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

**Contract title: Supply of equipment for sampling, laboratory analysis and consumables for detecting the microplastics in water for the project MICROPLASTICS p 1 /6**

**Publication reference:** **01-94/8/HU-SRB supply**

**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.

**LOT no. 2- Sample preparation equipment**

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| --- | --- | --- | --- | --- |
| **1.**  **Item number** | **2.**  **Specifications required** | **3.**  **Specifications offered** | **4.**  **Notes, remarks,**  **ref to documentation** | **5.**  **Evaluation committee’s notes** |
| **1** | **Evaporation system with the following specification- 1 pc**   * Automated evaporation systems use nitrogen and heat from water heated to a specific temperature for evaporation. * Minimum six-position evaporation system, cuvettes up to 200 ml, with an endpoint capability of 0.5 ml and 1 ml. * Simple instrument operation using a display. * Circular nitrogen circulation is achieved through needles on the lid, allowing evaporation of samples without loss. * The model enables simultaneous evaporation of minimum 6 samples. * Capability for dry evaporation. * Adjustable alarms and user notifications when the evaporation process is complete. * Nitrogen flow control. * The automated extraction system must be able to process aqueous samples directly from their original containers. * Capability for complete and partial evaporation control if the rack is not fully loaded, to save gas consumption. * Power supply: 230V, 50-60Hz  |  | | --- | | **Consumables**   * Evaporation tubes up to 200 ml. |   **Note:**  It is required to submit for the purpose of verifying technical specification **a catalog/brochure,** or similar document, or an excerpt from a catalog, brochure, or similar document, based on which the technical characteristics of the offered equipment can be unequivocally determined, thereby proving without doubt that the offered supply meet all the required technical specifications. |  |  |  |
| **2** | **Automated SPE System and software with the following specification- 1 pc**   |  | | --- | | * The automated extraction system utilizes solid-phase extraction (SPE) disks to extract semi/non-volatile compounds from liquid samples. * Minimum three-position extraction system with an automated SPE disk capable of conditioning the disk, filtering, and extracting compounds of interest. * Fully automated unit controlled by a PC application compatible with common operating systems. * Simple application of various sample bottle types to minimize potential cross-contamination that may occur during sample overflow. * Sample bottle rinsing to minimize potential sample loss during extraction. * Ability to process up to three samples simultaneously. * Capability to analyze samples from 40 ml to 2 L or better. * Ability to use minimum 5 solvents for conditioning, washing, and elution. * Capability to separate organic solvents for safe disposal. * Sample flow control to efficiently handle large sample volumes with high suspended particle content. * The automated extraction system must be able to process aqueous samples directly from their original containers by turning bottles and placing them directly in the instrument holder. * Must be able to rinse the sample bottle with a solvent. * Compatibility with commercially available 47 mm SPE disks. * Capability to analyze different types of water samples (i.e. drinking water, wastewater, surface water). * Must support the use of prefilters. * Function for system rinsing between analyses and rinsing all solvent paths (if using new/different solvents). * Power supply: 230V, 50-60Hz.   **SPE Phases**   * The system must be compatible with stationary phases covering various compound polarities to be a useful tool for GC and LC analyses. * The stationary phase volume must be sufficient to process large sample volumes up to 2 L. * 47 mm disks for determining organochlorine pesticides, semi-volatile compounds, herbicides, PAHs, and other compounds according to relevant EPA methods – minimum 160 pieces * 47 mm disks for determining pesticides, dioxins, PAHs, PCBs, PPCPs, and other according to relevant EPA methods where C18 packing applies – minimum 80 pieces.   **Consumables and Spare Parts**   * Prefilters, 90 mm, 5 microns - minimum 100 pieces. * All necessary adapters for three positions for large volume sample bottles (1 L) and collection vials. * Drain tubes for solvents for GL 45 bottle, ventilation caps, and depth filters - 1 piece. * 47 mm disk holder - 3 pieces. * 33 x 400 1L Boston round sample bottles (12 bottles) - 4 pieces. * Adapter for vials - 19/22, 40 mL - 3 pieces. * Erlenmeyer flask with stopper 125 mL - 3 pieces. * Solvent-waste and water-waste lines. * Waste container. * Solvent waste container.   **Software**   * Extraction system management software. * Ability to use an existing method database that can be modified. * Ability for users to create and develop their own methods.   1. Disk wetting time and drying time must be user-adjustable.   **Computer**   * The computer must meet the equipment manufacturer’s operating system recommendations.   **Note:**  It is required to submit for the purpose of verifying technical specification **a catalog/brochure,** or similar document, or an excerpt from a catalog, brochure, or similar document, based on which the technical characteristics of the offered equipment can be unequivocally determined, thereby proving without doubt that the offered supply meet all the required technical specifications. | |  |  |  |
| **3.** | **Training**  The Contractor has the obligation to provide the Contracting Authority with appropriate training in the use of the appliances after delivery and installation of supplies. Accordingly, training related to the use of purchased equipment will be carried out in 3 days for maximum 5 persons. Trained staff should receive training certificates upon completion of the training. |  |  |  |
| **4.** | **After-sales service**  After-sales and maintenance service for one year.  All service technicians must be authorized and certified by the equipment manufacturer. |  |  |  |