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HP 1946A LC/MSD Replacement Parts

To see parts lists and drawings, set up the Acrobat View menu to **Fit Visible** and **Continuous - Facing Page**.

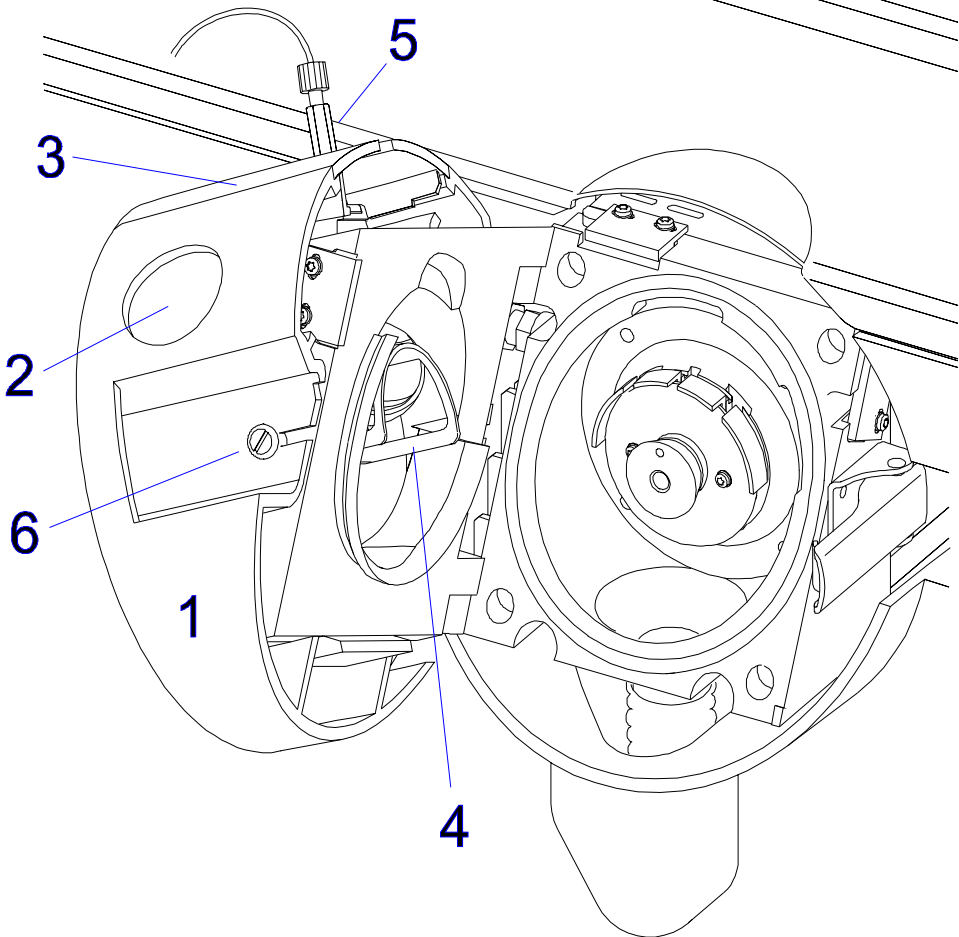
To report errors, please send email to chem@sid.hp.com.

Electrospray Spray Chamber

Electrospray Spray Chamber

Item	Description	Part Number
1	Spray chamber cover	G1946-40033
2	Spray chamber window	G1946-20159
3	Nebulizer cover	G1946-40034
4	Mesh electrode	G1946-60027
5	ES Nebulizer assembly	G1946-60098
6	Screw, M3 x 0.5 x 8 T10	0515-0372*
7	Screw, M4 x 0.7 PH	0515-0380*
8	Screw, M4 x 0.7 x 12 FH	0515-0943*
9	Screw, M4 x 16	0515-1034
10	Screw, M3 x 0.5 FH	0515-1103*
11	Shoulder screw, metric (attaches nebulizer to spray chamber)	0515-2880
	Gasket for spray chamber window	G1946-20189
	Latch post	G1946-20196
	Screw to hold latch post	0515-1034
	Vented standoff for mesh electrode	G1946-20163

Items marked with a (*) are not identified on the diagram

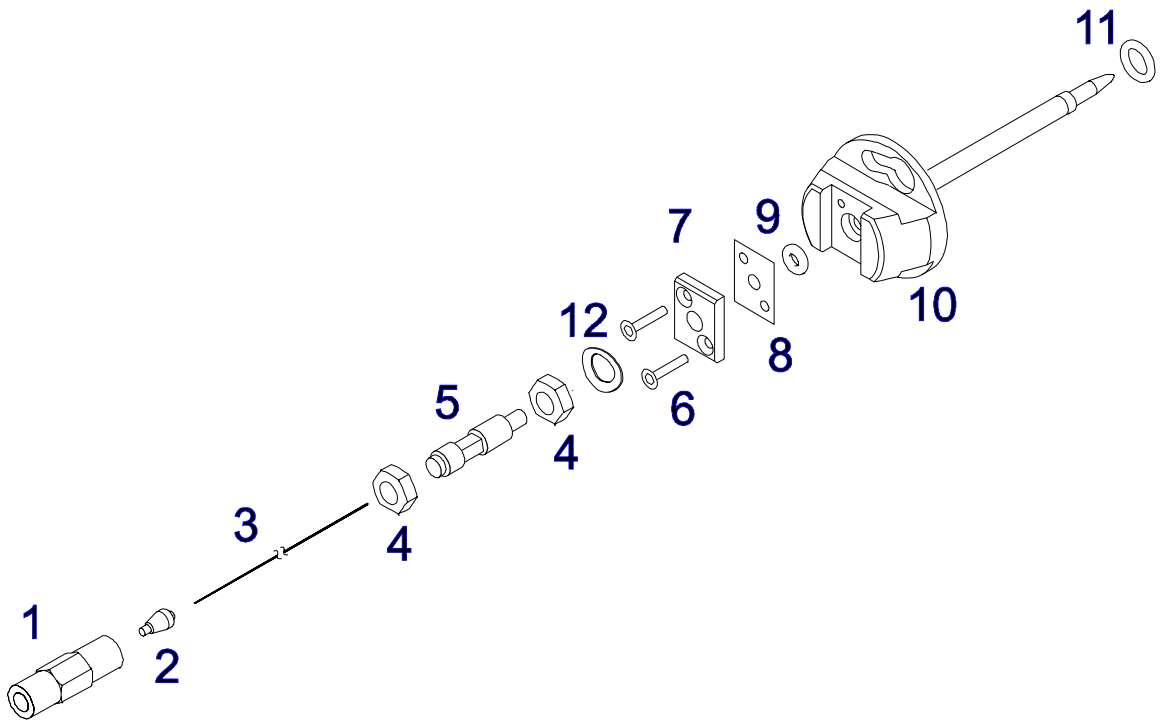


Electrospray Nebulizer

Electrospray Nebulizer

Item	Description	Part Number
1	Union, zero dead volume	0100-1619
2	Ferrule, 0.010	G1946-20213
3	ES needle	G1946-20177
4	Hex nut	2740-0001
5	Needle holder	G1946-20174
6	Screw, M2 x 0.4	0515-1602
7	Square Nut	G1946-20175
8	O-ring retainer	G1946-20202
9	O-ring, 2-005	0905-0082
10	ES nebulizer body	*
11	O-ring, 2-009	0905-1022

Cannot be ordered separately, order complete ES nebulizer assembly

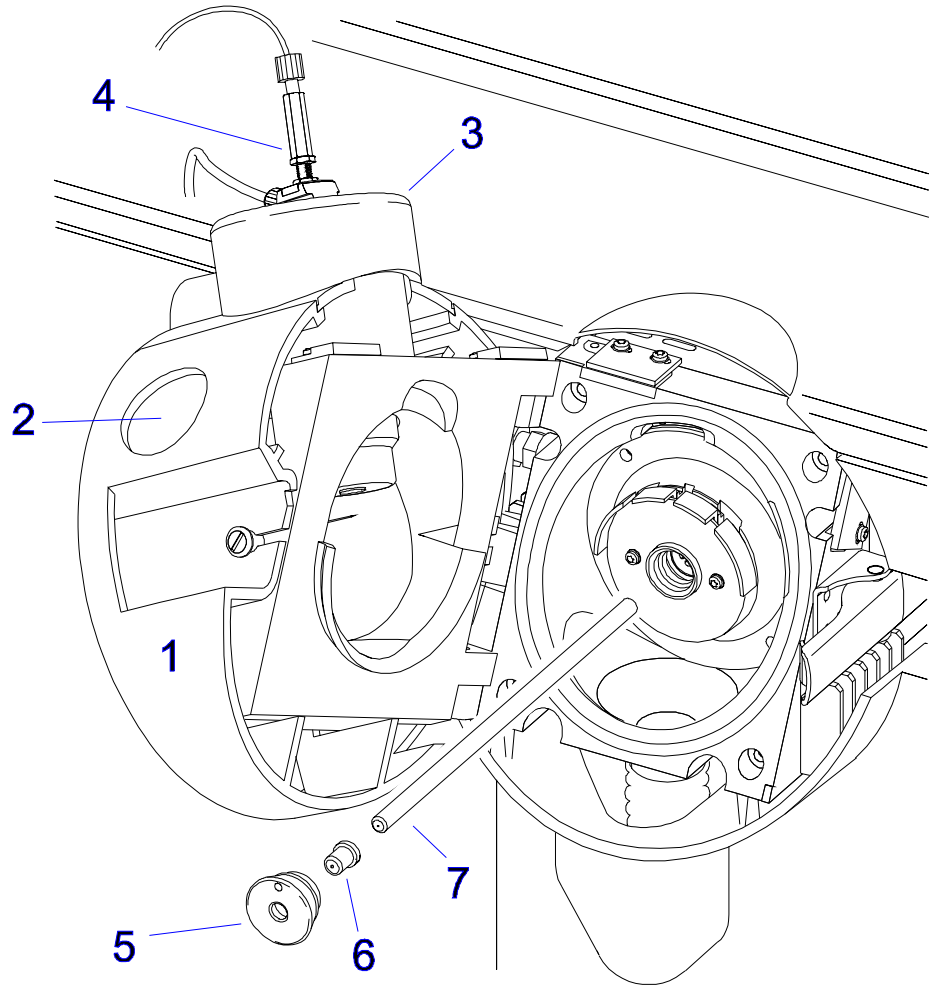


HP 1946A LC/MSD Replacement Parts

APCI Spray Chamber

APCI Spray Chamber

Item	Description	Part Number
1	Spray chamber cover	G1946-20185
2	Spray chamber window	G1946-20159
3	Nebulizer cover	G1946-40035
4	APCI Nebulizer assembly	G1946-60037
5	Spray shield	G1946-20157
6	Capillary cap	G1946-20056
7	Capillary	G1946-80009
8	Corona needle (pack of three)	9301-1397
9	Corona needle receptacle / cable assembly	G1947-60102*
10	Vaporizer heater/sensor/cable	G1947-60101*
11	Screw, M3 x 0.5 x 8 T10	0515-0372*
12	Screw, M4 x 0.7 PH	0515-0380
13	Screw, M4 x 0.7 x 12	0515-0943
14	Screw, M4 x 16	0515-1034
15	Screw, M3 x 0.5 FH	0515-1103
16	Shoulder screw, metric (attaches nebulizer to spray chamber)	0515-2880
17	Vaporizer O-ring	0905-1292*
18	Gasket for spray chamber window	G1946-20189
19	Latch post	G1946-20196
20	Screw to hold latch post	0515-1034



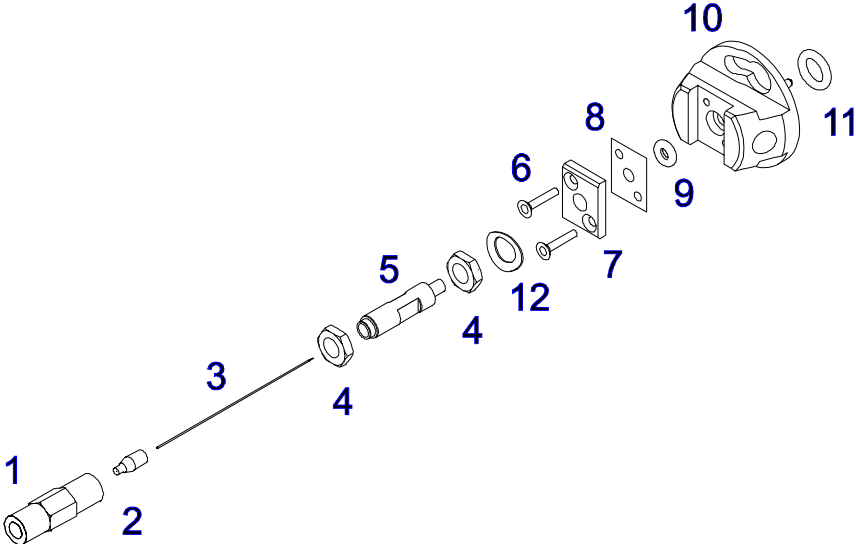
HP 1946A LC/MSD Replacement Parts

PCI Nebulizer

APCI Nebulizer

Item	Description	Part Number
1	Union, zero dead volume	0100-1619
2	Ferrule, 0.010	G1946-20213
3	APCI needle	G1946-20097
4	Hex nut	2740-0001
5	Needle holder	G1946-20174
6	Screw, M2 x 0.4	0515-1602
7	Square Nut	G1946-20175
8	O-ring retainer	G1946-20202
9	O-ring, 2-005	0905-0082
10	APCI nebulizer body	*
11	O-ring, 2-009	0905-1022

Cannot be ordered separately, order complete APCI nebulizer assembly



HP 1946A LC/MSD Replacement Parts

Analyzer Overview

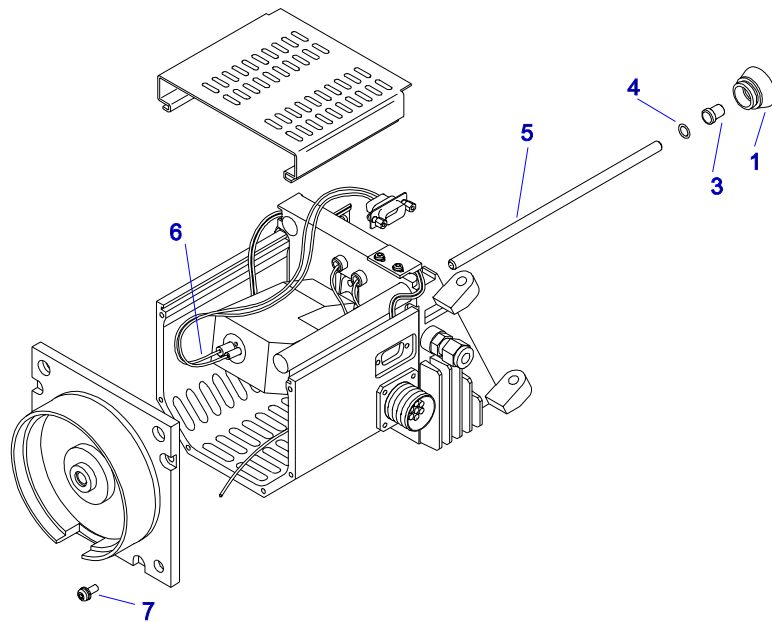
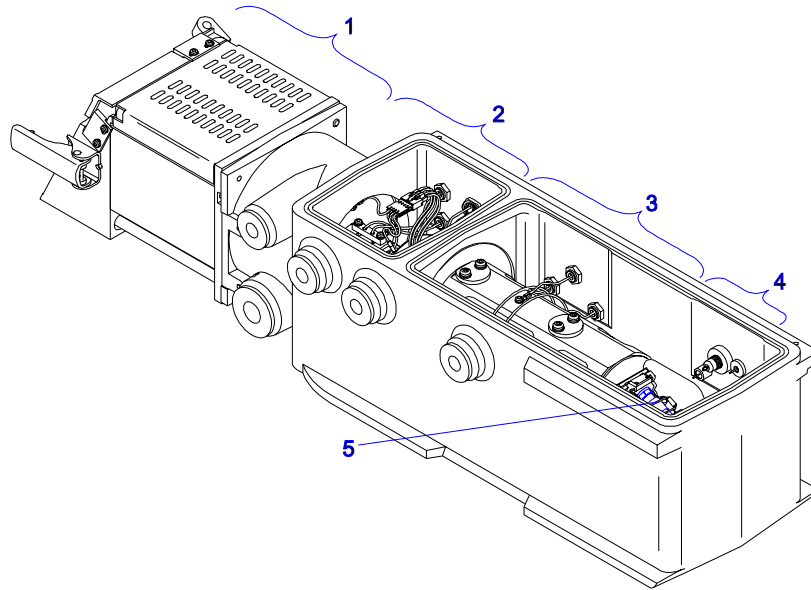
Item	Description	Part Number
1	Desolvation assembly	N/A
2	Octopole / ion optics	G1946-60041
3	Mass filter assembly	N/A
4	Detector assembly	G1946-80019
5	Electron multiplier horn	05971-80103
6	Detector lead kit	G1946-60134 *

Items marked with a (*) are not identified on the diagram.

Desolvation Assembly

Item	Description	Part Number
1	Spray shield	G1946-20157
2	End plate	G1946-20156*
3	Capillary cap	G1946-20056
4	Spring, canted coil	1460-2571
5	Capillary	G1946-80009
6	Drying gas heater / cable	G1946-60047
7	Screw, M4 x 0.7 PH	0515-0380
	Hex standoff for cable	0380-1858*

Items marked with a (*) are not identified on the diagram.



HP 1946A LC/MSD Replacement Parts

Ion Optics and Octopole

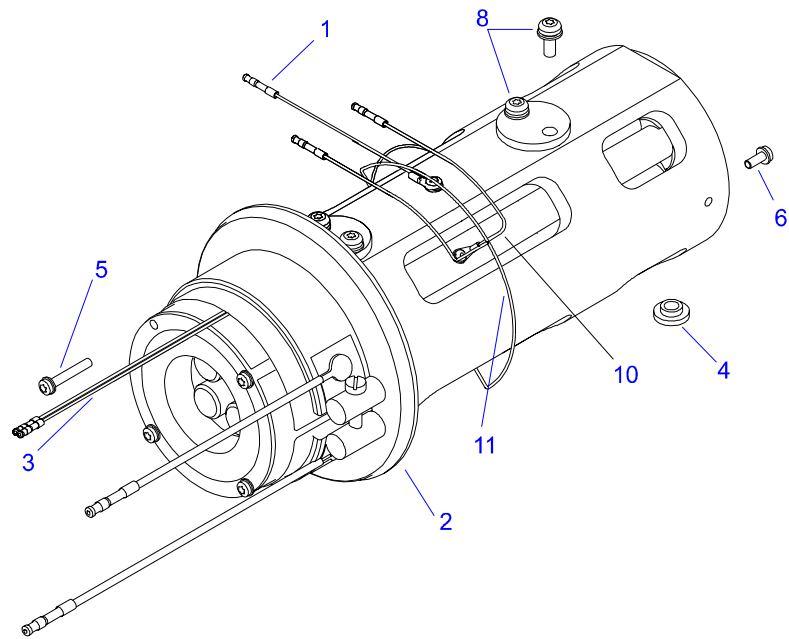
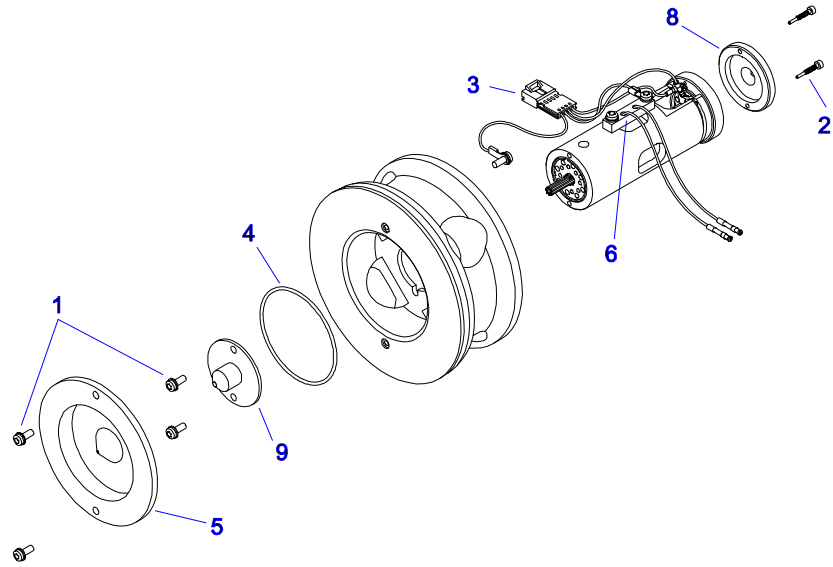
Item	Description	Part Number
1	Screw, M3 x 0.5 x 8 T10	0515-0372
2	Screw, pin	G1946-20211
3	Octopole cable	G1946-60080
4	O-ring, 2-033	0905-1471
5	Skimmer 1	G1946-20089
6	Strain relief block	G1946-20172
7	Lens 1	G1946-20029*
8	Lens 2	G1946-20030
9	Skimmer 2	G1946-20087
10	Lens spacer	G1946-20143
	Octopole assembly	G1946-60041

Items marked with a (*) are not visible on the diagram.

Mass Filter

Item	Description	Part Number
1	Quad grounding cable	G1946-60091
2	Quad tube support	G1946-20034
3	Temperature sensor	G1946-60132
4	Base washer	G1946-20043
5	Screw, M3 x .5 x 20 T10	0515-1410
6	Screw, M3 x .5 x 8 T10	0515-0372
7	Quad heater assembly	G1946-60099
8	Screw, M4 x 10 T10	0515-0380
10	Quad bridge, downstream	G1946-60095
11	Quad bridge, upstream	G1946-60142
12	O-ring, quad support (inner)	0905-1478*
13	O-ring, quad support (outer)	0905-1470*

Items marked with a (*) are not identified on the diagram.

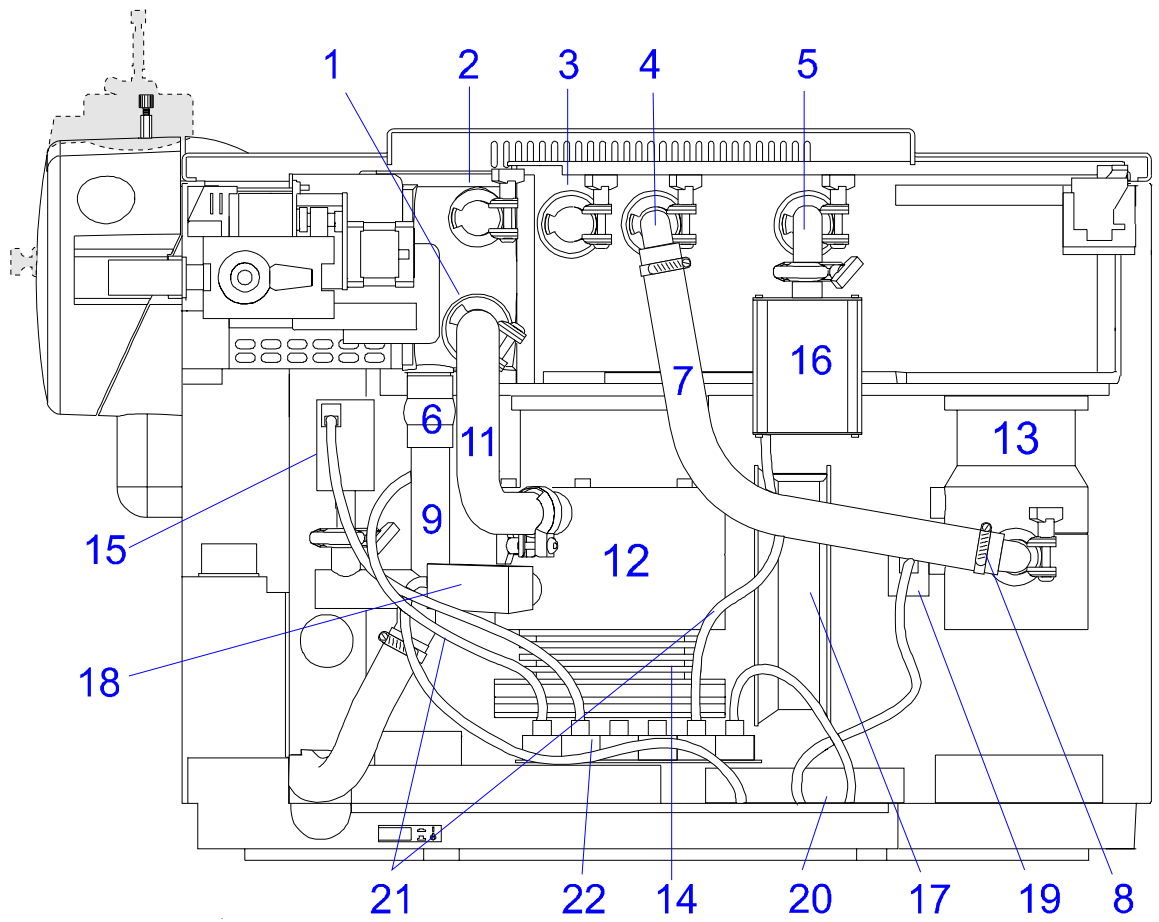


HP 1946A LC/MSD Replacement Parts

Vacuum System

Item	Description	Part Number
1	KF25 clamp & KF25 coseal	0100-0549 0100-1597
2	KF16/10 clamp & KF16 coseal	0100-1397 0100-1688
3	KF16 blank flange	0100-1691
4	KF16 90 degree elbow	0100-1848
5	Dual KF16 elbow	0100-1687
6	KF25 black coupling (rubber coupling)	0100-1692
7	Tubing, Turbo 2 outlet	0890-1942
8	Hose clamp	1400-1234
9	Stage 1 plumbing weldment	G1946-20158
10	Foreline hose assembly	G1946-60032
11	Flexible metal hose	0890-1841
12	Turbo pump, left (Turbo 1)	G1946-80001
13	Turbo pump, right (Turbo 2)	G1946-80002
14	Turbo pump heat sink	G1946-20149
15	Foreline gauge	G1946-80004
16	Triode (high-vacuum) gauge	G1946-80005
17	Turbo pump fan	G1946-80027
18	Turbo controller, left (EXDC 160)	G1946-80036
19	Turbo controller, right (EXDC 80)	G1946-80035
20	LON (turbo) junction box	G1946-80007
21	LON cable kit	G1946-60065
22	LON interface board	G1946-60013
23	Screw M4 x 0.7	0515-0383*
24	Screw M5 x .8 x 12 T25	0515-0387*
25	Screw M8 x 1.25 x 25 hex	0515-2540*
26	Nut, M10 x 1.5	0535-0047*

Items marked with a (*) are not visible on the diagram.

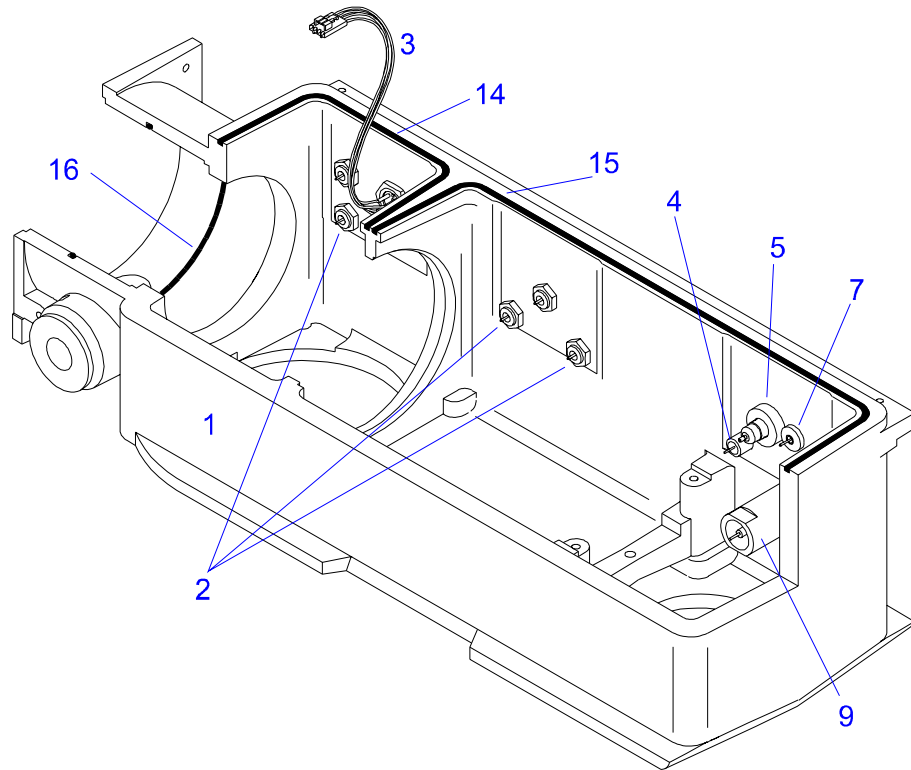


HP 1946A LC/MSD Replacement Parts

Vacuum Chamber and Feedthroughs

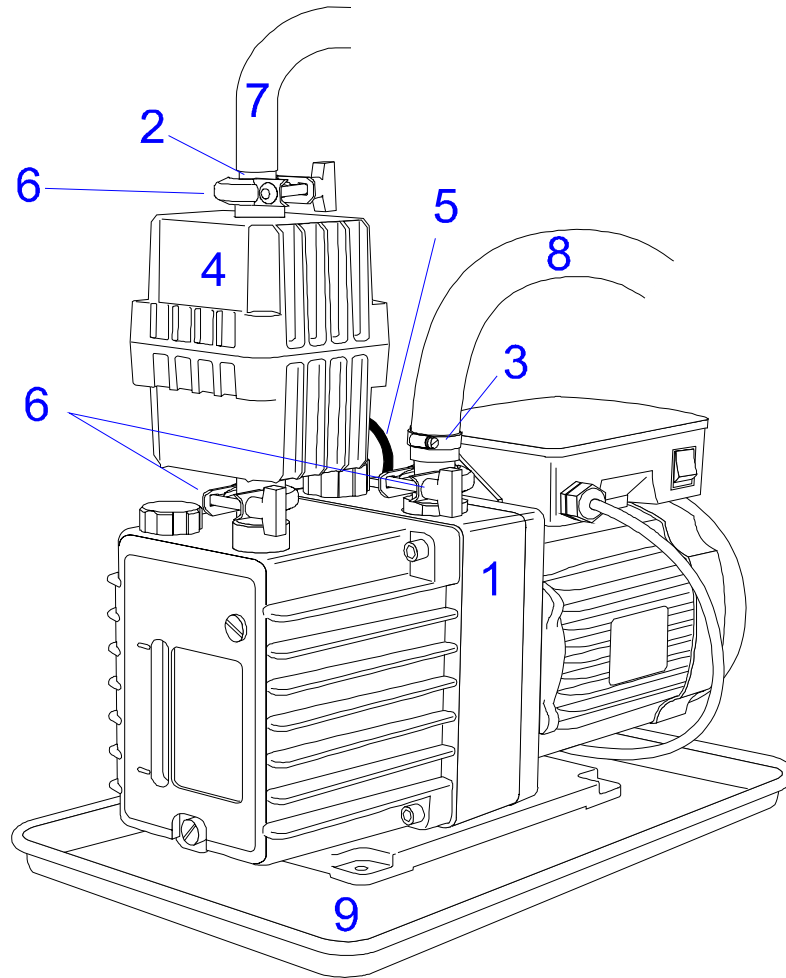
Item	Description	Part Number
1	Vacuum chamber	G1946-20050
2	Feedthrough, 15 KV	G1946-80013
3	Low voltage lens feedthrough / cable	G1946-60070
4	SMB (for iris voltage) feedthrough	G1946-80031
5	Midgi (CDEM voltage) feedthrough	0905-1477
6	Midgi FT nut	0535-0047*
7	HED feedthrough	G1099-80012
8	HED FT nut, 11/16-inch hex	G1946-20173*
9	Signal amp feedthrough	G1946-80030
10	Signal amp FT O-ring	0905-0849*
11	Signal amp FT nut	G1946-20179*
12	Signal amp FT insulator	G1946-20180*
13	Signal amp FT shield	G1946-20181*
14	Left vacuum chamber O-ring	0905-1466
15	Right vacuum chamber O-ring	0905-1469
16	O-ring, ATM / Stage 1 and Stage 1 / Stage 2	0905-1467
17	Vacuum chamber cover	G1946-20036*
18	Bal seal, for chamber cover	3050-1939*
19	Thumbscrew for chamber cover*	0515-2887*

Items marked with a (*) are not identified on the diagram.



HP 1946A LC/MSD Replacement Parts

Foreline Pump		
Item	Description	Part Number
	Foreline pump, 200V 50/60 Hz	G1946-89006
	or	
	Foreline pump, 230V 50/60 Hz	G1946-89041
2	Foreline exhaust adapter	59980-20134
3	Hose clamp	1400-0563
4	Oil mist filter	3162-1056
5	Oil return line	3162-1057
6	KF25 clamp	0100-0549
	and	
	KF25 coseal	0100-1597
7	Exhaust tubing	0890-1727
8	Foreline hose assembly	G1946-60032
9	Pump oil drip pan	G1946-00034

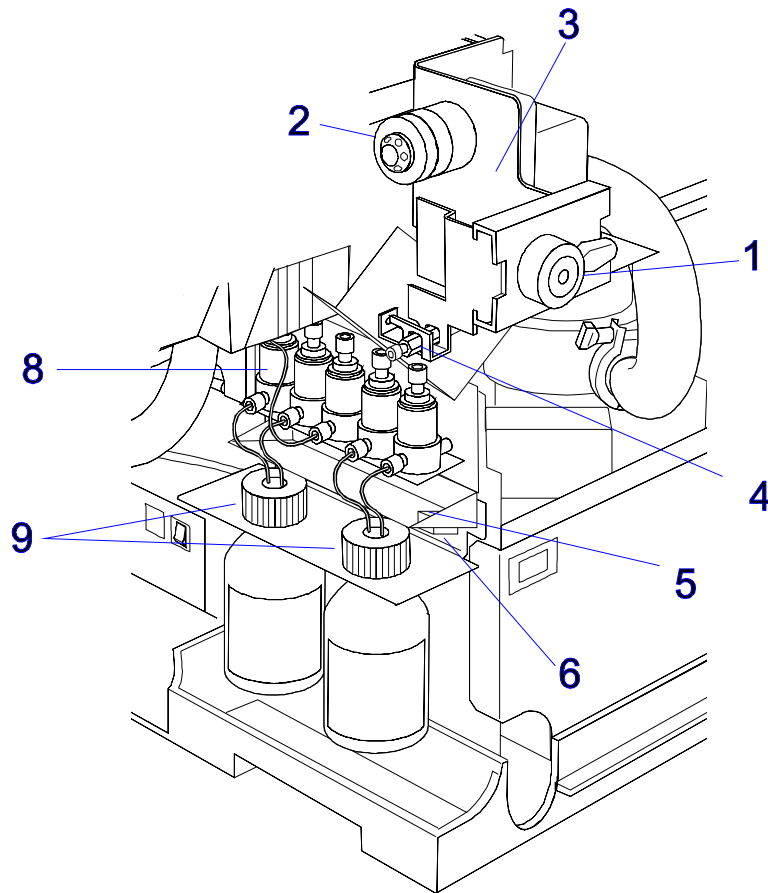


HP 1946A LC/MSD Replacement Parts

Sample Introduction System

Item	Description	Part Number
1	Manual injection valve (optional)	0101-0941
2	4-way selection valve	0101-0920
3	Selection valve bracket	G1946-00022
4	Inlet union w/fittings (and 10-micron frit)	0101-0949
5	Leak sensor, short (leak sensor)	G1946-60140
6	Leak sensor, long (reference sensor)	G1946-60139
8	CDS valves	G1946-60085
9	CDS bottle cap assembly	G1946-60076
	Replacement rotor seal	0100-1855*
	Ferrule, 1/16-inch (CDS waste)	0100-1512*
	Fitting, ferrule (CDS PEEK)	0100-1690*
	Cross Fitting, 1/4-inch (LC/MSD waste tubing)	0101-0950*
	Hose Fitting, 1/4-inch (LC/MSD waste tubing)	0101-0952*
	Tubing, Flex 1/4-inch id (LC/MSD waste tubing)	0890-1711 *
	PEEK tubing assembly (LC/MSD waste tubing)	G1946-60153*
	Waste line assembly (LC/MSD waste tubing)	G1946-60152*
	Nut, medium, 1/16-inch	0100-0968*
	Nut, short, 1/16-inch	0100-1913*
	Ferrule, 1/16-inch for both types of valve nuts	0100-1912*
	Hose Extension Kit LC/MSD source exhaust	G1946-67002*

Items marked with a (*) are not identified on the diagram.

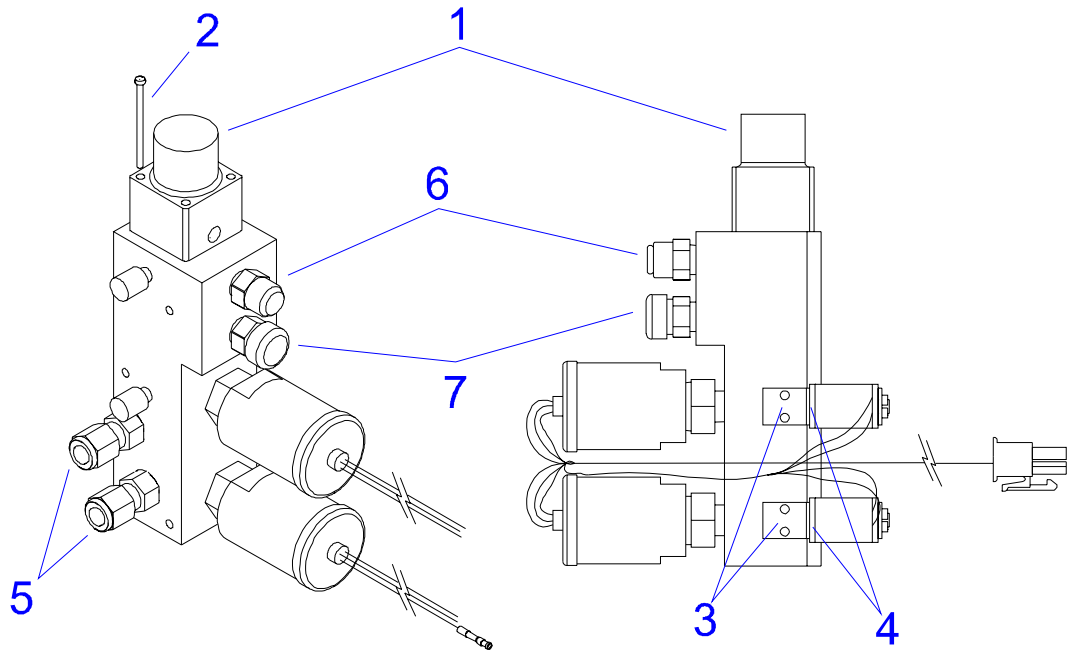


HP 1946A LC/MSD Replacement Parts

Gas Flow Control Module

Item #	Description	Part Number
1	Pressure regulator	0100-0949
2	Screw, torx M3 x 30	0515-1349
3	Screw M3 x 0.5, 20 mm	0515-1410
4	O-ring, 2-006 V89	0905-1472
5	Swage nut, 1/4-inch	5180-4105
	1/4-inch ferrule, front	5180-4111
	1/4-inch ferrule, rear	5180-4117
6	15 psi pressure relief valve	0101-0939
7	100 psi pressure relief valve	0101-0940
8	N2 Gas Conditioner	G1946-80047*
	Gas flow module (complete)	G1946-60038

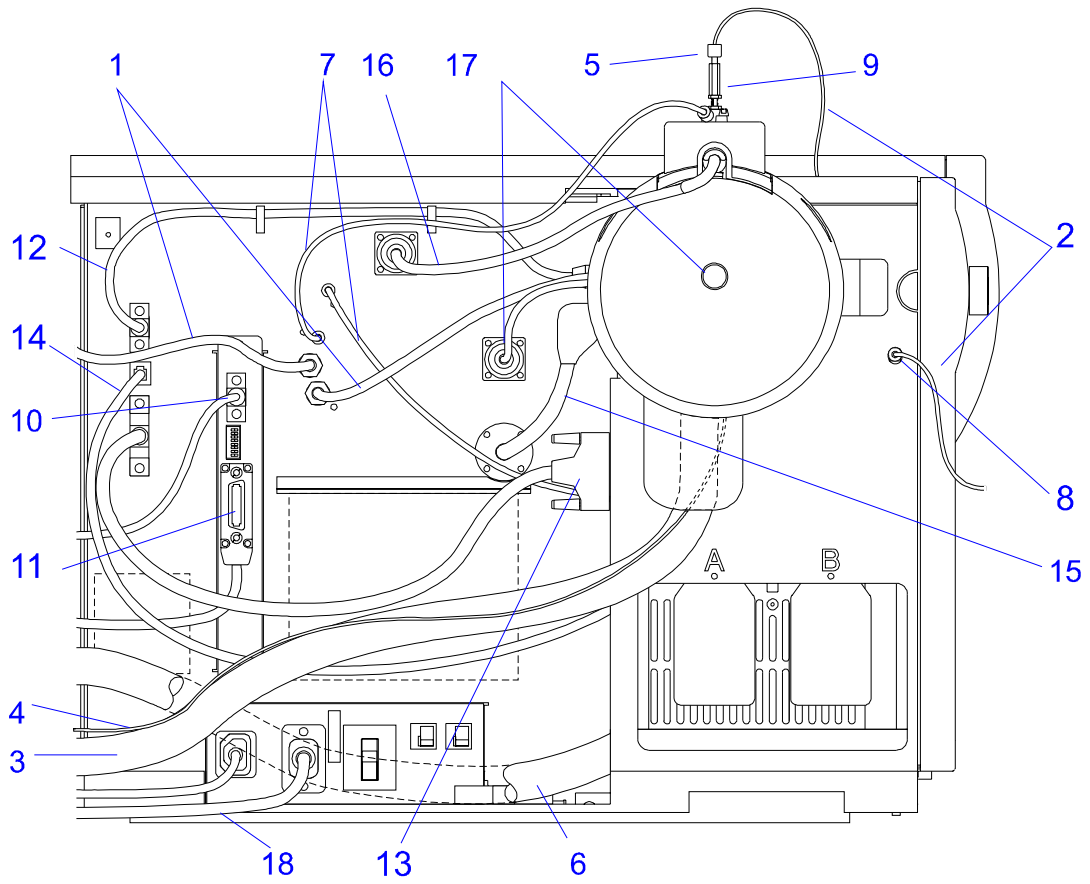
Items marked with a (*) are not identified on the diagram.



HP 1946A LC/MSD Replacement Parts

External Connectors and Fittings

Item	Description	Part Number
1	Teflon tubing, 1/4-inch	0890-1793
2	PEEK tubing, 1/16-inch od (0.005-inch id), 1.5M	0890-1915
3	Source drain hose, 6 ft	0890-1962
4	Teflon tubing, 1/4-inch (CDS & inlet module waste)	0890-1711
5	Fitting, finger tight PEEK	0100-1516
6	Foreline hose assembly	G1946-60032
7	Gas line, CDS and nebulizer	G1946-60110
8	Inlet union w/fittings (and 10-micron frit)	0101-0949
9	Zero dead volume union	0100-1619
10	Remote control cable	05989-60080
11	HP-IB cable	5181-6128
12	Drying gas heater cable	G1946-60062
13	CDS cable	G1946-60057
14	LON cable kit	G1946-60065
15	Spray chamber cable (high voltage)	G1946-60089
16	APCI heater and cable	G1946-60063
17	APCI needle receptacle and cable	G1947-60101
18	Line power cord:	
	US	8120-8623
	European	8120-8621
	UK/HK/Singapore	8120-8620
	Australia/China	8120-8619
	Denmark	8120-8622
	Swiss	8120-8622
	Japan	G1946-60127
	India/S.Africa	8120-6896
	Israel	8120-8628



HP 1946A LC/MSD Replacement Parts

Covers

Item	Description	Part Number
1	Top cover	G1946-00003
2	Right hand side panel	G1946-00004*
3	Service panel	G1946-00006
4	Front panel	G1946-40001
5	Hose hole cover	G1946-00023
6	CDS cover	G1946-40036
7	Spray chamber cover	G1946-20185
8	Nebulizer cover:	
	Electrospray	G1946-40034
	APCI	G1946-40035
9	Bottom base	G1946-40002
10	Rubber foot	G1946-20197*
11	Knob hole cover for systems without manual injection valve	G1946-40031*

Items marked with a (*) are not identified on the diagram

Electronic Boards and Cables

Description	Part Number
Printed Circuit Boards	
Adapter PCA	G1946-65007
Analyzer PCA	G1946-65001
Detector PCA	G1946-65011
Display PCA	G1946-60008
HED power supply	G1946-80029
LON junction PCA	G1946-60013
Mother board	G1946-60010
MS interface card (SmartCard II+)	05990-65410
72-pin SIMM	D3577-63001
Octopole driver PCA	G1946-65009
Power distribution gas/temp/flow PCA	G1946-65002
Primary (ac) power module	G1946-65033
RF power amplifier	G1946-65056
RF coil box	G1946-65034
Signal amplifier PCA	G1099-65001
Valve PCA	G1946-60012
Source & Ion Optics Cables	
APCI internal HV cable	G1946-60050
Lens cable assembly	G1946-60070
Octopole control cable	G1946-60049
Octopole cable assembly	G1946-60080
Spray chamber HV cable	G1946-60089
Valve, Heater, LON & Display Cables	
APCI heater / cable	G1946-60063
CDS cable	G1946-60057
Display cable, internal	G1946-60092
Display cable, external	G1946-60069
Drying gas heater / cable	G1946-60047
Drying gas heater cable	G1946-60062
LON cable kit	G1946-60065
Quad heater cable	G1946-60116
Detector Control Cables	

HP 1946A LC/MSD Replacement Parts

CDEM HV output cable	G1946-60082
HED power cable	G1099-60431
HED control cable	G1946-60048
Iris cable	G1946-60086
Signal cable	G1099-60416
Quad and RF Control Cables	
Quad DC driver cable	G1946-60053
RFPA BNC cable	G1946-60058
RF detector cable	G1946-60052
RFPA power cable	G1946-60060
RFPA SMB cable	G1946-60059
Other Cables	
High Voltage cable	G1946-60035
HP-IB cable	5181-6128
LV primary PS cable	G1946-60068
Remote control cable	05989-60080
Turbo dc power cable	G1946-60108

Shipping Kit

Description	Part Number
Abrasive mesh	8660-0852
Drain bottle assembly	G1946-60111
Exhaust tubing	0890-1727
Fitting, finger-tight PEEK	0100-1516
Foreline exhaust vent adapter	59980-20134
Gas conditioner, N2-specific	G1946-80047
Gloves, nitrile rubber	9300-1751
Grease, Apiezon vacuum	6040-0289
Hook-and-loop tape	0510-1271
HP-IB cable	5181-6128
KF25 clamp	0100-0549
KF25 coseal	0100-1597
Inlet union w/fittings (and 10-micron frit	0101-0949
Lint-free cloths	05980-60051
Magnifier	G1946-80049
Nebulizer adjustment fixture	G1946-20215
Oil mist filter kit	3162-1056
Oil return line kit	3162-1057
Remote start cable	05989-60080
Safety glasses	9300-1159
Screwdriver, flat blade	8710-1029
Screwdriver, TORX T-15	8710-1622
Screwdriver, TORX T-10	8710-1623
Source drain hose	0890-1962
Teflon tubing, 1/4	0890-1793
Tubing cutter	8710-1930
Tubing, flex .005 ID	0890-1915
Vacuum pump oil	6040-0834
Wire for cleaning capillary	G1946-80054
Wrench, 1/4-inch x 5/16	8710-0510
Wrench, 7/16-inch x 1/2	8710-0806
Wrench, 1/2-inch x 9/16	8710-0877
Wrench, 3 mm	G1946-20203

HP 1946A LC/MSD Replacement Parts

Wrench, hex, 0.8 mm	8710-1225
Wrist strap, ESD	9300-1408
Union, ZDV (nebulizer inlet)	0100-1619
1 ml pipette	9301-1423
50 ml volumetric flask	9301-1424
Pump oil drip pan	G1946-00034
Tool kit, LC/MSD	G1946-60157

Consumables and Supplies

Description	Part Number
Chemical consumables	
APCI negative mode performance evaluation sample	G2425A
Calibrant, ES	G2421A
Calibrant, APCI	G2422A
ES negative mode performance evaluation sample	G2424A
Multiple-charge compound performance evaluation sample	G2426A
OQ/PV standards kit	8500-6917
Positive mode performance evaluation sample (G2423A is used for both ES and APCI)	G2423A
Instrument consumables	
APCI nebulizer needle	G1946-20097
Corona needle (pack of three)	G2429A
EM replacement horn	05971-80103
ES nebulizer needle	G1946-20177
Gas conditioner, N2-specific	G1946-80047
Vacuum pump oil	6040-0834
Tubing, fittings, and ferrules	
Ferrule, 1/16" for CDS waste	0100-1512
Ferrule, 1/16" for valve nuts	0100-1912
Fitting, finger-tight PEEK (for 1/16-inch tubing)	0100-1516
Fitting, nut 1/8-inch OD	0100-1914
Fitting, ferrule, 1/8-inch OD	0100-1919
Teflon tubing, 1/8-inch OD	0890-0746
Tubing, exhaust	0890-1727
Teflon tubing, 1/4-inch for N2 supply and drying gas line	0890-1793
Tubing, 0.005-inch ID, 1/16-inch OD, 1.5 M	0890-1915
Tubing, Turbo 2 outlet	0890-1942
Waste drain hose, spray chamber	0890-1962

HP 1946A LC/MSD Replacement Parts

O-rings and seals	
O-ring, ISO 63 trapped (steel retaining ring)	0100-1693
O-ring 2-005	0905-0082
O-ring 2-208	0905-0849
O-ring, 2-009	0905-1022
O-ring, vaporizer	0905-1292
O-ring, spray chamber	0905-1464
O-ring, 2-160 Viton	0905-1466
O-ring, Atm / Stage 1 and Stage 1 / Stage 2	0905-1467
O-ring Stage 2 / Stage 3	0905-1468
O-ring, 2-177 Viton	0905-1469
O-ring, Stage 3 / Stage 4	0905-1470
O-ring, 2-006 Viton	0905-1472
O-ring, Viton 2-039	0905-1478
Grease, apiezon	6040-0289

Tools

Description	Part Number
1 ml pipette	9301-1423
50 ml volumetric flask	9301-1424
Ball driver, 1.5 mm	8710-1570
Pliers, needle nose	8710-1094
Safety glasses	9300-1159
Screwdriver, flat blade	8710-1029
Screwdriver, Torx T-10	8710-1623
Screwdriver, Torx T-15	8710-1622
Screwdriver, Torx T-25	8710-1617
Tubing cutter	8710-1930
Wrench, 1/4-inch x 5/16	8710-0510
Wrench, 3/8-inch	8710-0632
Wrench, 7/16-inch x 1/2	8710-0806
Wrench, 1/2-inch x 9/16	8710-0877
Wrench, 11/16-inch x 3/4	8720-0011
Wrench, 15/16-inch	N/A
Wrench, 9/64-inch hex	8710-0060
Wrench, 3 mm, open end	G1946-20203
Wrench, 13 mm (or 1/2-inch)	8710-1574
Wrench, ratchet, 13 mm (or 1/2-inch)	N/A
Wrench, 16 mm	N/A
Wrench, 17 mm	8710-0799
Wrench, spanner	8710-1180
Wrist strap, ESD	9300-1408
HP 1100 Series LC/MSD System Installation Manual	G1946-90037
HP 1100 Series LC/MSD Getting Started	G1946-90035
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