

PRODUCTS FOR
METAL AND
INORGANIC
ANALYSIS

ALPHA



Dear Customers:

Thanks to your growing support, Alpha Resources continues to improve it's quality, further reduce it's prices, and expand it's offering... All of this to our mutual benefit.

Our growing line of reasonably priced ELTRA instruments gives you another useful avenue to avoid over priced analyzers and helps keep you from being enslaved by heavy handed manufacturers that insist on all your supply business! And, we will never void a warranty on our instruments over such a petty issue.

In 15 years, no ELTRA instrument has been unsupported! You aren't forced to routinely buy unneeded new equipment because perfectly useful analysers are now being prematurely obsoleted. We have hundreds of satisfied users and we would like all of our customers to consider this money-saving approach to analysis.

We wish to thank the thousands of you that have made our success possible. We truly appreciate each and every one of you, and we pledge to continue expanding our products and provide you with an **ALTERNATE SOURCE OF**

QUALITY PRODUCTS FOR ANALYSIS!
WHO NEEDS US? YOU DO! WHY PAY MORE?

Sincerely,
Alpha Resources Inc.

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All of Alpha's products are manufactured and/or supplied by Alpha Resources, Inc. The reference to competitor's names and part numbers is for comparison and convenience purposes only. Alpha does not imply that its products are supplied by the named companies, but that they are deemed suitable as direct replacements, are of high quality and appropriate for all named instrumentation.

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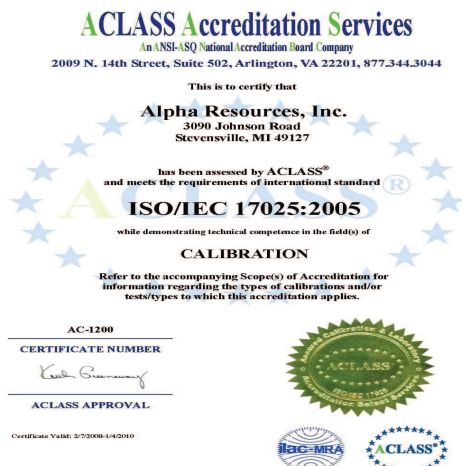
TO FIND A DEALER NEAR YOU PLEASE CLICK HERE

CERTIFICATE OF ACCREDITATION

Alpha Resources is committed to **total quality excellence** and the continuing improvement of its operations in order to achieve both high quality products and customer satisfaction.

Alpha Resources is pleased to announce that we have achieved accreditation to **ISO/IEC 17025 as well as ISO 9002**. Our scope of accreditation covers the testing of nearly all of our certified reference materials and verifies our commitment to excellence through our quality system.

Contact us today at 1-800-833-3083 or visit our website for a current copy of our certification, updated scope of accreditation, and information for Round Robin participation of certified standards.



WHAT OUR CUSTOMERS SAY...

Dear Alpha Resources, "I really appreciate your efforts. I have really been impressed with the prices of your parts and also the speed in shipping them. I also enjoy talking to your people on the phone because they are so friendly and helpful. I look forward to continuing doing business with you."

Kirk Texas

Can't find what your looking for? Please check the Alpha/Leco® Cross Reference on pages 27 through 31. You may visit our web page at WWW.ALPHARESOURCES.COM Or contact us directly at 1-800-833-3083

ORDERING INFORMATION

ORDERING INFORMATION AND GENERAL TERMS

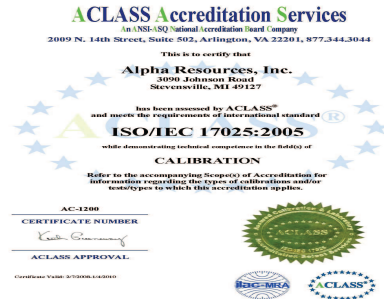
Contact us at:

Toll Free (USA only)1-800-833-3083
Phone1-269-465-5559
Fax1-269-465-3629
Emailalphares@aol.com
Web pagewww.alpharesources.com

To quickly and correctly place your order, please provide us with the following information:

- Correct Shipping and Billing address
- Name of Contact person
- Telephone and Fax number
- Part number and unit of measure for each item
- Purchase order number
- Method of shipment (see below)

CERTIFICATE OF ACCREDITATION



Ordering Online: You may visit our web page at www.alpharesources.com to place an order online. This is only available to current customers who have established an account with Alpha Resources. You will be able to issue a purchase order and get current pricing while placing the order. You are encouraged to visit our web page to save time when placing your orders.

Payment Terms: Alpha Resources has a \$25.00 minimum purchase order requirement. Alpha Resources terms are Net 30 with approved credit. New customers will need to submit credit references when they place their first order to be set up on Net 30. We will also accept payment by Visa, MasterCard or American Express.

Shipping Method: FOB shipping point is Stevensville, MI. Alpha Resources is pleased to provide its customer with UPS shipping. We will attempt to ship all regular orders within a period of 5 days from the date the order is received. We also have available UPS Red (next day), UPS Blue (second day) and UPS Orange (third day) shipping. You will need to specify these methods when you place your order. If you would like us to use any other shipping company, you will need to provide us with your account number when you place the order and the material will be shipped collect.

Damaged Goods: If the shipping container is damaged, refuse delivery and notify the carrier. If concealed and the material is damaged, you will need to contact the carrier for them to come in and inspect the material.

Returning Material: To return goods for any reason, you must obtain a Returned Merchandise Authorization (RMA) number. To obtain this, simply contact Alpha Resources. Items ordered in error or returned at customers request may be subject to a 15% restocking fee. Credit may be issued for materials which are unopened and undamaged.

MSDS: Material Safety Data Sheets (MSDS) are available for all Alpha products. You may obtain these by visiting our web page and downloading the file. You may also contact us directly and we will be happy to send them to you.

Disclaimer: Alpha products are intended for use in a laboratory environment. They are not intended for use in the home or for other applications. It is the customer's responsibility to store, handle, properly use and dispose of all products purchased from Alpha Resources, Inc. Our prices are subject to change without notice. Customers should contact Alpha to obtain current pricing.



Alpha's presence in the marketplace has helped control unjustified price increases and has caused price reductions by our competition. Many of you have benefited by this healthy condition. Now, Alpha Resources, Inc. asks you to help us by sharing your needs with us. We appreciate your business and feel that you should **not PAY MORE** and that **YOU NEED US** as much as we need you. Thanks for your continued support.

CARBON/SULFUR DETERMINATOR CS-2000

CS-2000 Affordable Carbon and Sulfur Analysis for Inorganic/Organics by ELTRA



- Computer Controlled
- Ability to Run both Inorganic and Organic Samples
- 4th Place Balance Included
- Direct Reading
- Easy to Operate
- Low Maintenance
- Compact Side-by-Side Design
- Auto Loader Available

The CS-2000 determinator by ELTRA combines **versatility, accuracy and reliability** into an affordable determinator with many desirable features as standard equipment. The unit is capable of running **Carbon and Sulfur for BOTH inorganic and organic materials** such as iron, steel, alloys, cements, ores, carbides, minerals, coal, coke, oil, ashes, catalysts, lime, gypsum, soils, rubber and other materials.

The CS-2000 incorporates the latest in combustion technology. **The unit is computer controlled** and features a high frequency induction furnace, a high temperature resistance furnace up to 1550° C and solid-state infrared detectors with auto zero, auto range control and sensitivity to 0.1 ppm. The unit can be supplied with up to four independent infrared cells, two for Carbon and two for Sulfur. Each IR cell will allow up to four calibration curves to be stored so the operator can quickly change material and still obtain an accurate analysis.

This side-by-side unit is easy to operate. The analysis is initiated by introducing the weighed sample into either furnace section. Typical analysis times are **50 seconds for the induction furnace and from 60 – 120 seconds when using the resistance furnace**. The results are displayed on a large, easy-to-read LCD as well as stored in the computer.

The induction furnace has an automatic cleaning mechanism which automatically cleans the inside of the combustion chamber after each analysis. For those customers performing high volume analysis, the ELTRA can be equipped with a **130 station auto loader for easier operation**. You may load the auto loader with up to 130 samples for up to two hours of analysis.

The unit comes complete with an **interfaced computer and 4th place balance, printer, supply package for 1000 determinations, installation and warranty**. Additional computer features include graphic peak displays and standard deviation calculations. A Total Inorganic Carbon (TIC) module can be placed between the furnace and determinator allowing the customer to determine total Carbon through the resistance furnace or inorganic through the TIC module.

Because of Alpha, your obsolete LECO® equipment now has value. Realize further savings by trading in your obsolete LECO® equipment. Call Alpha today to obtain a quote or additional information. Toll Free 1-800-833-3083.

VISIT US AT: WWW.ALPHARESOURCES.COM

CARBON/SULFUR DETERMINATOR CS-800

Affordable Carbon and Sulfur Analysis by ELTRA

- Computer Controlled
- Automatic Furnace Cleaning
- Auto-Loader Available



**CS-800 SHOWN WITH NEW
AUTO-LOADER ATTACHMENT.
HOLDS UP TO 130 SAMPLES
FOR ALMOST TWO HOURS
OF OPERATION.**

Thanks to Alpha you no longer have to pay as much for your Carbon/Sulfur determinator as you did for your home. The **CS-800 is affordably priced** and comes with **many desirable features** as standard equipment.

The CS-800 by ELTRA provides the **speed and accuracy** required for today's stringent demands. Both the furnace and electronic systems are contained in one space saving cabinet. Carbon and Sulfur are simultaneously determined in about 50 seconds. The unit comes **complete with computer and interfaced 4th place balance** (0.0001 g resolution with a 120 gram capacity). The unit has **automatic weight entry**, to avoid errors in transferring the weights for the analysis.

The unit employs a high powered induction furnace (high frequency) for rapid, complete sample combustion. This is a **double dual range** determinator with a sensitive and standard IR cell for both Carbon and Sulfur. The CS-800 utilizes 2 solid state IR cells which allow up to 4 calibration curves to be stored for each channel and delivers a signal **resolution of 0.1 ppm**. This will allow for a wide range of materials to be analyzed without having to recalibrate. The unit will automatically switch from low to high when required for the sample analysis.

The CS-800 is **easy to operate**. The analysis is simply initiated by introducing the crucibles containing the weighed sample and accelerator onto the pedestal. The operator begins the analysis through the computer and in about **50 seconds** the results are displayed on the computer.

The CS-800 has an automatic cleaning mechanism which **automatically cleans the inside of the combustion chamber after each analysis**. For those customers performing high volume analysis, the ELTRA can be equipped with a **130 station autoloader for easier operation**. You may load the autoloader with up to 130 samples for up to two hours of analysis.

Additional features such as **graphic peak display, standard deviation calculations and data storage** can easily be accomplished with the computer set up. Single element (Carbon or Sulfur) units are also available.

Because of Alpha, your obsolete LECO® equipment now has value. Realize further savings by trading in your obsolete LECO® equipment. Call Alpha today for more information.
Toll Free 1-800-833-3083.

VISIT US AT: WWW.ALPHARESOURCES.COM

LECO® CARBON/SULFUR DETERMINATORS THROUGH CS444 & CS400 SERIES



Useful Items for Carbon and Sulfur Analysis

AR-2174	(183-001)	AlphaSolve® II, 20-30 mesh	500g
AR-4060	(194-060)	Hex Nut	1
AR-008	(501-008)	AlphaCel® II Tungsten	2.27kg
AR-010	(501-010)	Dust Trap Complete	1
AR-013	(501-013)	Filter Cloths	pkg 10
AR-060	(501-060)	Manganese Dioxide	30cc
AR-076	(501-076)	Tin Metal Accelerator	908g
AR-077	(501-077)	Iron Chip Accelerator	908g
AR-081	(501-081)	Glass Wool	454g
AR-022	(501-082)	Brass Cleaning Brush	1
AR-110	(501-110)	Silicone Tubing 9.5mm ID	per/305mm
AR-2176	(501-166)	AlphaSolve® II, 8-12 mesh	454g
AR-170	(501-170)	Rare Earth CuO	50g
AR-171	(501-171)	Magnesium Perchlorate	454g
AR-241	(501-241)	Silicone Grease	150g
AR-263	(501-263)	Copper Metal Accelerator	1.36kg
AR-1265	(501-265)	Crucible Holder Tray	1
AR-912	(501-587)	Platinized Silica	15g
AR-366	(501-640)	Copper Metal Accelerator	11.3kg
AR-473	(502-023)	Funnel, Reagent Tube	1
AR-173	(502-173)	AlphaCel® II HP Accelerator	750g
AR-2174	(502-174)	AlphaSolve® II, 20-30 mesh	500g
AR-2176	(502-176)	AlphaSolve® II, 8-20 mesh	500g
AR-177	(502-177)	Quartz Wool, under 12 micron	50g
AR-673	(502-231)	High Purity Iron Accelerator	454g
AR-008B	(502-297)	AlphaCel II Tungsten	43.5g
AR-905	(503-031)	Funnel (3) Legs	1
AR-901	(503-032)	Regular Glass Scoop	1
AR-033	(503-033)	Sulfur Trap	1
AR-911	(507-207)	Catalyst Tube Filled	1
AR-012	(507-012)	Reducer	1
AR-113	(521-113)	Silicone Ring Seal	1
AR-187	(521-186)	Solid State Rectifier	1
AR-3818	(528-018)	Ceramic Crucibles	1000
AR-3818F	(528-018)	Ceramic Crucible, Foil Wrapped	1000
AR-043S	(528-043)	10mm Hole Cover	1000
AR-3818B	(528-050)	Ceramic Crucible	500/box
AR-404S	(550-004)	Oscillator Tube, 304TL	1
AR-0047	(550-047)	RF Choke	1
AR-019	(550-119)	Right Angle Bend	1
AR-122	(550-122)	Combustion Tube with Jet	1
AR-123	(550-123)	Ceramic Pedestal Insert	1
AR-124	(550-124)	Ceramic Pedestal, 2.5"	1
AR-165	(550-165)	Spring Clip	1
AR-186	(550-187)	Capacitor	1
AR-006	(566-008)	Induction Coil	1
AR-699	(589-699)	Rubber Lance Sleeve	1
AR-859	(589-859)	Thermistors (Pair)	1
AR-257	(598-257)	Cabinet Fan	1
AR-064	(601-064)	Quartz Catalyst Tube	1
AR-1065	(601-065)	Glass Tube	1
AR-483	(601-483)	Printer Paper, Sheet (s)	600
AR-484	(601-484)	Printer Ribbon Spool	1
AR-604	(604-112)	Quartz Catalyst Tube	1
AR-163	(604-163)	Brass Brush	1

AR-271	(604-271)	Slotted Brush	1
AR-518	(604-518)	Brush	1
AR-5814	(605-814)	Pedestal Assembly	1
AR-5815	(605-815)	Adapter Support	1
AR-816	(605-816)	Pedestal	1
AR-072	(760-072)	28VDC Bulb	1
AR-138	(760-138)	Sample Tweezers	1
AR-193	(760-193)	Screen for Reagent Tube	1
AR-316	(760-316)	Rubber Washer, glass tubes	1
AR-317	(760-317)	Glass Catalyst Tube	1
AR-618	(761-618)	Trap Rebuilt, WR-12	1
AR-929	(761-929)	Crucible Tongs	1
AR-023	(762-023)	Knurled Nut Adapter	1
AR-913	(762-062)	Quartz Oxygen Lance Tube	1
AR-2627	(762-627)	Biscuit Fan	1
AR-027B	(763-026)	AlphaCel® III Accelerator	13.5kg
AR-266B	(763-027)	AlphaCel® Tungsten	13.5kg
AR-261	(763-261)	Filter Papers, Glass Tubes	100/pkg
AR-266	(763-263)	AlphaCel® Tungsten - 12 + 20 mesh	2.27kg
AR-265	(763-265)	Glass Wool	227g
AR-027	(763-266)	AlphaCel® Tungsten - 20 + 40 mesh	2.27kg
AR-467	(763-467)	Iron Chip Accelerator	11kg
AR-4078	(764-078)	1 g Weight, No cert.	1
AR-098	(764-098)	Cellulose	454g
AR-242	(764-242)	Tin Pellet Flux	454g
AR-334	(764-640)	100pf Capacitor	1
AR-335	(764-641)	200pf Capacitor	1
AR-917	(765-717)	Oxygen Lance, WR-12	1
AR-914	(767-540)	Oxygen Lance, IR-33	1
AR-980	(768-980)	Particle Filter	1
AR-764	(770-764)	Paper Roll	1
AR-778	(770-778)	Ribbon Spool Assembly	1
AR-030	(771-030)	Reagent Tube, 4"	1
AR-354	(771-354)	5868 Vacuum Oscillator Tube	1
AR-373	(771-373)	Glass Tube	1
AR-606	(771-606)	Quartz Pedestal	1
AR-2381	(772-381)	Lance Cleaning Wire	1
AR-2747	(772-747)	Fan	1
AR-544	(772-739)	Catalyst Heater Tube	1
AR-057	(772-905)	Combustion Tube	1
AR-2906	(772-906)	Combustion Tube Support	1
AR-3136	(773-136)	Cajon Fitting	1
AR-311	(773-311)	SST Mesh Dust Filter	1
AR-3314	(773-314)	SS Cleaning Brush, Unslotted	1
AR-3316	(773-316)	Lance Tube	1
AR-561	(773-561)	SS Cleaning Brush, Slotted	1
AR-579	(773-579)	Metal Scoop	1
AR-5306	(775-306)	Secondary Filter	1
AR-625	(775-625)	Push Button Switch	1
AR-6685	(776-685)	Solenoid Valve	1
AR-129	(776-129)	Induction Coil	1
AR-6234	(776-234)	Dust Box Filter	1
AR-6922	(776-922)	Shield and Collar	1
AR-923	(776-923)	Quartz Pedestal	1
AR-606	(776-931)	Quartz Pedestal	1
AR-596	(778-596)	Filter Screen	1
AR-922	(780-953)	Quartz Pedestal	1
AR-028	(781-273)	Alpha Plate (For Hotware)	1
AR-2880	(782-880)	Vacuum Filter	1
AR-9118	(789-118)	Lance Tube Assembly, CS-225	1

Can't find what you are looking for? Please check the Alpha/Leco® Cross Reference on pages 27 through 31. You may visit our web page at WWW.ALPHARESOURCES.COM Or contact us directly at 1-800-833-3083

WHAT OUR CUSTOMERS SAY.....

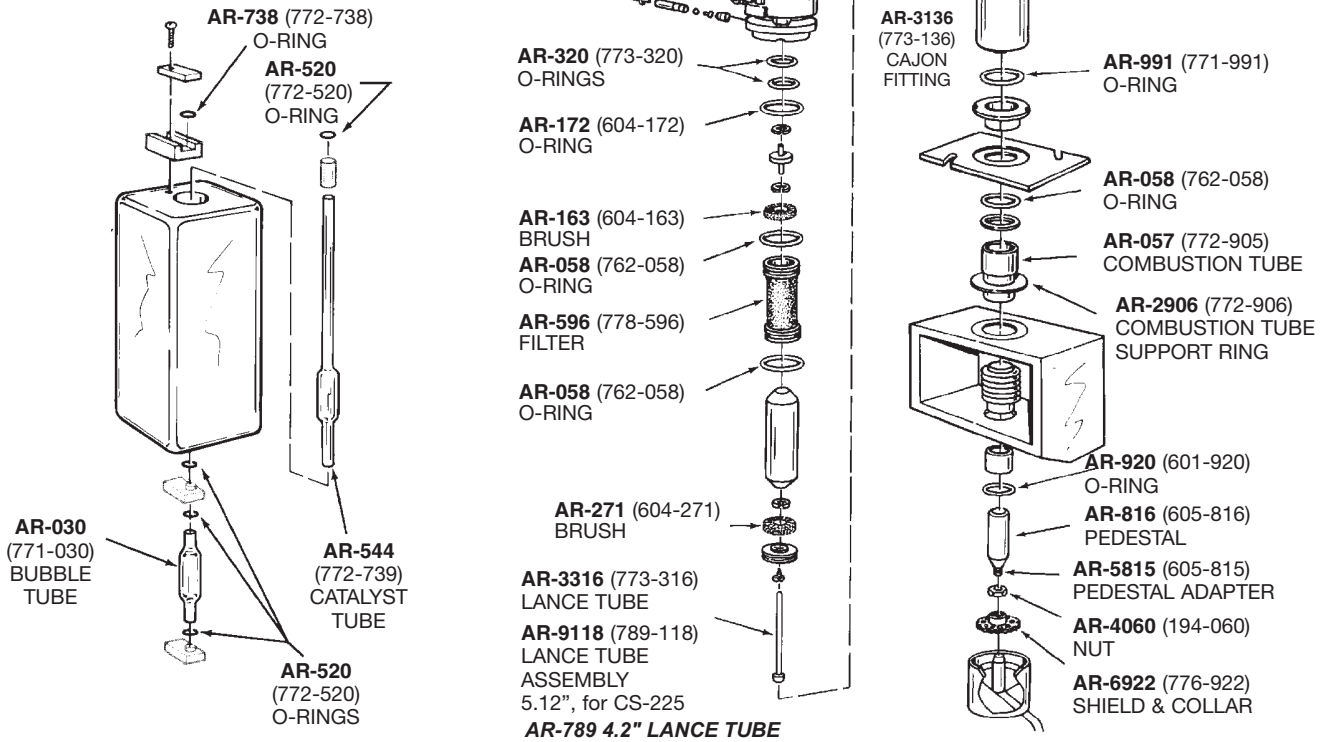
Dear Alpha Resources,
"Your combustion tubes were all very uniform in size and posed no problem in any of our machines....we had no failures at all in over a month of testing and your crucibles are working just great. I must say that Alpha just keeps getting better and better."

Jerry
Michigan

IR CARBON AND SULFUR DETERMINATORS

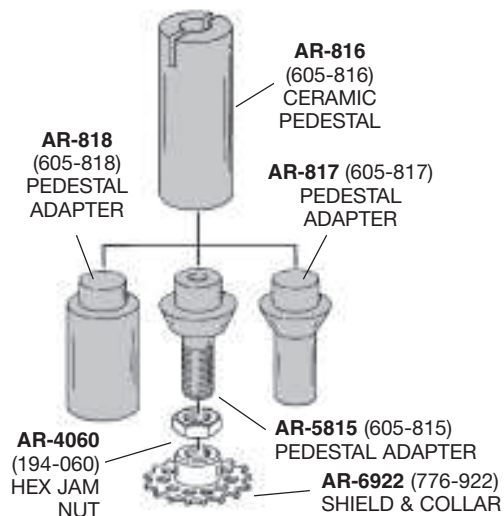
TYPICAL COMBUSTION TUBES AND RELATED FURNACE PARTS

For most IR carbon and sulfur determinators, these drawings should make it easy to select the needed items. If you have any further questions please consult the Alpha Cross Reference or contact Alpha today for expert assistance at 1-800-833-3083.



CERAMIC PEDESTAL

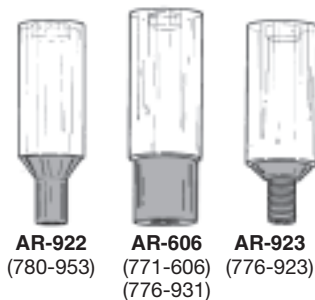
Yes, Alpha has this new item which replaces the older quartz pedestals. The pedestal is offered only in one style with three different adapters to fit all models. Select the adapter configuration from this handy drawing.



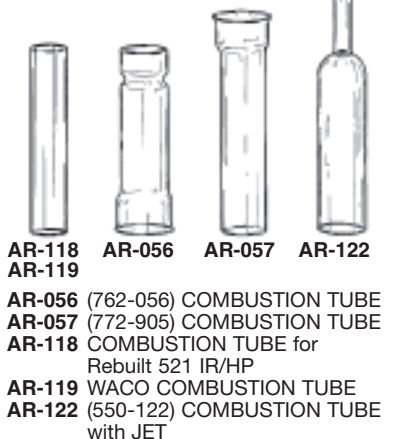
AR-5814 (605-814) SET, which includes: AR-5815, AR-4060 and AR-6922.

QUARTZ PEDESTALS

Alpha still has quartz pedestals. No need to switch to the more expensive ceramic pedestal if you want to save money and have been satisfied with their performance.

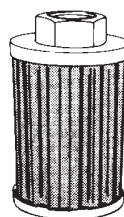


COMBUSTION TUBES



FILTERS

Alpha now offers most of the required filters for LECO[®] determinators. Why pay more? Alpha's filters are of the highest quality and are attractively priced.



AR-6234 (776-234) DUST BOX FILTER for LECO[®] Carbon/Sulfur Determinators

AR-058 (762-058) "O" RING

AR-311 (773-311) SST MESH DUST FILTER for furnace Models CS-125, 144 thru 244.

AR-596 (778-596) Like AR-311 but slightly larger bore, for later Model 400 Series.



CERAMIC PRODUCTS



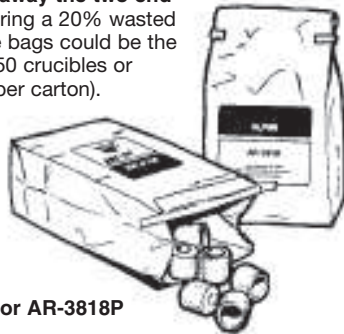
LOOK WHAT'S NEW AT ALPHA

Recently, Alpha Resources, Inc. expanded and improved its ceramics facility. The ceramics manufacturing at Alpha has been completely modernized with the latest equipment. This will help us control costs, improve quality and yield superior ceramic products. This new production facility helps make it possible to continue to supply our customers with quality products at honest prices.

Pictured at right is our new ceramics kiln, which is part of our recent expansion. Our new ceramics manufacturing process will insure a more consistent low blank product suitable for even the most demanding applications.

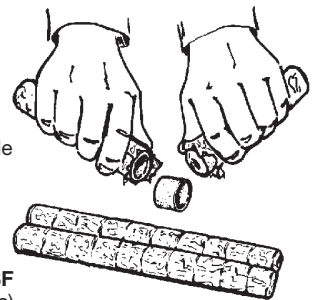
CERAMIC CRUCIBLES

Alpha provides its crucibles in an **easy to use, resealable bag**. This allows the user to remove the number of crucibles needed and then close the bag for future use. **Many customers object to the roll wrap** which makes removal of the "end crucibles" difficult. We have even heard reports of technicians **throwing away the two end crucibles** thus encountering a 20% wasted product. Our easy to use bags could be the answer. Sold in bags of 50 crucibles or cases of 1000 (20 bags per carton). **AR-3818B or AR-3818.**



AR-3818, AR-3818B or AR-3818P

For those customers who require lower carbon and sulfur blanks and do not wish to "burn off" their crucibles prior to use, Alpha now offers crucibles in the more traditional "foil roll wrap". These rolls can be opened just before use and help provide a low and consistent blank needed when lower levels of carbon are to be analyzed. Packaged in foil rolls of 10 crucibles, 100 rolls per case (1000 crucibles).



AR-3818F

AR-3818F
(Foil Roll Wraps)

To order any of Alpha's affordable crucibles, please use the following part numbers.

AR-3818 (528-018)	Box of 1000 crucibles, 20 bags of 50 crucibles	AR-3818B (528-050)	Box of 500 crucibles, 10 bags of 50 crucibles
AR-3818F (528-018)	Box of 1000 crucibles, 100 foil roll of 10 crucibles	AR-3818P (528-018)	Bag of 50 crucibles



AR-3818 (528-018) CERAMIC CRUCIBLES

Alpha's ceramic crucibles for Carbon and Sulfur analysis are like the LECO® crucibles. These crucibles are sold in units of 1,000 and are completely compatible with all LECO® autoloaders. They come in packages consisting of 20 bags of 50 crucibles (**AR-3818**) or 100 foil "tootsie rolls" of 10 crucibles (**AR-3818F**).

The bagged crucibles come in a re-sealable pouch, which allows the operator to remove the number of crucibles they require for analysis. The "tootsie roll" crucibles come in packages of 10 crucibles and should be used to completion when the roll is opened. The "tootsie roll" packaging helps maintain the lower blank value when analyzing ultra low carbon (ULC).

To order any of Alpha's affordable crucibles, please use the following part numbers:

- AR-3818** (528-018) Box of 1000 in bags*
- AR-3818F** (528-018) Box of 1000 in rolls*
- AR-3818B** (528-050) Box of 500 in bags
- AR-3818P** (528-028) Bag of 50 crucibles

*Quantity discounts are available



AR-8028 (528-028) FILTERING CRUCIBLES

Bag of 50
27mm H x 27mm W
AR-8030 (528-030)
FILTERING CRUCIBLES
Package of 50
35mm H x 30mm W

Used to filter graphitic carbon from cast iron prior to combustion in the filtering crucible. Also ideal for soil and rock analysis. Filter HCl digested products to retain organic carbon and use the filtering combustion analysis. Just add accelerators and combust in the induction furnace.



AR-8120 (528-120) LOW SULFUR CRUCIBLES

Alpha's special formulation assures consistent low sulfur blank. Comes packaged in tins of 150. Specially suited for those analyzing sulfur in the ppm ranges.

CRUCIBLE COVERS



AR-042 (528-042) POROUS COVERS

For sulfur analysis applications where iodometric sulfur titrators are used. **Extremely porous**, the high temperature refractory contains metallic oxides while allowing the SO₂ to easily escape to the titrator. Box of 1000.

AR-042P – Bag of 250. Specify when ordering.

AR-040 (528-040) 4MM HOLE COVERS

Covers, fit all induction furnace crucibles. Especially suited for analysis of refractory metals to eliminate violent spatter and help contain the active samples to reduce the formation of refractory oxides which can inhibit complete combustion. Also suited for gravimetric carbon analysis. Box of 1000.

AR-040P – Bag of 250. Specify when ordering.

AR-043 (528-043) 10MM HOLE COVERS

Commonly used with many I.R. systems to enhance SO₂ recovery and prolong combustion tube life while helping reduce oxide spatter. Box of 1000.

AR-043S – Bag of 250. Specify when ordering.

CALIBRATION STANDARDS



1 GRAM CARBON/SULFUR* RING STANDARDS

Alpha's rings are coated with Alphacel® Tin. Our rings are held to exact specifications and are easier to burn. Both rings and pins require additional accelerator to ensure complete combustion. Packaged in 454g bottles.

PART NO.	% CARBON	% SULFUR	PART NO.	% CARBON	% SULFUR
AR-869	.015-.020	.010-.020	AR-873	.40-.50	.001-.015
AR-870	.025-.035	.010-.020	AR-876	.50-.60	.001-.015
AR-871	.040-.055	.005-.015	AR-874	.65-.75	.015-.025
AR-872	.15-.25	.015-.025	AR-875	.75-.85	.001-.015
AR-878	.25-.35	.015-.025			

CARBON/SULFUR* PIN STANDARDS

Alpha has expanded their pins to cover the entire range of carbon and sulfur. From **cast iron to resulfurized steels**, Alpha offers carbon/sulfur pins from **0.02%C to 2.50%C**, sulfurs from **0.01%S to 0.3%S**. Only Alpha offers the complete ranges from low carbon steel to cast iron levels. Most are in 1g pins. See note below chart.

PART NO.	% CARBON	% SULFUR	PART NO.	% CARBON	% SULFUR
AR-510	2.0-3.0	.05-.10	AR-888	.02-.06	.15-.25
AR-511	.05-.10	.15-.25	AR-889	.90-1.1	.005-.015
AR-512	.01-.05	.25-.35	AR-890	.08-.12	.010-.030
AR-881	.015-.025	.001-.010	AR-891	.01-.05	.025-.035
AR-882	.05-.10	.015-.030	AR-892	.003-.005	.001-.005
AR-883	.15-.25	.015-.030	AR-893	1.4-1.6	.010-.015
AR-884	.40-.50	.005-.025	AR-894	.50-.60	.001-.015
AR-885	.75-.85	.001-.010	AR-895	.25-.35	.015-.030
AR-886	.60-.70	.010-.020			

AR-510 thru AR-512 are half gram pins in units of 250g.

CARBON/SULFUR/NITROGEN* CHIP STANDARDS



150g of milled metal per bottle. – *Powdered Metal

PART NO.	ALLOY	% CARBON	% SULFUR	% NITROGEN
AR-946	1001	0.0029	0.0043	0.0017
AR-947	1141	0.389	0.094	0.0121
AR-948	1050M	0.534	0.089	0.0082
AR-949	316L	0.018	0.028	0.0628
AR-950	1005	0.071	0.013	0.0010
AR-951	1018	0.150	0.0252	0.0111
AR-952	1045	0.462	0.023	0.0089
AR-953	1095	0.968	0.013	0.0078
AR-954	4340	0.405	0.022	0.0076
AR-955	8620	0.203	0.021	0.0085
AR-956	1144	0.492	0.300	0.0088
AR-957	1117	0.183	0.106	0.0083
AR-958	304	0.058	0.027	0.0524
AR-959	316	0.019	0.023	0.0742
AR-960	410	0.105	0.0006	0.0403
*AR-961	316L	0.0194	0.0161	0.0499

TUNGSTEN CARBIDE STANDARD

AR-307 (501-123) Not just a carburized powder, but a **crystalline form** of tungsten carbide that will remain **stable**. Packaged in units of 100g. Exact chemistry with each bottle. **Free flowing** and **easy to use**.

Carbon _____ 6.16
Sulfur _____ .006



CAST IRON THRU WROUGHT IRON*



All of Alpha's iron standards are 100% white structure and contain no free graphite. A major domestic and international foundry has selected Alpha's iron standards for their corporate reference material.

PART NO.	TYPE	% CARBON	% SULFUR
AR-299	Cast	1.05	0.011
AR-300	Cast	3.27	0.015
AR-301	Cast	2.12	0.012
AR-302	Gray	3.35	0.041
AR-303	Nodular	3.85	0.013
AR-304	Ductile	4.23	0.014
AR-305	Malleable	2.79	0.012
AR-306	Nodular	3.56	0.014
AR-309	Nodular	3.70	0.019
AR-310	Cast	3.33	0.087
AR-315	Cast	3.09	0.111
AR-318	Cast	3.08	0.037
AR-319	Cast	3.28	0.055
***AR-322	Cast	3.37	0.046
***AR-323	Cast	3.84	0.064
**AR-673	Pure Wrought Iron	0.0005	0.0011

Bottles contents 150g. **Bottles contents 454g. ***Bottles contents 250g.

* NOTE: All standards are traceable to NIST when possible.

FOR CURRENT VALUES CLICK HERE

CALL ALPHA TODAY FOR YOUR OWN SPECIAL BLEND!

1-800-833-3083

COMBUSTION ACCELERATORS



AR-076 (501-076)
TIN METAL
20 mesh granular, high purity accelerator for combustion analysis of iron and steel for carbon and sulfur. .9 kg bottle.
AR-695 (762-695) 11.3kg container



AR-077 (501-077)
IRON CHIP
Greatly facilitates the combustion of ferrous and non-ferrous materials in induction melting. .9 kg bottle.
AR-467 (763-467) 11.3 kg container



AR-078 (501-078)
IRON POWDER
Low sulfur iron powder which is used primarily in the combustion analysis of sulfur in hydrocarbons, coal, and limestone. 454g bottle.
AR-468 – 11.3 kg container

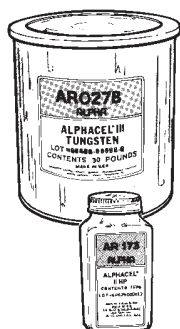


AR-263 (501-263)
COPPER METAL
Granular 30 mesh copper which greatly reduces the amount of oxide dust during combustion analysis. 1.3 kg bottle.
AR-366 (501-640) 11.3 kg container



AR-266 (763-263)
ALPHACEL® TUNGSTEN
Accelerator -12 to +20 mesh. 2.2kg jar.
AR-266B (763-027) 13.6 kg

AR-008 (501-008)
ALPHACEL® II TUNGSTEN
Tungsten metal. 2.2 kg jar.
AR-008B (502-297) 13.6 kg



AR-027 (763-266)
ALPHACEL® III, -20 to +40 mesh
Tungsten metal. 2.2 kg jar.
AR-027B (763-026) 13.6 kg
AR-027V (763-028-500) 227.3 kg

AR-173 (502-173)
ALPHACEL® II HP ACCELERATOR
Special blend of metals yields higher recovery of hard to burn samples. 750g jar.



AR-184 (550-184)
COPPER RINGS
A very convenient form of solid copper accelerator when controlled combustion is required. Available in quantities of 1000 rings per container.



AR-636 (501-636)
VANADIUM PENTOXIDE
A very highly pure and reactive combustion accelerator for sulfur analysis. Alpha's V₂O₅ provides excess oxygen required to speed up the rather slow evolution of SO₂. Ideal for both resistance and induction furnace. 250g bottle.



AR-400 (501-457)
TINCO 400
Tin Coated Copper
Extremely uniform melting is provided by our Tinco 400. Eliminates spattering and tube cracking. Manufactured by plating a heavy coating of CP tin metal over CP copper wire prior to cutting. 1.3 kg bottle.



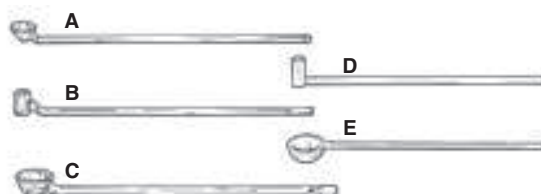
AR-242 (764-242)
TIN PELLET ACCELERATOR
Used for addition fluxing action. Commonly used on CS-44 and 46 carbon and sulfur determinators. Available in 454g bottles.



AR-639 (761-739)
TIN PELLETS
Used as a flux in the RH-1, RH-1E, and RH-404 determinators. 8mm O.D. x 1.25mm thick. 454g bottles.

SCOOPS

- (A) **AR-901** (503-032) REGULAR GLASS SCOOP Volume 0.14cc
- (B) **AR-542** (762-542) TUNGSTEN SCOOP Volume 0.1cc
- (C) **AR-936** (767-936) SCOOP FOR V205 Volume 0.6cc
- (D) **AR-579** (773-579) METAL SCOOP Volume 0.18cc
Virtually indestructible. It may be the last scoop you will ever need. Designed for -20 + 40 mesh AlphaCel®.
- (E) **AR-978** (776-978) MAC400 SCOOP



CATALYSTS, CHEMICALS, REAGENTS, & SUPPLIES



AR-171 (501-171)
MAGNESIUM PERCHLORATE
The ultimate desiccant. Sold in the larger mesh size of 8 to 20. This larger mesh extends the life of moisture traps and further reduces trap clogging caused by the "fines" found in other sources. Available in 454g containers.



AR-060 (501-060)
MANGANESE DIOXIDE – NO FINES!!
Alpha has developed another product that you've asked for! Why be plagued by reagent tube clogging due to unwanted fines? Alpha's new process virtually **eliminates the fines** and assures you of a coarse, uniform product ideally suited for your sulfur traps.

AR-060 – 30 cc bottle
AR-062 – 250 cc bottle



AR-912 (501-587)
PLATINIZED SILICA
The most universal and effective catalyst available for converting CO to CO₂. Converts at 96% capacity at room temperature and 100% at temperatures between 100° and 450° Celcius. As a result, the Pt/Si can be used in any catalyst tube or furnace. Available in 15g containers.



AR-611 (761-747)
SCHUTZE REAGENT
This is the ideal catalyst to convert CO to CO₂ at room temperatures without converting H₂ to H₂O. This useful reagent is used on all RH-1, RH-1E, RH-1EN, RH-404 and NP-28 determinators. 100g bottle.



AR-170 (501-170)
RARE EARTH COPPER OXIDE
This unequaled catalyst converts CO to CO₂ and H₂ to H₂O at temperatures of 425° to 450°C. Alpha's added quality control insures up to three times usable life and reduces problems with "fines". 50g bottles.



AR-079 (501-079)
ALPHANAL WETTING AGENT
Commonly used for enhancing burette drainage, lubricating glass for entry through rubber stoppers, or additive to wash water to clean spot-free lab glassware. Also available in pints, quarts and gallons. 118mL bottle.



AR-800 (501-101)
ARROWROOT STARCH SOLUTION
Ready to use and has a shelf life of six months. **Just attach the pipette and squeeze away.** The solution contains the exact amount of starch and potassium iodide. Sold in 500 mL low-density polyethylene bottles. Alpha firmly believes that this product will save many hours by **eliminating the messy time consuming chore** of preparing your own starch solution.



AR-508 (763-065)
NICKEL BASKETS
The use of these baskets **eliminates the use of platinum flux** on many applications. This basket will help maintain the 10:1 flux ratio and eliminate the use of expensive Platinum. For use on Oxygen/Nitrogen Determinators. 1.0g, 100 per bottle.

AR-509 (763-029) 1.5g, 100 per bottle



AR-2344 (502-344)
LOW OXYGEN NICKEL BASKETS
In addition to our current Nickel Baskets, Alpha now offers a **new High Purity Nickel Basket**. These Baskets have very **low Oxygen blanks**. Using these baskets will **eliminate the timely chore of etching the baskets**. For use with Oxygen Determinators. Try them today. 1.0g, 100 per bottle.

AR-2345 (502-345) 1.5g, 100 per bottle



AR-168 (502-174)
ALPHASOLVE® CO₂ Absorber
Replaces Ascarite II®. Try Alpha's new indicating reagent. AlphaSolve® changes color dramatically from a dark charcoal grey to almost white indicating to the operator that the chemical really needs changing. Not only will you change your AlphaSolve® only when it is absolutely required, but it will **absorb over twice as much CO₂**. 250g bottle.

AR-168 (502-174), 20-30 mesh

AR-169 (502-176), 8-20 mesh



ALPHASOLVE II®
This is used for rapid and quantitative absorption of CO₂ in the determination of carbon in iron, steel and other materials by the direct combustion method. It is also suitable for use in most quick disconnect glass tubes and purifying trains for the removal of CO₂ and other acid gases. The AlphaSolve II® is available in two grades. 454g bottle.

AR-2176 (502-176) 8 to 20 mesh

AR-2174 (502-174) 20 to 30 mesh

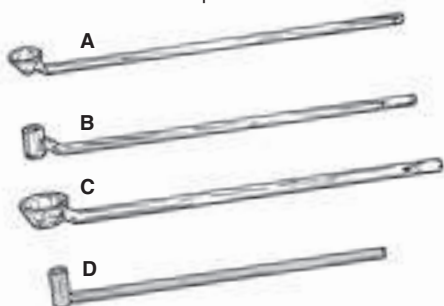


AR-059 (501-059)
TIN CAPSULES
These sample containers are particularly helpful in holding hard to handle specimens for combustion analysis. They are ideal for fuels, oils and powdered materials. Simply weigh the sample in the capsule, fold closed and then proceed with analysis. 100 per bottle.

USEFUL ITEMS

SCOOPS

- (A) **AR-901** (503-032)
REGULAR GLASS SCOOP Volume 0.14cc
- (B) **AR-542** (767-542)
TUNGSTEN SCOOP Volume 0.1cc
- (C) **AR-936** (762-936)
SCOOP FOR V205 Volume 0.6cc
- (D) **AR-579** (773-579)
METAL SCOOP Volume 0.18cc
Virtually indestructible. It may be the last scoop you will ever need. Designed for -20 + 40 mesh AlphaCel®



SOIL AND LIMESTONE STANDARDS

Alpha has produced a series of Soil and Limestone standards for use in the laboratory. We have certified the values through round robin analysis using primary standards when available. Traceability is shown on the certificate of analysis that accompanies each standard. **We can also produce SPECIAL BLENDS that you may require for your house quality control.** Call us today at 1-800-833-3083 to speak with a knowledgeable salesperson.

FOR CURRENT VALUES CLICK HERE

SOIL STANDARDS

REF. NO.	% CARBON	% SULFUR	% NITROGEN	GRAMS
AR-4015	1.02	0.104		25
AR-4016	2.10	1.98		25
AR-4017	0.55	0.46		25
AR-4018	1.03	1.11		25
AR-4019	0.102	0.100		25
AR-4020	0.90			100
AR-4021	2.73			100
AR-4025			0.46	25
AR-4026			1.00	25
AR-4027			1.64	25
AR-4028			2.02	25

LIMESTONE STANDARDS

25 GRAMS

REF. NO.	% CARBON	% SULFUR
AR-4012	11.97	0.044
AR-4013	2.93	0.020
AR-4014	5.87	0.029
AR-4022	7.00	0.145
AR-4023	11.70	0.220
AR-4024	11.72	0.418

ORE STANDARDS

30 GRAMS

REF. NO.	% CARBON	% SULFUR
AR-4005	1.42	1.41
AR-4006	4.40	4.24
AR-4007	7.62	3.25

CRUCIBLE TRAYS



Another new product from Alpha. This handy tray makes it easy for the operator to weigh his samples prior to analysis and keep them in the exact order. Multi-cavity, sturdy metal construction and at Alpha's **reasonable price.**

AR-1265 (501-265)
CRUCIBLE HOLDER TRAY

AR-929 (761-929)
CRUCIBLE TONGS

Stainless steel for handling hot ceramic crucibles and boats.



AR-028 (781-273)
ALPHA-PLATE

Refractory plate prevents burned counter tops and eliminates lab fire hazards caused by hot crucibles and boats. Simply set hot ceramic items on the plate and allow them to cool without damage to counter tops or lab.

TWEEZERS



AR-1617
Strong tip, general purpose tweezers. Length 5".



AR-1618
Curved point to work in densely packed areas with increased visibility. Length 4.5".



AR-1619
Straight tip, flat inside for strong grip of small components. Length 4.5".



AR-1620
Curved tip, flat inside for strong grip of small components. Length 4.5".

Alpha now offers its customers more useful items for use in your laboratories. We have tweezers to hold your graphite crucibles, samples for weighing and any other laboratory applications you might have. Select the one below from the application description. Affordably priced from Alpha Resources.



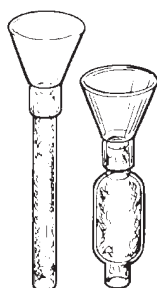
AR-138 (760-138)
Heat resistant cross lock tweezers, straight. Length 6.5".



AR-766 (766-053)
Heat resistant cross lock tweezers, curved. Length 6.5".



AR-1621
Heat resistant cross lock tweezers, curved. Length 6.5".



AR-473 (502-023)
REAGENT TUBE FUNNEL

Ideal for filling quick disconnect and bubble tubes. Eliminates the spilling of the caustic reagents and allows the operator to quickly prepare the reagent tube and get the determinator back in line. A must for conserving costly Catalysts. Special design allows operator to insert the reagent tube into the bore of the funnel. This utilizes the full I.D. of the reagent tube for quicker, easier filling.

GLASS FUNNELS



AR-1616



AR-1615



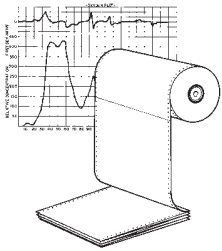
AR-1614 (501-614)

SPATULAS

General purpose laboratory spatulas for use in weighing, transferring material and other laboratory applications.

USEFUL ITEMS

PRINTER SUPPLIES



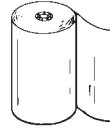
AR-671 (781-671)
INK JET PAPER
Printer paper for new LECO® TC-436, CS-444 and others. **Why be a slave to a single source?** Alpha can save you a bundle on this item.

AR-483 (601-483)
PRINTER PAPER
600 sheets. 9-1/2" x 11".

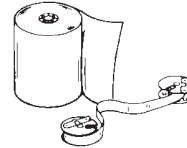
AR-1883 (781-883)
INK JET PAPER
500 sheets.



AR-902 (781-902)
INK JET PRINTER CARTRIDGE
This cartridge goes with the HP printer used with the AR-671. (NOT SHOWN)



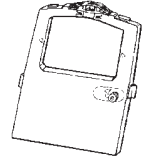
AR-927 (780-927)
PRINTER PAPER ROLL
Fits many microprocessed units. 4-1/2" wide x 3"D x 1/2" hole. **Why pay more?**



AR-764 (770-764)
PRINTER PAPER
3-11/16" x 3" x 1/2" hole.

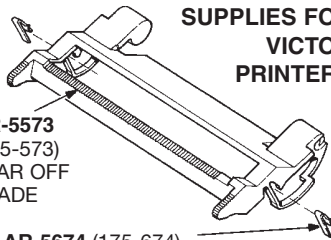
AR-778 (770-778)
RIBBON & SPOOL ASSEMBLY

AR-484 (601-484)
PRINTER RIBBON SPOOL
For printer employed with LECO® RH-404 and other similar determinators. **Why pay more for the same products? They don't make them and neither do we, but we do ship from stock.**

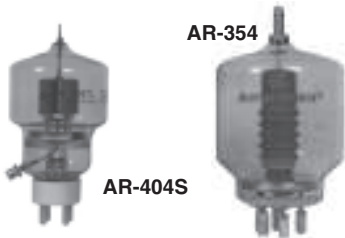


SUPPLIES FOR VICTOR PRINTERS

AR-5573 (175-573)
TEAR OFF BLADE



AR-5674 (175-674)
TEAR OFF BLADE SPRING



AR-404S (550-004)
SURPLUS OSCILLATOR TUBE
EIMAC 304TL. This tube is no longer offered as a new item. Alpha is still able to offer a "surplus" tube, which has been tested by us and comes with a **30 day Alpha Warranty**. You can update your older LECO® equipment with the **AR-5210 OSCILLATOR CHASSIS UPDATE**. Contact Alpha today at 1-800-833-3083 to learn more about the chasis update. This will allow you to use the new AR-354 Oscillator Tube, which is still available as a new item.

AR-354 (771-354)
OSCILLATOR TUBE
(5868) for all late model induction furnaces. CS 144, 444, etc. The tube is factory fresh and is warranted by the manufacturer.



AR-177 (502-177) QUARTZ WOOL
Under 12 micron.50g. FINE

AR-085 (7637-385) QUARTZ WOOL
Over 12 micron.28g. COARSE

AR-9721 QUARTZ WOOL
1-4 micron.28g. EXTRA FINE



AR-334 (764-640) 100 pf capacitors
AR-335 (764-641) 200 pf capacitors
TANK CAPACITORS



AR-241 (501-241) SILICONE GREASE
Useful for lubricating Electrode and glass tube O-rings, glass stopcocks and other lab applications. Comes in handy 150g tube.



AR-081 (501-081)
GLASS WOOL

Specially fabricated to insure softness of texture. Eliminates the need for gloves and is ideal for use in dust traps and glass tubes. 454g package.

AR-265 (763-265) GLASS WOOL
227g package

WHAT OUR CUSTOMERS SAY...

Dear Alpha Resources,
"I'm a firm believer that competition is a healthy thing. Let me know if Alpha can repair this...Or develop a replacement."

Thomas, Florida



AR-187 (521-186)
SOLID STATE RECTIFIER

These solid state devices last up to five times longer than 3B28 tubes. Easily plugged into the tube sockets, connect the grid caps, and the conversion is complete.

FILTERS

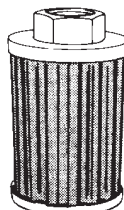


AR-058 (762-058)
"O" RING
for AR-311



AR-5306 (775-306)
SECONDARY FILTER for CS-125, 144 thru 243 with **AR-520 (772-520)** "O" RING ATTACHED

AR-311 (773-311)
SST MESH DUST FILTER for furnace Models CS-125, 144 thru 244.
AR-596 (778-596) Like AR-311 but slightly larger bore, for later Model 400 series.



AR-6234 (776-234)
DUST BOX FILTER
for LECO® Carbon/Sulfur Determinators



AR-980 (768-980)
PARTICLE FILTER
0.6 Micron Filter for many LECO® models including CHN, FP, WR-12, SC and others. In-line filter useful for removing particles from carrier gas (disposable plastic body).

AR-2880 (782-880)
VACUUM FILTER
For LECO® models CS-444, IR-432 & IR-412

Alpha can now supply this dedicated filter for the dust removal systems.

Available from stock at a competitive price.



SAMPLING DEVICES



AR-2000 SAMPLE PIN CUTTER

Quickly yielding up to three pins of either 1 gm. or 1/2 gm. Determined by selection of the spacers specified by the customer. For sectioning pins from 4mm to 6mm OD. Note: these weights are approximate and the customer may elect to slightly modify the width of the spacers to get the exact weight desired. The unit includes 4 spacers and blades of the customers choice, The customer must specify 50 or 60 Hz, 115 or 230 VAC, Single Phase, 1 HP.



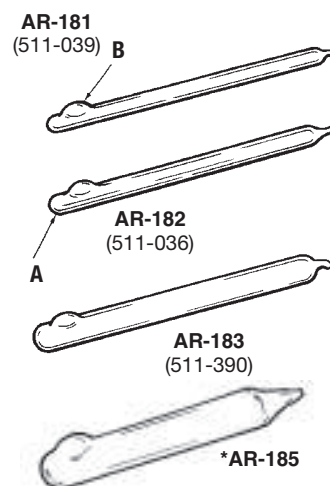
It easily accommodates "Duckbill" or "Lollypop" samplers. The disc portion is quickly sectioned off in cutting pieces while yielding uniform pins for combustion, fusion or spectrometer analysis. The unit is especially well suited for use with Alpha's Evacuated Pin Tubes.



AR-2000 (585-600)	AR-270 (585-270)	AR-200 (585-235)	AR-5359	AR-5360
Sample Pin Cutter 115/200 V, 50/60 Hz	Cut Off Wheel AL02, 7 1/2" x 1" x 1/16"	Cut Off Wheel AL02, 7" x 3/4" x 1/16"	Spacer for 1/2 Gram Pin	Spacer for 1 Gram Pin

EVACUATED PIN TUBES

Alpha's evacuated pin tubes are constructed with a thick section at point **A** and a thin section at point **B**. This type of construction eliminates any surface slag on the molten metal from entering the pin tube. These tubes are in stock and available for immediate shipment. **Alpha has improved the design of these tubes.** The "bubble" portion at point **B** is now more uniform and thicker while still keeping a protective entry portion at point **A**. This improvement will give you a more consistent vacuum and is more resistant to cracking and breakage from handling and gives more good pins. **Our new process has also made it possible for us to lower our prices to you.** Contact Alpha Resources today at **1-800-833-3083** for complimentary samples or to place your order.



PART NO.	O.D.	I.D.	LENGTH
AR-181	5mm	3.5mm	152.4mm
AR-182	6mm	4mm	152.4mm
AR-183	8mm	6mm	152.4mm
*AR-185	13mm	11mm	100mm

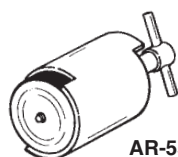


AR-1038 (511-038)
PIN TUBE HOLDER

Spring loaded, allows the sampler to take dual specimens from the same spoon without delay.

* When using the AR-185, rapid quenching reduces "piping".

MAGNETIC HOLDER



AR-5510
MAGNETIC HOLDER

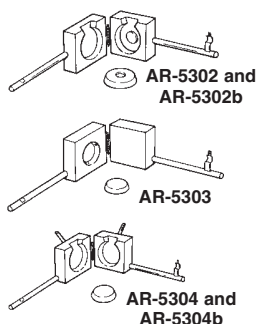
This holder was developed to save fingers from grinding and burning, when surfacing samples on a grinding wheel or belt sander. The 40 lb. pull of the magnet, holds the sample. The retaining shield keeps the sample from sliding. A screw is used to break the magnetic field which allows removal of the sample from the powerful magnet. The two inch diameter is a convenient size for holding in the hand.



"ALPHA BUSTER" TOOL STEEL MORTAR AND PESTLE

The mortar measures 76mm x 76mm x 115mm high with a 70mm deep cavity. The pestle is 250mm long.

AR-909P PESTLE ONLY
AR-909M MORTAR ONLY
AR-909 COMPLETE SET



SAMPLE DISC/PIN MOLDS FOR ANALYSIS

REF. NO.	TYPE/SHAPE	DIMENSIONS	USE
AR-5302	Vertical Pour (steel) Disc/Recess	0.25" H x 2.5" D Recess .062" Deep 1"D	Aluminum, Lead, Magnesium Zinc Alloys
AR-5302b	Vertical Pour (steel) Disc (No Recess)	0.25" H x 2.5" D	Same as AR-5302
AR-5303	Horizontal Pour (steel) Disc/Recess	0.375" H x 1.2" D	Same as AR-5302
AR-5304	Vertical Pour (copper) Air/Water Cooled Pin and Disc	Pin: 1.75" L x 0.187" D Disc: 0.25" H x 1.25" D	Pin Suitable for C,S,H,O,N Rapid Chill Disc for Ferrous Base Analysis
AR-5304b	Vertical Pour (copper) Air/Water Cooled Pin and Disc	Pin: 1.75" L x 0.187" D Disc: 0.375" H x 1.5" D	Same as AR-5304

USED LECO® EQUIPMENT & TRADE IN POLICY



THANKS TO ALPHA YOUR OLD LECO® EQUIPMENT NOW HAS VALUE!

Alpha routinely accepts trade-in instrumentation on the sale of new Alpha instruments. Much of this is still in very good working order. Alpha's skilled service technicians thoroughly check out and operate these units, which then are offered for resale at **bargain prices**. The supply is limited and is constantly changing - it is impossible to publish an accurate list of used equipment that is available. If you are looking for a particular piece of equipment, we suggest you contact...

ALPHA TODAY AT 1-800-833-3083



CAN'T FIND THE SPARE PART YOU NEED FOR YOUR OBSOLETE LECO® EQUIPMENT?

Alpha maintains an inventory of some **obsolete supplies and electronic parts** for both your new and old LECO® instruments. If you require spare parts, and know the LECO® part number, please **give our helpful service department a call at 269-465-3758**



LECO® NITROGEN/OXYGEN DETERMINATORS THROUGH TC-436

Useful Items for Nitrogen and Oxygen Analysis

AR-005	(156-004)	Teflon Backup Ring	1
AR-739	(190-739)	Nylon Spacer Screw	1
AR-2174	(183-001)	AlphaSolve® II, 20-30 mesh	500g
AR-293	(188-012)	Cleaning Brush, Small	1
AR-001	(204-001)	Thermostat for Electrode	1
AR-059	(501-059)	Tin Capsule, 5mm	100/btl.
AR-073	(501-073)	Graphite Powder	100g
AR-081	(501-081)	Glass Wool	454g
AR-170	(501-170)	Rare Earth CuO	50g
AR-171	(501-171)	Magnesium Perchlorate	454g
AR-234	(501-234)	Oxygen Specimen File	1
AR-241	(501-241)	Silicone Grease	150g
AR-930	(501-539)	Activated Charcoal	454g
AR-598	(501-598)	Short Nibbled Nickel, Low Oxygen	100g
AR-1608	(501-608)	Quartz Wool Wadding	200g
AR-621	(501-621)	Copper Turnings	200g
AR-643	(501-641)	Copper Metal Scrubber	454g
AR-599	(502-020)	Long Nibbled Nickel, Low Oxygen	100g
AR-473	(502-023)	Funnel, Reagent Tube	1
AR-2166	(502-040)	Tin Capsule, 6mm	100/btl.
AR-2174	(502-174)	AlphaSolve® II, 20-30 mesh	500g
AR-2176	(502-176)	AlphaSolve® II, 8-10 mesh	500g
AR-177	(502-177)	Quartz Wool	50g
AR-2183	(502-183)	Nickel Capsule	100/btl.
AR-2344	(502-344)	Small Nickel Baskets, Low O2	100/btl.
AR-2345	(502-345)	Large Nickel Baskets, Low O2	100/btl.
AR-901	(503-032)	Regular Glass Scoop	1
AR-9305	(589-305)	Rubber Sleeve, 6mm	1
AR-483	(601-483)	Printer Paper, Sheet(s)	600
AR-484	(601-484)	Printer Ribbon Spool	1
AR-034	(760-034)	Graphite Crucible	1000
AR-072	(760-072)	28VDC Bulb	1
AR-138	(760-138)	Sample Tweezers	1
AR-022B	(760-144)	Bent Brass Brush	1
AR-193	(760-193)	Screen for Reagent Tube	1
AR-293	(760-293)	Cleaning Brush	1
AR-316	(760-316)	Rubber Washer, glass tubes	1
AR-317	(760-317)	Glass Catalyst Tube, 169mm	1
AR-333	(760-333)	Glass Tube, 202mm	1
AR-414	(760-414)	Graphite Crucible	1000
AR-047	(761-047)	Glass Filter Tube, 76mm	1
AR-293H	(761-383)	Brass Brush Handle	1
AR-697	(762-697)	Large Throat Brush	1
AR-697H	(762-823)	Throat Brush with Handle	1
AR-509	(763-029)	Large Nickel Baskets	100/btl.
AR-508	(763-065)	Small Nickel Baskets	100/btl.
AR-261	(763-261)	Filter Papers, Glass Tubes	100/pkg.
AR-295	(763-295)	Thermostat for Electrode	1
AR-4078	(764-078)	1g Weight, No Cert	1
AR-5933	(765-933)	Lubercool	btl.
AR-766	(766-053)	Delux Crucible Tweezers	1
AR-6646	(766-646)	Air Filter Coating	btl.
AR-277	(767-277)	Graphite Crucible	1000
AR-085	(767-385)	Quartz Wool Wadded, 12 Micron	28g
AR-473	(767-473)	Utility Funnel	1
AR-980	(768-980)	Balston Filter	1
AR-469	(769-335)	Relay	1
AR-764	(770-764)	Printer Paper	1
AR-778	(770-778)	Ribbon Spool Assembly	1
AR-373	(771-373)	Drying Tube, 152mm	1
AR-2560	(772-560)	Chopper Motor	1
AR-795	(772-795)	Oven Fan	1
AR-653	(774-649)	Cleaning Brush with Handle	1
AR-652	(774-652)	Cleaning Brush	1
AR-690	(774-690)	Knurled Ring Collar	1



AR-691	(774-691)	Electrode Insert	1
AR-692	(774-692)	Lower Electrode Male Plate Repair	1
AR-5306	(775-306)	Secondary Filter	1
AR-5330	(775-330)	Four Way Valve	1
AR-355	(775-355)	Catalyst Tube, 273mm	1
AR-293H	(775-416)	Cleaning Brush (small)	1
AR-431	(775-431)	Inner Graphite Crucible	1,000
AR-433	(775-433)	Outer Graphite Crucible	50
AR-3930	(775-446)	Electrode Insert Repair	1
AR-601	(775-601)	Bubble Tube, Left	1
AR-625	(775-625)	Push Button Switch	1
AR-431P	(775-892)	Inner Graphite Crucible	100
AR-053	(776-247)	Graphite Crucible	1000
AR-279	(776-279)	Catalyst Heater Tube	1
AR-2338	(782-338)	Oxygen Moisture Removal Tube	1
AR-3930	(782-534)	Electrode Insert Repair	1
AR-782	(782-720)	Graphite HiTemp Crucible	1000
AR-721	(782-721)	HiTemp Electrode Insert	1
AR-3930	(782-835)	Electrode Insert Repair	1
AR-877	(782-877)	Cleaning Brush	1
AR-2880	(782-880)	Vacuum Filter	1
AR-877H	(782-918)	Handle only for AR-877	1
AR-938	(782-938)	Composite Brush only	1
AR-938H	(782-942)	Cleaning Brush Handle	1
AR-3301	(783-301)	Upper Electrode Brush Modified	1
AR-3302	(783-302)	Lower Electrode Brush Modified	1

Can't find what you are looking for? Please check the Alpha/Leco® Cross Reference on pages 27 through 31. You may visit our web page at WWW.ALPHARESOURCES.COM Or contact us directly at 1-800-833-3083



AR-170
(501-170)
RARE EARTH
COPPER OXIDE

Alpha Resources continually works to offer its customers the **highest quality material at affordable pricing.** Alpha has worked hard to refine the process used in making the Rare Earth Copper Oxide, AR-170 (501-170). We use the **highest purity** raw materials in our chemical laboratory. When shipped to our customers, our **virgin material** has been found to **last longer and work better than the competition.** We encourage you to evaluate this affordable material today. Simply call a helpful Alpha Salesperson to place an order for this and other money saving products today. **Start realizing how much money an alternate source can save you.** Call today at 1-800-833-3083.



CALIBRATION STANDARDS



NITROGEN/OXYGEN IN STEEL PINS

Each pin is cut and ground to exacting tolerances, then plated with the **AlphaKote®** process which assures stable, accurate oxygen values. 1.000 and 0.500 g each, 100 per bottle.

PART NO. 1 GRAM	PART NO. 1/2 GRAM	ppm* NITROGEN	ppm* OXYGEN
AR-644	AR-661	100-300	1-20
AR-645	AR-660	30-70	30-70
AR-646	AR-662	600-700	20-60
AR-1647	AR-663	1200-2000	20-70
AR-1648	AR-659	50-80	100-200
AR-1649		15-40	
AR-1650	AR-657	70-130	30-90
AR-1651	AR-656	150-250	50-170
AR-1652	AR-654	300-600	20-80
AR-1653	AR-668	25-40	10-20
	AR-655	3000-4500	
AR-1655	AR-669	600-800	150-300

ZIRCONIUM PINS FOR NITROGEN & OXYGEN

0.10 g samples, 10 g per bottle

PART NO. 1 GRAM	ppm* HYDROGEN	ppm* OXYGEN	ppm* NITROGEN
AR-640	10-15	1300-1500	35-55

FOR CURRENT VALUES CLICK HERE

HYDROGEN IN STEEL

This elusive element is **trapped in a stable form** at the levels and sample sizes listed below.

PART NO.	SAMPLE WEIGHT	ppm* HYDROGEN	PIECES PER BOTTLE
AR-546	1.00g	.50-1.5	100
AR-555	1.00g	1.5-4.0	100
AR-556	1.00g	4.0-6.0	100
AR-558	1.00g	6.0-7.0	100

STEEL BALLS FOR H/O/N

PART NO.	SAMPLE WEIGHT*	ppm* HYDROGEN	ppm* OXYGEN	ppm* NITROGEN	PIECES PER BOTTLE
AR-557	1.070g +/-0.002	3.7 +/-0.8	18 +/-4.0	425 +/-8	50

TITANIUM PINS FOR HYDROGEN, OXYGEN, NITROGEN

Alpha's titanium pins are cut to precise weights of .25g or .1g then etched by Alpha's proprietary process.

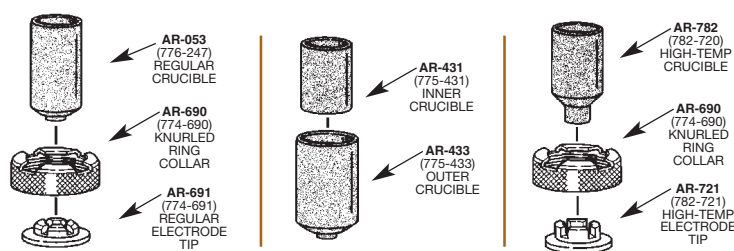
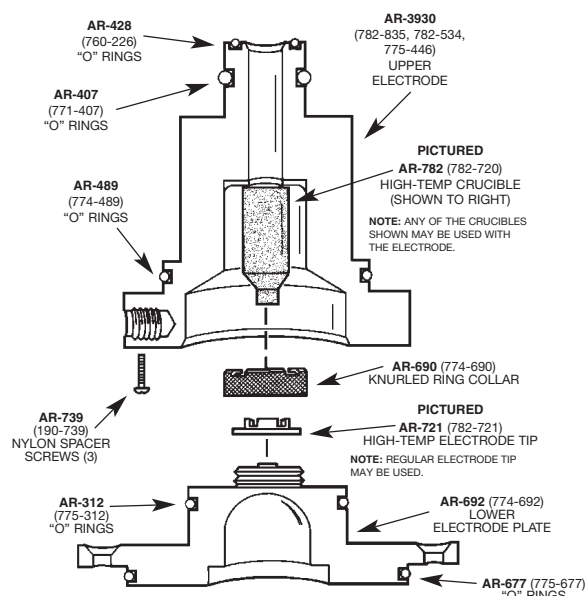
PART NO.	ppm* HYDROGEN	ppm* NITROGEN	ppm* OXYGEN	SAMPLE WEIGHT
AR-637	10-35	60-130	1000-1400	0.10g
AR-642	30-60	100-140	1300-1800	0.25g
AR-648	90-150	25-75	1600-1900	0.25g
AR-649	150-250	125-150	800-1000	0.25g
AR-650	30-90	300-400	1800-2000	0.25g
AR-651	20-70	30-70	1500-1700	0.10g

OXYGEN AND SULFUR IN COPPER PINS

Each pin is cut and ground, etched and plated by the special **AlphaKote®** process to assure stable oxygen values. Sold in units of 100 one gram pins per bottle.

PART NO.	ppm* OXYGEN	ppm* SULFUR
AR-147	5-15	15-20
AR-148	400-600	10-15
AR-149	250-350	5-15

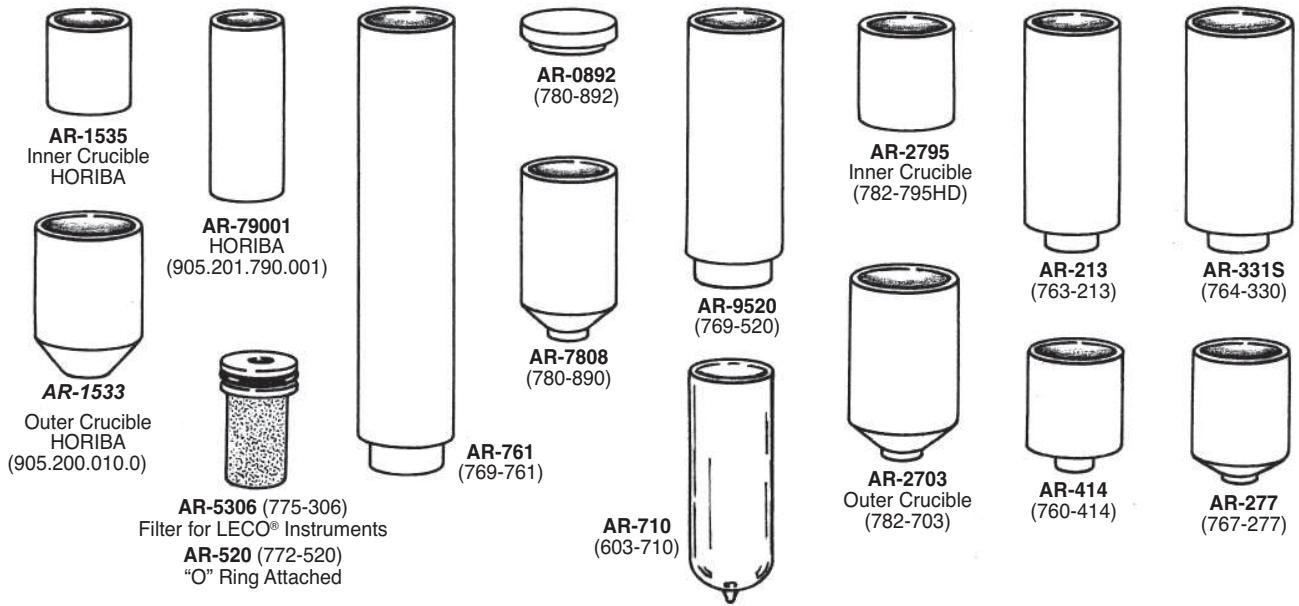
ELECTRODE REPAIR SERVICE



Alpha has **improved a process** for removing and installing a **new contact in the Upper Electrode Insert** for LECO models, **775-446, 782-534, and 782-835**. This new process virtually provides you with a **new electrode insert** with regards to the crucible contact area. **Why throw money away** when you can **simply return your defective electrode inserts to Alpha** for expert renovation? Contact Alpha today and find out how you can **save \$100 or more!** Call Alpha and ask about the **AR-3930 Electrode Exchange**.

CALL ALPHA TODAY at: 1-800-833-3083!

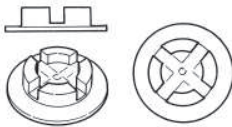
GRAPHITE CRUCIBLES & CARBO-FUSION SUPPLIES



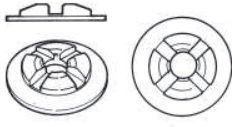
ELECTRODE INSERTS

All of Alpha's Electrode inserts are made from the same special alloy. They are reported to last longer and cost less than the competition. Please order the tip based on your application and instrument.

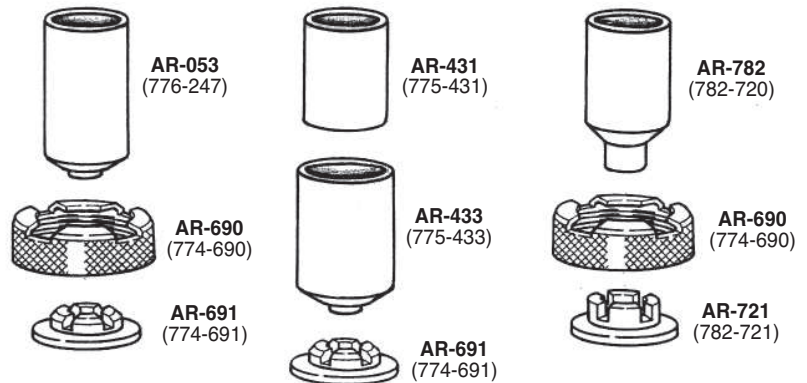
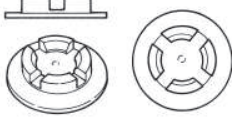
AR-721 (782-721)
ELECTRODE TIP
Hi-Temperature Insert for use with AR-782 crucibles on models through TC-436.



AR-691 (774-691)
(618-482)
Standard graphite crucible insert for use on models through TC-436.



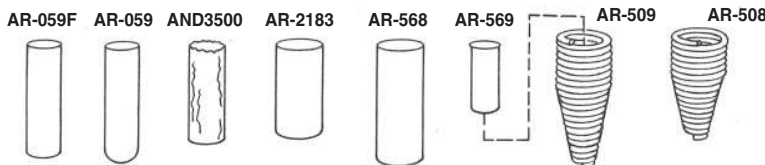
AR-376 (618-376)
Hi-Temperature Insert for use with AR-782 crucibles on models through TC-500, 600.



Don't see what you want?

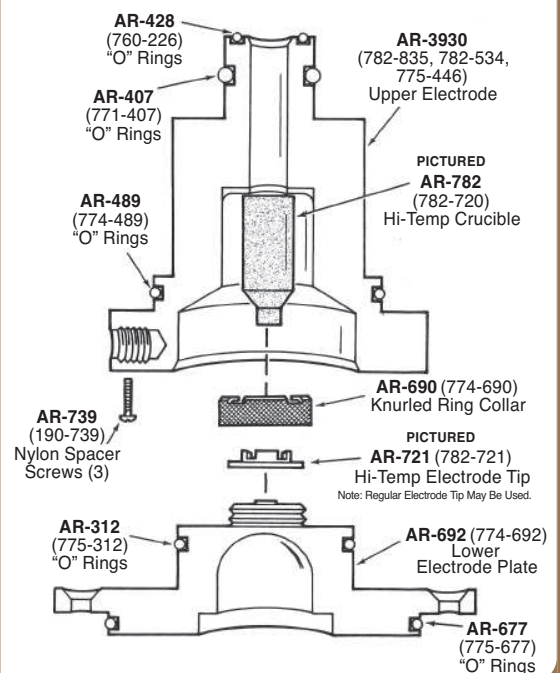
CALL ALPHA TODAY
1-800-833-3083

NICKEL BASKETS & CAPSULES



Cat. No.	LECO® No.	Type	Metal	Diam.	Height	Weight	Unit
AR-059	(501-059)	Capsule	Sn	5.0mm	18.0mm	160mg	100
AR-059F		Capsule, Flat Bottom	Sn	5.0mm	18.0mm	160mg	100
AND3500		Pressed Capsule	Ni	5.0mm	12.5mm	65mg	100
AR-508	(763-065)	Basket (small)	Ni	7.0mm	12.0mm	1.0g	100
AR-509	(763-029)	Basket (large)	Ni	7.0mm	17.0mm	1.5g	100
AR-569		Smooth Capsule	Ni	4.5mm	9.7mm	270mg	100
AR-2183	(502-183)	Smooth Capsule	Ni	6.5mm	10.0mm	467mg	100

ELECTRODE REPAIR SERVICE



ELECTRODE BRUSHES AND SUPPLIES

FURNACE CLEANING BRUSHES AND BRUSH HANDLES

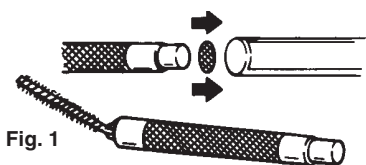


Fig. 1

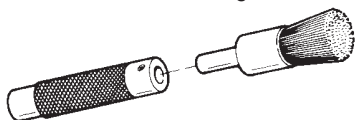
Alpha's brush handles are heavily knurled to insure a firmer grip. This prevents slipping and allows the operator greater ease in cleaning the furnace electrode. The end of the handle has been specially machined to be used as a filter insertion tool for filter papers and metal screens, commonly used with all quick disconnect reagent glass tubes.



AR-697 (762-697)
LARGE THROAT BRUSH
Commonly used on models TC-36, RH-1E, RO-17 and other units.
AR-697H (762-823)
HANDLE (only)



AR-293 (760-293) (775-416) (188-012)
SMALL THROAT BRUSH
For TC-136, RO-116, TN-114 and older units.
AR-293H (761-383) (775-416)
KNURLED HANDLE
Non-slip handle with filter insertion tip for use with AR-293. See Fig. 1 above.

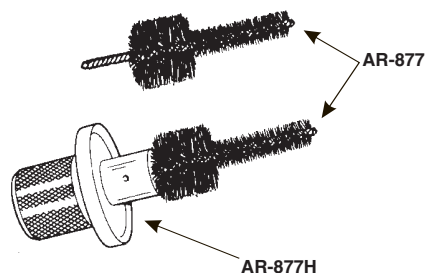


AR-652 (774-652)
CLEANING BRUSH
Stainless steel brush for models TC-136, RO-116, TN-114 and others.
AR-652H
BRUSH HANDLE
Handle only for models TC-136, TN-114, RO-116 and others.
AR-653 (774-649)
CLEANING BRUSH WITH HANDLE

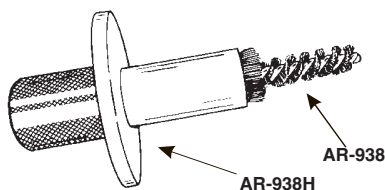


AR-022B (760-144)
CLEANING BRUSH
Alpha's bent brush has a generous supply of bristles for effective cleaning.

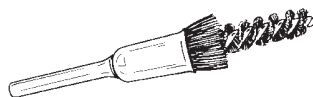
AR-877 (782-877)
TRIM STEP BRUSH
For electrode cleaning. Used on TC-436 and others. All brass cleaning brush which is less abrasive on furnace parts.



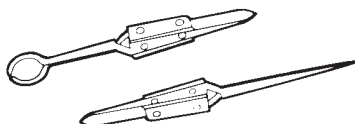
AR-877H (782-918)
BRUSH HANDLE ONLY
For trim step brush. All of our brushes and handles are sold separately to avoid confusing you into purchasing more than you actually need.



AR-938H (782-942)
BRUSH HANDLE ONLY
For composite brush.

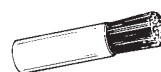


AR-938 (782-938)
COMPOSITE BRUSH
Stainless steel outer bristles with inner brass brush for electrode cleaning. Used on TC-414, 416, 436 and others. **Why pay more?**

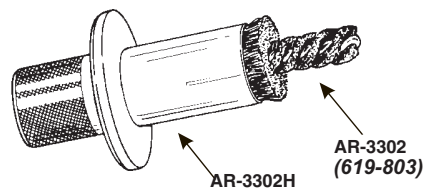


AR-138 (760-138)
TWEEZERS
Deluxe stainless specimen tweezers. Super heavy duty, self-locking, straight style, for secure handling of standards or specimens.

AR-766 (766-053)
TWEEZERS
Curved tweezers for graphite crucibles. Same as AR-138 but with 14mm dia. curve.



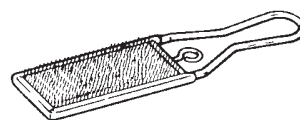
AR-3301 (783-301)
LOWER ELECTRODE BRUSH
For LECO® model EF-400/500 electrodes, this small brush is for cleaning the lower electrode.



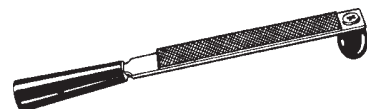
AR-3302H (783-302)
BRUSH HANDLE ONLY
For use with AR-3302 Composite Brush. Alpha won't make it difficult for you to purchase a brush without the handle.



AR-3302 (783-302)(619-803)
UPPER ELECTRODE BRUSH
For LECO® model EF-400/500 electrodes, this brush is approx. .80" (21mm) in diameter, slightly larger than the AR-877 and AR-938. Used for cleaning the upper electrode contact and bore areas. Brush is also a composite brush consisting of straight stainless bristles in conjunction with a spiral brush.



AR-235
FILE CLEANER
This handy device makes it easy to keep files clean and cutting efficiently. Use when your file becomes loaded up with soft metal and other materials.



AR-234 (501-234)
SPECIMEN FILE
Ideally suited for oxygen specimen preparation. Tungsten carbide file for faster, cooler removal of surface scale. This fine tool will last at least 20 times longer than regular files. A convenient handle and knob for positive control and user comfort.

ELTRA ON/OH 900 DETERMINATORS



Affordable Oxygen, Hydrogen and Nitrogen Analysis by ELTRA



- Computer Controlled
- Single/Multi Element Units Available

- 4th Place Balance Included

- Reliable Printer
- Compact Design
- Direct Reading
- Quick Analysis
- Easy to Operate

Thanks to Alpha, Oxygen, Nitrogen and Hydrogen elemental determination has now become affordable.

Alpha Resources is pleased to offer its customers three unique instruments for analysis of Oxygen/Nitrogen/Hydrogen in metals. **Oxygen/Nitrogen ON-900, Oxygen/Hydrogen OH-900 and a NEW combination analyzer** from ELTRA which will **determine all three, Oxygen/Nitrogen/Hydrogen ONH-2000**. The **OHN-2000** determinator analyzes Oxygen, Nitrogen and Hydrogen in one affordably priced determinator.

All ELTRA units incorporate the latest technology designed for **rapid and accurate determination of Oxygen, Nitrogen and Hydrogen in metals and other inorganic material**. For the ON-900 and OH-900, the two elements are each analyzed simultaneously. For the ONH-2000, the operator may analyze Oxygen with either Hydrogen or Nitrogen. The ONH-2000 unit will not perform all elements in one analysis. It will determine either Oxygen/Nitrogen or Oxygen/Hydrogen with each analysis. It will not determine Nitrogen and Hydrogen at the same time. All ELTRA's analyze the material in about two minutes with accurate, reliable results.

The units come complete with an **interfaced computer** to operate the unit. The integrated computer will allow the user to determine statistical evaluations, standard deviation and will also give graphical views of the analysis peaks. **A fourth place balance and printer are also supplied along with factory installation, warranty and a supply package for 1000 determinations.**

The unit utilizes a high power, **electrode impulse furnace for rapid and complete sample combustion**. The determination is performed by a thermo-conductivity cell for either Hydrogen or Nitrogen and two infrared detectors for high and low Oxygen analysis.

The ON-900, OH-900, ONH-2000 are easy to operate. The analysis cycle begins with the introduction of a weighed sample placed into the sample autoloader. The crucible is then pneumatically inserted into the electrode furnace and the analysis takes place. The **results are displayed on the computer approximately two minutes** later for the operator to see.

If you are looking for a single element Oxygen, Nitrogen or Hydrogen, please contact us and we will be happy to provide you with the available options and pricing for our entire line of ELTRA determinators.

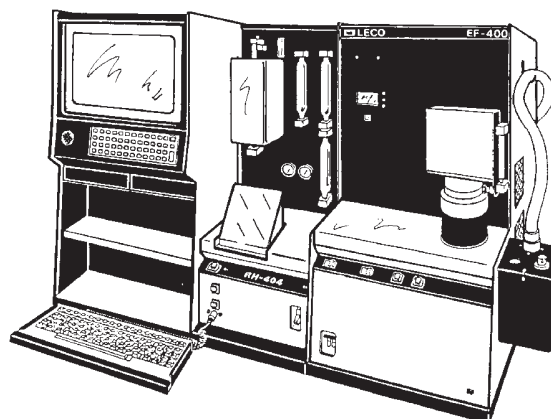
Because of Alpha, your obsolete LECO® equipment now has value. **Realize further savings** by trading in your obsolete LECO® equipment. Call Alpha today for more information. **Toll free 1-800-833-3083**

VISIT US AT: WWW.ALPHARESOURCES.COM

LECO® HYDROGEN DETERMINATORS INCLUDING MODEL RH-404

Useful Items for Hydrogen Analysis

AR-005	(156-004)	Teflon Backup Ring	1
AR-2174	(183-001)	AlphaSolve® II, 20-30 mesh	500g
AR-293	(188-012)	Cleaning Brush, Small	1
AR-059	(501-059)	Tin Capsule, 5mm	100/btl
AR-081	(501-081)	Glass Wool	454g
AR-022	(501-082)	Brass Brush	1
AR-170	(501-170)	Rare Earth CuO	50g
AR-171	(501-171)	Magnesium Perchlorate	450g
AR-241	(501-241)	Silicone Grease	150g
AR-621	(501-621)	Copper Turnings	200g
AR-473	(502-023)	Funnel, Reagent Tube	1
AR-2166	(502-040)	Tin Capsule, 6mm	100/btl
AR-2174	(502-174)	AlphaSolve® II, 20-30 mesh	454g
AR-2176	(502-176)	AlphaSolve® II, 8-20 mesh	500g
AR-177	(502-177)	Quartz Wool, under 12 micron	28g
AR-901	(503-032)	Regular Glass Scoop	1
AR-9305	(589-305)	Rubber Sleeve, 7mm	1
AR-257	(598-257)	Cabinet Fan	1
AR-1201	(601-201)	Quartz Reaction Tube	1
AR-483	(601-483)	Printer Paper, Sheet(s)	600
AR-484	(601-484)	Printer Ribbon Spool	1
AR-706	(603-706)	Pedestal	1
AR-707	(603-707)	Reaction Tube	1
AR-710	(603-710)	Quartz Crucibles	24/pkg
AR-072	(760-072)	24VDC Bulb	1
AR-138	(760-138)	Sample Tweezers	1
AR-766	(760-139)	Curved Crucible Tweezers	1
AR-022B	(760-144)	Bent Brass Brush	1
AR-193	(760-193)	Screen for Reagent Tube	1
AR-316	(760-316)	Rubber Washer, glass tubes	1
AR-317	(760-317)	Glass Catalyst Tube, 169mm	1
AR-333	(760-333)	Glass Tube, 202mm	1
AR-414	(760-414)	Graphite Crucible	1
AR-047	(761-047)	Glass Filter Tube, 76mm	1
AR-190	(761-190)	Glass Tube, 299mm	1
AR-639	(761-739)	Tin Pellet Flux	454g
AR-1744	(761-744)	Column Repair Service	1
AR-611	(761-747)	Schutze Reagent	1
AR-929	(761-929)	Crucible Tongs	1
AR-697	(762-823)	Throat Brush	1
AR-213	(763-213)	Graphite Crucible	1000
AR-261	(763-261)	Filter Papers, Glass Tubes	100/pkg
AR-295	(763-295)	Thermostat for Electrode	1
AR-4078	(764-078)	1g Weight, No Cert	1
AR-242	(764-242)	Alphacel Tin Pellets	454g
AR-5933	(765-933)	Lubercool	btl
AR-766	(766-053)	Delux Crucible Tweezers	1
AR-6646	(766-646)	Air Filter Coating	btl
AR-085	(767-385)	Quartz Wool Wadding, 12 micron	28g
AR-980	(768-980)	Particle Filter	1
AR-469	(769-335)	Relay	1
AR-9520	(769-520)	Graphite Crucibles	10/pkg
AR-761	(769-761)	Graphite Crucible, RH3	10/pkg
AR-9821	(769-821)	Molecular Sieve	btl
AR-401	(774-401)	Reaction Tube	1
AR-1425	(771-425)	Power Triode, RH2/3	1
AR-2560	(772-560)	Chopper Motor	1
AR-795	(772-795)	Oven Fan	1
AR-653	(774-649)	Cleaning Brush with Handle	1
AR-690	(774-690)	Knurled Ring Collar	1
AR-691	(774-691)	Electrode Insert	1
AR-692	(774-692)	Lower Electrode Male Plate Repair	1
AR-053	(775-053)	Graphite Crucible	1000
AR-5306	(775-306)	Secondary Filter	1
AR-5330	(775-330)	Four Way Valve	1
AR-293	(775-416)	Cleaning Brush (small)	1
AR-293H	(775-416)	Cleaning Brush Handle	1
AR-3930	(775-446)	Electrode Insert Repair	1
AR-601	(775-601)	Bubble Tube, Left	1
AR-625	(775-625)	Push Button Switch	1



AR-402	(775-814)	Reaction Tube, Thick Wall	1
AR-053	(776-247)	Graphite Crucible	1000
AR-279	(776-279)	Catalyst Heater Tube	1
AR-6685	(776-685)	Solenoid Valve	1
AR-671	(781-671)	Ink Jet Printer Paper	1
AR-902	(781-902)	Print Cartridge	1
AR-2338	(782-338)	Oxygen Moisture Removal Tube	1
AR-3930	(782-534)	Electrode Insert Repair	1
AR-782	(782-720)	Graphite HiTemp Crucible	1000
AR-721	(782-721)	HiTemp Electrode Insert	1
AR-3930	(782-835)	Electrode Insert Repair	1
AR-2880	(782-880)	Vacuum Filter	1
AR-877	(782-877)	Cleaning Brush	1
AR-877H	(782-918)	Handle Only for AR-877	1
AR-938	(782-942)	Composite Brush only	1
AR-938H	(782-942)	Cleaning Brush Handle	1
AR-3301	(783-301)	Lower Electrode Brush	1
AR-3302	(783-302)	Upper Electrode Brush Modified	1

Can't find what you are looking for? Please check the Alpha/Leco® Cross Reference on pages 27 through 31. You may visit our web page at WWW.ALPHARESOURCES.COM Or contact us directly at 1-800-833-3083

Need Specialty Glass Parts for Earlier Hot Extraction Units?
Call Alpha Today for Expert Glass Repair and Fabrication of Most Older LECO® Glassware.

WHAT OUR CUSTOMERS SAY...

Dear Alpha Resources,

"Thank you very much for all your help. Your repaired electrodes are holding up very well and we are very pleased with the quality of work that your firm is producing."

*Jim
West Virginia*

Analytical Standards

Alpha No.	Description	Pin Weight	Matrix	Unit
AR-555	H = 1.5-4.0	1.0g	Steel	100g
AR-556	H = 4.0-6.0	1.0g	Steel	100g
AR-637	H = 10-35	.1g	Titanium	10g
AR-642	H = 30-60	.25g	Titanium	25g
AR-648	H = 90-150	.25g	Titanium	25g
AR-649	H = 150-250	.25g	Titanium	25g
AR-640	H = 10-15	.1g	Zirconium	10g

For a complete listing of metal standards, see our extensive listing on page 17.

CARBON/SULFUR DETERMINATOR CS-500/CHS-500



CS-500 Affordable Carbon and Sulfur Analysis by ELTRA

- Computer Controlled
- 4th Place Balance Included
- Easy to Operate
- Reliable Printer
- Direct Reading
- Low Maintenance
- Compact Side-by-side Design

The CS-500 determinator by ELTRA combines **accuracy and reliability** into a single, affordable determinator. This unit is capable of running Carbon and Sulfur for organic materials such as coal, coke, oil, ashes, catalysts, lime, gypsum, soils, rubber and other materials.

The **CS-500 incorporates the latest in combustion technology**. The unit is computer controlled with features such as graphic peak display, standard deviation calculations and data storage. The unit utilizes a high temperature **resistance furnace which can go up to 1550°C**. There are four IR cells, two for Carbon and two for Sulfur. They can each hold up to four calibration curves which allows the **customer to change material and still obtain accurate analysis**.

The side-by-side unit is easy to operate. The analysis is initiated by placing the weighed boat into the combustion tube. Typical analysis times vary from 60 – 120 seconds depending on material. The results are displayed on the computer.

The unit comes **complete with an integrated 4th place balance, factory installation, warranty and consumable supplies for 1,000 determinations**. A Total Inorganic Carbon (TIC) module can be placed between the furnace and determinator allowing the customer to determine total carbon through the resistance furnace or inorganic carbon through the TIC module.

ELTRA also offers a **CHS-500 determinator for those customers performing analysis of Coal for the determination of Carbon, Sulfur and Hydrogen**. All three elements are determined through IR detection. The unit utilizes Gold Infrared Paths to avoid the use of halogen traps. The Carbon and Sulfur results are unaffected by the Hydrogen content of the sample. Save time and money by using only one instrument to perform all three analysis.

Because of Alpha, your **obsolete LECO® equipment now has value**. We will offer a **trade-in credit memo towards the purchase of the CS-500 in the amount of \$3,000** when you trade-in your LECO® model SC32/132 determinator. Call Alpha today to obtain a quote or additional information. **Toll Free 1-800-833-3083**.

VISIT US AT : WWW.ALPHARESOURCES.COM

HYDROCARBON STANDARDS

MATCH YOUR MATRIX EXACTLY

Why settle for a lesser calibration technique when you can employ Alpha's economical reference materials and **calibrate with exactly the same matrix as your unknown?** You not only will be employing **better technique**, you won't have to contend with the **messy, time consuming task** of mixing a lesser product which may contain a **dilution mistake** and the possibility of **faulty results**. **ALL TRACEABLE TO NIST.**

Alpha has developed a special technique to effectively stabilize crude oil. They are offered as a set or sold in individual 118mL (4 oz) bottles. A certificate of analysis accompanies every oil standard. The certificate shows the NIST traceability, when possible, and the values and ASTM methods employed in the round robin program.

Need a special standard not shown? Alpha will fabricate **special ranges** of listed reference materials **upon request**. Call Alpha **TOLL FREE** and discuss your specific needs.

ULTRA LOW KEROSENE 118mL bottles

ALPHA NO.	% SULFUR
*AR-6215	COMPLETE SET
*AR-6201	0.0010% Sulfur
*AR-6207	0.0020% Sulfur
*AR-6208	0.0030% Sulfur
*AR-6209	0.0040% Sulfur
*AR-6202	0.0050% Sulfur
*AR-6210	0.0060% Sulfur
*AR-6211	0.0070% Sulfur
*AR-6212	0.0080% Sulfur
*AR-6213	0.0090% Sulfur
*AR-6203	0.0100% Sulfur
*AR-6204	0.0150% Sulfur
*AR-6205	0.0200% Sulfur
*AR-6206	0.0400% Sulfur

LOW SULFUR LUBE OIL STANDARDS 118 mL bottles

ALPHA NO.	% SULFUR
AR-3520	Complete Set
AR-3521	<0.0001
AR-3522	0.0020
AR-3523	0.0050
AR-3524	0.0100
AR-3525	0.0200
AR-3526	0.0300
AR-3527	0.0400
AR-3528	0.0500

KEROSENE & #1 DIESEL OIL 118mL bottles

ALPHA NO.	% SULFUR
*AR-2950	COMPLETE SET
*AR-2849	0.0000% Sulfur
*AR-2841	0.01% Sulfur
*AR-2951	0.02% Sulfur
*AR-2842	0.03% Sulfur
*AR-2952	0.04% Sulfur
*AR-2843	0.05% Sulfur
*AR-2953	0.06% Sulfur
*AR-2954	0.07% Sulfur
*AR-2955	0.08% Sulfur
*AR-2956	0.09% Sulfur
*AR-2844	0.10% Sulfur
*AR-2845	0.20% Sulfur
*AR-2846	0.30% Sulfur
*AR-2847	0.40% Sulfur
*AR-2848	0.50% Sulfur

LUBE OIL 118mL bottles

ALPHA NO.	% SULFUR
AR-2930	COMPLETE SET
AR-2838	0.01% Sulfur
AR-2931	0.02% Sulfur
AR-2932	0.05% Sulfur
AR-2831	0.07% Sulfur
AR-2933	0.08% Sulfur
AR-2934	0.10% Sulfur
AR-2832	0.25% Sulfur
AR-2935	0.35% Sulfur
AR-2833	0.50% Sulfur
AR-2834	0.70% Sulfur
AR-2936	0.90% Sulfur
AR-2835	1.00% Sulfur
AR-2937	1.50% Sulfur
AR-2836	2.00% Sulfur
AR-2938	2.50% Sulfur
AR-2839	3.00% Sulfur
AR-2939	3.50% Sulfur
AR-2837	4.00% Sulfur

ULTRA LOW #2 DIESEL OIL 118mL bottles

ALPHA NO.	% SULFUR
AR-2870	COMPLETE SET
AR-2868	0.0000% Sulfur
AR-2871	0.010% Sulfur
AR-2872	0.020% Sulfur
AR-2873	0.030% Sulfur
AR-2874	0.040% Sulfur
AR-2875	0.050% Sulfur
AR-2865	0.060% Sulfur
AR-2866	0.080% Sulfur
AR-2876	0.070% Sulfur
AR-2867	0.090% Sulfur
AR-2877	0.100% Sulfur

#2 DIESEL OIL 118mL bottles

ALPHA NO.	% SULFUR
AR-2960	COMPLETE SET
AR-2821	0.15% Sulfur
AR-2961	0.20% Sulfur
AR-2822	0.30% Sulfur
AR-2962	0.40% Sulfur
AR-2823	0.50% Sulfur
AR-2963	0.60% Sulfur
AR-2824	0.70% Sulfur
AR-2964	0.80% Sulfur
AR-2965	0.90% Sulfur
AR-2825	1.00% Sulfur
AR-2826	1.50% Sulfur
AR-2827	2.00% Sulfur
AR-2828	2.50% Sulfur
AR-2829	3.00% Sulfur

STABILIZED CRUDE OIL STANDARDS *FOR CURRENT VALUES CLICK HERE*

ALPHA NO.	% SULFUR
*AR-2940	COMPLETE SET
*AR-2941	0.01% Sulfur
*AR-2942	0.02% Sulfur
*AR-2943	0.03% Sulfur
*AR-2944	0.04% Sulfur
*AR-2041	0.05% Sulfur
*AR-2945	0.06% Sulfur
*AR-2946	0.07% Sulfur
*AR-2947	0.08% Sulfur
*AR-2948	0.09% Sulfur
*AR-2042	0.10% Sulfur
*AR-2043	0.20% Sulfur
*AR-2044	0.40% Sulfur
*AR-2045	0.60% Sulfur
*AR-2046	0.80% Sulfur
*AR-2047	1.00% Sulfur
*AR-2048	2.00% Sulfur
*AR-2049	3.00% Sulfur
*AR-2050	4.00% Sulfur
*AR-2051	5.00% Sulfur

* This item is a hazardous material and will be shipped accordingly. All values reported are typical chemistry only. The exact chemistry is on each label. A certificate of analysis accompanies every oil standard.

BUY ANY OIL SET AND GET 25% OFF THE REGULAR PRICE

BUY ANY 4 INDIVIDUAL BOTTLES AND GET THE 5th BOTTLE FREE

RESIDUAL OIL 118ml bottles

ALPHA NO.	% SULFUR
AR-2890	COMPLETE SET
AR-2891	0.10% Sulfur
AR-2811	0.15% Sulfur
AR-2892	0.20% Sulfur
AR-2893	0.30% Sulfur
AR-2809	0.35% Sulfur
AR-2894	0.40% Sulfur
AR-2895	0.50% Sulfur
AR-2812	0.60% Sulfur
AR-2896	0.70% Sulfur
AR-2813	0.80% Sulfur
AR-2897	0.90% Sulfur
AR-2814	1.00% Sulfur
AR-2818	1.50% Sulfur
AR-2815	2.00% Sulfur
AR-2819	2.50% Sulfur
AR-2816	3.00% Sulfur
AR-2817	4.00% Sulfur
AR-2898	3.5% Sulfur
AR-2899	4.5% Sulfur

JP FUELS 118 mL bottles

ALPHA NO.	% SULFUR
*AR-2920	COMPLETE SET
*AR-2921	0.005% Sulfur
*AR-2922	0.010% Sulfur
*AR-2923	0.020% Sulfur
*AR-2924	0.030% Sulfur
*AR-2925	0.040% Sulfur
*AR-2926	0.050% Sulfur
*AR-2927	0.060% Sulfur
*AR-2928	0.090% Sulfur

ULTIMATE RESIDUAL FUEL OIL 118 mL contents

ALPHA NO.	CONTENTS 118mL
AR-1622	% Sulfur 1.99
	% Carbon 87.39
	% Hydrogen 9.51
	% Nitrogen 0.29
	Gross BTU 18,877
	Iron 16.8 ug/g
	Nickel 15.0 ug/g
	Silicon 14.4 ug/g
	Copper 0.21 ug/g
	Sodium 10.0 ug/g

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Or contact us directly at **1-800-833-3083**

DESULFURIZED HYDROCARBON STANDARDS

These new standards from ALPHA are of extreme importance for those analysts who wish to make dilutions from higher concentrations. In order to obtain accurate results, identical matrices should be utilized to accomplish this. This will minimize contamination and allow the analyst to obtain reproducible results. ALPHA has once again responded to the industries' demands.

118 mL Larger Quantities Upon Request

ALPHA NO.	MATRIX	% SULFUR
*AR-3116	Isooctane	<0.00001
*AR-3117	Kerosene	<0.00001
AR-3118	#1 Diesel	<0.00001
AR-3119	#2 Diesel	<0.00001
AR-3120	Paraffin Oil	<0.00001
*AR-3121	Gasoline	<0.00001

COAL AND COKE STANDARDS

BUY ANY 4 INDIVIDUAL BOTTLES AND GET THE 5th BOTTLE FREE

In our continuing effort to meet the demands of our customers, Alpha Resources has produced a new set of standards, for aiding in the analysis of Mercury in Coal. The EPA has mandated that companies using coal should monitor the values of Chlorine and Mercury for the material they are burning. We are happy to offer a new series of standards that conform to this requirement.

These new standards were certified for Mercury using the ASTM Method D 3683-94. The Mercury values are traceable to a primary standard from the Republic of South Africa, SARM 20. The new part numbers are listed below and are now available from Alpha Resources as 25g bottles. They ship with a certificate of analysis, when purchased. Call Alpha today at 1-800-883-3083 to speak with a knowledgeable salesperson about these exciting new standards.

Alpha's Coal and Coke Standards were prepared and analyzed in accordance with ASTM procedures. All standards are accompanied with a certificate of analysis and traceable to NIST whenever possible.



Alpha has a variety of reference materials in other materials such as cement, limestone, rubber, plant tissue and much more. Contact Alpha today for a complete listing of our products for LECO® instruments.

COAL AND COKE STANDARDS – SULFUR ONLY

Results reported on a dried basis **COAL STANDARDS** 50 grams/bottle

ALPHA NO. Dried Basis	Mean µg/g Mercury	Mean µg/g Chlorine	Mean Weight % Sulfur	Mean Weight % Ash
AR-3701	0.09	1562	1.04	7.22
AR-3702	0.10	1713	0.77	6.45
AR-3703	0.12	165	0.45	7.64
AR-3704	0.13	107	1.17	10.31
AR-3705	0.19	239	4.71	11.80

AR-1700	0.30% Range
AR-1701	0.50% Range
AR-1702	0.70% Range
AR-1703	0.85% Range
AR-1704	1.00% Range
AR-1705	1.50% Range
AR-1706	2.00% Range

AR-1707	2.50% Range
AR-1708	3.00% Range
AR-1709	3.50% Range
AR-1710	4.50% Range
AR-1711	5.00-5.50%
AR-1712	5.75-6.00%
AR-1713 Lignite	1.25% Range

C,H, & N COAL STANDARDS 25 grams per bottle

ALPHA NO.	CARBON	HYDROGEN	NITROGEN
AR-1905	76.480	5.30	1.66
AR-1906	71.59	4.76	1.17
AR-1907	69.62	4.56	1.11
AR-1908	69.96	4.83	0.92

COAL STANDARDS FOR CHLORINE

50 grams per bottle

ALPHA NO.	% CHLORINE
AR-1910	0.0511
AR-1911	0.1481
AR-1912	0.24

COKE STANDARDS

AR-719	0.70% Range
AR-720	0.90% Range
AR-723	0.50% Range

Values listed are nominal. The exact chemistry is listed on each bottle. All standards are traceable to NIST if possible. Values listed are approximate and may vary somewhat on any given bottle. All standards minus 60 mesh.

FOR CURRENT VALUES CLICK HERE

PETROLEUM COKES % Present

All Pet Cokes are 60 mesh. 50 grams per bottle.

ALPHA NO.	S	ASH	VOL. MAT.	BTU POUND	FIXED CARBON	C	H	N	NI	Fe	V	Ca	Si
AR-742B	Green	0.89	0.09	9.67	-	93.81	1.37	3.76	0.0068	0.0129	0.0022	0.0037	0.0081
AR-744	Calcined	1.91	0.55	0.33	14,216	96.10	0.14	1.27	145	1856	167	168	220
AR-745	Green	0.49	0.11	5.81	15,001	95.28	1.83	0.67	49.4	148.28	13.4	30.5	65.5
AR-747	Green	4.03	0.56	11.97	15,463	90.87	3.83	1.13	191	246	155	246	375
AR-748	Calcined	2.75	0.33	0.51	-	-	-	-	0.0122	0.0332	0.0310	0.0120	0.0315
AR-756	Green	5.27	0.92	6.52	14,494	89.60	1.66	1.90	2.90	317	1675	105	386

ALPHA NO.	DESCRIPTION	% SULFUR
AR-2712	Calcined Pet Coke	0.45%
AR-2713	Green Pet Coke	0.50%
AR-2714	Green Pet Coke	0.90%
AR-2715	Green Pet Coke	1.20%
AR-2716	Green Pet Coke	2.47%

ALPHA NO.	DESCRIPTION	% SULFUR
AR-2717	Green Pet Coke	2.21%
AR-2719	Calcined Pet Coke	1.85%
AR-2720	Green Pet Coke	4.32%
AR-2721	Green Pet Coke	5.56%
AR-2722	Calcined Pet Coke	2.80%
AR-2723	Green Pet Coke	5.16%

PROX COAL AND COKE STANDARDS

Coal Standards – minus 60 mesh, 50 grams per bottle. . . results reported on a dried basis.

ALPHA NO.	% SULFUR	% ASH	% VOLATILE MATTER	FIXED CARBON	BTU
AR-1720	0.29	5.898	42.74	51.54	12,054
AR-1721	0.46	7.40	42.67	49.93	11,688
AR-1722	0.85	21.50	21.80	56.85	12,140
AR-1723	1.06	7.03	36.33	56.64	14,233
AR-1724	1.54	4.58	38.12	57.41	14,382
AR-1726	1.93	18.31	24.31	57.01	12,335
AR-1727	2.49	12.03	36.11	51.86	12,816
AR-1728	2.99	8.98	43.01	43.17	13,260

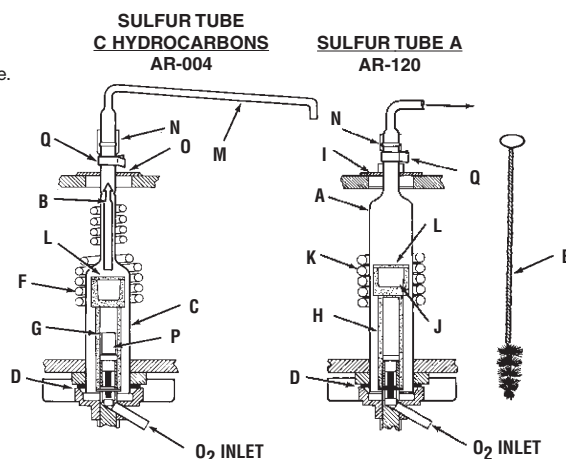
ALPHA NO.	% SULFUR	% ASH	% VOLATILE MATTER	FIXED CARBON	BTU
AR-1729	3.48	4.97	42.65	52.35	13,876
AR-1730	4.84	8.98	43.01	43.17	13,260
AR-1731	5.51	45.14	20.00	34.86	7,797.67
AR-1732	6.67	45.88	20.18	33.935	7,494.67
AR-1933 Lignite	0.61	7.56	38.38	54.06	13,594
AR-732	0.59	7.84	0.63	91.38	13,168
AR-733	0.67	8.52	0.60	90.88	12,489
AR-734	0.81	6.73	0.56	92.71	12,966

PRODUCTS FOR SULFUR TITRATORS

Typical older style combustion tubes and furnace parts. Alpha offers a complete line of accessories and supplies for carbon and sulfur determinators. These drawings will help assist your selection of the exact Alpha products for your own application. If you have any questions regarding proper selection of items, please consult the complete cross reference in this catalog or call Alpha today for expert help at 1-800-833-3083.

Shown below are cross sections of quartz combustion tubes and coils used for sulfur, carbon and sulfur in hydrocarbon determinators. The carbon combustion tube has a jet built into the neck that directs a stream of oxygen into the crucible to speed combustion. The sulfur in hydrocarbon combustion neck contains a quartz-enclosed carbon ignitor. The ignitor heats in the induction field to burn off hydrocarbon vapors, insuring complete combustion of the sample.

- A. **AR-120** (550-120) SULFUR COMBUSTION TUBE. Uses same components as AR-122 (see drawing).
- B. **AR-900** (519-005) IGNITOR. Does not swell. Fits Alpha's AR-004 (519-004) combustion tube.
- C. **AR-004** (519-004) SULFUR COMBUSTION TUBE. Intended for use in the analysis of sulfur in hydrocarbons.
- D. **AR-113** (521-113) SILICONE RING. For use on all three combustion tubes.
- E. **AR-022** (501-082) COMBUSTION TUBE BRUSH. A generous supply of brass bristle wrapped on to a 305mm shaft.
- F. **AR-031** (501-031) HYDROCARBON COIL. To fit ignitor.
- G. **AR-009** (519-009) PEDESTAL. For use in AR-004 combustion tube. 57mm (2")
- H. **AR-124** (550-124) PEDESTAL. For use in AR-120 and AR-122 combustion tubes, 63.5mm (2 1/2")
- I. **AR-814** (761-814) UPPER ADAPTER.
- J. **AR-3818** (528-018) CRUCIBLE.
- K. **AR-006** (566-008) REGULAR COIL. For carbon and sulfur in metals.
- L. **AR-042** (528-042) CRUCIBLE COVER.
- M. **AR-106** (773-106) DELIVERY TUBE. From combustion tube to float valve.
- N. **AR-110** (501-110) SILICONE TUBING. 10mm I.D.
- O. **AR-328** (528-328) UPPER ADAPTER L.
- P. **AR-123** (550-123) PEDESTAL INSERT.
- Q. **AR-165** (550-165) SPRING CLIP.



USEFUL ITEMS FOR SULFUR TITRATORS

AR-018 DETACHABLE SPLASHPROOF DEVICE
For most sulfur titrators. This handy device eliminates the corrosive splash from vessel and extends indefinitely the life of the titrator's metal cabinet. Easily installed and removed for cleaning. A must for all concerned operators.

AR-106 DELIVERY TUBE (773-106)
Ideal for use with sulfur titrators. It eliminates blank variations caused by SO₂ gas stream contact with rubber or Tygon tubing. The right angle bend portion is elongated to accommodate halogen scrubbers if customers desire or can accommodate more glass wool. Also is convenient for application of heater tape to reduce moisture condensation and improves recovery of SO₂.

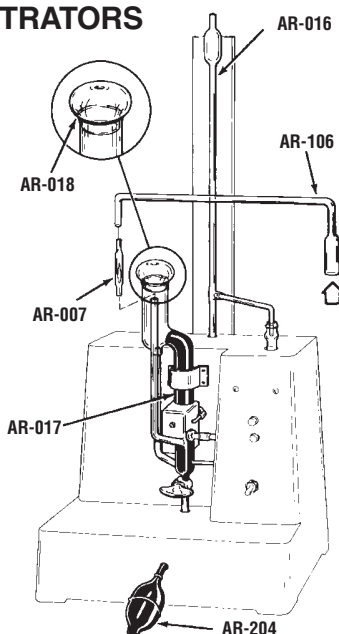
AR-017 COMPLETE TITRATION VESSEL (518-030)
Fits models 532 and 518.

AR-020 COMPLETE TITRATION VESSEL
Fits Alpha-Matic Sulfur Titrator, model AR-532

AR-016 KIO₃ BURETTE (518-016)

AR-021 TITRATION BURET FOR AR-532
Fits Alpha-Matic Sulfur Titrator, model AR-532

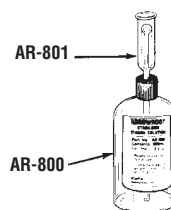
AR-007 DETACHABLE FLOAT VALVE (503-007)
Prohibits back-flow of solution to furnace.



AR-800 ARROWROOT STARCH SOLUTION (501-101)

Ready to use and has a shelf life of over 6 months. Just attach the pipette and squeeze away. The solution contains the exact amounts of starch and KI. Sold in 500mL polyethylene bottles. Save many hours by eliminating the messy time-consuming task of preparing your own starch solution by use of this product. For direct use with AR-801.

AR-801 STARCH DISPENSING PIPETTE (533-104)
5mL glass dispensing pipettes. Easily filled by squeezing the bottle...when released, the liquid self-zeros in the pipette. Fits directly to Alpha's easy to use pre-mixed starch solution.



INDUCTION COILS

Alpha has furnace coils for most common determinators. Our high quality induction coils are made of virgin copper with a unique ceramic coating to insure long life.



- A. **AR-809** (774-809) HYDRO-CARBON COIL for HF10/20
- B. **AR-006** (566-008) STANDARD COIL for carbon and sulfur analysis on older units up to CS-46, EC-12 and HF10/20
- C. **AR-031** (501-031) HYDRO-CARBON COIL with extra winding to accommodate ignitor. Used with titrators running coal and oil analysis.
- D. **AR-129** (776-129) COIL for CS-144-444

PURIFYING TRAIN

AR-906 (516-000) PURIFYING TRAIN
Standard design with rotometer tower, drying tower and acid tower. For precise metering and drying of oxygen for combustion analysis. Complete unit consists of the following train parts. Additional train parts and supplies may be purchased separately.

TRAIN PARTS

- A. **AR-506** (516-006) ACID TOWER for H₂SO₄.
- B. **AR-505** (516-005) DRYING TOWER for AlphaSolve[®] and Magnesium Perchlorate.
- C. **AR-504** (516-004) ROTOMETER TOWER, complete with ball stop & roto-ball. Calibrated from 0 to 2 1/2 liters per minute.
- D. **AR-067** (501-067) ROTOMETER BALL ONLY.

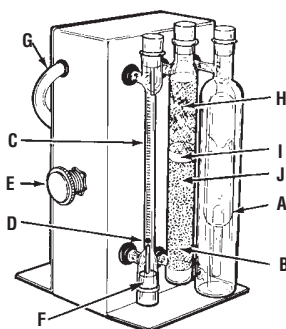
E. **AR-507** (516-063) VALVE ASSEMBLY.
All items fit both LECO[®] and Alpha purifying trains.

F. **AR-259** ROTO-BALL STOP ASSEMBLY

G. **AR-111** SILICONE TUBING. Highly resistant to ozone cracking -seldom needs changing once installed. - 5mm I.D.

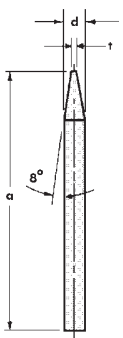
TRAIN SUPPLIES

- H. **AR-171** (501-171) MAGNESIUM PERCHLORATE. For absorbing moisture - 500g bottle.
- (I) **AR-081** (501-081) GLASS WOOL for isolating reagents and containing fines - 454g.
- (J) **AR-169** (502-176) ALPHASOLVE[®] for absorption of CO₂ and other acid gases. 250g bottle. 8 - 20 mesh.



SUPPLIES FOR SPECTROGRAPHIC ANALYSIS

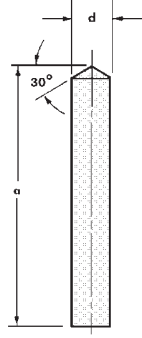
ELECTRODES



AR-8728

	mm	inch
a	38.1	1.500
d	3.05	.120
t	—	—

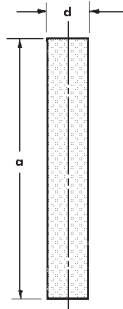
ASTM C-1
(RW0047)
(0001281)



AR-8731

	mm	inch
a	38.1	1.500
d	6.15	.242

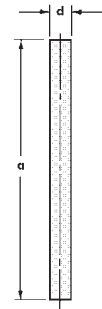
ASTM C-2
(RW0029)
(0001286)



AR-8732

	mm	inch
a	38.1	1.500
d	6.15	.242

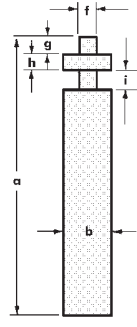
ASTM C-3
(RW0011)



AR-8734

	mm	inch
a	38.1	1.500
d	3.05	.120

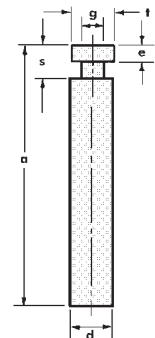
ASTM C-6
(RW0012)
(000899)



AR-8735

	mm	inch
a	38.1	1.500
b	6.15	.242
f	2.38	0.094
g	2.38	0.094
h	2.38	0.094
i	2.38	0.094

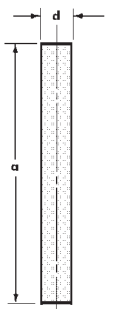
ASTM C-7
(001452)



AR-8736

	mm	inch	mm	inch
a	38.1	1.500	e	—
d	6.15	.242	m	—
e	2.38	.094	s	4.76
g	3.18	.125	t	6.15

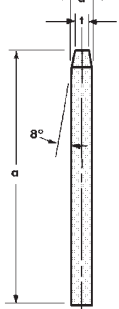
ASTM C-8
(RW 0027)



AR-8737

	mm	inch
a	38.1	1.500
d	4.57	.180

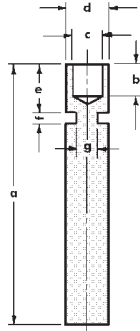
ASTM C-9
(RW0013)



AR-8742

	mm	inch
a	38.1	1.500
d	3.05	.120

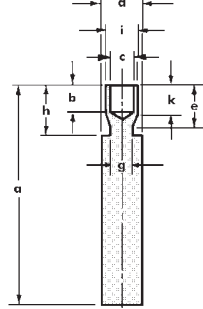
ASTM S-1
(RW0010)
(001334)



AR-8743

	mm	inch	mm	inch
a	38.1	1.500	e	6.35
b	3.97	.156	f	1.59
c	4.57	.180	g	3.05
d	6.15	.242	v	0.079cm

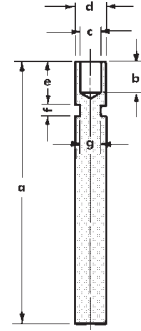
ASTM S-12
(RW0006)
(001225)



AR-8744

	mm	inch	mm	inch
a	31.75	1.250	g	3.18
b	3.97	.156	h	7.14
c	3.45	.136	i	4.57
d	6.15	.242	k	4.76
e	6.35	.250	v	0.034cm

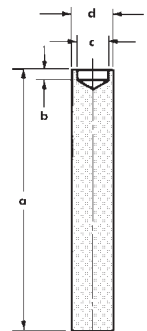
ASTM S-13
(RW0002)
(001293)



AR-8745

	mm	inch	mm	inch
a	38.1	1.500	e	6.35
b	4.76	.187	f	1.59
c	3.05	.120	g	3.05
d	4.57	.180	v	0.037cm ³

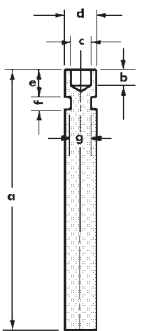
ASTM S-14
(RW0005)
(001270)



AR-8750

	mm	inch
a	38.1	1.500
b	1.58	.062
c	4.57	.180
d	6.15	.242
v	—	0.033cm ³

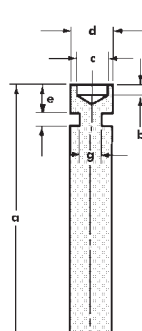
ASTM S-5
(RW0035)
(001571)



AR-8746

	mm	inch	mm	inch
a	38.1	1.500	e	3.97
b	2.38	.094	f	1.59
c	3.05	.120	g	3.18
d	4.57	.180	v	0.020cm ³

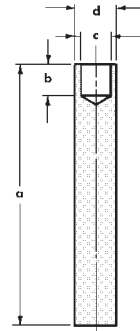
ASTM S-15
(RW0004)
(000693)



AR-8749

	mm	inch	mm	inch
a	38.1	1.500	e	3.97
b	1.59	.063	f	1.59
c	4.57	.180	g	3.05
d	6.15	.242	v	0.036cm ³

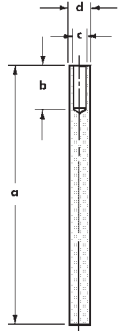
ASTM S-4
(RW0042)
(001332)



AR-8751

	mm	inch
a	38.1	1.500
b	4.8	.187
c	4.57	.180
d	6.15	.242
v	—	0.085cm ³

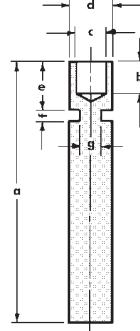
ASTM S-8
(RW0001)
(001327)



AR-8752

	mm	inch
a	38.1	1.500
b	6.35	.250
c	2.44	.096
d	3.05	.120
v	—	0.032cm ³

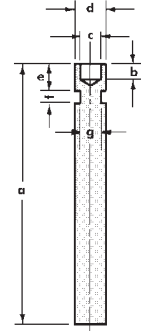
(RW0034)
(001394)



AR-8753

	mm	inch	mm	inch
a	38.1	1.500	e	7.14
b	4.76	.187	f	1.59
c	4.57	.180	g	3.18
d	6.15	.242	v	0.093cm ³

(RW0043)
(001395)



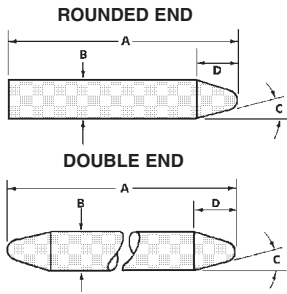
AR-8754

	mm	inch	mm	inch
a	38.1	1.500	e	4.76
b	2.38	.094	f	1.59
c	3.18	.125	g	2.36
d	4.57	.180	v	0.021cm ³

(RW0041)
(002052)

SUPPLIES FOR SPECTROGRAPHIC ANALYSIS

ELECTRODES



REF NO.	CARBONE®	RINGSORFF®	TYPE	A	B	C	D
AR-8733	001235	N/A	Rounded	1.500"	0.242"	15°	N/A
AR-8729	001686	N/A	Rounded	1.500"	0.120"	15°	N/A
AR-8730	001480	N/A	Rounded	1.500"	0.180"	15°	0.156"
AR-8755	001706	N/A	Rounded	2.000"	0.180"	15°	0.156"
*AR-8756	003321	N/A	Rounded	2.000"	0.180"	15°	0.156"
*AR-8757	002210	N/A	Rounded	2.000"	0.242"	15°	N/A

*Double End

DCP ELECTRODE



AR-8726 (GRAPHITE ELECTRODE)

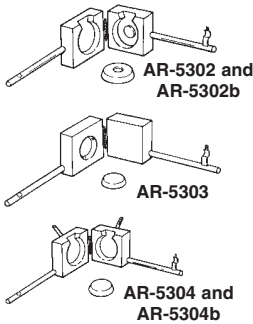
MAGNETIC HOLDER



AR-5510
MAGNETIC HOLDER

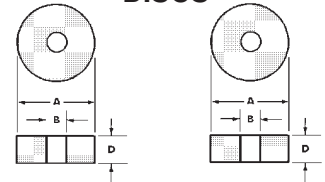
This holder was developed to save fingers from grinding and burning, when surfacing samples on a grinding wheel or belt sander. The 40 lb. pull of the magnet, holds the sample. The retaining shield keeps the sample from sliding. A screw is used to break the magnetic field which allows removal of the sample from the powerful magnet. The two inch diameter is a convenient size for holding in the hand.

SAMPLE DISC/PIN MOLDS FOR ANALYSIS



REF. NO.	TYPE/SHAPE	DIMENSIONS	USE
AR-5302	Vertical Pour (steel) Disc/Recess	0.25" H x 2.5" D Recess .062" Deep 1"D	Aluminum, Lead, Magnesium Zinc Alloys
AR-5302b	Vertical Pour (steel) Disc (No Recess)	0.25" H x 2.5" D	Same as AR-5302
AR-5303	Horizontal Pour (steel) Disc/Recess	0.375" H x 1.2" D	Same as AR-5302
AR-5304	Vertical Pour (copper) Air/Water Cooled Pin and Disc	Pin: 1.75" L x 0.187" D Disc: 0.25" H x 1.25" D	Pin Suitable for C,S,H,O,N Rapid Chill Disc for Ferrous Base Analysis
AR-5304b	Vertical Pour (copper) Air/Water Cooled Pin and Disc	Pin: 1.75" L x 0.187" D Disc: 0.375" H x 1.5" D	Same as AR-5304

ROTRODE ROTATING DISCS



AR-8738

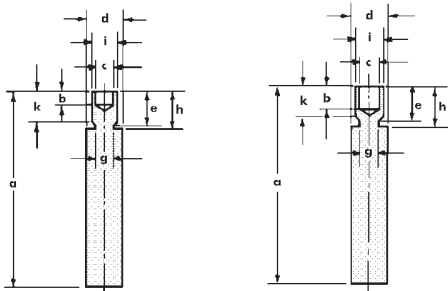
AR-8739

	mm	inch		mm	inch
A	12.5	0.492	A	12.5	0.492
B	3.18	0.125	B	3.18	0.125
D	3.18	0.125	D	5.08	0.200

ASTM D-1
(RW0058)
(006806-5)

ASTM D-2
(RW0057)
(006806)

HARVEY SERIES



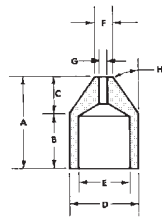
AR-8740

AR-8741

	mm	inch	mm	inch
a	31.75	1.250	g	3.18 .125
b	2.31	.091	h	6.35 .250
c	3.0	.118	f	3.91 .154
d	6.15	.242	k	5.13 .202
e	5.54	.218	v	0.014cm ²

	mm	inch	mm	inch
a	31.75	1.250	g	3.18 .125
b	3.75	.048	h	6.35 .250
c	3.45	.136	f	4.57 .180
d	6.15	.242	k	4.84 .191
e	5.54	.218	v	0.038cm ²

BOILER CAP

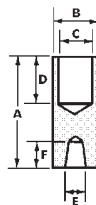


AR-8727

	mm	inch	mm	inch
A	11.11	0.437	E	4.58 0.1805
B	7.14	0.281	F	1.68 0.066
C	2.36	0.093	G	1.02 0.040
D	6.15	0.242	H	— 42°

(001304)

ANODE CUPS

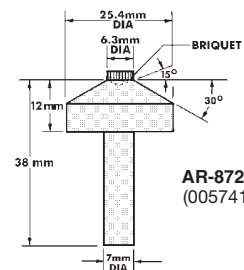


REF NO.	CARBONE®	RINGSORFF®
AR-8747	001319	RW0044
AR-8748	001115	RW0009
AR-8758	N/A	N/A

A	B	C	D	E	F
0.620	0.242	0.160	0.280	0.125	0.160
0.620	0.242	0.187	0.280	0.125	0.160
0.620	0.242	0.187	0.031	0.125	0.160

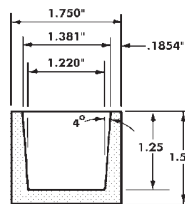
PELLET HOLDER

ANALYSIS OF REFINED COPPER BY BRIQUET TECHNIQUE



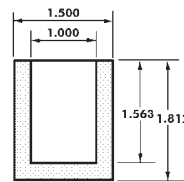
AR-8725
(005741)

GRAPHITE CRUCIBLES, RODS, POWDER



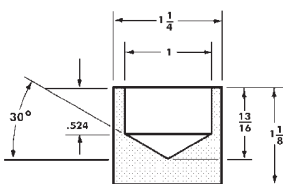
AR-8715
(HIGH PURITY)

AR-8715
(LOW PURITY)



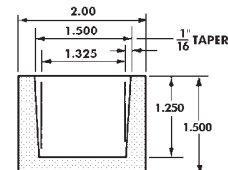
AR-8717
(HIGH PURITY)

AR-8718
(LOW PURITY)



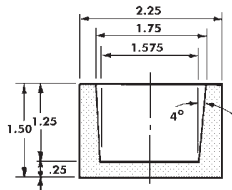
AR-8719
(HIGH PURITY)

AR-8720
(LOW PURITY)



AR-8721
(HIGH PURITY)

AR-8722
(LOW PURITY)



AR-8723
(HIGH PURITY)

AR-8724
(LOW PURITY)

HIGH PURITY GRAPHITE RODS

REF. NO.	GRAPHITE ROD SIZE	CARBONE® P/N
AR-8701	0.120" x 12" (3.05mm x 305mm)	014144-100
AR-8702	0.180" x 12" (4.57mm x 305mm)	014144-102
AR-8703	0.242" x 4" (6.15mm x 101.6mm)	014144-52
AR-8704	0.242" x 6" (6.15mm x 152.4mm)	014144-54
AR-8705	0.242" x 12" (6.15mm x 305mm)	014144-56
AR-8759	0.500" X 12" (12.7mm X 305mm)	—

SEMI-PURE GRAPHITE RODS

REF. NO.	GRAPHITE ROD SIZE	CARBONE® P/N
AR-8706	0.120" x 12" (3.05mm x 305mm)	014144-101
AR-8707	0.180" x 12" (4.57mm x 305mm)	014144-102
AR-8708	0.242" x 12" (6.15mm x 305mm)	014144-59

GRAPHITE POWDER

REF. NO.	MESH SIZE	GRADE	CARBONE® P/N
AR-8709	100	Graphite Pelletizing	014145-03
AR-8710	200	Graphite Pelletizing	014145-04
AR-8711	325	Graphite Pelletizing	—
AR-8712	100	Graphite Mixing	014145-07
AR-8713	200	Graphite Mixing	014145-08
AR-8714	325	Graphite Mixing	014145-09

Alpha Products for Metallography



SOLUTION DISPENSER



POLISHER/GRINDER



MOUNTING PRESS



CUT-OFF SAW

Alpha offers a **complete line of products** for metallography. **No major supplier of metallographic equipment and supplies makes any of their abrasives, diamond or mounting compounds, polishing cloths or much else of the other over-priced items they supply under their fancy labels.** Alpha now offers you a **quality line** of products from a select number of **proven suppliers**. These **premium grade products** will equal or surpass those you presently use. We now have a new line of cut-off machines, polisher/grinders with auto polishing attachments, mounting presses, specimen cabinets, belt grinders and more, **all at affordable prices.**

HONEST PRICES SHIPMENT FROM STOCK QUALITY PRODUCTS