

**Technical Manual
for
SERIES 2 VARIHEAT
(AW570/870/1270VH RANGE)**

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1.0 HOW THE CALOREX 'SERIES 2 VARIHEAT' SYSTEM WORKS

The Calorex 'SERIES 2 VARIHEAT' range consists of 3 models 570/870/1270.

The model number increases in relation to the recirculated air flow, from Model 570 at 1800m³/h to Model 1270 at 3000m³/h.

When optional fresh air feature is fitted, all models have the facility to exhaust a percentage of the recirculating air and introduce a slightly lesser amount of fresh air.

(Slight differential creates a negative pressure on pool hall to localise pool environment and protect the building fabric).

All models are fitted with a fully controlled air heater battery and pool water heat exchanger.

These are designed to operate with LPHW at 80°C provided by a standard boiler. Provision is made for this boiler to be initiated by the 'SERIES 2 VARIHEAT' controller. All models have air and water heat exchangers deriving energy from the refrigeration/dehumidification process.

These are also fully controlled with priority given to water.

THE CALOREX SERIES 2 VARIHEAT RANGE

FEATURES

All SERIES 2 VARIHEAT models have direct drive main recirculating fans.

Models fitted with the optional fresh air feature have motor driven variable louvres on the exhaust and fresh air dampers.

The power to each model in the SERIES 2 VARIHEAT range is fed in via a terminal block located in the electric box of the unit.

CONTROL PANEL. All Models

The panel has the following equipment:

1. Relative Humidity Controller: with red indicator light below it showing dehumidification taking place.
2. Air Temperature Controller: with red indicator light to show heating taking place.
3. Water Temperature Controller: with red indicator light to show heating taking place.
4. Damper Control Switch: (if fitted), enabling damper to be set to automatic operation (normal) or fully closed manually.
5. Power Switch: to switch the machine ON and OFF. With the unit switched OFF, only the mains indicator light and the clock are energised.
6. A time clock to control the "occupied/unoccupied" timings with battery 'back up' and manual override.
7. A row of indicator lights showing:

Mains ON

Automatic Operation

Fault

Defrost

Below the panel in the electrical control box is a manually set thermostat, for setting the unoccupied pool hall air temperature.

In the same area are the control circuit fuses and motor protection overloads.

OPERATION

When the SERIES 2 VARIHEAT is connected to the mains supply via an isolator, and the isolator is energised, the MAINS Light on the panel will light indicating mains ON, the clock will commence operating, and the fan will start. The clock has a battery reserve fitted which when charged has an operating time of 100 hours so that isolating the SERIES 2 VARIHEAT unit for short periods will not change the clock setting.

The SERIES 2 VARIHEAT unit is switched on to normal operation by an ON(I)/OFF(0) switch on the control panel.

Providing that the controls are set to the correct parameters, nominally 60% RH, 28°C air temperature and 26°C water temperature and the fresh air switch, if fitted, is set to AUTO, then the machine will operate automatically. The 'unoccupied' temperature is set on the thermostat mounted inside the electrical control panel and will be switched at the time set on the clock.

As the unit operates, the indicator lights positioned below their relative control instrument will indicate the state of the control conditions, with the lights indicating dehumidification, heat to air and heat to water.

At the top of the panel are four further lights:

Red for Mains ON (showing that the isolator is made and the unit is energised).

Amber for Fault (high or low refrigerant pressure trip).

Clear for Defrost.

Green to indicate automatic operation.

PARAMETER CONTROLLERS

Each parameter; Relative Humidity, Water Temp and Air Temp is sensed within the machine and the signal is taken to the relevant controller.

Each temperature controller on the SERIES 2 VARIHEAT has two switching channels:

KI (OUT1) which is set from the front panel K2 (OUT2) which is factory pre-set.

Each channel has a switching differential which is also pre-set in the factory. Neither should be tampered with.

When the re-settable channel KI (OUT1) is adjusted all other settings and differentials on that controller automatically follow at the correct relationship.

For example.

If the air temperature is set at 28°C then the following settings follow.

LPHW ON 27.7°C LPHW OFF 28.3°

DAMPERS OPEN 30.3°C IF FITTED DAMPERS CLOSE 29.7°C.

This is given as an example but it is not necessary for the operation of the unit for these figures to be known by the customer.

OPERATION

TIMECLOCK

The time clock setting determines the OCCUPIED/UNOCCUPIED periods and is set to match the operators' requirements regarding opening and closing times for the pool and possible times where the pool is covered.

There are two settings as mentioned OCCUPIED or daytime, and UNOCCUPIED or night time (covered).

The most obvious action of this change is to lower the pool hall air temperature to a determined temperature to conserve air heating energy. This lowering of temperature is allowable because of the quiescent, and hopefully covered, condition of the pool. The UNOCCUPIED pool hall air temperature is controlled by a dedicated thermostat mounted behind the control panel.

DAMPER CONTROL SWITCH

On the front control panel is a 2 position switch which controls the inlet/exhaust air dampers (if fitted).

In OCCUPIED operation AUTO will allow the units control system to drive the damper motors to achieve the optimum condition for operation, but provision is made to manually drive the dampers to MIN .

In UNOCCUPIED operation the AUTO setting will drive the dampers to MIN as will the MIN setting.

CONTROL

The unit is automatically controlled by reference to three parameters, each one having a dedicated controller mounted in the control panel.



Relative Humidity



Air Temperature



Water Temperature

Each temperature controller has one user adjustable set point with a 2nd switch point preset in relation to it, as described above.

The user adjustable RH set point controls the ON-OFF point of the dehumidification compressor directly.

The user adjustable air temperature set point controls the ON-OFF point for the LPHW heater battery directly, and, indirectly controls the "air conditioning" mode (if fitted) ON-OFF 2°C above the set point.

The user adjustable water temperature set point controls the dehumidification driven water heating condenser directly and, indirectly 0.2°C below the set point, controls the LPHW water heater calorifier.

OCCUPIED AND UNOCCUPIED DIFFERENCES.

The time clock determines the OCCUPIED and UNOCCUPIED periods according to its setting.

The general operational difference is as follows:

The time clock has a set of contacts which are energised during occupied periods.

These contacts energise in turn the AS2 (air conditioning) contacts on the air temperature thermostat and a relay which, deselects the UNOCCUPIED thermostat, selects the OCCUPIED thermostat, and, selects full auto control for the dampers.

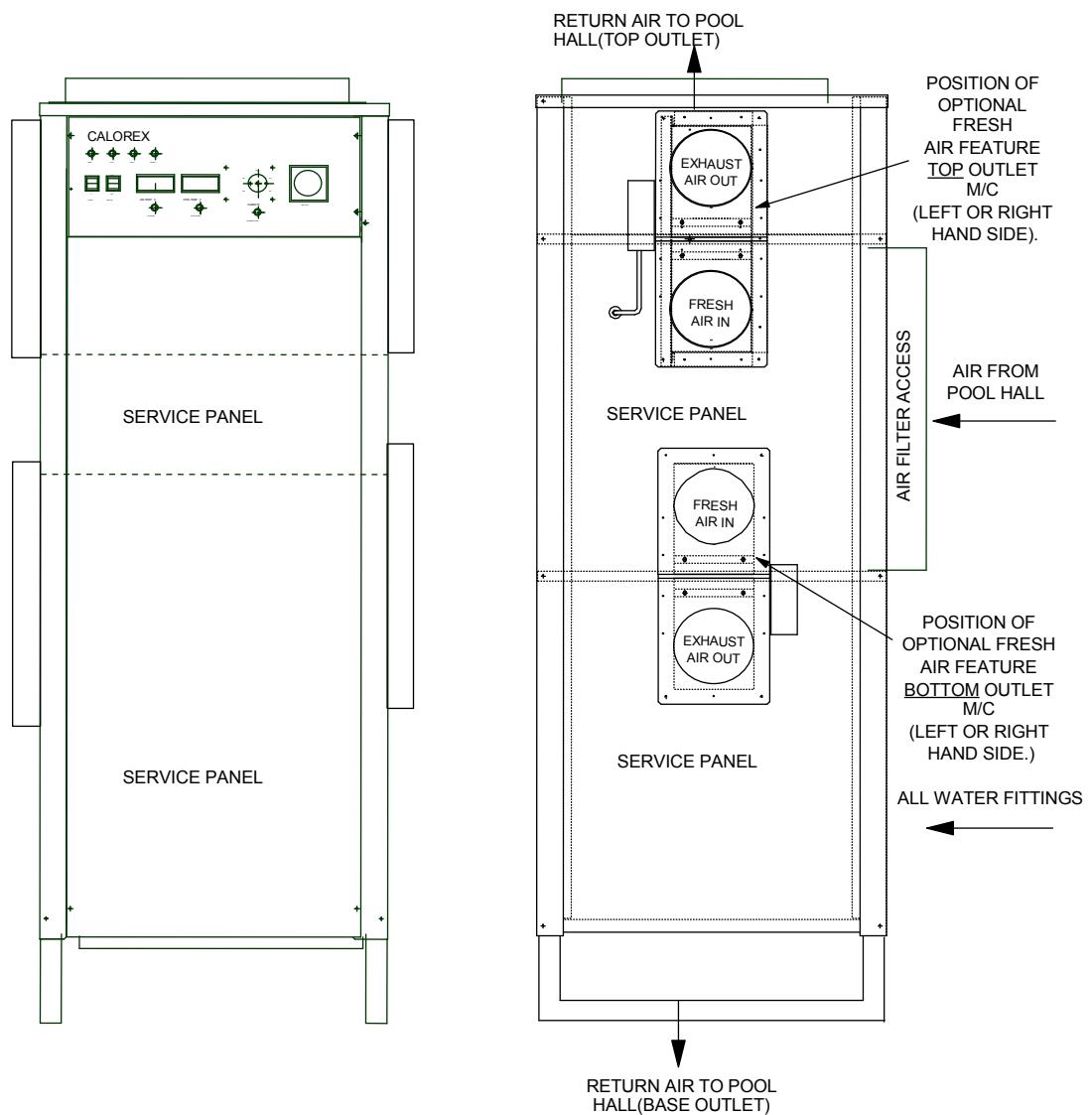
In essence the unit operates in all modes in OCCUPIED condition. In UNOCCUPIED condition it operates similarly with the exceptions as follows:

- Pool hall air temperature lowered to the setting of the UNOCCUPIED thermostat.
- Fresh/exhaust air dampers (if fitted) driven to MIN when 2 position switch is set to AUTO.

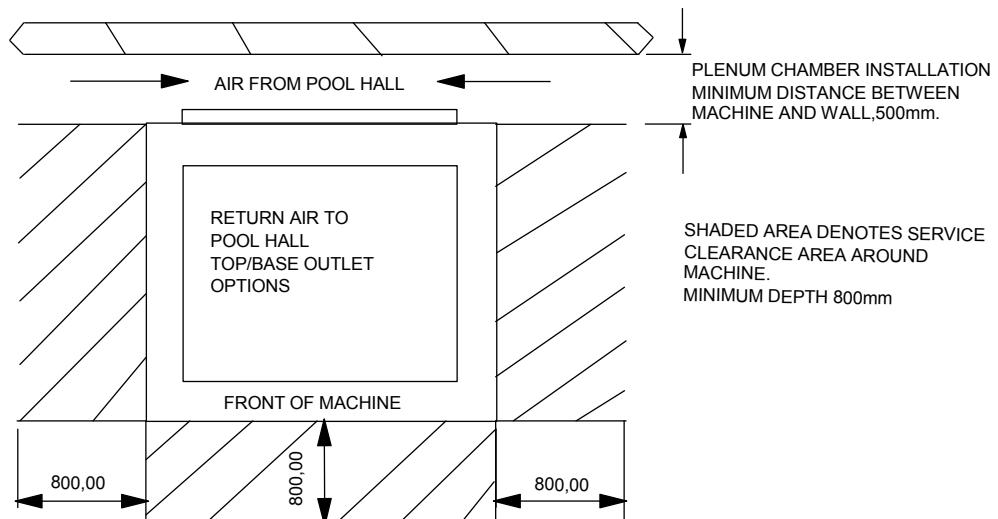
The unit can be manually overridden to occupied via the remote low voltage switch, see circuit diagram page 16.

2.0 INSTALLATION

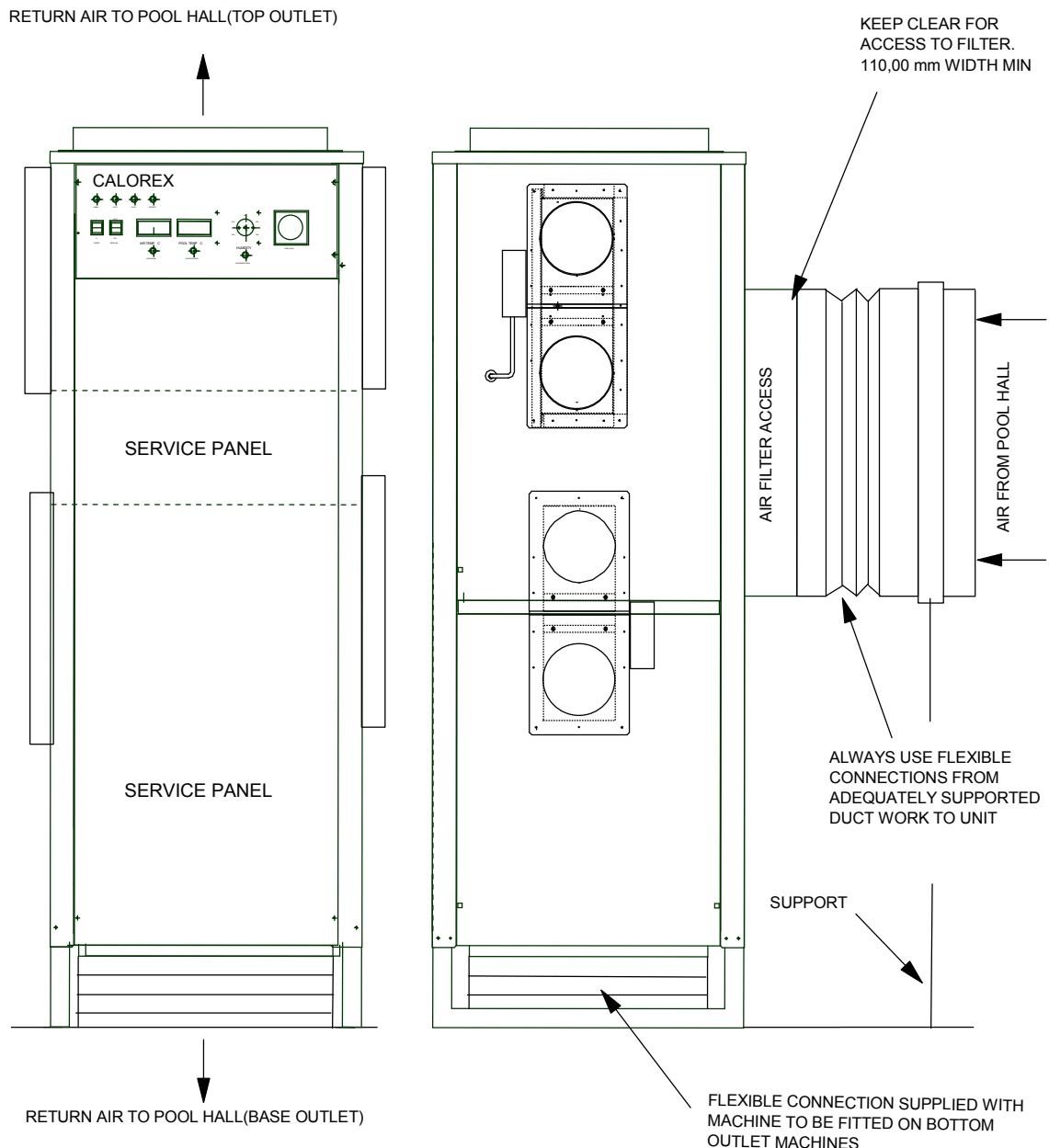
2.1 SITING



PLAN VIEW



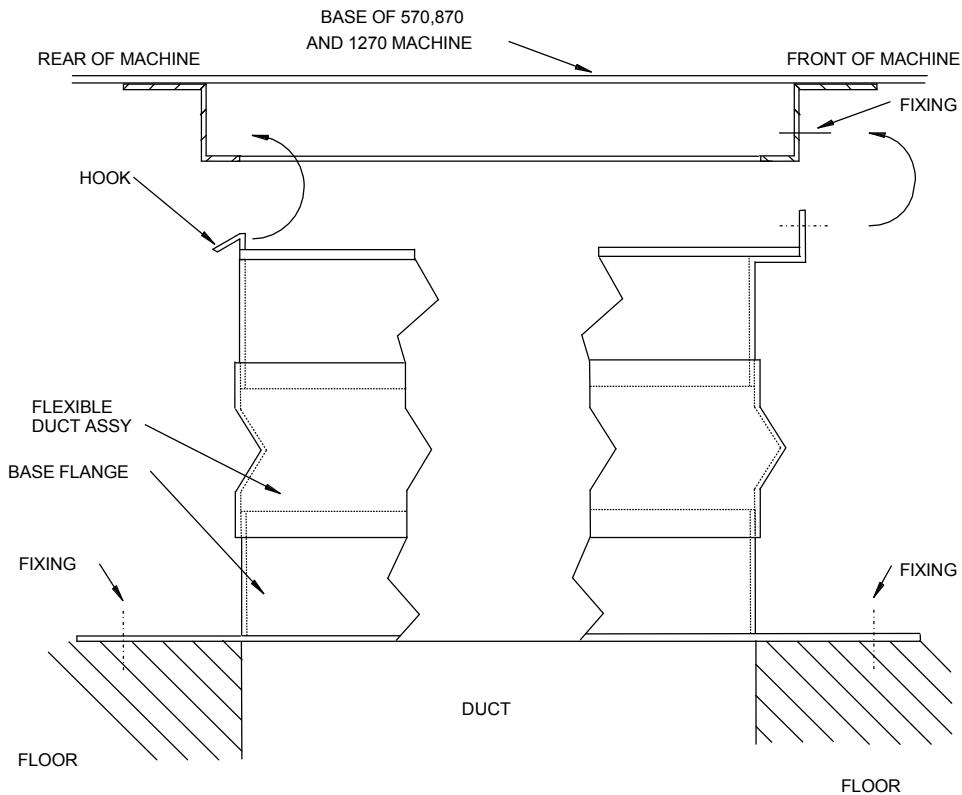
2.2 AIRFLOW



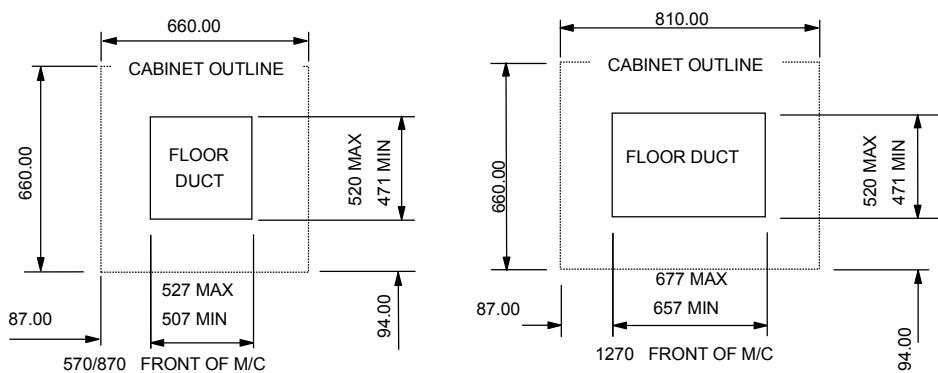
2.2 AIR FLOW(FLEXIBLE DUCT KIT)

DUCT ASSEMBLY FITTING INSTRUCTIONS FOR 570,870 & 1270

OPTIONAL FLEXIBLE JOINT

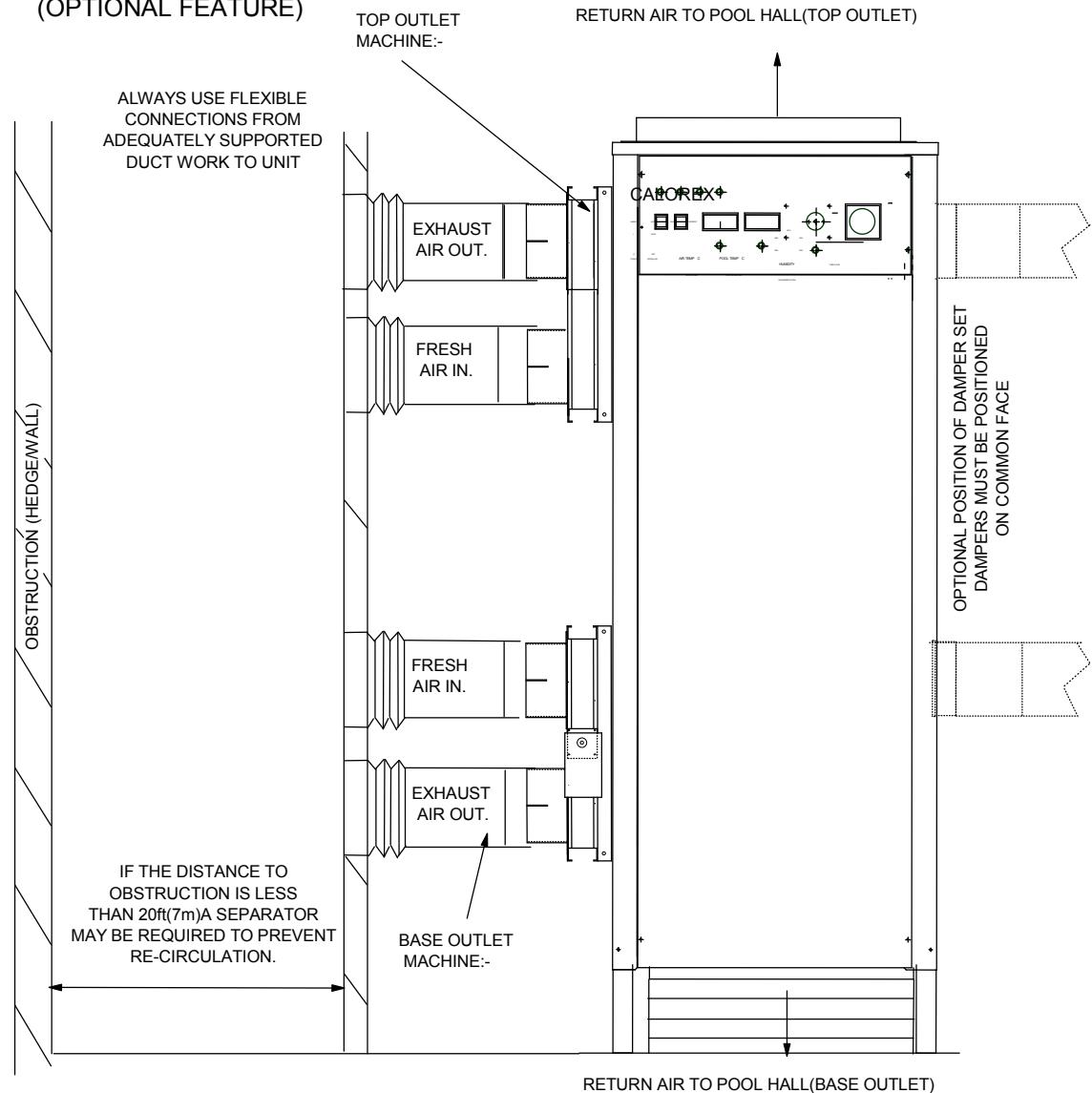


1. FIT BASE FLANGE TO FLOOR USING FIXINGS PROVIDED.
 2. POSITION MACHINE OVER DUCTWORK
 3. RAISE DUCT ASSEMBLY, POSITIONING HOOK OVER RETURN OF MACHINE FLANGE.
 4. SECURE ASSEMBLY TO MACHINE USING FIXINGS PROVIDED.



2.2 AIR FLOW(FRESH/EXHAUST AIR)

(OPTIONAL FEATURE)



- 1). ENSURE DUCT WORK PRESSURE DROP, INCLUDING ALL INLET/OUTLET GRILLES DOES NOT EXCEED RESISTANCE GIVEN IN DATA SHEET.
- 2). EVERY EFFORT MUST BE MADE TO PREVENT RE-CIRCULATION OF DISCHARGE BACK INTO INLET.
- 3). ENSURE INLET DOES NOT BECOME BLOCKED BY DEBRIS(LEAVES,GRASS CUTTINGS etc.)
- 4). IF UNIT IS LOCATED IN A PLANT ROOM AT POOL HALL AIR TEMPERATURES ANY AMBIENT AIR DUCTING MUST BE HEAVILY INSULATED.
- 5). ENSURE FLEXIBLE COUPLINGS ARE USED TO SEAL THE AMBIENT SUCTION AND DISCHARGE SPIGOTS FROM EACH OTHER AND TO PREVENT COLD AIR ENTERING THE PLANT ROOM.

2.3 PLUMBING

2.3.1) POOL WATER

- a) The Calorex 'SERIES 2 VARIHEAT' must be connected after the filter in the return pipe to the pool. If an existing heater is being retained, then the 'SERIES 2 VARIHEAT' should be connected between the filter and the existing heater (see following schematics).
- b) Calorex 'SERIES 2 VARIHEAT' units have PVC-U stubs 1½" dia for connecting the pool water inlet and outlet.
- c) Suitable breakable couplings, isolation, and drain down valves should be installed in the pool water inlet/outlet pipes local to the 'SERIES 2 VARIEAT' unit.
- d) The heat exchanger in the 'SERIES 2 VARIEAT' unit will on small pools, take the full flow rate of the recirculation system. On larger pools a bypass or separate auxiliary pump may be necessary. This method can also be used to reduce energy consumption, by the installation of a two speed or auxiliary pump bypassing the main pump/filter to satisfy pool water heating and dehumidification without the need for the main pump to be running. Further savings on both the above methods can be made by utilizing the standard feature on all 'SERIES 2 VARIHEAT' units to control the main or auxiliary pumps (see section 2.4 electrical wiring).
- e) When the pipe work installation is complete the circulating pump/s should be switched on and the system checked for leaks. Also check the filter gauge to see that there is not excessive back pressure.

2.3.2) CONDENSATE DRAIN

- a) The condensate drip tray at the base of the 'SERIES 2 VARIHEAT' unit collects the water removed by the dehumidification process. It is therefore necessary to ensure that the 'SERIES 2 VARIHEAT' unit is placed on a level plinth so that the condensate can run away and not overflow the edges of the drip tray inside the machine.
- b) All 'SERIES 2 VARIHEAT' units have a ¾" BSPM threaded condensate drain connection. The drain pipe should be run away with the adequate fall to waste i.e. ½" per foot min. and must incorporate a 'u' trap.

2.3.3) L.P.H.W. WATER PLUMBING

- a) Calorex 'SERIES 2 VARIHEAT 570/870' units have 28mm copper stubs whilst '1270' models have 35mm stubs for connecting (compression or solder) the boiler water flow and return.
- b) Suitable breakable couplings isolation and drain down valves should be installed in the boiler water flow/return pipes local to the 'SERIES 2 VARIHEAT' unit.
- c) A mixing valve and/or bypass may be required to maintain a minimum boiler return temperature and/or keep a constant load to the boiler pump. Refer to the boiler manufacturers instructions before designing the pipe work system.
- d) If boiler and water pump is not controlled by 'SERIES 2 VARIHEAT' then a boiler bypass will be required.

2.3.4) IMPORTANT GENERAL POINTS

- a) Do not route water pipes across service access panels or Air inlet/outlet.
- b) The water circuits to and from the 'SERIES 2 VARIHEAT' units should be capable of maintaining within the specified limits the water flow required. (see section 4, Data Sheet)
- c) All pipe work must be adequately supported with allowance for expansion and contraction especially with regard to the plastic pipe work.
- d) It is recommended that when installing water systems the last connections to be made should be adjacent to the 'SERIES 2 VARIHEAT' unit to avoid undue stresses on the unit connections.

- e) All Pool Purifying Devices and Chemical Injection Systems must be fitted down stream of the 'SERIES 2 VARIHEAT' unit with a non return valve to prevent concentrated chemicals back feeding into the heat exchangers. The practice of dosing chemicals direct into the Skimmer basket, which results in concentrated corrosive liquid passing over vulnerable metal components must not be allowed.
- f) Water quality must be maintained not only relating to solids, etc. but for pH between 7.4 ± 0.4 , and if pool water is saline at a maximum concentration of 6% wt/wt. See section 6, Warranty Exclusions for total list of water quality limits.

2.3.5) DETERMINING WATER FLOW

a) Flow meter method

Ensure isolation valves 'A' and 'B' and bypass valves 'C' are fully open. Slowly close down bypass valve 'C' until correct flow rate (see data sheet section 4) is shown on the flow meter . Remove handle and lock off valve 'C'.

b) Differential Pressure Method (See fig 3).

By simply installing two filter pressure indicating gauges, one each on the inlet and outlet of the heat pump, and a locking type gate bypass valve in the bypass line, the flow rate though the heat pump can be accurately determined by the difference in the readings of the gauges. This pressure drop is proportional to the flow.

Flow rate should be set at the maximum differential with a clean filter if fitted, this differential pressure will drop as the filter becomes dirty. Provided the filter is cleaned before the minimum differential is reached (which would normally be the case with a well managed system) then no problems should be encounter.

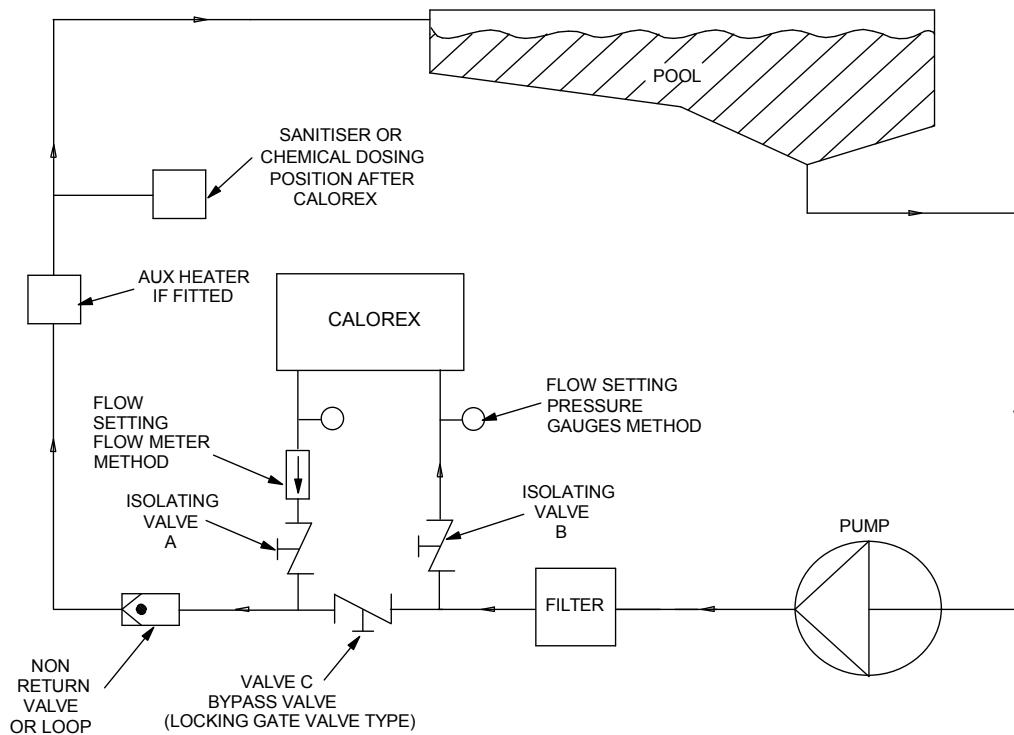
Setting up the differential.

When the installation is complete, the procedure for setting the flow rate thought the heat pump using two gauges is as follows.

1. With the heat pump switched off, ensure isolation valves 'A', 'B' and bypass valve 'C' are fully open.
2. Switch on water circulating pump.
3. Note the water System Pressure on both gauges – they should read the same, but because of manufacturing tolerance they may read different.
For example; with a water system pressure of 5mhd the gauge on the inlet may read 5 and the outlet gauge 5.5 therefore there is a STATIC ERROR DIFFERENCE of 0.5mhd
4. Gradually close the bypass valve 'C' until there is a difference in pressure between the two gauges that is equal to the required pressure drop (see section 4.0) observing any static error on the gauges before beginning this process.
5. Lock the bypass valve, or render it tamper proof, when correct setting is achieved
See data sheet (section 4.0) for correct pool water pressure drop.

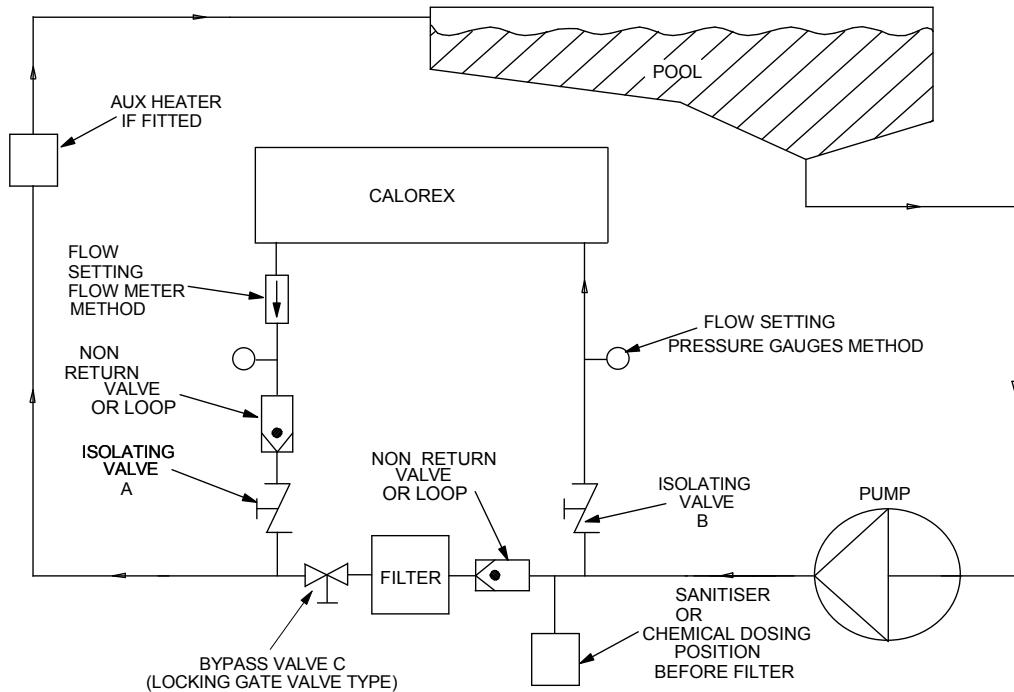
Fig 3
POOL WATER SCHEMATIC (STANDARD)

ENSURE POOL FILTRATION PUMP SELECTION ALLOWS FOR ALL SYSTEM RESISTANCE

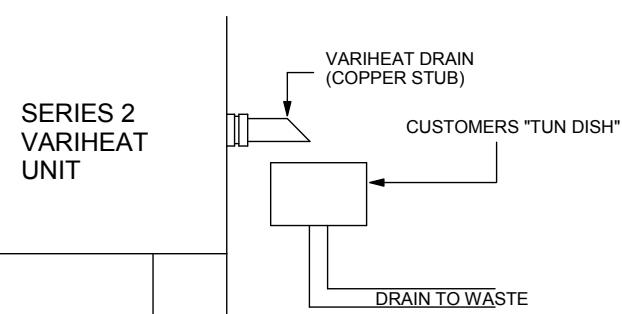
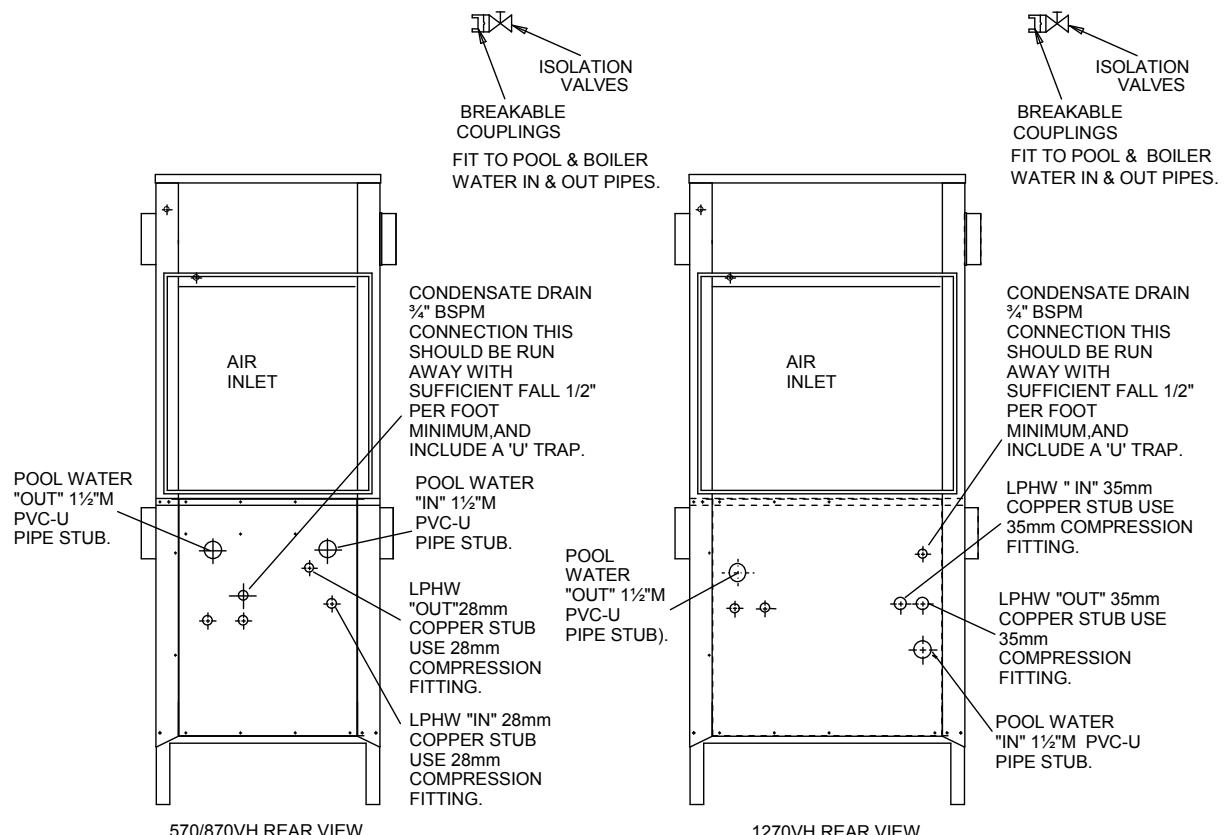


POOL WATER SCHEMATIC (FILTER DOSING)

ENSURE POOL FILTRATION PUMP SELECTION ALLOWS FOR ALL SYSTEM RESISTANCE

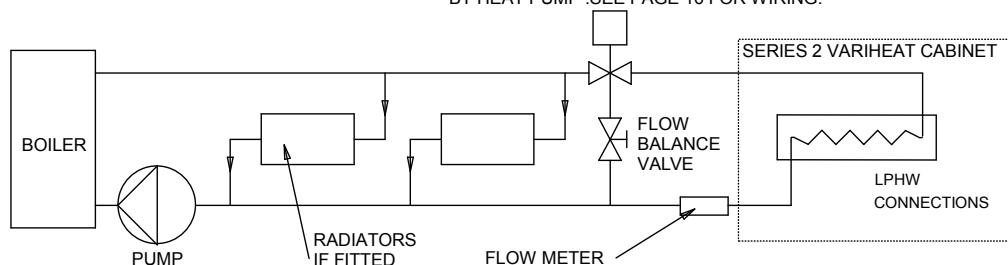


2.3 PLUMBING (contd)



LPHW SCHEMATIC

3 WAY MOTORISED VALVE (DIVERTING) CONTROLLED BY HEAT PUMP .SEE PAGE 16 FOR WIRING.



2.4 ELECTROLYTIC CORROSION IN SWIMMING POOLS

Electrolytic corrosion will occur when dissimilar metals that are in contact with each other create a potential difference between themselves. Sometimes separated by a conductive substance known as an electrolyte, the dissimilar metals will create a small voltage (potential difference) that allows the ions of one material to pass to the other.

Just like a battery, ions will pass from the most positive material to the more negative material.

Anything more than 0.3 volts can cause the most positive material to degrade.

A swimming pool with its associated equipment can create this effect. The pool water being an ideal electrolyte and components of the filtration circuit, heating system, steps, lights etc providing the dissimilar metals needed to complete the circuit.

Whilst these small voltages are rarely a safety threat, they can create premature failure through corrosion. Not dissimilar to corrosion through oxidation, electrolytic corrosion can cause complete failure of a metallic material in a very short period of time.

In order to prevent this type of corrosion all metallic components in contact with swimming pool water should be bonded together using 10mm² bonding cable. This includes non-electrical items such as metal filters, pump strainer boxes, heat exchangers, steps and handrails. It is highly recommended that bonding be retrofitted to existing pools, which may not be protected by this system.

2.5 ELECTRICAL INSTALLATION

- 2.5.1 Electrical Safety** – It is important to ensure that all aspects of the installation comply with the latest I.E.E Regulations. It is also important to ensure that any remote devices which terminate within the pool hall are of the type and voltage as specified in the latest I.E.E Regulations

The machine should be installed in line with EMC2004/108/EC.

- 2.5.2 Protected Supply** – Whilst not mandatory, Calorex recommend that an R.C.C.B is always fitted or that the supply is to local electricity authority recommendations, and that all ducting is bonded in accordance with these regulations.

The supply to the machine should incorporate fuses or motor rated circuit breakers (Type GU, FAZC) to specified rating, (see Data Sheet). H.R.C fuses are recommended. An isolator must be fitted within clear view and not more than 2 meters away. The isolator must have a minimum 3mm air gap in the off position.

- 2.5.3 Inconsistent Electrical Supply** – The following limits of operation must not be exceeded if Calorex machines are to be guaranteed either in performance or warranty terms:-

Voltage	Minimum	Maximum
Single phase machines	207V	253V
Three phase machines	360V	440V
Frequency	47.5Hz	52.5Hz

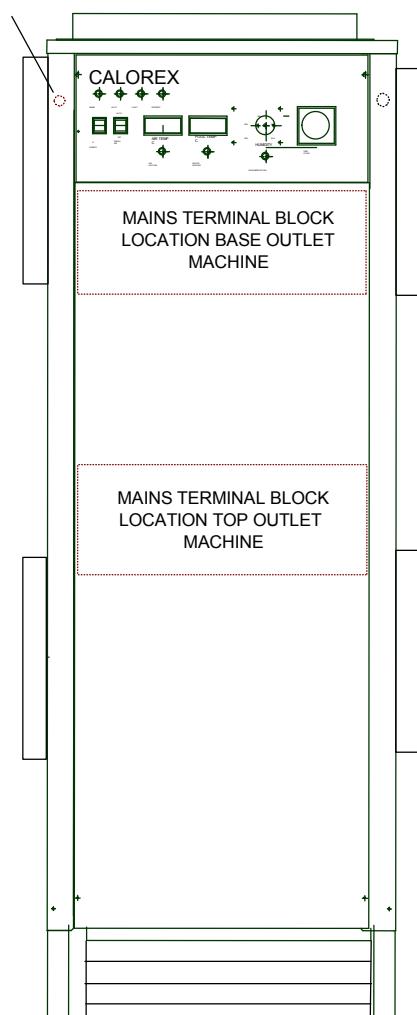
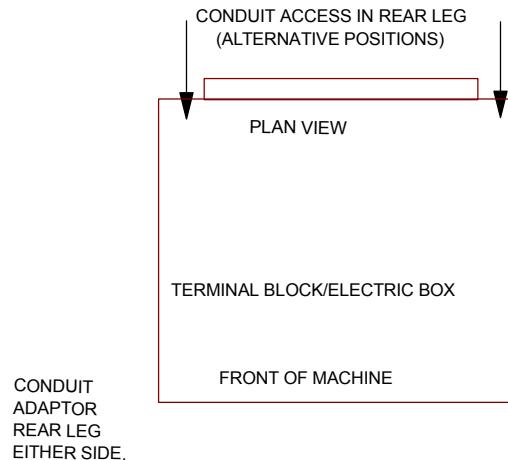
N.B The voltage must be measured at the heat pump mains terminals with all the fans/compressors running at the rated load condition.

- 2.5.4 Correct Cable Sizing** – The cable supplying electricity to a machine with a given load must increase in cross sectional area (C.S.A) as the length increases in order that the voltage drop within the cable does not exceed recommended limits. **Cable sizing should be calculated by an approved electrician with due consideration to I.E.E and local codes of practice.**

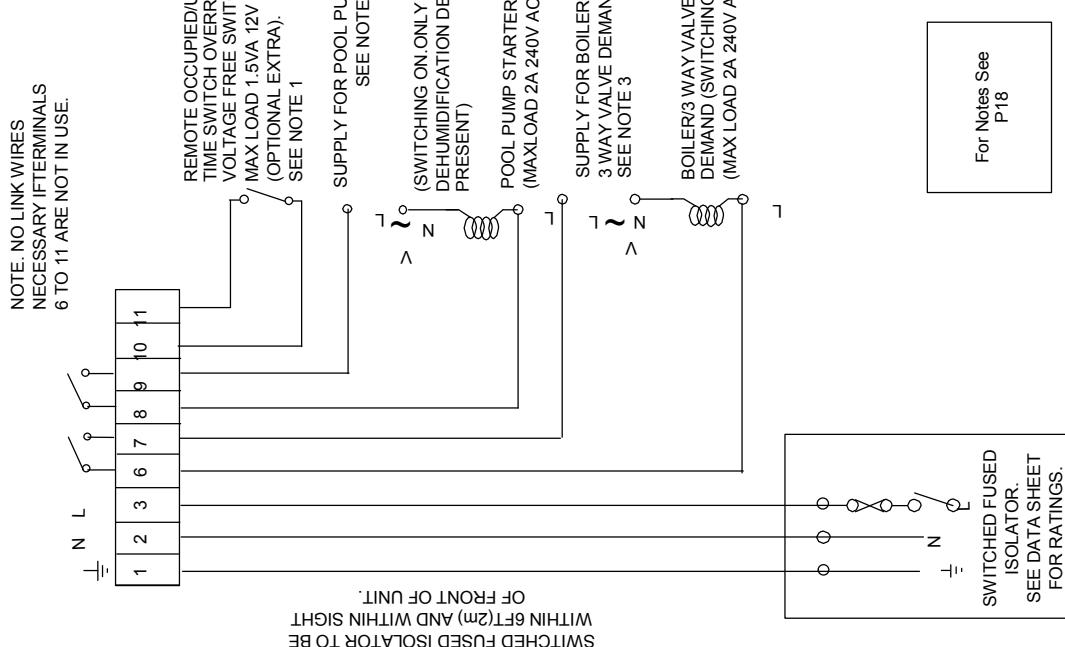
NOTE: The AW1270BVHF is fitted with a phase protection relay and will not run if the phases are not connected in correct order (phase sequence) or if the supply voltage is 15% less than the nominal voltage. (415V for 3~N 50Hz) . The lamp on the phase rotation relay, situated in the electric box, is illuminated when the phases are correctly connected and the voltage is sufficient.

2.5 ELECTRICAL(cont.)

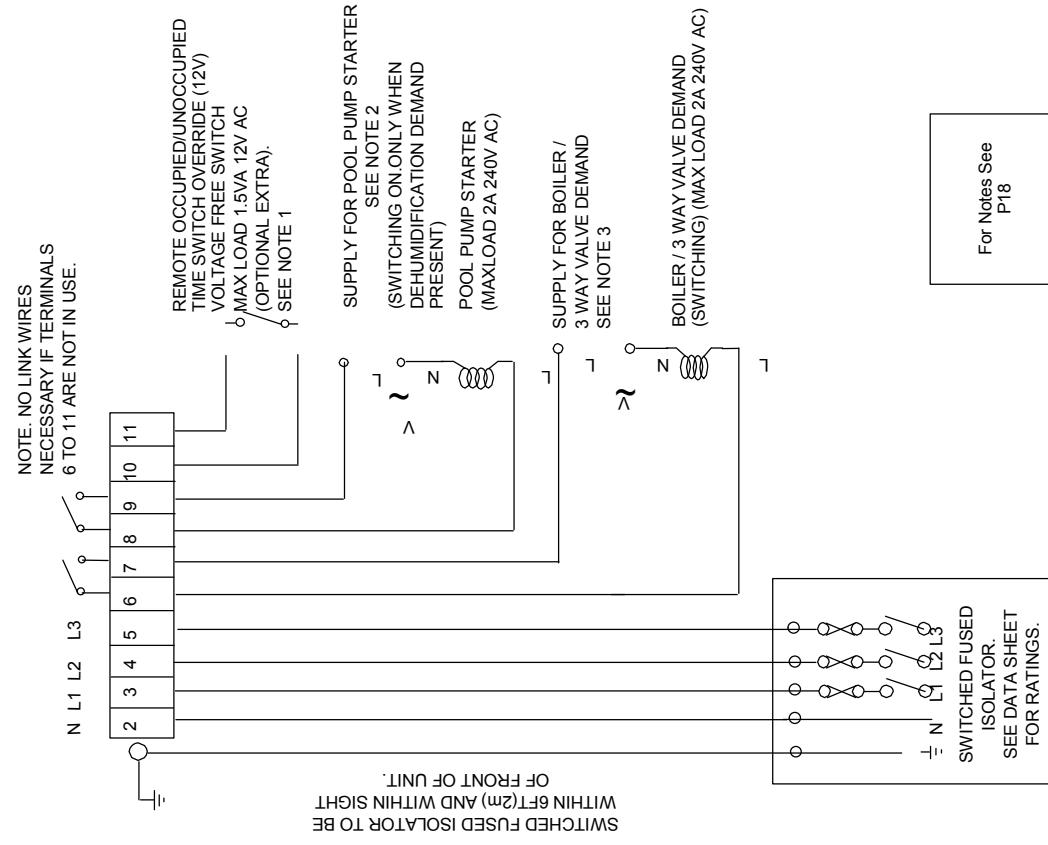
MAINS SUPPLY TERMINAL BOX LOCATION



MAINS SUPPLY TERMINAL BLOCK LAYOUT SINGLE PHASE



MAINS SUPPLY TERMINAL BLOCK LAYOUT THREE PHASE



2.5 ELECTRICAL(cont.)

SECTION 2.5 ELECTRICAL (cont).

NOTE 1.

These contacts are to enable the air temperature set back temperature to be remotely overridden.

There is a 12 Volt output from these terminals and closing a remote switch will enable the unit to regain the normal operating air temperature for when the pool is in use.

This can be done via a voltage free pool cover switch or some other form of voltage free switch. If this facility is used then the time clock on the control panel of the unit should be set to the "unoccupied" (II or 0) position.

If this facility is not to be used then these terminals can be ignored.

NOTE 2.

These are voltage free contacts rated at 2 Amp at 230 Volt.

If the pool water pump is to be run via a time clock then these connections should go across the switching contacts of the clock to ensure that if dehumidification demand occurs then the pool water pump will start.

The pool water pump will exceed the rated current of these contacts therefore a contactor/relay should be used to take the load of the pump. The switching action of the time clock should energise the contactor/relay coil.

If the pool water pump is to be run continuously then these contacts can be ignored.

NOTE 3.

These are voltage free contacts rated at 2 Amp at 230 Volt.

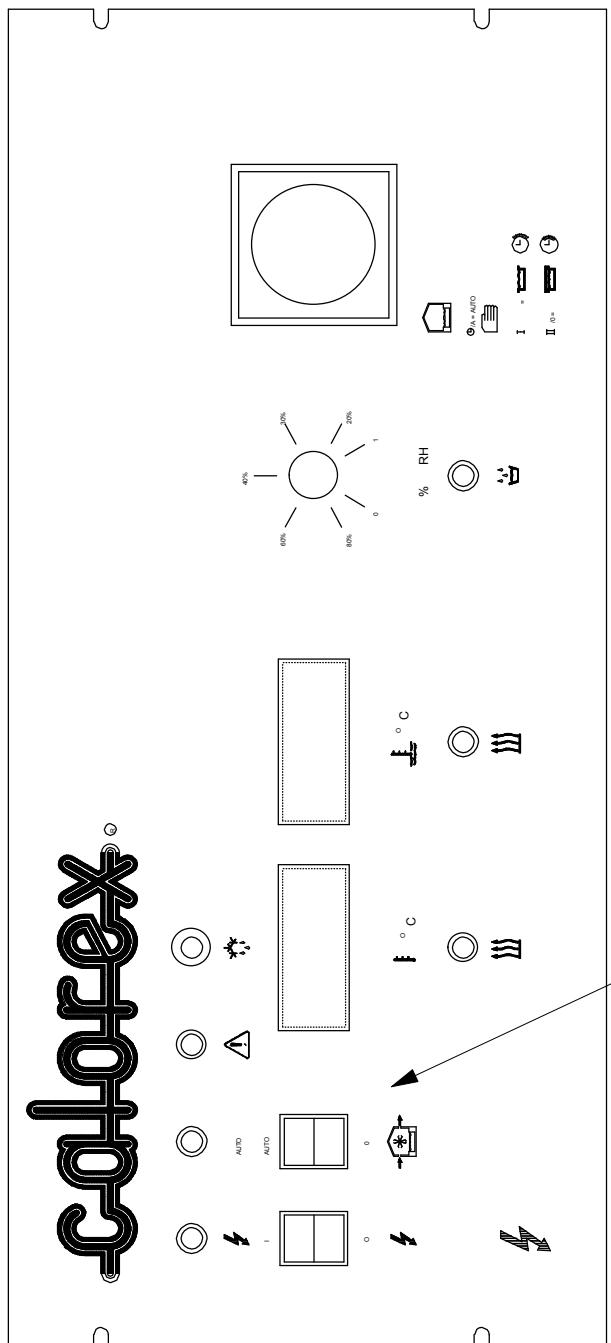
If the low pressure hot water supply to unit is to be governed by the unit then these contacts should be utilised to bring water to the unit via the boiler, motorised valve, boiler pump etc.

This is dependant on how the low pressure hot water supply to the unit has been designed.

If the supply of low pressure hot water to the unit is not dependent on a signal from the unit then these contacts can be ignored.

3.0 CONTROLS

3.1 CONSOLE INSTRUMENTS



CONSOLE

3.2 CONTROL CONSOLE AND SETTINGS

- a) Timeclock.
- Will require initial setting to time of day followed by setting up for switching periods occupied/unoccupied (see section 3.5.1).
- b) Power Switch
- 
- Should be switched to 'I' to turn on the SERIES 2 VARIHEAT unit. Note that on the off 'O' position the SERIES 2 VARIHEAT is still powered up and the machine should be isolated at the mains supply before removing any service panels .
- c) Fresh Air Switch
- 
- AUTO ' position will allow the dampers to be controlled as required by the control circuit of the SERIES 2 VARIHEAT unit. OFF ' position will override the SERIES 2 VARIHEAT control and keep the dampers at minimum fresh air. Typically this feature would be used on start up, until the pool water and air reach the desired settings.
- d) Humidity Control
- 
- Should be set to show the desired maximum relative humidity in the pool hall (typically 60%).
- e) Air Temp Control
- 
- Should be set to show the desired air temperature required in the pool hall (typically 28°C but always 2°C above pool water temperature).

Setting theTecnologic Stats.

Press down P and release, SP1 and Set Point will be displayed alternately. Press the Up or Down key to change the desired value of SP1. Once the desired value is displayed press P and release to memorise the value. The display will revert to the present reading.

Note: If anything else shows on the display, leave alone for 1 minute, until the display returns to normal.

- f) Water Temp Control
- 
- Should be set to show the desired water temperature required in the pool (typically 26°C).

Setting theTecnologic Stats.

Press down P and release, SP1 and Set Point will be displayed alternately. Press the Up or Down key to change the desired value of SP1. Once the desired value is displayed press P and release to memorise the value. The display will revert to the present reading.

Note: If anything else shows on the display, leave alone for 1 minute, until the display returns to normal.

Setting alternative Stork Stats: Set by holding down the SET' or 'P' button and raising or lowering the digital display by pushing the 'up' 'down' symbol buttons to show the required setting .Do not change the diff.Factory Settings: Air 2°C, Water 0.1°C.

- g) Set Back Air Temp
- Located behind the right hand electrical control panel Thermostat and pre-set by the commissioning engineer to the required set back or unoccupied air temperature (typically 24°C).

3.3 WARNING/MODE LIGHTS

	a) Dehumidification Light	Indicates that there is a demand for the SERIES 2 VARIHEAT unit to dehumidify.
	b) Air Heating Light	Indicates that there is a demand for the SERIES 2 VARIHEAT unit to heat the pool hall air .
	c) Water Heating Light	Indicates that there is a demand for the SERIES 2 VARIHEAT to heat the pool water.
	d) Mains Light	Indicates that there is a power supply on to the SERIES 2 VARIHEAT unit.
	e) Fault Light	Check that the pool hall air flow and the pool water flow through the SERIES 2 VARIHEAT unit are within specified limits. Check contactor overloads, Control fuse and soft start overload (if fitted) and push all to reset .If fault light stays on call for service check.
	f) Defrost Light	This indicates that the SERIES 2 VARIHEAT unit is temporarily defrosting one or both of the evaporators to ensure efficient operation.
	g) Auto light	Indicates that the Fresh Air Switch (if fitted) is set to ' Auto ' see above.

3.4 COMMISSIONING CHECKLIST

- a) Is the building finished in accordance with the original plans and specification ?
- b) Is the plenum chamber and all the ductwork insulated? Special attention should be made to the insulation of the exhaust air ducting and fresh air inlet ducting to prevent condensation problems.
- c) Are there any significant draughts in the pool hall or plant room (plenum installation) through poorly fitting doors , windows, pipe ducts, etc? This will let in unwanted ambient air raising the heating duty required.
- d) Is Fresh Air suction and Exhaust Air discharge ducting, (if fitted) perfectly sealed from plant room?
NOTE: (c) and (d) above should be checked by measuring plant room and pool hallair temperatures. If the plant room is acting as a plenum chamber both temperaturesshould correspond. If the plant room air temperature is lower, then ambient air is leaking in. This leak should be located and rectified.
- e) Are the Fresh Air inlet and Exhaust air outlets (if fitted) free from obstructions, i.e. undersized grilles, objects in path of exhaust air deflecting it back to the fresh air inlet, etc.
- f) Is Set Back thermostat set correctly?
- g) Is Time Clock set correctly?
- h) Is Start Up, Fresh Air Off, feature required and if so is customer aware of when to switch machine back to Auto (see section 3.2 (c)).
- j) Removal of Fan Damper Plate will void warranty unless Fan Amps are verified to be below F.L.A. (see data sheet section 4) with all panels and grilles fitted and the Evaporator dry.

3.5 SETTING THE TIMECLOCK AND STATS

3.5. SETTINGS

3.5.1 TIMER SETTINGS

The Time Switch is a quartz 24 hour dial clock with 100 hours battery reserve used to control the automatic operation of your SERIES 2 VARIHEAT Unit per 24 hour time block period.

A. SETTING ACTUAL TIME

Turn the large clock hand clockwise until the correct time of day is set against the switch operating lever. ("FIG 1") ensure that correct half of day is chosen (24 hour clock).

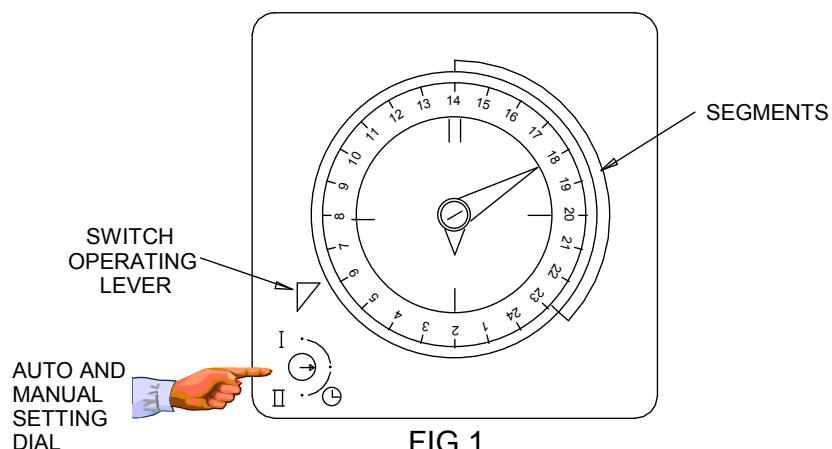
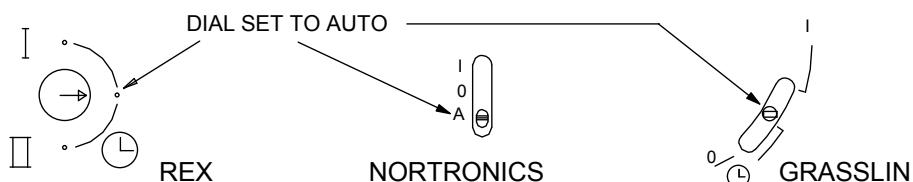


FIG 1.

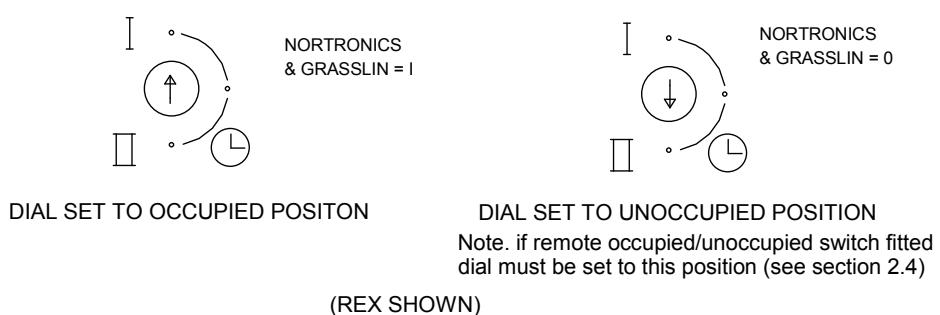
B. SETTING SWITCH FOR AUTO OPERATIONS

Each segment extended represents either 10 or 15 minutes of occupied period (ie pool in use). Extend segments for the period of time pool used per day against the 24 hour time. For clock to run on auto rotate small dial to position shown.



C. SETTING SWITCH FOR MANUAL OPERATIONS

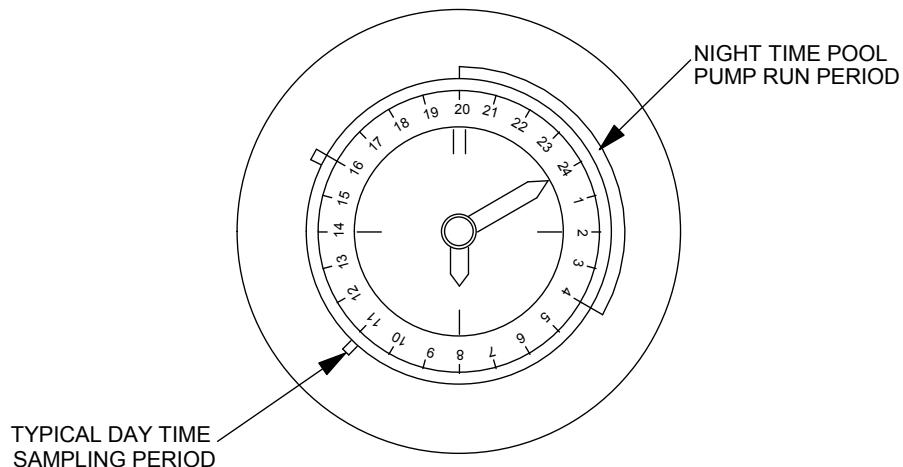
To set switch for manual operation (ie override clock auto settings). rotate dial to positions shown.



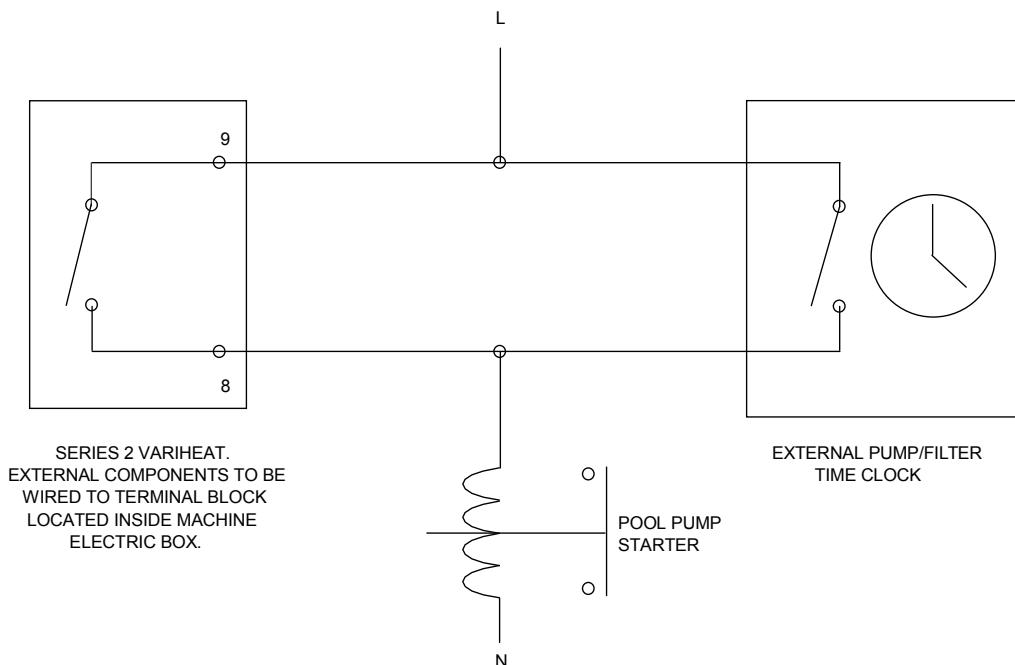
3.5 SETTINGS(cont.)

3.5.2 EXTERNAL CUSTOMER SWIMMING POOL PUMP/FILTER TIME CLOCK

If pool pump is used during cheap tariff (ie Economy 7), the customers pool pump/filter time clock (not part of SERIES 2 VARIHEAT unit) should be set up as required but with approximately two fifteen minute sampling periods to allow the SERIES 2 VARIHEAT unit to maintain pool water temperature.



WIRING TO EXTERNAL CUSTOMER SWIMMING POOL PUMP/FILTER TIME CLOCK



3.5 SETTINGS(cont).

3.5.3. POOL TEMP AND AIR TEMP CONTROLS

SETTING INSTRUCTIONS (STORK STATS)

NOTE: THESE PARAMETER SETTINGS ARE SET BY CALOREX AT THE FACTORY TO THE FIGURES SHOWN BELOW AND SHOULD NOT NEED ALTERING. SEE SECTION 3.2 FOR DESCRIPTION OF HOW TO ALTER CUSTOMER SETTINGS.

1. WITH MAINS LIGHT ON, PRESS DOWN \triangle TOGETHER AND HOLD.
2. WHEN 'P1' IS DISPLAYED PRESS Δ AND HOLD UNTIL 'P31' IS DISPLAYED.
3. PRESS AND HOLD Δ , WHEN 'PA' APPEARS PRESS TOGETHER \triangle UNTIL 'A1' APPEARS.
4. PRESS AND HOLD 'SET' TO SHOW SETTING AND ALTER USING Δ OR ∇ .
WHEN REQUIRED SETTING DISPLAYED RELEASE 'SET' AND MOVE TO 'A2' USING Δ
5. REPEAT ABOVE PROCEDURE TO TABLE BELOW UNTIL ALL 'A' SETTINGS COMPLETED.
6. PRESS AND HOLD \triangle UNTIL 'P1' APPEARS, THEN PRESS 'SET' TO SHOW SETTING.
7. REPEAT 'P' SETTINGS AS 'A' SETTING PROCEDURE.
8. WHEN ALL SETTINGS COMPLETED CONTROL WILL REVERT TO NORMAL DISPLAY.

PARAMETER	FUNCTION	SETTING		
		WATER	AIR	HUMIDITY
P1	DELTA T IN DEGREES CENTIGRADE BETWEEN THERMOSTAT STAGE 1 & STAGE 2	-0.2	2.0	N/A
P2	DIFFERENTIAL OF THERMOSTAT STAGE 1.	0.2	0.6	
P3	DIFFERENTIAL OF THERMOSTAT STAGE 2.	0.2	0.6	
P4	CUSTOMER SETTING LIMIT (LOWER)	20.0	20.0	
P5	CUSTOMER SETTING LIMIT (HIGHER)	40	40	
P6	ACTUAL TEMP DISPLAY ADJUSTMENT.	0.0	0.0	
P19	KEYBOARD LOCK 1, UNLOCK 0	0	0	
P30	N/A (LOWER BOUNDARY VALUE K3)	0.0	0.0	
P31	N/A (UPPER BOUNDARY VALUE K3)	0.0	0.0	
P32	K3 HYSTERESIS	1	1	
A1	SWITCH MODE K1 0 = HEATING 1 = COOLING	0	0	
A2	SWITCH MODE K2 0 = HEATING 1 = COOLING	0	0	
A3	SENSOR ERROR FUNCTION K1 0 = ON, SWITCH OFF 1 = ON, SWITCH ON	0	0	
A4	SENSOR ERROR FUNCTION K2 0 = OFF 1 = ON	0	0	
A5	K1 TO K2 SEPARATE OR DELTA T $\Delta T = 0$	1	1	
A6	CONTROL MODE K1 0 = THERMOSTAT 2 = K1 RAMP 3 = K1 RAMP OBSOLETE	0	0	
A8	DISPLAY MODE 1,2,3 ETC 0 = WITHOUT DECIMAL PLACES	1	1	
A9	WEIGHTING FACTOR 50...150%	100	100	
A10	VOLTAGE INPUT Tu	N/A	N/A	
A11	VOLTAGE INPUT To	N/A	N/A	
A19	PARAMETER SETTINGS 0 = NOT LOCKED, 1 = 'A' LOCKED 2 = 'A' & 'P' LOCKED	0	0	
A20	KEYPAD BEEP 1 = ON 0 = OFF	0	0	
A30	N/A	0	0	
A31	N/A	0	0	
A40	0 = HYSTERESIS SYMMETRICAL ABOUT SET POINT 1 = OR ONE SIDE OF SET POINT HEATING = BELOW SET POINT COOLING = ABOVE SET POINT	0	0	
A41	AS ABOVE FOR K2	0	0	
A50	MINIMUM ON TIME K1	1.0	1.0	
A51	MINIMUM OFF TIME K1	1.0	1.0	
A52	MINIMUM ON TIME K2	1.0	1.0	
A53	MINIMUM OFF TIME K2	1.0	1.0	
A54	TIME DELAY K1/K2 AFTER POWER ON	15	15	
A55	TIME DELAY AFTER K1 BEFORE K2 ALLOWED TO SWITCH ON.	0.0	0.0	
A60	SENSOR TYPE. TERMINALS '10' & '11' (FIXED)	21	21	
A70	SOFTWARE TIME CONSTANT. TIME FOR DISPLAY/CONTROL TO REACH NEW VALUE	3	3	
A80	1 = C 0 = F	1	1	
A90	N/A	1	1	
A91	N/A	1	1	
A92	N/A	0	0	
A93	N/A	7	7	

3.5.3a POOL TEMP. AIR TEMP AND HUMIDITY CONTROLS

SETTING INSTRUCTIONS (TECHNOLOGIC STATS MARKED TLK38)

NOTE : These parameter settings are programmed by the supplier to the figures shown below and should not need altering. See Section 3.2 for description of how to alter customer settings.

1. To Program the Set Point. Press down P, SP1 and Set Point will be displayed alternately. Press the Up or Down key to change the value of SP1. Once the desired value is displayed press P to memorise the value. The display will revert to the present reading.

NOTE : If anything else shows on the display leave alone for 1 minute, until the display returns to normal.

2. To Program the Parameters. Press and hold down the P key for approximately 2 seconds. You will enter the Programme Control Group Menu. Press the Up key to reach ConF, then press P again. Enter the Password -281 by holding the down key. If you pass -281 press the up key to go back, then press P again, this will take you into the Programmable Group Menu. Press the Up or down key to get into the relevant group and press P again. You should now be at the first parameter of that group. To change the setting press P, then the Up or Down key . Once the correct setting is reached press P again. To move to the next setting press the Up or Down key and repeat above.

NOTE Some functions are not present, either because they are instrument dependant or because they are disabled.

To return to Programmable Group Menu leave keys alone for 20 seconds approx. To return to Normal Mode leave alone for a further 20 seconds approx.

SP1 CAN BE
SET FROM
KEYPAD

PARAMETER NAME	FUNCTION	SETTING	
		WATER	AIR

GROUP \triangleright SP (RELATIVE TO SET POINT)

nSP	FACTORY SETTING	1	1
SP1	SET POINT 1	26.0	28.0
SPLL	FACTORY SETTING	10.0	10.0
SPHL	FACTORY SETTING	40.0	40.0

GROUP \triangleright InP (RELATIVE TO THE MEASURED OUTPUT)

SEnS	FACTORY SETTING	Ptc	Ptc
dp	FACTORY SETTING	1	1
Unit	FACTORY SETTING	° C	° C
FiL	FACTORY SETTING	1.0	1.0
Fild	FACTORY SETTING	OFF	OFF
OFSt	MEASURING OFFSET	0.0	0.0
rot	FACTORY SETTING	1.000	1.000
InE	FACTORY SETTING	Our	Our
OPE	FACTORY SETTING	0	0

GROUP \triangleright Out (RELATIVE TO OUTPUTS)

01F	FACTORY SETTING	1.rEG	1.rEG
02F	FACTORY SETTING	Ainc	ALno

PARAMETER NAME	FUNCTION	SETTING	
		WATER	AIR

GROUP \triangleright AL1 (RELATIVE TO ALARM AL1)

0AL1	FACTORY SETTING	Out2	Out2
AL1t	FACTORY SETTING	LodE	HidE
Ab1	FACTORY SETTING	0	0
AL1	FACTORY SETTING	0.1	2.5
AL1L	FACTORY SETTING	-199.0	-199.0
AL1H	FACTORY SETTING	999.0	999.0
HAL1	FACTORY SETTING	0.2	0.5
AL1d	FACTORY SETTING	OFF	OFF
AL1i	FACTORY SETTING	no	no

GROUP \triangleright LBa (RELATIVE TO LOOP BREAK ALARM)

0LbA	FACTORY SETTING	OFF	OFF
LbAt	FACTORY SETTING	OFF	OFF

GROUP \triangleright rEG (RELATIVE TO CONTROL)

Cont	FACTORY SETTING	On.FA	On.FA
Func	FACTORY SETTING	HEAt	HEAt
HSET	FACTORY SETTING	0.2	0.5
SloR	FACTORY SETTING	1nF	1nF
dur.t	FACTORY SETTING	1nF	1nF
SLoF	FACTORY SETTING	1nF	1nF

PARAMETER NAME	FUNCTION	SETTING
		WATER

GROUP PAn (RELATIVE TO USER INTERFACE)

USrb	FACTORY SETTING	noF
disP	FACTORY SETTING	dEF
AdE	FACTORY SETTING	OFF
Edit	FACTORY SETTING	SAE

Error codes from digital thermostat

ERROR	ACTION
"--" PROBE INTERRUPTED "uuuu" OR "oooo" PROBE LIMIT UNDER/OVER RANGE	VERIFY CORRECT CONNECTION BETWEEN PROBE AND STAT, THEN VERIFY CORRECT FUNCTIONING OF PROBE.
LbA LOOP CONTROL INTERRUPTED	CHECK WORKING OF PROBE AND ACTUATOR AND SWAP INSTRUMENT TO rEG CONTROL
ErEP POSSIBLE ANOMALY OF EPROM MENU	PUSH P KEY

SETTING INSTRUCTIONS (TECHNOLOGIC STATS MARKED TLZ11)

NOTE : These parameter settings are programmed by the supplier to the figures shown below and should not need altering. See Section 3.2 for description of how to alter customer settings.

1. To Program the Set Point. Press down P, SP1 and Set Point will be displayed alternately. Press the Up or Down key to change the value of SP1. Once the desired value is displayed press P to memorise the value. The display will revert to the present reading.

NOTE : If anything else shows on the display leave alone for 1 minute, until the display returns to normal.
2. To Program the Parameters. Press and hold down the P key for approximately 2 seconds. You will enter the Programme Control Group Menu. Press the Up key to reach ConF, then press P again. Enter the Password 281 by holding the up key. If you pass 281 press the down key to go back, then press P again, this will take you into the Programmable Group Menu. Press the Up or down key to get into the relevant group and press P again. You should now be at the first parameter of that group. To change the setting press P, then the Up or Down key . Once the correct setting is reached press P again. To move to the next setting press the Up or Down key and repeat above.

NOTE Some functions are not present, either because they are instrument dependant or because they are disabled.

To return to Programmable Group Menu leave keys alone for 20 seconds approx. To return to Normal Mode leave alone for a further 20 seconds approx.

PARAMETER NAME	FUNCTION	SETTING AIR	SETTING WATER
SPLL	MINIMUM SET POINT	10	10
SPHL	MAXIMUM SET POINT	40	40
SEnS	PROBE TYPE	Ptc	Ptc
OFS	PROBE CALIBRATION	0.0	0.0
Unit	UNIT OF MEASUREMENT	0C	0C
dp	DECIMAL POINT	ON	ON
FIL	MEASUREMENT FILTER	OFF	OFF
HSEt	DIFFERENTIAL	0.5	0.2
tonE	ACTIVE TIME OUTPUT OUT FOR PROBE BROKEN	OFF	OFF
toFE	DEACTIVATION TIME OUTPUT FOR PROBE BROKEN	OFF	OFF
Func	FUNCTION MODE OUPUT OUT	HEAT	HEAT
PSC	TYPE OF COMPRESSOR PROTECTION: 1 = DELAY AT SWITCH ON 2 = DELAY AFTER SWITCH ON 3 = DELAY BETWEEN STARTS	1	1
PtC	COMPRESSOR PROTECTION TIME	OFF	OFF
od	DELAY AT POWER ON	OFF	OFF
HAL	RELATIVE HIGH TEMPERATURE ALARM THRESHOLD	2.5	0.3
LAL	RELATIVE LOW TEMPERATURE ALARM THRESHOLD	OFF	OFF
dAL	TEMPERATURE ALARM DIFFERENTIAL	0.5	0.2
ALd	TEMPERATURE ALARM DELAY	OFF	OFF
PAL	TEMPERATURE ALARM DELAY AT POWER ON	OFF	OFF
dald		0	0
USrb	FUNCTION MODE KEY U: OFF = NO FUNCTION 1 = ON/STAND-BY	OFF	OFF
PASS	ACCESS PASSWORD TO PARAMETER FUNCTIONS	281	281/381
SP	SET POINT	28	26

The digital display may show error codes, please see table on previous page.

4.0 DATA SHEET



MODEL:-	Units	570	870	1270
DEHUMIDIFICATION DUTY				
VIA HEAT PUMP (28°C/60% RH) :-	L/h	3,8	6,1	8,3
TOTAL HEAT PUMP+ FRESH AIR (@ 18°C Dew point "Summer") :-	L/h	4,1	6,5	8,8
TOTAL HEAT PUMP+ FRESH AIR (@ 7°C Dew point "Winter") :-	L/h	5,0	7,7	10,3
HEAT TO AIR				
VIA HEAT PUMP (MODE "A") :-	kWh	1,6	2,3	3,0
VIA HEAT PUMP (MODE "B") :-	kWh	3,0	3,5	5,2
VIA LPHW (@ 80°C Primary Water Temp) :-	kWh	12	15	21
TOTAL :- (HEAT PUMP MODE "A"+ LPHW) :-	kWh	13,6	17,3	24
TOTAL :- (HEAT PUMP MODE "B" + LPHW) :-	kWh	15	18,5	26,2
BUILDING HEAT LOSS				
HEAT REQ' FOR FRESH AIR@-5°C :-	kWh	1,7	2,2	2,8
MAX AVAILABLE FOR FABRIC LOSSES @ -5°C :-	kWh	13,3	16,3	23,4
HEAT TO POOL WATER				
VIA HEAT PUMP (MODE "A") :-	kWh	4,0	5,5	7,0
VIA HEAT PUMP (MODE "B") :-	kWh	1,8	3,0	3,0
VIA LPHW (@ 80°C Primary Water Temp) :-	kWh	10	15	30,0
TOTAL (HEAT PUMP MODE "A" + LPHW) :-	kWh	14	20,5	37
TOTAL (HEAT PUMP MODE "B" + LPHW) :-	kWh	11,8	18	33
WATER FLOWS ETC				
POOL WATER FLOW RATE :-	L/min.	68	108	140
POOL WATER PRESSURE DROP (@ Rated Flow) :-	metres hd.	0,4	2,1	2,1
MAX WORKING PRESSURE POOL WATER :-	bar	3,5	3,5	3,5
WATER FLOW RATE INTERNAL TACO FLOW METER :-	L/min.	14	14	20
POOL WATER CONNECTIONS :-	inches.	1½ PVC PIPE STUB	1½ PVC PIPE STUB	1½ PVC PIPE STUB
BOILER WATER FLOW RATE:-	L/min.	23	32	41
BOILER WATER PRESSURE DROP (@ RATED FLOW :-)	metres hd.	0,7	0,7	0,7
MAX WORKING PRESSURE BOILER WATER :-	bar	6	6	6
BOILER WATER CONNECTIONS :-	mm INCHES	28mm COPPER STUB ¼BSPM	28mm COPPER STUB ¼BSPM	35mm COPPER STUB ½BSPM
CONDENSATE DRAIN CONNECTIONS :-				
RECOMMENDED BOILER CAPACITIES				
RECOMMENDED MINIMUM OUTPUT	Btu/h	75,000	102,000	175,000
RECOMMENDED MINIMUM OUTPUT	kWh	22	30	51
ELECTRICAL				
TOTAL POWER CONSUMED (Nominal) :-	kWh	2,22	3,33	4,3
MIN SUPPLY CAPACITY (Max F.L.A.) 1 ph N :-	A	16,00	19,5	25,82
MIN SUPPLY CAPACITY (Max F.L.A.) 3 ph N :-	A	9,66	11	14,66
MAX' SUPPLY FUSE 1 ph N :-	A	25	30	40
MAX' SUPPLY FUSE 3 ph N :-	A	16	20	20
MAIN FAN				
AIR FLOW (Anemometer @ air on filter, w et evaporator)	m³/h	1800	2500	3000
MAX EXTERNAL TOTAL PRESSURE :-	mm Wg	21	18	30
DESIGN CONDITION :-	A	2,9	4,3	4,8
FLA:- 1 ph N :-	A	5,7	4,55	5,0
OPTIONAL FRESH AIR FEATURE				
AIR FLOW :-	m³/h	150	200	250
MAX EXTERNAL TOTAL PRESSURE :-	mm Wg	2	2	2
COMPRESSOR				
NOMINAL POWER CONSUMED :-	kWh	1,55	2,41	3,2
LRA:- 1 ph N :-	A	46	62	100
RLA:- 1 ph N :-	A	8,6	13,1	16,6
SOFT START AMPS 1 ph N :-	A	24	28	34
LRA:- 3 ph N :-	A	30	42	48
RLA:- 3 ph N :-	A	3,3	4,7	7,3
SOFT START AMPS 3 ph N :-	A	14	16	17
PHYSICAL DIMENSIONS				
WIDTH (UNPACKED) :-	mm	662	662	812
DEPTH (UNPACKED) :-	mm	775	775	775
HEIGHT (UNPACKED) :-	mm	1850	1850	1850
WEIGHT (UNPACKED) :-	kg	174	176	210
SOUND PRESSURE LEVELS @ 3m :-	dBA	60	62	64
R407c GAS CHARGE	kg	1,8	2,0	2,1

For Accurate Application Sizing Consult CALOREX Heat Pumps Ltd.

NOTES:-

1) Mode "A" = Recovered heat biased to pool water (pool water temperature not satisfied).

Mode "B" = Recovered heat biased to pool hall air (pool water temperature satisfied).

2) Performance data based on pool hall air at 28°C, 60%RH, pool water 26°C.

3) Minimum pool hall temperature 20°C

4) Allow 500mm clearance to service panels.

5) Calorex reserve the right to change or modify models without prior notice.

6) Global warming potential R407c (GWP) 1700

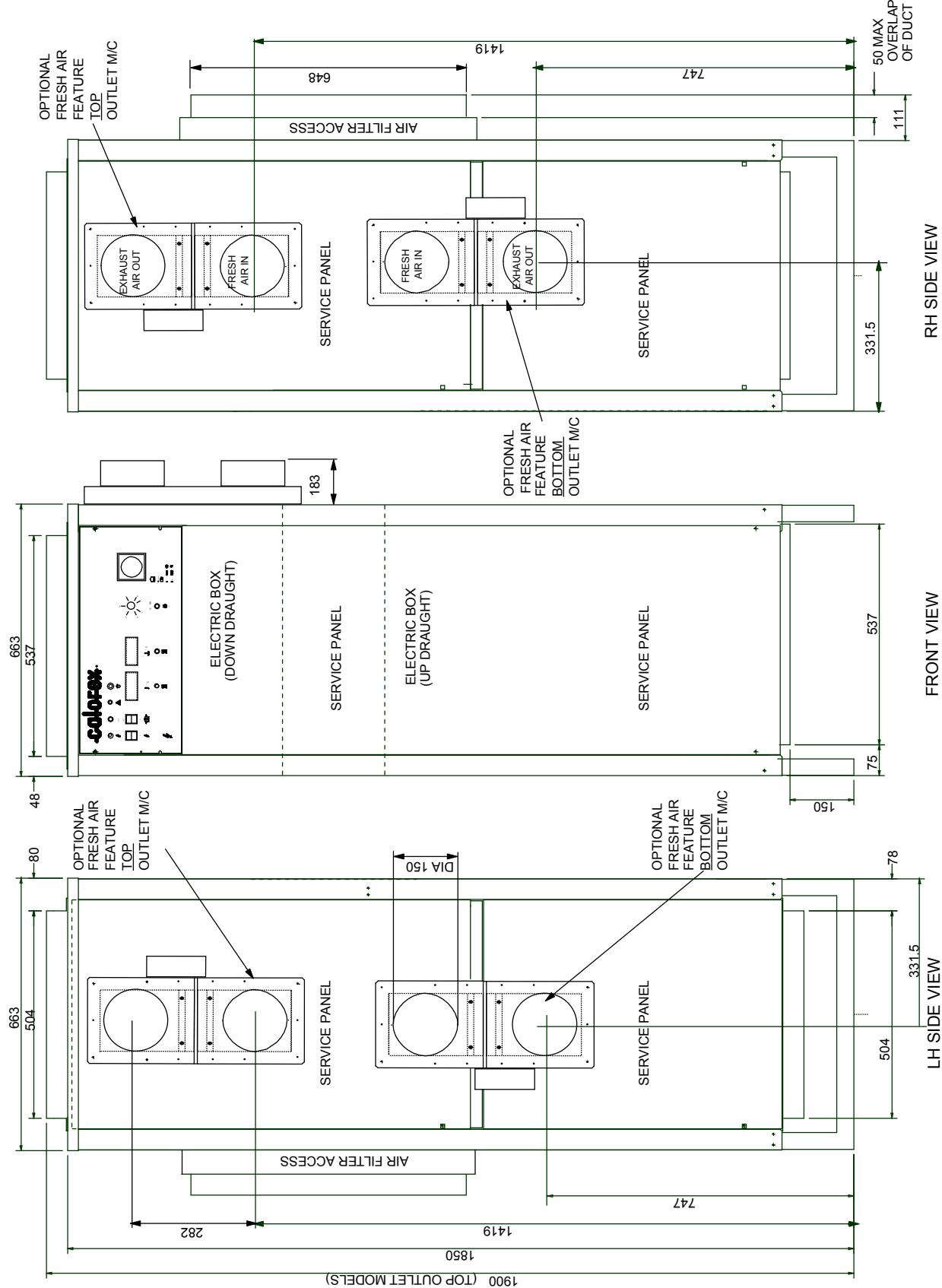
1mm Wg = 9,8Pa

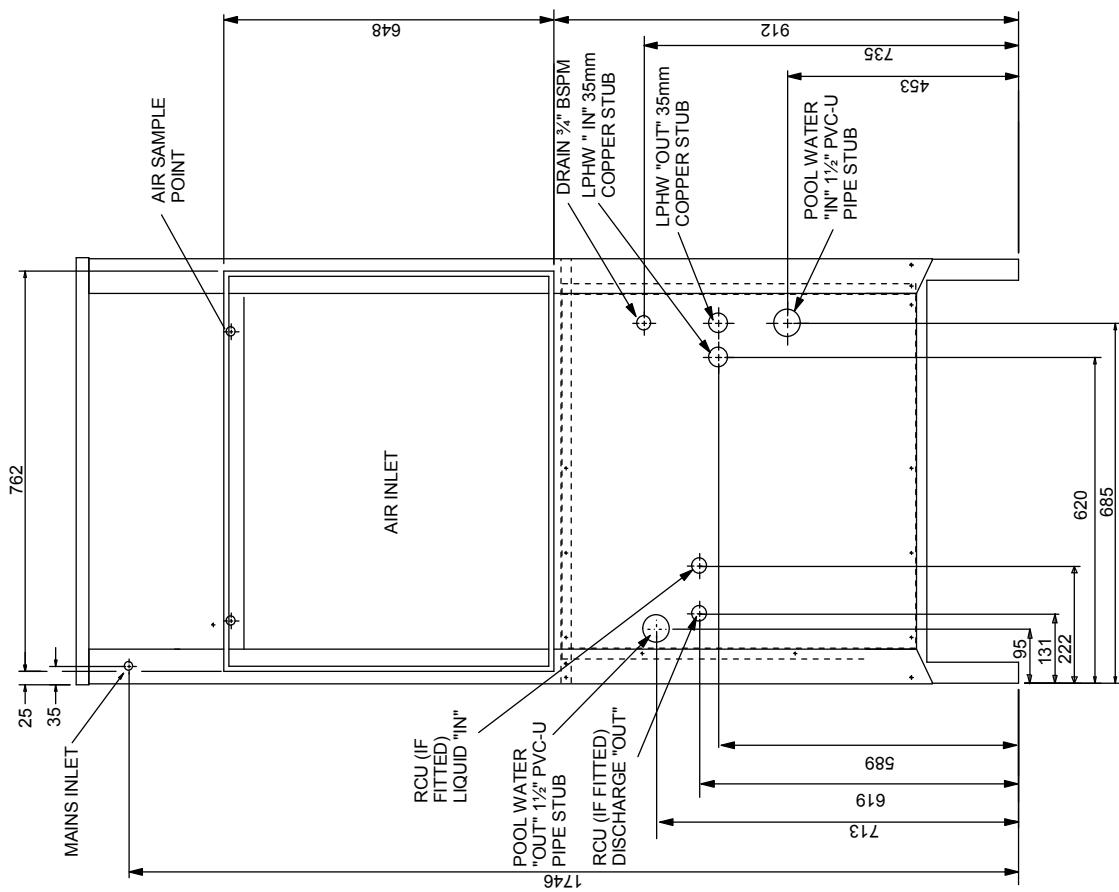
1m hd = 1,4psi

1L/min. = 0,22 gall

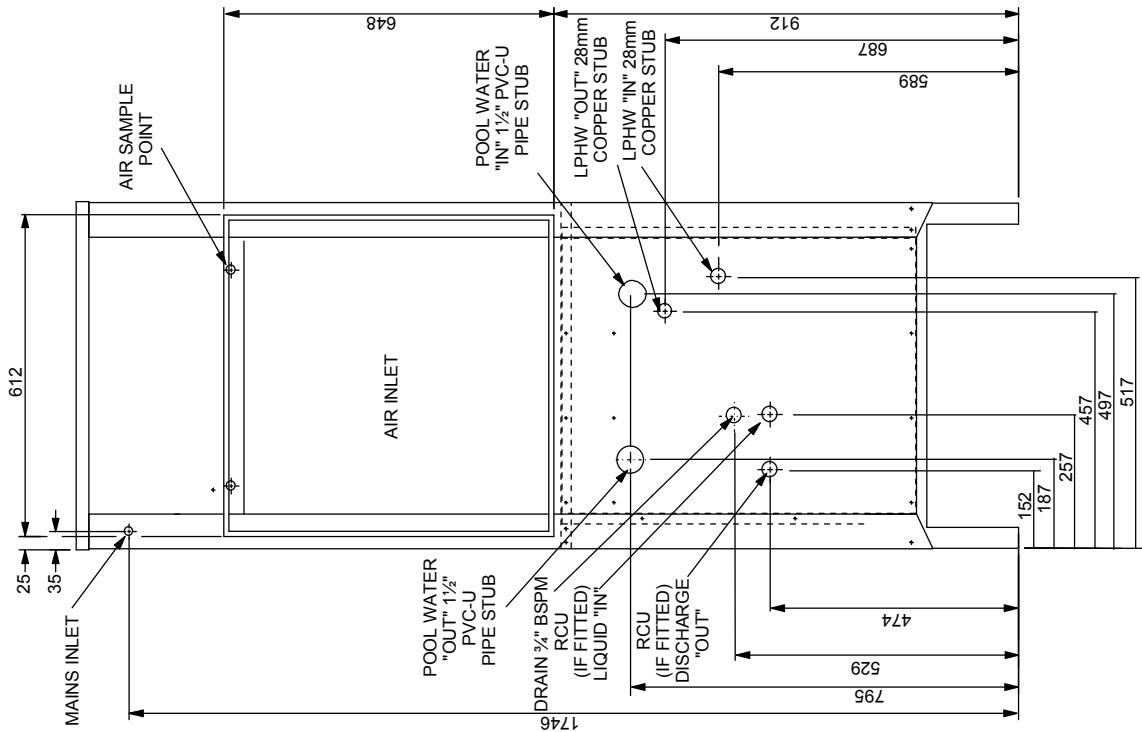
5.0 DIMENSION DRAWINGS

AW570/870VH



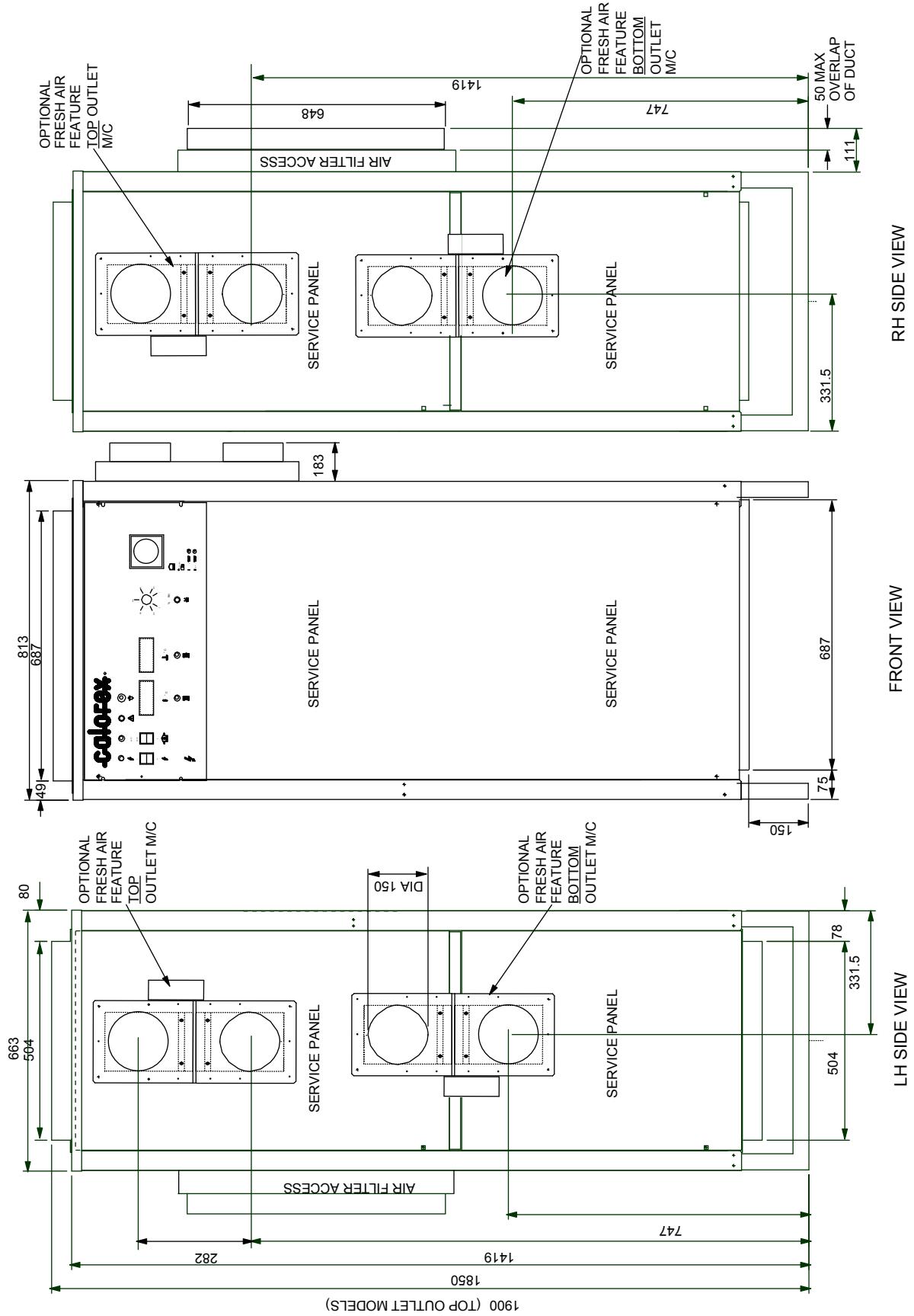


1270VH REAR VIEW



570/870VH REAR VIEW

AW1270VH



6.0 WARRANTY CONDITIONS

The following exclusions apply to the Warranty given by Calorex Heat Pumps Ltd. No claims will be accepted if :-

1. The heat pump is incorrectly sized for the application.
2. The heat pump is installed in any way that is not in accordance with the current procedures as defined by Calorex Heat Pumps Ltd.
3. The heat pump has been worked upon or is adjusted by anyone other than a person authorised to do so by Calorex Heat Pumps Ltd.
4. The air flow to and from the machine is outside the specified limits.
5. The water flow through the machine is outside the specified limits.
6. The water pH level and/or chemical balance is outside the following limits:-

Acidity pH	pH	7.2 - 7.8
Total Alkalinity, as CaCO ₃	ppm	80 - 120
Total Hardness, as CaCO ₃	ppm	150 - 250
Total Dissolved Solids	ppm	1000
Maximum Salt Content	ppm	8000
Free Chlorine Range	ppm	1 - 2 Domestic
Free Chlorine Range	ppm	3 - 6 Commercial
Superchlorination	max	30ppm for 24 hrs
Bromine	ppm	2 - 5
Baquacil	ppm	25 - 50
Ozone	ppm	0.9 Max
Maximum Copper Content	ppm	1
Aquamatic Ionic Purifier	ppm	2 Max

7. The heat pump has suffered frost damage.
8. The electrical supply is insufficient or in any way incorrect.
9. The heat pump must be maintained in accordance with the service requirements in section 7.0

For details of extended warranty and maintenance packages available to United Kingdom customers please call the service number below.

IF IN ANY DOUBT PLEASE ASK

Note:- The Reply Paid Warranty Registration Card must be returned, to ensure that the correct warranty is given. If you do not find a Registration Card with your Heat Pump please contact the Calorex Service Department giving your name, address and serial number of your heat pump. A card will be sent to you for completion.

Email: [service @calorex.com](mailto:service@calorex.com)
+44(0)1621 857171



Website: <http://www.calorex.com>
+44(0)1621 856611

Please give MODEL NUMBER and SERIAL NUMBER of your heat pump when making technical or service enquiries. This will assist in correct diagnosis and ensure service can be provided with the minimum delay.

7.0 REGULAR PLANNED MAINTENANCE

Operations to be carried out during a regular planned maintenance visit are as follows:

- 1) Replace all belts where fitted.
- 2) Clean or replace filters as applicable. (This action may be required more frequently than regular servicing.)
- 3) Check operation and condition of all fans and compressors.
- 4) Check capacitor tolerances (where fitted).
- 5) Check condition of all heat exchangers/evaporators.
- 6) Check refrigeration system parameters.
- 7) Check operation of control valves.
- 8) Check for water leaks.
- 9) Check drip trays and internal drain lines for blockages and clear.
- 10) Check operation of controls and calibrate as necessary.
- 11) Check operation of interlocks in use.
- 12) Final check on overall operation of unit.
- 13) Indicate on report any faults found or causes for concern.

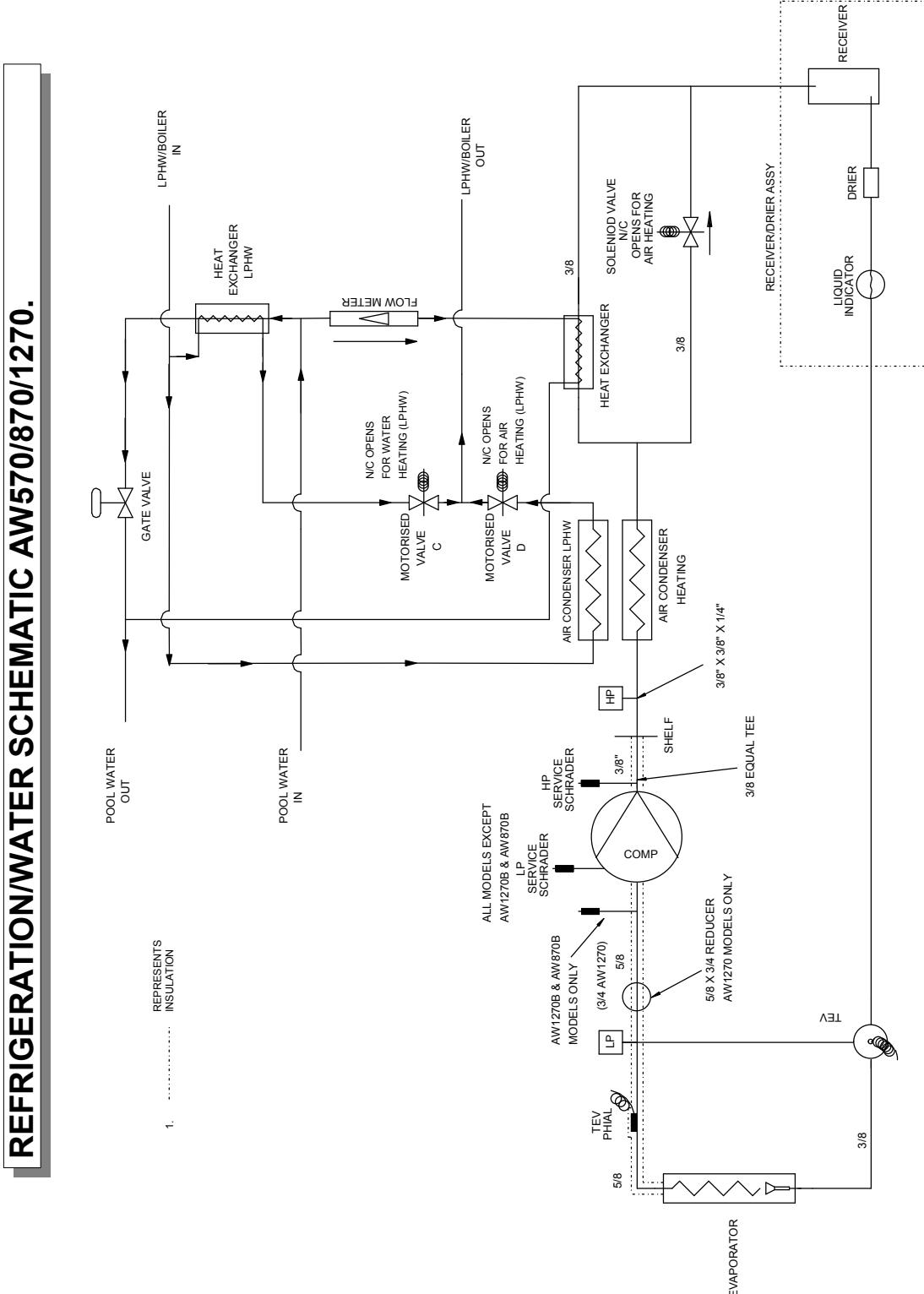
Frequencies recommended:

Light to medium use 2 visits per year.

Heavy use 4 visits per year.

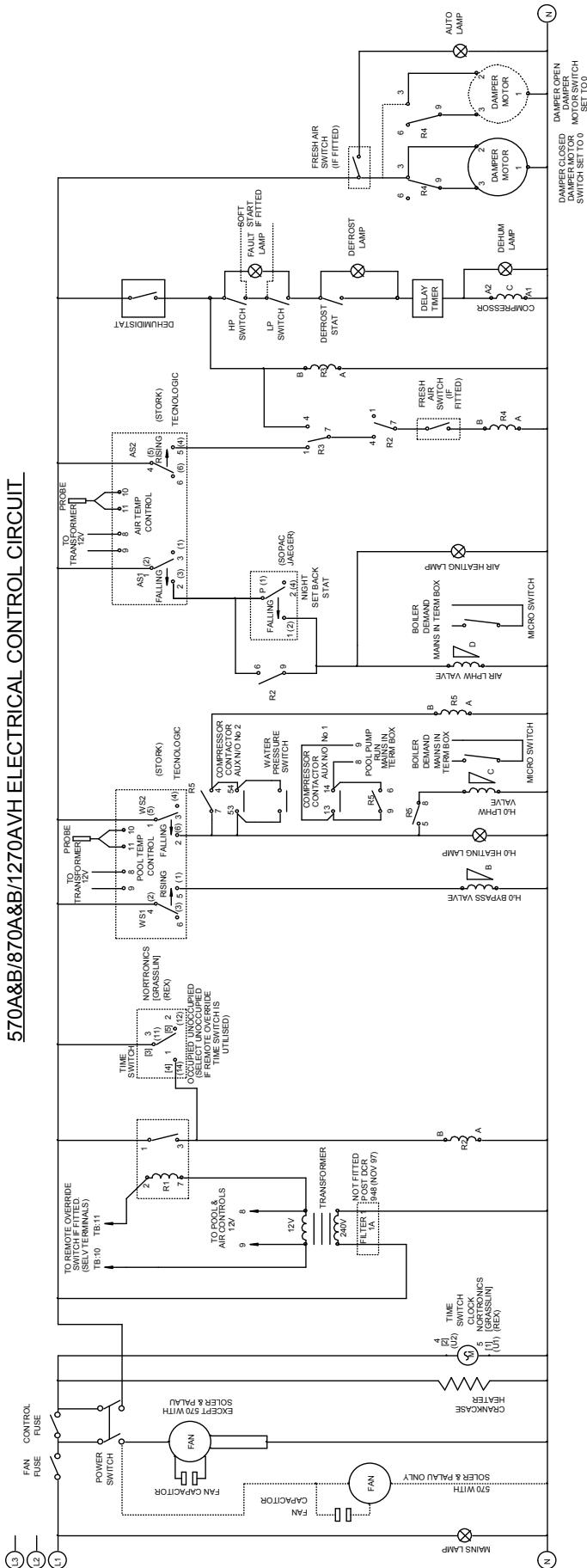
8.0 REFRIGERATION SCHEMATIC

REFRIGERATION/WATER SCHEMATIC AW570/870/1270.



9.0 WIRING/CIRCUIT DIAGRAMS

570A&B/870A&B/1270AVH ELECTRICAL CONTROL CIRCUIT



POWER CIRCUIT 70VH RANGE 3 PHASE

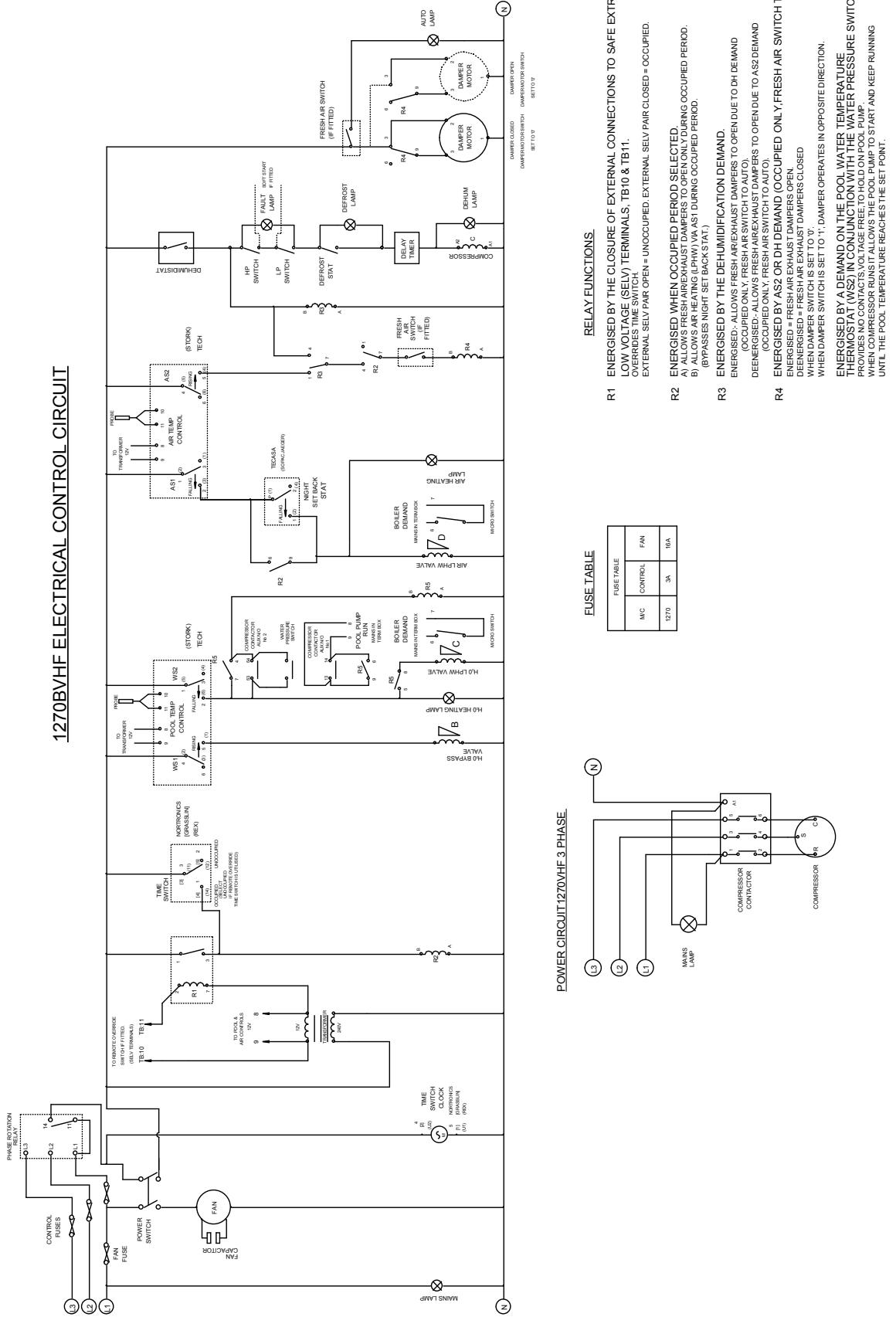
POWER CIRCUIT 70VH RANGE SINGLE PHASE

FUSE TABLE

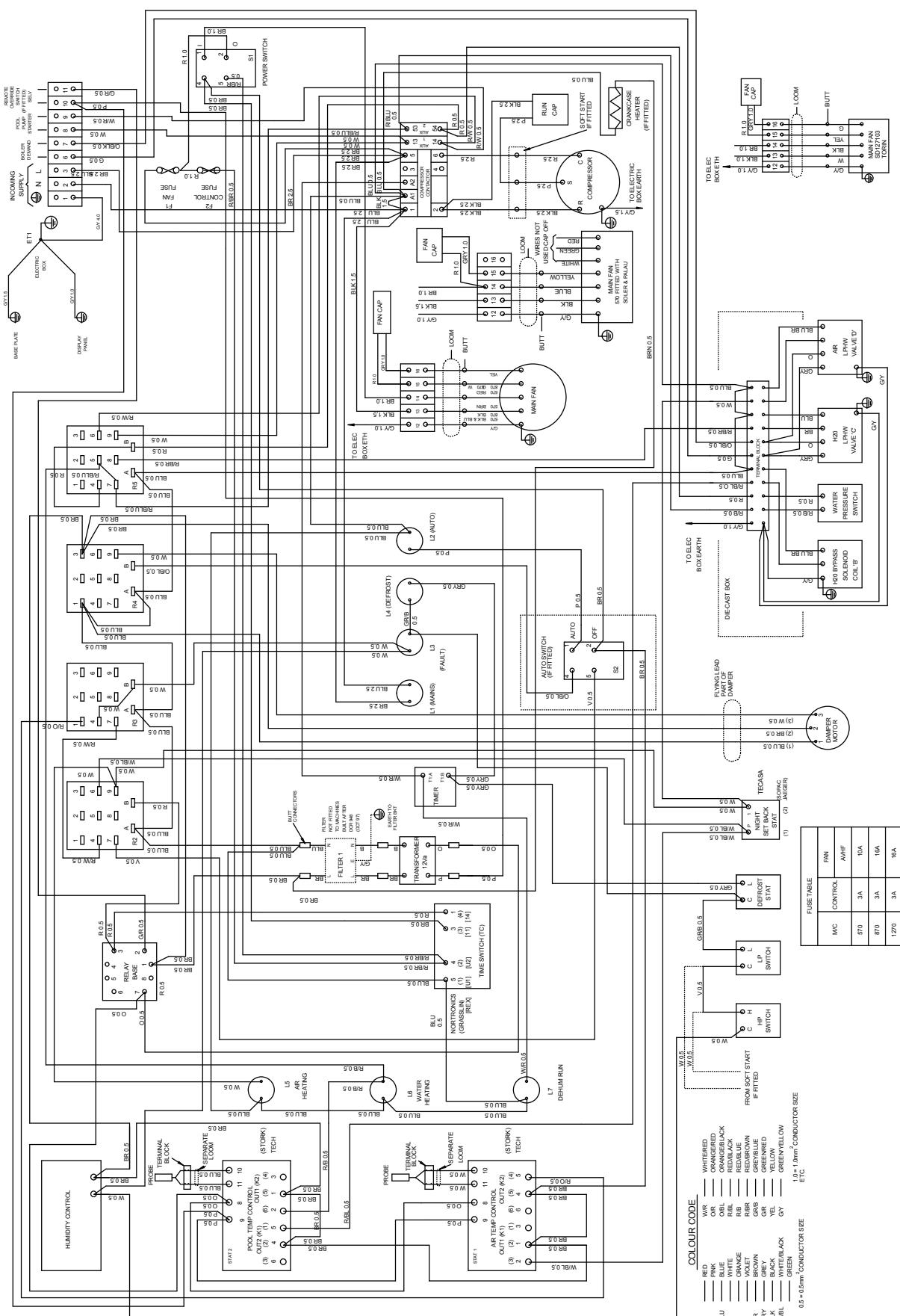
FUSE TABLE			
	WC	CONTROL	FAN
570	3A	1A	10A
870	3A	1A	16A
1270	3A	1A	16A
			...

RELAY FUNCTIONS

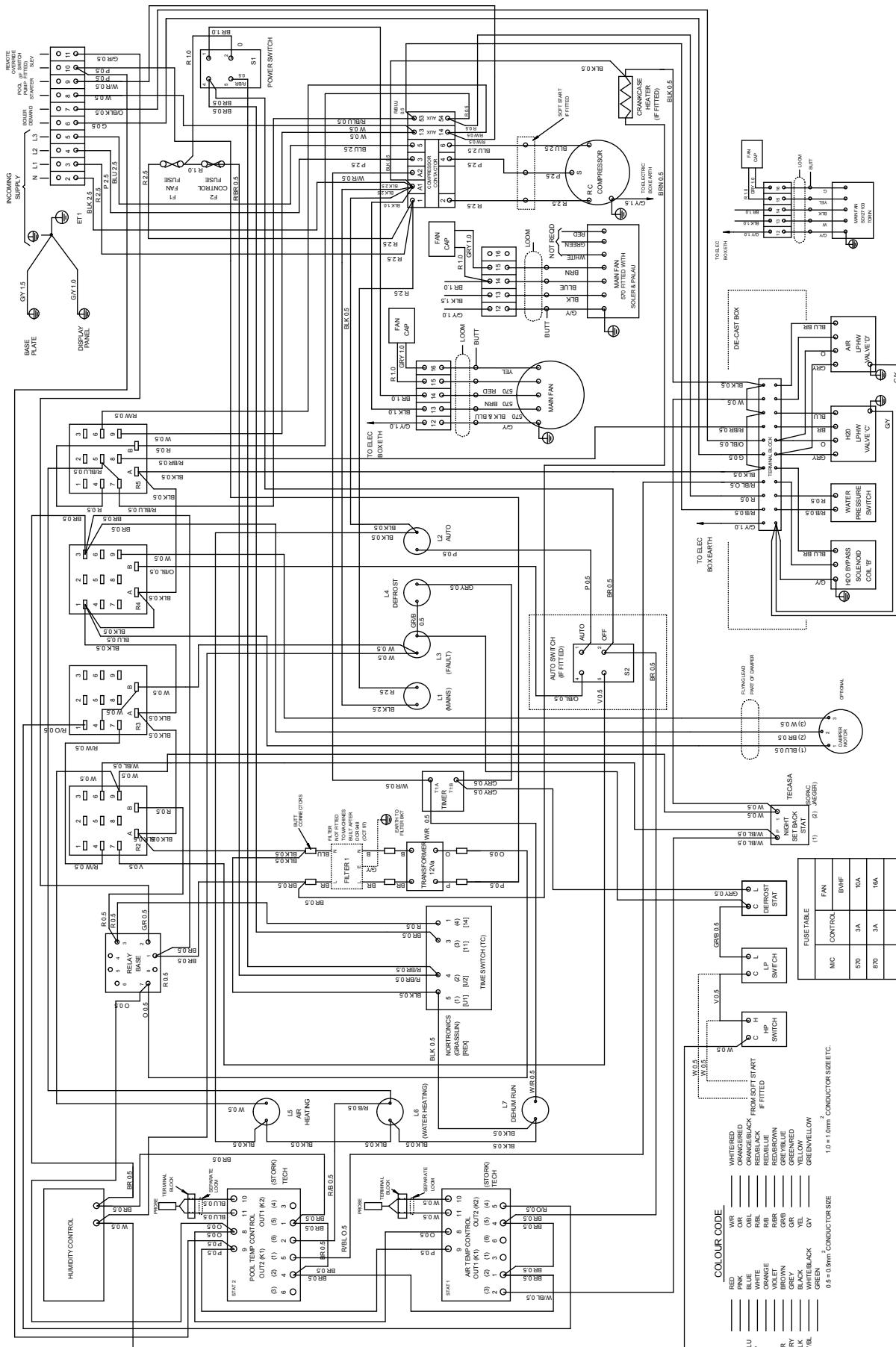
R1	ENERGISED BY THE CLOSURE OF EXTERNAL CONNECTIONS TO SAFE EXTRA LOW VOLTAGE (SELV) TERMINALS, TB10 & TB11. OVERIDES TIME SWITCH. EXTERNAL SELV PAIR OPEN = UNOCCUPIED.
R2	ENERGISED WHEN OCCUPIED PERIOD SELECTED. A) ALLOWS FRESH AIR/EXHAUST DAMPERS TO OPEN DUE TO DH DEMAND. B) ALLOWS AIR HEATING (UPHW) VIA AS1 DURING OCCUPIED PERIOD. (BYPASSES NIGHT SET BACK STAT.)
R3	ENERGISED BY THE DEHUMIDIFICATION DEMAND. Energised - ALLOWS FRESH AIR/EXHAUST DAMPERS OPEN (Occupied Only). Fresh Air Switch to '0'. Deenergised - ALLOWS FRESH AIR/EXHAUST DAMPERS CLOSED When Damper Switch is set to '1'. Damper operates in opposite direction.
R4	ENERGISED BY AS2 OR DH DEMAND OCCUPIED ONLY/FRESH AIR SWITCH TO AUTO. Energised - Fresh Air/Exhaust dampers open Deenergised - Fresh Air/Exhaust dampers closed When Damper switch is set to '0' Allows Fresh Air switch to Auto.
R5	ENERGISED BY A DEMAND ON THE POOL WATER TEMPERATURE THERMOSTAT (WS2) IN CONJUNCTION WITH THE WATER PRESSURE SWITCH. PROVIDES NO CONTACTS, VOLTAGE FREE, TO HOLD ON POOL PUMP WHEN COMPRESSOR RUNS IT ALLOWS THE POOL PUMP TO START AND KEEP RUNNING UNTIL THE POOL TEMPERATURE REACHES THE SET POINT.



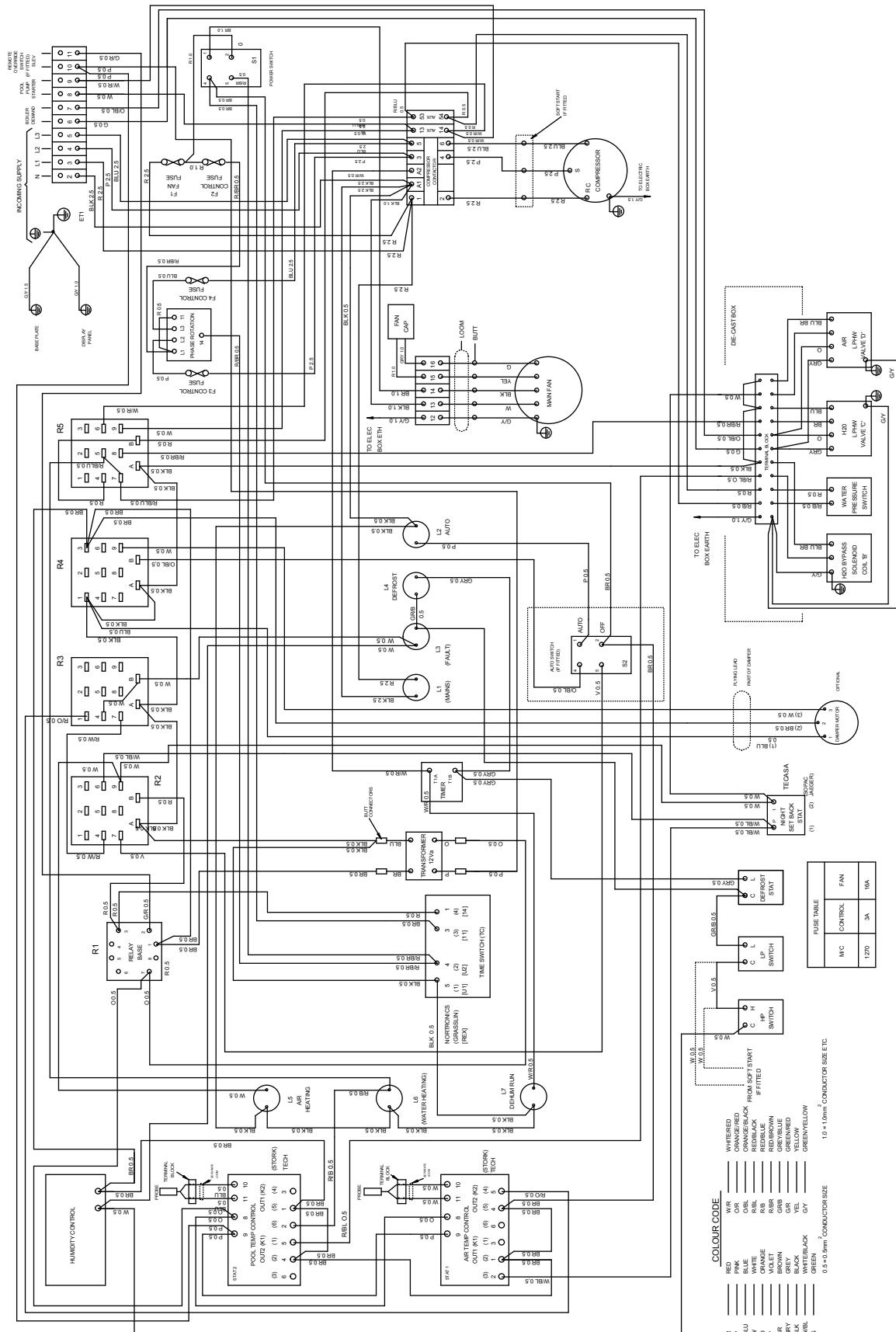
570/870/1270AVH SINGLE PHASE



570/870BVH THREE PHASE



1270BVH THREE PHASE



CONTROL CHART NOTES

NOTES

1) SIGNAL TO START BOILER PUMP IS VIA TERMINAL BLOCKS 6 & 7 (VOLTAGE FREE SWITCH). SIGNAL TO START POOL FILTER VIA TERMINAL BLOCKS 8 & 9 (VOLTAGE FREE SWITCH). MACHINE WILL BRING ON POOL FILTER PUMP (IF IT IS NOT ALREADY RUNNING) WHENEVER THE COMPRESSOR RUNS. THE POOL FILTER PUMP WILL STOP WHEN RH1 IS SATISFIED UNLESS WS2 WATER HEATING REQUIRED (LPHW). WS2 WATER HEATING DEMAND ALONE WILL HOLD ON THE POOL FILTER PUMP PROVIDED THE POOL FILTER PUMP IS ALREADY RUNNING DUE TO THE CUSTOMERS TIME CLOCK SAMPLING PERIODS (SEE OWNERS MANUAL) OR COMPRESSOR RUN DEMAND (RH1). IF AFTER WS2 SIGNAL TO HOLD ON POOL PUMP THE MACHINE WATER PRESSURE SWITCH GOES OPEN CIRCUIT, NOTHING WILL CHANGE, ie PUMP SIGNAL TO RUN REMAINS UNTIL WS2 SATISFIED. PUMP MAY CONTINUE UNDER SEPARATE CUSTOMER CONTROL.

2) "SET POINT" OF THERMOSTATS IS REFERRED TO AS THE SWITCHING POINT FOR SIMPLICITY WHEN IN FACT THE RELAY OPERATES AT SET POINT $\pm \frac{1}{2}$ % OF THE HYSTERESIS (DIFF). (STORKS ONLY)

3) WHEN MACHINE ON DEFROST, COMPRESSOR STOPS BUT ALL OTHER FUNCTIONS OPERATE AS NORMAL.

4) IF SWITCH "A" SET TO "OFF" THE DAMPERS ARE FORCED TO CLOSE AND WILL NOT BE UNDER MACHINE "AUTO" CONTROL. IF FRESH AIR SWITCH IS SELECTED "OFF" OR UNOCCUPIED PERIOD REACHED DAMPERS WILL NOT CLOSE UNTIL THE DEMAND THAT ORIGINALLY OPENED THEM IS SATISFIED.

5) AIR STAT NEON (AS1) WILL SHOW DEMAND ON UNOCCUPIED SETTING BUT NOTHING WILL HAPPEN BECAUSE CONTROL IS BY SET BACK STAT (NSS).

6) TIME CLOCK MUST BE OVERRIDDEN AND UNOCCUPIED (PIPS IN) SELECTED IN ORDER THAT THE REMOTE 12v SWITCHING FEATURE CAN OPERATE. MACHINE TERMINALS 10 & 11 ARE 12vac, OPEN CIRCUIT = UNOCCUPIED, CLOSED CIRCUIT = OCCUPIED.

KEY

RH1=DEHUM STAT (COMP ON) (DAMPERS OPEN IF FITTED).

AS1=AIR STAT STAGE 1 (LPHW HEAT AIR).

AS2=AIR STAT STAGE 2 (DAMPERS OPEN).

WS1=WATER STAT STAGE 1 (MAX TEMP).

WS2=WATER STAT STAGE 2 (LPHW HEAT WATER).

NSS=UNOCCUPIED PERIOD AIR TEMP STAT (LPHW HEAT AIR).

OCCUPIED MODE:-

=TIME CLOCK PIPS OUT,

OR TIME CLOCK MANUAL "I",

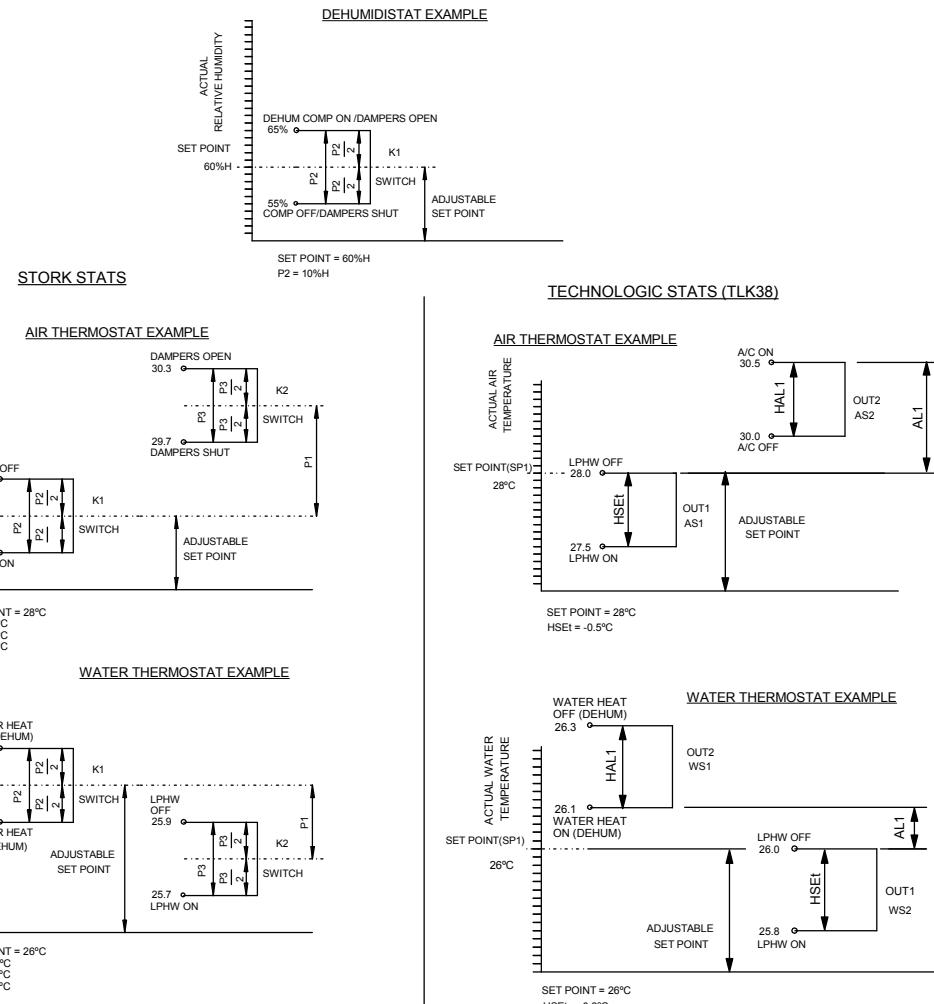
OR 12v TERMINALS 10&11 CLOSED.

UNOCCUPIED MODE:-

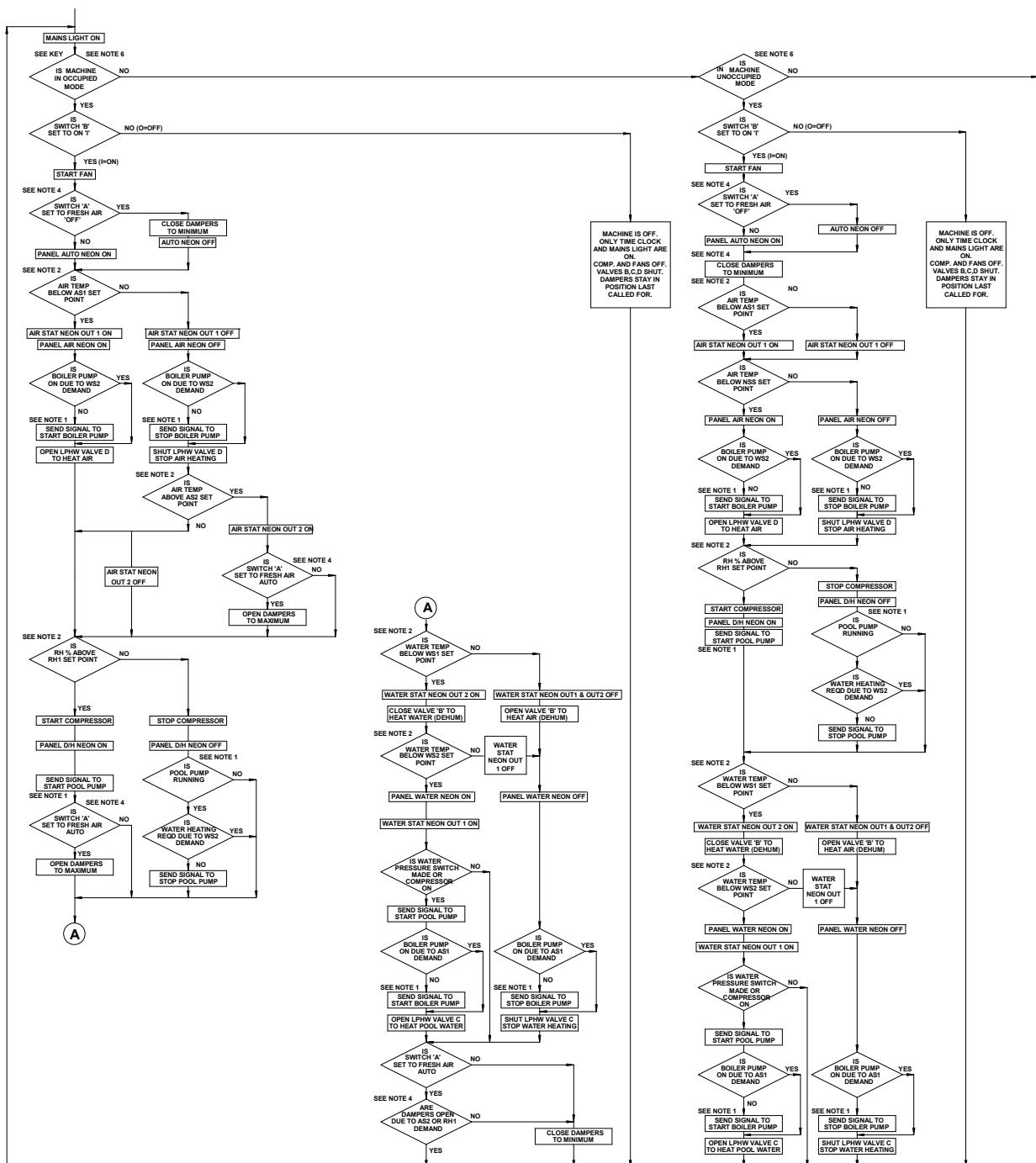
=TIME CLOCK PIPS IN,

OR TIME CLOCK MANUAL "II" (0)

OR 12v TERMINALS 10&11 OPEN.



CONTROL CHART DIAGRAM



10.0 SOUND DATA

The following sound pressure readings obtained from top outlet models with fresh air facility.

	SOUND PRESSURE dBA @ 1m		
MODEL	AW570	AW870	AW1270
FRONT	62	64	64.5
L.H.S	64	65	65
R.H.S	65	66	66
AIR ON	67	68	69
AIR OFF	69	70	71

Sound power levels to BS ISO 3744 1994(E) obtained from top outlet models with fresh air facility

FREQ	SOUND POWER		
MODEL	AW570	AW870	AW1270
63Hz	69.5	72.1	73.7
125Hz	73.5	74.8	76.4
250Hz	68	73.8	75.4
500Hz	65	71.6	73.1
1kHz	65	72.9	74.5
2kHz	61.5	71.5	73
4kHz	59.5	69.6	71
8kHz	60	60.5	61.8
dBA	77.5	78.4	80

11.0 SPARE PARTS LISTS

ELECTRIC BOX ASSEMBLIES AW570/870 /1270AVHF (230V ~ 1N 50Hz)

TOP PLATE CUT AWAY

STAT PROBES. SEE FIG 1

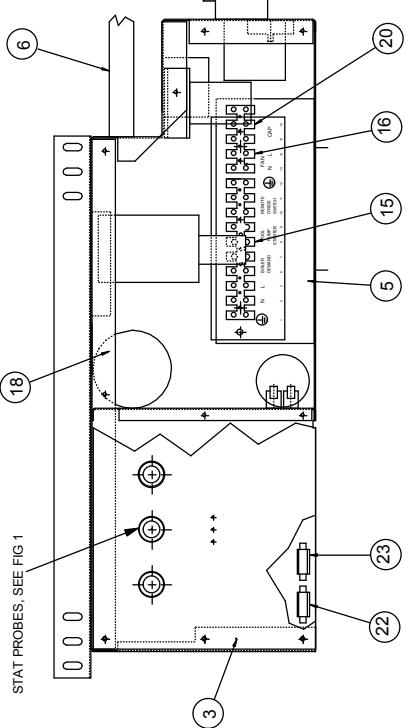
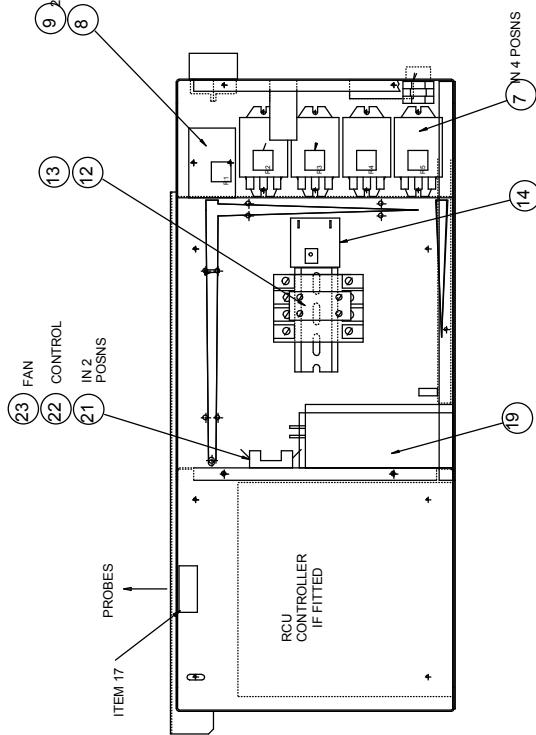
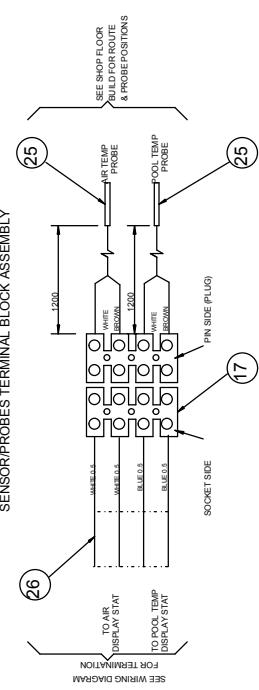


FIG 1.

SENSOR/PROBES TERMINAL BLOCK ASSEMBLY



ASSY No SA367201 AT ISS 12.
AW570AVHF ELECTRIC BOX ASSY BOTTOM OUTLET

ITEM NO.	PART No.	DESCRIPTION	QUAN	UNITS
6	SA374501	LOOM ASSY AW70AVH RANGE	1	off
7	SD189652	RELAY C/O 3 POLE 16A 230vac COIL	4	off
8	SD351550	8 PIN POWER RELAY (12V COIL)	1	off
9	SD078850	RELAY BASE OCTAL	1	off
10	SD185550	THERMOSTAT NT162/TB	1	off
11	SD336551	TRANSFORMER 12V 12VA	1	off
12	SD612051	CONTACTOR 12A 3+1 N/O AUX	1	off
13	SD611750	AUX CONTACT BLK 2P N/O+N/O	1	off
14	SD089550	DELAY TIMER 7 SEC TO 9 MIN	1	off
15	SD072857	TERMINAL BLOCK 10 WAY 16A	1	off
16	SA072853	5 WAY TERMINAL BLOCK	1	off
17	SA329952	TERMINAL BLOCK 4 WAY PLUG/SOCKET	1	off
18	SD022550	CAPACITOR 35µF 440V 50/60Hz	1	off
19	SD038750	CAPACITOR RUN CAP 15µF+/-5% 400v	1	off
20	SA272001	LOOM FAN	1	off
21	SD216550	FUSE HOLDER	2	off
22	SD035350	FUSE 3A	2	off
23	SD035354	FUSE 10A	2	off
24	SD041450	CONTROL KNOB	1	off
25	SD448750	PTC SENSOR LEAD (TECNOLOGIC)	2	off
26	SA371801	LOOM ASSY VH STAT TO PROBE	1	off
32	SP152150	M20 PLASTIC GLAND BACK NUT	1	off

**SA367211 AW570AVHF ELECTRIC BOX ASSEMBLY
TOP OUTLET MACHINE**

AS BOTTOM OUTLET VERSION BUT DROP AND FIT THE FOLLOWING:

DROP			QUANTITY	
ITEM No.	PART No.	DESCRIPTION	1.000	off
6	SA374501	LOOM ASSY AW70AVH RANGE		

FIT				
6	SA374502	LOOM ASSY AW70AVH RANGE	1.000	off

VARIATIONS FOR MACHINES BUILT PRIOR TO NOV 97

SD347150 MAINS FILTER (SUPPRESSOR)	1.000
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ASSY No SA367202 AT ISS 14
AW870AVHF ELECTRIC BOX ASSY BOTTOM OUTLET

ITEM NO.	PART No.	DESCRIPTION	QUAN	UNITS
6	SA374501	LOOM ASSY AW70AVH RANGE	1	off
7	SD189652	RELAY C/O 3 POLE 16A 230vac COIL	4	off
8	SD351550	8 PIN POWER RELAY (12V COIL)	1	off
9	SD078850	RELAY BASE OCTAL	1	off
10	SD185550	THERMOSTAT NT162/TB	1	off
11	SD336551	TRANSFORMER 12V 12VA	1	off
12	SD612052	CONTACTOR 18A 3+1N/O AUX	1	off
13	SD611750	AUX CONTACT BLK 2P N/O+N/O	1	off
14	SD089550	DELAY TIMER 7 SEC TO 9 MIN	1	off
15	SD072857	TERMINAL BLOCK 10 WAY 16A	1	off
16	SA072853	5 WAY TERMINAL BLOCK	1	off
17	SA329952	TERMINAL BLOCK 4 WAY PLUG/SOCKET	1	off
18	SD486650	RUN CAP 60 μ F $\pm 10\%$ 470V 50/60Hz	1	off
19	SD033150	CAPACITOR 10 μ F	1	off
20	SA272001	LOOM FAN	1	off
21	SD216550	FUSE HOLDER	2	off
22	SD035350	FUSE 3A	2	off
23	SD035355	FUSE 16A	2	off
24	SD041450	CONTROL KNOB	1	off
25	SD448750	PTC SENSOR LEAD (TECNOLOGIC)	2	off
26	SA371801	LOOM ASSY VH STAT TO PROBE	1	off
32	SP152150	M20 PLASTIC GLAND BACK NUT	1	off

**SA367212 AW870AVHF ELECTRIC BOX ASSEMBLY
TOP OUTLET MACHINE**

AS BOTTOM OUTLET VERSION BUT DROP AND FIT THE FOLLOWING:

DROP			QUANTITY
ITEM No.	PART No.	DESCRIPTION	
6			
6	SA374501	LOOM ASSY AW70AVH RANGE	1.000
FIT			
6	SA374502	LOOM ASSY AW70AVH RANGE	1.000

VARIATIONS FOR MACHINES BUILT PRIOR TO NOV 97

SD347150	MAINS FILTER (SUPPRESSOR)	1.000
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ASSY No SA367203 AT ISS 12 (06/09/2011). AW1270AVHF ELECTRIC BOX ASSY**BOTTOM OUTLET MACHINE**

ITEM NO.	PART No.	DESCRIPTION	QUAN	UNITS
6	SA374501	LOOM ASSY AW70AVH RANGE	1	off
10	SD189652	RELAY C/O 3 POLE 16A 230vac COIL	4	off
11	SD351550	8 PIN POWER RELAY (12V COIL)	1	off
12	SD078850	RELAY BASE OCTAL	1	off
13	SD185550	THERMOSTAT NT162/TB	1	off
14	SD336551	TRANSFORMER 12V 12VA	1	off
16	SD612053	CONTACTOR 25A 3+1N/O AUX	1	off
17	SD611750	AUX CONTACT BLK 2P N/O+N/O	1	off
19	SD089550	DELAY TIMER 7 SEC TO 9 MIN	1	off
20	SD072857	TERMINAL BLOCK 10 WAY 16A	1	off
21	SA072853	5 WAY TERMINAL BLOCK	1	off
23	SA329952	TERMINAL BLOCK 4 WAY PLUG/SOCKET	1	off
25	SD486650	CAPACITOR FOR COMP 60uF 470V	1	off
26	SD111850	RUN CAPACITOR 20uF 440V	1	off
29	SA272001	LOOM FAN	1	off
30	SD216550	FUSE HOLDER	2	off
31	SD035350	FUSE 3A	2	off
32	SD035355	FUSE 1/4x1 1/4 16A	2	off
35	SD041450	CONTROL KNOB	1	off
38	SD448750	PTC SENSOR LEAD (TECNOLOGIC)	2	off
45	SA371801	LOOM ASSY VH STAT TO PROBE	1	off
76	SD079650	FUSE CLIP	2	off

**ASSY No SA367213 AW1270AVHF ELECTRIC BOX
TOP OUTLET MACHINE**

AS BOTTOM OUTLET MACHINE BUT DROP AND FIT THE FOLLOWING:

DROP

ITEM NO.	PART No.	DESCRIPTION	QUAN
6	SA374501	LOOM ASSY AW70AVH RANGE	1

FIT

ITEM NO.	PART No.	DESCRIPTION	QUAN
6	SA374502	LOOM ASSY AW70AVH RANGE	1

VARIATIONS FOR MACHINES BUILT PROIR TO NOV 97

SD347150 MAINS FILTER (SUPPRESSOR) 1

ELECTRIC BOX ASSEMBLIES AW570/870BVHF (400V ~3N 50Hz)

TOP PLATE CUT AWAY

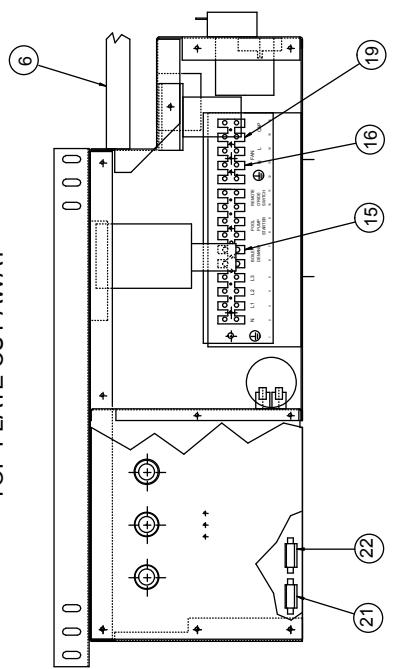
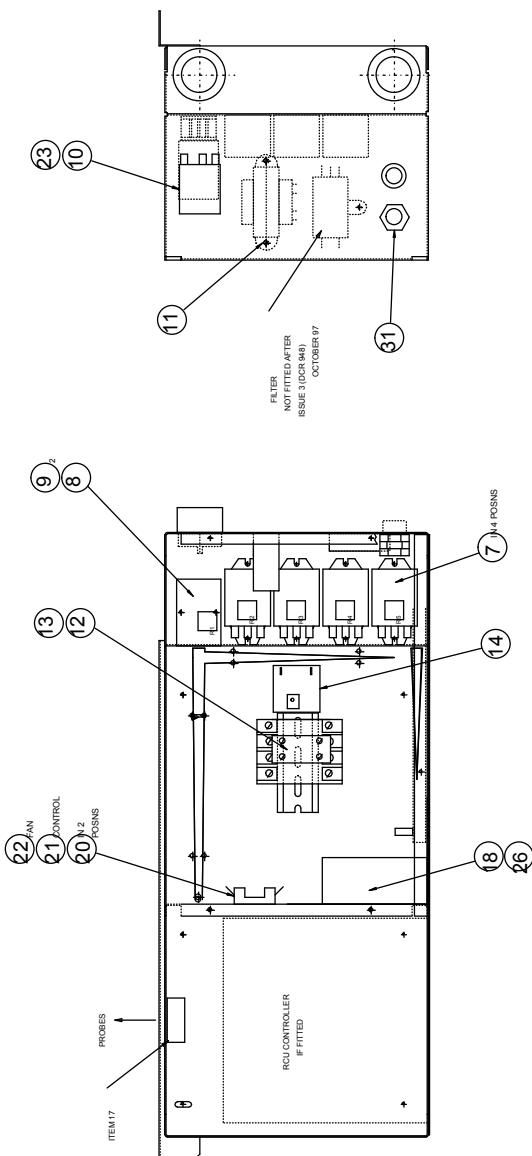
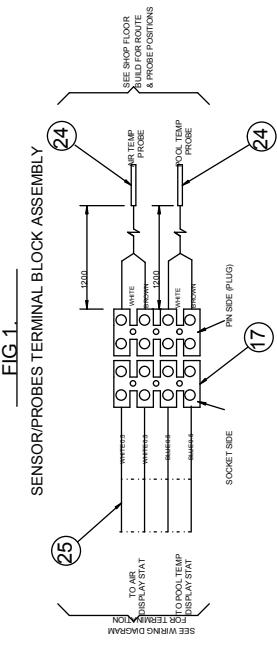


FIG. 1.



ASSY No SA367221 AT ISS 11 (27/04/2011).
AW570BVHF ELECTRIC BOX ASSY BOTTOM OUTLET

ITEM NO.	PART No.	DESCRIPTION	QUAN	UNITS
6	SA374503	LOOM ASSY AW570BVH BASE OUT	1	off
7	SD189652	RELAY C/O 3 POLE 16A 230vac COIL	4	off
8	SD351550	8 PIN POWER RELAY (12V COIL)	1	off
9	SD078850	RELAY BASE OCTAL	1	off
10	SD185550	THERMOSTAT NT162/TB	1	off
11	SD336551	TRANSFORMER 12V 12VA	1	off
12	SD612050	CONTACTOR 9A 3+1 N/O AUX	1	off
13	SD611750	AUX CONTACT BLK 2P N/O+N/O	1	off
14	SD089550	DELAY TIMER 7 SEC TO 9 MIN	1	off
15	SD072857	TERMINAL BLOCK 10 WAY 16A	1	off
16	SA072853	5 WAY TERMINAL BLOCK	1	off
17	SA329952	TERMINAL BLOCK 4 WAY PLUG/SOCKET	1	off
18	SD038750	CAPACITOR RUN CAP 15µF+/-5% 400v	1	off
19	SA272001	LOOM FAN	1	off
20	SD216550	FUSE HOLDER	2	off
21	SD035350	FUSE 3A	2	off
22	SD035354	FUSE 10A	2	off
23	SD041450	CONTROL KNOB	1	off
24	SD448750	PTC SENSOR LEAD (TECNOLOGIC)	2	off
25	SA371801	LOOM ASSY VH STAT TO PROBE	1	off
31	SP152150	M20 PLASTIC GLAND BACK NUT	1	off

TOP OUTLET MACHINE

AS BOTTOM OUTLET VERSION BUT DROP AND FIT THE FOLLOWING:

DROP

ITEM No.	PART No.	DESCRIPTION	QUANTITY
6	SA374503	LOOM ASSY AW70BVH RANGE	1.000

FIT

6	SA374504	LOOM ASSY AW70BVH RANGE	1.000
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VARIATIONS FOR MACHINES BUILT PRIOR TO NOV 97

SD347150	MAINS FILTER (SUPPRESSOR)	1.000
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ASSY No SA367222 AT ISS 12
AW870BVHF ELECTRIC BOX ASSY BOTTOM OUTLET

ITEM NO.	PART No.	DESCRIPTION	QUAN	UNITS
6	SA374503	LOOM ASSY AW570BVH BASE OUT	1	off
7	SD189652	RELAY C/O 3 POLE 16A 230vac COIL	4	off
8	SD351550	8 PIN POWER RELAY (12V COIL)	1	off
9	SD078850	RELAY BASE OCTAL	1	off
10	SD185550	THERMOSTAT NT162/TB	1	off
11	SD336551	TRANSFORMER 12V 12VA	1	off
12	SD612050	CONTACTOR 9A 3+1 N/O AUX	1	off
13	SD611750	AUX CONTACT BLK 2P N/O+N/O	1	off
14	SD089550	DELAY TIMER 7 SEC TO 9 MIN	1	off
25	SD072857	TERMINAL BLOCK 10 WAY 16A	1	off
26	SA072853	5 WAY TERMINAL BLOCK	1	off
27	SA329952	TERMINAL BLOCK 4 WAY PLUG/SOCKET	1	off
28	SD033150	CAPACITOR 10uF	2	off
19	SA272001	LOOM FAN	2	off
20	SD216550	FUSE HOLDER	2	off
21	SD035350	FUSE 3A	2	off
22	SD035355	FUSE 16A	2	off
23	SD041450	CONTROL KNOB	1	off
24	SD448750	PTC SENSOR LEAD (TECNOLOGIC)	2	off
25	SA371801	LOOM ASSY VH STAT TO PROBE	1	off
31	SP152150	M20 PLASTIC GLAND BACK NUT	1	off

**SA367232 AW870BVHF ELECTRIC BOX ASSEMBLY
TOP OUTLET MACHINE**

AS BOTTOM OUTLET VERSION BUT DROP AND FIT THE FOLLOWING:

DROP

ITEM No.	PART No.	DESCRIPTION	QUANTITY
6	SA374503	LOOM ASSY AW70BVH RANGE	1.000

FIT

6	SA374504	LOOM ASSY AW70BVH RANGE	1.000
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VARIATIONS FOR MACHINES BUILT PRIOR TO NOV 97

SD347150	MAINS FILTER (SUPPRESSOR)	1.000
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ELECTRIC BOX ASSEMBLY AW1270BVHF (400V ~3N 50Hz)

TOP PLATE CUT AWAY

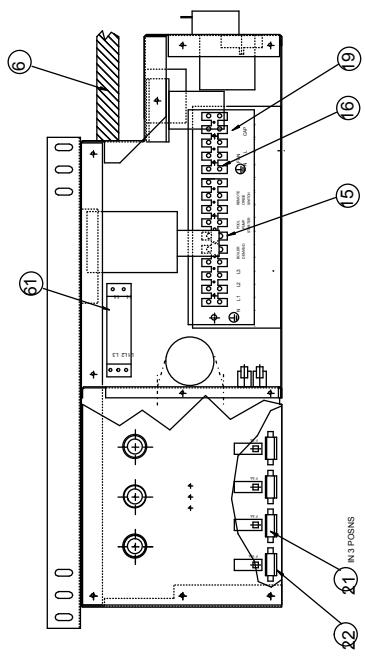
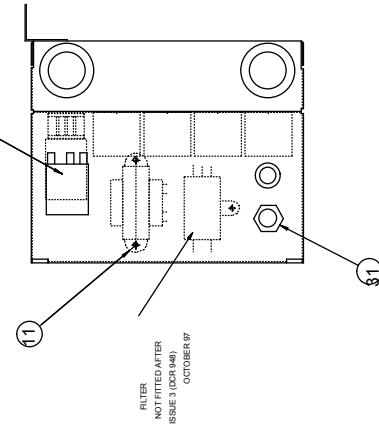
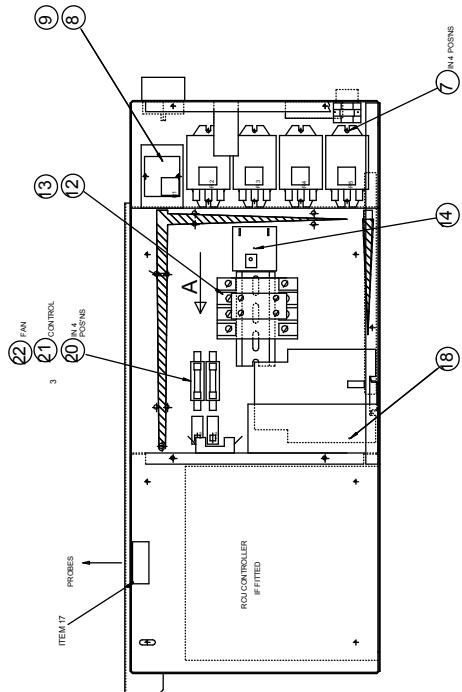
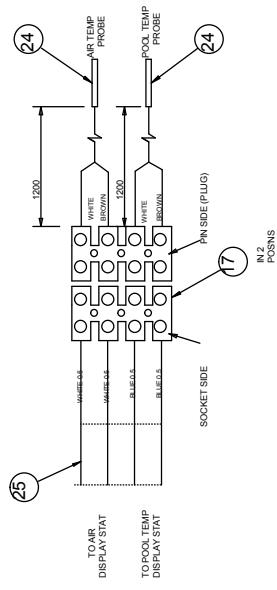


FIG. 1.
SENSOR/PROBES TERMINAL BLOCK ASSEMBLY



ASSY No SA367223 AT ISS 11
AW1270BVHF ELECTRIC BOX ASSY BOTTOM OUTLET

ITEM NO.	PART No.	DESCRIPTION	QUAN	UNITS
6	SA374505	LOOM ASSY 1270BVH BASE OUT	1	off
7	SD189652	RELAY C/O 3 POLE 16A 230vac COIL	4	off
8	SD351550	8 PIN POWER RELAY (12V COIL)	1	off
9	SD078850	RELAY BASE OCTAL	1	off
10	SD185550	THERMOSTAT NT162/TB	1	off
11	SD336551	TRANSFORMER 12V 12VA	1	off
12	SD612051	CONTACTOR 12A 3+1 N/O AUX	1	off
13	SD611750	AUX CONTACT BLK 2P N/O+N/O	1	off
14	SD089550	DELAY TIMER 7 SEC TO 9 MIN	1	off
15	SD072857	TERMINAL BLOCK 10 WAY 16A	1	off
16	SA072853	5 WAY TERMINAL BLOCK	1	off
17	SA329952	TERMINAL BLOCK 4 WAY PLUG/SOCKET	2	off
18	SD111850	RUN CAPACITOR 20uFd 440V	1	off
19	SA272001	LOOM FAN	1	off
20	SD216550	FUSE HOLDER	4	off
21	SD035350	FUSE 3A	6	off
22	SD035355	FUSE 1/4x1 1/4 16A	2	off
23	SD041450	CONTROL KNOB	1	off
24	SD448750	PTC SENSOR LEAD (TECNOLOGIC)	2	off
25	SA371801	LOOM ASSY VH STAT TO PROBE	1	off
31	SP152150	M20 PLASTIC GLAND BACK NUT	1	off
61	SD614450	PHASE PROTECTION RELAY	1	off

**SA367233 AW1270BVHF ELECTRIC BOX ASSEMBLY
TOP OUTLET MACHINE**

AS BOTTOM OUTLET VERSION BUT DROP AND FIT THE FOLLOWING

DROP

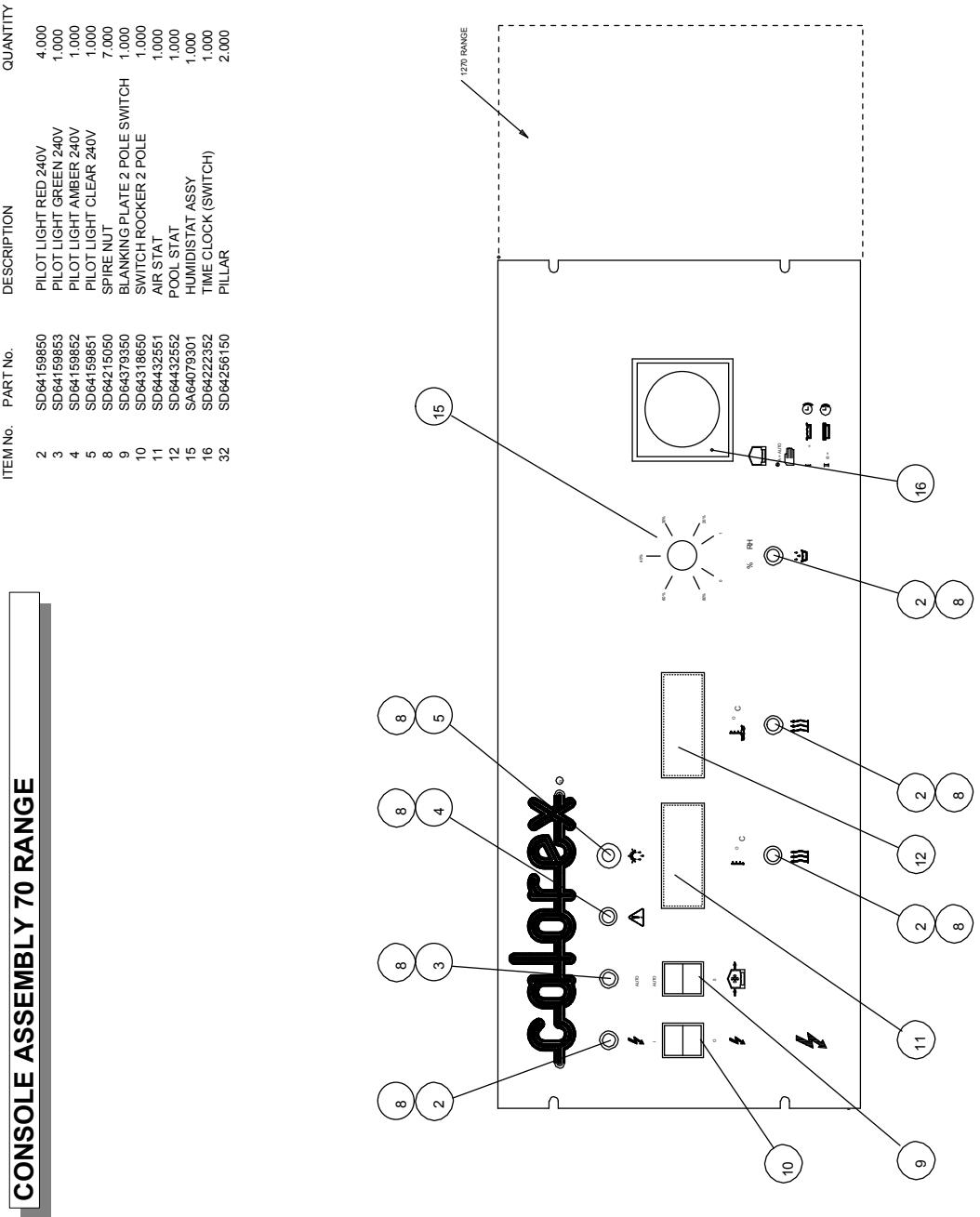
ITEM NO.	PART No.	DESCRIPTION	QUANTITY
6	SA374505	LOOM ASSY AW1270BVHF	1.000

FIT

ITEM NO.	PART No.	DESCRIPTION	QUANTITY
6	SA374506	LOOM ASSY AW1270BVHF	1.000

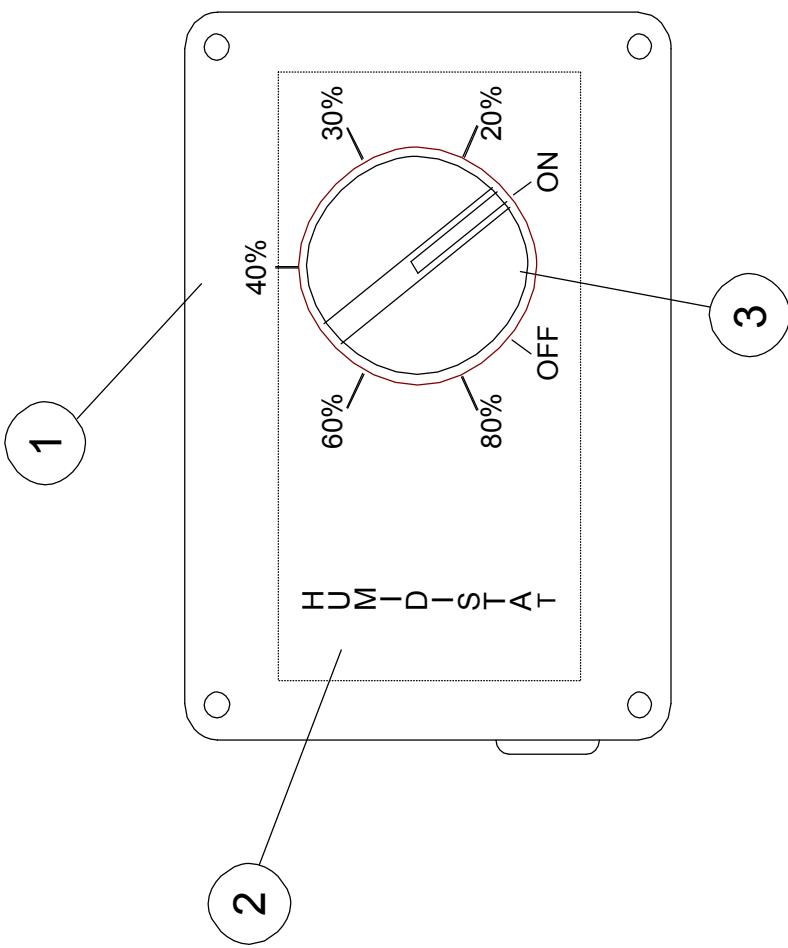
VARIATION FOR MACHINES BUILT PRIOR TO NOV 97

SD347150	MAINS FILTER (SUPPRESSOR)	1.000
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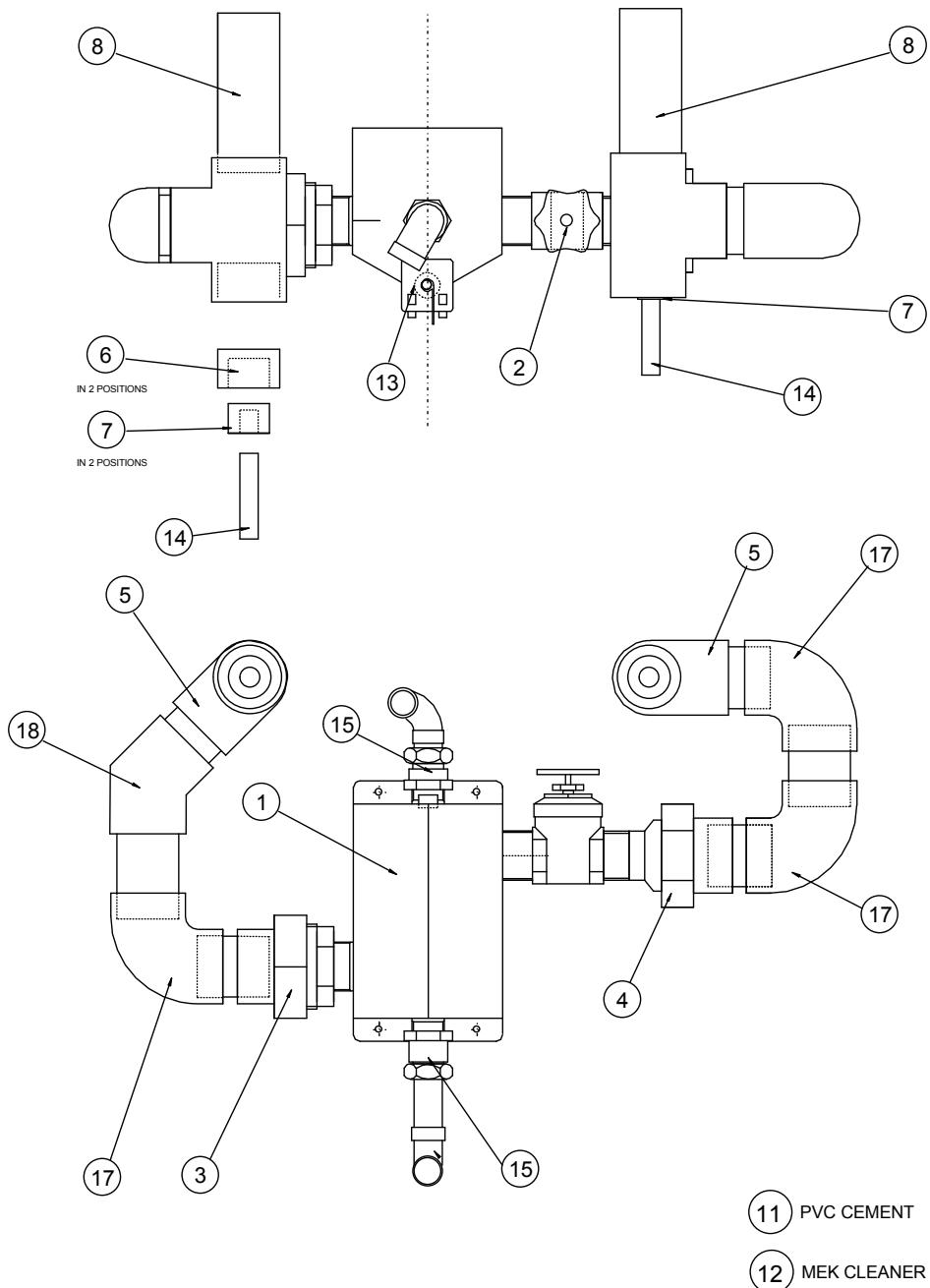


SA64079301 HUMIDISTAT ASSEMBLY.

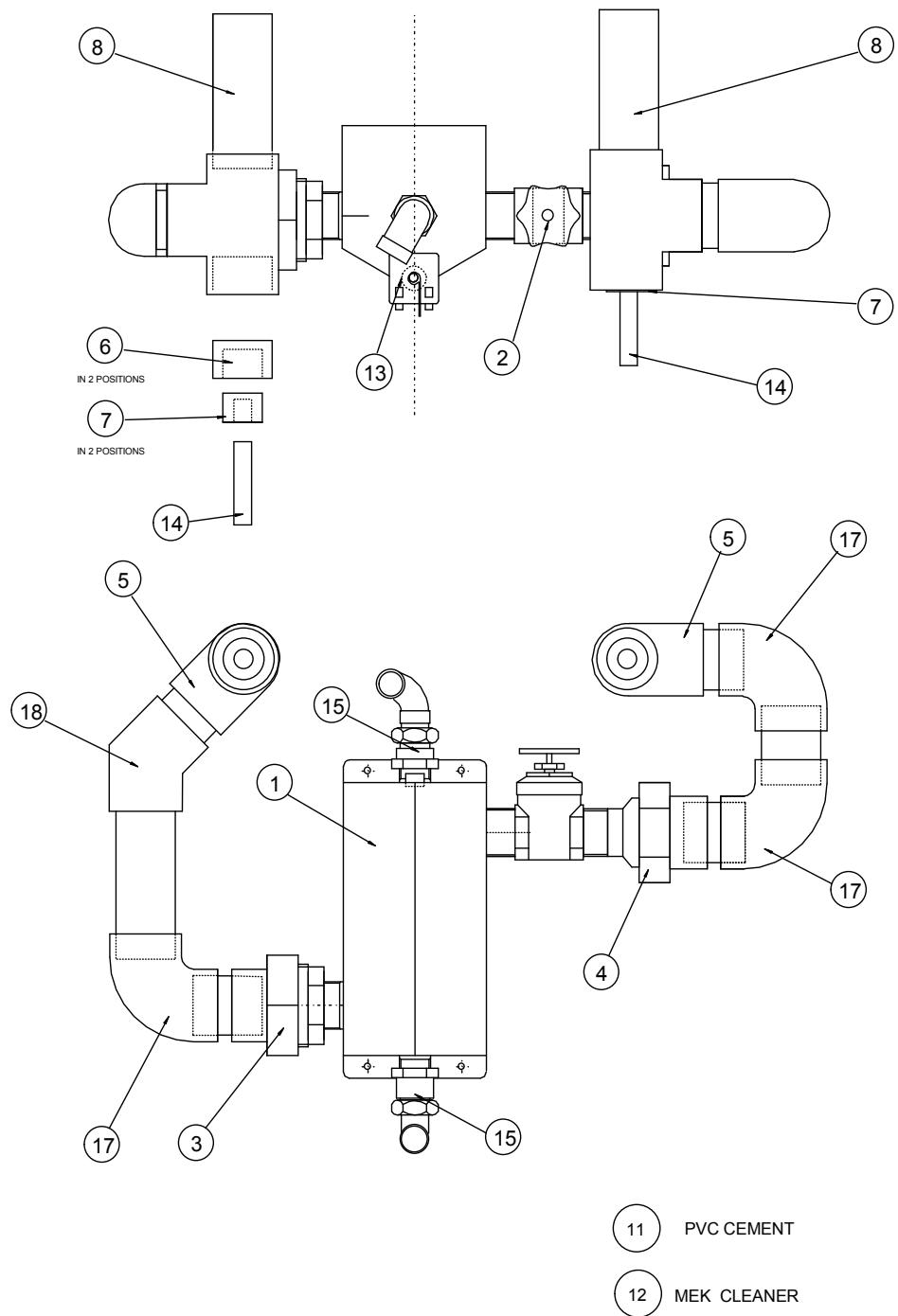
ITEM No.	PART No.	DESCRIPTION	QUANTITY
1	SD64080650	BOX	1.000
2	SD64062350	HUMIDISTAT	1.000
3	SD64041450	CONTROL KNOB	1.000



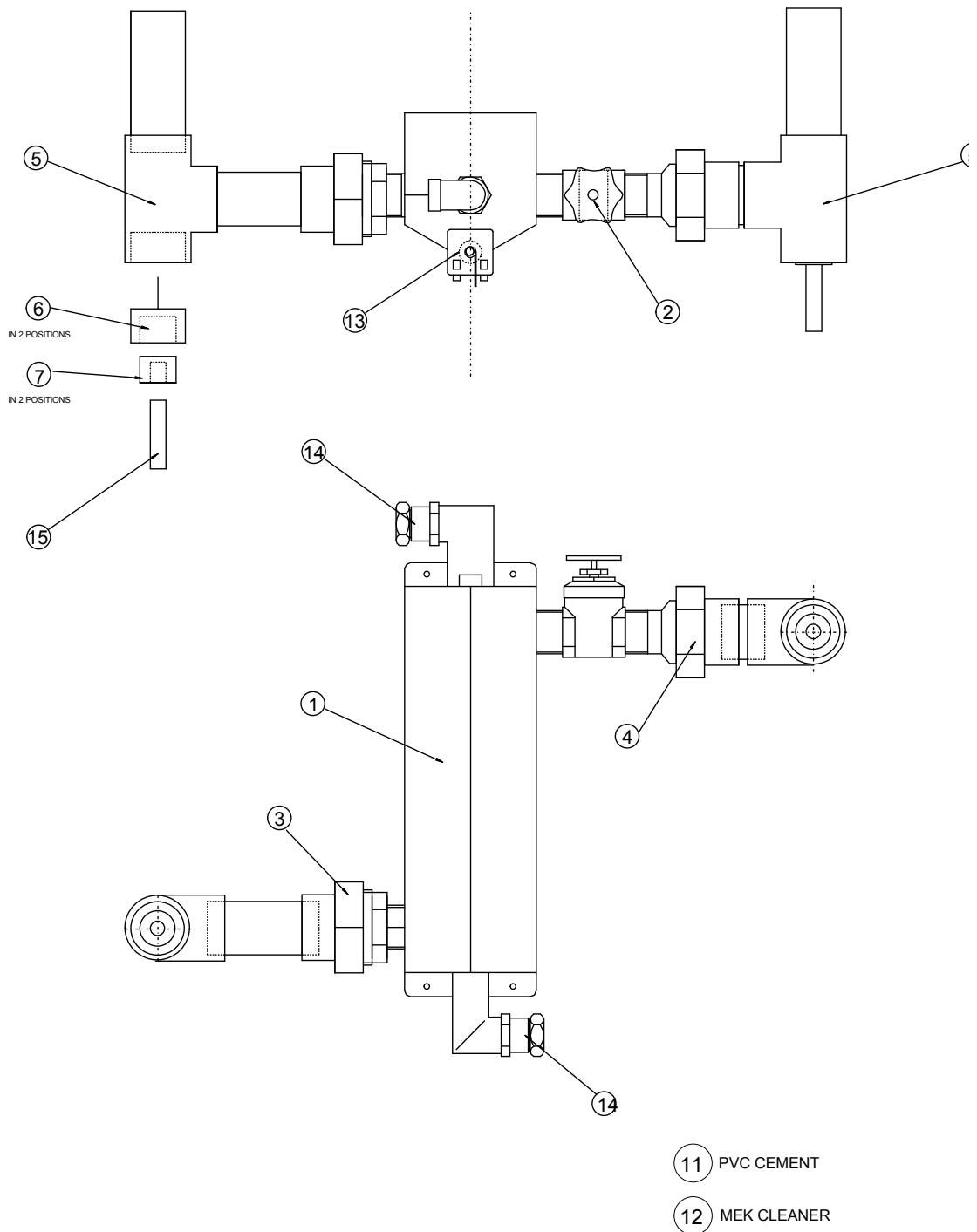
SA64338705 AW570 HEAT EXCHANGER ASSEMBLY



SA64338706 AW870 HEAT EXCHANGER ASSEMBLY



SA64338707 AW1270 HEAT EXCHANGER ASSEMBLY



SA338705 AT ISS 6 (05/09/2011). AW570 HEAT EXCHANGER ASSEMBLY

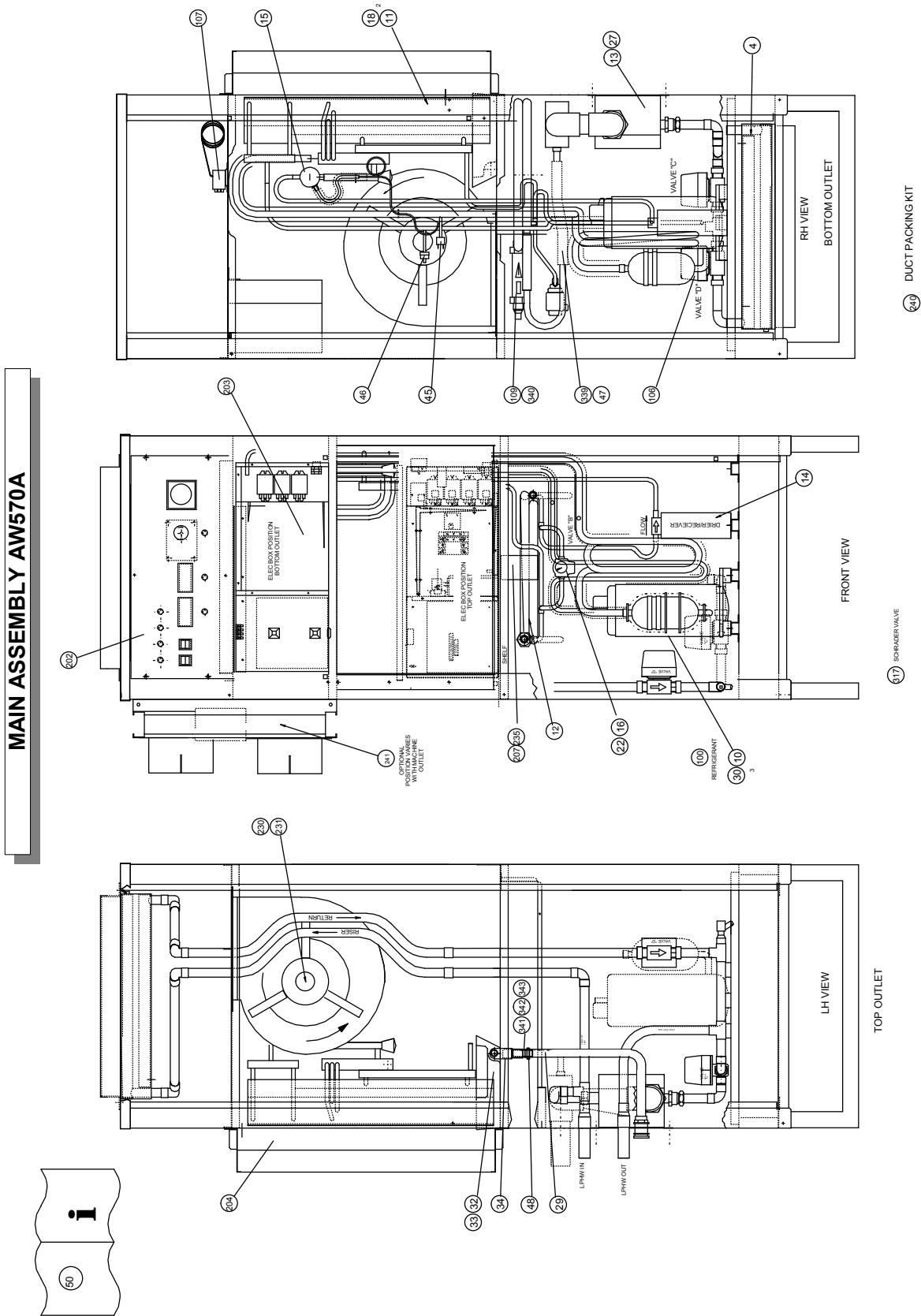
ITEM NO.	PART No.	DESCRIPTION	QUAN	UNITS
1	SD323750	HEAT EXCHANGER LPHW BLUE RIPPLE 60	1.000	off
2	SD324950	GATE VALVE 1.5IN BSPFx1.5IN BSPF	1.000	off
3	SD419651	ADAPTOR 1.5IN BSP FEMALE BRASS	1.000	off
4	SD419650	ADAPTOR 1.5IN BSP MALE BRASS	1.000	off
5	SD243650	TEE 1.5in x 1.5in x 1.5in (PVC-U)	2.000	off
6	SD324650	REDUCING BUSH 1 1/2Mx1F PVC-U	2.000	off
7	SD324653	REDUCING BUSH 1M x 3/8F PVC-U	2.000	off
8	SD243450	PVC-U GREY PIPE 1.5in DIA	0.600	m
11	SP197253	PVC-U SOLVENT CEMENT	0.100	ls
12	SP197252	MEK SOLVENT/CLEANER	0.010	ls
13	SD139950	WATER PRESSURE SWITCH	1.000	off
14	SD216450	PVC-U PIPE NOMINAL DIA 3/8 GREY	0.200	m
15	SD324850	22mm COMPRESSIONNx1BSPF	2.000	off
17	SD203552	ELBOW 1.5in x 1.5in 90 DEG (PVC-U)	3.000	off
18	SD239351	1.5in x 1.5in 45DEG ELBOW (PVC-U)	1.000	off

SA338706 AT ISS 6 (05/09/2011). AW870 HEAT EXCHANGER ASSY

ITEM NO.	PART No.	DESCRIPTION	QUAN	UNITS
1	SD323751	HEAT EXCHANGER LPHW BLUE RIPPLE 100	1	off
2	SD324950	GATE VALVE 1.5IN BSPFx1.5IN BSPF	1	off
3	SD419651	ADAPTOR 1.5IN BSP FEMALE BRASS	1	off
4	SD419650	ADAPTOR 1.5IN BSP MALE BRASS	1	off
5	SD243650	TEE 1.5in x 1.5in x 1.5in (PVC-U)	2	off
6	SD324650	REDUCING BUSH 1 1/2Mx1F PVC-U	2	off
7	SD324653	REDUCING BUSH 1M x 3/8F PVC-U	2	off
8	SD243450	PVC-U GREY PIPE 1.5in DIA	0.6	m
11	SP197253	PVC-U SOLVENT CEMENT	0.1	ls
12	SP197252	MEK SOLVENT/CLEANER	0.01	ls
13	SD139950	WATER PRESSURE SWITCH	1	off
14	SD216450	PVC-U PIPE NOMINAL DIA 3/8 GREY	0.2	m
15	SD324850	22mm COMPRESSIONNx1BSPF	2	off
17	SD203552	ELBOW 1.5in x 1.5in 90 DEG (PVC-U)	3	off
18	SD239351	1.5in x 1.5in 45DEG ELBOW (PVC-U)	1	off

SA338707 AT ISS 8 (05/09/2011). AW1270 HEAT EXCHANGER ASSY

ITEM NO.	PART No.	DESCRIPTION	QUAN	UNITS
1	SD323752	HEAT EXCHANGER LPHW BLUE RIPPLE 130	1	off
2	SD324950	GATE VALVE 1.5IN BSPFx1.5IN BSPF	1	off
3	SD419651	ADAPTOR 1.5IN BSP FEMALE BRASS	1	off
4	SD419650	ADAPTOR 1.5IN BSP MALE BRASS	1	off
5	SD243650	TEE 1.5in x 1.5in x 1.5in (PVC-U)	2	off
6	SD324650	REDUCING BUSH 1 1/2Mx1F PVC-U	2	off
7	SD324653	REDUCING BUSH 1M x 3/8F PVC-U	2	off
8	SD243450	PVC-U GREY PIPE 1.5in DIA	0.4	m
11	SP197253	PVC-U SOLVENT CEMENT	0.1	ls
12	SP197252	MEK SOLVENT/CLEANER	0.01	ls
13	SD139950	WATER PRESSURE SWITCH	1	off
14	SD324851	ADAPTER 28mm x 1in BSPF	2	off
15	SD216450	PVC-U PIPE NOMINAL DIA 3/8 GREY	0.25	m



AW570AVHF MAIN ASSEMBLY BOTTOM OUTLET MACHINE

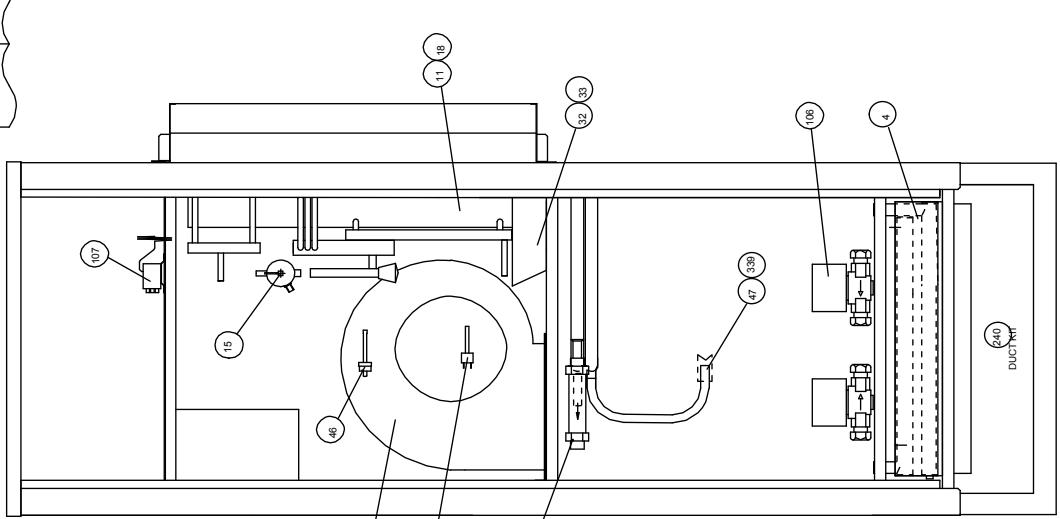
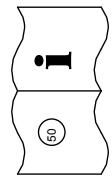
ITEM No.	PART No.	DESCRIPTION	QUANTITY
4	SD170601	WATER COIL LPHW	1.000
10	SD522851	ROTARY COMPRESSOR PG290X2C-4FT1	1.000
11	SD071050	EVAPORATOR VARIHEAT	1.000
12	SD177002	COAXIAL CONDENSER	1.000
13	SA338705	HEAT EXCHANGER ASSY 60BTU	1.000
14	SD149650	RECEIVER/DRIER	1.000
15	SD086851	TEV INE 2GA	1.000
16	SD166250	SOLENOID VALVE BODY EVR6	1.000
18	SD097250	EVAP SPACER	2.000
22	SD166550	COIL SOLENOID VALVE	1.000
27	SD140150	PRESSURE SWITCH BOOT	1.000
29	SD111050	HOSE CLEAR 16mm I/D	0.750
30	SD520852	SPACER 37mm LG 10mm O/D 8.20mm I/D	3.000
32	SD253402	DRIP TRAY	1.000
33	SD096650	DRIP TRAY PLATE	1.000
34	SD203555	1/2 ELBOW PLAIN ABS	1.000
45	SD266550	LP SWITCH	1.000
46	SD266450	HP SWITCH	1.000
47	SD110150	HOSE CLIP S/STEEL	4.000
48	SD111150	HOSE CLAMP	2.000
50	SD092760	OWNER MANUAL	1.000
100	SD182554	REFRIGERANT R407C kg	1.810
106	SD323901	MOTORISED VALVE	2.000
107	SA118301	THERMOSTAT PRESET	1.000
109	SD198654	FLOW METER 10 - 40 LPM	1.000
202	SA377301	CONSOLE ASSY 570/870VH	1.000
203	SA367201	ELECTRIC BOX AW570AVHF	1.000
204	SD197150	FILTER 24" X 24" X 2"	1.000
207	SD174151	MAINS IN BOX	1.000
230	SD088851	FAN ASSY DRILLED	1.000
231	SD012451	FAN ADAPTOR PLATE	1.000
235	SD098751	TERMINAL BLOCK 12 WAY	1.000
240	SA323401	DUCT/PACKING BASE OUTLET	1.000
317	SD066350	SCHRADER VALVE	3.000
339	SD224750	HOSE RUBBER 16mm BORE	1.000
340	SD476050	22mm SOLDER CONNS	2.000
341	SD216450	PVC-U PIPE NOMINAL DIA 3/8 GREY m	0.050
342	SD203950	PVC-U PIPE NOMINAL DIA 1/2 m	0.050
343	SD197253	PVC-U SOLVENT CEMENT ml	20.000

SPARE PARTS FOR OPTIONAL FRESH AIR DAMPER, SEE PAGE 76/77

AW570AVHF MAIN ASSEMBLY TOP OUTLET MACHINE

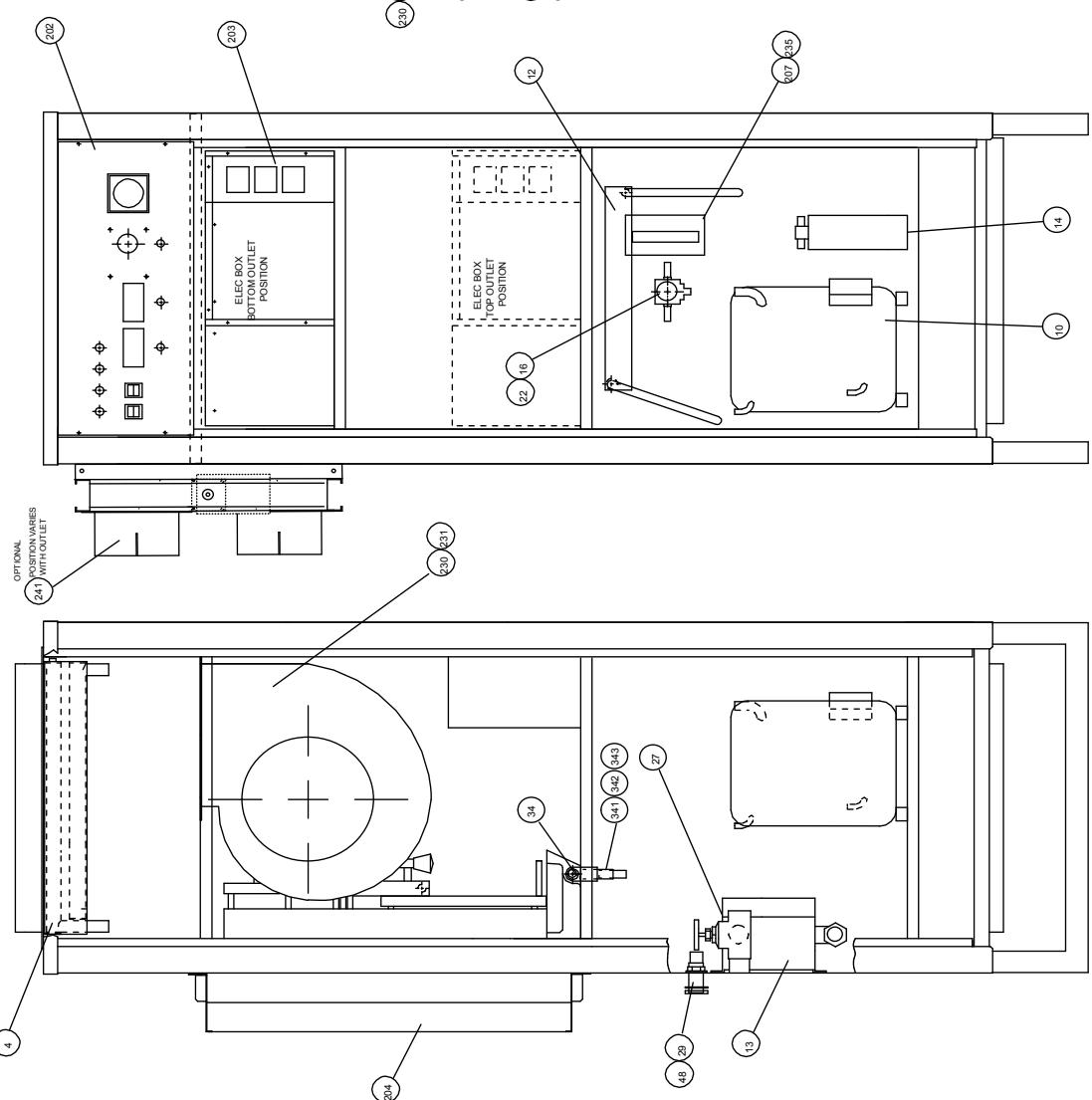
ITEM No.	PART No.	DESCRIPTION	QUANTITY
4	SD170601	WATER COIL LPHW	1.000
10	SD522851	ROTARY COMPRESSOR PG290X2C-4FT1	1.000
11	SD071050	EVAPORATOR VARIHEAT	1.000
12	SD177002	COAXIAL CONDENSER	1.000
13	SA338705	HEAT EXCHANGER ASSY 60BTU	1.000
14	SD149650	RECEIVER/DRIER	1.000
15	SD086851	TEV INE 2GA	1.000
16	SD166250	SOLENOID VALVE BODY EVR6	1.000
18	SD097250	EVAP SPACER	2.000
22	SD166550	COIL SOLENOID VALVE	1.000
27	SD140150	PRESSURE SWITCH BOOT	1.000
29	SD111050	HOSE CLEAR 16mm I/D	0.750
30	SD520852	SPACER 37mm LG 10mm O/D 8.20mm I/D	3.000
32	SD253402	DRIP TRAY	1.000
33	SD096650	DRIP TRAY PLATE	1.000
34	SD203555	1/2 ELBOW PLAIN ABS	1.000
45	SD266550	LP SWITCH	1.000
46	SD266450	HP SWITCH	1.000
47	SD110150	HOSE CLIP S/STEEL	4.000
48	SD111150	HOSE CLAMP	2.000
50	SD092760	OWNER MANUAL	1.000
100	SD182554	REFRIGERANT R407C kg	1.810
106	SD323901	MOTORISED VALVE	2.000
107	SA118301	THERMOSTAT PRESET	1.000
109	SD198654	FLOW METER 10 - 40 LPM	1.000
202	SA377301	CONSOLE ASSY 570/870VH	1.000
203	SA367211	ELEC BOX AW570AVHF TOP OUT	1.000
204	SD197150	FILTER 24" X 24" X 2"	1.000
207	SD174151	MAINS IN BOX	1.000
230	SD088851	FAN ASSY DRILLED	1.000
231	SD012451	FAN ADAPTOR PLATE	1.000
235	SD098751	TERMINAL BLOCK 12 WAY	1.000
317	SD066350	SCHRADER VALVE	3.000
339	SD224750	HOSE RUBBER 16mm BORE	1.000
340	SD476050	22mm SOLDER CONNS	2.000
341	SD216450	PVC-U PIPE NOMINAL DIA 3/8 GREY m	0.050
342	SD203950	PVC-U PIPE NOMINAL DIA 1/2 m	0.050
343	SD197253	PVC-U SOLVENT CEMENT ml	20.000

SPARE PARTS FOR OPTIONAL FRESH AIR DAMPER, SEE PAGE 76/77



BOTTOM OUTLET VERSION

MAIN ASSEMBLY AW570B



TOP OUTLET VERSION

AW570BVHF MAIN ASSEMBLY BOTTOM OUTLET MACHINE

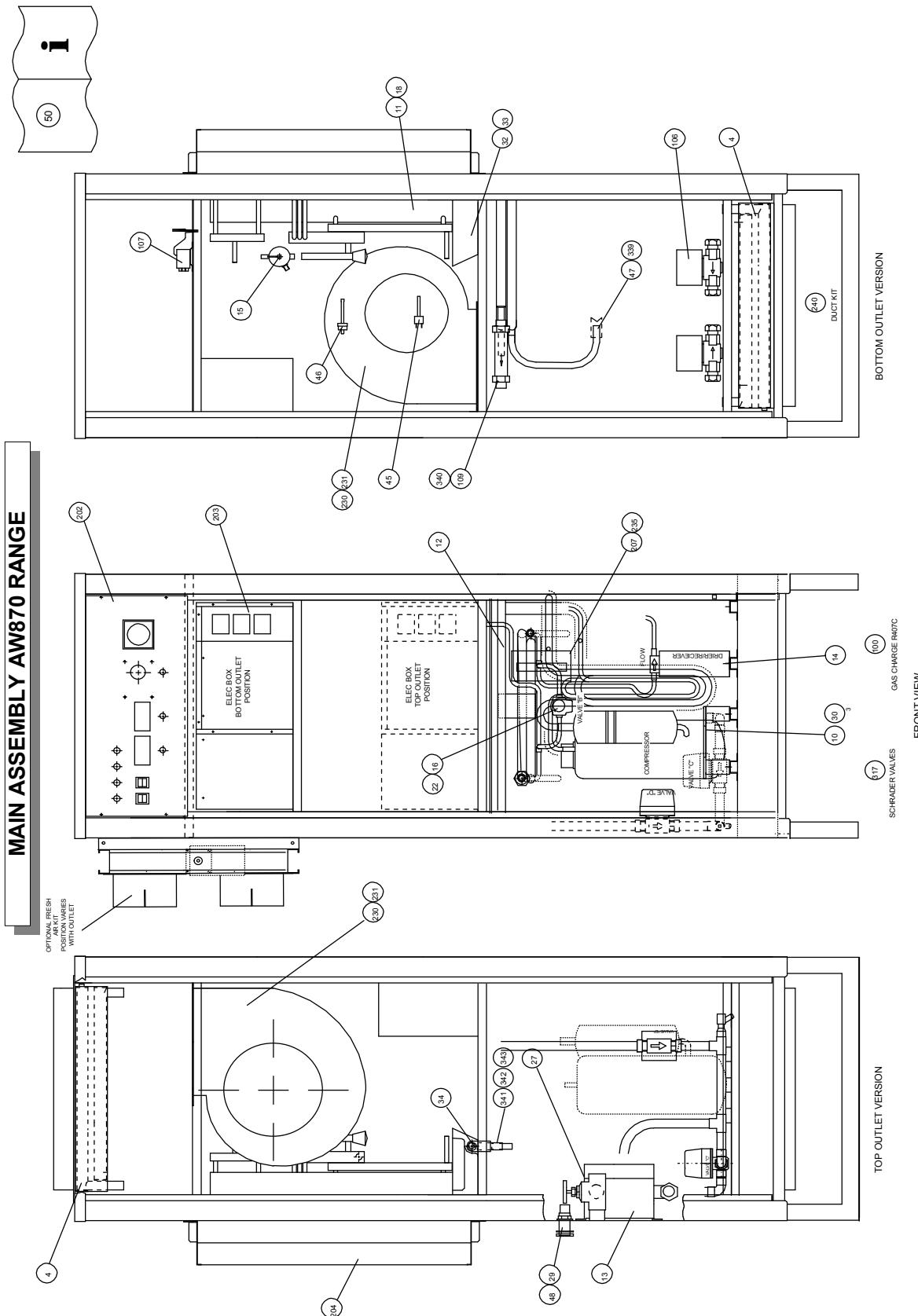
ITEM No.	PART No.	DESCRIPTION	QUANTITY
4	SD170601	WATER COIL LPHW	1.000
10	SD132856	COMPRESSOR H79B22UDBEA	1.000
11	SD071050	EVAPORATOR VARIHEAT	1.000
12	SD177002	COAXIAL CONDENSER	1.000
13	SA338705	HEAT EXCHANGER ASSY 60BTU	1.000
14	SD149650	RECEIVER/DRIER	1.000
15	SD086851	TEV INE 2GA	1.000
16	SD166250	SOLENOID VALVE BODY EVR6	1.000
18	SD097250	EVAP SPACER	2.000
22	SD166550	COIL SOLENOID VALVE	1.000
27	SD140150	PRESSURE SWITCH BOOT	1.000
29	SD111050	HOSE CLEAR 16mm I/D	0.750
32	SD253402	DRIP TRAY SB4	1.000
33	SD096650	DRIP TRAY PLATE	1.000
34	SD203555	1/2 ELBOW PLAIN ABS	1.000
45	SD266550	LP SWITCH	1.000
46	SD266450	HP SWITCH	1.000
47	SD110150	HOSE CLIP S/STEEL	4.000
48	SD111150	HOSE CLAMP	2.000
50	SD092760	OWNER MANUAL	1.000
100	SD182554	REFRIGERANT R407C kg	1.810
106	SD323901	MOTORISED VALVE	2.000
107	SA118301	THERMOSTAT PRESET	1.000
109	SD198654	FLOW METER 10 - 40 LPM	1.000
202	SA377301	CONSOLE ASSY 570/870VH	1.000
203	SA367221	ELECTRIC BOX AW570BVHF	1.000
204	SD197150	FILTER 24" X 24" X 2"	1.000
207	SD174151	MAINS IN BOX	1.000
230	SD088851	FAN ASSY DRILLED	1.000
231	SD012451	FAN ADAPTOR PLATE	1.000
235	SD098751	TERMINAL BLOCK 12 WAY	1.000
240	SA323401	DUCT/PACKING BASE OUTLET	1.000
317	SD066350	SCHRADER VALVE	3.000
339	SD224750	HOSE RUBBER 16mm BORE	1.000
340	SD476050	22mm SOLDER CONNS	2.000
341	SD216450	PVC-U PIPE NOMINAL DIA 3/8 GREY m	0.050
342	SD203950	PVC-U PIPE NOMINAL DIA 1/2 m	0.050
343	SD197253	PVC-U SOLVENT CEMENT ml	20.000

SPARE PARTS FOR OPTIONAL FRESH AIR DAMPER, SEE PAGE 76/77

AW570BVHF MAIN ASSEMBLY TOP OUTLET MACHINE

ITEM No.	PART No.	DESCRIPTION	QUANTITY
4	SD170601	WATER COIL LPHW	1.000
10	SD132856	COMPRESSOR H79B22UDBE	1.000
11	SD071050	EVAPORATOR VARIHEAT	1.000
12	SD177002	COAXIAL CONDENSER	1.000
13	SA338705	HEAT EXCHANGER ASSY 60BTU	1.000
14	SD149650	RECEIVER/DRIER	1.000
15	SD086851	TEV INE 2GA	1.000
16	SD166250	SOLENOID VALVE BODY EVR6	1.000
18	SD097250	EVAP SPACER	2.000
22	SD166550	COIL SOLENOID VALVE	1.000
27	SD140150	PRESSURE SWITCH BOOT	1.000
29	SD111050	HOSE CLEAR 16mm I/D	0.750
32	SD253402	DRIP TRAY	1.000
33	SD096650	DRIP TRAY PLATE	1.000
34	SD203555	1/2 ELBOW PLAIN ABS	1.000
45	SD266550	LP SWITCH	1.000
46	SD266450	HP SWITCH	1.000
47	SD110150	HOSE CLIP S/STEEL	4.000
48	SD111150	HOSE CLAMP	2.000
50	SD092760	OWNER MANUAL	1.000
91	SD015853	FLARE NUT 1/4	1.000
100	SD182554	REFRIGERANT R407C kg	1.810
106	SD323901	MOTORISED VALVE	2.000
107	SA118301	THERMOSTAT PRESET	1.000
109	SD198654	FLOW METER 10 - 40 LPM	1.000
202	SA377301	CONSOLE ASSY 570/870VH	1.000
203	SA367231	ELECTRIC BOX AW570BVHF	1.000
204	SD197150	FILTER 24" X 24" X 2"	1.000
207	SD174151	MAINS IN BOX	1.000
230	SD088851	FAN ASSY DRILLED	1.000
231	SD012451	FAN ADAPTOR PLATE	1.000
235	SD098751	TERMINAL BLOCK 12 WAY	1.000
317	SD066350	SCHRADER VALVE	3.000
339	SD224750	HOSE RUBBER 16mm BORE	1.000
340	SD476050	22mm SOLDER CONNS	2.000
341	SD216450	PVC-U PIPE NOMINAL DIA 3/8 GREY m	0.050
342	SD203950	PVC-U PIPE NOMINAL DIA 1/2 m	0.050
343	SD197253	PVC-U SOLVENT CEMENT ml	20.000

SPARE PARTS FOR OPTIONAL FRESH AIR DAMPER, SEE PAGE 76/77



AW870AVHF MAIN ASSEMBLY BOTTOM OUTLET MACHINE

ITEM No.	PART No.	DESCRIPTION	QUANTITY
4	SD170601	WATER COIL LPHW	1.000
10	SD649450	COMPRESSOR 1PH 230V	1.000
11	SD071050	EVAPORATOR VARIHEAT	1.000
12	SD177002	COAXIAL CONDENSER	1.000
13	SA338706	HEAT EXCHANGER ASSY 100BTU	1.000
14	SD149650	RECEIVER/DRIER	1.000
15	SD086951	TEV INE-3-GA	1.000
16	SD166250	SOLENOID VALVE BODY EVR6	1.000
18	SD097250	EVAP SPACER	2.000
22	SD166550	COIL SOLENOID VALVE	1.000
27	SD140150	PRESSURE SWITCH BOOT	1.000
29	SD111050	HOSE CLEAR 16mm I/D	0.750
30	SD520854	SPACER MOUNTING TUBE 73mm LONG	3.000
32	SD253402	DRIP TRAY	1.000
33	SD096650	DRIP TRAY PLATE	1.000
34	SD203555	1/2 ELBOW PLAIN ABS	1.000
45	SD266550	LP SWITCH	1.000
46	SD266450	HP SWITCH	1.000
47	SD110150	HOSE CLIP S/STEEL	4.000
48	SD111150	HOSE CLAMP	2.000
50	SD092760	OWNER MANUAL	1.000
100	SD182554	REFRIGERANT R407c kg	1.800
106	SD323901	MOTORISED VALVE	2.000
107	SA118301	THERMOSTAT PRESET	1.000
109	SD198654	FLOW METER 10 - 40 LPM	1.000
202	SA377301	CONSOLE ASSY 570/870VH	1.000
203	SA367202	ELECTRIC BOX AW870AVHF	1.000
204	SD197150	FILTER 24" X 24" X 2"	1.000
207	SD174151	MAINS IN BOX	1.000
230	SD127103	FAN DDC 270-270	1.000
235	SD098751	TERMINAL BLOCK 12 WAY	1.000
240	SA323401	DUCT/PACKING BASE OUTLET	1.000
317	SD066350	SCHRADER VALVE	2.000
339	SD224750	HOSE RUBBER 16mm BORE	1.000
340	SD476050	22mm SOLDER CONNS	2.000
341	SD216450	PVC-U PIPE NOMINAL DIA 3/8 GREY m	0.050
342	SD203950	PVC-U PIPE NOMINAL DIA 1/2 m	0.050
343	SD197253	PVC-U SOLVENT CEMENT	20.000

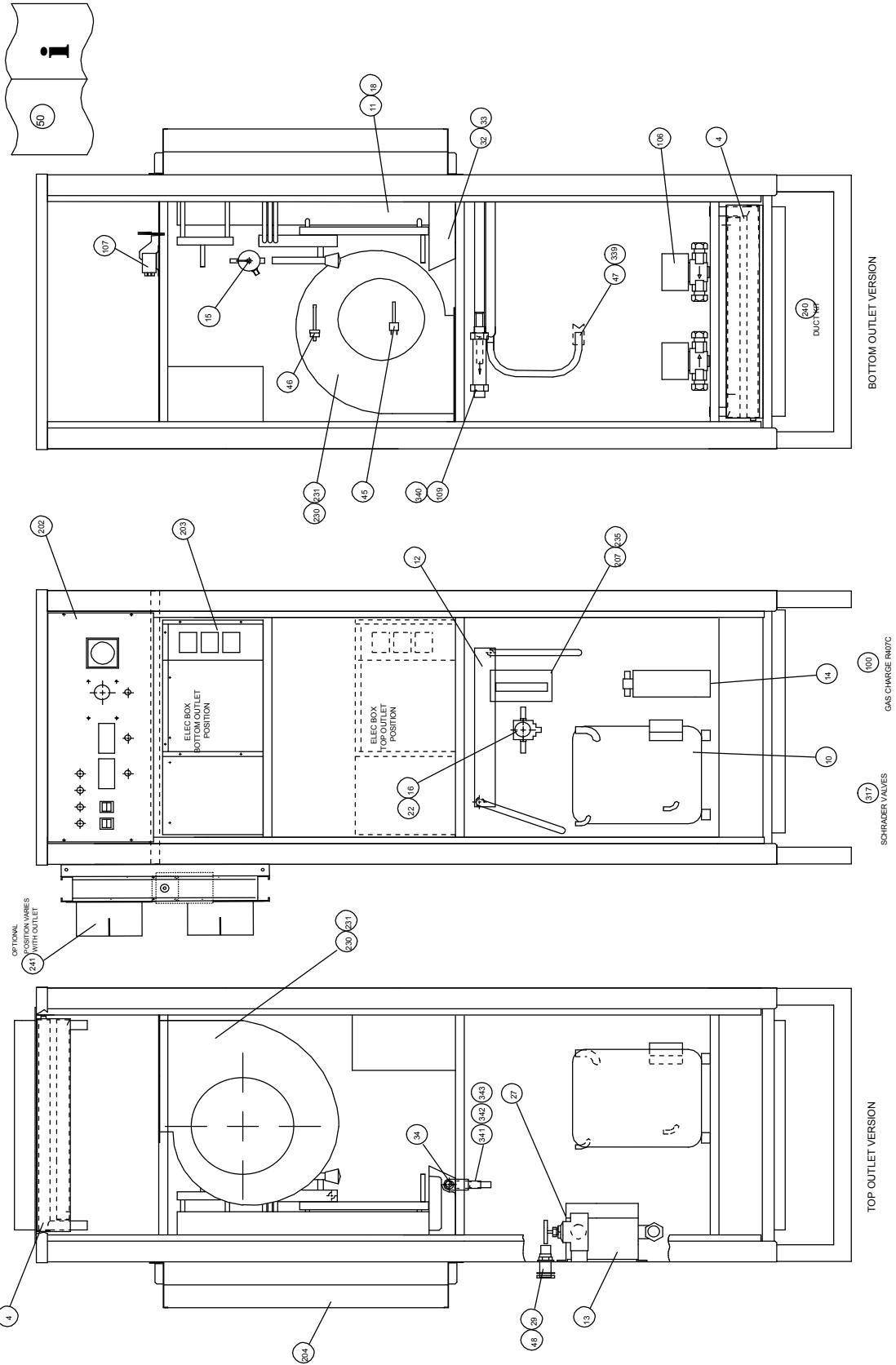
SPARE PARTS FOR OPTIONAL FRESH AIR DAMPER, SEE PAGE 76/77

AW870AVHF MAIN ASSEMBLY TOP OUTLET MACHINE

ITEM No.	PART No.	DESCRIPTION	QUANTITY
4	SD170601	WATER COIL LPHW	1.000
10	SD649450	COMPRESSOR 1PH 230V	1.000
11	SD071050	EVAPORATOR VARIHEAT	1.000
12	SD177002	COAXIAL CONDENSER	1.000
13	SA338706	HEAT EXCHANGER ASSY 100BTU	1.000
14	SD149650	RECEIVER/DRIER	1.000
15	SD086951	TEV INE-3-GA	1.000
16	SD166250	SOLENOID VALVE BODY EVR6	1.000
18	SD097250	EVAP SPACER	2.000
22	SD166550	COIL SOLENOID VALVE	1.000
27	SD140150	PRESSURE SWITCH BOOT	1.000
29	SD111050	HOSE CLEAR 16mm I/D	0.750
30	SD520854	SPACER MOUNTING TUBE 73mm LONG	3.000
32	SD253402	DRIP TRAY	1.000
33	SD096650	DRIP TRAY PLATE	1.000
34	SD203555	1/2 ELBOW PLAIN ABS	1.000
45	SD266550	LP SWITCH	1.000
46	SD266450	HP SWITCH	1.000
47	SD110150	HOSE CLIP S/STEEL	4.000
48	SD111150	HOSE CLAMP	2.000
50	SD092760	OWNER MANUAL	1.000
100	SD182554	REFRIGERANT R407C kg	1.800
106	SD323901	MOTORISED VALVE	2.000
107	SA118301	THERMOSTAT PRESET	1.000
109	SD198654	FLOW METER 10 - 40 LPM	1.000
202	SA377301	CONSOLE ASSY 570/870VH	1.000
203	SA367212	ELEC BOX AW870AVHF TOP OUT	1.000
204	SD197150	FILTER 24" X 24" X 2"	1.000
207	SD174151	MAINS IN BOX	1.000
230	SD127103	FAN DDC 270-270	1.000
235	SD098751	TERMINAL BLOCK 12 WAY	1.000
317	SD066350	SCHRADER VALVE	2.000
339	SD224750	HOSE RUBBER 16mm BORE	1.000
340	SD476050	22mm SOLDER CONNS	2.000
341	SD216450	PVC-U PIPE NOMINAL DIA 3/8 GREY m	0.050
342	SD203950	PVC-U PIPE NOMINAL DIA 1/2 m	0.050
343	SD197250	PVC-U SOLVENT CEMENT ml	20.000

SPARE PARTS FOR OPTIONAL FRESH AIR DAMPER, SEE PAGE 76/77

MAIN ASSEMBLY AW870B



AW870BVHF MAIN ASSEMBLY BOTTOM OUTLET MACHINE

ITEM No.	PART No.	DESCRIPTION	QUANTITY
4	SD170601	WATER COIL LPHW	1.000
10	SD133055	COMPRESSOR H79B323DBE	1.000
11	SD071050	EVAPORATOR VARIHEAT	1.000
12	SD177002	COAXIAL CONDENSER	1.000
13	SA338706	HEAT EXCHANGER ASSY 100BTU	1.000
14	SD149650	RECEIVER/DRIER	1.000
15	SD086951	TEV INE-3-GA	1.000
16	SD166250	SOLENOID VALVE BODY EVR6	1.000
18	SD097250	EVAP SPACER	2.000
22	SD166550	COIL SOLENOID VALVE	1.000
27	SD140150	PRESSURE SWITCH BOOT	1.000
29	SD111050	HOSE CLEAR 16mm I/D	0.750
32	SD253402	DRIP TRAY	1.000
33	SD096650	DRIP TRAY PLATE	1.000
34	SD203555	1/2 ELBOW PLAIN ABS	1.000
45	SD266550	LP SWITCH	1.000
46	SD266450	HP SWITCH	1.000
47	SD110150	HOSE CLIP S/STEEL	4.000
48	SD111150	HOSE CLAMP	2.000
50	SD092760	OWNER MANUAL	1.000
100	SD182554	REFRIGERANT R407c kg	2.040
106	SD323901	MOTORISED VALVE	2.000
107	SA118301	THERMOSTAT PRESET	1.000
109	SD198654	FLOW METER 10 - 40 LPM	1.000
202	SA377301	CONSOLE ASSY 570/870VH	1.000
203	SA367222	ELECTRIC BOX AW870BVHF	1.000
204	SD197150	FILTER 24" X 24" X 2"	1.000
207	SD174151	MAINS IN BOX	1.000
230	SD127103	FAN DDC 270-270	1.000
235	SD098751	TERMINAL BLOCK 12 WAY	1.000
240	SA323401	DUCT/PACKING BASE OUTLET	1.000
317	SD066350	SCHRADER VALVE	2.000
339	SD224750	HOSE RUBBER 16mm BORE	1.000
340	SD476050	22mm SOLDER CONNS	2.000
341	SD216450	PVC-U PIPE NOMINAL DIA 3/8 GREY m	0.050
342	SD203950	PVC-U PIPE NOMINAL DIA 1/2 m	0.050
343	SP197250	PVC-U SOLVENT CEMENT ml	20.000

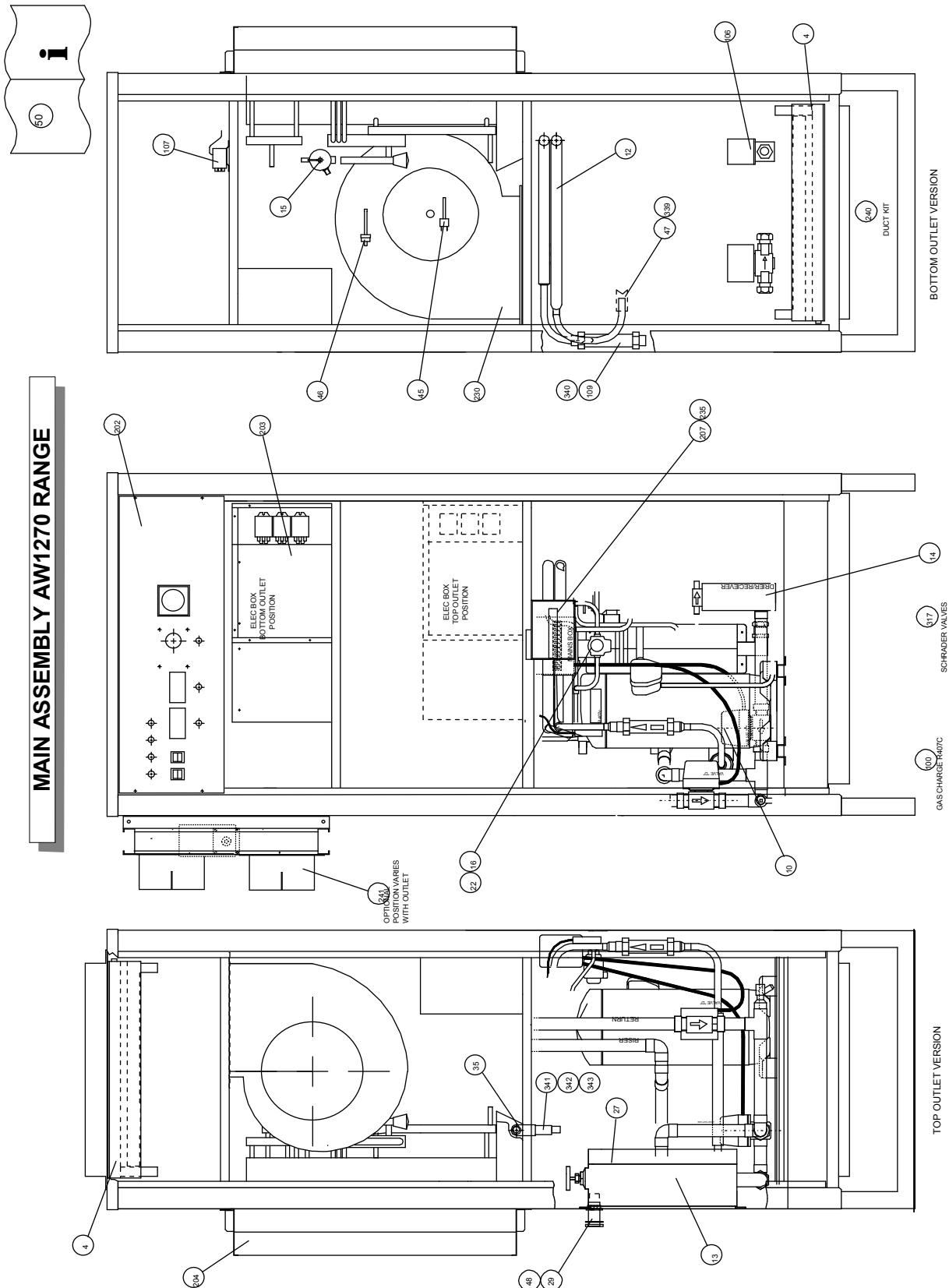
SPARE PARTS FOR OPTIONAL FRESH AIR DAMPER, SEE PAGE 76/77

AW870BVHF MAIN ASSEMBLY TOP OUTLET MACHINE

ITEM No.	PART No.	DESCRIPTION	QUANTITY
4	SD170601	WATER COIL LPHW	1.000
10	SD133055	COMPRESSOR H79B32UDBE	1.000
11	SD071050	EVAPORATOR VARIHEAT	1.000
12	SD177002	COAXIAL CONDENSER	1.000
13	SA338706	HEAT EXCHANGER ASSY 100BTU	1.000
14	SD149650	RECEIVER/DRIER	1.000
15	SD086951	TEV INE-3-GA	1.000
16	SD166250	SOLENOID VALVE BODY EVR6	1.000
18	SD097250	EVAP SPACER	2.000
22	SD166550	COIL SOLENOID VALVE	1.000
27	SD140150	PRESSURE SWITCH BOOT	1.000
29	SD111050	HOSE CLEAR 16mm I/D	0.750
32	SD253402	DRIP TRAY	1.000
33	SD096650	DRIP TRAY PLATE	1.000
34	SD203555	1/2 ELBOW PLAIN ABS	1.000
45	SD266550	LP SWITCH	1.000
46	SD266450	HP SWITCH	1.000
47	SD110150	HOSE CLIP S/STEEL	4.000
48	SD111150	HOSE CLAMP	2.000
50	SD092760	OWNER MANUAL	1.000
91	SD015853	FLARE NUT 1/4	1.000
100	SD182554	REFRIGERANT R407c kg	2.040
106	SD323901	MOTORISED VALVE	2.000
107	SA118301	THERMOSTAT PRESET	1.000
109	SD198654	FLOW METER 10 - 40 LPM	1.000
202	SA377301	CONSOLE ASSY 570/870VH	1.000
203	SA367232	ELECTRIC BOX AW870BVHF	1.000
204	SD197150	FILTER 24" X 24" X 2"	1.000
207	SD174151	MAINS IN BOX	1.000
230	SD127103	FAN DDC 270-270	1.000
235	SD098751	TERMINAL BLOCK 12 WAY	1.000
317	SD066350	SCHRADER VALVE	3.000
339	SD224750	HOSE RUBBER 16mm BORE	1.000
340	SD476050	22mm SOLDER CONNS	2.000
341	SD216450	PVC-U PIPE NOMINAL DIA 3/8 GREY	0.050
342	SD203950	PVC-U PIPE NOMINAL DIA 1/2 m	0.050
343	SD197253	PVC-U SOLVENT CEMENT ml	20.000

SPARE PARTS FOR OPTIONAL FRESH AIR DAMPER, SEE PAGE 76/77

MAIN ASSEMBLY AW1270 RANGE



AW1270AVHF MAIN ASSEMBLY BOTTOM OUTLET MACHINE

ITEM No.	PART No.	DESCRIPTION	QUANTITY
4	SD170602	WATER COIL LPHW	1.000
10	SD500953	COMPRESSOR C-SBN261H5A 230V 50Hz	1.000
11	SD134350	EVAPORATOR VARIHEAT	1.000
12	SD176502	COAXIAL CONDENSER	1.000
13	SA338707	HEAT EXCHANGER 130BTU	1.000
14	SD149650	RECEIVER/DRIER	1.000
15	SD087051	TEV BBINE-4-GA-B10	1.000
16	SD166250	SOLENOID VALVE BODY EVR6	1.000
18	SD097250	EVAP SPACER	2.000
22	SD166550	COIL SOLENOID VALVE	1.000
27	SD140150	PRESSURE SWITCH BOOT	1.000
29	SD111050	HOSE CLEAR 16mm I/D	0.750
32	SD253401	DRIP TRAY 1200/1260VH	1.000
33	SD096651	DRIP TRAY PLATE	1.000
35	SD203555	1/2 ELBOW PLAIN ABS	1.000
45	SD266550	LP SWITCH	1.000
46	SD266450	HP SWITCH	1.000
47	SD110150	HOSE CLIP S/STEEL	4.000
48	SD111150	HOSE CLAMP	2.000
50	SD092760	OWNER MANUAL	1.000
91	SD015853	FLARE NUT 1/4	1.000
100	SD182554	REFRIGERANT R407C Kg	2.100
106	SD323902	MOTORISED VALVE 28mm	2.000
107	SA118301	THERMOSTAT PRESET	1.000
109	SD198654	FLOW METER 10 - 40 LPM	1.000
202	SA377302	CONSOLE ASSY 1270VH	1.000
203	SA367203	ELECTRIC BOX AW1270AVHF	1.000
204	SD197151	FILTER 24" X 30" X 2"	1.000
207	SD174151	MAINS IN BOX	1.000
230	SD127104	FAN DDC 270-270	1.000
235	SD098751	TERMINAL BLOCK 12 WAY	1.000
240	SA323402	DUCT & PACKING BASE OUTLET	1.000
317	SD066350	SCHRADER VALVE	2.000
339	SD224750	HOSE RUBBER 16mm BORE	1.000
340	SD476050	22mm SOLDER CONNS	2.000
341	SD216450	PVC-U PIPE NOMINAL DIA 3/8 GREY m	0.050
342	SD203950	PVC-U PIPE NOMINAL DIA 1/2 m	0.050
343	SD197253	PVC-U SOLVENT CEMENT ml	20.000

SPARE PARTS FOR OPTIONAL FRESH AIR DAMPER, SEE PAGE 76/77

AW1270AVHF MAIN ASSEMBLY TOP OUTLET MACHINE

ITEM No.	PART No.	DESCRIPTION	QUANTITY
4	SD170602	WATER COIL LPHW	1.000
10	SD500953	COMPRESSOR C-SBN261H5A 230V 50Hz	1.000
11	SD134350	EVAPORATOR VARIHEAT	1.000
12	SD176502	COAXIAL CONDENSER	1.000
13	SA338707	HEAT EXCHANGER 130BTU	1.000
14	SD149650	RECEIVER/DRIER	1.000
15	SD087051	TEV BBINE-4-GA-B10	1.000
16	SD166250	SOLENOID VALVE BODY EVR6	1.000
18	SD097250	EVAP SPACER	2.000
22	SD166550	COIL SOLENOID VALVE	1.000
27	SD140150	PRESSURE SWITCH BOOT	1.000
29	SD111050	HOSE CLEAR 16mm I/D	0.750
32	SD253401	DRIP TRAY 1200/1260VH	1.000
33	SD096651	DRIP TRAY PLATE	1.000
35	SD203555	1/2 ELBOW PLAIN ABS	1.000
45	SD266550	LP SWITCH	1.000
46	SD266450	HP SWITCH	1.000
47	SD110150	HOSE CLIP S/STEEL	4.000
48	SD111150	HOSE CLAMP	2.000
50	SD092760	OWNER MANUAL	1.000
91	SD015853	FLARE NUT 1/4	1.000
100	SD182554	REFRIGERANT R407C kg	2.100
106	SD323902	MOTORISED VALVE 28mm	2.000
107	SA118301	THERMOSTAT PRESET	1.000
109	SD198654	FLOW METER 10 - 40 LPM	1.000
202	SA377302	CONSOLE ASSY 1270VH	1.000
203	SA367213	ELEC BOX AW1270AVHF TOP OUT	1.000
204	SD197151	FILTER 24" X 30" X 2"	1.000
207	SD174151	MAINS IN BOX	1.000
230	SD127104	FAN DDC 270-270	1.000
235	SD098751	TERMINAL BLOCK 12 WAY	1.000
317	SD066350	SCHRADER VALVE	3.000
339	SD224750	HOSE RUBBER 16mm BORE	1.000
340	SD476050	22mm SOLDER CONNS	2.000
341	SD216450	PVC-U PIPE NOMINAL DIA 3/8 GREY m	0.050
342	SD203950	PVC-U PIPE NOMINAL DIA 1/2 m	0.050
343	SD197253	PVC-U SOLVENT CEMENT ml	20.000

SPARE PARTS FOR OPTIONAL FRESH AIR DAMPER, SEE PAGE 76/77

AW1270BVHF MAIN ASSEMBLY BOTTOM OUTLET MACHINE

ITEM No.	PART No.	DESCRIPTION	QUANTITY
4	SD170602	WATER COIL LPHW	1.000
10	SD500952	COMPRESSOR C-SBN263H8A 400V 50Hz	1.000
11	SD134350	EVAPORATOR VARIHEAT	1.000
12	SD176502	COAXIAL CONDENSER	1.000
13	SA338707	HEAT EXCHANGER 130BTU	1.000
14	SD149650	RECEIVER/DRIER	1.000
15	SD087051	TEV BBINE-4-GA -B10	1.000
16	SD166250	SOLENOID VALVE BODY EVR6	1.000
18	SD097250	EVAP SPACER	2.000
22	SD166550	COIL SOLENOID VALVE	1.000
27	SD140150	PRESSURE SWITCH BOOT	1.000
29	SD111050	HOSE CLEAR 16mm I/D	0.750
32	SD253401	DRIP TRAY 1200/1260VH	1.000
33	SD096651	DRIP TRAY PLATE	1.000
35	SD203555	1/2 ELBOW PLAIN ABS	1.000
45	SD266550	LP SWITCH	1.000
46	SD266450	HP SWITCH	1.000
47	SD110150	HOSE CLIP S/STEEL	4.000
48	SD111150	HOSE CLAMP	2.000
50	SD092760	OWNER MANUAL	1.000
91	SD015853	FLARE NUT 1/4	1.000
100	SD182554	REFRIGERANT R407C Kg	2.100
106	SD323902	MOTORISED VALVE 28mm	2.000
107	SA118301	THERMOSTAT PRESET	1.000
109	SD198654	FLOW METER 10 - 40 LPM	1.000
202	SA377302	CONSOLE ASSY 1270VH	1.000
203	SA367223	ELECTRIC BOX AW1270BVHF	1.000
204	SD197151	FILTER 24" X 30" X 2"	1.000
207	SD174151	MAINS IN BOX	1.000
230	SD127104	FAN DDC 270-270	1.000
235	SD098751	TERMINAL BLOCK 12 WAY	1.000
240	SA323402	DUCT & PACKING 1260 OUTLET	1.000
317	SD066350	SCHRADER VALVE	2.000
339	SD224750	HOSE RUBBER 16mm BORE	1.000
340	SD476050	22mm SOLDER CONNS	2.000
341	SD216450	PVC-U PIPE NOMINAL DIA 3/8 GREY m	0.050
342	SD203950	PVC-U PIPE NOMINAL DIA 1/2 m	0.050
343	SD197253	PVC-U SOLVENT CEMENT ml	20.000

SPARE PARTS FOR OPTIONAL FRESH AIR DAMPER, SEE PAGE 76/77

AW1270BVHF MAIN ASSEMBLY TOP OUTLET MACHINE

ITEM No.	PART No.	DESCRIPTION	QUANTITY
4	SD170602	WATER COIL LPHW	1.000
10	SD500952	COMPRESSOR C-SBN263H8A 400V 50Hz	1.000
11	SD134350	EVAPORATOR VARIHEAT	1.000
12	SD176502	COAXIAL CONDENSER	1.000
13	SA338707	HEAT EXCHANGER 130BTU	1.000
14	SD149650	RECEIVER/DRIER	1.000
15	SD087051	TEV BBINE-4-GA-B10	1.000
16	SD166250	SOLENOID VALVE BODY EVR6	1.000
18	SD097250	EVAP SPACER	2.000
22	SD166550	COIL SOLENOID VALVE	1.000
27	SD140150	PRESSURE SWITCH BOOT	1.000
29	SD111050	HOSE CLEAR 16mm I/D	0.750
32	SD253401	DRIP TRAY 1200/1260VH	1.000
33	SD096651	DRIP TRAY PLATE	1.000
35	SD203555	1/2 ELBOW PLAIN ABS	1.000
45	SD266550	LP SWITCH	1.000
46	SD266450	HP SWITCH	1.000
47	SD110150	HOSE CLIP S/STEEL	4.000
48	SD111150	HOSE CLAMP	2.000
50	SD092760	OWNER MANUAL	1.000
91	SD015853	FLARE NUT 1/4	1.000
100	SD182554	REFRIGERANT R407C Kg	2.100
106	SD323902	MOTORISED VALVE 28mm	2.000
107	SA118301	THERMOSTAT PRESET	1.000
109	SD198654	FLOW METER 10 - 40 LPM	1.000
202	SA377302	CONSOLE ASSY 1270VH	1.000
203	SA367233	ELECTRIC BOX AW1270BVHF	1.000
204	SD197151	FILTER 24" X 30" X 2"	1.000
207	SD174151	MAINS IN BOX	1.000
230	SD127104	FAN DDC 270-270	1.000
235	SD098751	TERMINAL BLOCK 12 WAY	1.000
317	SD066350	SCHRADER VALVE	3.000
339	SD224750	HOSE RUBBER 16mm BORE	1.000
340	SD476050	22mm SOLDER CONNS	2.000
341	SD216450	PVC-U PIPE NOMINAL DIA 3/8 GREY m	0.050
342	SD203950	PVC-U PIPE NOMINAL DIA 1/2 m	0.050
343	SD197253	PVC-U SOLVENT CEMENT ml	20.000

SPARE PARTS FOR OPTIONAL FRESH AIR DAMPER, SEE PAGE 76/77

PACKING INSTRUCTIONS

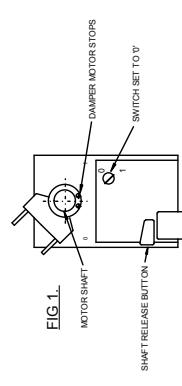
1. ALL TRAYS TO BE PACKED IN SUITABLE CONTAINER MARKED WITH ITEM NO.
ALL FRACTIONAL ASHES ETC TO BE PLACED IN SEALABLE BAG D44129-45.

DEFENDING ON LEFT OR RIGHT HAND OPTION PANEL OR LESS BLANKING PLATE
MAY NEED TO BE REMOVED AND REPLACED ON REQUIRED SIDE.

2. BEFORE FITTING DAMPER ASSEMBLY SLACKEN DAMPER MOTOR STOPS AND
SET TO FULLY OPENLY CLOSER. SEE FIG 1.

3. SET MOTOR SHAFT FULLY CLOCKWISE. SEE FIG 1.
RELEASE SHAFT USING BUTTON ON SIDE OF MOTOR.

4. SET SWITCH ON MOTOR TO 'O' SEE FIG 1.



5. SET BOTH DAMPERS TO FULLY CLOSED.
6. ASSEMBLE MOTOR/DAMPER ASSEMBLY.

WIRING INSTRUCTIONS

FOR FULL WIRING DIAGRAM SEE DA43780501

1. TERMINAL ITEM 1 TO BE CRIMPED TO DAMPER MOTOR FLYING LEAD.
2. REMOVE FRONT PANEL AND ELECTRIC BOX COVER.
3. PASS DAMPER MOTOR FLYING LEAD THROUGH GROMMET IN ELECTRIC BOX AND TERMINATE

4. TO RELAY 1 & SEE FIG 2. WRAP TERMINALS ITEM 11 WITH VAREE ITEM 18.
REPLACE SPARE WIRING SPLICER (BRANCH) FROM LCOM AND CONNECT TO SWITCH. SEE FIG 3.
5. REPLACE ALL PANELS.

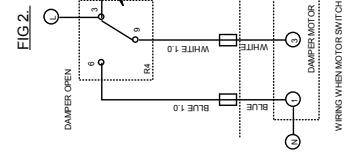
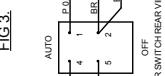
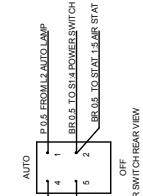


FIG. 2.



WIRING WHEN MOTOR SWITCH SET TO L
WHEN RELAY ENERGISED DAMPER CLOSED
WHEN RELAY DISARMED DAMPER OPEN

FIG. 3.

**FITTING/SETTING INSTRUCTIONS**

1. REMOVE SIDE PANELS AND REMOVE BLANKING PLATES.
2. BEFORE FITTING DAMPER ASSEMBLY SLACKEN DAMPER MOTOR STOPS AND SET TO FULLY OPENLY CLOSER. SEE FIG 1.
3. SET MOTOR SHAFT FULLY CLOCKWISE. SEE FIG 1.
4. RELEASE SHAFT USING BUTTON ON SIDE OF MOTOR.
5. SET BOTH DAMPERS TO FULLY CLOSED.
6. ASSEMBLE MOTOR/DAMPER ASSEMBLY.

DEFENDING ON LEFT OR RIGHT HAND OPTION PANEL OR LESS BLANKING PLATE
MAY NEED TO BE REMOVED AND REPLACED ON REQUIRED SIDE.

2. BEFORE FITTING DAMPER ASSEMBLY SLACKEN DAMPER MOTOR STOPS AND
SET TO FULLY OPENLY CLOSER. SEE FIG 1.

3. SET MOTOR SHAFT FULLY CLOCKWISE. SEE FIG 1.

4. RELEASE SHAFT USING BUTTON ON SIDE OF MOTOR.

5. SET SWITCH ON MOTOR TO 'O' SEE FIG 1.

6. ASSEMBLE MOTOR/DAMPER ASSEMBLY.

DEFENDING ON LEFT OR RIGHT HAND OPTION PANEL OR LESS BLANKING PLATE
MAY NEED TO BE REMOVED AND REPLACED ON REQUIRED SIDE.

2. BEFORE FITTING DAMPER ASSEMBLY SLACKEN DAMPER MOTOR STOPS AND
SET TO FULLY OPENLY CLOSER. SEE FIG 1.

3. SET MOTOR SHAFT FULLY CLOCKWISE. SEE FIG 1.

4. RELEASE SHAFT USING BUTTON ON SIDE OF MOTOR.

5. SET SWITCH ON MOTOR TO 'O' SEE FIG 1.

6. ASSEMBLE MOTOR/DAMPER ASSEMBLY.

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MAY NEED TO BE REMOVED AND REPLACED ON REQUIRED SIDE.

2. BEFORE FITTING DAMPER ASSEMBLY SLACKEN DAMPER MOTOR STOPS AND
SET TO FULLY OPENLY CLOSER. SEE FIG 1.

3. SET MOTOR SHAFT FULLY CLOCKWISE. SEE FIG 1.

4. RELEASE SHAFT USING BUTTON ON SIDE OF MOTOR.

5. SET SWITCH ON MOTOR TO 'O' SEE FIG 1.

6. ASSEMBLE MOTOR/DAMPER ASSEMBLY.

DEFENDING ON LEFT OR RIGHT HAND OPTION PANEL OR LESS BLANKING PLATE
MAY NEED TO BE REMOVED AND REPLACED ON REQUIRED SIDE.

2. BEFORE FITTING DAMPER ASSEMBLY SLACKEN DAMPER MOTOR STOPS AND
SET TO FULLY OPENLY CLOSER. SEE FIG 1.

3. SET MOTOR SHAFT FULLY CLOCKWISE. SEE FIG 1.

4. RELEASE SHAFT USING BUTTON ON SIDE OF MOTOR.

5. SET SWITCH ON MOTOR TO 'O' SEE FIG 1.

6. ASSEMBLE MOTOR/DAMPER ASSEMBLY.

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MAY NEED TO BE REMOVED AND REPLACED ON REQUIRED SIDE.

2. BEFORE FITTING DAMPER ASSEMBLY SLACKEN DAMPER MOTOR STOPS AND
SET TO FULLY OPENLY CLOSER. SEE FIG 1.

3. SET MOTOR SHAFT FULLY CLOCKWISE. SEE FIG 1.

4. RELEASE SHAFT USING BUTTON ON SIDE OF MOTOR.

5. SET SWITCH ON MOTOR TO 'O' SEE FIG 1.

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MAY NEED TO BE REMOVED AND REPLACED ON REQUIRED SIDE.

2. BEFORE FITTING DAMPER ASSEMBLY SLACKEN DAMPER MOTOR STOPS AND
SET TO FULLY OPENLY CLOSER. SEE FIG 1.

3. SET MOTOR SHAFT FULLY CLOCKWISE. SEE FIG 1.

4. RELEASE SHAFT USING BUTTON ON SIDE OF MOTOR.

5. SET SWITCH ON MOTOR TO 'O' SEE FIG 1.

6. ASSEMBLE MOTOR/DAMPER ASSEMBLY.

DEFENDING ON LEFT OR RIGHT HAND OPTION PANEL OR LESS BLANKING PLATE
MAY NEED TO BE REMOVED AND REPLACED ON REQUIRED SIDE.

2. BEFORE FITTING DAMPER ASSEMBLY SLACKEN DAMPER MOTOR STOPS AND
SET TO FULLY OPENLY CLOSER. SEE FIG 1.

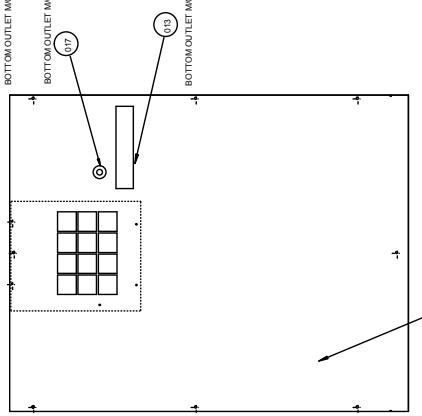
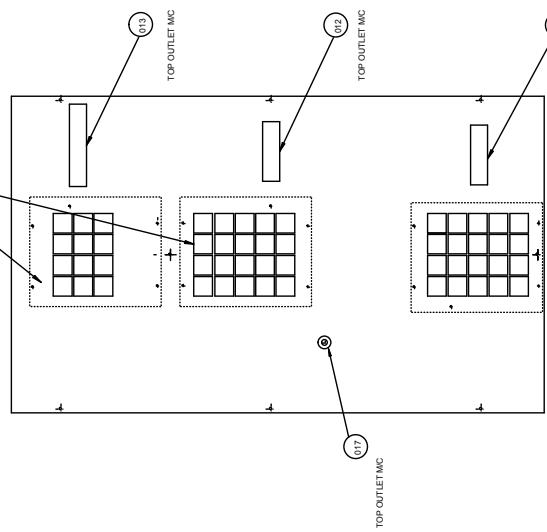
3. SET MOTOR SHAFT FULLY CLOCKWISE. SEE FIG 1.

4. RELEASE SHAFT USING BUTTON ON SIDE OF MOTOR.

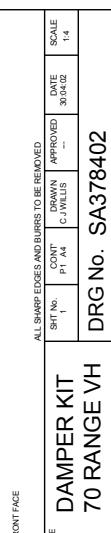
5. SET SWITCH ON MOTOR TO 'O' SEE FIG 1.

6. ASSEMBLE MOTOR/DAMPER ASSEMBLY.

SIDE PANEL SD04273003
REMOVE AND DISCARD BLANKING PANEL



SD04273003 SIDE PANEL
REMOVE AND DISCARD BLANKING PLATE



DAMPERS FITTED TO LEFT HAND SIDE OF MACHINE

TOLERANCE UNLESS SPECIFIED
ITEM NO. 007
DATE 03/04/02
APPROVED C.J. WALLS
SCALE 1:4

SD04273002 SIDE PANEL
REMOVE AND DISCARD BLANKING PLATE

DAMPERS FITTED TO LEFT SIDE OF MACHINE

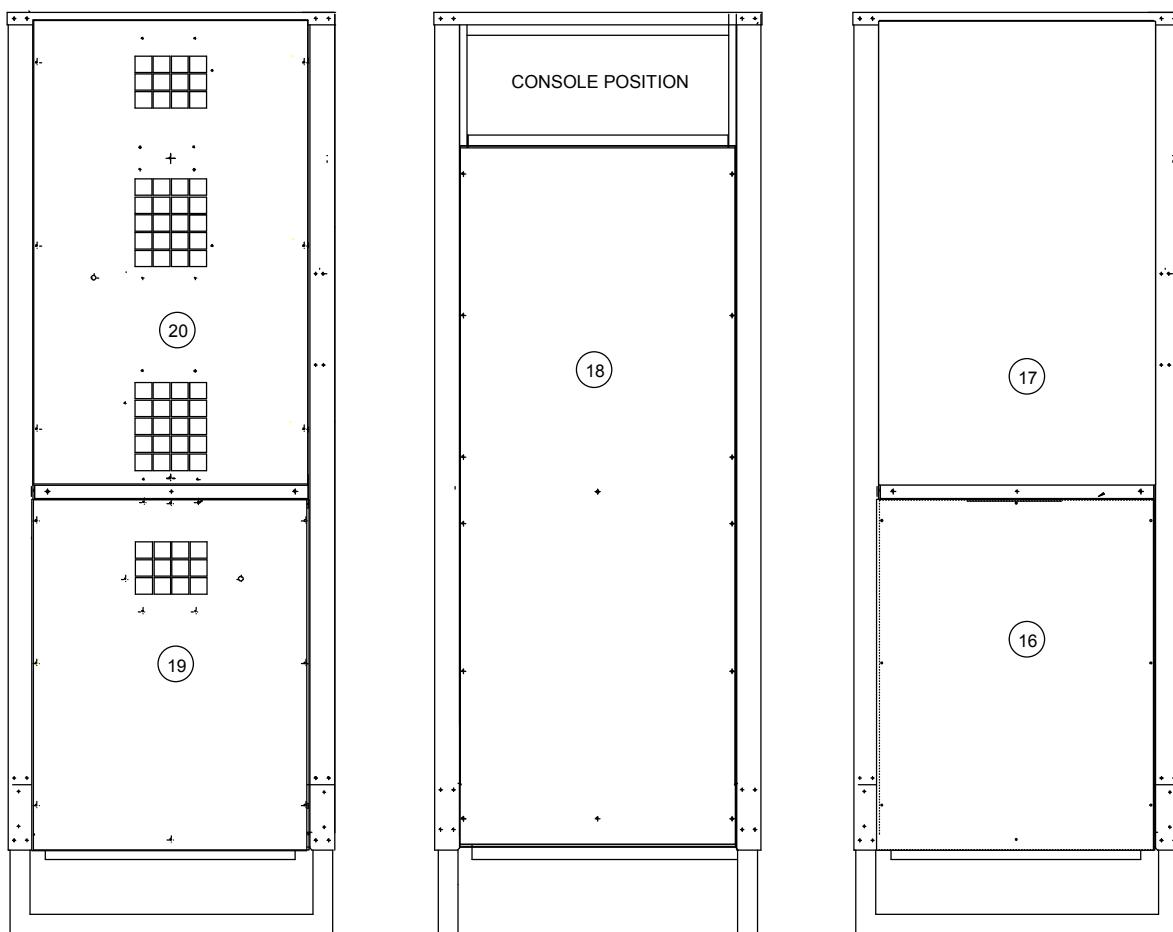
TOLERANCE UNLESS SPECIFIED
ITEM NO. 007
DATE 03/04/02
APPROVED C.J. WALLS
SCALE 1:4

OPTIONAL EXHAUST/FRESH AIR DAMPER

ITEM No.	PART No.	DESCRIPTION	QUANTITY
1	SD521250	MOTOR DAMPER	1.000
2	SD441350	VOLUME CONTROL DAMPER	1.000
6	SD275309	6 inch DUCT SPIGOT	2.000
7	SD264653	AIR FILTER	1.000
14	SD318650	SWITCH ROCKER 2 POLE ON/OFF	1.000

COMPLETE KIT TO MODIFY ALL MACHINES ON SITE :- SA378402

SERVICE PANELS



AW570/870 SHOWN

NOTE: SIDE PANELS ARE INTERCHANGABLE

SERVICE PANELS AW570/870

ITEM NO.	PART No.	DESCRIPTION	QUAN	UNITS
16	SD273904	SIDE PANEL 70VH RANGE	1	off
17	SD273905	SIDE PANEL 70VH RANGE	1	off
18	SD273803	FRONT PANEL 70VH RANGE	1	off
19	SD273902	SIDE PANEL 70VH RANGE	1	off
20	SD273903	SIDE PANEL 70VH RANGE	1	off

SERVICE PANELS AW1270

ITEM NO.	PART No.	DESCRIPTION	QUAN	UNITS
16	SD273904	SIDE PANEL 70VH RANGE	1	off
17	SD273905	SIDE PANEL 70VH RANGE	1	off
18	SD273804	FRONT PANEL 1270VH	1	off
19	SD273902	SIDE PANEL 70VH RANGE	1	off
20	SD273903	SIDE PANEL 70VH RANGE	1	off