

Atomic Absorption Spectrophotometers

# AA-7000 Series Consumables



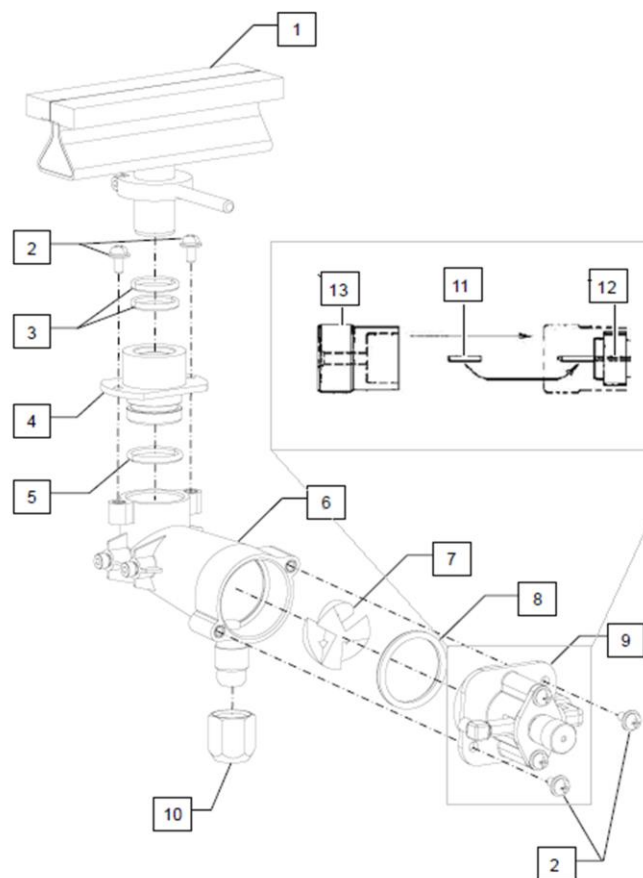
# Contents

---

<b><a href="#">AA-7000</a></b> .....	3
<a href="#">Burner ASSY</a> .....	3
<a href="#">Drain ASSY</a> .....	3
<a href="#">Maintenance parts</a> .....	4
<b><a href="#">ASC-7000</a></b> .....	5
<a href="#">Maintenance Parts</a> .....	6
<b><a href="#">GFA-7000</a></b> .....	7
<a href="#">Maintenance Parts</a> .....	7
<b><a href="#">Hydride Vapor Generator</a></b> .....	8
<a href="#">Consumables</a> .....	9
<a href="#">Maintenance Parts</a> .....	9
<b><a href="#">Atom Booster</a></b> .....	10
<b><a href="#">Chemical Compatibility</a></b> .....	11
<a href="#">AA-7000</a> .....	11
<a href="#">ASC-7000</a> .....	12
<b><a href="#">Lamps</a></b> .....	13
<a href="#">Single-Element</a> .....	13
<a href="#">Multi-Element</a> .....	14
<b><a href="#">Standards</a></b> .....	16

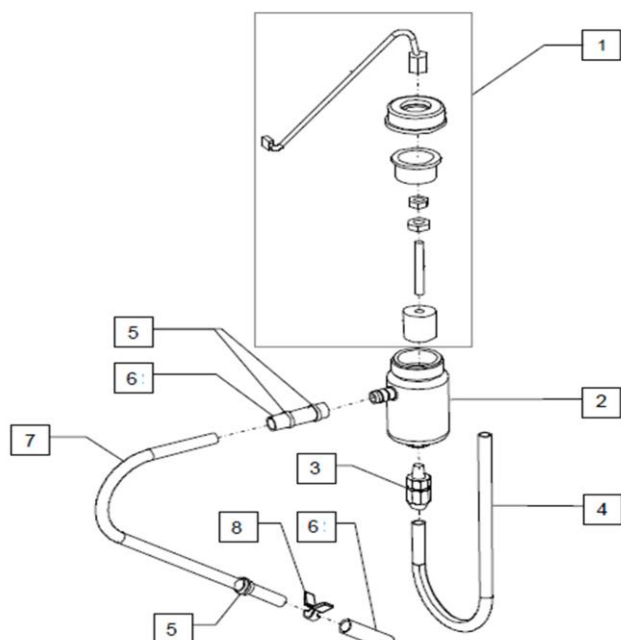
# AA-7000

## Burner ASSY



Item	Part Number	Part Name
1	206-50370-94	10 cm Titanium Burner Head
2	020-46547-00	Screw, SST SEMS P3 M4X8
3	036-15551-16	O-Ring, AS56A
4	206-77297-00	Burner Socket
5	036-11222-84	O-Ring, 4D P22
6	206-77295-01	Chamber MX, AA
7	206-50486-00	Mixer Paddle
8	036-11235-00	O-Ring, 4D P32
9	206-77760-91	Nebulizer, AA-7000
10	035-65903-03	Sleeve, PP 10
11	200-31328-01	Tubing Polyethylene capillary
12	206-50230-91	Capillary
13	206-50321-00	Cap

## Drain ASSY

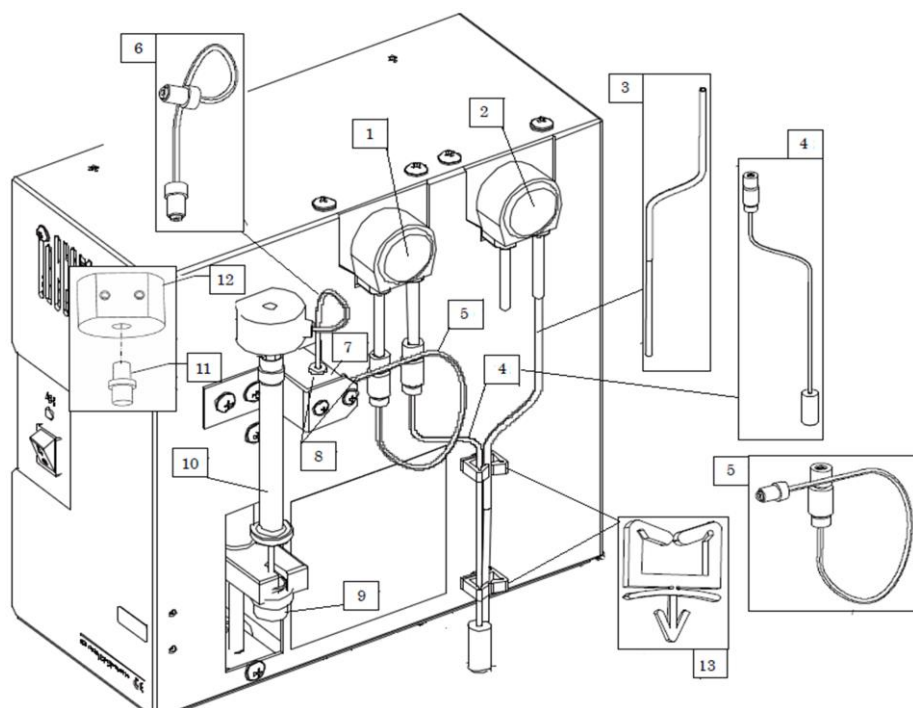


Item	Part Number	Part Name
1	206-50735-93	Leveler ASSY
2	206-63698-00	Drain Bottle
3	035-65014-14	Half Union, HZ10-02-PP
4	206-77391-02	U-Tube, Tetra-Etching
5	072-60320-01	Cable Tie, T18R
6	016-43200-08	Tube, Super-CORN-ACE
7	206-77642-00	Drain Tube
8	037-61121-02	Hose Clamp,T-11

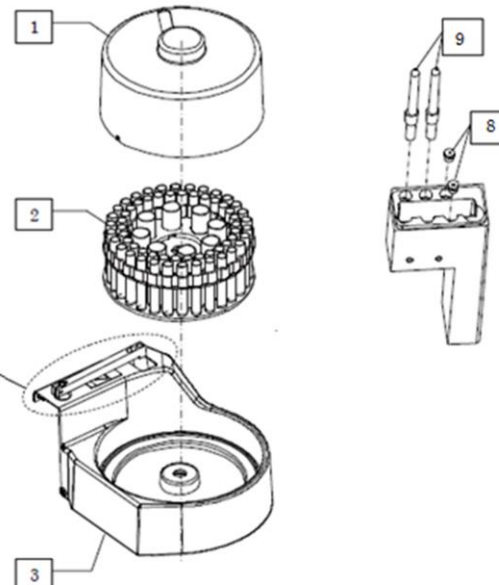
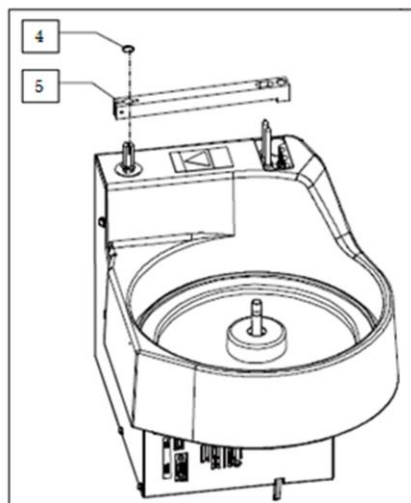
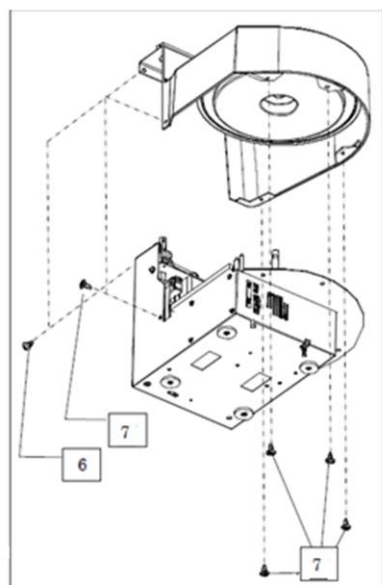
## Maintenance Parts: AA-7000

	Part Name	Part Number	Remarks	Replacement
D2-Lamp	Lamp, D2 L6380	062-65055-05	Deuterium lamp	1 Year
O-Ring Sets	O-Ring Set	206-77620-91	STD O-ring (Fluorine-containing rubber)	*See Chemical Compatibility
	O-Ring Set, Organics	206-77620-92	Perfluoroelastomer	*See Chemical Compatibility
Burner Head	Burner Head ASSY	206-50370-92	Titanium, 10 cm	3 Years
	High Temp Burner Head	206-77530-91	Titanium, N <sub>2</sub> O-C <sub>2</sub> H <sub>2</sub> , 5 cm	3 Years
Hoses	Hose, 8×2B-BK	016-02101-04	For support gas (Air/Argon), Black	3 Years
	Hose, 8×2B-R	016-02101-03	For fuel gas (C <sub>2</sub> H <sub>2</sub> ), Red	3 Years
	Hose, 8×2B-G	016-02101-01	For support gas (N <sub>2</sub> O), Green	3 Years
Atomizer	Nebulizer	206-77760-91	With Impact bead	2 Years
	Burner Socket	206-77297-00		3 Years
	chamber ASSY	206-77295-01	Engineering plastic PP	6 Years
	Mixer	206-50486-00		6 Years
Tubing	Sampling tube	204-05899-01	Teflon* tube for sample uptake	
	Sampling tube ASSY	206-50772-91	Polyethylene tube for sample uptake	*See Chemical Compatibility
	Drain ASSY	206-77413-91	Overflow-type drainage trap	
	Polyethylene capillary No.3	200-31328-01	For sealing the capillary	
	PE tube, 8x1	016-43201-02	Drain tube, connects to drain bottle. Specify 3 meters.	
Misc.	Cleaning wire	201-79229-01	For cleaning the capillary	
	Card	206-52046-91	For cleaning the burner/for checking the burner height	
	Window Panel w(30)-Q	205-82661-02	Optical windows, inside atomization chamber	

# ASC-7000



Item	Part Number	Part Name
1	206-77590-92	Rinse Pump
2	206-77590-91	Mixing Pump
3	016-37503-00	Teflon tubing, 2 x 3 mm x 1m
4	206-50405-94	TUBE ASSY, BOTTLE
5	206-50406-96	TUBE ASSY, VALVE
6	206-50406-97	TUBE ASSY, SYRINGE
7	208-91755-00	VALVE, MTV-3-M6 24DCV
8	201-35584-00	Silicone Rubber Septa (20/pk)
9	206-50407-00	Plunger Presser
10	208-97211-01	Syringe, mS-GLL025, Special
11	200-62075-00	Female Luer Fitting
12	206-77625-00	SYRINGE PORT
13	072-60363-01	CLAMP, WIRE WS

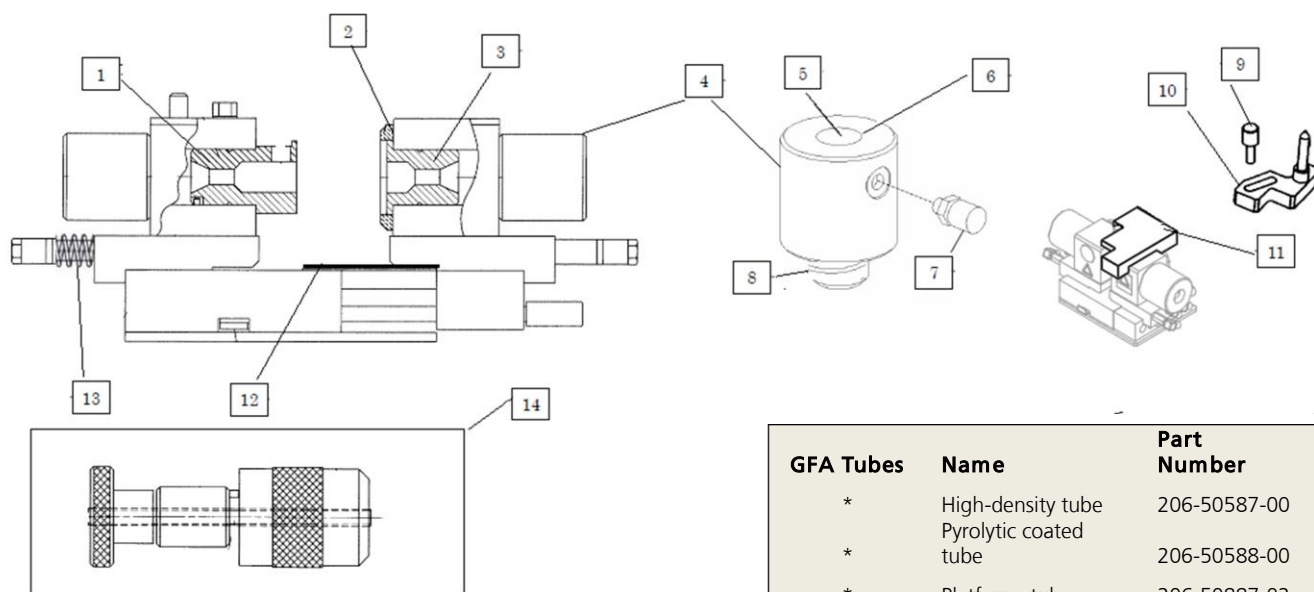


Item	Part Number	Part Name	Item	Part Number	Part Name
1	206-50295-01	Cover, Turntable ASC	6	037-51344-01	FASTENER, 12A1-0-Q-585-01
2	206-50062	Turntable, ASC	7	037-51344-02	FASTENER, 12A1-0-Q-585-01
3	206-77275-00	Cover, ASC-7000	8	201-35584-00	SEPTA SILICONE RUBBER
4	036-11206-00	O-RING, 4D P8	9	206-50408-00	Port Guide, ASC
5	206-50278-00	ARM, ASC			

## Maintenance Parts: ASC-7000

	Part Name	Part Number	Remarks	Replacement
<b>Nozzles</b>	Nozzle ASSY, F	206-50290-91	Standard	
	Nozzle ASSY, GFA, Micro	206-50401-92	Requires Pipette Tip (046-00308-02)	
	Pipet tip	046-00308-02	For Dispensing	Every 60 samples *4
	Nozzle ASSY, G	206-50298-91	Optional	
	Nozzle ASSY, HVG	206-67563-00	For HVG	
<b>Syringe Parts</b>	Syringe	208-97211-01	Capacity 250 uL	5 years *3
	Plunger Tip, TEF025	046-00043-15	Plunger for syringe	1 year *3,5
<b>Pump Parts</b>	Pump tube	042-00405-24	Tube for Peristaltic pump	6 months *1,3,5 2 years *2,3,5
	Pump Head	042-00405-11	Pump Head for Peristaltic pump	1 year *1,5 4 years *2,5
	Pump, Rinse	206-77590-91	Rinse liquid supply pump	1 year *1,5 4 years *2,5
<b>Vials &amp; Cups</b>	16 mL Sample vial	046-00147-04	Each, polypropylene, Flame Cont.	*1: Flame continuous method
	16 mL Sample vial	220-95369-00	1000/PK, polypropylene, Flame Cont.	*2: Furnace/ micro sampling method
	53 mL Glass Vial	200-93113-05	Each, glass, Flame Cont.	*3: When distilled water is used
	20 mL Vials	038-00179-03	Each, polypropylene, GFA, Micro.	*4: Recommended for low conc.
	2 mL Cup	038-00259-02	Each, polypropylene, GFA, Micro.	*5: 60 samples per day usage
	2 mL Cup	220-95196-00	1000/PK, Polystyrene, GFA, Micro.	
	Glass sample cup (2 mL)	200-93036-00	2 mL Glass	
	Glass Test tube (12 mL)	046-00150-27	12 mL Glass	
<b>Misc.</b>	Rinse liquid bottle	206-87284-91	2 L plastic tank for rinse liquid	
	Port	206-77279-00	Integrated port	
	Fuse	072-02004-11	250 V, 3.15 A, Type T	

# GFA-7000



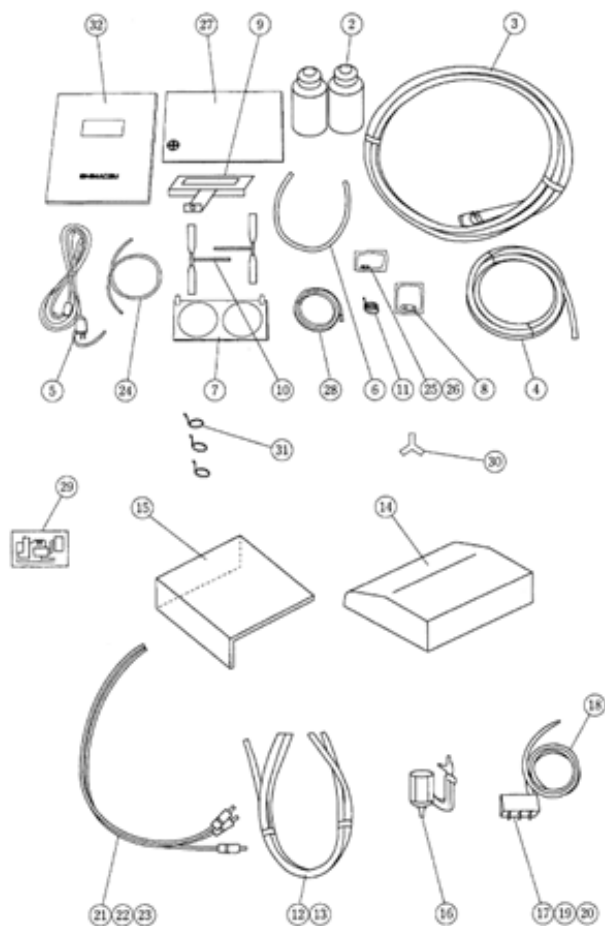
GFA Tubes	Name	Part Number
*	High-density tube	206-50587-00
*	Pyrolytic coated tube	206-50588-00
*	Platform tube	206-50887-02

Item	Part Name	Part Number	Replacement	Item	Part Name	Part Number	Replacement
1	Graphite Cap	206-50602-00	2 Years	8	O-ring, 4CP14	036-11015-00	3 Years
2	Seal	206-50603-00	2 Years	9	Bolt	206-50680-01	
3	Graphite Holder	206-50603-00	2 Years	10	Guide ASSY	206-51016-91	
4	Socket ASSY	206-51030-91		11	Lid	206-51074-00	
5	Window plate, W(16)-Q	205-82654-02		12	Slide Cover	206-50608-00	2 Years
6	O-ring, 4CP14	036-11015-00	3 Years	13	Spring	206-51038-00	
7	HOSE_NIPPLE_M_5H_6	035-60395-06		14	Electrode tool	206-51014-91	

## Maintenance Parts: GFA-7000

Part Name	Part Number	Remarks	Replacement
Hose, 8x2B-BK	016-02101-04	For support gas (Air/Argon), Black	3 Years
Wire band, for 14 mm	037-61018-00	Gas hose clamp	
Wire band, for 16 mm	037-61019-00	Cooling water hose clamp	
O-ring, 4CPS (5/pk)	036-11003-84	For Cooling Water and argon gas	3 Years
Extension tube ASSY	206-64752-00	Cooling Water Outlet	3 Years
Cooling Water ASSY	206-64752-00	Cooling Water Inlet	3 Years
Tetron Sleeve, 10 x 16	018-31506-00	For Cooling Water	3 Years
FEP tube, TH0604N-20	016-37623-06	Cooling Water Tube, Clear	
TRBU0604B-20-ROHS	016-35787-01	For Cooling Water and inner gas (inside atomizer compartment)	
Spatter Tube FBO425-20B	016-35787-01	For outer gas and sensor gas (inside atomizer compartment)	
Tube, U2-4-6 X4, Black	016-46021-00	For Cooling Water and inner gas	
Tube, U2-4-4 X2.5, Black	016-46020-00	For Outer gas	
Cap, TCM-221-14	072-60804-40	For cooling water	
Cap, TCM-141-14	072-60804-34	For cooling water and inner gas (furnace section)	




# Hydride Vapor Generator







Item	Part Name	Part Number
1	Hydride vapor generator main body	
2	Reagent bottle (polyethylene)	204-09363-01
3	Gas Hose	204-05845-02
4	Drain tube (Tygon)	206-60250-02
5	AC Cable (110-117 V) Power cable (220-240 V)	206-13774-00 071-60814-05
6	Fluorinated rubber tube	206-60250-01
7	Guide plate	206-18033-00
8	Fuse 1 A (110-117 V) Fuse 0.3 A (220-240 V)	072-01214-02 072-01664-12
9	Cell holder	206-77610-91
10	Absorption cell	206-77607-00
11	Hose clamp, 16 mm	037-61019-00
12	Pump tube 080 (reagent)	208-90038-08
13	Pump tube 130 (sample)	208-90038-13
14	Front cover	206-17878-00
15	Side cover	206-17879-00
16	Gas/liquid separator	206-17839-00
17	Manifold	206-17825-00
18	Reaction Coil	206-18037-00
19	Hose nipple	204-64601-00
20	O-ring, EPR	200-62522-00
21	Suction tube (yellow-marked) for NaBH <sub>4</sub>	206-18036-01
22	Suction tube (blue-marked) for HCl	206-18036-02
23	Suction tube (not marked, 30 cm) for sample	206-18036-03
24	Suction tube (not marked, 80 cm) for ASC	206-18036-04
25	Wire mark (yellow)	072-83083-03
26	Wire mark (blue)	072-83083-02
27	Vinyl cover	206-18068-00
28	Grounding line	202-32982-00
29	Label (flow path diagram)	206-18616-00
30	Hose nipple, HN802	036-61552-00
31	Hose clamp, 14 mm	037-61018-00
32	Instruction manual	206-96739-00








## Consumables: HVG Unit

Part Name	Part Number	Appearance
Pump tube 080 (reagent)	208-90038-08	
Pump tube 130 (sample)	208-90038-13	
Absorption cell	206-77607-00	

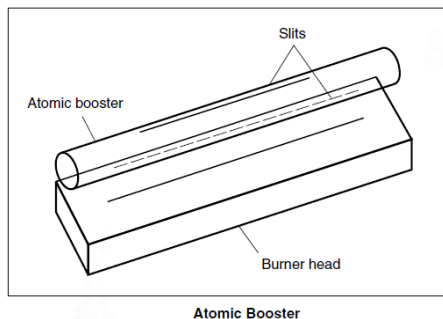
## Maintenance Parts: HVG Unit

Part Name	Part Number	Appearance
Gas/liquid separator	206-17839-00	
Manifold (except for O-ring, hose nipple)	206-17825-00	
Reaction Coil	206-18037-00	
Suction tube (yellow-marked) for NaBH4	206-18036-01	

[Back to contents](#)

Suction tube (blue-marked) for HCl	206-18036-02	
Suction tube (not marked, 30 cm) for sample	206-18036-03	
Suction tube (not marked, 80 cm) for ASC	206-18036-04	
Fluorinated rubber tube	206-60250-01	
Joint (reagent)	206-17826-01	
Joint (sample)	206-17826-02	

## Atom Booster



Item	Part Number	Part Name
1	206-50957-91	Atom Booster Assembly
2	206-50937-01	Quartz Tube Replacement

# Chemical Compatibility

## AA-7000

Chemical Name	Drain Tank (Polyethylene)	Drain Tube		O-rings		Chamber Nebulizer	Conditions of Use
		Standard	Options	Standard	Options		
Water *1	◎	◎	◎	◎	◎	◎	
Ethanol	○	○	○	○	○	○	
Hydrochloric acid	○	○	○	○	○	○	
Nitric acid	○	○	○	○	○	○	
Sulfuric acid	○	○	○	○	○	○	
Hydrofluoric acid	○	○	○	○	○	○	
Perchloric acid	○	○	○	○	○	○	
Methanol	○	○	○	△	○	○	Change the O-rings to the optional products.
Sodium hydroxide	○	○	○	×	○	○	
Gasoline	△	△	○	○	○	○	Change the drain tank once every month. Change the standard drain tube once every month, or replace it with the optional product.
Petroleum	△	△	○	○	○	○	
Acetic acid	△	△	○	×	○	○	Change the O-rings to the optional products. Change the drain tank once every month. Change the standard drain tube once every month, or replace it with the optional product.
MIBK	△	△	○	×	○	○	
Butyl acetate	△	△	○	×	○	○	
Acetone	△	△	○	×	○	○	

\*1 : Acid concentration of 0.5% or lower

◎ : Can be used, replacement interval of 3 years

○ : Can be used, replacement interval of 1 year

△ : Can be used, replacement interval of 1 month

×

## ASC-7000

Chemical Name	Measurement Method	Flame Continuous Method		Flame Micro Sampling Method		Furnace Method	
	Application	Sample	Rinse Liquid	Sample	Rinse Liquid	Sample	Rinse Liquid
Water <sup>*1</sup>		○	○	○	○	○	○
Ethanol		○	○	○	○	○	○
Hydrochloric acid		○	○	○	○	○	○
Nitric acid		○	○	○	△	○	△
Sulfuric acid		○	○	○	○	○	○
Hydrofluoric acid		○	×	○	×	○	×
Xylene		×	×	×	×	○ <sup>*2, 3, 4</sup>	×
Perchloric acid		○ <sup>*2</sup>	×	×	×	○ <sup>*2, 3, 4</sup>	×
Methanol		○	○	○	○	○	○
Sodium hydroxide		○	×	○	×	○	×
Gasoline		×	×	○	×	○	×
Petroleum		×	×	○	×	○	×
Acetic acid		×	×	○	×	○	×
MIBK		×	×	×	×	○ <sup>*2, 3, 4</sup>	×
Butyl acetate		×	×	×	×	○ <sup>*2, 3, 4</sup>	×
Acetone		×	×	×	×	○ <sup>*2, 3, 4</sup>	×
IPA		×	×	×	×	○	○
THF		×	×	×	×	○ <sup>*2, 3, 4</sup>	×

○ : Can be used; for the replacement intervals of the parts, see [4.7 "Maintenance Parts"](#).

△ : Can be used; the replacement interval of a pump tube is 3 months. For the replacement intervals of other parts, see [4.7 "Maintenance Parts"](#).

× : Use prohibited

\*1 : Acid concentration of 0.5 % or lower

\*2 : For sample cups and reagent cups, use those made of glass (optional).

\*3 : Use the instrument with mixing OFF.

\*4 : Use nozzle ASSY, G (optional).

# Lamps

## Single Element Lamps

Name	Symbol	Part Number	Name	Symbol	Part Number
Aluminum	Al	200-38422-01	Nickel	Ni	200-38422-15
Antimony	Sb	200-38422-24	Niobium	Nb	200-38422-32
Arsenic	As	200-38422-42	Palladium	Pd	200-38422-41
Barium	Ba	200-38422-03	Platinum	Pt	200-38422-20
Beryllium	Be	200-38422-04	Potassium	K	200-38422-22
Bismuth	Bi	200-38422-43	Rhenium	Re	200-38422-44
Boron	B	200-38422-39	Rhodium	Rh	200-38422-49
Cadmium	Cd	200-38422-06	Rubidium	Rb	200-38422-33
Calcium	Ca	200-38422-05	Ruthenium	Ru	200-38422-45
Cerium	Ce	200-38422-26	Selenium	Se	200-38422-46
Cesium	Cs	200-38422-27	Silicon	Si	200-38422-16
Chromium	Cr	200-38422-07	Silver	Ag	200-38422-02
Cobalt	Co	200-38422-09	Sodium	Na	200-38422-14
Copper	Cu	200-38422-08	Strontium	Sr	200-38422-34
Dysprosium	Dy	200-38422-60	Tantalum	Ta	200-38422-35
Gallium	Ga	200-38422-40	Tellurium	Te	200-38422-47
Germanium	Ge	200-38422-11	Thallium	Tl	200-38422-74
Gold	Au	200-38422-25	Tin	Sn	200-38422-18
Iron	Fe	200-38422-10	Titanium	Ti	200-38422-17
Lanthanum	La	200-38422-29	Tungsten	W	200-38422-36
Lead	Pb	200-38422-21	Vanadium	V	200-38422-19
Lithium	Li	200-38422-30	Zinc	Zn	200-38422-23
Magnesium	Mg	200-38422-12	Zirconium	Zr	200-38422-37
Manganese	Mn	200-38422-13			
Mercury	Hg	200-38422-28			
Molybdenum	Mo	200-38422-31			

97 dalis

## Multi-Element-Special Order Items

Base Element	Amalgam Metal/s	P/N	Base Element	Amalgam Metal/s	P/N
Aluminum	Ca	80014625	Chromium	Co+Fe+Mn+Ni	80018218
	Ca + Fe + Mg	80018135		Cu	80014710
	Ca + Mg	80014866		Cu + Co	80018205
	Ca+Cu+Fe+Mg+Si+Zn	80018133		Cu + Fe	80018224
	Mg	80014627		Cu + Fe + Mn	80018225
	Si	80014630		Cu + Fe + Ni	80018227
	Si + Ti	80014869		Cu + Mn	80018229
	Ti	80014660		Cu + Mn + Ni	80018230
Antimony	As + Bi	80014872		Cu + Ni	80018233
Arsenic	Se + Te	80014874		Cu + Ni + Ag	80018234
Barium	Ca + Mg + Sr	80018161		Cu+Fe+Mn+Ni	80018226
	Sr	80014663		Cu+Fe+Ni+Ag	80018228
Cadmium	Zn	80014666		Fe	80014713
Calcium	Ba	80014669		Fe + Mn	80018236
	Ba + Sr	80014876		Fe + Mn + Ni	80018237
	Mg	80014672		Fe + Ni	80018239
	Mg + Si	80014879		Mn	80014716
	Mg + Zn	80014882		Mn + Ni	80018241
	Si	80014676		Mo	80014719
	Sr	80014680		Ni	80014722
	Zn	80014683	Cobalt	Cu	80014725
Chromium	Co	80014688		Cu + Fe	80018177
	Co + Cu + Fe	80018206		Cu + Fe + Mn	80018178
	Co + Cu + Mn	80018213		Cu + Fe + Ni	80018183
	Co + Cu + Ni	80018215		Cu + Mn	80018185
	Co + Fe	80018216		Cu + Mn + Ni	80018187
	Co + Fe + Mn	80018217		Cu+Fe+Mn+Mo	80018179
	Co + Fe + Ni	80018219		Cu+Fe+Mn+Ni	80018180
	Co + Mn	80018220		Fe	80014728
	Co + Mn + Ni	80018221		Fe + Mn + Ni	80018193
	Co + Ni	80018223		Mn	80014731
	Co+Cu+Fe+Mn	80018207		Mn + Ni	80018199
	Co+Cu+Fe+Mn+Mo	80018208		Mo	80014734
	Co+Cu+Fe+Mn+Ni	80018209		Ni	80014737
	Co+Cu+Fe+Ni	80018212			
	Co+Cu+Mn+Ni	80018214			

## Multi-Element – Special Order Items

Base Element	Amalgam Metal/s	P/N	Base Element	Amalgam Metal/s	P/N
<b>Copper</b>	Fe	80014740	<b>Molybdenum</b>	Co + Cu	80018189
	Fe + Mn	80018245		Co + Cu + Fe	80018182
	Fe + Mn + Ni	80018247		Co + Cu + Mn	80018186
	Fe + Mn + Zn	80018249		Co + Fe	80018196
	Fe + Mo	80018251		Co + Fe + Mn	80018192
	Fe + Ni	80018252		Co + Mn	80018198
	Fe + Ni + Ag	80018253		Cr + Co	80018222
	Fe + Zn	80018254		Cr + Cu	80018232
	Mn	80014743		Cr + Fe	80018238
	Mn + Ni	80018258		Cr + Mn	80018240
	Mn + Zn	80018260		Cu + Fe	80018251
	Mo	80014746		Cu + Fe + Mn	80018246
	Ni	80014748		Cu + Mn	80018257
	Zn	80014751		Fe + Mn	80018265
<b>Gold</b>	Ag	80014810	<b>Platinum</b>	Ag	80014849
	Cu	80014755	<b>Silicon</b>	Ti	80014852
	Cu + Ni	80018152	<b>Silver</b>	Cr	80014855
	Ni	80014758		Cr + Cu	80018128
	Pt	80014761		Cu	80014858
	Pt + Ag	80018155		Cu + Ni	80018130
<b>Iron</b>	Mn	80014814	<b>Sodium</b>	K	80014861
	Mn + Ni	80018266			
	Mn + Zn	80018268			
	Mo	80014817			
	Ni	80014819			
	Zn	80014822			
<b>Magnesium</b>	Si	80014825			
	Zn	80018278			
<b>Manganese</b>	Mo	80014828			
	Ni	80014840			
	Zn	80014844			

# Single Element Standards

1000 mg/L, (ppm)

Element Name	Element Symbol & Matrix	Part number	Element Name	Element Symbol & Matrix	Part number
Aluminum	Al in 2% HNO <sub>3</sub>	220-95366-02	Neodymium	Nd in 2% HNO <sub>3</sub>	220-95366-29
Antimony	Sb in 5% HNO <sub>3</sub> + 0.1% HF	220-95366-14	Nickel	Ni in 2% HNO <sub>3</sub>	220-95366-30
Antimony	Sb in 5% Tartaric Acid + 2% HNO <sub>3</sub>	220-95366-15	Niobium	Nb in 2% HNO <sub>3</sub> + 0.5% HF	220-95366-31
Arsenic	As in 2% HNO <sub>3</sub>	220-95366-24	Palladium	Pd in 10% HNO <sub>3</sub> + TrHF P from KH <sub>2</sub> PO <sub>4</sub> in 0.05% HNO <sub>3</sub>	220-95366-32
Barium	Ba in 2% HNO <sub>3</sub>	220-95366-36	Phosphorus	P in 0.05% HNO <sub>3</sub>	220-95366-34
Beryllium	Be in 2% HNO <sub>3</sub>	220-95366-44	Phosphorus	P in 0.05% HNO <sub>3</sub>	220-95366-33
Bismuth	Bi in 2% HNO <sub>3</sub>	220-95366-54	Potassium	K in 1% HNO <sub>3</sub>	220-95366-35
Cadmium	Cd in 2% HNO <sub>3</sub>	220-95366-64	Praseodymium	Pr in 2% HNO <sub>3</sub>	220-95366-37
Calcium	Ca in 2% HNO <sub>3</sub>	220-95366-65	Rhenium	Re in 2% HNO <sub>3</sub>	220-95366-38
Cerium	Ce in 2% HNO <sub>3</sub>	220-95366-01	Rubidium	Rb in 1% HNO <sub>3</sub>	220-95366-39
Cesium	Cs in 1% HNO <sub>3</sub>	220-95366-03	Samarium	Sm in 2% HNO <sub>3</sub>	220-95366-40
Chromium	Cr in 2% HNO <sub>3</sub>	220-95366-04	Scandium	Sc in 2% HNO <sub>3</sub>	220-95366-41
Cobalt	Co in 2% HNO <sub>3</sub>	220-95366-05	Selenium	Se in 2% HNO <sub>3</sub>	220-95366-42
Copper	Cu in 2% HNO <sub>3</sub>	220-95366-06	Silver	Ag in 2% HNO <sub>3</sub>	220-95366-43
Dysprosium	Dy in 2% HNO <sub>3</sub>	220-95366-07	Sodium	Na in 1% HNO <sub>3</sub>	220-95366-45
Erbium	Er in 2% HNO <sub>3</sub>	220-95366-08	Strontium	Sr in 1% HNO <sub>3</sub>	220-95366-46
Europium	Eu in 2% HNO <sub>3</sub>	220-95366-09	Tantalum	Ta in 2% HNO <sub>3</sub> + 0.5% HF	220-95366-47
Gadolinium	Gd in 2% HNO <sub>3</sub>	220-95366-10	Tellurium	Te in 2% HNO <sub>3</sub> + 0.2% HF	220-95366-48
Gallium	Ga in 2% HNO <sub>3</sub>	220-95366-11	Terbium	Tb in 2% HNO <sub>3</sub>	220-95366-49
Germanium	Ge (NH <sub>4</sub> ) <sub>2</sub> GeF <sub>5</sub> in 1% HNO <sub>3</sub>	220-95366-12	Thallium	Tl in 2% HNO <sub>3</sub>	220-95366-50
Germanium	Ge in 2% HNO <sub>3</sub> + 0.5% HF	220-95366-13	Thorium	Th in 2% HNO <sub>3</sub>	220-95366-51
Hafnium	Hf in 2% HNO <sub>3</sub> + 0.5% HF	220-95366-16	Thulium	Tm in 2% HNO <sub>3</sub>	220-95366-52
Holmium	Ho in 2% HNO <sub>3</sub>	220-95366-17	Tin	Sn in 2% HNO <sub>3</sub> + 0.5% HF	220-95366-53
Indium	In in 2% HNO <sub>3</sub>	220-95366-18	Titanium	Ti in 2% HNO <sub>3</sub> + 0.1% HF	220-95366-55
Iron	Fe in 2% HNO <sub>3</sub>	220-95366-19	Tungsten	W in 2% HNO <sub>3</sub> + 1% HF	220-95366-56
Lanthanum	La in 2% HNO <sub>3</sub>	220-95366-20	Uranium	U in 2% HNO <sub>3</sub>	220-95366-57
Lead	Pb in 2% HNO <sub>3</sub>	220-95366-21	Vanadium	V in 2% HNO <sub>3</sub>	220-95366-58
Lithium	Li in 1% HNO <sub>3</sub>	220-95366-22	Ytterbium	Yb in 2% HNO <sub>3</sub>	220-95366-59
Lutetium	Lu in 2% HNO <sub>3</sub>	220-95366-23	Yttrium	Y in 2% HNO <sub>3</sub>	220-95366-60
Magnesium	Mg in 2% HNO <sub>3</sub>	220-95366-25	Zinc	Zn in 2% HNO <sub>3</sub> Zr from ZrO(NO <sub>3</sub> ) <sub>2</sub> in 0.5% HNO <sub>3</sub>	220-95366-61
Manganese	Mn in 2% HNO <sub>3</sub>	220-95366-26	Zirconium	Zr in 2% HNO <sub>3</sub> + 0.5% HF	220-95366-62
Mercury	Hg in 2% HNO <sub>3</sub>	220-95366-27	Zirconium	Zr in 2% HNO <sub>3</sub> + 0.5% HF	220-95366-63
Molybdenum	Mo in 2% HNO <sub>3</sub> + 0.1% HF	220-95366-28			





**Shimadzu Corporation**  
URL: [www.shimadzu.com/AN/](http://www.shimadzu.com/AN/)

**Shimadzu Scientific Instruments**  
7102 Riverwood Drive, Columbia, Maryland 21046, U.S.A.  
Phone: 800-477-1227/410-381-1227, Fax: 410-381-1222  
URL: [www.ssi.shimadzu.com](http://www.ssi.shimadzu.com)

Company names, product/service names and logos used in this publication are trademarks and trade names of Shimadzu Corporation and its affiliates, whether or not they are used with trademark symbol "TM" or "R".  
Third-party trademarks and trade names may be used in this publication to refer to either the entities or their products/services.  
Shimadzu disclaims any proprietary interest in trademarks and trade names other than its own.

For Research Use Only. Not for use in diagnostic procedures.  
The contents of this publication are provided to you "as is" without warranty of any kind, and are subject to change without notice.  
Shimadzu does not assume any responsibility or liability for any damage, whether direct or indirect, relating to the use of this publication.