"APPROVE"
Chief Mechanical Engineer
of "SGCC", LLC
_____ X. Allayorov
"19" _____ 2022.

UNG
Shurtan GKM

"O'zbekneftgaz" AJ
"Shurtan gaz kimyo majmuasi" MCHJ
MTRB xizmati
RO'YXATGA OLINDI
074/001-2039-1
2022 yil "19" январь

TECHNICAL ASSIGNMENT

for purchasing of pneumatic actuated ball valves
for regeneration of pyrolysis gas of FF-1201A/B dryers
for the needs of "Shurtan GCC" LLC.

"SGCC", LLC - 2022

GENERAL INFORMATION

1.1 Name and characteristics

Pneumatic actuated ball valves with flanged connection. Size 6"x4" ANSI 300 class.

1.2 Basis and purpose of purchasing of the goods

Basis: Annual application for 2022.

Purpose: To restore operability and ensure further reliable operation of FF-1201A/B dryers (according to the inspection and rejection report of the main part of the ball valves).

1.3 Novelty Information (Production/manufacture tear of the goods)

The delivered goods shall be new, manufactured not earlier than 2020 (which was not in use, not restored, which did not have consumer properties restored).

1.4 Development/fabrication steps

1.4.1. Ball valves with pneumatic actuators are designed and manufactured in accordance with the manufacturer's design documentation taking into account the Customer's technical requirements specified in section 1.1. and 4.1. of the present TA.

1.4.2. Only high quality materials previously agreed with the Customer shall be used in the manufacture of pneumatic actuated ball valves. The use of materials from secondary raw materials is not allowed.

1.5 Documents for Development/Fabrication

The proposed ball valves shall be pre-approved with the Customer by providing:

- structural drawing of ball valves, including the drives drawing;
- materials of manufacturing of the ball valves.

2. SCOPE OF APPLICATION

Ball valves are designed to carry out the process of regeneration of dryers, in which a semi-automatic control system of operation sequence is installed. This system controls the pneumatic actuator, shutoff valve, automatic release and pressure increase.

3. OPERATING CONDITIONS

3.1 General operating conditions

The operation mode of the ball valves is continuous. The Pyrolysis gas preparation unit stops for repair 1 times a year for 15 days. Ball valves are installed on an open area with an ambient temperature of -20 + 60 ° C.

4. TECHNICAL REQUIREMENTS

4.1 Basic Technical Requirements

Technical characteristics of existing ball valves.

Unit operation mode: Continuous-round-the-clock
Control: Remote
Medium: Regeneration gas Methane (HotReg. Gas)
Working pressure of pyrolysis gas: 3560 kPa (g);
Working temperature of pyrolysis gas: 16 °C
Working temperature of regeneration gas: 250 °C max
Regeneration gas operating pressure: 380 kPa(g);
Mechanical particles in the working environment: Zeolite dust, yellow oi
Nominal diameter in inches: size 6" x 4" as per ASME
Rated pressure: ASME Class 300
General design requirements: API 600
Face to face: AISI B16.10
Type of connection to: ASME B16.5 pipeline.

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Raised face:	RF
Housing:	Collapsible
Flow direction:	Bilateral
Strength and tightness test:	API 598 API 6D.
Leakage class:	"C"
Housing material:	ASTM A105 316 Inlay
Wet end protection:	Stainless steel 316 Inlay
Drive type:	Pneumatic
Limit switch: position indicator.	Solenoid valve with indication of OPENED/CLOSED
Solenoid power supply:	220 VAC/50 Hz
Safety Actions:	Fail Closed
Modulation:	On/Off
Explosion protection:	EExid IIC T6
Degree of protection:	IP IP 67
Drive flange According:	to ISO 5211
Air pressure Pmax:	8 bar
No manual override	

4.2.1. The ball valve design shall comply with all technical requirements of this TA.

4.2.2. The ball valve design with split housing shall consist of a floating ball and two independent seats.

4.2.3. The ball and seats shall have a special protective coating with high adhesion and hardness indexes. Provide with the material and protective coating specification.

4.2.4. Ball and seat fabrication materials shall provide with the same coefficient of thermal expansion.

4.2.5. The ball and seats shall be reseated against each other throughout the work area. The rear seat must be grinded in to the housing. Grinding in are performed until sealing interaction is achieved. Provide with the method description.

4.2.6. The design of the working elements shall provide cleaning of the ball and seats along the entire working surface. Provide with a method description.

4.2.7. The ball valve design shall have 2 blocks of uniform dynamic load of the shutoff elements, to ensure constant contact of the valve plug and seals, to compensate for thermal expansion of the working elements and to ensure tightness of the valve.

4.2.8. The stem must have an anti-knock-out structure and a special seal using metal sliding rings.

4.2.9. The gland chamber shall have a system of dynamic load due to thermal or lateral deformation of the gland packing.

Not allowed:

4.2.10. Ball valve design with trunnion;

4.2.11. Ball valve design with steam blowing (in cases where blowing is not required);

4.2.12. Use of bellows and spiral-wound springs of seat support;

4.2.13. Use of soft deformable seals between housing and seats, seats and ball;

4.2.14. Use of integrated seats that are part of the crane body.

4.2.15. Use of protective coatings with hardness below 64 HRC.

The following documents shall be presented by the Supplier in the technical and commercial proposal:

• Copy of dealer certificate (supplier must be a manufacturer or an official dealer of the manufacturing plant).

• The manufacturer certificates.

• The document where indicated the warranty obligations performance terms.

• Structural drawing of cranes, on which the blocks are provided and shown in accordance with the technical requirements of section 4.1. and 4.2.

• The quality guarantee for the goods in accordance with the guarantee of the manufacturing plant.

• The list of the companies that are users of the ball valve data.

• Specify the place and country of the product in the scope of the technical proposal.

If the above documents are not provided in the technical proposal, this technical proposal will be considered inconsistent. Documents not provided will not be requested again.

4.3 Reliability Requirements

4.3.1. Materials of the main parts of the ball valves, including sealing elements, shall be resistant to deformation, abrasion, destruction in relation to the working medium and resistant to the operating conditions specified in Section 4.1.

4.4 Design requirements, installation and technical requirements

4.4.1. Ball valves shall provide leak tightness with respect to the external environment.

4.4.2. The ball valve design shall prevent the stem from being torn out of the housing when pressure is present in the system.

4.4.3. The type of connection of ball valves to the pipeline and the standard for manufacturing of the valve connection part are specified in section 1.1.

4.4.4. The equipment design shall ensure safety of maintenance and repair personnel during its operation, inspection, adjustment and repair.

4.4.5. The equipment design and automated control system shall ensure normal operation of the equipment without constant presence of operational personnel.

4.5. Material Requirements

4.5.1. Ball valves with pneumatic actuators shall be marked with:

- Manufacturer's name;
- Basic specifications (Dn, Pn/Class);
- Material of the housing and working bodies;
- Country;
- Serial number.

4.6 Requirements for dimensions and packing

4.6.1. The packaging shall ensure the safety of the goods during transportation, loading and unloading operations and movement of the goods to the place of their installation.

4.6.2. Packing shall comply with the requirements of state standards of the Republic of Uzbekistan and international generally accepted standards.

4.6.3. Packing shall strictly comply with the marking of the goods.

4.6.4. The Goods are delivered in a special tare (packing) provided for this type of Goods, ensuring the integrity of the Goods during transportation and delivery.

4.6.5. The cost of tare, packing, marking shall be included in the price of the product. Containers cannot be returned.

4.7 Requirements for SPTA [spare parts, tools and accessories] and quick-wearing parts

In accordance with the manufacturer's NTD.

5. REQUIREMENTS FOR DELIVERY AND ACCEPTANCE RULES

5.1 Delivery and Acceptance Procedure

5.1.1. Acceptance and incoming control of the Products in accordance with the quantity, quality and size shall be performed at the Customer's warehouse.

5.1.2. In case of non-conformity of the delivered goods with the ordered specification or if the goods have not passed the incoming quality control, the Supplier shall replace it within 20 (twenty) calendar days. Transportation costs for goods replacement shall be borne by the Goods Supplier.

5.1.3. After fabrication of pneumatic ball valves, leak tests shall be carried out with respect to the outside environment and the seal leak tests at the manufacturer's factory.

5.2 Requirements for handing-over of technical and other documents to the customer during equipment supply

5.2.1. Material Certificates indicating chemical analysis and strength characteristics shall be provided.

5.2.2. Material Conformity Certificates must be provided.

5.2.3. Provide with quality certificates of the manufacturer within the scope of the technical proposal.

5.2.4. Provide with a certificate of origin indicating the place and country of production.

5.2.5. Prior to delivery of pneumatic ball valves, the manufacturer shall perform technical inspection of the valve tests, issue documents confirming the positive test results and issue a corresponding passport.

6. TRANSPORTATION REQUIREMENTS

Ball valves with pneumatic actuators are transported by all types of transport in accordance with the rules for the carriage of goods applicable to this type of transport.

7. STORAGE REQUIREMENTS

7.1. The Supplier is obliged to provide with the manufacturer's warranty form, where indicated the warranty obligations performance terms.

7.2. The supplier provides with a quality guarantee for the goods in accordance with the guarantee of the manufacturing plant.

7.3. The Supplier guarantees:

-The guarantee against wear of the blocks of the proposed equipment with replacement and repair of its and its components for at least 24 months of operation, regardless of the cause of the failure (subject to operation in the declared modes according to this TA) is a mandatory condition.

- such repair or replacement shall be carried out an unlimited number of times at the expense of the equipment supplier during the entire period of service warranty.

8. REQUIREMENTS FOR THE SCOPE AND/OR PERIOD OF GUARANTEES

8.1. The goods shall be of high quality and meet the requirements for their purpose, having the necessary consumer properties and technical characteristics, environmental and industrial safety characteristics.

8.2. The quality of the goods must be confirmed by a quality certificate. Issued at the factory of the manufacturer.

8.3. The supplier guarantees:

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- a mandatory condition is to provide a guarantee against wear of the components of the proposed equipment with the replacement and repair of it and its components for at least 24 months of operation, regardless of the cause of failure (subject to operation in the declared modes according to the TOR).
- such repair or replacement must be carried out an unlimited number of times at the expense of the equipment supplier during the entire period of validity of the operational guarantee.

9. ENVIRONMENTAL AND SANITARY REQUIREMENTS

According to the current laws and regulations of the Republic of Uzbekistan

10. SAFETY REQUIREMENTS

10.1. The product must meet the safety requirements for storage, transportation and operation established by the legislation of the Republic of Uzbekistan and generally accepted international standards.

10.2. General safety requirements for the operation of ball valves should be given in special sections of the instruction manual.

10.3. Equipment must comply with international quality and environmental safety requirements and have ISO 9001 or ISO 14001 quality certificates.

11. REQUIREMENTS FOR QUALITY AND CLASSIFICATION

11.1. The product must be of high quality and meet the requirements for its intended purpose, having the necessary consumer properties and technical characteristics, environmental and industrial safety characteristics.

11.2. The quality of the goods must be confirmed by a quality certificate issued by the manufacturer.

12. ADDITIONAL (OTHER) REQUIREMENTS

Upon delivery, the Supplier must submit documents confirming the compliance of the products offered by him with the established requirements:
- it is necessary to provide certificates of conformity, certified by the seal of the manufacturer (copy);
- it is necessary to provide a quality certificate (original or a copy certified by the Supplier's seal) for the delivery batch.
- it is necessary to provide a certificate of quality of the manufacturer;
- the supplier is also responsible for compliance with technical parameters and for quality;
- it is necessary to provide a list of companies that are users of this product.

In case of non-compliance of the Products with quality requirements, the Products shall be returned, and all costs for its purchase and delivery shall be borne by the Supplier.

13. REQUIREMENTS TO THE QUANTITY, PACKAGING, PLACE AND TERM (FREQUENCY) OF DELIVERY

Ball valves with pneumatic actuator in the amount of 4 sets.

The Supplier has all the necessary documents for the right to engage in this type of activity. Copies of these documents, duly certified as specified in this procurement documentation, must be included by the participant in his proposal.

Delivery time: 8 months after signing the contract.

Terms of delivery according to the delivery basis DAP Incoterms. One-time delivery in full according to section 1.1. technical task.

Delivery conditions:

DAP Incoterms - Republic of Uzbekistan, Kashkadarya region, Guzar district, Shurtan settlement, 180300.

14. REQUIREMENT FOR THE FORM OF INFORMATION SUBMITTED

Text information shall be provided in Russian and/or English, in paper and electronic versions (1explay).

15. LIST OF ACCEPTED ABBREVIATIONS

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№	Abbreviation	Decryption of abbreviations
1	TA	Technical assignment
2	NTD	Normative and technical documentation
3	ASME B16.10	This Standard covers face-to-face and end-to-end dimensions of straightway valves, and center-to-face and center-to-end dimensions of angle valves.
4	ASME B16.5	This Standard covers pressure–temperature ratings, materials, dimensions, tolerances, marking, testing, and methods of designating openings for pipe flanges and flanged fittings.

* Note: The developer is responsible for the correctness of filling and blank items.

Developers:

Deputy Chief Mechanical engineer: _____ M. Salaev

Chief of Ethylene Production Shop: _____ O. Murtazaev

Senior mechanical engineer of

the ethylene production shop: _____ F. Nurmatov

Mechanical engineer of The ethylene production shop: _____ U. Hidirov

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