NOVGOROD PRODUCTION COMPANY

// From Our Team to You

General Director of NPC
Abramovich Natalia Yurievna

Dear Partners,

We are pleased to welcome you on behalf of Novgorod Production Company (OOO NPC (LLC). Established in 2014, NPC is now a modern, fully integrated Russian manufacturing enterprise.

Our company's success is built on a team of like-minded professionals, corporate knowledge enriched through new projects, proven technologies, design developments, and a powerful production base, continuously updated with state-of-the-art equipment.

We are proud that our products are used in various industries:

- Housing Construction
- Aviation
- Shipbuilding
- Mechanical Engineering
- Heat Supply
- EnergyNuclear
- Industry
- Oil Industry

Our certified laboratory conducts comprehensive research and testing aimed at improving the quality and performance of finished products, enhancing energy efficiency in utility infrastructure, and implementing energy-saving technologies and materials.

Our key principles in working with both new and long-term partners are mutual respect, trust, and maintaining our business reputation. Our high level of professionalism enables us to help clients solve complex tasks in compensating for various pipeline deformations, ensuring the reliable operation of vital systems.

We would be genuinely delighted to count you among our regular partners!

// Production Facilities

Nowadays, OOO NPC (LLC) operates two modern production sites located in the cities of Veliky Novgorod and Saint Petersburg.

The total production area exceeds 10,000 m². Each workshop is equipped with leading-edge machinery, allowing us to manufacture over 20,000 product items for enterprises in the heat and power, oil and gas chemical, nuclear, shipbuilding, and aviation industries.

// Production Cycle

Incoming inspection | Cutting sheets for shells | Rolling of shells

Assembling shells into stacks | Automatic welding of shells | Weld seam inspection

// Production Facilities

Setting up for forming | Setting bellows parameters | Automatic bellows forming

Bellows rolling | In-shop transportation | Flanging bellows edges

// Production Facilities

Welding shell stacks | Welding nozzles | Leak detection

Strength testing | Cyclic durability testing | Vacuum testing

// Testing Laboratory

OOO NPC (LLC) has its own testing laboratory, which conducts non-destructive testing, destructive testing, and research in accordance with current standards.
Quality control is carried out by certified specialists in compliance with the Federal Law "On Industrial Safety of Hazardous Production Facilities," following all necessary metrology standards and laboratory requirements.

Types of non-destructive testing:

1. Penetrant testing:
   - Capillary testing
   - Leak detection (tightness testing)
2. Thermal testing
3. Acoustic testing:
   - Ultrasonic flaw detection
   - Ultrasonic thickness measurement
   - Acoustic emission
4. Visual and dimensional inspection

Types of tests conducted:

1. Strength tests with hydraulic pressure
2. Cyclic durability tests (life tests)
3. Axial stiffness determination
4. Heat resistance testing
5. Testing of thermal insulation materials:
   - Density
   - Strength
   - Water absorption
   - Thermal conductivity determination

// Testing Laboratory

Impact resistance, shock resistance, vibration resistance, vibration stability, and seismic resistance tests are carried out in accordance with the standards for armaments and military equipment, as well as international regulations and requirements.

100% of the bellows expansion joints undergo acceptance testing for heat resistance, strength, and tightness on a special test bench.

// Fields of Application

Utility networks

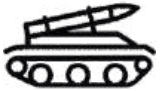
Heating networks and steam pipelines

Nuclear power plants (NPPs)

Aircraft manufacturing

Shipbuilding

Oil, gas, and chemical industry

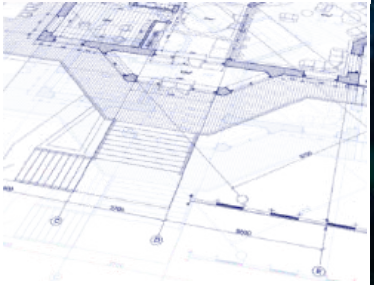


Defense industry

Mechanical engineering

Power generation

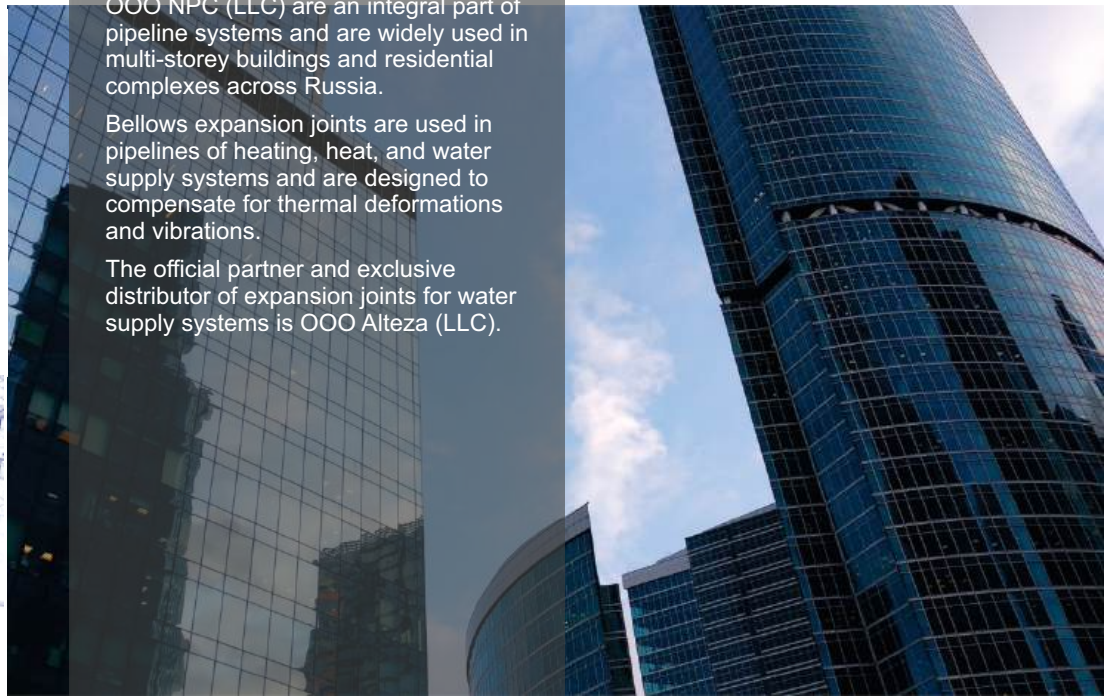
// Utility Networks



Bellows expansion joints produced by OOO NPC (LLC) are an integral part of pipeline systems and are widely used in multi-storey buildings and residential complexes across Russia.

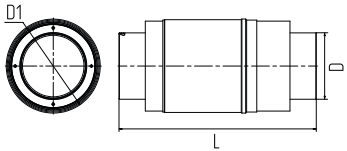
Bellows expansion joints are used in pipelines of heating, heat, and water supply systems and are designed to compensate for thermal deformations and vibrations.

The official partner and exclusive distributor of expansion joints for water supply systems is OOO Alteza (LLC).



Our clients: ПИК · MR GROUP · самолет · ЛСР · МИЦ · GG ГРАНЕЛЬ

// Heating Networks



The total length of heating networks across the regions of the Russian Federation, calculated on a double-pipe basis, is approximately 183.3 thousand kilometers.

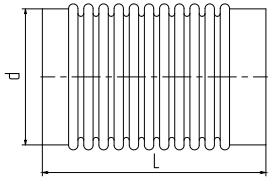
Around 100 million people (70% of the total population) and 82% of residential buildings are connected to the central heating system.

The use of bellows expansion joints in pipelines is essential for accommodating pipe movement caused by thermal expansion, as well as ground settlement or support displacement, and for damping vibrations generated by pumping equipment.

Thus, bellows expansion joints extend the service life and enhance the reliability of pipeline systems.

Our clients:

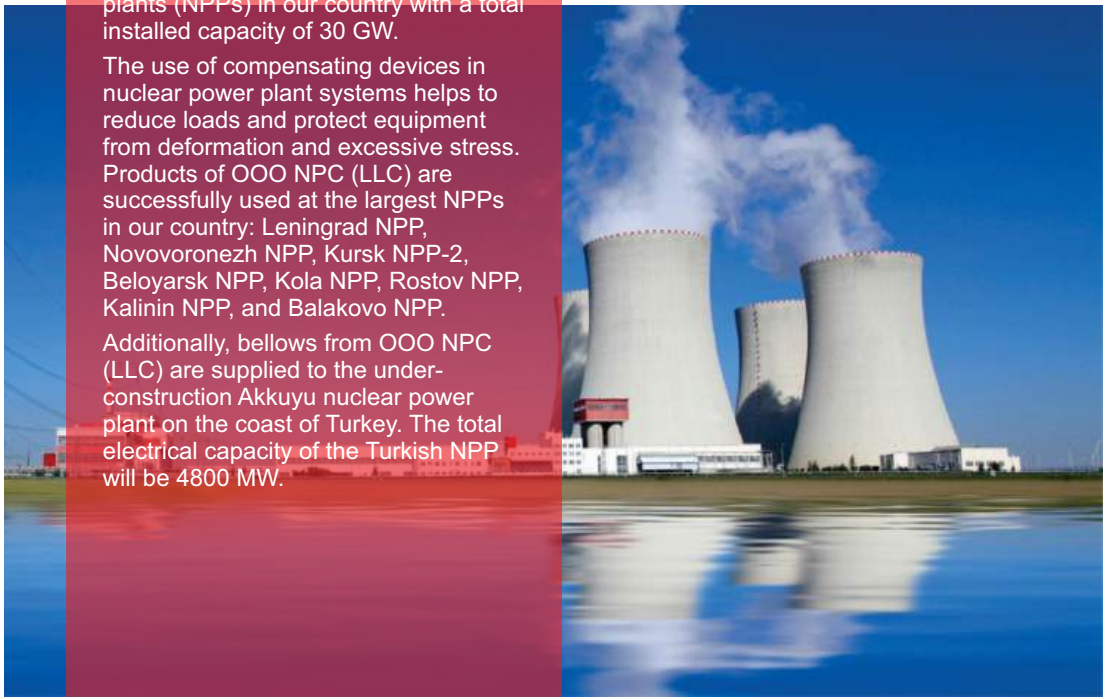
// Nuclear Power Plants



There are 11 operating nuclear power plants (NPPs) in our country with a total installed capacity of 30 GW.

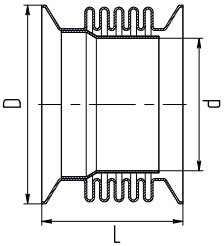
The use of compensating devices in nuclear power plant systems helps to reduce loads and protect equipment from deformation and excessive stress. Products of OOO NPC (LLC) are successfully used at the largest NPPs in our country: Leningrad NPP, Novovoronezh NPP, Kursk NPP-2, Beloyarsk NPP, Kola NPP, Rostov NPP, Kalinin NPP, and Balakovo NPP.

Additionally, bellows from OOO NPC (LLC) are supplied to the under-construction Akkuyu nuclear power plant on the coast of Turkey. The total electrical capacity of the Turkish NPP will be 4800 MW.



Our clients:

// Aviation



Bellows compensators manufactured by OOO NPC (LLC) are supplied for the MC-21 aircraft — the future flagship of Russian Civil Aviation.

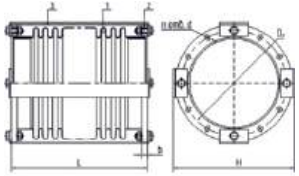
In aviation technology, bellows compensators are used in various aircraft engine systems, including air conditioning systems and pipelines that ensure the operation of anti-icing systems.

Multilayer metal bellows are designed to operate at temperatures from -250 to +500°C with relative humidity up to 100%.

Our clients:

ТЕХНОДИНАМИКА

// Shipbuilding



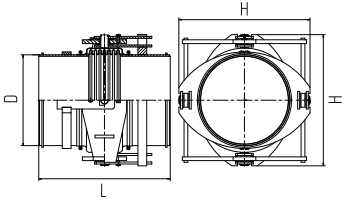
OOO NPC (LLC) is certified by the Maritime Register of Shipping and specializes in the development and manufacturing of ship bellows compensators, which are used in ship automated diesel generators of the ADG, RDG series, in exhaust gas systems of ship incinerators, and in life-support waste combustion systems.

The products of OOO NPC (LLC) have been successfully installed on a number of domestic vessels, including the nuclear icebreakers of project 22220, as well as auxiliary vessels of the Russian Navy.

The company's clients include such Russia's leading shipyards as Baltic Shipyard, Krasnoye Sormovo Shipyard, Almaz Shipbuilding Company, Onega Shipyard and many others.

Our clients:

// Oil and Gas Chemical Industry



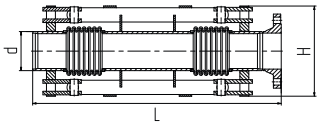
All major operations at oil terminals involve the use of technological pipelines – transferring oil from one mode of transport to another, receiving oil from railway tank cars, tanker vessels, and from main and distribution pipelines.

A properly selected compensator design, load calculations, and high-quality materials enhance the reliability of the entire communication line and help reduce losses of the pumped product.

OOO NPC (LLC) is included in the unified register of Fuel and Energy Complex enterprises of the Russian Federation.

Our clients: СИБУР, ЛУКОЙЛ, РОСНЕФТЬ, Газпром, Транснефть

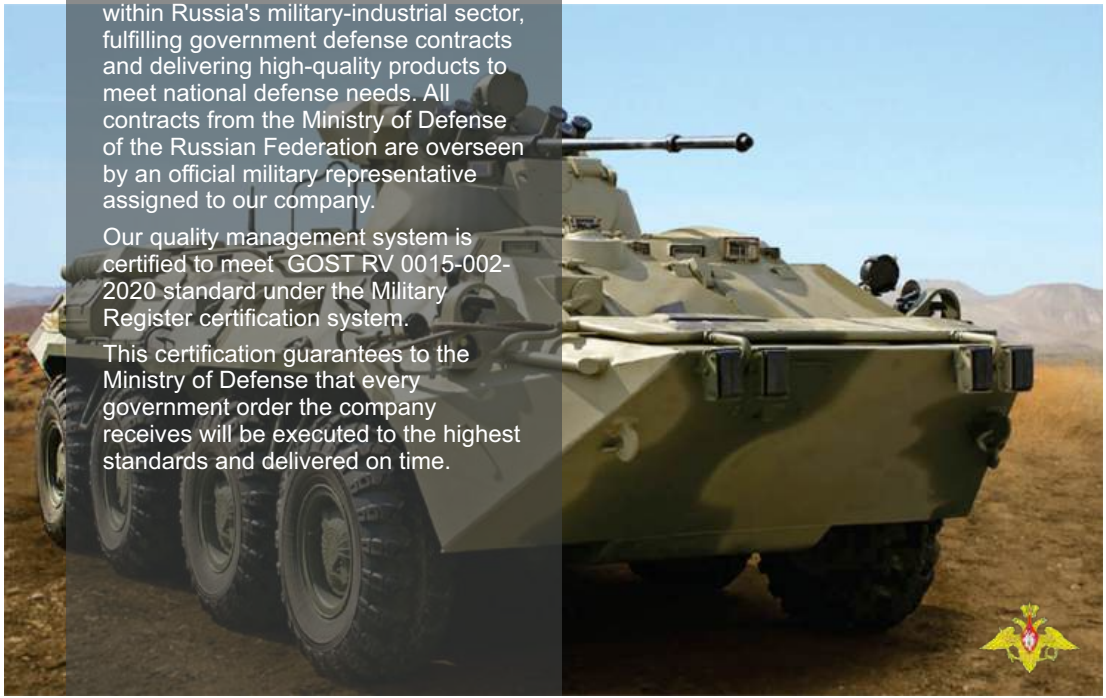
// Defense Industry Complex



OOO NPC (LLC) is a trusted supplier within Russia's military-industrial sector, fulfilling government defense contracts and delivering high-quality products to meet national defense needs. All contracts from the Ministry of Defense of the Russian Federation are overseen by an official military representative assigned to our company.

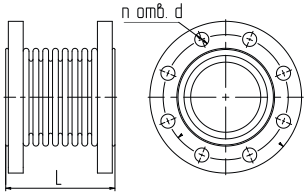
Our quality management system is certified to meet GOST RV 0015-002-2020 standard under the Military Register certification system.

This certification guarantees to the Ministry of Defense that every government order the company receives will be executed to the highest standards and delivered on time.



OOO NPC (LLC) is included in the military-industrial complex register

// Mechanical Engineering

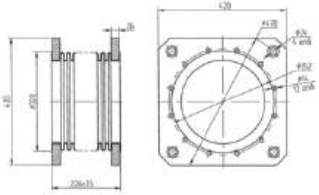


Exhaust system compensators (ESCs) are widely used in mechanical engineering.

They are installed along the exhaust lines to absorb deformation caused by temperature fluctuations and to reduce various vibrations. This significantly extends the service life of both the entire exhaust system and the engine as a whole.

Our clients:

// Power Industry



One of the key areas of activity for OOO NPC (LLC) is the production of bellows expansion joints (compensators) for manufacturers of high-voltage equipment, specifically for gas-insulated switchgear (GIS).

OOO NPC (LLC) has experience in manufacturing bellows compensators designed for use in systems with various media, including sulfur hexafluoride (SF_6).

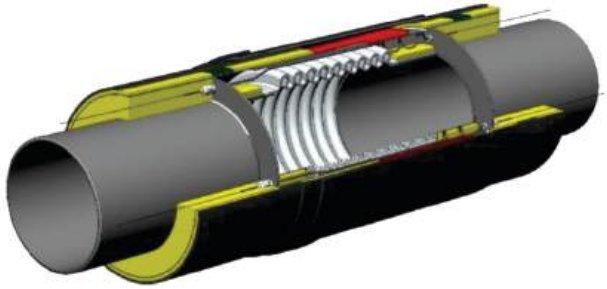
Our clients:

// Custom Orders

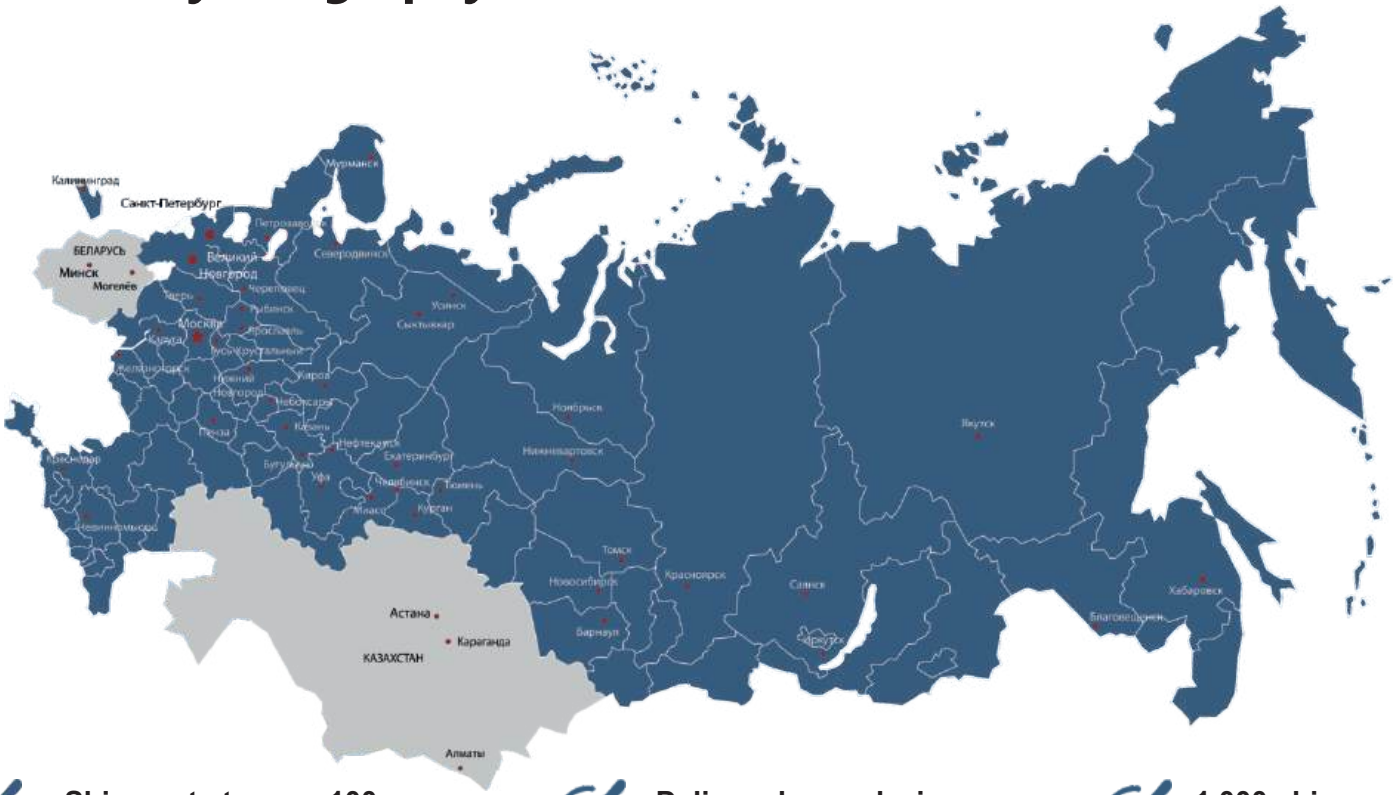
Our Design and Technology Department, in collaboration with the Testing Laboratory, carries out experimental design and research work to develop bellows compensators tailored to the individual requirements of our customers. We are equipped to address specific challenges encountered across various industries.

Our technical capabilities, combined with years of experience and the use of modern design methods, allow us to:

- Develop functional compensator designs at the 3D modeling stage;
- Identify potential problem areas during the design phase;
- Perform strength calculations to pinpoint areas requiring additional reinforcement;
- Prepare detailed design documentation for subsequent production.



// Delivery Geography



Shipments to over 100 cities across Russia and CIS countries

Delivery by road, air, and rail transport

1,000 shipments per year

// Licenses and Certificates

// For reference notes

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