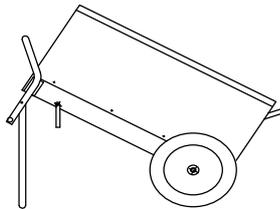


BUILDING DRIERS

FD60/PD600/DHM600/AX/AJX

TECHNICAL MANUAL

SD326152 Issue 24
05/02/13



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1.0 USER & SAFETY INSTRUCTIONS FOR BUILDING DRIERS

This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance.

HEALTH AND SAFETY AT WORK ACT 1974

Under Section 6 of the above act, it is the duty of the manufacturers and suppliers of products for use at work, to ensure, so far as reasonably practicable, that such products are safe and without risk to health when properly used and to make available to such users, adequate information about their safe and proper operation.

Please pay particular attention to the safety precautions and user instructions below, which will help to give you trouble free use of the equipment.

HANDLING AND TRANSPORT:-

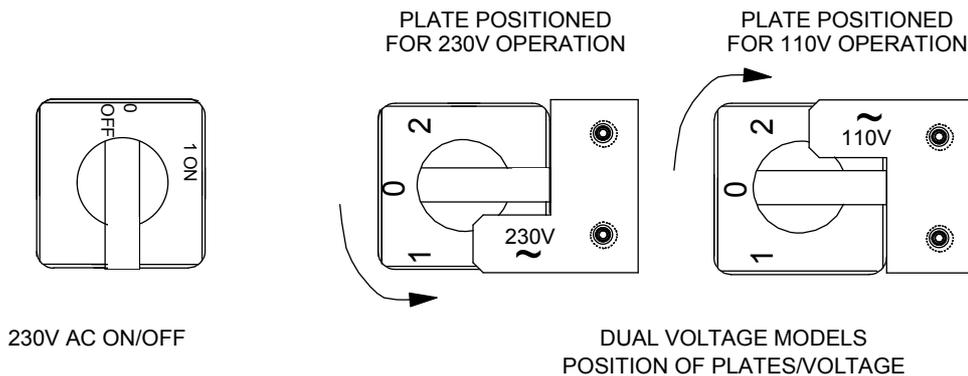
1. Position unit(s) centrally or, in the case of more than one unit, equidistant throughout the space being dried.
2. Ensure all DOORS and WINDOWS are kept closed.
3. Ensure temporary access to the area is SCREENED using polythene sheets or equal.
4. Ensure the air grilles are kept free of any obstruction.

ELECTRICAL SUPPLY:-

SAFETY

- a) Ensure the power supply is EARTHED CORRECTLY.
- b) Avoid the use of long cable runs which will cause voltage drop. Use only approved extension cables. The voltage at the dryer must be within 10% of the selected voltage. Where doubt exists, the voltage should be measured at the dryer. If found to be outside the limit, DO NOT USE. Contact the supplier for assistance.
- c) DO NOT remove any covers or otherwise interfere with the equipment. REMOVAL OF THE COVERS IS TO BE CARRIED OUT IN A SPECIALIST REPAIR WORKSHOP. Dependent on model type, the components in the unit may be rated for 110V or 230V operation. Some units may be fitted with a dual 110/230 auto-wound transformer. Normally the unit will have been set to the appropriate supply specified by the user, before delivery is made. Appropriate label plate fitted at switch clearly indicates the voltage settings at any given time.

ENSURE THE UNIT IS CONNECTED TO THE APPROPRIATE SUPPLY BEFORE SWITCHING UNIT ON 230V fused at 13A. 100/115V fused at source.



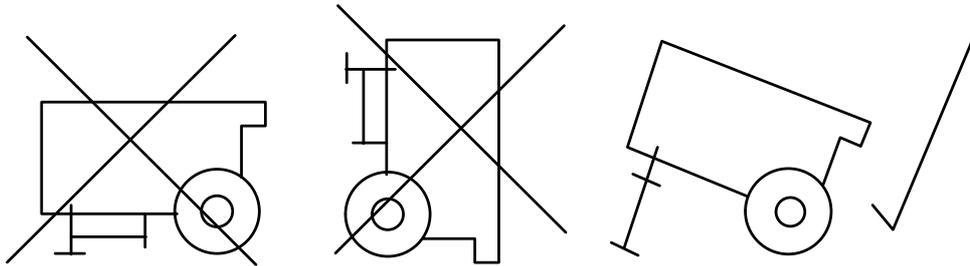
5. (i) CONTROL SWITCH

6. When used with an electric generator, the following minimum capacities are required:-

BUILDING DRYER = 4 KVA minimum

The above capacities are in order to overcome the initial starting surge associated with all Building Dryers and which may up to 4 or 5 times the normal running current. IF A UNIT IS SWITCHED OFF FOR ANY REASON. ALWAYS ALLOW A MINIMUM OF 5 MINUTES BEFORE ATTEMPTING TO RE START. FAILURE TO DO SO WILL ALMOST CERTAINLY RESULT IN BLOWN FUSES/CIRCUIT BREAKERS AND COMPONENT DAMAGE TO THE UNIT.

7. Unit may ONLY BE OPERATED when raised on stand into the sloping (30°) position as diagram below.



DRAINAGE

All models may either be fitted with a permanent drain hose leading to the outside or a temporary container can be provided adjacent to the unit.



8. (i) Permanent Drainage: Normally a typical garden hose is utilised (12mm bore) . Bear in mind, drainage relies on GRAVITY FLOW so ensure a constant 'FALL' away from unit. In very cold weather, the water in the hose may freeze and 'back-up' through the unit to cause overflow.

8 (ii) Temporary Container: Always use a closed top vessel to prevent re-evaporation of water back into the atmosphere. A clear sided container will better indicate when it requires emptying.

8 (iii) If condensate pump kit fitted, run 9mm O/D hose to waste (max head 30m).

OPERATION

9. A building dryer incorporates a refrigeration circuit. As air passes over the cold surfaces of that circuit, the water vapour condenses into liquid, or if cold enough to ice. In the case of the latter, automatic defrosting facilities are provided which means that water is only seen to emerge from time to time but in considerable quantities. The majority of models produce a constant stream of water when the air temperature in the room is approximately 18°C/64°F and above whereas ice will form below this temperature. Many criteria determine the size of room in which particular models are compatible. An approximate guide follows:-

BUILDING DRYER = Up To 140M³/5000ft³

If individual units are used in smaller areas than described above, the continuous heat from the refrigeration circuit (heat pump) may cause the temperature to rise to 20°C and above, in this case, some extra ventilation is recommended. Rapid increases in air temperature will almost always result in surface cracking of wet materials because the surface dries out too quickly. Lower temperatures are preferred. Ventilation should only be introduced to an absolute minimum in order to stop the temperature rising to an unacceptable level. Any greater increase in ventilation rates will result in you trying to "dry the surrounding countryside".

If a humidistat kit is fitted, select required humidity (normal setting 60%) the machine will stop when this level is achieved.

9.(i) Refer to the OPERATING INSTRUCTIONS label mounted on the unit before switching ON.

FAULT CONDITION:-

10. Special skills and techniques are required for the diagnosis and repair of refrigeration based units, IT IS NOT A JOB FOR THE UNQUALIFIED.

10. (i) If the unit continuously blows fuses then there is a likelihood of low voltage at the end of the trailing cable.

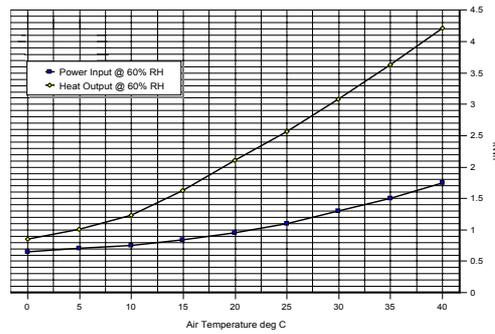
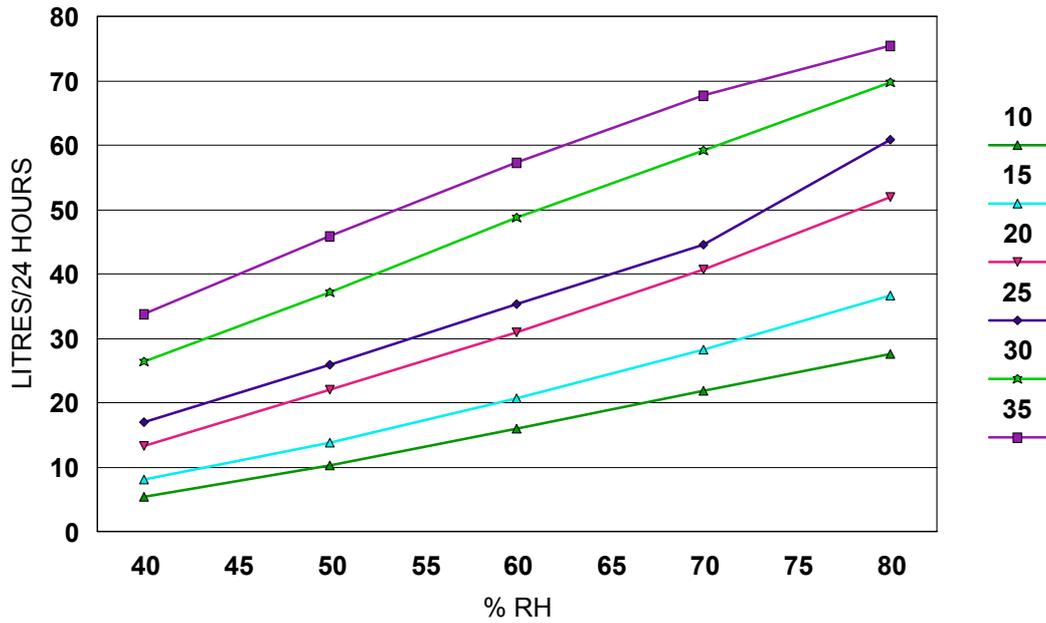
10. (ii) If the unit freezes up into a solid block of ice around the air inlet grille,

SWITCH OFF IMMEDIATELY and call your supplier.

10. (iii) AFTER SWITCHING OFF ALWAYS WAIT AT LEAST 5 MINUTES BEFORE ATTEMPTING RE-START.

2.0 PERFORMANCE GRAPH/DATA SHEET

BUILDING DRIER (60,65,600)

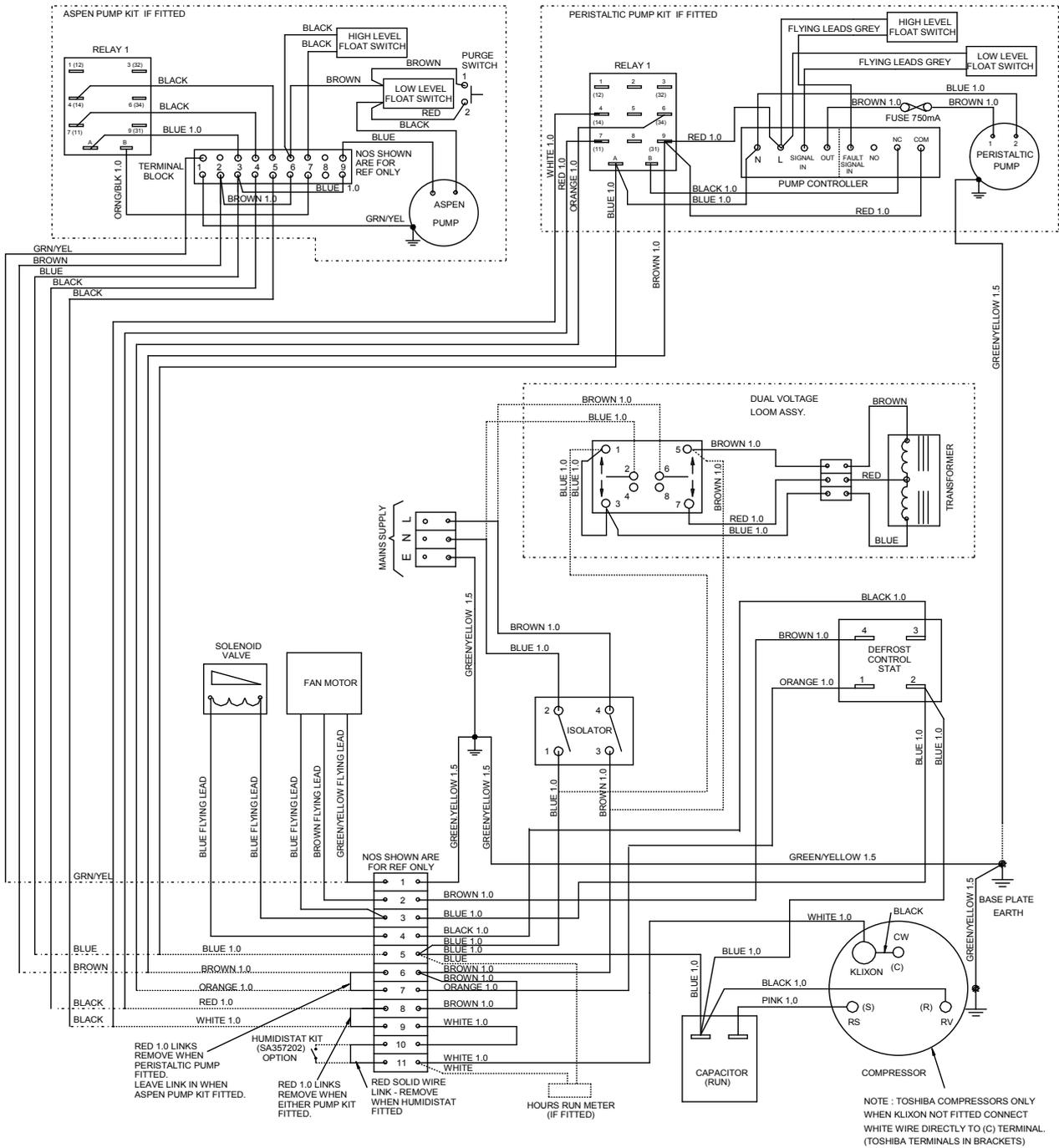


DATA SHEET.	UNITS.	110V AJX	230V AX
Electrical Data:-			
F.L.A.	Amps.	16.8	7.5
L.R.A.	Amps.	61.6	28
Maximum Supply Fuse.	Amps.	15	13
Average Power Consumed.	Watts	1070	1070
Maximum Power Consumed.	Watts	1731	1731
Supply Voltage Limits.	%	-10 / +15	-10 / +15
Air Flow.	m ³ /h	710	710
Sound Level @ 3m.	dbA	58	58
Hermetic System			
Gas Charge R407c	kg	0.59	0.59
Dimensions (in operating configuration):-		UNPACKED/PACKED IN OPERATING POSITION	UNPACKED/PACKED IN OPERATING POSITION
Height.	mm	940	740
Width.	mm	630	660
Depth.	mm	1110	1045
Weight.	kg	72	83

Global warming potential (GWP) R407c 1700.

3.0 WIRING DIAGRAM

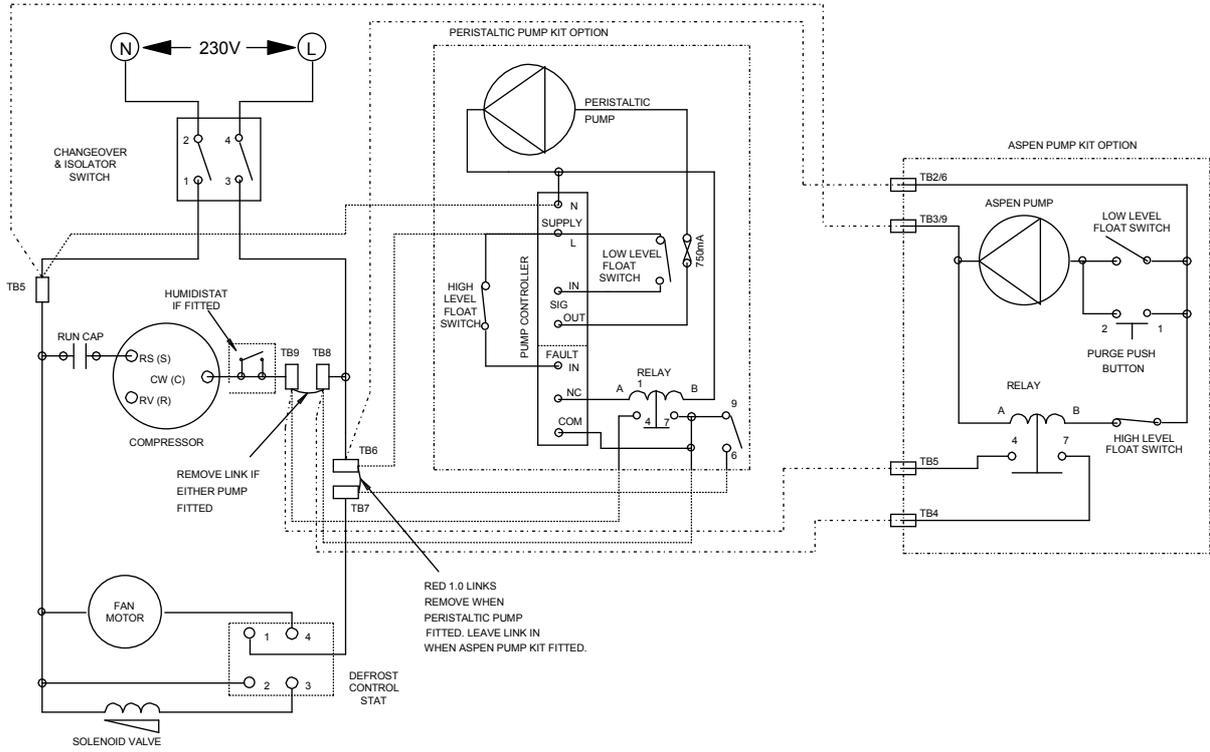
DUAL VOLTAGE (AJX) ALL MACHINES



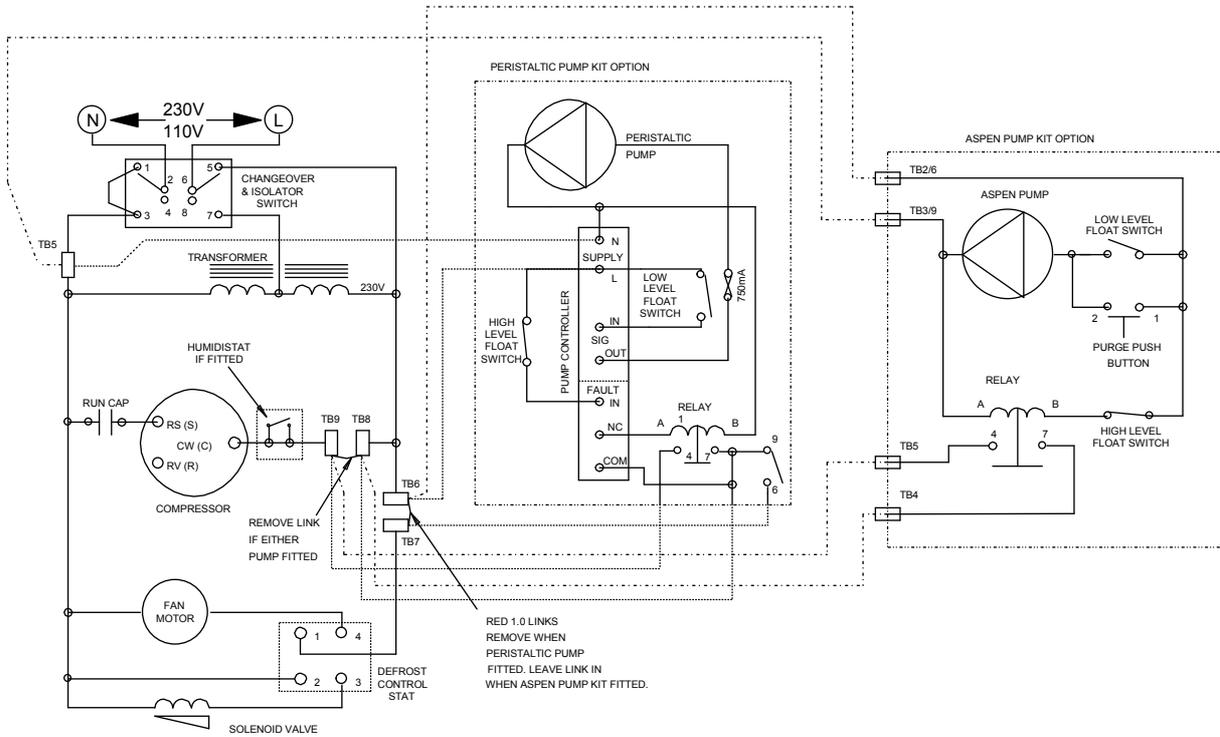
13	DUAL AND SINGLE VOLT DIAGRAMS COMBINED	1487	KW	01/07/10
12	NOTES ON TOSHIBA COMPRESSOR TERMINALS ADDED	1151	SP	07/02/07
11	CIRCUIT DISG WIRES TO MC T88 & T89 SWITCHED	1134	KW	23/10/06
10	COMPRESSOR TERMINAL REFS CHANGED	1117	KW	29/06/06
9	FLOAT SWITCH WIRE COLOUR CHANGED FROM BLACK TO GREY	1066	DJG	5/7/04
8	WIRE BLACK WAS BROWN ASPEN PUMP TO LOW LEVEL FLOAT SWITCH	1057	CJW	15/07/03
7	CORRECTIONS MADE TO WIRING DIAGRAM & LABEL	10184	CJW	22/04/02
6	ASPEN PUMP OPTION ADDED	1018	CJW	15/11/01
5	ALTERNATIVE COMPRESSOR TERMS ADDED	1007	JAC	30/04/01
4	HOURS RUN METER ADDED	989	SSM	13/4/00
3	TERM BLOCKS ADDED	951	JAC	19/2/98
2	PUMP KIT PURGE VALVE W/AS 82204 REF: CONNECTIONS DELAYED		GSM	2/10/95
ISS		ON	APPD	DATE

DRAWING CHANGE

SINGLE VOLTAGE (AX) CIRCUIT DIAGRAM

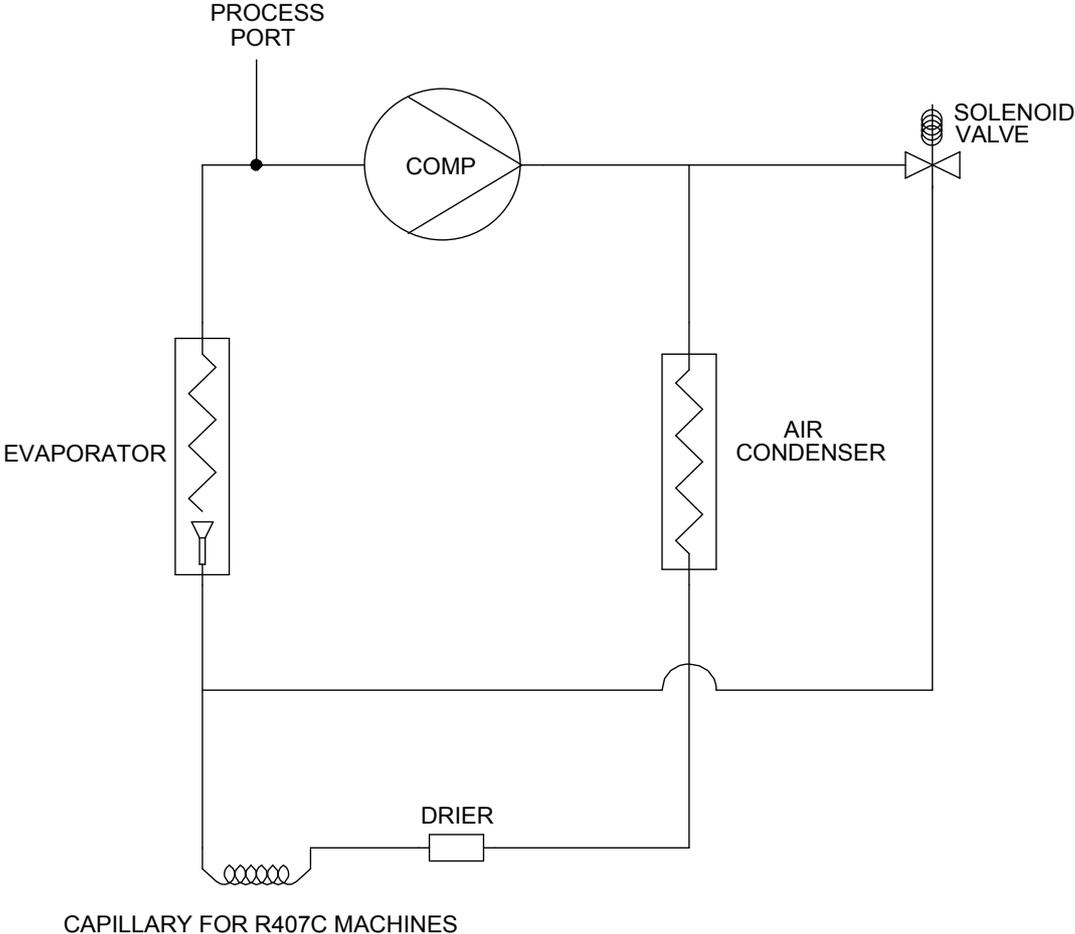


DUAL VOLTAGE (AJX) CIRCUIT DIAGRAM



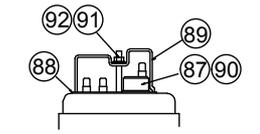
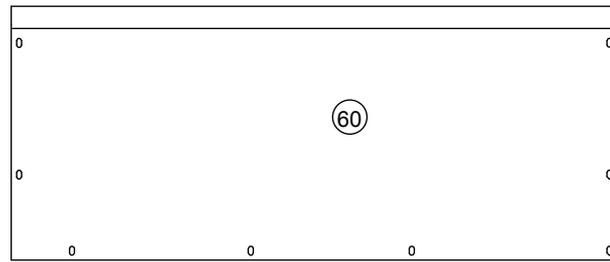
4.0 REFRIGERATION SCHEMATIC

ALL MACHINES

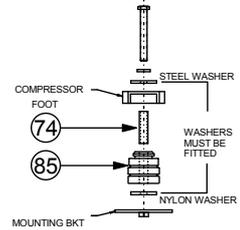


5.0 SPARE PARTS LISTS

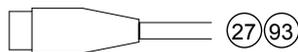
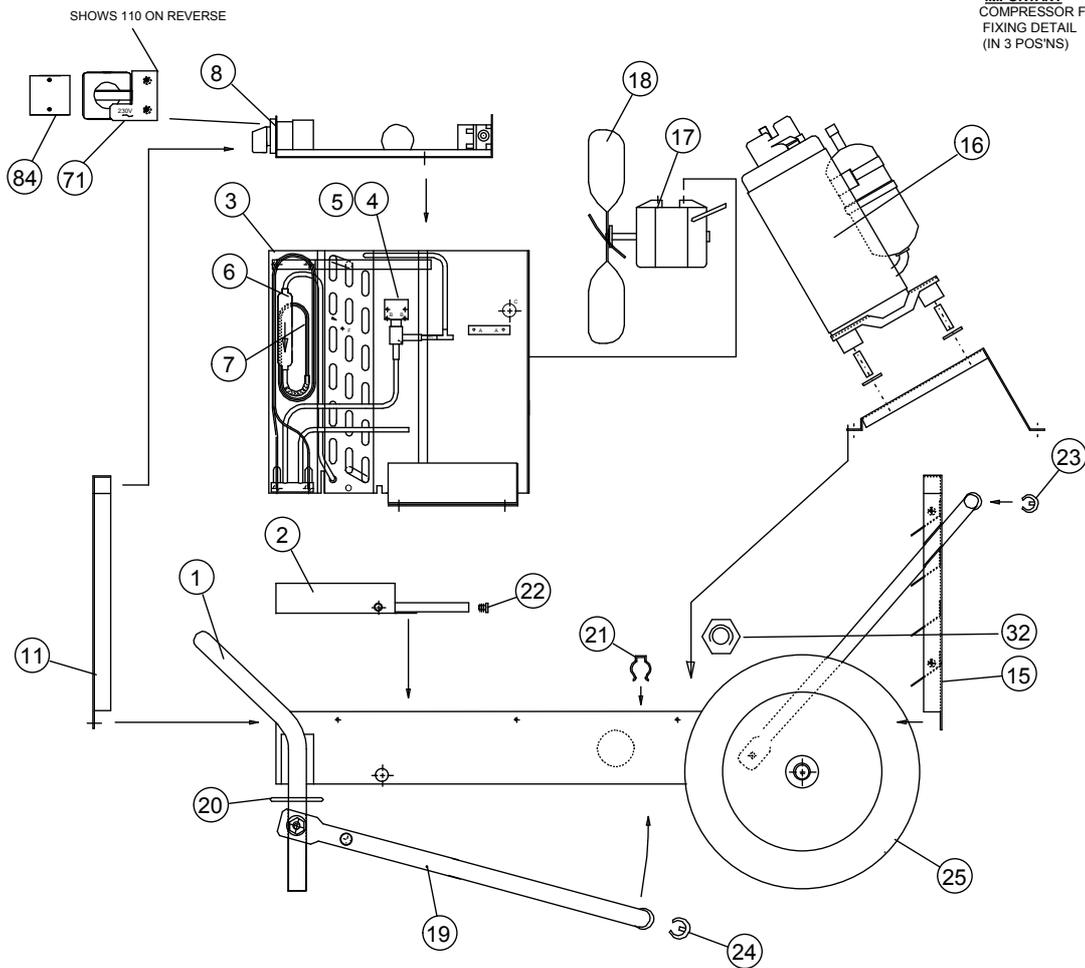
BUILDING DRIER 60,65,600



PART VIEW SHOWING
COMPRESSOR THERMAL OVERLOAD/
TERMINAL COVER ASSY.

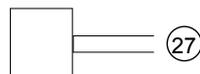


IMPORTANT
COMPRESSOR FEET
FIXING DETAIL
(IN 3 POS'NS)

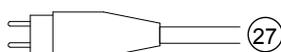


MAINS LEAD DUAL VOLTAGE

GAS CHARGE SEE
PARTS LISTS



MAINS LEAD UK



MAINS LEAD EUROPE

**BUILDING DRIER 60/65/600AX/AJX
SPARE PARTS LIST YELLOW MACHINE AX/AJX**

ITEM NO.	PART No.	DESCRIPTION	QUAN	UNITS
1	SD512903	BOTTOM CASING ASSY WITH CABLE TIDY	1	off
2	SD364401	DRIPTRAY	1	off
3	SD352104	EVAP/COND ASSY R407C	1	off
4	SD146151	SOLENOID VALVE	1	off
5	SD146250	SOLENOID COIL	1	off
6	SD040650	DRIER 1/4 x 1/4	1	off
7	SD318250	CAPILLARY TUBE 0.06" ID 44" LONG	2	off
8	SA373502	ELEC BOX ASSY	1	off
11	SD509750	INLET GRILLE	1	off
15	SD509601	OUTLET GRILLE	1	off
16	SD519352	ROTARY COMPRESSOR	1	off
17	SD313650	FAN MOTOR 34W	1	off
18	SD313751	FAN BLADE 12 inch	1	off
19	SD365450	LIFTING LEG BLACK	1	off
20	SD365550	LOCKING RING BLK 51-22-103	2	off
21	SD370950	SPRING CLIP	1	off
22	SD369350	PIPE INSERT BUNG	1	off
23	SD370650	SADDLE FOOT	2	off
24	SD370651	SADDLE FOOT 25mm TUBE	2	off
25	SD370450	WHEEL 330 O/D 30-58-133	2	off
27	SA314410	LEAD SET (AJX ONLY)	1	off
27	SA314408	MAINS PLUG/LEAD ASSY EUROPE	1	off
27	SA314407	PLUG/LEAD ASSEMBLY	1	off
32	SP152150	M20 PLASTIC GLAND BACK NUT	1	off
48	SP182554	REFRIGERANT R407c	0.59	kg
60	SD512750	TOP COVER	1	off
71	SD365750	VOLTAGE PLATE	1	off
74	SD520852	SPACER 37mm LG 10mm O/D 8.20mm I/D	3	off
84	SD578950	BLANKING PLATE	1	off
85	SD622950	COMPRESSOR RUBBER MOUNT	3	off
87	SD622951	THERMAL OVERLOAD	1	off
88	SD622952	GASKET	1	off
89	SD622953	TERMINAL COVER	1	off
90	SD622954	SPRING (THERMAL OVERLOAD)	1	off
91	SD622955	NUT & BOLT SET	1	off
92	SD622956	RUBBER WASHER	1	off
93	SD315350	PLUG 110V 16A (YELLOW (AJX ONLY)	1	off

SPARE PARTS LIST WHITE MACHINE

AS YELLOW MACHINE BUT DROP YELLOW ITEMS AND FIT :-

11	SD509752	INLET GRILLE (WHITE)	1.000	off
15	SD509603	OUTLET GRILLE (WHITE)	1.000	off
60	SD512752	TOP COVER (WHITE)	1.000	off
71	SD365752	VOLTAGE PLATE (WHITE)	1.000	off

SPARE PARTS LIST ULTRAMARINE BLUE MACHINE

AS YELLOW MACHINE BUT DROP YELLOW ITEMS AND FIT :-

11	SD509753	INLET GRILLE (ULTRAMARINE BLUE)	1.000
15	SD509604	OUTLET GRILLE (ULTRAMARINE BLUE)	1.000
60	SD512753	TOP COVER (ULTRAMARINE BLUE)	1.000
71	SD365753	VOLTAGE PLATE (ULTRAMARINE BLUE)	1.000

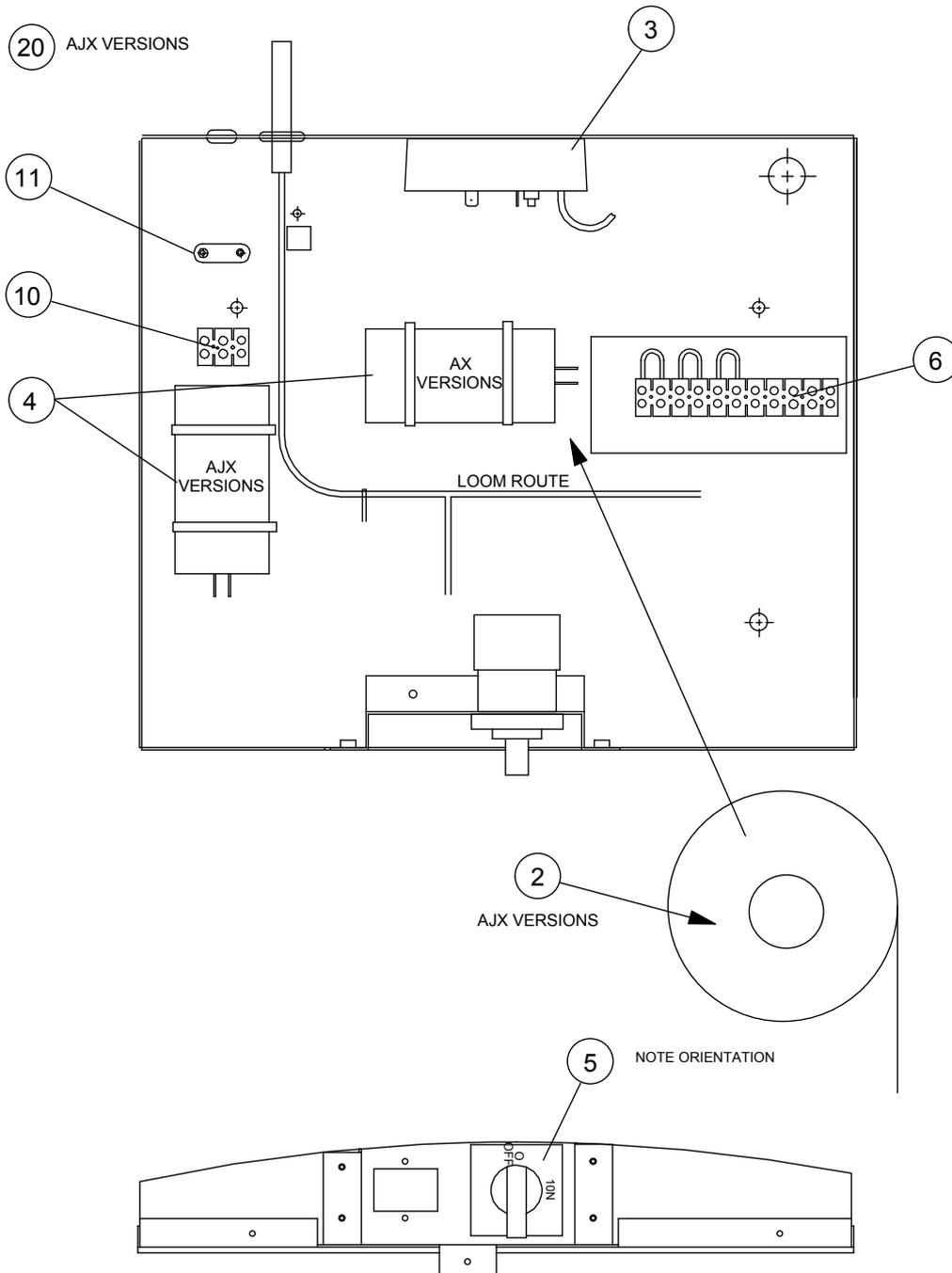
SPARE PARTS LIST RED/GREY MACHINE

AS YELLOW MACHINE BUT DROP YELLOW ITEMS AND FIT :-

1	SD512902	BOTTOM CASING ASSY (GREY)	1.000
11	SD509754	INLET GRILLE (RED)	1.000
15	SD509605	OUTLET GRILLE (RED)	1.000
19	SD365451	LIFTING LEG (GREY)	1.000
20	SD365551	LOCKING RING (GREY)	2.000
60	SD512754	TOP COVER (RED)	1.000

ELECTRIC BOX ASSEMBLY BUILDING DRIERS HD500

SINGLE VOLTAGE (AX) AND DUAL VOLTAGE (AJX)



ELECTRIC BOX ASSEMBLY BUILDING DRIER (60,65,600)
SPARE PARTS LIST
230V MACHINE

3	SD145802	DEFROST STAT (CALIBRATED)	1.000
4	SD251650	RUN CAP 30uF 380V	1.000
5	SD232154	ROTARY SWITCH ON/OFF	1.000
6	SA098763	TERMINAL BLOCK 11 WAY	1.000
10	SA098762	TERMINAL BLOCK 3 WAY	1.000

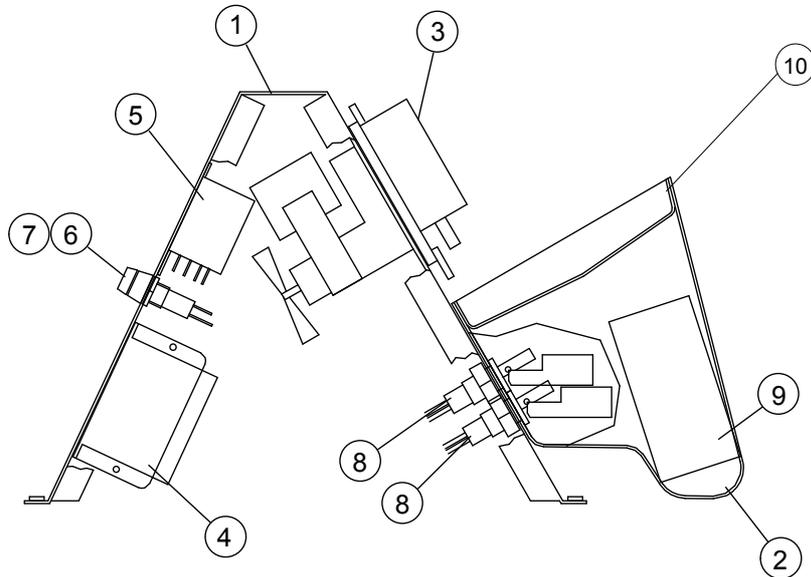
ELECTRIC BOX ASSEMBLY BUILDING DRIER (60,65,600)
SPARE PARTS LIST
DUAL VOLTAGE MACHINE

2	SD353650	TRANSFORMER	1.000
3	SD145802	DEFROST STAT (CALIBRATED)	1.000
4	SD251650	RUN CAP 30uF 380V	1.000
5	SD232153	VOLTAGE SWITCH	1.000
6	SA098763	TERMINAL BLOCK 11 WAY	1.000
10	SA098762	TERMINAL BLOCK 3 WAY	1.000
20	SA356408	DUAL VOLTAGE LOOM	1.000

SA358002 CONDENSATE PUMP KIT (IF FITTED).

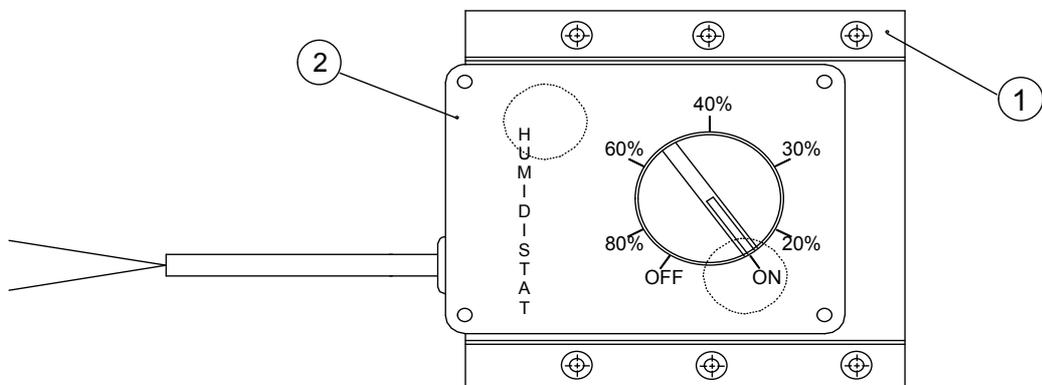
ITEM No.	PART No.	DESCRIPTION	QUANTITY	
1	D365850	MOUNTING BRACKET	1.000	
2	SD357802	CONDENSATE SUMP	1.000	
3	SD294450	PERISTALTIC PUMP 6200198	1.000	
4	SD357350	PUMP CONTROLLER 62-00-561	1.000	
5	SD219250	RELAY 2 POLE C/O 25A	1.000	
6	SD034850	FUSE HOLDER A51	1.000	
7	SD035356	1/4 x 1 1/4 750mA FUSE	2.000	
8	SD294350	FLOAT SWITCH (62-00-554)	2.000	
9	SD306050	WATER FILTER	1.000	
10	SD358351	PICKUP TUBE	1.000	
14	SD295250	TUBE INSERT (62-00-094) W45	2.000	FIT TO MACHINE BASE
15	SD294750	LOCKING COLLET (62-00-093) W45	2.000	FIT TO MACHINE BASE
16	SD294650	BULKHEAD CONN (62-00-091) W32	1.000	FIT TO MACHINE BASE

FOR POSITION OF ITEMS 14-16 SEE PUMP KIT INSTALLATION INSTRUCTIONS



SA64357202 HUMIDISTAT ASSEMBLY (IF FITTED).

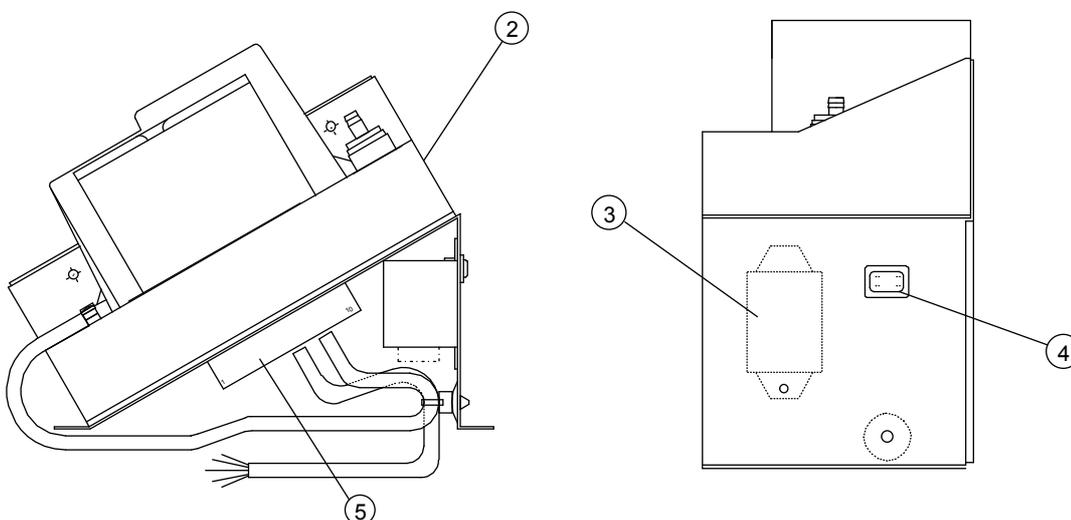
1	SD356101	BRACKET	1.000
2	SA079301	HUMIDISTAT ASSY	1.000



SA358003 ASPEN PUMP KIT (IF FITTED)

ITEM	PART No.	DESCRIPTION	QUANTITY
002	SA450101	PUMP, ASPEN	1
003	SD219250	RELAY C/O 2 POLE 25A 230V AC COIL	1
004	SD450250	SWITCH, MOMENTARY ON	1
005	SD098752	TERMINAL BLOCK 10 WAY	1
*027	SD369350	PIPE INSERT	1

SEE SECTION 6.2 FOR FITTING THIS ITEM



SA156502 HOURS RUN METER KIT (IF FITTED) NOT ILLUSTRATED

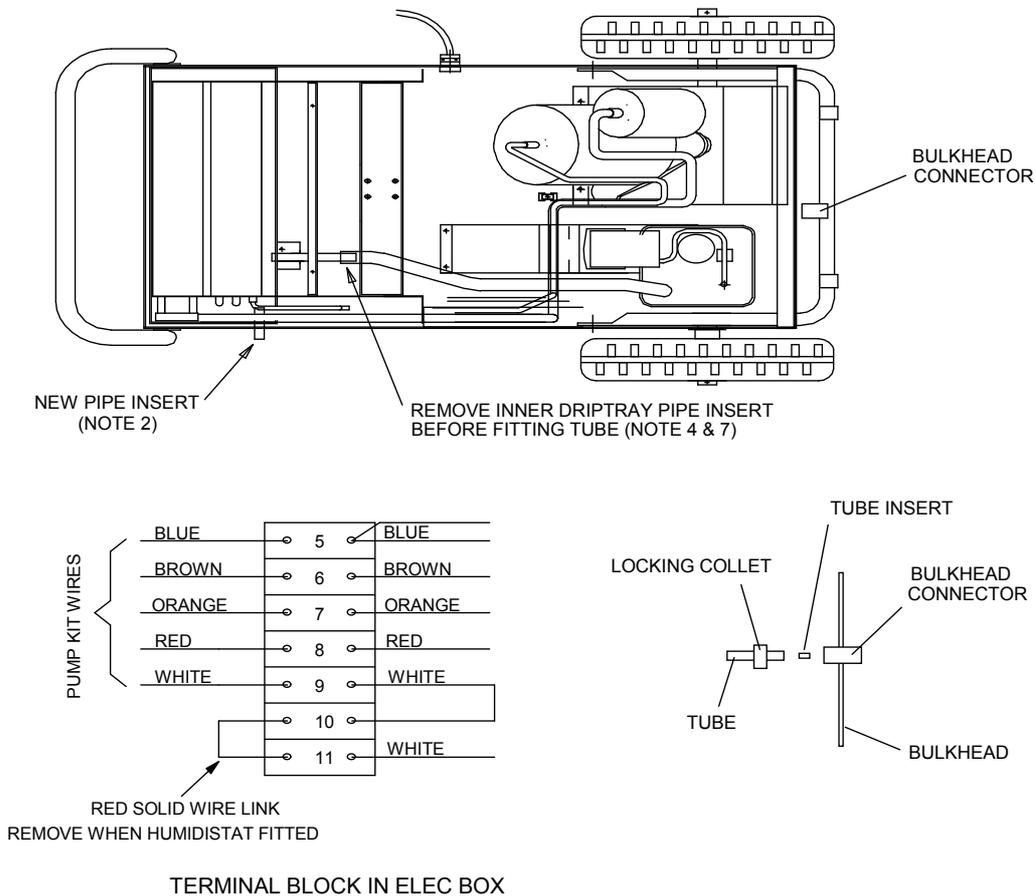
ITEM	PART No.	DESCRIPTION	QUANTITY
001	SD156301	HOURS RUN METER	1

SA357202 HUMIDISTAT ASSEMBLY (IF FITTED)

ITEM	PART No.	DESCRIPTION	QUANTITY
001	SD356101	BRACKET	1
002	SA079301	HUMIDISTAT ASSY	1

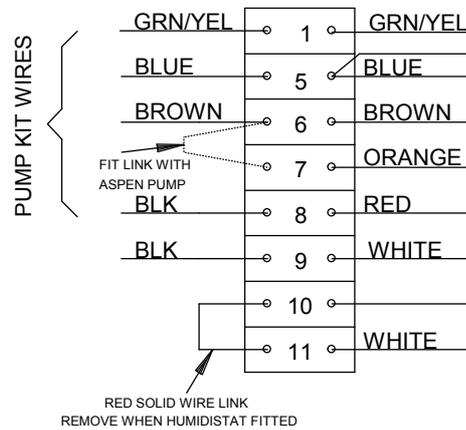
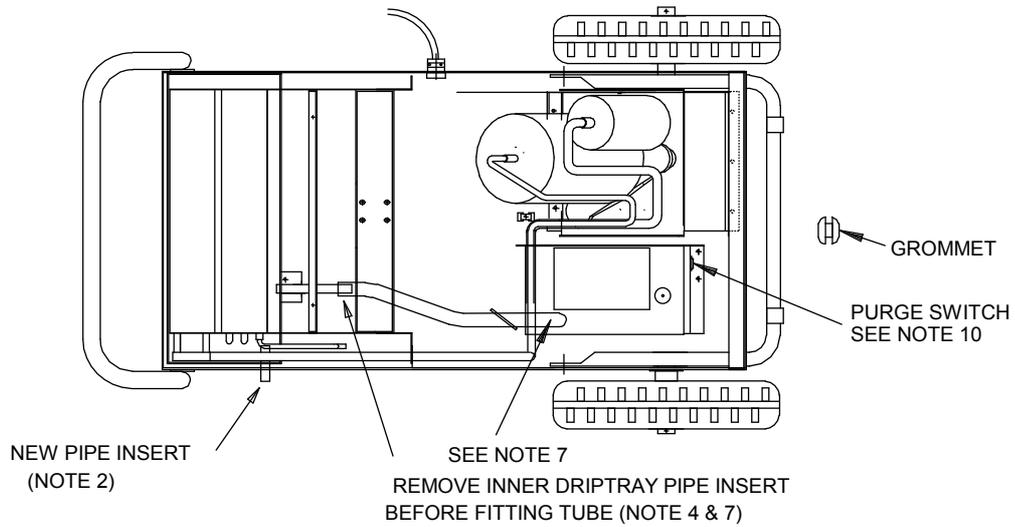
6.0 OPTIONAL KITS

6.1 CONDENSATE PUMP KIT INSTALLATION INSTRUCTIONS



1. PUT MACHINE IN THE WORKING POSITION, ie ON STAND.
2. REMOVE DRAIN TUBE & FIT PIPE INSERT SUPPLIED.
3. REMOVE COVER FIXING SCREWS & HINGE COVER OPEN.
4. LOCATE & REMOVE INNER DRIPTRAY PIPE INSERT.
5. FIX PUMP KIT BRACKET TO BASE, IN POSITION SHOWN WITH SCREWS PROVIDED.
6. ASSEMBLE BULKHEAD CONNECTOR THROUGH BASE WALL AS SHOWN & FIT SMALL TUBE.
7. FIT LARGE TUBE TO INTERNAL DRIPTRAY OUTLET & OTHER END INTO PLASTIC SUMP OF KIT.
8. REMOVE RELEVANT LINKS FROM TERMINAL BLOCK IN ELEC BOX, ROUTE PUMP SPUR ACCORDINGLY & CONNECT WIRES TO TERMINALS AS SHOWN ABOVE. ALSO CONNECT PUMP EARTH LEAD TO ELEC BOX EARTH STUD.
9. INSTALLATION IS NOW COMPLETE, CHECK THAT ALL FIXINGS & CONNECTIONS ARE SECURE & REPLACE LID.

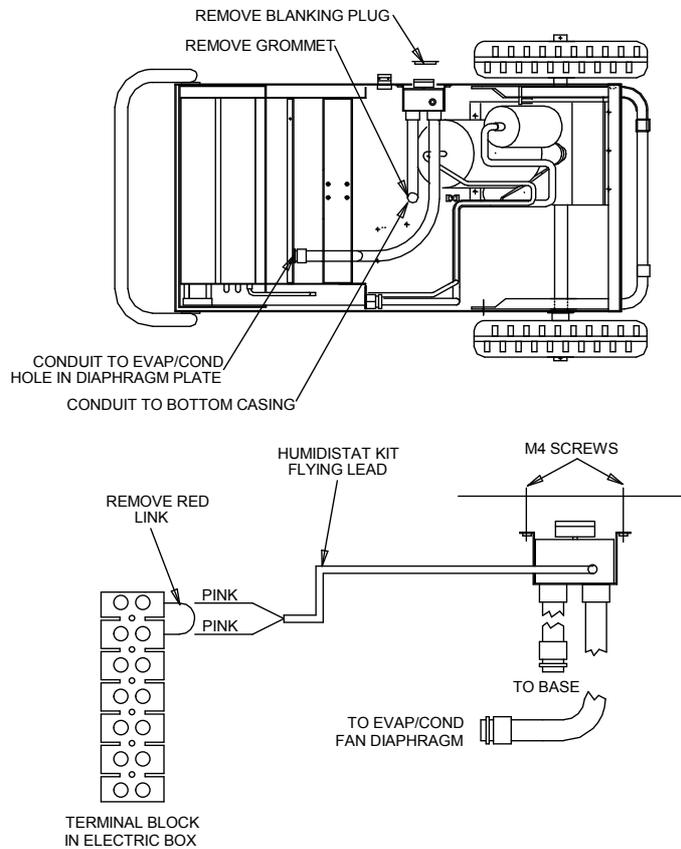
6.2 ASPEN PUMP KIT INSTALLATION INSTRUCTIONS



TERMINAL BLOCK IN ELEC BOX

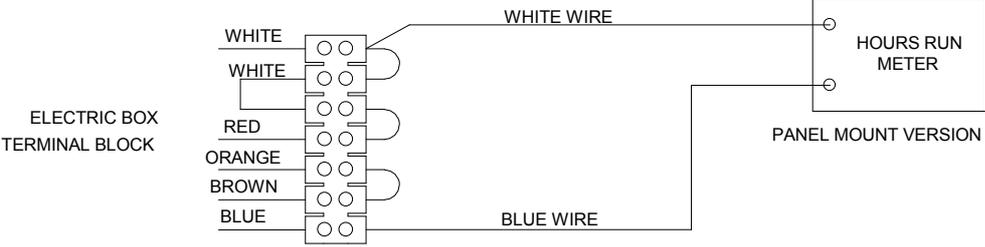
1. PUT MACHINE IN THE WORKING POSITION, ie ON STAND.
2. REMOVE DRAIN TUBE & FIT PIPE INSERT SUPPLIED.
3. REMOVE COVER FIXING SCREWS & HINGE COVER OPEN.
4. LOCATE & REMOVE INNER DRIPTRAY PIPE INSERT.
5. FIX PUMP KIT BRACKET TO BASE, IN POSITION SHOWN WITH SCREWS PROVIDED.
6. INSERT GROMMET INTO BASE WALL AND FIT SMALL TUBE.
7. FIT LARGE TUBE TO INTERNAL DRIPTRAY OUTLET & OTHER END IN TO PLASTIC SUMP OF KIT. MAKE SURE TUBE FITS FIRMLY IN SUMP. USE CABLE TIE TO SECURE TO PIPEWORK WHERE SHOWN.
8. REMOVE RELEVANT LINKS FROM TERMINAL BLOCK IN ELEC BOX, ROUTE PUMP SPUR ACCORDINGLY & CONNECT WIRES TO TERMINALS AS SHOWN.
9. INSTALLATION IS NOW COMPLETE, CHECK THAT ALL FIXINGS & CONNECTIONS ARE SECURE & REPLACE LID.
10. PURGE SWITCH IS LOCATED ON PUMP KIT MOUNTING BRACKET AND IS ACCESSED THROUGH DISCHARGE GRILLE.

6.3 HUMIDISTAT KIT INSTALLATION INSTRUCTIONS



1. WITH MACHINE ISOLATED FROM MAINS SUPPLY, HINGE AWAY TOP COVER.
2. REMOVE BLANKING PLUG AND GROMMET FROM BOTTOM CASING.
3. FIT HUMIDISTAT KIT INTO POSITION AS SHOWN USING 2 OFF M4 SCREWS SUPPLIED.
4. FIT FLEXIBLE CONDUIT TO EVAP/COND FAN DIAPHRAGM AND BOTTOM CASING AS SHOWN USING CONDUIT ADAPTOR NUTS.
5. FEED HUMIDISTAT FLYING LEAD THROUGH ELECTRIC BOX GROMMET, REMOVE APPROPRIATE RED LINK FROM TERMINAL BLOCK (SEE WIRING DIAGRAM PAGE 5) AND REPLACE WITH PINK WIRES FROM FLYING LEAD.
6. REPLACE COVER, INSTALLATION COMPLETE.

6.4 HOURS RUN METER KIT INSTALLATION INSTRUCTIONS



1. ISOLATE MACHINE SUPPLY BEFORE REMOVING COVER.
2. FIT METER INTO APERTURE ON FAN DIAPHRAGM OR ELECTRIC PANEL.
3. ROUTE FLYING LEADS FROM METER TO TERMINAL BLOCK.
4. CONNECT LEADS INTO TERMINAL BLOCK AS SHOWN BELOW.
5. ENSURE TERMINALS ARE RE-TIGHTENED AND ALL WIRES RECONNECTED IN THE CORRECT PLACES.