

**CONSUMABLES**



**Thermo Scientific  
Trace Elemental  
and Inorganic  
Mass Spectrometry  
Parts and Consumables**



# Trace Elemental and Inorganic Mass Spectrometry

Parts and Consumables

## Thermo Scientific iCAP 6000 Series ICP-OES

---

## Thermo Scientific iCE 3000 Series AA

---

## Thermo Scientific M and S Series AA

---

## Thermo Scientific XSERIES 2 ICP-MS

---

## Thermo Scientific ELEMENT GD

---

## Thermo Scientific ELEMENT 2 / XR

---

## Thermo Scientific NEPTUNE *Plus*

---

## Thermo Scientific TRITON

---

Welcome to the Thermo Scientific Trace Elemental and Inorganic Mass Spectrometry Parts and Consumables Catalog

Thank you for choosing Thermo Scientific for your instrument needs. Because success and satisfaction with your Thermo Scientific instrument is our key objective, all our accessories, and consumables are performance-certified and fully warranted to perform to our products' rigorous design specifications. They are designed to provide unparalleled longevity, precision manufactured for ultimate sensitivity and reproducibility, and tested to ensure proper fit and unfailing performance every time.

At Thermo Scientific, we understand that timing is everything when it comes to placing a parts or consumable orders. Our catalogue incorporates easy to navigate sections, including photos to help you identify the correct part or consumable. The ordering guide section is here as well to simplify placing and receiving assistance with your order.

You can now provide your instrument with the finest quality parts and consumables available quickly and with confidence!

*The Thermo Scientific Service Team*

## Thermo Scientific iCAP 6000 Series ICP-OES

---

<b>EMT Torch Liquid Sample Introduction Kits</b> .....	<b>1 – 5</b>
Radial EMT Standard, Organics, Volatile Organics, HF-Resistant, High Solids .....	1 – 2
Duo EMT Standard, Organics, Volatile Organics, HF-Resistant, High Solids.....	4 – 5
<b>EMT Torch Kits</b> .....	<b>3, 6</b>
EMT Torch Holder Assembly, EMT Center Tube Holder Assembly, EMT Torch Center Tube (1.0, 1.5, 2.0, 2.0 Ceramic)	
<b>Sample Introduction</b> .....	<b>7 – 9</b>
Torches, Cones, Spray Chambers, Nebulizers, Center Tubes, Tubing, and Related Parts	
<b>Chillers</b> .....	<b>10</b>
Spray Chamber Chillers, Water Recirculator	
<b>Sampling Accessories</b> .....	<b>10 – 11</b>
Solid Sampling and Autosampling Parts and Accessories	
<b>Hydride Accessories</b> .....	<b>12</b>
Systems, Pump Tubing	
<b>Software/Hardware</b> .....	<b>13</b>
iTEVA Software Upgrade, Data Station	
<b>iCAP 6000 Series Manuals</b> .....	<b>13</b>
Operators Manual, Pre-installation Manual	

## Thermo Scientific iCE 3000 Series AA

---

<b>Hollow Cathode Lamps</b> .....	<b>14 – 18</b>
Single-Element Coded/Uncoded, Multi-Element Coded/Uncoded, Value-Range Uncoded	
<b>Deuterium Lamps</b> .....	<b>19</b>
<b>Graphite Furnace Cuvettes and Supplies</b> .....	<b>19 – 20</b>
<b>Sample Introduction</b> .....	<b>21 – 23</b>
Gas Handling Supplies, Flame Compartment Parts, Sample Introduction Parts	
<b>iCE 3000 Series Parts and Accessories</b> .....	<b>24 – 25</b>
<b>Validation Accessories</b> .....	<b>26 – 29</b>
<b>Accessory Mounts</b> .....	<b>29</b>
<b>VP100 Parts and Accessories</b> .....	<b>30 – 31</b>
<b>Major Accessories</b> .....	<b>31 – 35</b>
Wash Accessory, Autodilutor, Microsampling Accessory, Slotted Tube Atom Trap, Variable Flow Auxiliary Oxidant Kit, Automization Cell, Graphite Furnaces	
<b>Autosamplers</b> .....	<b>36 – 39</b>
Flame, Furnace and Vapor Autosamplers and Autosampler Accessories	
<b>Software</b> .....	<b>40</b>

## Thermo Scientific M and S Series AA

---

<b>Hollow Cathode Lamps</b> .....	41 – 45
Single-Element Coded/Uncoded, Multi-Element Coded/Uncoded, Value-Range Uncoded	
<b>Deuterium Lamps</b> .....	46
<b>Graphite Furnace Cuvettes and Supplies</b> .....	46 – 47
<b>Sample Introduction</b> .....	48 – 50
Gas Handling Supplies, Flame Compartment Parts, Sample Introduction Parts	
<b>M Series Parts and Accessories</b> .....	51
<b>S Series Parts and Accessories</b> .....	52
<b>Validation Accessories</b> .....	53 – 56
<b>Accessory Mounts</b> .....	57
<b>VP100 Parts and Accessories</b> .....	58 – 59
<b>Major Accessories</b> .....	60 – 62
Autodilutor, Slotted Tube Atom Trap, Variable Flow Auxiliary Oxidant Kit, Automization Cell, Graphite Furnaces Spare Parts	
<b>Autosamplers</b> .....	63 – 67
Furnace and Vapor Autosamplers and Autosampler Accessories	
<b>Software</b> .....	68

## Thermo Scientific XSERIES 2 ICP-MS

---

<b>Kits</b> .....	69 – 73
Consumables Kits, Basic Hydride Kit, Online Internal Standard Kit, Organics Kit, Injector kits (Alumina, Sapphire, Platinum), Peltier Cooling Kits, Upgrade Kit XSERIES-SERIES 2, Miscellaneous (Miscellaneous Kits & Miscellaneous Spares)	
<b>Major Accessories</b> .....	74 – 75
Autodiluter Kits, CCT Upgrade Kit for XSERIES, Assy Additional Gas Module, Autosampler HPLC Coupling Kit, GC-ICP-MS Coupling Kit, Xi Interface Kit, Kit chiller 50Hz, Kit chiller 60Hz	
<b>Samples introduction</b> .....	76 – 80
Xt Cones, Xs Cones, Pt Tipped Cones, Standard Spray Chamber, Inert Spray Chamber Torch & Screen, Nebulizers, Sample Handling Systems, Inert Sapphire/PFA Sample Intro.Sys.	
<b>Validation Accessories</b> .....	80
Validation Kits	

## Thermo Scientific ELEMENT GD

---

<b>Consumables</b> .....	<b>81 – 82</b>
High Purity Consumables Kit, Basic Consumables Kit, Consumables Kit	
<b>Spare Parts</b> .....	<b>83 – 84</b>
Spare Parts Kit, Plug-In Extraction Lens, Plug-In Cone, Miscellaneous	
<b>Accessories</b> .....	<b>85</b>
Accessories GD Source	

## Thermo Scientific ELEMENT 2 / XR

---

<b>Consumables</b> .....	<b>86 – 87</b>
Consumables Kit ELEMENT2, Consumables Kit ELEMENT XR	
<b>Spare Parts</b> .....	<b>88</b>
Spare Parts Kit	
<b>Accessories</b> .....	<b>89 – 91</b>
Cones, Autosampler, Nebulizer, Sample Introduction, Miscellaneous	

## Thermo Scientific NEPTUNE *Plus*

---

<b>Spare Parts &amp; Consumables</b> .....	<b>92 – 96</b>
Installation Kit, Spares and Consumables Kit, Frontend, Cooling System, Vacuum System Vacuum Connection Amplifier, ICP Module – others, Extraction lens, ESA Module – Others Multicollector, Multicollector Module, Ion Current Amplifier Unit	
<b>Sample Introduction</b> .....	<b>97</b>
Sample Solution, Inlet System, Interface	

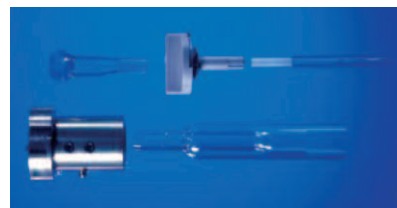
## Thermo Scientific TRITON

---

<b>Consumables</b> .....	<b>98 – 101</b>
Spare Parts / Consumables Kit, Consumables, Filaments, Gaskets	
<b>Spare Parts</b> .....	<b>102 – 103</b>
Multi-Ion Counting, Source Housing, Pumps, Basic Instrument Options	
<b>Installation</b> .....	<b>104</b>
Installation Kit	

## Radial Sample Handling Kits

The Thermo Scientific iCAP 6000 Series offers optimized sample handling kits for the main application types. These are all plug and play, self-aligning modules that make routine cleaning and alignment operations extremely simple. The semi-demountable torch modules (original Tulip design and the new EMT design) do not require the manual making and breaking of gas connections during maintenance as the torch base clips into place while automatically making gas-tight connections. A software controlled torch aligning routine completes the process. Note: The new EMT Torch design is a standard component of the Sample Handling Kits. This torch design has been developed to provide enhanced matrix tolerance and analytical performance for organic solvents and high dissolved solids samples.



Radial view systems are the preferred type for some organics analysis, such as used lubricating oils. Also, in situations where high interferences may be encountered, it is likely that the Radial view type will minimize their effect. Two types of pump tubing are available, one for use with aqueous-based solutions and one for organics-based solutions. Whatever the sample, the iCAP 6000 Series has the answer.



### Ordering Information

Description	Part Number
Radial EMT Standard Kit <i>For normal aqueous sample solutions containing relatively low acid contents (except for hydrofluoric acid) or up to 3% m/v dissolved solids. The concentric glass nebulizer is not suitable for solutions containing large particulates due to the risk of blockages. The kit includes:</i>	8423 120 51791
<i>EMT Radial Quartz Torch</i>	8423 120 51741
<i>EMT Quartz Center Tube, 1.5 mm ID</i>	8423 120 51951
<i>EMT Torch Holder Assembly</i>	8423 155 50171
<i>EMT Center Tube Holder Assembly</i>	8423 155 50181
<i>Radial Spray Chamber Adapter</i>	8423 120 51151
<i>Glass Spray Chamber</i>	8423 120 51411
<i>Concentric Glass Nebulizer</i>	8423 120 51431
<i>Ball Joint Clip</i>	8423 120 51421
<i>Pump Sample Tubing, Aqueous</i>	8423 120 51511
<i>Pump Drain Tubing, Aqueous</i>	8423 120 51521
Radial EMT Organics Kit <i>For sample solutions containing relatively non-volatile organic solvents, such as xylene, toluene, white spirit and kerosene. These solvents are the ones most likely to be used for lubricating oils analysis, both of additive compounds in fresh oil and wear metals in used oil. Radial view ICP systems are better suited to this type of analysis. The kit includes:</i>	8423 120 51701
<i>EMT Radial Quartz Torch</i>	8423 120 51741
<i>EMT Quartz Center Tube, 1 mm ID</i>	8423 120 51941
<i>EMT Torch Holder Assembly</i>	8423 155 50171
<i>EMT Center Tube Holder Assembly</i>	8423 155 50181
<i>Radial Spray Chamber Adapter</i>	8423 120 51151
<i>Spray Chamber, Organics</i>	8423 120 51311
<i>V-Groove Nebulizer</i>	8423 120 51321
<i>Ball Joint Clip</i>	8423 120 51421
<i>Pump Sample Tubing (Viton), Organics</i>	8423 120 51531
<i>Pump Drain Tubing (Viton), Organics</i>	8423 120 51541

Continued

## Radial Sample Handling Kits

Continued



### Ordering Information

Description	Part Number
Radial EMT Volatile Organics Kit <i>For sample solutions containing the more volatile organic solvents, such as some ketones, alcohols and aldehydes. These are often found in petrochemical analysis, both for by-products such as plastics and for petrol itself. An additional cold water supply or chiller will be required to cool the spray chamber. The kit includes:</i>	8423 120 51711
<i>EMT Radial Quartz Torch</i>	<i>8423 120 51741</i>
<i>EMT Quartz Center Tube, 1 mm ID</i>	<i>8423 120 51941</i>
<i>EMT Torch Holder Assembly</i>	<i>8423 155 50171</i>
<i>EMT Center Tube Holder Assembly</i>	<i>8423 155 50181</i>
<i>Concentric Glass Nebulizer</i>	<i>8423 120 51431</i>
<i>Pump Sample Tubing (Viton), Organics</i>	<i>8423 120 51531</i>
<i>Pump Drain Tubing (Viton), Organics</i>	<i>8423 120 51541</i>
Radial IsoMist Kit <i>Note: The Radial IsoMist Kit should be ordered separately from the Radial Volatile Organics Kit to cool the Spray Chamber.</i>	8423 120 51651
Radial EMT HF-Resistant Kit <i>For sample solutions containing uncomplexed hydrofluoric acid. These are typically obtained during the analysis of geological samples, soils, sediments, ceramics, bricks and cement together with some types of high temperature alloys. Components in contact with the solutions are made from resistant fluoro plastic and alumina ceramic. The kit includes:</i>	8423 120 51721
<i>EMT Radial Quartz Torch</i>	<i>8423 120 51741</i>
<i>EMT Quartz Center Tube, 2 mm ID, Ceramic</i>	<i>8423 120 51961</i>
<i>Radial Spray Chamber, HF</i>	<i>8423 120 51451</i>
<i>Mira Mist Nebulizer</i>	<i>8423 120 51471</i>
<i>Pump Sample Tubing, Aqueous</i>	<i>8423 120 51511</i>
<i>Pump Drain Tubing, Aqueous</i>	<i>8423 120 51521</i>
Radial EMT High Solids Kit <i>For the purposes of ICP analysis, high solids is defined as up to 20% m/v solutions, especially samples such as sea waters, brines and ground waters, geochemical samples and fusion mixtures. Used in conjunction with the argon humidifier (Part number 8423 120 52081) allows for extended analysis time. The kit includes:</i>	8423 120 51731
<i>EMT Radial Quartz Torch</i>	<i>8423 120 51741</i>
<i>EMT Quartz Center Tube, 2 mm ID</i>	<i>8423 120 51971</i>
<i>Radial Spray Chamber Adapter</i>	<i>8423 120 51151</i>
<i>Spray Chamber Organics</i>	<i>8423 120 51311</i>
<i>Aerosalt Nebulizer</i>	<i>8423 120 51331</i>
<i>Ball Joint Clip</i>	<i>8423 120 51421</i>
Argon Humidifier	8423 120 52081



## Radial EMT Torch Kits

These torch kits provide all components to enable simple transition from the original Tulip to the EMT torch design as required. Tulip and EMT torch designs are compatible on all iCAP 6000 Series instruments.

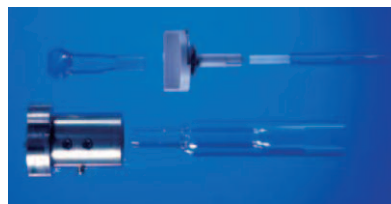
### Ordering Information

Description	Part Number
Radial EMT Torch Kit – Aqueous (Radial Parallel Torch Upgrade Kit)	8423 120 52021
<i>(x2) EMT Radial Torch</i>	8423 120 51741
<i>(x2) EMT Center Tube 1.5 mm ID</i>	8423 120 51951
<i>EMT Torch Holder Assembly</i>	8423 155 50171
<i>EMT Center Tube Holder Assembly</i>	8423 155 50181
Radial EMT Torch Kit – Organics (Radial Organics Parallel Torch Upgrade Kit)	8423 120 52011
<i>(x2) EMT Radial Torch</i>	8423 120 51741
<i>(x2) EMT Center Tube 1.0 mm ID</i>	8423 120 51941
<i>EMT Torch Holder Assembly</i>	8423 155 50171
<i>EMT Center Tube Holder Assembly</i>	8423 155 50181
Radial EMT Torch Kit – Volatile Organics (Radial Organics Parallel Torch Upgrade Kit)	8423 120 52011
<i>(x2) EMT Radial Torch</i>	8423 120 51741
<i>(x2) EMT Center Tube 1.0 mm ID</i>	8423 120 51941
<i>EMT Torch Holder Assembly</i>	8423 155 50171
<i>EMT Center Tube Holder Assembly</i>	8423 155 50181
Radial EMT Torch Kit – HF (Radial HF Parallel Torch Upgrade Kit)	8423 120 52041
<i>(x2) EMT Radial Torch</i>	8423 120 51741
<i>(x2) EMT Center Tube 2.0 mm (ceramic)</i>	8423 120 51961
<i>EMT Torch Holder Assembly</i>	8423 155 50171
<i>EMT Center Tube Holder Assembly</i>	8423 155 50181
Radial EMT Torch Kit – High Solids (Radial Parallel Torch Upgrade Kit)	8423 120 52031
<i>(x2) EMT Radial Torch</i>	8423 120 51741
<i>(x2) EMT Center Tube 2.0 mm ID</i>	8423 120 51971
<i>EMT Torch Holder Assembly</i>	8423 155 50171
<i>EMT Center Tube Holder Assembly</i>	8423 155 50181



## Duo Sample Handling Kits

The Duo view system of the iCAP 6000 Series offers the option of using either axial or radial view to provide the widest choice of alternatives. Furthermore, the iCAP 6000 Series has a number of optimized sample handling kits available, covering the main application types to reduce performance problems. These are all plug and play, self-aligning kits. Routine cleaning and alignment operations are extremely simple to carry out. The semi-demountable torch modules (original Tulip and new EMT Torch designs) simply clips into place while automatically making gas-tight connections. Note: The new EMT Torch design is a standard component of the Sample Handling Kits. This torch design has been developed to provide enhanced matrix tolerance and analytical performance for organic solvents and high dissolved solids samples.



The standard sample handling kit is fitted to all systems, and optional kits for organics, volatile organics, HF-based and high solids solutions are available to fit Duo view systems. The axial view mode is preferred for clean water analysis, such as drinking water, where it gives the best detection limits. However, in situations where high interferences may be encountered, the radial mode may provide better performance. For organics like lubricating oils, it is likely that the dedicated Radial view system is best. Two types of pump tubing are available, one for use with aqueous-based solutions and one for organics-based solutions. Whatever the sample, the iCAP 6000 Series has the answer.

### Ordering Information



Description	Part Number
Duo EMT Standard Kit <i>For normal aqueous sample solutions containing relatively low acid contents (except for hydrofluoric acid) or up to 3% m/v dissolved solids. The axial view system is especially good for clean (i.e. drinking) water and some environmental samples which require the best detection limits. The kit includes:</i>	8423 120 51891
<i>EMT Duo Quartz Torch</i>	8423 120 51841
<i>EMT Quartz Center Tube, 2 mm ID</i>	8423 120 51971
<i>EMT Torch Holder Assembly</i>	8423 155 50171
<i>EMT Center Tube Holder Assembly</i>	8423 155 50181
<i>Duo Spray Chamber Adapter</i>	8423 120 51251
<i>Glass Spray Chamber</i>	8423 120 51411
<i>Concentric Glass Nebulizer</i>	8423 120 51431
<i>Ball Joint Clip</i>	8423 120 51421
<i>Pump Sample Tubing, Aqueous</i>	8423 120 51511
<i>Pump Drain Tubing, Aqueous</i>	8423 120 51521
Duo EMT Organics Kit <i>For sample solutions containing relatively non-volatile organic solvents, such as xylene, toluene, white spirit and kerosene. The Duo option is not recommended for use in lubricating oils analysis, especially of wear metals in used oil. Dedicated radial view ICP systems are likely to be better suited. The kit includes:</i>	8423 120 51801
<i>Pump Drain Tubing, Aqueous</i>	8423 120 51521
<i>EMT Quartz Center Tube, 1 mm ID</i>	8423 120 51941
<i>EMT Torch Holder Assembly</i>	8423 155 50171
<i>EMT Center Tube Holder Assembly</i>	8423 155 50181
<i>Duo Spray Chamber Adapter</i>	8423 120 51571
<i>Spray Chamber, Organics</i>	8423 120 51311
<i>V-Groove Nebulizer</i>	8423 120 51321
<i>Ball Joint Clip</i>	8423 120 51581
<i>Pump Sample Tubing (Viton), Organics</i>	8423 120 51531
<i>Pump Drain Tubing (Viton), Organics</i>	8423 120 51541

Continued

## Duo Sample Handling Kits

Continued



### Ordering Information

Description	Part Number
Duo EMT Volatile Organics Kit <i>For sample solutions containing the more volatile organic solvents, such as some ketones, alcohols and aldehydes. These are often found in petrochemical analysis, both for by-products such as plastics and for petrol itself. An additional cold water supply or chiller is required to cool the spray chamber. The kit includes:</i>	8423 120 51811
<i>EMT Duo Quartz Torch</i>	8423 120 51841
<i>EMT Quartz Center Tube, 1 mm ID</i>	8423 120 51941
<i>EMT Torch Holder Assembly</i>	8423 155 50171
<i>EMT Center Tube Holder Assembly</i>	8423 155 50181
<i>Concentric Glass Nebulizer</i>	8423 120 51431
<i>Pump Sample Tubing (Viton), Organics</i>	8423 120 51531
<i>Pump Drain Tubing (Viton), Organics</i>	8423 120 51541
Duo IsoMist Kit <i>Note: The Duo IsoMist kit should be ordered separately from the Radial Volatile Organics Kit to cool the Spray Chamber.</i>	8423 120 51641
Duo EMT HF-Resistant Kit <i>For sample solutions containing uncomplexed hydrofluoric acid. These are typically obtained during the analysis of geological samples, soils, sediments, ceramics, bricks and cement together with some types of high temperature alloys. Components in contact with the solutions are made from resistant fluoro plastic and alumina ceramic. The kit includes:</i>	8423 120 51821
<i>EMT Duo Quartz Torch</i>	8423 120 51841
<i>EMT Quartz Center Tube, 2 mm ID, Ceramic</i>	8423 120 51961
<i>Duo Spray Chamber, HF</i>	8423 120 51461
<i>Mira Mist Nebulizer</i>	8423 120 51471
<i>Pump Sample Tubing, Aqueous</i>	8423 120 51511
<i>Pump Drain Tubing, Aqueous</i>	8423 120 51521
Duo EMT High Solids Kit <i>For the purposes of ICP analysis, high solids is defined as up to 20% m/v solutions, especially samples such as sea waters, brines and ground waters, geochemical samples and fusion mixtures. Used in conjunction with the argon humidifier (Part number 8423 120 52081) allows for extended analysis time. The kit includes:</i>	8423 120 51831
<i>EMT Duo Quartz Torch</i>	8423 120 51841
<i>EMT Quartz Center Tube, 2 mm ID</i>	8423 120 51971
<i>Duo Spray Chamber Adapter</i>	8423 120 51251
<i>Spray Chamber Organics</i>	8423 120 51311
<i>Aerosalt Nebulizer</i>	8423 120 51331
<i>Ball Joint Clip</i>	8423 120 51421
<i>Pump Sample Tubing, Aqueous</i>	8423 120 51511
<i>Pump Drain Tubing, Aqueous</i>	8423 120 51521
Argon Humidifier	8423 120 52081

## Duo EMT Torch Kits

These kits provide all torch components to enable a simple transition from the original Tulip to the EMT torch design as required. Tulip and EMT torch designs are compatible on all iCAP 6000 Series instruments.

### Ordering Information

Description	Part Number
Duo EMT Torch Kit – Aqueous (Duo Parallel Torch Upgrade Kit)	8423 120 51991
<i>(x2) EMT Duo Torch</i>	<i>8423 120 51841</i>
<i>(x2) EMT Center Tube 2.0 mm ID</i>	<i>8423120 51971</i>
<i>EMT Torch Holder Assembly</i>	<i>8423 155 50171</i>
<i>EMT Center Tube Holder Assembly</i>	<i>8423 155 50181</i>
Duo EMT Torch Kit – Organics (Duo Organics Parallel Torch Upgrade Kit)	8423 120 51981
<i>(x2) EMT Duo Torch</i>	<i>8423 120 51841</i>
<i>(x2) EMT Center Tube 1.0 mm ID</i>	<i>8423 120 51941</i>
<i>EMT Torch Holder Assembly</i>	<i>8423 155 50171</i>
<i>EMT Center Tube Holder Assembly</i>	<i>8423 155 50181</i>
Duo EMT Torch Kit – Volatiles Organics (Duo Organics Parallel Torch Upgrade Kit)	8423 120 51981
<i>(x2) EMT Duo Torch</i>	<i>8423 120 51841</i>
<i>(x2) EMT Center Tube 1.0 mm ID</i>	<i>8423 120 51941</i>
<i>EMT Torch Holder Assembly</i>	<i>8423 155 50171</i>
<i>EMT Center Tube Holder Assembly</i>	<i>8423 155 50181</i>
Duo EMT Torch Kit – HF (Duo HF Parallel Torch Upgrade Kit)	8423 120 52001
<i>(x2) EMT Duo Torch</i>	<i>8423 120 51841</i>
<i>(x2) EMT Center Tube 2.0 mm ID (Ceramic)</i>	<i>8423 120 51961</i>
<i>EMT Torch Holder Assembly</i>	<i>8423 155 50171</i>
<i>EMT Center Tube Holder Assembly</i>	<i>8423 155 50181</i>
Duo EMT Torch Kit – High Solids (Duo Parallel Torch Upgrade Kit)	8423 120 51991
<i>(x2) EMT Duo Torch</i>	<i>8423 120 51841</i>
<i>(x2) EMT Center Tube 2.0 mm ID</i>	<i>8423 120 51971</i>
<i>EMT Torch Holder Assembly</i>	<i>8423 155 50171</i>
<i>EMT Center Tube Holder Assembly</i>	<i>8423 155 50181</i>

## Sample Introduction Items

### Ordering Information

Description	Part Number
EMT Radial Torch <i>Quartz torch for use with iCAP 6000 Series Radial instruments only.</i>	8423 120 51741
Radial Torch (Tulip) <i>Quartz torch for use with iCAP 6000 Series Radial instruments only.</i>	8423 120 51141
Radial Spray Chamber Adapter <i>Adapter for connecting the spray chamber to center tube holder, for use with iCAP 6000 Radial instruments only.</i>	8423 120 51151
Radial Ceramic Cone <i>Replaceable ceramic cone forming the purgeable interface between the plasma and optical system. For use with iCAP 6000 Series Radial instruments only.</i>	8423 120 51151
EMT Duo Torch <i>Quartz torch for use with iCAP 6000 Series Duo instruments only.</i>	8423 120 51841
Duo Torch (Tulip) <i>ICP quartz torch for use with iCAP 6000 Series Duo instruments only.</i>	8423 120 51241
Duo Spray Chamber Adapter <i>Adapter for connecting the spray chamber to center tube holder, for use with iCAP 6000 Series Duo instruments only.</i>	8423 120 51251
Duo Ceramic Cone <i>Replaceable ceramic cone forming the purgeable interface between the plasma and optical system. For use with iCAP 6000 Series Duo instruments only.</i>	8423 120 51261
Organics Spray Chamber <i>Spray chamber with baffle to reduce the amount of sample that reaches the plasma. Compatible with all iCAP 6000 Series Spectrometers.</i>	8423 120 51311
V-Groove Nebulizer <i>Nebulizer intended for the analysis of samples containing very high solids (30% or more) or used oils. Compatible with all iCAP 6000 Series Spectrometers.</i>	8423 120 51321
Aerosalt Nebulizer <i>Nebulizer intended for the analysis of samples containing relatively high solids (up to 15%). Compatible with all iCAP 6000 Series Spectrometers.</i>	8423 120 51331
EMT Center Tube 1 mm ID <i>Center tube intended for use with organic samples (to be used in conjunction with the organics spray chamber). Note: only for use with the EMT Torch</i>	8423 120 51941
Center Tube 1 mm ID (Tulip Torch) <i>Center tube intended for use with organic samples (to be used in conjunction with the organics spray chamber). Note: only for use with the Tulip Torch</i>	8423 120 51341
EMT Center Tube 1.5 mm ID <i>Center tube intended for use with aqueous samples and provided as standard on iCAP 6000 Series Radial systems. Note: only for use with the EMT Torch.</i>	8423 120 51951
Center Tube 1.5 mm ID (Tulip Torch) <i>Center tube intended for use with aqueous samples. Note: only for use with the Tulip Torch.</i>	8423 120 51351

Continued

## Sample Introduction Items

Continued

### Ordering Information

Description	Part Number
EMT Ceramic Center Tube 2.0 mm ID <i>Ceramic center tube intended for the analysis of samples containing HF acid. Note: only for use with EMT Torch.</i>	8423 120 51961
Center Tube Ceramic 2 mm ID (Tulip Torch) <i>Center tube intended for the analysis of samples containing HF acid. Note: only for use with the Tulip Torch.</i>	8423 120 51361
EMT Center Tube 2.0 mm ID <i>Center tube is supplied as standard with current iCAP 6000 Series Duo Systems and is also used in conjunction with the high solids nebulizer. Note: only for use with EMT Torch.</i>	8423 120 51971
Center Tube 2 mm ID (Tulip Torch) <i>Center tube previously supplied as standard with iCAP 6000 Series Duo Systems and is also used in conjunction with the high solids nebulizer. Note: only for use with the Tulip Torch.</i>	8423 120 51371
EMT Center Tube Holder Assembly <i>Accommodates all EMT Torch center tubes and provides a mount to the torch and torch holder. Compatible with all iCAP 6000 Series Spectrometers.</i>	8423 155 50181
Center Tube Holder (Tulip Torch) <i>Accommodates all Tulip Torch center tubes and provides a mount to the torch and torch holder. Compatible with all iCAP 6000 Series Spectrometers.</i>	8423 120 51381
Sampling O-Ring Kit (for Tulip and EMT Torches) <i>Kit containing all appropriate O-rings for the spray chamber, center tube holder and torch components. Compatible with all iCAP 6000 Series Spectrometers.</i>	8423 120 51401
EMT Torch Holder Assembly <i>Provides a mount to all EMT Radial and Duo Torches. Compatible with all iCAP 6000 Series Spectrometers.</i>	8423 155 50171
Spray Chamber <i>Standard glass cyclonic spray chamber provided with all iCAP 6000 Series Spectrometers. Requires an appropriate Adapter dependent on whether a Radial or Duo instrument is used.</i>	8423 120 51411
Ball Joint Clip <i>Metal ball joint clip for connecting spray chamber and Adapter. Compatible with all iCAP 6000 Series Spectrometers.</i>	8423 120 51421
Nebulizer <i>Standard concentric nebulizer for use with samples containing up to 3% TDS. Compatible with all iCAP 6000 Series Spectrometers.</i>	8423 120 51431
Spray Chamber Jacketed <i>Water cooled organics spray chamber, for use with volatile organic sample. Requires an additional chiller for operation. Compatible with all iCAP 6000 Series Spectrometers. Requires a special Jacketed spray chamber Adapter which is also dependent on whether a Radial or Duo instrument is used.</i>	8423 120 51441
Radial Spray Chamber, HF-Resistant <i>Hydrofluoric acid (HF) resistant spray chamber, intended for the analysis of samples containing HF acid. For use with iCAP 6000 Series Radial instruments only. Does not require a spray chamber</i>	8423 120 51451

Continued

## Sample Introduction Items

*Continued*

### Ordering Information

Description	Part Number
Duo Spray Chamber, HF-Resistant <i>Hydrofluoric acid (HF) resistant spray chamber, intended for the analysis of samples containing HF acid. For use with iCAP 6000 Series Duo instruments only. Does not require a spray chamber Adapter or ball joint clip.</i>	8423 120 51461
Mira Mist Nebulizer, HF-Resistant <i>Hydrofluoric acid (HF) resistant nebulizer, intended for the analysis of samples containing HF acid. Compatible with all iCAP 6000 Series Spectrometers.</i>	8423 120 51471
Capillary Tubing <i>Tubing for connection of sample probe to nebulizer, autosampler and drain. Compatible with all iCAP 6000 Series Spectrometers.</i>	8423 120 51481
Sampling Probe to Capillary Sleeving <i>Sleeve to allow connection of capillary tubing to sample probe. Compatible with all iCAP 6000 Series Spectrometers.</i>	8423 120 51491
Sampling Probe <i>Sampling probe manufactured of Ultem. Compatible with all iCAP 6000 Series Spectrometers.</i>	8423 120 51501
Pump Sample Tube Aqueous <i>Standard Tygon™ orange/white pump tubing. One pack of six. Compatible with all iCAP 6000 Series Spectrometers</i>	8423 120 51511
Pump Drain Tube Aqueous <i>Standard Tygon white/white pump tubing. One pack of six. Compatible with all iCAP 6000 Series Spectrometers.</i>	8423 120 51521
Pump Sample Tube Organics <i>Viton orange/white pump tubing suitable for use in the analysis of organic based samples. One pack of six. Compatible with all iCAP 6000 Series Spectrometers.</i>	8423 120 51531
Pump Drain Tube Organics <i>Viton white/white pump tubing suitable for use in the analysis of organic based samples. One pack of six. Compatible with all iCAP 6000 Series Spectrometers.</i>	8423 120 51541
Internal Standards Kit <i>Internal standards mixing kit, comprising Tygon orange/white and blue/white pump tubing, y-piece, mixing loop and connecting tube for fitting. Compatible with all iCAP 6000 Series Spectrometers.</i>	8423 120 51551
Sleeve for Duo Torch <i>Provides a spare sealing window for the radial view periscope on duo systems. Compatible with all iCAP 6000 Series Duo Spectrometers.</i>	8423 120 51591



## Chillers

### Ordering Information

Description	Part Number
<p>Isomist Radial Kit <i>Peltier Spray Chamber cooling kit for volatile organics samples. Recommended for use with Radial iCAP 6000 Series instruments with the Radial Volatile Organics Kit.</i></p>	8423 120 51651
<p>Isomist Duo Kit <i>Peltier Spray Chamber cooling kit for volatile organics samples. Recommended for use with Duo iCAP 6000 Series instruments with the Duo Volatile Organics Kit</i></p>	8423 120 51641
<p>Water Recirculator (60 Hz) <i>A compact, portable, refrigerated water recirculator with cooling capacity up to 900 watts, providing powerful cooling capacity, a variety of standard features and options, and a space saving design.</i></p>	9423 393 97003
<p>Water Recirculator (50 Hz) <i>A compact, portable refrigerated water recirculator with cooling capacity up to 750 watts, providing powerful cooling capacity, a variety of standard features and options, and a space saving design.</i></p>	9423 393 97005

## Solid Sampling Accessories



Description	Part Number
<p>Argon Humidifier <i>An accessory which is used in conjunction with the High Solids Kit to prevent the nebulizer and center tube from blocking when analyzing samples containing high salts. Minimizes time consuming and potentially expensive blockages of glass concentric nebulizers when analyzing samples containing high levels of dissolved solids</i></p>	8423 120 52081



<p>Cetac™ UT5000AT™ Ultrasonic Nebulizer <i>Accessory for ultra trace element detection, used in conjunction with the ICP spectrometer to enhance performance by improving nebulization and sample transport efficiency, allowing sub ppb detection limits for many elements. Can also be used to simplify the analysis of volatile organic solvents.</i></p> <ul style="list-style-type: none"> <li>• Suitable for 100 – 240 v: 50/60Hz operation.</li> </ul>	8423 180 51001
--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------



<p>Laser Solid Sampling System <i>Separate laser accessory for the analysis of solids and pressed powders by ablation. 266 nm UV Nd-YAG laser ablation system designed specifically for ICP solid sampling analysis. Incorporates a 30 m to 750 m aperture imaged beam delivery system. Full computer control of system functions.</i></p>	8423 180 52001
------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------

<p>SSEA - Solid Sampling System <i>Separate Sample and Excitation Accessory. Allows direct analysis of solid samples with sub ppm detection limits. Ideal for applications requiring analysis of both liquid and solid samples with a single spectrometer. Solid state spark source ablates metal particles from the surface of the sample and an argon stream carries the resulting metal aerosol into the plasma for excitation.</i></p>	8423 170 50001
------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------




Requires Accessory Interface Kit 8423 180 52001





## Autosampling Accessories

### Ordering Information

Description	Part Number
<p>Cetac ASX-520 Autosampler  <i>Random access large capacity autosampler for ICP and AAS analysis. 84 to 360 solution capacity dependent on rack configuration. Standards rack (10 positions) and 4 sample racks of 60 positions are supplied as standard. Includes a pumped wash facility, PTFE probe and RS232C Adapter.</i></p>	9423 470 04001
	
<p>Cetac ASX-260 Autosampler  <i>Random access compact autosampler for ICP and AAS analysis. 42 to 180 solution capacity dependent on rack configuration. Standards rack (10 positions) and 2 sample racks of 60 positions are supplied as standard. Includes a pumped wash facility, PTFE probe and RS232C Adapter.</i></p>	9423 470 04002
	
<p>Tray for Cetac ASX-260 Autosampler  <i>Drip tray for liquids for use under sample racks on a Cetac ASX-260 autosampler.</i></p>	8423 470 03961
<p>Cetac EXR-8 Autosampler  <i>Random access extremely large capacity autosampler for ICP analysis. 168 to 720 solution capacity dependent on rack configuration. Standards rack (10 positions) and 8 sample racks of 60 positions are supplied as standard. Includes a pumped wash facility, PTFE probe and RS232C Adapter.</i></p>	8423 470 04003
	
<p>Tray for Cetac EXR-8 Autosampler  <i>Drip tray for liquids for use under sample racks on a Cetac EXR-8 autosampler.</i></p>	8423 470 03971
<p>21 Position Rack  <i>Capable of holding 21 (50 mL Tubes)</i></p>	9423 470 03901
<p>50 mL Tubes Polypropylene  <i>Use with 21 Position Rack (9423 470 03901)</i></p>	9423 470 04151
<p>24 Position Rack  <i>Capable of holding 24 (30 mL Tubes)</i></p>	9423 470 03911
<p>30 mL Tubes Polypropylene  <i>Use with 24 Position Rack (9423 470 03911)</i></p>	9423 470 04111
<p>40 Position Rack  <i>Capable of holding 40 (20 mL Tubes)</i></p>	9423 470 03921
<p>20 mL Tubes Polypropylene  <i>Use with 40 Position Rack (9423 470 03921)</i></p>	9423 470 04161
<p>60 Position Rack  <i>Capable of holding 60 (14 mL Tubes)</i></p>	9423 470 03931
<p>14 mL Tubes Polypropylene  <i>Use with 60 Position Rack (9423 470 03931)</i></p>	9423 470 04131
<p>90 Position Rack  <i>Capable of holding 90 (8 mL Tubes)</i></p>	9423 470 03941
<p>8 mL Tubes Polypropylene  <i>Use with 90 Position Rack (9423 470 03941)</i></p>	9423 470 04141

## Hydride Accessories



### Ordering Information

Description	Part Number
Basic Hydride System <i>A basic hydride generation kit with tubing for sample and reductant which attaches to the existing spectrometer peristaltic pump, for enhancing the sensitivity performance of certain element determinations.</i>	8423 180 50001
Enhanced Hydride System <i>A hydride generation accessory, with full gas/liquid separator and connecting sample and drain tubing for full integration with ICP spectrometer, providing improved levels of sensitivity for certain element determinations</i>	8423 180 50101
Replacement Tubing Kit for Enhanced Hydride System <i>Sets of spare peristaltic pump tubing for use with the enhanced hydride system.</i>	8423 120 51611

## iTEVA Software

The iCAP 6000 Series is supplied complete with the Thermo Scientific iTEVA ICP-OES PC software, which is compatible with Windows®, XP and Vista operating systems. The software provides an easy-to-navigate software platform that allows operators to add wavelengths, create methods, analyze samples and post-process the data. The unique Intelliframe feature and full frame imaging allows the analyst to capture and record the entire spectrum of any or all samples for permanent records or semi-quantitative analysis. An intuitive graphical user interface coupled with integrated SQL server technology and Ethernet connectivity provide multiple internal standards capability referenced to multiple lines, complemented with many different reporting formats.

### Ordering Information

Description	Part Number
iCAP 6000 Series - iTEVA Software Upgrade <i>Upgrade iTEVA Software providing the latest version of software for the iCAP 6000 Series ICP-OES spectrometers, and includes both Data Station Windows software and spectrometer firmware.</i>	8423 130 50001
iCAP 6000 Series Operator's Manual <i>Contains customer instructions on the iCAP 6000 Series ICP hardware and customer instructions on the functionality, the navigation and obtaining the best results from the iTEVA software used with iCAP 6000 Series ICP-OES spectrometers.</i>	8499 400 90001

## Data Station Information

### Requirements

The Data Station requirements will normally be met by a PC, meeting the minimum specification

- Windows XP Professional
- 20 Gb Hard drive
- 512 Mb RAM
- Dedicated Ethernet card for spectrometer communication
- A second Ethernet card will be required for networking
- Some accessories require a dedicated RS232 port
- A printer port may be required

### Ordering Information

Description	Part Number
iCAP ICP Data Station - USA <ul style="list-style-type: none"> <li>• Microsoft Windows compatible PC with appropriate specification for iCAP.</li> <li>• Two (2) Ethernet ports included.</li> <li>• Suitable for 110 – 120 v: 50/60 Hz operation.</li> </ul>	840-179000

## Manuals

### Ordering Information

Description	Part Number
iCAP 6000 Series Operator's Manual <i>Contains instructions on the iCAP 6000 Series ICP hardware and on the functionality, the navigation and obtaining the best results from the iTEVA software used with iCAP 6000 Series ICP-OES spectrometers.</i>	8499 400 90001
Pre-Installation Manual - iCAP 6000 Series <i>Contains advice and instructions regarding site set up for installation of the iCAP 6000 Series.</i>	8499 400 30001

## Single-Element Lamps – Data Coded



Coded Identification  
Seven (7) Pins



High quality hollow cathode lamps optimized for use with the Thermo Scientific iCE 3000 Series spectrometers. The spectrometers read the element contained in the lamp and the maximum permissible lamp current from the data coding, providing maximum convenience and removing the possibility of damaging the lamp with excessive currents. Single-element lamps provide the best possible analytical performance. All Thermo Scientific Data Coded Single-Element Lamps carry a 5000 mA/hr lifetime guarantee.

### Ordering Information

Description	Element	Part Number
Aluminum	Al	942339030131
Antimony	Sb	942339030511
Arsenic	As	942339030331
Barium	Ba	942339030561
Beryllium	Be	942339030041
Bismuth	Bi	942339030831
Boron	B	942339030051
Cadmium	Cd	942339030481
Calcium	Ca	942339030201
Cesium	Cs	942339030551
Chromium	Cr	942339030241
Cobalt	Co	942339030271
Copper	Cu	942339030291
Dysprosium	Dy	942339030661
Erbium	Er	942339030681
Europium	Eu	942339030631
Gadolinium	Gd	942339030641
Gallium	Ga	942339030311
Germanium	Ge	942339020321
Gold	Au	942339030791
Hafnium	Hf	942339030721
Holmium	Ho	942339030671
Indium	In	942339030491
Iridium	Ir	942339030771
Iron	Fe	942339030261
Lanthanum	La	942339030571
Lead	Pb	942339030821
Lithium	Li	942339030031
Lutetium	Lu	942339030711
Magnesium	Mg	942339030121
Manganese	Mn	942339030251
Mercury	Hg	942339030801
Molybdenum	Mo	942339030421
Neodymium	Nd	942339030601

Description	Element	Part Number
Nickel	Ni	942339030281
Niobium	Nb	942339030411
Osmium	Os	942339030761
Palladium	Pd	942339030461
Phosphorus	P	942339030151
Platinum	Pt	942339030781
Potassium	K	942339030191
Praseodymium	Pr	942339030591
Rhenium	Re	942339030751
Rhodium	Rh	942339030451
Rubidium	Rb	942339030371
Ruthenium	Ru	942339030441
Samarium	Sm	942339030621
Scandium	Sc	942339030211
Selenium	Se	942339030341
Silicon	Si	942339030141
Silver	Ag	942339030471
Sodium	Na	942339030111
Strontium	Sr	942339030381
Tantalum	Ta	942339030731
Tellurium	Te	942339030521
Terbium	Tb	942339030651
Thallium	Tl	942339030811
Thorium	Th	942339030901
Thulium	Tm	942339030691
Tin	Sn	942339030501
Titanium	Ti	942339030221
Tungsten	W	942339030741
Uranium	U	942339030921
Vanadium	V	942339030231
Ytterbium	Yb	942339030701
Yttrium	Y	942339030391
Zinc	Zn	942339030301
Zirconium	Zr	942339030401

## Single-Element Lamps – Uncoded



Uncoded Identification  
Two (2) Pins



High quality hollow cathode lamps optimized for use with the Thermo Scientific iCE 3000 Series spectrometers. Single-element lamps provide the best possible analytical performance. All Thermo Scientific Uncoded Single-Element Lamps carry a 5000 mA/hr lifetime guarantee.

### Ordering Information

Description	Element	Part Number
Aluminum	Al	942339020131
Antimony	Sb	942339020511
Arsenic	As	942339020331
Barium	Ba	942339020561
Beryllium	Be	942339020041
Bismuth	Bi	942339020831
Boron	B	942339020051
Cadmium	Cd	942339020481
Calcium	Ca	942339020201
Cesium	Cs	942339020551
Chromium	Cr	942339020241
Cobalt	Co	942339020271
Copper	Cu	942339020291
Dysprosium	Dy	942339020661
Erbium	Er	942339020681
Europium	Eu	942339020631
Gadolinium	Gd	942339020641
Gallium	Ga	942339020311
Germanium	Ge	942339020321
Gold	Au	942339020791
Hafnium	Hf	942339020721
Holmium	Ho	942339020671
Indium	In	942339020491
Iridium	Ir	942339020771
Iron	Fe	942339020261
Lanthanum	La	942339020571
Lead	Pb	942339020821
Lithium	Li	942339020031
Lutetium	Lu	942339020711
Magnesium	Mg	942339020121
Manganese	Mn	942339020251
Mercury	Hg	942339020801
Molybdenum	Mo	942339020421
Neodymium	Nd	942339020601

Description	Element	Part Number
Nickel	Ni	942339020281
Niobium	Nb	942339020411
Osmium	Os	942339020761
Palladium	Pd	942339020461
Phosphorus	P	942339020151
Platinum	Pt	942339020781
Potassium	K	942339020191
Praseodymium	Pr	942339020591
Rhenium	Re	942339020751
Rhodium	Rh	942339020451
Rubidium	Rb	942339020371
Ruthenium	Ru	942339020441
Samarium	Sm	942339020621
Scandium	Sc	942339020211
Selenium	Se	942339020341
Silicon	Si	942339020141
Silver	Ag	942339020471
Sodium	Na	942339020111
Strontium	Sr	942339020381
Tantalum	Ta	942339020731
Tellurium	Te	942339020521
Terbium	Tb	942339020651
Thallium	Tl	942339020811
Thorium	Th	942339020901
Thulium	Tm	942339020691
Tin	Sn	942339020501
Titanium	Ti	942339020221
Tungsten	W	942339020741
Uranium	U	942339020921
Vanadium	V	942339020231
Ytterbium	Yb	942339020701
Yttrium	Y	942339020391
Zinc	Zn	942339020301
Zirconium	Zr	942339020401

## Multi-Element Lamps – Data Coded



Coded Identification  
Seven (7) Pins



High quality hollow cathode lamps optimized for use with the Thermo Scientific iCE 3000 Series spectrometers. The spectrometers read the list of elements contained in the lamp and the maximum permissible lamp current from the data coding, providing maximum convenience and removing the possibility of damaging the lamp with excessive currents. Multi-element lamps provide analytical performance comparable with single-element lamps, while reducing your lamp inventory and increasing the ease of use. All Thermo Scientific Data Coded Multi-Element Lamps carry a 5000 mA/Hr lifetime guarantee.

### Ordering Information

Description	Element	Part Number
Aluminum/Magnesium	Al/Mg	942339331051
Aluminum/Silicon	Al/Si	942339331041
Aluminum/Silicon/Titanium	Al/Si/Ti	942339331391
Aluminum/Titanium	Al/Ti	942339331381
Barium/Calcium	Ba/Ca	942339331571
Barium/Calcium/Strontium	Ba/Ca/Sr	942339331601
Barium/Strontium	Ba/Sr	942339331591
Cadmium/Zinc	Cd/Zn	942339331611
Calcium/Magnesium	Ca/Mg	942339331011
Calcium/Magnesium/Silicon	Ca/Mg/Si	942339331061
Calcium/Silicon	Ca/Si	942339331081
Calcium/Strontium	Ca/Sr	942339331581
Calcium/Zinc	Ca/Zn	942339331471
Chromium/Copper	Cr/Cu	942339331131
Chromium/Copper/ Manganese/Nickel	Cr/Cu/Mn/Ni	942339331171
Chromium/Copper/Nickel	Cr/Cu/Ni	942339331151
Chromium/Copper/Silver	Cr/Cu/Ag	942339331501
Chromium/Manganese	Cr/Mn	942339331141
Chromium/Manganese/Nickel	Cr/Mn/Ni	9423393311610
Chromium/Molybdenum	Cr/Mo	942339331371
Chromium/Nickel	Cr/Ni	942339331121
Chromium/Silver	Cr/Ag	942339331481
Cobalt/Copper	Co/Cu	942339331181
Cobalt/Copper/Iron	Co/Cu/Fe	942339331281
Cobalt/Copper/Iron/ Manganese	Co/Cu/Fe/Mn	942339331331
Cobalt/Copper/ Manganese/Nickel	Co/Cu/Mn/Ni	942339331341
Cobalt/Iron	Co/Fe	942339331191
Cobalt/Iron/ Manganese/Nickel607	Co/Fe/Mn/Ni	942339331351
Cobalt/Manganese	Co/Mn	942339331201
Cobalt/Manganese/Nickel	Co/Mn/Ni	942339331291

Description	Element	Part Number
Cobalt/Molybdenum	Co/Mo	942339331111
Cobalt/Nickel	Co/Ni	942339331211
Copper/Gold/Nickel	Cu/Au/Ni	942339331421
Copper/Iron	Cu/Fe	942339331221
Copper/Iron/ Manganese/Nickel	Cu/Fe/Mn/Ni	942339331361
Copper/Iron/ Manganese/Zinc	Cu/Fe/Mn/Zn	942339331561
Copper/Iron/Zinc	Cu/Fe/Zn	942339331531
Copper/Manganese	Cu/Mn	942339331231
Copper/Manganese/Iron	Cu/Mn/Fe	942339331311
Copper/Manganese/Nickel	Cu/Mn/Ni	942339331301
Copper/Manganese/Zinc	Cu/Mn/Zn	942339331541
Copper/Nickel	Cu/Ni	942339331241
Copper/Silver	Cu/Ag	942339331491
Copper/Zinc	Cu/Zn	942339331031
Gold/Copper	Au/Cu	942339331401
Gold/Nickel	Au/Ni	942339331411
Gold/Platinum	Au/Pt	942339331451
Gold/Silver	Au/Ag	942339331431
Gold/Silver/Platinum	Au/Ag/Pt	942339331461
Iron/Manganese	Fe/Mn	942339331251
Iron/Manganese/Nickel	Fe/Mn/Ni	942339331321
Iron/Manganese/Zinc	Fe/Mn/Zn	942339331551
Iron/Nickel	Fe/Ni	942339331261
Iron/Zinc	Fe/Zn	942339331511
Magnesium/Silicon	Mg/Si	942339331091
Manganese/Nickel	Mn/Ni	942339331271
Manganese/Zinc	Mn/Zn	942339331521
Platinum/Silver	Pt/Ag	942339331441
Potassium/Sodium	K/Na	942339331021
Silicon/Titanium	Si/Ti	942339331101

## Multi-Element Lamps – Uncoded



Uncoded Identification  
Two (2) Pins



High quality hollow cathode lamps optimized for use with the Thermo Scientific iCE 3000 Series spectrometers. Multi-element lamps provide analytical performance comparable with single-element lamps, while reducing your lamp inventory and increasing the ease of use. All Thermo Scientific Uncoded Multi-Element Lamps carry a 5000 mA/hr lifetime guarantee.

### Ordering Information

Description	Element	Part Number
Aluminum/Magnesium	Al/Mg	942339321051
Aluminum/Silicon	Al/Si	942339321041
Aluminum/Silicon / Titanium	Al/Si/Ti	942339321391
Aluminum/Titanium	Al/Ti	942339321381
Barium/Calcium	Ba/Ca	942339321571
Barium/Calcium/Strontium	Ba/Ca/Sr	942339321601
Barium/Strontium	Ba/Sr	942339321591
Cadmium/Zinc	Cd/Zn	942339321611
Calcium/Magnesium	Ca/Mg	942339321011
Calcium/Magnesium/Silicon	Ca/Mg/Si	942339321061
Calcium/Silicon	Ca/Si	942339321081
Calcium/Strontium	Ca/Sr	942339321581
Calcium/Zinc	Ca/Zn	942339321471
Chromium/Copper	Cr/Cu	942339321131
Chromium/Copper/ Manganese/Nickel	Cr/Cu/Mn/Ni	942339321171
Chromium/Copper/Nickel	Cr/Cu/Ni	942339321151
Chromium/Copper/Silver	Cr/Cu/Ag	942339321501
Chromium/Manganese	Cr/Mn	942339321141
Chromium/Manganese/Nickel	Cr/Mn/Ni	942339321161
Chromium/Molybdenum	Cr/Mo	942339321371
Chromium/Nickel	Cr/Ni	942339321121
Chromium/Silver	Cr/Ag	942339321481
Cobalt/Copper	Co/Cu	942339321181
Cobalt/Copper/Iron	Co/Cu/Fe	942339321281
Cobalt/Copper/ Iron/Manganese	Co/Cu/Fe/Mn	942339321331
Cobalt/Copper/ Manganese/Nickel	Co/Cu/Mn/Ni	942339321341
Cobalt/Iron	Co/Fe	942339321191
Cobalt/Iron/ Manganese/Nickel	Co/Fe/Mn/Ni	942339321351
Cobalt/Manganese	Co/Mn	942339321201
Cobalt/Manganese/Nickel	Co/Mn/Ni	942339321291

Description	Element	Part Number
Cobalt/Molybdenum	Co/Mo	942339321111
Cobalt/Nickel	Co/Ni	942339321211
Copper/Gold/Nickel	Cu/Au/Ni	942339321421
Copper/Iron	Cu/Fe	942339321221
Copper/Iron/ Manganese/Nickel	Cu/Fe/Mn/Ni	942339321361
Copper/Iron/ Manganese/Zinc	Cu/Fe/Mn/Zn	942339321561
Copper/Iron/Zinc	Cu/Fe/Zn	942339321531
Copper/Manganese	Cu/Mn	942339321231
Copper/Manganese/Iron	Cu/Mn/Fe	942339321311
Copper/Manganese/Nickel	Cu/Mn/Ni	942339321301
Copper/Manganese/Zinc	Cu/Mn/Zn	942339321541
Copper/Nickel	Cu/Ni	942339321241
Copper/Silver	Cu/Ag	942339321491
Copper/Zinc	Cu/Zn	942339321031
Gold/Copper	Au/Cu	942339321401
Gold/Nickel	Au/Ni	942339321411
Gold/Platinum	Au/Pt	942339321451
Gold/Silver	Au/Ag	942339321431
Gold/Silver/Platinum	Au/Ag/Pt	942339321461
Iron/Manganese	Fe/Mn	942339321251
Iron/Manganese/Nickel	Fe/Mn/Ni	942339321321
Iron/Manganese/Zinc	Fe/Mn/Zn	942339321551
Iron/Nickel	Fe/Ni	942339321261
Iron/Zinc	Fe/Zn	942339321511
Magnesium/Silicon	Mg/Si	942339321091
Manganese/Nickel	Mn/Ni	942339321271
Manganese/Zinc	Mn/Zn	942339321521
Platinum/Silver	Pt/Ag	942339321441
Potassium/Sodium	K/Na	942339321021
Silicon/Titanium	Si/Ti	942339321101



## Value-Range Lamps – Uncoded



Uncoded Identification  
Two (2) Pins



A limited range of cost effective hollow cathode lamps for use with the Thermo Scientific iCE 3000 Series spectrometers. Value Range Single-Element Lamps provide analytical performance comparable with normal lamps, at a significantly reduced cost. All Thermo Scientific Value Range Uncoded Single-Element Lamps carry a 5000 mA/hr lifetime guarantee.

### Ordering Information

Description	Element	Part Number
Aluminum	Al	94233902013V
Antimony	Sb	94233902051V
Arsenic	As	94233902033V
Bismuth	Bi	94233902083V
Cadmium	Cd	94233902048V
Calcium	Ca	94233902020V
Chromium	Cr	94233902024V
Cobalt	Co	94233902027V
Copper	Cu	94233902029V
Gold	Au	94233902079V
Iron	Fe	94233902026V
Lead	Pb	94233902082V
Magnesium	Mg	94233902012V
Manganese	Mn	94233902025V
Mercury	Hg	94233902080V
Molybdenum	Mo	94233902042V
Nickel	Ni	94233902028V
Potassium	K	94233902019V
Selenium	Se	94233902034V
Silver	Ag	94233902047V
Sodium	Na	94233902011V
Tin	Sn	94233902050V
Zinc	Zn	94233902030V

## Deuterium Lamp

### Ordering Information

Description	Part Number
QuadLine Deuterium Source	942342030004



## Graphite Furnace Cuvettes and Supplies

Description	Part Number
Graphite Cuvettes, Ridged and Uncoated (10)	942339395031
Graphite Cuvettes, Ridged and Coated (10)	942339395071
Extended Lifetime Cuvettes (ELC) (10)	942339395041
Extended Lifetime Cuvettes (ELC) (20)	942339395051
Omega Platform Cuvettes (10)	942349020101
Contact Cones for Standard Furnace (GFS33 and GFS35)	942339395011
Contact Cone Replacement Tool for Standard Furnace (GFS33 and GFS35)	942339395101
Standard Furnace User Spares Kit	942345020002
Zeeman Furnace User Spares Kit	942345020003
Cuvette Alignment Tool	401316683401
Forceps Plastic (cuvette removing tool)	281306098037

*Continued*

## Graphite Furnace Cuvettes and Supplies

Continued

Description		Part Number
Center Block (GFS33 and GFS35)		401317278261
Center Block Window (window with the holder) (GFS33 and GFS35)		401317278301
Sample Sleeve (GFS33 and GFS35)		401316681211
Contact Cones for Zeeman Furnace (GFS35Z not GFS95Z)		942339395161
Contact Cone Replacement Tool for Zeeman Furnace (GFS35Z not GFS95Z)		942339395181
Center Block (GFS35Z)		401317284231
9 mm Window Holder for Centre Block (GFS35Z)		401316683791
Sample Sleeve (GFS35Z)		401317277931
Magnet Bolt (GFS35Z)		401316691311
Cuvette Alignment Tool (Zeeman)		401316686261
Var Pipetman		9423357054210
Pipette Tips (1000) for 20 mL Micropipette		942335705431

## Gas Handling Supplies

### Ordering Information

Description	Part Number
Acetylene Regulator	05143100
Nitrous Oxide Regulator	05142000

## Air Supply

### Ordering Information

Description	Part Number
Air Compressor (220/240 V, 50 Hz) (includes filter/regulator)	942339334225
Air Compressor (220/240 V, 60 Hz) (includes filter/regulator)	942339334226
Air Compressor (110/120 V, 50 Hz) (includes filter/regulator)	942339334115
Air Compressor (110/120 V, 60 Hz) (includes filter)	942339334116




## Flame Compartment and Sample Introduction Parts

Description		Part Number
Flame Compartment User Spares		942345030001
Spray Chamber (includes baffle and spider)		401317203243
Baffle for Spray Chamber		401316413822
Spider for Spray Chamber		401316413832
Spray Chamber Renovation Kit		942339005461
<ul style="list-style-type: none"> <li>• O-ring Kit (Solvent Kit) – 9423 390 05151</li> <li>• Impact Bead – 4013 164 13796</li> <li>• Baffle – 4013 164 13822</li> <li>• Spider – 4013 164 13832</li> <li>• Alumina Disc – 4013 164 13841</li> <li>• Explosion Disc (overpressure) – 4013 164 13881</li> <li>• Nebulizer (retaining spring coated) – 4013 166 80061</li> <li>• Acetylene Connection Kit – 4013 172 91782</li> </ul>		
Screw Adjustable Bead Assembly		942339005401
Drain Vessel AA (5 Liter)		942339005471
Solvent Resistant Drain Tube Assembly		942339005491
Solvent Resistant Flame Kit		942342031051
Universal Finned (50 mm) Titanium Burner		942352031011
Slotted Tube Atom Trap (STAT)		942342035011
<ul style="list-style-type: none"> <li>• STAT Accessory</li> </ul> <p><i>Note: Requires use of a 50 mm universal burner as supplied with instrument. This can be installed by a field service engineer or customer. It will require reconfiguration or optimization.</i></p>		
Air/Acetylene (100 mm) Titanium Burner		942342031021
Retrofit 100mm Ti Burner		942342035021
<ul style="list-style-type: none"> <li>• 100 mm burner head (Titanium)</li> </ul> <p><i>This can be installed by a field service engineer or customer. It will require reconfiguration or optimization.</i></p>		
O-ring Kit - (entire spray chamber)		942339005151
Burner Slot Cleaner		420216600942
Burner Handle (photo w/out cable and ignitor)		420216601631
Gauze Disc for Fuel Line		401316183842
Spring Washer for Fuel Line		251371306001

Continued

## Flame Compartment and Sample Introduction Parts

*Continued*

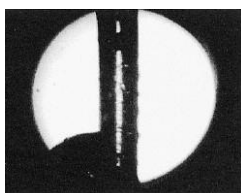
Description		Part Number
Spacer for Fuel Line		401316495812
Bond Seal for Fuel Line		262208002005
Inert Nebulizer		942339005481
Nebulizer Probe		942339005441
Nebulizer Spring (retaining spring coated)		401316680061
Nebulizer Sample Uptake Tubing 0.5 mm ID		942339005421
Nebulizer Uptake Tube 0.4 mm ID 9423 390 05411 (for reduced uptake rate)		942339005411
Spray Chamber End Cap (inside view)		401317203234
Impact Bead		401316413796
SP9 Alumina Disc		401316413841
SP9 SEAL		401316413761
End-cap Screws (set of 4)		401317294561
Drain Kit (with black tube, Teflon cone and clip)		420117208121
Drain Tube (2 meters)		401316694811
SP9 Disc Overpressure		420216601851

## iCE 3400 and iCE 3500 Spare Parts

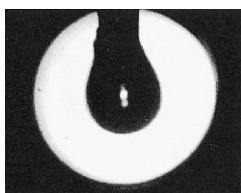
### Ordering Information

Description	Part Number
FUSE 20 x 5 5A "F"	242208600051
STD Clip (hose)	251370613606
SP1900 Clip (hose)	251370614156
Socket Wrench 2.5 mm	262215009009
Socket Wrench BLK 3 A/F (102103)	262215009011
SP9 Nipple	291300598001
SP9 Nipple (ref 032030 B.O.C.)	291300598006
SP9 Nut (to attach nipple to gauge head)	291301490001
SP9 Nut	291301490002
STD Label Warning-drain Vessel	401316179782
929 Drain Tube Clip	401316672921
Gas Stop End	401316691961
Drain Tube (2 Meters)	401316694811
SP9 Jig Burner Setting	401317204391
Hose Assembly N2O	401317273243
SP9 Mirodent™ Disp. Mouth Mirror	401322805811
PL Hand for Mirodent Mirror	401322805821
9200 Stop End 1/4	401322836581
12 mm A/F SPANNER	401322846801
14 mm A/F SPANNER	401322846811
Spray Chamber Renovation Kit	942339005461
Inert Nebulizer 9400/9000	942339005481
QuadLine Deuterium Source	942342030004

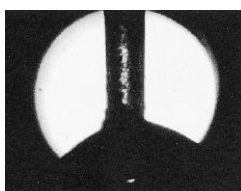
## Graphite Furnace TeleVision (GFTV)



Capillary too low



Capillary too high



Correct injection depth

Optional on all Thermo Scientific iCE 3400/3500 and M Series Spectrometers, the GFTV accessory provides high definition images of events inside the Graphite Furnace Cuvette, allowing monitoring of the sample injection, dry and ash phases of the furnace program. A CCD camera mounted in the instrument produces live video for display on the Data Stations screen through the GFTV Software and Interface Kit, or on an external monitor. The external monitor should be monochrome, PAL compatible with a minimum screen resolution of 400 lines, and a coaxial video cable with BNC plug for connection to the spectrometer.

### Necessary Additional Items

- Free USB port or free PCI expansion slot
- Video adapter that supports Direct Draw

### Ordering Information

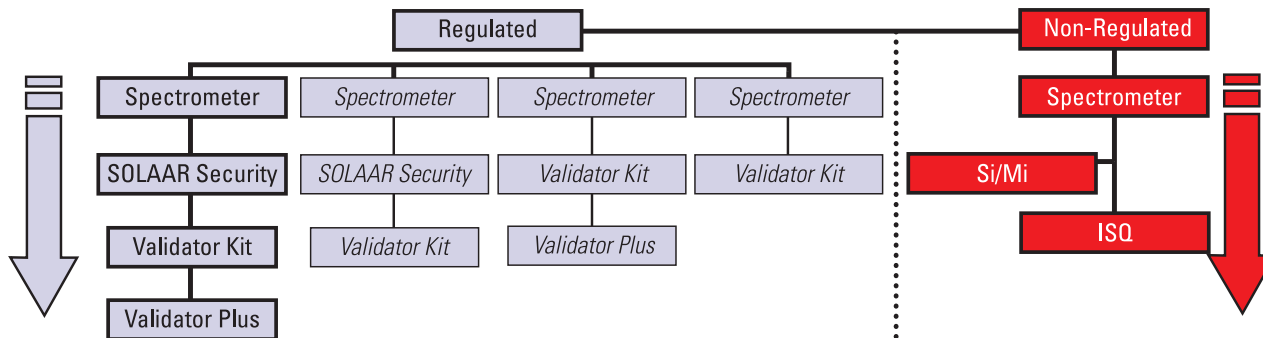
Description	Part Number
Fuse (20 x 5) IEC 127	401320700201
GFTV Software and Interface Kit (USB version)	942339396051



## iCE 3300 Spare Parts

## Ordering Information

Description	Part Number
Fuse 20 x 5 5A "F"	242208600051
Standard Clip (hose)	251370613606
SP1900 Clip (hose)	251370614156
Spring Washer *302* S/S	251371306001
Socket Wrench 2.5 mm	262215009009
Socket Wrench BLK 3 A/F (102103)	262215009011
SP9 Nipple	291300598001
SP9 Nipple (ref 032030 B.O.C.)	291300598006
SP9 Nut (to attach nipple to gauge head)	291301490001
SP9 Nut	291301490002
Standard Label Warning-drain Vessel	401316179782
Gauszee Disc	401316183842
Impact Bead	401316413796
Baffle	401316413822
Spider	401316413832
SP9 Alumina Disc	401316413841
SP9 Disc Overpressure	401316413881
SPACER	401316495812
929 Drain Tube Clip	401316672921
Standard Retaining Spring (coated)	401316680061
Gas Stop End	401316691961
Drain Tube (2 meters)	401316694811
SP9 Mirodent Disp. Mouth Mirror	401322805811
Handle for Mirodent Mirror	401322805821
9200 Stop End 1/4	401322836581
12 mm A/F Spanner	401322846801
14 mm A/F Spanner	401322846811
Special Solvents Kit	942339005151
Nebulizer Probe	942339005441
Spray Chamber Renovation Kit	942339005461
Inert Nebulizer 9400/9000	942339005481
QuadLine Deuterium Source	942342030004



## Intelligent Spectrometer Qualification (iSQ)



Consisting of a motorized filter wheel containing a set of calibrated filters, the iSQ module is mounted in the instrument, and is driven by the software to provide a suite of automated system performance checks on iCE 3000 Series spectrometers:

- Wavelength Accuracy
- Photometric Stability
- Monochromator Resolution
- D2 Background Correction Accuracy
- Lamp Peaking Test
- Beam Selector Movement Test
- Polarizer Orientation and Repeatability Test (for Zeeman instruments only)

The kit is comprised of a Validation log book and hardware package providing all necessary documentation and accessories required to permit the comprehensive validation of the spectrometer by a service engineer, at the point of installation and post-installation.

### Ordering Information

Description	Part Number
iSQ Enhancement (Intelligent Spectrometer Qualification) for iCE 3300 Series <ul style="list-style-type: none"> <li>• iSQ Module</li> <li>• Coded Ca/Mg Lamp</li> <li>• LH Accessory Mount</li> </ul>	942342030001
iSQ Enhancement (Intelligent Spectrometer Qualification) for iCE 3400/3500 Series <ul style="list-style-type: none"> <li>• iSQ Module</li> <li>• Coded Ca/Mg Lamp</li> <li>• RH Accessory Mount</li> </ul>	942342020001

## SOLAARsecurity

Added e-signatures, event logs, audit trails and access controls meet all the requirements set out in the 21 CFR Part 11 Rule without compromising the software's renowned usability.

Network aware, Thermo Scientific SOLAARsecurity can be set up and administered from the central administrator application. Digital signatures can be executed to all e-records ensuring not only that the identity of the creator is recorded, but also including an encryption algorithm to detect any changes.

Signature status is immediately apparent, thanks to the easy to interpret color-coded display; the Audit Trail reveals the details of all post measurement manipulations.

### Ordering Information

Description	Part Number
SOLAARsecurity Upgrade Software	942343030001
<ul style="list-style-type: none"> <li>• Includes latest version of Standard SOLAAR Software</li> <li>• Validator Package also highly recommended.</li> </ul>	

## iCE 3000 Series Flame AA Validator Kit



Kit provides a unique validation package permitting the complete system validation of a iCE Series Flame AA spectrometer running under Thermo Scientific SOLAAR AA software, working in the Microsoft Windows environment.

The kit is comprised of a validation log book and hardware package providing all necessary documentation and accessories required to permit the comprehensive validation of the spectrometer by a service engineer, at the point of installation and post-installation.

- Specification and Design Qualification
- System Installation and Operational Qualification
- Software Installation and Operational Qualification
- Analytical Performance Qualification

### Ordering Information

Description	Part Number
iCE 3000 Series FAAS Validator Package	9423VAL10001
<ul style="list-style-type: none"> <li>• Validator Log Book</li> <li>• Ca/Mg Hollow Cathode Lamp</li> <li>• Ni/Cr/Mn Hollow Cathode Lamp</li> <li>• Nickel Validation Standard</li> <li>• Chromium Validation Standard</li> <li>• Water Blank Validation Standard</li> <li>• Calibrated Validation Unit (CVU)</li> </ul>	

## iCE 3000 Series Graphite Furnace AA Validator Kit



Package provides a unique validation package permitting the complete system validation of a iCE Series Graphite Furnace AA spectrometer (both standard and Zeeman) running under Thermo Scientific SOLAAR AA software, working in the Microsoft Windows environment.

The kit is comprised of a validation log book and hardware package providing all necessary documentation and accessories required to permit the comprehensive validation of the spectrometer by a service engineer, at the point of installation and post-installation.

- Specification and Design Qualification
- System Installation and Operational Qualification
- Software Installation and Operational Qualification
- Analytical Performance Qualification

### Ordering Information

Description	Part Number
iCE 3000 Series GFAAS Validator Package	9423VAL10002
<ul style="list-style-type: none"> <li>• Validator Log Book</li> <li>• Ca/Mg Hollow Cathode Lamp</li> <li>• Ni/Cr/Mn Hollow Cathode Lamp</li> <li>• Pyrolytically Coated Cuvettes</li> <li>• Manganese Validation Standard</li> <li>• Water Blank Validation Standard</li> <li>• Calibrated Validation Unit (CVU)</li> </ul>	

## iCE 3000 Series Flame and Graphite Furnace AA Validator Package



Package provides a unique validation package permitting the complete system validation of a iCE 3000 Series Flame and of Graphite Furnace AA spectrometer (both standard and Zeeman) running under Thermo Scientific SOLAAR AA software, working in the Microsoft Windows environment.

The kit is comprised of a validation log book and hardware package providing all necessary documentation and accessories required to permit the comprehensive validation of the spectrometer by a service engineer, at the point of installation and post-installation.

- Specification and Design Qualification
- System Installation and Operational Qualification
- Software Installation and Operational Qualification
- Analytical Performance Qualification

### Ordering Information

Description	Part Number
iCE 3000 Series FAAS/GFAAS Validator Package	9423VAL10003
<ul style="list-style-type: none"> <li>• <i>Validator Log Book</i></li> <li>• <i>Ca/Mg Hollow Cathode Lamp</i></li> <li>• <i>Ni/Cr/Mn Hollow Cathode Lamp</i></li> <li>• <i>Pyrolytically Coated Cuvettes</i></li> <li>• <i>Chromium Validation Standard</i></li> <li>• <i>Nickel Validation Standard</i></li> <li>• <i>Manganese Validation Standard</i></li> <li>• <i>Water Blank Validation Standard</i></li> <li>• <i>Calibrated Validation Unit (CVU)</i></li> </ul>	

## iCE 3000 Series CD of Validator Report Templates

All the validator report templates on CD. This CD is currently included with each iCE 3000 Series system validator packages.

### Ordering Information

Description	Part Number
iCE 3000 Series Validator Report Templates on CD	9499VAL92001

## Validation Standards

### Ordering Information

Description	Part Number
Nickel Validation Standard	9423VAL00011
Chromium Validation Standard	9423VAL00012
Manganese Validation Standard	9423VAL00013
Water Blank Validation Standard	9423VAL00014
Re-calibration of CVU Accessory (validator plus)	9423VALR0004

## RH Universal Accessory Mount

Accessory mount that is required when you want to use:

- An EC90 in the right-hand side of an iCE spectrometer
- An HS90 in the right-hand side of an iCE spectrometer
- A Mercury Cold Vapor Kit in the right-hand side of an iCE spectrometer
- A Calibration Unit (validator plus accessory) in an iCE spectrometer

The listed items above can also be used in the left-hand side of the iCE 3300/3500 spectrometers. The necessary fittings are included as standard with the accessories.

### Ordering Information

Description	Part Number
RH Sample Compartment Universal Accessory Mount (for use with iCE 3400/3500)	942342020005

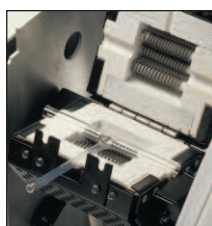
## LH Universal Accessory Mount

Accessory mount for use in the iCE 3000 Series left-hand sample compartments. This is necessary for mounting the EC90 furnace head in the sample compartments. This is for use with an iCE 3300 and 3500.

### Ordering Information

Description	Part Number
LH Sample Compartment Universal Accessory Mount (for use with iCE 3300/3500)	942342021005

## VP100 Continuous Flow Vapor System



The Thermo Scientific VP100 Continuous Flow Vapor System performs hydride and mercury vapor measurements with significant sensitivity improvement over normal flame techniques. An air/acetylene flame or an electrically heated cell is used for atomization, avoiding the need to use hydrogen as the fuel gas. The VP100 unit incorporates the reagent reservoirs, a variable speed 4 channel peristaltic pump, control electronics and gas-liquid separator. An integrated mass flow controller allows the carrier gas flow to be controlled and monitored through the system software, and the continuous flow principle eliminates the need to clean the reaction vessel after each sample. The VP100 operates automatically under data station control, and can provide full autosampling operation with a suitable autosampler. When used with the EC90 electrically heated atomization cell, unattended operation is possible.

The VP100 is compatible with all Thermo Scientific iCE 3000 Series AA spectrometers. The VP100 requires SOLAAR software v10.1, and spectrometer firmware v1.25, or higher.

If the VP100 is ordered with a spectrometer; the correct software will be supplied automatically. If it is ordered as an upgrade to an existing spectrometer, the correct software must also be ordered. (SOLAAR Software Upgrade 9423 430 20001)

### Standard Items

- T Cell (2), Mercury Cell, Spare Pump Tubing, Spare Glass Beads, Spare Semi-permeable Membrane

### Necessary Additional Items:

An appropriate accessory mount is required to fit the long path mercury cell to the spectrometer. Note: that the use of the mercury cell is not obligatory; mercury can be measured using the standard 'T' cell, which does not require an accessory mount.

### Absorption Cells

- Open ended, T-shaped silica cell. 120 mm long. 8 mm internal diameter
- Long path (150 mm) mercury absorption cell

**Cell Heating:** Air/acetylene flame on 50 mm universal burner. Electrical heating using EC90

**Carrier/Purge Gas:** Argon or nitrogen

**Gas Inlet Pressure:** 0.35 – 1 bar (5 – 14 psi)

**Gas Consumption:** Up to 500 mL/min.

**Reducing Agents:** Sodium borohydride. Tin (II) chloride may be used for mercury analysis

**Solution Transport:** Variable speed, 4 channel peristaltic pump, using continuous flow principle

**Sampling Volume:** 1 to 70  $\mu$ L

**Solution Flow Rates:** Reductant – 3.2 mL/min. Sample – 7.8 mL/min.

**Carrier Gas Flow Rates:** Variable 50 – 500 mL/min. Electronic control via mass flow controller.

**Reagent Containers:** Two 1 Liter plastic bottles

**Power:** 220/240 V, 50 Hz or 110/120 V, 60 Hz

**Power Consumption:** 30 VA.

**Dimensions (mm):** 475 W x 300 H x 200 D. Dimensions (mm): 475 W x 300 H x 200 D.

### Absorption Cells

- Open ended, T-shaped silica cell. 120 mm long. 8 mm internal diameter.
- Long path (150 mm) mercury absorption cell

### Ordering Information

Description	Part Number
VP100 Continuous Flow Vapor System	942346010001

## VP100 – Spare Parts

### Ordering Information

Description	Part Number
Fuse (20 x 5 ) IEC 127	401320700201
Switching Mode Power Supply Unit	401320700307
Switching Mode Power Supply Unit	420416600111
Mains Inlet Connector	420422800003
Mains Rocker Switch	420422800004
Front Cover	420516600022
GLS Manifold	420516600043
GLS Top Cup	420516600052
Bottle	420516600061
Plumbing Kit	420517200003
VP100 Led (Power ON ) C/F	420517210011
VP100 PCB Assembly	420517912732
VP100 Mass Flow Controller	420522800001
Silicone Tubing 1/32 ID x 1/16 Wall	420522800021
Tygon Tubing 1.6 mm ID x 0.8 mm Wall	420522800031
Peristaltic Pump Head Assembly	430122820001
Set of VP100 Pump Tubing	942346010011
Membrane DIA 47 PTFE	942346010021
Spare VP100 Semi-permeable Membranes	942346010021
VP100 4 mm Glass Beads	942346010031
Spare Glass Beads for VP100 Gas Liquid Separator	942346010031

## ID100 Autodilutor



The Thermo Scientific ID100 Autodilutor provides rapid, in-line preparation of calibration standards and intelligent, or fixed ratio dilution of samples for flame measurements. It is based on a high precision multi-piston pump that is calibrated for life, and does not require any consumable items. It can be used with manual sampling or with any of the flame autosamplers.

**Standard Items:** ID100 Autodilutor

**Necessary Additional Items:** None

**Power:** 110 V – 240 V at 50 or 60 Hz

**Power Consumption:** 85 VA

### Ordering Information

Description	Part Number
ID 100 Autodilutor	942347003201
ID 100 Consumable Kit	942345003201



## Slotted Tube Atom Trap



The Thermo Scientific Slotted Tube Atom Trap (SLAT) accessory provides a useful increase in flame analytical sensitivity for volatile elements, such as Cd, Zn, Pb, and Cu. It provides a potential of 2 to 5 times improvement in sensitivity for certain volatile elements on flame systems when employing a 50 mm burner. The tube is slotted to allow the atom cloud residence time to be significantly increased in the measuring optical beam.

The SLAT consists of a silica cell with a mount for 50 mm burners and enables the tube to be rotated into, and out of, the actual flame.

### Standard Items

- STAT Holder
- 5 Quartz STAT tubes

**Necessary Additional Items:** 50 mm Universal Titanium Burner

**Power:** 110 V – 240 V at 50 or 60 Hz

**Power Consumption:** 85 VA

### Ordering Information

Description	Part Number
Slotted Tube Atom Trap (STAT)	942339035011

## Variable Flow Auxiliary Oxidant Kit

The Thermo Scientific Variable Flow Auxiliary Oxidant Kit allows the flow rate of the auxiliary oxidant gas that can be supplied to an air/acetylene flame to be varied over a wide range in order to allow the flame chemistry to be optimized when using less common organic solvents. Note: all flame instruments include a fixed flow rate auxiliary oxidant facility for air/acetylene flames that is suitable for the organic solvents most commonly used.

### Standard Items

- Variable Flow Auxiliary Oxidant Kit

**Necessary Additional Items:** None

### Ordering Information

Description	Part Number
Variable Flow Auxiliary Oxidant Kit	942339346111



## EC90 Electrically Heated Atomization Cell

The Thermo Scientific EC90 is an electrically heated atomization cell for flameless vapor generation AAS. It provides improved analytical performance, unattended operation and reduced operating costs in comparison with a flame heated atomization cell. The EC90 must be used with the VP90 or F190, and is suitable for all hydride forming elements.

- Extensive range of cuvettes available including electrographite, platform, and extended lifetime
- Optical temperature control is provided for max sensitivity and reproducibility
- Independently controlled internal and external cuvette gases provide long cuvette lifetime (2 gases)
- Safety interlocks for pressure, inert gas, door, head tilt, temp, magnet open, power and cuvette failure
- Intelligent coolant temperature sensor automatically modifies drying phase if coolant temperature varies
- Includes cuvette lifetime counter

### Standard Items

- EC90 Furnace Head
- EC90 Furnace Power Supply
- 2 Silica T Cells

### Necessary Additional Items:

- VP90 or F190 Continuous Flow Vapor System
- Accessory Mount

**Control System:** From external power supply

**Temperature Range:** Ambient to 1000 °C in 1 °C steps

**Power:** 220/240 V, 50 Hz or 110/120 V, 60 Hz

**Power Consumption:** 700 VA

**Dimensions (mm):** 280 W x 140 H x 290 D (Power supply)

**Weight:** Approximately 13 kg

### Ordering Information

Description	Part Number
EC90 Electrically Heated Atomization Cell	942339360061

*Must be used with a VP90 or F190 Vapor System and a Universal Accessory Mount to provide a working system. It is essential for vapor analysis with the MQZ and MQZe spectrometers.*

## FS95 Spare Parts

### Ordering Information

Description	Part Number
PTFE Sampling Needle 80 cm	401322836641
Syringe (side ported)	401322845021
Seal Cone Inverted PTFE	401322845141
Spare Samp Capillary Tips (Pk 10)	942339381261

## GFS35 Graphite Furnace (Available for iCE 3500 Series Model Only)

The GFS35 graphite furnace for use on iCE 3500 Series model has the following features:

- Controlled by data workstation
- Temperature control is by optical sensing for long term reproducibility
- Instant release cuvette contacts provide a total graphite working environment with pressure sealing to improve cuvette lifetimes.
- Choice of inert and additional alternative gas
- 20 temperature and 20 ramping phases plus unique non-linear ramping
- Full safety interlocks for coolant, inert gas, door open, temperature, power and cuvette failure
- Cuvette lifetime counter
- Installs without the need to disconnect or remove spray chamber or gas lines.
- Extensive range of cuvettes available including electrographite, platform, and extended lifetime

### Standard Items

- Standard (GFS35) Furnace Head
- Power Supply
- Fixed Mount (GFS35)
- Normal Electrographite Cuvettes (10)

### Necessary Additional Items:

- Additional Cuvettes as required

### Ordering Information

Description	Part Number
GFS35 Graphite Furnace and Autosampler (iCE 3500 spectrometers only)	942359020002

## GFS35 Spare Parts

### Ordering Information

Description	Part Number
Standard Fuse	242208601005
Fuse 1 Amp 20 x 5	242208601021
Fuse 1 Amp 32 x 6 250 V	242208601114
SP1900 Clip (hose)	251370614156
Gas Seal	401316681501
Cuvette Alignment Tool	401316683401
Window 15.5 mm DIA x 1 mm	401316856822
Probe Plug with Insert	401317278271
Center Block Window	401317278301
O-ring for Window	401317278311
SP9 Fuse 32a hrc type niTD	401322906281
Water Filter O-ring	420122900051
Water Conn O-ring	420122900061
Water Filter Disc	420122900071
Argon Filter (spare)	420122900271
Set of Graphite Contact Cones	942339395011
CVU Norm Electrographitbox 10 Cuvettes	942339395031
Contact Cone Replacement Tool	942339395101

## GFS35Z Zeeman Graphite Furnace (Available for iCE 3000 Series Spectrometers with MQZ and MQZe Spectrometers)

The Thermo Scientific GFS35Z Zeeman graphite furnace for use on iCE 3000 Series with MQZ and MQZe spectrometers has the following features:

- Extensive range of cuvettes available including electrographite, platform, and extended lifetime
- Optical temperature control is provided for max sensitivity and reproducibility
- Independently controlled internal and external cuvette gases provide long cuvette lifetime (2 gases)
- Safety interlocks for pressure, inert gas, door, head tilt, temp, magnet open, power and cuvette failure
- Intelligent coolant temperature sensor automatically modifies drying phase if coolant temperature varies
- Includes cuvette lifetime counter

### Standard Items

- Zeeman (GFS35Z) Furnace Head
- Power Supply
- Tilt Mount (GFS35Z)
- Normal Electrographite Cuvettes (10)

### Necessary Additional Items:

- Additional cuvettes as required

### Ordering Information

Description	Part Number
GFS35(Z) Graphite Furnace and Auto-sampler (N. America)	942359020052
GFS35(Z) Graphite Furnace and Auto-sampler with Rhodium Plated Centre Block (N. America)	942359020062
Rhodium Plated Centre Block for GFS35(Z) – retrospective fitting	942359020069

## GFS35Z Spare Parts

### Ordering Information

Description	Part Number
Standard Fuse	242208601005
Fuse 1 Amp 20 x 5	242208601021
Fuse 1 Amp 32 x 6 250 V	242208601114
Plastic Forceps	281306098037
Gas Seal	401316681501
Window 15.5 mm DIA x 1 mm	401316856822
Window 09x1	401316858231
Lens KBX 022	401322842461
SP9 Fuse 32a hrc type niTD	401322906281
Water Filter O-ring	420122900051
Water Conn O-ring	420122900061
Water Filter Disc	420122900071
Argon Filter (spare)	420122900271
CVU Standard Electro Graphite Cuvettes (10/box)	942339395031
Graphite Cones Zeeman Furnace	942339395161
Cone Replacement Tool Zeeman	942339395181

## FS95 Furnace Autosampler



The attractively styled Thermo Scientific FS95 Furnace Autosampler will accommodate up to 60 samples in the large carousel. Carousel changeover allows up to 500 samples per run. Six (6) large reagent cups enable up to six (6) matrix modifiers to be employed. Using the cup reducing ring, smaller sample cups can be used in the reagent cup positions to reduce modifier consumption. The sample is collected and dispensed via an inert PTFE capillary with rapidly interchangeable tips. Viscous and normal modes of injection ensure that samples are handled appropriately, and an enhanced wash program eliminates contamination. Fast furnace operation provides concurrent operation of the furnace, spectrometer, and autosampler sample uptake procedures, minimizing overall furnace cycle time.

The syringe is visible and easily accessible for routine maintenance. A large, 1-liter capacity wash vessel for long, unattended analysis is complemented by an on-board waste vessel, removing the need for inconvenient waste collection on the laboratory floor. All facilities are programmed from the SOLAAR software and sampling facilities. Matrix modification (wet or dry mixing), standards addition, dilution, re-concentration and automatic standards preparations can be rapidly set up. Automatic re-scaling and recalibration functions are provided. If a sample falls outside the calibration range the system automatically and intelligently calculates the most appropriate dilution factor required to bring the sample back within range. Autosampler loading guides indicate the optimum carousel layout.

### Standard Items

- Furnace Autosampler
- Polypropylene Sample Cups (1000)
- Polypropylene Reagent Cups (50)
- Spare Capillary Tips (10)

**Necessary Additional Items:** None

**Carousel Capacity:** 60 sample cups, 6 reagent cups

**Cup Types:** Polypropylene sample and reagent, fluoroplastic sample, reduced Volume sample

**Cup Volume (nominal):** Sample 2 mL, reduced volume 1.5 mL, reagent 25 mL

**Matrix Modifiers:** Up to 6 per method

**Resamples:** 1 to 99 per measurement

**Sampling System:** 100  $\mu$ L syringe (side port)

**Sampling Volume:** 1 to 70  $\mu$ L

**Reproducibility of Injected Volume:** Better than 1% (by mass) at volumes  $\Rightarrow$  than 10  $\mu$ L

**Accuracy of Injected Volume:**  $\pm 0.5 \mu$ L

### Inert Gas Pressure

- Nominal – 0.34 bar (5 psi)
- Minimum – 0.20 bar (3 psi)
- Maximum – 0.68 bar (10 psi)

**Wash and Waste Container Volume:** 1 liter each

**Dimensions (mm):** 296 W x 380 H x 320 D

**Weight:** Approximately 7.3 kg

### Ordering Information

Description	Part Number
FS95 Furnace Autosampler	942348020001

## Furnace Autosampler Accessories

### Ordering Information

Description	Part Number
Furnace Autosampler User Spares Kit	942345020004
Polypropylene Reagent Cups (Pk of 50) • Polypropylene Reagent Cups • Flat bottomed (volume 20 mL) (50)	942339380021
Polypropylene Sample Cups (Pk of 1000) • Polypropylene Sample Cups • Flat bottomed (maximum volume 1.8 mL) (1000)	942339380031
Fluoroplastic Sample Cups (Pk of 20) • PTFE Sample Cups • Flat bottomed (max volume 1.8 mL) (20)	942339380051
Reduced Volume Cups (Pk of 20) • Polypropylene Reduced Volume Sample Cups • Conical bottomed (maximum volume 1.3 mL) (20)	942339380061
Cup Reducing Ring (Pk of 1) • Cup Reducing Ring Adaptor Ring for the use of the Sample Cups (P/N 942339380031 or P/N 942339380051) or low volume sample cups (P/N 942339380061) in the reagent cup positions.	942339380071
Spare Samp Capillary Tips (Pk of 10) • Spare Sampling Capillary Tips for Sample Arm. Cone and Capillary already assembled. Unscrew black cap remove old tip and replace with new. If capillary OD appears to be too large may need to enlarge hole in black cap. (10)	942339381261
PTFE Sampling Capillary • Replacement Capillary from Syringe to end of Sampler Arm. Kit includes tubing (syringe fitting attached) and Teflon cone.	942339382261
Carousel and Tray Replacement or Spare (sample holder)	942339383261
Wash and Waste Bottles	401317290831
Seal Cone Inverted PTFE	401322845141
Syringe (side ported)	401322845021

## Continuous Flow and SFI Vapor Systems

### Ordering Information

Description	Part Number
T Cell	942339060101
Spare Peristaltic Pump Tubing	942339360041
Spare Gas/Liquid Separator	942339360051
FI90 Support/Spares Kit	942339368011
Manual Sample Accessory for FI90	942339368021
Reagent Bottle (1 Liter)	401322937761

## CETAC ASX-520 Flame Autosampler

The CETAC ASX-520 Flame Autosampler is a random access, large capacity flame/vapor autosampler with 84 to 360 maximum sample capacity, dependent on rack configuration. Optional racks for 21, 24, 40, 60 or 90 samples. Smaller sample capacities imply larger available volume per sample.

### Standard Items

- Random access x-y autosampler mechanism
- Standards rack (10 position)
- 4 sample racks (60 position each)
- 10 standard and 240 sample polypropylene sample tubes
- 0.5 mm ID and 0.8 mm ID PTFE sample probes
- Pumped wash facility
- RS232C adaptor

**Necessary Additional Items:** None

**Power:** 110 V – 240 V at 50 or 60 Hz

**Power Consumption:** 50 VA

### Ordering Information

Description	Part Number
CETAC ASX-520 Autosampler 110 – 120 V/200 – 240 V	942347004001

## CETAC Flame and Vapor Autosampler Accessories

### Ordering Information

Description	Part Number
CETAC Rack 21 Position • 21-position Sample Tube Rack for CETAC Autosampler, holes are 30.6 mm diameter	942347003901
CETAC Rack 24 Position • 24-position Sample Tube Rack for CETAC Autosampler, holes are 25.0 mm diameter	942347003911
CETAC Rack 40 Position • 40-position Sample Tube Rack for CETAC Autosampler, holes are 21.0 mm diameter	942347003921
CETAC Rack 60 Position • 60-position Sample Tube Rack for CETAC Autosampler, holes are 16.5 mm diameter	942347003931
CETAC Rack 90 Position • 90-position Sample Tube Rack for CETAC Autosampler, holes are 13.5 mm diameter	942347003941
CETAC 30 mL Poly Tubes (500) for Rack 24 • 30 mL Polypropylene Tubes (24-position rack) (500) • Test tube, polypropylene, 30 mL, 25 mm x 93 mm, package of 500, for Cetac 24 position rack	942347004111
CETAC 20 mL Poly Tubes (500) for Rack 40 • 20 mL Polypropylene Tubes (40-position rack) (500) • Test tube, polypropylene, 20 mL, 20 mm x 97 mm, package of 500, for Cetac 40 position rack	942347004161
CETAC 14 mL Poly Tubes (1000) for Rack 60 • 14 mL Polypropylene Tubes (60-position rack) (1000) • Test tube, polypropylene, 14 mL, 15 mm x 100 mm, package of 1000, for Cetac 60 position rack	942347004131
CETAC 8 mL Poly Tubes (1000) for Rack 90 • 8 mL Polypropylene Tubes (90-position rack) (1000) • Test tube, polypropylene, 8 mL, pkg of 1000, for Cetac 90 pos	942347004141
CETAC 50 mL Poly Standard Rack Tubes (500) • 50 mL Polypropylene Standards Tubes (500) • Test tube, polypropylene, 50 mL, 29 mm x 117 mm, package of 500, for Cetac standards tubes	942347004151
CETAC Sample Probe Assembly • Drive assembly for Cetac probe. Includes cable, slide mechanism and block for holding cable.	942347003981
CETAC Sample Probe, 12" 0.5 mm ID • Probe and tubing for Cetac Autosampler 0.5 mm ID	703-010700
CETAC Sample Probe, .8 mm ID • Probe and tubing for Cetac Autosampler 0.8 mm ID	SP5328
CETAC Sample Probe, 0.5 mm ID	942347003991
CETAC Sample Probe, 0.8 mm ID	942347004171
CETAC Tray and Standards Rack – 10 Stan • Tray Sub-assembly with a Standards Rack for CETAC Autosampler	942347003951
CETAC Rinse Station • Rinse Station for CETAC Autosampler	942347003961
CETAC Drain Pump Tubing and Connector Kit • Drain Pump Tubing and Connector Kit • This contains one tube and two end fittings. May need two; one to pump the rinse solution into the rinse station and one to pump from rinse station to waste	942347003971

## Software and Upgrades

## Data Station Software

### Ordering Information

Description	Part Number
SOLAAR Software Suite	942339329901
SOLAARsecurity Software – ordered with iCE 3000 Series spectrometer	942343030011
SOLAARsecurity Software upgrade – for iCE 3000 series, M series and S series only	942343030001

The Thermo Scientific SOLAAR Data Station Software runs on the AA Series Data Station and will control iCE 3000, M and S Series spectrometers. The software is aware of the type of spectrometer that it is controlling, and will only provide relevant parameters and options for each instrument type and configuration. The Data Station Software supports all the facilities provided by all the AA Series Accessories.

The software features a range of Wizard based procedures and a tabbed methods dialogue to make setting up even complex analyses fast and easy. All raw data, results and parameters are stored in a single database for easy retrieval. True Windows multi-tasking is available so that SOLAAR can be iconized while running an analysis, allowing concurrent use of other applications. Methods can be created, edited and saved, and earlier results can be reviewed, edited and printed while an analysis is underway.

SOLAAR software enables full 16 element methods to be performed automatically. The flexible and comprehensive tabbed methods dialogue box guides the user through setting up complex, multi-element analyses. Data coded HCLs are fully supported, and facilities are provided to record lamp usage. Up to 10 calibration standards and a blank can be used, with segmented curve, linear, or quadratic least squares, fit calibration algorithms. Normal, standard addition and standard curve calibration methods are supported, with full graphical display and print out of the calibration curve. Full alpha-numeric sample details including sample mass and dilution correction can be entered for each sample, or imported via text files.

Comprehensive furnace signal graphics are provided; automated ash-atomize plots produce graphical data for furnace program optimization and will even suggest optimum values. For flame systems, fully automatic fuel gas flow and burner height optimization with graphical presentation are provided.

Extensive on line, fully context sensitive, Help facilities are available. Carefully structured “books” allow easy browsing and searching, as well as, direct access to any Help topic. Trouble-shooting and diagnostics sections describe simple experiments to first locate the problem then to rectify it. A full “cookbook” with default parameters for all elements, common interferences, and the means of overcoming them is included.

SOLAAR software provides comprehensive printer support through the Windows operating system. Report formatting enables customization of the sample details, results, summaries, methods, system parameters and graphical displays that are to be included in the report. All reports, as well as individual results, are time and date stamped. Flexible and comprehensive results database filters select and display the required data, which can be exported to other applications for further processing. All results are able to be edited, and are automatically audit trailed. Password protection and the Audit Trail maintain the validity of the data for accreditation purposes.



## Single-Element Lamps – Data Coded



Coded Identification  
Seven (7) Pins



High quality hollow cathode lamps optimized for use with the Thermo Scientific M Series and S Series spectrometers. The spectrometers read the element contained in the lamp and the maximum permissible lamp current from the data coding, providing maximum convenience and removing the possibility of damaging the lamp with excessive currents. Single-element lamps provide the best possible analytical performance. All Thermo Scientific Data Coded Single-Element Lamps carry a 5000 mA/hr lifetime guarantee.

### Ordering Information

Description	Element	Part Number
Aluminum	Al	942339030131
Antimony	Sb	942339030511
Arsenic	As	942339030331
Barium	Ba	942339030561
Beryllium	Be	942339030041
Bismuth	Bi	942339030831
Boron	B	942339030051
Cadmium	Cd	942339030481
Calcium	Ca	942339030201
Cesium	Cs	942339030551
Chromium	Cr	942339030241
Cobalt	Co	942339030271
Copper	Cu	942339030291
Dysprosium	Dy	942339030661
Erbium	Er	942339030681
Europium	Eu	942339030631
Gadolinium	Gd	942339030641
Gallium	Ga	942339030311
Germanium	Ge	942339020321
Gold	Au	942339030791
Hafnium	Hf	942339030721
Holmium	Ho	942339030671
Indium	In	942339030491
Iridium	Ir	942339030771
Iron	Fe	942339030261
Lanthanum	La	942339030571
Lead	Pb	942339030821
Lithium	Li	942339030031
Lutetium	Lu	942339030711
Magnesium	Mg	942339030121
Manganese	Mn	942339030251
Mercury	Hg	942339030801
Molybdenum	Mo	942339030421
Neodymium	Nd	942339030601

Description	Element	Part Number
Nickel	Ni	942339030281
Niobium	Nb	942339030411
Osmium	Os	942339030761
Palladium	Pd	942339030461
Phosphorus	P	942339030151
Platinum	Pt	942339030781
Potassium	K	942339030191
Praseodymium	Pr	942339030591
Rhenium	Re	942339030751
Rhodium	Rh	942339030451
Rubidium	Rb	942339030371
Ruthenium	Ru	942339030441
Samarium	Sm	942339030621
Scandium	Sc	942339030211
Selenium	Se	942339030341
Silicon	Si	942339030141
Silver	Ag	942339030471
Sodium	Na	942339030111
Strontium	Sr	942339030381
Tantalum	Ta	942339030731
Tellurium	Te	942339030521
Terbium	Tb	942339030651
Thallium	Tl	942339030811
Thorium	Th	942339030901
Thulium	Tm	942339030691
Tin	Sn	942339030501
Titanium	Ti	942339030221
Tungsten	W	942339030741
Uranium	U	942339030921
Vanadium	V	942339030231
Ytterbium	Yb	942339030701
Yttrium	Y	942339030391
Zinc	Zn	942339030301
Zirconium	Zr	942339030401

## Single-Element Lamps – Uncoded



Uncoded Identification  
Two (2) Pins

High quality hollow cathode lamps optimized for use with the Thermo Scientific M Series and S Series spectrometers. Single-element lamps provide the best possible analytical performance. All Thermo Scientific Uncoded Single-Element Lamps carry a 5000 mA/hr lifetime guarantee.

### Ordering Information

Description	Element	Part Number
Aluminum	Al	942339020131
Antimony	Sb	942339020511
Arsenic	As	942339020331
Barium	Ba	942339020561
Beryllium	Be	942339020041
Bismuth	Bi	942339020831
Boron	B	942339020051
Cadmium	Cd	942339020481
Calcium	Ca	942339020201
Cesium	Cs	942339020551
Chromium	Cr	942339020241
Cobalt	Co	942339020271
Copper	Cu	942339020291
Dysprosium	Dy	942339020661
Erbium	Er	942339020681
Europium	Eu	942339020631
Gadolinium	Gd	942339020641
Gallium	Ga	942339020311
Germanium	Ge	942339020321
Gold	Au	942339020791
Hafnium	Hf	942339020721
Holmium	Ho	942339020671
Indium	In	942339020491
Iridium	Ir	942339020771
Iron	Fe	942339020261
Lanthanum	La	942339020571
Lead	Pb	942339020821
Lithium	Li	942339020031
Lutetium	Lu	942339020711
Magnesium	Mg	942339020121
Manganese	Mn	942339020251
Mercury	Hg	942339020801
Molybdenum	Mo	942339020421
Neodymium	Nd	942339020601

Description	Element	Part Number
Nickel	Ni	942339020281
Niobium	Nb	942339020411
Osmium	Os	942339020761
Palladium	Pd	942339020461
Phosphorus	P	942339020151
Platinum	Pt	942339020781
Potassium	K	942339020191
Praseodymium	Pr	942339020591
Rhenium	Re	942339020751
Rhodium	Rh	942339020451
Rubidium	Rb	942339020371
Ruthenium	Ru	942339020441
Samarium	Sm	942339020621
Scandium	Sc	942339020211
Selenium	Se	942339020341
Silicon	Si	942339020141
Silver	Ag	942339020471
Sodium	Na	942339020111
Strontium	Sr	942339020381
Tantalum	Ta	942339020731
Tellurium	Te	942339020521
Terbium	Tb	942339020651
Thallium	Tl	942339020811
Thorium	Th	942339020901
Thulium	Tm	942339020691
Tin	Sn	942339020501
Titanium	Ti	942339020221
Tungsten	W	942339020741
Uranium	U	942339020921
Vanadium	V	942339020231
Ytterbium	Yb	942339020701
Yttrium	Y	942339020391
Zinc	Zn	942339020301
Zirconium	Zr	942339020401

## Multi-Element Lamps – Data Coded



Coded Identification  
Seven (7) Pins



High quality hollow cathode lamps optimized for use with the Thermo Scientific M Series and S Series spectrometers. The spectrometers read the list of elements contained in the lamp and the maximum permissible lamp current from the data coding, providing maximum convenience and removing the possibility of damaging the lamp with excessive currents. Multi-element lamps provide analytical performance comparable with single-element lamps, while reducing your lamp inventory and increasing the ease of use. All Thermo Scientific Data Coded Multi-Element Lamps carry a 5000 mA/Hr lifetime guarantee.

### Ordering Information

Description	Element	Part Number
Aluminum/Magnesium	Al/Mg	942339331051
Aluminum/Silicon	Al/Si	942339331041
Aluminum/Silicon/Titanium	Al/Si/Ti	942339331391
Aluminum/Titanium	Al/Ti	942339331381
Barium/Calcium	Ba/Ca	942339331571
Barium/Calcium/Strontium	Ba/Ca/Sr	942339331601
Barium/Strontium	Ba/Sr	942339331591
Cadmium/Zinc	Cd/Zn	942339331611
Calcium/Magnesium	Ca/Mg	942339331011
Calcium/Magnesium/Silicon	Ca/Mg/Si	942339331061
Calcium/Silicon	Ca/Si	942339331081
Calcium/Strontium	Ca/Sr	942339331581
Calcium/Zinc	Ca/Zn	942339331471
Chromium/Copper	Cr/Cu	942339331131
Chromium/Copper/ Manganese/Nickel	Cr/Cu/Mn/Ni	942339331171
Chromium/Copper/Nickel	Cr/Cu/Ni	942339331151
Chromium/Copper/Silver	Cr/Cu/Ag	942339331501
Chromium/Manganese	Cr/Mn	942339331141
Chromium/Manganese/Nickel	Cr/Mn/Ni	942339331161
Chromium/Molybdenum	Cr/Mo	942339331371
Chromium/Nickel	Cr/Ni	942339331121
Chromium/Silver	Cr/Ag	942339331481
Cobalt/Copper	Co/Cu	942339331181
Cobalt/Copper/Iron	Co/Cu/Fe	942339331281
Cobalt/Copper/Iron/ Manganese	Co/Cu/Fe/Mn	942339331331
Cobalt/Copper/ Manganese/Nickel	Co/Cu/Mn/Ni	942339331341
Cobalt/Iron	Co/Fe	942339331191
Cobalt/Iron/Manganese/ Nickel	Co/Fe/Mn/Ni	942339331351
Cobalt/Manganese	Co/Mn	942339331201
Cobalt/Manganese/Nickel	Co/Mn/Ni	942339331291

Description	Element	Part Number
Cobalt/Molybdenum	Co/Mo	942339331111
Cobalt/Nickel	Co/Ni	942339331211
Copper/Gold/Nickel	Cu/Au/Ni	942339331421
Copper/Iron	Cu/Fe	942339331221
Copper/Iron/ Manganese/Nickel	Cu/Fe/Mn/Ni	942339331361
Copper/Iron/ Manganese/Zinc	Cu/Fe/Mn/Zn	942339331561
Copper/Iron/Zinc	Cu/Fe/Zn	942339331531
Copper/Manganese	Cu/Mn	942339331231
Copper/Manganese/Iron	Cu/Mn/Fe	942339331311
Copper/Manganese/Nickel	Cu/Mn/Ni	942339331301
Copper/Manganese/Zinc	Cu/Mn/Zn	942339331541
Copper/Nickel	Cu/Ni	942339331241
Copper/Silver	Cu/Ag	942339331491
Copper/Zinc	Cu/Zn	942339331031
Gold/Copper	Au/Cu	942339331401
Gold/Nickel	Au/Ni	942339331411
Gold/Platinum	Au/Pt	942339331451
Gold/Silver	Au/Ag	942339331431
Gold/Silver/Platinum	Au/Ag/Pt	942339331461
Iron/Manganese	Fe/Mn	942339331251
Iron/Manganese/Nickel	Fe/Mn/Ni	942339331321
Iron/Manganese/Zinc	Fe/Mn/Zn	942339331551
Iron/Nickel	Fe/Ni	942339331261
Iron/Zinc	Fe/Zn	942339331511
Magnesium/Silicon	Mg/Si	942339331091
Manganese/Nickel	Mn/Ni	942339331271
Manganese/Zinc	Mn/Zn	942339331521
Platinum/Silver	Pt/Ag	942339331441
Potassium/Sodium	K/Na	942339331021
Silicon/Titanium	Si/Ti	942339331101

## Multi-Element Lamps – Uncoded



Uncoded Identification  
Two (2) Pins

High quality hollow cathode lamps optimized for use with the Thermo Scientific M Series and S Series spectrometers. Multi-element lamps provide analytical performance comparable with single-element lamps, while reducing your lamp inventory and increasing the ease of use. All Thermo Scientific Uncoded Multi-Element Lamps carry a 5000 mA/hr lifetime guarantee.

### Ordering Information

Description	Element	Part Number
Aluminum/Magnesium	Al/Mg	942339321051
Aluminum/Silicon	Al/Si	942339321041
Aluminum/Silicon / Titanium	Al/Si/Ti	942339321391
Aluminum/Titanium	Al/Ti	942339321381
Barium/Calcium	Ba/Ca	942339321571
Barium/Calcium/Strontium	Ba/Ca/Sr	942339321601
Barium/Strontium	Ba/Sr	942339321591
Cadmium/Zinc	Cd/Zn	942339321611
Calcium/Magnesium	Ca/Mg	942339321011
Calcium/Magnesium/Silicon	Ca/Mg/Si	942339321061
Calcium/Silicon	Ca/Si	942339321081
Calcium/Strontium	Ca/Sr	942339321581
Calcium/Zinc	Ca/Zn	942339321471
Chromium/Copper	Cr/Cu	942339321131
Chromium/Copper/ Manganese/Nickel	Cr/Cu/Mn/Ni	942339321171
Chromium/Copper/Nickel	Cr/Cu/Ni	942339321151
Chromium/Copper/Silver	Cr/Cu/Ag	942339321501
Chromium/Manganese	Cr/Mn	942339321141
Chromium/Manganese/Nickel	Cr/Mn/Ni	942339321161
Chromium/Molybdenum	Cr/Mo	942339321371
Chromium/Nickel	Cr/Ni	942339321121
Chromium/Silver	Cr/Ag	942339321481
Cobalt/Copper	Co/Cu	942339321181
Cobalt/Copper/Iron	Co/Cu/Fe	942339321281
Cobalt/Copper/Iron/ Manganese	Co/Cu/Fe/Mn	942339321331
Cobalt/Copper/ Manganese/Nickel	Co/Cu/Mn/Ni	942339321341
Cobalt/Iron	Co/Fe	942339321191
Cobalt/Iron/ Manganese/Nickel	Co/Fe/Mn/Ni	942339321351
Cobalt/Manganese	Co/Mn	942339321201
Cobalt/Manganese/Nickel	Co/Mn/Ni	942339321291

Description	Element	Part Number
Cobalt/Molybdenum	Co/Mo	942339321111
Cobalt/Nickel	Co/Ni	942339321211
Copper/Gold/Nickel	Cu/Au/Ni	942339321421
Copper/Iron	Cu/Fe	942339321221
Copper/Iron/ Manganese/Nickel	Cu/Fe/Mn/Ni	942339321361
Copper/Iron/ Manganese/Zinc	Cu/Fe/Mn/Zn	942339321561
Copper/Iron/Zinc	Cu/Fe/Zn	942339321531
Copper/Manganese	Cu/Mn	942339321231
Copper/Manganese/Iron	Cu/Mn/Fe	942339321311
Copper/Manganese/Nickel	Cu/Mn/Ni	942339321301
Copper/Manganese/Zinc	Cu/Mn/Zn	942339321541
Copper/Nickel	Cu/Ni	942339321241
Copper/Silver	Cu/Ag	942339321491
Copper/Zinc	Cu/Zn	942339321031
Gold/Copper	Au/Cu	942339321401
Gold/Nickel	Au/Ni	942339321411
Gold/Platinum	Au/Pt	942339321451
Gold/Silver	Au/Ag	942339321431
Gold/Silver/Platinum	Au/Ag/Pt	942339321461
Iron/Manganese	Fe/Mn	942339321251
Iron/Manganese/Nickel	Fe/Mn/Ni	942339321321
Iron/Manganese/Zinc	Fe/Mn/Zn	942339321551
Iron/Nickel	Fe/Ni	942339321261
Iron/Zinc	Fe/Zn	942339321511
Magnesium/Silicon	Mg/Si	942339321091
Manganese/Nickel	Mn/Ni	942339321271
Manganese/Zinc	Mn/Zn	942339321521
Platinum/Silver	Pt/Ag	942339321441
Potassium/Sodium	K/Na	942339321021
Silicon/Titanium	Si/Ti	9423393211010

## Value Range Lamps – Uncoded



Uncoded Identification  
Two (2) Pins





A limited range of cost-effective hollow cathode lamps for use with the Thermo Scientific M Series and S Series spectrometers. Value Range Single-Element Lamps provide analytical performance comparable with normal lamps, at a significantly reduced cost. All Thermo Scientific Value Range Uncoded Single-Element Lamps carry a 5000 mA/hr lifetime guarantee.

### Ordering Information

Description	Element	Part Number
Aluminum	Al	94233902013V
Antimony	Sb	94233902051V
Arsenic	As	94233902033V
Bismuth	Bi	94233902083V
Cadmium	Cd	94233902048V
Calcium	Ca	94233902020V
Chromium	Cr	94233902024V
Cobalt	Co	94233902027V
Copper	Cu	94233902029V
Gold	Au	94233902079V
Iron	Fe	94233902026V
Lead	Pb	94233902082V
Magnesium	Mg	94233902012V
Manganese	Mn	94233902025V
Mercury	Hg	94233902080V
Molybdenum	Mo	94233902042V
Nickel	Ni	94233902028V
Potassium	K	94233902019V
Selenium	Se	94233902034V
Silver	Ag	94233902047V
Sodium	Na	94233902011V
Tin	Sn	94233902050V
Zinc	Zn	94233902030V

## Deuterium Lamp

### Ordering Information

Description		Part Number
QuadLine Deuterium Source <i>For serial number of GE 650000 and above.</i>		942342030004
M Series Deuterium Source <i>For serial number of GE649999 and lower.</i>		942342020004













## Graphite Furnace Cuvettes and Supplies

Description		Part Number
Graphite Cuvettes, Ridged and Uncoated (10)		942339395031
Graphite Cuvettes, Ridged and Coated (10)		942339395071
Graphite Cuvettes, Unridged and Coated (10)		942339395091
Extended Lifetime Cuvettes (ELC) (10)		942339395041
Extended Lifetime Cuvettes (ELC) (20)		942339395051
Omega Platform Cuvettes (10)		942349020101
Graphite Contact Cones (GFS97)		942339395011
Contact Cone Replacement Tool (GFS97)		942339395101

Continued

## Graphite Furnace Cuvettes and Supplies

*Continued*

Description		Part Number
Cuvette Alignment Tool		401316683401
Forceps Plastic (cuvette removing tool)		281306098037
Center Block		401317278261
Center Block Window (window with the holder)		401317278301
Sample Sleeve		401316681211
Graphite Contact Cones (GFS95Z)		942339395161
Contact Cone Replacement Tool (GFS95Z)		942339395181
Center Block (Zeeman)		401317284231
9 mm Window Holder for Centre Block (GF90Z)		401316683791
Sample Sleeve (Zeeman)		401317277931
Magnet Bolt (Zeeman)		401316691311
Cuvette Alignment Tool (Zeeman)		401316686261
Var Pipetman®		942335705421
Pipette Tips (1000) for 20 mL Micropipette		942335705431

## Gas Handling Supplies

## Flame Compartment and Sample Introduction Parts

### Ordering Information

Description	Part Number
Acetylene Regulator	05143100
Nitrous Oxide Regulator	05142000

Description	Part Number
Spray Chamber (includes baffle and spider) 	401317203243
Baffle for Spray Chamber 	401316413822
Spider for Spray Chamber 	401316413832
Spray Chamber Renovation Kit <ul style="list-style-type: none"> <li>• O-ring Kit (solvent kit) – 942339005151</li> <li>• Impact Bead – 401316413796</li> <li>• Baffle – 401316413822</li> <li>• Spider – 401316413832</li> <li>• Alumina Disc – 401316413841</li> <li>• Explosion Disc (overpressure) – 401316413881</li> <li>• Nebulizer Retaining Spring Coated – 401316680061</li> <li>• Acetylene Connection Kit – 401317291782</li> </ul>	942339005461
Screw Adjustable Bead Assembly	942339005401
Drain Vessel AA (5 Liter)	942339005471
Solvent Resistant Drain Tube Assembly	942339005491
Universal 50 mm Ti Burner 	942342031011
Stainless Steel 50 mm Burner <ul style="list-style-type: none"> <li>• 50 mm Burner Head (stainless steel)</li> </ul> <p>Note: For serial number of GE649999 and lower. This is for MARK I M Series Solaar AA. The system can be upgraded to Titanium burner head, see burner retrofit kit.</p> 	942339335081
Retrofit 50 mm Ti Burner <ul style="list-style-type: none"> <li>• 50 mm Burner Head Retrofit Kit (titanium)</li> </ul> <p>Note: For serial number of GE649999 and lower. This can be installed by a field service engineer or customer. It will require reconfiguration or optimization.</p>	942342035011
100 mm Slot Ti Burner 	942342031021

Continued





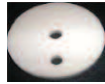








## Flame Compartment and Sample Introduction Parts

Description		Part Number
Stainless Steel 100 mm Burner • 100 mm Burner Head (stainless steel) <i>Note: For serial number of GE649999 and lower. This is for MARK I M Series Solaar AA. The system can be upgraded to Titanium burner head, see burner retrofit kit.</i>		942339335071
Retrofit 100 mm Ti Burner • 100 mm Burner Head (titanium) <i>Note: For serial number of GE649999 and lower. Note: This can be installed by a field service engineer or customer. It will require reconfiguration or optimization.</i>		942342035021
O-ring Kit (entire spray chamber)		942339005151
Burner Slot Cleaner		420216600942
Burner Handle (photo w/out cable and ignitor)		420216601631
Gauze Disc for Fuel Line		401316183842
Spring Washer for Fuel Line		251371306001
Spacer for Fuel Line		401316495812
Bond Seal for Fuel Line		262208002005
Inert Nebulizer		942339005481
Nebulizer Probe		942339005441
Nebulizer Spring (retaining spring coated)		401316680061

Continued

## Flame Compartment and Sample Introduction Parts

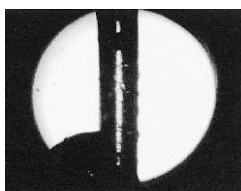
Description		Part Number
Nebulizer Sample Uptake Tubing 0.5 mm ID		942339005421
Nebulizer Sample Uptake Capillary Tube 0.4 ID 1 m		942339005411
Spray Chamber End Cap (inside view)		401317203234
Impact Bead		401316413796
SP9 Alumina Disc		401316413841
SP9 SEAL		401316413761
End-cap Screws (set of 4)		401317294561
Drain Kit (with black tube, Teflon® cone and clip)		420117208121
Drain Tube (2 Meters)		401316694811
SP9 Disc Overpressure		420216601851
Explosion Disc Clamp Ring		401316413872

## M Series Spare Parts

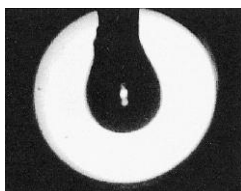
### Ordering Information

Description	Part Number
FUSE 20 x 5 5A "F"	242208600051
STD Clip (hose)	251370613606
SP1900 Clip (hose)	251370614156
Socket Wrench 2.5 mm	262215009009
Socket Wrench BLK 3 A/F (102103)	262215009011
SP9 Nipple	291300598001
SP9 Nipple (ref 032030 B.O.C.)	291300598006
SP9 Nut (to attach nipple to gauge head)	291301490001
SP9 Nut	291301490002
STD Label Warning-Drain Vessel	401316179782
929 Drain Tube Clip	401316672921
Gas Stop End	401316691961
Drain Tube (2 Meters)	401316694811
SP9 Jig Burner Setting	401317204391
Hose Assembly N2O	401317273243
SP9 Mirodent™ Disp. Mouth Mirror	401322805811
PL Hand for Mirodent Mirror	401322805821
9200 Stop End 1/4	401322836581
12 mm A/F SPANNER	401322846801
14 mm A/F SPANNER	401322846811
Spray Chamber Renovation Kit	942339005461
Inert Nebulizer 9400/9000	942339005481
M Series Deuterium Source	942342020004

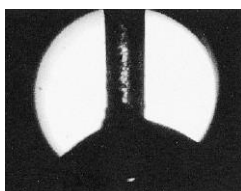
## Graphite Furnace TeleVision (GFTV)



Capillary too low



Capillary too high



Correct injection depth

Optional on all Thermo Scientific M Series Spectrometers, the GFTV accessory provides high definition images of events inside the Graphite Furnace Cuvette, allowing monitoring of the sample injection, dry and ash phases of the furnace program. A CCD camera mounted in the instrument produces live video for display on the Data Stations Screen through the GFTV Software and Interface Kit, or on an external monitor. The external monitor should be monochrome, PAL compatible, with a minimum screen resolution of 400 lines, and a coaxial video cable with BNC plug for connection to the spectrometer.

### Necessary Additional Items

- Free USB port or free PCI expansion slot
- Video adapter that supports Direct Draw

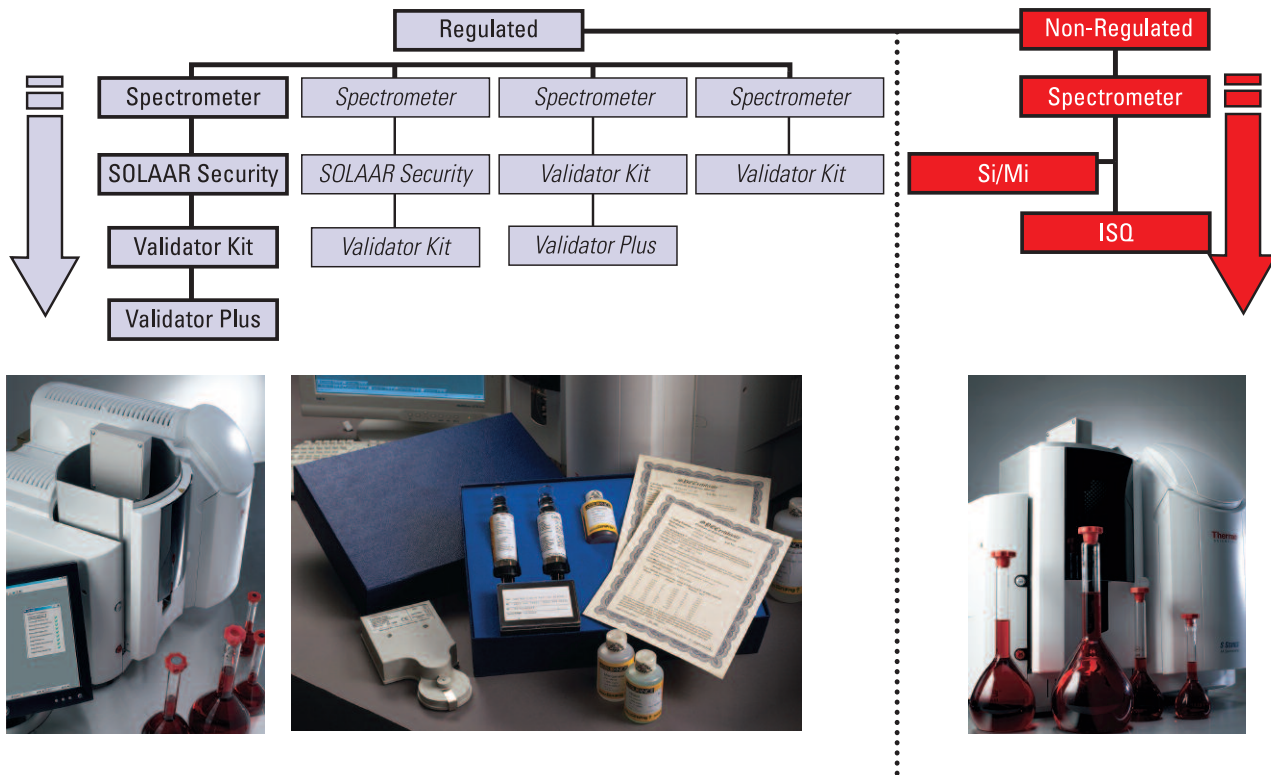
### Ordering Information

Description	Part Number
Fuse (20 x 5) IEC 127	401320700201
GFTV Software and Interface Kit (USB version)	942339396051

## S Series Spare Parts

## Ordering Information

Description	Part Number
Fuse 20 x 5 5A "F"	242208600051
Standard Clip (hose)	251370613606
SP1900 Clip (hose)	251370614156
Spring Washer *302* S/S	251371306001
Socket Wrench 2.5 mm	262215009009
Socket Wrench BLK 3 A/F (102103)	262215009011
SP9 Nipple	291300598001
SP9 Nipple (ref 032030 B.O.C.)	291300598006
SP9 Nut (to attach nipple to gauge head)	291301490001
SP9 Nut	291301490002
Standard Label Warning-Drain Vessel	401316179782
Gauze Disc	401316183842
Impact Bead	401316413796
Baffle	401316413822
Spider	401316413832
SP9 Alumina Disc	401316413841
SP9 Disc Overpressure	401316413881
SPACER	401316495812
929 Drain Tube Clip	401316672921
Standard Retaining Spring (coated)	401316680061
Gas Stop End	401316691961
Drain Tube (2 Meters)	401316694811
SP9 Mirodent Disp. Mouth Mirror	401322805811
Handle for Mirodent Mirror	401322805821
9200 Stop End 1/4	401322836581
12 mm A/F Spanner	401322846801
14 mm A/F Spanner	401322846811
Special Solvents Kit	942339005151
Nebulizer Probe	942339005441
Spray Chamber Renovation Kit	942339005461
Inert Nebulizer 9400/9000	942339005481
QuadLine Deuterium Source	942342030004



## Intelligent Spectrometer Qualification (iSQ)



Consisting of a motorized filter wheel containing a set of calibrated filters, the iSQ module is mounted in the instrument and is driven by the software to provide a suite of automated system performance checks on Mi and Si spectrometers:

- Wavelength Accuracy
- Photometric Stability
- Monochromator Resolution
- D2 Background Correction Accuracy
- Lamp Peaking Test
- Beam Selector Movement Test
- Polarizer Orientation and Repeatability Test (for Zeeman instruments only)

The kit is comprised of a validation log book and hardware package providing all necessary documentation and accessories required to permit the comprehensive validation of the spectrometer by a service engineer, at the point of installation and post-installation.

### Ordering Information

Description	Part Number
iSQ Enhancement (Intelligent Spectrometer Qualification) for S Series <ul style="list-style-type: none"> <li>• iSQ Module</li> <li>• Coded Ca/Mg Lamp</li> <li>• LH Accessory Mount</li> </ul>	942342030001
iSQ Enhancement (Intelligent Spectrometer Qualification) for M Series <ul style="list-style-type: none"> <li>• iSQ Module</li> <li>• Coded Ca/Mg Lamp</li> <li>• RH Accessory Mount</li> </ul>	942342020001

## SOLAARsecurity

Added e-signatures, event logs, audit trails and access controls meet all the requirements set out in the 21 CFR Part 11 Rule without compromising the software's renowned usability.

Network aware, Thermo Scientific SOLAARsecurity can be set up and administered from the central administrator application. Digital signatures can be executed to all e-records ensuring not only that the identity of the creator is recorded, but also including an encryption algorithm to detect any changes.

Signature status is immediately apparent, thanks to the easy to interpret color-coded display, and the Audit Trail reveals the details of all post measurement manipulations.

### Ordering Information

Description	Part Number
SOLAARsecurity Upgrade Software for M and S Series	942343030001
<ul style="list-style-type: none"> <li>• Includes latest version of Standard SOLAAR Software</li> <li>• Validator Package also highly recommended</li> </ul>	

## SOLAAR Flame AA Validator Kit



Kit provides a unique validation package permitting the complete system validation of a Thermo Scientific SOLAAR Flame AA spectrometer running under SOLAAR AA software working in the Microsoft Windows environment.

The kit is comprised of a validation log book and hardware package providing all necessary documentation and accessories required to permit the comprehensive validation of the spectrometer by a service engineer, at the point of installation and post-installation.

- Specification and Design Qualification
- System Installation and Operational Qualification
- Software Installation and Operational Qualification
- Analytical Performance Qualification

### Ordering Information

Description	Part Number
SOLAAR Flame AA Validator Kit	9423VAL00001
<ul style="list-style-type: none"> <li>• Validator Logbook</li> <li>• Ca/Mg Hollow Cathode Lamp</li> <li>• Ni/Cr/Mn Hollow Cathode Lamp</li> <li>• Nickel Validation Standard</li> <li>• Chromium Validation Standard</li> <li>• Water Blank Validation Standard</li> </ul>	

## SOLAAR Graphite Furnace AA Validator Kit



Package provides a unique validation package permitting the complete system validation of a Thermo Scientific SOLAAR Graphite Furnace AA spectrometer (both standard and Zeeman) running under SOLAAR AA software working in the Microsoft Windows environment.

The kit is comprised of a validation log book and hardware package providing all necessary documentation and accessories required to permit the comprehensive validation of the spectrometer by a service engineer, at the point of installation and post-installation.

- Specification and Design Qualification
- System Installation and Operational Qualification
- Software Installation and Operational Qualification
- Analytical Performance Qualification

### Ordering Information

Description	Part Number
SOLAAR GFAAS Validator Package	9423VAL00002
<ul style="list-style-type: none"> <li>• Validator Logbook</li> <li>• Ca/Mg Hollow Cathode Lamp</li> <li>• Ni/Cr/Mn Hollow Cathode Lamp</li> <li>• Pyrolytically Coated Cuvettes</li> <li>• Manganese Validation Standard</li> <li>• Water Blank Validation Standard</li> </ul>	

## SOLAAR Flame and Graphite Furnace AA Validator Kit



Package provides a unique validation package permitting the complete system validation of a Thermo Scientific SOLAAR Flame and of Graphite Furnace AA spectrometer (both standard and Zeeman) running under SOLAAR AA software working in the Microsoft Windows environment.

The kit is comprised of a validation log book and hardware package providing all necessary documentation and accessories required to permit the comprehensive validation of the spectrometer by a service engineer, at the point of installation and post-installation.

- Specification and Design Qualification
- System Installation and Operational Qualification
- Software Installation and Operational Qualification
- Analytical Performance Qualification

### Ordering Information

Description	Part Number
SOLAAR FAAS/GFAAS Validator Package	9423VAL00003
<ul style="list-style-type: none"> <li>• Validator Log Book</li> <li>• Ca/Mg Hollow Cathode Lamp</li> <li>• Ni/Cr/Mn Hollow Cathode Lamp</li> <li>• Pyrolytically Coated Cuvettes</li> <li>• Chromium Validation Standard</li> <li>• Nickel Validation Standard</li> <li>• Manganese Validation Standard</li> <li>• Water Blank Validation Standard</li> </ul>	

## SOLAAR Validator plus Accessory for M and S Series (OQ only)

The CVU contains a set of traceable and certified filters. It is fitted in the spectrometer and controlled by the OQ Test software, and tests the spectrometer resolution, wavelength accuracy, photometric accuracy and stability, and D2 background correction efficiency. The integrated PQ Test software contains a complete set of SOPs and a Wizard to lead the user through the tests needed to validate the instrument analytical performance against the manufacturer's specification.

**Can only be used in RH sample compartment of M Series**

### Necessary Additional Items

- Either the Validator Log Book or the appropriate Validator Kit
- Universal Mount

**Power:** 110 V – 240 V at 50 or 60 Hz

**Power Consumption:** 10VA

### Ordering Information

Description	Part Number
SOLAAR Validator plus Accessory for S and M Series (OQ only)	9423VAL00004
<ul style="list-style-type: none"> <li>• Calibrated Validation Unit (CVU)</li> <li>• Power Supply</li> <li>• RS232 Data Lead</li> </ul>	



## SOLAAR Validator Log Book

All record files are provided in MS Excel® in addition to standard hard copy. Complementing the system validation protocols, reference sections are included that discuss general method development and method validation on a Thermo Scientific SOLAAR AA Spectrometer.

**Can only be used in RH sample compartment of M Series**

### Necessary Additional Items

- Either the Validator Log Book or the appropriate Validator Kit
- Universal Mount

**Power:** 110 V – 240 V at 50 or 60 Hz

**Power Consumption:** 10VA

### Ordering Information

Description	Part Number
SOLAAR Validator Log Book (M and S) Version 6	9499VAL90006
The Validator Log Book includes:	
<ul style="list-style-type: none"> <li>• <i>Overview to SOLAAR Validation</i></li> <li>• <i>Supplier Assessment Questionnaire</i></li> <li>• <i>SOLAAR Specification</i></li> <li>• <i>IQ/OQ/PQ Plans including Relevant Test Criteria</i></li> <li>• <i>Standard Operating Procedures (SOPs) and Test Reporting Facilities</i></li> </ul>	

## Validation Standards

### Ordering Information

Description	Part Number
Nickel Validation Standard	9423VAL00011
Chromium Validation Standard	9423VAL00012L
Manganese Validation Standard	9423VAL00013
Water Blank Validation Standard	9423VAL00014
Re-calibration of CVU Accessory (validator plus)	9423VALR0004



## RH Universal Accessory Mount

Accessory mount that is required when you want to use:

- An EC90 in the right-hand side of an M spectrometer
- An HS90 in the right-hand side of an M spectrometer
- A Mercury Cold Vapor Kit in the right-hand side of an M spectrometer
- A Calibration Unit (validator plus accessory) in an M spectrometer

The first three listed items above can also be used in the left-hand side of the M5, M6, and MQZe spectrometers. The necessary fittings are included as standard with the accessories.

### Ordering Information

Description	Part Number
RH Sample Compartment Universal Accessory Mount	942342020005

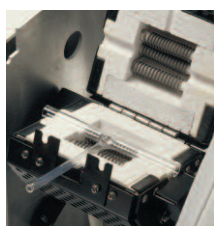
## LH Universal Accessory Mount

Accessory mount for use in the S Series and left-hand M Series sample compartments. This is necessary for mounting the EC90 furnace head and the mercury absorption cell in these sample compartments. It is also used for mounting the Validatorplus calibration validation unit in the S Series sample compartment.

### Ordering Information

Description	Part Number
LH Sample Compartment Universal Accessory Mount	942342021005

## VP100 Continuous Flow Vapor System



The Thermo Scientific VP100 Continuous Flow Vapor System performs hydride and mercury vapor measurements with significant sensitivity improvement over normal flame techniques. An air/acetylene flame or an electrically heated cell is used for atomization, avoiding the need to use hydrogen as the fuel gas. The VP100 unit incorporates the reagent reservoirs, a variable speed 4 channel peristaltic pump, control electronics and gas-liquid separator. An integrated mass flow controller allows the carrier gas flow to be controlled and monitored through the system software, and the continuous flow principle eliminates the need to clean the reaction vessel after each sample. The VP100 operates automatically under Data Station Control and can provide full autosampling operation with a suitable autosampler. When used with the EC90 electrically heated atomization cell, unattended operation is possible.

The VP100 is compatible with all Thermo Scientific M Series and S Series AA spectrometers. It is not compatible with earlier AA spectrometers. The VP100 requires SOLAAR software v10.1, and spectrometer firmware v1.25, or higher.

If the VP100 is ordered with a spectrometer, the correct software will be supplied automatically. If it is ordered as an upgrade to an existing spectrometer, the correct software must also be ordered. (SOLAAR Software Upgrade 942343020001)

### Standard Items

- T Cell (2), Mercury Cell, Spare Pump Tubing, Spare Glass Beads, Spare Semi-permeable Membrane

### Necessary Additional Items:

An appropriate accessory mount is required to fit the long path mercury cell to the spectrometer. Note: the use of the mercury cell is not obligatory; mercury can be measured using the standard 'T' cell, which does not require an accessory mount.

For use on Mark 1 M Series instruments only, a STAT/T cell mount compatible with the stainless steel burner will be required. (stainless steel part number 401399900271)

### Absorption Cells

- Open ended, T-shaped silica cell. 120 mm long. 8 mm internal diameter
- Long path (150 mm) mercury absorption cell

**Cell Heating:** Air/acetylene flame on 50 mm universal burner. Electrical heating using EC90.

**Carrier/Purge Gas:** Argon or nitrogen

**Gas Inlet Pressure:** 0.35 – 1 bar (5 - 14 psi)

**Gas Consumption:** Up to 500 mL/min.

**Reducing Agents:** Sodium borohydride. Tin (II) chloride may be used for mercury analysis

**Solution Transport:** Variable speed, 4 channel peristaltic pump, using continuous flow principle

**Sampling Volume:** 1 to 70  $\mu$ L

**Solution Flow Rates:** Reductant – 3.2 mL/min. Sample - 7.8 mL/min.

**Carrier Gas Flow Rates:** Variable 50 – 500 mL/min. Electronic control via mass flow controller.

**Reagent Containers:** Two 1 Liter plastic bottles

**Power:** 220/240 V, 50 Hz or 110/120 V, 60 Hz

**Power Consumption:** 30 VA.

**Dimensions (mm):** 475 W x 300 H x 200 D. Dimensions (mm): 475 W x 300 H x 200 D.

### Absorption Cells

- Open ended, T-shaped silica cell. 120 mm long. 8 mm internal diameter.
- Long path (150 mm) mercury absorption cell

## Ordering Information

Description	Part Number
VP100 Continuous Flow Vapor System	942346010001

## VP100 – Spare Parts

### Ordering Information

Description	Part Number
Fuse (20 x 5) IEC 127	401320700201
Switching Mode Power Supply Unit	401320700307
Switching Mode Power Supply Unit	420416600111
Mains Inlet Connector	420422800003
Mains Rocker Switch	420422800004
Front Cover	420516600022
GLS Manifold	420516600043
GLS Top Cup	420516600052
Bottle	420516600061
Plumbing Kit	420517200003
VP100 Led (Power ON ) C/F	420517210011
VP100 PCB Assembly	420517912732
VP100 Mass Flow Controller	420522800001
Silicone Tubing 1/32 ID x 1/16 Wall	420522800021
Tygon Tubing 1.6 mm ID x 0.8 mm Wall	420522800031
Peristaltic Pump Head Assembly	430122820001
Set of VP100 Pump Tubing	942346010011
Membrane DIA 47 PTFE	942346010021
Spare VP100 Semi-permeable Membranes	942346010021
Spare Glass Beads for VP100 Gas Liquid Separator	942346010031

## ID100 Autodilutor



The Thermo Scientific ID100 Autodilutor provides rapid, in-line preparation of calibration standards and intelligent or fixed ratio dilution of samples for flame measurements. It is based on a high precision multi-piston pump that is calibrated for life and does not require any consumable items. It can be used with manual sampling or with any of the flame autosamplers.

**Standard Items:** ID100 Autodilutor

**Necessary Additional Items:** None

**Power:** 110 V – 240 V at 50 or 60 Hz

**Power Consumption:** 85 VA

### Ordering Information

Description	Part Number
ID 100 Autodilutor	942347003201
ID 100 Consumable Kit	942345003201

## Slotted Tube Atom Trap



The Thermo Scientific Slotted Tube Atom Trap (SLAT) accessory provides a useful increase in flame analytical sensitivity for volatile elements, such as Cd, Zn, Pb, and Cu. Provides a potential of 2 to 5 times improvement in sensitivity for certain volatile elements on flame systems when employing a 50 mm burner. The tube is slotted to allow the atom cloud residence time to be significantly increased in the measuring optical beam.

The SLAT consists of a silica cell with a mount for 50 mm burners and enables the tube to be rotated into, and out of, the actual flame.

### Standard Items

- STAT Holder
- 5 Quartz STAT tubes

**Necessary Additional Items:** 50 mm Universal Titanium Burner

**Power:** 110 V – 240 V at 50 or 60 Hz

**Power Consumption:** 85 VA

### Ordering Information

Description	Part Number
Slotted Tube Atom Trap (STAT)	942339035011

## Variable Flow Auxiliary Oxidant Kit

The Thermo Scientific Variable Flow Auxiliary Oxidant Kit allows the flow rate of the auxiliary oxidant gas that can be supplied to an air/acetylene flame to be varied over a wide range, in order to allow the flame chemistry to be optimized when using less common organic solvents. Note: all flame instruments include a fixed flow rate auxiliary oxidant facility for air/acetylene flames that is suitable for the organic solvents most commonly used.

### Standard Items

- Variable Flow Auxiliary Oxidant Kit

**Necessary Additional Items:** None

### Ordering Information

Description	Part Number
Variable Flow Auxiliary Oxidant Kit	942339346111

## EC90 Electrically Heated Atomization Cell

The Thermo Scientific EC90 is an electrically heated atomization cell for flameless vapor generation AAS. It provides improved analytical performance, unattended operation and reduced operating costs in comparison with a flame heated atomization cell. The EC90 must be used with the VP90 or FI90 and is suitable for all hydride forming elements.

- Extensive range of cuvettes available including electrographite, platform, and extended lifetime
- Optical temperature control is provided for max sensitivity and reproducibility
- Independently controlled internal and external cuvette gases provide long cuvette lifetime (2 gases)
- Safety interlocks for pressure, inert gas, door, head tilt, temp, magnet open, power and cuvette failure
- Intelligent coolant temperature sensor automatically modifies drying phase if coolant temperature varies
- Includes cuvette lifetime counter

### Standard Items

- EC90 Furnace Head
- EC90 Furnace Power Supply
- 2 Silica T Cells

### Necessary Additional Items:

- VP90 or FI90 Continuous Flow Vapor System
- Accessory Mount

**Control System:** From external power supply

**Temperature Range:** Ambient to 1000 °C in 1 °C steps

**Power:** 220/240 V, 50 Hz or 110/120 V, 60 Hz

**Power Consumption:** 700VA

**Dimensions (mm):** 280 W x 140 H x 290 D (power supply)

**Weight:** Approximately 13 kg

### Ordering Information

Description	Part Number
EC90 Electrically Heated Atomization Cell	942339360061

*Must be used with a VP90 or FI90 Vapor System and a Universal Accessory Mount to provide a working system. It is essential for vapor analysis with the MQZ and MQZe spectrometers.*

## FS95 Spare Parts

### Ordering Information

Description	Part Number
PTFE Sampling Needle 80 cm	401322836641
Syringe (side ported)	401322845021
Seal Cone Inverted PTFE	401322845141
Spare Samp Capillary Tips (Pk 10)	942339381261

## GF95 Spare Parts

### Ordering Information

Description	Part Number
Standard Fuse	242208601005
Fuse 1 Amp 20 x 5	242208601021
Fuse 1 Amp 32 x 6 250 V	242208601114
SP1900 Clip (hose)	251370614156
Gas Seal	401316681501
Cuvette Alignment Tool	401316683401
Window 15.5 mm DIA x 1 mm	401316856822
Probe Plug with Insert	401317278271
Center Block Window	401317278301
O-ring (for window)	401317278311
SP9 Fuse 32a hrc type niTD	401322906281
GF95 Water Filter O-ring	420122900051
GF95 Water conn O-ring	420122900061
GF95 Water Filter Disc	420122900071
GF95 Argon Filter (spare)	420122900271
Set of Graphite Contact Cones	942339395011
CVU Norm Electrographitbox 10 Cuvettes	942339395031
Contact Cone Replacement Tool	942339395101

## GF95Z Spare Parts

### Ordering Information

Description	Part Number
Standard Fuse	242208601005
Fuse 1 Amp 20 x 5	242208601021
Fuse 1 Amp 32 x 6 250 V	242208601114
Plastic Forceps	281306098037
Gas Seal	401316681501
Cuvette Align Tool GF90Z	401316686261
Window 15.5 mm DIA x 1 mm	401316856822
Window 09x1	401316858231
O-ring (for window)	401317278311
Lens KBX 022	401322842461
SP9 fuse 32a hrc type niTD	401322906281
GF95 Water Filter O-ring	420122900051
GF95 Water conn O-ring	420122900061
GF95 Water Filter Disc	420122900071
GF95 Argon Filter (spare)	420122900271
CVU Standard Electro Graphite Cuvettes (10/box)	942339395031
Graphite Cones Zeeman Furnace	942339395161
Cone Replacement Tool Zeeman	942339395181

## FS95 Furnace Autosampler



The attractively styled Thermo Scientific FS95 Furnace Autosampler will accommodate up to 60 samples in the large carousel. Carousel changeover allows up to 500 samples per run. Six (6) large reagent cups enable up to six (6) matrix modifiers to be employed. Using the cup reducing ring, smaller sample cups can be used in the reagent cup positions to reduce modifier consumption. The sample is collected and dispensed via an inert PTFE capillary with rapidly interchangeable tips. Viscous and normal modes of injection ensure that samples are handled appropriately, and an enhanced wash program eliminates contamination. Fast furnace operation provides concurrent operation of the furnace, spectrometer, and autosampler sample uptake procedures, minimizing overall furnace cycle time.

The syringe is visible and easily accessible for routine maintenance. A large, 1-liter capacity wash vessel for long, unattended analysis is complemented by an on-board waste vessel, removing the need for inconvenient waste collection on the laboratory floor. All facilities are programmed from the SOLAAR software and sampling facilities. Matrix modification (wet or dry mixing), standards addition, dilution, re-concentration and automatic standards preparations can be rapidly set up. Automatic re-scaling and recalibration functions are provided. If a sample falls outside the calibration range the system automatically and intelligently calculates the most appropriate dilution factor required to bring the sample back within range. Autosampler loading guides indicate the optimum carousel layout.

### Standard Items

- Furnace Autosampler
- Polypropylene Sample Cups (1000)
- Polypropylene Reagent Cups (50)
- Spare Capillary Tips (10)

**Necessary Additional Items:** None

**Carousel Capacity:** 60 sample cups, 6 reagent cups

**Cup Types:** Polypropylene sample and reagent, fluoroplastic sample, reduced volume sample

**Cup Volume (nominal):** Sample 2 mL, reduced volume 1.5 mL, reagent 25 mL

**Matrix Modifiers:** Up to 6 per method

**Resamples:** 1 to 99 per measurement

**Sampling System:** 100  $\mu$ L syringe (side port)

**Sampling Volume:** 1 to 70  $\mu$ L

**Reproducibility of Injected Volume:** Better than 1% (by mass) at volumes  $\Rightarrow$  than 10  $\mu$ L

**Accuracy of Injected Volume:**  $\pm$ 0.5  $\mu$ L

### Inert Gas Pressure

- Nominal – 0.34 bar (5 psi)
- Minimum – 0.20 bar (3 psi)
- Maximum – 0.68 bar (10 psi)

**Wash and Waste Container Volume:** 1 Liter each

**Dimensions (mm):** 296 W x 380 H x 320 D

**Weight:** Approximately 7.3 kg

### Ordering Information

Description	Part Number
FS95 Furnace Autosampler (M Series Only)	942348020001

## Furnace Autosampler Accessories

### Ordering Information

Description	Part Number
Polypropylene Reagent Cups (Pk of 50) • Polypropylene Reagent Cups • Flat bottomed (volume 20 mL) (50)	942339380021
Polypropylene Sample Cups (Pk of 1000) • Polypropylene Sample Cups • Flat bottomed (maximum volume 1.8 mL) (1000)	942339380031
Fluoroplastic Sample Cups (Pk of 20) • PTFE Sample Cups • Flat bottomed (max volume 1.8 mL) (20)	942339380051
Reduced Volume Cups (Pk of 20) • Polypropylene Reduced Volume Sample Cups • Conical bottomed (maximum volume 1.3 mL) (20)	942339380061
Cup Reducing Ring (Pk of 1) • Cup Reducing Ring Adaptor Ring for the use of the sample cups (P/N 942339380031 or P/N 942339380051) or low volume sample cups (P/N 942339380061) in the reagent cup positions.	942339380071
Spare Samp Capillary Tips (Pk of 10) • Spare Sampling Capillary tips for sample arm. Cone and capillary already assembled. Unscrew black cap remove old tip and replace with new. If capillary OD appears to be too large may need to enlarge hole in black cap. (10)	942339381261
PTFE Sampling Capillary • Replacement capillary from syringe to end of sampler arm. Kit includes tubing (syringe fitting attached) and Teflon cone.	942339382261
Carousel and Tray Replacement or Spare (sample holder)	942339383261
Wash and Waste Bottles	401317290831
Seal Cone Inverted PTFE	401322845141
Plus Syringe (side ported)	401322845021

## Continuous Flow and SFI Vapor Systems

### Ordering Information

Description	Part Number
T Cell	942339060101
Spare Peristaltic Pump Tubing	942339360041
Spare Gas/Liquid Separator	942339360051
FI90 Support/Spares Kit	942339368011
Manual Sample Accessory for FI90	942339368021
Reagent Bottle (1 Liter)	401322937761



## CETAC ASX-520 Flame Autosampler

The CETAC ASX-520 Flame Autosampler is a random access, large capacity flame/vapor autosampler with 84 to 360 maximum sample capacity, dependent on rack configuration. Optional racks for 21, 24, 40, 60 or 90 samples. Smaller sample capacities imply larger available volume per sample.

### Standard Items

- Random access x-y autosampler mechanism
- Standards rack (10 position)
- 4 sample racks (60 position each)
- 10 standard and 240 sample polypropylene sample tubes
- 0.5 mm ID and 0.8 mm ID PTFE sample probes
- Pumped wash facility
- RS232C adaptor

**Necessary Additional Items:** None

**Power:** 110 V – 240 V at 50 or 60 Hz

**Power Consumption:** 50 VA

### Ordering Information

Description	Part Number
CETAC ASX-520 Autosampler 110 – 120 V/200 – 240 V	942347004001

## CETAC Flame and Vapor Autosampler Accessories

### Ordering Information

Description	Part Number
CETAC Rack 21 Position • 21-position Sample Tube Rack for CETAC Autosampler, holes are 30.6 mm diameter	942347003901
CETAC Rack 24 Position • 24-position Sample Tube Rack for CETAC Autosampler, holes are 25.0 mm diameter	942347003911
CETAC Rack 40 Position • 40-position Sample Tube Rack for CETAC Autosampler, holes are 21.0 mm diameter	942347003921
CETAC Rack 60 Position • 60-position Sample Tube Rack for CETAC Autosampler, holes are 16.5 mm diameter	942347003931
CETAC Rack 90 Position • 90-position Sample Tube Rack for CETAC Autosampler, holes are 13.5 mm diameter	942347003941
CETAC 30 mL Poly Tubes (500) for Rack 24 • 30 mL Polypropylene Tubes (24-position rack) (500) • Test tube, polypropylene, 30 mL, 25 mm x 93 mm, package of 500, for Cetac 24 position rack	942347004111
CETAC 20 mL Poly Tubes (500) FOR RACK 40 • 20 mL Polypropylene Tubes (40-position rack) (500) • Test tube, polypropylene, 20 mL, 20 mm x 97mm, package of 500, for Cetac 40 position rack	942347004161
CETAC 14 mL Poly Tubes (1000) for Rack 60 • 14 mL Polypropylene Tubes (60-position rack) (1000) • Test tube, polypropylene, 14 mL, 15 mm x 100 mm, package of 1000, for Cetac 60 position rack	942347004131
CETAC 8 mL Poly Tubes (1000) for Rack 90 • 8 mL Polypropylene Tubes (90-position rack) (1000) • Test tube, polypropylene, 8 mL, pkg of 1000, for Cetac 90 pos	942347004141
CETAC 50 mL Poly Standard Rack Tubes (500) • 50 mL Polypropylene Standards Tubes (500) • Test tube, polypropylene, 50 mL, 29 mm x 117 mm, package of 500, for Cetac standards tubes	942347004151
CETAC Sample Probe Assembly • Drive assembly for Cetac probe. Includes cable, slide mechanism and block for holding cable.	942347003981
CETAC Sample Probe, 12" 0.5 mm ID • Probe and tubing for Cetac Autosampler 0.5 mm ID	703-010700
CETAC Sample Probe, .8 mm ID • Probe and tubing for Cetac Autosampler 0.8 mm ID	SP5328
CETAC Tray and Standards Rack - 10 Stan • Tray Sub-assembly with a Standards Rack for CETAC Autosampler	942347003951
CETAC Rinse Station • Rinse Station for CETAC Autosampler	942347003961
CETAC Drain Pump Tubing and Connector Kit • Drain Pump Tubing and Connector Kit • This contains one tube and two end fittings. May need two one to pump the rinse solution into the rinse station and one to pump from rinse station to waste	942347003971

## Flame and Vapor Autosampler Accessories

### Ordering Information

Description	Part Number
TA Tubes for 24 Position Rack	942347005101
14 mL Polypropylene Sample Tubes (2000 off)	942347005111
TA Tubes for 75 Position Rack	942347003311
TA Rack for 24 Position	942347005901
TA Rack for 48 Position	12714000
TA Rack for 75 Position	942347005921
Rinse Station Assy Autosampler	942347005931
TA AS2500 Drip Tray	942347005941
TA AS2500 Standards Rack Extension	942347005951
TA AS2000 Drip Tray	942347005961
TA AS2000/2500 Standards Rack	942347005971

## Software and Upgrades

## Local Control Software

## Data Station Software

### Ordering Information

Description	Part Number
SOLAAR Upgrade Software (includes software for earlier systems)	942343020001
SOLAARsecurity Upgrade Software	942343030001

The Thermo Scientific SOLAAR Local Control Software runs on the Local Control Module and will control both M Series and S Series spectrometers. The software is aware of the type of spectrometer that it is controlling, and will only provide relevant parameters and options for each instrument type and configuration. The Local Control Software supports all AA Series accessories, although in some cases provides a more limited range of facilities than does the Data Station Software.

Local Control Software offers linear, curved and standard additions calibration algorithms with blank solution and up to five standards. Live display of calibration and furnace peak graphics are available and can be copied to an Epson™ compatible dot matrix printer. Up to 20 parameter sets can be saved in non-volatile memory (NVM), and multi-element analysis capability is available. Automatic sampling with all flame and furnace autosamplers, and full editable alphanumeric sample details are provided. Parameters, results and graphics can be printed directly to a suitable printer. Results are stored in NVM, and can be reviewed and printed at any time. They will be over-written only when a new analysis is started.

The Thermo Scientific SOLAAR Data Station Software runs on the AA Series Data Station, and will control both S Series and M Series spectrometers. The software is aware of the type of spectrometer that it is controlling, and will only provide relevant parameters and options for each instrument type and configuration. The Data Station Software supports all the facilities provided by all the AA Series Accessories.

The software features a range of wizard based procedures and a tabbed methods dialogue to make setting up even complex analyses fast and easy. All raw data, results and parameters are stored in a single database for easy retrieval. True Windows multi-tasking is available, so that SOLAAR can be iconized while running an analysis, allowing concurrent use of other applications. Methods can be created, edited and saved, and earlier results can be reviewed, edited and printed, while an analysis is underway.

SOLAAR software enables full 16 element methods to be performed automatically. The flexible and comprehensive tabbed methods dialogue box guides the user through setting up complex, multi-element analyses. Data coded HCLs are fully supported, and facilities are provided to record lamp usage. Up to 10 calibration standards and a blank can be used, with segmented curve, linear, or quadratic least squares, fit calibration algorithms. Normal, standard addition and standard curve calibration methods are supported, with full graphical display and print out of the calibration curve. Full alpha-numeric sample details including sample mass and dilution correction can be entered for each sample, or imported via text files.

Comprehensive furnace signal graphics are provided and automated ash-atomize plots produce graphical data for furnace program optimization and will even suggest optimum values. For flame systems, fully automatic fuel gas flow and burner height optimization with graphical presentation are provided.

Extensive on line, fully context sensitive, Help facilities are available. Carefully structured “books” allow easy browsing and searching, as well as, direct access to any Help topic. Trouble-shooting and diagnostics sections describe simple experiments to first locate the problem then to rectify it. A full “cookbook” with default parameters for all elements, common interferences, and the means of overcoming them is included.

SOLAAR software provides comprehensive printer support through the Windows operating system. Report formatting enables customization of the sample details, results, summaries, methods, system parameters and graphical displays that are to be included in the report, and all reports, as well as individual results, are time and date stamped. Flexible and comprehensive results database filters select and display the required data, which can be exported to other applications for further processing. All results are able to be edited, and are automatically audit trailed. Password protection and the audit trail maintain the validity of the data for accreditation purposes.

## XSERIES 2

The XSERIES 2 ICP-MS is the most productive quadrupole ICP-MS available for routine and high performance analytical work. The ease of use and practical design of the XSERIES 2 means that laboratories can achieve their analytical objectives faster, with greater confidence and less 'hands-on' time from the operator.

The XSERIES 2 ICP-MS is available in tailored configurations to suit all applications with user interchangeable Xt and Xs interface options. Peltier cooling and third generation Collision Cell Technology options provide enhanced performance leading to the highest signal / background of any quadrupole ICP-MS with collision cell capability.

Thermo Fisher Scientific provides a full range of competitively priced consumables for the XSERIES 2 instrument. These consumables and parts are available through your Local Office and include, for example, consumables for the inlet system and cones. The key consumables and spare part items are listed below for your reference.

To learn more about this and other products and comprehensive service offerings, visit our Web site at [www.Thermo.com/xseries2](http://www.Thermo.com/xseries2).



## Consumables Kit #460 0531



### Ordering Information

Description	Qty*	Part Number
Sample cone 4450 <i>Xt &amp; Xs sample cone</i>	1	360 0812
Skimmer cone mounting screw	4	360 0814
Skimmer cone PS8R <i>Xi skimmer cone</i>	1	360 0811
Sampling cone gaskets <i>Graphite gasket for fitting behind sample cone</i>	20	300 4382
O-ring VITON 28mm x 1,5mm C/S	2	120 1240
O-ring 6,07 x 1,78 Viton Teflon	2	120 2339
Pump tube orange/yellow	1 x 12	116 1920
Pump tube white/white	1 x 12	120 0212
Teflon tube	5 m	104 1071
Tube Teflon 1/16 OD 0,02 ID 10ft <i>sample uptake tube</i>	1	160 0061
Quartz glass torch c/w screen location	2	360 1145
Assy conn 4*6mm Push Fitseal	2	460 0296

Continued

## Consumables Kit #460 0531



### Ordering Information

Description	Qty*	Part Number
4 mm Argon tubing	2	120 2514
Silver screen (Torch Ag shield fixed)	1	360 1219
Quartz torch bonnet	1	360 1149
Oil ultra grade 19	1	120 2445

## Basic Hydride Kit #460 0152

### Ordering Information

Description	Qty	Part Number
Prelab Cont. Hydridegen pack	1	420 1985
Tube Adaptor glass 6.35 mm	1	320 0004
Conn. Q.R.6 OD male comp	1	120 0911
Pump tube white/white <i>0-5 ML MIN</i>	1 x 12	120 0212
Pump tube orange/yellow	1 x 12	116 1920
Tube Tygon <i>1/4 OD, 1/8ID ,AC007V</i>	2 m	104 0863
Union coupling nylon 1/4"	1	104 0834

## Online Internal Standard Kit # 460 0431

### Ordering Information

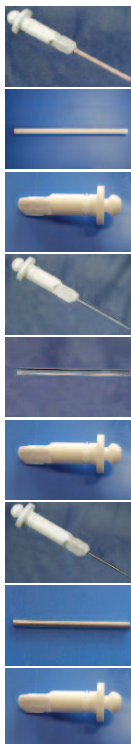
Description	Qty	Part Number
HDPE 1 Litre bottle	1	160 0586
Pour-out Spout PP	1	160 0587
CETAC ASX-510 Probe <i>0.8MM ID</i>	1	160 0588
Barbed adpater 1 mm PEEK	2	160 0582
Y connector 0.5 mm PEEK	1	160 0583
Pump tube orange/green	1	160 0584
Pump tube orange/yellow	1 x 12	116 1920

## Organics Kit # 460 0298

### Ordering Information

Description	Qty	Part Number
Male Luer to 1/8 RMLR013	1	160 0430
Cable CAT - 5 0.5 m yellow rs comp	1	260 0182
Manual - Add. Gas/Organic kit	1	360 1208
Assy. inert spray chamber	1	460 0295
Assy. gas manifold unit	1	460 0337
Teflon tube	2	104 1071
Tube isoversic collard 0.5 ID	1 x	120 0092
Tube collared fluoroelastomer <i>1.0 ID</i>	1.x	120 0342
4mm Argon tubing	2	120 2514
Nebulizer Micromist AR35-1-FL01	1	160 0372

## Injector kits (Alumina, Sapphire, Platinum)



### Ordering Information

Description	Part Number
Alumina injector kit, includes <i>120 0079 Alumina injector (1pc)</i> <i>360 0506 Adapter for injector (1pc)</i>	460 0138
Alumina injector <i>4mm OD, 1.9mm ID</i>	120 0079
Adapter for alumina injector <i>PTFE holder for alumina injector</i>	360 0506
Sapphire injector kit, includes <i>120 1208 Sapphire injector (1pc)</i> <i>360 0507 Adapter for injector (1pc)</i>	460 0139
Sapphire injector <i>3.1mm OD, 1.65mm ID</i>	120 1208
Adapter for sapphire injector <i>PTFE holder for sapphire injector</i>	360 0507
Platinum injector kit, includes <i>160 0199 Platinum injector (1pc)</i> <i>360 0508 Adapter for injector (1pc)</i>	460 0140
Platinum injector <i>2.0mm OD</i>	160 0199
Adapter for platinum injector <i>PTFE holder for platinum injector</i>	360 0508

## Peltier Cooling









### Ordering Information

Description	Part Number
Peltier cooled spray chamber kit includes <i>460 0291 Assy. Peltier cooled spray chamber</i> <i>360 1144 X5 Peltier upgrade ass. instructions</i>	460 0421
Assy. Peltier cooled spray chamber includes <i>460 0355 Assy. Peltier output cable (1pc)</i> <i>460 0343 Assy. Peltier PSU (1pc)</i> <i>460 0341 Assy. Peltier unit (1pc)</i> <i>160 0434 Tube fitting comp insert (2pcs)</i> <i>104 0863 Tube Tygon 1/4 OD, 1/8 ID (1m)</i>	460 0291



## Miscellaneous (Miscellaneous Kits & Miscellaneous Spares)

### Ordering Information

Description	Qty	Part Number
Kit Vacuum Gauge Edwards		460 0246
Kit Pumping System Pfeiffer		460 0268
Assy. fixed shield torch		460 0422
Sample introduction system		460 0287-05
X SERIES 2 Preinstallation kit, includes <i>121 9590 XSERIES 2 Getting Started Guide</i> <i>121 4490 Safety Information Tune solution</i> <i>121 6590 XSERIES 2 Chemicals</i> <i>121 6560 Ultrapure water -</i> <i>121 6830 Customer Information Sheet</i> <i>210 5500 CEE socket 16A/ 3 POL</i> <i>122 9140 XSERIES 2 Site Planning Guide</i>		121 4480
 Detector AF233 <i>to be used with PlasmaLab software version 2.5.8</i>	1	260 0361
 Detector AF224 <i>to be used with PlasmaLab software version 2.5.9 or later</i>	1	124 4720
Rotary pump acoustic enclosure <i>reduces noise from rotary by approx. 9dB</i>	1	460 0399
 In-line water filter <i>In-line water filter with 12mm connections</i>	1	160 0550
 12mm water tubing <i>12mm OD black polyurethane tube for cooling water in/out</i>	1m	160 0276
 12mm push-fit connectors <i>Connectors for use with water</i>	1 x 10	160 0549
Drip tray kit <i>replacement side panel and torch box drip trays includes</i> <i>360 0875 Drip tray external</i> <i>360 0705 Innerdrip tray moulded</i>	1	460 0274
 6mm Argon tubing <i>6mm OD black polyurethane tube for main Ar in connection</i>	1 m	104 1671
4mm Argon tubing <i>4mm OD black polyurethane tube for nebulizer and additional gas/organics</i>		120 2514
Aridus Nebulizer 220/240V <i>ARD-99-0001C</i>		120 2803
Water recirculator TF-2500 IPR, 230V, 60Hz		121121010000005
Water recirculator TF-2500 IPR, 230V, 50Hz		121161010000004

## Autodiluter kits

### Ordering Information

Description	Part Number
ID100 Autodiluter kit, includes <i>460 0427 Kit ID100 ICP-MS Accessories</i> <i>942347003201 ID100 Autodiluter</i>	460 0395
Kit ID100 ICP-MS Accessories, includes <i>121 2282 Software XSERIES 2.5.4</i> <i>360 1099 Autodiluter user manual</i> <i>260 0256 2-port RS232 PCI PnPSUNIX 4036A</i>	460 0427

## CCT Upgrade Kit for XSERIES # 460 0428



### Ordering Information

Description	Qty	Part Number
Assy. CCT Gas Module	1	460 0259
Manual fitting instructions	1	360 1153
Cable strap small	1	202 6054

## Assy Additional Gas Module # 460 0290

### Ordering Information

Description	Qty	Part Number
Assy. gas manifold unit	1	460 0337
Manual - Add. Gas/Organic kit	1	360 1208
Cable CAT - 5 0.5 m yellow rs comp	1	260 0182
Male Luer to 1/8 RMLR013	1	160 0430
4mm Argon tubing	2	120 2514

## HPLC Coupling kit # 460 0485

### Ordering Information

Description	Qty	Part Number
HPLC Getting Started Guide	1	360 1236
Assy. Ext. trigger board	1	460 0261
1/16" PEEK T-piece	1	160 0638
Tube peak 1/16 OD 0.25 ID <i>blue strip JR-600</i>	2	160 0312
Connector Nebulizer Ezyfit GE	1	160 0062
Software XSERIES 2 2.5.4	1	121 2282

## GC-ICP-MS Coupling Kit # 460 0503

### Ordering Information

Description	Qty	Part Number
KIT GC-ICP-MS COUPLING	1	460 0504
KIT GC-ICP-MS XSERIES <i>suppl. parts</i>	1	460 0477
GC-ICP-MS Apps. Guide	1	360 1230
Software XSERIES 2 2.5.4	1	121 2282

## Xi Interface Kit # 460 0347



### Ordering Information

Description	Qty	Part Number
Skimmer cone PS8R <i>Xi skimmer cone</i>	1	360 0811
Sample cone 4450 <i>Xt &amp; Xs sample cone</i>	1	360 0812
Skimmer cone mounting screw <i>screw to fix skimmer cone to mounting</i>	4	360 0814
Skimmer cone adapter XSERIES 2	1	360 1320

## Xt Cones



### Ordering Information

Description	Part Number
Sample cone 4450 <i>Xt &amp; Xs sample cone</i>	360 0812
Skimmer cone PS8R <i>Xi skimmer cone</i>	360 0811
Skimmer cone mounting screw <i>screw to fix skimmer cone to mounting plate</i>	360 0814
Xt Skimmer tool <i>Cone tool for fitting/refitting skimmer cone</i>	360 0815
Sample cone tool <i>tool for fitting/removing sample cones</i>	360 0828
Sample cone clamp ring <i>Clamp ring for holding sample cones in interface</i>	360 0725
Sampling cone gaskets <i>Graphite gasket for fitting behind sample cone to ensure vacuum seal</i>	300 4382
Skimmer mounting plate <i>plate for mounting Xt and XS skimmer cone to expansion</i>	360 1298
O-ring AS040 Viton 72,75 x 1,78 <i>o-ring for skimmer cone</i>	160 0284

## Xs Cones

### Ordering Information

Description	Part Number
Xs interface kit includes <i>320 0860 Microskimmer Ni (1pc)</i> <i>320 0918 Tool Mikroskimmer Ni (1pc)</i>	460 0539
Sample cone 4450 <i>Xt &amp; Xs sample cone</i>	360 0812
Xs Skimmer cone <i>Nickel Xs skimmer cone</i>	320 0860
Xs skimmer cone tool <i>tool for fitting/removing Xs skimmer cones</i>	320 0918
Sample cone tool <i>tool for fitting/removing sample cones</i>	360 0828
Sample cone clamp ring <i>Clamp ring for holding sample cones in interface</i>	360 0725
Sampling cone gaskets <i>Graphite gasket for fitting behind sample cone to ensure</i>	300 4382
O-ring AS040 Viton 72,75 x 1,78 <i>o-ring for skimmer cone</i>	160 0284

## Pt Tipped Cones

### Ordering Information

Description	Part Number
Pt XS interface kit <i>320 1101 Pt Xs skimmer cone (1pc)</i> <i>320 0918 Xs skimmer cone tool (1pc)</i>	460 0540
Pt tipped sample cone (Xt and Xs) <i>Sample cone with Pt tip</i>	360 1289
Pt tipped skimmer cone <i>Xs skimmer cone with Pt tip</i>	320 1101

## Standard Spray Chamber

### Ordering Information

Description	Part Number
Kit spray chamber <i>460 0508 Spray chamber compl. (1pc)</i> <i>360 0730 Elbow connector (1pc)</i>	460 0352-05
Spray chamber complete with <i>glass spray chamber, Ezyfit drain connector,</i> <i>drain tubing, oring</i>	460 0508
Teflon tube (drain tubing)	104 1071
O-ring 6,07 x 1,78 Viton Teflon	120 2339
Ezyfit drain connector <i>Push fit drain connector for drain tubing</i>	160 0655
Elbow connector <i>for connecting torch to spray chamber</i>	360 0730
Glassware clip <i>Sprung stainless steel clip for securing</i> <i>torch/elbow/spray chamber connections</i>	120 1261



## Inert Spray Chamber



### Ordering Information

Description	Part Number
Inert spray chamber complete assembly includes 320 4731 Inert spray chamber body (1pc) 360 0341 Bead mounting tool (1pc) 360 0730 Elbow connector (1pc) 360 0899 Inert spray chamber end cap (1pc) 360 0931 Offset impact bead assembly (1pc) 120 1833 Seal O-ring 6.07IDx1.78 (2pcs) 160 0062 Connection Nebulizer Ezyfit (1pc) 160 0080 O-ring 37.82x1.78 (1pc) 160 0428 Connection female (1pc) 160 0429 Plug male (1pc)	460 0295
Inert spray chamber assy + torch includes 460 0295 Inert spray chamber cpl. assy (1pc) 360 1146 Torch w/ screen location (1pc) 160 0431 Glassware clip (2pcs)	460 0359
Offset impact bead assembly Inert bead used with inert spray chamber body	360 0931
Inert spray chamber body	320 4731
Inert spray chamber end cap with additional gas port	360 0899
Elbow connector for connecting torch to spray chamber	360 0730
Glassware clip Sprung stainless steel clip for securing torch/elbow/spray chamber connections	120 1261

## Torch & Screen



### Ordering Information

Description	Part Number
Quartz torch 1.5mm injector standard XSERIES torch	360 1145
Demountable torch body	360 1146
Quartz torch 2.0mm nozzle with screen locator	360 1147
Silver screen (Torch Ag shield fixed) fixed location silver screen	360 1219
Platinum screen	360 1235
Quartz torch bonnet for use with all fixed location screens	360 1149

## Nebulizers



### Ordering Information

Description	Part Number
Standard glass nebulizer kit, incl. 360 1150 Spacing collar (1pc) 160 0288 Push fit connector for Ar supply (1pc) 160 0061 Sample uptake tube (1pc) 160 0656 C-1 Nebulizer (1pc) 160 0655 EzyFit connector (1pc)	460 0294-03
Burgener MiraMist High Solids nebulizer HF resistant, for use with high dissolved-solid matrices (0.4 - 2.0ml/min)	460 0356
Burgener Airmist Low Flow High Solids nebulizer, HF resistant, 0.2 - 2.0 ml/min	460 0495
Polycon concentric polymide nebulizer HF resistant, 0.8ml/min	160 0139
Concentric PFA20 Low Flow neb. kit HF resistant, self aspirates at 20ml/min	160 0427
Concentric PFA50 Low Flow neb. kit HF resistant, self aspirates at 50ml/min	160 0165
Concentric PFA100 Low Flow neb. kit HF resistant, self aspirates at 100ml/min	160 0342

## Sample Handling Systems

### Ordering Information

Description	Part Number
Basic Hydride Generation Kit	460 0152
On-line Internal Standard Kit	460 0431
Cetac ASX520 Autosampler - 50/60Hz	420 2467
Extended Rack for ASX520 Autosampler	160 0654
Cetac ASX-260 autosampler w/ 2 sample racks for 120 vials (250 * 50 mL vials provided)	116 9950
Cetac ASX-110 FR autosampler with Peripump option	123 8610
Cetac ASX-110 FR autosampler with Gas Displacement Option	123 8620
Cetac ASX-110 FR autosampler with PFA Gas Displacement Option	123 8630
SC-4 with FAST	123 8560
SC-4 without FAST	123 8570
SC-2 with FAST	123 8580
SC-2 without FAST	123 8590
SC 14 without FAST	123 8540
SC 14 with FAST	123 8600

## Inert Sapphire/PFA Sample Intro.Sys. # 460 0363

### Ordering Information

Description	Qty	Part Number
Quartz torch O-Ringfreebase	1	160 0519
Sapphire injector w/ PFA base <i>1.8 ID</i>	1	160 0518
Spray chamber & endcap <i>47 mm PFA</i>	1	160 0517
Nebulizer microflow PFA -100	2	160 0342

## Validation Kits

### Ordering Information

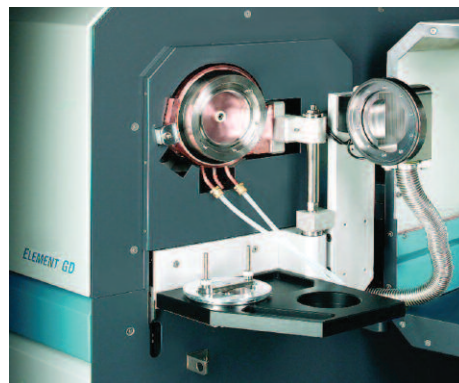
Description	Part Number
EPA validation solutions kit	460 0432
EPA HG validation solutions kit	460 0465
EPA 6020a ILM05 Productivity pack, includes <i>360 1155 Manual - Knowledge kit</i> <i>360 1156 CD-ROM Knowledge kit - Templates &amp; software</i>	460 0541
EPA 200 .8 Productivity pack, includes <i>360 1322 EPA 200.8 Methods manual printed</i> <i>360 1323 EPA CD-ROM</i>	460 0542
EPA 200.8 Productivity solutions pack	460 0545



## ELEMENT GD

The ELEMENT GD, a combination of a glow discharge ion source with a high resolution mass spectrometer, is the ultimate tool for the direct analysis of conductive materials.

Almost all elements present in a solid sample can be detected and routinely quantified. Many elements can be analyzed down to the ppt (parts per trillion) range.



### High purity consumables kit # 124 9190

GD High purity consumables kit for 1000 analyses. Kit requires wet chemical cleaning of the graphite parts contained.



### Ordering Information

Description	Qty	Part Number
Anode cap graphite uncoated	100	124 8160
Flow tube graphite uncoated	100	124 8170
Plug-in cone GD graphite	100	123 9850
Anode tube stainless steel	1	119 5180
Plug-in extraction lens	2	123 1850
Sapphire insulation ring	2	124 9330
Holding ring for Plug-in cone	2	123 9110
O-ring flow tube 5.5 x 1 mm	3	124 9340
PU-Gloves, size 9	10 pairs	119 3470

## Basic consumables kit # 1249200

GD basic consumables kit for 500 analyses (samples of medium purity). Kit does not require wet chemical cleaning; anode caps and flow tubes are disposables, the cone can be cleaned mechanically.



### Ordering Information

Description	Qty	Part Number
Anode caps stainless steel (50 pcs) = 500pcs	10 x 50	118 7441
Flow tubes stainless steel 20mm length (50 pcs) = 500pcs	10 x 50	119 4561
Plug-in cone stainless steel	50	123 9150
Anode tube Stainless Steel	1	119 5180
Plug-in extraction lens	1	123 1850
Sapphire insulation ring	2	124 9330
Holding ring for Plug-in cone	1	123 9110
O-ring flow tube 5.5 x 1 mm	3	124 9340
PU-Gloves, size 9	10 pairs	119 3470

## Consumables Kit # 1227610



### Ordering Information

Description	Qty	Part Number
Anode cap GD	20 x 50	118 7441
Flow tube stainless steel	20 x 50	119 4561
Anode tube GD (body) cpl. incl. 3 O-rings (part # 106 7390)	1	119 5180
Ceramic tube	2	121 2920
O-Ring 5.5 X 1 A Viton® - for flow tube -	5	124 9340
Cone nickel GD	2	118 6630
Plug-in slit tongue	1	117 0800
Dust filter for pump filter Element	1	119 8670

## Spare Parts Kit # 1227560



### Ordering Information

Description	Qty	Part Number
SEM ICP2-V2 PLUG IN	1	115 2700
Sealing kit MAGNET	1	106 9861
Sealing kit ENTRANCE SLIT (set of 2 pieces)	1	106 9880
Sealing kit ANALYZER (set of 3 pieces)	1	106 9890
Sealing kit ESA (set of 3 pieces)	1	106 9870
O-ring 34,59X2,62 Viton® - for interface -	4	055 4570
Sealing SOURCE VALVE	1	104 2560
Lubricant reservoirs TPH060/62/64/71 - for turbo pumps 2 to 4 -	3	017 2350
Lubricant reservoirs 260/262 - for turbo pump 1 -	1	105 0160
Sealing kit for source pump XDS35i	1	118 6690
O-ring 110,72X3,53 A Viton®	1	118 3290
O-ring 132,94X3,53 A Viton®	1	118 8690
Anode cap GD	1 x 50	118 7441
Flow tube stainless steel	1 x 50	119 4561
Anode tube GD (body) cpl. incl. 3 O-rings (part # 106 7390)	1	119 5180
Ceramic tube GD	1	121 2920
Oil for backing pump - type P3 -	3 ltr	109 4301
Filter cartridge 5 µm (Melt-Blow) - for cooling water	5	119 0400
Dust filter for pump filter Element	1	119 8670
Centering ring with filter NW 25 KF	1	122 6930

## Plug-In Extraction Lens



### Ordering Information

Description	Part Number
Plug-in extraction lens	123 1850
Tool for plug-in extraction lens	123 1860

## Plug-In Cone



### Ordering Information

Description	Part Number
Plug-in cone kit (complete assembly including magnetic ring, holding ring and graphite cone)	124 9180
Holding ring for Plug-in cone	123 9110
Plug-in cone graphite uncoated	123 9850
Plug-in cone stainless steel	123 9150

## Miscellaneous



### Ordering Information

Description	Part Number
Water recirculator for basic instrument (50 Hz)	112 9600
Water recirculator for basic instrument (60 Hz)	113 0600
Slit control 8 bar N2 or compressed air	119 0430
Power connection Kit Canada	207 5480
Plug-in slit tongue	117 0800

## Accessories GD Source



### Ordering Information

Description	Qty	Part Number
Anode caps stainless steel (pack of 50)	10 x 50	118 7441
Flow tubes stainless steel (pack of 50)	10 x 50	119 4561
Anode cap graphite with coating of pyrolytic carbon (pack of 20)	50	121 2840
Flow tube graphite with coating of pyrolytic carbon (pack of 20)	1	121 2850
Anode cap graphite uncoated	1	124 8160
Flow tube graphite uncoated	2	124 8170
Anode cap tantalum	1	121 6160
Flow tube tantalum	3	121 6170
Anode cap graphite uncoated 4mm orifice for small (embedded) samples	3	125 9210
Tool for removing anode caps	10 pairs	121 2710
Anode tool	1	118 5110
Tool for removing and inserting flow tubes and for inserting caps	3	125 1330
O-ring for flow tube 5.5x1 mm	3	124 9340
Ceramic tube GD	3	121 2920
Sapphire insulation ring	10 pairs	124 9330

## ELEMENT 2 / ELEMENT XR

With the experience of more than 350 installed ELEMENTs, Thermo Fisher Scientific has rigorously optimized the ELEMENT 2 for ease-of-use, stability and productivity.

Refined ion optics deliver high transmission at high resolution. The Thermo Scientific ELEMENT 2 is the high resolution ICP-MS for routine productivity in your laboratory.

Based on the proved design of the ELEMENT 2, another unique detection system in ICP-MS, combining a dual mode SEM with a Faraday detector, is the ELEMENT XR HR-ICP-MS.



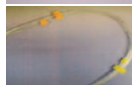
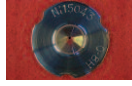
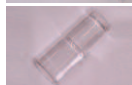
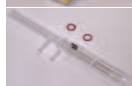
## Consumables Kit ELEMENT2 # 112 5671



### Ordering Information

Description	Qty	Part Number
Nebulizer ICP (1 mL/min) quartz	1	111 0720
Nebulizer EzyFit IN for 111 0720	1	112 2550
Injector quartz Ø 1.75	1	112 2800
Torch	1	109 1250
Bonnet/ glass ring quartz CD2	1	113 6500
Shield torch / guard electrode clip for securing torch	1	112 6640
Load coil complete (Seren)	1	113 9230
Peristaltic pump tube mediprene (violett-black)	12	106 6310
Peristaltic pump double tube (orange-green)	6	113 1270
Peristaltic pump tube PVC (black)	12	104 2940
Sealing sampler cone graphite gasket for sampler cone	50	104 2620
Sampler cone nickel	2	104 4530
Skimmer cone nickel	2	106 7600

## Consumables Kit ELEMENT XR #118 8480



### Ordering Information

Description	Qty	Part Number
Micro Mist nebulizer 200 µL/min includes EzyFit connector kit with tubing	1	116 1870
Load coil complete (Seren)	1	113 9230
Torch	1	109 1250
Bonnet/ glass ring quartz CD2	1	113 6500
Shield torch / guard electrode clip for securing torch	1	112 6640
Sealing sampler cone graphite gasket for sampler cone	50	104 2620
Sampler cone ICP nickel	2	104 4530
Skimmer cone ICP nickel	2	106 7600
Peristaltic pump tube PVC (black)	1	104 2940
Waste tube 0,75 mm ID	1	116 1890
Injector 2.2 mm	1	116 1910
Pump tube orange/yellow and for inserting caps	1	116 1920
Coupling for fittings	1	116 1940
Fitting screw 1/8"	1	116 1950
Cutting ring 1/8"	1	116 1960
Fitting screw 1/16"	1	116 1970
Cutting ring 1/16"	1	116 1980

## Spare Parts Kit # 112 5663



### Ordering Information

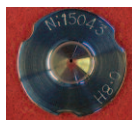
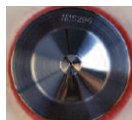
Description	Qty	Part Number
SEM ICP2-V2 PLUG IN	1	115 2700*
Sealing sampler cone graphite gasket for sampler cone	50	104 2620
Sealing kit magnet Kapton foil sealing kit for magnet	1	106 9861
Sealing kit entrance slit Kapton foil and Teflon sealing kit for entrance slit	4	106 9880
Sealing kit analyzer Kapton foil and Teflon sealing kit for analyzer	1	106 9890
Sealing kit ESA Kapton foil and Teflon sealing kit for ESA	1	106 9870
Sealing source valve Viton® sealing for cylinder source valve	1	104 2560
O-Ring 34.59 X 2.62 Viton® o-ring for interface	4	055 4570
Lubricant reservoirs TPH060/62/64/71 reservoirs for turbo pumps B to D	3	017 2350
Lubricant reservoirs 260/262 reservoirs for turbo pump A	1	105 0160
Sampler cone ICP nickel	1	104 4530
Skimmer cone ICP nickel	1	106 7600
Injector quartz ICP Ø 1.75	1	112 2800
Oil for backing pump DUO 5 - type P3 -	3 ltr	109 4301
Oil for pump UNO 30M - type F4 -	1.2 ltr	113 6532**
Filter cartridge 5 mm (melt-blow)	5	119 0400

\*instruments supplied before May 2004 may still use the SEM type 111 4710

\*\*instruments equipped with the interface pump DUO 030B must be refilled using either T100 oil (Part # 113 6530) or F5 oil (organic matrix use, Part # 113 6531)



## Accessories - Cones



### Ordering Information

Description	Part Number
Sampler cone nickel	104 4530
Sampler cone platinum	106 7501
Sampler cone platinum, boron-free for semiconductor related applications	106 7500
Sealing kit entrance slit Kapton foil and Teflon sealing kit for entrance slit	106 7600
Skimmer cone nickel	114 2160
Skimmer cone nickel X-version	104 7461
Skimmer cone platinum	104 2560
Skimmer cone platinum, boron-free for semiconductor related applications	104 7460
Skimmer cone platinum X-version	114 2151
Skimmer cone platinum X-version, boron-free for semiconductor related applications	114 2150
Sampler cone aluminum	118 4050
Skimmer cone aluminum	118 4060

## Accessories - Autosampler



### Ordering Information

Description	Part Number
ASX - 260 micro autosampler with sample tray for 24 samples vials (5mL)	116 9950
ASX - 520 autosampler with 4 rack sample tray for 240 samples vials (14mL)	106 9420
ASX - 100 micro autosampler with sample tray for 24 samples vials (5mL)	072 2530

## Accessories - Nebulizer



### Ordering Information

Description	Part Number
Aridus nebulizer with membrane desolvation	111 4021
U-5000 AT + ultrasonic nebulizer	106 9400
U-6000 AT + ultrasonic nebulizer with membrane desolvation	106 9410

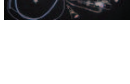
## Accessories - Sample Introduction



### Ordering Information

Description	Qty	Part Number
Plug-in slit tongue	1	117 0800
Click in torch assembly includes injector (not depicted)	1	112 7110
PFA Microconcentric nebulizer (100 µL/min) for acid-resistant inlet system and standard inlet system		108 3911
PFA Microconcentric nebulizer (20 µL/min)		108 3921
PFA Microconcentric nebulizer (50 µL/min)		113 5450
Nebulizer ICP 1 mL/min quartz		111 0720
Micro Mist nebulizer 200 µL/min includes EzyFit connector kit with tubing		116 1870
Quartz double pass spray chamber for Peltier Device		115 7470
Quartz dual spray chamber water cooled spray chamber		112 0900
End cap for spray chamber end cap for quartz spray chambers (o-rings nr. 114 2200 also required)		106 3410
O-rings for spray chamber 4 o-rings for quartz spray chamber end cap		114 2200
Quartz cyclonic spray chamber (Twinnabar)	1	116 1860
PFA spray chamber to be used for Peltier cooling		115 7350
End cap for PFA spray chambers incl. connectors and tubings		112 7100
Quartz injector standard torch (1.75 mm i.d.)		112 2800
Quartz injector standard torch (1.0 mm i.d. for org.matrix)		113 0680
Sapphire injector for standard torch		109 1260
Pt injector 1.8 mm i.d.		109 2000
Pt injector 1.0 mm i.d.		118 4190
Matrix Kit ELEMENT2 for matrix samples Incl. Micro Mist nebulizer 116 1870, Cyclonic spray chamber 116 1860 and Injector 2.2 mm 1161910		115 9440
Injector 2.2 mm (for matrix kit)		116 1910
Laser adaptation kit incl. add. He mass flow controller, Al cones		115 2810

## Accessories - Miscellaneous



### Ordering Information

Description	Part Number
Water recirculator for basic instrument (50 Hz) Merlin M75-D	112 9600
Water recirculator for basic instrument (60 Hz) Merlin M75-PD2	113 0600
Peltier cooling for spray chamber incl. spray chamber (upgrade)	115 6420
Power connection Kit Canada	207 5480
Organic matrix accessory including mass flow controller (oxygen) and special pumping system w. synthetic oil	106 7532
Acid-resistant sample introduction system incl. mass flow controller (Ar) + special pumping system w. synthetic oil	116 2160
Acid-resistant sample introduction system	116 2170
Stable introduction system includes glass spray chamber and 50 µl/min low-flow nebulizer (6mm)	112 7121
Organic matrix accessory includes mass flow controller, dual spray chamber, sampler cone (platinum), skimmer cone (platinum), nebulizer, tubings, connector, injector	106 7531
Tune solution	109 9601

## NEPTUNE Plus

The NEPTUNE Plus completes Thermo Scientific integrated product family for elemental and isotopic analysis. It shares the field proven ICP interface with the Thermo Scientific ELEMENT2 and uses a variable multicollector platform which can be configured with Faraday detectors and/or miniaturized ion counting detectors for smallest sample sizes.

The NEPTUNE Plus defines a "third generation" multicollector ICP-MS combining the features of high mass resolution, variable multicollection, zoom optics and multiple ion counting.



## Installation Kit #1142770

### Ordering Information

Description	Qty	Part Number
Torch Din 25	1	1091250
O-ring 6.07 x 1.78 VITON	2	0552180
Quartz glass ring CD2	1	1136500
Quartz injector ICP II Ø 1.75 mm	1	1122800
Shield torch ICP II	1	1126640
O-ring 34.59 x 2.62 Viton	4	0554570
O-ring 113.97 x 2.62 Viton	1	0553670
Gasket NW 250 CU	2	1111030
Gasket NW 100 CU	4	0552440
Gasket NW 35 CU	2	0550480
Gasket NW 16 CU	4	0552530
Spiral tube Ø 63 mm	1*6m	1121650
Gasket sampler ICP	50	1042620
Cup Configuration and Mass table	2	1991130
Clamp	2	1122720

## Spares and Consumables Kit # 1275310

### Ordering Information

Description	Qty	Part Number
Nebulizer 50mL/min precleaned	1	1135450
Coil HF NEPTUNE kpl.	2	1135640
TORCH DIN 25	2	1091250
SHIELD TORCH ICP2	2	1126640
DICHTUNG SAMPLER ICP	100 * 1	1042620
SAMPLER CONE, ICP, NICKEL	2	1044530
SKIMMER ICP,NICKEL, HIGH PERFORM.	2	1067600
Injector Quartz ICP II Ø 1.75	2	1122800

## Spares and Consumables Kit # 1275310

*Continued*

### Ordering Information

Description	Qty	Part Number
Glass ring Quartz CD 2	2	1136500
Oil VV Pump P3 3 LTR.	2 * 3 L	1094301
Lubricant reservoir TPH/TMH/62/64/71	4	0172350
Lubricant reservoir TMH 260/262	4	1050160
Gasket NW 35 CF Cu	4	0550480
Gasket NW 100 CF Cu	4	0552440
Gasket NW250 CF CU	3	1111030
Halogen lamp 300W 230V	3	1156450
SEV TE-Z/17 (SEV-Triton)	1	1197830
Extraction lens repair kit	1	1120650
Oil F4 for VV Pump	1 * 1.2 L	1136532
LR Entrance slit Neptune (2 slit plates)	1 * 2 pc	1199420
Plug in slit tongue (low-medium-high)	1	1175270

*\*quantity incl. in this kit*

## Replaceable Parts - Frontend

### Ordering Information

Description	Part Number
Frontend PC II complete	2067270
Grounding receptacle (plug-in)	8394050
CPU card/Pentium	2036690
Scan card	2032040
Network card 3COM905C PCI	2056560
AU + Instrument Control Card	1019020
Modem microlink 56k	1097721
Patch cable RJ 45 (5m)	2052920
Patch cable RJ 45 (10m)	2053560
20" flat screen	1148430

## Cooling System

### Ordering Information

Description	Part Number
Water flow sensor KAL-K	1066490
Clamp water distribution ICP	1066350
Hose (black)	1049540
Filter cartridge (deionisation filter)	1145070
Water chiller TF-5000 230 V, 50 Hz (water-air) (cooler for interface/ICP/Generator/Pumps)	141161110000005
Water chiller TF-5000 230 V, 60 Hz (water-air) (cooler for interface/ICP/Generator/Pumps)	141121110000019
Water chiller TF-5000 230 V, 50 Hz (water-water) (cooler for interface/ICP/Generator/Pumps)	143161110000004

## Cooling System

Continued

### Ordering Information

Description	Part Number
Water chiller TF-14 B A 230-50 P1 IPR SPCLFTG, 50 Hz (cooler for magnet)	111161010000029
Water chiller TF-14 B A 208/56 P1 IPR SPCLFTG, 60 Hz (cooler for magnet)	111121010000022

## Vacuum System

### Ordering Information

Description	Part Number
Turbomolecular pumps TMH 071 P	1141500
Turbomolecular pumps TMH 262	1141600
Rotary vane interface pump UNO 30B	1097520
Rotary vane interface pump UNO 30M	1153780
Rotary vane fore vacuum pump DUO 005	1097510
Ion getter pump 40I/S Starcell	1113380
Gasket ion getter pump, copper	0550480
MidiVac controller unit ion getter pump	1113390
Filter MidiVac controller unit	2044550
Penning	1118320
Pirani Gauge	1027320

## Vacuum Connection Amplifier

### Ordering Information

Description	Part Number
T-piece	0522130
Clamp NW25	0521560
Centring ring	0522150
Flange DN 25/M5	11448350
Hose connection	1110530
Sleeve 6mm	1047320
Shut-off valve compressed air	1148340
Throttle check valve	1110550
Hose 4 x 1 TEF	0690280

## ICP Module - others

### Ordering Information

Description	Part Number
Seren RF generator (water-cooled)	1125700
Seren RF generator filter	2043500
Mains cord 32 A	2048060
Seren Matchbox	1121880
Mass flow controller 2L (Ar)	1064270
Mass flow controller 18L (Ar)	1064280
Mass flow controller 1L (Ar)	1110760
Valve block	1063280
Valve island ICP II	1148710
ICP valve unit kit	1154200
Five lope grib M10 x 20	1132920

## Replaceable Parts - Extraction lens

### Ordering Information

Description	Part Number
Extraction lens repair kit	1120650
Ceramic flange	1022870
Extraction lens (graphite)	1042750
Aperture lens (graphite)	1042760

## ESA Module - Others

### Ordering Information

Description	Part Number
Entrance slit	1130480
Feedthrough variable slit unit	1130930
Plug-in slit tongue: medium - high res.	1175270
Plug-in slit tongue: medium - medium res.	1193700
Low resolution slit plate (set of 2)	1199420

## Replaceable Parts - Multicollector

### Ordering Information

Description	Part Number
Cup L3 classic	1149820
Cup L2 classic	1149830
Cup L1 classic	1149840
Cup H3 classic	1149870
Cup H2 classic	1149860
Cup H1 classic	1149850
Cup H4 classic	1149880
Cup L4 classic	1149810

## Replaceable Parts - Multicollector Module

### Ordering Information

Description	Part Number
Analyzer gate valve complete comprises	1088200
O-ring	1112310
Gold gasket	0551630
SEV TE-z/17 (SEV TRITON)	1091460

## Ion Current Amplifier Unit

### Ordering Information

Description	Part Number
Current amplifier with $10^{11}$ Ohm resistor for extended dynamic range	2024411
Current amplifier with $10^{10}$ Ohm resistor for extended dynamic range	2086580
Current amplifier with $10^{12}$ Ohm resistor for extended dynamic range	2089210



## Sample Solution

### Ordering Information

Description	Part Number
Tune-up solution NEPTUNE	1149340

## Replaceable Parts - Inlet System

### Ordering Information

Description	Part Number
Torch DIN 25	1091250
Spray chamber/stable inlet system	1127121
Spray chamber PFA	1067410
Spray chamber	1042880
Nebulizer PFA 50	1135450
Coil HF NEPTUNE complete	1135640
Injector Quartz ICP II	1122800
Quartz glass ring CD-2	1136500
Shield (guard electrode)	1126640
CD-2 plate (with relay 10 kV)	1126900
EMV protection	1139120
Temperature switch 40° C	1044680
Temperature switch 63° C	1067770
Peristaltic pump	1138520

## Replaceable Parts - Interface

### Ordering Information

Description	Part Number
PT skimmer cone	1067510
Skimmer cone Ni (high performance)	1067600
Sample cone Ni	1044530
Pt skimmer cone (high performance)	1047460
High performance skimmer cone, nickel, X-version	1142160
Sample cone, nickel, Jet-version	1260630

## TRITON

The TRITON gives the ultimate precision for isotope ratio measurements on solid samples. It uses a proven thermal ionization source and has a unique variable multicollector platform which can be configured with Faraday detectors and/or miniaturized ion counting detectors for smallest sample sizes.

Through its innovative technology, including Virtual Amplifiers™, Dynamic Zoom™ and all-carbon plug-in Faraday cups, the TRITON sets a new standard for TIMS. Major applications are in isotope geology, geochemistry and planetary research. The TRITON is the first system built on Thermo Scientific's new multicollector platform.



## Spare Parts / Consumables Kit #113 6790

### Ordering Information

Description	Qty	Part Number
Ceramic rod	4	109 3060
Ceramic spacer 4 x 2.1 x 4	2	056 0770
Ceramic spacer 6 x 4.1 x 2	4	056 0130
Ceramic spacer 6 x 4.2 x 3	2	056 0150
Ceramic spacer 8 x 5.1 x 3	11	056 1080
Ceramic spacer 8 x 5.1 x 5	11	056 1100
Ceramic spacer 8 x 5.1 x 2	6	056 1240
Ceramic spacer 8 x 5.1 x 7	6	056 1090
Ceramic spacer 8 x 5.1 x 15	3	056 1120
Ceramic spacer 4 x 2.1 x 10	1	056 0570
Ceramic spacer 6 x 4.2 x 4	1	056 0780
Ceramic spacer 5 x 3.2 x 3	4	102 2330
Ceramic socket	2	048 5280
Bolt spacer	2	109 9870
Bolt spacer	1	109 9880
Bolt spacer	2	109 9890
Bolt spacer	1	112 0930
Srew M4	1	111 2050
Pin	2	046 8230
Thread core M8	2	091 0450
Source lens entrance slit clip	1	111 3950
Disk spring 9 x 5.1 x 0.4	2	043 0960
Adjusting washer	2	047 1750
Cylinder head screw ISO 1207 M2 x 4 - A4	2	045 0690
Cylinder head screw ISO 1207 M2 x 8 - A4	2	045 0720
Washer ISO 7092-2 A4	2	047 2090
Cylinder bolt ISO 2338-2 M6 x 6 - 1.4301	2	048 0860
Protection shield ion source 4 x 10	3 * 5 pcs	109 9860
Cylinder head screw ISO 1207 M2 x 16 - A4	2	045 5400
Hex-nut ISO 4035 - M2 - A4	2	046 0060

## Spare Parts / Consumables Kit #113 6790

*Continued*

### Ordering Information

Description	Qty	Part Number
Pressure spring gold	2	109 9790
Screw M4 x 12 silver and drilled	4	112 0620
Connection pin M2	1	111 9260
Oil P3 for VV pump	1 * 3 ltr.	109 4301
Lubricant Reservoir TMH 260/262	3	105 0160
Gasket	2	104 7140
Gasket NW 16 CF CU	2 (6)	055 2530
Gasket NW 35 CF CU	3	055 0480
Gasket NW 100 CF CU	3	055 2440
Gasket NW 250 CF CU	3	111 1030
Gasket NW 100 ISO AL/Viton	2 (4)	055 3070
O-Ring 81 x 7 NBR PERBUNAN 70	2	111 6380
O-Ring 58 x 3 A VITON	2	111 2350
O-Ring 82 x 5 A VITON	2	111 2360
O-Ring 75 x 5 A VITON	2	111 2410
O-Ring 18 x 2 A VITON	2	106 9940
O-Ring 44 x 2 A VITON	2	112 3890
O-Ring 130 x 5 A VITON	1	111 2380
O-Ring 20.29 x 2.62 A VITON (Analyzer valve)	1	111 2310
Gasket 37.5 AU NW 25 (Analyzer valve)	2	055 1630
Lamp halogen 300W 230V	3	115 6450
Contact left	2	050 5970
Contact right	2	050 5980
Glas cover 73 x 6	1	054 1030
Pirani gauge APG-M DN16KF	1	102 7320
Re double filament	10	046 7650
Re single filament	10	050 5310
Holder 260 (box)	10	046 7610
Filament shielding plate 260	15	046 7620
Rhenium double filament Zone Refined	2	046 7651

## Consumables

## Ordering Information

Description	Qty	Part Number
Oil P3 for VV pump	1 * 3 ltr.	109 4301
Lubricant reservoir TMH 260/262		105 0160
Cup L4 Classic		114 9810
Cup L3 classic		114 9820
Cup L2 classic		114 9830
Cup L1 classic		114 9840
Cup H1 classic		114 9850
Cup H2 classic		114 9860
Cup H3 classic		114 9870
Cup H4 classic		114 9880
Centercup complete CC/SEM		114 6300
Cup half shells	2 pcs	114 2220
Shell center cup		109 3820
Cover center cup		109 3830
Amplifier O-ring inside 67x7		111 6370
Amplifier housing gasket		104 7140
Analyzer gate valve complete		108 8200
O-ring Viton for gate valve		111 2310
Gasket 37.5 AU NW 25 for gate valve		055 1630
SEM TE Z/17		119 7830
SEM TE Z/17 Kit		121 2650
RPO flange CF100		111 3110
Sample wheel motor cpl.		109 1860
HV Feed though 7pin		109 5460
Compressed air service unit LFR-1/8S		052 1630
Cup motor with gear		111 4390
Pipette comforette 4800		054 3070
Electrodes for welding device	2 pcs	057 1820

## Filaments

### Ordering Information

Description	Qty	Part Number
Rhenium double filaments Heraeus		046 7650
Rhenium double filaments Cross		122 2230
Rhenium double filaments zone refined		046 7651
Rhenium single filaments		050 5310
Rhenium single filaments zone refined		050 5311
Tantalum double filaments		054 5720
Tantalum single filaments		054 5730
Tungsten double filaments		115 3530
Tungsten single filaments		115 3510
Platinum single filaments		115 0480
V-shape resin bead		054 9960
Blank holder used with single filaments		046 7610
Filament shielding plates		046 7620
Filament shielding plates dummy no slit		057 4740
Removal tool for filament shielding plate		044 7900
Protection shield ion source (4*10)	5 pcs	109 9860
Carrier for double filament		046 7640
Carrier for single filament		050 5300

## Gaskets

### Ordering Information

Description	Part Number
Gasket NW 250 CF Cu	111 1030
Gasket NW 100 CF Cu	055 2440
Gasket NW 100 ISO AL/VI	055 3070
Gasket NW 35 CF Cu	055 0480
Gasket NW 16 CF Cu	055 2530

## Multi-Ion Counting

### Ordering Information

Description	Part Number
Plug In Counting kit	114 9170
3.25 kV supply for MIC	205 3420
MIC single channel	206 0880
Discriminator Amplifier MIC	206 9320

## Source Housing

### Ordering Information

Description	Part Number
Ceramic kit for source TIMS	122 5920
Entrance slit cpl. 0.2 / 0.5	111 2200
Entrance slit 0.2	111 0440
Back slit 0.5	111 0450
Slit support	109 9980
Contact assy complete	108 8470
Fixed contact arm incl. contacts	108 8450
Swinging contact arm incl. contacts	108 8460
Contact assy (2x on fixed arm)	111 2020
Contact assy (2x on swinging arm)	112 0851
Contact assy (double, 1x on fixed, 1x on swinging arm)	121 6500
Contact left	050 5970
Contact right	050 5980
Contact left angular for double contact	121 6490
Contact right angular for double contact	121 6520
Distance rod contact arm	108 8420
Screw distance rod	108 8440
Insulator M6 for contact arm	108 8250
Wire kit EVA side	114 2060
Wire kit IONI side	114 2070
Wire kit Source	114 2080
Wire kit contact holder	108 8380
O-Ring 305 x 5 Viton inside door	111 2300
Gasket NW100 ISO AL/VI for turbopump	055 3070

## Pumps

### Ordering Information

Description	Part Number
VV pump DUO 5	109 7510
Scroll pump oil free 50Hz/60Hz	115 9320
Seal kit for scroll pump XDS5 / XDS 10	125 2770
Turbo pump TMH 262	114 1600
Turbo pump TMH 521	114 1660
IG pump 40L/s Starcell	119 4580
HV cable for IG pump 40L/s Starcell	111 3400
IG-Midivac power supply	111 3390
Power Supply Filter 1x6A 230V	206 0660
Heater 180W IGP	119 4590
Venting valve Pfeiffer	117 0640
Penning AIM-XL NW25	111 8320
Penning AIM-S NW25	109 2530
Pirani APG-M DN16 KF	102 7320
Pump kit ICA	116 3210

## Basic Instrument / Options

### Ordering Information

Description	Part Number
Cryo Pump 4 liter	054 7710
Mixed Mode Pyrometer	111 3370
Cup H4 classic	114 9880
Cup L4 classic	114 9810
SEM System Triton / Neptune	109 1460
RPQ System	109 5230
Gas Bleed Inlet Valve	108 3520
Sample Wheel with holder	109 2740
Source TIMS	109 3200
Source TIMS Glovebox	113 9300
Magnet Chiller 50Hz Thermoflex TF 14 with IPR	111161010000029
Magnet Chiller 60Hz Thermoflex TF14 with IPR	111121010000022
Outgassing Device	064 1142
Filament Loading Kit	050 2800
Filament Bending and Welding Kit	059 2290
Air Compressor JunAir 6-25	026 1850
High Resolution Entrance Slit	111 1420
Spare Parts / Consumables Triton	113 6790

# Installation Kit

## #109 5200

### Ordering Information

Description	Qty	Part Number
screwdriver set		125 4530
Ratchet 3/8"		125 4540
Nut 3/8" x 19mm		125 4550
Nut 3/8" x 15mm		125 4560
Allen key set		125 4570
Tubular key 13 x 14		125 4580
Ring spanner 13mm		125 4590
Ring spanner 17mm		125 4600
Nut 3/8" with allen key 6mm		125 4610
Nut 3/8" with screwdriver		125 4620
Hook spanner flexible		125 4630
Rotating pin 6mm		125 4640
Hexagon socket wrench 10mm		125 4650
Rotating pin 8mm		125 4660
Toolbag		057 1710
Grip bar/Source MAT 90		064 2460
Socket wrench M8 x 0.5		091 1060
Pliers		057 0650
Tweezers 127 mm long, sharp		057 0500
Tweezers 120 mm long		057 0510
Open end wrench 5.5 x 7		057 1100
Open end wrench 4 x 5		095 8600
Open end wrench 4 x 4		057 0950
Needle file diamond		093 5930
Fiberglass cleaner		057 1870
Fiberglass inserts (25 pieces)		057 1880
Re double filaments	4	046 7650
Re single Filaments	2	050 5310
Carrier for double filaments	2	046 7640
Re ribbon 0.04 x 0.7 (1 meter)	1	062 3640
Re double filaments Zone Refined	1	046 7651
Shielding plate 260	2	046 7620
Holder 260	2	046 7610
Pipettes tips box		054 3370
Removing Tool for FPGA		114 2720
Poster Triton		115 0770
Cup Configuration and Mass table		199 1130
Gasket NW250 CF Cu	2	111 1030
Gasket NW100 CF Cu	4	055 2440
Gasket NW35 CF Cu	2	055 0480
Gasket NW16 CF Cu	4	055 2530



# Quality, Precision, Value— Thermo Scientific Products

## Return Goods Policy

Before returning any item to Thermo Fisher Scientific, please obtain a Return Authorization Number from one of our customer service representatives. Call your country contact number shown on the right, and please have the following information ready:

- Our Order Number or your Purchase Order Number
- The Thermo Scientific part numbers of the items you wish to return
- Reason for return

Our customer service representative will provide you with a Return Authorization Number and the return address. We cannot accept any returns without a Return Authorization Number.

Thermo Fisher Scientific is not responsible for typographical or photographic errors that may appear in this catalog. We reserve the right to make adjustments or corrections due to changing market conditions, product discontinuations, or typographical or photographic errors in advertisements or product descriptions. Policies, and item availability are subject to change without notice.

Quality  
Precision  
Value





## Ordering Information

---

### Austria

Phone: **+43 1 333 50 34 - 113**  
Fax: **+43 1 333 50 34 26**  
email: [service.sid.austria@thermofisher.com](mailto:service.sid.austria@thermofisher.com)

### Belgium

Phone: **+32 53.73.42.41**  
Fax: **+32 53.73.42.42**  
email: [service.sid.benelux@thermofisher.com](mailto:service.sid.benelux@thermofisher.com)

### Denmark

Phone: **+45 70 23 62 67**  
Fax: **+45 70 23 62 63**  
email: [service.sid.dk@thermofisher.com](mailto:service.sid.dk@thermofisher.com)

### Finland

Phone: **+358 20 7756 330**  
Fax: **+358 20 7756 339**  
email: [service.sid.nordic@thermofisher.com](mailto:service.sid.nordic@thermofisher.com)

### France

Phone: **+33 1 60 92 49 50**  
Fax: **+33 1 60 92 48 19**  
email: [service.sid.lesulis@thermofisher.com](mailto:service.sid.lesulis@thermofisher.com)

### Germany

Phone: **+49 6103-408-1050**  
Fax: **+49 6103-408-1213**  
email: [service.dreieich@thermofisher.com](mailto:service.dreieich@thermofisher.com)

### Ireland

Phone: **+44 1442 233555**  
Fax: **+44 1442 233667**  
email: [spares.sid.hemel@thermofisher.com](mailto:spares.sid.hemel@thermofisher.com)

### Italy

Phone: **800 823162**  
Fax: **+39 2 95059225**  
email: [vendite.offerte.it@thermofisher.com](mailto:vendite.offerte.it@thermofisher.com)

### Netherlands

Phone: **+31 76 579 55 68**  
Fax: **+31 76 551 09 61**  
email: [service.sid.benelux@thermofisher.com](mailto:service.sid.benelux@thermofisher.com)

### Norway

Phone: **+46 8 556 468 12**  
Fax: **+46 8 556 468 08**  
email: [service.sid.nordic@thermofisher.com](mailto:service.sid.nordic@thermofisher.com)

### Spain

Phone: **+34 91 484 3586**  
Fax: **+34 91 484 3586**  
email: [service.sid.spain@thermofisher.com](mailto:service.sid.spain@thermofisher.com)

### Sweden

Phone: **+46 8 556 468 12**  
Fax: **+46 8 556 468 08**  
email: [service.sid.nordic@thermofisher.com](mailto:service.sid.nordic@thermofisher.com)

### Switzerland

Phone: **+41 61 716 77 14**  
Fax: **+41 61 716 77 01**  
email: [service.sid.ch@thermofisher.com](mailto:service.sid.ch@thermofisher.com)

### UK

Phone: **+44 870 4133888**  
Fax: **+44 1442 233667**  
email: [spares.sid.hemel@thermofisher.com](mailto:spares.sid.hemel@thermofisher.com)

## A Pan-European Organization

Operating as a highly efficient, Pan European Service Organization, Thermo Fisher Scientific offers greater productivity for your instrument through accelerated response times, greater availability of parts and local engineers.



In addition to these offices, Thermo Fisher Scientific maintains a network of representative organizations throughout the world.

**Austria**  
+43 1 333 50340

**Belgium**  
+ 32 53 73 42 41

**Denmark**  
+45 70 23 62 67

**Finland**  
+46 8 556 468 20

**France**  
+33 1 60 92 49 50

**Germany**  
+49 6103 408 1050

**Iceland**  
+46 8 556 468 20

**Ireland**  
+44 870 241 1034

**Italy**  
+39 800 823 162

**Netherlands**  
+31 76 579 55 55

**Norway**  
+46 8 556 468 20

**Spain**  
+34 914 845 965

**Sweden**  
+46 8 556 468 20

**Switzerland**  
+41 61 716 77 40

**UK**  
+44 870 241 1034

## Laboratory Solutions Backed by Worldwide Service and Support

Tap our expertise throughout the life of your instrument. Thermo Scientific Services extends its support throughout our worldwide network of highly trained and certified engineers who are experts in laboratory technologies and applications. Put our team of experts to work for you in a range of disciplines – from system installation, training and technical support, to complete asset management and regulatory compliance consulting. Improve your productivity and lower the cost of instrument ownership through our product support services. Maximize uptime while eliminating the uncontrollable cost of unplanned maintenance and repairs. When it's time to enhance your system, we also offer certified parts and a range of accessories and consumables suited to your application.

To learn more about our products and comprehensive service offerings, visit us at [www.thermoscientific.com](http://www.thermoscientific.com)

[service.sid.eu@thermofisher.com](mailto:service.sid.eu@thermofisher.com)

[www.thermoscientific.com](http://www.thermoscientific.com)

Service and information are available on the following techniques via the contact points above:

GC	ICP/MS	IRMS
AA	NIR	XRF
FTIR	UV-Vis	Fluorescence
HPLC	LC/MS	TIMS
GC/MS	OES	XRD
ICP	Raman	ESCA

©2007-2010 Thermo Fisher Scientific Inc. All rights reserved. Mira Mist is a trademark of Burgener Research, Inc. CETAC is a trademark of SD Acquisition Inc. U5000AT is a trademark of SD Acquisition, Inc. Tygon is a trademark of Saint-Gobain Performance Plastics Corporation. Mirodent is trademark of Guest Industrials AG/SA. Pipetman is a registered trademark of Gilson SAS. Teflon is a registered trademark of DuPont Dow Elastomers, LLC. Windows and Excel are registered trademarks of Microsoft Corporation. Epson is a trademark of Seiko Epson Corporation. All other trademarks are the property of Thermo Fisher Scientific Inc. and its subsidiaries.

Specifications, terms and pricing are subject to change. Not all products are available in all countries. Please consult your local sales representative for details.

CT51891\_E 12/10C

**Thermo**  
SCIENTIFIC