**Section II: Schedule of requirements**

E-Sourcing reference no: RFQ/2024/52024

***Provision of Water pumps to Mykolaiiv region.***

1. **Summary of Requirements for the provision of the water pumps to Mykolaiiv region:**

**Lot 1. Pumps with supplies with the following details below:**

| **Lot 1** | **Description** | **Q-ty** |
| --- | --- | --- |
| **1.1** | **Pumps with frequency converter various productivities** |  |
| **Item 1** | Pump unit with productivity at the working point (Q) not less than 1000 m3/h and pressure at the working point (H) not less than 55 m of water complete with frequency converter | **2** |
| **Item 2** | Pump unit with productivity at the working point (Q) not less than 700 m3/h and pressure at the working point (H) not less than 75 m of water complete with frequency converter | **2** |
| **Item 3** | Pump unit with productivity at the working point (Q) not less than 620 m3/h and pressure at the working point (H) not less than 75 m of water complete with frequency converter | **2** |
| **Item 4** | Pump unit with productivity at the working point (Q) not less than 235 m3/h and pressure at the working point (H) not less than 35 m of water complete with frequency converter | **2** |
| **Item 5** | Pump unit with productivity at the working point (Q) not less than 180 m3/h and pressure at the working point (H) not less than 45 m of water complete with frequency converter | **2** |
| **Item 6** | Pump unit with productivity at the working point (Q) not less than 240 m3/h and pressure at the working point (H) not less than 45 m of water complete with frequency converter | **2** |
| **Item 7** | Pump unit with productivity at the working point (Q) not less than 150 m3/h and pressure at the working point (H) not less than 45 m of water complete with frequency converter | **2** |
| **Item 8** | Pump unit with productivity at the working point (Q) not less than 65 m3/h and pressure at the working point (H) not less than 45 m of water complete with frequency converter | **2** |
| **Item 9** | Pump unit with productivity at the working point (Q) not less than 250 m3/h and pressure at the working point (H) not less than 40 m of water complete with frequency converter | **2** |
| **Item 10** | Pump unit with productivity at the working point (Q) not less than 120 m3/h and pressure at the working point (H) not less than 40 m of water complete with frequency converter | **2** |
| **Item 11** | Pump unit with productivity at the working point (Q) not less than 200 m3/h and pressure at the working point (H) not less than 35 m of water complete with frequency converter | **2** |
| **Item 12** | Pump unit with productivity at the working point (Q) not less than 130 m3/h and pressure at the working point (H) not less than 40 m of water complete with frequency converter | **2** |
| **Item 13** | Pump unit with productivity at the working point (Q) not less than 190 m3/h and pressure at the working point (H) not less than 25 m of water complete with frequency converter | **2** |
| **Item 14** | Pump unit with productivity at the working point (Q) not less than 80 m3/h and pressure at the working point (H) not less than 40 m of water complete with frequency converter | **2** |
| **Item 15** | Pump unit with productivity at the working point (Q) not less than 190 m3/h and pressure at the working point (H) not less than 45 m of water complete with frequency converter | **2** |
| **Item 16** | Pump unit with productivity at the working point (Q) not less than 180 m3/h and pressure at the working point (H) not less than 50 m of water complete with frequency converter | **2** |
| **Item 17** | Pump unit with productivity at the working point (Q) not less than 70 m3/h and pressure at the working point (H) not less than 50 m of water complete with frequency converter | **2** |
| **Item 18** | Pump unit with productivity at the working point (Q) not less than 90 m3/h and pressure at the working point (H) not less than 40 m of water complete with frequency converter | **2** |

| **Lot 1** | **Description** | **Q-ty** |
| --- | --- | --- |
| **1.2** | **Valves** |  |
| **Item 1** | Ball flange full-pass valve with a reducer (with manual drive) DN 400/PN16 | **2** |
| **Item 2** | Ball valve full-pass flange with reducer (with manual drive) DN 350/PN16 | **6** |
| **Item 3** | Ball valve full-pass flange with reducer (with manual drive) DN 300/PN16 | **4** |
| **Item 4** | Ball valve full-pass flange with gearbox (with manual drive) DN 200/PN16 | **12** |
| **Item 5** | Ball valve full-pass flange with a gearbox (with manual drive) DN 150/PN16 | **6** |
| **Item 6** | Ball valve full-pass flange DN 100/PN16 | **16** |
| **Item 7** | Ball valve full-pass flange DN 125/PN16 | **10** |
| **Item 8** | Ball valve full-pass flange DN 80/PN16 | **10** |
| **Item 9** | Ball valve full-pass flange DN 65/PN16 | **6** |
| **Item 10** | Check valve two-leaf spring-loaded inter-flange DN350/PN16 | **2** |
| **Item 11** | Check valve two-leaf spring-loaded inter-flange DN300/PN16 | **4** |
| **Item 12** | Check valve two-leaf spring-loaded inter-flange DN200/PN16 | **6** |
| **Item 13** | Check valve two-leaf spring-loaded inter-flange DN150/PN16 | **2** |
| **Item 14** | Check valve two-leaf spring-loaded inter-flange DN100/PN16 | **10** |
| **Item 15** | Check valve two-leaf spring-loaded inter-flange DN125/PN16 | **2** |
| **Item 16** | Check valve two-leaf spring-loaded inter-flange DN80/PN16 | **4** |
| **Item 17** | Check valve two-leaf spring-loaded inter-flange DN65/PN16 | **6** |

| **Lot 1** | **Description** | **Q-ty** |
| --- | --- | --- |
| **1.3** | **Pipeline details ( Flanges and reducers)** |  |
| **Item 1** | Flat welded steel flange DN400/PN16 | **4** |
| **Item 2** | Flat welded steel flange DN350/PN16 | **18** |
| **Item 3** | Flat welded steel flange DN250/PN16 | **2** |
| **Item 4** | Flat welded steel flange DN300/PN16 | **20** |
| **Item 5** | Flat welded steel flange DN200/PN16 | **30** |
| **Item 6** | Flat welded steel flange DN125/PN16 | **38** |
| **Item 7** | Flat welded steel flange DN80/PN16 | **36** |
| **Item 8** | Flat welded steel flange DN100/PN16 | **80** |
| **Item 9** | Flat welded steel flange DN150/PN16 | **20** |
| **Item 10** | Flat welded steel flange DN50/PN16 | **8** |
| **Item 11** | Flat welded steel flange DN65/PN16 | **24** |
| **Item 12** | Eccentric reducers 426\*377 | **2** |
| **Item 13** | Concentric reducers 377\*273 | **2** |
| **Item 14** | Eccentric reducers 377\*325 | **4** |
| **Item 15** | Concentric reducers 325\*219 | **4** |
| **Item 16** | Eccentric reducers 133\*219 | **4** |
| **Item 17** | Concentric reducers 108\*219 | **6** |
| **Item 18** | Concentric reducers 89\*219 | **2** |
| **Item 19** | Eccentric reducers 108\*159 | **2** |
| **Item 20** | Concentric reducers 89\*159 | **2** |
| **Item 21** | Eccentric reducers is 108\*76 | **2** |
| **Item 22** | Concentric reducers 108\*57 | **2** |
| **Item 23** | Eccentric reducers 133\*108 | **10** |
| **Item 24** | Concentric reducers 159\*133 | **2** |
| **Item 25** | Eccentric reducers 108\*89 | **12** |
| **Item 26** | Concentric reducers 89\*76 | **10** |
| **Item 27** | Eccentric reducers 76\*89 | **6** |

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

**Lot 1. Pumps with supplies with the following details below:**

**Lot 1.1 - Pumps with frequency converter various productivities**

| N | UNOPS minimum technical requirements | Is Bid Compliant? Bidder to complete | Details of the offered goods. Bidder to complete |
| --- | --- | --- | --- |
| **Lot 1** | **Pumps with supplies** |  |  |
| **1.1** | **Pumps with frequency converter various productivities** |  |  |
| **Item 1** | **Pump unit with productivity at the working point (Q) not less than 1000 m3/h and pressure at the working point (H) not less than 55 m of water complete with frequency converter** |  |  |
| **1.1** | **Technical specifications of the pump** |  |  |
| 1.1.1 | Flow rate (performance) at the operating point, Q,  is no less than 1000 m³/hour | ☐ Yes ☐ No |  |
| 1.1.2 | Head at the working point, H, no less 55 m H2O | ☐ Yes ☐ No |  |
| 1.1.3 | Hydraulic efficiency of the pump at the operating point, no less than 85 % | ☐ Yes ☐ No |  |
| 1.1.4 | Total pump efficiency at the operating point, no less than 82 % | ☐ Yes ☐ No |  |
| 1.1.5 | Required cavitation head (NPSH) at the operating point, no more than 6 m | ☐ Yes ☐ No |  |
| 1.1.6 | Diameter of the suction nozzle DN350 | ☐ Yes ☐ No |  |
| 1.1.7 | Pressure connection diameter DN250 | ☐ Yes ☐ No |  |
| 1.1.8 | Support frame size, length x width,  no more than 2100 - 2300 x 650 - 750 mm | ☐ Yes ☐ No |  |
| 1.1.9 | Power on the shaft at the operating point, P2, no more than 177 kW | ☐ Yes ☐ No |  |
| 1.1.10 | Electric motor power at the operating point, P1rt, no more than 183 kW | ☐ Yes ☐ No |  |
| 1.1.11 | The maximum power of the electric motor is set 200 kW | ☐ Yes ☐ No |  |
| 1.1.12 | Pumps include vibration isolators and noise-damping materials to ensure stability and meet environmental noise regulations. | ☐ Yes ☐ No |  |
| 1.1.13 | Smart sensors are included to monitor operational parameters for predictive maintenance and enhanced reliability. | ☐ Yes ☐ No |  |
| **Item 2** | **Pump unit with productivity at the working point (Q) not less than 700 m3/h and pressure at the working point (H) not less than 75 m of water complete with frequency converter** |  |  |
| **1.2** | **Technical specifications of the pump** |  |  |
| 1.2.1 | Flow rate (performance) at the operating point, Q,  is no less than 700 m³/hour | ☐ Yes ☐ No |  |
| 1.2.2 | Head at the working point, H, no less 75 m H2O | ☐ Yes ☐ No |  |
| 1.2.3 | Hydraulic efficiency of the pump at the operating point, no less than 81 % | ☐ Yes ☐ No |  |
| 1.2.4 | Total pump efficiency at the operating point, no less than 79 % | ☐ Yes ☐ No |  |
| 1.2.5 | Required cavitation head (NPSH) at the operating point, no more than 4 m | ☐ Yes ☐ No |  |
| 1.2.6 | Diameter of the suction nozzle DN300 | ☐ Yes ☐ No |  |
| 1.2.7 | Pressure connection diameter DN200 | ☐ Yes ☐ No |  |
| 1.2.8 | Support frame size, length x width,  no more than 2100 - 2300 x 650 - 750 mm | ☐ Yes ☐ No |  |
| 1.2.9 | Power on the shaft at the operating point, P2, no more than 176 kW | ☐ Yes ☐ No |  |
| 1.2.10 | Electric motor power at the operating point, P1rt, no more than 181 kW | ☐ Yes ☐ No |  |
| 1.2.11 | The maximum power of the electric motor is set 200 kW | ☐ Yes ☐ No |  |
| **Item 3** | **Pump unit with productivity at the working point (Q) not less than 620 m3/h and pressure at the working point (H) not less than 75 m of water complete with frequency converter** |  |  |
| **1.3** | **Technical specifications of the pump** |  |  |
| 1.3.1 | Flow rate (performance) at the operating point, Q,  is no less than 620 m³/hour | ☐ Yes ☐ No |  |
| 1.3.2 | Head at the working point, H, no less 75 m H2O | ☐ Yes ☐ No |  |
| 1.3.3 | Hydraulic efficiency of the pump at the operating point, no less than 78 % | ☐ Yes ☐ No |  |
| 1.3.4 | Total pump efficiency at the operating point, no less than 76 % | ☐ Yes ☐ No |  |
| 1.3.5 | Required cavitation head (NPSH) at the operating point, no more than 3,5 m | ☐ Yes ☐ No |  |
| 1.3.6 | Diameter of the suction nozzle DN300 | ☐ Yes ☐ No |  |
| 1.3.7 | Pressure connection diameter DN200 | ☐ Yes ☐ No |  |
| 1.3.8 | Support frame size, length x width,  no more than 2100 - 2300 x 650 - 750 mm | ☐ Yes ☐ No |  |
| 1.3.9 | Power on the shaft at the operating point, P2, no more than 161 kW | ☐ Yes ☐ No |  |
| 1.3.10 | Electric motor power at the operating point, P1rt, no more than 166 kW | ☐ Yes ☐ No |  |
| 1.3.11 | The maximum power of the electric motor is set 200 kW | ☐ Yes ☐ No |  |
| **Item 4** | **Pump unit with productivity at the working point (Q) not less than 235 m3/h and pressure at the working point (H) not less than 35 m of water complete with frequency converter** |  |  |
| **1.4** | **Technical specifications of the pump** |  |  |
| 1.4.1 | Flow rate (performance) at the operating point, Q,  is no less than 235 m³/hour | ☐ Yes ☐ No |  |
| 1.4.2 | Head at the working point, H, no less 35 m H2O | ☐ Yes ☐ No |  |
| 1.4.3 | Hydraulic efficiency of the pump at the operating point, no less than 76 % | ☐ Yes ☐ No |  |
| 1.4.4 | Total pump efficiency at the operating point, no less than 72 % | ☐ Yes ☐ No |  |
| 1.4.5 | Required cavitation head (NPSH) at the operating point, no more than 8,5 m | ☐ Yes ☐ No |  |
| 1.4.6 | Diameter of the suction nozzle DN125 | ☐ Yes ☐ No |  |
| 1.4.7 | Pressure connection diameter DN100 | ☐ Yes ☐ No |  |
| 1.4.8 | Support frame size, length x width,  no more than 1100 - 1300 x 450 - 550 mm | ☐ Yes ☐ No |  |
| 1.4.9 | Power on the shaft at the operating point, P2, no more than 33 kW | ☐ Yes ☐ No |  |
| 1.4.10 | Electric motor power at the operating point, P1rt, no more than 35 kW | ☐ Yes ☐ No |  |
| 1.4.11 | The maximum power of the electric motor is set 37 kW | ☐ Yes ☐ No |  |
| 1.4.12 | Electric motor power characteristic (Cos phi) - no less than 0,87 | ☐ Yes ☐ No |  |
| 1.4.13 | Motor efficiency at full load, not less 92 % | ☐ Yes ☐ No |  |
| 1.4.14 | Motor efficiency at 1/2 load, not less 93 % | ☐ Yes ☐ No |  |
| 1.4.15 | The sound pressure level of the pump together with the electric motor must not exceed 72 dB(A) | ☐ Yes ☐ No |  |
| **Item 5** | **Pump unit with productivity at the working point (Q) not less than 180 m3/h and pressure at the working point (H) not less than 45 m of water complete with frequency converter** |  |  |
| **1.5** | **Technical specifications of the pump** |  |  |
| 1.5.1 | Flow rate (performance) at the operating point, Q,  is no less than 180 m³/hour | ☐ Yes ☐ No |  |
| 1.5.2 | Head at the working point, H, no less 45 m H2O | ☐ Yes ☐ No |  |
| 1.5.3 | Hydraulic efficiency of the pump at the operating point, no less than 78 % | ☐ Yes ☐ No |  |
| 1.5.4 | Total pump efficiency at the operating point, no less than 74 % | ☐ Yes ☐ No |  |
| 1.5.5 | Required cavitation head (NPSH) at the operating point, no more than 5,5 m | ☐ Yes ☐ No |  |
| 1.5.6 | Diameter of the suction nozzle DN100 | ☐ Yes ☐ No |  |
| 1.5.7 | Pressure connection diameter DN80 | ☐ Yes ☐ No |  |
| 1.5.8 | Support frame size, length x width,  no more than 1100 - 1300 x 400 - 500 mm | ☐ Yes ☐ No |  |
| 1.5.9 | Power on the shaft at the operating point, P2, no more than 33 kW | ☐ Yes ☐ No |  |
| 1.5.10 | Electric motor power at the operating point, P1rt, no more than 35 kW | ☐ Yes ☐ No |  |
| 1.5.11 | The maximum power of the electric motor is set 37 kW | ☐ Yes ☐ No |  |
| 1.5.12 | Electric motor power characteristic (Cos phi) - no less than 0,87 | ☐ Yes ☐ No |  |
| 1.5.13 | Motor efficiency at full load, not less 92 % | ☐ Yes ☐ No |  |
| 1.5.14 | Motor efficiency at 1/2 load, not less 93 % | ☐ Yes ☐ No |  |
| 1.5.15 | The sound pressure level of the pump together with the electric motor must not exceed 72 dB(A) | ☐ Yes ☐ No |  |
| **Item 6** | **Pump unit with productivity at the working point (Q) not less than 240 m3/h and pressure at the working point (H) not less than 45 m of water complete with frequency converter** |  |  |
| **1.6** | **Technical specifications of the pump** |  |  |
| 1.6.1 | Flow rate (performance) at the operating point, Q,  is no less than 240m³/hour | ☐ Yes ☐ No |  |
| 1.6.2 | Head at the working point, H, no less 45 m H2O | ☐ Yes ☐ No |  |
| 1.6.3 | Hydraulic efficiency of the pump at the operating point, no less than 80 % | ☐ Yes ☐ No |  |
| 1.6.4 | Total pump efficiency at the operating point, no less than 76 % | ☐ Yes ☐ No |  |
| 1.6.5 | Required cavitation head (NPSH) at the operating point, no more than 7,5 m | ☐ Yes ☐ No |  |
| 1.6.6 | Diameter of the suction nozzle DN125 | ☐ Yes ☐ No |  |
| 1.6.7 | Pressure connection diameter DN100 | ☐ Yes ☐ No |  |
| 1.6.8 | Support frame size, length x width,  no more than 1100 - 1300 x 450 - 550 mm | ☐ Yes ☐ No |  |
| 1.6.9 | Power on the shaft at the operating point, P2, no more than 37 kW | ☐ Yes ☐ No |  |
| 1.6.10 | Electric motor power at the operating point, P1rt, no more than 40 kW | ☐ Yes ☐ No |  |
| 1.6.11 | The maximum power of the electric motor is set 45 kW | ☐ Yes ☐ No |  |
| 1.6.12 | Electric motor power characteristic (Cos phi) - no less than 0,89 | ☐ Yes ☐ No |  |
| 1.6.13 | Motor efficiency at full load, not less 93 % | ☐ Yes ☐ No |  |
| 1.6.14 | Motor efficiency at 1/2 load, not less 93 % | ☐ Yes ☐ No |  |
| 1.6.15 | The sound pressure level of the pump together with the electric motor must not exceed 72 dB(A) | ☐ Yes ☐ No |  |
| **Item 7** | **Pump unit with productivity at the working point (Q) not less than 150 m3/h and pressure at the working point (H) not less than 45 m of water complete with frequency converter** | ☐ Yes ☐ No |  |
| **1.7** | **Technical specifications of the pump** |  |  |
| 1.7.1 | Flow rate (performance) at the operating point, Q,  is no less than 150 m³/hour | ☐ Yes ☐ No |  |
| 1.7.2 | Head at the working point, H, no less 45 m H2O | ☐ Yes ☐ No |  |
| 1.7.3 | Hydraulic efficiency of the pump at the operating point, no less than 75 % | ☐ Yes ☐ No |  |
| 1.7.4 | Total pump efficiency at the operating point, no less than 70 % | ☐ Yes ☐ No |  |
| 1.7.5 | Required cavitation head (NPSH) at the operating point, no more than 4,2 m | ☐ Yes ☐ No |  |
| 1.7.6 | Diameter of the suction nozzle DN100 | ☐ Yes ☐ No |  |
| 1.7.7 | Pressure connection diameter DN80 | ☐ Yes ☐ No |  |
| 1.7.8 | Support frame size, length x width,  no more than 1100 - 1300 x 400 - 500 mm | ☐ Yes ☐ No |  |
| 1.7.9 | Power on the shaft at the operating point, P2, no more than 25 kW | ☐ Yes ☐ No |  |
| 1.7.10 | Electric motor power at the operating point, P1rt, no more than 27 kW | ☐ Yes ☐ No |  |
| 1.7.11 | The maximum power of the electric motor is set 30 kW | ☐ Yes ☐ No |  |
| 1.7.12 | Electric motor power characteristic (Cos phi) - no less than 0,87 | ☐ Yes ☐ No |  |
| 1.7.13 | Motor efficiency at full load, not less 93 % | ☐ Yes ☐ No |  |
| 1.7.14 | Motor efficiency at 1/2 load, not less 93 % | ☐ Yes ☐ No |  |
| 1.7.15 | The sound pressure level of the pump together with the electric motor must not exceed 72 dB(A) | ☐ Yes ☐ No |  |
| **Item 8** | **Pump unit with productivity at the working point (Q) not less than 65 m3/h and pressure at the working point (H) not less than 45 m of water complete with frequency converter** | ☐ Yes ☐ No |  |
| **1.8** | **Technical specifications of the pump** |  |  |
| 1.8.1 | Flow rate (performance) at the operating point, Q,  is no less than 65m³/hour | ☐ Yes ☐ No |  |
| 1.8.2 | Head at the working point, H, no less 45 m H2O | ☐ Yes ☐ No |  |
| 1.8.3 | Hydraulic efficiency of the pump at the operating point, no less than 75 % | ☐ Yes ☐ No |  |
| 1.8.4 | Total pump efficiency at the operating point, no less than 70 % | ☐ Yes ☐ No |  |
| 1.8.5 | Required cavitation head (NPSH) at the operating point, no more than 2,8 m | ☐ Yes ☐ No |  |
| 1.8.6 | Diameter of the suction nozzle DN65 | ☐ Yes ☐ No |  |
| 1.8.7 | Pressure connection diameter DN50 | ☐ Yes ☐ No |  |
| 1.8.8 | Support frame size, length x width,  no more than 900 - 1100 x 350 - 450 mm | ☐ Yes ☐ No |  |
| 1.8.9 | Power on the shaft at the operating point, P2, no more than 11 kW | ☐ Yes ☐ No |  |
| 1.8.10 | Electric motor power at the operating point, P1rt, no more than 12 kW | ☐ Yes ☐ No |  |
| 1.8.11 | The maximum power of the electric motor is set 15 kW | ☐ Yes ☐ No |  |
| 1.8.12 | Electric motor power characteristic (Cos phi) - no less than 0,87 | ☐ Yes ☐ No |  |
| 1.8.13 | Motor efficiency at full load, not less 91 % | ☐ Yes ☐ No |  |
| 1.8.14 | Motor efficiency at 1/2 load, not less 92 % | ☐ Yes ☐ No |  |
| 1.8.15 | The sound pressure level of the pump together with the electric motor must not exceed 60 dB(A) | ☐ Yes ☐ No |  |
| **Item 9** | **Pump unit with productivity at the working point (Q) not less than 250 m3/h and pressure at the working point (H) not less than 40 m of water complete with frequency converter** | ☐ Yes ☐ No |  |
| **1.9** | **Technical specifications of the pump** |  |  |
| 1.9.1 | Flow rate (performance) at the operating point, Q,  is no less than 250 m³/hour | ☐ Yes ☐ No |  |
| 1.9.2 | Head at the working point, H, no less 40 m H2O | ☐ Yes ☐ No |  |
| 1.9.3 | Hydraulic efficiency of the pump at the operating point, no less than 81 % | ☐ Yes ☐ No |  |
| 1.9.4 | Total pump efficiency at the operating point, no less than 77 % | ☐ Yes ☐ No |  |
| 1.9.5 | Required cavitation head (NPSH) at the operating point, no more than 8,0 m | ☐ Yes ☐ No |  |
| 1.9.6 | Diameter of the suction nozzle DN125 | ☐ Yes ☐ No |  |
| 1.9.7 | Pressure connection diameter DN100 | ☐ Yes ☐ No |  |
| 1.9.8 | Support frame size, length x width,  no more than 1100 - 1300 x 450 - 550 mm | ☐ Yes ☐ No |  |
| 1.9.9 | Power on the shaft at the operating point, P2, no more than 38 kW | ☐ Yes ☐ No |  |
| 1.9.10 | Electric motor power at the operating point, P1rt, no more than 41 kW | ☐ Yes ☐ No |  |
| 1.9.11 | The maximum power of the electric motor is set 45 kW | ☐ Yes ☐ No |  |
| 1.9.12 | Electric motor power characteristic (Cos phi) - no less than 0,89 | ☐ Yes ☐ No |  |
| 1.9.13 | Motor efficiency at full load, not less 94 % | ☐ Yes ☐ No |  |
| 1.9.14 | Motor efficiency at 1/2 load, not less 94 % | ☐ Yes ☐ No |  |
| 1.9.15 | The sound pressure level of the pump together with the electric motor must not exceed 71 dB(A) | ☐ Yes ☐ No |  |
| **Item 10** | **Pump unit with productivity at the working point (Q) not less than 120 m3/h and pressure at the working point (H) not less than 40 m of water complete with frequency converter** | ☐ Yes ☐ No |  |
| **1.10.** | **Technical specifications of the pump** |  |  |
| 1.10.1 | Flow rate (performance) at the operating point, Q,  is no less than 120 m³/hour | ☐ Yes ☐ No |  |
| 1.10.2 | Head at the working point, H, no less 40 m H2O | ☐ Yes ☐ No |  |
| 1.10.3 | Hydraulic efficiency of the pump at the operating point, no less than 75 % | ☐ Yes ☐ No |  |
| 1.10.4 | Total pump efficiency at the operating point, no less than 71 % | ☐ Yes ☐ No |  |
| 1.10.5 | Required cavitation head (NPSH) at the operating point, no more than 5,4 m | ☐ Yes ☐ No |  |
| 1.10.6 | Diameter of the suction nozzle DN80 | ☐ Yes ☐ No |  |
| 1.10.7 | Pressure connection diameter DN65 | ☐ Yes ☐ No |  |
| 1.10.8 | Support frame size, length x width,  no more than 1100 - 1300 x 400 - 500 mm | ☐ Yes ☐ No |  |
| 1.10.9 | Power on the shaft at the operating point, P2, no more than 16,75 kW | ☐ Yes ☐ No |  |
| 1.10.10 | Electric motor power at the operating point, P1rt, no more than 18,5 kW | ☐ Yes ☐ No |  |
| 1.10.11 | The maximum power of the electric motor is set 18,5 kW | ☐ Yes ☐ No |  |
| 1.10.12 | Electric motor power characteristic (Cos phi) - no less than 0,85 | ☐ Yes ☐ No |  |
| 1.10.13 | Motor efficiency at full load, not less 92 % | ☐ Yes ☐ No |  |
| 1.10.14 | Motor efficiency at 1/2 load, not less 92 % | ☐ Yes ☐ No |  |
| 1.10.15 | The sound pressure level of the pump together with the electric motor must not exceed 60 dB(A) | ☐ Yes ☐ No |  |
| **Item 11** | **Pump unit with productivity at the working point (Q) not less than 200 m3/h and pressure at the working point (H) not less than 35 m of water complete with frequency converter** | ☐ Yes ☐ No |  |
| **1.11** | **Technical specifications of the pump** |  |  |
| 1.11.1 | Flow rate (performance) at the operating point, Q,  is no less than 200 m³/hour | ☐ Yes ☐ No |  |
| 1.11.2 | Head at the working point, H, no less 35 m H2O | ☐ Yes ☐ No |  |
| 1.11.3 | Hydraulic efficiency of the pump at the operating point, no less than 73 % | ☐ Yes ☐ No |  |
| 1.11.4 | Total pump efficiency at the operating point, no less than 68 % | ☐ Yes ☐ No |  |
| 1.11.5 | Required cavitation head (NPSH) at the operating point, no more than 5,8 m | ☐ Yes ☐ No |  |
| 1.11.6 | Diameter of the suction nozzle DN100 | ☐ Yes ☐ No |  |
| 1.11.7 | Pressure connection diameter DN80 | ☐ Yes ☐ No |  |
| 1.11.8 | Support frame size, length x width,  no more than 1100 - 1300 x 400 - 500 mm | ☐ Yes ☐ No |  |
| 1.11.9 | Power on the shaft at the operating point, P2, no more than 28 kW | ☐ Yes ☐ No |  |
| 1.11.10 | Electric motor power at the operating point, P1rt, no more than 30 kW | ☐ Yes ☐ No |  |
| 1.11.11 | The maximum power of the electric motor is set 30 kW | ☐ Yes ☐ No |  |
| 1.11.12 | Electric motor power characteristic (Cos phi) - no less than 0,87 | ☐ Yes ☐ No |  |
| 1.11.13 | Motor efficiency at full load, not less 92 % | ☐ Yes ☐ No |  |
| 1.11.14 | Motor efficiency at 1/2 load, not less 92 % | ☐ Yes ☐ No |  |
| 1.11.15 | The sound pressure level of the pump together with the electric motor must not exceed 71 dB(A) | ☐ Yes ☐ No |  |
| **Item 12** | **Pump unit with productivity at the working point (Q) not less than 130 m3/h and pressure at the working point (H) not less than 40 m of water complete with frequency converter** | ☐ Yes ☐ No |  |
| **1.12** | **Technical specifications of the pump** |  |  |
| 1.12.1 | Flow rate (performance) at the operating point, Q,  is no less than 130 m³/hour | ☐ Yes ☐ No |  |
| 1.12.2 | Head at the working point, H, no less 40 m H2O | ☐ Yes ☐ No |  |
| 1.12.3 | Hydraulic efficiency of the pump at the operating point, no less than 77 % | ☐ Yes ☐ No |  |
| 1.12.4 | Total pump efficiency at the operating point, no less than 70 % | ☐ Yes ☐ No |  |
| 1.12.5 | Required cavitation head (NPSH) at the operating point, no more than 6,2 m | ☐ Yes ☐ No |  |
| 1.12.6 | Diameter of the suction nozzle DN80 | ☐ Yes ☐ No |  |
| 1.12.7 | Pressure connection diameter DN65 | ☐ Yes ☐ No |  |
| 1.12.8 | Support frame size, length x width,  no more than 1100 -1300 x 400 - 500 mm | ☐ Yes ☐ No |  |
| 1.12.9 | Power on the shaft at the operating point, P2, no more than 18,5 kW | ☐ Yes ☐ No |  |
| 1.12.10 | Electric motor power at the operating point, P1rt, no more than 20,5 kW | ☐ Yes ☐ No |  |
| 1.12.11 | The maximum power of the electric motor is set 22 kW | ☐ Yes ☐ No |  |
| 1.12.12 | Electric motor power characteristic (Cos phi) - no less than 0,9 | ☐ Yes ☐ No |  |
| 1.12.13 | Motor efficiency at full load, not less 92,5 % | ☐ Yes ☐ No |  |
| 1.12.14 | Motor efficiency at 1/2 load, not less 94 % | ☐ Yes ☐ No |  |
| 1.12.15 | The sound pressure level of the pump together with the electric motor must not exceed 66 dB(A) | ☐ Yes ☐ No |  |
| **Item 13** | **Pump unit with productivity at the working point (Q) not less than 190 m3/h and pressure at the working point (H) not less than 25 m of water complete with frequency converter** | ☐ Yes ☐ No |  |
| **1.13.** | **Technical specifications of the pump** |  |  |
| 1.13.1 | Flow rate (performance) at the operating point, Q,  is no less than 190m³/hour | ☐ Yes ☐ No |  |
| 1.13.2 | Head at the working point, H, no less 25 m H2O | ☐ Yes ☐ No |  |
| 1.13.3 | Hydraulic efficiency of the pump at the operating point, no less than 79 % | ☐ Yes ☐ No |  |
| 1.13.4 | Total pump efficiency at the operating point, no less than 74 % | ☐ Yes ☐ No |  |
| 1.13.5 | Required cavitation head (NPSH) at the operating point, no more than 8,5 m | ☐ Yes ☐ No |  |
| 1.13.6 | Diameter of the suction nozzle DN100 | ☐ Yes ☐ No |  |
| 1.13.7 | Pressure connection diameter DN80 | ☐ Yes ☐ No |  |
| 1.13.8 | Support frame size, length x width,  no more than 1100 - 1300 x 400 - 500 mm | ☐ Yes ☐ No |  |
| 1.13.9 | Power on the shaft at the operating point, P2, no more than 17 kW | ☐ Yes ☐ No |  |
| 1.13.10 | Electric motor power at the operating point, P1rt, no more than 18 kW | ☐ Yes ☐ No |  |
| 1.13.11 | The maximum power of the electric motor is set 18,5 kW | ☐ Yes ☐ No |  |
| 1.13.12 | Electric motor power characteristic (Cos phi) - no less than 0,85 | ☐ Yes ☐ No |  |
| 1.13.13 | Motor efficiency at full load, not less 92 % | ☐ Yes ☐ No |  |
| 1.13.14 | Motor efficiency at 1/2 load, not less 92 % | ☐ Yes ☐ No |  |
| 1.13.15 | The sound pressure level of the pump together with the electric motor must not exceed 60 dB(A) | ☐ Yes ☐ No |  |
| **Item 14** | **Pump unit with productivity at the working point (Q) not less than 80 m3/h and pressure at the working point (H) not less than 40 m of water complete with frequency converter** | ☐ Yes ☐ No |  |
| **1.14** | **Technical specifications of the pump** |  |  |
| 1.14.1 | Flow rate (performance) at the operating point, Q,  is no less than 80 m³/hour | ☐ Yes ☐ No |  |
| 1.14.2 | Head at the working point, H, no less 40 m H2O | ☐ Yes ☐ No |  |
| 1.14.3 | Hydraulic efficiency of the pump at the operating point, no less than 82 % | ☐ Yes ☐ No |  |
| 1.14.4 | Total pump efficiency at the operating point, no less than 76 % | ☐ Yes ☐ No |  |
| 1.14.5 | Required cavitation head (NPSH) at the operating point, no more than 3,0 m | ☐ Yes ☐ No |  |
| 1.14.6 | Diameter of the suction nozzle DN65 | ☐ Yes ☐ No |  |
| 1.14.7 | Pressure connection diameter DN50 | ☐ Yes ☐ No |  |
| 1.14.8 | Support frame size, length x width,  no more than 800 -900 x 200 - 300 mm | ☐ Yes ☐ No |  |
| 1.14.9 | Power on the shaft at the operating point, P2, no more than 11 kW | ☐ Yes ☐ No |  |
| 1.14.10 | Electric motor power at the operating point, P1rt, no more than 12 kW | ☐ Yes ☐ No |  |
| 1.14.11 | The maximum power of the electric motor is set 15 kW | ☐ Yes ☐ No |  |
| 1.14.12 | Electric motor power characteristic (Cos phi) - no less than 0,89 | ☐ Yes ☐ No |  |
| 1.14.13 | Motor efficiency at full load, not less 91 % | ☐ Yes ☐ No |  |
| 1.14.14 | Motor efficiency at 1/2 load, not less 92 % | ☐ Yes ☐ No |  |
| 1.14.15 | The sound pressure level of the pump together with the electric motor must not exceed 70 dB(A) | ☐ Yes ☐ No |  |
| **Item 15** | **Pump unit with productivity at the working point (Q) not less than 190 m3/h and pressure at the working point (H) not less than 45 m of water complete with frequency converter** | ☐ Yes ☐ No |  |
| **1.15** | **Technical specifications of the pump** |  |  |
| 1.15.1 | Flow rate (performance) at the operating point, Q,  is no less than 190 m³/hour | ☐ Yes ☐ No |  |
| 1.15.2 | Head at the working point, H, no less 45 m H2O | ☐ Yes ☐ No |  |
| 1.15.3 | Hydraulic efficiency of the pump at the operating point, no less than 78 % | ☐ Yes ☐ No |  |
| 1.15.4 | Total pump efficiency at the operating point, no less than 74 % | ☐ Yes ☐ No |  |
| 1.15.5 | Required cavitation head (NPSH) at the operating point, no more than 5,5 m | ☐ Yes ☐ No |  |
| 1.15.6 | Diameter of the suction nozzle DN100 | ☐ Yes ☐ No |  |
| 1.15.7 | Pressure connection diameter DN80 | ☐ Yes ☐ No |  |
| 1.15.8 | Support frame size, length x width,  no more than 1100 -1300 x 350 - 450 mm | ☐ Yes ☐ No |  |
| 1.15.9 | Power on the shaft at the operating point, P2, no more than 33 kW | ☐ Yes ☐ No |  |
| 1.15.10 | Electric motor power at the operating point, P1rt, no more than 35 kW | ☐ Yes ☐ No |  |
| 1.15.11 | The maximum power of the electric motor is set 37 kW | ☐ Yes ☐ No |  |
| 1.15.12 | Electric motor power characteristic (Cos phi) - no less than 0,88 | ☐ Yes ☐ No |  |
| 1.15.13 | Motor efficiency at full load, not less 92 % | ☐ Yes ☐ No |  |
| 1.15.14 | Motor efficiency at 1/2 load, not less 93 % | ☐ Yes ☐ No |  |
| 1.15.15 | The sound pressure level of the pump together with the electric motor must not exceed 71 dB(A) | ☐ Yes ☐ No |  |
| **Item 16** | **Pump unit with productivity at the working point (Q) not less than 180 m3/h and pressure at the working point (H) not less than 50 m of water complete with frequency converter** | ☐ Yes ☐ No |  |
| **1.16** | **Technical specifications of the pump** |  |  |
| 1.16.1 | Flow rate (performance) at the operating point, Q,  is no less than 180 m³/hour | ☐ Yes ☐ No |  |
| 1.16.2 | Head at the working point, H, no less 50 m H2O | ☐ Yes ☐ No |  |
| 1.16.3 | Hydraulic efficiency of the pump at the operating point, no less than 74 % | ☐ Yes ☐ No |  |
| 1.16.4 | Total pump efficiency at the operating point, no less than 78 % | ☐ Yes ☐ No |  |
| 1.16.5 | Required cavitation head (NPSH) at the operating point, no more than 5 m | ☐ Yes ☐ No |  |
| 1.16.6 | Diameter of the suction nozzle DN100 | ☐ Yes ☐ No |  |
| 1.16.7 | Pressure connection diameter DN80 | ☐ Yes ☐ No |  |
| 1.16.8 | Support frame size, length x width,  no more than 1000 -1100 x 300 - 400 mm | ☐ Yes ☐ No |  |
| 1.16.9 | Power on the shaft at the operating point, P2, no more than 32 kW | ☐ Yes ☐ No |  |
| 1.16.10 | Electric motor power at the operating point, P1rt, no more than 34 kW | ☐ Yes ☐ No |  |
| 1.16.11 | The maximum power of the electric motor is set 37 kW | ☐ Yes ☐ No |  |
| 1.16.12 | Electric motor power characteristic (Cos phi) - no less than 0,88 | ☐ Yes ☐ No |  |
| 1.16.13 | Motor efficiency at full load, not less 93 % | ☐ Yes ☐ No |  |
| 1.16.14 | Motor efficiency at 1/2 load, not less 93 % | ☐ Yes ☐ No |  |
| 1.16.15 | The sound pressure level of the pump together with the electric motor must not exceed 67 dB(A) | ☐ Yes ☐ No |  |
| **Item 17** | **Pump unit with productivity at the working point (Q) not less than 70 m3/h and pressure at the working point (H) not less than 50 m of water complete with frequency converter** | ☐ Yes ☐ No |  |
| **1.17** | **Technical specifications of the pump** |  |  |
| 1.17.1 | Flow rate (performance) at the operating point, Q,  is no less than 70 m³/hour | ☐ Yes ☐ No |  |
| 1.17.2 | Head at the working point, H, no less 50 m H2O | ☐ Yes ☐ No |  |
| 1.17.3 | Hydraulic efficiency of the pump at the operating point, no less than 76 % | ☐ Yes ☐ No |  |
| 1.17.4 | Total pump efficiency at the operating point, no less than 71 % | ☐ Yes ☐ No |  |
| 1.17.5 | Required cavitation head (NPSH) at the operating point, no more than 3 m | ☐ Yes ☐ No |  |
| 1.17.6 | Diameter of the suction nozzle DN65 | ☐ Yes ☐ No |  |
| 1.17.7 | Pressure connection diameter DN50 | ☐ Yes ☐ No |  |
| 1.17.8 | Support frame size, length x width,  no more than 800 -900 x 250 - 350 mm | ☐ Yes ☐ No |  |
| 1.17.9 | Power on the shaft at the operating point, P2, no more than 13 kW | ☐ Yes ☐ No |  |
| 1.17.10 | Electric motor power at the operating point, P1rt, no more than 14 kW | ☐ Yes ☐ No |  |
| 1.17.11 | The maximum power of the electric motor is set 15 kW | ☐ Yes ☐ No |  |
| 1.17.12 | Electric motor power characteristic (Cos phi) - no less than 0,89 | ☐ Yes ☐ No |  |
| 1.17.13 | Motor efficiency at full load, not less 91 % | ☐ Yes ☐ No |  |
| 1.17.14 | Motor efficiency at 1/2 load, not less 92 % | ☐ Yes ☐ No |  |
| 1.17.15 | The sound pressure level of the pump together with the electric motor must not exceed 70 dB(A) | ☐ Yes ☐ No |  |
| **Item 18** | **Pump unit with productivity at the working point (Q) not less than 90 m3/h and pressure at the working point (H) not less than 40 m of water complete with frequency converter** | ☐ Yes ☐ No |  |
| **1.18** | **Technical specifications of the pump** |  |  |
| 1.18.1 | Flow rate (performance) at the operating point, Q,  is no less than 90 m³/hour | ☐ Yes ☐ No |  |
| 1.18.2 | Head at the working point, H, no less 40 m H2O | ☐ Yes ☐ No |  |
| 1.18.3 | Hydraulic efficiency of the pump at the operating point, no less than 83 % | ☐ Yes ☐ No |  |
| 1.18.4 | Total pump efficiency at the operating point, no less than 77 % | ☐ Yes ☐ No |  |
| 1.18.5 | Required cavitation head (NPSH) at the operating point, no more than 4 m | ☐ Yes ☐ No |  |
| 1.18.6 | Diameter of the suction nozzle DN65 | ☐ Yes ☐ No |  |
| 1.18.7 | Pressure connection diameter DN50 | ☐ Yes ☐ No |  |
| 1.18.8 | Support frame size, length x width,  no more than 800 -900 x 250 - 350 mm | ☐ Yes ☐ No |  |
| 1.18.9 | Power on the shaft at the operating point, P2, no more than 12 kW | ☐ Yes ☐ No |  |
| 1.18.10 | Electric motor power at the operating point, P1rt, no more than 13 kW | ☐ Yes ☐ No |  |
| 1.18.11 | The maximum power of the electric motor is set 15 kW | ☐ Yes ☐ No |  |
| 1.18.12 | Electric motor power characteristic (Cos phi) - no less than 0,89 | ☐ Yes ☐ No |  |
| 1.18.13 | Motor efficiency at full load, not less 91 % | ☐ Yes ☐ No |  |
| 1.18.14 | Motor efficiency at 1/2 load, not less 92 % | ☐ Yes ☐ No |  |
| 1.18.15 | The sound pressure level of the pump together with the electric motor must not exceed 70 dB(A) | ☐ Yes ☐ No |  |
| **2** | **General minimum technical requirements to the pumps (applicable to items 1 to 3 above)** |  |  |
| 2.1 | Non-self-priming horizontal single-stage centrifugal pump with double-suction, radial suction and discharge passages and horizontal shaft. Suction and discharge flanges comply with EN1092-2 (DIN2501) | ☐ Yes ☐ No |  |
| 2.2 | Pump connections are flanged, designed for nominal pressure PN16. | ☐ Yes ☐ No |  |
| 2.3 | The pump and motor shafts are connected by an elastic coupling. A coupling guard must be installed. The coupling guard must be easily removable or equipped with a hatch for access to the coupling. | ☐ Yes ☐ No |  |
| 2.4 | The pump unit must be mounted on a single frame base made in the form of a welded steel bearing profile with a standard fan-cooled closed-type electric motor. | ☐ Yes ☐ No |  |
| 2.5 | The pumps must be equipped with a dynamically balanced impeller with two-way inlet; | ☐ Yes ☐ No |  |
| 2.6 | The casing of the pump unit must have air vent plugs at the upper points of the casing. | ☐ Yes ☐ No |  |
| 2.7 | The casing of the pump unit must have holes for mounting pressure sensors on the suction and discharge connections. | ☐ Yes ☐ No |  |
| 2.8 | The pump must have mechanical shaft seals | ☐ Yes ☐ No |  |
| 2.9 | The direction of rotation is counterclockwise (from the motor side). | ☐ Yes ☐ No |  |
| 2.10. | The pump unit must have an external anti-corrosion coating. | ☐ Yes ☐ No |  |
| 2.11 | Permissible temperature range of the pumped liquid: + 2⁰С до +120⁰С. | ☐ Yes ☐ No |  |
| 2.12 | Pump casing - cast iron EN-GJL-250 or better; | ☐ Yes ☐ No |  |
| 2.13 | Impeller - stainless steel EN 1.4308 or better; | ☐ Yes ☐ No |  |
| 2.14 | Shaft - stainless steel EN 1.4021 / AISI 420 or better; | ☐ Yes ☐ No |  |
| 2.15 | Type of mechanical shaft end seal - rubber bellows seal, unbalanced. Material - graphite (Carbon) + silicon carbide (SiC), material of the secondary rubber seal - EPDM | ☐ Yes ☐ No |  |
| 2.16 | The electric motor of the pumping unit must be a three-phase, asynchronous, squirrel-cage AC motor. Electrical tolerances must be in accordance with IEC 60034. | ☐ Yes ☐ No |  |
| 2.17 | - The energy efficiency class of the electric motor is not lower than IE4 | ☐ Yes ☐ No |  |
| 2.18 | - The motor must have insulation class F. | ☐ Yes ☐ No |  |
| 2.19 | - Bearings must be lubricated with high temperature grease. Bearings must be lubricated at the factory before delivery. | ☐ Yes ☐ No |  |
| 2.20. | - Electric motor supply voltage 380-415V (±5%), rated frequency 50 Hz. | ☐ Yes ☐ No |  |
| 2.21 | - The motor must have built-in thermal protection in the form of thermistors (PTC), one for each phase | ☐ Yes ☐ No |  |
| 2.22 | - The protection class of the electric motor is at least IP55 | ☐ Yes ☐ No |  |
| 2.23 | - The power characteristic of the electric motor (Cos phi) is not less than 0.85. | ☐ Yes ☐ No |  |
| 2.24 | - Number of poles - not less than 4 | ☐ Yes ☐ No |  |
| 2.25 | - The sound pressure level of the pump together with the electric motor should not exceed 75 dB. | ☐ Yes ☐ No |  |
| 2.26 | The electric motor must be ready for operation in conjunction with the frequency converter. The motor bearing must be electrically isolated for operation with the frequency converter. The frequency control range must be at least: 25 Hz to 50 Hz | ☐ Yes ☐ No |  |
| 2.27 | All pump materials must comply with international environmental standards such as REACH and RoHS | ☐ Yes ☐ No |  |
| **3** | **General minimum technical requirements to the pumps (applicable to items 4 to 18 above)** |  |  |
| 3.1 | Horizontal cantilever monoblock non-self-priming single-stage centrifugal pump with axial suction nozzle and radial discharge nozzle | ☐ Yes ☐ No |  |
| 3.2 | The pump must be designed in such a way that the impeller and electric motor can be dismantled as a single unit without dismantling the casing or piping | ☐ Yes ☐ No |  |
| 3.3 | The MEI(minimum efficiency index) must be at least 0.67. | ☐ Yes ☐ No |  |
| 3.4 | Pump flanges must comply with EN 1092-2 (PN16) | ☐ Yes ☐ No |  |
| 3.5 | The pump casing should be equipped with a gap seal. | ☐ Yes ☐ No |  |
| 3.6 | The pump casing must have two holes (inlet and outlet) closed with plugs. | ☐ Yes ☐ No |  |
| 3.7 | The air vent should be located at the top of the pump. | ☐ Yes ☐ No |  |
| 3.8 | The pump shall be equipped with a closed impeller | ☐ Yes ☐ No |  |
| 3.9 | The impeller must be fixed to the shaft with a key and secured with a lock nut. | ☐ Yes ☐ No |  |
| 3.1 | The direction of rotation of the impeller must be clockwise when viewed from the motor side. | ☐ Yes ☐ No |  |
| 3.11 | All cast iron parts of the pump must be coated with a protective coating by cathodic electro-deposition. The coupling and the pump shaft are not covered with a protective coating. | ☐ Yes ☐ No |  |
| 3.12 | The pump shaft must be made of steel 1.4034 (AISI 420) or better | ☐ Yes ☐ No |  |
| 3.13 | The pump must be equipped with a shaft mechanical seal, made of graphite / silicon carbide materials | ☐ Yes ☐ No |  |
| 3.14 | Permissible temperature range of the pumped liquid: up to +120⁰С | ☐ Yes ☐ No |  |
| 3.15 | The maximum ambient temperature is at least 55 °C. | ☐ Yes ☐ No |  |
| 3.16 | Pump casing - cast iron EN-GJL-250 or better; | ☐ Yes ☐ No |  |
| 3.17 | Impeller - cast iron EN-GJL-200 or better; | ☐ Yes ☐ No |  |
| 3.18 | Shaft - stainless steel EN 1.4301 / AISI 304 or better; | ☐ Yes ☐ No |  |
| 3.19 | Type of mechanical shaft end seal - rubber bellows seal, unbalanced. Material - graphite (Carbon) + silicon carbide (SiC), material of the secondary rubber seal - EPDM | ☐ Yes ☐ No |  |
| 3.20. | The electric motor of the pumping unit must be a three-phase, asynchronous, squirrel-cage AC motor. Electrical tolerances must be in accordance with IEC 60034. | ☐ Yes ☐ No |  |
| 3.21 | - The energy efficiency class of the electric motor is not lower than IE3 | ☐ Yes ☐ No |  |
| 3.22 | - The motor must have insulation class F. | ☐ Yes ☐ No |  |
| 3.23 | - Bearings must be lubricated at the factory before delivery. | ☐ Yes ☐ No |  |
| 3.24 | - Electric motor supply voltage 380-415V (±5%), rated frequency 50 Hz. | ☐ Yes ☐ No |  |
| 3.25 | - The motor must have built-in thermal protection in the form of thermistors (PTC), one for each phase | ☐ Yes ☐ No |  |
| 3.26 | - The protection class of the electric motor is at least IP55 | ☐ Yes ☐ No |  |
| 3.27 | The electric motor must be ready for operation in conjunction with the frequency converter. | ☐ Yes ☐ No |  |
| **4** | **General minimum technical requirements to the frequency converter (applicable to items 1 to 18 above)** |  |  |
| 4.1 | The frequency converter is designed exclusively for the control of pumping units and must be equipped with an integrated PI controller | ☐ Yes ☐ No |  |
| 4.2 | The frequency converter has the following functions: | ☐ Yes ☐ No |  |
| 4.2.1 | - Maintaining a constant pressure; | ☐ Yes ☐ No |  |
| 4.2.2 | - Maintaining a constant level; | ☐ Yes ☐ No |  |
| 4.2.3 | - Maintaining a constant temperature; | ☐ Yes ☐ No |  |
| 4.2.4 | - Maintaining a constant differential pressure; | ☐ Yes ☐ No |  |
| 4.2.5 | - Maintaining consistent performance; | ☐ Yes ☐ No |  |
| 4.2.6 | - Control without feedback | ☐ Yes ☐ No |  |
| 4.2.7 | - Automatically checks and sets the correct direction of rotation. | ☐ Yes ☐ No |  |
| 4.2.8 | - Run/Reserve function to increase system reliability and ensure uniform pump operation. | ☐ Yes ☐ No |  |
| 4.2.9 | - Integrated dry-running protection function | ☐ Yes ☐ No |  |
| 4.2.10 | - Calculating and displaying the specific electricity on the screen in the menu (when connected to a frequency converter flow meter) | ☐ Yes ☐ No |  |
| 4.2.11 | - Alarm log (displays the five most recent alarms) and a warning log (displays the five most recent warning signals) in the menu | ☐ Yes ☐ No |  |
| 4.2.12 | - Frequency converters support network integration for real-time data analysis and remote monitoring. | ☐ Yes ☐ No |  |
| 4.3 | The frequency converter has the following electrical inputs and outputs: | ☐ Yes ☐ No |  |
| 4.3.1 | - RS-485 communication port | ☐ Yes ☐ No |  |
| 4.3.2 | - Analog input 0-10 V for external setpoint. | ☐ Yes ☐ No |  |
| 4.3.3 | - Analog input 0 / 4-20 mA for external setpoint. | ☐ Yes ☐ No |  |
| 4.3.4 | - Analog input 0 / 4-20 mA for sensor. | ☐ Yes ☐ No |  |
| 4.3.5 | - Four digital inputs for various functions, e.g. external start/stop, etc. | ☐ Yes ☐ No |  |
| 4.3.6 | - Two alarm relay outputs (C/NO/NC). | ☐ Yes ☐ No |  |
| 4.4 | Technical characteristics of the frequency converter: | ☐ Yes ☐ No |  |
| 4.4.1 | - rated power - P2: according to the rated power of the pump; | ☐ Yes ☐ No |  |
| 4.4.2 | - voltage range: 3x380-500V (380- 440V / 441 - 500V); | ☐ Yes ☐ No |  |
| 4.4.3 | - protection class - IP54 or better | ☐ Yes ☐ No |  |
| 4.4.4 | - rated current: according to the pump current | ☐ Yes ☐ No |  |
| 4.4.5 | - Efficiency at maximum load: 98 % | ☐ Yes ☐ No |  |
| 4.4.6 | - ambient temperature range 0 .. 40 °C | ☐ Yes ☐ No |  |
| 4.4.7 | - Relative humidity: 5…95 % | ☐ Yes ☐ No |  |
| 4.5 | The frequency converter has the following functions to protect the pump motor: | ☐ Yes ☐ No |  |
| 4.5.1 | - from poor grounding. | ☐ Yes ☐ No |  |
| 4.5.2 | - short circuit protection | ☐ Yes ☐ No |  |
| 4.5.3 | - overload and blockage. | ☐ Yes ☐ No |  |
| 4.5.4 | - from overheating | ☐ Yes ☐ No |  |
| **5** | **Other requirements** |  |  |
| 5.1 | Bid includes brand/model of the goods and manufacturer's technical literature/catalogue, all confirming that the offered items comply with required specifications. | ☐ Yes ☐ No |  |
| 5.2 | The period of validity of the Warranty. The warranty shall remain valid for 24 months after the Goods, or any portion thereof as the case may be, have been delivered to and accepted at the final destination. The Warranty should include preventive maintenance, replacement of defective parts/equipment, repair of equipment, labour for equipment repair and/or parts replacement. | ☐ Yes ☐ No |  |
| 5.3 | Warranty service. Within the warranty period, the Supplier or its authorised service centre shall provide maintenance and/or repair services to the equipment operation site not later than 10 (ten) workdays from the date of receipt of written or E-mail notification from an authorised party. The name of the company, address, telephone- and fax numbers, e-mail address must be mentioned in the bid. The service centre shall have at least one certified engineer in its staff. | ☐ Yes ☐ No |  |
| 5.4 | Technical documentation for maintenance and repair of the supplied goods. The minimum set of technical documents to be provided with each piece of equipment delivered is the following: • User Manual and Operating Instructions (in Englihs and/or Ukrainian) • Maintenance guidelines (in Ukrainian or English). All tags/labels on the equipment shall be in English or Ukrainian language. | ☐ Yes ☐ No |  |
| 5.5 | Bid includes the total volume of the Goods in M3 and gross weight of the goods in KG. | ☐ Yes ☐ No |  |
| 5.6 | Bid includes the Country of origin of the goods and FCA point of delivery. | ☐ Yes ☐ No |  |
| 5.7 | Product compatibility within this Lot is confirmed with all its subsets (Lots 1.1, 1.2, and 1.3). This includes but is not limited to mechanical and operational compatibility and material compatibility where applicable. Outline any integration issues (such as flange sizes, pipe threads, and fitting types) in the details box and the proposed solutions for seamless functionality. | ☐ Yes ☐ No |  |
| **6** | **To confirm the requirements for technical and quality characteristics of the equipment , the Bidder shall provide:** |  |  |
| 6.1 | An official letter from the manufacturer, its subsidiary or official representative in Ukraine stating that the equipment is delivered in its original packaging and is fully ready for use | ☐ Yes ☐ No |  |
| 6.2 | An official letter from the manufacturer, its subsidiary or official representative in Ukraine, that the pumps will undergo factory tests in accordance with the ISO9906:2012 and guaranteeing that the test protocol on the factory test bench, according to ISO 9906 will be included in the delivery package for each pump | ☐ Yes ☐ No |  |
| 6.3 | An official letter from the manufacturer, its subsidiary or official representative in Ukraine stating that the frequency converter are CE marked in accordance with the current European directives. | ☐ Yes ☐ No |  |
| 6.4 | ISO 9001, 14001 certificates of the manufacturer of the product offered by the participant. | ☐ Yes ☐ No |  |
| 6.5 | Electronic copies of technical documentation for the equipment: | ☐ Yes ☐ No |  |
| 6.6.1 | - technical passport and excerpts from the manufacturer's technical catalogs (with technical specifications, description of construction and materials, drawings of overall dimensions, functionality, etc.); | ☐ Yes ☐ No |  |
| 6.6.2 | - installation and operating manuals; | ☐ Yes ☐ No |  |
| 6.6.3 | - warranty card with a list of official service center(s) in Ukraine. | ☐ Yes ☐ No |  |
| 6.7 | A document confirming the status of the Bidder as a manufacturer or an official representative (dealer, distributor, etc.) of the manufacturing plant or a subsidiary of the manufacturing plant or its official representative in Ukraine (attach an official letter from the manufacturing plant, its subsidiary or official representative in Ukraine confirming the status of the Bidder and its responsibility for the goods supplied) | ☐ Yes ☐ No |  |
| 6.8 | An official letter from the manufacturer, its subsidiary or official representative in Ukraine, stating that the company has a certified service center authorized by the manufacturer to provide prompt warranty and post-warranty service. The official letter must include the address of the certified service center | ☐ Yes ☐ No |  |
| 6.9 | The total price of the offer for all lots includes the cost of commissioning the equipment (pumps and control cabinets with frequency converters) by service specialists authorized by the manufacturer. This is essential to ensure that the installation is carried out correctly and to uphold the manufacturer's warranty obligations. | ☐ Yes ☐ No |  |

**C.1. Delivery requirements for Lot 1.1**

| **UNOPS Requirements** | | **Is the bid compliant?** Bidder to complete | **Details**  Bidder to complete |
| --- | --- | --- | --- |
| **Delivery time** | The Bidder shall deliver the goods as soon as possible but not later than 90 calendar days after the PO is issued. Partial delivery of the goods within this period is acceptable. Bidders must provide a delivery schedule.  The offered goods are to be (DAP customs cleared) **delivered and unloaded only, Mykolaiv region: Mykolaiv city.** | ☐Yes ☐ No |  |
| **Delivery place and Incoterms rules** | DAP (customs cleared) Incoterms 2020 (**delivered at place and unloaded**) customs cleared **Mykolaiv region: Mykolaiv city,** net of any direct taxes, customs duties, or indirect taxes. | ☐Yes ☐ No |  |
| **Consignee details** | Delivery address and consignee details will be provided to the successful Bidder(s) | ☐Yes ☐ No |  |

**Lot 1.2 Valves**

| **N** | **UNOPS minimum technical requirements** | **Is Bid Compliant? Bidder to complete** | **Details of the offered goods. Bidder to complete** |
| --- | --- | --- | --- |
| **Lot 1** | **Pumps with supplies** |  |  |
| **1.2** | **Valves** |  |  |
| Item 1 | Ball flange full-pass valve with a reducer (with manual drive) DN 400/PN16  ( Kvs not less 37000 m3/h )  2 pcs | ☐ Yes ☐ No |  |
| Item 2 | Ball valve full-pass flange with reducer (with manual drive) DN 350/PN16  ( Kvs not less 30000 m3/h )  6 pcs | ☐ Yes ☐ No |  |
| Item 3 | Ball valve full-pass flange with reducer (with manual drive) DN 300/PN16  ( Kvs not less 24000 m3/h )  4 pcs | ☐ Yes ☐ No |  |
| Item 4 | Ball valve full-pass flange with gearbox (with manual drive) DN 200/PN16  ( Kvs not less 11000 m3/h )  12 pcs | ☐ Yes ☐ No |  |
| Item 5 | Ball valve full-pass flange with a gearbox (with manual drive) DN 150/PN16  ( Kvs not less 6100 m3/h )  6 pcs | ☐ Yes ☐ No |  |
| Item 6 | Ball valve full-pass flange DN 100/PN16  ( Kvs not less 2300 m3/h )  16 pcs | ☐ Yes ☐ No |  |
| Item 7 | Ball valve full-pass flange DN 125/PN16  ( Kvs not less 3700 m3/h )  10 pcs | ☐ Yes ☐ No |  |
| Item 8 | Ball valve full-pass flange DN 80/PN16  ( Kvs not less 1100 m3/h )  10 pcs | ☐ Yes ☐ No |  |
| Item 9 | Ball valve full-pass flange DN 65/PN16  ( Kvs not less 800 m3/h )  6 pcs | ☐ Yes ☐ No |  |
| Item 10 | Check valve two-leaf spring-loaded inter-flange DN350/PN16  2 pcs | ☐ Yes ☐ No |  |
| Item 11 | Check valve two-leaf spring-loaded inter-flange DN300/PN16  4 pcs | ☐ Yes ☐ No |  |
| Item 12 | Check valve two-leaf spring-loaded inter-flange DN200/PN16  6 pcs | ☐ Yes ☐ No |  |
| Item 13 | Check valve two-leaf spring-loaded inter-flange DN150/PN16  2 pcs | ☐ Yes ☐ No |  |
| Item 14 | Check valve two-leaf spring-loaded inter-flange DN100/PN16  10 pcs | ☐ Yes ☐ No |  |
| Item 15 | Check valve two-leaf spring-loaded inter-flange DN125/PN16  2 pcs | ☐ Yes ☐ No |  |
| Item 16 | Check valve two-leaf spring-loaded inter-flange DN80/PN16 4 pcs | ☐ Yes ☐ No |  |
| Item 17 | Check valve two-leaf spring-loaded inter-flange DN65/PN16  6 pcs | ☐ Yes ☐ No |  |
| **2** | **General minimum technical requirements (applicable to items 1 to 9 above)** |  |  |
| 2.1 | Maximum working environment temperature - not less 150°С, | ☐ Yes ☐ No |  |
| 2.2 | Maximum conditional pressure – 1.6 МPа | ☐ Yes ☐ No |  |
| 2.3 | The body of the ball valve must be all-welded steel. | ☐ Yes ☐ No |  |
| 2.4 | The main parts of ball valves shall be made of the materials specified below or of better quality (with mandatory justification).  - body - carbon steel  - the ball - stainless steel;  - ball seal is PTFE reinforced with carbon fiber;  - stem - stainless steel;  - stem seal - PTFE-Graphite;  - flanges EN1092 (ГОСТ12815) - carbon steel; | ☐ Yes ☐ No |  |
| 2.5 | Valves have additional corrosion-resistant coatings suitable for intended environmental conditions. | ☐ Yes ☐ No |  |
| 2.5 | Valves are compatible with both manual operations and future actuator integrations. | ☐ Yes ☐ No |  |
| **3** | **General minimum technical requirements (applicable to items 10 to 17 above)** |  |  |
| 3.1 | Working environment is water. | ☐ Yes ☐ No |  |
| 3.2 | Maximum conditional pressure – 1.6 МPа | ☐ Yes ☐ No |  |
| 3.3 | Maximum working temperature - not less than 100 C | ☐ Yes ☐ No |  |
| 3.4 | Materials and construction (must be confirmed in the datasheet): | ☐ Yes ☐ No |  |
| 3.4.1 | - Execution type: two-leaf spring-loaded. | ☐ Yes ☐ No |  |
| 3.4.2 | - The working position is vertical and horizontal. | ☐ Yes ☐ No |  |
| 3.4.3 | - Body - cast iron EN-GJL-250 or better. | ☐ Yes ☐ No |  |
| 3.4.4 | - Plates (leaf) - stainless steel (AISI 304) or better. | ☐ Yes ☐ No |  |
| 3.4.5 | Valves specific leakage classification of Class IV as defined by ANSI/FCI 70-2 (or European Equivalent standard IEC 60534-4) to ensure minimal leakage. | ☐ Yes ☐ No |  |
| 3.4.6 | Materials for valves meet impact resistance standards to handle sudden pressure changes. | ☐ Yes ☐ No |  |
| **4** | **Other requirements** |  |  |
| 4.1 | Bid includes brand/model of the goods and manufacturer's technical literature/catalogue, all confirming that the offered items comply with required specifications. | ☐ Yes ☐ No |  |
| 4.2 | The period of validity of the Warranty. The warranty shall remain valid for 24 months after the Goods, or any portion thereof as the case may be, have been delivered to and accepted at the final destination. The Warranty should include preventive maintenance, replacement of defective parts/equipment, repair of equipment, labour for equipment repair and/or parts replacement. | ☐ Yes ☐ No |  |
| 4.3 | Warranty service. Within the warranty period, the Supplier or its authorised service centre shall provide maintenance and/or repair services to the equipment operation site not later than 10 (ten) workdays from the date of receipt of written or E-mail notification from an authorised party. The name of the company, address, telephone- and fax numbers, e-mail address must be mentioned in the bid. The service centre shall have at least one certified engineer in its staff. | ☐ Yes ☐ No |  |
| 4.4 | Technical documentation for maintenance and repair of the supplied goods. The minimum set of technical documents to be provided with each piece of equipment delivered is the following: • User Manual and Operating Instructions (in Englihs and/or Ukrainian) • Maintenance guidelines (in Ukrainian or English). All tags/labels on the equipment shall be in English or Ukrainian language. | ☐ Yes ☐ No |  |
| 4.5 | Bid includes the total volume of the Goods in M3 and gross weight of the goods in KG. | ☐ Yes ☐ No |  |
| 4.6 | Bid includes the Country of origin of the goods and FCA point of delivery. | ☐ Yes ☐ No |  |
| 4.7 | Product compatibility within this Lot is confirmed with all its subsets (Lots 1.1, 1.2, and 1.3). This includes but is not limited to mechanical and operational compatibility and material compatibility where applicable. Outline any integration issues (such as flange sizes, pipe threads, and fitting types) in the details box and the proposed solutions for seamless functionality. | ☐ Yes ☐ No |  |
| **5** | **To confirm the requirements for technical and quality characteristics of the equipment , the Bidder shall provide:** |  |  |
| 5.1 | Passport from the manufacturer with a detailed technical description of the equipment and instructions for operation and installation of the equipment offered for participation in the tender. | ☐ Yes ☐ No |  |
| 5.2 | ISO 9001, 14001, 45001, PED 2014/68/EU certificates of the manufacturer of the product offered by the participant. | ☐ Yes ☐ No |  |
| 5.3 | The total price of the offer for all lots includes the cost of commissioning the equipment (pumps and control cabinets with frequency converters) by service specialists authorized by the manufacturer. This is essential to ensure that the installation is carried out correctly and to uphold the manufacturer's warranty obligations. |  |  |

**C.1. Delivery requirements for Lot 1.2**

| **UNOPS Requirements** | | **Is the bid compliant?** Bidder to complete | **Details**  Bidder to complete |
| --- | --- | --- | --- |
| **Delivery time** | The Bidder shall deliver the goods as soon as possible but not later than 90 calendar days after the PO is issued. Partial delivery of the goods within this period is acceptable. Bidders must provide a delivery schedule.  The offered goods are to be (DAP customs cleared) **delivered and unloaded only, Mykolaiv region: Mykolaiv city.** | ☐Yes ☐ No |  |
| **Delivery place and Incoterms rules** | DAP (customs cleared) Incoterms 2020 (**delivered at place and unloaded**) customs cleared **Mykolaiv region: Mykolaiv city,** net of any direct taxes, customs duties, or indirect taxes. | ☐Yes ☐ No |  |
| **Consignee details** | Delivery address and consignee details will be provided to the successful Bidder(s) | ☐Yes ☐ No |  |

**Lot 1.3 Pipeline details ( Flanges and reducers)**

| **N** | **UNOPS minimum technical requirements** | **Is Bid Compliant? Bidder to complete** | **Details of the offered goods. Bidder to complete** |
| --- | --- | --- | --- |
| **Lot 1** | **Pumps with supplies** |  |  |
| **1.3** | **Pipeline details ( Flanges and reducers)** |  |  |
| Item 1 | Flat welded steel flange DN400/PN16 - 4 pcs | ☐ Yes ☐ No |  |
| Item 2 | Flat welded steel flange DN350/PN16 - 18 pcs | ☐ Yes ☐ No |  |
| Item 3 | Flat welded steel flange DN250/PN16 - 2 pcs | ☐ Yes ☐ No |  |
| Item 4 | Flat welded steel flange DN300/PN16 - 20 pcs | ☐ Yes ☐ No |  |
| Item 5 | Flat welded steel flange DN200/PN16 - 30 pcs | ☐ Yes ☐ No |  |
| Item 6 | Flat welded steel flange DN125/PN16 - 38 pcs | ☐ Yes ☐ No |  |
| Item 7 | Flat welded steel flange DN80/PN16 - 36 pcs | ☐ Yes ☐ No |  |
| Item 8 | Flat welded steel flange DN100/PN16 - 80 pcs | ☐ Yes ☐ No |  |
| Item 9 | Flat welded steel flange DN150/PN16 - 20 pcs | ☐ Yes ☐ No |  |
| Item 10 | Flat welded steel flange DN50/PN16 - 8 pcs | ☐ Yes ☐ No |  |
| Item 11 | Flat welded steel flange DN65/PN16 - 24 pcs | ☐ Yes ☐ No |  |
| Item 12 | Eccentric reducers 426\*377 - 2 pcs | ☐ Yes ☐ No |  |
| Item 13 | Concentric reducers 377\*273 - 2 pcs | ☐ Yes ☐ No |  |
| Item 14 | Eccentric reducers 377\*325 - 4 pcs | ☐ Yes ☐ No |  |
| Item 15 | Concentric reducers 325\*219 - 4 pcs | ☐ Yes ☐ No |  |
| Item 16 | Eccentric reducers 133\*219 - 4 pcs | ☐ Yes ☐ No |  |
| Item 17 | Concentric reducers 108\*219 - 6 pcs | ☐ Yes ☐ No |  |
| Item 18 | Concentric reducers 89\*219 - 2 pcs | ☐ Yes ☐ No |  |
| Item 19 | Eccentric reducers 108\*159 - 2 pcs | ☐ Yes ☐ No |  |
| Item 20 | Concentric reducers 89\*159 - 2 pcs | ☐ Yes ☐ No |  |
| Item 21 | Eccentric reducers is 108\*76 - 2 pcs | ☐ Yes ☐ No |  |
| Item 22 | Concentric reducers 108\*57 - 2 pcs | ☐ Yes ☐ No |  |
| Item 23 | Eccentric reducers 133\*108 - 10 pcs | ☐ Yes ☐ No |  |
| Item 24 | Concentric reducers 159\*133 - 2 pcs | ☐ Yes ☐ No |  |
| Item 25 | Eccentric reducers 108\*89 - 12 pcs | ☐ Yes ☐ No |  |
| Item 26 | Concentric reducers 89\*76 - 10 pcs | ☐ Yes ☐ No |  |
| Item 27 | Eccentric reducers 76\*89 - 6 pcs | ☐ Yes ☐ No |  |
| **1** | **General minimum technical requirements (applicable to items 1 and 11 above)** |  |  |
| 1.1 | Мaterial - carbon steel, | ☐ Yes ☐ No |  |
| 1.2 | Maximum conditional pressure – 16 МПа | ☐ Yes ☐ No |  |
| 1.3 | Standard - EN1092 (ДСТУ 12820) | ☐ Yes ☐ No |  |
| 1.4 | Protective coatings for steel flanges to prevent corrosion. | ☐ Yes ☐ No |  |
| 1.5 | Surface finish is of stock finish for flange faces to ensure proper sealing. | ☐ Yes ☐ No |  |
| **2** | **General minimum technical requirements (applicable to items 12 ato 27 above)** |  |  |
| 2.1 | Мaterial - carbon steel | ☐ Yes ☐ No |  |
| 2.2 | Standard - ISO 3419 (ДСТУ 17378) | ☐ Yes ☐ No |  |
| 2.3 | All components come with a mill test certificate confirming material properties. | ☐ Yes ☐ No |  |
| **3** | **Other requirements** |  |  |
| 3.1 | Bid includes brand/model of the goods and manufacturer's technical literature/catalogue, all confirming that the offered items comply with required specifications. | ☐ Yes ☐ No |  |
| 3.2 | The period of validity of the Warranty. The warranty shall remain valid for 24 months after the Goods, or any portion thereof as the case may be, have been delivered to and accepted at the final destination. The Warranty should include preventive maintenance, replacement of defective parts/equipment, repair of equipment, labour for equipment repair and/or parts replacement. | ☐ Yes ☐ No |  |
| 3.3 | Bid includes the total volume of the Goods in M3 and gross weight of the goods in KG. | ☐ Yes ☐ No |  |
| 3.4 | Bid includes the Country of origin of the goods and FCA point of delivery. | ☐ Yes ☐ No |  |
| 3.5 | Materials and processes to comply with environmental regulations like REACH and RoHS.  operties. | ☐ Yes ☐ No |  |
| 3.6 | Product compatibility within this Lot is confirmed with all its subsets (Lots 1.1, 1.2, and 1.3). This includes but is not limited to mechanical and operational compatibility and material compatibility where applicable. Outline any integration issues (such as flange sizes, pipe threads, and fitting types) in the details box and the proposed solutions for seamless functionality. | ☐ Yes ☐ No |  |
| **4** | **To confirm the requirements for technical and quality characteristics of the equipment , the Bidder shall provide:** |  |  |
| 4.1 | An official letter from the bidders , that the components meet the standards of EN1092 (ДСТУ 12820) and ISO 3419 (ДСТУ 17378) and will be marked in accordance with EN1092 (ДСТУ 12820) and ISO 3419 (ДСТУ 17378) upon delivery | ☐ Yes ☐ No |  |
| 4.2 | The total price of the offer for all lots includes the cost of commissioning the equipment (pumps and control cabinets with frequency converters) by service specialists authorized by the manufacturer. This is essential to ensure that the installation is carried out correctly and to uphold the manufacturer's warranty obligations. | ☐ Yes ☐ No |  |

**C.1. Delivery requirements for Lot 1.3**

| **UNOPS Requirements** | | **Is the bid compliant?** Bidder to complete | **Details**  Bidder to complete |
| --- | --- | --- | --- |
| **Delivery time** | The Bidder shall deliver the goods as soon as possible but not later than 90 calendar days after the PO is issued. Partial delivery of the goods within this period is acceptable. Bidders must provide a delivery schedule.  The offered goods are to be (DAP customs cleared) **delivered and unloaded only, Mykolaiv region: Mykolaiv city.** | ☐Yes ☐ No |  |
| **Delivery place and Incoterms rules** | DAP (customs cleared) Incoterms 2020 (**delivered at place and unloaded**) customs cleared **Mykolaiv region: Mykolaiv city,** net of any direct taxes, customs duties, or indirect taxes. | ☐Yes ☐ No |  |
| **Consignee details** | Delivery address and consignee details will be provided to the successful Bidder(s) | ☐Yes ☐ No |  |