. The equipment at the plant is sourced from major global brands and meets international quality standards. Consequently, the fuel used in the plant is fully combusted, and there are no emissions into the atmosphere.

Electricity is supplied by three major gas turbine units, and heat is supplied by three waste-heat recovery boilers. These recover heat from the exhaust gases of the gas turbines.

SERVICE MAINTENANCE OF GAS PUMPING UNITS

SERVICE AND MAJOR REPAIRS GPU AND GTU

In 2011, the Baker Hughes service center was established at the production facilities of "West Kazakhstan Machine Engineering Company," authorized to provide service maintenance and repair of gas turbines in Kazakhstan and Central Asia, significantly reducing repair costs without exporting turbines outside of Kazakhstan.

The company has mastered and certified the repair technology for gas turbine units produced by Baker Hughes and conducted personnel training at companies in Italy and the USA.

As part of the Baker Hughes service center project, JSC "ZKMK" designed and manufactured over 260 units of various devices and tools, purchased equipment, and reconstructed production facilities at a cost of around 10 million dollars.



SERVICE MAINTENANCE OF GAS PUMPING UNITS (GPU)

2010: Complex overhaul of GTU blocks GTK-10-4, GT-750-6
2010: Major overhaul of GPU-10I (1 unit)
2010: Major overhaul of GPU-10-01 (2 units)
2011: Major overhaul of GPU-10-01 (2 units)
2012: Major overhaul of GTK-10I (1 unit)
2013: Overhaul of AL31F engines (2 units)
2014: Major overhaul of GPU-10-01 (2 units)
2015: Major overhaul of GPU-10-01 (1 unit)
2016: Repair of MAN TURBO burner tubes
2016-2019: Major overhaul of Frame 5 (BHGE) (1 unit)

SERVICED GAS PUMPING STATIONS AGGREGATES

■ Frame 3
■ Frame 5
■ Frame 5/2

■ Frame 6
■ PGT 20
■ PGT 25+

■ Ge10
■ GTK-10-4 (RU)
■ T-750/6 (CH)

■ GPA-10-01 (UA)

PRODUCTION EQUIPMENT

VACUUM FURNACE TAV



AUTOMATIC LONGITUDINAL
TURNING MACHINE



GAS-THERMAL COATING
APPLICATION COMPLEX
(SULZER METCO)



BALANCING MACHINE
HM50U



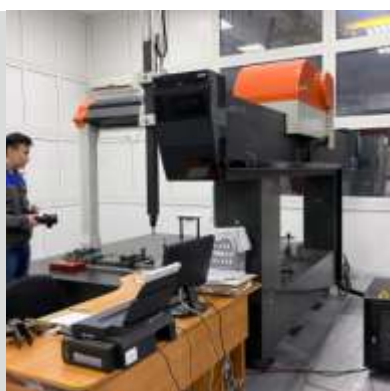
FOUNDRY SECTION



VERTICAL CNC MILLING CENTER



COORDINATE MEASURING
MACHINE



GALVANIC SECTION



LIQUID HIGH-SPEED
TESTING STAND



QUALITY CONTROL SYSTEM

THE QUALITY CONTROL SYSTEM INCLUDES THE FOLLOWING DEPARTMENTS:

- Technical Control Department
- Non-Destructive Testing Department
- Accredited Testing Center
- Quality Management System Department



THE CENTER CONDUCTS TESTING IN THE FOLLOWING AREAS:

- Non-destructive testing
- Chemical laboratory
- Mechanical laboratory
- Linear-angular measurements

CERTIFICATE ISO 9001

The high quality of our products is ensured by a certified quality management system.



PPN-10

OIL HEATING FURNACE
MANUFACTURED AT ZKMK JSC
COMMISSIONED BY KAZTRANSOIL JSC

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