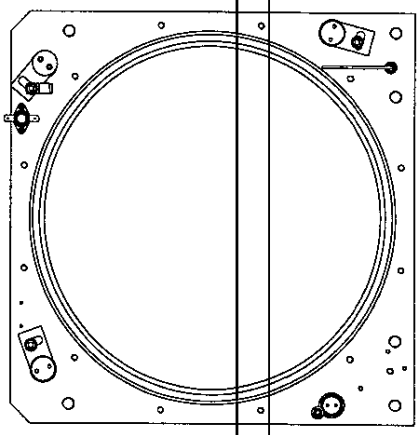


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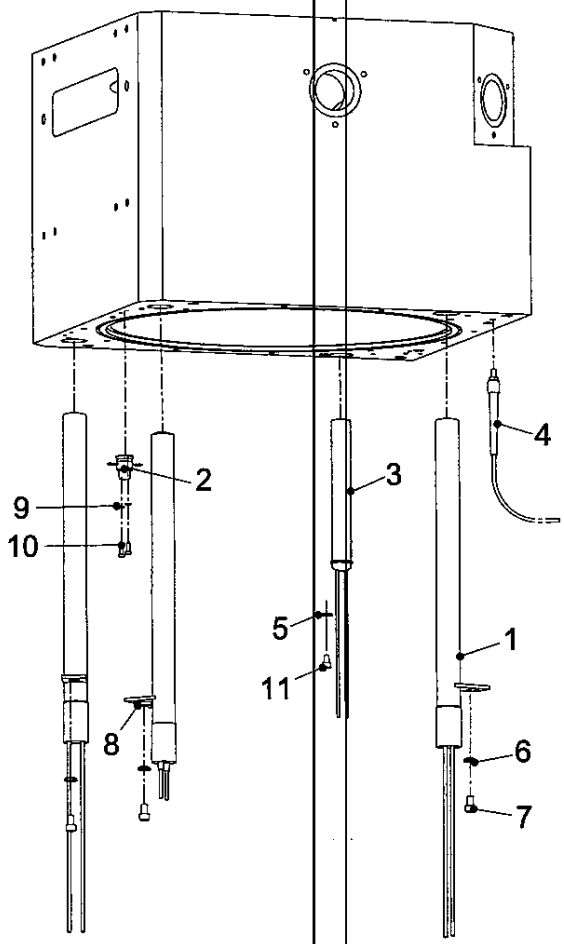


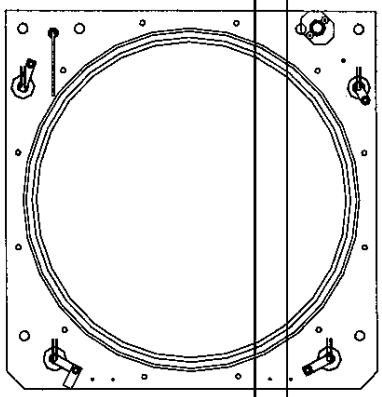
Figure 14 Watlow heater kit

SURFACE TECHNOLOGY SYSTEMS

1.15 V1 700W Chamber heater kit.

Drawing Number TP309995 **Figure Number** 15 **STS Ref.** KT309995

Item	Description of Part	Part Number	Notes
1	27MM OD Heater sleeve	DT308426	
2	Heater cartridge 700W 240V	256744	
3	Bolt type thermocouple	266712	
4	Heater sleeve clamp 27mm	DT309987	
5	Snap switch cover	DT310020	
6	Temperature switch N/C-80C 16A	553030	
7	Heater sleeve	DT308427	
8	Heater sleeve clamp 19mm	DT309992	
9	Clip stainless steel mounting	246262	



VIEW FROM BELOW

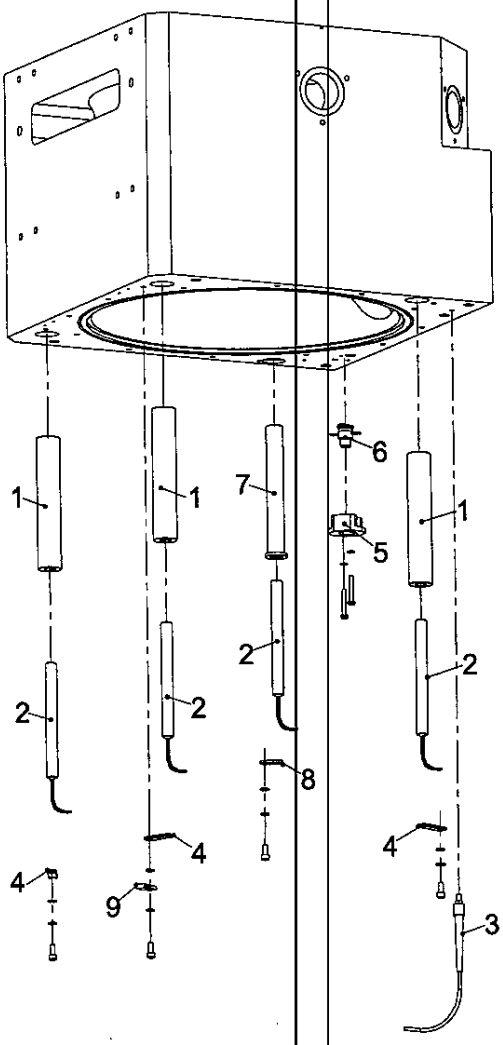


Figure 15 V1 700W Chamber heater kit

SURFACE TECHNOLOGY SYSTEMS

1.16 NW40 Port blanking kit.

Drawing Number TP4411 **Figure Number** 16 **STS Ref.** KC4411

Item	Description of Part	Part Number	Notes
1	O-ring BS326V E-60C NW40	E00017	
2	Pneurop carrier ring	171471D04	
3	NW40 Blank (1.5")	191704	
4	"C" Flange clamp DN40KF	1C6040	
5	Washer, plain M6	4J0700	
6	Caphead screw M6x20mm	471780	

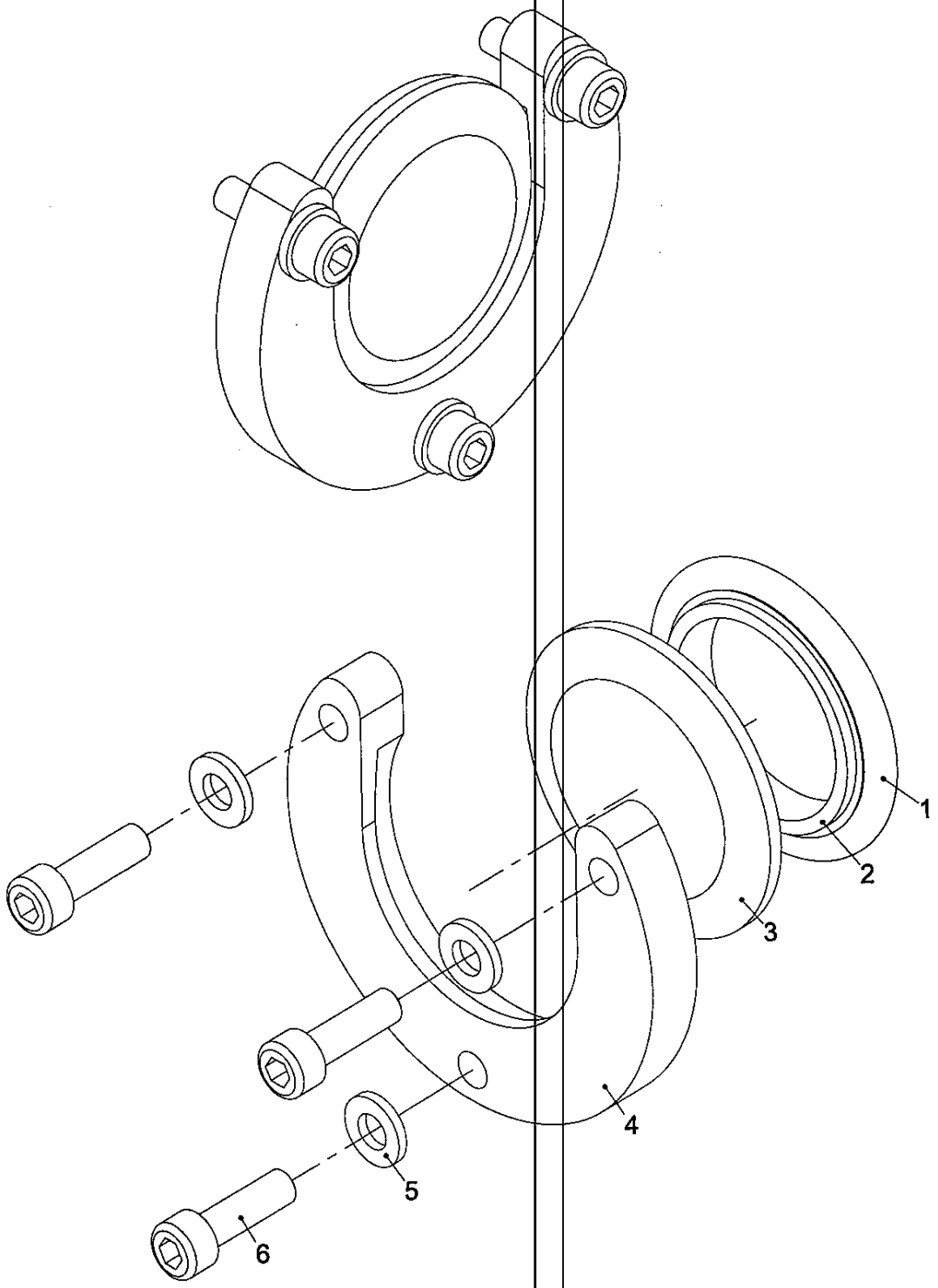


Figure 16 NW40 Port blanking kit

SURFACE TECHNOLOGY SYSTEMS

1.17 NW40 Port blanking kit (Kalrez seals).

Drawing Number TP4411 **Figure Number** 17 **STS Ref.** KT306488

Item	Description of Part	Part Number	Notes
1	O-ring BS326 kalrez 4079	206349	
2	Pneurop carrier ring	171471D04	
3	NW40 Blank (1.5")	191704	
4	Flange clamp DN40KF	111076D02	
5	Washer, plain M6	4J0700	
6	Caphead screw M6x20mm	471780	

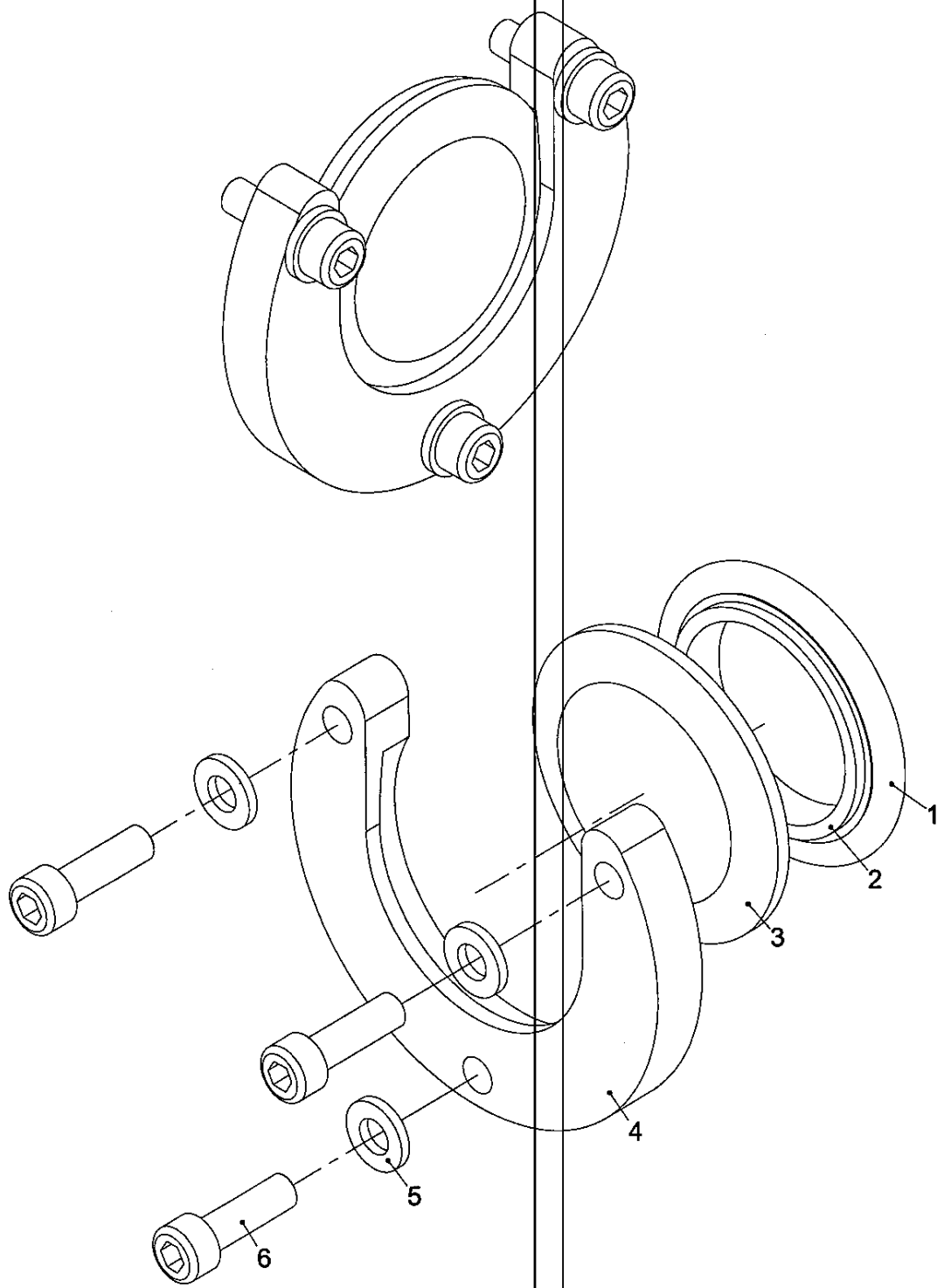


Figure 17 NW40 Port blanking kit (Kalrez seals)

SURFACE TECHNOLOGY SYSTEMS

1.18 Baratron assembly.

Drawing Number TP4429 **Figure Number** 18 **STS Ref.** KC4429

Item	Description of Part	Part Number	Notes
1	Connecting port shield	1C3582	
2	Pneurop carrier ring	171471D04	
3	O-ring BS326V E-60C NW40	E00017	
4	Off-set adaptor flange	FB301465	
5	NW16-KF Centring ring	212002	
6	Flange clamp DN40KF	110848D01	
7	Washer, plain M6	4J0700	
8	Caphead screw M6x20mm	471780	
9	KF10/16 Clamp (Red screw)	213019	
10	2 Torr manometer	236098	

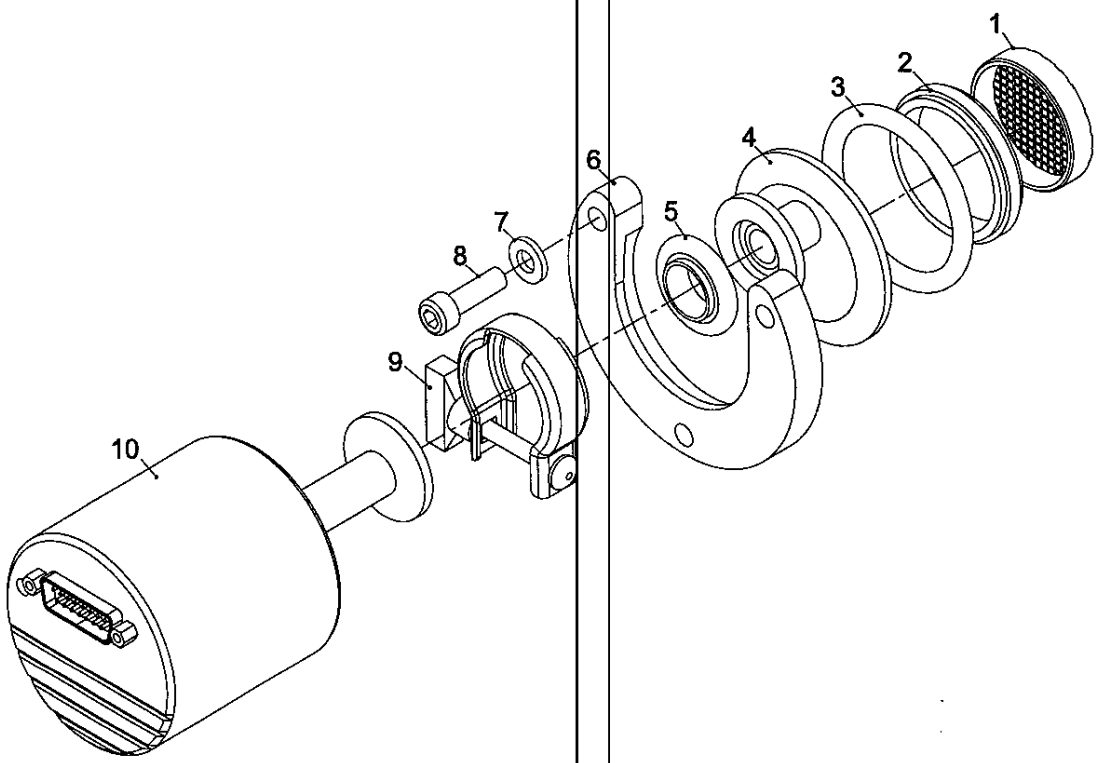


Figure 18 Baratron assembly

SURFACE TECHNOLOGY SYSTEMS

1.19 Baratron assembly (Kalrez seals).

Drawing Number TP4429 **Figure Number** 19 **STS Ref.** KT306490

Item	Description of Part	Part Number	Notes
1	Connecting port shield	1C3582	
2	Pneurop carrier ring	171471D04	
3	O-ring BS326 kalrez 4079	206349	
4	Off-set adaptor flange	FB301465	
5	O-ring BS313 perlast	206354	
6	NW16-KF Centring ring	212002	
7	'C' Flange clamp DN40KF	1C6040	
8	Washer, plain M6	4J0700	
9	Caphead screw M6x20mm	471780	
10	KF10/16 Clamp (Red screw)	213019	
11	2 Torr manometer	236098	

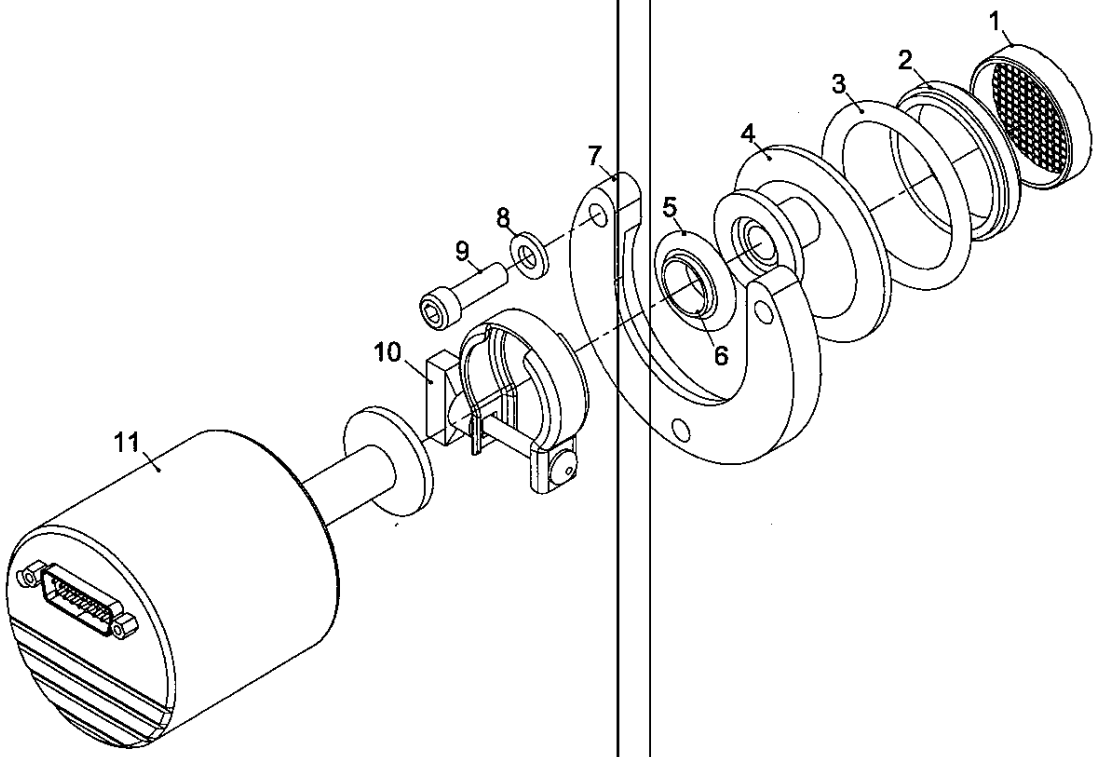


Figure 19 Baratron assembly (Kalrez seals)

SURFACE TECHNOLOGY SYSTEMS

1.20 100 ISO APC/Hivac kit.

Drawing Number TP4429 **Figure Number** 20 **STS Ref.** KC4429

Item	Description of Part	Part Number	Notes
1	Flange clamping bolts	211893	
2	ISO100 Center ring	561188	
3	Caphead screw M8 x 60mm	4718G0	
4	ISO 100 to NW100 Adaptor	DT300142	
5	Exhaust throttle valve	236811	
6	Tapped flange Adaptor	DT300167	
7	Claw grip	216886	
8	Gate valve ISO100	216932	

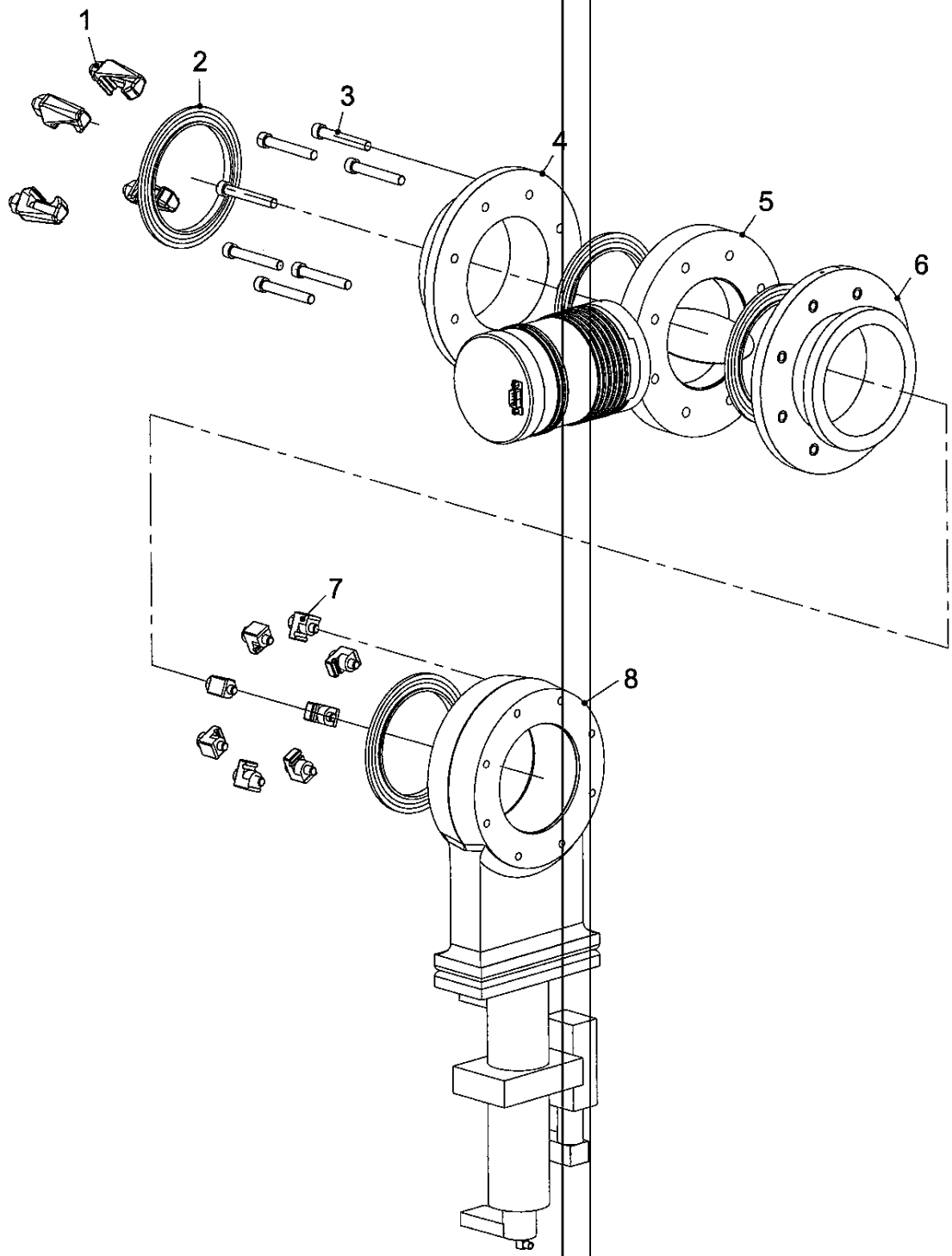


Figure 20 100 ISO APC/Hivac kit

SURFACE TECHNOLOGY SYSTEMS

1.21 CVD Lower electrode - 200/208V.

Drawing Number TP307236 **Figure Number** 21 **STS Ref.** AS307236

Note The parts list for this assembly extends over two pages. The illustration (figure 21) will be repeated to ensure ease of cross-referencing.

Item	Description of Part		Part Number	Notes
1	Lower faraday shield		110924C02	
2	Caphead screw (vented) M3x12mm		226598	
3	Electrode spacer ring		111031E01	
4	O-ring 260mmIDx3mm thick	EPDM	206341	
		Kalrez	206394	
5	CVD Lower Electrode		FB310351	
6	Lift pedestal guide		110937E02	
7	Lift pedestal spacer		110938E01	
8	CSK vented screw M4x12mm		111061E01	
9	Lower electrode clamp		112502E01	
10	Hex head bolt M6x25mm.		471790	
11	Lower heater 200-208V		112189C03	
12	MKII heater heat shield		112150D03	
13	Caphead screw M5x40mm		4716C0	
14	Washer plain M5		4J0600	
15	Washer Spring M5		4V0600	
16	Heater terminal cover		112599E02	
17	Nut, full M4		4P1500	
18	Lower heater clamp spacer		a10594D01	
19	Compression spring		110593E01	
20	Bottom cooling clamp MkII		DT300264	

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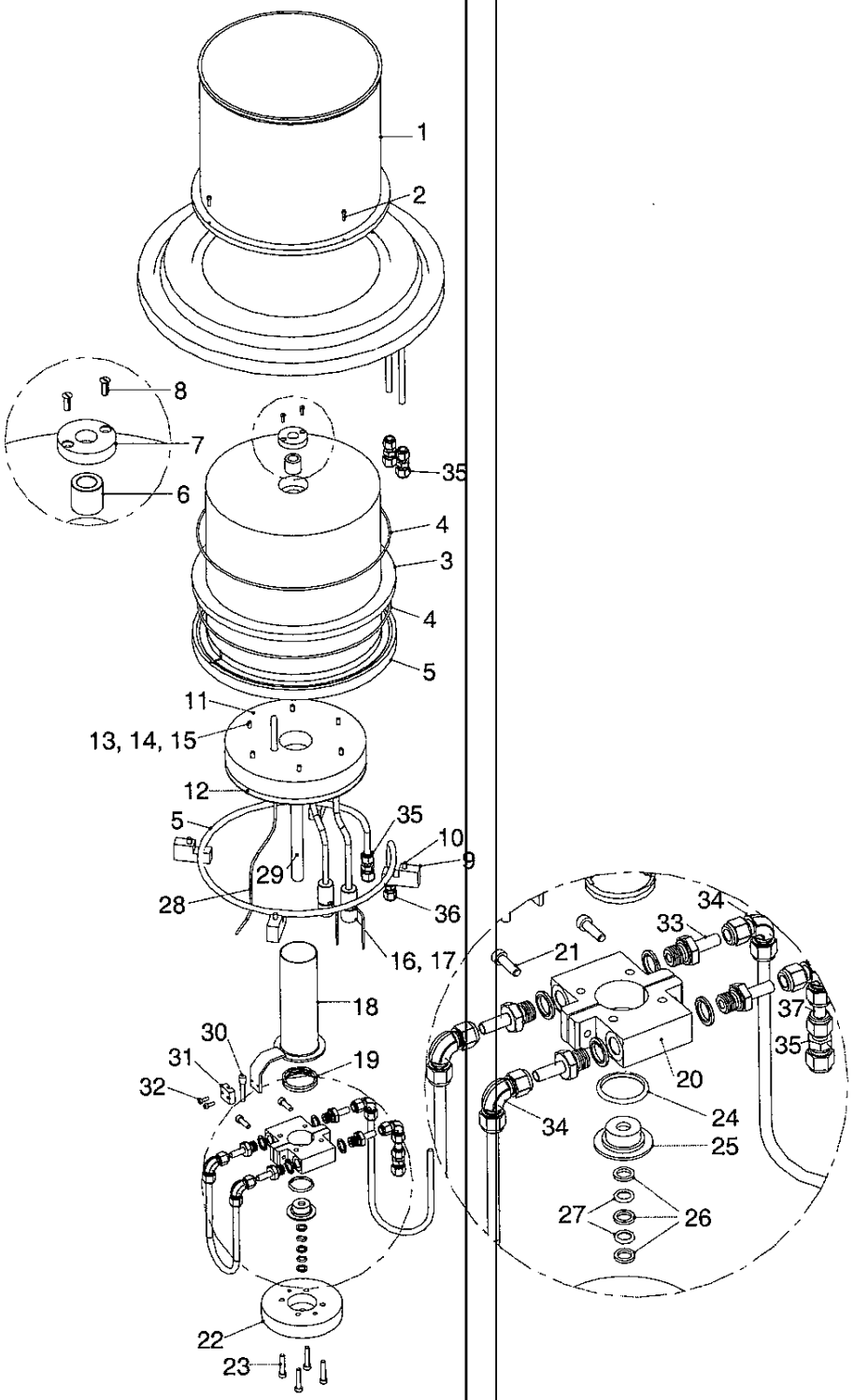


Figure 21 CVD Lower electrode – 200/208V

1.21 CVD Lower electrode 200/208V – continued...

Item	Description of Part	Part Number	Notes
21	Hex head bolt M6x20mm	471780	
22	Clamp plate MkII	111022D02	
23	Caphead screw M6x30mm	4717A0	
24	O-ring BS216, viton	E01409	
25	Lift rod seal housing	112643E01	
26	Lift rod seal washer	110273E01	
27	O-ring BS110, viton	E01507	
28	CVD Thermocouple assembly	AS311695	
29	Lift shaft heat shield	111025E03	
30	Thermocouple insulator	110596E02	
31	Thermocouple clamp	110595D01	
32	Caphead screw, M4x12mm	471560	
33	Cooling tube	111045E02	
34	Union elbow 8mm	216029	
35	Reducer	236959	
36	Union Connector 8mm	216736	
37	Fluid tube	DT306495	

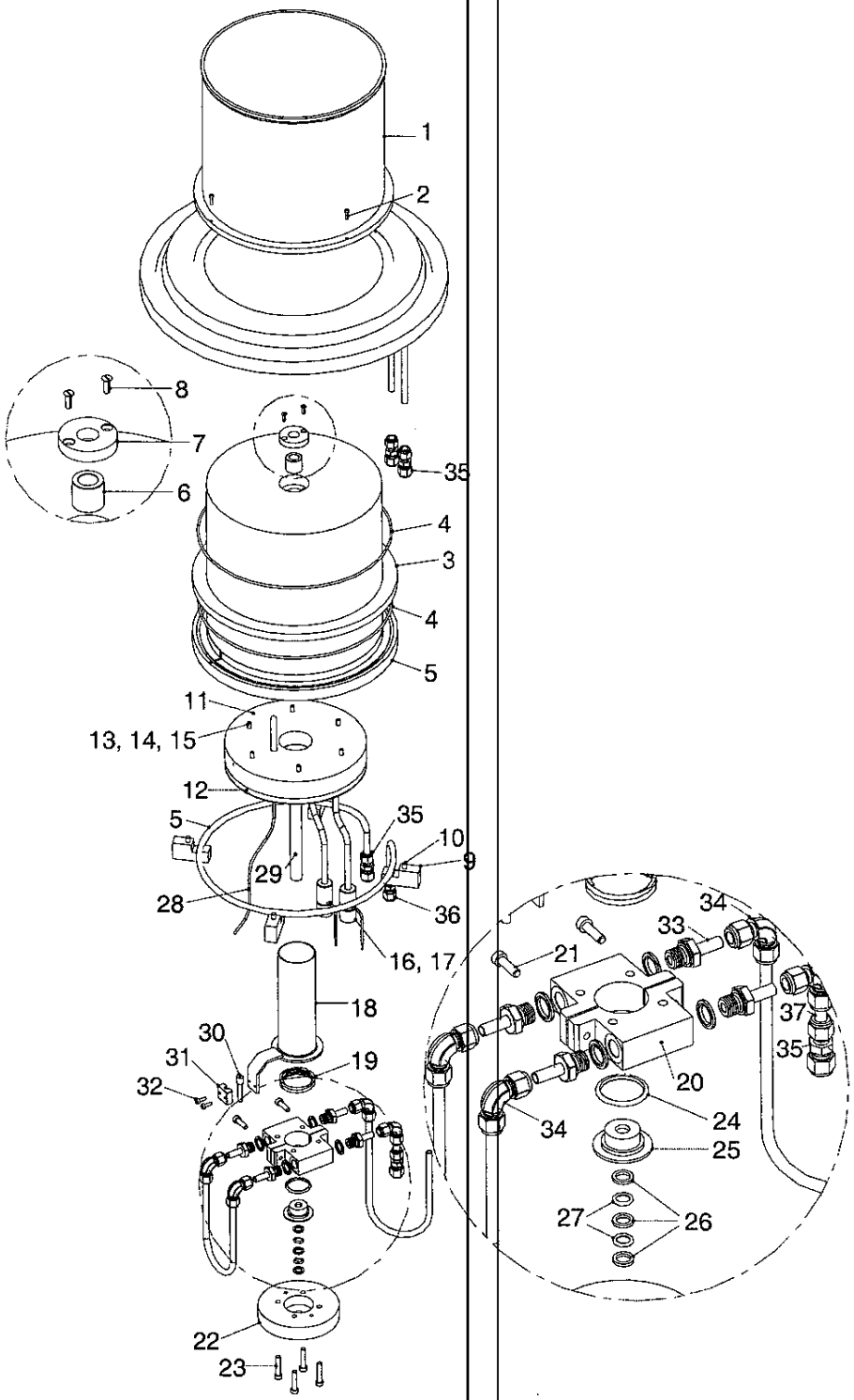


Figure 21 CVD Lower electrode - 200/208V

SURFACE TECHNOLOGY SYSTEMS

1.22 CVD Lower electrode - 220/240V.

Drawing Number TP307236 **Figure Number** 22 **STS Ref.** AS307235

Note The parts list for this assembly extends over two pages. The illustration (figure 22) will be repeated to ensure ease of cross-referencing.

Item	Description of Part		Part Number	Notes
1	Lower faraday shield		110924C02	
2	Caphead screw (vented) M3x12mm		226598	
3	Electrode spacer ring		111031E01	
4	O-ring 260mmIDx3mm thick	EPDM	206341	
		Kalrez	206394	
5	CVD Lower Electrode		FB310351	
6	Lift pedestal guide		110937E02	
7	Lift pedestal spacer		110938E01	
8	CSK vented screw M4x12mm		111061E01	
9	Lower electrode clamp		112502E01	
10	Hex head bolt M6x25mm		471790	
11	Lower heater 220-240V		111844C03	
12	MKII heater heat shield		112150D03	
13	Caphead screw M5x40mm		4716C0	
14	Washer plain M5		4J0600	
15	Washer Spring M5		4V0600	
16	Heater terminal cover		112599E02	
17	Nut, full M4		4P1500	
18	Lower heater clamp spacer		a10594D01	
19	Compression spring		110593E01	
20	Bottom cooling clamp MkII		DT300264	
21	Hex head bolt M6x20mm		471780	

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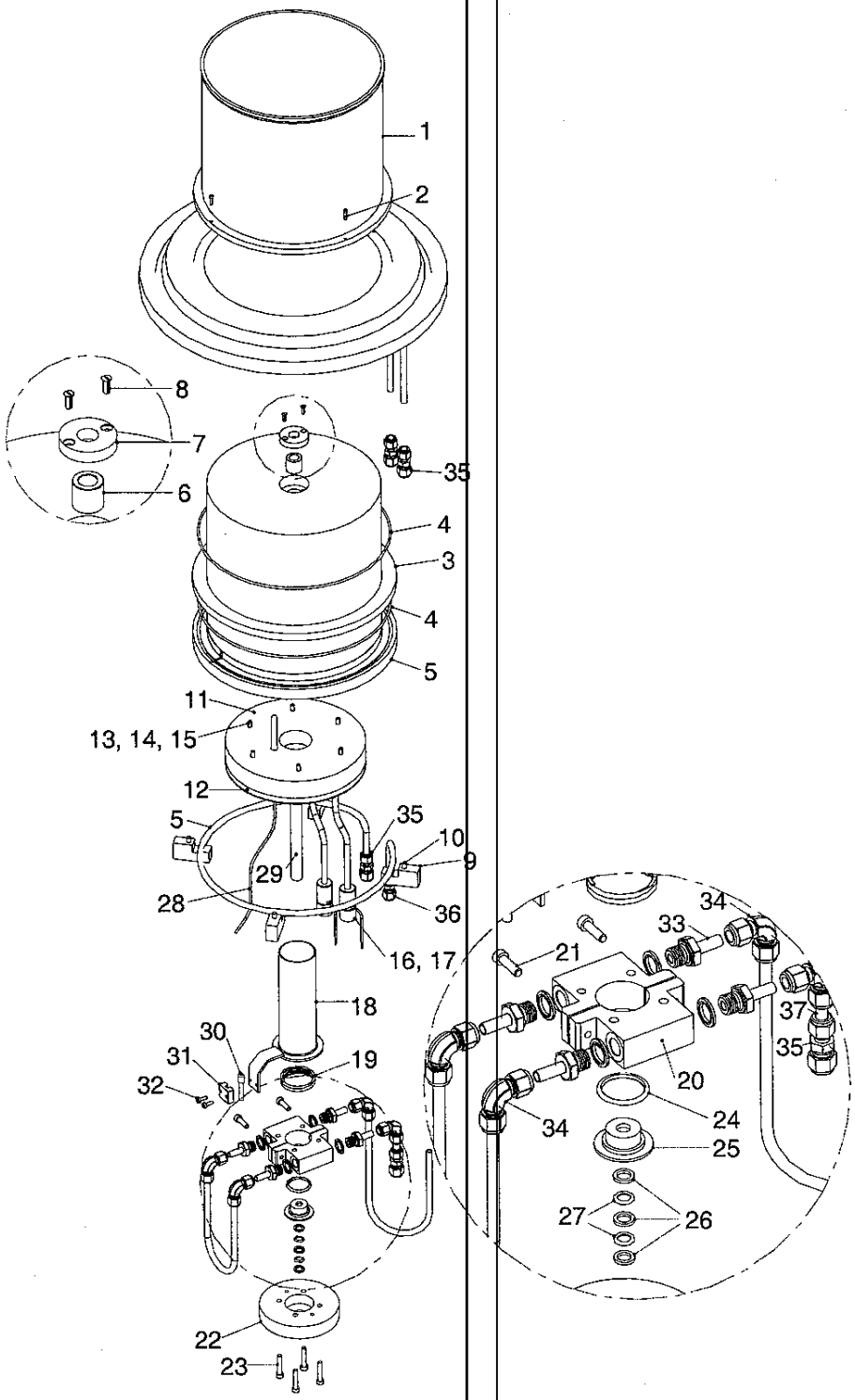


Figure 22 CVD Lower electrode – 220/240V

1.22 CVD Lower electrode 220/240V – continued...

Item	Description of Part	Part Number	Notes
22	Clamp plate MkII	111022D02	
23	Caphead screw M6x30mm	4717A0	
24	O-ring BS216, viton	E01409	
25	Lift rod seal housing	112643E01	
26	Lift rod seal washer	110273E01	
27	O-ring BS110, viton	E01507	
28	CVD Thermocouple assembly	AS311695	
29	Lift shaft heat shield	111025E03	
30	Thermocouple insulator	110596E02	
31	Thermocouple clamp	110595D01	
32	Caphead screw, M4x12mm	471560	
33	Cooling tube	111045E02	
34	Union elbow 8mm	216029	
35	Reducer	236959	
36	Union Connector 8mm	216736	
37	Fluid tube	DT306495	

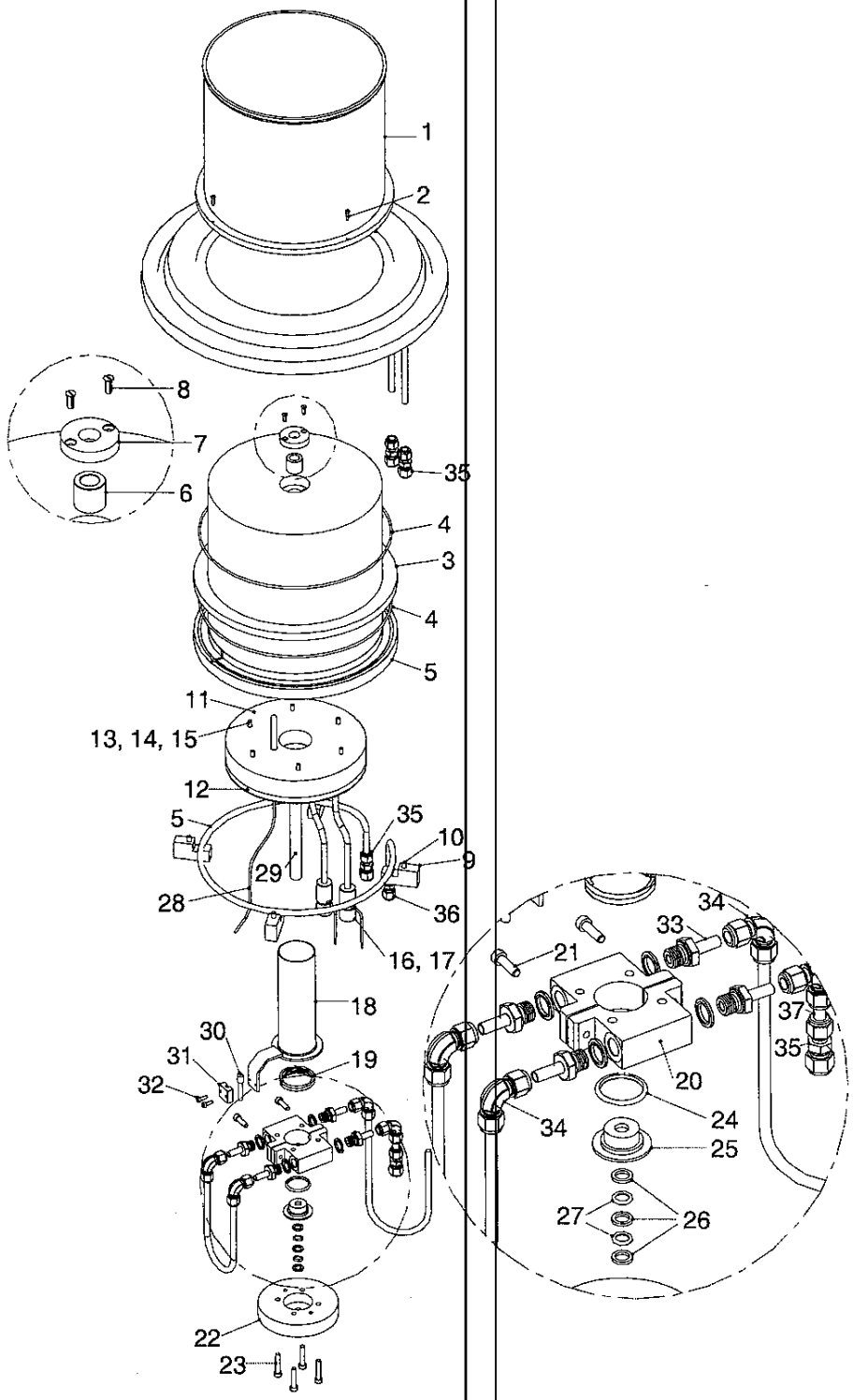


Figure 22 CVD Lower electrode - 220/240V

SURFACE TECHNOLOGY SYSTEMS

1.23 CVD Lower electrode - 200/208V.

Drawing Number TP307234 **Figure Number** 23 **STS Ref.** AS307234

Note The parts list for this assembly extends over two pages. The illustration (figure 23) will be repeated to ensure ease of cross-referencing.

Item	Description of Part		Part Number	Notes
1	Lower faraday shield		110924C02	
2	Caphead screw (vented) M3x12mm		a01953	
3	Ceramic insulating ring		110915E03	
4	O-ring 260mmIDx3mm thick	EPDM	206341	
		Kalrez	206394	
5	CVD Lower Electrode		FB310351	
6	Lift pedestal guide		110937E02	
7	Lift pedestal spacer		110938E01	
8	CSK vented screw M4x12mm		111061E01	
9	Lower heater 200-208V		112189C03	
10	MKII heater heat shield		112150D03	
11	Caphead screw M5x40mm		4716C0	
12	Washer plain M5		4J0600	
13	Washer Spring M5		4V0600	
14	Heater terminal cover		112599E01	
15	Nut, full M4		4P1500	
16	Lower heater clamp spacer		a10594D01	
17	Compression spring		110593E01	
18	Bottom cooling clamp MkII		DT300264	
19	Hex head bolt M6x20mm		471780	
20	Clamp plate MkII		DT300265	
21	Caphead screw M6x30mm		4717A0	

Continued overleaf...

1.23 CVD Lower electrode 200/208V – continued...

Item	Description of Part	Part Number	Notes
22	Lift mechanical insulating block	DT300266	
23	O-ring BS216	206355	
24	Caphead screw, M6x50mm	4717E0	
25	Nut, full M6	4P1700	
26	Caphead screw, M6x65mm	4717H0	
27	Lift rod seal housing	110272E01	
28	Lift rod seal washer	110273E01	
29	O-ring BS110	206345	
30	O-ring BS214	206344	
31	Housing cover plate MkII	DT300267	
32	CVD Thermocouple assembly	AS307865	
33	Lift shaft heat shield	111025E03	
34	Thermocouple insulator	110596E02	
35	Thermocouple clamp	110595D01	
36	Caphead screw, M4x12mm	471560	
37	Electrode Clamp Assy	A12121E02	Ref KT310364
38	Cooling tube	111045E02	
39	Union elbow 8mm	216029	
40	Reducer	236959	
41	Union Connector 8mm	216736	
42	Caphead screw, M5x8mm	471640	
43	Fluid tube	DT306495	

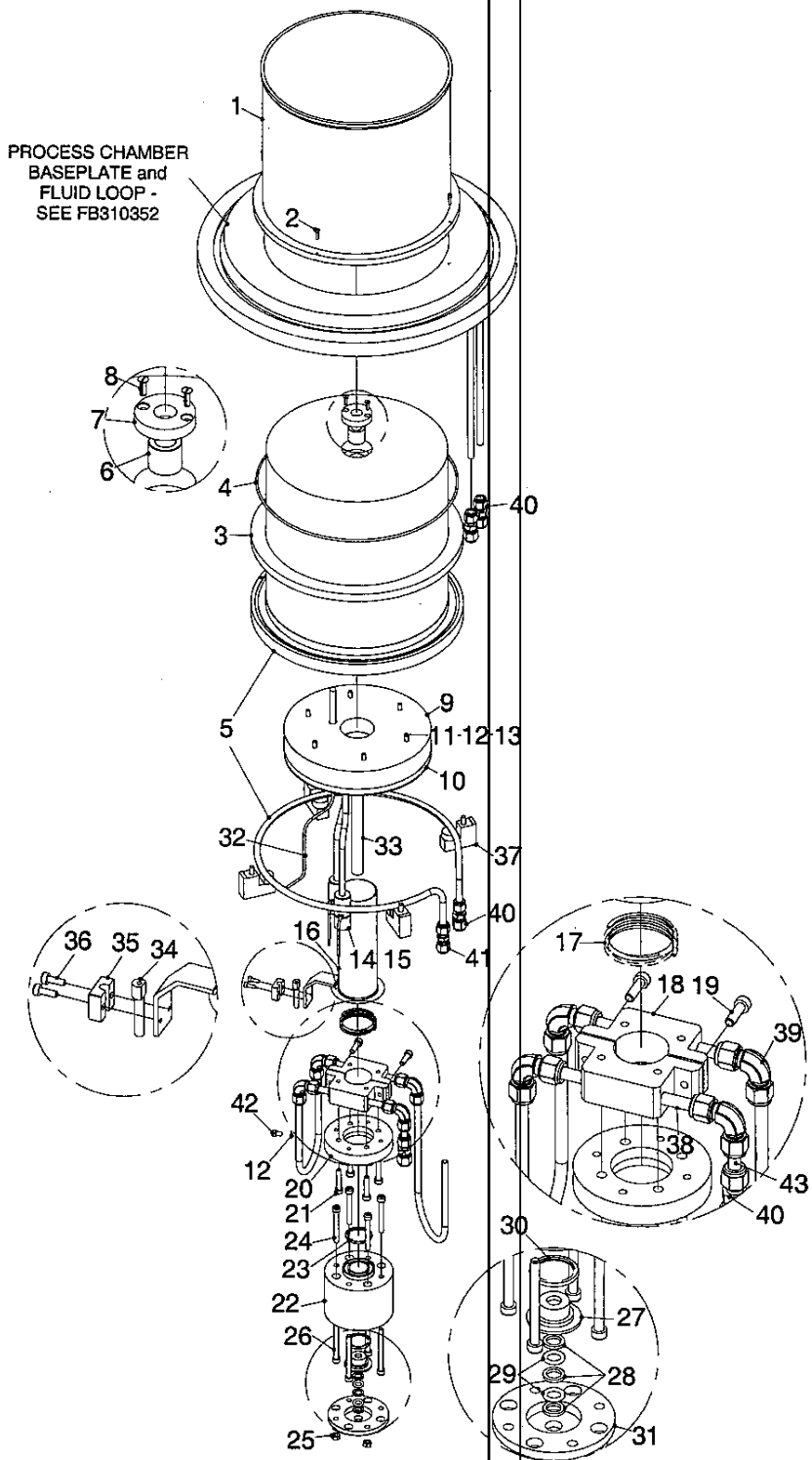


Figure 23 CVD Lower electrode – 200/208V

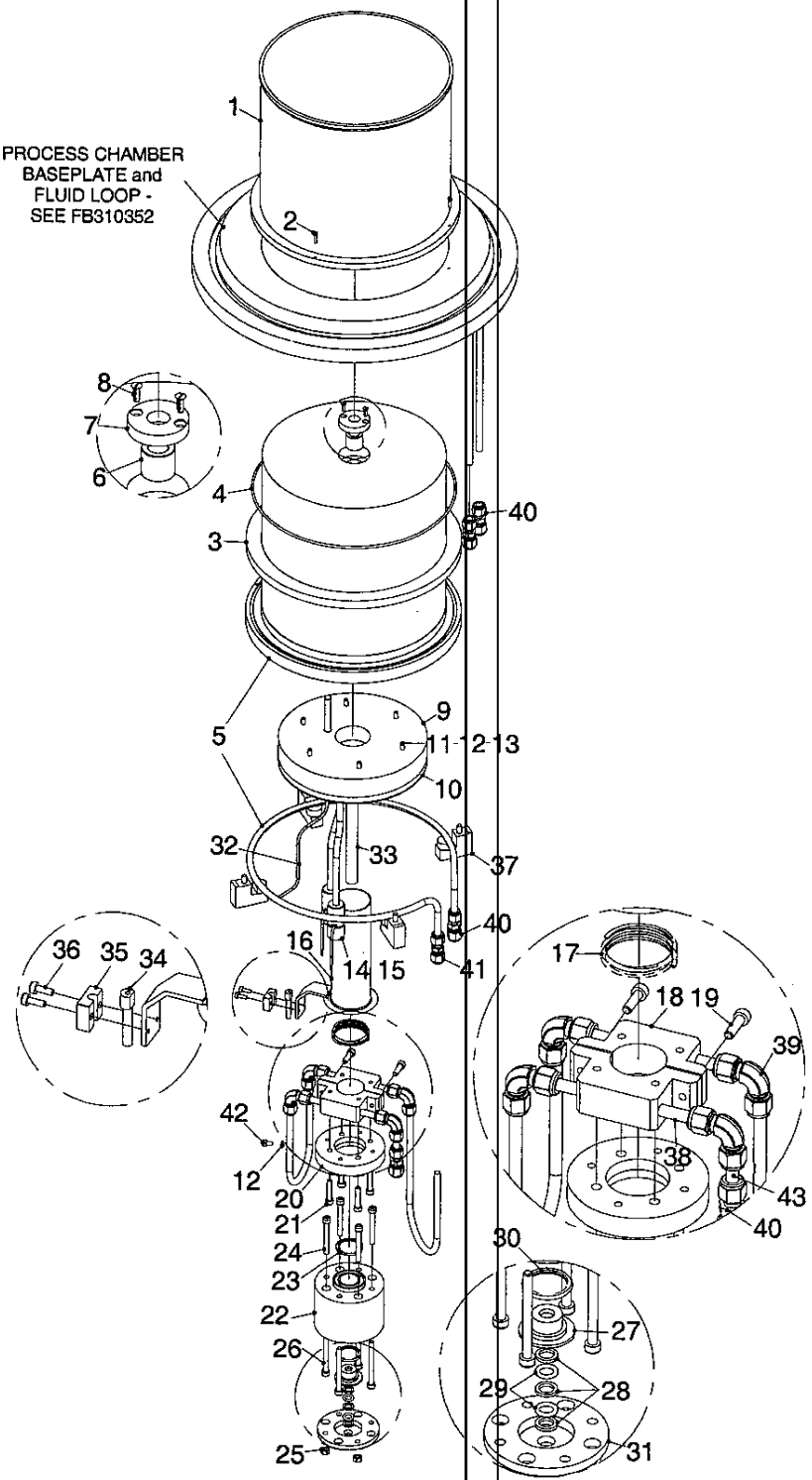


Figure 23 CVD Lower electrode - 200/208V

SURFACE TECHNOLOGY SYSTEMS

1.24 CVD Lower electrode - 220/240V.

Drawing Number TP307233 **Figure Number** 24 **STS Ref.** AS307233

Note The parts list for this assembly extends over two pages. The illustration (figure 24) will be repeated to ensure ease of cross-referencing.

Item	Description of Part		Part Number	Notes
1	Lower faraday shield		110924C02	
2	Caphead screw (vented) M3x12mm		a01953	
3	Ceramic insulating ring		110915E03	
4	O-ring 260mmIDx3mm thick	EPDM	206341	
		Kalrez	206394	
5	CVD Lower Electrode		FB310351	
6	Lift pedestal guide		110937E02	
7	Lift pedestal spacer		110938E01	
8	CSK vented screw M4x12mm		111061E01	
9	Lower heater 220-240V		111844C03	
10	MKII heater heat shield		112150D03	
11	Caphead screw M5x40mm		4716C0	
12	Washer plain M5		4J0600	
13	Washer Spring M5		4V0600	
14	Heater terminal cover		112599E01	
15	Nut, full M4		4P1500	
16	Lower heater clamp spacer		a10594D01	
17	Compression spring		110593E01	
18	Bottom cooling clamp MkII		DT300264	
19	Hex head bolt M6x20mm		471780	
20	Clamp plate MkII		DT300265	
21	Caphead screw M6x30mm		4717A0	

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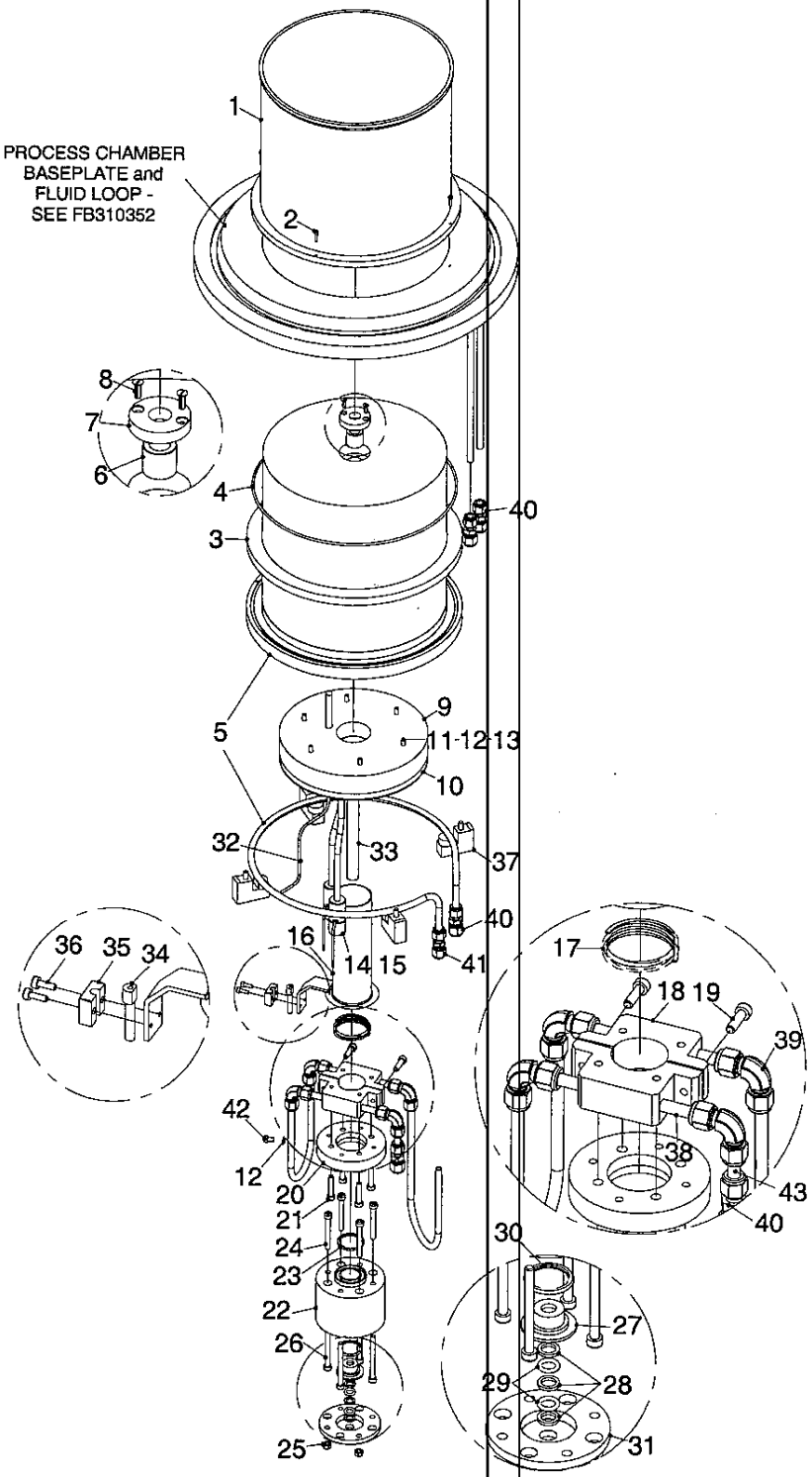


Figure 24 CVD Lower electrode – 220/240V

SURFACE TECHNOLOGY SYSTEMS

1.24 CVD Lower electrode 220/240V – continued...

Item	Description of Part	Part Number	Notes
22	Lift mechanical insulating block	DT300266	
23	O-ring BS216	206355	
24	Caphead screw, M6x50mm	4717E0	
25	Nut, full M6	4P1700	
26	Caphead screw, M6x65mm	4717H0	
27	Lift rod seal housing	110272E01	
28	Lift rod seal washer	110273E01	
29	O-ring BS110	206345	x 2
30	O-ring BS214	206344	x 1
31	Housing cover plate MkII	DT300267	
32	CVD Thermocouple assembly	AS307865	
33	Lift shaft heat shield	111025E03	
34	Thermocouple insulator	110596E02	
35	Thermocouple clamp	110595D01	
36	Caphead screw, M4x12mm	471560	
37	Electrode clamp assembly	A12121E02	
38	Cooling tube	111045E02	
39	Union elbow 8mm	216029	
40	Reducer	236959	
41	Union Connector 8mm	216736	
42	Caphead screw, M5x8mm	471640	
43	Fluid tube	DT306495	

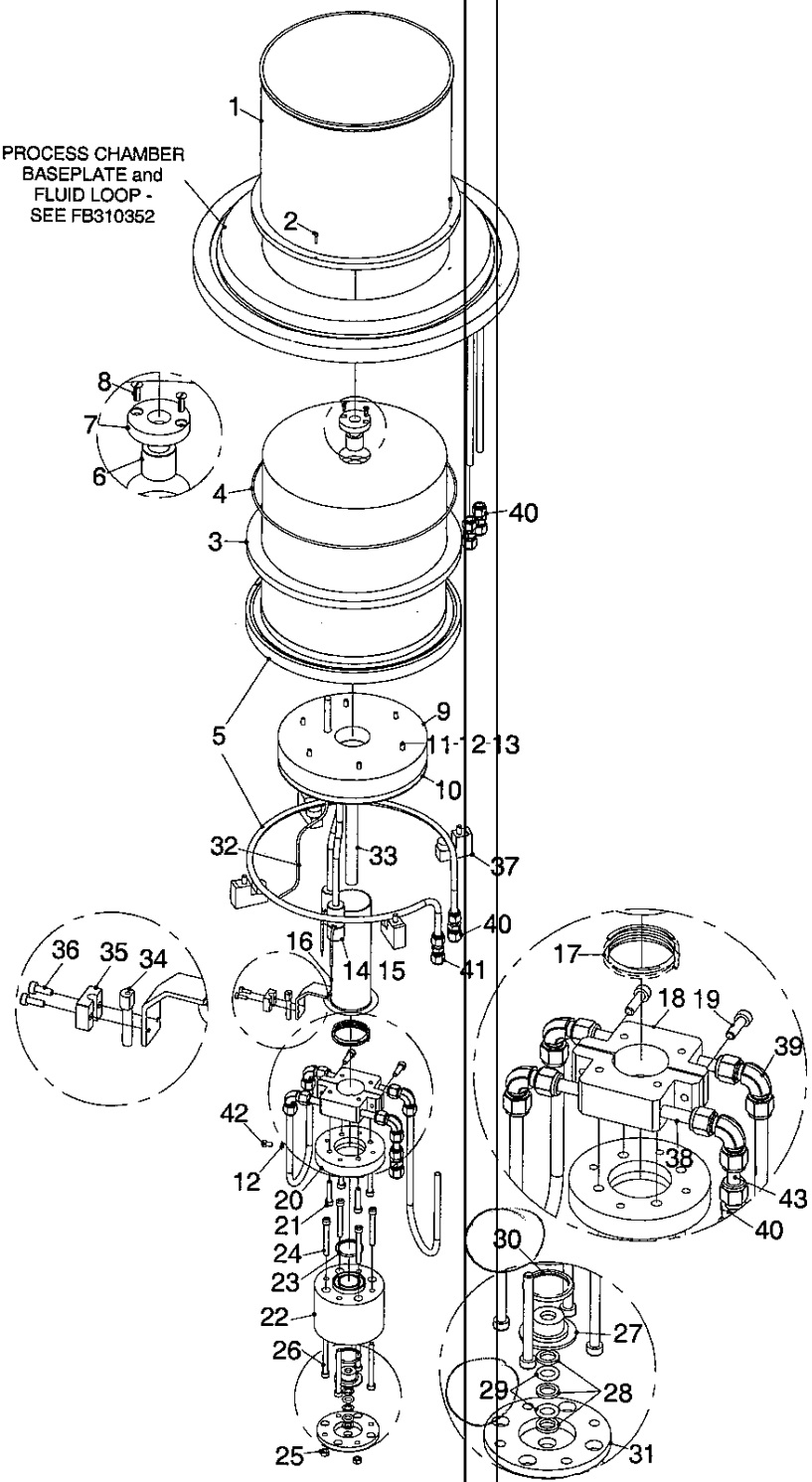


Figure 24 CVD Lower electrode - 220/240V

1.25 CVD Mixed frequency RF enclosure assembly.

Drawing Number TP302009 **Figure Number** 25 **STS Ref.** AS302009

Note The parts list for this assembly extends over three pages. The illustration (figure 25) will be repeated to ensure ease of cross-referencing.

Item	Description of Part	Part Number	Notes
1	CVD Platen R/F enclosure	FB302009	
2	CVD Platen R/F enclosure cover	DT302022	
3	Fan choke assembly	AS304039	
4	Connector amphenol plug 4W	530216	
5	Thermocouple probe	256134	
6	Connector R/lock plug 4W	530553	
7	4Way R/lock chassis socket	530550	
8	Microswitch cabinet	550019	
9	Connector C type socket	535274	
10	Hex head bolt M5x25mm	401690	
11	Fan 24V DC 120mm dia.	561064	
12	Thermocouple nut	1C2887	
13	Honeycomb vent	1C2288	
14	Panel mounting coupling	266001	
15	Elbow connector	266004	
16	Beryllium copper 5.7mm	286966	
17	CSK head screw slotted M3x6mm	4G1430	
18	Fan guard 120mm dia.	560344	
19	Pan head pozi screw M4x12mm	226277	
20	Washer plain M4	4J0500	

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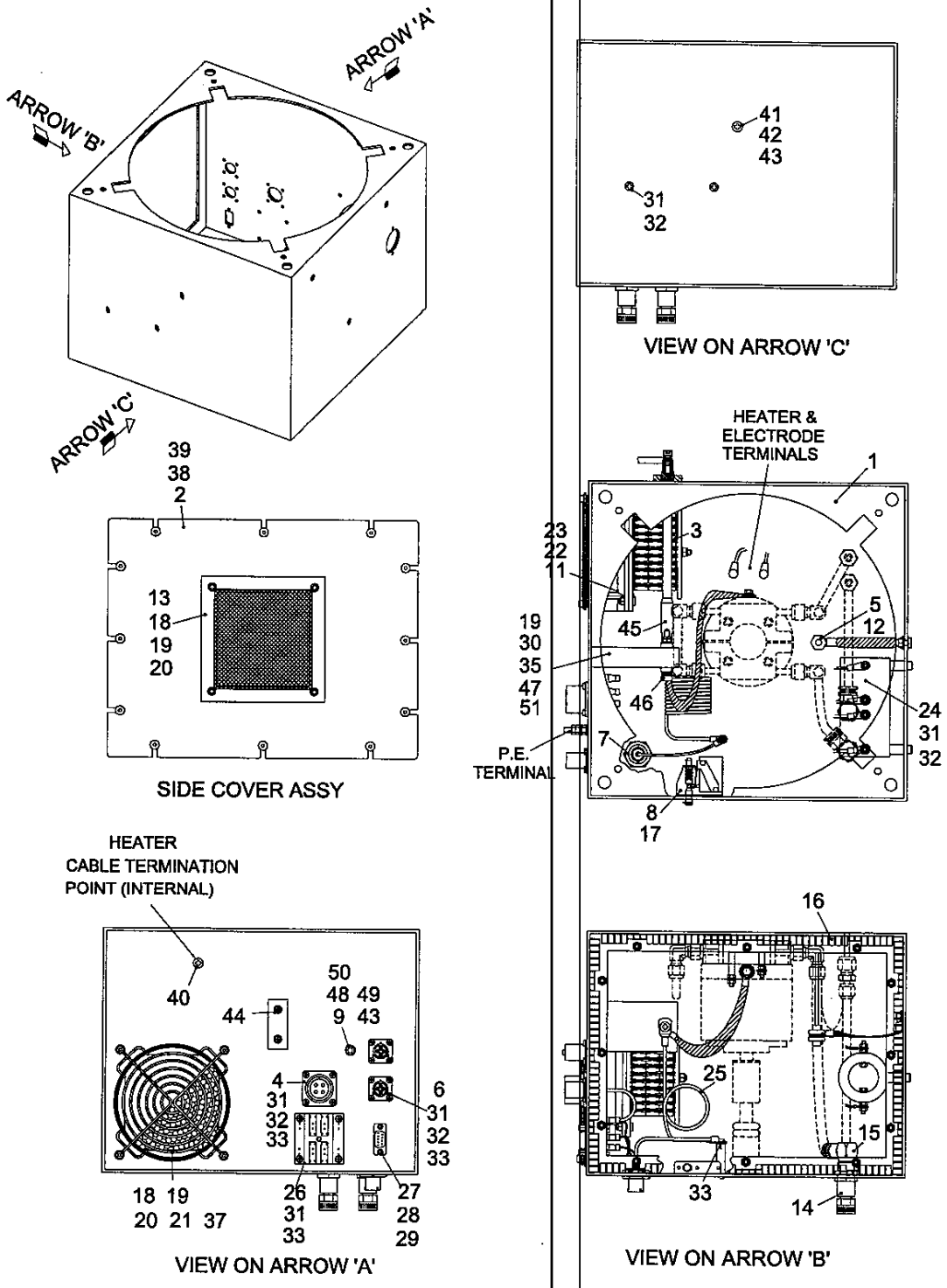


Figure 25 CVD Mixed frequency RF enclosure assembly

1.25 CVD Mixed frequency RF enclosure – continued...

Item	Description of Part	Part Number	Notes
21	Aerotight nut M4	256401	
22	Ferrite beads	560289	
23	Capacitor 0.1uF 100V	510631	
24	12 Turn choke	AC3051	
25	Enclosure L3 coil detail	DT302060	
26	PWB RF choke ST8109-071	AC6094	
27	Connector 9W D plug	530375	
28	Connector chromega male pin	530370	
29	Connector alomega male pin	530372	
30	Caphead screw M4x30mm	4715A0	
31	Pan head pozi screw M3x12mm	226209	
32	Washer, plain M3	4J0400	
33	Aerotight nut M3	256417	
34	Nylon pillar C M3x30mm	560072	
35	Washer, spring M4	4V0500	
36	Connector D type screwlock	530025	
37	Nut full M3	4P1400	
38	Stud M6	561485	
39	Plastic retainer 6mm	561559	

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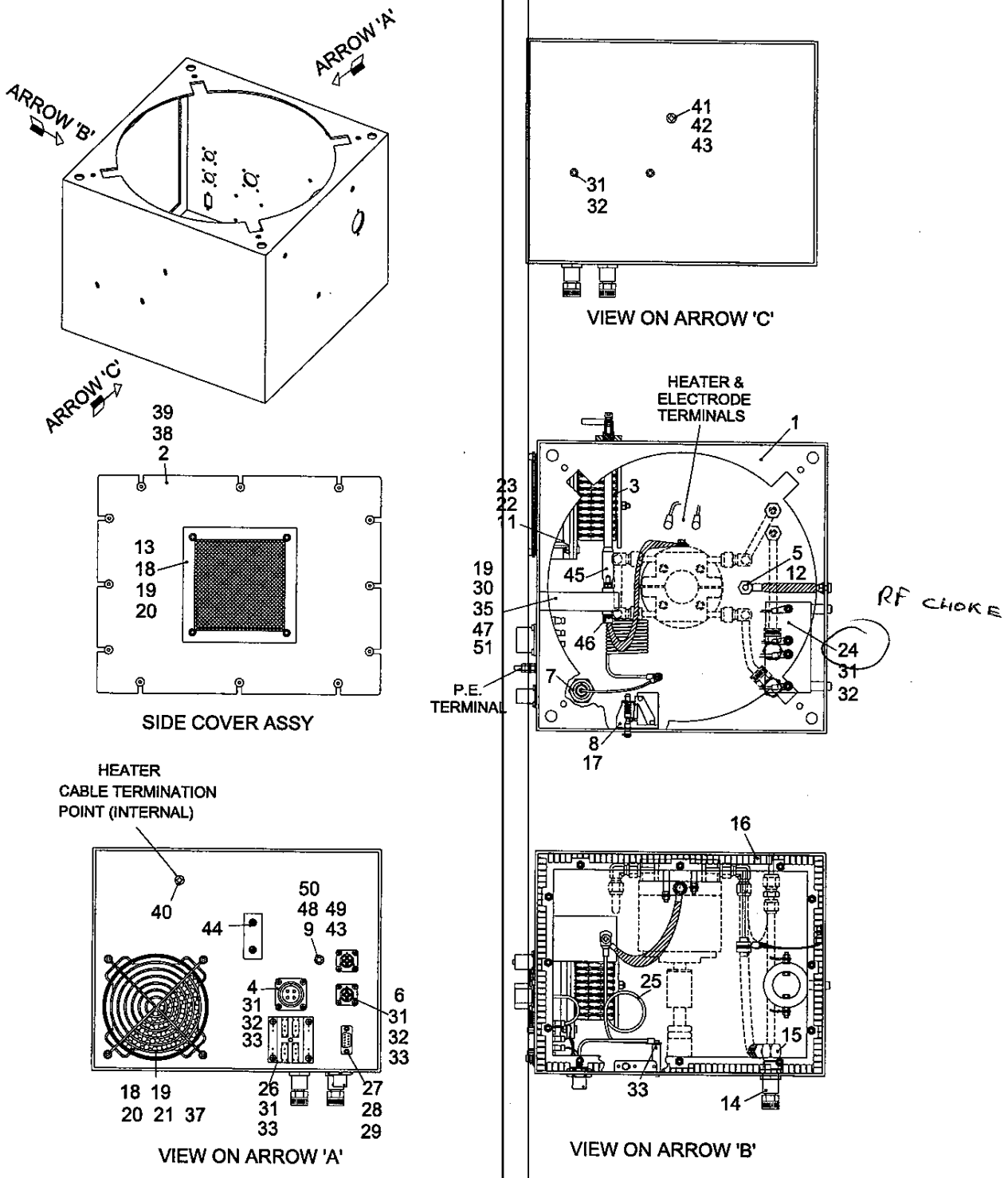


Figure 25 CVD Mixed frequency RF enclosure assembly

1.25 CVD Mixed frequency RF enclosure – continued...

Item	Description of Part	Part Number	Notes
40	Pan head pozi screw M4x60mm	226282	
41	Pan head pozi screw M5x12mm	226343	
42	Aerotight nut M5	256418	
43	Washer, plain M5	4J0600	
44	Caphead screw M4x20mm	471580	
45	Feedthru assembly	AC5392	
46	Feedthru extension bush	DT302804	
47	Caphead screw M5x35mm	4716B0	
48	Pillar support	DT303334	
49	Washer, spring M5	4V0600	
50	Nut, full M5	4P1600	
51	Lock-nut M5	4S1600	

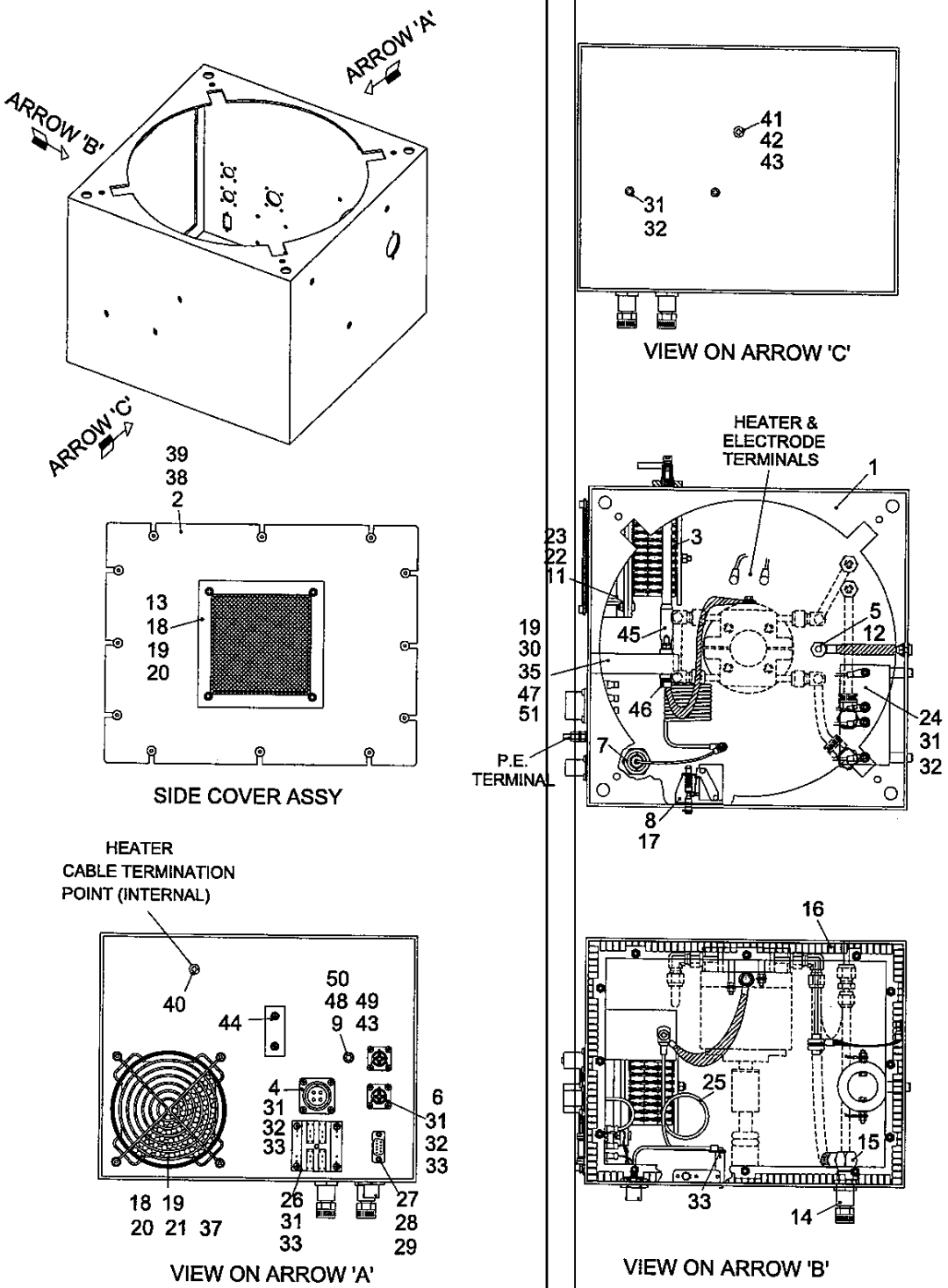


Figure 25 CVD Mixed frequency RF enclosure assembly

1.26 CVD Low frequency platen RF enclosure assembly.

Drawing Number TP303335 **Figure Number** 26 **STS Ref.** AS303335

Note The parts list for this assembly extends over three pages. The illustration (figure 26) will be repeated to ensure ease of cross-referencing.

Item	Description of Part	Part Number	Notes
1	CVD Platen R/F enclosure	FB302009	
2	CVD Platen R/F enclosure cover	DT302022	
3	Fan choke assembly	AS304039	
4	Connector, harting housing bulkhead	530940	
5	Thermocouple probe	256134	
6	Connector R/lock plug 4W	530553	
7	4Way R/lock chassis socket	530550	
8	Microswitch cabinet	550019	
9	Connector C type socket	535274	
10	Hex head bolt M5x25mm	401690	
11	Fan 24V DC 120mm dia.	561064	
12	Thermocouple nut	1C2887	
13	Honeycombe vent	1C2288	
14	Panel mounting coupling	266001	
15	Elbow connector	266004	
16	Beryllium copper 5.7mm	286966	
17	CSK head screw slotted M3x6mm	4G1430	
18	Fan guard 120mm dia.	560344	
19	Pan head pozi screw M4x12mm	226277	
20	Washer plain M4	4J0500	

Continued overleaf...

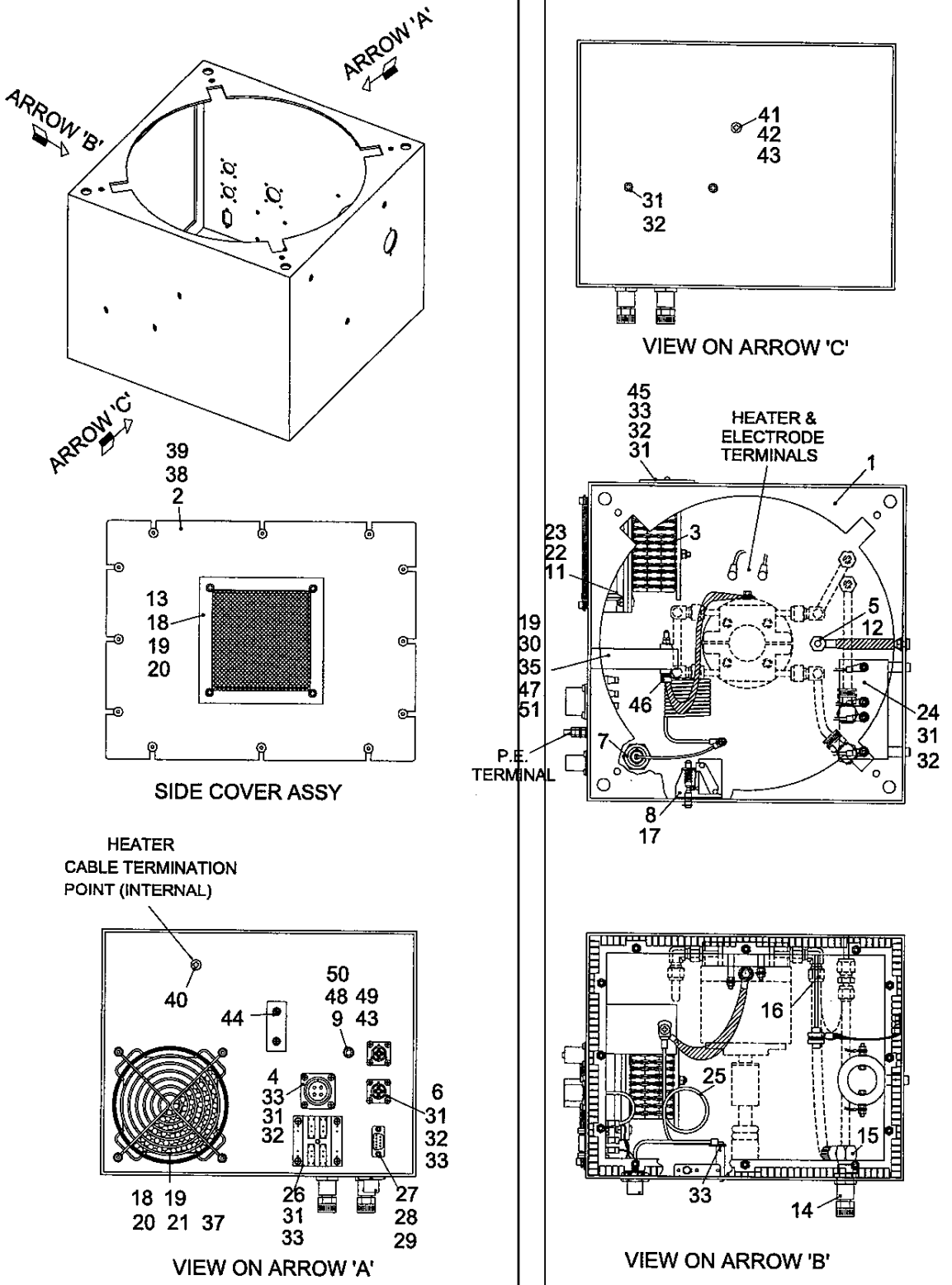


Figure 26 CVD Low frequency platen RF enclosure assembly

1.26 CVD Mixed frequency RF enclosure – continued...

Item	Description of Part	Part Number	Notes
21	Aerotight nut M4	256401	
22	Ferrite beads	560289	
23	Capacitor 0.1uF 100V	510631	
24	12 Turn choke	AC3051	
25	Enclosure L3 coil detail	DT302060	
26	PWB RF choke ST8109-071	AC6094	
27	Connector 9W D plug	530375	
28	Connector chromega male pin	530370	
29	Connector alomega male pin	530372	
30	Caphead screw M4x30mm	4715A0	
31	Pan head pozi screw M3x12mm	226209	
32	Washer, plain M3	4J0400	
33	Aerotight nut M3	256417	
34	Nylon pillar C M3x30mm	560072	
35	Washer, spring M4	4V0500	
36	Connector D type screwlock	530025	
37	Nut full M3	4P1400	
38	Stud M6	561485	
39	Plastic retainer 6mm	561559	

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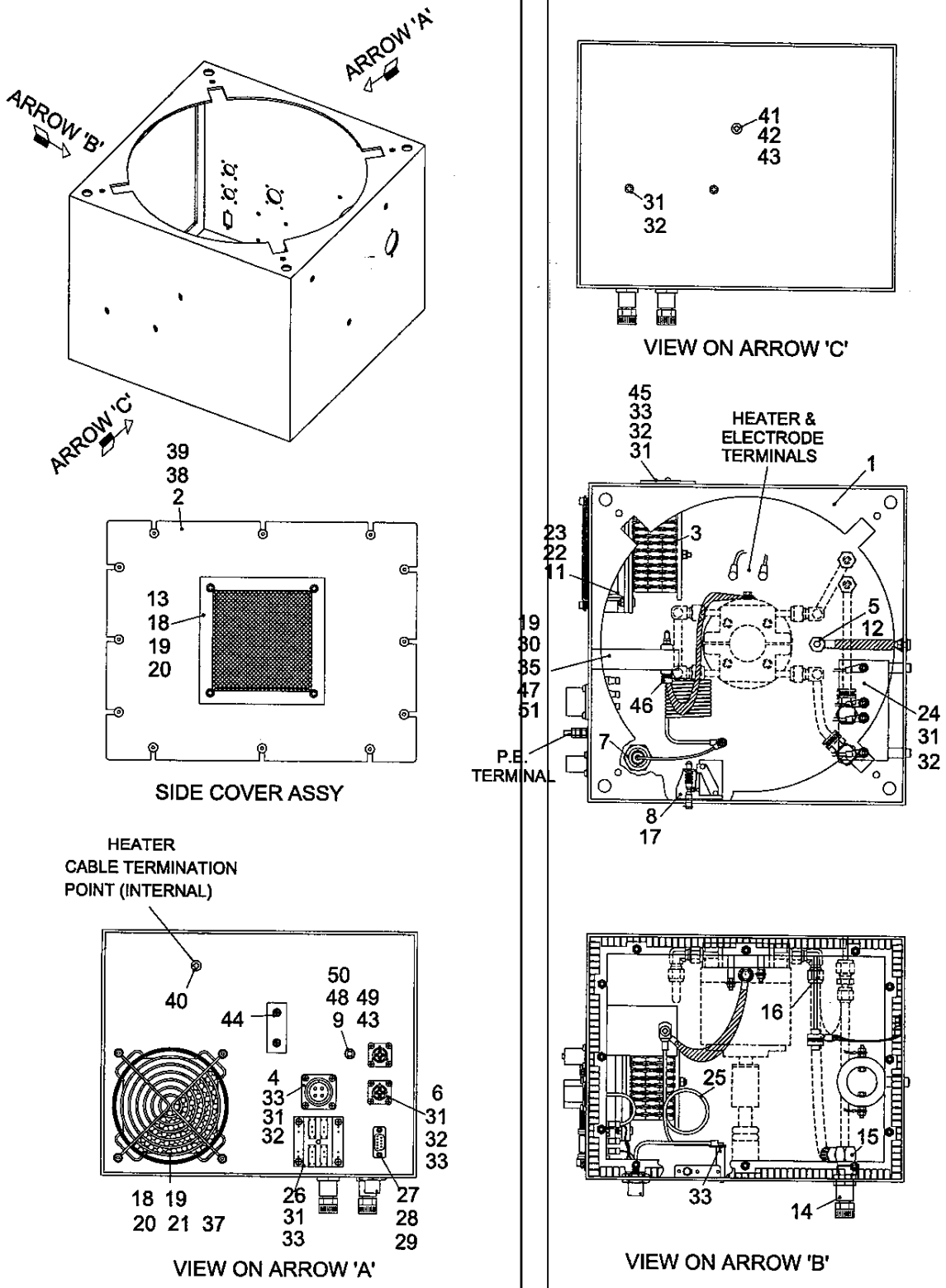
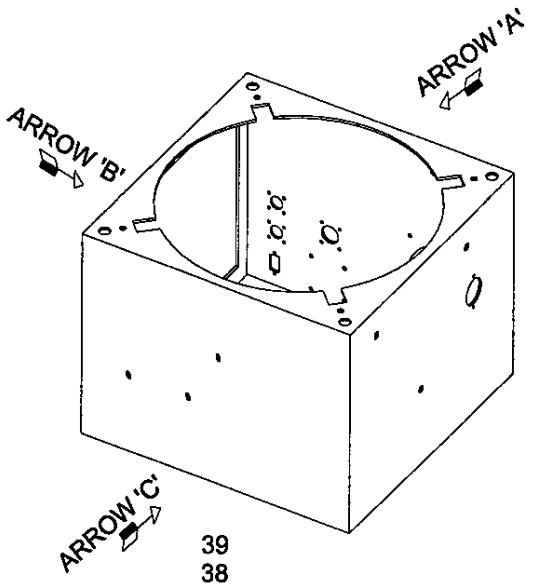
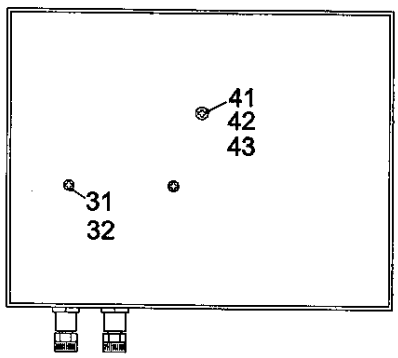


Figure 26 CVD Mixed frequency RF enclosure assembly

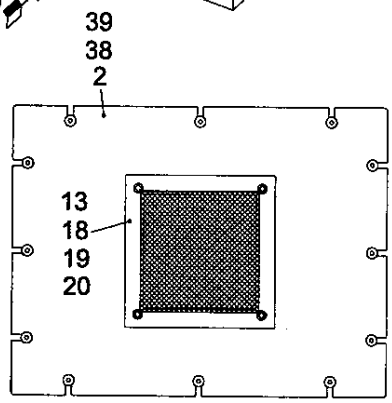
1.26 CVD Mixed frequency RF enclosure – continued...

Item	Description of Part	Part Number	Notes
40	Pan head pozi screw M4x60mm	226282	
41	Pan head pozi screw M5x12mm	226343	
42	Aerotight nut M5	256418	
43	Washer, plain M5	4J0600	
44	Caphead screw M4x20mm	471580	
45	Feedthru assembly	AC5392	
46	Feedthru extension bush	DT302804	
47	Caphead screw M5x35mm	4716B0	
48	Pillar support	DT303334	
49	Washer, spring M5	4V0600	
50	Nut, full M5	4P1600	
51	Lock-nut M5	4S1600	

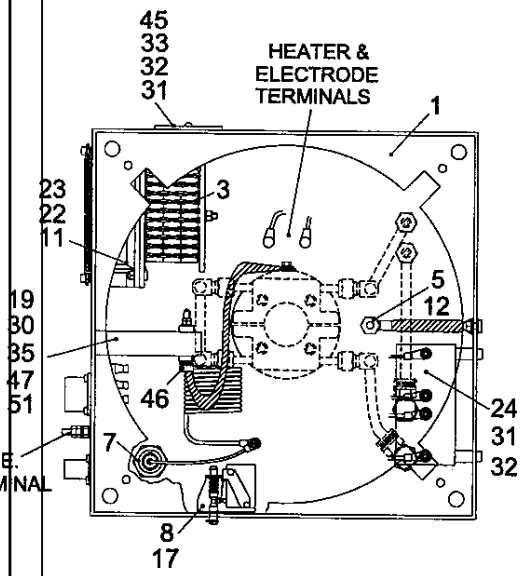


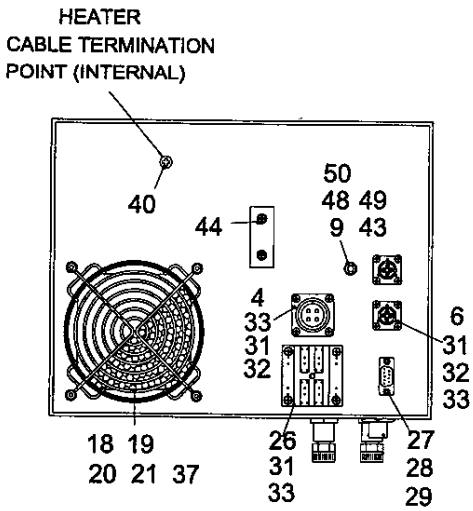


VIEW ON ARROW 'C'

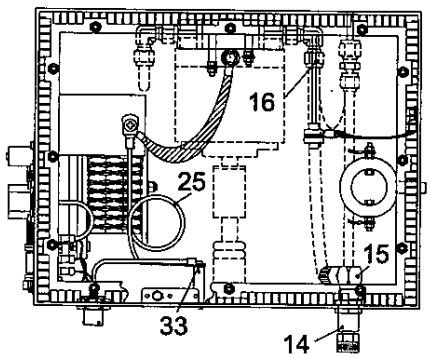


SIDE COVER ASSY





VIEW ON ARROW 'A'



VIEW ON ARROW 'B'

Figure 26 CVD Mixed frequency RF enclosure assembly

SURFACE TECHNOLOGY SYSTEMS

1.27 CVD SS Wafer lift assembly undriven electrode.

Drawing Number TP307232 **Figure Number** 27 **STS Ref.** AS307232

Item	Description of Part	Part Number	Notes
1	Lift pedestal	110936E02	
2	Spring pin M3x12mm	4W1360	
3	Lift shaft	111023D02	
4	Nut, full M3	4P1400	
5	Washer, starlock M3	4N0400	
6	Socket head set screw M6x30mm	4A17A0	
7	Caphead screw M3x20mm	471480	
8	Stretch coupling assembly	A10935D02	
9	Cylinder mounting post	111026E01	
10	Cylinder locknut	111060E01	
11	Cylinder mounting plate	110587E01	
12	Caphead screw M3x20mm	471480	
13	Air cylinder	226738	
14	Banjo flow controller	264205	
15	Sensor bracket	226737	
16	Flying lead sensor	228026	