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13-1325-00-0

Pump Unit 3FCM Philips - INSTRUCTIONS FOR USE

This document offers a sequence of solutions in case a 3FCM pump fails to work during installation. With this document, all the relevant parts of the pump unit are systematically checked to find the cause of the problem. This document covers the following topics:

- Pre-installation safety
- Recommended tools
- Determine Why the Pump Isn't Working
- Further Troubleshooting
- 3FCM-PHILIPS Power Height Adjustable Arm Electrical Diagram
- 3CFM-PHILIPS Replacement Parts

Pre-Installation Safety

NOTICE

Keep the workplace clean and keep it free of unnecessary tools.

⚠ CAUTION

Avoid Electrical Injuries by observing a Lockout / Tag Out Policy.

Avoid exposure to electrical hazards an unexpected Energizing or startup of the equipment by disconnecting the equipment from the energy source, with the means of power connection being under the exclusive control of the employee performing the maintenance or repair.

The placement of a lock and tag on the electrical source in accordance with established procedure indicating that the energy isolating device shall not be operated until the removal of the lock/ tag is recommended.

Recommended Tools

- Voltmeter

Determine Why the Pump Isn't Working

1. Make sure emergency stop is not depressed, and Philips system is powered on. The up/down buttons will not be active if either situation exists.
2. **Check control connections:**

Make sure all connections for the Monitor Ceiling Suspension (MCS) and hydraulic pump are completed.

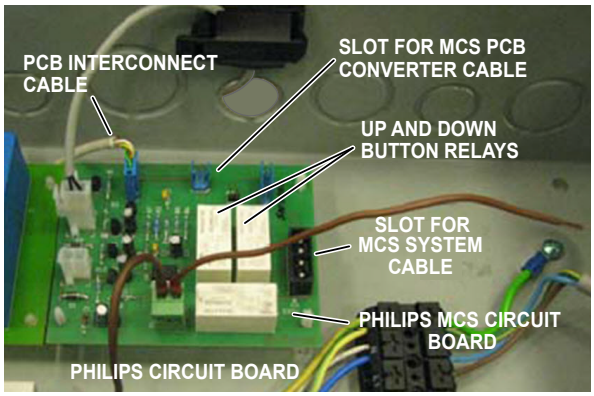


Figure 1. Pump circuit board overview

- Make sure one end of the MCS PCB Converter Cable is plugged into the Philips MCS Circuit Board (Figure 1) and the other end is connected to the hydraulic arm Limit Switch Cable (Figure 2).

Figure 2. Hydraulic arm Limit Switch Cable and MCS PCB Converter Cable connection

- Check that one end of the PCB Interconnect Cable is connected to the Philips MCS Circuit Board (Figure 1) and the other end connected to the main circuit board (Figure 3).

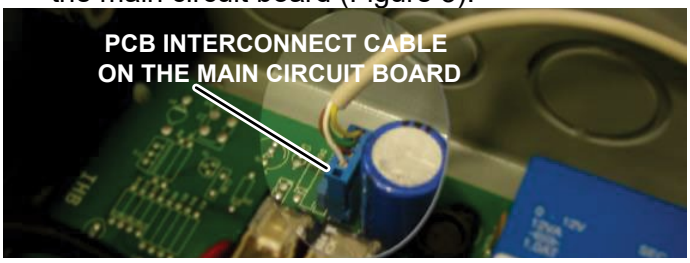


Figure 3. Interconnect cable on the main circuit board

- Check that the MCS System Cable is plugged into the Philips MCS Circuit Board (Figure 1), wire colors are correct (black, white, green, red) and the other end is plugged into the Philips MCS bracket.

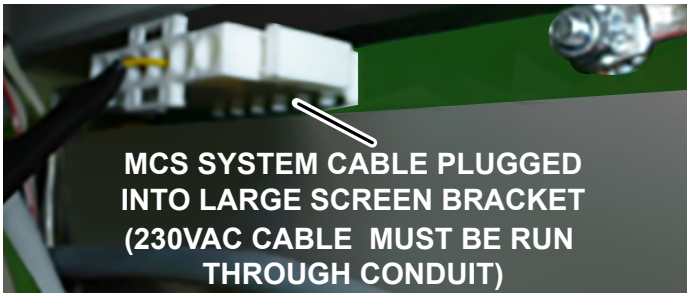


Figure 4. MCS system cable plugged into the Philips MCS bracket

If all the cables are connected: Proceed to step two.

If cables are missing: Contact Skytron for cables or assistance.

3. **Test the up and down buttons and relays:** Press the up and down buttons (Figure 5) on the Philips large screen frame. The relays on the Philips MCS Circuit Board (Figure 1) should make a clicking sound.

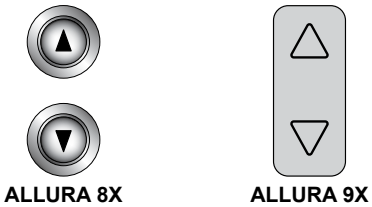


Figure 5. Up and Down Buttons

If the relays click: Proceed to step three. The relays should click even if the pump is without power or is broken.

If the relays do not click: The Philips MCS bracket is turned off, has the emergency stop activated, or has another issue. Consult the Philips installation team for assistance.

4. **Check the mains connections:**
(a) Unplug the mains connector from the main circuit board.

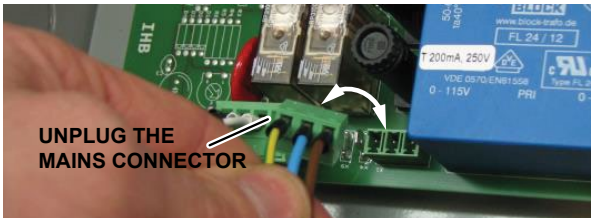


Figure 6. Unplug the mains connector

(b) Measure if mains voltage is present over the brown and blue wires.

Figure 7. Measure mains voltage

(c) Plug the mains connector back into the main circuit board.

If the mains voltage is present: Proceed to step four.

If the mains voltage is not present:

- Measure if a mains voltage is present at the neutral and live terminal on the black terminal block. If no mains is present, check the mains provision from the hospital.

Figure 8. Black terminal block

- Unplug the two-pole connector and test the two-pole socket for continuity. If no continuity is present, the Philips system is turned off, has the emergency stop activated, or has another issue. Consult the Philips installation team.

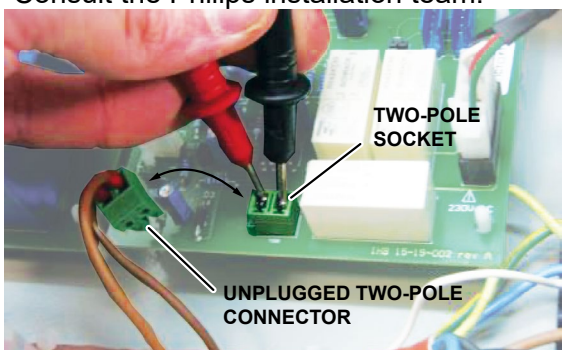


Figure 9. Testing the two-pole socket

4. **Check relays and fuses:**

Check the fuses on the main circuit board and replace if necessary. If a replaced fuse fails again, please contact Skytron for a replacement pump unit.

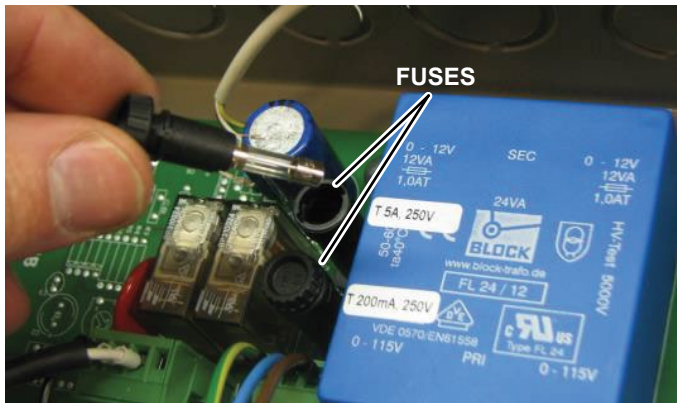


Figure 10. Fuse locations

Further Troubleshooting

If the pump is still not working but the mains voltage is present and the white relays make a clicking sound when the up and down buttons are pushed:

1. **Check the transparent relays:** Press the up and down buttons (Figure 5) on the Philips MCS bracket, then check if the moving parts (Figure 11) inside the transparent relays on the main circuit board are activated.

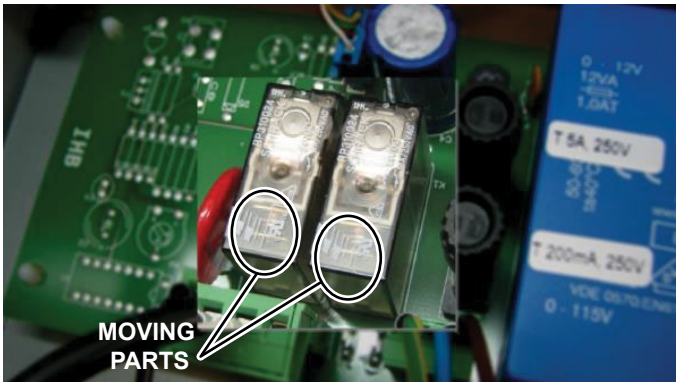
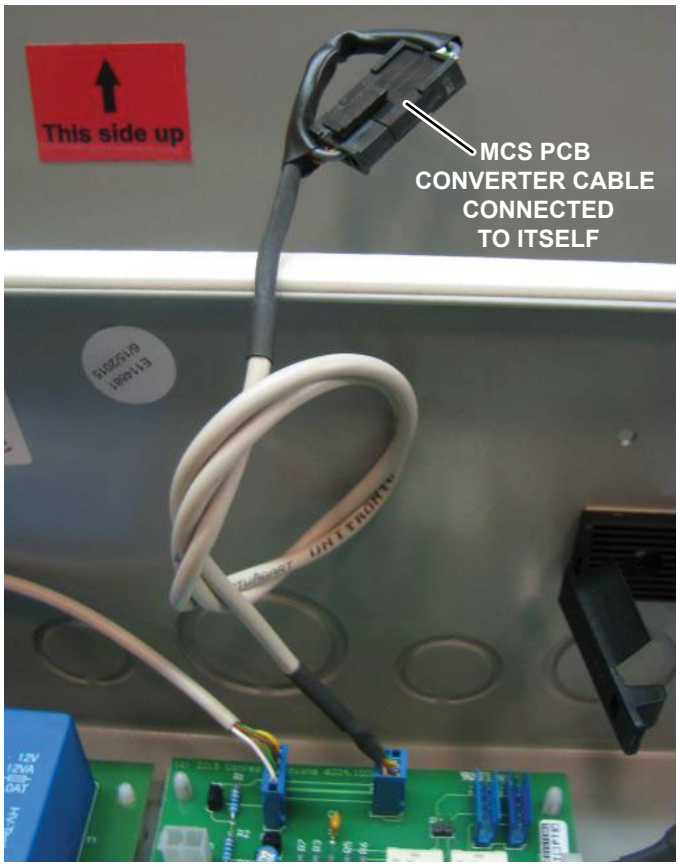


Figure 11. Transparent relays

- *If the relays are activated and the pump is not working:* Contact Skytron for a replacement.
- *If the relays ARE NOT activated and the pump is not working:* Continue to step two.

2. Disconnect the hydraulic arm Limit Switch Cable from the MCS PCB Converter Cable and connect the MCS PCB Converter Cable cable to itself.

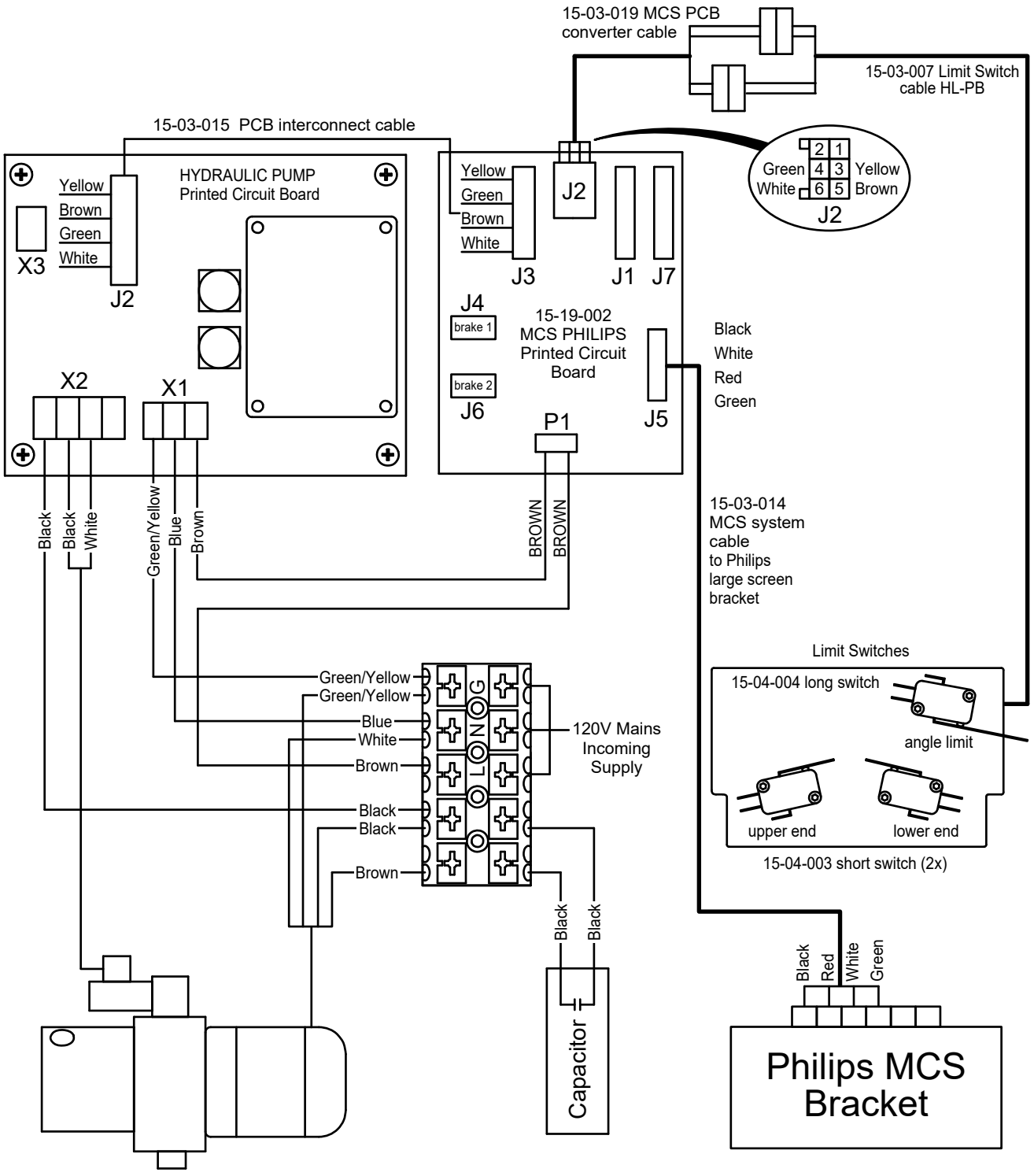


3. **Re-check the transparent relays:** Press the up and down buttons (Figure 5) on the Philips MCS bracket, then check if the moving parts (Figure 11) inside the transparent relays on the main circuit board are activated.

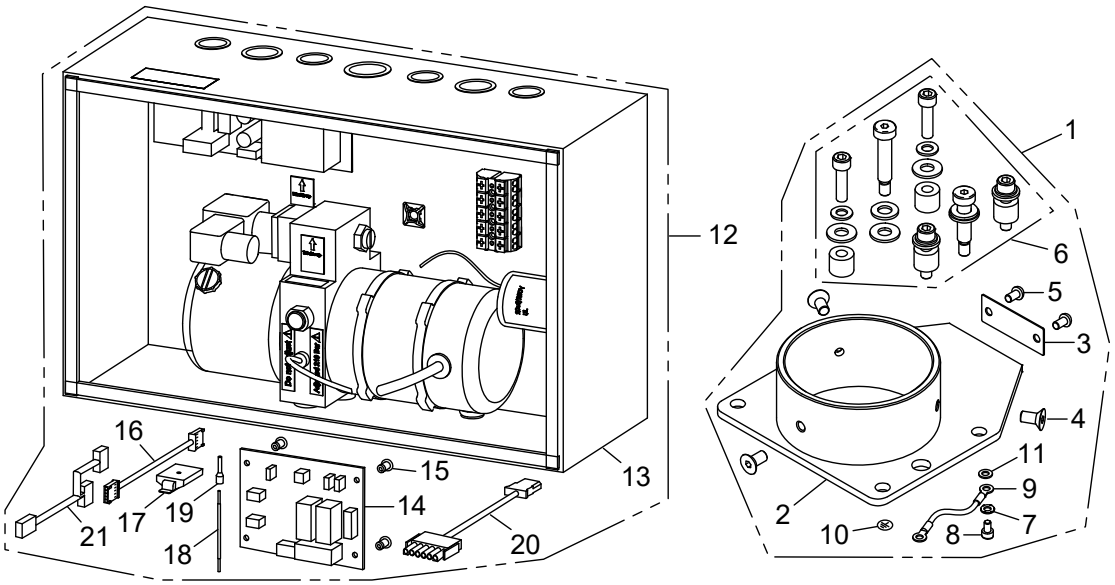
If the pump works: There may be a problem with the hydraulic arm wiring. Check the hydraulic arm wiring. See the electrical diagram for the hydraulic arm on page 4.

If the pump does not work: Contact Skytron for a replacement pump unit.

3FCM-PHILIPS Power Height Adjustable Arm Electrical Diagram



3CFM-PHILIPS Replacement Parts



Item	Part Number	Description	Qty	Remark
1	13-1011-00-1	Coupler Philips Assembly	1	S.N.
2	13-D2394-1	MCS Coupler Assembly	1	
3	13-D2391-1	Cover Plate	1	
4	51060.080.016	Hex Countersunk Screw M8x16	3	NAS
5	51030.060.010	Hex Button Head Screw M6x10	2	A/R
6	13-1173-00-1	Hardware set Philips	1	
7	37265.050.001	Contact washer M5	1	NAS
8	51050.050.008	Hex Socket Head Screw M5x8	1	NAS
9	03-M2005-0	Ground Cable Type M5-M5 L=2500	1	
10	89-01-0007	Sticker Ground Symbol	1	A/R
11	51420.050.001	Washer M5	1	NAS
12	13-1325-00-0	Hydraulic Pump + MCS PCB 120V	1	A/R
13	13-359-00-1	Hydraulic Pump Unit 120V-60Hz	1	A/R
14	15-19-002	Circuit Board MCS Philips	1	
15	30-12-001	PCB Spacer	4	
16	15-03-015	PCB Interconnect Cable	1	
17	FKH25A	Cable Fixture 25mm	1	
18	P039	Wire Brown 1,5mm2	1	NAS
19	73100.175.012	Ferrules 6mm2 Black	1	
20	15-03-014	MCS System Cable	1	
21	15-03-019	MCS PCB Converter Cable	1	

NOTES

NOTES

MCS Philips Coupler Installation IFU - REVISION HISTORY

Date	Revision	Summary of Changes
04/08/2016	0	Initial release
3/24/2017	1	Pg 1 - Added step 1. Pg 2 - Revised figure 5. Pg 4 - Revised electrical schematic. Pg 5 - Revised parts list
10/30/2017	2	Pg 4 - Revised electrical schematic.

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