**Name of the Scientific Laboratory: Sample Preparation Workshop**

1. **Objectives of the Scientific Laboratory:**

**Preparation of samples for further analysis**

1. **List of Laboratory Equipment:**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **№** | **Equipment Name** | **Brief Equipment Description** | **Tasks Performed on the Equipment** | **Year of Manufacture** | **Certification (yes/no)** | **Verification Date** | **Equipment Notes** |
|  | **Induction Furnace** | **Crucible Nominal Capacity:**  **Steel/Cast Iron – 5 kg**  **Copper – 5.5 kg**  **Aluminum – 1.7 kg**  **Melting Speed:**  **Steel/Cast Iron – 10 kg/h**  **Copper – 25 kg/h**  **Aluminum – 8 kg/h** | **Melting of Various Materials and Alloys** | **2016** | **no** | **2016** | **no** |
|  | **Induction Furnace** | **Crucible Nominal Capacity:**  **Steel/Cast Iron – 5 kg**  **Copper – 5.5 kg**  **Aluminum – 1.7 kg**  **Melting Speed:**  **Steel/Cast Iron – 10 kg/h**  **Copper – 25 kg/h**  **Aluminum – 8 kg/h** | **Melting of Various Materials and Alloys** | **2016** | **no** | **2016** | **no** |
|  | **Power Hammer** | **Hammering Frequency (Blows per Minute): 130**  **Effective Kinetic Energy of Falling Parts (at least), kgf/m: 1000**  **Distance from the Anvil Axis to the Upright, mm: 530**  **Mirror Size of the Hammers, mm (length x width): 250 x 90**  **Height of the Lower Hammer Mirror above the Floor Level, mm: 750**  **Working Cylinder Diameter, mm: 470**  **Compressor Cylinder Diameter, mm: 480**  **Compressor Piston Stroke, mm: 380**  **Maximum Babble Stroke, mm: 670**  **Optimal Section of the Forged Blank, mm (square side/circular diameter):**  **Square side – 100 mm**  **Circular diameter – 115 mm**  **Overall Dimensions, mm (left to right x front to back x height above the floor): 3020 x 1320 x 2650**  **Weight, kg (with anvil): 13100** | **For Mechanical Processing of Metals** | **1980** | **No** | **-** | **no** |
|  | **Electric Furnace** | **Performance (tons/hour): 360** | **Conducting heat treatment, melting of low-melting samples** | **1980** | **No** | **-** | **no** |
|  | **Water Ring Vacuum Pump** | **Electric Power Consumption (kW\*h/ton): 32.1**  **Air Compressor Specifications:**  **Capacity: 1.57 m3/min**  **Power Consumption at the Shaft: 2.80 kW**  **Water Supply to the Pump: 5 l/min** | **Creating a vacuum environment** | **2015** | **no** | **until 25.06.2018 г.,** | **no** |
|  | **Compressor** | **Performance: 1000 liters per minute (+/-5%)**  **Receiver Capacity: 500 liters**  **Final Compressed Air Pressure: 12 atmospheres**  **Compression Stages: 2**  **Number of Cylinders: 4**  **Compressor Crankshaft Speed: 750 rpm**  **Electric Drive Power: 10 kW**  **Air Cooling**  **Automatic Condensate Removal**  **Dimensions: 1866 x 670 x 1430 mm (Length x Width x Height)**  **Weight: 520 kg (without oil)**  **Operating Temperature Range: +10 to +40 degrees Celsius** | **Creating elevated gas pressure** | **1980** | **no** | **-** | **no** |

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