

Select your AA Hollow Cathode Lamp by Element

Color Code Legend

Flame Type

- Air/Acetylene
- N₂O/Acetylene
- Not detectable by AA

Spectroscopy Technique

FAAS	Flame Atomic Absorption Spectroscopy	MP	MP-AES
GFAA	Graphite Furnace Atomic Absorption Spectroscopy	ES	ICP-OES
VGA	Vapor Generation Atomic Absorption Spectroscopy	MS	ICP-MS

◆ Multi-Element Lamp (See ordering table on right)

1	1.008	H	hydrogen	MS
3	6.941	Li	lithium	ES
4	9.012	Be	beryllium	ES
11	22.99	Na	sodium	ES
12	24.31	Mg	magnesium	ES
19	39.10	K	potassium	ES
20	40.08	Ca	calcium	ES
21	44.96	Sc	scandium	ES
22	47.88	Ti	titanium	ES
23	50.94	V	vanadium	ES
24	52.00	Cr	chromium	ES
25	54.94	Mn	manganese	ES
26	55.85	Fe	iron	ES
27	58.93	Co	cobalt	ES
28	58.69	Ni	nickel	ES
29	63.55	Cu	copper	ES
30	65.39	Zn	zinc	ES
31	69.72	Ga	gallium	ES
32	72.64	Ge	germanium	ES
33	74.92	As	arsenic	ES
34	78.96	Se	selenium	ES
37	85.47	Rb	rubidium	ES
38	87.62	Sr	strontium	ES
39	88.91	Y	yttrium	ES
40	91.22	Zr	zirconium	ES
41	92.91	Nb	niobium	ES
42	95.94	Mo	molybdenum	ES
43		Tc	technetium	MS
44	101.1	Ru	ruthenium	ES
45	102.9	Rh	rhodium	ES
46	106.4	Pd	palladium	ES
47	107.9	Ag	silver	ES
48	112.4	Cd	cadmium	ES
49	114.8	In	indium	ES
50	118.7	Sn	tin	ES
51	121.8	Sb	antimony	ES
52	127.6	Te	tellurium	ES
53	126.9	I	iodine	ES
54	131.3	Xe	xenon	ES
55	132.9	Cs	cesium	ES
56	137.3	Ba	barium	ES
57	138.9	La	lanthanum	ES
58	140.1	Ce	cerium	ES
59	140.9	Pr	praseodymium	ES
60	144.2	Nd	neodymium	ES
61	144.9	Pm	promethium	MS
62	150.4	Sm	samarium	ES
63	152.0	Eu	europium	ES
64	157.3	Gd	gadolinium	ES
65	158.9	Tb	terbium	ES
66	162.5	Dy	dysprosium	ES
67	164.9	Ho	holmium	ES
68	167.3	Er	erbium	ES
69	168.9	Tm	thulium	ES
70	173.0	Yb	ytterbium	ES
71	175.0	Lu	lutetium	ES
72	178.5	Hf	hafnium	ES
73	180.9	Ta	tantalum	ES
74	183.8	W	tungsten	ES
75	186.2	Re	rhenium	ES
76	190.2	Os	osmium	ES
77	192.2	Ir	iridium	ES
78	195.1	Pt	platinum	ES
79	197.0	Au	gold	ES
80	200.6	Hg	mercury	ES
81	204.4	Tl	thallium	ES
82	207.2	Pb	lead	ES
83	209.0	Bi	bismuth	ES
84		Po	polonium	MS
85		At	astatine	MS
86		Rn	radon	MS
87		Fr	francium	MS
88		Ra	radium	MS
89		Lr	lawrencium	MS
90		Rf	rutherfordium	MS
91		Db	dubnium	MS
92		Sg	seaborgium	MS
93		Bh	bohrium	MS
94		Hs	hassium	MS
95		Mt	meitnerium	MS
96		Ds	damastadium	MS
97		Rg	roentgenium	MS
98		Cn	copernicium	MS
99		Uut	ununtrium	MS
100		Fl	flerovium	MS
101		Uup	ununpentium	MS
102		Lv	livermorium	MS
103		Uus	ununseptium	MS
104		Uuo	ununoctium	MS

Ordering Information

What Makes Agilent Lamps Different?

- Optimum performance:** Proprietary cathode composition and unique lamp processing procedures ensure best long-term intensity, sensitivity, and stability.
- Longer service life:** Typical lifetime for Agilent lamps exceeds 5,000 mA hours for a lower cost of ownership.
- Better stability:** Agilent lamps feature an active "getter" spot that prolongs lamp life and improves stability.
- High sensitivity:** Our proprietary cathode composition and optimized operating parameters deliver the best S/N performance extending detection capabilities, even at trace levels.
- Lamps work right out of the box:** Prior to shipment, every Agilent lamp is analytically tested and conditioned to ensure that it meets demanding standards for intensity, noise, and stability.

Lamp Selection Guidelines

Coded Lamps

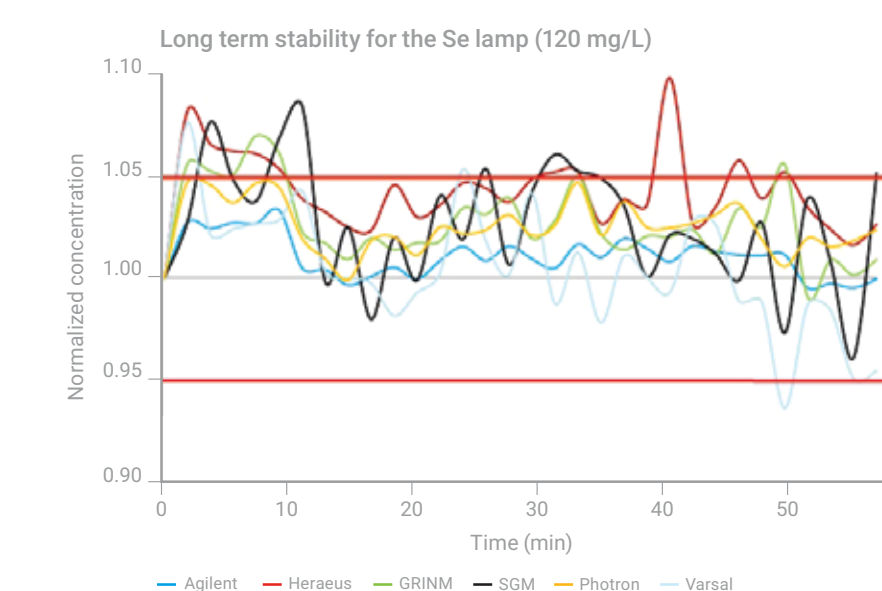
- Element coded for automatic recognition by the Agilent AA instrument
- Instrument automatically selects the right lamp for analysis – even if you've moved it
- Reduces operator error when working with multiple lamps

Uncoded Lamps

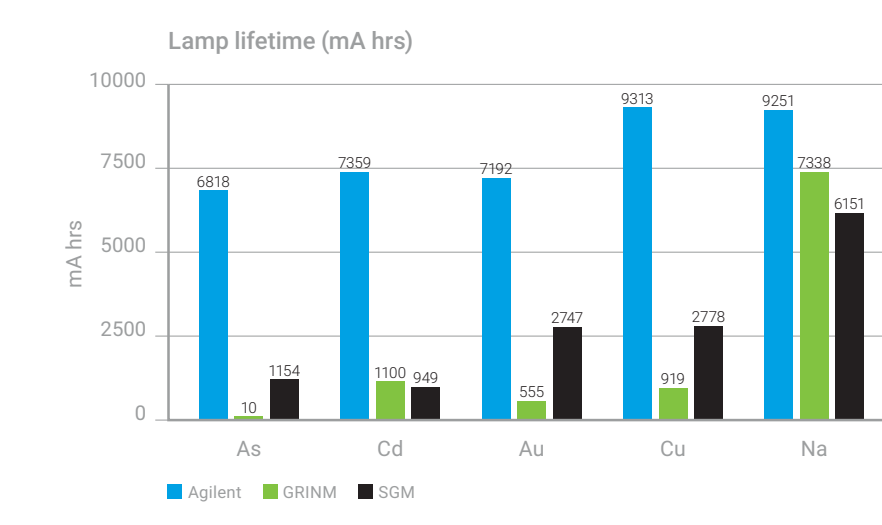
- The most economical choice
- Compatible with all Agilent and most other AA systems (except PerkinElmer and Shimadzu systems using SR correction)
- Same excellent performance provided by Agilent coded single-element lamps

Proof of Long-term Stability

Agilent lamps provide stable output after 10 minutes of warm-up, eliminating drift and reducing measurement errors.



Comparison of (Se) lamps for a 120 mg/L calibration standard. The average precision for the Agilent lamp was < 1% RSD over this 1-hour period, compared with < 3% RSD for the Varsal lamp.



Comparison of lamp lifetimes. The Agilent lamp gave the longest life for each of these elements, well over 2.5 times longer than the nearest competitor for most elements, and >25% longer than the nearest competitor for the sodium lamp.

To learn more about the advantages of Agilent lamps and testing methodologies, see: www.agilent.com/chem/aalampcomparison

Protect our environment by recycling your used lamps. Learn more at: www.agilent.com/chem/aarecycle

To learn more about the high intensity UltrAA lamps: www.agilent.com/chem/ultraalamps

Agilent Multi-Element Hollow Cathode Lamps

- Unique element combinations extend the versatility of any AA instrument.
- Economical operation, since a single lamp covers multiple elements.
- Save time by eliminating lamp warm-up when switching elements.
- Same performance as Agilent single-element lamps (at suggested conditions).

Coded Multi-Element Lamps	Part No.
Aluminium/Calcium/Magnesium – Al/Ca/Mg	5610108800
Calcium/Magnesium – Ca/Mg	5610107100
Cobalt/Chromium/Copper/Iron/Manganese/Nickel – Co/Cr/Cu/Fe/Mn/Ni	5610107600
Copper/Iron/Manganese/Zinc – Cu/Fe/Mn/Zn	5610109600
Copper/Iron/Silicon/Zinc – Cu/Fe/Si/Zn	5610109700
Copper/Zinc – Cu/Zn	5610119200
Silver/Cadmium/Lead/Zinc – Ag/Cd/Pb/Zn	5610108700
Silver/Chromium/Copper/Iron/Nickel – Ag/Cr/Cu/Fe/Ni	5610109500
Sodium/Potassium – Na/K	5610107000

Uncoded Multi-Element Lamps	Part No.
Calcium/Magnesium – Ca/Mg	5610129100
Cobalt/Chromium/Copper/Iron/Manganese/Nickel – Co/Cr/Cu/Fe/Mn/Ni	5610129200
Copper/Zinc – Cu/Zn	5610129300
Sodium/Potassium – Na/K	5610129000

Agilent High Intensity UltrAA Lamps

UltrAA lamps are high-intensity, boosted discharge hollow cathode lamps for Agilent AA instruments that provide increased emission intensity, enhance sensitivity by up to 40%, and improve detection limits, allowing determinations at even lower levels.

Coded Multi-Element UltrAA Lamps	Part No.
Aluminium/Calcium/Magnesium – Al/Ca/Mg	5610133600
Cobalt/Chromium/Copper/Iron/Manganese/Nickel – Co/Cr/Cu/Fe/Mn/Ni	5610134500
Cobalt/Molybdenum/Lead/Zinc – Co/Mo/Pb/Zn	5610135200
Copper/Iron/Manganese/Zinc – Cu/Fe/Mn/Zn	5610135000
Copper/Iron/Silicon/Zinc – Cu/Fe/Si/Zn	5610135100
Copper/Zinc – Cu/Zn	5610134600
Silver/Cadmium/Lead/Zinc – Ag/Cd/Pb/Zn	5610108900
Silver/Chromium/Copper/Iron/Nickel – Ag/Cr/Cu/Fe/Ni	5610134900

Uncoded Multi-Element UltrAA Lamps	Part No.
Arsenic/Copper/Iron – As/Cu/Fe	5610135300
Nickel/Selenium – Ni/Se	5610135400

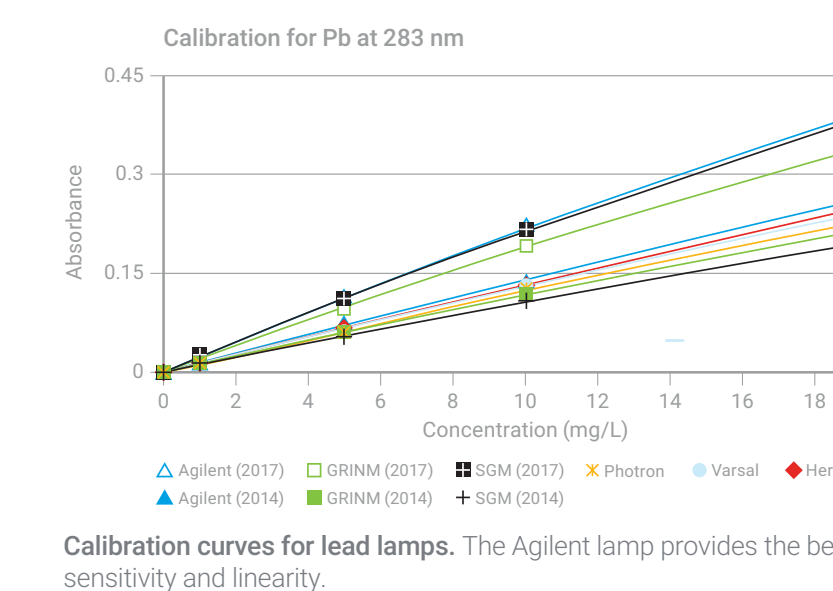
Background correction lamps	Part No.
Deuterium lamp for Agilent AA systems	G8431-800000

Lamps for PerkinElmer instruments

Agilent also offers a range of single-element lamps that are equivalent in performance – and a suitable alternative – to PerkinElmer Lumina lamps used with PerkinElmer AA systems. For more details, see: www.agilent.com/chem/pelamps

Reduce Troubleshooting by Choosing Agilent AA Lamps

High-quality Agilent lamps generate a narrow, interference-free emission line, with good intensity and signal-to-noise to ensure proper calibration. Lamps from alternate suppliers can show inconsistent performance, which affects the accuracy and reliability of your results.



Calibration curves for lead lamps. The Agilent lamp provides the best sensitivity and linearity.

To order your AA hollow cathode lamps, visit www.agilent.com/chem/aalamps

To find a local Agilent representative, go to www.agilent.com/chem/contactus



Agilent leads the way in atomic spectroscopy innovation. Learn more at: www.agilent.com/chem/atomic