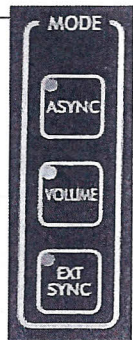


.DDC BACK-UP SETTINGS FOR:

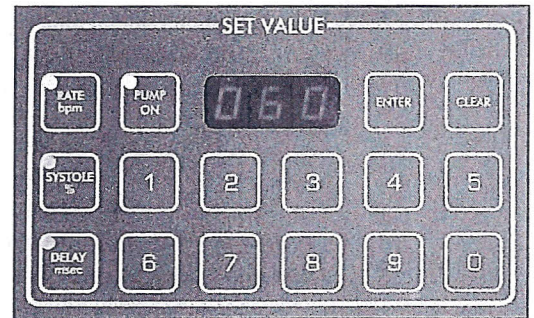
A. START-UP PROCEDURE - for BACK-UP DDC

1. Turn on compressor switches inside back panel. Toggle (light) switches at base of unit.
2. Connect the VAD pneumatic drive tube and electrical lead
3. Select MODE: Async Volume (circle one)
4. Check settings



1. Set Rate at beats per minute – PUSH the RATE bpm button

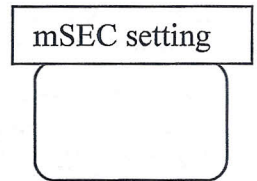
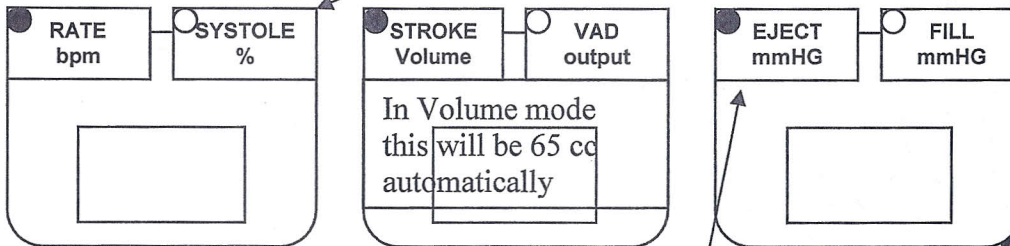
First: Press - Rate bpm
 Next: Enter the set rate using the number pad
 Next: Press – ENTER (once) to change rate



2. Set % Systole 1/2 of Set RATE

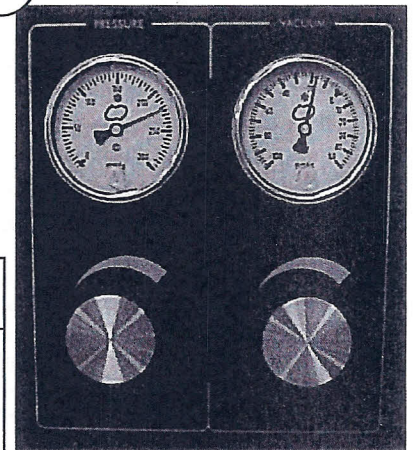
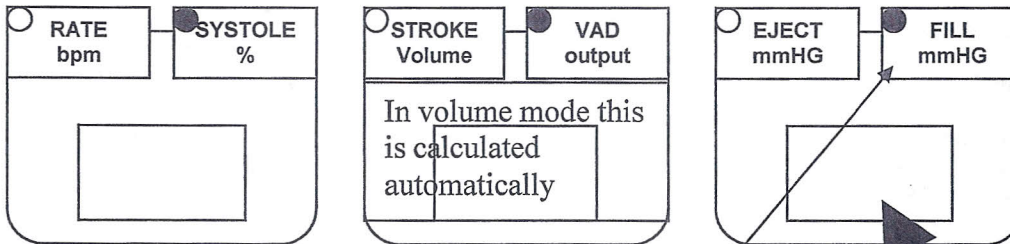
First: Press – Systole % button
 Next: Enter the new % systole value using number pad keys
 Next: Press – ENTER (once) to change % Systole

To see mSEC -Press Systole % twice - mSEC should be 300 in most cases.



3. Set Drive Pressure (Eject Pressure) –

First: Push the EJECT mmHg button to select display value
 Next: Turn Regulator knob to reduce Drive Pressure to desired value
 ** Clockwise to Increase *** Counter-Clockwise to Decrease



4. Set Vacuum

First: Push the FILL mmHg Button to select display value
 Next: Turn Regulator knob to reduce Vacuum Value to desired value
 ** Clockwise to Increase *** Counter-Clockwise to Decrease

Use digital value not gauge number for setting

5. Initiate VAD Pumping – Push the PUMP ON button

Regular inspection of blood pump

Inspection of the pump areas with blood contact

Diagram of blood pump

Noted areas.

1. Transition inflow cannula – inflow connector
2. Inflow stub in front of the inflow valve
- 3a. Inflow valve – left leaflet
- 3b. Inflow valve – center leaflet
- 3c. Inflow valve – right leaflet
4. Inflow stub behind inflow valve
5. Area between inflow and outflow stubs
6. Remaining area of blood chamber
7. Transition blood chamber – Membrane
8. Outflow stub in front of the outflow valve
- 9a. Outflow valve – left leaflet
- 9b. Outflow valve – center leaflet
- 9c. Outflow valve – right leaflet
10. Outflow stub behind outflow valve
11. Transition outflow connector – outflow cannula

Explanations on the pump log

Numbering of the checkpoints

To briefly describe the findings, we recommend the following letter codes:

Example: Plotting of the deposits

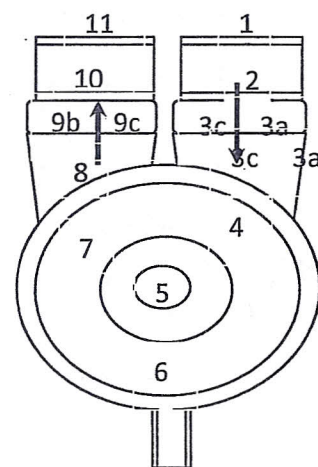
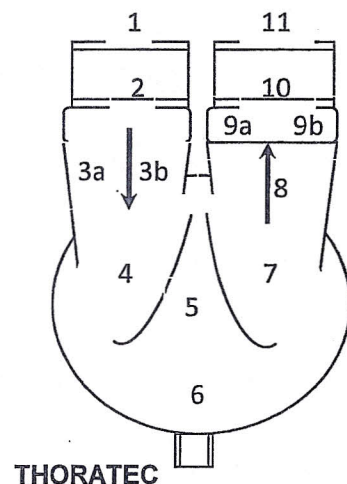
Example: Notation with letter code

p = small speck-like deposits	a = small laminar deposits
P = large speck-like deposits	A = large laminar deposits
f = small suture	t = small thrombus
F = large suture	T = large thrombus
~ = above the respective letter indicates floating deposits	

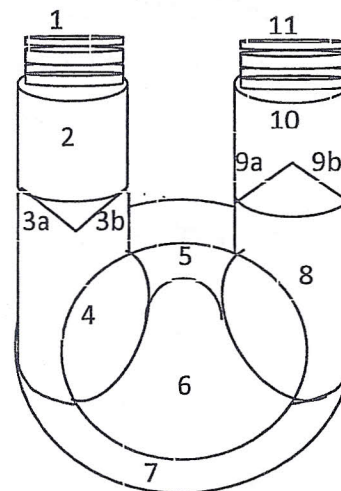
Recommendation

• When performing the inspection, illuminate the blood chamber of the pump with a flashlight. This makes it easier to detect deposits.

1. Transition inflow cannula – inflow connector
2. Inflow stub in front of the inflow valve
- 3a. Inflow valve – left leaflet
- 3b. Inflow valve – center leaflet
- 3c. Inflow valve – right leaflet
4. Inflow stub behind inflow valve
5. Area between inflow and outflow stubs
6. Remaining area of blood chamber
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- 9c. Outflow valve – right leaflet
10. Outflow stub behind outflow valve
11. Transition outflow connector – outflow cannula

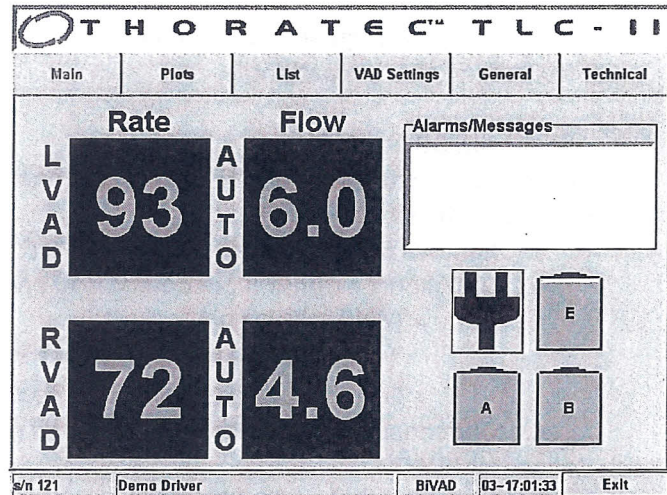


Berlin



Using the Heart-Touch Computer

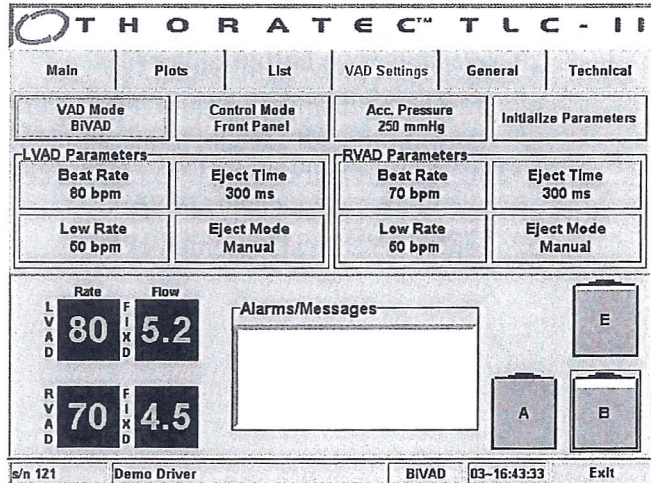
1. Verify communication
 - a. Vad rate
 - b. Battery source
2. No Response form TLC
 - a. No communication message
3. Note 6 tabs
 - a. Main
 - b. Plots
 - c. List
 - d. Vad Settings
 - e. General
 - f. Technical



4. Touch Vad settings
5. To reset and erase the last patient parameters press:
"Initialize parameters" – YES

Default Values

VAD Mode: BivAD
 Accumulator press: 250 mmHg
 Control Mode: Front panel select –Fixed rate
 LVAD beat rate: 80 bpm
 LVAD Low rate: 50 bpm
 LVAD Eject time: 300 msec
 RVAD beat rate: 70 bpm
 RVAD low rate: 50 bpm
 RVAD eject time: 300 msec
 Patient Name: -blank-
 Patient ID: -blank-



6. Vad Mode button to change BIVAD to L or R Vad
7. Control mode will allow selection of "front panel selectable" this will allow changes from TLC
8. Beat rate button- to set different rate – alarm will occur if Rate is < 40 bpm
 - a. This is the rate used for fixed rate mode.
 - b. If switching patient from DDC, typically the beat rate values on the TLC should be approximately equal to the actual pumping rate being use on the DDC,
9. Low rate button- to set default rate- usually 20 below beat rate.
 - a. This the lowest rate that is used in the auto rate mode while waiting for a full signal for the VAD.
 - b. If no full signal is detected at this rate, the TLC switches to the fixed rate mode.
 - c. Usually set at a default of 50. Or 20-30 below the beat rate.
10. Eject time – to change time –usually 300 sec.
11. Eject mode – should be "manual mode"
12. Accumulator pressure – usually 250 mmHg
 - a. Increase Accum. pressure or increase Eject time to assure complete emptying of VAD
13. General tab – Change patient info – enter new patient data
14. Verify Alarms in alarm window

- a. Occlusion – Hi pressure when occluders are in place
 - b. LO pressure – when occluders are removed
 - c. No L full Signal – No R full signal
15. TLC is ready for the patient.

Switch patient from DDC to TLC

1. DDC will have extensions on the Electric and pneumatic lines
2. First move the LVAD
 - a. Remove occluder or set-up plugs on TLC
 - b. Disconnect extension pneumatic lead and plug single pneumatic lead from VAD to TLC.
 - FOR Single VAD –
*** Occluder plug must be in the other VAD position NOT the set-up plug***
 - Set-up plug has a hole in the top.
 - c. Disconnect the electrical extension and plug electrical cord from VAD to TLC
3. Repeat for RVAD
4. Verify Fill signals and L and R fill lights
5. Adjust vacuum source to get full filling of VAD(s)
 - a. Vacuum is on bottom side of TLC
 - b. Start with minimum vacuum (fully counterclockwise)
 - c. Use only enough vacuum to achieve filling
6. Press MODE button and select AUTO rate mode.
 - a. Vad rate is set by filling of VAD
 - b. Verify AUTO on main screen of TLC