

.red[®] Product (Heading)



Product datasheet

Description

Features

•red brand hollow cathode lamps are offered for most atomic absorption spectrometer instrument/element combinations:

- Non-coded
- Data coded for Thermo (Unicam), Agilent (Varian) and Perkin Elmer
- Single and multi-element
- 1½" (37mm) and 2" (51mm)
- Sharp, narrow band width spectral lines
- Neon filled
- Quartz or Pyrex windowed depending on wavelength
- Unique serial number for traceability

All •red brand hollow cathode lamps are shipped with detailed instructions on installation.



Applications

•red brand hollow cathode lamps are gas discharge devices in which the discharge is highly constrained around the cathode of a specific metal. The resultant output is a unique line spectrum, the most intense of which are suitable for highly specific and sensitive metals analysis.

The technology can be extended to include the following applications:

- Atomic absorption spectrophotometry
- Atomic fluorescence spectroscopy
- Multi-wavelength laser tuning and Laser output stabilisation
- Multicomponent analysers
- Environmental analysers
- Medicinal analysers

Fittings and instruments

•red 1.5" (37mm) lamps are fitted with a 2-pin octal base. while the 2" (51mm) version has a flying lead terminating in a standard M9 plug. Data coded versions of these lamps use multiple pinned octal bases specific to the intended manufacturer whilst the coded plug terminating 51mm lamps mates with the M12 socket in the instrument.

2" (51mm) lamps are restricted for use in Perkin Elmer instruments.

Contact your dealer for further information.

Product datasheet

Ordering information

Single element, 2" (51mm) diameter lamps, non-coded - Perkin Elmer

Code	Description	Model
173218	H-C lamp 2.0" Aluminium/Al non-coded	Al non-coded
173219	H-C lamp 2.0" Antimony/Sb non-coded	Sb non-coded
173220	H-C lamp 2.0" Arsenic/As non-coded	As non-coded
173221	H-C lamp 2.0" Barium/Ba non-coded	Ba non-coded
173222	H-C lamp 2.0" Beryllium/Be non-coded	Be non-coded
173223	H-C lamp 2.0" Bismuth/Bi non-coded	Bi non-coded
173224	H-C lamp 2.0" Boron/B non-coded	B non-coded
173225	H-C lamp 2.0" Cadmium/Cd non-coded	Cd non-coded
173226	H-C lamp 2.0" Cesium/Cs non-coded	Cs non-coded
173227	H-C lamp 2.0" Calcium/Ca non-coded	Ca non-coded
173228	H-C lamp 2.0" Cerium/Ce non-coded	Ce non-coded
173229	H-C lamp 2.0" Chromium/Cr non-coded	Cr non-coded
173230	H-C lamp 2.0" Cobalt/Co non-coded	Co non-coded
173231	H-C lamp 2.0" Copper/Cu non-coded	Cu non-coded
173232	H-C lamp 2.0" Dysprosium/Dy non-coded	Dy non-coded
173233	H-C lamp 2.0" Erbium/Er non-coded	Er non-coded
173234	H-C lamp 2.0" Europium/Eu non-coded	Eu non-coded
173235	H-C lamp 2.0" Gadolinium/Gd non-coded	Gd non-coded
173236	H-C lamp 2.0" Gallium/Ga non-coded	Ga non-coded
173237	H-C lamp 2.0" Germanium/Ge non-coded	Ge non-coded
173238	H-C lamp 2.0" Gold/Au non-coded	Au non-coded
173239	H-C lamp 2.0" Hafnium/Hf non-coded	Hf non-coded
173240	H-C lamp 2.0" Holmium/Ho non-coded	Ho non-coded
173241	H-C lamp 2.0" Indium/In non-coded	In non-coded
173242	H-C lamp 2.0" Iridium/Ir non-coded	Ir non-coded
173243	H-C lamp 2.0" Iron/Fe non-coded	Fe non-coded
173244	H-C lamp 2.0" Lanthanum/La non-coded	La non-coded
173245	H-C lamp 2.0" Lead/Pb non-coded	Pb non-coded
173246	H-C lamp 2.0" Lithium/Li non-coded	Li non-coded
173247	H-C lamp 2.0" Lutetium/Lu non-coded	Lu non-coded
173248	H-C lamp 2.0" Magnesium/Mg non-coded	Mg non-coded
173249	H-C lamp 2.0" Manganese/Mn non-coded	Mn non-coded
173250	H-C lamp 2.0" Mercury/Hg non-coded	Hg non-coded
173251	H-C lamp 2.0" Molybdenum/Mo non-coded	Mo non-coded
173252	H-C lamp 2.0" Neodymium/Nd non-coded	Nd non-coded

Product datasheet

Ordering information (cont.)

Single element, 2" (51mm) diameter lamps, non-coded - Perkin Elmer

Code	Description	Model
173253	H-C lamp 2.0" Nickel/Ni non-coded	Ni non-coded
173254	H-C lamp 2.0" Niobium/Nb non-coded	Nb non-coded
173255	H-C lamp 2.0" Osmium/Os non-coded	Os non-coded
173256	H-C lamp 2.0" Palladium/Pd non-coded	Pd non-coded
173257	H-C lamp 2.0" Phosphorus/P non-coded	P non-coded
173258	H-C lamp 2.0" Platinum/Pt non-coded	Pt non-coded
173259	H-C lamp 2.0" Potassium/K non-coded	K non-coded
173260	H-C lamp 2.0" Praseodymium/Pr non-coded	Pr non-coded
173261	H-C lamp 2.0" Rhenium/Re non-coded	Re non-coded
173262	H-C lamp 2.0" Rhodium/Rh non-coded	Rh non-coded
173263	H-C lamp 2.0" Rubidium/Rb non-coded	Rb non-coded
173264	H-C lamp 2.0" Ruthenium/Ru non-coded	Ru non-coded
173265	H-C lamp 2.0" Samarium/Sm non-coded	Sm non-coded
173266	H-C lamp 2.0" Scandium/Sc non-coded	Sc non-coded
173267	H-C lamp 2.0" Selenium/Se non-coded	Se non-coded
173268	H-C lamp 2.0" Silicon/Si non-coded	Si non-coded
173269	H-C lamp 2.0" Silver/Ag non-coded	Ag non-coded
173270	H-C lamp 2.0" Sodium/Na non-coded	Na non-coded
173271	H-C lamp 2.0" Strontium/Sr non-coded	Sr non-coded
173272	H-C lamp 2.0" Tantalum/Ta non-coded	Ta non-coded
173273	H-C lamp 2.0" Tellurium/Te non-coded	Te non-coded
173274	H-C lamp 2.0" Terbium/Tb non-coded	Tb non-coded
173275	H-C lamp 2.0" Thallium/Tl non-coded	Tl non-coded
173276	H-C lamp 2.0" Thorium/Th non-coded	Th non-coded
173277	H-C lamp 2.0" Thulium/Tm non-coded	Tm non-coded
173278	H-C lamp 2.0" Tin/Sn non-coded	Sn non-coded
173279	H-C lamp 2.0" Titanium/Ti non-coded	Ti non-coded
173280	H-C lamp 2.0" Tungsten/W non-coded	W non-coded
173281	H-C lamp 2.0" Vanadium/V non-coded	V non-coded
173282	H-C lamp 2.0" Ytterbium/Yb non-coded	Yb non-coded
173283	H-C lamp 2.0" Yttrium/Y non-coded	Y non-coded
173284	H-C lamp 2.0" Zinc/Zn non-coded	Zn non-coded
173285	H-C lamp 2.0" Zirconium/Zr non-coded	Zr non-coded

Product datasheet

Ordering information (cont.)

Two element, 2" (51mm) diameter lamps, non-coded - Perkin Elmer

Code	Description	Model
173286	H-C lamp 2.0" Al/Ca non-coded	Al/Ca non-coded
173287	H-C lamp 2.0" Al/Si non-coded	Al/Si non-coded
173288	H-C lamp 2.0" Ba/Ca non-coded	Ba/Ca non-coded
173289	H-C lamp 2.0" Ba/Sr non-coded	Ba/Sr non-coded
173290	H-C lamp 2.0" Cd/Cu non-coded	Cd/Cu non-coded
173291	H-C lamp 2.0" Ca/Mg non-coded	Ca/Mg non-coded
173292	H-C lamp 2.0" Cr/Ag non-coded	Cr/Ag non-coded
173293	H-C lamp 2.0" Cr/Cu non-coded	Cr/Cu non-coded
173294	H-C lamp 2.0" Cr/Mn non-coded	Cr/Mn non-coded
173295	H-C lamp 2.0" Co/Cu non-coded	Co/Cu non-coded
173296	H-C lamp 2.0" Co/Mn non-coded	Co/Mn non-coded
173297	H-C lamp 2.0" Co/Ni non-coded	Co/Ni non-coded
173298	H-C lamp 2.0" Co/Zr non-coded	Co/Zr non-coded
173299	H-C lamp 2.0" Cu/Mg non-coded	Cu/Mg non-coded
173300	H-C lamp 2.0" Cu/Ni non-coded	Cu/Ni non-coded
173301	H-C lamp 2.0" Au/Ni non-coded	Au/Ni non-coded
173302	H-C lamp 2.0" Fe/Mn non-coded	Fe/Mn non-coded
173303	H-C lamp 2.0" Li/Mg non-coded	Li/Mg non-coded
173304	H-C lamp 2.0" Na/K non-coded	Na/K non-coded
173305	H-C lamp 2.0" Na/K Argon non-coded	Na/K Argon non-coded
173306	H-C lamp 2.0" Na/K Quartz non-coded	Na/K Quartz non-coded
173307	H-C lamp 2.0" Al/Li non-coded	Al/Li non-coded
173308	H-C lamp 2.0" As/Bi non-coded	As/Bi non-coded
173309	H-C lamp 2.0" Cr/Zr non-coded	Cr/Zr non-coded
173310	H-C lamp 2.0" In/P non-coded	In/P non-coded
173311	H-C lamp 2.0" Sn/Te non-coded	Sn/Te non-coded
173312	H-C lamp 2.0" Cu/Pb non-coded	Cu/Pb non-coded
173313	H-C lamp 2.0" Al/Cu non-coded	Al/Cu non-coded
173314	H-C lamp 2.0" As/Ni non-coded	As/Ni non-coded
173315	H-C lamp 2.0" Ba/Mg non-coded	Ba/Mg non-coded
173316	H-C lamp 2.0" Cd/Ag non-coded	Cd/Ag non-coded
173317	H-C lamp 2.0" Ca/Cu non-coded	Ca/Cu non-coded
173318	H-C lamp 2.0" Ca/Zn non-coded	Ca/Zn non-coded
173319	H-C lamp 2.0" Cr/Co non-coded	Cr/Co non-coded
173320	H-C lamp 2.0" Cr/Fe non-coded	Cr/Fe non-coded

Product datasheet

Ordering information (cont.)

Two element, 2" (51mm) diameter lamps, non-coded - Perkin Elmer

Code	Description	Model
173321	H-C lamp 2.0" Cr/Ni non-coded	Cr/Ni non-coded
173322	H-C lamp 2.0" Co/Fe non-coded	Co/Fe non-coded
173323	H-C lamp 2.0" Co/Mo non-coded	Co/Mo non-coded
173324	H-C lamp 2.0" Co/Zn non-coded	Co/Zn non-coded
173325	H-C lamp 2.0" Cu/Fe non-coded	Cu/Fe non-coded
173326	H-C lamp 2.0" Cu/Mn non-coded	Cu/Mn non-coded
173327	H-C lamp 2.0" Cu/Zn non-coded	Cu/Zn non-coded
173328	H-C lamp 2.0" In/Ag non-coded	In/Ag non-coded
173329	H-C lamp 2.0" Fe/Ni non-coded	Fe/Ni non-coded
173330	H-C lamp 2.0" Mg/Zn non-coded	Mg/Zn non-coded
173331	H-C lamp 2.0" Al/Mg non-coded	Al/Mg non-coded
173332	H-C lamp 2.0" Al/Ti non-coded	Al/Ti non-coded
173333	H-C lamp 2.0" Bi/Sb non-coded	Bi/Sb non-coded
173334	H-C lamp 2.0" Au/Ag non-coded	Au/Ag non-coded
173335	H-C lamp 2.0" Si/Ti non-coded	Si/Ti non-coded
173336	H-C lamp 2.0" Cd/Zn non-coded	Cd/Zn non-coded
173337	H-C lamp 2.0" Na/Pb non-coded	Na/Pb non-coded

Three element, 2" (51mm) diameter lamps, non-coded - Perkin Elmer

Code	Description	Model
173338	H-C lamp 2.0" Al/Ca/Li non-coded	Al/Ca/Li non-coded
173339	H-C lamp 2.0" Al/Cu/Si non-coded	Al/Cu/Si non-coded
173340	H-C lamp 2.0" Al/Mg/Li non-coded	Al/Mg/Li non-coded
173341	H-C lamp 2.0" Ba/Ca/Sr non-coded	Ba/Ca/Sr non-coded
173342	H-C lamp 2.0" Cd/Cu/Ag non-coded	Cd/Cu/Ag non-coded
173343	H-C lamp 2.0" Ca/Mg/Zn non-coded	Ca/Mg/Zn non-coded
173344	H-C lamp 2.0" Cr/Co/Fe non-coded	Cr/Co/Fe non-coded
173345	H-C lamp 2.0" Cr/Co/Ni non-coded	Cr/Co/Ni non-coded
173346	H-C lamp 2.0" Cr/Cu/Fe non-coded	Cr/Cu/Fe non-coded
173347	H-C lamp 2.0" Cr/Cu/Ni non-coded	Cr/Cu/Ni non-coded
173348	H-C lamp 2.0" Cr/Fe/Ni non-coded	Cr/Fe/Ni non-coded
173349	H-C lamp 2.0" Cr/Mn/Zn non-coded	Cr/Mn/Zn non-coded
173350	H-C lamp 2.0" Co/Cu/Mn non-coded	Co/Cu/Mn non-coded
173351	H-C lamp 2.0" Co/Fe/Mn non-coded	Co/Fe/Mn non-coded
173352	H-C lamp 2.0" Co/Mn/Ni non-coded	Co/Mn/Ni non-coded

Product datasheet

Ordering information (cont.)

Three element, 2" (51mm) diameter lamps, non-coded - Perkin Elmer

Code	Description	Model
173353	H-C lamp 2.0" Cu/Fe/Mn non-coded	Cu/Fe/Mn non-coded
173354	H-C lamp 2.0" Cu/Fe/Ni non-coded	Cu/Fe/Ni non-coded
173355	H-C lamp 2.0" Cu/Mn/Ni non-coded	Cu/Mn/Ni non-coded
173356	H-C lamp 2.0" Cu/Ni/Zn non-coded	Cu/Ni/Zn non-coded
173357	H-C lamp 2.0" Co/Cd/Ni non-coded	Co/Cd/Ni non-coded
173358	H-C lamp 2.0" Al/Cu/Fe non-coded	Al/Cu/Fe non-coded
173359	H-C lamp 2.0" As/Sb/Bi non-coded	As/Sb/Bi non-coded
173360	H-C lamp 2.0" Cd/Cu/Ni non-coded	Cd/Cu/Ni non-coded
173361	H-C lamp 2.0" Cr/Fe/Mo non-coded	Cr/Fe/Mo non-coded
173362	H-C lamp 2.0" Co/Ni/Pt non-coded	Co/Ni/Pt non-coded
173363	H-C lamp 2.0" Pb/Ag/Zn non-coded	Pb/Ag/Zn non-coded
173364	H-C lamp 2.0" Mn/Fe/Zn non-coded	Mn/Fe/Zn non-coded
173365	H-C lamp 2.0" Al/Ca/Mg non-coded	Al/Ca/Mg non-coded
173366	H-C lamp 2.0" Al/Mg/Fe non-coded	Al/Mg/Fe non-coded
173367	H-C lamp 2.0" Ba/Ca/Mg non-coded	Ba/Ca/Mg non-coded
173368	H-C lamp 2.0" Ba/Mg/Sr non-coded	Ba/Mg/Sr non-coded
173369	H-C lamp 2.0" Cd/Cu/Zn non-coded	Cd/Cu/Zn non-coded
173370	H-C lamp 2.0" Cr/Co/Cu non-coded	Cr/Co/Cu non-coded
173371	H-C lamp 2.0" Cr/Co/Mn non-coded	Cr/Co/Mn non-coded
173372	H-C lamp 2.0" Cr/Cu/Ag non-coded	Cr/Cu/Ag non-coded
173373	H-C lamp 2.0" Cr/Cu/Mn non-coded	Cr/Cu/Mn non-coded
173374	H-C lamp 2.0" Cr/Fe/Mn non-coded	Cr/Fe/Mn non-coded
173375	H-C lamp 2.0" Cr/Mn/Ni non-coded	Cr/Mn/Ni non-coded
173376	H-C lamp 2.0" Co/Cu/Fe non-coded	Co/Cu/Fe non-coded
173377	H-C lamp 2.0" Co/Cu/Ni non-coded	Co/Cu/Ni non-coded
173378	H-C lamp 2.0" Co/Fe/Ni non-coded	Co/Fe/Ni non-coded
173379	H-C lamp 2.0" Co/Mo/Zn non-coded	Co/Mo/Zn non-coded
173380	H-C lamp 2.0" Cu/Fe/Mo non-coded	Cu/Fe/Mo non-coded
173381	H-C lamp 2.0" Cu/Fe/Zn non-coded	Cu/Fe/Zn non-coded
173382	H-C lamp 2.0" Cu/Mo/Zn non-coded	Cu/Mo/Zn non-coded
173383	H-C lamp 2.0" Cu/Pb/Zn non-coded	Cu/Pb/Zn non-coded
173384	H-C lamp 2.0" Al/Ca/Ni non-coded	Al/Ca/Ni non-coded
173385	H-C lamp 2.0" Al/Cu/Mg non-coded	Al/Cu/Mg non-coded
173386	H-C lamp 2.0" Ca/Cu/Zn non-coded	Ca/Cu/Zn non-coded
173387	H-C lamp 2.0" Al/Ca/Fe non-coded	Al/Ca/Fe non-coded
173388	H-C lamp 2.0" Co/Ni/Au non-coded	Co/Ni/Au non-coded
173389	H-C lamp 2.0" Cu/Fe/Mg non-coded	Cu/Fe/Mg non-coded
173390	H-C lamp 2.0" Cu/Pb/Sn non-coded	Cu/Pb/Sn non-coded

Product datasheet

Ordering information (cont.)

Four element, 2" (51mm) diameter lamps, non-coded - Perkin Elmer

Code	Description	Model
173416	H-C lamp 2.0" Al/Ca/Fe/Mg non-coded	Al/Ca/Fe/Mg non-coded
173417	H-C lamp 2.0" Ba/Ca/Mg/Sr non-coded	Ba/Ca/Mg/Sr non-coded
173418	H-C lamp 2.0" Cd/Cu/Pb/Zn non-coded	Cd/Cu/Pb/Zn non-coded
173419	H-C lamp 2.0" Cr/Ag/Cu/Ni non-coded	Cr/Ag/Cu/Ni non-coded
173420	H-C lamp 2.0" Cr/Co/Cu/Mn non-coded	Cr/Co/Cu/Mn non-coded
173421	H-C lamp 2.0" Cr/Co/Fe/Mn non-coded	Cr/Co/Fe/Mn non-coded
173422	H-C lamp 2.0" Cr/Co/Mn/Ni non-coded	Cr/Co/Mn/Ni non-coded
173423	H-C lamp 2.0" Cr/Cu/Fe/Ni non-coded	Cr/Cu/Fe/Ni non-coded
173424	H-C lamp 2.0" Cr/Fe/Mn/Ni non-coded	Cr/Fe/Mn/Ni non-coded
173425	H-C lamp 2.0" Co/Cu/Fe/Ni non-coded	Co/Cu/Fe/Ni non-coded
173426	H-C lamp 2.0" Co/Cu/Mn/Ni non-coded	Co/Cu/Mn/Ni non-coded
173427	H-C lamp 2.0" Co/Fe/Mn/Ni non-coded	Co/Fe/Mn/Ni non-coded
173428	H-C lamp 2.0" Al/Cu/Fe/Ti non-coded	Al/Cu/Fe/Ti non-coded
173429	H-C lamp 2.0" Co/Cu/Fe/Mo non-coded	Co/Cu/Fe/Mo non-coded
173430	H-C lamp 2.0" Al/Ca/Li/Mg non-coded	Al/Ca/Li/Mg non-coded
173431	H-C lamp 2.0" Cd/Ag/Cu/Zn non-coded	Cd/Ag/Cu/Zn non-coded
173432	H-C lamp 2.0" Cr/Ag/Cu/Fe non-coded	Cr/Ag/Cu/Fe non-coded
173433	H-C lamp 2.0" Cr/Co/Cu/Fe non-coded	Cr/Co/Cu/Fe non-coded
173434	H-C lamp 2.0" Cr/Co/Cu/Ni non-coded	Cr/Co/Cu/Ni non-coded
173435	H-C lamp 2.0" Cr/Co/Fe/Ni non-coded	Cr/Co/Fe/Ni non-coded
173436	H-C lamp 2.0" Cr/Cu/Fe/Mn non-coded	Cr/Cu/Fe/Mn non-coded
173437	H-C lamp 2.0" Cr/Cu/Mn/Ni non-coded	Cr/Cu/Mn/Ni non-coded
173438	H-C lamp 2.0" Co/Cu/Fe/Mn non-coded	Co/Cu/Fe/Mn non-coded
173439	H-C lamp 2.0" Co/Cu/Mn/Mo non-coded	Co/Cu/Mn/Mo non-coded
173440	H-C lamp 2.0" Co/Cu/Mo/Zn non-coded	Co/Cu/Mo/Zn non-coded
173441	H-C lamp 2.0" Cu/Fe/Mn/Zn non-coded	Cu/Fe/Mn/Zn non-coded
173442	H-C lamp 2.0" Ca/Cu/Mn/Mo non-coded	Ca/Cu/Mn/Mo non-coded
173443	H-C lamp 2.0" Cr/Cu/Fe/Zn non-coded	Cr/Cu/Fe/Zn non-coded

Product datasheet

Ordering information (cont.)

Five element, 2" (51mm) diameter lamps, non-coded - Perkin Elmer

Code	Description	Model
173444	H-C lamp 2.0" Cr/Co/Cu/Fe/Ni non-coded	Cr/Co/Cu/Fe/Ni non-coded
173445	H-C lamp 2.0" Cr/Co/Fe/Mn/Ni non-coded	Cr/Co/Fe/Mn/Ni non-coded
173446	H-C lamp 2.0" Cu/Co/Fe/Mn/Zn non-coded	Cu/Co/Fe/Mn/Zn non-coded
173447	H-C lamp 2.0" Cr/Cu/Fe/Ni/Ag non-coded	Cr/Cu/Fe/Ni/Ag non-coded
173448	H-C lamp 2.0" Cu/Fe/Pb/Ni/Zn non-coded	Cu/Fe/Pb/Ni/Zn non-coded
173588	H-C lamp 2.0" Cr/Co/Cu/Fe/Mn non-coded	Cr/Co/Cu/Fe/Mn non-coded
173589	H-C lamp 2.0" Cr/Co/Cu/Mn/Ni non-coded	Cr/Co/Cu/Mn/Ni non-coded
173590	H-C lamp 2.0" Cr/Cu/Fe/Mn/Ni non-coded	Cr/Cu/Fe/Mn/Ni non-coded
173591	H-C lamp 2.0" Cr/Cu/Fe/Mn/Zn non-coded	Cr/Cu/Fe/Mn/Zn non-coded
173592	H-C lamp 2.0" Co/Cu/Fe/Mn/Mo non-coded	Co/Cu/Fe/Mn/Mo non-coded

Six element, 2" (51mm) diameter lamps, non-coded - Perkin Elmer

Code	Description	Model
173449	H-C lamp 2.0" Al/Ca/Cu/Fe/Mg/Si non-code	Al/Ca/Cu/Fe/Mg/Si non-cod
173450	H-C lamp 2.0" Al/Ca/Cu/Fe/Mg/Si/Zn n.cod	Al/Ca/Cu/Fe/Mg/Si/Zn n.co
173593	H-C lamp 2.0" Cr/Co/Cu/Fe/Mn/Ni non-code	Cr/Co/Cu/Fe/Mn/Ni non-cod
173594	H-C lamp 2.0" Cr/Co/Fe/Mn/Ni/Ti non-code	Cr/Co/Fe/Mn/Ni/Ti non-cod