Affinity®

Trouble Shooting Guide

FAA, 3-phase

(D3631)

Lydall®

Trouble Shooting Guide

Problem	Possible Cause	Possible Remedy
Unit does not start	No power to unit, breaker tripped	Verify power to unit, close breaker after correcting fault
	Low voltage	Check electrical service to unit
	Refrigeration high pressure cut-out tripped	Will automatically reset after correcting fault
	Loose wire	Check wiring after disconnecting power
	Defective contactor or coil	Repair or replace contactor or coil
	Loss of refrigerant	Repair leak, then recharge with type and amount of refrigerant specified on serial tag
	Compressor damaged	Replace compressor - Call Lydall
Unit does not cool	Compressor internal thermostat tripped	Allow time for compressor to cool and automatically reset
	Compressor damaged	Replace compressor - Call Lydall
	Room temperature exceeds 85EF, causing cooling capacity of unit to be derated	Improve ventilation/air-conditioning to maintain room temperature < 85EF
	Evaporator damaged	Call Lydall
	Microprocessor programmed incorrectly	Reprogram microprocessor, Call Lydall
	Cooling load exceeds capacity of unit	Reduce cooling load
	Microprocessor failure	Replace microprocessor
	Loss of refrigerant	Locate and repair leak, then recharge with type and amount of refrigerant specified on serial tag
	Refrigeration solenoid coil failure	Replace solenoid coil

Problem	Possible Cause	Possible Remedy
Unit does not cool (continued)	Solid State Relay failure	Replace Solid State Relay
	Solenoid valve stuck shut	Repair or replace solenoid valve
	Defective refrigeration low pressure cut-out	Repair or replace low pressure cut-out
	Malfunctioning thermal expansion valve	Replace thermal expansion valve
	Pump damaged, loss of flow	Replace pump
	Hot gas bypass valve setting too high	Call Lydall
	Hot gas bypass valve stuck open	Repair or replace valve
	Dirty condenser fins	Gently clean condenser fins
Pump leaks	Faulty pump casing	Replace pump assembly
	Shaft seal damaged	Replace shaft seal
	Pump housing O-Ring damaged	Remove pump and rebuild
	Improper fluid	Call Lydall
Excessive noise on Start-Up	Low voltage	Check electrical service
	Wrong voltage taps used on transformer	Connect to proper taps
	Contactor or coil failure	Replace contactor or coil
Pump motor overheats	Pump thermal overload protection set too high	Reset pump thermal overload relay or replace if faulty
	Improper voltage supplied	Correct voltage
Noisy compressor	Flooding of refrigerant into crankcase	Warm crankcase if unit has been off for a long period or has been left in a cool ambient for more than a few hours

Problem	Possible Cause	Possible Remedy
Noisy compressor (continued)	Worn compressor	Replace compressor - Call Lydall
	Refrigeration high pressure cut-out set too high	Adjust setting
	Refrigeration low pressure cut-out set too low	Adjust setting
Level light remains on	Low coolant level	Check for leaks then fill reservoir
	Reservoir level switch float stuck	Clean reservoir and level switch
	Time delay relay malfunction (when used)	Replace time delay relay
	Level switch failure	Replace level switch
Level light does not work	Time delay relay has not timed out (when used)	Wait for time delay relay to time out
	Lamp burned out	Replace lamp
	Level switch failure	Replace level switch
Fault light remains on	Low coolant flow	See Problem; Low coolant flow
	No coolant flow	See Problem; No coolant flow
	Flow switch sticking	Disassemble flow switch, clean, and reinstall or replace
Low coolant flow	Pump suction strainer clogged	Remove strainer, clean and reinstall or replace
	Pump rotating backwards	Reverse one electrical phase
	Flow control valve not fully open	Open flow control valve
	Pressure relief valve set too low (unless not adjustable)	Adjust pressure relief to specification
	Low coolant level in reservoir	Check for leaks, then fill reservoir

Problem	Possible Cause	Possible Remedy
Low coolant flow (continued)	Restriction in coolant lines external to chiller	Eliminate restrictions in coolant lines external to chiller
	Frozen evaporator	Call Lydall
	Flow switch clogged	Disassemble flow switch, clean, and reinstall or replace
No coolant flow	Pump not primed	Prime pump
	Pump suction strainer clogged	Remove and clean strainer, then reinstall
	No coolant in reservoir	Check for leaks, then fill reservoir
	Pump overload tripped	Wait 5 minutes for overload to reset
	Pump motor shaft bound to seal	Replace pump or renew seal
	Pump housing improperly torqued	Remove pump, torque to specifications, test, and reinstall
	Damaged pump	Replace pump
	Frozen evaporator	Call Lydall
	Clogged line or closed valve in external piping	Check external piping for dirt or closed valve
	Leak(s) in external piping	Check for leaks and repair if needed
Chiller shuts down during operation	Refrigeration high pressure cut-out set too low	Adjust and reset high pressure cut-out
	Refrigeration low pressure cut-out set too high	Adjust and reset low pressure cut-out
	Dirty condenser fins	Gently clean condenser fins
	Excess refrigerant charge	Remove excess refrigerant and recharge to specifications on serial tag

Problem	Possible Cause	Possible Remedy
Chiller shuts down during operation (continued)	Pump overload setting too low	Adjust and reset pump thermal overload relay to specifications, or replace if faulty
	Pump overload tripped	Determine reason for trip. If pump is damaged, repair or replace
	Low voltage	Check service to chiller
Temperature display reads incorrectly	Loose wire	Check wiring after disconnecting power
	Broken RTD	Replace RTD
	Microprocessor failure	Replace microprocessor
Too much recirculating pressure to process	Flow control valve set too high	Throttle flow control valve
	Pressure relief valve set too high (unless not adjustable)	Adjust pressure relief valve
Compressor turns on and off automatically	Discharge pressure too high	Determine cause and correct
	Condenser fan(s) not on	Check motor(s) and wiring
	Refrigeration high pressure cut-out set to automatic	Check settings
Chiller cools well below desired Set-Point	Microprocessor programmed incorrectly	Reprogram microprocessor - Call Lydall
	Malfunctioning solenoid valve	Repair or replace solenoid valve
	Solid State Relay failure	Replace Solid State Relay
	Microprocessor failure	Replace microprocessor
Compressor does not run	Compressor internal thermostat tripped	Allow time for compressor to cool and automatically reset
	Motor burned out	Replace - Call Lydall

Problem	Possible Cause	Possible Remedy
Microprocessor does not work	5 second delay has not timed out	Wait at least 5 seconds after turning on
	Microprocessor programmed incorrectly	Reprogram microprocessor - Call Lydall
	Microprocessor failure	Replace microprocessor