

GA-MA & ASSOCIATES, INC.
Specialty Products for the Radiochemistry Laboratory

MARINELLI BEAKERS CATALOG



Snap-on Lid Design



Gas Marinelli Beaker



Threaded Lid Design



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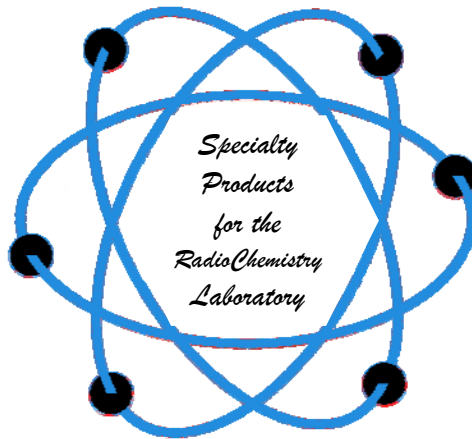


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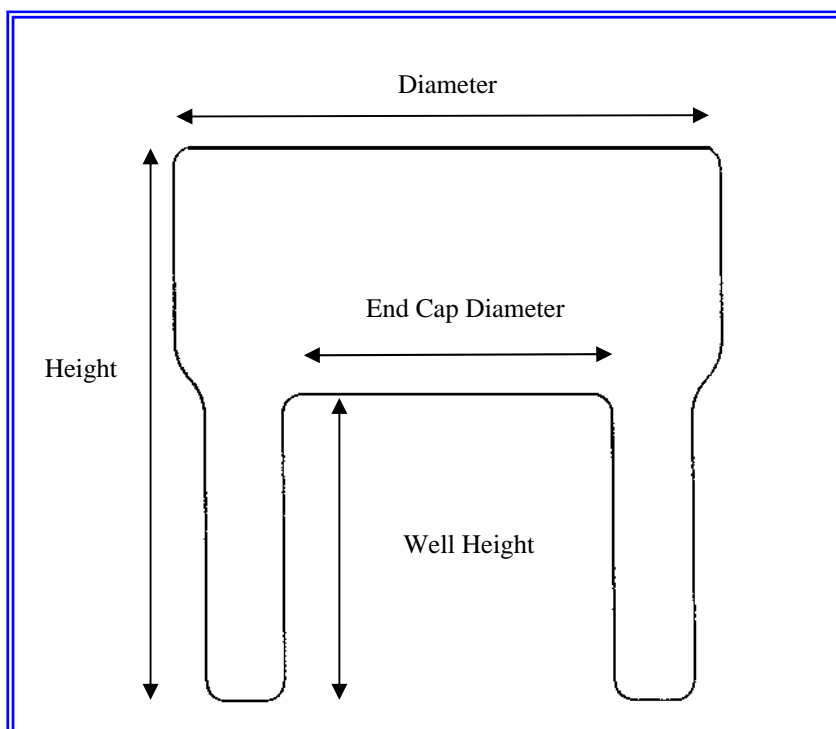
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MARINELLI BEAKERS

GA-MA sells a wide variety of Marinelli-type beakers and associated hardware designed for gamma spectroscopy applications involving solid, liquid and gas samples.

GA-MA manufactures a broad range of high-quality beakers with volumes ranging from 200 ml to 4 Liters for various types of detectors, such as Germanium, NaI, etc.

The use of Marinelli beakers in gamma spectroscopy applications permits one to obtain greater geometric detection efficiencies by positioning larger amounts of sample volume as close to the detector as possible.



MARINELLI BEAKERS for LIQUID and SOLID SAMPLES

The Marinelli type beakers of polypropylene are used for analyzing radioactive liquid or solid samples.

GA-MA Beakers provide a convenient and cost-effective means for analyzing moderate to low activity level radioactive liquid or solid samples directly for gamma ray emitting isotopes.

Use of disposable GA-MA Beakers eliminates the tedious and time-consuming process of evaporating large volumes of liquid samples in planchets prior to analysis.

Principal characteristics:

- 1. Higher counting efficiencies**
- 2. Nestability, which requires minimal storage space (not applicable to some threaded jar containers).**
- 3. Snap-on lid or threaded lid for threaded jar containers.**
- 4. Seamless, thin-wall construction eliminates sample leakage and minimizes gamma ray attenuation**

SECTION A

GA-MA'S MARINELLI BEAKERS WITH THREADED LIDS PAGES 5 - 9

GA-MA'S NEW MARINELLI BEAKERS WITH THREADED LIDS

Containers for Liquid and Solid Samples

Model	Height Inches (cm)	Diameter Inches (cm)	Well Height Inches (cm)	Well Diameter Inches (cm)	~0.5" Free board Volume (Liters)	Detector Types	EndCap Diameter Inches (cm)
~500 ML							
523GWMTJ	4.2 (10.7)	4.9 (12.4)	2.7 (6.9)	2.32 (5.9)	0.730	Germanium or Ge-Li	2.30 (5.8)
530GWMTJ & 530GSWMTJ	4.2 (10.7)	4.9 (12.4)	2.7 (6.9)	3.03 (7.7)	0.500	Germanium or Ge-Li	3.00 (7.6)
~1 LITER							
					~1" Free board Volume (Liters)		
127GWMTJ	5.9 (15.0)	5.7 (14.5)	3.0 (7.6)	2.80 (7.1)	1.26	Germanium	2.75 (7.0)
130GWMTJ	5.9 (15.0)	5.7 (14.5)	3.0 (7.6)	3.05 (7.7)	1.18	Germanium or Ge-Li	3.00 (7.6)
133GWMTJ	5.9 (15.0)	5.7 (14.5)	3.0 (7.6)	3.34 (8.5)	1.10	3x3 Nal	3.25 (8.3)
~4 LITER							
					~1" Free board Volume (Liters)		
430GWMTJ	7.0 (17.7)	8.1 (2.05)	2.95 (7.4)	3.05 (7.7)	3.81		3.00 (7.6)
433NWMJTJ	7.0 (17.7)	8.1 (2.05)	2.95 (7.4)	3.3 (8.4)	3.75		3.25 (8.3)

**~500 ML GA-MA BEAKERS
WITH THREADED LIDS**

**POLYPROPYLENE BEAKERS for
LIQUID and SOLID SAMPLES**

MODEL: 523GWMTJ

2.30'' (5.8cm)

Detector End Cap Diameter

Polypropylene Beaker

Polypropylene Lid



MODEL: 530GSWMTJ*

3.00'' (7.6cm)

Detector End Cap Diameter

Polystyrene Beaker*

Polypropylene Lid



MODEL: 530GWMTJ

3.00'' (7.6cm)

Detector End Cap Diameter

Polypropylene Beaker

Polypropylene Lid



**~1 LITER GA-MA BEAKERS
WITH THREADED LIDS**

**POLYPROPYLENE BEAKERS for
LIQUID and SOLID SAMPLES**

MODEL: 130GWMTJ

**3.00" (7.6cm)
Detector End Cap Diameter
Polypropylene Beaker
Polypropylene Lid**



MODEL: 133GWMTJ

**3.25" (8.3cm)
Detector End Cap Diameter
Polypropylene Beaker
Polypropylene Lid**

MODEL: 127GWMTJ

**2.75" (7.0cm)
Detector End Cap Diameter
Polypropylene Beaker
Polypropylene Lid**



**~4 LITER GA-MA BEAKER
WITH THREADED LID**

**POLYPROPYLENE BEAKERS
With Homopolymer-Polypropylene Lid for
LIQUID and SOLID SAMPLES**

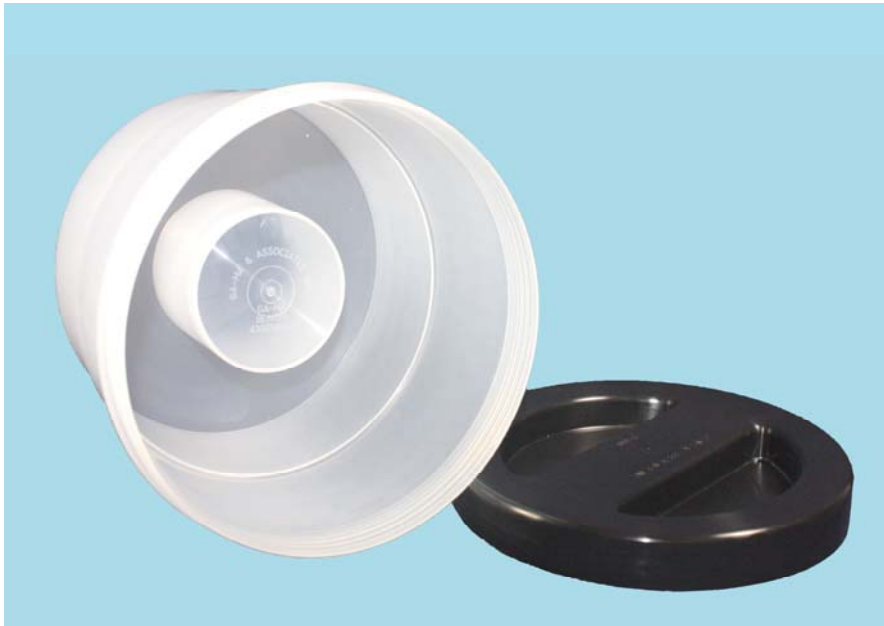
430GWMTJ

3.00" (7.6cm)*

433NWMTJ

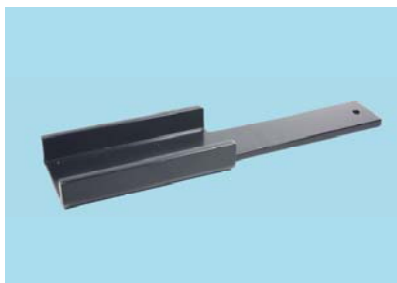
3.25" (8.3cm)*

***Detector End Cap Diameter**



P/N: LIDWRENCH

**Lid Tool for 4 Liter Screw - On Beakers
(For use with the Models 430GWMTJ & 433NWMTJ)**



SECTION B

GA-MA'S MARINELLI BEAKERS WITH SNAP-ON LIDS

PAGES 10-14

MINI-MARINELLI CONTAINERS FOR LIQUID AND SOLID SAMPLES

Mini-Marinelli Beakers ~250 ml

Model	Height Inches (cm)	Diameter Inches (cm)	Well Height Inches (cm)	Well Diameter Inches (cm)	~0.5" Free board Volume (Liters)	Detector Types	EndCap Diameter Inches (cm)
~250 ML							
443016	2.6 (6.6)	4.5 (11.4)	1.5 (3.8)	3.06 (7.8)	0.235	Germanium or Ge-Li	3.00 (7.6)
463316	2.6 (6.6)	4.6 (11.7)	1.5 (3.8)	3.33 (8.5)	0.222	Germanium or NaI 3×3	3.25 (8.3)



SNAP-ON LID CONTAINERS FOR LIQUID AND SOLID SAMPLES

~500 ml Marinelli Beakers

Model	Height Inches (cm)	Diameter Inches (cm)	Well Height Inches (cm)	Well Diameter Inches (cm)	~1" Freeboard Volume (Liters)	Detector Types	EndCap Diameter Inches (cm)
~500 ML							
523N-E	4.1 (10.4)	4.6 (11.7)	2.7 (6.8)	2.30 (5.8)	0.49	Germanium or NaI	2.20 (5.6)
527G-E	4.1 (10.4)	4.6 (11.7)	2.7 (6.8)	2.80 (7.1)	0.44	Germanium	2.75 (7.0)
530G-E	4.2 (10.7)	4.6 (11.7)	2.7 (6.8)	3.03 (7.7)	0.40	Germanium or Ge-Li	3.00 (7.6)
533N-E	4.6 (11.7)	5.1 (13.0)	2.9 (7.5)	3.30 (8.4)	0.54	Germanium or 3x3 NaI	3.25 (8.3)
538G-E	5.0 (12.7)	5.5 (14.0)	3.3 (8.4)	3.78 (9.6)	0.63	Germanium	3.75 (9.5)
541G-E	5.0 (12.7)	5.5 (14.0)	3.5 (8.9)	4.10 (10.4)	0.48	Germanium	4.00 (10.2)
580G-E	4.6 (11.7)	5.1 (13.0)	2.8 (7.1)	3.19 (8.1)	0.58	Germanium	3.15 (8.0)
590G-E	4.6 (11.7)	5.1 (13.0)	3.0 (7.6)	3.60 (9.1)	0.44	Germanium	3.54 (9.0)

Model 530G-E



Model 590G-E



Model 527G-E

SNAP-ON LID CONTAINERS FOR LIQUID AND SOLID SAMPLES

~1 Liter Marinelli Beakers

Model	Height Inches (cm)	Diameter Inches (cm)	Well Height Inches (cm)	Well Diameter Inches (cm)	~1" Freeboard Volume (Liters)	Detector Types	EndCap Diameter Inches (cm)
~1 Liter							
125G-E	6.0 (15.2)	5.1 (13.0)	3.0 (7.6)	2.56 (6.5)	1.02	Germanium or 2x2 NaI	2.50 (6.4)
127G-E	6.0 (15.2)	5.1 (13.0)	3.0 (7.6)	2.81 (7.1)	0.97	Germanium	2.75 (7.0)
130G-E	6.1 (15.5)	5.1 (13.0)	3.0 (7.6)	3.05 (7.7)	0.95	Germanium or Ge-Li	3.00 (7.6)
LA130G-E	5.1 (13.0)	6.7 (17.0)	3.0 (7.6)	3.05 (7.7)	1.15	Germanium or Ge-Li	3.00 (7.6)
132G-E	5.1 (13.0)	6.7 (17.0)	2.8 (7.1)	3.32 (8.4)	1.10	Germanium	3.25 (8.3)
133N-E	6.0 (15.2)	5.1 (13.0)	3.0 (7.6)	3.33 (8.5)	0.85	3x3 NaI	3.25 (8.3)
138G-E	6.5 (16.5)	6.2 (15.7)	4.0 (10.2)	3.80 (9.7)	1.60	Germanium	3.75 (9.5)
141G-E	6.5 (16.5)	6.2 (15.7)	4.0 (10.2)	4.08 (10.3)	1.46	Germanium	4.00 (10.2)
190G-E	5.1 (13.0)	6.7 (17.0)	3.0 (7.6)	3.59 (9.1)	1.00	Germanium	3.54 (9.0)

Model 130G-E



Model 190G-E



Model 138G-E

SNAP-ON LID CONTAINERS FOR LIQUID AND SOLID SAMPLES ~2 Liter and ~4 Liter Marinelli Beakers

Model	Height Inches (cm)	Diameter Inches (cm)	Well Height Inches (cm)	Well Diameter Inches (cm)	~1" Freeboard Volume (Liters)	Detector Types	EndCap Diameter Inches (cm)
~2 Liter							
227G-E	6.5 (16.5)	6.2 (15.7)	3.0 (7.6)	2.81 (7.1)	1.80	Germanium	2.75 (7.0)
230G-E	6.5 (16.5)	6.2 (15.7)	3.0 (7.6)	3.12 (7.9)	1.74	Germanium or Ge-Li	3.00 (7.6)
233N-E	6.5 (16.5)	6.2 (15.7)	3.0 (7.6)	3.30 (8.4)	1.68	3x3 NaI	3.25 (8.3)
~4 Liter							
430G-E	7.0 (17.8)	7.9 (20.1)	3.0 (7.6)	3.06 (7.8)	3.76	Germanium or Ge-Li	3.00 (7.6)
433N-E	7.0 (17.8)	7.9 (20.1)	3.0 (7.6)	3.37 (8.6)	3.69	3x3 NaI	3.25 (8.3)
438G-E	7.0 (17.8)	7.9 (20.1)	4.0 (10.2)	3.77 (9.6)	3.36	Germanium	3.75 (9.5)
441G-E	7.0 (17.8)	7.9 (20.1)	4.0 (10.2)	4.07 (10.3)	3.28	Germanium	4.00 (10.2)
445N-E	7.0 (17.8)	7.9 (20.1)	4.1 (10.4)	4.44 (11.3)	3.06	Germanium or 4x4 NaI	4.25 (10.8)
448G-E	7.0 (17.8)	7.9 (20.1)	4.2 (10.7)	4.79 (12.1)	2.88	Germanium	4.75 (12.1)



Model 233N-E



Model 433N-E



Model 438G-E

GAS CONTAINERS FOR GASEOUS SAMPLES

GA-MA manufactures Marinelli-type gas analysis containers. The containers are available for Germanium detectors as well as the NaI detectors.

Gas containers are designed to be used with two valves, which permit the flushing, venting and containment of the radioactive gas samples.

Gas containers are designed for disposable use and may be obtained for very economical prices when purchased in bulk quantities. Disposable use is appropriate for laboratories having large sample loads and/or low detection sensitivity requirements.

The use of Gas beakers enables one to significantly reduce sample count times without sacrificing detection sensitivity.

Thin walls minimize attenuation of low energy gamma ray lines, such as the 81 Kev gamma ray of Xe-133, normally found in nuclear power plant radwaste discharges and process streams.



MARINELLI GAS CONTAINERS

For GAS SAMPLES

Model: G-130G

Gas GA-MA Beaker with

PVC-1 Valves



Model	Height Inches (cm)	Diameter Inches (cm)	Well Height Inches (cm)	Well Diameter Inches (cm)	Approximate Volume (Liters)	Detector Types	EndCap Diameter Inches (cm)
~1 Liter							
G-125G	6.1 (15.5)	5.2 (13.2)	3.0 (7.6)	2.55 (6.4)	1.5	Germanium	2.50 (6.4)
G-127G	6.1 (15.5)	5.2 (13.2)	3.1 (7.9)	2.82 (7.2)	1.4	Germanium	2.75 (7.0)
G-130G	6.1 (15.5)	5.2 (13.2)	3.0 (7.6)	3.0 (7.8)	1.2	Germanium or Ge-Li	3.00 (7.6)
G-133N	6.1 (15.5)	5.2 (13.2)	3.0 (7.6)	3.37 (8.5)	1.0	3x3 NaI	3.25 (8.3)

Model: G-430G

Gas GA-MA Beaker with

GAV-1 Valves



Model	Height Inches (cm)	Diameter Inches (cm)	Well Height Inches (cm)	Well Diameter Inches (cm)	Approximate Volume (Liters)	Detector Types	EndCap Diameter Inches (cm)
~4 Liter							
G-430G	7.1 (18.0)	8.1 (20.6)	3.0 (7.6)	3.05 (7.7)	4.56	Germanium or Ge-Li	3.00 (7.6)
G-433N	7.1 (18.0)	8.1 (20.6)	3.0 (7.6)	3.35 (8.5)	4.32	3x3 NaI	3.25 (8.3)
G-438G	7.1 (18.0)	8.1 (20.6)	4.0 (10.2)	3.80 (9.6)	4.30	Germanium	3.75 (9.5)
G-441G	7.1 (18.0)	8.1 (20.6)	4.0 (10.2)	4.07 (10.3)	4.10	Germanium	4.00 (10.2)
G-445N	7.1 (18.0)	8.1 (20.6)	4.2 (10.7)	4.50 (11.4)	3.70	Germanium or 4x4 NaI	4.25 (10.8)

GA-MA RADIOGAS CONTAINERS

GA-MA manufactures radiogas sample containers that function both as a sample container and an analysis container. Radiogas containers are a substantial improvement over other small-volume metal or glass gas containers utilized in the nuclear power industry.

These containers will withstand up to 10 (PSIG) pressure. Appropriately sized valves facilitate the collection of gas samples and permit the flushing, venting and containment of gases. Quick-disconnect valves may be utilized with the RADIOGAS CONTAINERS.

GA-MA RADIOGAS CONTAINERS are available in 25cc or 100cc volume sizes. They are suitable for gamma spectrum analysis of radioactive gas samples containing moderate-to-high levels of radioactivity; such as those found in nuclear power plant gas decay tanks and containment atmospheres. These containers are also in a geometric configuration to allow high level radioactive samples to be easily elevated from the detector; thus eliminating high dead-time problems due to very high count rates.

Radiogas containers are integral units made of high-quality, rigid, lightweight plastic materials that are resistant to corrosive gas mediums. Thin-wall construction provides greater detection sensitivities by minimizing the attenuation of low energy gamma rays, such as the 81 keV gamma line of Xe-133.

Model	Height w/o Valves Inches (cm)	Max. Diameter w/o Valves Inches (cm)
RG-25	1.13 (2.9)	2.29 (5.8)
RG-100	2.46 (6.2)	2.29 (5.8)



Model RG-25



Model RG-100

RADIO GAS CONTAINERS WITH VALVES

RG-100VG
**Radiogas Container with
GAV-1 Valves**



RG-100V
**Radiogas Container with
QDV-1 Valves**



RG-25VG
**Radiogas Container with
GAV-1 Valves**



RG-25V
**Radiogas Container with
QDV-1 Valves**



VALVES

GA-MA provides two models of plastic valve for use with GAS GA-MA Beakers and two models for use with the Radiogas Container.

GA-MA VALVE:.....GAV-1

Height: 1.75"
Diameter: 2.10"
Weight: 6.0 grams
Material: Polyethylene



PVC O-Ring Valve:.....PVC-1

To be utilized with the GAS GA-MA Beaker. Each PVC valve has four o-rings, 1/4" NPT threaded end and a tapered hose connection for a flexible tubing

Features include:

- Easily adaptable to any type of connection
- Opens and closes with only a quarter turn
- Replaceable o-ring seats and seals
- Corrosion-resistant all thermo plastic PVC construction
- No sticking or galling
- Full port design

Height: 3.44"
Diameter: 2.75"
Weight: 30.0 grams
Material: PVC



Quick-Disconnect Valve:.....QDV-1

GA-MA provides a double o-ring quick-disconnect valve for use with its radiogas containers. This quick-disconnect dual o-ring seal can be utilized with pressures up to 10 p.s.i.g. This type of valve offers versatility of use for gas sampling.

Height: 2.00"
Diameter: 1.00"
Weight: 7.7 grams
Material: Acetal



MODEL FB500
GA-MA Flat Bottom Beaker,
500ML, Polypropylene with Polyethylene Lid.



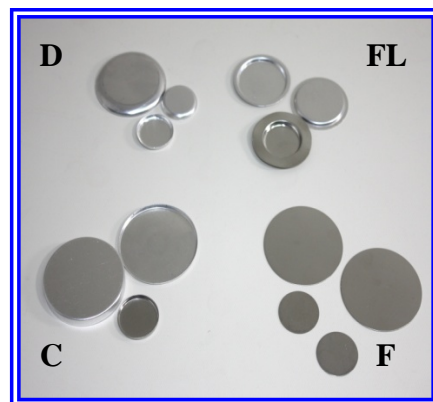
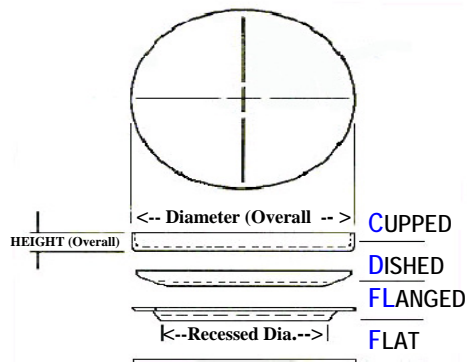
SAMPLE TYPE: LIQUID or SOLID

- Nominal Height.....2.7 inches (6.8cm)
- Nominal Diameter.....3.9 inches (9.9cm)
- Volume Measured at Max Height.....485ml
- Volume Measured at .25" Freeboard.....437ml
- Beaker Material.....Polypropylene
- Lid Material.....Polyethylene

Packaging

Quantity per Case: 96
Weight per Case: Approximately 11.3lbs (5.13kg)
Shipping Dimensions: 17" X 17" X 16" (43.2cm X 43.2cm X 40.6cm)

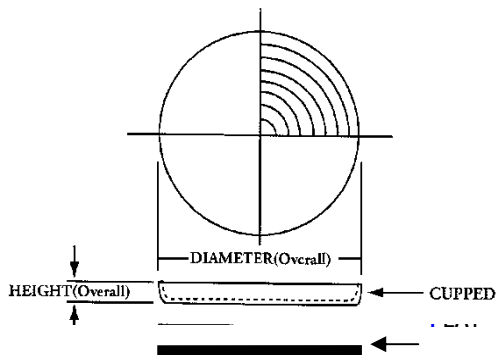
PLANCHETS and RADIO CHEMISTRY DISCS



Type	P/N		Diameter Overall		Height Overall		Recessed Dia.	
	Aluminum	Stainless Steel	Inches	MM	Inches	MM	Inches	MM
Cupped	C-1A	C-1S	1	25.4	3/32	2.4		
	C-2A	C-2S	1	25.4	1/4	6.4		
	C-3A	C-3S	1	25.4	5/16	7.9		
	C-4A	C-4S	1-1/4	31.8	3/32	2.4		
	C-5A	C-5S	2	50.8	3/32	2.4		
	C-5AA	C-5AS	2	50.8	1/8	3.2		
	C-6A	C-6S	2	50.8	5/32	4.0		
	C-7A	C-7S	2-1/16	52.4	3/32	2.4		
	C-8A	C-8S	2-1/16	52.4	5/32	4.0		
	C-9A	C-9S	2	50.8	3/16	4.8		
	C-10A	C-10S	2	50.8	1/4	6.4		
	C-11A	C-11S	2	50.8	5/16	7.9		
	C-12A	C-12S	2-3/8	60.3	1/8	3.2		
	C-12AA	C-12AS	3-1/8	80.0	7/32	5.5		
	C-12BA	C-12BS	2-3/8	60.3	1/4	6.4		
C-13A	C-13S	4-3/16	106.4	1/4	6.4			
C-13AA	C-13AS	4-3/16	106.4	1/8	3.2			
C-14A	C-14S	4-1/2	114.3	1/8	3.2			
C-15A	C-15S	4-7/8	123.8	5/32	4.0			
Dished	D-AA	D-AS	1	25.4	3/32	2.4		
	D-1A	D-1S	2	50.8	5/32	4.0		
	D-2A	D-2S	2-1/16	52.4	5/32	4.0		
Flanged	FL-1A	FL-1S	1-5/8	41.3	5/64	2.0	1-5/16	33.3
	FL-2A	FL-2S	1-5/8	41.3	1/8	3.2	1	25.4
	FL-3A	FL-3S	2-5/16	58.9	5/32	4.0	2-3/32	53.2
	FL-4A	FL-4S	2-5/16	58.9	5/16	7.9	2-3/32	53.2
Flat	F-CA	F-CS	*A	5/8	15.9	*PACKAGING PREFERENCE DESIGNATION: A, C OR D: ALL POLISHED ONE SIDE A-BULK C-WITH PROTECTIVE TAPE D-ONE PER ENVELOPE		
	F-BA	F-BS		11/16	17.5			
	F-AA	F-AS	*C	3/4	19.0			
	F-AAA	F-AAS		7/8	22.0			
	F-1A	F-1S	*D	1	25.4			
	F-2A	F-2S		1-1/4	31.8			
	F-3A	F-3S		1-1/2	38.1			
	F-3AA	F-3AS		1-3/4	44.0			
F-4A	F-4S	2	50.8					

SAMPLES ON REQUEST

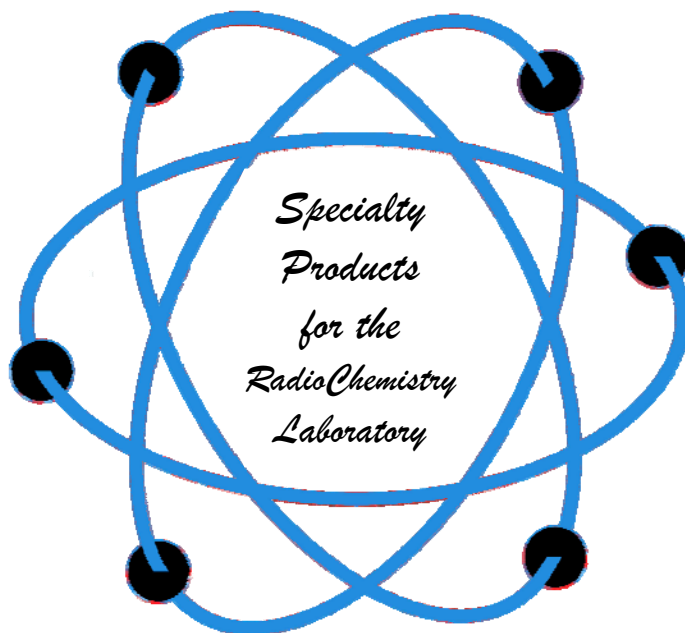
PLANCHETS & RADIOCHEMISTRY DISCS (CONCENTRIC BOTTOM)



TYPE	STOCK # ALUMINUM	STOCK # STAINLESS STEEL	DIAMETER OVERALL		HEIGHT OVERALL	
			INCHES	MM	INCHES	MM
CUPPED	C-1AC	C-1SC	1	25.4	3/32	2.4
	C-2AC	C-2SC	1	25.4	1/4	6.4
	C-3AC	C-3SC	1	25.4	5/16	7.9
	C-4AC	C-4SC	1-1/4	31.8	3.32	2.4
	C-5AC	C-5SC	2	50.8	3/32	2.47
	C-5AAC	C-5ASC	2	50.8	1/8	3.2
	C-6AC	C-6SC	2	50.8	5/32	4.0
	C-7AC	C-7SC	2-1/16	52.4	3/32	2.4
	C-8AC	C-8SC	2-1/16	52.4	5/32	4.0
	C-9AC	C-9SC	2	50.8	3/16	4.8
	C-10AC	C-10SC	2	50.8	1/4	6.4
	C-11AC	C-11SC	2	50.8	5/16	7.9
	C-14AC	C-14SC	4-1/2	114.3	1/8	3.2

SPECIAL ORDER				
TYPE	STOCK NUMBER		DIAMETER OVERALL	
	NICKEL*		INCHES	MM
FLAT	F-CN		5/8	15.9
	F-BN		11/16	17.5
	F-AN		3/4	19.0
	F-AAN		7/8	22.0
	F-IN		1	25.4

*Other precious metals : Silver, Platinum, Copper, Gold, Tantalum, etc., also available



MARINELLI BEAKER SELECTION CHART BASED UPON DETECTOR ENDCAP DIAMETER

Detector Endcap Diameter =	2.30" (5.8cm)	2.50" (6.4cm)	2.75" (7.0cm)	3.00" (7.6cm)	3.15" (8.0cm)	
Available Models :	523N-E 523GWMTJ	125G-E G-125G	527G-E 127G-E 227G-E G-127G 127GWMTJ	443016 530G-E 130G-E 230G-E 430G-E G-530G G-130G G-430G 130GWMTJ 430GWMTJ 530GWMTJ 530GSWMTJ	580G-E	
Detector Endcap Diameter =	3.15"(8.0cm) or 3.25"(8.3cm)	3.54" (9.0cm)	3.54"(9.0cm) or 3.75"(9.5cm)	4.00" (10.2cm)	4.25" (10.8cm)	4.75" (12.1cm)
Available Models :	463316 533N-E 132G-E 133N-E 233N-E 433N-E G-133N G-433N 133GWMTJ 433NWTJ	590G-E 190G-E	538G-E 138G-E 438G-E G-438G	541G-E 141G-E 441G-E G-441G	445N-E G-445N	448G-E

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