

Presses for pelletizing samples for XRF analysis are complemented by a complete line of XRF supplies. Thin-film window material, sample cells, binding and blending agents, AluCAPs (aluminum pellet cups), and standards for XRF analysis of liquids, solids, and powders are offered.

A new line of AccuSPEC XRF fusion fluxes with a high bulk density of 1.4 g/cm³ is now available. Fluxes consist of homogenous, spherical (less than 500 um), vitreous particles that offer higher analytical precision of analysis.

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Manual Hydraulic Press, 12 Ton and 25 Ton

The Model C (12 ton) and Model M (25 ton) are ideal for use with XRF pellet dies. Model C is ideal for smaller diameter pellets of more easily compressed material. Model M is suited for larger pellets and harder to press material.



Catalog No. 040-021-001

- Complete line of manual presses
 - 30, 40 and 50 ton manual presses are also available
 - Request a quote from your Sales Representative
- Offer calibrated gauges in pounds and metric tons
 - Ensures easy-to-read values
- Manufactured in cast iron and steel
 - Ensure precision and years of trouble-free use

Specifications

Model C (Cat. # 040-021-001)		Model M (Cat. # 040-021-002)	
Force	12 tons	Force	25 tons
Platen Movement	12.7 cm (5 in.)	Platen Movement	16.5 cm (6.5 in.)
Platen Size	15 x 15 cm (6 x 6 in.)	Platen Size	23 x 23 cm (9 x 9 in.)
Daylight	0 - 23 cm (0 - 9 in.)	Daylight	0 - 23 cm (0 - 9 in.)
Height	76 cm (30 in.)	Height	85 cm (33.5 in.)
Base	29 x 40 cm (11.5 x 15.75 in.)	Base	37 x 48 cm (14.5 x 19 in.)
Net Weight	63.5 kg (140 lbs.)	Net Weight	120 kg (264 lbs.)

Automated Hydraulic Press, 40 Ton

The T-40 press incorporates a microprocessor control panel which includes features such as: "Load" (4-40 ton, 1.0 ton increments), "pressing rate/time" (0-99 minutes, 1 second increments), and "press operation diagnostics". Accommodates optional heated platens and dies up to 20 cm in diameter. CE, UL, & CSA approved.



Catalog No. 040-020-001

- Offer high-throughput and versatile sample preparation
 - Handles many demanding pressing applications efficiently and cost effectively
- Constructed in a compact bench-top format
 - Allows for quick installation
- Manufactured with electronic interlocks and a high-impact guard
 - Ensure safe operation and simple maintenance

Specifications

T-40 Automatic Hydraulic Press (Cat. # 040-020-001)			
Maximum Load on Ram	40 tons	Maximum Daylight (optional)	152 mm
Load Applied Displayed to	0.1 tons	Minimum Daylight	35 mm
Digital Display Setting	4 to 40 tons	Width (sideplate to internal cover)	247.5 mm
Digital Display Increment	1 ton	Width (centralized)	210 mm
Die Locator Diameters	up to 200 mm	Depth (front guard to read guard)	240 mm
Top Bolster Diameter	32 mm	Depth (centralized)	210 mm
Top Bolster Adjustment	35 mm	Baseplate	280 x 500 mm
Ram Diameter	100 mm	Height (with control box)	568 mm
Ram Stroke	38 mm	Weight	145 kg
Ram Approach Rate	15.1 sec/cm	Voltage	110V/60Hz
Maximum Daylight (standard)	135 mm	(European voltage available)	220V/50Hz

XRF Pellet Dies

Each die is supplied with two stainless steel pellets and a knock-out ring for easy sample extraction. For hard, corrosive, or irregular shaped samples which need pressing, tungsten carbide pellets are recommended and are available for each die size. **SCP SCIENCE** recommends using *AluCAPs* (see page 110) as a backing medium. Replacement stainless steel and tungsten carbide pellets are also available separately and sold in sets of two.

- Complete line of XRF Pellet Dies
 - Available in 31 mm, 35 mm, 40 mm diameter sizes
- Manufactured from 316 stainless steel grade
 - Provide quality and reliability for years
- Designed to accept *AluCAPs* pellet reinforcing cups

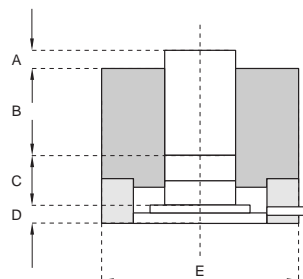


Ordering Information

Pellet Diameter & Load Limit	A (mm/in.)	B (mm/in.)	C (mm/in.)	D (mm/in.)	E (mm/in.)	Catalog Number
31 mm Die Set, 50 tons	21.33 / 0.84	35.74 / 1.41	19.05 / 0.75	27.76 / 1.09	68.33 / 2.69	040-022-200
35 mm Die Set, 70 tons	21.33 / 0.84	35.74 / 1.41	19.05 / 0.75	27.76 / 1.09	68.33 / 2.69	040-022-300
40 mm Die Set, 50 tons	21.33 / 0.84	35.74 / 1.41	19.05 / 0.75	27.76 / 1.09	95.25 / 3.75	040-022-400

Replacement & Optional Pellets

Composition	Pellet Diameter	Catalog Number
Stainless Steel	31 mm	040-022-201
Stainless Steel	35 mm	040-022-301
Stainless Steel	40 mm	040-022-401
Tungsten Carbide	31 mm	040-022-202
Tungsten Carbide	35 mm	040-022-302
Tungsten Carbide	40 mm	040-022-402



Binder & Blending Agents

The appropriate binder or blending agent will keep the pressed pellet from flaking or disintegrating. Though no single agent may resolve all types of samples, three popular types are available.

- Ideal applications for:
 - Cement, Ores, Fertilizers, Soil, Rock and Alumina

Ordering Information

Description (g/lb)	Chemical Composition	Catalog Number
X-Ray Mix, 454/1	48.7% C, 42.6% O, 8.12% H, 0.6% B	040-060-300
Spectro Blend, 454/1	81.0% C, 2.9% O, 13.5% H, 2.6% N	040-060-310
Boric Acid, 454/1	77.6% O, 17.5% B, 4.9% H	040-060-320

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.

- Manufactured with a steel frame and sound dampening lining
 - Provides low maintenance grinding for years to come
- Includes control panel with an emergency button



AluCAP - Pellet Reinforcing Cups

Used for the production of pressed-powder sample disks, **SCP SCIENCE** provides two sizes, 30 mm and 38 mm, of **AluCAPs** - pellet reinforcing cups. Made from aluminum **AluCAPs** provide lateral and bottom support during preparation and handling of pressed-powder samples.



- Manufactured with a thin-wall
 - Easily compress sample for XRF analysis
- Supplied in a convenient dispenser box
 - Provide sturdy storage packaging

Ordering Information

Description	AluCAP Diameter	For Die Set	Quantity	Catalog Number
AluCAP, straight wall	30 mm	31 mm (040-022-200)	1000	040-080-001
AluCAP, flared	38 mm	40 mm (040-022-400)	1000	040-080-005

XRF Sample Storage Dishes

Protect pressed pellets and fused disks from sample contamination and moisture accumulation. Snug fit lids eliminate moisture build-up. Available with or without absorbent pads.



- Made from sturdy, transparent plastic
 - Store and protect samples form accidental breakage
- May be stacked one-on-top of another
 - Maximize storage space
 - Come in sleeves of 20

Ordering Information

Description	Quantity	Catalog Number
50 mm Dishes without pads	case of 500	130-060-001
50 mm Dishes with pads	case of 500	130-060-002

Sulfur in Oil Calibration Standards

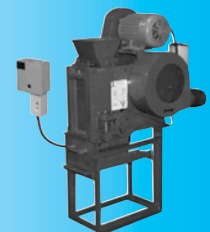
Available in #2 Diesel Fuel, White Mineral Oil, Kerosene, and **NEW** Iso-Octane

- Available as individual standards or complete sets
- Concentrations range from 0.0000% to 6%
- Complete with a Certificate of Analysis



Jaw Crusher - SP-5000

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



XRF Fusion Fluxes

AccuSPEC fusion fluxes are supplied dust free, in homogeneous spherical vitreous particles with less than 0.05% moisture. Choose from a variety of our fused fluxes or request a custom blend for your application. Depending on your analytical requirements, two flux grades; Pure and Ultra Pure, are available. Used in cements, ceramics and glassmakers, mining industries, metal producers, and R & D laboratories - petrochemical plants.

- Eliminate risks associated with crucibles overflowing
 - High bulk density of 1.4g/cm³
- Offer higher analytical precision
 - Spherical (<500 um) and vitreous particles are easy to handle
- Two purity levels are available
 - Ultra Pure 99.999% best choice for ICP-AES/MS Analysis
 - Pure 99.99% most popular in XRF analysis
- Complete with a detailed Certificate of Analysis
 - Lot number and the concentration of analytes determined by ICP-AES



Ordering Information

Fusion Flux	Grade	Quantity	Code	Catalog Number
Lithium Metaborate (LiM)	PURE	1 kg		040-060-100
Lithium Metaborate (LiM)	ULTRA PURE	1 kg		040-060-102
Lithium Tetraborate (LiT)	PURE	1 kg		040-060-200
Lithium Tetraborate (LiT)	ULTRA PURE	1 kg		040-060-205
LiT/LiM/LiBr 49.75/49.75/0.50	PURE	1 kg		040-060-249
LiT/LiM 50/50	PURE	1 kg		040-060-250
LiT/LiM 50/50	ULTRA PURE	1 kg		040-060-252
LiT/LiM 67/33	PURE	1 kg		040-060-267
LiT/LiM/LiBr 66.67/32.83/0.50	PURE	1 kg		040-060-266
LiT/LiM/LiI 66.67/32.83/0.50	PURE	1 kg		040-060-268
LiT/LiM 35.3/64.7	PURE	1 kg		040-060-334
LiT/LiM 35.3/64.7	ULTRA PURE	1 kg		040-060-336
LiT/LiBr 99.50/0.50	PURE	1 kg		040-060-338

Ordering Information

Additives and Accessories	Description	Quantity	Code	Catalog Number
Scoop for flux, 2 g capacity	---	---		040-060-036
Lithium Nitrate	Oxidizing Agent	500 g		040-060-269
Lithium Bromide	Non Wetting Agent	15 ml		040-060-330
Lithium Fluoride Crystals	Fluidizing Agent	250 g		040-060-332

Other products and combinations are available. Contact your Customer Service Representative.

⊗ Glass Container
✓ Dangerous Goods*

Ⓔ Poison
Ⓕ Corrosive

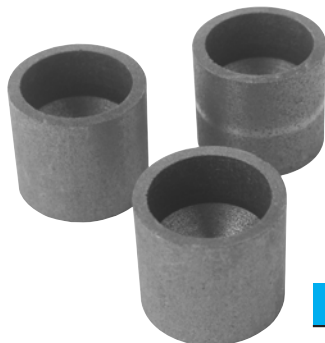
Ⓕ Flammable
Ⓖ Oxidant

* as defined by :

* Hazardous Materials Regulations of the U.S. Department of Transportation, Tariff No. BOE-6000-R
* Canadian Transportation of Dangerous Goods Act and Regulations, Revision December 2000
* International Air Transport Association - Dangerous Goods Regulation, 40th Edition

Graphite Fusion Crucibles

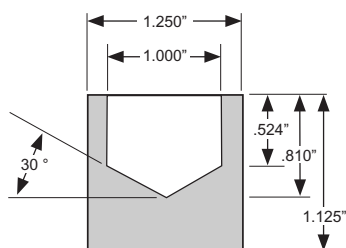
Regular and high-purity graphite fusion crucibles are available in four different formats. Regular graphite fusion crucibles have impurities ranging from 10 to 100 ppm of Mg, Fe, Al, Si and Cu (distributed evenly throughout the graphite).



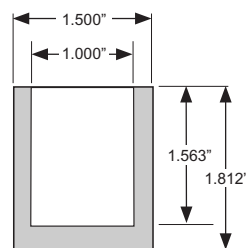
- High purity graphite contains a maximum combined impurity level of 2 ppm for all elements
 - Ideal for trace-level analysis
- Request for a quotation on special custom crucibles
 - See page 165 for quote request form

Ordering Information

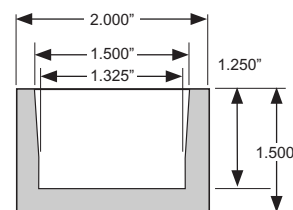
Type	Description	Grade	Quantity	Catalog Number
Graphite Crucible	9 ml volume	Regular	100	040-060-010
Graphite Crucible	9 ml volume	High Purity	10	040-060-011
Graphite Crucible	cylindrical	Regular	10	040-060-020
Graphite Crucible, large volume	20 ml volume	Regular	10	040-060-030
Graphite Crucible, large volume	20 ml volume	High Purity	10	040-060-031
Graphite Casting Crucible	casts 34mm disks	Regular	10	040-060-040
Graphite Casting Crucible	casts 34mm disks	High Purity	10	040-060-041



9 ml Crucible



20 ml Crucible



Casting Crucible

Thin Film Window Material

Continuous rolls, pre-cut sheets and easy snap sheets are available in different chemical compositions and uniform thickness. Minimum trace levels of impurities ensure reproducible day-to-day results. When selecting a film, resistance to chemical attack, transmission characteristics, and purity must be balanced for optimal results with a specific sample type.

Ordering Information

Continuous Roll	Thickness (mil/microns)	Width (mm)	Length (m)	Catalog Number
Mylar® Film	0.12/3.0	73	115	040-070-010
Mylar® Film	0.24/6.0	73	115	040-070-020
Mylar® Film	0.14/3.6	76	91	040-070-035
Mylar® Film	0.24/6.0	76	91	040-070-037
Kapton® Film	0.30/7.5	73	18.8	040-070-030
Polypropylene Film	0.24/6.0	76	91	040-070-040
Polypropylene Film	0.50/12.0	76	91	040-070-042
Prolene® Film	0.16/4.0	76	91	040-070-045
Microporous Film	1.00/2.5	64	5.1	040-070-050
Film Dispenser*	---	---	---	040-070-100

* Only for Mylar® and Kapton® film



"Even if you're on the right track, you'll get run over if you just sit there." -Will Rogers-

Ordering Information

Pre-Cut Sheets	Style	Thickness (mil/microns)	Dimensions (mm)	Quantity	Catalog Number
Microporous	Circles	1.0/25.0	76	100	040-070-055
Mylar®	Circles	0.24/6.0	64	1000	040-070-105
Prolene®	Circles	0.16/4.0	64	1000	040-070-245
Mylar®	Squares	0.14/3.6	64 x 76	500	040-070-110
Mylar®	Squares	0.24/6.0	64 x 76	500	040-070-120
Kapton®	Squares	0.30/7.5	64 x 76	500	040-070-130
Polypropylene	Squares	0.24/6.0	64 x 76	500	040-070-140
Prolene®	Squares	0.16/4.0	64 x 76	500	040-070-145

Note: Hostaphan® is an alternate name for Mylar®

Ordering Information

Pre-Cut Sheets	Style	Thickness (mil/microns)	Dimensions (mm)	Quantity	Catalog Number
Prolene®	Easy Snap	0.16/4.0	76	100	040-070-147
Mylar®	Easy Snap	0.14/3.6	76	100	040-070-149
Etnom - S®	Easy Snap	0.12/3.0	64	100	040-070-153
Etnom - S®	Easy Snap	0.12/3.0	76	100	040-070-155



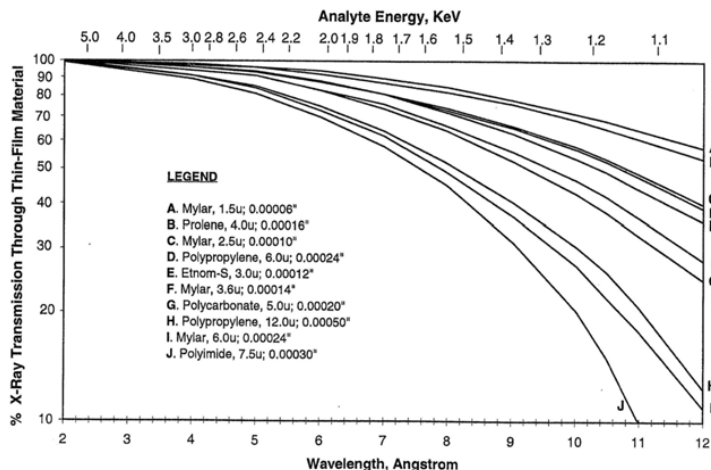
Catalog No. 040-070-149

Note: Easy Snap sheets consist of a thin film attached to a carrier frame for easy handling.

Chemical Resistance of Thin Films

Chemical Classification	Mylar	Polycarb.	Polypro.	Kapton	Prolene
Acid, Weak or Dilute	G	G	E	N	G
Acid, Concentrated	G	G	E	N	E
Alcohols, Aliphatic	N	G	E	G	E
Aldehydes	U	F	E	E	E
Alkalies, Concentrated	N	N	E	E	E
Esters	N	N	G	G	G
Ethers	F	N	N	U	N
Hydrocarbons, Aliphatic	G	N	G	G	G
Hydrocarbons, Aromatic	F	N	F	F	F
Hydrocarbons, Halogenated	F	N	N	F	N
Ketones	N	N	G	G	G
Oxidizing Agents	F	N	F	N	F

E - Excellent G - Good F - Fair N - Not Recommended U - Unknown



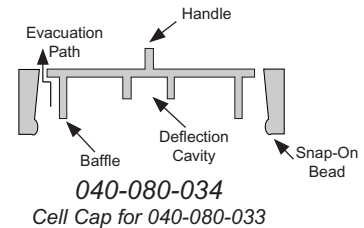
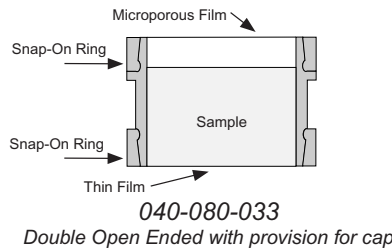
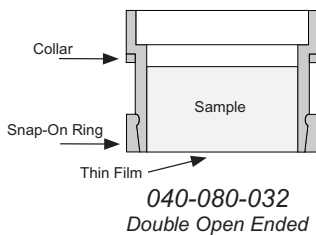
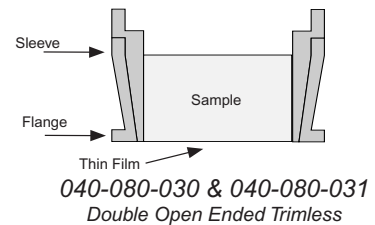
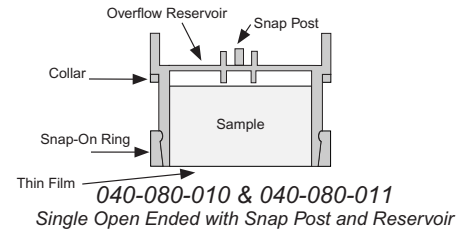
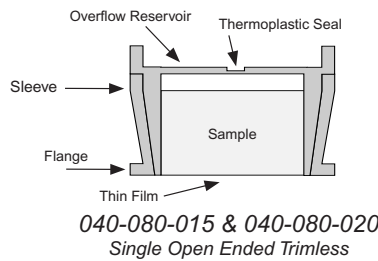
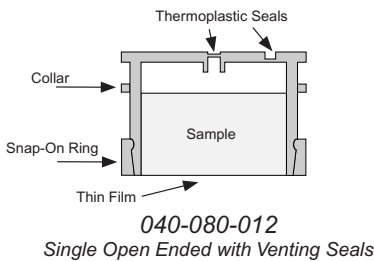
**Transmission Properties of
Various Thin Film Materials
and Gauges**

X-Ray Fluorescence
Supplies

XRF Sample Cells

Manufactured from high purity polyethylene and packaged in a convenient dispenser box. Single open-ended, double open ended, and accessories are in-stock and ready to ship.

- Wide selection of sample cells
 - Available 32 mm, 40 mm, and 47 mm sizes
- Other types and styles are available upon request



Ordering Information

Style	Description	Dia. mm	Height. mm	Vol. mm	Qty.	Catalog Number
Single Open Ended	Snap-Post & Reservoir	32	23	7	200	040-080-010
Single Open Ended	Snap-Post & Reservoir	40	23	13	100	040-080-011
Single Open Ended	Venting	32	23	7	200	040-080-012
Single Open Ended	Trimless	32	25	9	200	040-080-015
Single Open Ended	Trimless	40	25	16	100	040-080-017
Single Open Ended (Horiba)	Trimless	47	19	15	100	040-080-020
Double Open Ended (Horiba)	Trimless	47	19	15	100	040-080-022
Double Open Ended	Trimless	32	25	9	200	040-080-030
Double Open Ended	Trimless	40	25	16	100	040-080-031
Double Open Ended	---	40	35	26	100	040-080-032
Double Open Ended	Provision for Cap	32	23	12	200	040-080-033
Double Open Ended	Cap for 040-080-033	---	---	---	200	040-080-034
Single Open Ended	Reservoir & Venting	40	23	12	100	040-080-036
Single Open Ended	Trimless	45	42	8	100	040-080-038
Double Open Ended	Snap-Post & Reservoir	32	23	7	100	040-080-040
Double Open Ended	Venting	40	23	18	100	040-080-042
Double Open Ended	Snap-Post & Reservoir	40	23	12	100	040-080-044
Oxford Cell System*	Replaces aluminum holder	40	35	26	100	040-080-046
Disposable cell liner & caps (oxford)	---	32	---	---	100	040-080-048
Vent Hole Punch	---	---	---	---	1	040-080-100

* Does not work with autosampler

Certificate of Analysis

Li₂B₄O₇

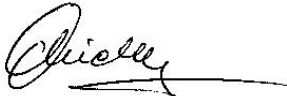
Catalogue numbers **040-060-205**
Description **AccuSPEC – Lithium Tetraborate,
Anhydrous, Fused; Ultra Pure
99.999%**

Lot Number **SC4254064**

Assay (Li₂B₄O₇) :	100%
Apparent Density :	1.4
Loss on Ignition :	< 0.01% (2hrs @ 300°C)
Loss on Fusion :	< 0.01% (@ 1000°C)
Granulometry :	100% (< 500µm)

Trace Metallic Impurities

Elements	Concentration	Elements	Concentration
Ag	< 1 ppm	Mn	< 1 ppm
Al	< 1 ppm	Mo	< 1 ppm
Ba	< 1 ppm	Na	< 2 ppm
Be	< 1 ppm	Ni	< 1 ppm
Bi	< 1 ppm	P	< 3 ppm
Ca	2 ppm	Pb	< 2 ppm
Cd	< 1 ppm	S	< 3 ppm
Ce	< 1 ppm	Sc	< 1 ppm
Co	< 1 ppm	Si	< 3 ppm
Cr	< 1 ppm	Sr	< 1 ppm
Cu	< 1 ppm	Th	< 1 ppm
Eu	< 1 ppm	Ti	< 1 ppm
Fe	2 ppm	V	< 1 ppm
K	< 3 ppm	Y	< 1 ppm
La	< 1 ppm	Zn	< 1 ppm
Mg	< 1 ppm	Zr	< 1 ppm

Certified by :  Date of certification : September 10, 2004
Alketa Mixha, Chemist

This material has been tested by Acidimetry (assay) and ICP-OES (impurities). The Material Safety Data Sheet and this Certificate of Analysis are available on our web site. (Ce certificat est également disponible en français)

Manufactured according to an ISO 9001:2000 Quality System and ISO 17025 (in-process)

SCP SCIENCE
21800 Clark Graham, Baie D'Urfé, QC, Canada H9X 4B6
Phone : (514) 457-0701 Fax : (514) 457-4499
Web Site: www.scpscience.com

**X-Ray Fluorescence
Supplies**