

Please read these instructions carefully as they will enable you to get maximum efficiency and reliability from your new Calorex Dehumidifier

Technical Manual
THROUGH THE WALL DEHUMIDIFIERS
TTW30(7)/33(7)/55(7)/60(7)
D373360 ISSUE 16
08/11/12

HEALTH AND SAFETY WARNING

As the dehumidifier embodies electrical and rotational equipment, ONLY competent persons should carry out any work on this type of machine. (See Guarantee).

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1.0 INSTALLATION DETAILS

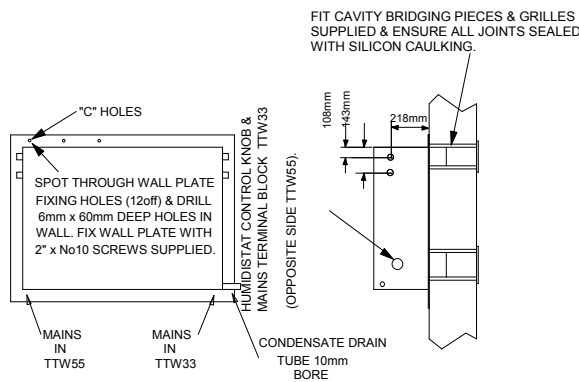
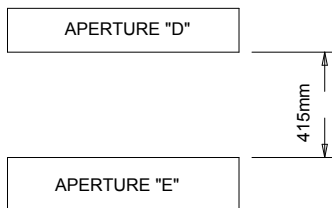
INSTALLATION INSTRUCTIONS MODELS TTW30/33/50/55/60/A/AX HEALTH & SAFETY WARNING

As the Heat Pump contains electrical and rotational equipment, it is recommended that ONLY competent persons carry out any work on this type of machine (see guarantee). Isolate electrically before entering machine or removing panels.

INSTALLATION MODELS TTW30/33/55/60.

1. Remove dehumidifier from packing.
2. Check both sides of wall, mark out apertures 'D' & 'E' in required location and ensure they are level.
3. Cut out apertures 'D' & 'E' with due consideration to structure and safety using suitable lintel to bridge gap.
4. Remove the 4 off bolts holding dehumidifier to wall plate and also earth lead.
5. Locate wall plate in apertures and ensure level, drill and fix using 12 'C' holes and wall plugs/screws provided, hole size 6,0mm (No.10) x 60mm.
6. Lift dehumidifier up on to wall and replace 6 off M6 bolts and wall plate earth lead.
7. Fix supplied cavity bridging pieces and air inlet/outlet grilles, ensure all joints sealed with silicon caulking.

	'D' APERTURE	'E' APERTURE
TTW33	85 high x 520 long	110 high x 520 long
TTW55	85 high x 980 long	110 high x 980 long



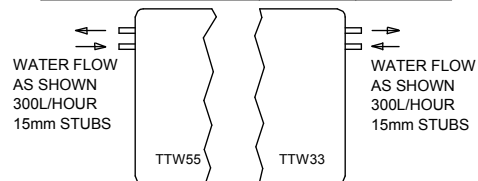
- PLANT ROOM VIEW OF MACHINE
8. Electrical supply to the unit must be sized according to the data on the serial number label paying special attention to I.E.E. regulations latest edition regarding the special conditions governing the supply to machines in potentially damp areas.
 9. The electrical supply should be connected to the terminal block. Brown/red to 'live', blue/black to neutral, and earth to the stud provided.
 10. Fan mode switch can be set to cycle fan when humidistat senses demand but should be set to continuous to promote good air circulation and reduce condensation. Note that on models fitted with LPHW the fan(s) will start automatically whenever there is an air heating demand. On 'X' machines fan(s) will stop during defrost cycle.

11. Locate pipe from drip tray and run away to waste, a short length of 10mm pipe is provided which should be led into a fixed waste pipe (ensure an air gap, tin dish).

MODELS WITH L.P.H.W. FITTED

12. Connect water circuit piping to 15mm stubs projecting from side of machine as per diagram below:-
13. It is recommended that isolating valves are fitted to enable isolation of the machine in the event of service. Complete water circuit as per diagrams overleaf. (a) Circulating pump must be sized to take into account the design flow rate of the machine plus the water system resistance.

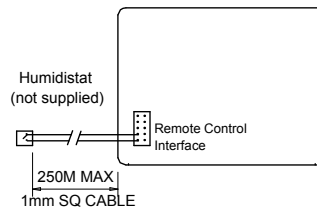
	TTW30/33	TTW55/60
Unit Flow Rate - l/min	5.0	5.0
Unit Pressure Drop - m head	1.1	1.8



PLANT ROOM VIEW OF MACHINE

12v REMOTE HUMIDISTAT CONNECTIONS

14. Remove link wire from mains in terminal block marked 'Remote Control Interface'. Connect remote humidistat as shown below, ensure knob on humidistat in machine is set fully clockwise (ie maximum dehumidification).

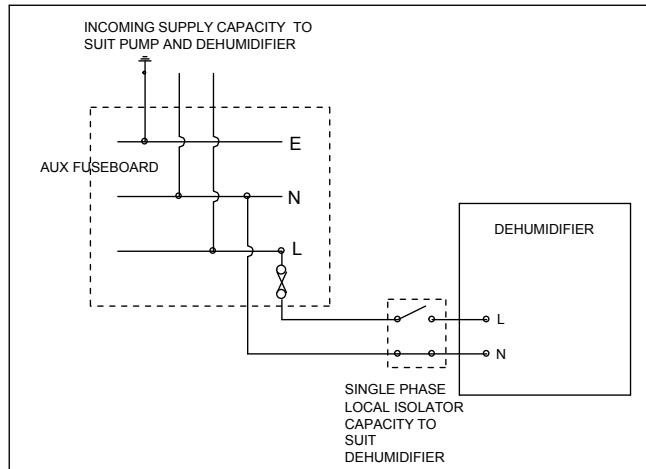


15. Refit all brown covers, ensure mains lead and drain tube are not obstructed, and turn humidistat clockwise (ie maximum dehumidification)

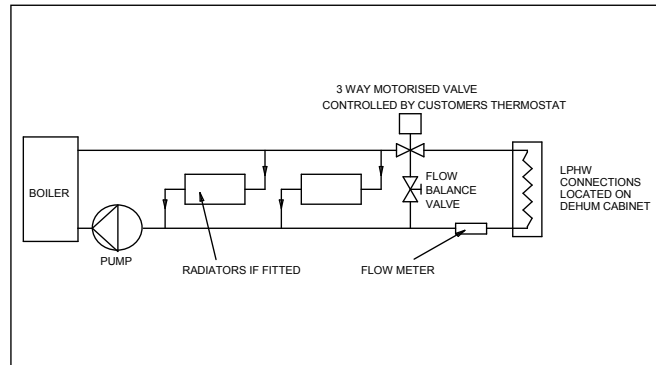
'P' MODELS WITH RESISTANCE HEATER

16. Connect remote air thermostat to terminal block marked 'Remote Control Interface'.
17. Ensure safety thermostat(s) are set, ie push red button(s) inside machine. Remove cover to gain access.
18. Replace front cover, (unless remote humidistat fitted, see note 14 above) unit will start, following 6 minutes later by the compressor.

ELECTRICAL SUPPLY CIRCUITS



LPHW PLUMBING SCHEMATIC



GAS CHARGE

The dehumidifier incorporates a hermetically sealed refrigeration circuit containing less than 6kg of refrigerant R407c. Global warming potential (GWP) 1700.

USER CHECK LIST

OPERATION

A normal humidistat setting (50-60% RH) is a mid way point on the knob provided.

Minimum Air Temp TTW 30/33/55/60 A = 15°C

Minimum Air Temp TTW 30/33/55/60 AX = 0°C

Note :- On 'X' models fan stops during defrost.

On machines with LPHW, fans will start automatically as required.

MAINTENANCE

- Ensure air inlet/outlets are kept clear and clean.
 - Wipe clean with damp cloth or cleaning fluid suitable for plastic coated steel
- Note: The Reply Paid Warranty Registration Card must be returned to ensure the correct warranty is given. If you do not find a Registration Card with your machine please contact CALOREX Service Department giving your name address and serial number of your machine. A card will then be sent to you for completion.

HEALTH & SAFETY WARNING

As the Heat Pump contains electrical and rotational equipment, it is recommended that ONLY competent persons carry out any work on this type of machine (see guarantee)
Isolate machine electrically before entering machine or removing panels.

MACHINE NOT RUNNING AT ALL

CHECK THE FOLLOWING :-

- Is supply switched on.
- Is supply fuse healthy
- Turn humidistat knob fully clockwise.
- Check air inlet and outlet for obstructions.
- If, after carrying out the above and waiting 1 hour, the machine does not start phone for service.

MACHINE FAN ONLY RUNNING

- Turn humidistat knob fully clockwise
- Check air inlet and outlet for obstructions, if after 30 mins the machine has not restarted phone for service.

WATER LEAKING FROM BASE OF UNIT

- Check connection from machine to drain for blockages and clear accordingly, Check fall is adequate.
- Check that machine is level both vertically and horizontally.
The user check list should be carried out before initiating a service call.
Do not attempt to interfere with any internal control settings as these have been factory calibrated and sealed.
If in doubt or if advice is required, contact Calorex Service Dept.
Telephone (01621) 857171 or 856611

PLEASE LEAVE INSTRUCTIONS FOR USER

2.0 DATA SHEET

MODEL		TTW33(7)/30(7)A	TTW33(7)/30(7)AX	TTW30(7)AP/AXP	TTW55(7)/60(7)A	TTW55(7)/60(7)AX	TTW50(7)AP/AXP
DEHUMIDIFICATION	L/hr	1.25	1.25	1.25	2.5	2.5	2.5
	L/day	30.0	30.0	30.0	60.0	60.0	60.0
TOTAL HEAT TO AIR :-							
DEHUMIDIFIER ONLY	kW	1.9	1.9	1.9	3.5	3.5	3.5
DEHUM & RESISTANCE HEATER	kW	n/a	n/a	2.89	n/a	n/a	5.55
RESISTANCE HEATER ONLY	kW	n/a	n/a	2.0	n/a	n/a	4
DEHUM & LPHW	kW	3.9	3.9	n/a	6.5	6.5	n/a
LPHW ONLY	kW	3.0	3.0	n/a	5.0	5.0	n/a
NOMINAL POWER CONSUMED:-							
FAN ONLY	kW	0.05	0.05	0.05	0.1	0.1	0.1
DEHUM (COMP & FAN)	kW	0.75	0.75	0.75	1.2	1.2	1.2
DEHUM & HEATER	kW	n/a	n/a	2.75	n/a	n/a	5.2
HEATER & FAN	kW	n/a	n/a	2.05	n/a	n/a	4.1
SUPPLY		230V 50Hz	230V 50Hz	230V 50Hz	230V 50Hz	230V 50Hz	230V 50Hz
FUSE	AMP	10.0	10.0	20.0	13.0	13.0	32.0
NOMINAL RUNNING	AMP	3.4	3.4	11.7	5.6	5.6	22.3
FULL LOAD AMPS	AMP	4.4	4.4	12.7	7.5	7.5	24.2
COMPRESSOR L.R.A.	AMP	15.8	15.8	15.8	30	30	30
AIR FLOW	m ³ /h	420	420	420	750	750	750
NOISE LEVEL @ 3m	dB(A)	46	46	46	47	47	47
LPHW FLOW RATE	L/min	5.0	5.0	n/a	5.0	5.0	n/a
LPHW PRESSURE DROP	m hd	1.1	1.1	n/a	1.8	1.8	n/a
HERMETIC SYSTEM							
REFRIGERANT CHARGE	kg R407c	0.5	0.4	0.5(30AP)	0.75	0.8	0.75 AP
				0.45(30AXP)			0.8 AXP
WEIGHT (UNPACKED/PACKED)	kg	45 / 55	45 / 55	45 / 55	70 / 85	70 / 85	70 / 85

See note d

NOTES:-

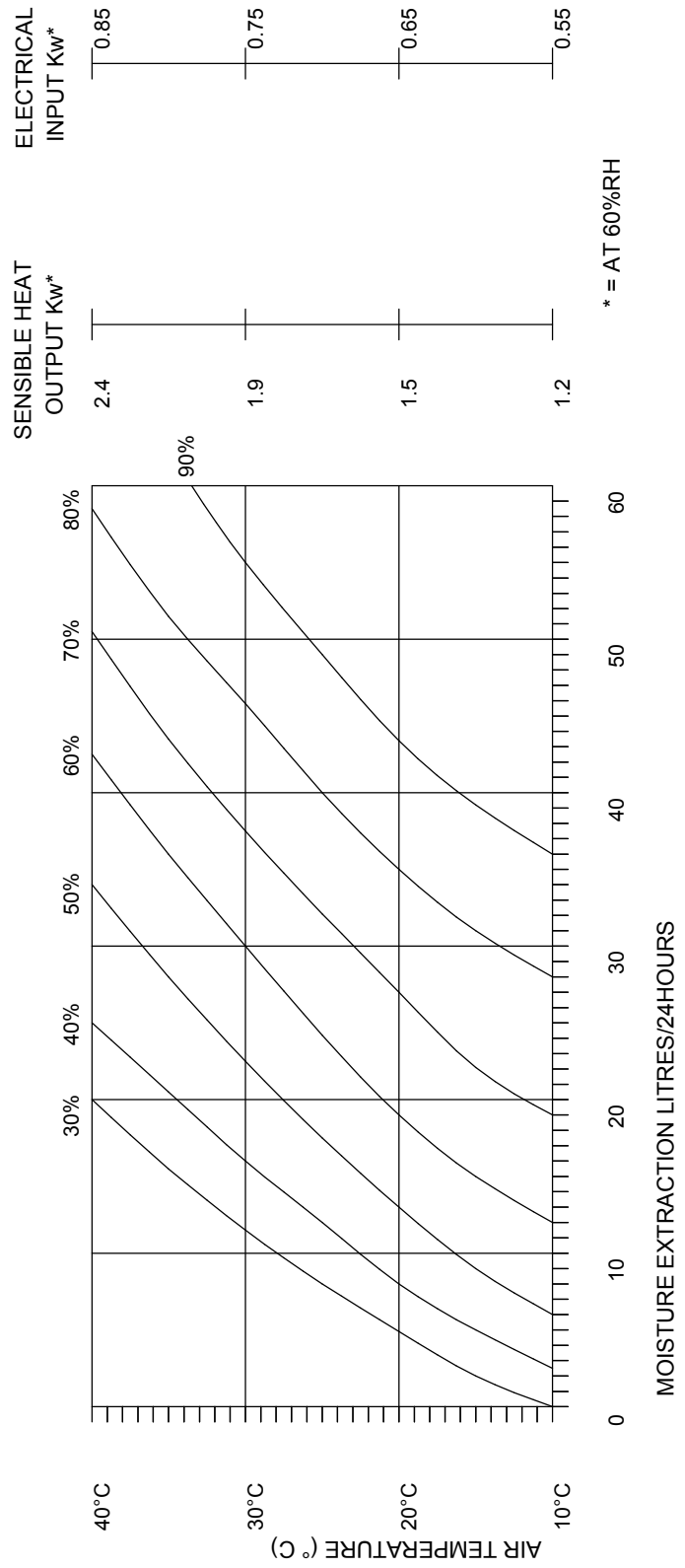
- These performance figures are based on air @ 30°C and 60% RH & pool water @ 28°C, Boiler water at 80°C
- Humidistat adjustable from 20% to 80%
- Minimum air temperature on standard models 15°C and 0°C on defrost 'X' models
- Reduced LPHW output when DH operating is 1kW less on 33 model
and 2kW less on 55 model
- IP rating for all models is IP45
- Maximum operating conditions air temp 35°C and 90% RH
- Maximum operating conditions for AP versions air temp 32°C and 62% RH

1mm Wg = 9.8 Pa
1m hd = 1.4 psi
1L/min = 0.22 gal/min

R407c Global Warming Potential (GWP) 1700

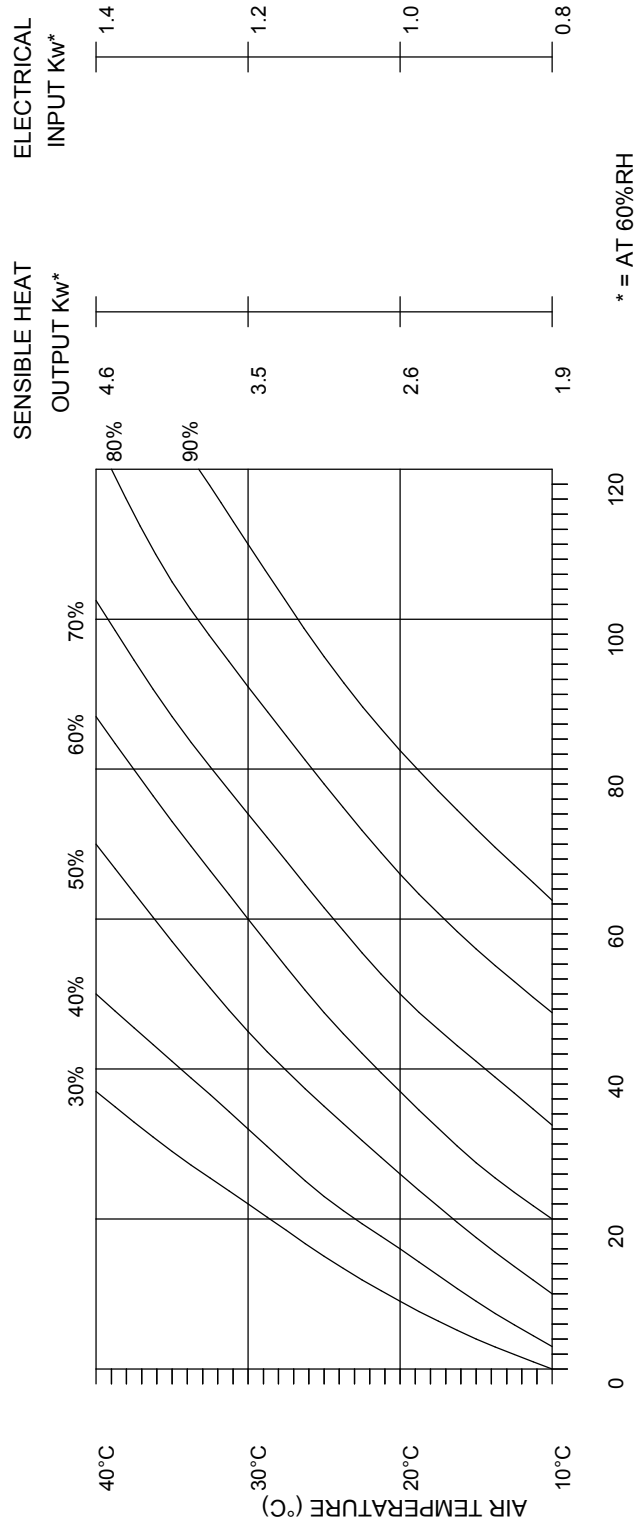
4.0 PERFORMANCE GRAPHS

TTW30/33/30(7)/33(7) PERFORMANCE.



MAX OPERATING TEMP 40°C (R22)
 MAX OPERATING TEMP 35°C (R407c)

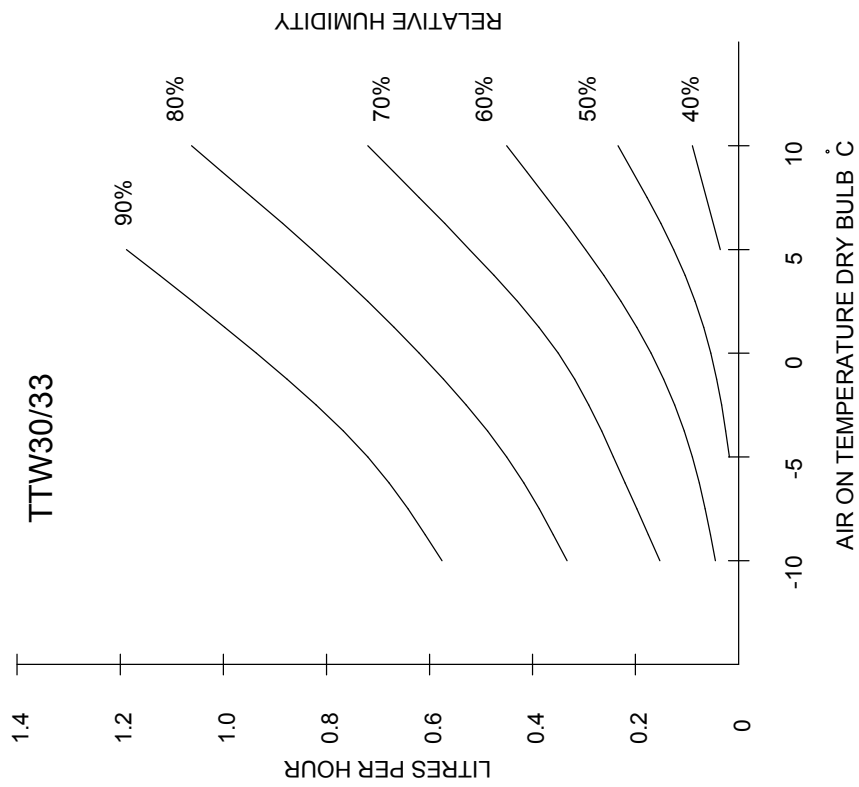
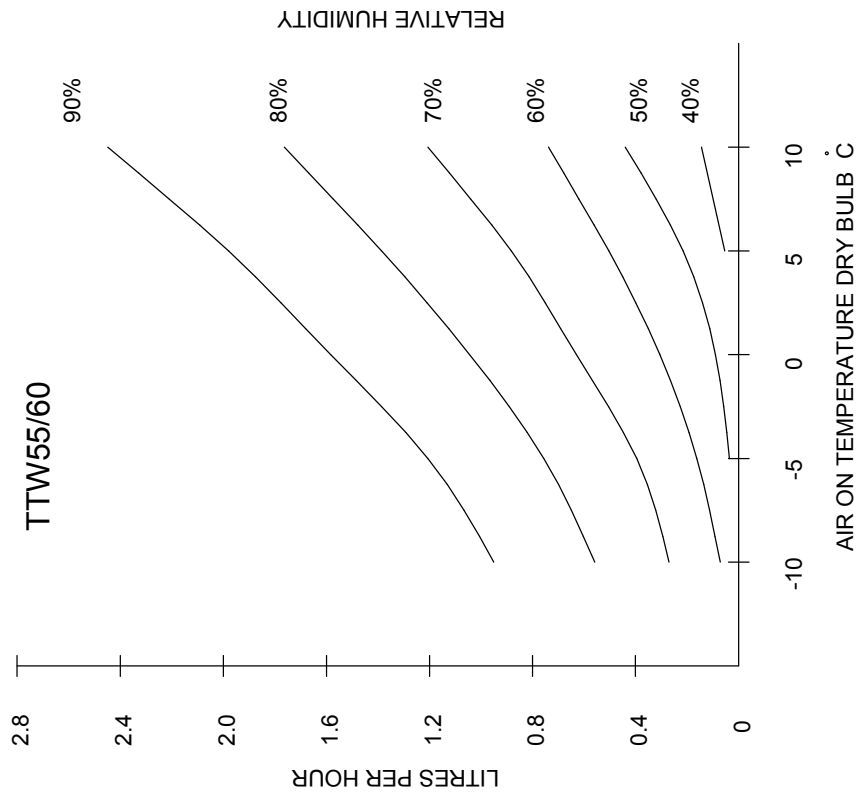
TTW55/55(7)/60/60(7) PERFORMANCE.



MOISTURE EXTRACTION LITRES/24HOURS

MAX OPERATING TEMP 40°C (R22)
 MAX OPERATING TEMP 35°C (R407c)

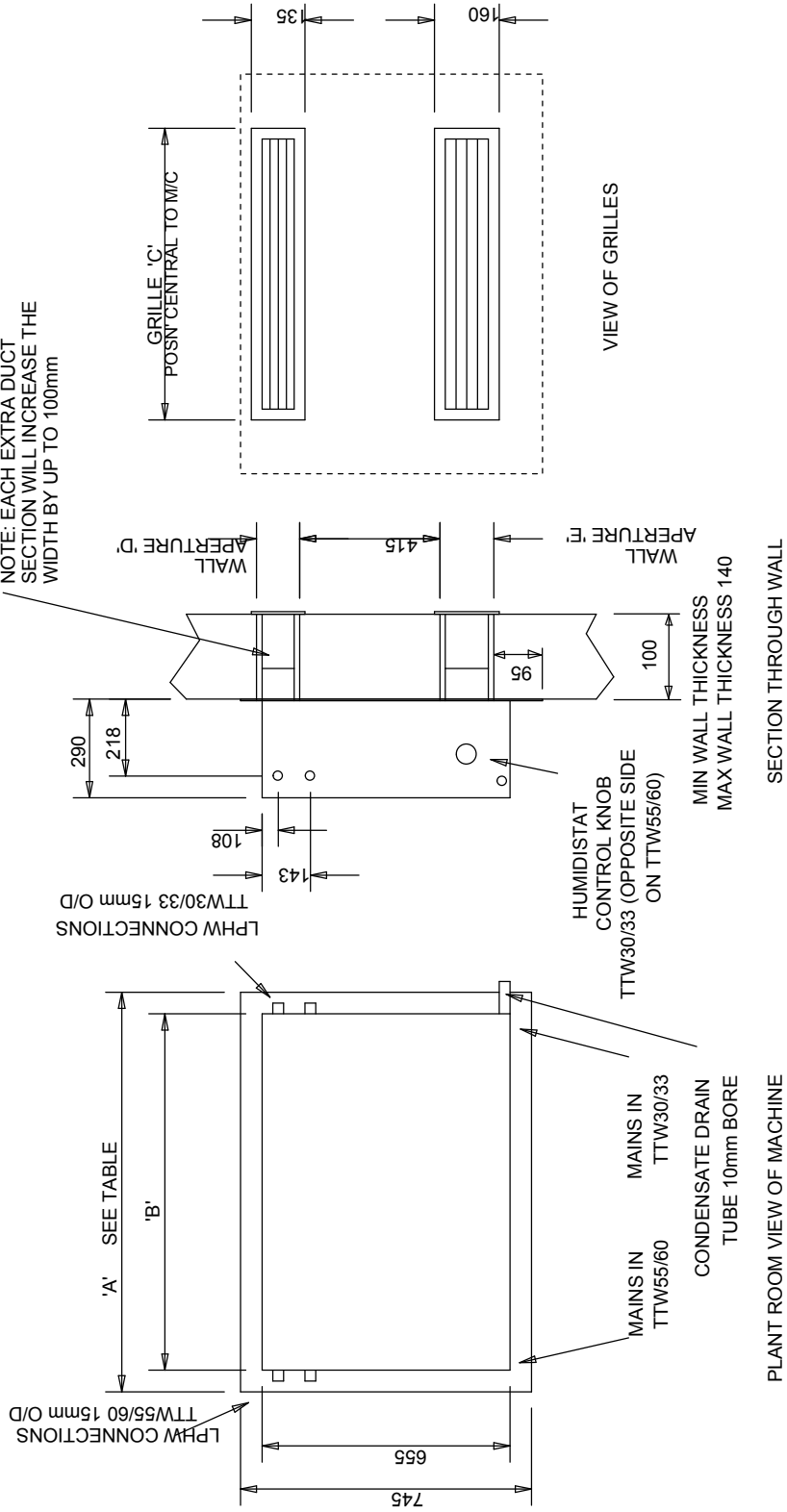
4.0 CONT



5.0 DIMENSIONS

	'A'	'B'	'C'	'D' APERTURE	'E' APERTURE	PACKED DIMENSIONS O/A
TTW30/33	875	780	560	85 x 520	110 x 520	935 L x 460 B x 900 H
TTW55/60	1300	1210	1020	85 x 980	110 x 980	1330 L x 460 B x 900 H

DUCTING & GRILLES SUPPLIED WITH MACHINE
 NOTE: EACH EXTRA DUCT SECTION WILL INCREASE THE WIDTH BY UP TO 100mm



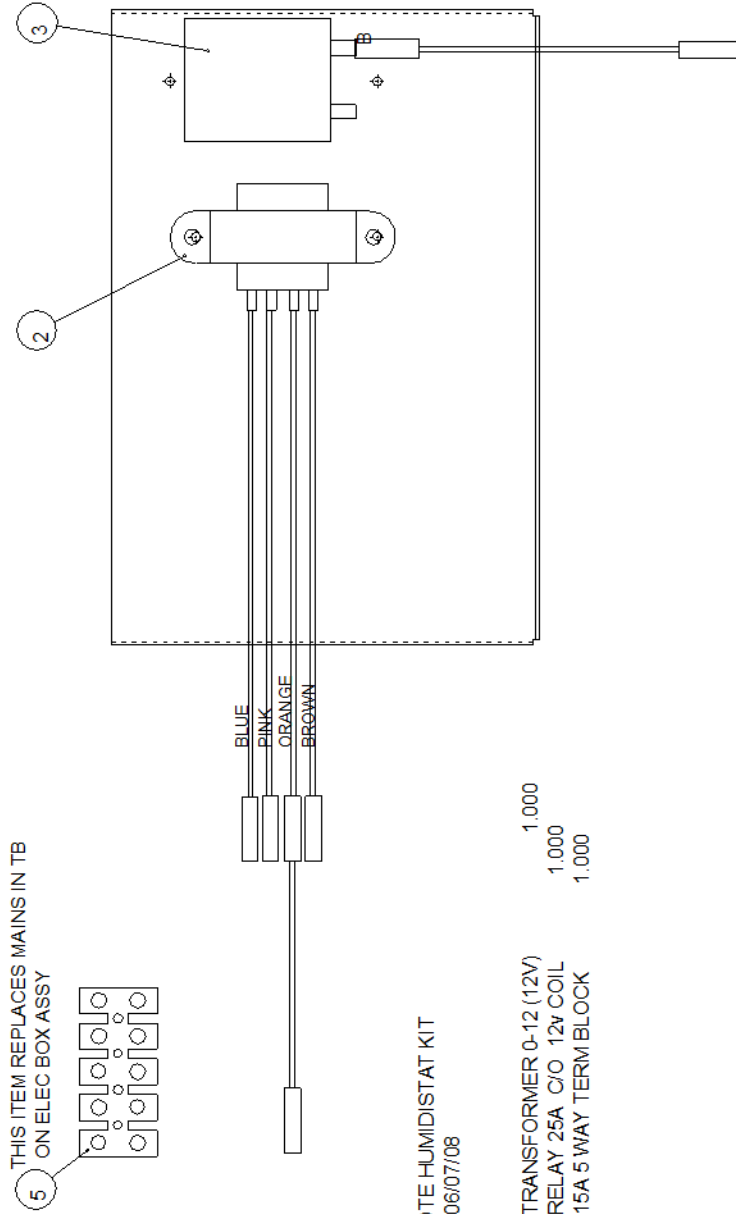
DRG No D64372650

7.0 OPTIONAL KITS

7.1 12V REMOTE HUMIDISTAT KIT

NOTES:

1. SEE WIRING DIAGRAMS FOR CONNECTION & ALTERATIONS TO ELEC BOX ASSYS

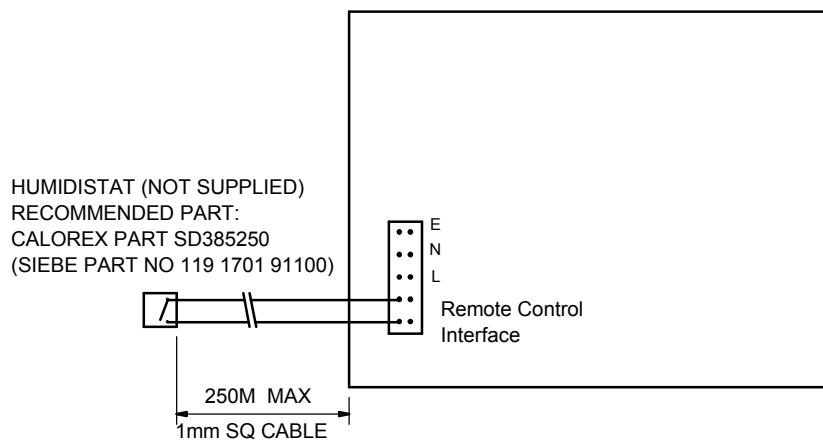


12v REMOTE HUMIDISTAT KIT
SA381005/06/07/08

- 2 SD336550 TRANSFORMER 0-12 (12V) 1,000
- 3 SD378350 RELAY 25A C/O 12v COIL 1,000
- 5 SD072853 15A 5 WAY TERM BLOCK 1,000

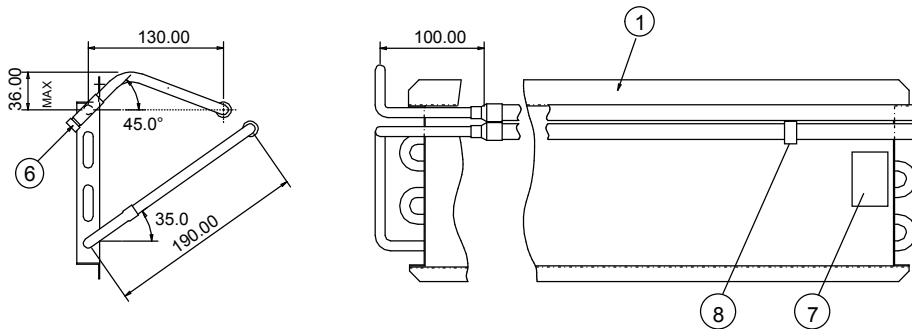
ASSEMBLY PART No	USED ON	WIRING DIAGRAM
SA 381005	TTW30/33A	D372752
SA381006	TTW30/33AX	D372753
SA381007	TTW55/60A	D372752
SA381008	TTW55/60AX	D372753

12v REMOTE HUMIDISTAT CONNECTIONS



WITH REMOTE HUMIDISTAT FITTED ENSURE HUMIDISTAT
IN MACHINE IS SET FULLY CLOCKWISE (IE MAXIMUM DEHUMIDIFICATION)

7.2 LPHW ASSEMBLIES



LPHW ASSY TTW30/33 SA281905

- ITEM 1 SD251750 LPHW FIN BLOCK
- ITEM 6 SD284450 AIR BLEED VALVE
- ITEM 7 SA253954 THERMOSTAT CALIBRATED TO 40°C
- ITEM 8 SD091050 PHIAL CLIP

LPHW ASSY TTW55/60 SA281906

- ITEM 1 SD251751 LPHW FIN BLOCK
- ITEM 6 SD284450 AIR BLEED VALVE
- ITEM 7 SA253954 THERMOSTAT CALIBRATED 40°C
- ITEM 8 SD091050 PHIAL CLIP

8.0 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 in correctly 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:	7.4 ± 0.4
Total Alkalinity, as CaCo ₃	ppm	80 -120
Total Hardness, as CaCo ₃	ppm	100-500
Total Dissolved Solids:	ppm	MAX 3000
Maximum Salt Content:	wt/wt	6%
Free Chlorine Range:	ppm	1.0 - 3.0
Superchlorination:	ppm	MAX 30 for MAX 24hrs
Bromine:	ppm	2-3
Baquacil:	ppm	25 - 50
Ozone:	ppm	0.8 - 1.0
Maximum Copper Content:	ppm	MAX 2
Aquamatic Ionic Purifier:	ppm	MAX 2
Tarn Pure Purifier:	ppm	MAX 2
Sherwood Purifier:	ppm	MAX 2

7. The heat pump has suffered frost damage.
8. The electrical supply is insufficient or in anyway incorrect

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.



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.