

*Sample pretreatment equipment, such as the **NEW SP-5000 Jaw Crusher**, excels in quality, reliability, and affordability. Depending on the application, **SCP SCIENCE** can provide the proper equipment to satisfy your analytical needs and maximize the precision of your final analytical results.*

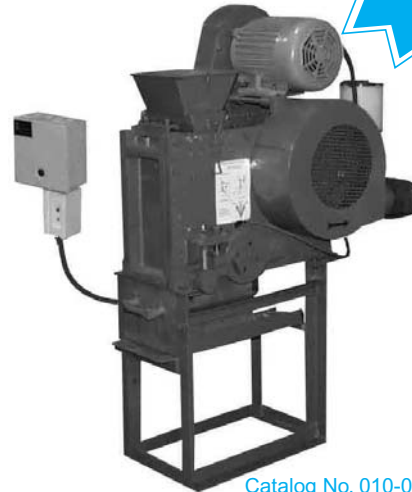
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## Jaw Crusher SP-5000

A sturdier machine with a more powerful motor than previous models, the Jaw Crusher SP-5000 is manufactured for customers with heavy workloads. Grinder crushes 5" x 7" (13cm x 18cm) samples to -10 mesh in one pass (93%-95%). Complete with one set of smooth or serrated jaws. Improvements include: more powerful motor (5 HP), moving jaw bearings which are 5 to 10 times stronger; moving jaw shaft ½" diameter longer offering twice the load capacity; and pusher and flange bearings which have twice the capacity.

- Integrated forced blown air system to reduce bearing temperatures
  - Provides a longer life span for system parts
- Applications include:
  - Rocks, core samples, cements, ingots, glass, and friable materials



Catalog No. 010-010-106

### Specifications

Jaw Crusher SP-5000	
Catalog Number	010-010-106 (208V, 60HZ)
Catalog Number	010-010-108 (230V, 50Hz)
Capacity (in./cm)	5 x 7 / 13 x 18
Power	3 Phase, 60 cycles, 5HP
Size (in./cm)	22W x 41D x 59H / 56W x 104D x 150H
Weight (lb/kg)	1000/455

### Optional Accessories

Description	Catalog Number
Hopper/Feeder	010-010-110
Steel Stand	010-010-111
Dust Collection Hopper	010-010-112

### Jaw Sets

Jaw Style	Alloy	Catalog Number
Serrated	Chrome-Moly Steel	010-010-120
Serrated	Chrome Steel	010-010-121
Serrated	Mild Steel	010-010-122
Serrated	Manganese	010-010-123
Smooth	Chrome-Moly Steel	010-010-130
Smooth	Chrome Steel	010-010-131
Smooth	Mild Steel	010-010-132
Smooth	Manganese	010-010-133

### Applications

#### Agriculture:

- Fertilizer - raw materials

#### Mineralogy and Metallurgy:

- Mining - ore samples
- Metal processing slags
- Cement - raw materials

#### Chemistry:

- General chemistry lab

### Mesh Size Equivalents

Mesh Size	Microns	Millimeters	Inches
20	840	0.84	0.0328
50	297	0.30	0.0116
100	149	0.15	0.0058
200	74	0.07	0.0029
325	44	0.04	0.0017
400	37	0.038	0.0015
625	20	0.02	0.0008
1250	10	0.01	0.0004

## Swing Mill Grinder SP-2000

Used for pulverizing, mixing, and homogenizing 10 to 500 gram sample sizes, this swing mill grinder reduces samples to 100 to 400 mesh (see mesh size on page 11). A maximum sample of 13 mm is placed in a grinding container with a puck and ring. Once the container is covered and installed in the grinder, vibration action reduces the sample. A manual self-adjusting clamp maintains sealing pressure to prevent sample loss during grinding. Applications include wet and dry production samples, mineral, soil, rock, cement and glass.



Catalog No. 010-010-200

- Manufactured with a steel frame and sound dampening lining
  - Provides low maintenance grinding
- Includes control panel with an emergency button
  - Offers added user security

Grinding Dishes are precision-machined from accurately formulated alloys to ensure long life and minimal cross-contamination. Each grinding dish is supplied complete with rings and puck and is sealed with a rubber ring to prevent sample loss during wet or dry grinding. A uniquely engineered groove retains the o-ring eliminating the need for glues or bonding agents.

### Specifications

SP-2000 Swing Mill Grinder	
Catalog Number	010-010-200 (208V, 60 cycle)
Catalog Number	010-010-250 (230V, 50 cycle)
Capacity (in/cm)	5 x 7 / 13 x 18
Power	3 Phase, 1HP
Size (in./cm)	25W x 25D x 41H* / 64W x 64D x 104H*
Weight (lb/kg)	480/1056

\* When door swings open the total height is 59" (150cm).

### Adapter Plates

Description	Catalog Number
<b>Adapter Plate</b>	
For one 20 ml or 50 ml grinding dish	010-010-221
<b>Adapter Plate</b>	
For three 20 ml or 50 ml grinding dishes	010-010-222

### Standard Grinding Dishes

Alloy	Capacity (ml)	Diameter (mm)	Adapter Required	Catalog Number
Chrome-Moly Steel	50	108	Yes	010-010-201
Chrome-Moly Steel	100	140	No	010-010-202
Chrome-Moly Steel	250	222	No	010-010-203
Chrome Steel	50	108	Yes	010-010-204
Chrome Steel	100	140	No	010-010-205
Chrome Steel	250	222	No	010-010-206

### Special Order Grinding Dishes

Alloy	Capacity (ml)	Diameter (mm)	Adapter Required	Catalog Number
Tungsten Tool Steel	100	140	No	010-010-207
Tungsten Tool Steel	250	222	No	010-010-208
Chrome-Moly Steel	20	86	Yes	010-010-209
Chrome-Moly Steel	150	156	No	010-010-210
Chrome Steel	20	86	Yes	010-010-211
Chrome Steel	150	156	No	010-010-212
Mild Steel	50	108	Yes	010-010-214
Mild Steel	100	140	No	010-010-215
Mild Steel	250	222	No	010-010-216
Ceramic	150	156	No	010-010-217
Tungsten Carbide	20	86	Yes	010-010-218
Tungsten Carbide	50	108	Yes	010-010-219
Tungsten Carbide	150	140	No	010-010-220

## Soft Material Grinder SP-3000

Ideal instrument to reduce 20 to 80 grams of medium to soft material into the desired mesh size. Complete with a metal plate preformed with 1/16" (10 mesh) holes. A set of rotating knives cuts and shears the sample against a set of stationary knives in the grinding chamber. The process continues until the material is fine enough to pass through the mesh screen at the bottom of the chamber.

- Easily-removable, sealed, sample receptacle
  - Allows for maintenance-free operation
- Manufactured with a dual-stage feeding hopper
  - Eliminates dust from escaping

### Specifications

SP-3000 Soft Material Grinder	
Catalog Number	010-010-300 (208V, 60 cycle)
Catalog Number	010-010-305 (230V, 50 cycle)
Capacity	20-80 grams
Power	3 Phase, 1HP
Size (in./cm)	17W x 28D x 40H / 43W x 71D x 102H
Weight (lb/kg)	120/264



Catalog No. 010-010-300

When specifying screen size, note that the average particle size of the ground material that passes through a screen is always much smaller than the holes in that screen. For example, a typical medium-hard sample passed through a 35 mesh (.425 mm) screen, yields a particle distribution in which 95% of the material particle size is less than 115 mesh (.125 mm) and 40% is less than 270 mesh (.053 mm).

### Optional Accessories

Description	Catalog Number
10 Mesh Screen (1.58 mm)	Included
20 Mesh Screen (.850 mm)	010-010-311
28 Mesh Screen (.600 mm)	010-010-312
35 Mesh Screen (.425 mm)	010-010-313
48 Mesh Screen (.300 mm)	010-010-314
70 Mesh Screen (.201 mm)	010-010-315
100 Mesh Screen (.150 mm)	010-010-316

### Applications

#### Agriculture:

- Grass, compressed fibers, straw, peat, husks, hay, hops, roots

#### Industrial Products:

- Plastics (PET, PP, PVC, etc...)
- Resins, synthetic fibers, leather, rubber, general chemistry lab, paper

#### Food:

- Spices, tobacco

#### Environment:

- Pellets, wood, soft soil

Sample Preparation

## X-Ray Fluorescence Analysis

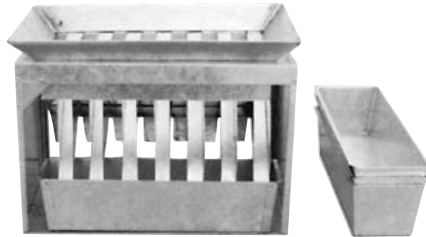
A variety of sample preparation and supply items are available.

- Complete line of manual and automated hydraulic presses
- Plastic sample cups for major XRF instrument manufacturers
- A range of thin film materials



## Open Pan Riffle Sample Splitter

Constructed in stainless or galvanized steel, the sample splitter has a wide application since it can be used for fine aggregates as well as many coarse sizes. Sample is poured into the hopper chute and the riffle splitter divides it into two equal portions that discharge into separate pans. The split is then repoured until the desired number of representative samples are obtained. The sample splitters are available with riffle openings of 3/8" or larger, and with splitter sizes of 229 mm x 305 mm (9" x 12") and 229 x 457 mm (9" x 18").



Catalog No. 010-010-801

- Customized sizes available (please ask for technical assistance)

### Applications

#### Agriculture:

- Grass, compressed fibers, straw, peat, husks, hay, hops, roots

#### Environment:

- Pellets, wood, soft soil, sand, minerals, ore, slag, coke, glass

### Ordering Information

Catalog # (Prefix)	Stainless (Suffix)	Galvanized (Suffix)	Description	Riffle Size (in./mm)	Number of Riffles
010-010	-801	-802	Riffle, 229 x 305 mm ID, complete with (1) Pan and Stand	0.375 / 9.53	32
010-010	-803	-804	Riffle, 229 x 305 mm ID, complete with (1) Pan and Stand	0.5 / 12.7	24
010-010	-805	-806	Riffle, 229 x 305 mm ID, complete with (1) Pan and Stand	0.625 / 15.9	18
010-010	-807	-808	Riffle, 229 x 457 mm ID, complete with (1) Pan and Stand	0.375 / 9.53	48
010-010	-809	-810	Riffle, 229 x 457 mm ID, complete with (1) Pan and Stand	0.5 / 12.7	32
010-010	-811	-812	Riffle, 229 x 457 mm ID, complete with (1) Pan and Stand	0.625 / 15.9	28

### Spare Pans

Catalog # (Prefix)	Stainless (Suffix)	Galvanized (Suffix)	Description
010-010	-850	-851	Sample Pan, Small for 229 x 305 mm Riffle
010-010	-852	-853	Sample Pan, Large for 229 x 457 mm Rifle

## DigiPREP HP, Hot Plate

**DigiPREP HP** has solved the problem of "hot spots" due to localized heat sources in traditional hot plates. This is achieved through a heating mat which covers the entire bottom of the Teflon® coated graphite plate. The graphite plate offers corrosion resistance and superior thermal conductivity compared to conventional hot plate surfaces and has a  $\pm 1^\circ\text{C}$  variation across its surface. Direct sample heating is monitored and controlled by a Teflon® coated thermocouple probe (**DigiPROBE**, optional, see page 27) placed in a control sample or in the well located in the graphite plate. **DigiPREP HP** operates with the KeyPad, PC Classic or Touch Screen controller (sold separately, see page 23 and 24 for more details) and is CE, UL, and CSA approved.



Catalog No. 010-500-220

Catalog No. 010-505-230

- Corrosion resistant
  - Constructed for long life
- Uniform heating ( $\pm 1^\circ\text{C}$ )
  - Delivers even heating to all samples

### Specifications

DigiPREP HP			
<b>Catalog Number</b>	010-505-230	<b>Stability</b>	$\pm 0.5^\circ\text{C}$
<b>Temperature</b>	Ambient - $180^\circ\text{C}$	<b>Heating</b>	Teflon® Coated Graphite
<b>Uniformity</b>	$\pm 1^\circ\text{C}$	<b>Remote Controller</b>	KeyPad, Touch Screen or PC Classic
<b>Time to Temperature</b>	Ambient to $95^\circ\text{C}$ , 25 min.	<b>Power</b>	925W
<b>Over-Temp Protection</b>	Yes	<b>Size (in.)</b>	19W x 15D x 3H
<b>Heating Surface Area</b>	214 cm <sup>2</sup> / 33.2 in <sup>2</sup>	<b>Size (cm)</b>	48W x 38D x 8H
<b>Stability</b>	$\pm 0.5^\circ\text{C}$	<b>Certification</b>	CE/UL/CSA

100 ml, 250 ml &  
500 ml Teflon®  
Beakers  
available!  
see page 16

**Autosampler Hood, HEPA® Filtered**

The Autosampler hood\* offers an effective and economical means to protect samples from laboratory air contamination and to contain sample vapors. Ideal for autosamplers, water baths, *DigiPREP HP, Jr.*, and **MS** (see page 22). Designed to fit on a standard laboratory bench, the hood provides an effective and economical solution for many commercial, medical, laboratory and industrial applications.

- Increase in height by 6" compared to the standard *DigiPREP* Fume Hood system (catalog no. 010-500-039)
  - Made to accommodate movement of autosampler arm
- Constructed from Lexan®
  - Eliminates corrosion seen in conventional fume hoods



**Specifications**

Autosampler Hood	
Catalog Number	010-500-049
Material	Corian and Lexan®
Size (in.)	26W x 23.5D x 25H
Size (cm)	66W x 60D x 60H
Weight (lb/kg)	54/24

**Accessories**

Description	Quantity	Catalog Number
New variable speed blower unit (115V/230V)	1	010-500-033
- 3 foot exhaust hose w/90° elbow to connect hood & blower unit	1	
- 6 foot exhaust hose to connect blower unit to fume hood or fume duct	1	
10" Exhaust Hose Extension	1	010-500-034
HEPA Filter Disks	12/pk	010-500-040

**Quartz-Fiber Ashing Crucibles**

Quartz Fiber Crucibles improve ashing times by dramatically increasing oxidation and reducing cooling times. The low-mass, porous crucible permits air to circulate through the crucible increasing the rate of oxidation. Analysis time is further reduced by the quick cooling time of the crucibles; crucibles cool from 1000°C to ambient temperature in seconds. Ashing disks are placed on top of the sample to reduce loss of residue due to airflow.

- Ideal for use in both microwave and conventional muffle furnaces
- Available in 20, 50 and 100 ml sizes



**Ordering Information**

Description	Diameter (mm)	Height (mm)	Quantity	Catalog Number
20 ml Ashing Crucible	44	13	100	010-070-101
50 ml Ashing Crucible	44	43	50	010-070-103
100 ml Ashing Crucible	61	40	16	010-070-104
Ashing Disk (for 20 & 50 ml Crucibles)	43	n/a	200	010-070-102
Ashing Disk (for 100 ml Crucibles)	60	n/a	100	010-070-106

## Sample Preparation Accessories

### Teflon® Beakers & Watchglasses



Molded from pure PTFE, with a super smooth internal finish and pouring spout, Teflon® Beakers are essential in any trace metal laboratory. These beakers are designed for use up to 280°C and/or with HF for silicate and refractory mineral digestion. They are constructed with flat bottoms providing better contact with hot plate surfaces and thus better thermal transfer efficiency.

#### Ordering Information

Beakers, PTFE	Size (mm)	Catalog Number	Watchglasses, PTFE	Size (mm)	Catalog Number
100 ml	69 x 59	130-013-001	For 100 ml Beaker	75	130-013-011
250 ml	97 x 66	130-013-002	For 250 ml Beaker	80	130-013-012
500 ml	106 x 80	130-013-003	For 500 ml Beaker	100	130-013-013

### High Temperature Marking Pen



Disappearing labels on ashing crucibles is a thing of the past when you use the High Temperature Marking Pen. Usable on most types of ashing crucibles and guaranteed to remain visible, even after extended exposure to temperatures of 1000°C.

#### Ordering Information

Description	Quantity	Catalog Number
High Temperature Marking Pen	1	010-070-020

### Weighing/Drying Pans



SCP SCIENCE offers oil-free weighing/drying pans which are ideal for general purpose weighing, dispensing, storage and drying. Excellent for Oil & Grease or Total Petroleum Hydrocarbon solvent evaporation.

#### Ordering Information

Description	Quantity	Catalog Number
7 cm Drying Pan	pk/50	130-028-001
10 cm Drying Pan	pk/50	130-028-002

### Kimwipe® Delicate Task Wipers



Ideal for polishing glassware and cleaning instruments. Wipes clean and exhibits low characteristics. Available in 2 different sizes for convenience.

#### Ordering Information

Description	Size (cm)	Quantity	Catalog Number
Kimwipes®	11 x 21	280/box	130-074-001
Kimwipes®	38 x 43	140/box	130-074-002