

10. Metallurgy Engineering Lab Equipment

SR No	DESCRIPTION OF EQUIPMENT (TECHNICAL DETAILS)
1	2
1	<p>Digital Ultrasonic Cleaner</p> <p>Capacity - 10 L, Ultrasonic Frequency - 40 KHz</p> <p>Power Supply - AC 220v±10%, 50/60Hz</p>
2	<p>Spin coater</p> <p>Substrate size 5-150mm</p> <p>Speed range 1-10000RPM</p> <p>Substrate size 5-150mm</p> <p>Speed range 1-10000RPM</p>
3	<p>Argon Gas (99.999 % purity)</p> <p>For Optical Emission Spectroscopy (OES)</p>
4	<p>Small induction furnace</p> <p>Type: induction Heating Power source: Electric Dimension (L*W*H*)550*240*480mm Weight :40kg</p> <p>Frequency :30-100KHZ</p> <p>Package : Plywood case working theory: Electromagnetic induction heating</p> <p>Application :Heating, Brazing, Melting, Quenching, Annealing etc.</p> <p>Dimension:500*210*460mm</p> <p>H.S code:8514400090 Cooling water: greater than0.2 Mpa 2- 5L/Min</p>

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5	Electrical Conductivity meter(microprocessor based)Features 128x64dots Graphical LCD display Auto temperature compensation Auto Ranging Facility 1000 samples stores facility Printer Attachment Facility Conductivity, TDS &Temp. measurement
6	laboratory rotary kiln (Max. temp 1300 C, speed 0-3.3 r/min, angle of inclination 0-10 deg, furnace tube size 100 x 1000mm, furnace power 24kw, weight 775 kg, motor power 0.6 kw, controller weight 160 kg)
7	Pet desiccator BG 574x517x1020 mm
8	Agate mortar Dia 50 x Dia X 18 mm
9	Active digital controller Inverted magnetron gauge, $1\sim 10^{-6}$ Pa

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10	<p>Digital cupping testing machine</p> <ol style="list-style-type: none"> 1. Diameter of punch: $\Phi 20\text{mm}$ 2. Maximum dent depth: 15mm 3. Maximum depress power: 2,500N 4. Precision of dent: 0.01mm 5. Counter: digital display, in 0.01mm increments 6. Dimension of test pane: 150mm*70mm*0.03~1.25mm Smooth, not deformed 7. Material: polished steel panel 8. Weight: 35Kg 9. Dimensions: 230*300*280mm (L*W*H)
11	<p>Table top Metallurgical belt grinder</p> <p>Belt size "4"*36"</p>
12	<p>Manual Hydraulic Dry Pressing Machine</p> <p>Heavy Duty 100 tons</p> <p>Product description</p> <p>This is a heavy duty 100 metric tons hydraulic dry pressing machine with built in manual oil pump, which is design for materials / chemistry research laboratories</p> <p>To prepare larger samples/ targets of compound ceramics.</p>
13	<p>Dry pressing Die (1" diameter), Maximum Pressure :30 metric tons, Rockwell Hardness: RC 62, Diameter ID: 25mm, Height 105mm (assembled without sample) Sleeve Height: 50mm, Sleeve Diameter (OD): 46mm, Tolerance : 0.01–0.02mm (10–20 micron)</p>

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14	Thermal Conductivity Apparatus, product specification, Brand EIE, Accuracy $\pm 1.3\%$, voltage 220/240V, 50Hz, single phase, AC supply powder, 450 watt, Grease pot 1x Brass (Optional Stainless steel), Worker plate 51x1/4 inch holes (optional churn plate 270x1/16 inch holes) Salient
15	Aluminum oxide 4" Belt P80 Package: 25pcs/pack P120 Package: 25pcs/pack P180 Package: 25pcs/pack P240 Package: 25pcs/pack P320 Package: 25pcs/pack P400 Package: 25pcs/pack P600 Package: 25pcs/pack
16	Crack Growth Clip on gauge Clip on gauge, rated travel (+10 mm/-1 mm), Bolt on Knife edge, Instron self-identifying 25-pin connector and the MTS MS 165-15-1002 9-pin connector
17	Overhead stirrer Motor type: brushless DC motor, Motor input power: 60W, Motor output power: 70W, Voltage: 100-240V, 50/60 Hz, Speed display: LED, Speed range: 50-2200rpm
18	Manual mounting press Single mount type/With water pump/Total Power 1760W, mounting sample (mold) size: $\varnothing 30$

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19	<p>Hot mounting powder- Green Phonetic formaldehyde resin / Thermosetting Package: 25kg It might comes into 1kg per pack, total with 25 packs</p>
20	<p>Carbon-base conductive mounting powder Phonetic formaldehyde resin / Thermosetting Package: 0.45kg</p>
21	<p>Micrometers Satandard external micrometer, 0 to 25 mm, 25~50 mm</p>
22	<p>Diamond saw Cutting Ability: Max.Ø 40mm/Motor Power: 40W Standard accessories:The long type test piece clamping apparatus (Ø 40) Cutting Blade size: Ø 3"~Ø 5", Including 10 cutting blade</p>
23	<p>Manual grinder and polisher- dualplaten Platen size: 8"Accessories: Grinding platen (with O-ring) &Poishing platen</p>
24	<p>Grinding platen 8" (Ø 203.2mm) (old ordering no. D321.001)</p>
25	<p>Diamond Paste 1 µm/5g</p>
26	<p>Diamond Paste 3 µm/5g</p>
27	<p>Diamond Paste 6µm/5g</p>

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SR No	DESCRIPTION OF EQUIPMENT (TECHNICAL DETAILS)
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28	<p>Salt Spray Test Chamber Brand Type-ZLHS-90-SH Size-Working room (90cm*50*60cm) Temperature Range : +5°C~60°C Temperature uniformity : ±2°C Temperature fluctuation degree : ±0.5°C Salt spray deposition : 1~2ml/80cm².h Spraying method : Continuous, Periodic Optional Test Timing : 1~9999(H、 M、 S)adjustable Operating ambient temperature : 5°C~+30°C ≤85</p>
29	<p>Polarizing Microscope Brand:Euromex , Model :IS.1053-PLPOLRi, DC.18000-Pro, Pair of EWF 10x/20 mm eyepieces, One EWF 10x/20 mm eyepiece with crosshair and one with crosshair and micrometer. Trinocular version with Siedentopf 30° inclined tubes. Interpupillary distance 48-76 mm with diopter adjustment on both eyepieces. Revolving quadruple reversed nosepiece on ball bearings. Strain free Plan PLPOLi 5x/0.12, 10x/0.25, 20x/0,40 and S40x/0.65 IOS objectives for polarization. All optics are anti-fungus treated and anti-reflection coated for maximum light throughput 360° rotating Ø 160 mm graduated stage with 2 clamps. Height adjustable condenser with 360° rotatable graduated polarizer.Coaxial coarse and fine adjustments with 200 graduations.</p>

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	<p>Precision 1 μm, 0.2 mm per rotation. Total travel approximately 24 mm. Rack-stop for protection of slides and objectives. Friction adjustment. Diascopic intensity adjustable 3 W NeoLED™ Köhler illumination with Internal 100–240 V power supply (CE). Polarization attachment with 50W 12V halogen epi-illumination, 360° rotatable polarizer filter, analyzer, Bertrand lens, quartz wedge, 1L first red and L/4 retardation plates, sliders with green–blue filters and white–polarizer filters iCare Sensor: the illumination of the microscope automatically switches off when the microscopist steps away from his position, saving energy CSS – Cable Storage System at the back Supplied with power cord, 500 mA 250 V spare fuse and dust cover in styrofoam case</p>
	<p>Accessories CMEX–18 Pro, 18.0 MP digital USB–3 camera with 1/2.3 inch CMOS sensor Sensor CMOS 1/2.3 inch with 4912 x 3684 pixels, 18 MP, Scan mode Progressive, rolling shutter, Pixel size 1.25 μm x 1.25 μm, Filter RGB, Mount C–mount, Data interface USB 3.0, Operation 0 – 60° C, 45–85 % humidity, Storage temperature –20 to 70° Celsius, Supplied with 0,45x objective with C–mount, USB 3.0 cable, 30 and 30, 5 mm adapters for stereo microscopes, 76 x 24 mm calibration slide (1mm/100), CD-ROM with ImageFocus Alpha, Software Windows 7, Windows 8, Windows 10 (32 and 64 bit configurations))</p>

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SR No	DESCRIPTION OF EQUIPMENT (TECHNICAL DETAILS)
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30	<p>50 ml Hydrothermal Autoclave Reactor with PTFE lined vessel for lab</p> <p>Brand name- Huanyu Capacity (50ml), Maximum temperature (220°C), Security Temperature (180°C), Security Pressure (2Mpa), Heating and Cooling rate ($\leq 5^{\circ}\text{C}/\text{min}$), Corrosive acidic/alkaline resistant resistant, acidic/alkaline resistant (Huanyu 50ml Hydrothermal Synthesis Autoclave Reactor with PTFE lined vessel for lab Brand: Huanyu, Country of origin - China Capacity:50ml, Max. Temp.: 220°C, Security Temp.:180°C, Security Pressure: 2Mpa, Heating and Cooling Rate: $\leq 5^{\circ}\text{C}/\text{min}$, Corrosive Acidic/ Alkaline Resistant Resistant)</p>
31	<p>UV-Visible double beam Spectrometer with Laptop, Printer, Online UPS</p> <p>(Model : UV 900PV, Brand : Biometrics, COO : USA Optical system - Double beam, Light source - Deuterium & Tungsten Halogen Lamp, Wavelength range - 190 -1100 nm, Accuracy - ± 0.3 nm, Repeatability - ± 0.1 nm Spectral Bandwidth - 0.5, 1, 2, 4, 5 nm, Detector - 2 Silicon Photodiodes Monochromator - Ebert type contains spectral components Scanning speed - Fast, Mid, Slow, Wavelength setting - Auto Sample Chamber - fixed 2-position cuvette holder (for reference solution & sample), Display - 10.1" TFT Colored Capacitive Touch Screen, Output - USB Host/USB Drive/RS232/SD Card and Built-in Thermal Printer (Accessories included : Laptop & Color Printer))</p>

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SR No	DESCRIPTION OF EQUIPMENT (TECHNICAL DETAILS)
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32	<p>Laboratory Concentrating Table Model-Star Trace STCT-S</p> <p>Specifications:</p> <p>Capacity: 570-5770 kg/hr Wash Water: 22-90 Deck Size: 1830x4570 Motor: 1.2kW Pulley Speed: 240-300 Stroke: 18-30</p> <p>(Laboratory Concentrating Table Brand : STAR TRACE,MODEL : STCT-S, Country of Origin: India CAPACITY : 100-150 Kg / Hr,WASH WATER : 15-40 ltrs / min,DECK SIZE : 2100 x 1050 mm,PULLEY SPEED : 1000 - 1600 RPM,STROKE : 10 - 25, HORIZONTAL SLOPE : Adjustable 0-10 Degree,TYPE : Slime,Drive : 4 pole, 1.2 KW,415 V,50HZ with Reduction Gear Box, FEEDER DETAILS MAKE : STAR TRACE,EQUIPMENT : ELECTRO MAGNETIC FEEDER,TRAY SIZE : 250x400 mm,DRIVE : ELECTRO MAGNETIC VIBRATOR, POWER : 100 watts, Single Phase, 220V, 50 Hz. The unit is designed to carry out wet gravity separation tests on mineral and other granular materials. A choice of the decks</p> <p>The head motion is of rugged construction and requires minimum maintenance. The concentrating Table gives precise separation and is able to make a sharp cut with high recovery. The features include, 1. Adjustable stroke length, deck angle and stroke speed. 2. Provided with feed box, product launders and variable speed drive systems. 3. Both wooden and P.U. decks are available. 4. Riffles and deck form a common surface.</p> <p>SCOPE OF SUPPLY Basic machine with control panel, Electro Magnetic Feeder with Hooper and Water treats pipe line)</p>

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SR No	DESCRIPTION OF EQUIPMENT (TECHNICAL DETAILS)
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33	<p>Laboratory Electro Magnetic Drum Separator (Dry Process) Model–Star Trace STWDMS–300 India Specification Magnetic impeller: Ø400x300 mm Size: 25 r/min Rotating Speed: 1250 GS Intensity: 2mm Separating Size: 20~60 kg/h Capacity: 0.25 kW Power: 380V Voltage: 1 sets Exciting voltage: 1515x1040x1500 mm Overall dimensions:300kg (Electro Magnetic Drum Separator (Dry). Brand : STAR TRACE,MODEL : STDDMS–300, Country of Origin: India 1. Name of Equipment : Electro Magnetic Drum Separator (Dry). 2. Magnetic Impeller Size : Ø400 x 300 mm 3. Over All Dimensions : 1050 x 750 x 1200 mm (Approx) 4. Rotating Speed : 25 r/min 5. Intensity : 1250 GS 6. Separating Size : up to 5 mm 7. Capacity : 20 – 50 kg/hr 8. Coil : 0.75 kw 9. Weight : 250 kg 10. Power : Single phase, 230V, 50Hz</p>
	<p>11. Type of Feeder : Electro Magnetic Vibratory Feeder 12. Power Consumption : 150 watts, Single Phase, 230V, 50hz The unit must have the system for splitting for separation of magnetic & nonmagnetic fractions, discharge outlets for magnetic & nonmagnetic fractions, vibratory feeder for feeding the material on the drum.</p>
34	<p>Platen size: 8"Accessories: Grinding platen (with O-ring) orPoishing platen Model ; P20G–1 , Brand: Top Tech</p>

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35	<p>Platen size: 8" Accessories: Grinding platen (with O-ring) & Polishing platen</p> <p>Model : E-FR Ø200MM</p> <p>Top Tech ,CO,ltd, Taiwan.</p>
36	<p>Height Wall Bench with sink Hanging Cabinet, Eye Wash and Pegboard FlexLab Assembly Model: SWB1068PBEM</p> <p>+WB3068PBME+EWB1268PBME + HWD5PBM+HWOD5PB ME+ PB-3527+ 32301-45MDS</p> <p>+ PLUG, Brand: Flexlab</p>
37	<p>Sieve Shaker and Sieves</p> <p>Sieve diameter: Ø200-Ø203, height 45mm sieve 9 tiers. 60Hz, AC 100volt, Including Sieves; 22.4mm, 16mm, 13.2mm, 9.5mm, 6.7, 4mm, 2, 8mm Model; AS200 Basic(60 Hz), Brand :AS ONE</p>