

Atomic Absorption Spectrophotometers

AA-7000 Series Consumables

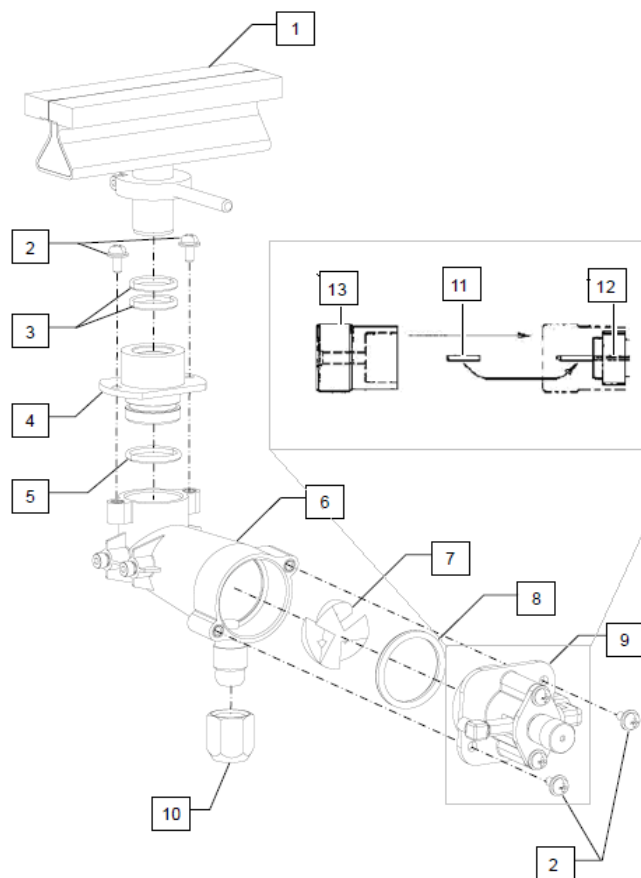


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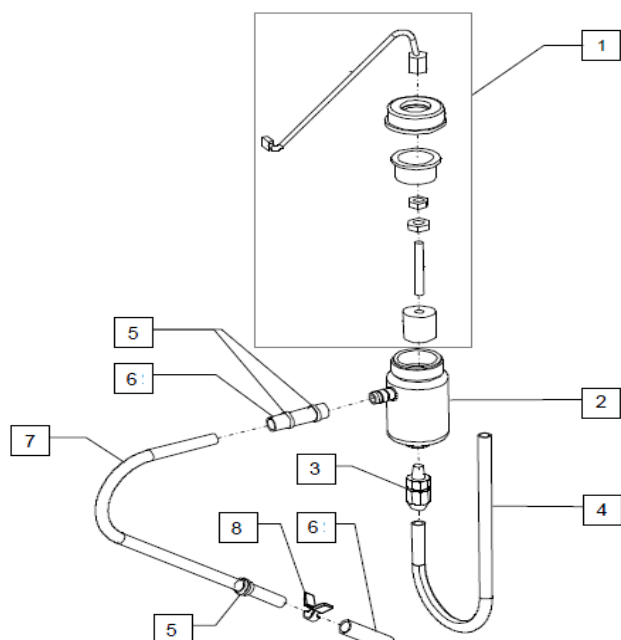
AA-7000

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	206-77760-41	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

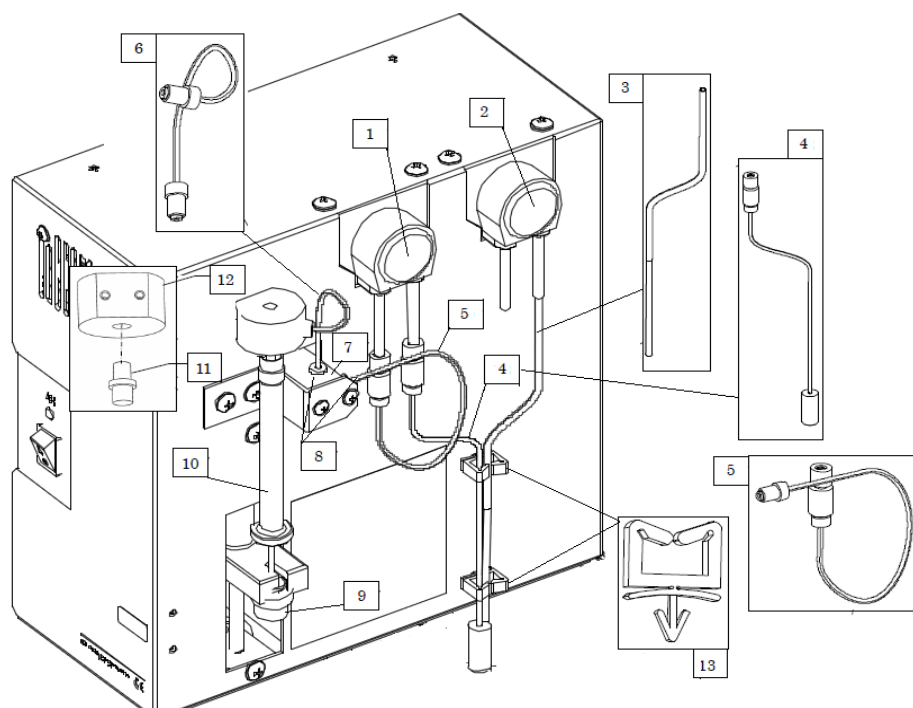


Item	Part Number	Part Name
1	206-50735-93	Leveler ASSY
2	206-63698-00	Drain Bottle
3	035-65014-14	Half Union, HZ10-02-PP
4	206-77391-02	U-Tube, Tetra-Etching
5	072-60320-01	Cable Tie, T18R
6	016-35792-09	Tube, Super-CORN-ACE
7	206-77642-00	Drain Tube
8	037-61121-02	Hose Clamp,T-11

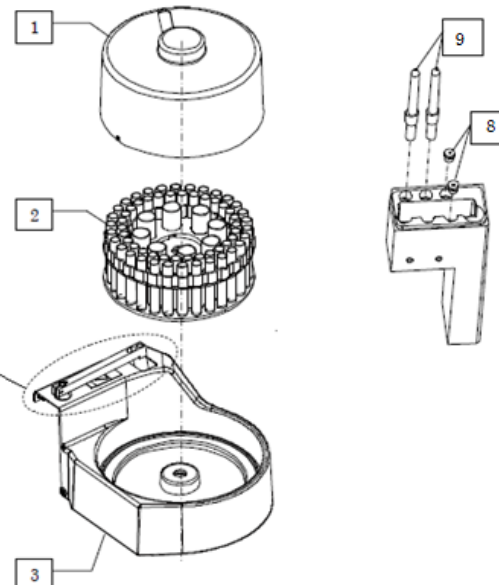
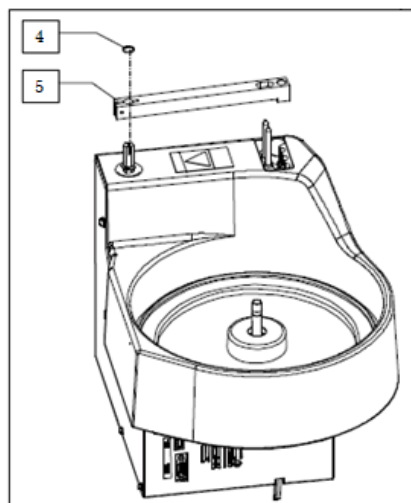
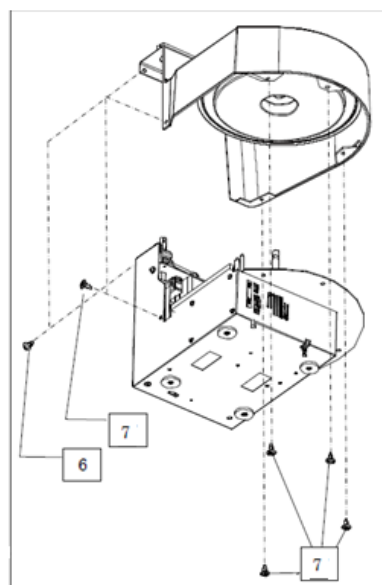
Maintenance Parts: AA-7000

	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 (FFKM)	* See Chemical Compatibility
	O-Ring Set, Silicon	206-77620-93	Silicon Rubber (VQM)	* See Chemical Compatibility
Burner Head	Burner Head ASSY	206-50370-94	Titanium, 10 cm	3 Years
	High Temp Burner Head	206-77530-91	Titanium, N ₂ O-C ₂ H ₂ , 5 cm	3 Years
Hoses	Hose, 8x2B-BK	016-02101-04	For support gas (Air/Argon), Black	3 Years
	Hose, 8x2B-R	016-02101-03	For fuel gas (C ₂ H ₂), Red	3 Years
	Hose, 8x2B-G	016-02101-01	For support gas (N ₂ O), Green	3 Years
Atomizer	Nebulizer	206-77760-41	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	PTFE tube for sample uptake	* See Chemical Compatibility
	Sampling tube ASSY	206-50772-91	Polyethylene tube for sample uptake	* See Chemical Compatibility
	Optional Drain Tube	016-37619-01		* See Chemical Compatibility
	Drain ASSY	206-77413-41	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	PTFE 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



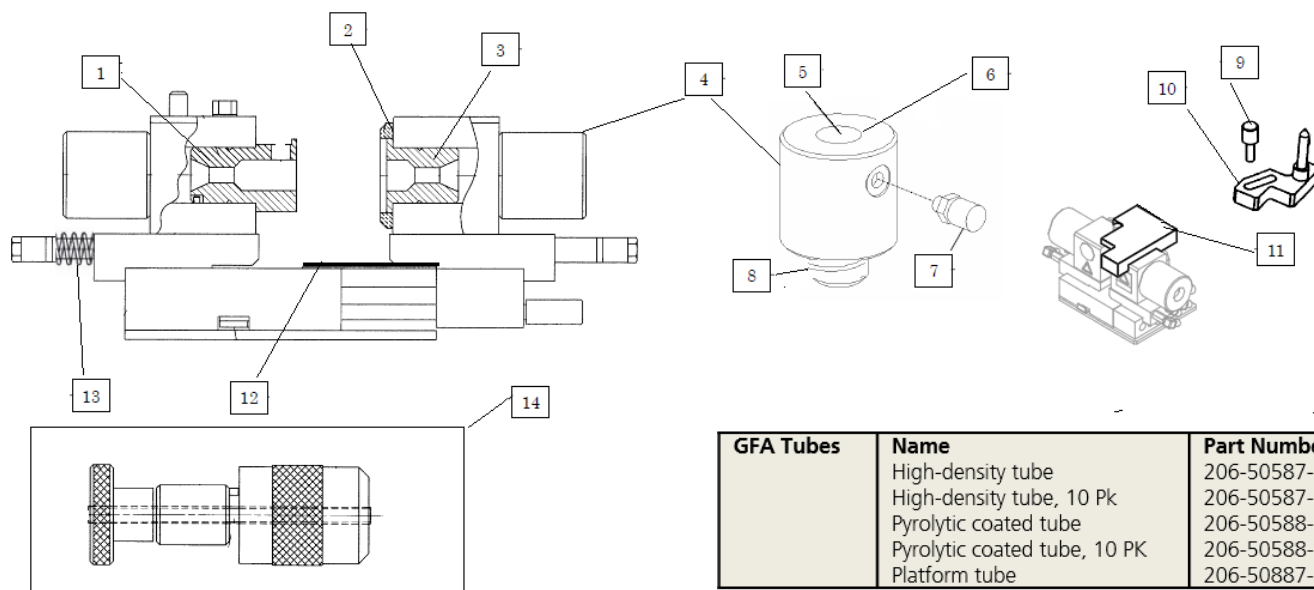
Item	Part Number	Part Name	Item	Part Number	Part Name
1	206-50295-01	Cover, Turntable ASC	6	037-51344-01	FASTENER, 12A1-0-Q-585-01
2	206-50062	Turntable, ASC	7	037-51344-02	FASTENER, 12A1-0-Q-585-01
3	206-77275-00	Cover, ASC-7000	8	201-35584-00	SEPTA SILICONE RUBBER
4	036-11206-00	O-RING, 4D P8	9	206-50408-00	Port Guide, ASC
5	206-50278-00	ARM, ASC		037-02881-03	Sample Tray Fixing Screw

Maintenance Parts: ASC-7000

Part Name	Part Number	Remarks	Replacement
Nozzles	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
Syringe Parts	Syringe	208-97211-01	Capacity 250 uL 5 years *3
	Plunger Tip, TEF025	046-00043-15	Plunger for syringe 1 year *3,5
Pump Parts	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
Vials & Cups	16 mL Sample vial	046-00147-04	Each, polypropylene, Flame Cont.
	16 mL Sample vial	220-95369-00	1000/PK, polypropylene, Flame Cont.
	53 mL Glass Vial	200-93113-05	Each, glass, Flame Cont.
	20 mL Vials	038-00179-03	Each, polypropylene, GFA, Micro.
	2 mL Cup	038-00259-02	Each, polypropylene, GFA, Micro.
	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
Misc.	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

*1: Flame continuous method
 *2: Furnace/ micro sampling method
 *3: When distilled water is used
 *4: Recommended for low conc.
 *5: 60 samples per day usage

GFA-7000



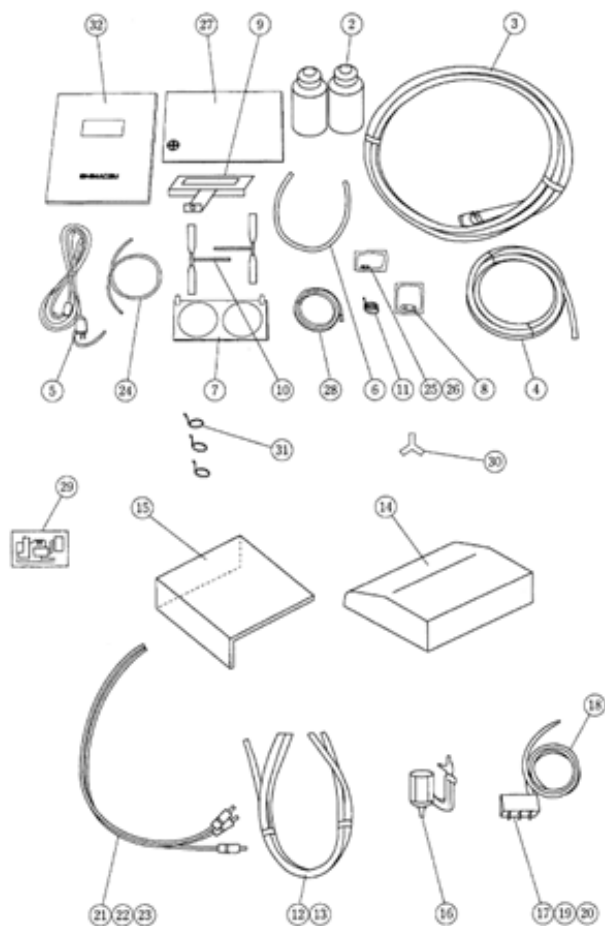
GFA Tubes	Name	Part Number
	High-density tube	206-50587-11
	High-density tube, 10 Pk	206-50587-84
	Pyrolytic coated tube	206-50588-11
	Pyrolytic coated tube, 10 PK	206-50588-84
	Platform tube	206-50887-02

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	206-50621-00	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	206-51028-91	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	016-46033-01	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

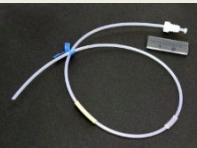
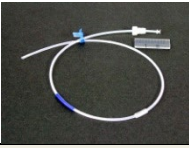


Item	Part Name	Part Number
1	Hydride vapor generator main body	
2	Reagent bottle (polyethylene)	204-09363-01
3	Gas Hose	204-05845-02
4	Drain tube (Tygon)	206-60250-02
5	AC Cable (110-117 V) Power cable (220-240 V)	206-13774-00 071-60814-05
6	Fluorinated rubber tube	206-60250-01
7	Guide plate	206-18033-00
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 ₄	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	035-61552-00
31	Hose clamp, 14 mm	037-61018-00
32	Instruction manual	206-96739-00

Consumables: HVG Unit

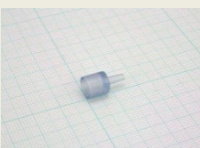
Part Name	Part Number	Appearance
Pump tube 080 (reagent)	208-90038-08	
Pump tube 130 (sample)	208-90038-13	
Absorption cell	206-77607-00	

Maintenance Parts: HVG Unit

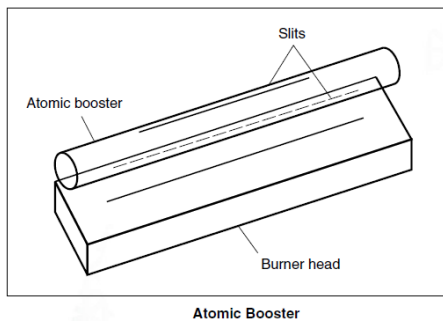
Part Name	Part Number	Appearance
Gas/liquid separator	206-17839-00	
Manifold (except for O-ring, hose nipple)	206-17825-00	
Reaction Coil	206-18037-00	
Suction tube (yellow-marked) for NaBH4	206-18036-01	
Suction tube (blue-marked) for HCl	206-18036-02	
Suction tube (not marked, 30 cm) for sample	206-18036-03	

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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

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Chemical Compatibility

AA-7000

Chemical Name	Drain Tank	Drain Tube		O-Rings			Chamber	Conditions of Use
	(Polyethylene)	Standard	Optional (PTFE)	Standard	FFKM	VQM	Nebulizer	
Water ¹	A	A	A	A	A	A	A	
Ethanol	B	B	B	B	B	B	B	
Hydrochloric acid	B	B	B	B	B	B	B	
Nitric acid	B	B	B	B	B	B	B	
Sulfuric acid	B	B	B	B	B	B	B	
Hydrofluoric acid	B	B	B	B	B	X	B	
Perchloric acid	B	B	B	B	B	X	B	
Methanol	B	B	B	C	B	B	B	Change O-rings
Sodium hydroxide	B	B	B	X	B	X	B	
Gasoline	C	C	B	B	B	X	B	Change the drain tank once every month. Change the standard drain tube once every month, or replace it with the optional product
Petroleum	C	C	B	B	B	C	B	
Acetic acid	C	C	B	X	B	B	B	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	C	C	B	X	B	C	B	
Butyl acetate	C	C	B	X	B	C	B	
Acetone	C	C	B	X	B	C	B	

1: Acid concentration less than 0.5%

A: Applicable. Replacement required once every 3 years

B: Applicable. Replacement required once a year

C: Applicable. Replacement required once a month

X: Cannot be used

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 ^{*1}		○	○	○	○	○	○
Ethanol		○	○	○	○	○	○
Hydrochloric acid		○	○	○	○	○	○
Nitric acid		○	○	○	△	○	△
Sulfuric acid		○	○	○	○	○	○
Hydrofluoric acid		○	×	○	×	○	×
Xylene		×	×	×	×	○ ^{*2, 3, 4}	×
Perchloric acid		○ ^{*2}	×	×	×	○ ^{*2, 3, 4}	×
Methanol		○	○	○	○	○	○
Sodium hydroxide		○	×	○	×	○	×
Gasoline		×	×	○	×	○	×
Petroleum		×	×	○	×	○	×
Acetic acid		×	×	○	×	○	×
MIBK		×	×	×	×	○ ^{*2, 3, 4}	×
Butyl acetate		×	×	×	×	○ ^{*2, 3, 4}	×
Acetone		×	×	×	×	○ ^{*2, 3, 4}	×
IPA		×	×	×	×	○	○
THF		×	×	×	×	○ ^{*2, 3, 4}	×

○ : 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			

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
Copper	Fe	80014740	Molybdenum	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
Gold	Ag	80014810	Platinum	Ag	80014849
	Cu	80014755	Silicon	Ti	80014852
	Cu + Ni	80018152	Silver	Cr	80014855
	Ni	80014758		Cr + Cu	80018128
	Pt	80014761		Cu	80014858
	Pt + Ag	80018155		Cu + Ni	80018130
Iron	Mn	80014814	Sodium	K	80014861
	Mn + Ni	80018266			
	Mn + Zn	80018268			
	Mo	80014817			
	Ni	80014819			
	Zn	80014822			
Magnesium	Si	80014825			
	Zn	80018278			
Manganese	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% HNO3	220-95366-02	Neodymium	Nd in 2% HNO3	220-95366-29
Antimony	Sb in 5% HNO3 + 0.1% HF	220-95366-14	Nickel	Ni in 2% HNO3	220-95366-30
Antimony	Sb in 5% Tartaric Acid + 2% HNO3	220-95366-15	Niobium	Nb in 2% HNO3 + 0.5% HF	220-95366-31
Arsenic	As in 2% HNO3	220-95366-24	Palladium	Pd in 10% HNO3 + TrHF P from KH2PO4 in 0.05% HNO3	220-95366-32
Barium	Ba in 2% HNO3	220-95366-36	Phosphorus	P in 0.05% HNO3	220-95366-33
Beryllium	Be in 2% HNO3	220-95366-44	Phosphorus	P in 0.05% HNO3	220-95366-33
Bismuth	Bi in 2% HNO3	220-95366-54	Potassium	K in 1% HNO3	220-95366-35
Cadmium	Cd in 2% HNO3	220-95366-64	Praseodymium	Pr in 2% HNO3	220-95366-37
Calcium	Ca in 2% HNO3	220-95366-65	Rhenium	Re in 2% HNO3	220-95366-38
Cerium	Ce in 2% HNO3	220-95366-01	Rubidium	Rb in 1% HNO3	220-95366-39
Cesium	Cs in 1% HNO3	220-95366-03	Samarium	Sm in 2% HNO3	220-95366-40
Chromium	Cr in 2% HNO3	220-95366-04	Scandium	Sc in 2% HNO3	220-95366-41
Cobalt	Co in 2% HNO3	220-95366-05	Selenium	Se in 2% HNO3	220-95366-42
Copper	Cu in 2% HNO3	220-95366-06	Silver	Ag in 2% HNO3	220-95366-43
Dysprosium	Dy in 2% HNO3	220-95366-07	Sodium	Na in 1% HNO3	220-95366-45
Erbium	Er in 2% HNO3	220-95366-08	Strontium	Sr in 1% HNO3	220-95366-46
Europium	Eu in 2% HNO3	220-95366-09	Tantalum	Ta in 2% HNO3 + 0.5% HF	220-95366-47
Gadolinium	Gd in 2% HNO3	220-95366-10	Tellurium	Te in 2% HNO3 + 0.2% HF	220-95366-48
Gallium	Ga in 2% HNO3	220-95366-11	Terbium	Tb in 2% HNO3	220-95366-49
Germanium	Ge (NH4)2GeF5 in 1% HNO3	220-95366-12	Thallium	Tl in 2% HNO3	220-95366-50
Germanium	Ge in 2% HNO3 + 0.5% HF	220-95366-13	Thorium	Th in 2% HNO3	220-95366-51
Hafnium	Hf in 2% HNO3 + 0.5% HF	220-95366-16	Thulium	Tm in 2% HNO3	220-95366-52
Holmium	Ho in 2% HNO3	220-95366-17	Tin	Sn in 2% HNO3 + 0.5% HF	220-95366-53
Indium	In in 2% HNO3	220-95366-18	Titanium	Ti in 2% HNO3 + 0.1% HF	220-95366-55
Iron	Fe in 2% HNO3	220-95366-19	Tungsten	W in 2% HNO3 + 1% HF	220-95366-56
Lanthanum	La in 2% HNO3	220-95366-20	Uranium	U in 2% HNO3	220-95366-57
Lead	Pb in 2% HNO3	220-95366-21	Vanadium	V in 2% HNO3	220-95366-58
Lithium	Li in 1% HNO3	220-95366-22	Ytterbium	Yb in 2% HNO3	220-95366-59
Lutetium	Lu in 2% HNO3	220-95366-23	Yttrium	Y in 2% HNO3	220-95366-60
Magnesium	Mg in 2% HNO3	220-95366-25	Zinc	Zn in 2% HNO3 Zr from ZrO(NO3)2 in 0.5% HNO3	220-95366-61
Manganese	Mn in 2% HNO3	220-95366-26	Zirconium	Zr in 2% HNO3 + 0.5% HF	220-95366-63
Mercury	Hg in 2% HNO3	220-95366-27			
Molybdenum	Mo in 2% HNO3 + 0.1% HF	220-95366-28			



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