

森乐CS/CL多路阀控制器故障处理指南

(TC 控制阀不带流量计，所以部分情况不适用于TC控制阀)

表现	可能原因	处理方式
1. 控制器没有显示	a. 电源没有供电	a. 检修电源
	b. 控制阀电源插头没接好	b. 把电源线上的接头插到电路板上
	c. 电源不对	c. 检查电源的电压是否符合要求
	d. 电源变压器受损	d. 更换变压器
	e. 电路板受损	e. 更换电路板
2. 电路板显示的时间不是当前时间	a. 电源供应被其他的开关控制	a. 更换至不被其他开关控制的线路
	b. 断路器开关跳闸	b. 复位断路器或开关
	c. 电源供应中断	c. 重置时间。如果电路板有备用电池，电池可能耗尽。有关说明，请参阅前盖和驱动装配图。
	d. 电路板受损	d. 更换电路板
3. 显示屏未显示水在流动。 有关显示器如何指示水流，请参阅用户说明	a. 旁通阀处于旁通位置	a. 转动旁通阀把手到工作位置
	b. 流量计没有连接到电路板上流量计插口	b. 把流量计上的三线插头插到电路板上（有METER标识）
	c. 涡轮失速/流量计受限	c. 取出流量计检测转动是否正常，是否有异物
	d. 流量计线没有插紧	d. 检查并确认流量计的线牢固插在有METER标识的插脚上
	e. 流量计损坏	e. 更换流量计
	f. 电路板受损	f. 更换电路板
4. 设备在错误的时候开始再生（冲洗）	a. 中间有断电	a. 重置时间。如果电路板有备用电池，电池可能耗尽。有关说明，请参阅前盖和驱动装配图。
	b. 时间设置错误	b. 重新设置正确时间
	c. 再生时间设置错误	c. 重新设置再生时间
	d. 控制阀设置为立即再生（“on 0”）	d. 检查程度设置，设为延时再生（NORMAL）
	e. 控制阀设置为延时或立即再生（“NORMAL + on 0”）	e. 检查程度设置，设为延时再生（NORMAL）
5. 屏幕上当前时间闪烁	a. 曾有断电	a. 重设时间。如果电路板有备用电池，电池可能耗尽。有关说明，请参阅前盖和驱动装配图。
6. 正确按下按钮手动再生时，控制阀没有自动再生（TC阀同时长按▲&▼。其他阀长按REGEN键）	a. 驱动齿轮或传动盖总成损坏	a. 更换损坏的部件
	b. 活塞破损	b. 更换活塞
	c. 控制板受损	c. 更换控制板
7. 控制阀没有自动再生，但是按下手动按钮时可以再生（TC阀同时长按▲&▼。其他阀长按REGEN键）	a. 旁通阀在旁通位置	a. 转动旁通把手置于工作状态
	b. 流量计线未插到控制板上	b. 把流量计三线插头插到控制板上
	c. 涡轮失速/流量计受限	c. 取出流量计检测转动是否正常，是否有异物
	d. 程序设置错误	d. 检查设置并修正错误

	e. 流量计线没有插紧	e. 检查并确认流量计的线牢固插在有 METER标识的插脚上
	f. 流量计损坏	f. 更换流量计
	g. 电路板受损	g. 更换电路板
8. 出水为硬水或未处理的水	a. 旁通阀打开或故障	a. 把旁通阀关紧或是更换
	b. 因为用水量较大, 滤料性能耗尽	b. 检查程序设置或检查是否有异常用水
	c. 流量计不工作	c. 取下流量计并检查转动情况或是否有异物
	d. 水质变差	d. 测试水质并调整程序设置
	e. 盐箱内无盐或盐位过低	e. 添加适当数量的再生剂 (软水盐)
	f. 控制阀无法吸盐	f. 参阅第12项
	g. 盐箱内液位过低	g. 检查注水设置, 检查盐阀液位控制, 检查注水控制是否存在阻塞或碎屑, 并进行清洁或更换
	h. 密封/支架组件 (活塞外塑料件) 损坏	h. 更换损坏部件
	i. 控制阀类型与活塞式匹配错误	i. 检查控制阀和活塞是否匹配。如果错误则更换。
	j. 滤料被污染	j. 更换滤料
9. 控制阀再生过于频繁	a. 注水设置错误	a. 检查注水设置
	b. 程序设置错误	b. 检查程序设置, 以确保它们符合水质和应用需求
	c. 控制阀经常再生	c. 检查是否有泄漏的后级设备, 可能是选择的设备容量不足或系统尺寸过小
10. 出水中有盐	a. 水压过低	a. 检查进水压力 – 动压不可低于25 psi (1.8 Bar)
	b. 吸盐器匹配错误	b. 更换正确的吸盐器
	c. 排水管堵塞	c. 检查排水管堵塞物并清理
11. 盐箱注水过多	a. 程序设置不正确	a. 检查注水设置
	b. 吸盐器堵塞	b. 取下吸盐器并清理或更换
	c. 马达驱动组件没有正确装紧	c. 重新安装马达驱动总成
	d. 密封/支架组件 (活塞外塑料件) 损坏	d. 更换损坏部件
	e. 排水管堵塞或扭结	e. 检查排水管, 如有堵塞或扭结则清理
	f. 反洗排水控制堵塞	f. 取下反洗排水控制, 清理或更换
	g. 注水控制限流丢失	g. 更换注水限流控制
12. 再生时控制阀不吸盐	a. 吸盐器堵塞	a. 取下吸盐器并清理或更换
	b. 再生活塞故障	b. 更换再生活塞
	c. 吸盐管连接泄漏	c. 检查盐管气密性
	d. 排水管阻塞或碎屑导致背压过大	d. 检查排水管清理可能的堵塞
	e. 排水管过长或过高	e. 缩短或降低排水管
	f. 水压过低	f. 检查进水压力 – 动压不可低于25 psi (1.8 Bar)
13. 排水不停	a. 再生过程中停电	a. 恢复供电后控制阀会完成剩余的再生过程。重设当前时间。如果电路板有备用电池, 电池可能耗尽。有关说明, 请

		参阅前盖和驱动装配图。
	b. 密封/支架组件（活塞外塑料件）损坏	b. 更换损坏部件
	c. 活塞总成损坏	c. 更换活塞总成
	d. 马达驱动组件没有正确装紧	d. 重新安装马达驱动总成
14. E1, Err – 1001, Err – 101 = 控制器无法检测到马达转动	a. 电机没有完全塞入到支架中, 电机线断掉或未正确连接。	a. 断开电源确认电机完全到位, 检查连线是否有断裂。确认连线正确插到电路板上标识“MOTOR”的插脚上。长按NEXT和REGEN键3秒让软件位置与活塞同步, 断电30秒以上再通电。
	b. 电路板未能正确安装在支架上	b. 把电路板正确安装到支架上, 长按NEXT和REGEN键3秒让软件位置与活塞同步, 断电30秒以上再通电。
	c. 减速齿轮丢失	c. 更换丢失的齿轮。
15. E2, Err – 1002, Err – 102 = 控制阀电机运行过短, 无法找到下一个循环位置, 并失速	a. 异物卡在控制阀中	a. 打开控制阀, 拉出活塞总成和支架检查。装好后, 长按NEXT和REGEN键3秒让软件与活塞同步, 断电30秒以上再通电。
	b. 机械故障	b. 检查密封/支架组件（活塞外塑料件）检查减速齿轮、马达支架。长按NEXT和REGEN键3秒让软件位置与活塞同步, 断电30秒以上再通电。
	c. 马达主支架过紧	c. 把主驱动支架取开, 检查一下。长按NEXT和REGEN键3秒让软件位置与活塞同步, 断电30秒以上再通电。
	d. 电路板电压不对	d. 检查确认电源电压正确。长按NEXT和REGEN键3秒让软件位置与活塞同步, 断电30秒以上再通电。
16. E3, Err – 1003, Err – 103 = 控制阀电机运行过长, 无法找到下一个循环位置	a. 再生过程中马达故障	a. 先检查电机连接。然后长按NEXT和REGEN键3秒让软件位置与活塞同步, 断电30秒以上再通电。
	b. 活塞和活塞组件上积聚的异物产生足够的摩擦和阻力, 从而导致电机超时	b. 更换或清理活塞和活塞组件, 然后长按NEXT和REGEN键3秒让软件位置与活塞同步, 断电30秒以上再通电。
	c. 马达支架没有正确到位, 导致减速齿轮未正确工作	c. 把马达正确装入支架中。然后长按NEXT和REGEN键3秒让软件位置与活塞同步, 断电30秒以上再通电。
17. E4, Err – 1004, Err – 104 = 控制阀电机运行时间过长, 试图到达初始位置时超时	a. 驱动支架没有正确卡入, 以致于减速齿轮和驱动齿轮不接触	a. 把马达正确装入支架中。然后长按NEXT和REGEN键3秒让软件位置与活塞同步, 断电30秒以上再通电。
18. Err -1006, Err – 106, Err - 116 = MAV/ SEPS/ NHBP/ AUX MAV控制阀电机运行过长, 无法找到下一个循环位置 Motorized Alternating Valve =	a. 控制阀设置为 ALT A or b, nHbP, SEPS, or AUX MAV 没有 MAV or NHBP 部件正确工作	a. 长按NEXT 和 REGEN 3秒钟以上让软件位置与活塞同步, 断电30秒以上再通电。然后重新设置程序。
	b. MAV/ NHBP马达线未正确连接到控制板上	b. 把MAV/ NHBP 马达连接到电路板上 (DRIVE)。长按NEXT 和 REGEN 3秒钟以上让软件位置与活塞同步, 断电

MAV Separate Source = SEPS No Hard Water Bypass = NHBP Auxiliary MAV = AUX MAV		30秒以上再通电。然后重新设置程序。
	c. MAV/ NHBP 没有完全接上减速齿轮	c. 把马达正确装入支架中。。长按NEXT 和 REGEN 3秒钟以上让软件位置与活塞同步，断电30秒以上再通电。然后重新设置程序。
	d. 活塞和活塞组件上积聚的异物产生足够的摩擦和阻力，从而导致电机超时	d. 更换或清理活塞和活塞组件，然后长按NEXT和REGEN键3秒让软件位置与活塞同步，断电30秒以上再通电。
19. Err – 1007, Err – 107, Err - 117 = MAV/ SEPS/ NHBP/ AUX MAV 控制阀电机运行过短，无法找到一个循环位置 Motorized Alternating Valve = MAV Separate Source = SEPS No Hard Water Bypass = NHBP Auxiliary MAV = AUX MAV	a. 异物卡在MAV/ NHBP 阀内部	a. 打开MAV/ NHBP阀体检查活塞和支架上的异物，然后长按NEXT和REGEN键3秒让软件位置与活塞同步，断电30秒以上再通电。
	b. 机械故障	b. 检查活塞和支架组件，检查减速齿轮、驱动齿轮接口，检查电机上的 MAV/NHBP黑色驱动小齿轮是否卡入电机本体。然后长按NEXT和REGEN键3秒让软件位置与活塞同步，断电30秒以上再通电。

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Problem	Possible Cause	Solution
1.No Display on PC Board	a. No power at electric outlet	a. Repair outlet or use working outlet
	b. Control valve Power Adapter not plugged into outlet or power cord end not connected to PC board connection	b. Plug Power Adapter into outlet or connect power cord end to PC Board connection
	c. Improper power supply	c. Verify proper voltage is being delivered to PC Board
	d. Defective Power Adapter	d. Replace Power Adapter
	e. Defective PC Board	e. Replace PC Board
2. PC Board does not display correct time of day	a. Power Adapter plugged into electric outlet controlled by light switch	a. Use uninterrupted outlet
	b. Tripped breaker switch and/or tripped GFI	b. Reset breaker switch and/ or GFI switch
	c. Power outage	c. Reset time of day. If PC Board has battery back up present the battery may be depleted. See Front Cover and Drive Assembly drawing for instructions.
	d. Defective PC Board	d. Replace PC Board
3. Display does not indicate that water is flowing. Refer to user instructions for how the display indicates water is flowing	a. Bypass valve in bypass position	a. Turn bypass handles to place bypass in service position
	b. Meter is not connected to meter connection on PC Board	b. Connect meter to three pin connection labeled METER on PC Board
	c. Restricted/ stalled meter turbine	c. Remove meter and check for rotation or foreign material
	d. Meter wire not installed securely into three pin connector	d. Verify meter cable wires are installed securely into three pin connector labeled METER
	e. Defective meter	e. Replace meter
	f. Defective PC Board	f. Replace PC Board
4. Control valve regenerates at wrong time of day	a. Power outage	a. Reset time of day. If PC Board has battery back up present the battery may be depleted. See Front Cover and Drive Assembly drawing for instructions.
	b. Time of day not set correctly	b. Reset to correct time of day
	c. Time of regeneration set incorrectly	c. Reset regeneration time
	d. Control valve set at "on 0" (immediate regeneration)	d. Check programming setting and reset to NORMAL (for a delayed regen time)

	e. Control valve set at "NORMAL + on 0" (delayed and/ or immediate)	e. Check programming setting and reset to NORMAL (for a delayed regen time)
5. Time of day flashes on and off	a. Power outage	a. Reset time of day. If PC Board has battery back up present the battery may be depleted. See Front Cover and Drive Assembly drawing for instructions.
6. Control valve does not regenerate automatically when the correct button(s) is depressed and held. For TC valves the buttons are ▲&▼. For all other valves the button is REGEN	a. Broken drive gear or drive cap assembly	a. Replace drive gear or drive cap assembly
	b. Broken Piston Rod	b. Replace piston rod
	c. Defective PC Board	c. Defective PC Board
7. Control valve does not regenerate automatically but does when the correct button(s) is depressed and held. For TC valves the buttons are ▲&▼. For all other valves the button is REGEN	a. Bypass valve in bypass position	a. Turn bypass handles to place bypass in service position
	b. Meter is not connected to meter connection on PC Board	b. Connect meter to three pin connection labeled METER on PC Board
	c. Restricted/ stalled meter turbine	c. Remove meter and check for rotation or foreign material
	d. Incorrect programming	d. Check for programming error
	e. Meter wire not installed securely into three pin connector	e. Verify meter cable wires are installed securely into three pin connector labeled METER
	f. Defective meter	f. Replace meter
	g. Defective PC Board	g. Replace PC Board
Problem	Possible Cause	Solution
8. Hard or untreated water is being delivered	a. Bypass valve is open or faulty	a. Fully close bypass valve or replace
	b. Media is exhausted due to high water usage	b. Check program settings or diagnostics for abnormal water usage
	c. Meter not registering	c. Remove meter and check for rotation or foreign material
	d. Water quality fluctuation	d. Test water and adjust program values accordingly
	e. No regenerant or low level of regenerant in regenerant tank	e. Add proper regenerant to tank
	f. Control fails to draw in regenerant	f. Refer to Trouble Shooting Guide number 12
	g. Insufficient regenerant level in regenerant tank	g. Check refill setting in programming. Check refill flow control for restrictions or debris and clean or replace

	h. Damaged seal/stack assembly	h. Replace seal/stack assembly
	i. Control valve body type and piston type mix matched	i. Verify proper control valve body type and piston type match
	j. Fouled media bed	j. Replace media bed
9. Control valve uses too much regenerant	a. Improper refill setting	a. Check refill setting
	b. Improper program settings	b. Check program setting to make sure they are specific to the water quality and application needs
	c. Control valve regenerates frequently	c. Check for leaking fixtures that may be exhausting capacity or system is undersized
10. Residual regenerant being delivered to service	a. Low water pressure	a. Check incoming water pressure – water pressure must remain at minimum of 25 psi
	b. Incorrect injector size	b. Replace injector with correct size for the application
	c. Restricted drain line	c. Check drain line for restrictions or debris and clean
11. Excessive water in regenerant tank	a. Improper program settings	a. Check refill setting
	b. Plugged injector	b. Remove injector and clean or replace
	c. Drive cap assembly not tightened in properly	c. Re-tighten the drive cap assembly
	d. Damaged seal/ stack assembly	d. Replace seal/ stack
	e. Restricted or kinked drain line	e. Check drain line for restrictions or debris and or un-kink drain line
	f. Plugged backwash flow controller	f. Remove backwash flow controller and clean or replace
	g. Missing refill flow controller	g. Replace refill flow controller
12. Control valve fails to draw in regenerant	a. Injector is plugged	a. Remove injector and clean or replace
	b. Faulty regenerant piston	b. Replace regenerant piston
	c. Regenerant line connection leak	c. Inspect regenerant line for air leak
	d. Drain line restriction or debris cause excess back pressure	d. Inspect drain line and clean to correct restriction
	e. Drain line too long or too high	e. Shorten length and or height
	f. Low water pressure	f. Check incoming water pressure – water pressure must remain at minimum of 25 psi
13. Water running to drain	a. Power outage during regeneration	a. Upon power being restored control will finish the remaining regeneration time. Reset time of day. If PC Board has battery back up present the battery may be depleted. See Front Cover and Drive Assembly drawing for instructions.
	b. Damaged seal/ stack assembly	b. Replace seal/ stack assembly
	c. Piston assembly	c. Replace piston assembly

	failure	
	d. Drive cap assembly not tightened in properly	d. Re-tighten the drive cap assembly
14. E1, Err – 1001, Err – 101 = Control unable to sense motor movement	a. Motor not inserted full to engage pinion, motor wires broken or disconnected	a. Disconnect power, make sure motor is fully engaged, check for broken wires, make sure two pin connector on motor is connected to the two pin connection on the PC Board labeled MOTOR. Press NEXT and REGEN buttons for 3 seconds to resynchronize software with piston position or disconnect power supply from PC Board for 5 seconds and then reconnect.
	b. PC Board not properly snapped into drive bracket	b. Properly snap PC Board into drive bracket and then Press NEXT and REGEN buttons for 3 seconds to resynchronize software with piston position or disconnect power supply from PC Board for 5 seconds and then reconnect.
	c. Missing reduction gears	c. Replace missing gears
15. E2, Err – 1002, Err – 102 = Control valve motor ran too short and was unable to find the next cycle position and stalled	a. Foreign material is lodged in control valve	a. Open up control valve and pull out piston assembly and seal/ stack assembly for inspection. Press NEXT and REGEN buttons for 3 seconds to resynchronize software with piston position or disconnect power supply from PC Board for 5 seconds and then reconnect.
	b. Mechanical binding	b. Check piston and seal/ stack assembly, check reduction gears, check drive bracket and main drive gear interface. Press NEXT and REGEN buttons for 3 seconds to resynchronize software with piston position or disconnect power supply from PC Board for 5 seconds and then reconnect.
	c. Main drive gear too tight	c. Loosen main drive gear. Press NEXT and REGEN buttons for 3 seconds to resynchronize software with piston position or disconnect power supply from PC Board for 5 seconds and then reconnect.
	d. Improper voltage being delivered to PC Board	d. Verify that proper voltage is being supplied. Press NEXT and REGEN buttons for 3 seconds to resynchronize software with piston position or disconnect power supply from PC Board for 5 seconds and then reconnect.

Trouble Shooting: Control Valves

Problem	Possible Cause	Solution
16. E3, Err – 1003, Err – 103 = Control valve motor ran too long and was unable to find the next cycle position	a. Motor failure during a regeneration	a. Check motor connections then Press NEXT and REGEN buttons for 3 s seconds to resynchronize software with piston position or disconnect power supply from PC Board for 5 seconds and then reconnect.
	b. Foreign matter built up on piston and stack assemblies creating friction and drag enough to time out motor	b. Replace piston and stack assemblies. Press NEXT and REGEN buttons for 3 seconds to resynchronize software with piston position or disconnect power supply from PC Board for 5 seconds and then reconnect.
	c. Drive bracket not snapped in properly and out enough that reduction gears and drive gear do not interface	c. Snap drive bracket in properly then Press NEXT and REGEN buttons for 3 seconds to resynchronize software with piston position or disconnect power supply from PC Board for 5 seconds and then reconnect.
17. E4, Err – 1004, Err – 104 = Control valve motor ran too long and timed out trying to reach home position	a. Drive bracket not snapped in properly and out enough that reduction gears and drive gear do not interface	a. Snap drive bracket in properly then Press NEXT and REGEN buttons for 3 seconds to resynchronize software with piston position or disconnect power supply from PC Board for 5 seconds and then reconnect.
18. Err -1006, Err – 106, Err - 116 = MAV/ SEPS/ NHBP/ AUX MAV valve motor ran too long and unable to find the proper park position Motorized Alternating Valve = MAV Separate Source = SEPS No Hard Water Bypass = NHBP Auxiliary MAV = AUX MAV	a. Control valve programmed for ALT A or b, nHbP, SEPS, or AUX MAV with out having a MAV or NHBP valve attached to operate that function	a. Press NEXT and REGEN buttons for 3 seconds to resynchronize software with piston position or disconnect power supply from PC Board for 5 seconds and then reconnect. Then re-program valve to proper setting
	b. MAV/ NHBP motor wire not connected to PC Board	b. Connect MAV/ NHBP motor to PC Board two pin connection labeled DRIVE. Press NEXT and REGEN buttons for 3 seconds to resynchronize software with piston position or disconnect power supply from PC Board for 5 seconds and then reconnect.
	c. MAV/ NHBP motor not fully engaged with reduction gears	c. Properly insert motor into casing, do not force into casing Press NEXT and REGEN buttons for 3 seconds to resynchronize software with piston position or disconnect power supply from PC Board for 5 seconds and then reconnect.
	d. Foreign matter built up on piston and stack assemblies creating friction and drag	d. Replace piston and stack assemblies. Press NEXT and REGEN buttons for 3 seconds to resynchronize software with piston position or disconnect power supply from PC Board for 5

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	enough to time out motor	seconds and then reconnect.
19. Err – 1007, Err – 107, Err - 117 = MAV/ SEPS/ NHBP/ AUX MAV valve motor ran too short (stalled) while looking for proper park position Motorized Alternating Valve = MAV Separate Source = SEPS No Hard Water Bypass = NHBP Auxiliary MAV = AUX MAV	a. Foreign material is lodged in MAV/ NHBP valve	a. Open up MAV/ NHBP valve and check piston and seal/ stack assembly for foreign material. Press NEXT and REGEN buttons for 3 seconds to resynchronize software with piston position or disconnect power supply from PC Board for 5 seconds and then reconnect.
	b. Mechanical binding	b. Check piston and seal/ stack assembly, check reduction gears, drive gear interface, and check MAV/ NHBP black drive pinion on motor for being jammed into motor body. Press NEXT and REGEN buttons for 3 seconds to resynchronize software with piston position or disconnect power supply from PC Board for 5 seconds and then reconnect.