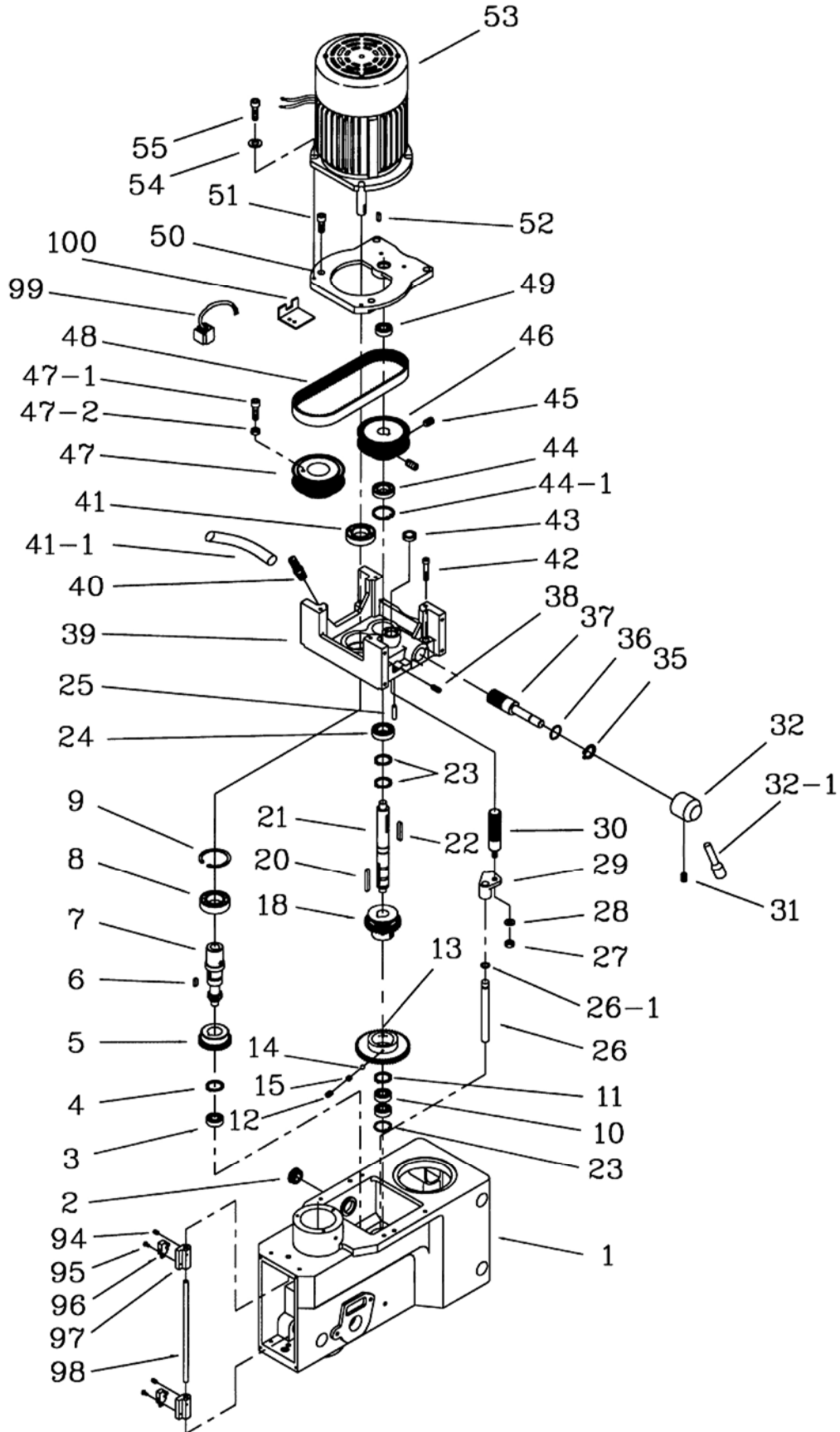


Top Head Assembly

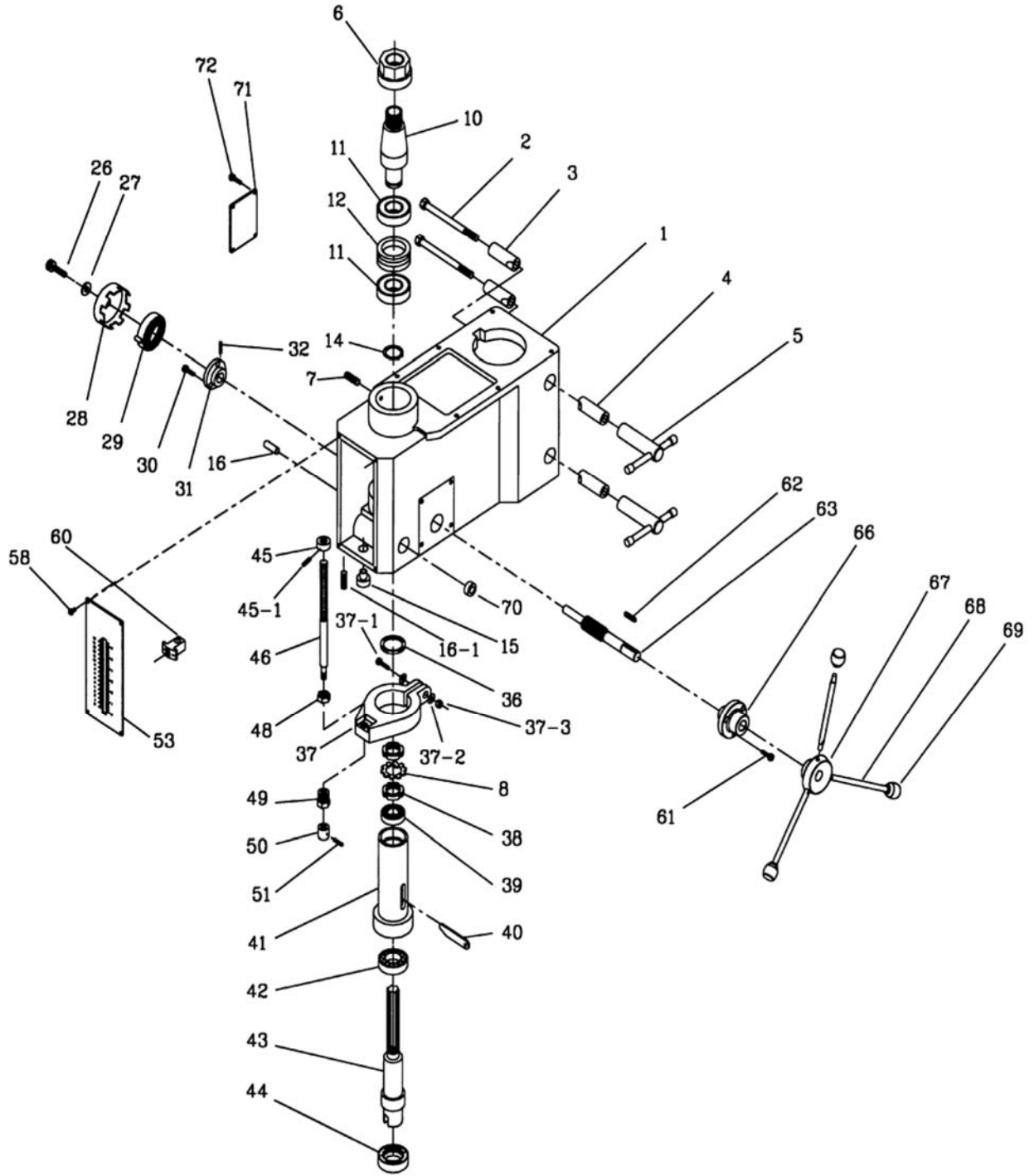


Parts List: Top Head Assembly

Index No.	Part No.	Description	Size	Qty
1	20EVS-T01	Head Body		1
2	20EVS-T02	Sight Glass		1
3	BB-6202Z	Ball Bearing	6202Z	1
4	20EVS-T04	C-Clip	S31	1
5	20EVS-T05	Gear	M=2,T=32	1
6	20EVS-T06	Key	6x6x20	1
7	20EVS-T07	Drive Shaft	M=2,T=13	1
8	BB-6007Z	Ball Bearing	6007Z	1
9	20EVS-T09	C-Clip	R62	1
10	BB-6202	Ball Bearing	6202	1
11	20EVS-T11	C-Clip	S48	1
12	20EVS-T12	Set Screw	3/8"x1"	2
13	20EVS-T13	Gear	M=2,T=56	1
14	20EVS-T14	Steel Ball	M8	2
15	20EVS-T15	Spring		2
18	20EVS-T18	Gear	M=2,T=36	1
20	20EVS-T20	Key	7x7x55	1
21	20EVS-T21	Shaft		1
22	20EVS-T22	Key	7x7x15	1
23	20EVS-T23	C-Clip	S25	3
24	BB-6005	Ball Bearing	6005	1
25	20EVS-T25	Taper Pin	5x38	2
26	20EVS-T26	Rod		1
26-1	20EVS-T26-1	Oil Ring		1
27	20EVS-T27	Hex Nut	M10xP1.5	1
28	20EVS-T28	Lock Washer	M10	1
29	20EVS-T29	Speed Change Block		1
30	20EVS-T30	Screw Bar		1
31	20EVS-T31	Set Screw	3/8"x3/8"	1
32	20EVS-T32	Speed Lever		1
32-1	20EVS-T32-1	Handle		1
35	20EVS-T35	C-Clip	R30	1
36	20EVS-T36	Oil Ring	30x17x7	1
37	20EVS-T37	Gear Shaft		1
38	TS-1523031	Set Screw	M6x10	1
39	20EVS-T39	Gear Box		1
40	20EVS-T40	Oil Filter	3/8"x3/8"	1
41	20EVS-T41	Oil Seal	62x35x10	1
41-1	20EVS-T41-1	Tube		1
42	TS-1504091	Hex Socket Cap Screw	M8x45	4
43	20EVS-T43	Oil Seal		1
44	20EVS-T44	Oil Seal	25x47x28	1
44-1	20EVS-T44-1	C-Clip	R47	1
45	20EVS-T45	Set Screw	5/16"x3/8"	2
46	20EVS-T46	Drive Pulley	M=2,T=35	1
47	20EVS-T47	Spindle Pulley		1
47-1	20EVS-T47-1	Hex Socket Cap Screw	3/4"x3/16"	1
47-2	TS-0561081	Nut	3/4"	1
48	20EVS-T48	Belt	680xM8	1
49	BB-6202	Ball Bearing	6202	1
50	20EVS-T50	Motor Base		1
51	20EVS-T51	Screw	M8x20	4
52	20EVS-T52	Key	6x6x20	1

Index No.	Part No.	Description	Size	Qty
53	20EVS-230V	Motor	2HP, 3Ph, 230V	1
	20EVS-460V	Motor	2HP, 3Ph, 460V	1
	20EVS-230VF	Fan (not shown)	230V	1
	20EVS-460VF	Fan (not shown)	460V	1
	20EVS-460VFC	Fan Cover (not shown)		1
54	TS-1550051	Lock Washer	M8	3
55	TS-1515031	Hex Socket Cap Screw	M8x25	4
94	20EVS-T94	Set Screw	1/4"x1/4"	4
95	20EVS-T95	Cross Head Screw	M3x16	4
96	20EVS-T96	Micro Switch		2
97	20EVS-T97	Micro Switch Bracket		2
98	20EVS-T98	Micro Switch Support Rod		1
99	20EVS-T99	Induction Switch		1
100	20EVS-T100	Switch Support Plate		1

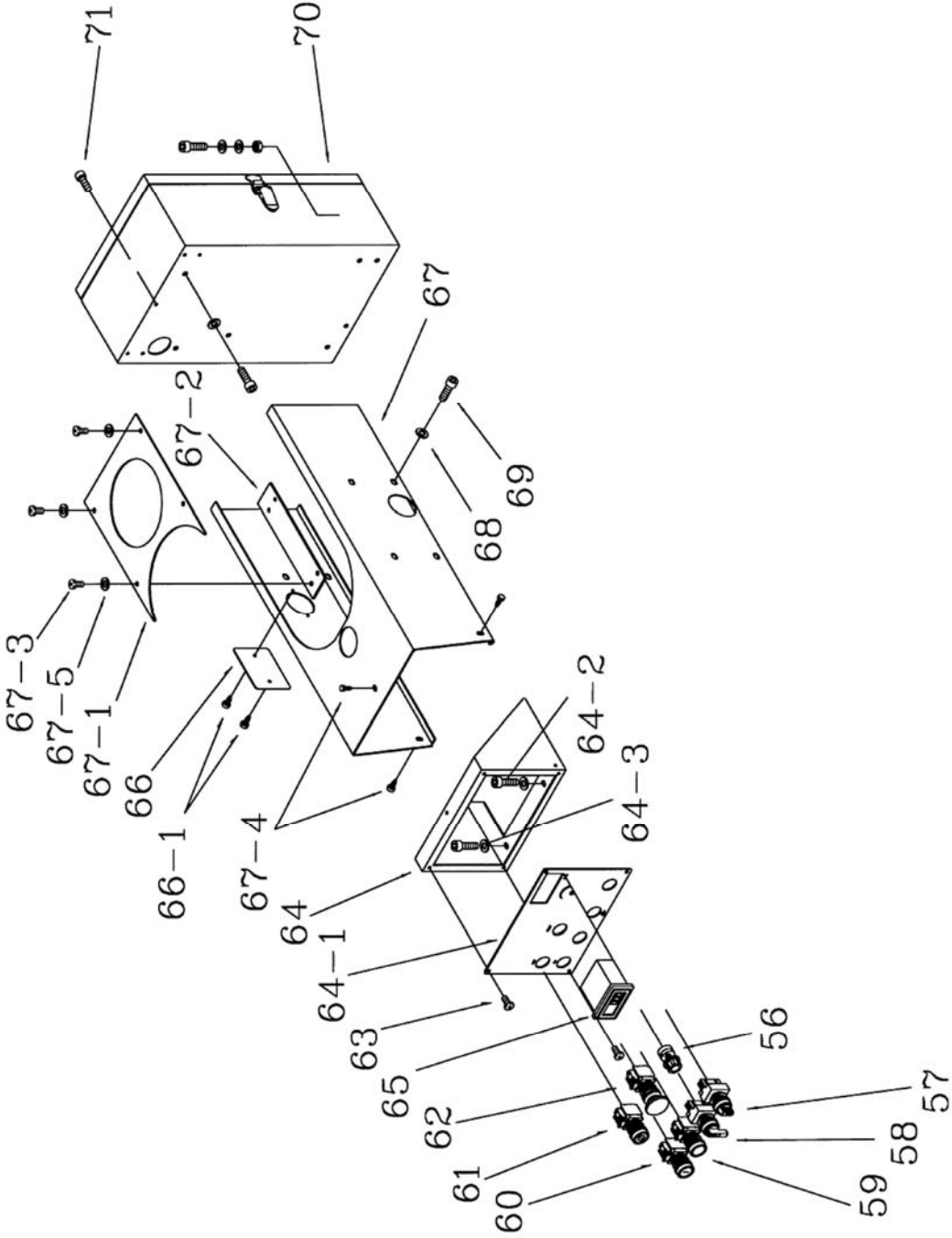
Head Assembly



Parts List: Head Assembly

Index No.	Part No.	Description	Size	Qty
1	20EVS-T01	Head Body		1
2	20EVS-H2	Hex Head Bolt	1/2"x4-1/2"	2
2-1	20EVS-H2-1	Spring		2
3	20EVS-H3	Left Lock Sleeve		2
4	20EVS-H4	Right Lock Sleeve		2
5	20EVS-H5	Lock Handle		1
5-1	20EVS-H5-1	Nut	1/2"	2
6	20EVS-H6	Top Nut		1
7	TS-1524031	Set Screw	M8x12	1
8	20EVS-H8	Star Washer		1
10	20EVS-H10	Spindle Taper Sleeve		1
11	BB-6009ZR	Ball Bearing	6009ZR	2
12	20EVS-H12	Bearing Spacer		1
14	20EVS-H14	C-Clip	S45	1
15	20EVS-H15	Screw Bushing		1
16	20EVS-H16	Quill support Block		1
16-1	20EVS-H16-1	Set Screw	M8x10	1
26	20EVS-H26	Screw		1
27	TS-0680041	Washer	3/8"x1"	1
28	20EVS-H28	Spring Cover w/Spring #29		1
29	20EVS-H29	Spring		1
30	20EVS-H30	Screw	3/16"x1/2"	3
31	20EVS-H31	Spring Base		1
32	20EVS-H32	Spring Pin		1
36	20EVS-H36	Rubber Spacer		1
37	20EVS-H37	Feed Base (serial no. 4030413 and higher)		1
37-1	20EVS-H37-1	Hex Cap Bolt	1/4"x2"	1
37-2	TS-0720071	Spring Washer	1/4"	2
37-3	TS-0561011	Nut	1/4"	1
37-4	20EVS-H37-4	Screw	1/4"x5/16"	1
38	20EVS-H38	Jam Nut		2
39	20EVS-H39	Taper Roller Bearing	30206	1
40	20EVS-H40	Taper Arbor		1
41	20EVS-H41	Quill		1
42	20EVS-H42	Taper Roller Bearing	30207	1
43	20EVS-H43	Spindle Shaft		1
44	20EVS-H44	Oil Seal	72x45x8	1
45	20EVS-H45	Set Position Block (serial no. 4030413 and higher)		1
45-1	TS-1521011	Set Screw	M4x4	1
46	20EVS-H46	Scale Rod (serial no. 4030413 and higher)		1
50	20EVS-H50	Set Knob (serial no. 4030413 and higher)		1
51	TS-2276081	Set Screw	M6x8	1
53	20EVS-H53	Graduated Dial Label		1
58	20EVS-H58	Cross Cap Screw	3/16"x3/8"	4
60	20EVS-H60	Limit Block		1
61	20EVS-H61	Hex Socket Cap Screw	M8x25	3
62	20EVS-H62	Key	6x6x20	1
63	20EVS-H63	Pinion Shaft		1
66	20EVS-H66	Flange		1
67	20EVS-H67	Handle Hub		1
68	20EVS-H68	Handle Rod		3
69	20EVS-H69	Knob		3
70	20EVS-H70	Oil Cap		2
71	20EVS-H71	Cover		1
72	20EVS-H72	Cross Cap Screw	1/4"x1/2"	4

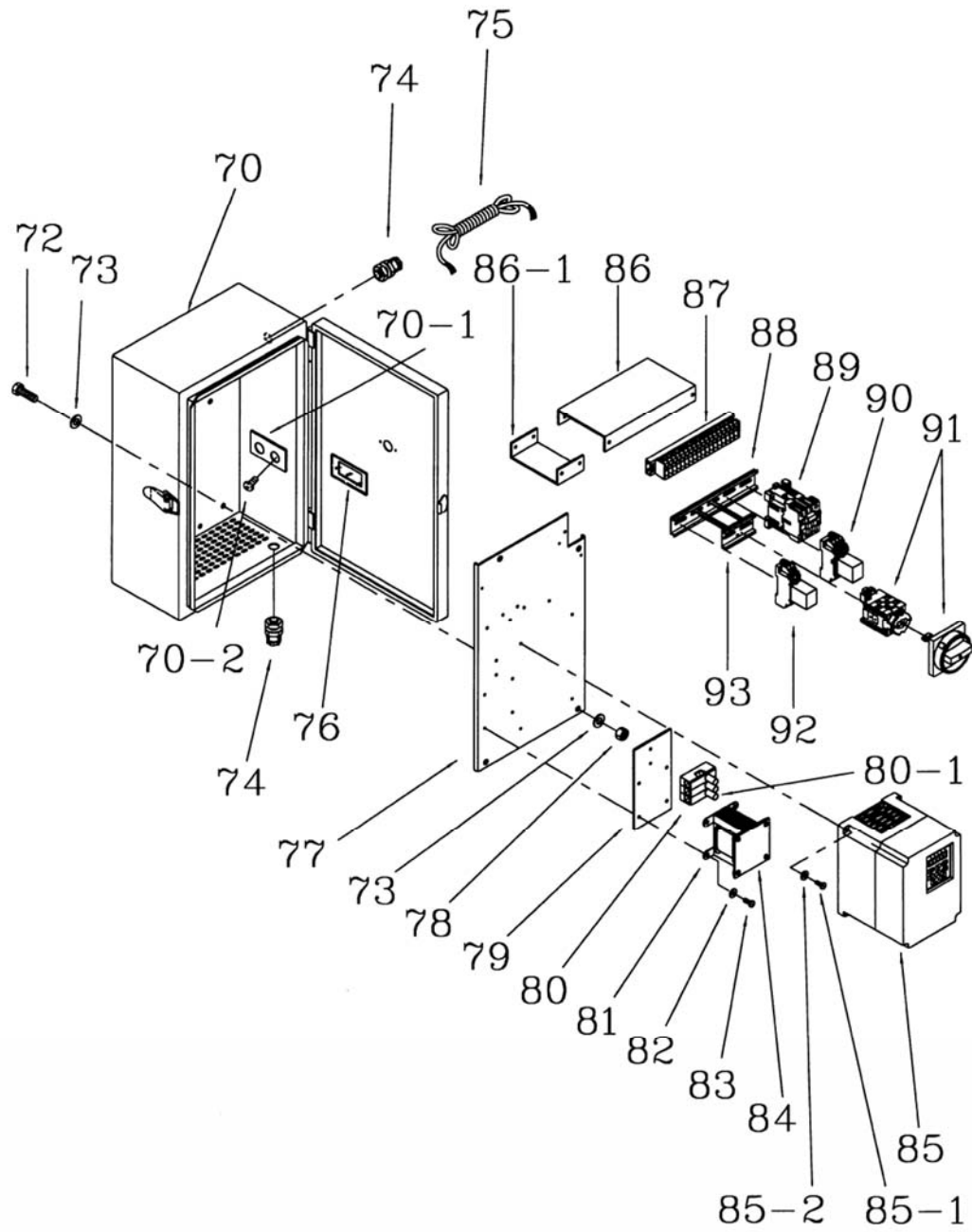
Control Panel Assembly



Parts List: Control Panel Assembly

Index No.	Part No.	Description	Size	Qty
56	20EVS-T56	Speed Control Knob		1
57	20EVS-T57	Drill/Tap Switch		1
58	20EVS-T58	Pump Switch		1
59	20EVS-T59	Reverse Switch		1
60	20EVS-T60	Start Switch		1
61	20EVS-T61	Stop Switch		1
62	20EVS-T62	Emergency Switch		1
63	20EVS-T63	Screw		4
64	20EVS-T64	Plate Bracket		1
64-1	20EVS-T64-1	Control Panel I.D.		1
64-2	TS-1515031	Hex Socket Cap Screw	M8x20	2
64-3	20EVS-T64-3	Washer	M8	2
65	20EVS-T65	Digital Readout Assembly		1
66	20EVS-T66	Oil Filler Cover		1
66-1	20EVS-T66-1	Cross Head Screw	3/16"x3/8"	2
67	20EVS-T67	Pulley Cover		1
67-1	20EVS-T67-1	Top Cover		1
67-2	20EVS-T67-2	Fixed Plate		2
67-3	20EVS-T67-3	Cross Head Screw	3/16"x3/8"	11
67-5	20EVS-T67-5	Washer	3/16"	8
68	TS-1551061	Spring Washer	M8	8
69	TS-1515011	Hex Socket Cap Screw	M8x12	8
70	20EVS-T70	Electric Control Box w/Door and Latch <i>(serial no. 3040097 and higher on the 460V model)</i>		1
71	TS-1515011	Hex Socket Cap Screw	M8x12	4

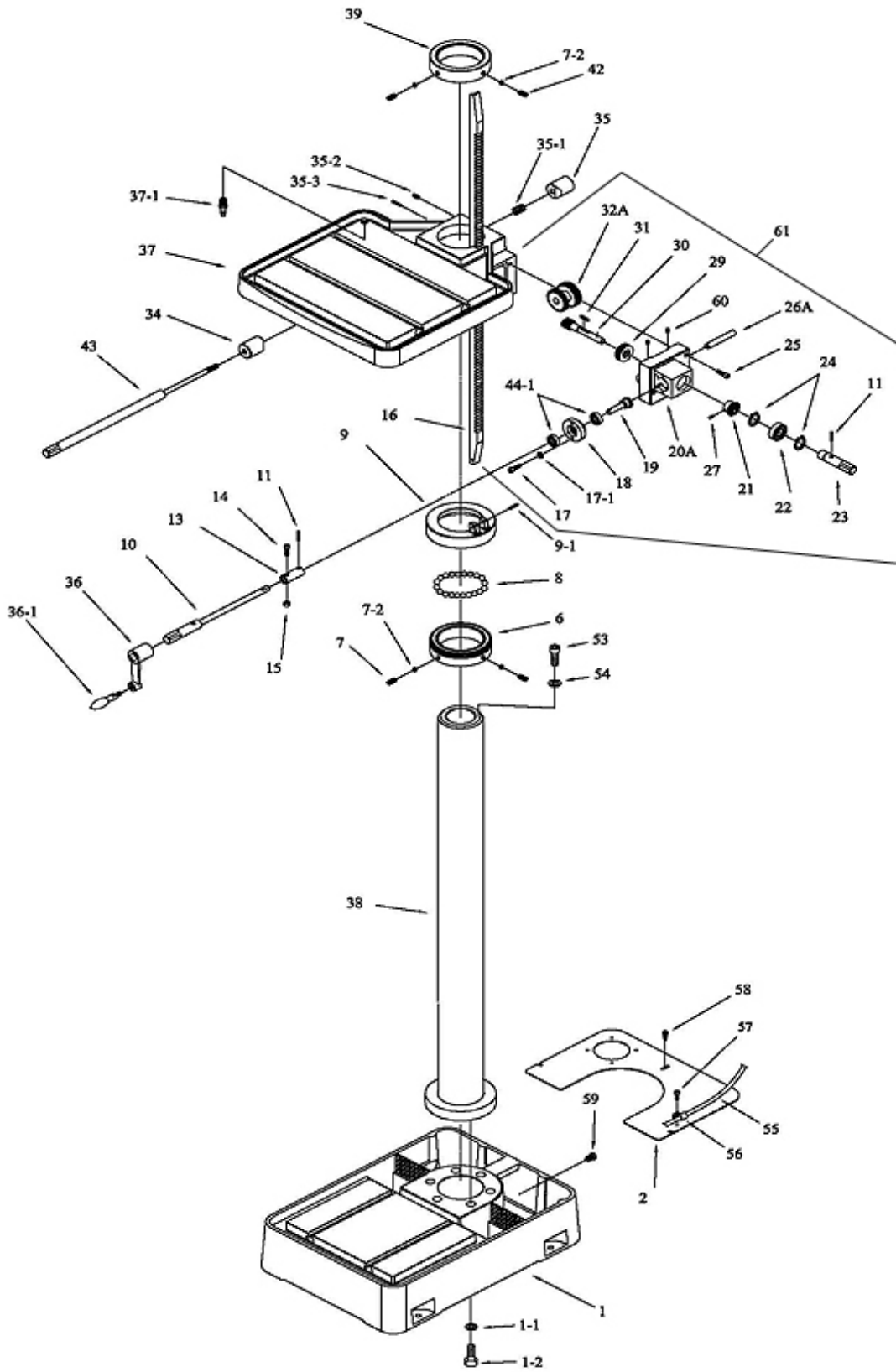
Electrical Cabinet Assembly



Parts List: Electrical Cabinet Assembly

Index No.	Part No.	Description	Size	Qty
70	20EVS-T70	Electric Control Box w/Door and Latch <i>(serial no. 3040097 and higher on the 460V model)</i>		1
70-1	20EVS-T70-1	Brass Plate		1
70-2	20EVS-T70-2	Screw		4
72	20EVS-T72	Hex Cap Bolt	5/16"x1"	3
73	TS-0680031	Washer	5/16"	6
74	20EVS-T74	Cable Relief		2
75	20EVS-T75	Electric Cable	1.25MM^2	1
76	20EVS-T76	Plastic Plate		1
77	20EVS-T77	Electric Base Plate		1
78	TS-0570021	Nut	5/16"	3
79	20EVS-T79	Insulation Board		1
80	20EVS-T80	Fuse (0.5A)		2
80-1	20EVS-T80-1	Fuse (2A)		1
81	20EVS-T81	Transformer		1
82	TS-1550031	Washer	M5	4
83	20EVS-T83	Screw	M5x10	4
84	20EVS-T84	Insulation Board		1
85	VFD-B-230V	Delta Inverter (for 230V) <i>(serial no. 3040097 and higher)</i>		1
	VFD-B-460V	Delta Inverter (for 460V) <i>(serial no. 3040097 and higher)</i>		1
85-1	20EVS-T85-1	Screw	M4x20	4
85-2	20EVS-T85-2	Washer	M4	8
86	20EVS-T86	Connecting Board		1
86-1	20EVS-T86-1	Connecting Board (small)		1
87	20EVS-T87	Terminal Plate		1
88	20EVS-T88	Aluminum Rail Plate		1
89	20EVS-T89	Contactactor		1
90	20EVS-T90	Relay	250V	1
	20EVS-T90-460	Relay	460V	1
91	20EVS-T91	Safety Switch Assembly		1
92	20EVS-T92	Relay	250V	1
	20EVS-T92-460	Relay	460V	1
93	20EVS-T93	Aluminum Rail Plate (small)		1

Column/Table/Base Assembly

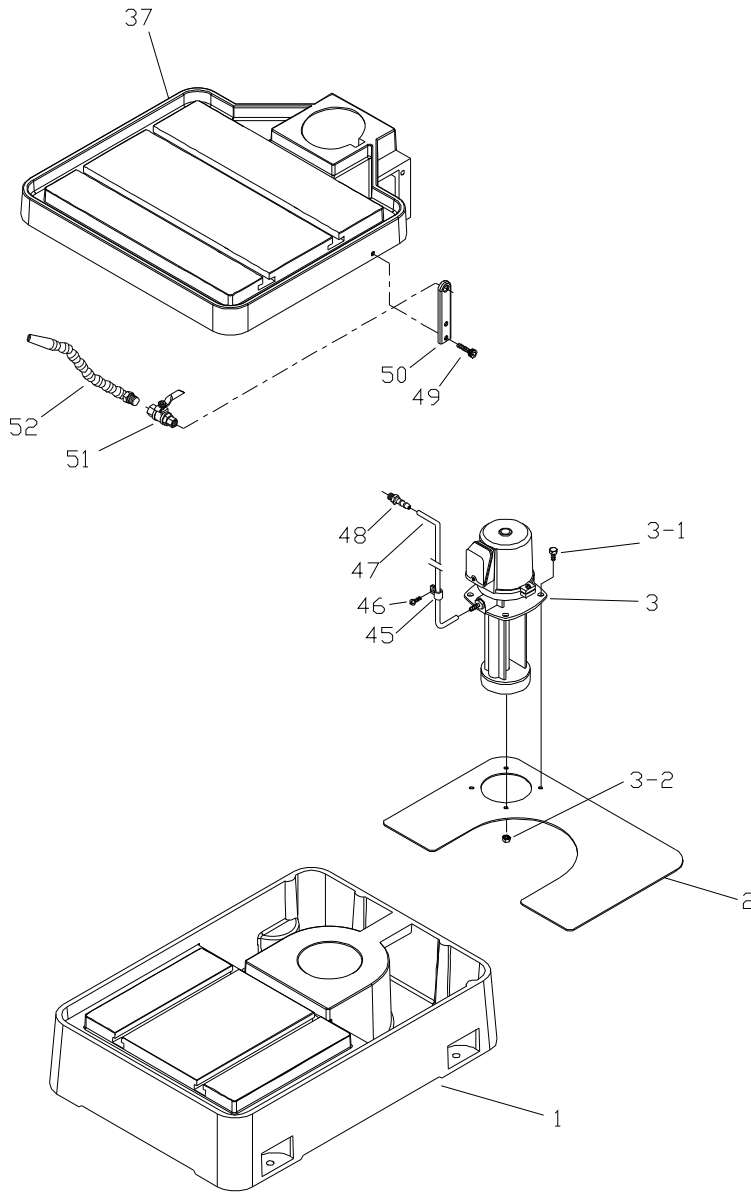


Parts List: Column/Table/Base Assembly

Index No.	Part No.	Description	Size	Qty
1	20EVS-C1	Coolant Base		1
	20EVS-C1N	Coolant Base (serial no. 7090372 and higher)		1
1-1	TS-0720111	Lock Washer	1/2"	6
1-2	TS-0070031	Hex Cap Screw	1/2" x 1-1/2"	6
2	20EVS-C2	Cover		1
6	20EVS-C6	Support Bearing Collar		1
	20EVS-C6-1	Support Bearing Collar (serial no. 7090372 and higher)		1
7	20EVS-C7	Set Screw	1/2"x3/4"	1
7-2	20EVS-C7-2	Brass Block		4
8	20EVS-C8	Steel Ball	M10	40
9	20EVS-C9	Column Bearing Collar		1
	20EVS-C9N	Column Bearing Collar (serial no. 7090372 and higher)		1
9-1	20EVS-C9-1	Screw	3/8"x1"	1
10	20EVS-C10	Crank Shaft w/ Connection Rod		1
11	20EVS-C11	Spring Pin	4x20	2
13	20EVS-C13	Sleeve		1
14	20EVS-C14	Hex Socket Cap Screw	1/4"x1-1/2"	1
15	TS-0561011	Hex Nut	1/4"	1
16	20EVS-C16	Rack		1
17	TS-1514031	Hex Socket Cap Screw	M6x20	2
17-1	TS-1541021	Spring Washer		2
18	20EVS-C18	Flange		1
19	20EVS-C19	Small Bevel Gear		1
20	20EVS-C20	Gear Bracket		1
20A	20EVS-C20A	Gear Bracket (serial no. 10120660 and higher)		1
21	20EVS-C21	Bevel Gear		1
22	BB-6005ZZ	Ball Bearing	6005ZZ	1
23	20EVS-C23	Crank Shaft		1
24	20EVS-C24	C-Clip	S25	2
25	TS-1515051	Hex Socket Cap Screw	M8x35	3
26	20EVS-C26	Shaft		1
26A	20EVS-C26A	Shaft (serial no. 10120660 and higher)		1
27	20EVS-C27	Set Screw	1/4" x 3/8"	1
29	20EVS-C29	Thrust Bearing	51102	1
30	20EVS-C30	Worm Shaft		1
31	20EVS-C31	Key	4x4x20	1
32	20EVS-C32	Gear		1
32A	20EVS-C32A	Gear Assembly (serial no. 10120660 and higher)		1
34	20EVS-C34	Lock Sleeve		1
35	20EVS-C35	Lock Sleeve (thread)		1
35-1	20EVS-C35-1	Spring		1
35-2	20EVS-C35-2	Set Screw	M6x25	1
35-3	20EVS-C35-3	Pin	5x25	1
36	20EVS-C36	Lift Handle Crank		1
36-1	20EVS-C36-1	Handle		1
37	20EVS-C37	Table		1
37-1	20EVS-C37-1	Hose Coupler	1/2"	1
38	20EVS-C38	Column		1
	20EVS-C38N	Column (serial no. 7090372 and higher)		1
39	20EVS-C39	Rack Collar		1
42	20EVS-C42	Set Screw	1/2"x3/4"	2
43	20EVS-C43	Connecting Rod (threaded)		1
44-1	BB-6202ZZ	Ball Bearing	6202ZZ	2
53	20EVS-C53	Hex Socket Cap Screw		1
54	20EVS-C54	Washer		1
55	20EVS-C55	Hose	1/2"	1
56	20EVS-C56	Clamp		1

Index No.	Part No.	Description	Size	Qty
57	20EVS-C57	Pan Head Screw		1
58	20EVS-C58	Pan Head Screw		1
59	20EVS-C59	Plug	3/8"PT	1
60	TS-1522021	Socket Set Screw	M5x8	2
61	20EVS-TRM	Table Raising Mechanism Assembly		1
	20EVS-SBCA	Support Bearing Collar Assembly (includes #6,7,7-2,8,9 and 9-1)		1

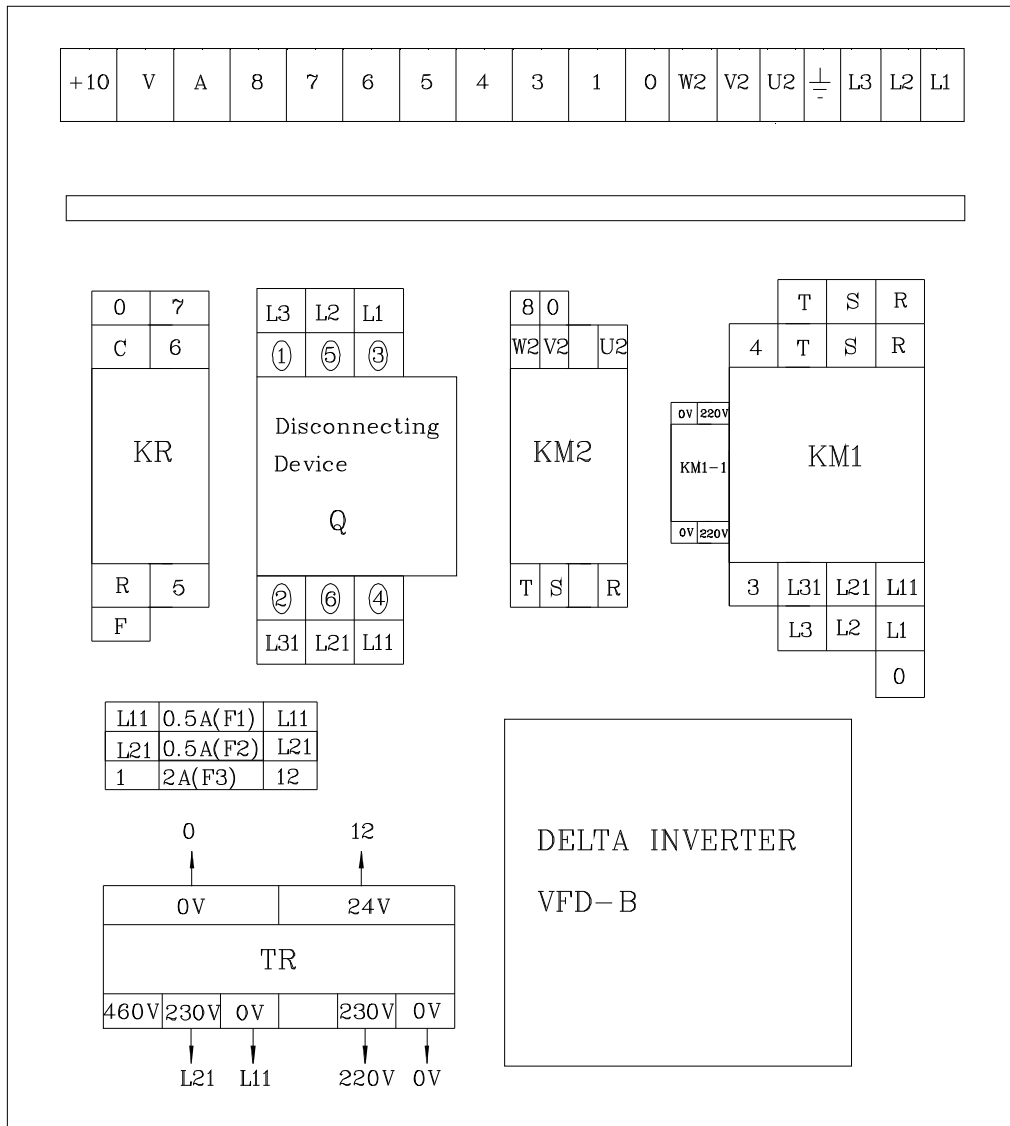
Coolant Pump Assembly



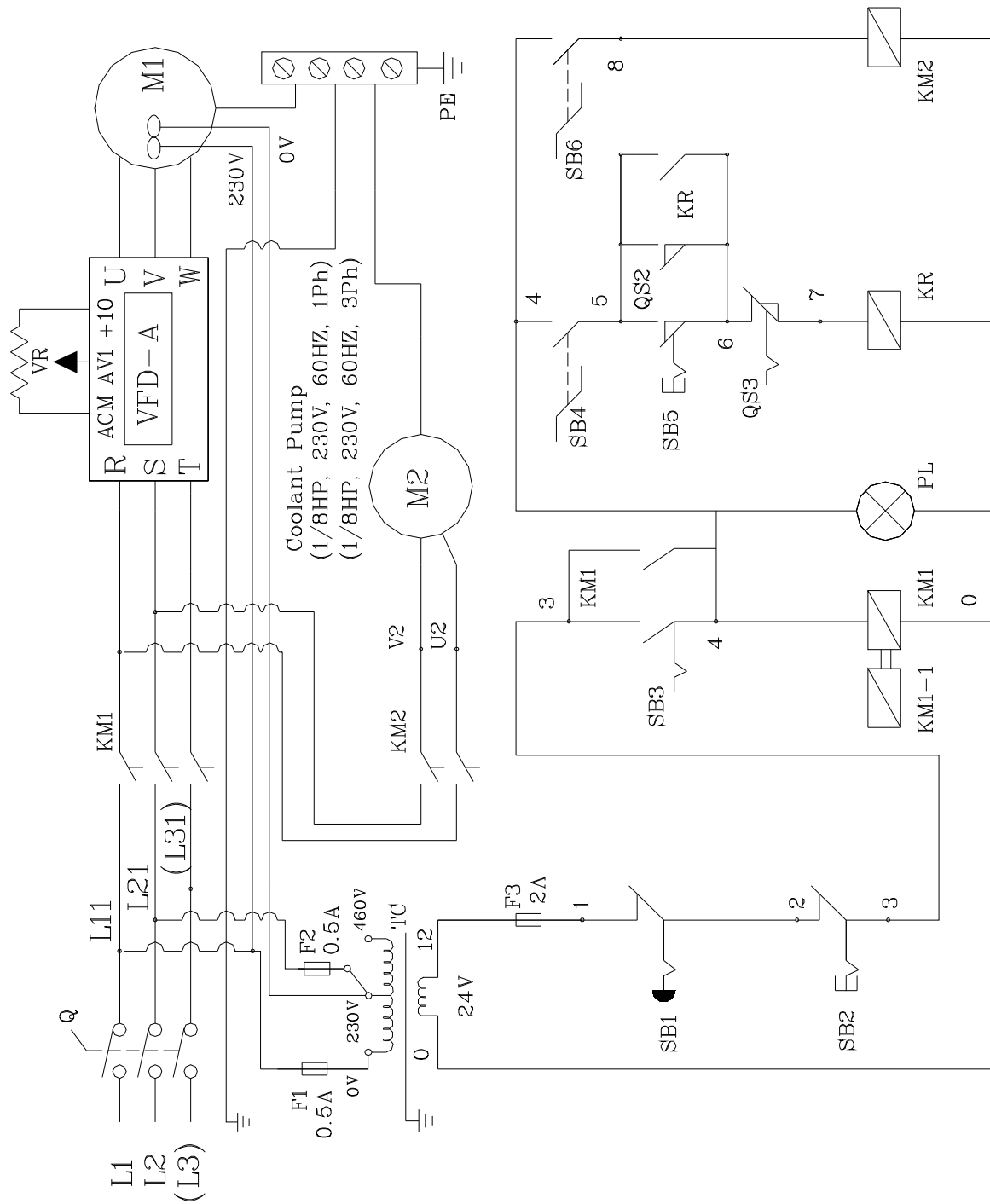
Index No.	Part No.	Description	Size	Qty
1.....	20EVS-C1.....	Coolant Base.....		1
2.....	20EVS-C2.....	Cover.....		1
3.....	20EVS-CP3PH.....	Coolant Pump.....	1/8 HP, 230V, 3 Ph.....	1
.....	20EVS-CP1PH.....	Coolant Pump.....	1/8 HP, 230V, 1 Ph.....	1
3-1.....	20EVS-C4.....	Hex Cap Bolt.....	1/4"x1/2".....	4
3-2.....	20EVS-C5.....	Hex Nut.....		4
37.....	20EVS-C37.....	Table.....		1
45.....	20EVS-C45.....	Clamp.....		1
46.....	20EVS-C46.....	Cross Cap Screw.....		1
47.....	20EVS-C47.....	Tube.....		1
48.....	20EVS-C48.....	Connector.....		1
49.....	TS-1515031.....	Hex Socket Cap Screw.....	M8x20.....	1
50.....	20EVS-C50.....	Support Plate.....		1
51.....	20EVS-C51.....	ON/OFF Valve.....		1
52.....	20EVS-C52.....	Nozzle.....		1

Electrical Cabinet

Index No.	Part No.	Description	Size	Qty
Q	20EVS-T91	Safety Switch Assembly	500Vac,16A	1
F1	20EVS-T80	Fuse	0.5A	1
F2	20EVS-T80	Fuse	0.5A	1
F3	20EVS-T80-1	Fuse	2A	1
KM1	20EVS-T89	Contactor		1
KM1-1	20EVS-T89-1	Connector		1
KM2	20EVS-T90	Relay	250V	1
	20EVS-T90-460	Relay	460V	1
KR	20EVS-T92	Relay	250V	1
	20EVS-T92-460	Relay	460V	1
TR	20EVS-T81	Transformer		1
VFD-B	VFD-B-230V	Delta Inverter (serial no. 3040097 and higher)	AC Motor	1
VFD-B	VFD-B-460V	Delta Inverter (serial no. 3040097 and higher)	AC Motor	1



Wiring Diagram – 230 Volt, 1 & 3 Phase



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