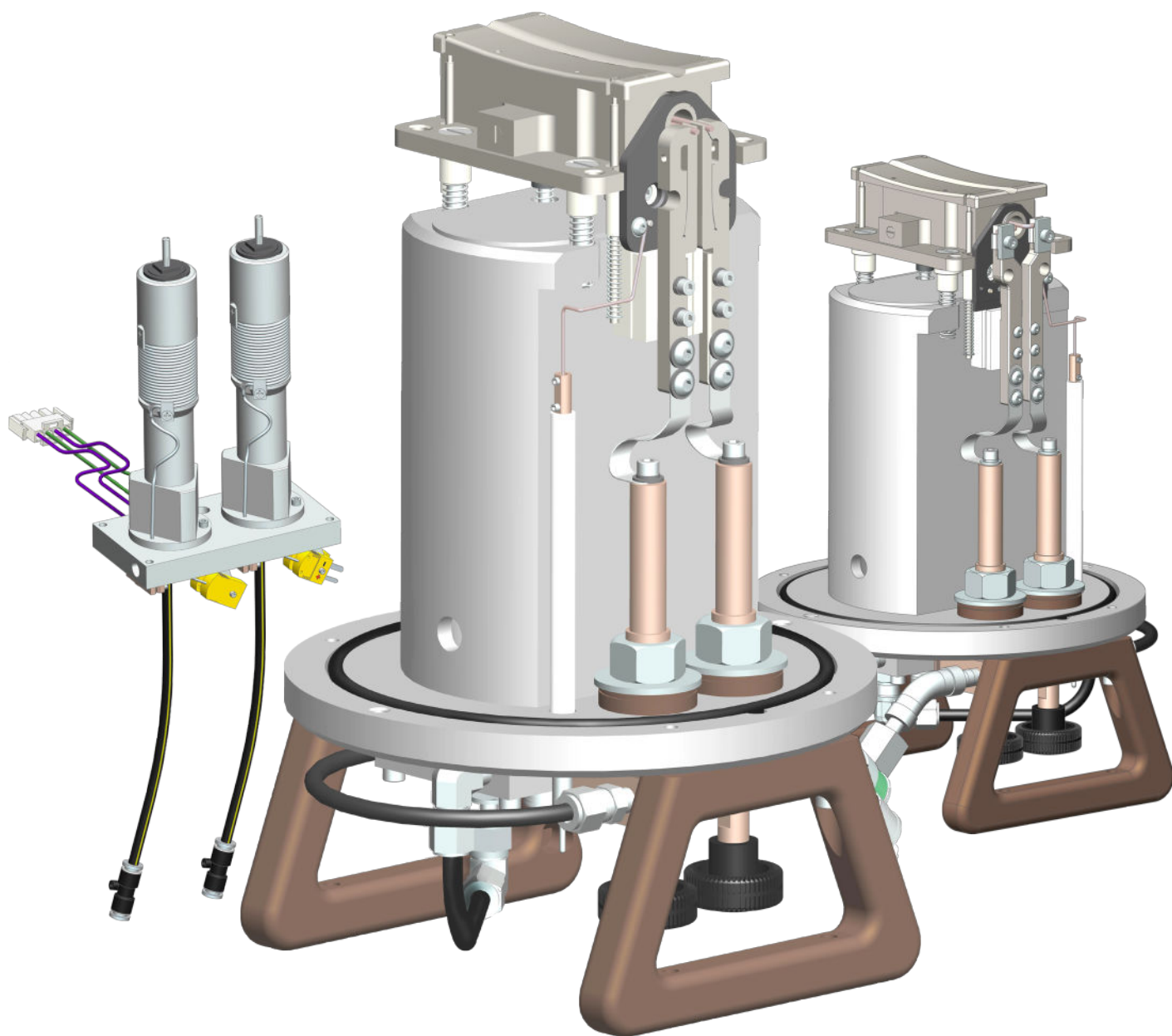




GSD Sources

Molybdenum and Tungsten Vaporizer and Non-Vaporizer

ELS1 and ELS2 Series



512.259.0320
800.621.9598



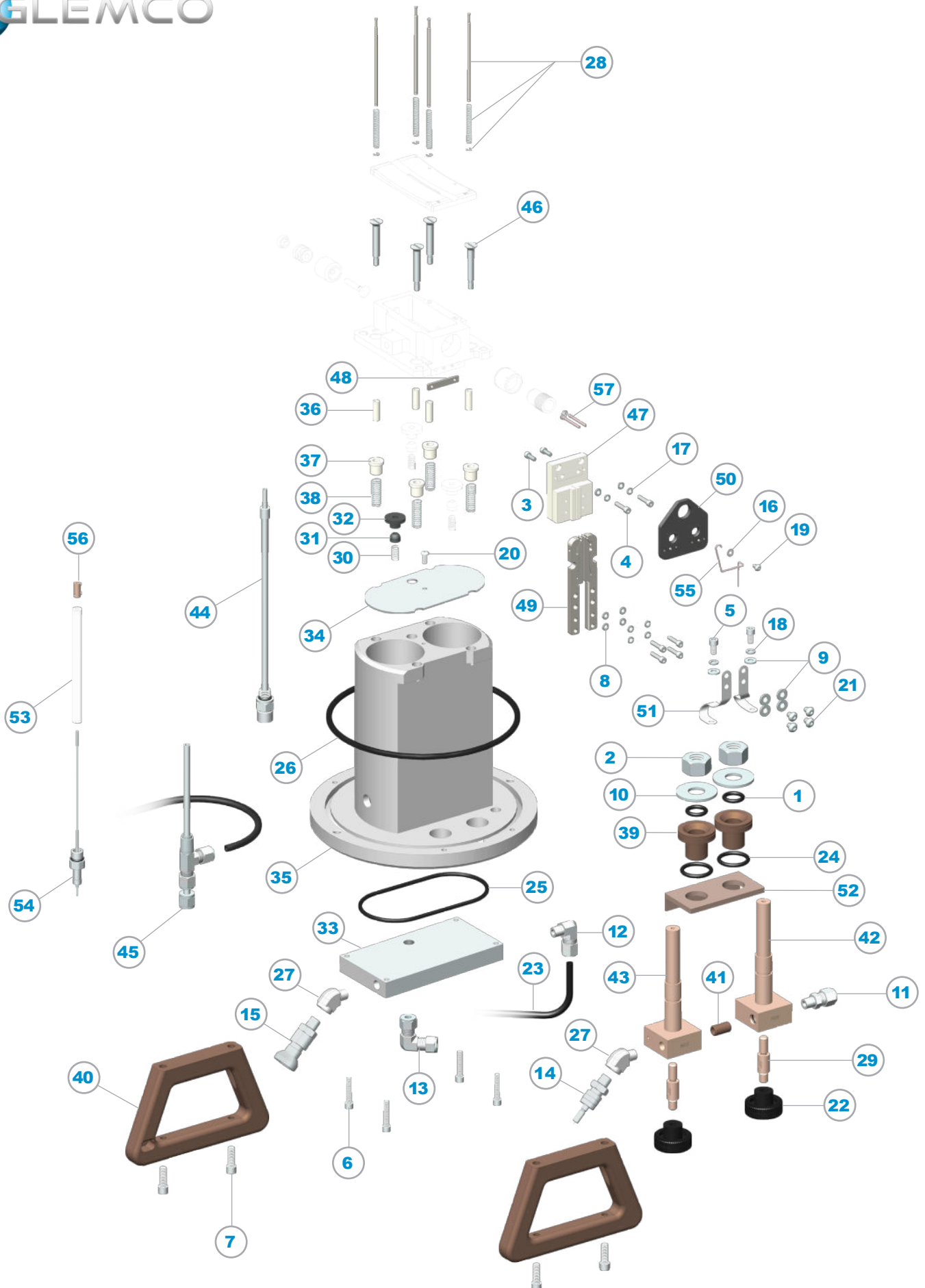
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G-30-100GSD Rev 10

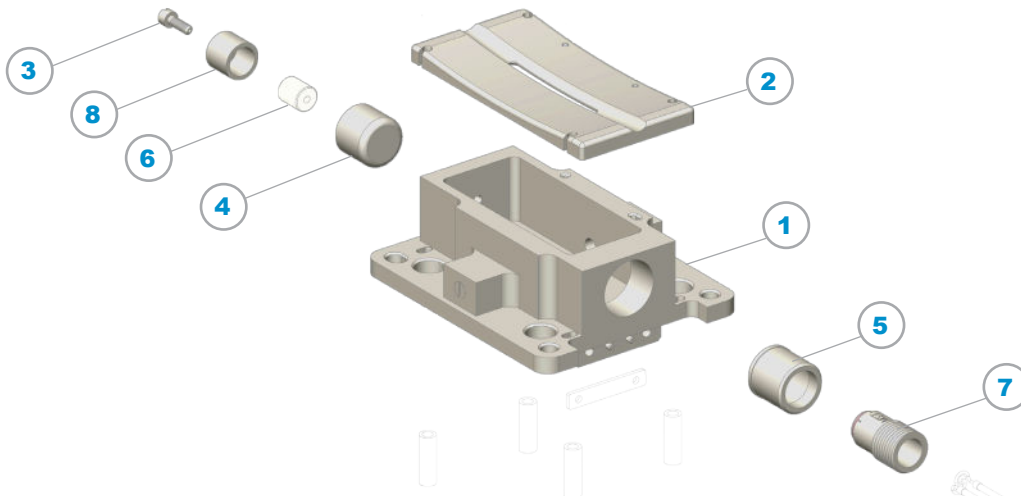




ELS2 Standard Source Components

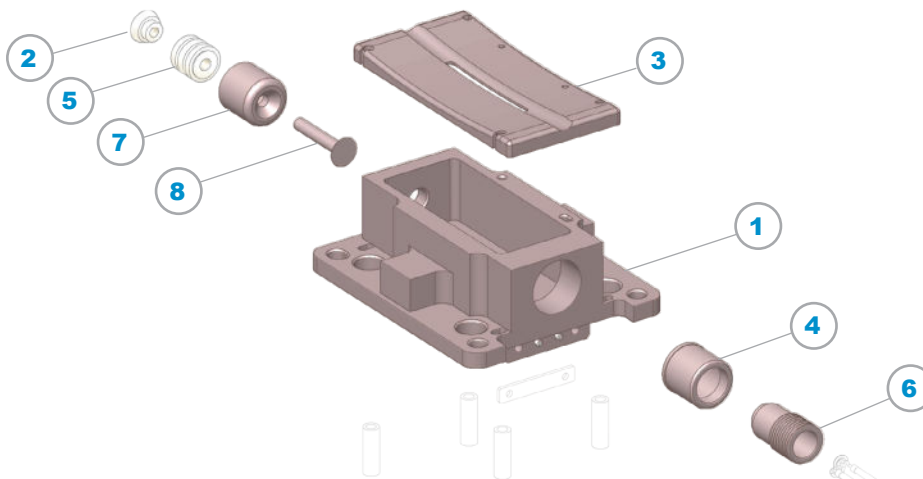
ITEM	P/N	DESCRIPTION	QTY
1	82207V	-208, Viton, O-Ring	2
2	82337	5/8"-11 x 15/16", SS, Hex Nut	2
3	82411	6-32 x 3/8", SS, SHCS	2
4	82420	6-32 x 5/8", SS, SHCS	6
5	82439	10-32 x 3/8", SS, SHCS	2
6	82442	10-32 x 1", SS, SHCS	4
7	82445	1/4"-20 x 3/4", SS, SHCS	4
8	82469	#6 x .032, SS, Washer, Flat	6
9	82478	#10 x .032, SS, Washer, Flat	6
10	82491	9/16" x .090, SS, Washer, Flat	2
11	82527	1/4" Tube To 1/8" NPT, SS, Male Connector Fitting	1
12	82528	1/4" Tube To 1/8" NPT, SS, Male Elbow Fitting	1
13	82535	1/4", SS, With Nut, Union Elbow Fitting	1
14	82550	1/8" Quick Connect w/Valve Stem	1
15	82551	1/8" Quick Connect Fitting	1
16	82604	#6, .150" ID x .295" OD, SS, Washer, Internal Tooth, Lock	1
17	82606	#6, .148" ID x .250" OD, SS, Washer, Split, Lock	6
18	82608	#10, .220" ID x .334" OD, SS, Washer, Split, Lock	2
19	82625	6-32 x 1/4", SS, BHSS	1
20	82631	8-32 x 3/8", SS, BHSS	1
21	82639	10-32 x 1/4", SS, BHSS	4
22	82708	Fluted Hand Knob, Plastic	2
23	82751	1/4" OD x .040 Wall, LDPE, Tubing	13.5"
24	83114	-214, Buna, 70A Duro, O-Ring	2
25	83141V	-241, Viton, 75A Duro, O-Ring	1
26	83264	-364, Buna, 70A Duro, O-Ring	1
27	8A130	1/8" NPTF x 1/8" NPTM, SS, 45° Street Elbow Fitting	2
28	99014	Retainer Pin Assy, SS Spring	4
29	99120	Threaded Stud	2
30	99172A	Compression Spring, Inconel	1
31	99176	Ball Joint	1
32	99177	SKT Joint	1
33	99251	Blank-Off Plate	1
34	99252	Exit Shield	1
35	99277	Body With Vaporizer Ports	1
36	99285A	Spacer, Ceramic	4
37	99292	Spacer, Shoulder Screw	4
38	99293	Spring, Shoulder Screw	4
39	99324A	Feed-Thru Insulator, Long	2
40	99326A	Source Handle	2
41	99327	Feed-Thru Connector	1
42	99329	Positive Feed-Thru	1
43	99330	Negative Feed-Thru	1
44	99333	Gas Feed Tube Assembly	1
45	99335	Cooling Tube Assembly	1
46	99338	Arc Chamber Mounting Screw	4
47	99401B	Insulator Mounting Block	1
48	99404A	Screw Retainer, No Slots	1
49	99407	Filament Clamp	2
50	99410GC	Cathode Support Plate Assembly	1
51	99414	Filament Feed Strap	2
52	99418	Insulator	1
53	99422	Insulator, Feed-Thru Cathode	1
54	99426	Feedthru Cathode	1
55	99428	Cathode Wire	1
56	99445	Connector, Feed-Thru Cathode	1
57	99477A	Filament Assembly, .040	1

ELS2 Molybdenum Configuration



ITEM	P/N	DESCRIPTION	QTY
1	99286B	Arc Chamber, Vap Ports, Mo	1
1	99956	Arc Chamber, No Vap Ports, Mo	1
2	99290T15	Face Plate, T15, Mo	1
3	99403	Repeller Screw, Mo	1
4	99406A	Repeller, 1pc Version, Mo	1
5	99409	Cathode Repeller, Mo	1
6	99412	Repeller Insulator	1
7	99413	Cathode, TZM, 4.6mm W Button	1
8	99415	Inner Cup Shield, Mo	1

ELS2 Tungsten Configuration



ITEM	P/N	DESCRIPTION	QTY
1	99589	Arc Chamber, No Vap Ports, W	1
1	99595	Arc Chamber, Vap Ports, W	1
2	99022	Filament Insulator, Ceramic	1
3	99290T15W	Face Plate, T15, W	1
4	99409W	Cathode Repeller, W	1
5	99412A	Ribbed Repeller Insulator	1
6	99413A	1pc Cathode, W, 4.6mm Button	1
7	99429	Repeller, W	1
8	99430	Repeller Screw, W	1



ELS2 Source Component Options

99786 - Arc Chamber, Mo; Mo Liners		99791B - Arc Chamber, Graphite; W Liners	
99662	Liner, Filament End, Mo	99662W	Liner, Filament End, W
99663	Liner, Repeller End, Mo	99663W	Liner, Repeller End, W
99782	Liner, Base, Mo	99782W	Liner, Base, W
99783-1	Side Liner, Vap, Right, Mo	99783W-1	Side Liner, Right, Vaporizer, W
99783-2	Side Liner, Vap, Left, Mo	99783W-2	Side Liner, Left, Vaporizer, W
99783A	Side Liner, No Vap, Mo	99783W	Side Liner, W, No Vaporizer
99825M	Liner, Gas Sleeve, Mo	99825	Liner, Gas Sleeve, W
		99826	Liner, Cathode Sleeve, W
		99338A	Mounting Screw, Short
		99293B	Standoff, Arc Chamber
		99403L	Repeller Screw, Long

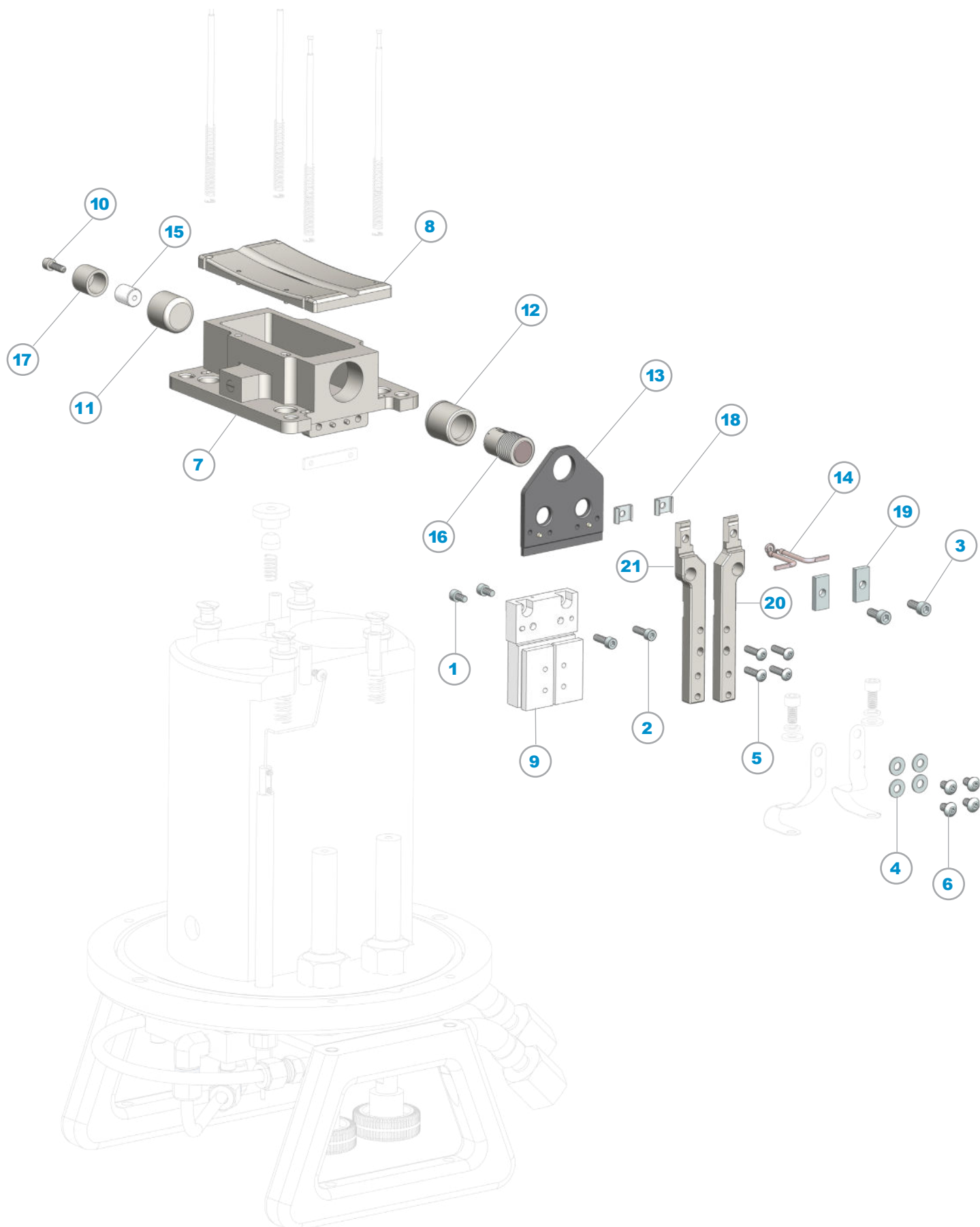
CATHODE & REPELLER		
99413J	1pc Cathode, W, 4.6mm, Enhanced	Extended life barrel design, thicker sidewall and larger button face, standard 4.6mm button, 99477A filament.
99413B	Cathode, 7mm Button, TZM	Extended life standard 2pc design cathode, with 7mm button, TZM 99477A.
99413H	1pc Cathode, W, 9.2mm	Extended life standard 1pc cathode, thicker sidewall and larger button face, 9.2mm button, 99477H.
99413HLE	1pc Cathode, W, 9.2mm, Enhanced	Extended life barrel design, a thinner sidewall and larger button face, 9.2mm button, 99477H.
K99430A	Kit, Repeller and Domed Screw, W	Conveniently kitted Repeller and Domed Repeller Screw.
99409G	Cathode Repeller, Graphite	Better for certain processes because it doesn't fuse to the cathode.
99406B	Repeller, 1pc	Lasts longer, performs better.

FILAMENT		
99477H	Filament, 2x	Filament for use with extended life cathodes.

CLAMP		
99407A	Filament Clamp w/Tension Screw	Tension screw prolongs the life of the clamp.
99730A	Clamp, Filament, Enhanced	Incorporates tension screw and is designed for better electrical continuity with the filament.

GASLINE		
99172B	Spring, 0.75", Inconel	High temperature alloy extends spring life.
99664A	Spring, 0.50", WRe	High temperature alloy extends spring life.
99176C	Ball Joint, Alumina	Longer life option.
99177C	SKT Joint, Alumina	Longer life option.

RETAINER PIN		
99014A	Retainer Pin Assy, Enhanced	High temperature spring alloy extends spring life.

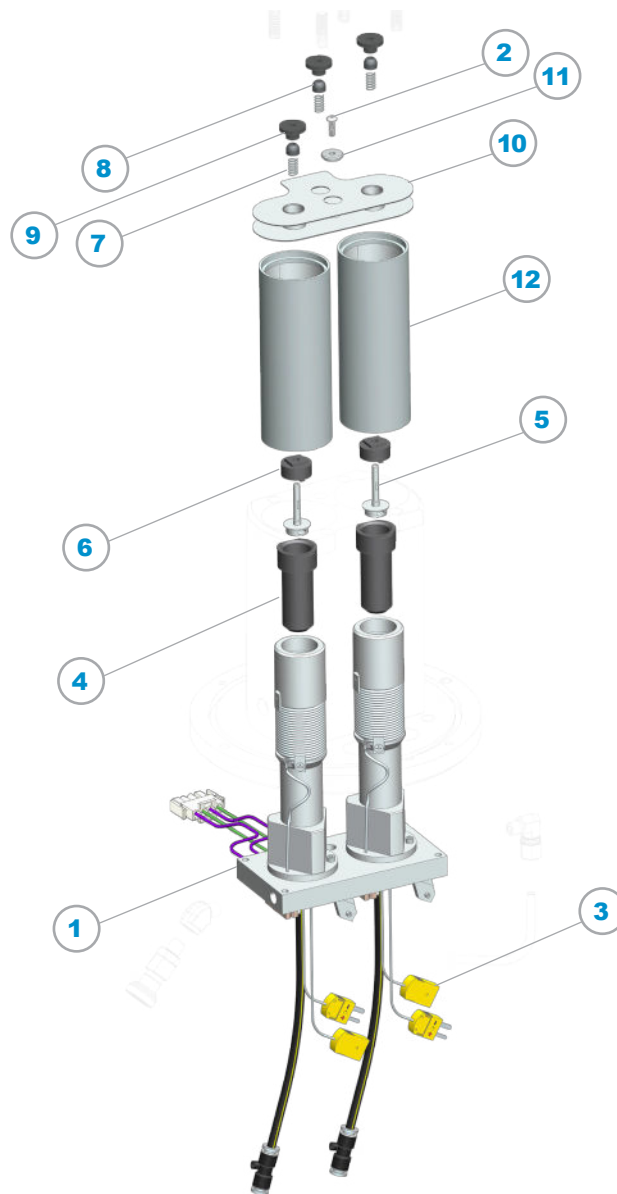




ELS1 Standard Source Components

ITEM	P/N	DESCRIPTION	QTY
1	82412	6-32 x 1/4", SS, SHCS	2
2	82414	6-32 x 7/16", SS, SHCS	2
3	82426	8/32 x 3/8", SS, SHCS	2
4	82474	#8 x .032, SS, Washer, Flat	4
5	82629	6-32 x 1/2", SS, BHSS	4
6	82630	8-32 x 1/4", SS, BHSS	4
7	99286B	Arc Chamber, Vap Ports, Mo	1
8	99290	Face Plate, 15R, Mo	1
9	99401	Insulator Mounting Block	1
10	99403	Repeller Screw, Mo	1
11	99406A	Repeller, 1pc Version, Mo	1
12	99409	Cathode Repeller, Mo	1
13	99410G	Cathode Support Plate	1
14	99411	Filament	1
15	99412	Repeller Insulator	1
16	99413	Cathode, TZM, 4.6mm W Button	1
17	99415	Inner Cup Shield, Mo	1
18	99416	Nut, Filament Clamp	2
19	99417	Filament Clamp Plate	2
20	99424	Filament Support, Right	1
21	99425	Filament Support, Left	1

ELS2 Dual Vaporizer



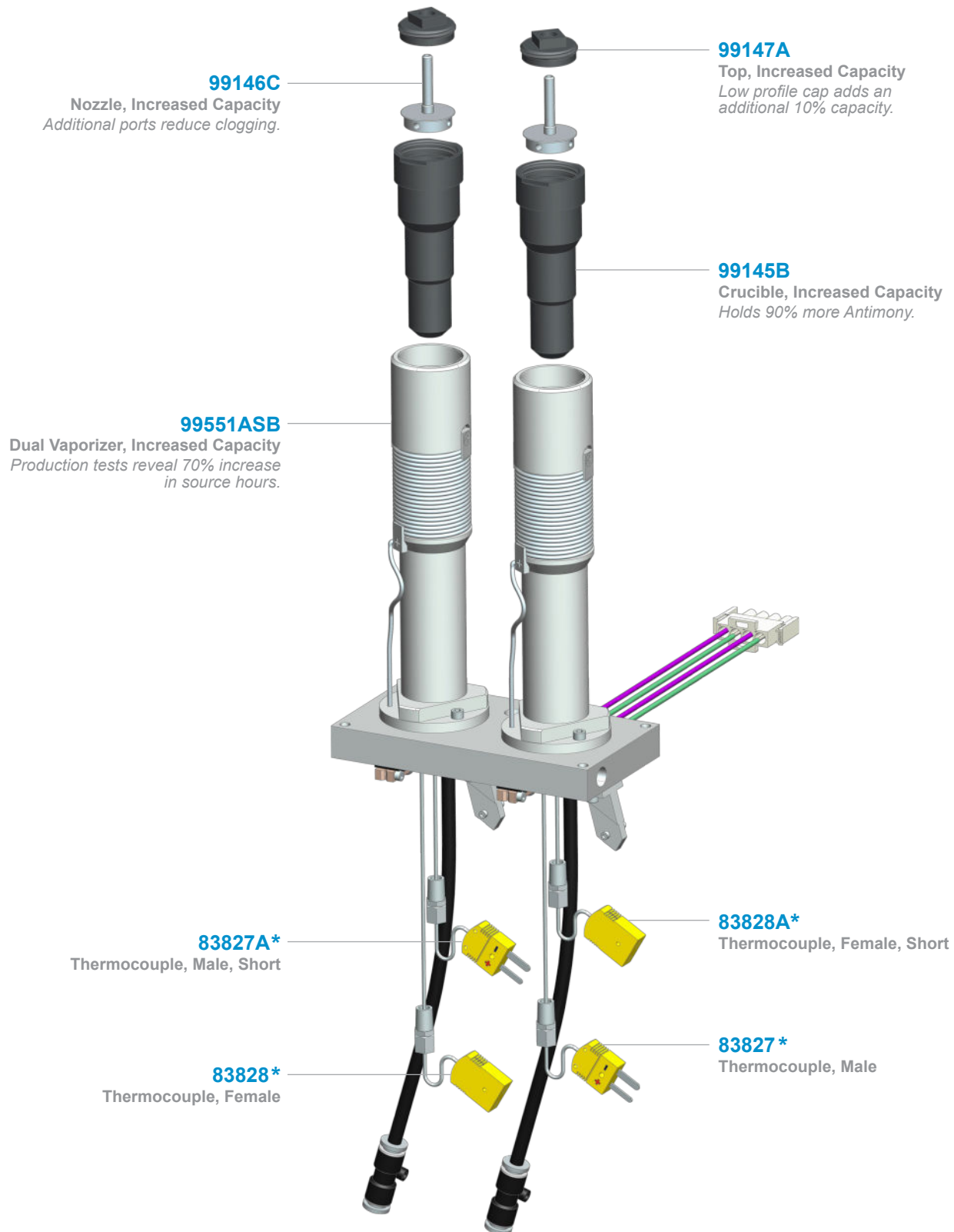
ITEM	P/N	DESCRIPTION	QTY
1	99551SB	Dual Vaporizer Assembly, Antimony	1
2	82633	8-32 x .50, SS, BHSS	1
3	83830	6" Male Connector Thermocouple Probe	4
4	99145A	Crucible, Threaded	2
5	99146A	Nozzle	2
6	99147	Top, Threaded	2
7	99172A	Compression Spring, Inconel	3
8	99176	Ball Joint	3
9	99177	SKT Joint	3
10	99183B	Heat Shield Assembly	1
11	99331	Retainer Washer	1
12	99336	Vaporizer Heat Shield	2

VAPORIZER OPTIONS

99336G	Vaporizer Heat Shield, Graphite	Graphite provides better thermal isolation
99183DG	Heat Shield, Enhanced	Use of thermal barrier material virtually eliminates heat transfer from the arc chamber, fits all dual vaporizers.

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ELS2 Dual Vaporizer, Increased Capacity



**Each thermocouple is spring loaded to respond quickly and ensure precise monitoring.*