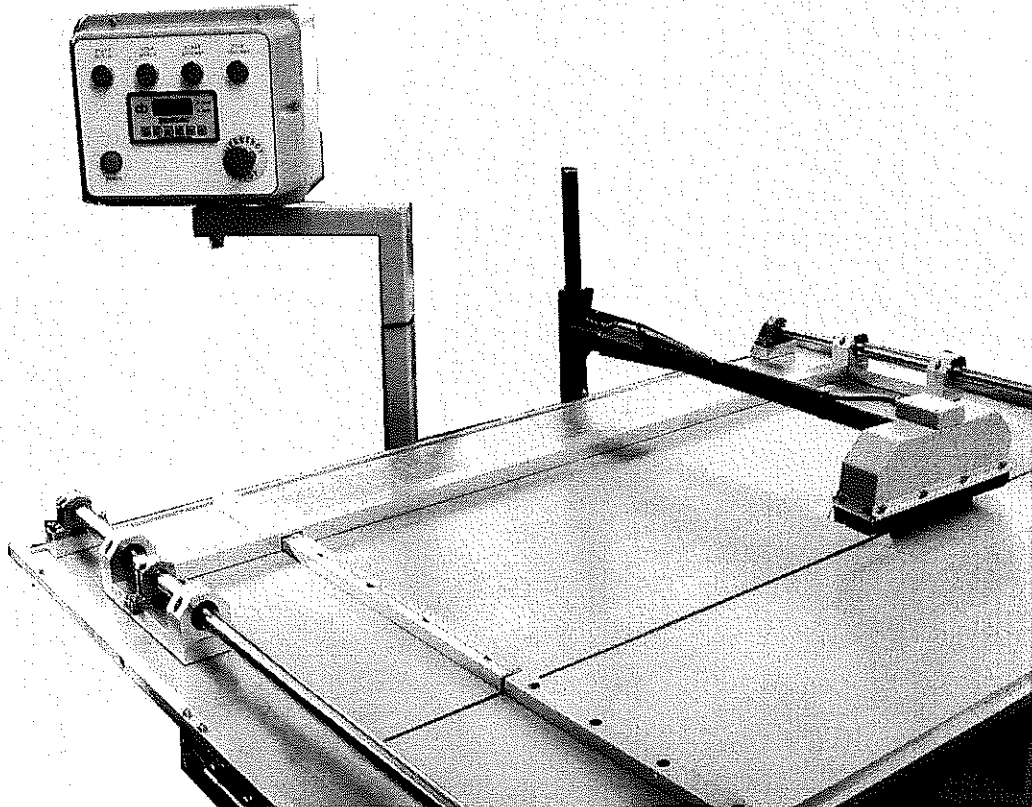


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Instruction Manual for **5600 Mk II series Slider Cutter**

March 2008

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CE

DECLARATION OF CONFORMITY

We, the **Manufacturers** - Benetec Equipment & Supplies Ltd

Declare under our sole responsibility that the product:

5600 series Plate Saw with paper band filter unit

Serial No: Z-0

Date of Manufacture: June 2010

Follows the provisions of Council Directives

89/392/EEC Machinery Directives

89/336/EEC Electromagnetic Compatibility

73/023/EEC Low Voltage Directive (amending directive 93/68/EEC)

and the Transposed Harmonised Standards

BS EN 292 parts 1& 2 Safety of Machinery

BS EN 60204-1 Safety of Machinery/ Electrical Equipment

BS EN 50081-1 EMC/ General Emission Standard

BS EN 50082-1 EMC/ General Immunity Standard

.....

Date:

Serial No of Machine

Model: 5600 series Slider Cutter Serial No.

Volts: 230 Hz: 50 Phases 1

KW: 2.5KW

Year of Manufacture: 2009

Manufactured in the United Kingdom

factory address

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MODEL 5600 Series Plate Saw (IM5600-08)

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1. Introduction

REFER TO FIGURE 1

The 5600 series of Sliding Table Cutters is designed as a precision cutting machine for making long cuts up to 650mm in length in composite sheet material. The diamond cutting wheel is fixed in the cabinet and protrudes through a slot in the table. The sheet is held manually against the table guides and the sliding table is pushed so that it traverses through the material. A moveable precision fence acts as the backstop for the sheet. An optional coolant circulation system supplies coolant to the wheel guard and then sprays it on both sides of the cutting wheel.

Services Required:

Power: phase power 230V 50Hz 2.5 KW

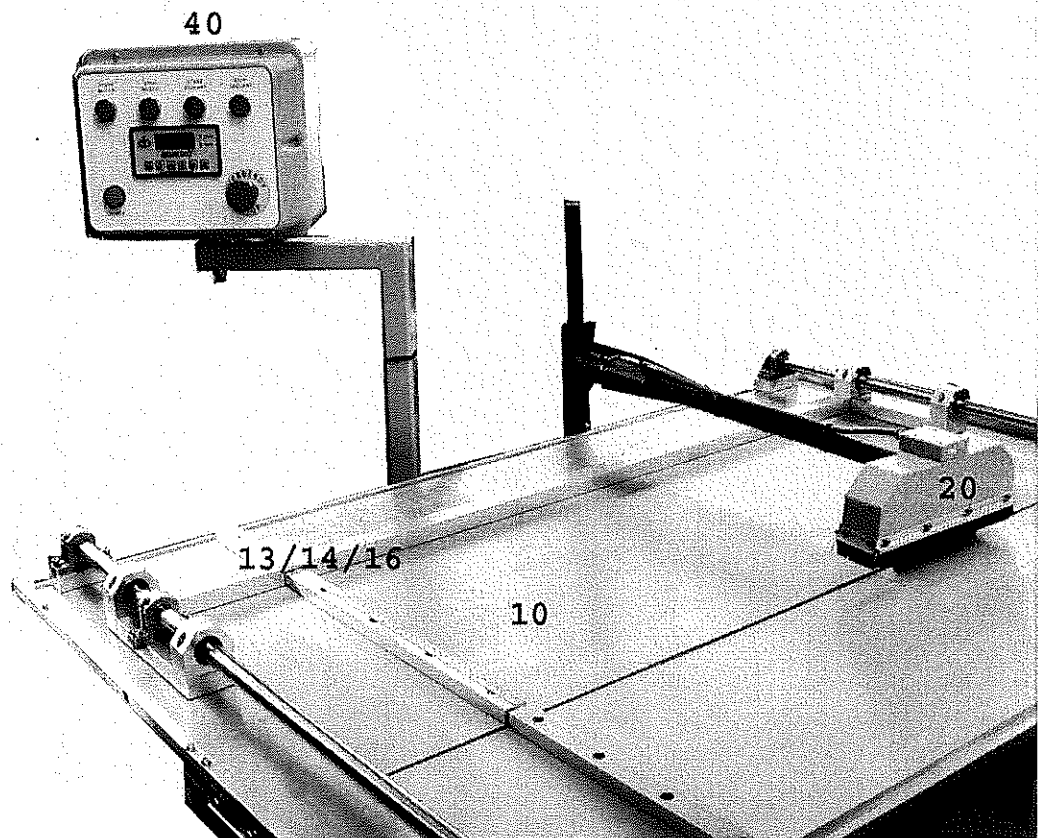


Figure 1 General construction of 5600 series Sliding Table Cutter

10 Sliding table **13/14/15** Material guides **20** Cutting wheel guard **40** Control pod

2. Sliding Table and Guides

REFER to figures 2 & 3

The slider cutter has a flat table top #10 which moves backwards & forwards on linear rails. The table has a total movement of 650mm and this is the maximum length of cut. The rotating cutting wheel #12 protrudes through the table surface in a long slot and remains fixed as the table is pushed through it. Diamond cutting wheels of diameter s between 200mm/8in and 400mm/14in can be used depending on sheet thickness. A wheel guard #20 covers the cutting wheel during use and has a soft brush skirt which restricts the coolant spill outside the wheel area and yet allows the table to slide easily. A coolant tube #23 strapped to the wheel guard support sprays coolant on either side of the cutting wheel. An access plate #11 in the table top can be removed to give access to the cutting wheel spindle.

The composite sheet to be trimmed is positioned against a precision XY fence #14, #15 as shown in figure 3. The horizontal fence #15 is fixed and scaled. The vertical fence is moveable on linear rails for squareness . It is set and locked in position . Its position defines the section thickness

Figure 4 shows a composite sheet held firmly against against the XY fence and moved smoothly through the cutting wheel #12

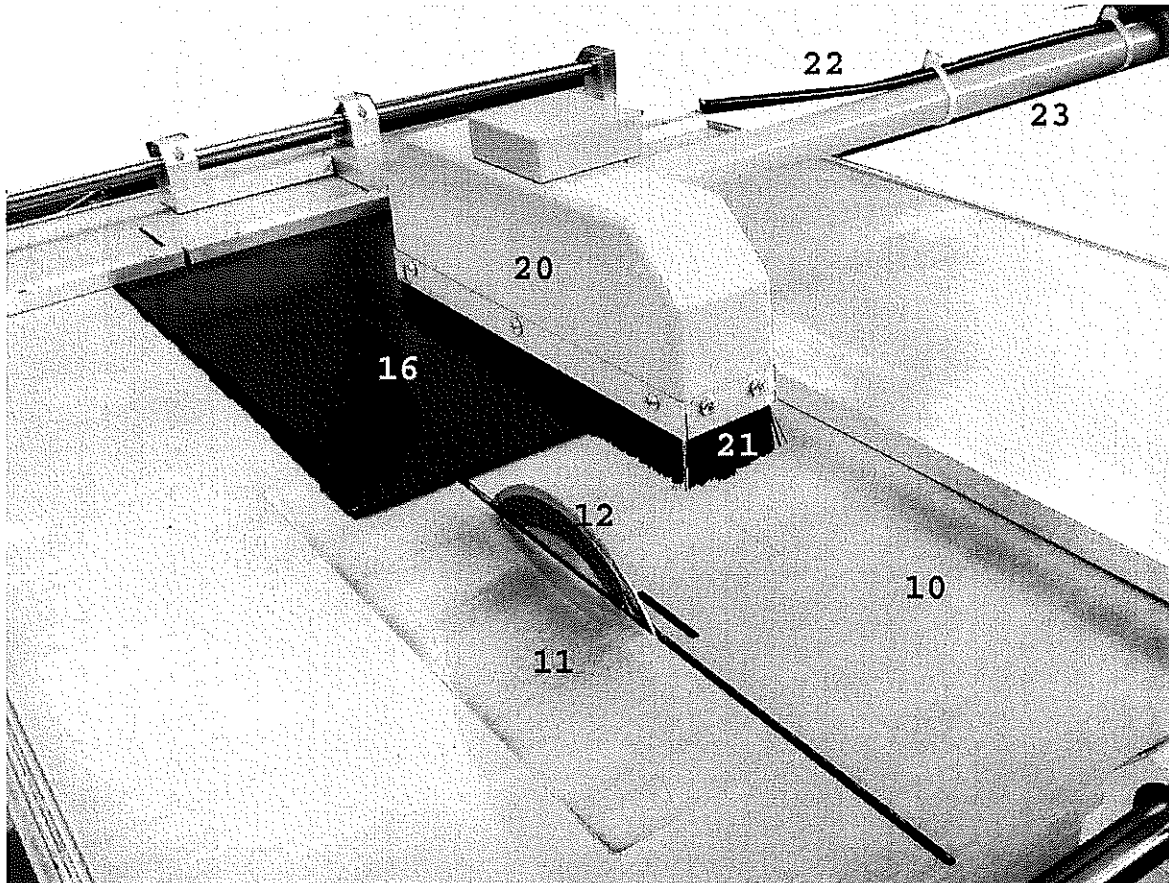


Figure 2. Sliding table construction

- 10** Table surface **11** Removable plate for access to cutting wheel
- 11A** access slot for spanner holding spindle **12** Cutting wheel
- 16** Material to be trimmed **20** Wheel guard **21** Soft guard trim **22** Coolant tube
- 23** Guard support

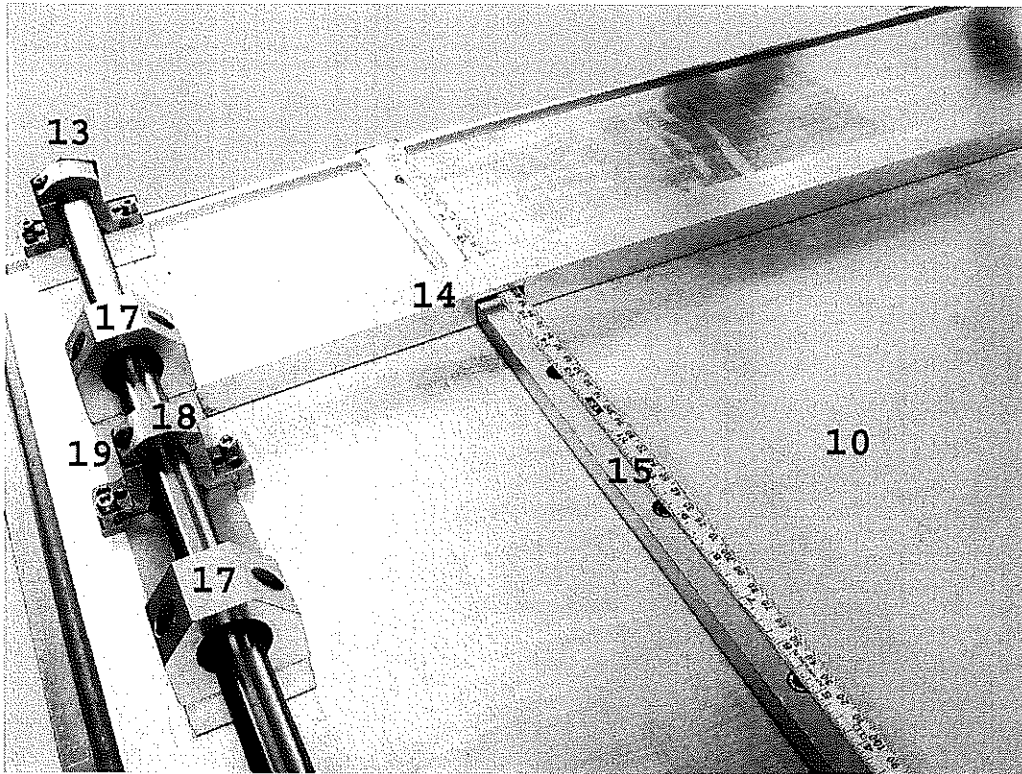
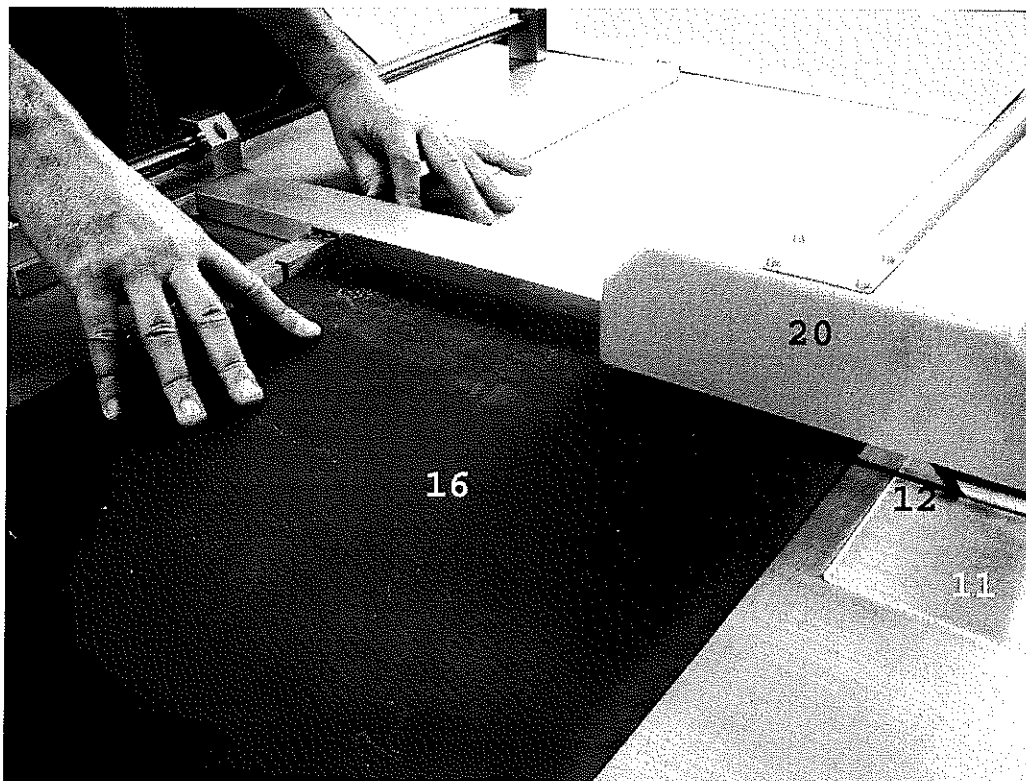


Figure 3 XY guides for positioning the sheet to be trimmed
14 Vertical movable fence 15 Horizontal fixed fence

Figure 4 Manual trimming of composite sheet –sheet is pushed firmly thru cutting wheel



3. Installing a diamond cutting wheel

REFER to Figures 2 ,5 & 6

The spindle assembly holding the diamond cutting wheel is shown in figure 4. The table has been removed to show the mechanism. The front and rear flanges # 26, #27 can be accessed by removing the small access plate #11. In order to remove the spindle nut and front flange it is necessary to stop the spindle rotating by using a spanner (wrench) to hold the spindle on the flats behind the rear flange. A slot #11A is provided for spanner access to hold the spindle.

Hold the spindle on the flats. Remove the spindle nut #24 with the spanner provided and then the cup #25 . Remove the front flange #26. Mount the cutting wheel in position. Replace the front flange, cup and spindle nut. Tighten the spindle nut firmly.

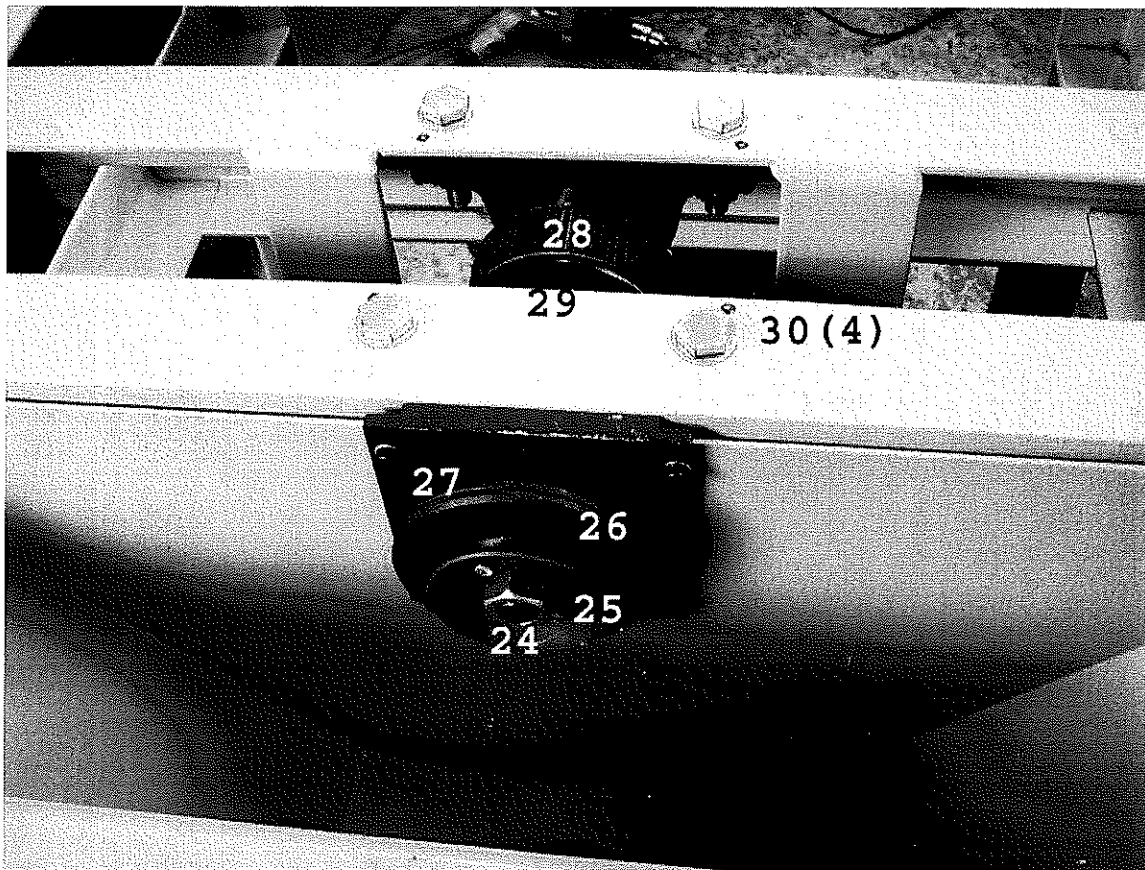


Figure 5 Cutting wheel spindle assembly – table has been removed

24 Spindle nut 25 Flange cup 26 Front flange 27 Rear flange 28 Motor belt
29 Spindle pulley 30 spindle support fixings

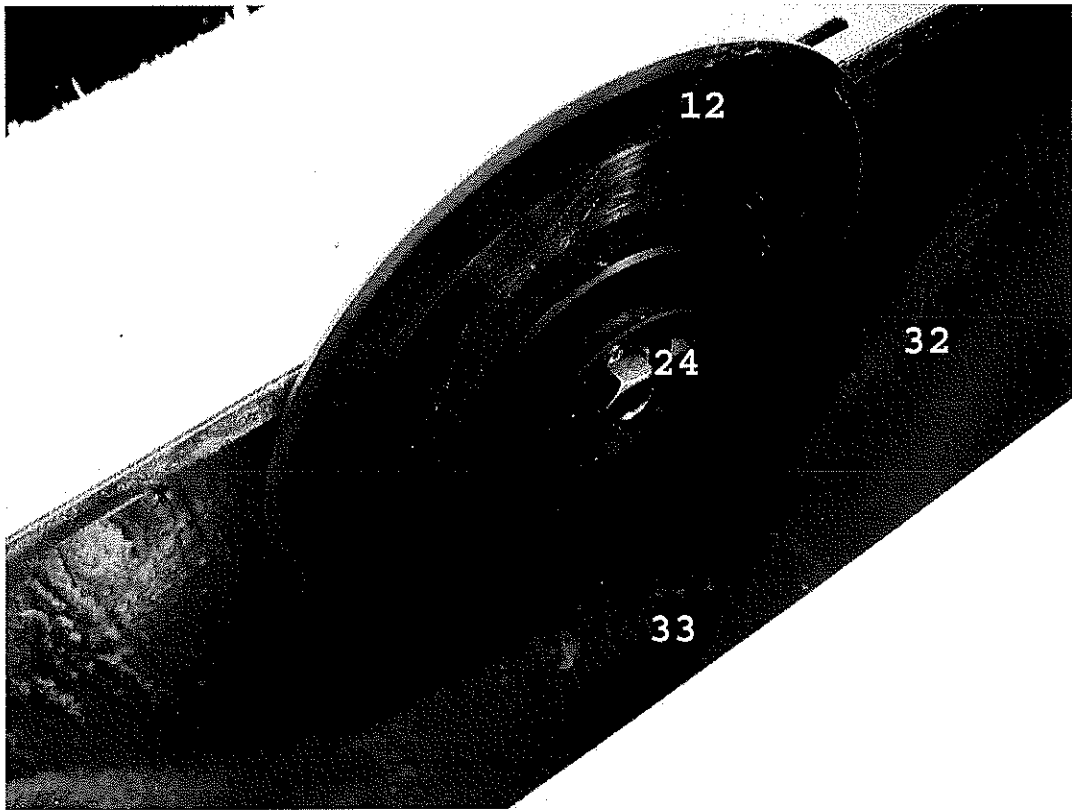


Figure 6 Diamond cutting wheel installed
12 Cutting wheel 24 Spindle nut 32 Coolant sump 33 Drain

4. Electrical Supply-variable speed option

REFER TO FIGURES 7, 8 & 10

The cutting wheel spindle is driven by a powerful 3 phase motor mounted to the internal machine frame (see figure 7). The motor speed is varied by using an inverter mounted in an external enclosure.(see figure 8). A control pod (see figure 9A) controls the electrical operation. An inverter display (see figure 9B) shows the motor speed.

The electrical isolation switch (figure 8 #51) is located on the door to a cabinet which houses the inverter. The door can be opened to wire the isolation switch but only when the switch is in the "0" OFF position and the door is unlocked.

WHEN THE MACHINE IS IN USE THE DOOR SHOULD NEVER BE OPENED WITHOUT FIRST ENSURING THAT THE EXTERNAL POWER CABLE IS DISCONNECTED FROM THE ELECTRICAL SUPPLY.

The access panel is opened. The single phase electrical power cable is fed into a cable entry conduit (figure 8 #53) in the side panel of the inverter cabinet #50 and on to the Isolation Switch (figure 8 #51). The single-phase supply is connected according to the wiring diagram in figure 10

Check that the voltage required corresponds with that indicated on the serial number label

5 Control Pod

REFER to Figure 9A & 9B

The slider cutter is operated from the control pod see figure 9A. The controls are simple to use:

- 41/42 ON/OFF Cutting Motor
- 43/44 ON/OFF Coolant
- 45 Power indicator when isolator is ON
- 46 Emergency stop
- 47 Inverter display module

The display will show how to the set motor speed and any other display possibilities are shown in figure 9B

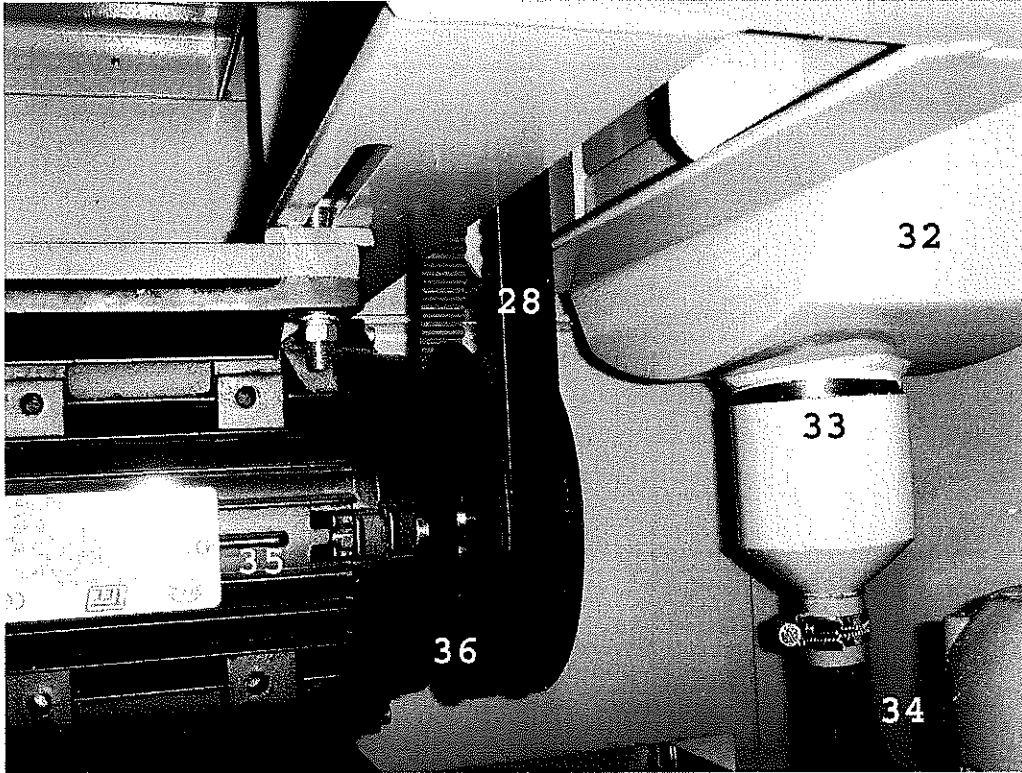


Figure 7 Motor drive for cutting blade spindle

35 3phase motor 2.2Kw 36 Motor pulley 28 Belt drive to spindle pulley

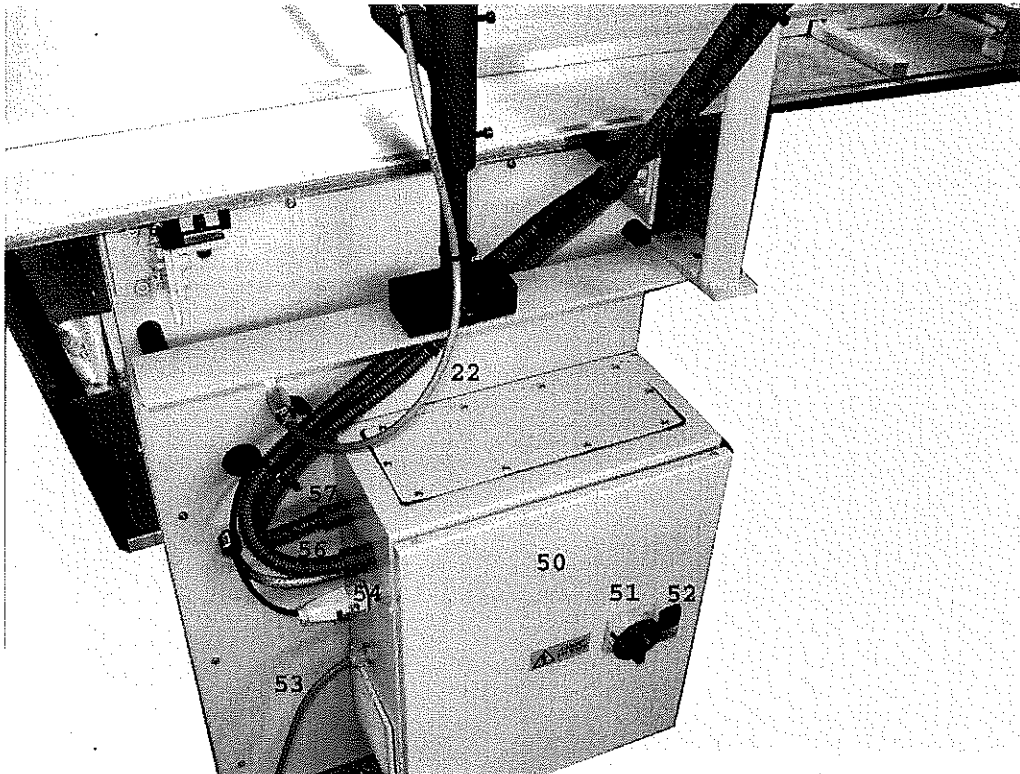


Figure 8 Inverter cabinet

22 Coolant tube 50 enclosure 51 Power isolator 52 enclosure lock 53 Ext. Power lead

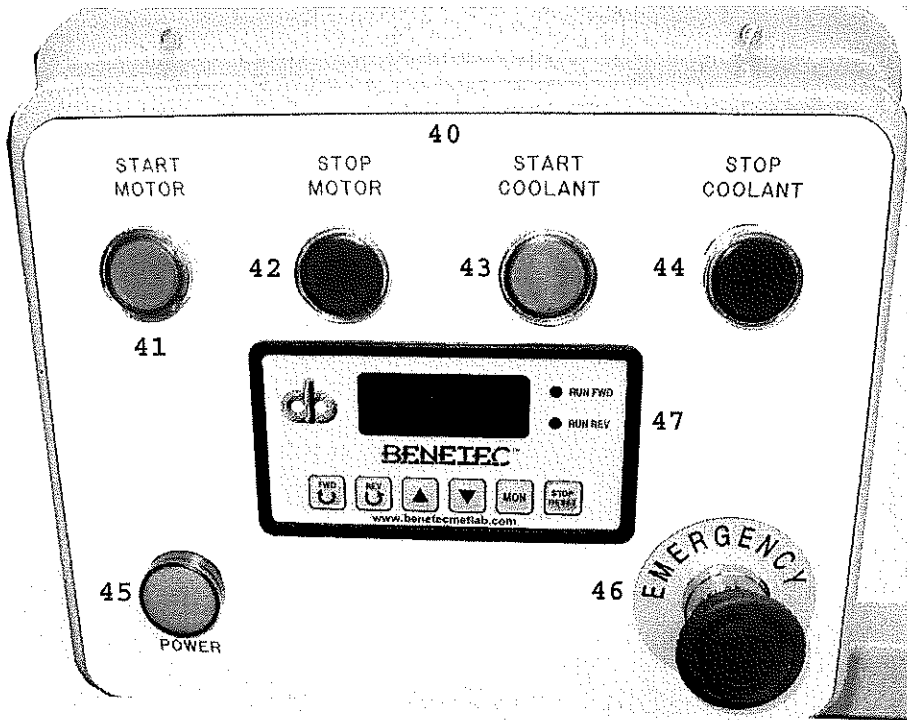


Figure 9A Control pod for 5600 Slider Cutter -#47 inverter display module

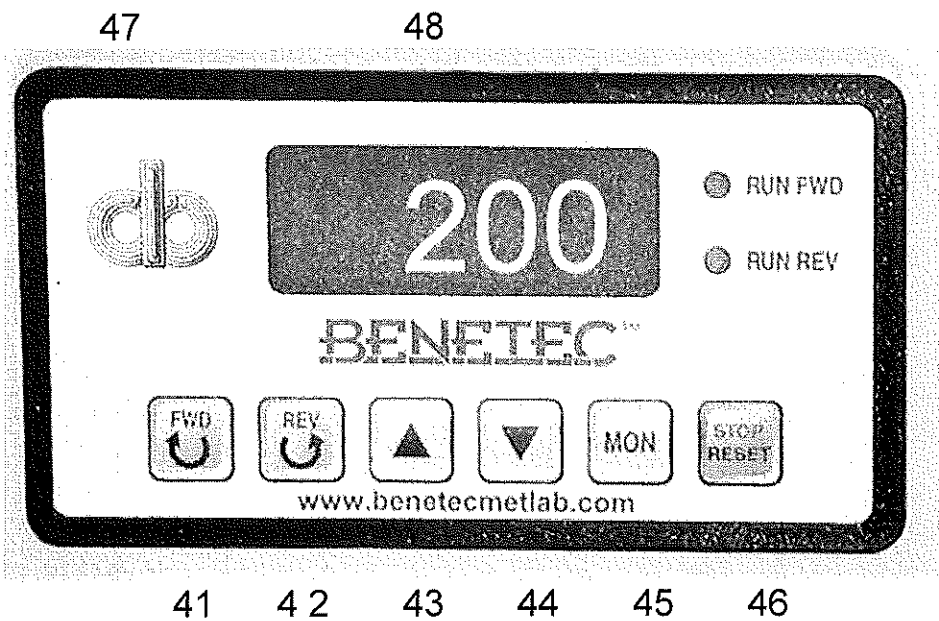


Figure 9B Speed control module (inverter) on front panel

41. Change direction -inoperative	42 Change direction - inoperative
43 Increase wheel rotation speed RPM	44 Decrease wheel rotation speed RPM
45 MON control can monitor current	46 STOP (RESET) has been de-activated
47 Speed display	

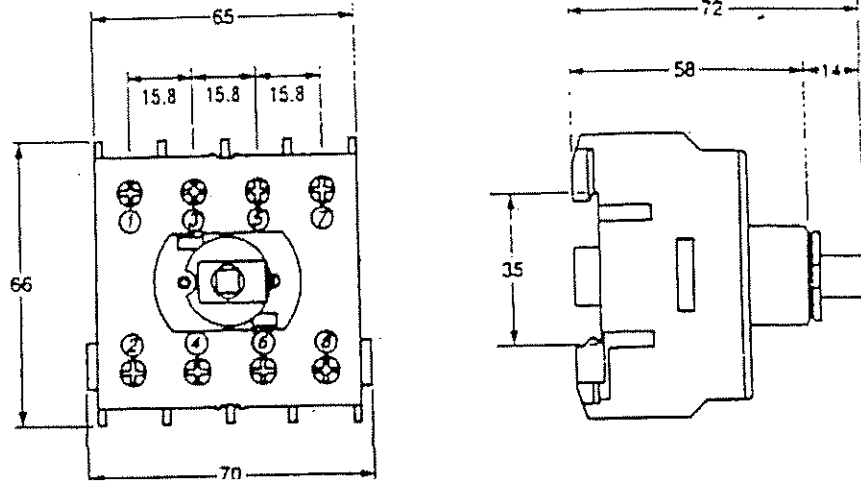


Figure 10 Isolation Switch terminal layout

6. Coolant Circulation System

REFER to figures 11 to 15

A coolant tank is located in the base of the machine cabinet (see figure 11). The stainless steel tank #70 has a sliding cover #71 on which is mounted a coolant circulation pump #72. The coolant supply tube #22 supplies coolant to the wheel guard via an on/off tap #31 (see figure 12) and sprays coolant on either side of the cutting wheel (see figure 14). Most of the coolant drains back into the tank (see figure 13) but some coolant escapes the cutting wheel guard and flows over the table. Drain holes are provided on either side of the table so that coolant drains down front and rear chutes (see figure 15 #75) and back into the coolant tank. Since the table is manually moved through the material some coolant inevitably spills over the side of the table. This effect can be minimised by (i) pushing the table smoothly through the material and (ii) by reducing the flow of coolant using the coolant tap.

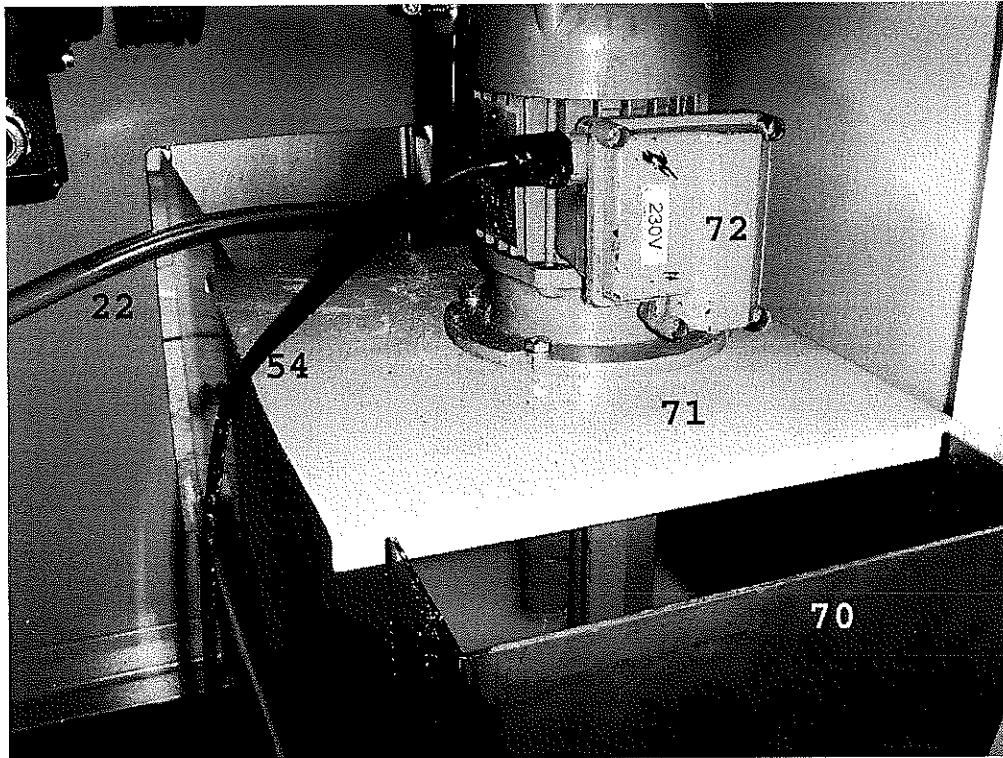


Figure 11 Coolant Tank in the base of the machine cabinet
22 Coolant supply tube 54 Power to pump 70 Coolant tank 71 Tank cover
72 Coolant pump

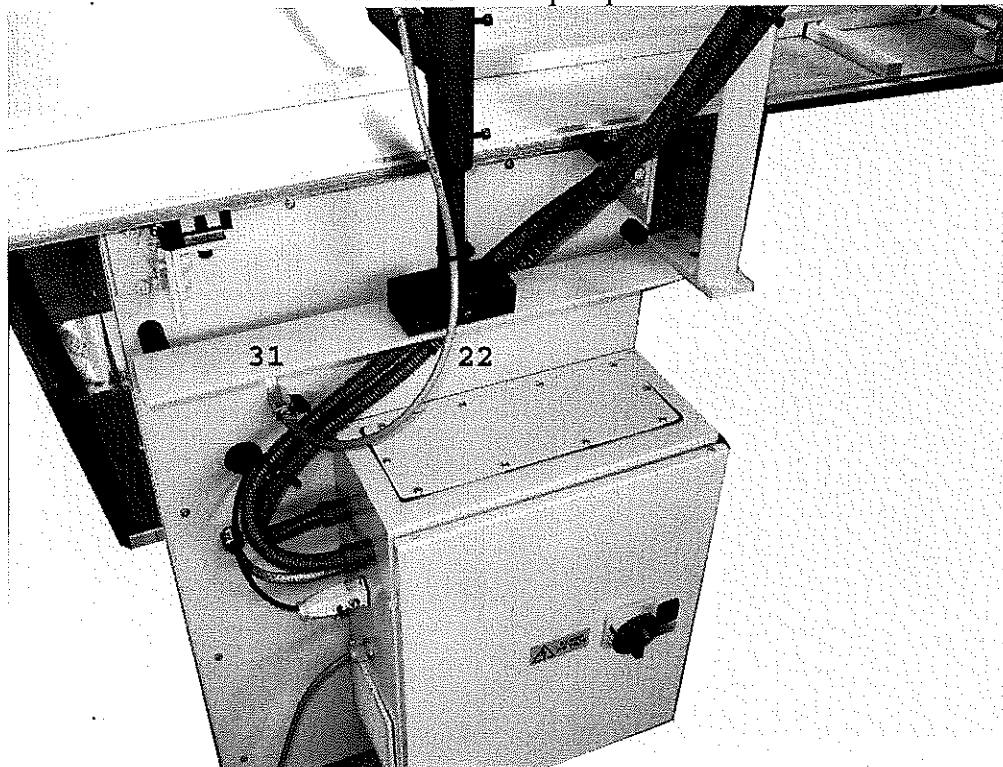


Figure 12 Coolant supply tube #22 with tap #33 to control flow

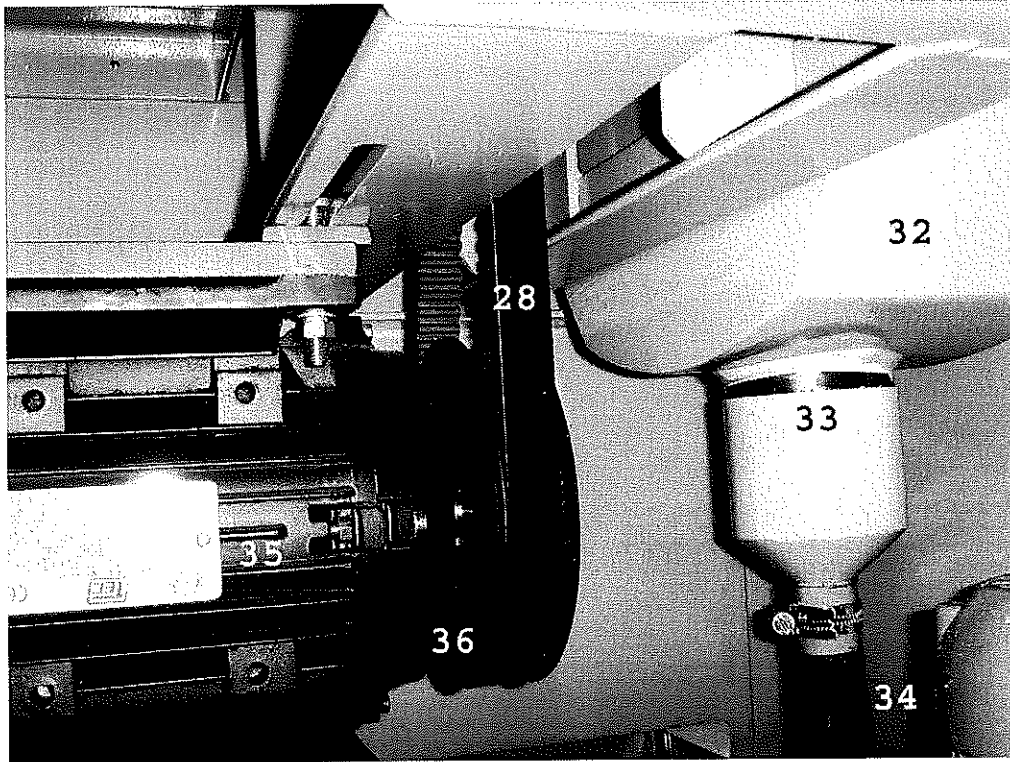


Figure 13 Cutting wheel sump #32 and #33 with drain tube #34 to coolant tank

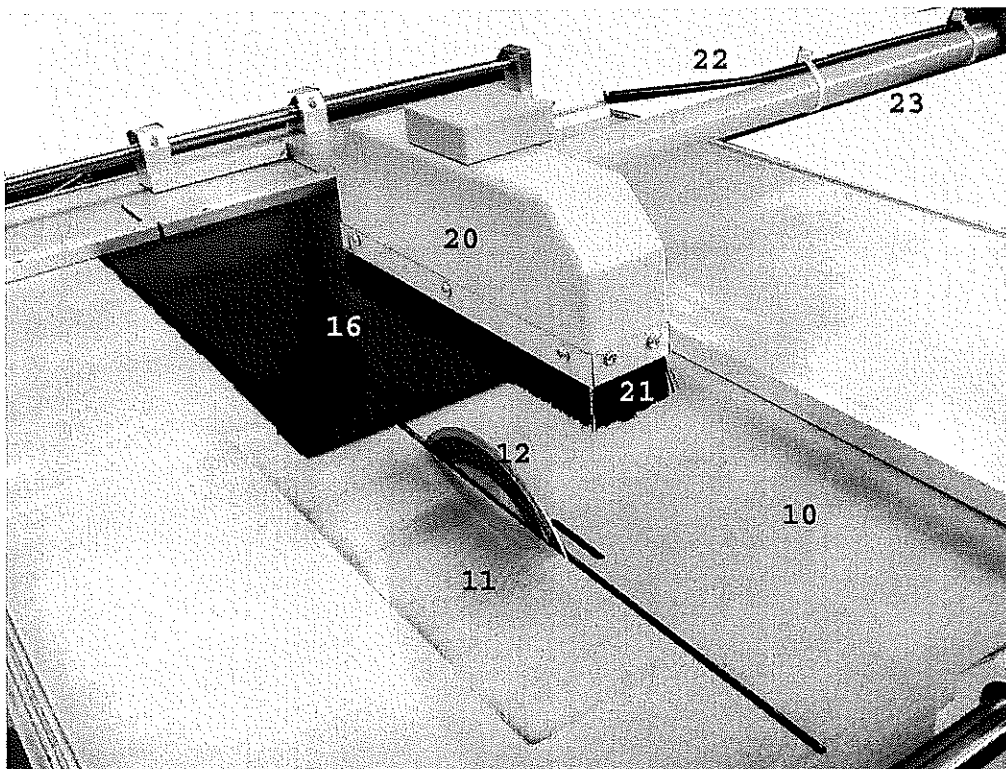


Figure 14 Coolant supply to cutting area.

22 Coolant supply tube from pump 20 Blade cover lowered over wheel

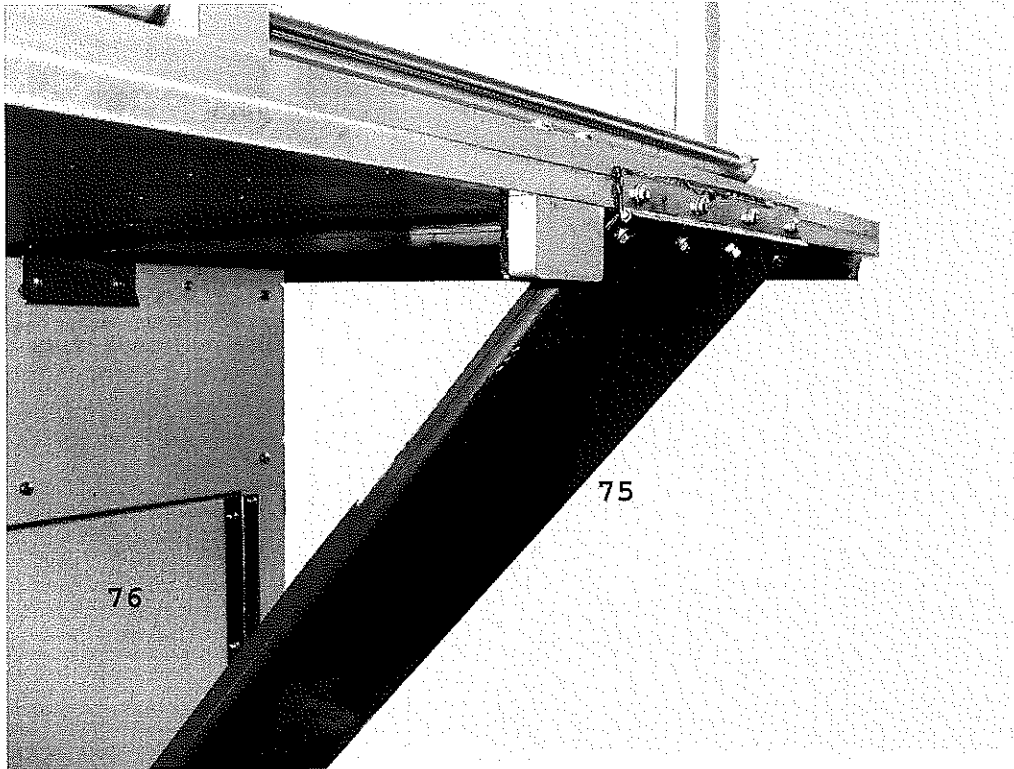
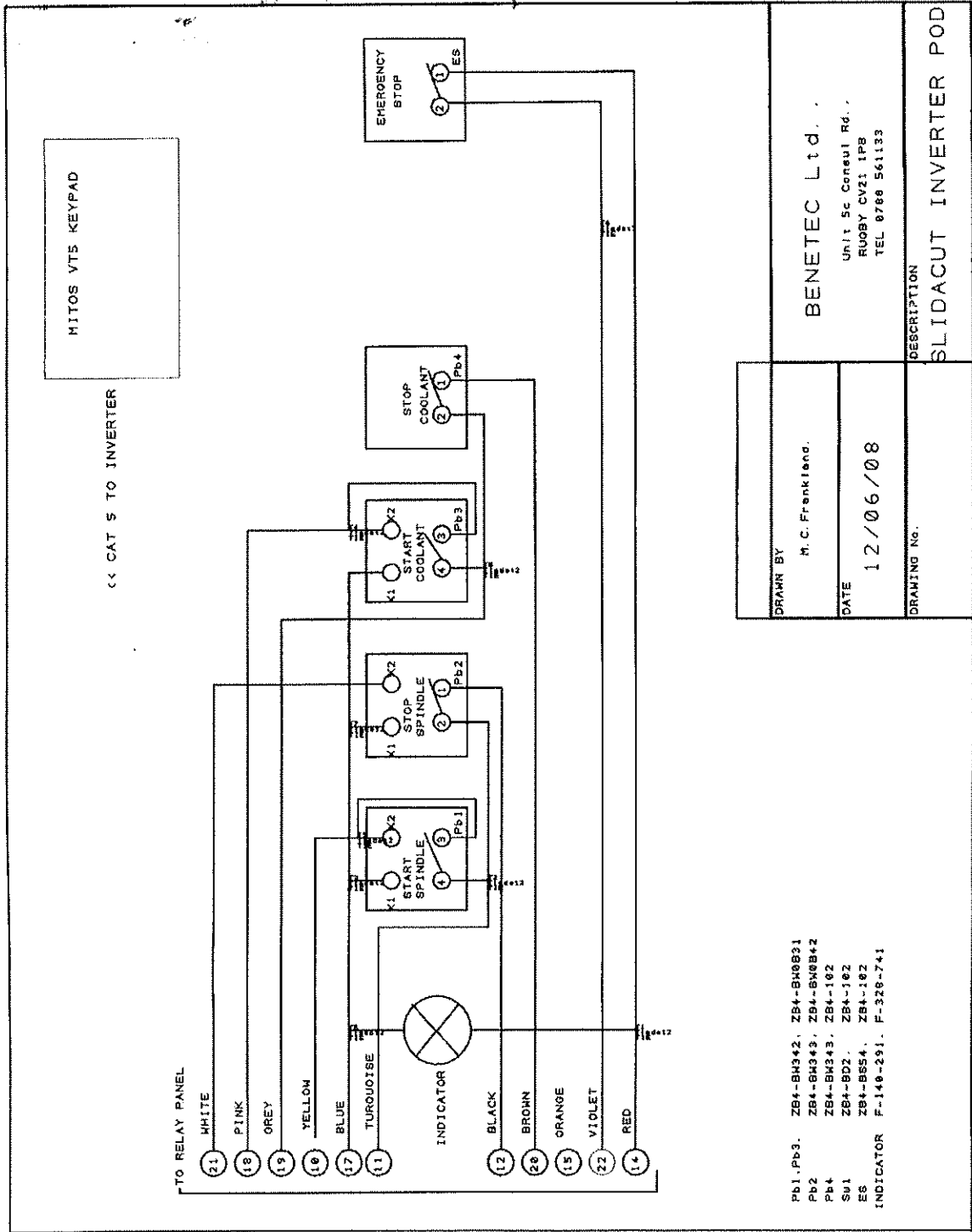


Figure 15 Removal of surplus coolant from table
Coolant Drain Chutes #75, front and rear, from table drain hole to coolant tank
76 Access door to coolant tank and motor

8. Circuit Diagrams



DRAWN BY M. C. Frankland.

DATE 12/06/08

DESCRIPTION
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