# *ANNEX II + III:* TECHNICAL SPECIFICATIONS + TECHNICAL OFFER

**Contract title: Supply of Laboratory equipment for the purposes and functioning of the scientific laboratories of the BLUE GROWTH Research centre at “Prof. D-r Asen Zlatarov” University of Burgas**

**Lot 9** Supply of analytical equipment for the purposes of the Water Pollution Monitoring, Aquatic Ecosystem Modelling and Aquaculture and Biotechnology Labs

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**Publication reference:** CB005.3.12.001 - LP – Supply 3

**Columns 1-2 should be completed by the contracting authority**

**Columns 3-4 should be completed by the tenderer**

**Column 5 is reserved for the evaluation committee**

Annex III - the contractor's technical offer

The tenderers are requested to complete the template on the next pages:

* Column 2 is completed by the contracting authority shows the required specifications (not to be modified by the tenderer),
* Column 3 is to be filled in by the tenderer and must detail what is offered (for example the words ‘compliant’ or ‘yes’ are not sufficient)
* Column 4 allows the tenderer to make comments on its proposed supply and to make eventual references to the documentation

The eventual documentation supplied should clearly indicate (highlight, mark) the models offered and the options included, if any, so that the evaluators can see the exact configuration. Offers that do not permit to identify precisely the models and the specifications may be rejected by the evaluation committee.

The offer must be clear enough to allow the evaluators to make an easy comparison between the requested specifications and the offeredspecifications.

| **1.**  **Item number** | **2.**  **Specifications required** | **3.**  **Specifications offered** | **4.**  **Notes, remarks,  ref to documentation** | **5.**  **Evaluation committee’s notes** |
| --- | --- | --- | --- | --- |
| **1.** | **Sieve analysis – 2 pcs**  Capacity – 8 sieves ø 100/ 150/ 200 mm + a bottom and a lid  Movement – 3 D  Maximum volume of the sample – 1 /2,5 кг  Materials with thickness >0.8 gr/ sm3  Suitable for dry and wet sieve  Timer 0-99 min. |  |  |  |
| **2.** | **Sieves for sieve analysis – 2pcs**  A set of sieves for:  very fine fraction  gross fraction - 1mm  middle fraction -500µм, 250 µм, 100 µм  Fine fraction - ,50 µм, 25 µм, 10µм, 1µм  Bottom and lid  A set of sieves for:  very fine fraction  gross fraction - 2mm, 1mm  middle fraction -500µм,315 µм, 200 µм, 150 µм, 100 µм  Bottom and lid |  |  |  |
| **3.** | **Single glass system for membrane filtration of microbiological samples – 4 pcs**  The system to be produced of borosilicate glass. Capacity of the filtering funnel - 500ml, tank 200ml. Connected with aluminum clamp. Suitable for membranes of 47 mm и 50 mm. |  |  |  |
| **4.** | **Membrane filtration system for microbiological sample – 2 pcs**  A system with 3 filtering bodies, suitable for membrane filters Ø 47mm. The system should consist of:  1 stainless steal collector allowing the installation of 3 filtering devices  3 filtering funnels with a volume of 300ml  Electrical vacuum pump, debit 25 l/min |  |  |  |
| **5.** | **Electromagnetic stirrer – 2 pcs**  Digital thermo regulator for control of real tempreture  Tempreture range +30 ÷ 370оС  Accuracy : 0.5оС  Speed 0 -1200 rpm  Power 630 W |  |  |  |
| **6.** | **Vacuum pump/ compressor – 3 pcs**  Universal lab vacuum pump; Debit: min 25L/min and manometer |  |  |  |
| **7.** | **Moisture measuring scale – 1 pc**  Weigth: up to 160g;  Technique for detection: 0,001g/0,01%;  Tempreture range: +35°C до 160°C;  Margin of increase: 1°C;  Monitoring of the drying process and switch off at the set time or when the sample reaches stable wegth;  Range of measurement: % moisture: 0-100%; % dry substance: 100-0%; |  |  |  |
| **8.** | **System for purified water type 2 - 1 pc**  capacity 5 L/h  (EN ISO 3696:2000 or equivelent) |  |  |  |
| **9.** | **Dryer – 1 pc**  Working temperature 5оС over the ambient up to 250оС (option 300оС)  3'' LEDCOG display; electronic protection device  9 programmes  Timer: 99h. 59 min.  Minimum volume: 20l. |  |  |  |
| **10** | **Refrigerator – 3 pcs**  Energy efficiency class: А++; Electricity consumption per year - 216kWh; Volume /total/ - min 200l; freezer;  Automatic unfreeze system. |  |  |  |
| **11.** | **Digital microscope – 2 pcs**  Binocular head, tilt 30, rotation 360, digital/ analogue camera built-in.  Resolution: 720х576 pixels USB 2,0.  Ocular WF10х/20mm.  Table 140mmх135mm. Condenser 1,25 with iris diagnostics and length of the filter.  Ligthening 12V/20W halogen lamp with intensity control. |  |  |  |
| **12** | **Automatic micro pipettes – 5 pcs**  Single channeled pipettes, changeable volume and variaty volume ejector:  - 50 µL (0,05 mL)  - 20 µL (0,02mL)  - 0.2-1.0 mL )  - 1.0-5.0 mL  - 1.0-5.0 mL  A set of nozzles for each one of them and tripod for all. |  |  |  |
| **13** | **Distiller – 3 pcs**  Desktop/ Wall  Built-in reservoir  Capacity 4l/h  Power supply / power 230V / 50 - 60Hz / 6.0kW |  |  |  |
| **14** | **Muffle furnace – 1 pc**  Maximum temperature 1100°C  Speed of heating to 100°C/minute  Prigrammable temperature  4 levels of temperature  Delayed start: 24 hours  platinum thermal pair  Audio signal  Computer controlled ventilation of the chamber  6-digits display  Supply interruption protection  Thermal pair burning protection  Open door protection |  |  |  |
| **15** | **Centrifuge – 1 pc**  Universal laboratory centrifuge designed for operation at high speeds, rotor with cover; ability to save work programs; LCD display for visualization of operating parameters - speed and time; brushless drive rotor; electric brake; smooth stop and start options; electrical compatibility: 220-240 V / 50-60 Hz; |  |  |  |
| **16** | **Centrifuge – 1 pc**  flying rotor;  Maximum capacity 4х150ml; maximum speed 4х100 rpm;  Maximum RCF: 3.045хg; |  |  |  |
| **17** | **Vacuum dryer – 1 pc**  Working temperature 5оС over the ambient up to 200оС  3'' LEDCOG display  Electrical safety device  Connected to vacuum pump |  |  |  |
| **18** | **Professional desktop pH – meter – 1 pc**  Desktop device for Ph measurement  3-in-1 pH / ATC probe  solutions  • рН 4 - 475 ml  • рН 7 - 475 ml  • рН 10 - 475 ml  • solution for keeping the electrode  • cleaning solution;  Container for storing the Ph electrode; Tripod for the electrode; Universal power adapter |  |  |  |
| **19** | **Heating mental – 1 pc**  for flasks: 3000ml |  |  |  |
| **20** | **Furnace – 1 pc**  maximum temperature -15000С; Volume 3l; working chamber dimensions width/ depth/ height - 120/210/120mm  The equipment should be guaranteed for at least 2 year against any manufacturing and assembly defects. Spare parts and service must be guaranteed for 10 years after the end of the warranty period. |  |  |  |
| **21** | **Analytical scale – 1 pc**  Accuracy: up to the 5 th sign with internal calibration  Capacity: gr. 220  accuracy: gr. 0.0001/ 0.00001 |  |  |  |