**Powder Metallurgy Lab**

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**PLANETARY MICRO MILL**

**Model:** **PULVERISETTE 7(***premium line)*

**Make:** FRITSCH GmbH.

Specifications:

|  |  |
| --- | --- |
| Application | Synthesis of micro, nano particles, mechanical alloying |
| Working Principle | Impact force |
| Grinding stations | 2 No’s |
| Grinding Bowls-Volume | 80 mL, 20 mL |
| Bowl and Balls-material | Tungsten Carbide |
| Grinding ball diameter | 0.6, 5, 10 mm |
| Max. feed size | 5 mm |
| Grinding conditions | Dry/wet/inert |
| RPM | Max. – 1100 ,Operation - 1000 |
| Attachments | GTM, Wet process emptying device, counterweights, inert gas |



**PELLET PRESS**

**Model:** PP 25

**Make:** RETSCH

Specifications:

|  |  |
| --- | --- |
| Application | Pressing pellets from powders |
| Feed Grain Size | <60 µm or <40 µm |
| Max. Capacity | 25 Ton |
| Operating capacity | 20 Ton |
| Pressure force | 10-250 kN |
| Die diameter | 32 mm |
| Attachment | Aluminum cups, free pressing |



**HIGH TEMPERATURE MUFFLE FURNACE**

**Make**: NABERTHERM

**Model:** LHTC(T) 03/16

Specifications:

|  |  |
| --- | --- |
| Application  | Sintering of metals and ceramics |
| Max. temperature | 1600 °C |
| Working temperature | 1500 °C |
| Heating chamber dimensions | 120x210x120 mm |
| Heating elements | SiC rods |
| Features | Programable, retrieval of data, fresh air flap, exhaust pipe |
| Attachments | Rotameter, inert atmosphere |



**POTENTIOSTAT AND GALVANOSTAT**

Make: Princeton Applied research

Model: VersaSTAT 3

Specifications:

|  |  |
| --- | --- |
| **Application** | Energy Storage, Corrosion & Electrochemistry.  |
| **Voltage control (Potentiostat mode)** |  |
| Applied voltage range | ± 10 V |
| Applied voltage accuracy | ±0.2% of value ± 2 mV |
| **Current control (Galvanostat mode)** |  |
| Applied current range | ± 2 A |
| Minimum current range / resolution  | ± 200 nA / 60 pA |
| **Impedance (EIS)** |  |
| Mode  | Potentiostatic / Galvanostatic |
| Frequency range  | 1 MHz |
| **Software** | VersaStudio |
| **Attachments** | Corrosion cell, platinum, calomel, Ag/AgCl reference electrodes. |



**WEIGHING BALANCE**

Model : Quintix 6102 -10IN

Make : Sartorius

Specifications:

|  |  |
| --- | --- |
| Weighing Capacity | 6100 g |
| Readability  | 10 mg |
| Repeatability  | 10 mg |
| Linearity Deviation | 20 mg |
| Weighing Pan Size | Ø180 mm |



**MUFFLE FURNACE**

(With PID Controller & Digital Timer)

Model : MSI – 73

Make : META Lab

Specifications:

|  |  |
| --- | --- |
| Temp. Range  | 1200oc |
| Working Temp. | 1150oc |
| Accuracy | +/- 1% FSD |
| Power Rating | 3.5 K.W |
| Size | 12"X6"X6" |



## **VIBRATORY SIEVE SHAKER**

## Make : M/s. FRITSCH GmbH

## Model: ANALYSETTE 3 PRO

Specifications:

|  |  |
| --- | --- |
| Method of analysis | sieving |
| Sieving action | two-dimensional |
| **Dry sieving** |  |
| Measuring range | 20 µm - 63 mm\* |
| Max. sample quantity approx | for sieves < 63mm:upto 2 kg\* for sieves < 100 µm: up to 100 g\* |
| Sieving time approx. | 3 - 20 min\* |
| **Wet sieving** |  |
| Measuring range | 20 µm - 10 mm |
| Max. sample quantity approx. | 20 - 100 g\* |
| Sieving time approx. | 30 - 60 min\* |
| **Further details** |  |
| Sieve diameters | 100 mm, 200 mm or 8" |
| Max. number of sieves per sieve stack | 10 (50 mm height), 16 (25 mm height) |
| Max. weight of sieve stack | 3 kg |
| Max. height of sieve stack | 550 mm |
| Amplitude | 0.1 - 3 mm |

