



## X-RAY FLUORESCENCE SUPPLIES

**SCP SCIENCE** offers a comprehensive line of sample preparation products and consumables for XRF analysis including:

- Presses, dies, binders and backing caps for pressed pellet analysis
- Prefused fusion fluxes and graphite fusion crucibles
- Cells and film for liquid or loose powder analysis

- 254** Manual Hydraulic Press
- 255** Semi-Automatic Hydraulic Press
- 256** Autotouch Press
- 257** XRF Pellet Dies
- 258** Binder & Blending Agents
- 259** Fusion Flux
- 261** Graphite Fusion Crucibles
- 263** Thin Film Window Material
- 266** XRF Sample Cells

## MANUAL HYDRAULIC PRESS



Manual Hydraulic Presses are available in 15 and 25 Ton load configurations and are intended for a wide range of laboratory press applications. These presses have a compact, small footprint design making them ideal for bench-top and glove box laboratory applications.

The Manual presses can also be used with Heated Platens for applications such as the preparation of thin polymer films and sample preparation for optical microscopy.

### Features

- Polycarbonate safety guards
- Adjustable upper bolster
- Adjustable pressure control valve



## SPECIFICATIONS

Max. height (at handle)	610 mm
Width	310 mm
Depth	190 mm
Weight	50 kg
Lower Piston Stroke	25.4 mm
Upper bolster screw travel	89 mm
Distance between pressing faces (max. / min.)	152 mm / 28 mm
Pressing face diameter (lower / upper)	86 mm / 32 mm
Max width of sampling area (side to side)	134 mm
Max depth of sampling area (front to back)	141 mm

## ORDERING INFORMATION

Description	Catalog No.
Manual Hydraulic Press, 15 Ton	040-020-005
Manual Hydraulic Press, 25 Ton	040-020-010

## SEMI-AUTOMATIC HYDRAULIC PRESS

Semi-Automatic Hydraulic Presses are available in 8 Ton, 15 Ton and 25 Ton load configurations. These bench-top presses have power-assisted hydraulics for ease-of-use. With a small footprint, ergonomic design, and low noise characteristic, they are appropriate for a range of applications in modern laboratories and heavy industrial environments. Ideally suited for XRF and FTIR pelletizing applications in atomic and molecular spectroscopy.

### Features

Load settable in both imperial and metric tons
Microprocessor controlled pressure application and release
Large working distance between pressing surfaces
Low noise operation
LCD display
Integral high clarity PETG safety guards



## ORDERING INFORMATION

Description	Catalog No.
Semi-Automatic Hydraulic Press, 8 Ton	040-020-030
Semi-Automatic Hydraulic Press, 15 Ton	040-020-055
Semi-Automatic Hydraulic Press, 25 Ton	040-020-011

## SPECIFICATIONS



Height	545 - 640 mm
Base Footprint (W x D)	425 x 405 mm
Sample Area (Dia. x H)	220 x 155 mm
Weight	95 kg
Max. Piston Load	25 tons
Display	3 - 25 tons
Min. Load Step	1 ton
Top Bolster Diameter	32 mm
Top Lead Screw Vertical Travel	90 mm
Ram (Piston) Bolster Diameter / Stroke	83 mm / 24 mm
Max. / Min. Pressing Face Distance	155 mm / 40 mm
Oil Reservoir Capacity / Type	0.6 L / Tellus 37

## AUTOTOUCH PRESS



Autotouch Hydraulic Presses are available in 8 Ton, 15 Ton, 25 Ton and 40 Ton load configurations. These bench-top presses have fully programmable, microprocessor-controlled, power-assisted hydraulics for ease-of-use and repeatability. With a small footprint, ergonomic design and low noise characteristic, these hydraulic presses are appropriate for a range of applications in modern laboratories and heavy industrial environments.

Ideally suited for XRF and FTIR pelletizing applications in atomic and molecular spectroscopy.

### Features

Colour touch screen control with LED backlight control	Maintain load applied from automatic "top up"
Programmable microprocessor - controlled pressure application and release	End of cycle alarm or indication
Simple user operation procedures via symbols and prompts	Integral high clarity PETG safety guards

## ORDERING INFORMATION

Description	Catalog No.
Autotouch Press, 8 Ton	040-020-070
Autotouch Press, 15 Ton	040-020-075

Description	Catalog No.
Autotouch Press, 25 Ton	040-020-080
Autotouch Press, 40 Ton	040-020-085

## SPECIFICATIONS

Height	545 - 640 mm
Base Footprint (W x D)	425 x 405 mm
Sample Area (Dia. x H)	220 x 155 mm
Weight	95 kg
Communication Type	USB
Display	3 - 25 tons
Min. Load Step	0.5 ton
Top Bolster Diameter	32 mm

Top Lead Screw Vertical Travel	90 mm
Ram (Piston) Bolster Diameter / Stroke	82 mm / 24 mm
Max. / Min. Pressing Face Distance	155 mm / 40 mm
Oil Reservoir Capacity / Type	1 L / Tellus 37
Hold Times	0.1 - 99 min. & ∞
Optimized Release Rates	Fast, Medium, Slow
Stored Programs	6
Max. Program Segments	10

## XRF PELLET DIES

### Features

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

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, tungsten carbide pellets are recommended and are available for each die size. **SCP SCIENCE** recommends using **AluCAPs** (pellet reinforcing caps) as a backing medium. Replacement stainless steel and tungsten carbide pellets are also available separately and sold in sets of two.

### REPLACEMENT & OPTIONAL PELLETS

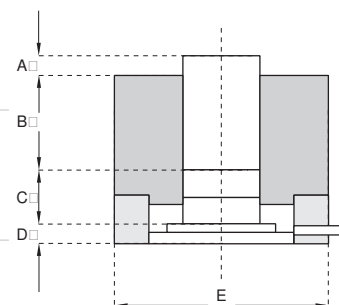
Pellet Material	Pellet Diameter	Catalog Number
Stainless Steel	31 mm	040-022-201
Stainless Steel	35 mm	040-022-301
Stainless Steel	40 mm	040-022-401
Tungsten Carbide	31 mm	040-022-202
Tungsten Carbide	35 mm	040-022-302
Tungsten Carbide	40 mm	040-022-402



### ORDERING INFORMATION



Pellet Diameter & Load Limit	A (mm/in.)	B (mm/in.)	C (mm/in.)	D (mm/in.)	E (mm/in.)	Catalog No.
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



## BINDER &amp; BLENDING AGENTS



## ORDERING INFORMATION

Description	Chemical Composition	Catalog No.
X-Ray Mix, 454 g/1	48.7% C, 42.6% O, 8.12% H, 0.6% B	040-060-300
Spectro Blend, 454 g/1	81.0% C, 2.9% O, 13.5% H, 2.6% N	040-060-310
Boric Acid, 454 g/1	77.6% O, 17.5% B, 4.9% H	040-060-320
Spectro Blend ½ g Tablet/500	81.0% C, 2.9% O, 13.5% H, 2.6% N	040-060-312
X-Ray Mix, ¼ g Tablets/500	48.7% C, 42.6% O, 8.1% H, 0.6% B	040-060-314

The appropriate powdered 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.

## Features

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

## AluCAP

## PELLET REINFORCING CUPS

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



## Features

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
AluCAP, tapered	40 mm	---	600	040-080-003
AluCAP, tapered	35 mm	---	600	040-080-007

## FUSION FLUX

### Features

Eliminate risks associated with crucibles overflowing - High bulk density of 1.4 g/cm<sup>3</sup>

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-OES/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-OES

**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 many industries for fusion sample preparation for XRF and ICP Spectroscopy.



Additives and Accessories	Description	Qty	Catalog No.
Scoop for flux, 2 g capacity	---	---	040-060-034
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

## ORDERING INFORMATION



Fusion Flux	Grade	Qty	Catalog No.
Lithium Metaborate (LiM)	PURE	1 kg	040-060-100
Lithium Metaborate (LiM)	ULTRA PURE	1 kg	040-060-102
LiM, Power Flux	PURE	500 g	040-060-103
Lithium Tetraborate (LiT)	PURE	1 kg	040-060-200
Lithium Tetraborate (LiT)	PURE	500 g	040-060-202
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
90% LiT +10% LiC	ULTRA PURE	1 kg	040-060-255
LiT/LiM 67/33	PURE	1 kg	040-060-267

Fusion Flux	Grade	Qty	Catalog No.
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 90% LiF 10%	---	500 g	040-060-270
LiT/LiM/LiBr 34.83/64.67/0.50	PURE	1 kg	040-060-271
LiT/LiM/LiBr 49.75/49.75/0.50	ULTRA PURE		040-060-331
LiM/LiBr 98.50/1.50	PURE		040-060-333
LiC	ULTRA PURE	500 g	040-060-340
Sodium Carbonate	---	500 g	040-060-342
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

**SCP SCIENCE**Providing Innovative Solutions to Analytical Chemists /  
Solutions innovatrices pour chimistes analystes

# Certificate of Analysis

Catalogue numbers 040-060-100  
 Description *AccuSPEC – Lithium Metaborate, Anhydrous, Fused; Pure 99.98+%*  
 Lot Number **S141203017**

**LiBO<sub>2</sub>**

<b>Assay (LiBO<sub>2</sub>):</b>	<b>100%</b>
<b>Apparent Density:</b>	<b>1.4 g/cm<sup>3</sup></b>
<b>Loss on Drying:</b>	<b>&lt; 0.008%</b> (2hrs @ 300°C)
<b>Loss on Fusion:</b>	<b>&lt; 0.05%</b> (30min @ 1050°C)
<b>Granulometry:</b>	<b>100%</b> (< 500µm)

### Trace Metallic Impurities

Elements	Concentration	Elements	Concentration
Al	< 10 ppm	Mo	< 10 ppm
Ca	< 10 ppm	Na	< 10 ppm
Co	< 10 ppm	Ni	< 10 ppm
Cr	< 10 ppm	P	< 10 ppm
Cu	< 10 ppm	Pb	< 10 ppm
Fe	< 10 ppm	S	< 10 ppm
K	< 10 ppm	Si	< 10 ppm
Mg	< 10 ppm	Zn	< 10 ppm
Mn	< 10 ppm		

Certified by: \_\_\_\_\_ Date of certification: December 16, 2014  
 Daniel Boivert, chemist

This material has been tested by Acidimetry (assay LiBO<sub>2</sub>) and ICP-OES (impurities). The Material Safety Data Sheet and this Certificate of Analysis are available on our web site.

SCP SCIENCE is ISO 9001 registered and ISO 17025 / Guide 34\* accredited.  
 (\*This product is not accredited. See our Scope of Accreditation for an official list of accredited certified reference materials).

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## Graphite Fusion CRUCIBLES

**SCP SCIENCE** offers many graphite crucible shapes and sizes for a variety of different applications including fusion and elemental analysis. Reduce operating costs by ordering graphite crucibles instead of platinum/gold crucibles. Available in two purities (regular or high-purity) and in-stock for quick delivery. Custom styles and sizes are available.

Graphite will not combine with samples during fusion.



### Features

#### High Purity Graphite

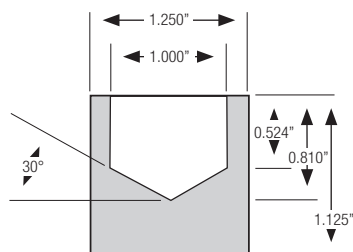
contains a maximum combined impurity level of 2 ppm for all elements - Ideal for trace-level analysis

#### Regular Purity Graphite

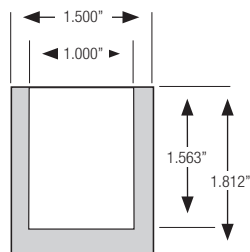
offers minimal impurities for maximum protection against contamination - Impurities range from 10 to 100 ppm (Mg, Fe, Al, Si, and Cu)

Graphite will not combine with samples during fusion

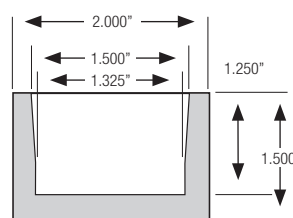
### Measurements



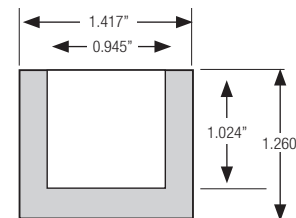
Conical, 9 ml Crucible



Cylinder, 20 ml Crucible



Casting Crucible



Cylinder, 11 ml Crucible

## Graphite Fusion CRUCIBLES



### ORDERING INFORMATION

Type	Description	Grade	Qty	Catalog No.
Fusion Crucible	Conical, 9 ml volume	Regular	100	040-060-010
Lid	for 9 ml crucible	Regular	10	040-060-013
Lid	for 9 ml crucible	Regular	100	040-060-022
Fusion Crucible	Conical, 9 ml volume	High Purity	10	040-060-011
Lid	for 9 ml crucible	High Purity	10	040-060-012
Fusion Crucible	Conical, 9 ml volume	High Purity	100	040-060-015
Fusion Crucible	Conical, 9 ml w/Lid	Regular	1	040-060-020
Fusion Crucible	Cylinder, 11 ml volume	Regular	1	040-060-024
Fusion Crucible	Cylinder, 11 ml volume	Regular	10	040-060-026
Fusion Crucible	Cylinder, 20 ml volume	Regular	10	040-060-030
Lid	for 20 ml crucible	Regular	10	040-060-032
Fusion Crucible	Cylinder, 20 ml volume	High Purity	10	040-060-031
Lid	for 20 ml crucible	High Purity	10	040-060-033
Casting Crucible	casts 34 mm disks	Regular	10	040-060-040
Casting Crucible	casts 34 mm disks	High Purity	10	040-060-041
Lid	for casting cricible	Regular	100	040-060-042
Lid	for casting cricible	High Purity	100	040-060-043
Lid	for casting cricible	Regular	1	040-060-044
Crucible	55 ml volume	Regular	1	040-060-050
Mini Crucible, 1.5 ml	10 mm id, 20 mm depth	High Purity	500	040-060-054
Mini Crucible, 3 ml	12 mm id, 25 mm depth	High Purity	500	040-060-056

## 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 with a specific sample type for optimal results.



### 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
Mylar® Film	2.5	76	91	040-070-142
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
Ultra Polyester Film	1.5	76	91	040-070-151
Film Dispenser	---	---	---	040-070-100

Pre-Cut Sheets	Style	Thickness (mil/microns)	Qty	Catalog Number
Microporous	Circles	1.0/25.0	100	040-070-055
Mylar®	Circles	0.24/6.0	1000	040-070-105
Mylar®	Circles	3.6	1000	040-070-038
Mylar®	Circles	6.0	100	040-070-039
Mylar®	Squares	0.14/3.6	500	040-070-110

## Thin Film WINDOW MATERIAL



### ORDERING INFORMATION

Pre-Cut Sheets	Style	Thickness (mil/microns)	Qty	Catalog Number
Mylar®	Squares	0.24/6.0	500	040-070-120
Polypropylene	Squares	0.24/6.0	500	040-070-140
Polypropylene	Circles	0.24/6.0	1000	040-070-072
Polypropylene	Circles	0.47/12	500	040-070-157
Prolene®	Circles	0.16/4.0	1000	040-070-245
Prolene®	Circles	0.16/4.0	500	040-070-152
Prolene®	Squares	0.16/4.0	500	040-070-145

Pre-Cut Sheets	Style	Thickness (mil/microns)	Width (mm)	Qty	Catalog Number
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
Kapton®	Easy Snap	0.2/7.5	76	100	040-070-135
Mylar®	Easy Snap	0.14/3.6	76	100	040-070-149
Mylar®	Easy Snap	0.1/2.5	76	100	040-070-141
Mylar®	Easy Snap	0.24/6.0	76	100	040-070-144
Prolene®	Easy Snap	0.16/4.0	76	100	040-070-147
Prolene®	Easy Snap	0.16/4.0	64	100	040-070-148



### NOTE

Easy Snap sheets consist of a perforated circle of film attached to a carrier frame for easy handling and avoidance of contamination through contact.



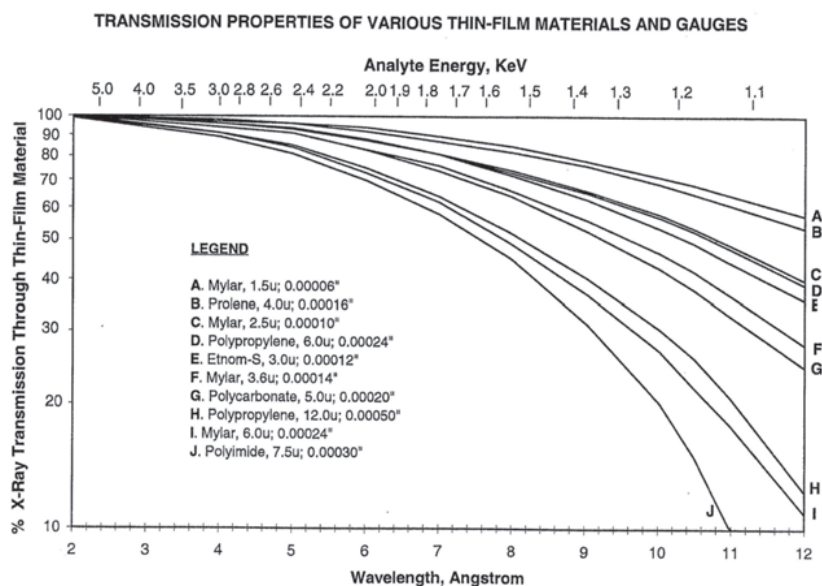
## Thin Film WINDOW MATERIAL

### ORDERING INFORMATION



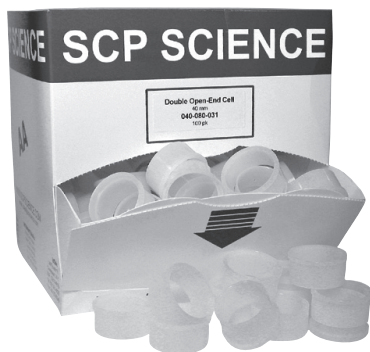
Chemical Classification	Mylar®	Polycarbonate	Polypropylene	Kapton®	Prolene®
Acid, Weak or Dilute	G	G	E	N	G
Acid, Concentrated	G	G	E	N	E
Alcohols, Aliphatic	N	G	E	G	E
Aldehydes	U	F	E	E	E
Alkalies, Concentrated	N	N	E	E	E
Esters	N	N	G	G	G
Ethers	F	N	N	U	N
Hydrocarbons, Aliphatic	G	N	G	G	G
Hydrocarbons, 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

## XRF SAMPLE CELLS



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

### Features

Wide selection of sample cells - Available 32 mm, 40 mm and 47 mm sizes

Other types and styles are available upon request



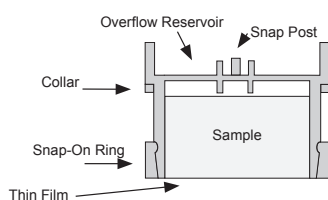
## ORDERING INFORMATION

Style	Description	Dia. (mm)	Height (mm)	Vol. (mm)	Qty	Catalog Number
Single Open-Ended	Snap-on, Reservoir	30.7	23.1	7	200	040-080-010
Single Open-Ended	Snap-on, Reservoir	39.1	23.6	11	100	040-080-011
Single Open-Ended	Venting	31.0	22.4	9	200	040-080-012
Single Open-Ended	Snap-on, Venting	31.2	23.6	8	200	040-080-015
Single Open-Ended	Trimless	38.4	22.9	13	100	040-080-017
Single Open-Ended	Trimless	46.7	20.3	12	100	040-080-020
Single Open-Ended	Trimless	46.7	18.5	12	100	040-080-021
Double Open-Ended	Trimless	46.7	20.3	15	100	040-080-022
Double Open-Ended	Trimless	31.2	23.6	9	200	040-080-030
Double Open-Ended	Trimless	38.6	22.9	13	100	040-080-031
Double Open-Ended	Snap-on ring	39.4	35.3	25	100	040-080-032
Double Open-Ended	Snap-on, Microporous film provision	31.0	23.1	9	200	040-080-033
Cap for 040-080-033	Cap	n/a	n/a	n/a	200	040-080-034
Double Open-Ended	Trimless	37.1	29.7	11	100	040-080-035
Single Open-Ended	Snap-on, Reservoir	39.1	23.6	12	100	040-080-036
Single Open-Ended	Snap-on, Reservoir - Sulfur	42.9	19.6	13	100	040-080-037
Double Open-Ended	Trimless	44.6	39.9	30	100	040-080-038
Double Open-Ended	Snap-on, Reservoir	30.7	22.9	7	200	040-080-040
Double Open-Ended	Serrated Snap-on, Reservoir	30.7	22.9	7	200	040-080-041
Double Open-Ended	Snap-on, Microporous film provision	39.4	23.1	16	100	040-080-042
Cap for 040-080-042	Cap	n/a	n/a	n/a	100	040-080-043

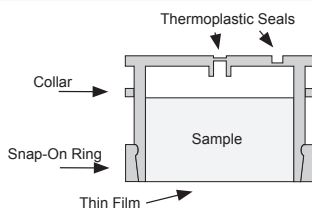
## XRF SAMPLE CELLS

Style	Description	Dia. (mm)	Height (mm)	Vol. (mm)	Qty	Catalog Number
Double Open-Ended	Snap-on, Reservoir	39.1	23.1	12	100	040-080-044
Single Open-Ended	Snap-on, Venting	39.4	22.4	15	100	040-080-046
Double Open-Ended	Liners and Caps for Oxford Analyzers	31.2	38.4		100	040-080-048
Double Open-Ended	Trimless, Vented, Internal Reservoir	43.2	29.7	19	100	040-080-050
Double Open-Ended	Trimless, Vented, Internal Reservoir	41.1	29.7	19	100	040-080-051
Double Open-Ended	Trimless, Vented, Internal Reservoir	46	29.5	22	100	040-080-054
Double Open-Ended	Snap-on ring	31.2	21.3	8	100	040-080-056
Double Open-Ended	Trimless, Vented, Internal Reservoir	34.5	29.2	9	100	040-080-058
Double Open-Ended	Trimless, Vented, Internal Reservoir	46	33.5	22	100	040-080-060
Double Open-Ended	Trimless, Vented, Internal Reservoir	46	39.2	22	100	040-080-062

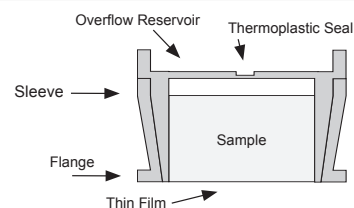
### Structure



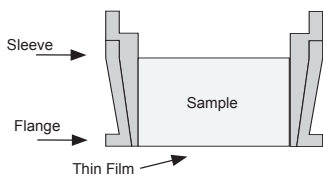
040-080-010 & 040-080-011  
Single Open Ended with Snap Post and Reservoir



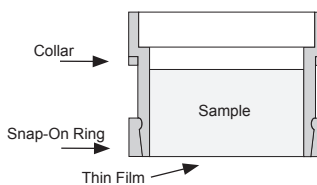
040-080-012  
Single Open Ended with Venting Seals



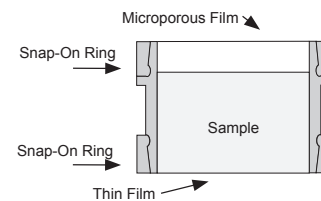
040-080-015 & 040-080-020  
Single Open Ended Trimless



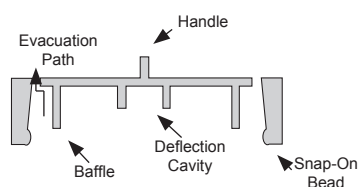
040-080-030 & 040-080-031  
Double Open Ended Trimless



040-080-032  
Double Open Ended



040-080-033  
Double Open Ended with provision for cap



040-080-034  
Cell Cap for 040-080-033

