

TECHNICAL REQUIREMENTS

for marketing research for supply of gas blowers for the special gas purification system of Kozloduy NPP

1. Description of the supply

1.1. Description of the equipment or materials manufactured and supplied

Manufacturing and supply of 8 gas blowers to be installed in the gas purification systems of a nuclear power plant.

2. Basic technical characteristics of the equipment

2.1. Equipment classification

- Safety class – **3-H** according to General provisions for the safety of nuclear power plants (Общие положения обеспечения безопасности атомных станций), **НП-001-15**;
- Seismic category – **2** as per Seismic Design and Qualification for Nuclear Power Plants. Safety Guide № NS-G-1.6, IAEA, Vienna 2003, and Нормы проектирования сейсмостойких атомных станций (Design Norms for Earthquake-proof Nuclear Power Plants) НП-031-01, 2002
- Quality class – **C** compliant with group **C** according to „Правила устройства и безопасной эксплуатации оборудования и трубопроводов атомных энергетических установок” (Rules for arrangement and safe operation of equipment and pipelines of nuclear installations) НП-089-15.

Comment: The use of other regulatory documents in the nuclear energy field is acceptable.

2.2. Physical and dimensional characteristics

- Capacity – $5 \div 10 \text{ nm}^3/\text{h}$;
- Pressure drop – 50 kPa;
- Pressure increase level – 1,5;
- Heating of the gas during compression – to 50°C;
- Gas temperature at the suction side – from -30°C to + 50°C;
- The process chamber shall be air tight or air tightness shall be ensured by supply of nitrogen with pressure exceeding the working pressure of the gas blower;
- Transported medium: Explosion proof radioactive gases not containing moisture and mechanical impurities;
- The exhaust gases shall not contain oil and oil vapor;
- Environmental parameters:

temperature – from 15°C to 50°C;

pressure – to 1,0 kgf/cm²;

humidity - ≤ 90 %

2.3. Material properties

Body material – stainless steel.

Rotors material – stainless steel.

2.4. Requirements to the shelf-life and service life

Warranty period – 36 months, service life – 30 years.

3. Documents required upon delivery

3.1. Datasheet for each gas blower.

3.2. Records/ Certificates from factory tests.

3.3. Installation guide.

3.4. Operating procedure with a guide for maintenance, repair, and storage.

3.5. Drawings – general and detailed drawings;

3.4. Certificates for used materials;

3.7. Specification of spare parts, additional elements, devices and materials;

3.8. Certificates/ Declaration/Certificate of conformity of supplied equipment with the requirements of the Regulations on the significant requirements.