These instructions contain operating information and should be left with the unit.

Vapac®

Resistance Heater Units

Alpha-Numeric Display Module Operation Manual Edition 3.1

(For use with Software version 8.1 & subsequent issues)

VapaNet

GB

Installation in countries covered by EC Directives:

This product meets the requirements of the RoHS Directive 2002/95/EEC

This product will meet the requirements of the Low Voltage Safety Directive 2006/95/EEC and the EMC Directive 2004/108/EEC when installed in accordance with the instructions contained in this manual.

Failure to comply with these instructions may invalidate the manufacturer's warranty or any certificate/declaration of conformance requested to be supplied with the unit.

Contents

INTRODUCTION	3
ALPHA-NUMERIC DISPLAY	3
NON PASSWORD PROTECTED MENU OPTIONS	4
USER LEVEL PASSWORD “4602”	8
SERVICE ENGINEER LEVEL PASSWORD “5699”	12

Introduction

Alpha-Numeric Display

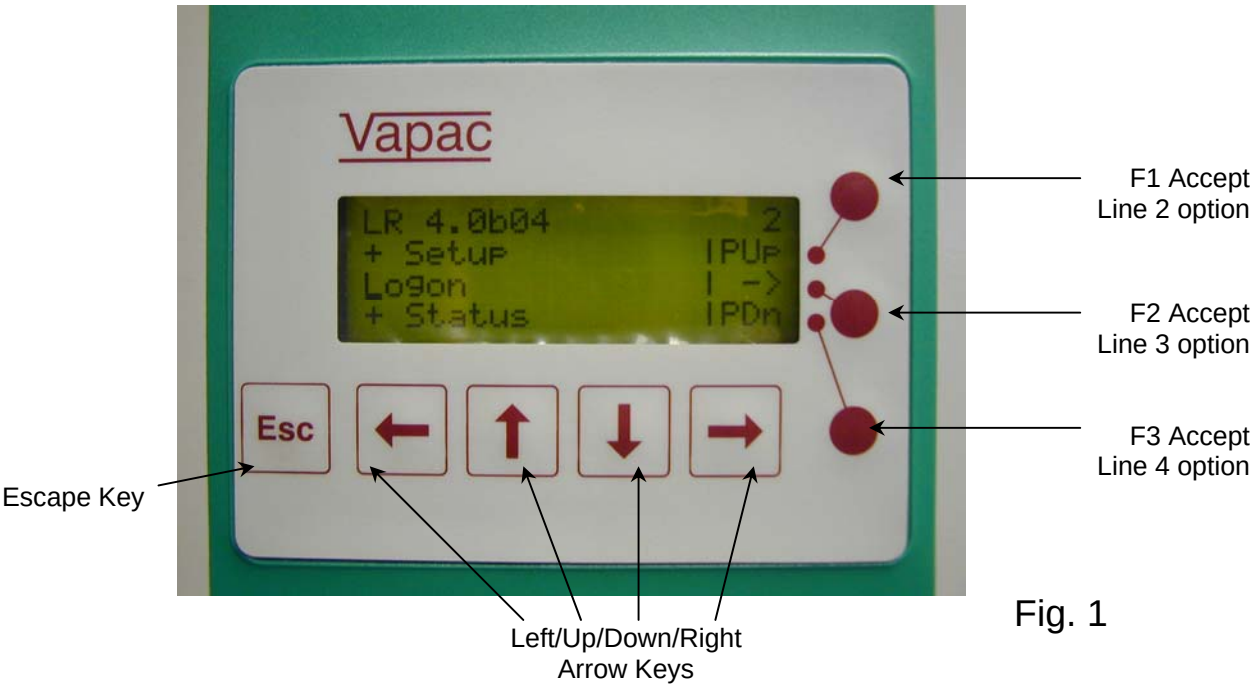


Fig. 1

Figure 1 above shows the Alphanumeric keypad and display. This gives four lines of information, with each line having a maximum of twenty characters. The Arrow keys are used to navigate through the menus and the round buttons, on the right hand side, are used to action the associated options :

In the menu tree the up/down arrow keys are used to navigate through the menu's one option at a time (NB pressing the down arrow in the example above will take you to the "Status" line & the up arrow to the "Setup" line. Pressing F1 or F3 will move up or down three lines at a time [page up or page down]. F2 will take you to the "Logon" screen. Pressing the "Escape" key at any time will move you bake one level in the menu, repeated presses will take you back to the default screen shown in Fig. 1.

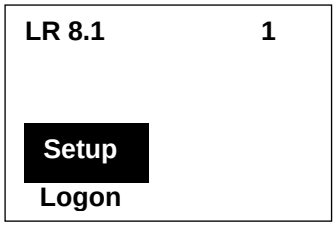
Fig 1A shows the "unit status" menu tree screen. From here it is possible to view the status of the unit parameters.

If you report a fault to Vapac Humidity Control Ltd, you may be asked to provide this information to enable the problem to be diagnosed.

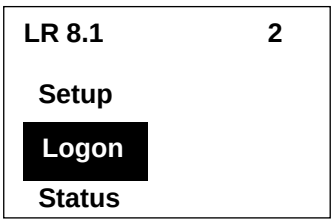


Fig. 1A

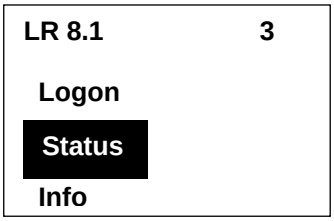
Non Password Protected Menu Options



1-1	Languages	Used to select the displayed language: Languages available: Software – M1 GB; CZ; NL; F; D; GR; I; PL; P; E. Software – M2 GB; DK; F; D; IS; N; FIN; S. Software –C USA/Canadian (English/French)
1-2	Attach to unit	Used to link the display to the motherboard, Select this option, then confirm by pressing “ok”, then press the “network pin” on the motherboard. This is already done if the display is factory fitted, but will need to be done if either PCB is changed, or if the display is “field fitted”.
1-3	Setup unit	This option is used to set the site controlled parameters: **Control type:** (0-5V; 0-10V; 2-10V; 1-18V; 0-20V; 4-20mA; Pot; Full output; Network; or Sensing Head [with any of the following control options – 0-5V; 0-10V, 0-20V, 4-20mA; pot]. **Water type:** (Pot[able] high; Pot. med; Pot. low; De-ionised; De-mineralised. See operating manual for more information. **Voltage:** 200; 230; 380; 415; 440)
1-4	Network Setup	Used to set-up master/slave systems: Password protected (Password 1111). Select this option (from the master unit), confirm by pressing “ok” then press the service pin (this is referred to as the network button in the operating manual) on the motherboard that is fitted to the first slave unit (please ensure that this is the next largest unit). What while the slave unit is “configured” then press “ok” to finish the network set-up or proceed to the next slave unit and press its service pin. Once all the units are configured press “ok” to confirm that the set-up is complete.
1-5	Not available at this level	This item will not be displayed the next available menu item being displayed will be 1.6
1-6	Reset display	Used to re-synchronize the information between the motherboard and display

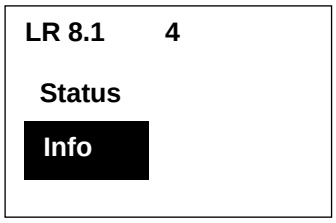


2	Logon	Used to gain access to protected menu trees. Passwords are entered via the arrow keys. Digits are incremented or decremented using the up/down arrows and digit being entered changed using the left/right arrows. Once the correct password is displayed it must be entered by pressing “ok”. These levels are described later in the manual.



3-1	Master Vapac	Used to select the “master” Vapac status parameters to be displayed
3-1-1	Unit	Used to select “unit” parameters.
3-1-2	Cylinder 1	Used to select “cylinder 1” parameters.
3-1-3	Cylinder 2 (if fitted)	Used to select “cylinder 2” parameters (this option will only be displayed if the “master unit has two cylinders).
3-2	Slave Vapac 1 (if fitted)	Used to select the first slave Vapac (this will only be displayed if there is a slave unit on the system) in which case 3-2-1 will again be “unit” properties and 3-2-2 “cylinder 1 “ properties etc…. NB if additional slaves are fitted 3-3 (slave 2) and 3-4 (slave 3) etc will be displayed if necessary.
3-1-1-1	State	Displays the operational state of the unit either “Shutdown” (“switched off”; “EPO/security circuit” open circuit or no 24 Vac supply to PCB); “Stand by” (unit awaiting control signal demand) or “On” (unit operating – if the unit is on it will also display the percentage demand i.e On/50% means the unit has a demand level of 50%.
3-1-1-2	Demand	Displays the unit demand level as a percentage.
3-1-1-3	Space Temp	Only visible if control is from a sensing head or if “Frost protection is selected”
3-1-1-4	Space RH	This displays the space RH as a percentage it will only be displayed if a sensing head is used to control the unit.
3-1-1-5	LRO Plant	This displays the status of Vapanet Reverse Osmosis water treatment plant if fitted to the unit – not fitted / shutdown / standby / sys ready / online / fault / no response
3-1-1-6	Steam Output	Displays the actual steam output.
3-1-1-7	Sys Steam Output	Displays the total steam output of the system – only visible on Master/Slave systems
3-1-1-8	Analogue Inputs	This displays each of the four analogue inputs (Ai1 – AI4) as a 4 digit number
3-1-1-9	Resistive Inputs	This displays each of the 4 resistive inputs (AI5 – AI8) as a 4 digit number
3-1-1-10	Raw DIO	This will display each of the 9 Digital Inputs (DI1-9) and the 24 V input as a row of 10 binary digits (0 or 1) above another similar row representing the 10 Digital Outputs (DO1-10). This can be used to ascertain if any input or output is made, and is useful in diagnosing any problem
3-1-1-11	Device Info	This displays current and historic information relating to the health of the controller hardware. This information can be used in diagnosing any problem
3-1-1-12	Network Status	This displays information on the errors and good messages seen by the controller and the display. This information can be used to check the health of the network

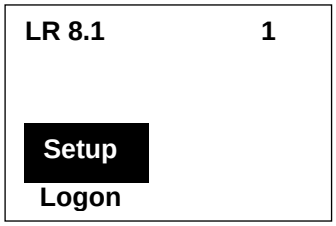
3-1-1-13	Master/Slave	This displays information on the operation of master/slave systems. It can be used to verify and/or diagnose master/slave operation
3-1-2-1	Mode	Displays the cylinder mode (Shutdown/Standby/Online/Constant output/Frost Protection/High temp cutout/LRO shutdown/LRO no response/LRO fault/Feed Fault/Drain Fault/ Service complete/Period drain completet/Period drain in prog/Man drain complete/Man drain in prog/Period flush in prog/Auto flush in prog/Standby drain in prog)
3-1-2-2	Demand	Displays the cylinder demand (for single cylinder units this will equal unit demand
3-1-2-3	Hours run	Displays the total number of hour that the cylinder has been on line. (this can be reset at Service engineer's level)
3-1-2-4	Steam output	Displays the current volume of steam being produced.
3-1-2-5	Fault Totals	Displays the total number of faults that has occurred
3-1-2-6	Feed Valve	Displays feed valve status information. This includes the current state of the valve (OFF or ON), the current state of the lower and upper float switches, the period of time of the last feed operation and the maximum period of time the feed valve has continuously been ON.
3-1-3-1 to 3-1-3-6		Cylinder status repeated for cylinder 2 if applicable
3-2 to 3-10-3-6		Unit & cylinder status repeated for slave units 1 to 9 (depending on the network configuration



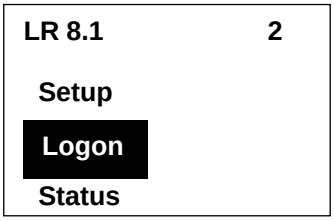
4-1	Master Vapac	Used to select the "master" Vapac status parameters to be displayed
4-1-1	Unit	Used to select "unit" parameters.
4-1-2	Cylinder 1	Used to select "cylinder 1" parameters.
4-1-3	Cylinder 2 (if fitted)	Used to select "cylinder 2" parameters (this option will only be displayed if the "master unit has two cylinders).
4-2	Slave Vapac 1 (if fitted)	Used to select the first slave Vapac (this will only be displayed if there is a slave unit on the system) in which case 3-2-1 will again be "unit" properties and 3-2-2 "cylinder 1 " properties etc…. NB if additional slaves are fitted 3-3 (slave 2) and 3-4 (slave 3) etc will be displayed if necessary.
4-1-1-1	Unit model	Displays the model reference
4-1-1-2	Voltage	Display the voltage applied to the elements – set during initial unit set-up
4-1-1-3	SW Version	Displays the version of software fitted in the control PCB
4-1-1-4	Slaves Attached	Displays the number of slave units attached to the system
4-1-1-5	Num. Cylinders	Displays the total number of cylinders attached to the system
4-1-1-6	Control Sig Type	Displays the control signal selected during initial unit set-up

4-1-1-7	Water Type	Displays the water type selected during initial unit set-up
4-1-1-8	Domain ID	Displays the domain identity – which is set during network set-up, the default value will need to be changed only if two or more Vapanet Reverse Osmosis units are connected to one network – See LRO Documentation for more details
4-1-1-9	Base Address	Displays the base address – which is also set during network set-up see above
4-1-1-10	Steam Units	Displays the steam units (kg/hr or lb/hr) – which is also set during initial unit set-up
4-1-1-11	Standby Drn int	Displays the time after which the cylinder will drain completely, if the unit is in the stand-by state
4-1-1-12	Derate Output	Displays the level of output that has been set using the Derate output function
4-1-2-1	Cylinder Type	Displays the type of control applied to the cylinder either “LR” or “LRP”
4-1-2-2	D Drain Interval	Displays the period of time that the cylinder will stay on line for before carrying out a default drain
4-1-2-3	Period flush int	Displays the time interval between periodic flushes – “0” indicates that periodic flushes have not been selected. Periodic flushes can be set to completely drain the cylinder then re-fill with fresh water and then finally drain the cylinder again to flush the cylinder at timed intervals. This can assist unit operation under certain conditions
4-1-2-4	Flush options	Displays whether the unit is set to stop or resume automatic operation once the periodic flush cycle is complete
4-1-3 to 4-1-3-4		Cylinder options repeated for cylinder 2 (if fitted)
4-2 to 4-10-3-4		Unit & Cylinder options repeated for Slave units 1 to 9 (if applicable)

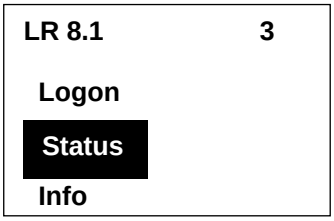
Password Protected Menu Options
User Level Password “4602”



1-1	Languages	Used to select the displayed language: Languages available: Software – M1 GB; CZ; NL; F; D; GR; I; PL; P; E. Software – M2 GB; DK; F; D; IS; N; FIN; S. Software –C USA/Canadian (English/French)
1-2	Attach to unit	Used to link the display to the motherboard, Select this option, then confirm by pressing “ok”, then press the “network pin” on the motherboard. This is already done if the display is factory fitted, but will need to be done if either PCB is changed, or if the display is “field fitted”.
1-3	Setup unit	This option is used to set the site controlled parameters: **Control type:** (0-5V; 0-10V; 2-10V; 1-18V; 0-20V; 4-20mA; Pot; Full output; Network; or Sensing Head [with any of the following control options – 0-5V; 0-10V, 0-20V, 4-20mA; pot]. **Water type:** (Pot[able] high; Pot. med; Pot. low; De-ionised; De-mineralised. See operating manual for more information. **Voltage:** 200; 230; 380; 415; 440)
1-4	Network Setup	Used to set-up master/slave systems: Password protected (Password 1111). Select this option (from the master unit), confirm by pressing “ok” then press the service pin (this is referred to as the network button in the operating manual) on the motherboard that is fitted to the first slave unit (please ensure that this is the next largest unit). What while the slave unit is “configured” then press “ok” to finish the network set-up or proceed to the next slave unit and press its service pin. Once all the units are configured press “ok” to confirm that the set-up is complete.
1-5	Not available at this level	This item will not be displayed the next available menu item being displayed will be 1.6
1-6	Reset display	Used to re-synchronize the information between the motherboard and display

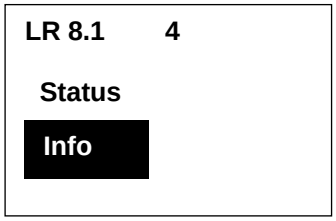


2	Logon	Used to gain access to protected menu trees. Passwords are entered via the arrow keys. Digits are incremented or decremented using the up/down arrows and digit being entered changed using the left/right arrows. Once the correct password is displayed it must be entered by pressing “ok”. These levels are described later in the manual.



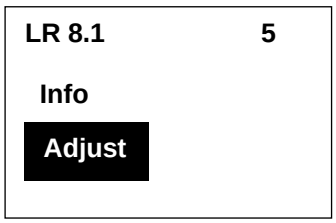
3-1	Master Vapac	Used to select the “master” Vapac status parameters to be displayed
3-1-1	Unit	Used to select “unit” parameters.
3-1-2	Cylinder 1	Used to select “cylinder 1” parameters.
3-1-3	Cylinder 2 (if fitted)	Used to select “cylinder 2” parameters (this option will only be displayed if the “master unit has two cylinders).
3-2	Slave Vapac 1 (if fitted)	Used to select the first slave Vapac (this will only be displayed if there is a slave unit on the system) in which case 3-2-1 will again be “unit” properties and 3-2-2 “cylinder 1 “ properties etc…. NB if additional slaves are fitted 3-3 (slave 2) and 3-4 (slave 3) etc will be displayed if necessary.
3-1-1-1	State	Displays the operational state of the unit either “Shutdown” (“switched off”; “EPO/security circuit” open circuit or no 24 Vac supply to PCB); “Stand by” (unit awaiting control signal demand) or “On” (unit operating – if the unit is on it will also display the percentage demand i.e On/50% means the unit has a demand level of 50%.
3-1-1-2	Demand	Displays the unit demand level as a percentage.
3-1-1-3	Space Temp	Only visible if control is from a sensing head or if “Frost protection is selected”
3-1-1-4	Space RH	This displays the space RH as a percentage it will only be displayed if a sensing head is used to control the unit.
3-1-1-5	LRO Plant	This displays the status of Vapanet Reverse Osmosis water treatment plant if fitted to the unit – not fitted / shutdown / standby / sys ready / online / fault / no response
3-1-1-6	Steam Output	Displays the actual steam output.
3-1-1-7	Sys Steam Output	Displays the total steam output of the system – only visible on Master/Slave systems
3-1-1-8	Analogue Inputs	This displays each of the four analogue inputs (Ai1 – AI4) as a 4 digit number
3-1-1-9	Resistive Inputs	This displays each of the 4 resistive inputs (AI5 – AI8) as a 4 digit number
3-1-1-10	Raw DIO	This will display each of the 9 Digital Inputs (DI1-9) and the 24 V input as a row of 10 binary digits (0 or 1) above another similar row representing the 10 Digital Outputs (DO1-10). This can be used to ascertain if any input or output is made, and is useful in diagnosing any problem
3-1-1-11	Device Info	This displays current and historic information relating to the health of the controller hardware. This information can be used in diagnosing any problem
3-1-1-12	Network Status	This displays information on the errors and good messages seen by the controller and the display. This information can be used to check the health of the network

3-1-1-13	Master/Slave	This displays information on the operation of master/slave systems. It can be used to verify and/or diagnose master/slave operation
3-1-2-1	Mode	Displays the cylinder mode (Shutdown/Standby/Online/Constant output/Frost Protection/High temp cutout/LRO shutdown/LRO no response/LRO fault/Feed Fault/Drain Fault/ Service complete/Period drain completet/Period drain in prog/Man drain complete/Man drain in prog/Period flush in prog/Auto flush in prog/Standby drain in prog)
3-1-2-2	Demand	Displays the cylinder demand (for single cylinder units this will equal unit demand
3-1-2-3	Hours run	Displays the total number of hour that the cylinder has been on line. (this can be reset at Service engineer's level)
3-1-2-4	Steam output	Displays the current volume of steam being produced.
3-1-2-5	Fault Totals	Displays the total number of faults that has occurred
3-1-2-6	Feed Valve	Displays feed valve status information. This includes the current state of the valve (OFF or ON), the current state of the lower and upper float switches, the period of time of the last feed operation and the maximum period of time the feed valve has continuously been ON.
3-1-3-1 to 3-1-3-6		Cylinder status repeated for cylinder 2 if applicable
3-2 to 3-10-3-6		Unit & cylinder status repeated for slave units 1 to 9 (depending on the network configuration



4-1	Master Vapac	Used to select the "master" Vapac status parameters to be displayed
4-1-1	Unit	Used to select "unit" parameters.
4-1-2	Cylinder 1	Used to select "cylinder 1" parameters.
4-1-3	Cylinder 2 (if fitted)	Used to select "cylinder 2" parameters (this option will only be displayed if the "master unit has two cylinders).
4-2	Slave Vapac 1 (if fitted)	Used to select the first slave Vapac (this will only be displayed if there is a slave unit on the system) in which case 3-2-1 will again be "unit" properties and 3-2-2 "cylinder 1 " properties etc…. NB if additional slaves are fitted 3-3 (slave 2) and 3-4 (slave 3) etc will be displayed if necessary.
4-1-1-1	Unit model	Displays the model reference
4-1-1-2	Voltage	Display the voltage applied to the elements – set during initial unit set-up
4-1-1-3	SW Version	Displays the version of software fitted in the control PCB
4-1-1-4	Slaves Attached	Displays the number of slave units attached to the system
4-1-1-5	Num. Cylinders	Displays the total number of cylinders attached to the system
4-1-1-6	Control Sig Type	Displays the control signal selected during initial unit set-up

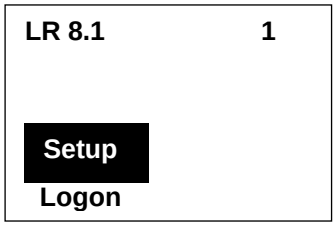
4-1-1-7	Water Type	Displays the water type selected during initial unit set-up
4-1-1-8	Domain ID	Displays the domain identity – which is set during network set-up, the default value will need to be changed only if two or more Vapanet Reverse Osmosis units are connected to one network – See LRO Documentation for more details
4-1-1-9	Base Address	Displays the base address – which is also set during network set-up see above
4-1-1-10	Steam Units	Displays the steam units (kg/hr or lb/hr) – which is also set during initial unit set-up
4-1-1-11	Standby Drn int	Displays the time after which the cylinder will drain completely, if the unit is in the stand-by state
4-1-1-12	Derate Output	Displays the level of output that has been set using the Derate output function
4-1-2-1	Cylinder Type	Displays the type of control applied to the cylinder either “LR” or “LRP”
4-1-2-2	D Drain Interval	Displays the period of time that the cylinder will stay on line for before carrying out a default drain
4-1-2-3	Period flush int	Displays the time interval between periodic flushes – “0” indicates that periodic flushes have not been selected. Periodic flushes can be set to completely drain the cylinder then re-fill with fresh water and then finally drain the cylinder again to flush the cylinder at timed intervals. This can assist unit operation under certain conditions
4-1-2-4	Flush options	Displays whether the unit is set to stop or resume automatic operation once the periodic flush cycle is complete
4-1-3 to 4-1-3-4		Cylinder options repeated for cylinder 2 (if fitted)
4-2 to 4-10-3-4		Unit & Cylinder options repeated for Slave units 1 to 9 (if applicable)



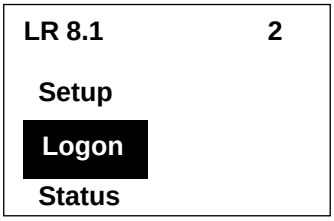
NB The adjust menu will only appear at the “Service Engineer” Level if a “Sensing Head” is used as the control signal, as the only adjustments available at this level are associated with “Sensing Head” control.

5-1	Master Vapac	Selects the master vapac adjust parameters
5-1-1	Unit	Selects the “unit” parameters.
5-1-1-1	Set point	Selects the “set point”, use the up/down keys to adjust the controller set point up or down

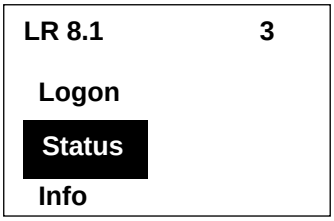
Password Protected Menu Options
Service Engineer Level Password “5699”



1-1	Languages	Used to select the displayed language: Languages available: Software – M1 GB; CZ; NL; F; D; GR; I; PL; P; E. Software – M2 GB; DK; F; D; IS; N; FIN; S. Software –C USA/Canadian (English/French)
1-2	Attach to unit	Used to link the display to the motherboard, Select this option, then confirm by pressing “ok”, then press the “network pin” on the motherboard. This is already done if the display is factory fitted, but will need to be done if either PCB is changed, or if the display is “field fitted”.
1-3	Setup unit	This option is used to set the site controlled parameters: **Control type:** (0-5V; 0-10V; 2-10V; 1-18V; 0-20V; 4-20mA; Pot; Full output; Network; or Sensing Head [with any of the following control options – 0-5V; 0-10V, 0-20V, 4-20mA; pot]. **Water type:** (Pot[able] high; Pot. med; Pot. low; De-ionised; De-mineralised. See operating manual for more information. **Voltage:** 200; 230; 380; 415; 440)
1-4	Network Setup	Used to set-up master/slave systems: Password protected (Password 1111). Select this option (from the master unit), confirm by pressing “ok” then press the service pin (this is referred to as the network button in the operating manual) on the motherboard that is fitted to the first slave unit (please ensure that this is the next largest unit). What while the slave unit is “configured” then press “ok” to finish the network set-up or proceed to the next slave unit and press its service pin. Once all the units are configured press “ok” to confirm that the set-up is complete.
1-5	Not available at this level	This item will not be displayed the next available menu item being displayed will be 1.6
1-6	Reset display	Used to re-synchronize the information between the motherboard and display

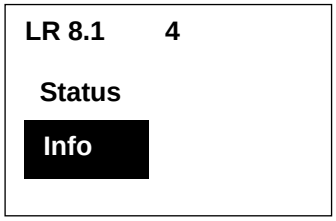


2	Logon	Used to gain access to protected menu trees. Passwords are entered via the arrow keys. Digits are incremented or decremented using the up/down arrows and digit being entered changed using the left/right arrows. Once the correct password is displayed it must be entered by pressing “ok”. These levels are described later in the manual.



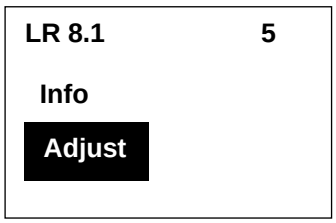
3-1	Master Vapac	Used to select the “master” Vapac status parameters to be displayed
3-1-1	Unit	Used to select “unit” parameters.
3-1-2	Cylinder 1	Used to select “cylinder 1” parameters.
3-1-3	Cylinder 2 (if fitted)	Used to select “cylinder 2” parameters (this option will only be displayed if the “master unit has two cylinders).
3-2	Slave Vapac 1 (if fitted)	Used to select the first slave Vapac (this will only be displayed if there is a slave unit on the system) in which case 3-2-1 will again be “unit” properties and 3-2-2 “cylinder 1 “ properties etc…. NB if additional slaves are fitted 3-3 (slave 2) and 3-4 (slave 3) etc will be displayed if necessary.
3-1-1-1	State	Displays the operational state of the unit either “Shutdown” (“switched off”; “EPO/security circuit” open circuit or no 24 Vac supply to PCB); “Stand by” (unit awaiting control signal demand) or “On” (unit operating – if the unit is on it will also display the percentage demand i.e On/50% means the unit has a demand level of 50%.
3-1-1-2	Demand	Displays the unit demand level as a percentage.
3-1-1-3	Space Temp	Only visible if control is from a sensing head or if “Frost protection is selected”
3-1-1-4	Space RH	This displays the space RH as a percentage it will only be displayed if a sensing head is used to control the unit.
3-1-1-5	LRO Plant	This displays the status of Vapanet Reverse Osmosis water treatment plant if fitted to the unit – not fitted / shutdown / standby / sys ready / online / fault / no response
3-1-1-6	Steam Output	Displays the actual steam output.
3-1-1-7	Sys Steam Output	Displays the total steam output of the system – only visible on Master/Slave systems
3-1-1-8	Analogue Inputs	This displays each of the four analogue inputs (Ai1 – AI4) as a 4 digit number
3-1-1-9	Resistive Inputs	This displays each of the 4 resistive inputs (AI5 – AI8) as a 4 digit number
3-1-1-10	Raw DIO	This will display each of the 9 Digital Inputs (DI1-9) and the 24 V input as a row of 10 binary digits (0 or 1) above another similar row representing the 10 Digital Outputs (DO1-10). This can be used to ascertain if any input or output is made, and is useful in diagnosing any problem
3-1-1-11	Device Info	This displays current and historic information relating to the health of the controller hardware. This information can be used in diagnosing any problem
3-1-1-12	Network Status	This displays information on the errors and good messages seen by the controller and the display. This information can be used to check the health of the network

3-1-1-13	Master/Slave	This displays information on the operation of master/slave systems. It can be used to verify and/or diagnose master/slave operation
3-1-2-1	Mode	Displays the cylinder mode (Shutdown/Standby/Online/Constant output/Frost Protection/High temp cutout/LRO shutdown/LRO no response/LRO fault/Feed Fault/Drain Fault/ Service complete/Period drain completet/Period drain in prog/Man drain complete/Man drain in prog/Period flush in prog/Auto flush in prog/Standby drain in prog)
3-1-2-2	Demand	Displays the cylinder demand (for single cylinder units this will equal unit demand
3-1-2-3	Hours run	Displays the total number of hour that the cylinder has been on line. (this can be reset at Service engineer's level)
3-1-2-4	Steam output	Displays the current volume of steam being produced.
3-1-2-5	Fault Totals	Displays the total number of faults that has occurred
3-1-2-6	Feed Valve	Displays feed valve status information. This includes the current state of the valve (OFF or ON), the current state of the lower and upper float switches, the period of time of the last feed operation and the maximum period of time the feed valve has continuously been ON.
3-1-3-1 to 3-1-3-6		Cylinder status repeated for cylinder 2 if applicable
3-2 to 3-10-3-6		Unit & cylinder status repeated for slave units 1 to 9 (depending on the network configuration



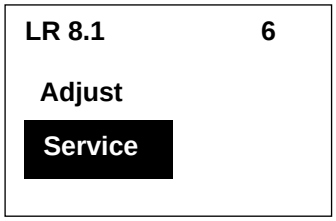
4-1	Master Vapac	Used to select the "master" Vapac status parameters to be displayed
4-1-1	Unit	Used to select "unit" parameters.
4-1-2	Cylinder 1	Used to select "cylinder 1" parameters.
4-1-3	Cylinder 2 (if fitted)	Used to select "cylinder 2" parameters (this option will only be displayed if the "master unit has two cylinders).
4-2	Slave Vapac 1 (if fitted)	Used to select the first slave Vapac (this will only be displayed if there is a slave unit on the system) in which case 3-2-1 will again be "unit" properties and 3-2-2 "cylinder 1 " properties etc…. NB if additional slaves are fitted 3-3 (slave 2) and 3-4 (slave 3) etc will be displayed if necessary.
4-1-1-1	Unit model	Displays the model reference
4-1-1-2	Voltage	Display the voltage applied to the elements – set during initial unit set-up
4-1-1-3	SW Version	Displays the version of software fitted in the control PCB
4-1-1-4	Slaves Attached	Displays the number of slave units attached to the system
4-1-1-5	Num. Cylinders	Displays the total number of cylinders attached to the system
4-1-1-6	Control Sig Type	Displays the control signal selected during initial unit set-up

4-1-1-7	Water Type	Displays the water type selected during initial unit set-up
4-1-1-8	Domain ID	Displays the domain identity – which is set during network set-up, the default value will need to be changed only if two or more Vapanet Reverse Osmosis units are connected to one network – See LRO Documentation for more details
4-1-1-9	Base Address	Displays the base address – which is also set during network set-up see above
4-1-1-10	Steam Units	Displays the steam units (kg/hr or lb/hr) – which is also set during initial unit set-up
4-1-1-11	Standby Drn int	Displays the time after which the cylinder will drain completely, if the unit is in the stand-by state
4-1-1-12	Derate Output	Displays the level of output that has been set using the Derate output function
4-1-2-1	Cylinder Type	Displays the type of control applied to the cylinder either “LR” or “LRP”
4-1-2-2	D Drain Interval	Displays the period of time that the cylinder will stay on line for before carrying out a default drain
4-1-2-3	Period flush int	Displays the time interval between periodic flushes – “0” indicates that periodic flushes have not been selected. Periodic flushes can be set to completely drain the cylinder then re-fill with fresh water and then finally drain the cylinder again to flush the cylinder at timed intervals. This can assist unit operation under certain conditions
4-1-2-4	Flush options	Displays whether the unit is set to stop or resume automatic operation once the periodic flush cycle is complete
4-1-3 to 4-1-3-4		Cylinder options repeated for cylinder 2 (if fitted)
4-2 to 4-10-3-4		Unit & Cylinder options repeated for Slave units 1 to 9 (if applicable)

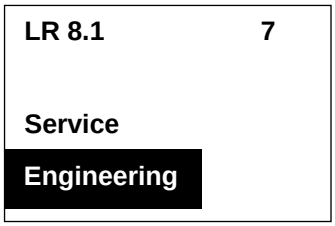


NB The adjust menu will only appear at the “Service Engineer” Level if a “Sensing Head” is used as the control signal, as the only adjustments available at this level are associated with “Sensing Head” control.

5-1	Master Vapac	Selects the master vapac adjust parameters
5-1-1	Unit	Selects the “unit” parameters.
5-1-1-1	Set point	Selects the “set point”, use the up/down keys to adjust the controller set point up or down
5-1-1-2	Prop band	Selects the “proportional band”, use the arrow keys to set the proportional band that is appropriate for the site control system
5-1-1-3	RH Offset	Selects RH Offset, allows the displayed “Space RH” & controller set-point to be “offset” to “calibrate” the sensing head to external monitoring equipment



6-1	Master Vapac	Selects the master vapac adjust parameters
6-1-1	Unit	Allows the “Unit” to be serviced..
6-1-2	Cylinder 1	Allows the “Cylinder 1” to be serviced
6-1-3	Cylinder 2	Allows cylinder 2 (if fitted) to be serviced
6-1-1-1	Constant Output	Allows the unit to be run at an (adjustable) preset level independently from the control signal
6-1-1-1-1	Level	Sets the level at which the unit will run
6-1-1-1-2	Duration	Sets the length of time the unit will run before reverting to automatic control
6-1-1-1-3	Level	Starts the constant output routine
6-1-1-2		Not available at this level
6-1-1-3	Run Output	Allows the run relay to be switched “manually”, to check external wiring to the remote indications
6-1-1-4	Fault Output	Allows the fault relay to be switched “manually”, to check external wiring to the remote indications
6-1-2-1	Const Output	Allows the cylinder to be run at an (adjustable) preset level independently from the control signal
6-1-2-2	Service Now	Initiates a service routine, cylinder will drain, then switch the elements on, then fill with water to thermally shock scale from the elements, finally the cylinder will drain again
6-1-2-3	Manual Drain	Instigates a drain, as if holding down the manual drain switch, it can be used to prove the automatic drain is functioning or to drain the cylinder without holding the drain switch down
6-1-2-4	Auto Flush	Instigates an automatic flush, where the cylinder is filled with water and then fully drained a number of times. This is particularly useful when initially commissioning a unit which has a long run of new copper pipe in the feed supply, to “flush any impurities / flux from the water supply
6-1-2-5	Reset Run Hours	This re-sets the cylinder hours run to zero – usually done when the cylinder is changed
6-1-2-6	Manual Control	When this option is selected, automatic control of the feed valve and drain pump is suspended, allowing the following two options to be used
6-1-2-7	Feed Valve	This allows the feed valve to be manually switched “on” & “off” to prove the feed valve is operating correctly
6-1-2-8	Drain Pump	This allows the drain pump to be manually switched “on” & “off” to prove the drain pump is operating correctly
6-1-3-1 to 6-1-3-4		The above cylinder options are repeated for cylinder 2 (if fitted)
6-2 to 6-9-3		The above service options are repeated for slave units 1 to 9 (if applicable)



7-1	Master Vapac	Selects the master vapac adjust parameters
7-1-1	Unit	Selects the “unit” parameters.
7-1-1-1	Fault Output	Allows the “fault” alarm signal to be set to either “Continuous” or “Pulsed.
7-1-1-2	Fault run scope	Allows the run & fault alarms to show either the “Master” or “Network” status. This defaults to “Network” as standard. i.e. the run signal will show if the network is operating and the fault indication will be made if any of the slaves are in a fault condition
7-1-1-3 to 7-1-1-4	Not available at this level	These items will not be displayed the next available menu item being displayed will be 7.1.1.5
7-1-1-5	P factor	Used to increase power uplift by a percentage 0 - 15 % when feed water valve is on
7-1-1-6	T factor	The time period 0 - 60 sec to reduce the power uplift back down to demand power when water feed valve is switched OFF
7-1-1-7 to 7-1-1-9	Not available at this level	These items will not be displayed the next available menu item being displayed will be 7.1.1.10
7-1-1-10	System ON %	Used to set the minimum percentage of demand that a master slave system will react to
7-1-1-11 to 7-1-1-16	Not available at this level	These items will not be displayed the next available menu item being displayed will be 7.1.1.17
7-1-1-17	Cyl Min Run	Specifies the minimum period of time that a cylinder will run
7-1-1-18	Cyl Hold On	Specifies the period of time a cylinder will continue to run after the demand signal has been removed.

Made in England by:
Vapac Humidity Control Ltd.

Printed in Great Britain.

April 2007

Vapac Humidity Control Ltd reserve the right to change the design or specification
Of the equipment described in this manual without prior notice