**Section II: Schedule of requirements**

E-Sourcing reference no: RFQ/2024/54436

1. **Summary of Requirements for the supply of Shut-off valves to Ukraine.**

**UNOPS requirements are comprised of the following items:**

**Shut-off valves including the below items:**

**Item 1. Butterfly valve with a triple eccentric, flanged, with mechanical gearbox DN800 PN25 complete with counter flanges, gaskets, bolts and nuts - 20 PCS**

**Item 2. Butterfly valve with a triple eccentric, flanged, with mechanical gearbox DN600 PN25 complete with counter flanges, gaskets, bolts and nuts - 12 PCS**

**Item 3. Butterfly valve with a triple eccentric, flanged, with mechanical gearbox DN500 PN25 complete with counter flanges, gaskets, bolts and nuts - 12 PCS**

**Item 4. Butterfly valve with a triple eccentric, flanged, with mechanical gearbox DN400 PN25 complete with counter flanges, gaskets, bolts and nuts - 26 PCS**

**Item 5. Steel ball valve standard bore, flanged, with mechanical gearbox DN300 PN25 complete with counter flanges, gaskets, bolts and nuts - 18 PCS**

**Item 6 . Steel ball valve standard bore, flanged, with mechanical gearbox DN250 PN25 complete with counter flanges, gaskets, bolts and nuts - 24 PCS**

**Item 7. Steel ball valve standard bore, flanged, with mechanical gearbox DN200 PN25 complete with counter flanges, gaskets, bolts and nuts - 36 PCS**

**Item 8. Steel ball valve standard bore, flanged, with mechanical gearbox DN150 PN25 complete with counter flanges, gaskets, bolts and nuts - 48 PCS**

**Item 9 . Steel ball valve standard bore, flanged, with mechanical gearbox DN125 PN25 complete with counter flanges, gaskets, bolts and nuts - 48 PCS**

**Item 10 . Steel ball valve standard bore, flanged, with handle DN100 PN25 complete with counter flanges, gaskets, bolts and nuts - 48 PCS**

**Item 11 . Steel ball valve standard bore, flanged, with handle DN80 PN25 complete with counter flanges, gaskets, bolts and nuts - 90 PCS**

**Item 12 . Steel ball valve standard bore, flanged, with handle DN65 PN25 complete with counter flanges, gaskets, bolts and nuts - 90 PCS**

**Item 13 . Steel ball valve standard bore, flanged, with handle DN50 PN25 complete with counter flanges, gaskets, bolts and nuts - 90 PCS**

**Item 14. Steel ball valve standard bore, welded, with mechanical gearbox DN300 PN25 - 12 PCS**

**Item 15. Steel ball valve standard bore, welded, with mechanical gearbox DN250 PN25 - 16 PCS**

**Item 16. Steel ball valve standard bore, welded, with mechanical gearbox DN200 PN25 - 24 PCS**

**Item 17 . Steel ball valve standard bore, welded, with mechanical gearbox DN150 PN25 - 32 PCS**

**Item 18 . Steel ball valve standard bore, welded, with mechanical gearbox DN125 PN25 - 32 PCS**

**Item 19 . Steel ball valve standard bore, welded, with handle DN100 PN25 - 32 PCS**

**Item 20 . Steel ball valve standard bore, welded, with handle DN80 PN25 - 60 PCS**

**Item 21 . Steel ball valve standard bore, welded, with handle DN65 PN25 - 60 PCS**

**Item 22 . Steel ball valve standard bore, welded, with handle DN50 PN25 - 60 PCS**

**B. Technical specifications for Goods – Comparative Data Tables**

| **N** | **UNOPS minimum technical requirements** | **Is Bid Compliant?** Bidder to complete | **Details of the offered goods.** Bidder to complete |
| --- | --- | --- | --- |
|  | **SHUT-OFF VALVES including the below items** |  |  |
| **Item 1** | **Butterfly valve with a triple eccentric, flanged, with mechanical gearbox DN800 PN25 complete with counterflanges, gaskets, bolts and nuts - 20 PCS** | ☐ Yes ☐ No |  |
| **Item 2** | **Butterfly valve with a triple eccentric, flanged, with mechanical gearbox DN600 PN25 complete with counterflanges, gaskets, bolts and nuts - 12 PCS** | ☐ Yes ☐ No |  |
| **Item 3** | **Butterfly valve with a triple eccentric, flanged, with mechanical gearbox DN500 PN25 complete with counterflanges, gaskets, bolts and nuts - 12 PCS** | ☐ Yes ☐ No |  |
| **Item 4** | **Butterfly valve with a triple eccentric, flanged, with mechanical gearbox DN400 PN25 complete with counterflanges, gaskets, bolts and nuts - 26 PCS** | ☐ Yes ☐ No |  |
| **Item 5** | **Steel ball valve standard bore, flanged, with mechanical gearbox DN300 PN25 complete with counterflanges, gaskets, bolts and nuts - 18 PCS** | ☐ Yes ☐ No |  |
| **Item 6** | **Steel ball valve standard bore, flanged, with mechanical gearbox DN250 PN25 complete with counterflanges, gaskets, bolts and nuts - 24 PCS** | ☐ Yes ☐ No |  |
| **Item 7** | **Steel ball valve standard bore, flanged, with mechanical gearbox DN200 PN25 complete with counterflanges, gaskets, bolts and nuts - 36 PCS** | ☐ Yes ☐ No |  |
| **Item 8** | **Steel ball valve standard bore, flanged, with mechanical gearbox DN150 PN25 complete with counterflanges, gaskets, bolts and nuts - 48 PCS** | ☐ Yes ☐ No |  |
| **Item 9** | **Steel ball valve standard bore, flanged, with mechanical gearbox DN125 PN25 complete with counterflanges, gaskets, bolts and nuts - 48 PCS** | ☐ Yes ☐ No |  |
| **Item 10** | **Steel ball valve standard bore, flanged, with handle DN100 PN25 complete with counterflanges, gaskets, bolts and nuts - 48 PCS** | ☐ Yes ☐ No |  |
| **Item 11** | **Steel ball valve standard bore, flanged, with handle DN80 PN25 complete with counterflanges, gaskets, bolts and nuts - 90 PCS** | ☐ Yes ☐ No |  |
| **Item 12** | **Steel ball valve standard bore, flanged, with handle DN65 PN25 complete with counterflanges, gaskets, bolts and nuts - 90 PCS** | ☐ Yes ☐ No |  |
| **Item 13** | **Steel ball valve standard bore, flanged, with handle DN50 PN25 complete with counterflanges, gaskets, bolts and nuts - 90 PCS** | ☐ Yes ☐ No |  |
| **Item 14** | **Steel ball valve standard bore, welded, with mechanical gearbox DN300 PN25 - 12 PCS** | ☐ Yes ☐ No |  |
| **Item 15** | **Steel ball valve standard bore, welded, with mechanical gearbox DN250 PN25 - 16 PCS** | ☐ Yes ☐ No |  |
| **Item 16** | **Steel ball valve standard bore, welded, with mechanical gearbox DN200 PN25 - 24 PCS** | ☐ Yes ☐ No |  |
| **Item 17** | **Steel ball valve standard bore, welded, with mechanical gearbox DN150 PN25 - 32 PCS** | ☐ Yes ☐ No |  |
| **Item 18** | **Steel ball valve standard bore, welded, with mechanical gearbox DN125 PN25 - 32 PCS** | ☐ Yes ☐ No |  |
| **Item 19** | **Steel ball valve standard bore, welded, with handle DN100 PN25 - 32 PCS** | ☐ Yes ☐ No |  |
| **Item 20** | **Steel ball valve standard bore, welded, with handle DN80 PN25 - 60 PCS** | ☐ Yes ☐ No |  |
| **Item 21** | **Steel ball valve standard bore, welded, with handle DN65 PN25 - 60 PCS** | ☐ Yes ☐ No |  |
| **Item 22** | **Steel ball valve standard bore, welded, with handle DN50 PN25 - 60 PCS** | ☐ Yes ☐ No |  |
| **1** | **General qualification requirements** |  |  |
| **1.1** | **According to this bidding document, the materials, goods and equipment shall be delivered in compliance with the current Ukrainian laws, regulations and rules, and shall also meet the appropriate European and international standards and certificate of quality to ISO 9001. In case some differences exist between the national and international standards, the standards with stricter requirements shall be applied.** | ☐ Yes ☐ No | Please provide the number of the manufacturer's ISO certificate and expiry date |
| 1.1.1 | The provisions of the main valid standards and regulations of the latest editions and issues shall be applied, in spite of any special standards and regulations to be applied to the delivered goods and materials referenced in the Contract, unless otherwise specified in the Contract. If such standards and regulations are national ones or relate to some particular country or district, other official standards shall be adopted providing equal or higher quality than the said standards and regulations. | ☐ Yes ☐ No |  |
| 1.1.2 | All the goods and materials shall be brand-new, never used and be of the newest or current models. They shall integrate all the newest improvements in design and materials, unless otherwise specified in the Contract. | ☐ Yes ☐ No |  |
| 1.1.3 | In this Terms of Reference, reference to particular Ukrainian standards does not prevent adherence to the appropriate EN standards. | ☐ Yes ☐ No |  |
| 1.1.4 | Shutters and faucets manufactured abroad and imported to Ukraine must have a type examination certificate (compliance with the Technical Regulations of equipment operating under pressure, approved by Resolution of the Cabinet of Ministers of Ukraine of January 16, 2019 No. 27). | ☐ Yes ☐ No | Please provide the number of the certificate and expiry date |
| **1.2** | **The Bidder must be in continuous business of supplying of the offered or equivalent equipment for at least past 3 years.** | ☐ Yes ☐ No |  |
| **1.3** | **The Bidder must have experience in the delivery of similar equipment in Ukraine or EU/EEA countries and must provide evidence (contracts, POs, certificates of completion, etc) of successful implementation of at least 2 contracts for supply of the offered or equivalent equipment realised in the past 3 years.** | ☐ Yes ☐ No |  |
| **1.4** | **The Bidder who is not the manufacturer of the Equipment, shall provide Manufacturer's (Official dealer's) Authorisation for supply of the Equipment confirming its rights to supply the said Equipment to Ukraine.** | ☐ Yes ☐ No |  |
| **1.5** | **Bidder or producer of the equipment must have a representative office in Ukraine that provides after sale service available in Ukraine or agreement with the local representative of the producer or service company that can provide maintenance and after sale services for the equipment. Bidder must provide contact details of the service centre (or list of the service centers) as well as confirmation from the service centre that it will provide after sale services for the proposed equipment.** | ☐ Yes ☐ No |  |
| **1.6** | **Warranty service. Within the warranty period, the Supplier or its authorized service center shall provide maintenance, repair services, and/or replacement of the equipment no later than 30 (thirty) calendar days from the date of receipt of written or email notification from an authorized party. The name of the company, address, telephone and fax numbers, and email address must be mentioned in the bid. All costs connected with warranty maintenance are covered by the Supplier.** | ☐ Yes ☐ No |  |
| **1.7** | **The warranty period for the equipment should be specified in the manufacturer’s passport, but it shall not be less than 36 months from the date of equipment delivery and 24 months from the first operational start. The warranty period will commence upon signing the Certificate of Acceptance, marking the facility's readiness for operation. The warranty must cover all manufacturing defects, materials, workmanship, and labor charges. In addition, the Supplier or its authorized service center shall guarantee response and repair times within 30 (thirty) calendar days from the receipt of written or email notification from an authorized party. All costs associated with warranty maintenance, including transportation and parts, shall be borne by the Supplier.** | ☐ Yes ☐ No |  |
| **1.8** | **In the production of the Equipment offered for this procurement, the use of materials and components included in the List of goods prohibited for importation into the customs territory of Ukraine originating from the Russian Federation, approved by the Resolution of the Cabinet of Ministers of Ukraine No.1147 dated December 30, 2015, is not allowed. The Bidder shall submit the relevant Declaration (confirming that the offered equipment is compliant with the above resolution).** | ☐ Yes ☐ No |  |
| **1.9** | **The Bidder must provide the following list of documents for the goods together with the bid and original hard copies upon delivery of the goods in the full scope, including all the below without limitation. All documentation must be completed in Ukrainian or translated into Ukrainian. The delivery is not considered to be completed until the documentation pointed out above is presented in full without Customer’s remarks.** | ☐ Yes ☐ No |  |
| 1.9.1 | For the steel ball valves: | ☐ Yes ☐ No |  |
| 1.9.1.1 | Certificate of conformity (type examination) to the requirements of the Technical Regulation of equipment operating under pressure, approved by the Cabinet of Ministers of Ukraine dated January 16, 2019 No. 27; | ☐ Yes ☐ No | Please provide the number of the certificate and expiry date |
| 1.9.1.2 | Appendix to the certificate with the specified product identification data; | ☐ Yes ☐ No |  |
| 1.9.1.3 | Declaration on compliance of the products offered by the Participant for supply with the requirements of the Technical Regulations; | ☐ Yes ☐ No |  |
| 1.9.1.4 | Certificate (of the producing country) for the production quality management system in accordance with the requirements of the ISO 9001 standard; | ☐ Yes ☐ No | Please provide the number of the certificate and expiry date |
| 1.9.1.5 | Certificate of the environmental management system in accordance with the requirements of the ISO 14001 standard; | ☐ Yes ☐ No | Please provide the number of the certificate and expiry date |
| 1.9.1.6 | ISO 45001 occupational health and safety management system certificate; | ☐ Yes ☐ No | Please provide the number of the certificate and expiry date |
| 1.9.1.7 | Certificate of compliance with the European directive PED 2014/68/EU "Equipment working under pressure" (for foreign-made equipment); | ☐ Yes ☐ No | Please provide the number of the certificate and expiry date |
| 1.9.1.8 | Passport and operating instructions for the equipment (including maintenance, operation and repair manuals for all delivered Goods). The documentation shall contain but without limitation the following: | ☐ Yes ☐ No |  |
| 1.9.1.8.1 | periodicity of required preventive repair during maintenance and normal operation; | ☐ Yes ☐ No |  |
| 1.9.1.8.2 | logs and instructions on maintenance | ☐ Yes ☐ No |  |
| 1.9.1.8.3 | below information on Goods: |  |  |
| 1.9.1.8.3.1 | manufacturer’s name and address; | ☐ Yes ☐ No |  |
| 1.9.1.8.3.2 | list of service centers in Ukraine; | ☐ Yes ☐ No |  |
| 1.9.1.8.3.3 | type and model; | ☐ Yes ☐ No |  |
| 1.9.1.8.3.4 | serial number (must be indicated in the original hard copy of the passport submitted upon delivery of goods); | ☐ Yes ☐ No |  |
| 1.9.1.8.3.5 | duty and rate, if applicable (must be indicated in the original hard copy of the passport submitted upon delivery of goods); | ☐ Yes ☐ No |  |
| 1.9.2 | For steel butterfly valves | ☐ Yes ☐ No |  |
| 1.9.2.1 | Certificate of conformity (type examination) to the requirements of the Technical Regulation of equipment operating under pressure, approved by the Cabinet of Ministers of Ukraine dated January 16, 2019 No. 27; | ☐ Yes ☐ No | Please provide the number of the certificate and expiry date |
| 1.9.2.2 | Appendix to the certificate with the specified product identification data; | ☐ Yes ☐ No |  |
| 1.9.2.3 | Declaration on compliance of the products offered by the Participant for supply with the requirements of the Technical Regulations; | ☐ Yes ☐ No |  |
| 1.9.2.4 | Certificate (of the producing country) for the production quality management system in accordance with the requirements of the ISO 9001 standard; | ☐ Yes ☐ No | Please provide the number of the certificate and expiry date |
| 1.9.2.5 | Certificate of compliance with the European directive PED 2014/68/EU "Equipment working under pressure" (for foreign-made equipment); | ☐ Yes ☐ No | Please provide the number of the certificate and expiry date |
| 1.9.2.6 | Passport and operating instructions for the equipment (including maintenance, operation and repair manuals for all delivered Goods). The documentation shall contain but without limitation the following: | ☐ Yes ☐ No |  |
| 1.9.2.6.1 | periodicity of required preventive repair during maintenance and normal operation; | ☐ Yes ☐ No |  |
| 1.9.2.6.2 | logs and instructions on maintenance | ☐ Yes ☐ No |  |
| 1.9.2.6.3 | below information on Goods: |  |  |
| 1.9.2.6.3.1 | manufacturer’s name and address; | ☐ Yes ☐ No |  |
| 1.9.2.6.3.2 | list of service centers in Ukraine; | ☐ Yes ☐ No |  |
| 1.9.2.6.3.3 | type and model; | ☐ Yes ☐ No |  |
| 1.9.2.6.3.4 | serial number (must be indicated in the original hard copy of the passport submitted upon delivery of goods); | ☐ Yes ☐ No |  |
| 1.9.2.6.3.5 | duty and rate, if applicable (must be indicated in the original hard copy of the passport submitted upon delivery of goods); | ☐ Yes ☐ No |  |
| **1.10.** | **Valves must demonstrate enhanced corrosion resistance suitable for the specified working environments, evidenced by accelerated ageing or stress tests results provided by the manufacturer.** | ☐ Yes ☐ No | Please provide details |
| **1.11** | **If the goods are delivered by an intermediary, the latter shall provide the required manufacturer’s documentation without any changes. An additional document properly identifying the material and equipment shall be provided together with manufacturer’s documentation, as well as reference to the manufacturer’s documentation. If the intermediary changes in any way the condition of the goods, he shall present additional documentation according to the said changes.** | ☐ Yes ☐ No |  |
| **1.12** | **A copy of the Maintenance and Operation Manual in Ukrainian shall be included in the delivery of each piece of equipment.** | ☐ Yes ☐ No |  |
| **2** | **Technical requirements** |  |  |
| **2.1** | **General requirements** |  |  |
| 2.1.1 | The equipment shall be resistant to internal corrosion caused by water of district heat supply system; its properties are presented below: | ☐ Yes ☐ No |  |
| 2.1.1.1 | Carbonate index: ≤1.0 (mEq/l)2 | ☐ Yes ☐ No |  |
| 2.1.1.2 | Dissolved CO2: 0 | ☐ Yes ☐ No |  |
| 2.1.1.3 | Dissolved oxygen: <20 mg/dm3 | ☐ Yes ☐ No |  |
| 2.1.1.4 | pH: 8.3-9.5 | ☐ Yes ☐ No |  |
| 2.1.1.5 | Iron: <0.5 mg/dm3 | ☐ Yes ☐ No |  |
| 2.1.1.6 | Suspended solids: <5 mg/dm3 | ☐ Yes ☐ No |  |
| 2.1.1.7 | Oil products: <1 mg/dm3 | ☐ Yes ☐ No |  |
| 2.1.2 | All the goods to be delivered shall be chosen dependent upon the environmental conditions. | ☐ Yes ☐ No |  |
| 2.1.3 | While choosing the equipment, the Bidder shall take into consideration the above quality of the district heat supply system water. The Bidder shall foresee the possibility of corrosion in the district heat supply system. | ☐ Yes ☐ No |  |
| 2.1.4 | The Bidder shall guarantee that the declared requirements will be met to provide operation for 30 years in case of the maximum temperature. | ☐ Yes ☐ No |  |
| **2.2** | **Technical requirements for shut-off valves** |  |  |
| 2.2.1 | All equipment offered for delivery must be new, unused. Any attempt to use shut-off valves used earlier somewhere, whether it is occasional or not, will be considered as fraud. | ☐ Yes ☐ No |  |
| 2.2.2 | The types and designs of shut-off valves, as well as methods of their control shall correspond to DSTU EN 593:2007 “Butterfly valves of metal. General specifications”, DSTU EN 12266-1:2015 (EN 12266-1:2012, IDT) Industrial pipeline fittings. Testing of metal valves. Part 1. Pressure test methods and acceptance criteria. Mandatory requirements, DSTU EN 1983:2015 (EN 1983:2013, IDT) Industrial valves. Steel ball valves, DSTU ISO 7121:2010 Pipe fittings. Spherical steel ball valves of general industrial purpose. Technical requirements (ISO 4121:2006, IDT). Compliance with the above standards must be confirmed in the passports of the equipment. | ☐ Yes ☐ No |  |
| 2.2.3 | The design of the shut-off valves (butterfly valve and steel ball valve) shall provide their reliable functioning after long period of their being in open or closed position. The cut-off valves shall have tightness class “A”. The valves shall have an anticorrosive coating on their outer surface. | ☐ Yes ☐ No |  |
| 2.2.4 | The valves shall be designed for operation at the following parameters: | ☐ Yes ☐ No |  |
| 2.2.4.1 | working pressure: 25 bar (2.5 MPa). | ☐ Yes ☐ No |  |
| 2.2.4.2 | Working temperature range: from -20°C to not less than 200°C, ensuring operational integrity within this range. | ☐ Yes ☐ No |  |
| 2.2.4.3 | type of connection: flanged, welded. | ☐ Yes ☐ No |  |
| 2.2.5 | The Shut-off valves shall be resistant to influence of operation stresses caused by mechanical loading (pressure, external and internal stresses, erosion, cavitations), as well as by non-mechanical loading (temperature, corrosion), which reduce safety and reliability, as well as operation service life. | ☐ Yes ☐ No |  |
| 2.2.6 | The shut-off valves shall have no design elements requiring periodical maintenance (including lubrication or additional sealing), and shall be accessible after dismounting from pipelines. The design components shall be resistant to influence of network water, as is required by standard PN-C 04601:1985. | ☐ Yes ☐ No |  |
| 2.2.7 | All foreign-made pressure equipment that fully complies with the requirements of Directive 2014/68/EU must have CE marking (for equipment of foreign production), according to the requirements of the Technical Regulations of equipment operating under pressure, approved by Resolution of the of the Cabinet of Ministers of Ukraine dated 16.01.2019 No. 27, it must have a TR marking (for equipment of domestic production). | ☐ Yes ☐ No |  |
| **2.3** | **Requirements to butterfly valves** |  |  |
| 2.3.1 | The butterfly valve casing must be integral, from steel cast, fully cast, with integrated sealing socket. Sealing socket - coated with stellite or corrosion-resistant steel, which is an integral part of the casing (can not be welded or tightened to the casing). The socket should be a mechanical limiter for the motion of the disc. The disc must be made of steel cast, resistant to corrosion, low or high alloyed. The coupling is provided with a twisting moment - a triple eccentric. | ☐ Yes ☐ No |  |
| 2.3.2 | The seals type metal-metal must be sealed by pressing, material – stainless steel + graphite. The sealing ring element must be replaceable. | ☐ Yes ☐ No |  |
| 2.3.3 | The rod should be made of steel, resistant to corrosion, and have a solid design with a key connection with the drive, stem sealing - graphite. | ☐ Yes ☐ No |  |
| 2.3.4 | The Butterfly valve must be able to operate in an open-closed mode. | ☐ Yes ☐ No |  |
| 2.3.5 | The "A" tightness class in accordance with EN 12266-1 in both directions of the medium. The tightness test must be documented in accordance with EN 10204. The presence of a stable connection of the disk and the rod, as well as the corresponding sliding nozzles in the places of sedimentation of the stock in the case. There must be a holistic design of the shutter rod, which ensures the shutter's stability against the impact of the hydraulic impact and reduces the risk of shifting the position of the rod relative to the shutter. | ☐ Yes ☐ No |  |
| 2.3.6 | The design of the butterfly valve must be resistant to the impact of operational loads arising from mechanical action (internal and external stress, erosion and cavitation). | ☐ Yes ☐ No |  |
| 2.3.7 | The butterfly valve should not have structural elements requiring periodic maintenance (eg lubrication or additional sealing), available only after dismantling the valve from the pipeline. | ☐ Yes ☐ No |  |
| 2.3.8 | The butterfly valve should not have elements made of synthetic materials and elastomers. | ☐ Yes ☐ No |  |
| 2.3.9 | The butterfly valve must be resistant to mechanical contamination (elements in network water such as sand or products of corrosion), as well as to cavitation and erosion. | ☐ Yes ☐ No |  |
| 2.3.10 | The shutter design should provide the possibility of replacing the sealing ring of the disc without the need to remove the shutter from the pipeline. | ☐ Yes ☐ No |  |
| 2.3.11 | All disk locks have standard dimensions for joining controls and, if necessary, can be completed with a gear unit or an electric drive. | ☐ Yes ☐ No |  |
| **2.4** | **Requirements to steel ball valves** |  |  |
| 2.4.1 | Steel ball valve with not folding casing (all-welded), must be made of carbon steel grade P235GH or better, or steel casting with connecting pipes. The ball valves must be manufactured in accordance with the requirements of the EU Directive on pressure (compliance with the requirements of this Directive must be documented by a Certificate of Conformity containing valid CE-PED numbers), as well as a CE mark. Ball valves must be tested in accordance with EN 12266 Part 1 and 2. | ☐ Yes ☐ No |  |
| 2.4.2 | Ball valves must provide any direction of the medium flow, as well as mounting in any position. | ☐ Yes ☐ No |  |
| 2.4.3 | Construction requirements for ball valves: |  |  |
| 2.4.3.1 | the design of the closing body of the ball valve must have the design of a floating ball; | ☐ Yes ☐ No |  |
| 2.4.3.2 | body, rod neck, flange – carbon steel P235GH or carbon steel of higher quality; | ☐ Yes ☐ No |  |
| 2.4.3.3 | closure - a ball of stainless steel AISI 304 or stainless steel of higher quality; | ☐ Yes ☐ No |  |
| 2.4.3.4 | the stem must be made of stainless steel, the consolidation of the stem should be at least 2 places material – EPDM or FPM rubber ring and PTFE+20%; | ☐ Yes ☐ No |  |
| 2.4.3.5 | sealing the ball – teflon with graphite addition (PTFE+20%С), which guarantees preservation of the temperature compensation of the armature thanks to the spring-loaded pressing of the ball on both seals with the help of plate-type springs. Springs must be made of corrosion-resistant materials (corrosion-resistant steels or stainless steels) for all faucet diameters; | ☐ Yes ☐ No |  |
| 2.4.3.6 | the outside of the ball valves must be protected from corrosion by applying a protective coating, such as paint; | ☐ Yes ☐ No |  |
| 2.4.3.7 | the ball valves must be supplied with protected nipples, in in the open position; | ☐ Yes ☐ No |  |
| 2.4.3.8 | the height of the shroud of the stem should ensure the free and proper installation of thermal insulation; | ☐ Yes ☐ No |  |
| 2.4.3.9 | damage to the ball valve or its actuator should not cause the ball valve to suddenly close, resulting in a hydraulic shock that could damage other elements of the heating network; | ☐ Yes ☐ No |  |
| 2.4.3.10 | the design of the ball valve must provide the possibility of repair or replacement of the drive without dismantling the ball valve from the pipeline. | ☐ Yes ☐ No |  |
| 2.4.4 | Each steel ball valve is to be labelled in accordance with ISO 5209. | ☐ Yes ☐ No |  |
| 2.4.5 | The marking should be applied directly to the case or a plate securely attached to the case. | ☐ Yes ☐ No |  |
| 2.4.6 | The marking of the case must contain the following information: | ☐ Yes ☐ No |  |
| 2.4.6.1 | conditional passage (DN with corresponding numerical value); | ☐ Yes ☐ No |  |
| 2.4.6.2 | Conditional pressure (PN with the corresponding numerical value); | ☐ Yes ☐ No |  |
| 2.4.6.3 | the designation of the case material (see ISO 7005-1); | ☐ Yes ☐ No |  |
| 2.4.6.4 | the designation of the smelting (if required by the customer or the relevant normative and technical documents); | ☐ Yes ☐ No |  |
| 2.4.6.5 | the name of the manufacturer or trademark; | ☐ Yes ☐ No |  |
| 2.4.6.6 | an arrow indicating the direction of the medium flow (for steel ball valves with only one-way flow of medium). | ☐ Yes ☐ No |  |
| **2.5** | **Technical requirements to actuators** |  |  |
| 2.5.1 | Incomplete rotary actuators with a turn of 90 degrees are used to control ball valves. The gearbox allows to reduce the speed of the drive and increase the torque. | ☐ Yes ☐ No |  |
| 2.5.2 | To reduce the force on the flywheel handle, actuators with a gear (bevel cylindrical) or worm gear are used. | ☐ Yes ☐ No |  |
| 2.5.3 | Actuators must be mounted directly on the ball valves. | ☐ Yes ☐ No |  |
| 2.5.4 | Technical requirements for actuators: |  |  |
| 2.5.4.1 | input shaft - stainless steel; | ☐ Yes ☐ No |  |
| 2.5.4.2 | EPDM seals, or better; | ☐ Yes ☐ No |  |
| 2.5.4.3 | thrust needle bearings; | ☐ Yes ☐ No |  |
| 2.5.4.4 | protection against dust and moisture IP67; | ☐ Yes ☐ No |  |
| 2.5.4.5 | ambient temperature from -30 ° C to +130 ° C. | ☐ Yes ☐ No |  |
| **2.6** | **Technical requirements to flanges** |  |  |
| 2.6.1 | The flanges shall be manufactured in compliance with the requirements of DSTU EN 1092-1:2018 Flanges and their joints – Circular flanges for pipes, valves, fittings and accessories, PN designated – Part 1: Steel flanges, according to the working drawings approved in accordance with the established procedure. | ☐ Yes ☐ No |  |
| 2.6.2 | Flanges to be used in pressure equipment shall be manufactured from materials fulfilling the essential safety requirements of pressure equipment European legislation. Materials specifications which meet the requirements for this European Standard are given in Table 9 and Annex D the specified standard. | ☐ Yes ☐ No |  |
| 2.6.3 | The fabricated flange shall fulfil the mechanical properties of the material standard. | ☐ Yes ☐ No |  |
| 2.6.4 | Flanges shall be suitable for use with the number and size of bolting as specified in Table 10 to Table 21 the specified standard. | ☐ Yes ☐ No |  |
| 2.6.5 | The bolting shall be chosen by the equipment manufacturer according to the pressure, temperature, flange material and gasket so that the flanged joint remains tight under the expected operating conditions. | ☐ Yes ☐ No |  |
| 2.6.6 | For selection of bolting, see EN 1515-4, for combination of the materials of flanges and bolting see EN 1515-2, for information. | ☐ Yes ☐ No |  |
| 2.6.7 | The various gasket types, dimensions, design characteristics and materials used are given in the EN 1514. | ☐ Yes ☐ No |  |
| 2.6.8 | The flange manufacturer shall use respective procedures to ensure traceability of material and to avoid material exchange and shall be able to provide respective documentation for the base material used. | ☐ Yes ☐ No |  |
| 2.6.9 | Under consideration of EN 764-5, the purchaser of the flange may require a test certificate according to EN 10204 (2.1, 3.1 or 3.2), applicable for the respective category. The rules of pressure equipment European legislation and the product specification, which includes the technical delivery conditions, shall be applied. If an inspection certificate 3.1 is required, the quality system of the material manufacturer shall fulfil the requirements of the European legislation for pressure equipment. | ☐ Yes ☐ No | Please provide the number of the certificate and expiry date |
| 2.6.10 | All flanges should be marked (minimum) as follows: |  |  |
| 2.6.10.1 | flange manufacturer’s name or trade mark; | ☐ Yes ☐ No |  |
| 2.6.10.2 | letters “EN”; | ☐ Yes ☐ No |  |
| 2.6.10.3 | PN designation; | ☐ Yes ☐ No |  |
| 2.6.10.4 | either the name or the number or the grade of the material; | ☐ Yes ☐ No |  |
| 2.6.10.5 | heat number of melt and/or suitable identification, such as code number, for the traceability. | ☐ Yes ☐ No |  |
| **2.7** | **Requirements for packaging** |  |  |
| 2.7.1 | The goods shall be shipped in the packaging corresponding to the nature of delivered goods. The packaging shall meet the current regulations and standards and ensure safety and intactness of cargoes during transportation to the destination and unloading transport means. | ☐ Yes ☐ No |  |
| 2.7.2 | The transport containers shall meet the requirements aimed at protection of these cargoes and retention of clear marking, which are to be observed during their stowage (packing), loading, carriage (with meeting temperature conditions) unloading, with the possibility of performance of reloading operations by mechanised method. | ☐ Yes ☐ No |  |
| 2.7.3 | Each package shall contain the appropriate packing list indicating the names and quantities of the products, net and gross weight of this package, name of manufacturer and supplier. The value of containers shall be included in the goods price. The containers are of non-returnable type. | ☐ Yes ☐ No |  |
| 2.7.4 | The goods shall be transported and stored according to DBN V.2.5-39: 2008 “Heat networks” and in compliance with manufacturer’s recommendations. | ☐ Yes ☐ No |  |
| 2.7.5 | The contractor shall bear the full responsibility for transportation and unloading equipment and materials on the site of performance of works on replacement of sections of the heat networks. | ☐ Yes ☐ No |  |
| **3** | **Additional general requirements** |  |  |
| 3.1 | Bidder provided shipping dimension: L x W x H, as well as Kerb/shipping weight in kg of the equipment. | ☐ Yes ☐ No | Please provide details |
| 3.2 | Bid includes the Country of origin of the goods. | ☐ Yes ☐ No | Please provide details |

**C. Delivery requirements**

| **UNOPS Requirements** | | **Is the bid compliant?** Bidder to complete | **Details**  Bidder to complete |
| --- | --- | --- | --- |
| **Delivery time** | **Bidders shall deliver and unload the goods as soon as possible but not later than within 100 days after contract subscription. Bidders must provide realistic delivery time for the proposed goods.**  **DDP Incoterms: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_calendar days from the date of PO signature.**  Partial delivery of the goods in batches (one batch should contain a minimum one full item (full q-ty required for item) according to the requirements) within this period is acceptable. | ☐Yes ☐ No |  |
| **Delivery place and Incoterms rules** | DDP, Kharkiv city, Ukraine.  The bidder will be responsible for covering the demurrage costs, if any. | ☐Yes ☐ No |  |
| **Consignee details** | Delivery address and consignee details will be provided to the successful Bidder | ☐Yes ☐ No |  |
| **UNOPS Right to vary requirements** | At the time the Contract is awarded, UNOPS reserves the right to vary the quantity of the goods and associated services specified above, provided this does not exceed +/- 20%, without any change in the unit prices or other terms and conditions of the RFQ. | ☐ Yes ☐ No |  |

**D. Inspections and tests**

The following inspections and tests shall be performed:

(i) The Supplier shall perform all needed tests before the shipment to confirm that the goods meet the Purchaser requirements. Documented confirmation of such tests has to be sent to the Purchaser before the shipment;

(ii) The Purchaser will check the availability of Compliance Certificates issued for equipment supplied;

(ііі) The Supplier shall demonstrate that the software has been properly installed on the corresponding equipment;

(іv) The Purchaser (with the assistance of the Supplier) will check the functionality/operability and the compliance of main characteristics of all items of equipment with Technical Requirements. If the consumables should be used for equipment checking - they must be provided by the cost of the Supplier.

UNOPS or its representative may inspect and/or test any or all items of the goods to confirm their conformity to the contract, prior to dispatch from the supplier’s premises. Such inspection and clearance will not prejudice the right of the consignee to inspect and test the goods on receipt at destination.

If the goods fail to meet the laid down specifications, the supplier shall take immediate steps to remedy the deficiency or replace the defective goods to the satisfaction of the purchaser.