



MARKET FORGE

UNIVERSE PLUS STEL & STEM SERIES ELECTRIC TILTING SKILLETS PARTS AND SERVICE MANUAL

EFFECTIVE SEPTEMBER 22, 2014

Superseding All Previous Parts Lists.

The Company reserves the right to make substitution in the event that items specified are not available.

ERRORS: Descriptive and/or typographic errors are subject to correction.

MARKET FORGE

Telephone: (802) 658-6600 Fax: (802) 860-3732

www.marketforge.com

P/N 14-0383 Rev A (9/14)

TABLE OF CONTENTS

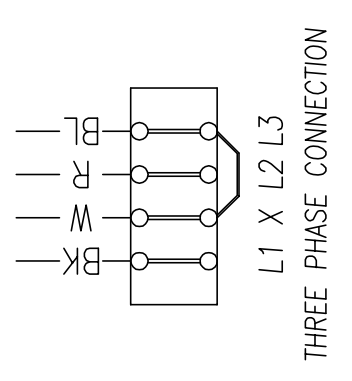
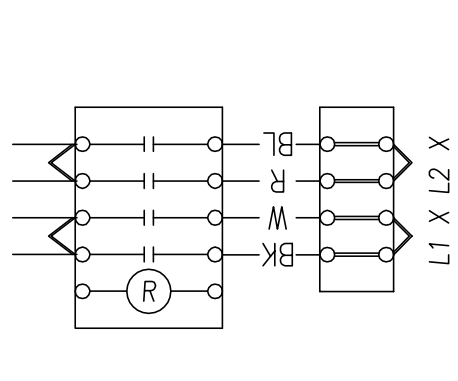
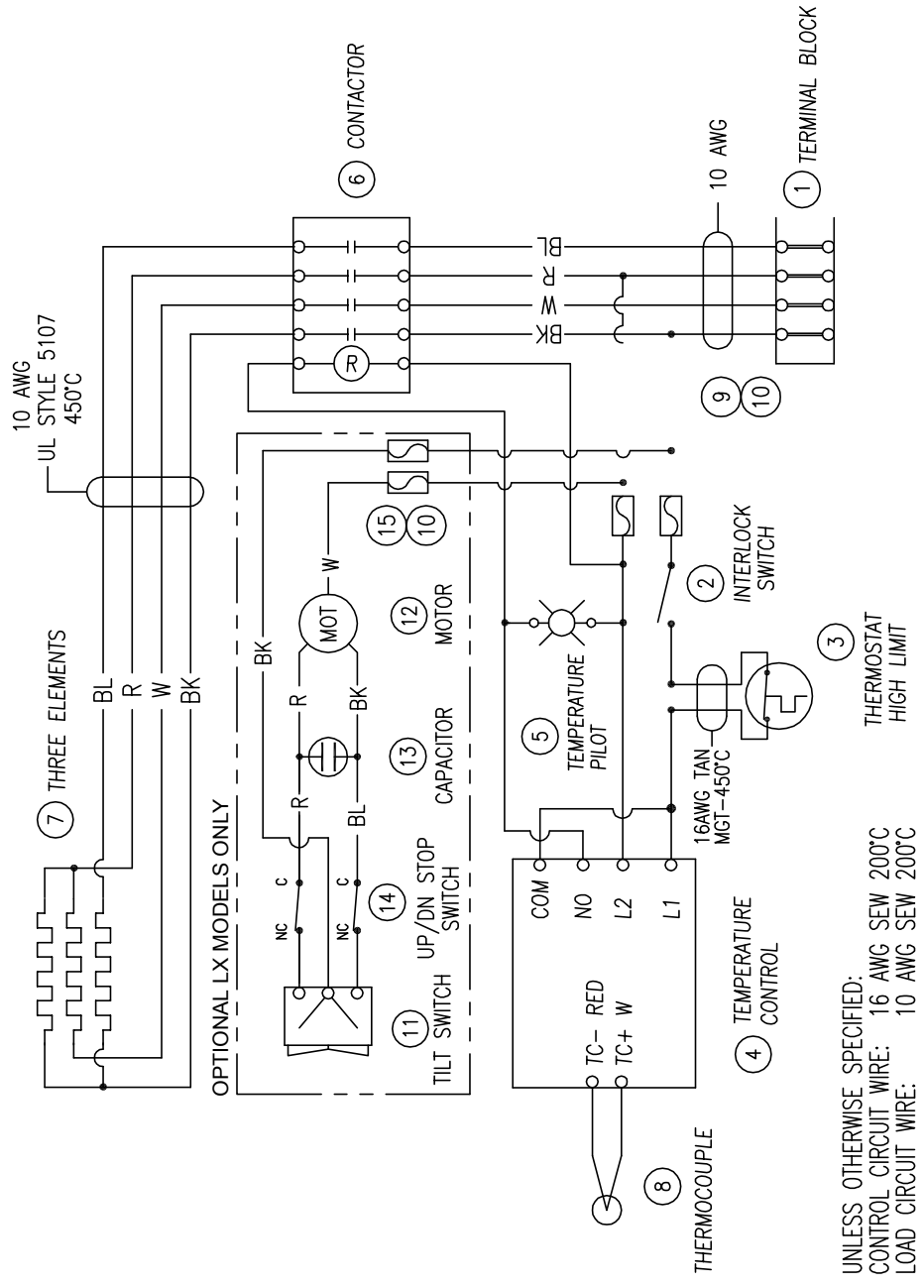
TROUBLESHOOTING	3
WIRING DIAGRAMS	
208, 220 AND 240 VOLT	4
2208/380 AND 240/415 VOLT	5
380, 415, 480 AND 600 VOLT	6
ILLUSTRATED PARTS LIST	
MAIN ASSEMBLY	7
CONTROL CIRCUIT COMPONENTS	10
DRAW OFF VALVE ASSEMBLY	11
OPTIONAL MOTOR TILT COMPONENTS (LX MODELS).....	12
HEATING ELEMENT PAN ASSEMBLY	14

TROUBLESHOOTING

PROBLEM	PROBABLE CAUSE	REMEDY
Uneven Heating	Defective element.	Replace element.
	Uneven torque of element clamp plate nuts.	Re-torque element clamp plate nuts on bottom of skillet. (5' pounds only/nut).
	Temperature control out of calibration or defective.	Calabrate or replace.
Signal Light Out	Burnt our bulb.	Replace.
	Defective temperature control or thermocouple.	Replace.
	Loose electrical connection.	Repair.
Unit Fails to Heat	Circuit breaker is off.	Reset circuit breaker.
	Malfunction of interlock switch.	Adjust or replace.
	Contactora does not pull in.	Replace Contactora.
	Defective temperature control or thermocouple.	Replace temperature control or thermocouple.

208, 220 AND 240 VOLT

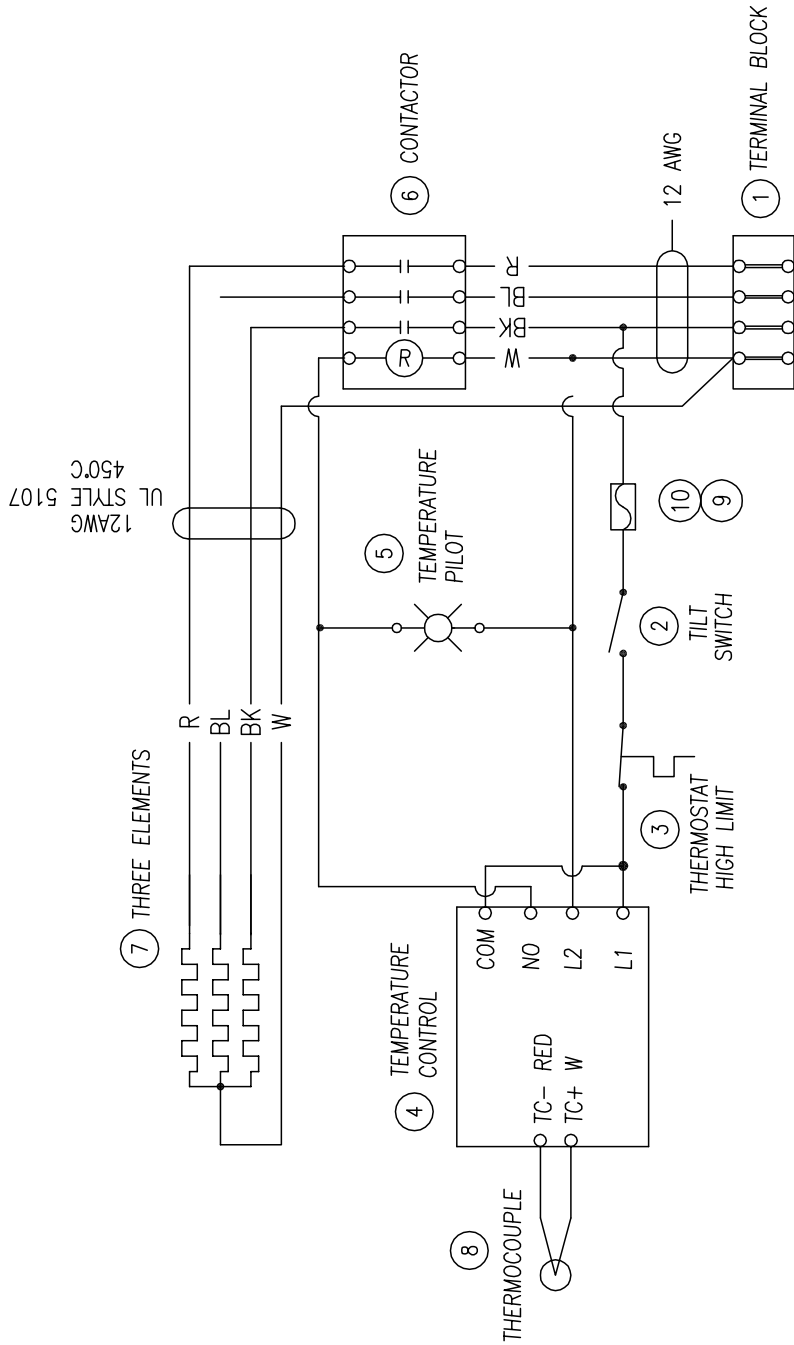
WIRING DIAGRAM



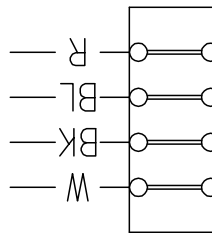
UNLESS OTHERWISE SPECIFIED:
 CONTROL CIRCUIT WIRE: 16 AWG SEW 200°C
 LOAD CIRCUIT WIRE: 10 AWG SEW 200°C

2208/380 AND 240/415 VOLT

WIRING DIAGRAM



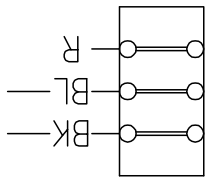
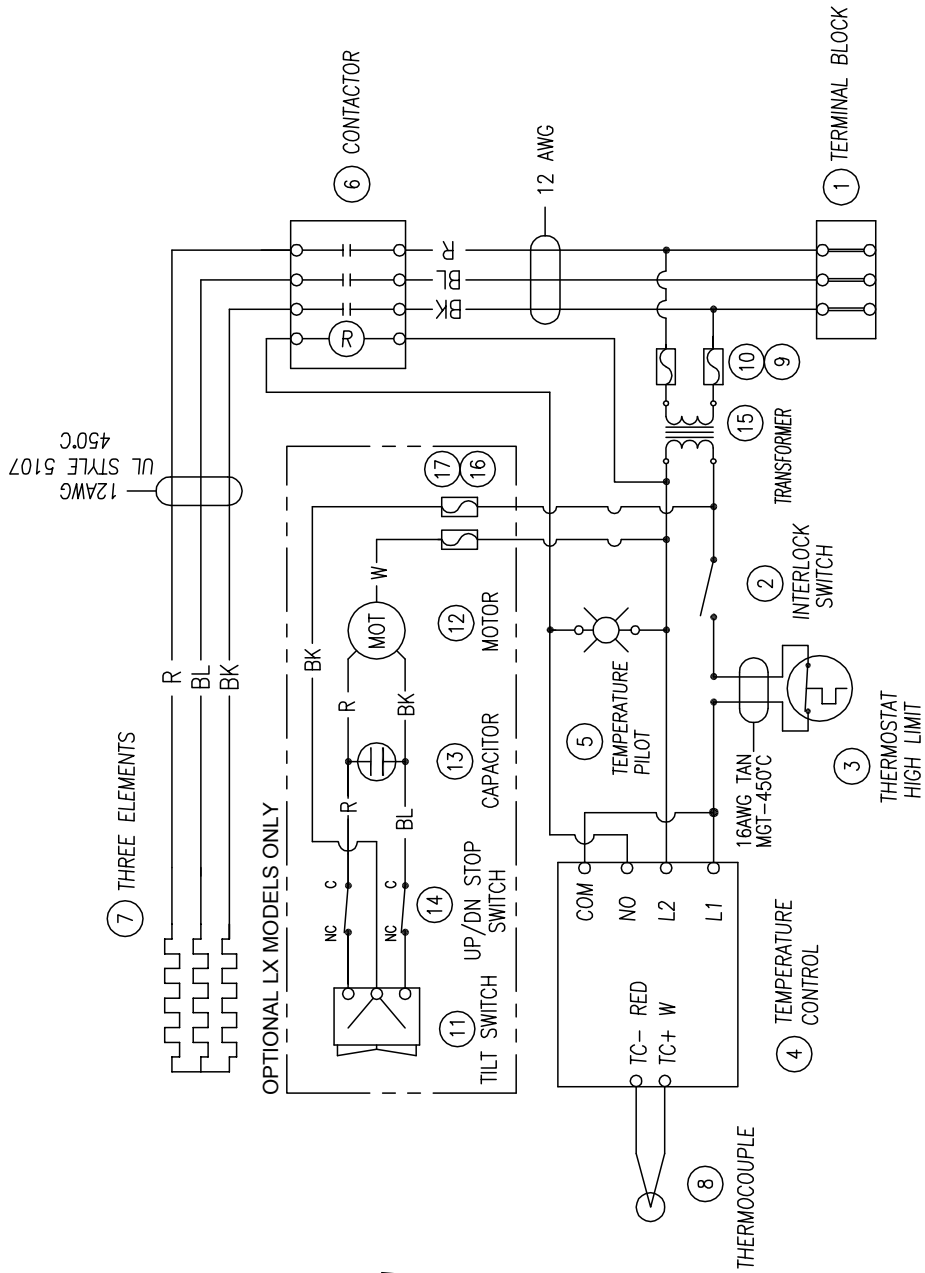
UNLESS OTHERWISE SPECIFIED:
 CONTROL CIRCUIT WIRE: 16 AWG SEW 200°C
 LOAD CIRCUIT WIRE: 12 AWG SEW 200°C



THREE PHASE CONNECTION

380, 415, 480 AND 600 VOLT

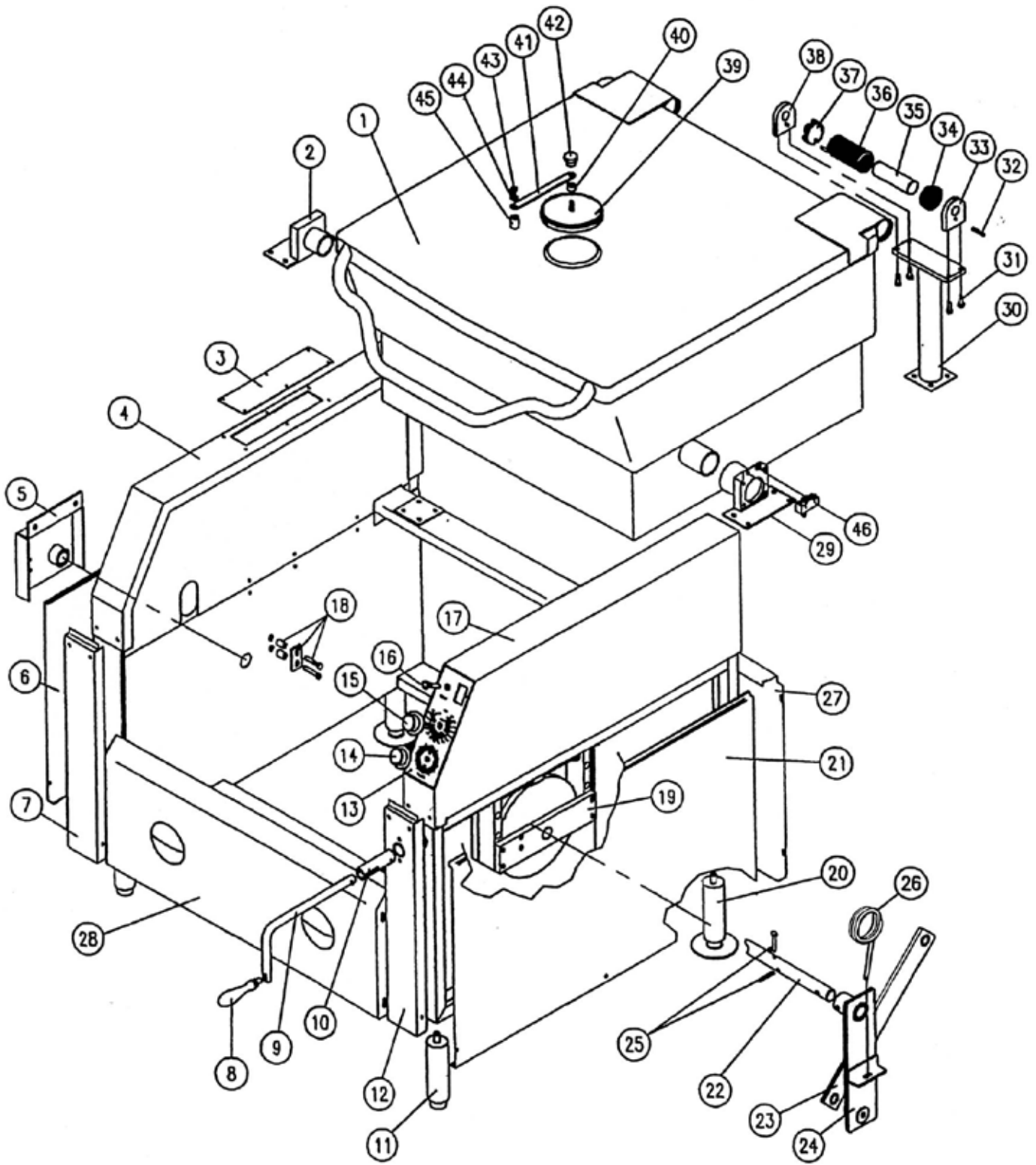
WIRING DIAGRAM



THREE PHASE CONNECTION
L1 L2 L3

UNLESS OTHERWISE SPECIFIED:
CONTROL CIRCUIT WIRE: 16 AWG SEW 200°C
LOAD CIRCUIT WIRE: 12 AWG SEW 200°C

MAIN ASSEMBLY



MAIN ASSEMBLY

ITEM	PART NO.	DESCRIPTION	30 GAL.	40 GAL.
1	98-6031	PAN COVER ASSEMBLY	1	
	98-6032	PAN COVER ASSEMBLY		1
2	98-6033	LEFT HAND TRUNNION ASSEMBLY	1	1
3**	98-6034	FAUCET COVER PLATE	1	1
	~NPN~	FAUCET MOUNTING PLATE PANTRY FAUCET	1	1
	~NPN~	FAUCET MOUNTING PLATE DOUBLE FAUCET	1	1
4	98-6035	LEFT HAND CONSOLE TOP COVER	1	1
5	98-6036	LEFT HAND CONSOLE TILT SHAFT BEARING BRACKET	1	1
6	98-6037	LOWER CONSOLE SIDE PANEL LEFT HAND	1	1
7	98-6038	LEFT HAND CONSOLE FRONT COVER	1	1
8	97-5577	GRIP HANDLE	1	1
9	98-6040	CRANK SHAFT	1	1
10	98-6041	INPUT SHAFT ADAPTOR	1	1
11	98-6042	ADJUSTABLE BULLET FOOT	2	2
12	98-6043	RIGHT HAND FRONT CONSOLE COVER	1	1
13	98-6044	DECAL	1	1
14	98-6045	TIMER COMPLETE WITH DIAL	1	1
15	98-6046	THERMOSTAT DIAL	1	1
*	98-6047	ROTARY SHAFT SEAL	1	1
16	98-6048	PILOT LIGHT - TEMPERATURE, RED	1	1
17	98-6049	RIGHT HAND CONSOLE TOP COVER	1	1
18	98-6050	SPRING RETAINER	2	2
*	98-6051	Hx. BOLT 3/8-16 x 1 1/2	4	4
*	98-6052	WASHER 3/8 STAINLESS STEEL	4	4
*	98-6053	SPACER	4	4
19	98-6054	GEAR BOX ASSEMBLY	1	1
19A	97-6396	WORM GEAR		
20	98-6055	FLANGE ADJUSTABLE FOOT	2	2
21	98-6056	LOWER CONSOLE SIDE PANEL RIGHT HAND	1	1
22	98-6057	TILT SHAFT	1	
	98-6058	TILT SHAFT		1
23	98-6059	TILT ARM EXTENSION	2	2
24	98-6060	ARM, LIFT	2	2
25	98-6061	ROLL PIN, 1/4 x 1 1/2 STAINLESS STEEL	2	2
	98-6062	Hx. BOLT 1/4 x 1 1/2 STAINLESS STEEL	2	2
26	91-9145	SPRING, RIGHT HAND	1	1
	91-9144	SPRING, LEFT HAND	1	1
27	98-6065	FLUE ASSEMBLY	1	
27	98-6066	FLUE ASSEMBLY		1

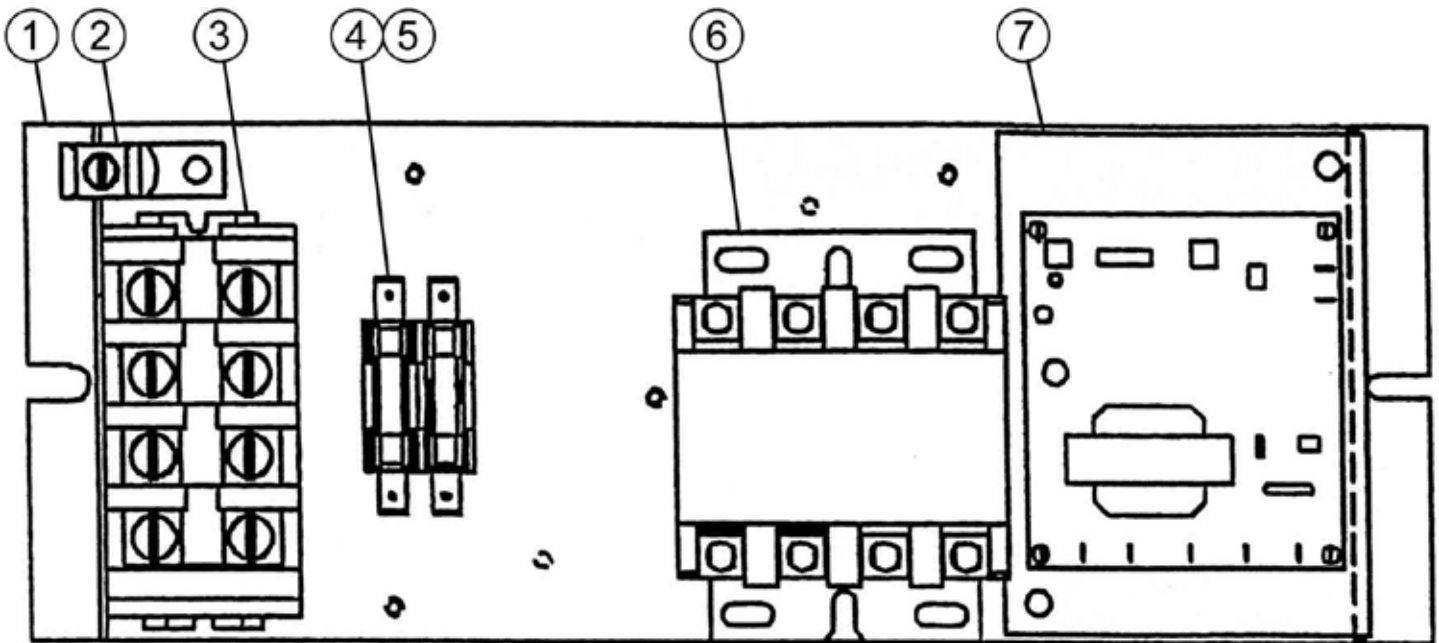
MAIN ASSEMBLY

ITEM	PART NO.	DESCRIPTION	30 GAL.	40 GAL.
	98-6066	FLUE ASSEMBLY		1
28	98-6067	RIGHT HAND TRUNNION ASSEMBLY	1	1
	98-6068	SWIVEL BRACKET	1	1
29	98-6069	LIQUID TIGHT CONNECTOR 1/2"	1	1
	98-6070	LOCKNUT 1/2"	1	1
30	97-5702	CORD SET	1	1
31	98-6072	POST ASSEMBLY	2	2
32	97-5545	CAP SCREW 5/16-18 x 3/4 STAINLESS STEEL	8	8
33	97-5352	LOCK PIN	2	2
34	97-5343	END LOCK PIN	2	2
35	98-6073	STATIONARY DISC	2	2
36	98-6074	CORE	2	2
37	97-5160	SPRING	2	2
38	98-6076	ROTARY DISC	2	2
39	97-5356	END STOP PLATE	2	2
40	98-6078	FRONT COVER PANEL (MODULAR UNITS)	1	
	98-6079	FRONT COVER PANEL (MODULAR UNITS)		1
41	98-6080	BACK COVER PANEL (MODULAR UNITS)	1	1
	98-6081	BACK COVER PANEL (MODULAR UNITS)		1
42	98-6082	VENT COVER	1	1
43	98-6083	SWIVEL SPACER	1	1
44	91-9262	ARM	1	1
45	98-6084	KNOB	1	1
46	98-6085	SWIVEL BASE	1	1
47	98-6086	WASHER 1/4 STAINLESS STEEL	1	1
48	98-6087	Hx. Hd. SCREW 1/4-20 x 3/8 STAINLESS STEEL	1	1
49*	98-6013	POUR LIP STRAINER	1	1

* NOT SHOWN

** SELECT AS REQUIRED

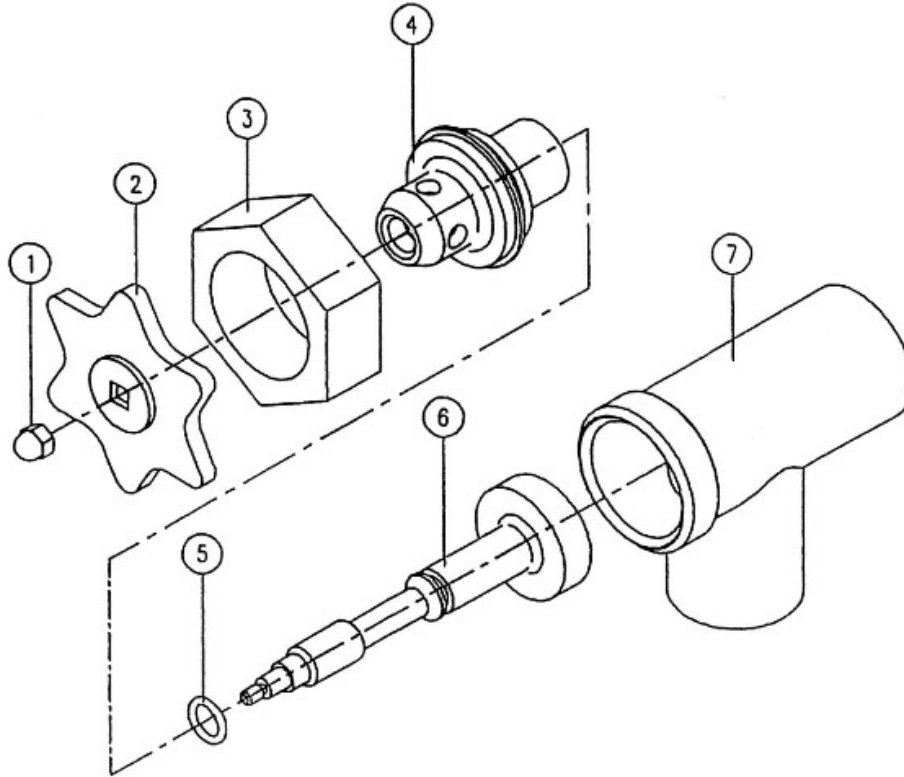
CONTROL CIRCUIT COMPONENTS



ITEM	PART NO.	DESCRIPTION	QTY
1	98-6131	COMPONENT MOUNTING BOARD	1
2	97-5441	GROUND LUG	1
3	97-4617	TERMINAL BLOCK SECTION ASSEMBLY	3
4	98-6132	FUSE HOLDER	1
5**	97-5476	FUSE, 3A, 250V (120V UNIT)	1
	98-6134	FUSE, 1A, 250V (220V UNIT)	1
6	98-6189	CONTACTOR (4) POLE	1
7	98-6190	TEMPERATURE CONTROL	1
8*	98-6138	TRANSFORMER, 220-120V, 100VA (220V UNIT) (NOT SHOWN)	1

** SELECT AS REQUIRED

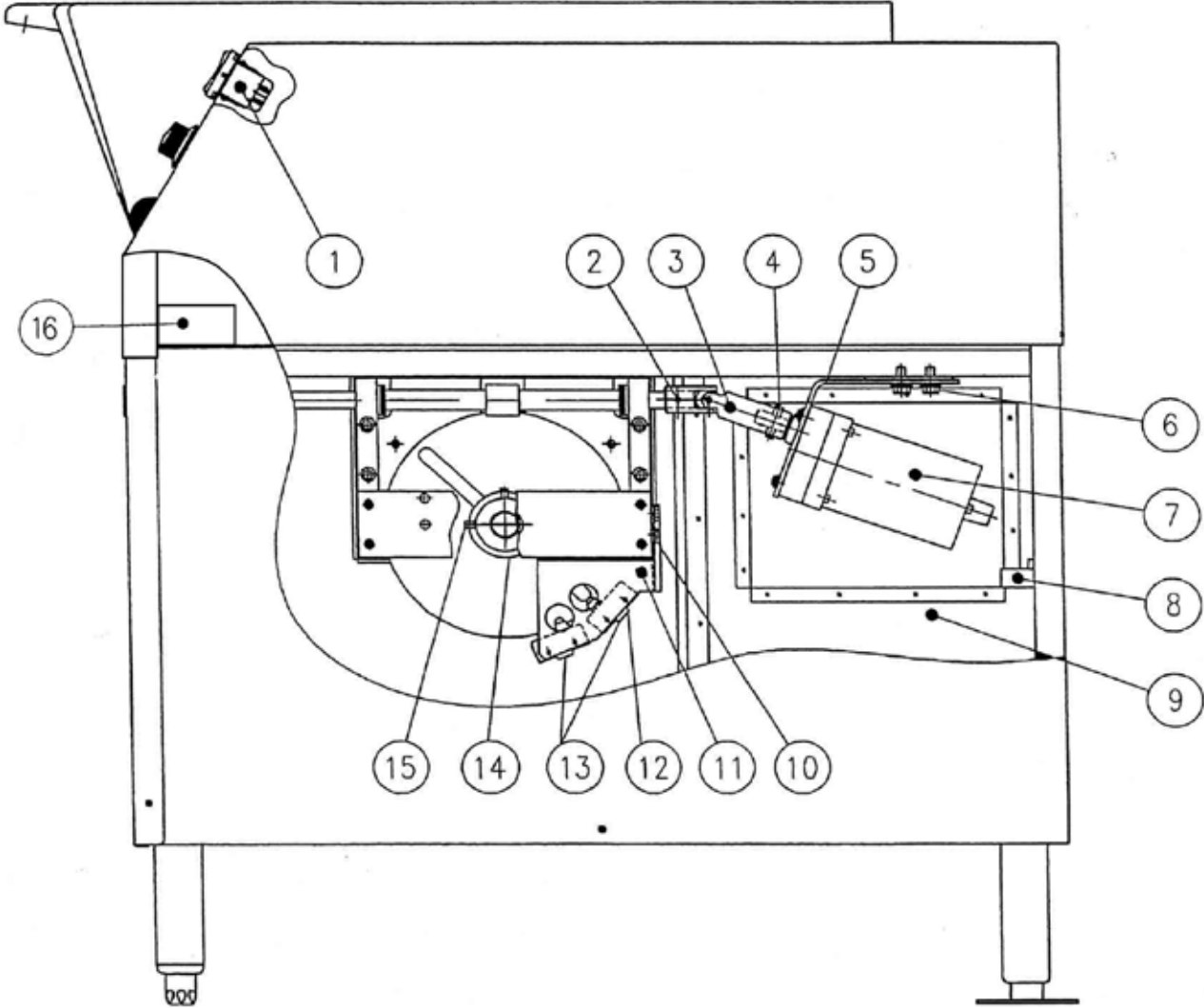
DRAW OFF VALVE ASSEMBLY



ITEM	PART NO.	DESCRIPTION	QTY
	98-6014	2" DRAW-OFF VALVE ASSEMBLY	
1	98-6155	ACORN NUT 10-24 UNC	1
2	97-5413	HANDLE STAINLESS STEEL	1
3	97-5069	GLAND NUT	1
4	97-5072	BONNET	1
5	97-5078	"O" RING	1
6	97-5075A	STEM ASSEMBLY	1
7	98-6156	VALVE BODY	1
8*	98-6010A	DRAW-OFF STRAINER (OPTIONAL)	1

* NOT SHOWN

OPTIONAL MOTOR TILT COMPONENTS (LX MODELS)

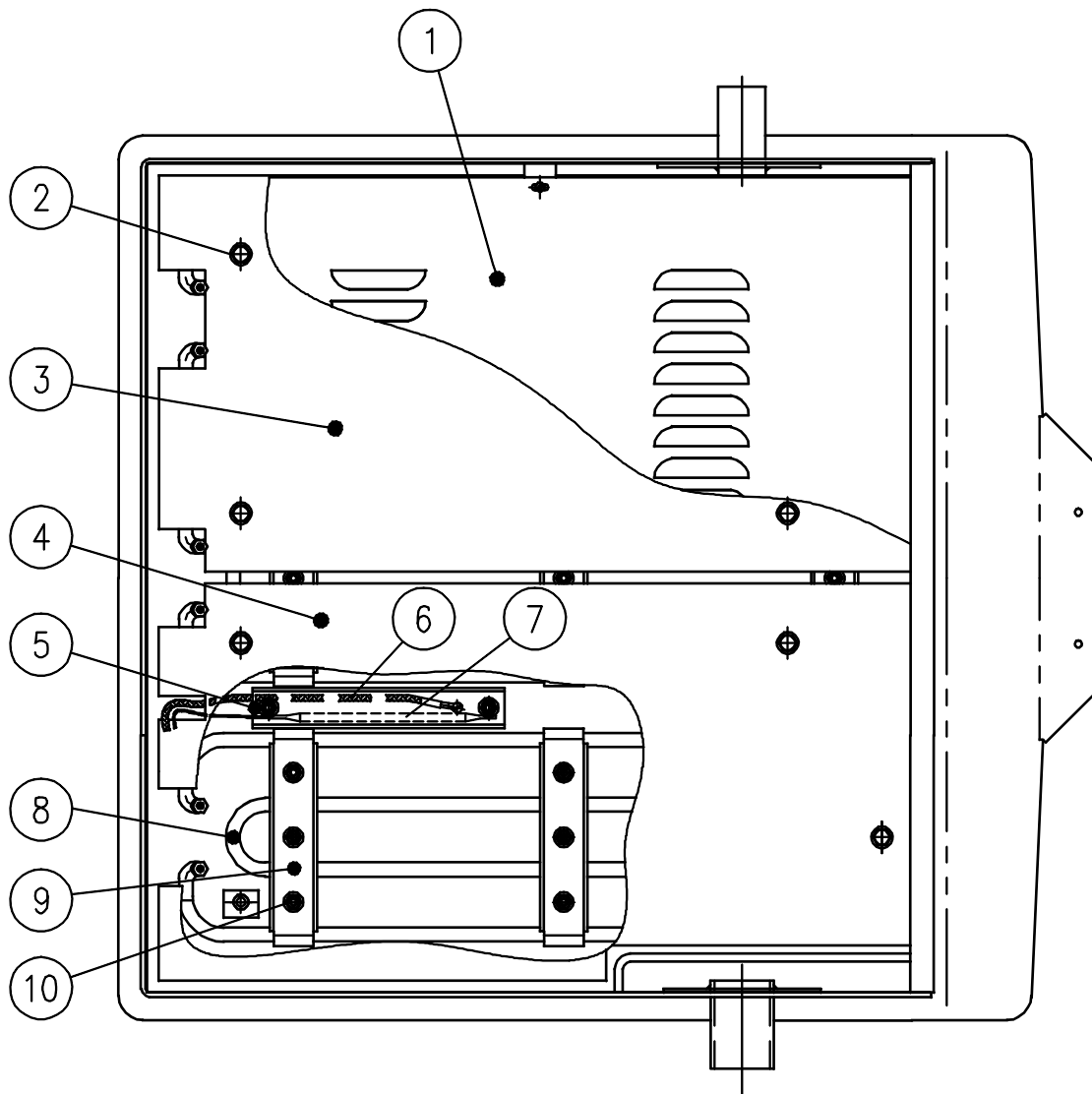


OPTIONAL MOTOR TILT COMPONENTS (LX MODELS)

ITEM	PART NO.	DESCRIPTION	QTY
1	98-6139	TILT SWITCH, (UP/DOWN)	1
2	97-5793	SPRING TENSION PIN 3/16 x 1 1/4 LONG	1
3	98-6140	UNIVERSAL JOINT	1
4	98-6141	SET SCREW 5/16-18 x 3/8	2
5	98-6142	MOTOR MOUNTING BRACKET	1
6**	97-5351	Hx. SCREW 5/16-18 x 3/4	3
	~NPN~	FLAT WASHER 5/16	3
	~NPN~	LOCK WASHER 5/16	3
7	98-6144	MOTOR 1/20 HP 230V	1
8	98-6146	CAPACITOR 440 VAC 2.0 MFD (230V MOTOR)	1
9	98-6147	MOTOR ACCESS PANEL	1
10	98-6148	Hx. BOLT 1/4-20 x 1/2	2
11	98-6149	SWITCH MOUNTING BRACKET	1
12	98-6150	SCREW 6-32 x 1	4
13	97-5414	LIMIT SWITCH	2
14	98-6151	CAM ACTUATOR	1
15	98-6152	SET SCREW 1/4-20 x 1/2"	2
16	97-5642	HIGH LIMIT THERMOSTAT (USED ON SERIAL #220700-237487)	1
	97-7382	HIGH LIMIT THERMOSTAT (USED ON SERIAL #234788 AND UP)	1
17**	98-6153	FUSE 3/4 AMP TIME DELAY (120V MOTOR) (NOT SHOWN)	1
	98-6154	FUSE 0.3A TIME DELAY 250V (230V MOTOR) (NOT SHOWN)	1
	98-6132	FUSE HOLDER (NOT SHOWN)	1

** SELECT AS REQUIRED

HEATING ELEMENT PAN ASSEMBLY



HEATING ELEMENT PAN ASSEMBLY

ITEM	PART NO.	DESCRIPTION	30 GAL.	40 GAL.
1	98-6163	BOTTOM COVER	1	
	98-6164	BOTTOM COVER		1
2	98-6165	HEX HD. BOLT, 1/4 - 20 x 7/8	8	8
3	98-6166	LEFT HAND ELEMENT INSULATION SHIELD (30 Gal.)	1	
	98-6167	LEFT HAND ELEMENT INSULATION SHIELD (40 Gal.)		1
4	98-6168	RIGHT HAND ELEMENT INSULATION SHIELD (30 Gal.)	1	
	98-6169	RIGHT HAND ELEMENT INSULATION SHIELD (40 Gal.)		1
5	98-6170	HIGH LIMIT BULB ENCLOSURE	1	1
6	97-6629	THERMOCOUPLE	1	1
7	97-5642	HIGH LIMIT THERMOSTAT	1	1
**8	98-6171	ELEMENT ASSEMBLY, 208V, 4KW	3	
	98-6172	ELEMENT ASSEMBLY, 220V, 4KW	3	
	98-6173	ELEMENT ASSEMBLY, 240V, 4KW	3	
	98-6174	ELEMENT ASSEMBLY, 277V, 4KW (USED ON 480 VOLT APPLICATION ONLY)	3	
	98-6175	ELEMENT ASSEMBLY, 347V, 4KW	3	
	98-6176	ELEMENT ASSEMBLY, 208V, 6KW		3
	98-6177	ELEMENT ASSEMBLY, 220V, 6KW		3
	98-6178	ELEMENT ASSEMBLY, 240V, 6KW		3
	98-6179	ELEMENT ASSEMBLY, 277V, 6KW (USED ON 480 VOLT APPLICATION ONLY)		3
	98-6180	ELEMENT ASSEMBLY, 347V, 6KW		3
9	98-6181	ELEMENT CLAMP (30 Gal.)	9	
	98-6182	ELEMENT CLAMP (40 Gal.)		9
10	98-6183	HEX NUT, 1/4 - 20	29	29
*11	97-6952	WIRE HARNESS , 480V	1	1

* NOT SHOWN

** Select as required.