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NEPHROLOGY PROGRAM
DEPARTMENT POLICIES AND PROCEDURES

Biomed Neph - Section 01- Equipment maintenance - Neph Tech 1-13
PM Program for the DWA CeCon 3000 Concentrate Supply Unit
No.: 01468 (TOH Standardized Policy Number)

ISSUED BY:
Nephrology Technical Practice Committee

DATE OF APPROVAL:
2015/03

APPROVED BY:
Program Clinical Director / Division Head

LAST REVIEW/REVISION DATE:
2017/03

CATEGORY:
Equipment Maintenance

IMPLEMENTATION DATE:
2015/03

POLICY STATEMENT:

- In order to ensure patient safety all DWA Cecon concentrate supply units shall go through a preventive maintenance program bi-yearly (every 6 months) following manufacturer specifications

DEFINITION(S): N/A

ALERTS: N/A

TOOLS/SUPPLIES REQUIRED:

- Safety glasses
- Standard hand tools
- 100ml beaker
- Pocket timer
- Multi-meter
- IBP or Mesa dialysate meter with pressure testing tool (pre made jig)

PROCEDURE:

1. The first technologist to initiate the preventive maintenance shall open a NephroCare work order as well as initiate the appropriate preventive maintenance checklist
2. All interventions related to this specific preventive maintenance shall be noted on the preventive maintenance checklist

3. Follow the DWA CeCon preventive maintenance instructions: Refer to Appendix A below

4. Complete the DWA CeCon preventive maintenance check list: Refer to Appendix B below

5. Electrical safety testing procedures must be carried out following Policy # 01061-Neph Tech 1-08 Electrical Safety Testing Procedure

6. ESA testing will only include protective earth resistance tests, and test values are indicated on the CeCon preventive maintenance check list

7. The technologist completing the maintenance shall be responsible to enter the final information in the NephroCare work order and closing it

8. The technologist completing the maintenance shall update the Equipment Maintenance Log Sheet on the "V" drive

9. The preventive maintenance checklist shall be place in the appropriate equipment binder along with a copy of the NephroCare work order

RELATED POLICIES / LEGISLATION:

1. Nephrology Policies and Procedures - Biomed Neph - Section 01 - Equipment Maintenance - Neph Tech 1-07 (#01060) NephroCare Work Orders

2. Nephrology Policies and Procedures - Biomed Neph - Section 01 - Equipment Maintenance - Neph Tech 1-08 (#01061) Electrical Safety Testing Procedure

REFERENCE:

1. DWA gmbh & Co.KG Concentrate Supply Unit CeCon 3000 service manual (CASK1E-0 Maintenance-SC CeCon 3000)

DWA CeCon 3000 Functional Testing Instructions for Bi-Yearly PM Checklist

(March 21, 2017)

- Remove the 6 screws from the top panel to gain access to the ST-3000 board. To secure the top panel, align the top middle hole of the panel with the front center hole of the Cecon housing and fasten it with one short screw. See Diagram 1

- For all calibration adjustments and electronic component locations see Diagram 1

Pressure Calibration

There are two differences between QCH and AKU.

- QCH pumps run only on demand and the check valves are located on the output of the pumps.
- AKU pumps are continuous feed and the check valves are located in the white distribution block on the wall.

See Diagram 2 for QCH set up
See Diagram 3 for AKU set up

1. Push the service button once (diag1)
2. using the control panel keys (diag 4) record the pressure set point values. PM Sec 4.0
   Normally QCH = 0.5 bar (375mmHg)
   AKU = 0.28 bar (210mmHg)

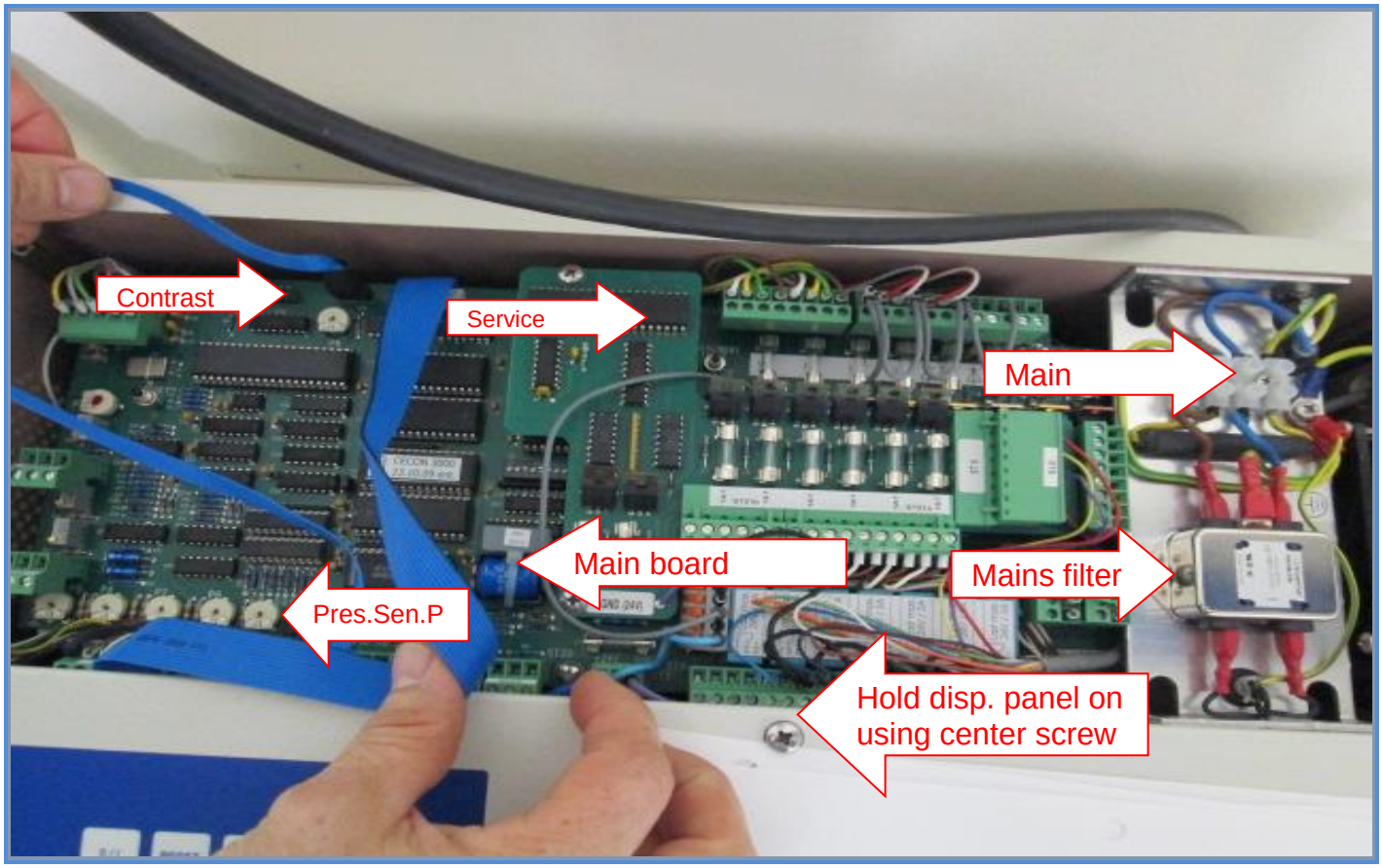
3. Connect the calibration tool as shown in diagram 2 and 3. Be sure to have transducer protector on the meter being used.
   - QCH – disconnect the sensor supply line from the input to the white distribution block (Diag.2)
   - AKU – disconnect the sensor return/drain line from the white sensor block (Diag.3)

4. Turn on system if not already on

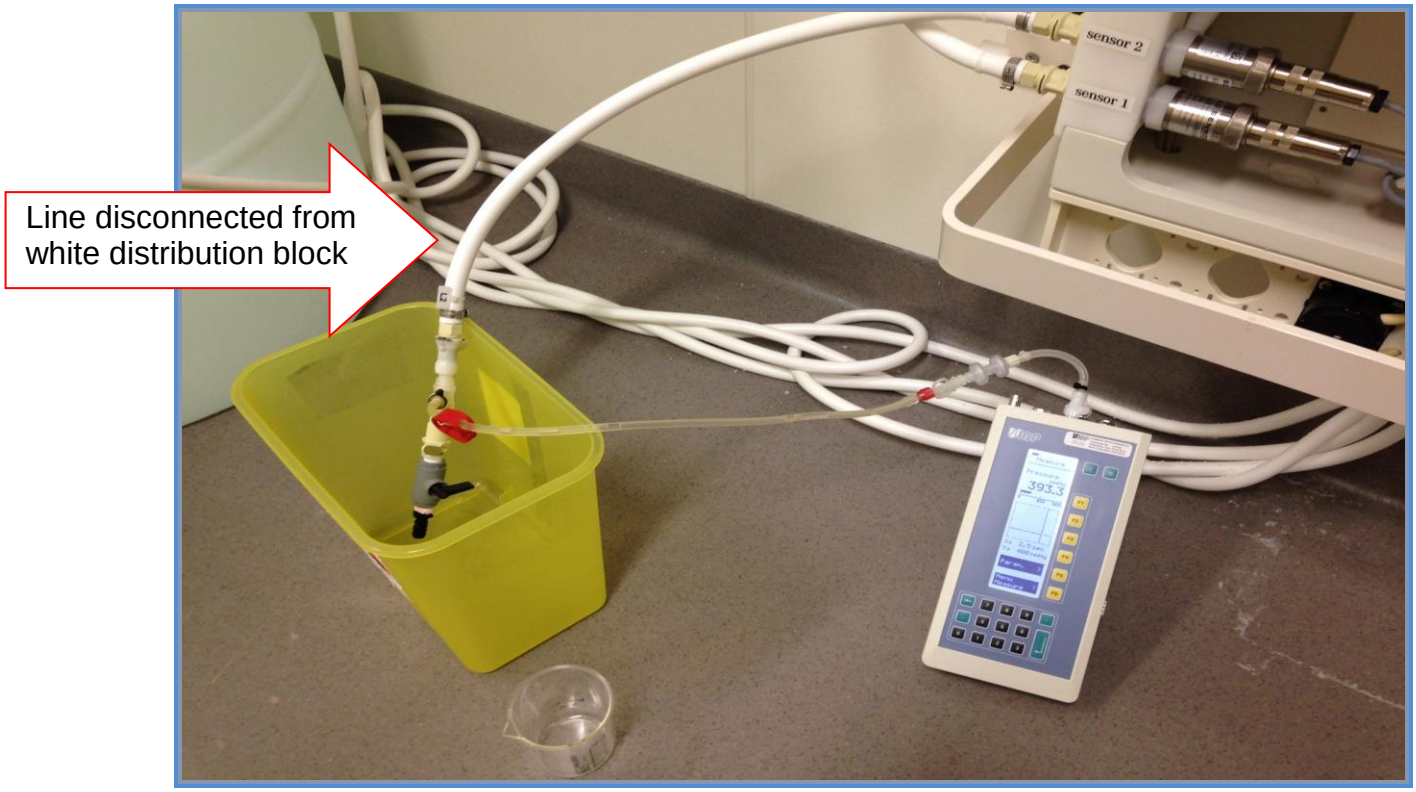
5. Create a flow restriction using the shut off valve on the calibration tool.
   - Using a small beaker and timer create a flow. (fast drip).
   - QCH 30-40ml / min
   - AKU 100ml / min

6. Record the pressure for each line sensor. Pressure should be +/- 75 mmHg from set point. If necessary calibrate using Pressure sensor pots (diag1). Pots are indicated on the PM Checklist. (The pots are very sensitive adjustments)

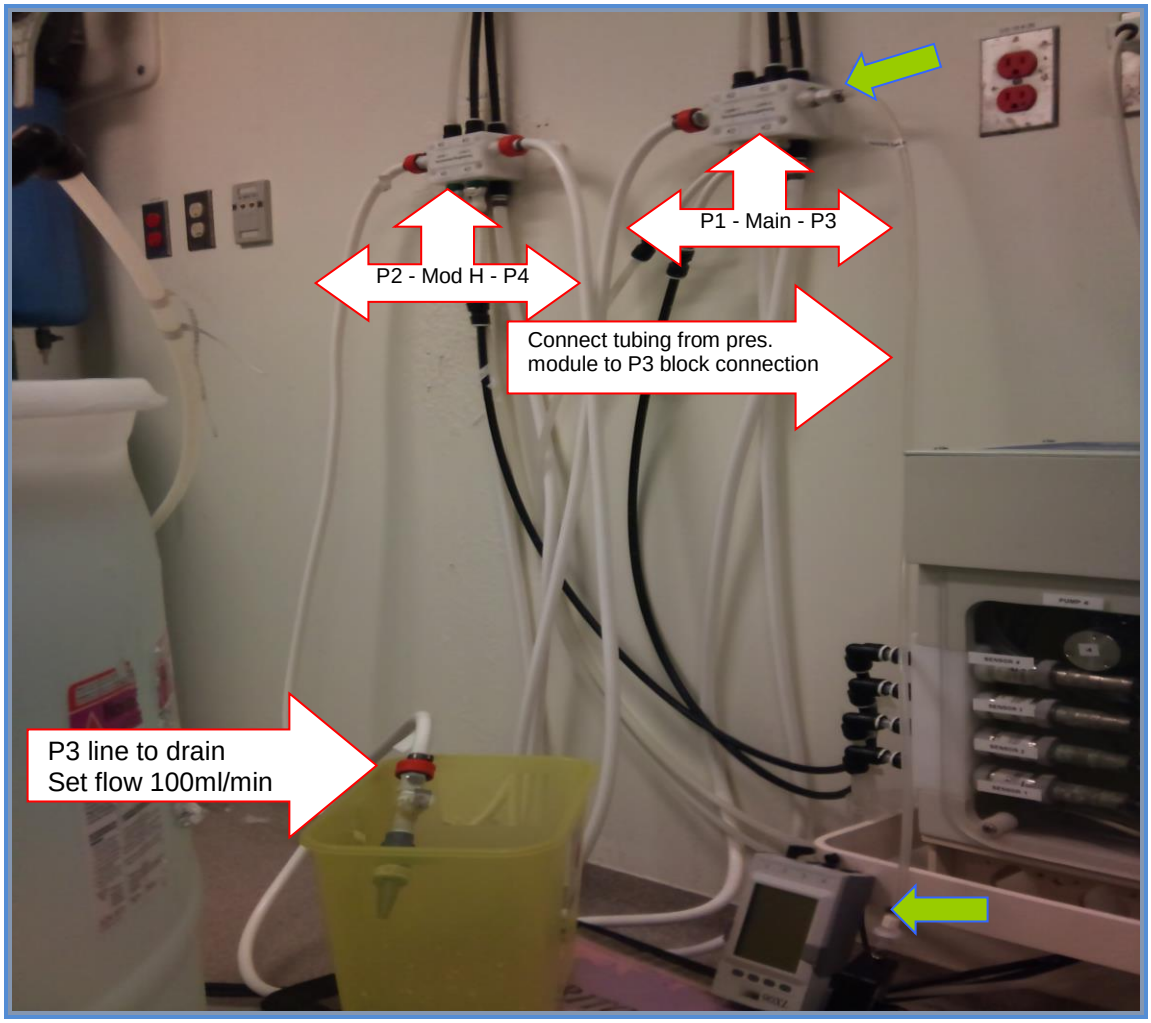
Diag.1



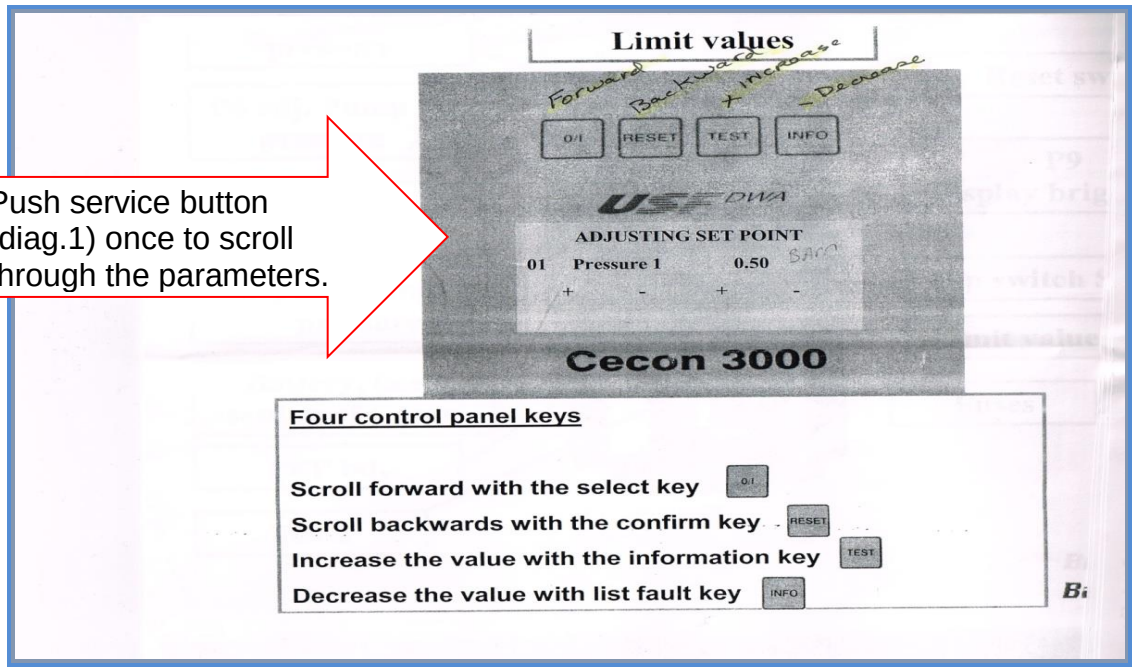
Diag.2 (QCH)



Diag.3



Diag.4



DWA CeCon 3000 Bi-Yearly Preventive Maintenance Check List

(March 21, 2017)

Location: QCH / AKU Date: 20___/_____/____ Technician:_____
WO#_____

1. Visual Inspection

1.1 Labelling and nameplate: legible and complete……...____

1.2 Integrity of mechanical parts: no obstructions, secure operation…….____

1.3 Leak Tightness: free from all leaks, check all hose connections and mechanical housing…..…____

1.4 Container Wands: inspect for damage and functionality…….____

2. Modified Electrical Safety Test: 230v 50/60hz system

2.1 Power Supply cord: inspect for any damage, check strain relief…..……____

2.2 Electronics: inspect for damage and discoloration and verify all ground points are intact.....____

2.3 Protective earth resistance test

Ground point _____Ω max 0.3
Mains Filter _____Ω max 0.3
Fan _____Ω max 0.3
Equipment Leakage ___N/A____

3. Functional Tests

3.1 Control Panel: All buttons work correctly……...____

3.2 LCD display contrast: Check for visibility and clarity…….P9 adjusted Y/N ____

3.3 Main board battery: replace every 2 years…(verify all parameters before replacing)…….>3.6 VDC____

3.4 Fan working ventilation holes are not blocked……____

3.5 Container switching units:
Switching unit 1: Container 1: Empty detected, Full detected……____
Container 2: Empty detected, Full detected……....____
Switching unit 2: Container 1: Empty detected, Full detected……____
Container 2: Empty detected, Full detected……....____

4. Operating Values and Pressure Verification:

4.1 Parameters

Factor: P _____ time vent:_____sec

I _____ Time vent. A1:_____sec

D _____ Time vent. A2:_____min

N _____ TA:_____sec (QCH)

Compare all parameters from previous PM. (these values should not change)…….. _____(initial)**

4.2 Pressure and Pump

QCH-0.5bar=375mmHg AKU 0.28bar=210mmhg

	Press1	Pres 2	Pres3	Pres4	
Set point:	_____	_____	_____	_____	Bar
Measured pres:	_____	_____	_____	_____	mmHg +/-75 from set point
Calibrated pres:	_____ P5	_____ P6	_____ P7	_____ P8	mmHg mark N/A if no adjustment
Pump Capacity after Pres.calibration:	_____	_____	_____	_____	%
Pump Capacity last PM:	_____	_____	_____	_____	%

4.3 Control Parameters: QCH only

Press.Diff:	_____	_____	_____	_____
Pump Tol:	_____	_____	_____	_____
Factor Na:	_____	_____	_____	_____

5. Clean CeCon: All internal, external, tubing and fittings……_____ (initial)