Aqua Guard®

Continuous, Self-Cleaning Bar/Filter Screen

Parts & Services 1 888 PARKSON (1-888-727-5766)

TROUBLESHOOTING GUIDE

SCREEN

ISSUE	POSSIBLE CAUSE	SOLUTION
Screen does not start	No power at the motor or at the control panel	Confirm that power is available • Turn disconnect switch and screen selector switch to ON position • Restart screen
	Screen selector switch not in AUTO mode	Turn selector switch to HAND mode to confirm that motor is functioning • Turn selector switch to AUTO mode • Confirm that all remote permissive contacts are made • Restart screen
	Control devices (level sensor, timers, thermostat, etc) used to initiate screen are malfunctioning	Check functioning of level measuring device • Repair or replace devices as required • Restart screen
		Check time clock and associated timer settings • Adjust if necessary
	Control devices used to initiate screen are malfunctioning	Check functioning of thermostat switch • Repair or replace device as required • Restart screen
	Screen motor overloaded (blown fuses, tripped overloads, tripped current monitor, tripped thermostats or auto thermals)	Check for screen belt jamming • Remove obstruction, check for screen belt damage, reset controls, and restart screen
		Checking for screen belt binding and damage • Adjust screen belt, reset controls, and restart screen
		Motor malfunctioning • Repair or replace, rest controls, and restart screen
		Gear reducer malfunctioning • Repair or replace, reset controls, and restart screen
	Screen Protection switches are tripped (e-stop, zero speed)	Check for obstructions or screen malfunctions • Reset e-stop and restart after confirming that screen is ready to run
Solids larger than screen opening passing through screen	Side channel seals not contacting channel walls, allowing bypass around the sides of the screen frame	Replace seals • Confirm full contact with channel wall before restarting
		Front seal is damaged or worn, allowing bypass underneath the screen belt • Replace seal • Confirm full contact with screen belt before restarting
	Screen elements are damaged	Replace screen elements and check condition of drive chains • Replace chain links, if necessary
	Side plates are damaged	Replace side plates
Excess headloss across the screen	Screen initiation settings not set properly	Adjust time clock and timer settings to allow the screen to run more often (frequency), and for a longer period of time (duration)
		Adjust actuation point of level measuring devices
	Screen not being cleaned properly	Check operating condition of brush • Adjust position of brush, or replace brush core
		Check operating condition of spray systems • Confirm correct position of spray pattern • Unclog or replace nozzles • Confirm adequate supply pressure and flow rate
	Screen openings clogged	Clean screen with pressure washer
	Flow conditions have changed	Confirm actual flow conditions and compare to design conditions • Remove excess flow or solids loading conditions
Screen tracking to one side	Object has wedged screen to one side	Remove object and check tracking
	Flow in channel is not uniform across width of channel	Install baffle in channel in front of screen to make flow uniform across width of channel
Reduced screenings volume being discharged out of screen	Screenings accumulation in discharge chute / hopper	Wash down discharge chute or hopper
	Collection device backing up screenings	Empty receptacle or repair solids handling equipment, clear backlog of screenings
	Screen elements are damaged	Replace screen elements and check condition of drive chains • Replace chain links, if necessary

MOTOR

ISSUE	POSSIBLE CAUSE	SOLUTION
Motor fails to start	Blown fuses	Replace fuses at least 125% nameplate amperes
	Overload trips	Check and reset overload in starter
	Improper current supply	Check to see that power supplied agrees with motor nameplate and load factor
	Improper line connections	Check connections with diagram supplied with motor
	Open circuit in winding or starting switch	Indicated by humming sound when switch is closed • Check for loose wiring connections; also see if starting switch inside motor is closed
	Mechanical failure	Check to see if motor and drive turn freely • Check bearings and lubrication
	Short circuited stator	Indicated by blown fuses • Motor must be rewound
	Poor stator coil connection	Remove end bells, locate with test lamp
	Rotor defective	Look for broken bars or end rings
	Motor may be overloaded	Reduce load
	If three phase, one phase may be open	Check lines for open phase
	Defective capacitor	Check for short circuit, grounded or open capacitor, or connection, replace if necessary
Motor stalls	Wrong application	Change type or size • Consult manufacturer
	Overloaded motor	Reduce load
	Low motor voltage	See that nameplate voltage is maintained • Check connection
	Open circuit	Fuses blown, check overload relay, stator and pushbuttons
Motor runs and then dies down	Power failure	Check for loose connections to line, to fuses and to control
Motor does not come up to speed	Not applied properly	Consult supplier for proper type
	Voltage too low at motor terminals because of line drop	Use higher voltage on transformer terminals or reduce load • Check connections
	Starting load too high	Check load motor is supposed to carry at start
	Broken rotor bars or loose rotor	Look for cracks near the rings • A new rotor may be required as repairs are usually temporary
	Open primary circuit	Locate fault with testing device and repair
Motor takes too long to accelerate	Excess loading	Reduce load
	Poor circuit	Check for high resistance
	Defective squirrel cage rotor	Replace with new rotor
	Applied voltage too low	Get power company to increase power tap
Wrong rotation	Wrong sequence of phases	Reverse connections at motor or at switchboard
Motor overheats while running under load	Overload	Reduce load
	Frame or bracket vents may be clogged with dirt and prevent proper ventilation of motor	Open vent holes and check for a continuous stream of air from the motor
	Motor may have one phase open	Check to make sure that all leads are well connected
	Grounded coil	Locate and repair
	Unbalanced terminal voltage	Check for faulty leads, connections and transformers
	Shorted stator coil	Repair and then check watt meter reading
	Faulty connection	Indicated by high resistance
	High voltage exceeds +10% of nameplate volts	Check terminals of motor with a voltmeter
	Low voltage exceeds -10% of nameplate volts	Check terminals of motor with a voltmeter
	Rotor rubs stator bore	If not poor machining on brackets, replace worn bearings
Motor vibrates after corrections have	Motor misaligned	Realign
	Weak support	Strengthen base
	Coupling out of balance	Balance coupling
	Driven equipment unbalanced	Rebalance driven equipment
	Defective ball bearing	Replace bearing
	Bearings not in line	Line up properly
	Balancing weights shifted	Rebalance rotor
	Polyphase motor running single phase	Check for open circuit
	Excessive end play	Adjust bearing or add washer
Unbalanced line current on polyphase motors during normal operation	Unequal terminal volts	Check leads and connections
	Single phase operation	Check for open contacts
Scraping noise	Fan rubbing air shield	Remove interference
	Fan striking insulation	Clear fan
	Loose on bedplate	Tighten holding bolts
	Air gap not uniform	Check and correct bracket fits or bearing
	Rotor unbalance	Rebalance
Hot bearings general	Bent or sprung shaft	Straighten or replace shaft
	Excessive belt pull	Decrease belt tension
	Pulleys too far away	Move pulley closer to motor bearing
	Pulley diameter too small	Use larger pulleys
	Misalignment	Correct by alignment of drive
Hot bearings sleeve	Oil window in bearing obstructed by dirt	Remove bracket with bearing and clean bearing housing & oil window groves • Renew oil
	Oil too heavy	Use recommended lighter oil
	Oil too light	Use recommended heavier oil
	Too much end thrust	Reduce thrust induced by drive, or supply external means to carry thrust
	Badly worn bearing	Replace bearing
Hot bearings ball	Insufficient grease	Maintain proper quantity of grease in bearing
	Deterioration of grease or lubricant contaminated	Remove old grease, wash bearings thoroughly in kerosene and replace with new grease
	Excess lubricant	Reducer quantity of grease, bearing should not be more than 1/2 filled
	Overloaded bearing	Check alignment, side & end thrust
	Broken ball or rough races	Replace bearing, fist clean housing thoroughly

MAINTENANCE GUIDE

MAINTENANCE

PROCEDURE	DAILY	WEEKLY	MONTHLY	QUARTERLY	SEMI-ANNUALLY	ANNUALLY
General visual inspection	•					
Clean the screen face and rotating brush	•					
Clean Interior of screen			•			
Inspect screen drive system			•			
Check all fasteners on the unit			•			
Replenish shaft bearings grease			•			
Inspect condition of brush			•			
Inspect filter belt assembly			•			
Inspect overload mechanism			•			
Inspect screen belt tension		Monthly, for the 1st six months Quarterly afterwards				
Inspect spray system				•		
Flush Screen drive reducer					•	
Replenish screen motor bearing grease					•	
Inspect side seals					•	
Perform complete interior inspection						•
Check operation of all electrical components						•
Drain channel and remove accumulated debris						•
Check the condition of the grease lines and fittings for wear						•
Overhaul screen gear reducer						Every 5 years (~10,000 operating hours)

LUBRICATION

APPLICATION	LUBRICATION
Screen Drive Motor: Baldor	Exxon Mobil Polyrex EM / Texaco Polystar / Rykon Premium #2 / Pen 2 Pennzoil Lube / Chevorn SRI
Screen Drive Motor: Reliance Electric	Not Applicable (permanently lubricated)
Screen Gear Reducer: Sumitomo SM-Helical Buddybox (B4115DB, B614DB)	Buddybox portion: Shell Alvania EP 00 Cyclo portion: Shell Alvania No. 2
Screen Gear Reducer: Sumitomo SM-Bevel Buddybox (2B12DA, 3B12DA)	
Filter Belt Chain*	Synthetic Dry Film Lubricant Husky #32042 *
Drive Shaft Flange Bearing (AG-MN)	Lithium Base Grease, NLGI #2 / Shell Alvania EP2 / Mobil Mobillux EP2 / Exxon Oil Beacon EP2 / BP Energrease LS-EP NLGI 2
Rotating Brush Shaft Flange Bearings	
Front Rotating Rail Shaft Take-up Bearings (AG-MN)	
Screen Gear Reducer: Sumitomo SM-Helical Buddybox (C4145, C614) Sumitomo SM-Helical Buddybox (D4165DB, D616DA) Omala Sumitomo SM-Bevel Buddybox (2C16DA, 3C16DA)	Buddybox portion: Mobil Oil Mobilgear 627, 629 / ChevronTexaco EP Gear Compound 100, 150 Exxon Oil Spartan EP100, EP 150 / Shell Oil Oil 100, 150 / BP Oil Energol GR-XP 100, GR-XP 150 Cyclo portion: Shell Alvania EP 2 / Mobil Mobillux EP2 Exxon Oil Beacon EP2 / BP Energrease LS-EP NLGI 2

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