eF Series® Turbo 400-500k BTU Input

Error Code	Definition	Service Action	Possible Parts Needed
No Display	No power to the unit or switch is off	• Verify proper supply voltage, grounding, and polarity • Check all electrical connections • Check power switch	1. Power switch 2. Control board 3. Display
A00	Extended Blocking (hold) fault - blocking fault present for more than 20 hours in a row	• Check the “E” fault history for the most recent blocking fault.	
A01	Ignition Lockout after 3 attempts	• Verify ignition sequence • Clean spark rod • Clean flame sensor	1. Burner 2. Spark rod 3. Control board
A05	Gas valve relay fault	• Check that the black and white wires to the quick connects are properly connected to the transformer. • Check that the black, white and green wires from the transformer are properly routed to J13 at the control board.	1. Transformer 2. Control board 3. Gas valve
A06	Safety relay fault	• Check all electrical connections • Verify proper supply voltage, grounding, and polarity	1. Control board
A08	Fan fault - fan speed more than 300 RPM from the target speed	• Verify proper supply voltage, grounding, and polarity • Check for vent/intake restriction • Clear condensate • Verify 13-30 VDC between red and blue wires on blower 5 wire communication harness • Check blower wire harness continuity and connections • Check blower modulation wire harness continuity and connections	1. Blower 2. Control board 3. Burner
A09-A14, A16, A19, A22, A23, A27-A30	Control board internal fault	• Verify proper supply voltage, grounding, and polarity • Check all electrical connections	1. Control board
A18	High water temp lockout (above 190F)	• Check if tank temperature exceeds setpoint • Measure resistance of temp sensor • Check wire harness and connections • Verify no heat migration in plumbing system	1. Tank temperature sensor 2. Control board
A20	Flame is detected 10 seconds after gas valve is closed	• Check flame sensor/wire for short, damage, or moisture	1. Flame sensor 2. Flame sensor wire
A21	Flame is detected before call for heat	• Check flame sensor/wire for short, damage, or moisture	1. Power switch flame sensor 2. Flame sensor wire
A24	Flame fail lockout - signal lost ten times during one call for heat	• Inspect flame sensor & wire, clean flame sensor • Check supply gas pressure static/dynamic • Inspect burner for debris • Check for vent/intake restriction • Clear condensate	1. Flame sensor 2. Flame sensor wire 3. Burner
A36	Blocked intake/exhaust lockout - E36 occurred 3 times in 10 minute period	• Verify if normally closed intake or exhaust pressure switch has opened • Check for vent/intake restriction • Check for condensate blockage • Verify vent length is within specification	1. Exhaust pressure switch 2. Intake pressure switch
A38	Low gas pressure lockout - E38 occurred 3 times in 10 minute period	• If gas supply pressure is above 3.5” W.C., verify the normally open gas pressure switch is closed. • Check supply gas pressure static/dynamic • Ensure proper gas line/regulator sizing	1. Supply gas pressure switch

eF Series® Turbo 400-500k BTU Input

Error Code	Definition	Service Action	Possible Parts Needed
E34 - E38 E43, E47	Control board internal fault	• Verify proper supply voltage, grounding, and polarity • Check all electrical connections • Eliminate/replace any components that are wet or damaged	1. Control board
E35	Flame sensed out of normal sequence	• Check flame sensor/wire for short, damage, or moisture	1. Flame sensor 2. Flame sensor wire
E36	Intake or exhaust NC pressure switch is open	• Verify if normally closed intake or exhaust pressure switch has opened • Check for vent/intake restriction • Check for condensate blockage • Verify vent length is within specification	1. Exhaust pressure switch 2. Intake pressure switch
E38	Low gas pressure	• If gas supply pressure is above 3.5" W.C., verify the normally open gas pressure switch is closed. • Check supply gas pressure static/dynamic • Ensure proper gas line/regulator sizing	1. Supply gas pressure switch
E39	Exhaust temperature limit	• Check if exhaust temperature is above 158°F • Measure resistance of exhaust temp sensor • Check for vent/intake restriction • Check for condensate blockage • Verify vent length is within specification	1. Exhaust temperature sensor
E44	Phase fault	• Verify proper supply voltage, grounding, and polarity • Check all electrical connections	1. Control board
E46	Earth ground fault	• Verify proper supply voltage, grounding, and polarity • Check all electrical connections	1. Control board
E51, E52	Water temperature sensor is open	• Measure resistance of water temp sensor • Check wire harness for damage, ensure connections are secure and free of moisture	1. Water temp sensor
E59, E60	Water temperature sensor is shorted	• Measure resistance of water temp sensor • Check wire harness for damage, ensure connections are secure and free of moisture	1. Water temp sensor
E65	Exhaust temperature sensor is shorted	• Measure resistance of exhaust temp sensor • Check wire harness for damage, ensure connections are secure and free of moisture	1. Exhaust temp sensor
E66	Display reset button ("i" button) error	• Check the display, wires, and connections for damage, ensure they are clean and free of moisture	1. Display
E72	Appliance SEL fault	• Control board and display mismatch. Verify the labels on the control board and display match.	1. Display 2. Control board
E76, E77, E79, E81	Blower Communication fault	• Verify proper supply voltage, grounding, and polarity • Check for vent/intake restriction • Clear condensate • Verify 13-30 VDC between red and blue wires on blower 5 wire communication harness • Check blower wire harness continuity and connections • Check blower modulation wire harness continuity and connections	1. Blower 2. Control board 3. Burner