

## 1.1 Language Selector Switch

Language Selector Switch (SW1) - see rear of Command Module

El selector de idiomas (SW1) - véase la parte posterior del módulo de comandos.

Der schalter für die sprachenauswahl befindet sich auf der rückseite des steuermoduls.

Språkvåljare - se Kommandomodulens baksida.

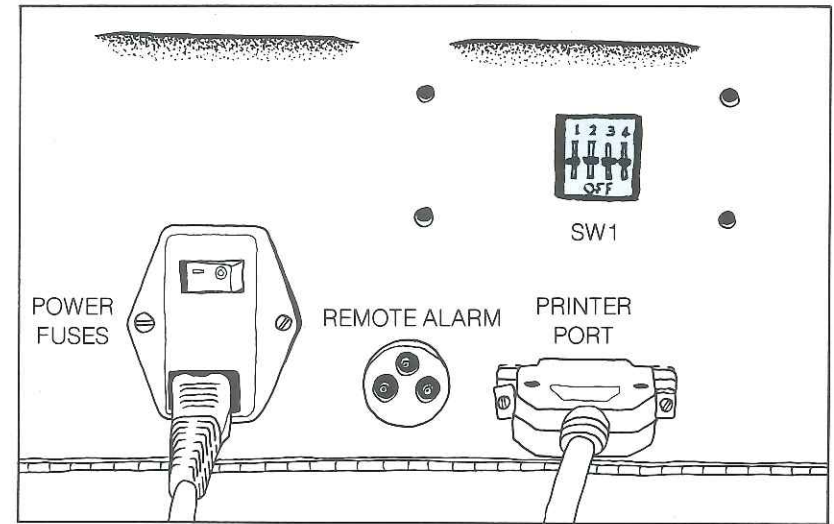
Selecteur de langage par switch (SW1) voir l'arrière du module de commande. Commutatore di selezione lingua - vedere il retro del modulo di comando.

Adjust switch (SW1) for language required as shown below.

Ajuste el selector para escoger (el español) según se indica debajo. Stellen sie den schalter auf die gewünschte sprache, wie unten beschrieben.

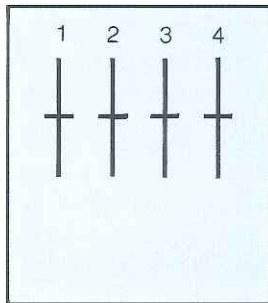
Ståll våljaren for önskat språk (svenska) såsom visas nedan.

Ajustage du switch pour le langage français comme indiqué ci - dessous. Mettere il selettore nella lingua richiesta (italiano) come descritto in basso.



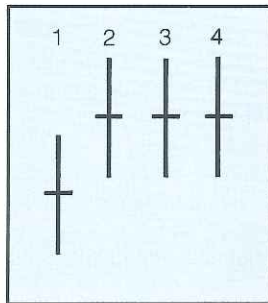
Rear of Command Module

English



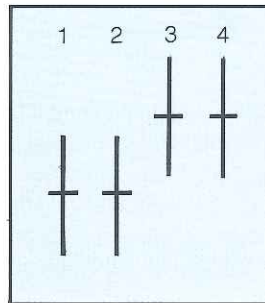
SW1

Español



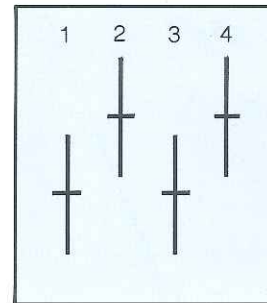
SW1

Deutsch



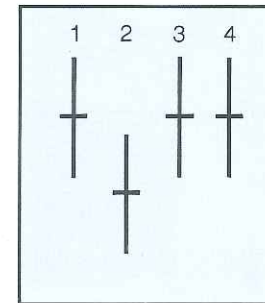
SW1

Svenska



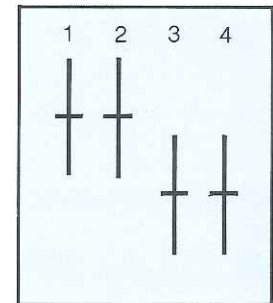
SW1

Français



SW1

Italiano



SW1

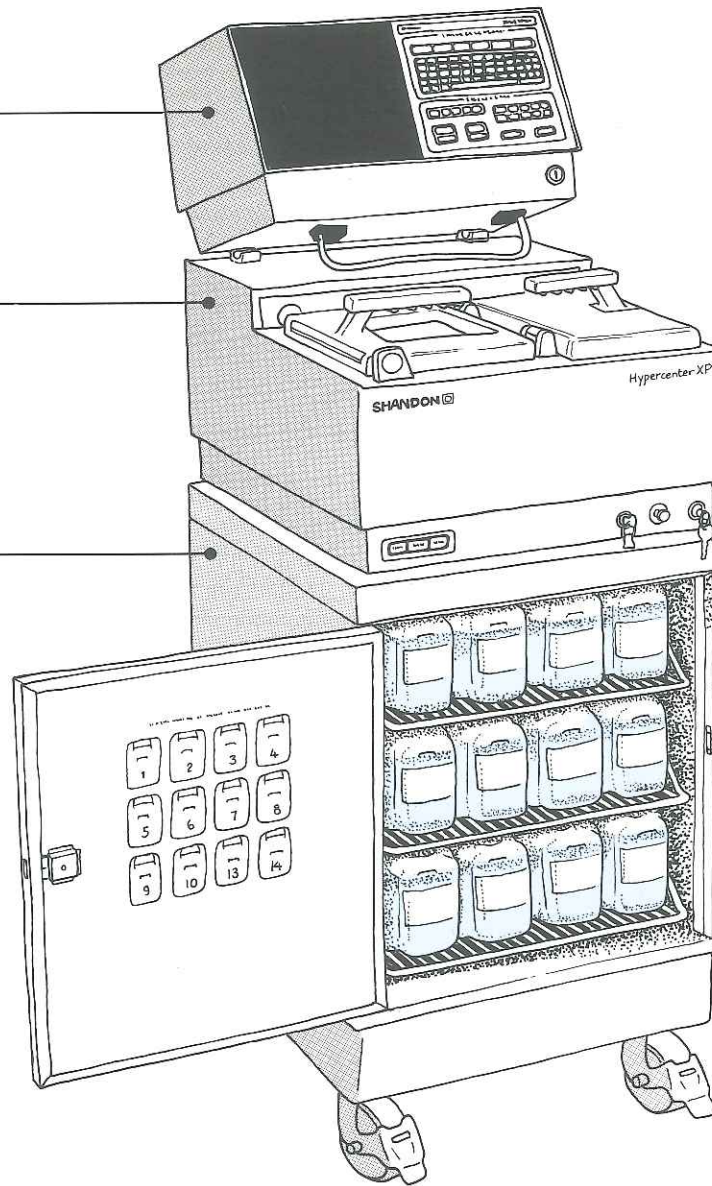
## 1.3 The Principles of Operation

The Hypercenter XP is made up of three modules:

**COMMAND MODULE** — which controls the system. This is where you enter the processing cycle programs and operate the Hypercenter.

**REACTION MODULE** — which is made up of a reaction chamber in which the tissue is processed and two wax storage baths. Two buttons allow you to stop and restart the processing cycle from this module.

**STORAGE MODULE** — which houses the bottles of reagents; the first ten are for processing the tissue, the last two are for flushing out the reaction chamber once processing is completed.



Tissue cassettes can be placed in a range of baskets. Some samples may be placed directly in the baskets. The baskets are then placed in the reaction chamber. The tissue remains in this single reaction chamber while a series of processing reagents are in turn pumped into and out of the chamber, each immersing the tissue in turn. The ten reagents from the bottles in the storage module are then followed by two changes of wax from the wax baths in the reaction module.

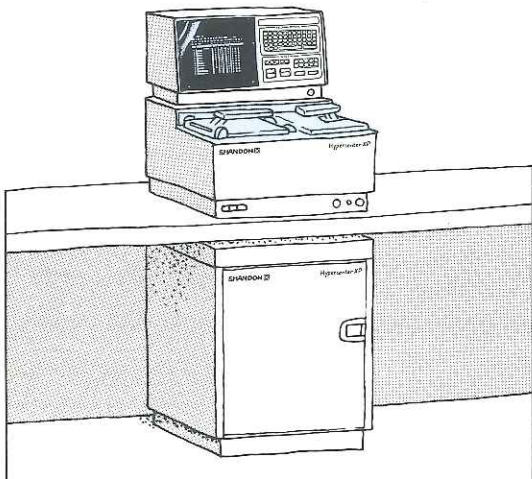
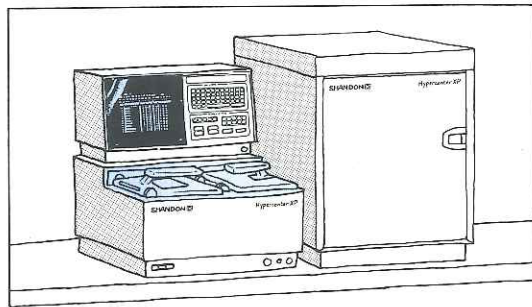
The following factors can be varied as part of the processing cycle program:

- the period for which the tissue is immersed in each reagent;
- the temperature in the reaction chamber;
- whether a vacuum is applied to the chamber during immersion;
- additional drain time after the reagent is removed from the reaction chamber to control reagent carryover.

## 1.4 Options for installation

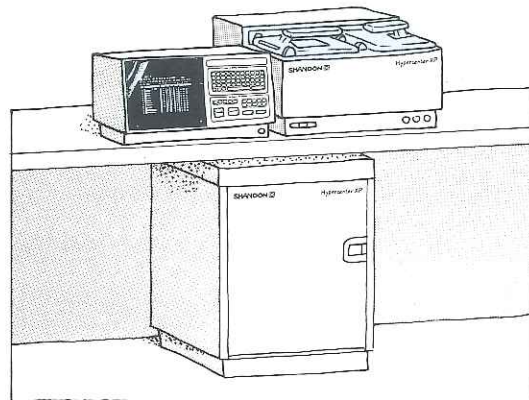
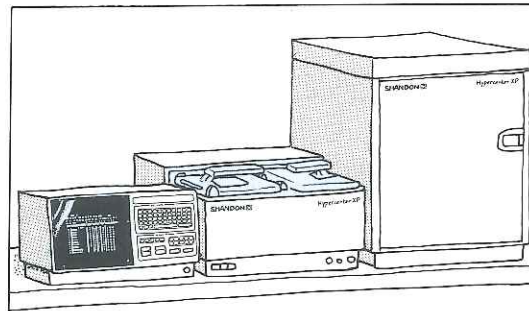
The modules of the Hypercenter can be arranged in a variety of ways to suit your needs. The diagrams below show the possible configurations. The modules can be stacked on top of each other. The storage module has wheels so that you can move the system around easily.

All the modules can be mounted on a bench. You should ensure that the base of the storage module is never higher than the base of the reaction module.



You may also choose to position the storage module on the floor under a bench with the command and reaction modules on top of the bench. The command and reaction modules may stand side by side or may be stacked.

Finally you can choose to have the command module in one area with the other modules elsewhere. This is likely if you have more than one set of reaction and storage modules. You will need to order a special command cable of a suitable length (up to 20 metres).

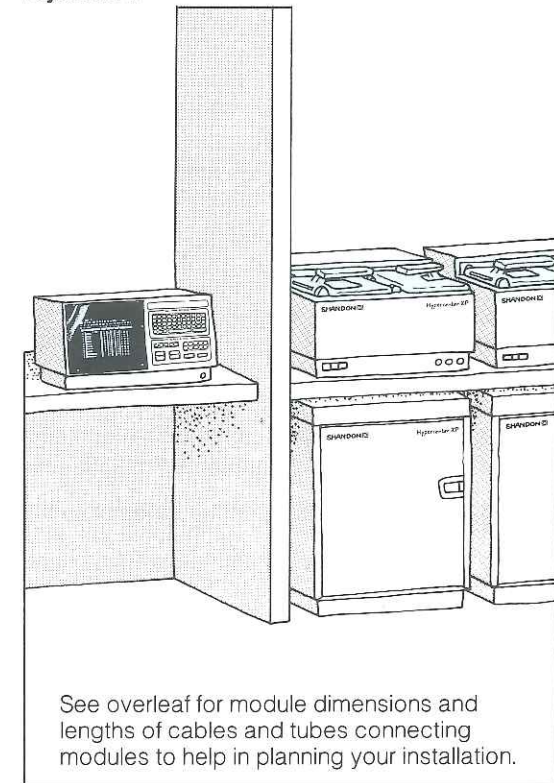


The power requirements are as follows:

COMMAND MODULE  
100/250 volt 50/60 Hz 150 VA

REACTION MODULE  
200/250 volt 50/60 Hz 1200 VA  
100/120 volt 50/60 Hz 1200 VA

**It is essential that both the command module and the reaction module are connected to an earth (ground) connection. This is important on the "grounds" of safety and interference rejection.**



See overleaf for module dimensions and lengths of cables and tubes connecting modules to help in planning your installation.

## 1.6 Installing the Hypercenter XP

1 Decide where the Hypercenter modules are to be positioned and in which configuration. Avoid a dusty environment, and make sure that any surface on which a module is to stand is level and supports the module's weight.

2 Unpack all the modules and the basic kit and check them against the list of parts in section 5.3. Check each for any signs of damage. If something is missing or damaged notify Shandon or your supplier immediately. Quote the order number(s), inspection number, serial number, date and number of the invoice.

3 Where necessary, fit suitable plugs to the mains lead from the reaction module and command module.

**Make sure that the earth wire is connected and that the mains supply has an earth (ground) connection.**

Instruments supplied to France, West Germany and North America are fitted with plugs during manufacture. UK customers should connect the mains lead(s) to suitable rated fused plug(s) as follows:

Brown wire	- Live (L or L2 terminal)
Blue wire	- Neutral (N or L1) terminal
Green/Yellow wire	- Earth (E or Ground) terminal

Make sure that the voltage rating on the specification plate at the rear of the Hypercenter and on the inspection tag are the same as the mains supply rating.

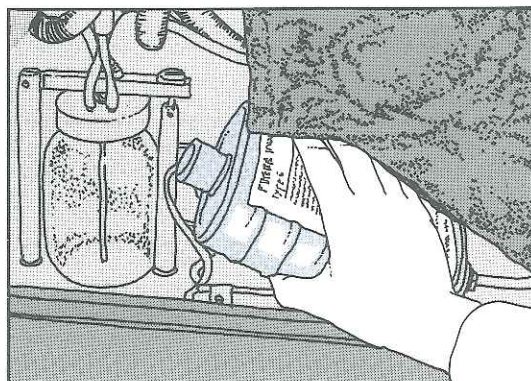
4 Place the storage module on the floor. The brake levers should be at the front of the plinth. Push these down. Each storage module has four wheels which are attached by means of a single fixing per wheel for convenience.

5 If the storage module is to be bench-mounted, remove the wheels with the aid of the Allen key provided.

6 Open the door at the front of the storage module and remove any packing.

7 Remove the panel at the rear of the storage module and remove any packing.

8 Remove the seals from each end of the emergency charcoal filter cartridge and fit it in the base of the storage module. Push the connector at the end of the tube into the larger end of the filter. Place the filter in the clip in the base of the module.

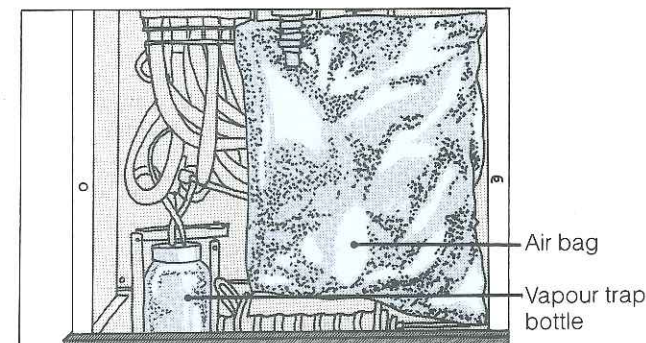


9 Check that the vapour trap bottle is in position. If not, refer to section 3.8 for instructions.

10 Check that the air bag is fitted. If not, refer to section 3.7 for instructions.

11 Replace the rear panel.

12 If the reaction module is to be mounted on top of the storage module, lift it into position. If not, place it in its approximate position on the bench.



13 Remove packing from the reaction and command modules and clean the stainless steel surfaces with a soft cloth.

14 Detach the two keys from the mains cable of the command module and store them in a safe place.

## 1.7 Choosing the reagents

The following reagents are suggested for use with the Hypercenter. All reagents should be of high purity and consistent quality, particularly hydrocarbons. Such chemicals may become degraded if stored for long periods in metal containers or exposed to sunlight. Before using chlorinated hydrocarbons check that they are fully stabilised.

Before using any reagents not listed below, contact your local Shandon supplier for advice.

**Reagents containing mercuric chloride, mercuric salts (eg Zenkers Fixative) or strong acids should not be used.**

<b>Fixatives</b>	Formalin Formal Saline Buffered Formalin Bouin's Fluid
<b>Dehydrants</b>	Methanol Ethanol 5% Phenol in absolute alcohol Isopropyl Alcohol Acetone

<b>Clearing Agents</b>	Xylene Xylene substitute Histosol Toluene Chloroform Trichloroethane Tetrachloroethylene
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<b>Embedding Agents</b>	Good quality paraffin waxes Histoplast
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<b>Flush Reagents</b>	Xylene (Step 13) Any alcohol (Step 14)
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## 1.8 Filling and fitting the reagent bottles

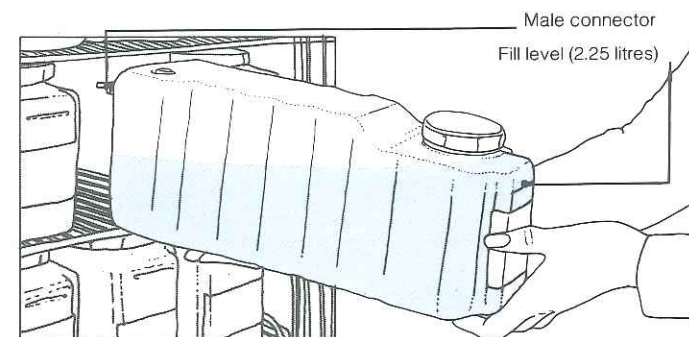
- Rinse each bottle out with a little of the reagent with which it is to be filled.
  - In a well ventilated room, fill each bottle with 2.25 litres of reagent. Fill the bottle up to the line marked. **Do not put in more reagent than this or it will overflow into the air lines.** (The fluid level in bottle 13 should be below the fill line - to approximately 1.8 litres).
  - Secure the cap on the bottle. Clearly label the bottle with reagent name, filling date and any relevant hazard details. Use the diagram on the storage module door as a guide when fitting the bottles.
- Remember the last two bottles on the bottom row at the right are for flush reagents. It is recommended that the flush reagent in Step 13 is xylene, the reagent in Step 14 is normally 90% or higher alcohol.

Processing Reagent Step 1	Processing Reagent Step 2	Processing Reagent Step 3	Processing Reagent Step 4
Processing Reagent Step 5	Processing Reagent Step 6	Processing Reagent Step 7	Processing Reagent Step 8
Processing Reagent Step 9	Processing Reagent Step 10	Flush Reagent Step 13	Flush Reagent Step 14

If you wish to flush out the reaction chamber twice to ensure it is thoroughly clean, you may firstly use two bottles of clearing agent. When the first cycle is complete, these bottles can be exchanged for a bottle of alcohol and a bottle of water. A second cycle can then be run.

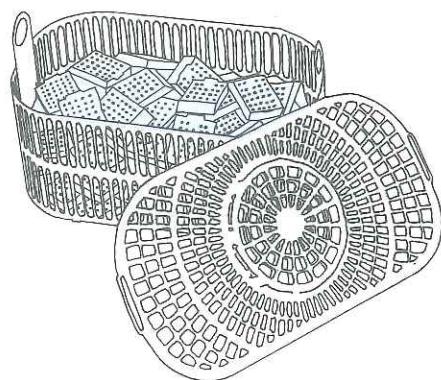
- Fit the bottles in the order of the steps in the processing cycle, ie start at the top left bottle and fit each row in turn. Support each bottle with

both hands and slide it along the rungs of the shelf. Make sure the male connectors on one end of the bottle are pointing to the rear of the module. Slide the bottle in until the male connectors make contact with the female connectors in the dividing panel of the module. Push firmly into place. The front edge of the shelf should again be visible if the bottle is correctly inserted.

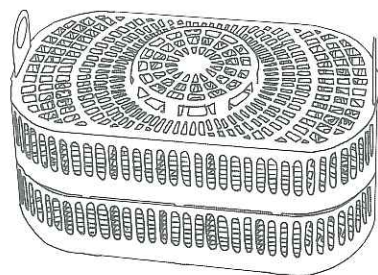


## 1.10 Using the tissue baskets

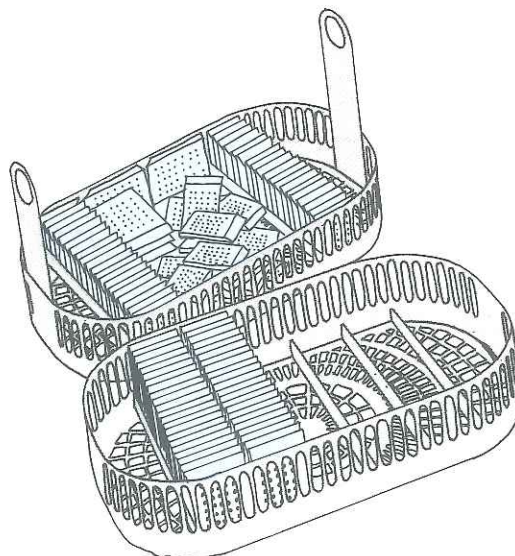
1 Place the tissue samples in the cassettes. Larger samples may be placed directly into the four layer tissue basket, with removable dividers, which is available as an optional accessory.



2 If using cassettes place these in either the random basket or the two layer organiser basket, both of which are supplied with the Hypercenter. A three layer organiser basket is available as an optional accessory for use if maximum capacity is required.



3 All baskets have integral holders and are supplied with a lid. The basket layers should not be stacked higher than the maximum level line indicated on the outside of the integral holders.

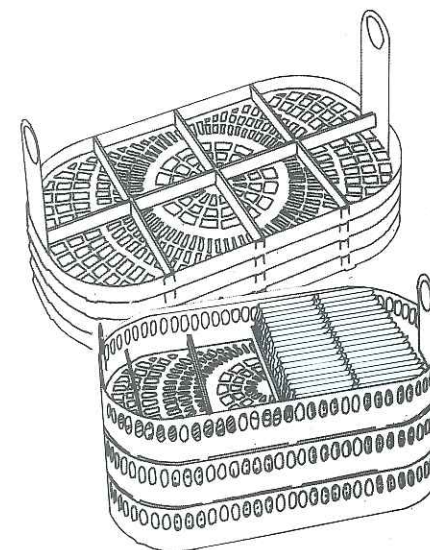


4 If cassettes are to be packed loosely use the random cassette basket, this will hold approx. 165 cassettes, more if packed tightly.

If cassettes are to be organised the two layer organiser basket supplied as standard may be used. This basket will hold approx. 200 cassettes.

A three layer organiser basket is available as an optional accessory which holds approx. 205 cassettes. To achieve maximum capacity it is necessary to pack the cassettes on their sides.

For large specimens or loose tissue, a four layer basket with removable dividers is available as an optional accessory. By removing the dividers as required, tissue blocks of various sizes can be accommodated. The centre of each layer has been marked A, B, C and D which can be used as a further reference for specimen identification. With all dividers removed each of the basket layers will hold specimens up to a maximum size 21 cm (L) x 11cm (W) x 1cm(D).



5 Should you process a high number of large tissue samples you may find that the reagent in the reaction chamber is displaced sufficiently to cover the overflow sensor. If this happens when the first reagent is pumped into the reaction chamber, remove some tissue samples or reduce the volume of the reagents until the tissue basket is just immersed.

## 2.1 An introduction to the screen displays

Before using the Hypercenter XP to process tissue, it is advisable to become familiar with the screen display information and the operating procedure. This section demonstrates a typical operating sequence - and should be read before attempting to program or operate the instrument.

When you have read this section we recommend you also refer to section 2.4 Entering a program, to enter two test programs into the memories.

Two example programs are given in these sections and have been used to illustrate the various modes of operation of the Hypercenter XP throughout this manual.

Once you have entered both these programs use them to practise operating the Hypercenter XP.

The directions on the screens illustrated are those which appear on English language displays of the Hypercenter XP.

If you have selected a foreign language display, some specific entry keys may be different to those illustrated. The correct key will be clearly referred to in the directions on the actual screen.

There are reference numbers for each direction to the side of every screen illustration. These numbers relate to foreign language translations, which can be referred to in 'Translations of screen directions' 5.1 in the Catalogue section at the back of this manual.

1 Press the number of the module in which the program is to be run. The current status of each module is shown at the top of the screen. Detailed information is given about the status of module you have specified.

A list of programs for the module is shown. If a program has been fully entered, it will be 'available' and the title and total duration will be given.

If a program has been partially entered, it will be 'incomplete'.

If a program has not yet been entered, it will be 'vacant'.

If a program is in use, it will be 'running'.

Directions are given at the bottom of the screen for the next actions open to you. Words which refer to specific keys are marked " ". The programming key positions are also highlighted in the same way.

### MODULE

1

SHANDON HYPERCENTER XP		MON 28 MAY 1990 09:05:25		
M1 ON 2;	M2 OFF;	M3 OFF;	M4 OFF;	M5 OFF;
PROGRAM MENU;	MOD 1;			
PROG	TITLE	DURATION	AVAILABILITY	
1	TEST PROGRAM	0 HR 55 MIN	AVAILABLE	
2	ROUTINE SURGICAL	16 HR 36 MIN	RUNNING	
3			VACANT	
4			VACANT	
5	WEEKEND PROGRAM	0 HR 00 MIN	INCOMPLETE	
6			VACANT	
7			VACANT	
8			VACANT	
9			VACANT	
TO LOOK AT OR START A PROGRAM - PRESS "PROG" NUMBER				
TO LOOK AT PROGRAMS FOR OTHER MODULES - PRESS "MOD" NUMBER				
TO ENTER OR AMEND A PROGRAM - TURN PROGRAMMING KEY TO "ON"				

1  
2  
3

5 Once an immersion period is completed and the clock has counted down to 00:00:00, the reagent will be pumped out of the reaction chamber and back to its bottle.

The countdown for the drain time will then begin and this is confirmed by the status line.

```

SHANDON  HYPERCENTER  XP                               MON 28  MAY 1990  09:05:25

M1 DRAIN;      M2 OFF;      M3 OFF;      M4 OFF;      M5 OFF;
MOD 1;  PROG 2;  STEP 01;  TEMP A;  VAC N;      HRS 00:00:00;  DRAIN;
STEP REAGENT/CONC %      TEMP  VAC      IMMERSION      DRAIN
1  FORMAL SALINE 10%      A      N      02:30:00      15
2  ALCOHOL 70%      A      N      01:00:00      15
3  ALCOHOL 90%      A      N      01:00:00      15

10  XYLENE      A      N      01:00:00      15
11  WAX      60      Y      02:00:00      30
12  WAX      60      Y      02:00:00      30
YOU  MAY NOW  PRESS "STOP" TO HOLD THE PROGRAM COUNTDOWN
  
```

9

6 When the drain period is completed, the next step in the program will be highlighted and the status line will show the next reagent to be selected.

```

SHANDON  HYPERCENTER  XP                               MON 28  MAY 1990  09:05:25

M1 ON 2;      M2 OFF;      M3 OFF;      M4 OFF;      M5 OFF;
MOD 1;  PROG 2;  STEP 02;  TEMP A;  VAC Y;      HRS 00:00:00;  RUN;
STEP REAGENT/CONC %      TEMP  VAC      IMMERSION      DRAIN
1  FORMAL SALINE 10%      A      N      02:30:00      15
2  ALCOHOL 70%      A      N      01:00:00      15
3  ALCOHOL 90%      A      N      01:00:00      15

10  XYLENE      A      N      01:00:00      15
11  WAX      60      Y      02:00:00      30
12  WAX      60      Y      02:00:00      30
YOU  MAY NOW  PRESS "STOP" TO HOLD THE PROGRAM COUNTDOWN
  
```

9

7 When all the steps of the program have been completed, the display informs you that the program is ended.

The message at the bottom of the screen tells you to remove the tissue from the wax and prepare to flush the reaction chamber.

```

SHANDON  HYPERCENTER  XP                               MON 28  MAY 1990  09:05:25

M1 END;      M2 OFF;      M3 OFF;      M4 OFF;      M5 OFF;
MOD 1;  PROG 2;  STEP 12;  TEMP 60;  VAC N;      HRS 00:00:00;  END;
STEP REAGENT/CONC %      TEMP  VAC      IMMERSION      DRAIN
1  FORMAL SALINE 10%      A      N      02:30:00      15
2  ALCOHOL 70%      A      N      01:00:00      15
3  ALCOHOL 90%      A      N      01:00:00      15

10  XYLENE      A      N      01:00:00      15
11  WAX      60      Y      02:00:00      30
12  WAX      60      Y      02:00:00      30
REMOVE TISSUE CLOSE REACTION CHAMBER LID PRESS "FLUSH"
  
```

8



## 2.3 Setting the clock

1 Please check that the clock features (eg day, date, month etc...) are current upon delivery of your instrument.

2 The clock can be reset at any time except:

- a) when editing a program.
- b) when any program is running.
- c) when setting a delay start/finish time.
- d) when accessing the printer set-up screen.

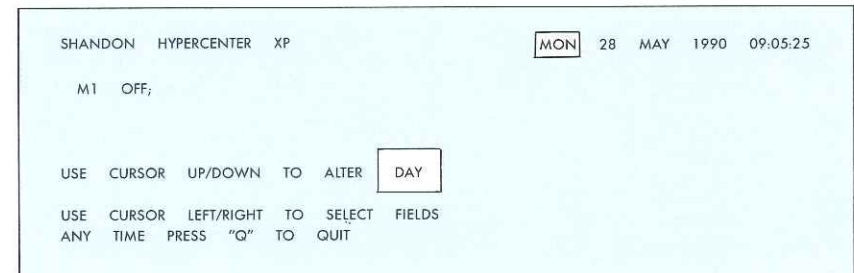
3 To set the clock press the SET TIME key. Follow the on-screen prompts to adjust the time. Please note that "seconds" display is for convenience and does not affect program execution.

Cursor LEFT/RIGHT moves between the various portions of the time display, ie from day to date to month etc....

Cursor UP/DOWN alters the value displayed at the cursor. UP will increase and DOWN will decrease.

Having entered the time parameters press Q to return you to the module display.

SET TIME



4 Hypercenter XP knows how many days are in each month and will not allow you to set incorrect date/month combinations, (eg 31 November will not enter). The instrument also understands Leap Years and will only allow 29 February in a Leap Year.

If you intend to utilize the delayed start feature (see section 2.7), it is important that you have set the correct time.

5 The clock keeps running even when the command module is switched off. It is powered by a rechargeable battery. Should the battery become discharged, the next time the command

module is switched on, a warning message will be displayed that the clock is not set correctly. (CLOCK BATTERY IS LOW, RESET TIME .... 93).

6 SET START/SET FINISH/PRINTER - please see section 2.5 and 2.7 to utilize these features, if desired.

3 Press the number of a program which is vacant or incomplete.

The screen display will change immediately the program number is pressed.

Some commonly used values are already programmed to save time in programming.

These can be changed, if desired.

Cursor appears over first letter of program title.

### PROGRAM

1

SHANDON HYPERCENTER XP MON 28 MAY 1990 09:05:25

M1 OFF;  
MOD 1; PROG 1;

STEP	REAGENT/CONC	%	TITLE	TEMP	VAC	IMMERSION	DRAIN
1			A	N		00:00:00	15
2			A	N		00:00:00	15
3			A	N		00:00:00	15
4			A	N		00:00:00	15
5			A	N		00:00:00	15
6			A	N		00:00:00	15
7			A	N		00:00:00	15
8			A	N		00:00:00	15
9			A	N		00:00:00	15
10			A	N		00:00:00	15
11			60	N		00:00:00	15
12			60	N		00:00:00	15

KEY IN PROGRAM TITLE THEN PRESS "ENTER"

66

4 Key in a title of 25 characters maximum. The characters are displayed as you key them in.

Press ENTER.

The cursor now appears in the step column.

If you make an error keying in, use the ← and → cursor keys to move the cursor to the point at which you made an error and key in the correct character.

Use the SPACE key to remove a letter which you do not wish to substitute.

If there are letters you do not wish to change, use the → cursor key to move the cursor to the end of the word. The ↵ key returns the cursor to the top of the screen in one movement.

### PROGRAM MODE

T E S T  
P R O G R A M  
ENTER

← →  
↑ ↓ ↵  
SPACE

SHANDON HYPERCENTER XP MON 28 MAY 1990 09:05:25

M1 OFF;  
MOD 1; PROG 1;

STEP	REAGENT/CONC	%	TITLE	TEST	PROGRAM	IMMERSION	DRAIN
1			A	N		00:00:00	15
2			A	N		00:00:00	15
3			A	N		00:00:00	15
4			A	N		00:00:00	15
5			A	N		00:00:00	15
6			A	N		00:00:00	15
7			A	N		00:00:00	15
8			A	N		00:00:00	15
9			A	N		00:00:00	15
10			A	N		00:00:00	15
11			60	N		00:00:00	15
12			60	N		00:00:00	15

PRESS "ENTER" OR IF PROGRAM COMPLETE TURN PROGRAMMING KEY "OFF"

67

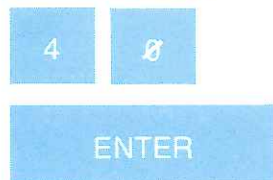
7 If the temperature given ('A' or ambient for a reagent; '60' for wax) is appropriate, press enter.

Otherwise key in a new temperature between 35 and 45 (for a reagent) or 45 and 65 (for wax).

Press ENTER

Cursor moves to specification of whether a vacuum is to be applied while the tissue is immersed in the reagent.

### PROGRAM MODE



SHANDON HYPERCENTER XP MON 28 MAY 1990 09:05:25

M1	MOD	REAGENT/CONC	%	TITLE; TEMP	TEST VAC	PROGRAM	IMMERSION	DRAIN
1	1;	FORMAL	10%	40	N		00:00:00	15
2				A	N		00:00:00	15
3				A	N		00:00:00	15
10				A	N		00:00:00	15
11				60	N		00:00:00	15
12				60	N		00:00:00	15

IS VACUUM REQUIRED PRESS "Y" (YES) OR "N" (NO) AND "ENTER"

71

8 If the specification given ('N' or no) is appropriate, press ENTER.

Otherwise key in Y to select vacuum.

De otro modo teclear "S" (Si) para seleccionar vacio (ESPAÑOL).  
 Wenn sie ein vakuuum wollen geben sie "J" (Ja) ein (DEUTSCH).  
 Tryck i annat fall in "J" (Ja) for att valja vakuuum (SVENSKA).  
 Autre position de la clef en "O" (Oui) pour selection du vide (FRANCAIS).  
 Altrimenti digitare "S" per selezionare il vuoto spinto (ITALIANO).

Press ENTER.

Cursor now appears over the first digit of the length of time for which the tissue is to be immersed in this reagent.

### PROGRAM MODE



SHANDON HYPERCENTER XP MON 28 MAY 1990 09:05:25

M1	MOD	REAGENT/CONC	%	TITLE; TEMP	TEST VAC	PROGRAM	IMMERSION	DRAIN
1	1;	FORMAL	10%	40	Y		00:00:00	15
2				A	N		00:00:00	15
3				A	N		00:00:00	15
10				A	N		00:00:00	15
11				60	N		00:00:00	15
12				60	N		00:00:00	15

KEY IN REAGENT WAX IMMERSION TIME "HRS" MINS SECS" AND "ENTER"

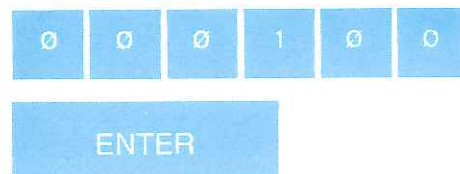
72

9 Key in the immersion time in hours, minutes and seconds. Do not forget the zeros. Since this is a test program only key in a short immersion time e.g. 1 minute or 00:01:00.

Press ENTER.

Cursor moves to number of seconds for which the tissue is to be drained of the reagent.

### PROGRAM MODE



SHANDON HYPERCENTER XP MON 28 MAY 1990 09:05:25

M1	MOD	REAGENT/CONC	%	TITLE; TEMP	TEST VAC	PROGRAM	IMMERSION	DRAIN
1	1;	FORMAL	10%	40	Y		00:01:00	15
2				A	N		00:00:00	15
3				A	N		00:00:00	15
10				A	N		00:00:00	15
11				60	N		00:00:00	15
12				60	N		00:00:00	15

PRESS "DRAIN" KEY REPEATEDLY TO DISPLAY DESIRED TIME AND "ENTER"

73

12 Refer to instruction 4 of this section if you make an error keying in.

**Remember always to press ENTER to enter the new item of information in the module's memory.**

13 When you have finished entering a program, turn the programming key to the OFF position to take the command module out of the programming mode.



Remove the key and store it securely.

14 Press the number of the module you have been programming to display the updated program menu.



Notice the program title is automatically displayed in the 'title' column, that the availability has been updated ('available'), and that the program duration has been automatically calculated and is displayed in hours and minutes. The duration time shown includes each immersion time and 3 minutes reagent transfer time for each step.

SHANDON HYPERCENTER XP		MON 28 MAY 1990 09:05:25	
M1 OFF;	PROGRAM MENU; MOD 1;	DURATION	AVAILABILITY
PROG	TITLE	HR MIN	
1	TEST PROGRAM	0 HR 55 MIN	AVAILABLE
2			VACANT
3			VACANT
4			VACANT
5			VACANT
6			VACANT
7			VACANT
8			VACANT
9			VACANT

TO LOOK AT OR START A PROGRAM - PRESS "PROG" NUMBER  
TO LOOK AT PROGRAMS FOR OTHER MODULES - PRESS "MOD" NUMBER  
TO ENTER OR AMEND A PROGRAM - TURN PROGRAMMING KEY TO "ON"

1  
2  
3

15 It is possible to enter or amend a program while another program is running on the same module.

It is not possible to amend a program if it is in use ('running').

Refer to section 2.12 (Amending a program) for detailed instructions.

## 2.6 Running a program

1 Press the number of the module in which the program is to be run. The program menu now shows the titles of programs entered and their total duration times.

Check that the module is 'off' and the program is 'available'.

### MODULE

1

```

SHANDON HYPERCENTER XP MON 28 MAY 1990 09:05:25

M1 OFF;
PROGRAM MENU; MOD 1;
PROG TITLE DURATION AVAILABILITY
1 TEST PROGRAM 0 HR 55 MIN AVAILABLE
2 ROUTINE SURGICAL 16 HR 36 MIN AVAILABLE
3 VACANT
4 VACANT
5 WEEKEND PROGRAM 0 HR 00 MIN INCOMPLETE
6 VACANT
7 VACANT
8 VACANT
9 VACANT

TO LOOK AT OR START A PROGRAM - PRESS "PROG" NUMBER
TO LOOK AT PROGRAMS FOR OTHER MODULES - PRESS "MOD" NUMBER
TO ENTER OR AMEND A PROGRAM - TURN PROGRAMMING KEY TO "ON"
    
```

2 Press the number of the program you wish to run. All the steps of the program are shown.

### PROGRAM

2

```

SHANDON HYPERCENTER XP MON 28 MAY 1990 09:05:25

M1 OFF;
MOD 1; PROG 2;
STEP REAGENT/CONC % TEMP VAC IMMERSION DRAIN
1 FORMAL SALINE 10% A N 02:30:00 15
2 ALCOHOL 70% A N 01:00:00 15

11 WAX 60 Y 02:00:00 30
12 WAX 60 Y 02:00:00 30 END

TO RUN PROG PRESS "START" PRESS "MOD"/"PROG" FOR OTHER OPTIONS
    
```

3 Press START to start the program.

The display confirms the program is running ('run').

The first step of the program is high-lighted.

The third line is a status line telling you what is the current status i.e. in this case the program is pumping the first reagent; the temperature of the reaction chamber is at ambient ('A'), there is vacuum ('Y') in the reaction chamber and the immersion time has not yet started counting down.

### MODULE CONTROL

START

```

SHANDON HYPERCENTER XP MON 28 MAY 1990 09:05:25

M1 ON 2;
MOD 1; PROG 2; STEP 01; TEMP A; VAC Y; HRS 00:00:00; RUN;
STEP REAGENT/CONC % TEMP VAC IMMERSION DRAIN
1 FORMAL SALINE 10% A N 02:30:00 15
2 ALCOHOL 70% A N 01:00:00 15

11 WAX 60 Y 02:00:00 30
12 WAX 60 Y 02:00:00 30 END

YOU MAY NOW PRESS "STOP" TO HOLD THE PROGRAM COUNTDOWN
    
```

7 On completion of the processing schedule the tissue will be immersed in the second wax and the clock will have counted down the immersion time. The status line will inform you that the program has ended ('END').

SHANDON HYPERCENTER XP			MON 28 MAY 1990 09:05:25				
M1	END;						
MOD	1;	PROG 2;	STEP 12;	TEMP 60;	VAC N;	HRS 00:00:00;	END;
STEP	REAGENT/CONC	%	TEMP	VAC	IMMERSION	DRAIN	
1	FORMAL SALINE	1.0%	A	N	02:30:00	15	
2	ALCOHOL	70%	A	N	01:00:00	15	
3	ALCOHOL	90%	A	N	01:00:00	15	
4	ABSOLUTE ALCOHOL		A	N	01:00:00	15	
5	ABSOLUTE ALCOHOL		A	N	01:00:00	15	
6	ABSOLUTE ALCOHOL		A	N	01:30:00	15	
7	ABSOLUTE ALCOHOL		A	N	01:30:00	15	
8	XYLENE		A	N	00:30:00	15	
9	XYLENE		A	N	01:00:00	15	
10	XYLENE		A	N	01:00:00	15	
11	WAX		60	Y	02:00:00	30	END
12	WAX		60	Y	02:00:00	30	END

REMOVE TISSUE, CLOSE REACTION CHAMBER LID PRESS "FLUSH"

8 Open the lid of the reaction chamber and remove the tissue.

Wipe the lid with absorbent paper and close it.

You are now ready to flush out the reaction chamber (See section 2.11).

If at any point while running this program, the procedure above is not followed, (as described here) call your local agent or Shandon.

5 Once the information displays the delay you wish, press Q . This will return you to module display where the program and its start time are displayed at the bottom of the screen. This message disappears once the start time matches the current time and the program begins to run.

#### PROGRAM MODE



6 To utilize this delay facility, press MODULE NUMBER, PROGRAM NUMBER, then START. Once reagent is in the chamber, immersion time count-down is automatically delayed until the set time is reached.

#### MODULE



#### PROGRAM



#### MODULE CONTROL



### Guidance Notes

A **Calculated end time** is the start time plus "duration" of program. When you select the SET START key to program a delay, the screen will show the calculated end time on the "finish" display screen. This message also includes the week during which the processing ends. (Weeks begin at 00:00 Sunday and end at 23:59 Saturday).

B **Calculated start time** is the finish time minus "duration" of program. When you select the SET FINISH key to program a delay, the screen will show the calculated start time on the "start the program" display line. This message also includes the week during which the processing starts.

C **NOW/** A cancellation of program delay entries. This option is found in the "day" field of the screen. Use cursor ← or → to highlight the day. Then use ↑ or ↓ to display "NOW". All times are returned to current and cannot be altered as long as "NOW" displays.

D A delay is cancelled if you choose to alter the delay type (start or finish).

E A delay is cancelled if you alter the program you wish to delay.

F A delay is cancelled once the set program is in "running" status.

G **TOMORROW/** Utilizing the same finish and program on consecutive days. Display the program as directed in 2.7 No 4. Once the "day" field is highlighted use cursor ↑ and ↓ to display "TOMORROW". Press Q and the calculated start time and program are entered at the bottom of the screen. As usual, this message disappears once the start time matches the current time and the program begins to run. To repeat the same run the next day, (1) press SET START, (2) check that the displayed finish time is the same time TOMORROW, (3) Press Q, (4) press MODULE NUMBER, (5) press PROGRAM NUMBER, (6) press START. Again the message at the bottom of the screen will display program and start time. If "tomorrow" is not the correct finish day, remember to reset the delay.

H A delay will have no effect on any program or module other than the one set.

2 Press START to restart the program. You may press the START key on the command module or the RESTART button on the reaction module.

The program immediately restarts from the same point. The display confirms that the program is running again.

MODULE CONTROL



OR

RESTART



SHANDON HYPERCENTER XP MON 28 MAY 1990 09:05:25

M1	ON	2;										
MOD	1;	PROG	2;	STEP	02;	TEMP	A;	VAC	N;	HRS	00:29:58;	RUN;
STEP		REAGENT/CONC	%			TEMP		VAC		IMMERSION		DRAIN
1		FORMAL	SALINE	10%		A		N		02:30:00		15
2		ALCOHOL	70%			A		N		01:00:00		15
3		ALCOHOL	90%			A		N		01:00:00		15
10		XYLENE				A		N		01:00:00		15
11		WAX				60		Y		02:00:00		30
12		WAX				60		Y		02:00:00		30

YOU MAY NOW PRESS "STOP" TO HOLD THE PROGRAM COUNTDOWN

## 2.9 Aborting a program

At any time during the first ten steps of the program, you may wish to discontinue or 'abort' the processing cycle. This is especially likely to be the case if you have started the wrong program inadvertently.

1 Ensure that the module and program you wish to 'abort' are displayed.

If these are not displayed press the module and program numbers.

MODULE



PROGRAM



SHANDON HYPERCENTER XP MON 28 MAY 1990 09:05:25

M1	ON	2;										
MOD	1;	PROG	2;	STEP	01;	TEMP	A;	VAC	N;	HRS	02:20:00;	RUN;
STEP		REAGENT/CONC	%			TEMP		VAC		IMMERSION		DRAIN
1		FORMAL	SALINE	10%		A		N		02:30:00		15
2		ALCOHOL	70%			A		N		01:00:00		15
3		ALCOHOL	90%			A		N		01:00:00		15
4		ABSOLUTE	ALCOHOL			A		N		01:00:00		15
5		ABSOLUTE	ALCOHOL			A		N		01:00:00		15
6		ABSOLUTE	ALCOHOL			A		N		01:30:00		15
7		ABSOLUTE	ALCOHOL			A		N		01:30:00		15
8		XYLENE				A		N		00:30:00		15
9		XYLENE				A		N		01:00:00		15
10		XYLENE				A		N		01:00:00		15
11		WAX				60		Y		02:00:00		30
12		WAX				60		Y		02:00:00		30

YOU MAY NOW PRESS "STOP" TO HOLD THE PROGRAM COUNTDOWN END



5 When the reaction chamber is empty, the display will show that the module is off

SHANDON HYPERCENTER XP				MON 28 MAY 1990 09:05:25			
M1	OFF;						
MOD	1, PROG 2;						
STEP	REAGENT/CONC	%	TEMP	VAC	IMMERSION	DRAIN	
1	FORMAL	SALINE 10%	A	N	02:30:00	15	
2	ALCOHOL	70%	A	N	01:00:00	15	
3	ALCOHOL	90%	A	N	01:00:00	15	
4	ABSOLUTE	ALCOHOL	A	N	01:00:00	15	
5	ABSOLUTE	ALCOHOL	A	N	01:00:00	15	
6	ABSOLUTE	ALCOHOL	A	N	01:30:00	15	
7	ABSOLUTE	ALCOHOL	A	N	01:30:00	15	
8	XYLENE		A	N	00:30:00	15	
9	XYLENE		A	N	01:00:00	15	
10	XYLENE		A	N	01:00:00	15	
11	WAX		60	Y	02:00:00	30	
12	WAX		60	Y	02:00:00	30	END
TO	RUN	PROG	PRESS "START"	PRESS "MOD"/"PROG"	FOR	OTHER	OPTIONS

### Aborting a delayed start program

1 The ABORT key when pressed during the "idle" portion of a delayed start program, will abort the delay portion. Then the program will "run" and the time in the first step will begin counting down.

2 From this point follow abort procedure for a normal program.

**Note:** Once aborted the delay time is lost. To select another delay start/finish, refer to Section 2.7

3 Press STEP.

### MODULE CONTROL

STEP

4 Press START

The reagent is pumped out of the reaction chamber into its bottle.

START

SHANDON HYPERCENTER XP MON 28 MAY 1990 09:05:25

M1	STEP;
MOD	1; PROG 2; STEP 03; TEMP A; VAC N; HRS 00:00:00; STEP;
STEP	REAGENT/CONC % TEMP TEMP VAC IMMERSION DRAIN
1	FORMAL SALINE 10% A N 02:30:00 15
2	ALCOHOL 70% A N 01:00:00 15
3	ALCOHOL 90% A N 01:00:00 15
4	ABSOLUTE ALCOHOL A N 01:00:00 15
5	ABSOLUTE ALCOHOL A N 01:00:00 15

12 WAX 60 Y 02:00:00 30 END  
YOU MAY NOW PRESS "STOP" TO HOLD THE PROGRAM COUNTDOWN

5 When the reaction chamber is empty, the program will be placed on 'hold'.

SHANDON HYPERCENTER XP MON 28 MAY 1990 09:05:25

M1	HOLD;
MOD	1; PROG 2; STEP 04; TEMP A; VAC N; HRS 00:00:00; HOLD;
STEP	REAGENT/CONC % TEMP TEMP VAC IMMERSION DRAIN
1	FORMAL SALINE 10% A N 02:30:00 15
2	ALCOHOL 70% A N 01:00:00 15
3	ALCOHOL 90% A N 01:00:00 15
4	ABSOLUTE ALCOHOL A N 01:00:00 15
5	ABSOLUTE ALCOHOL A N 01:00:00 15

12 WAX 60 Y 02:00:00 30 END  
YOU MAY PRESS "START" OR "ABORT", "STEP", "FLUSH", THEN "START"

6 Press START to restart the program. You may press the START key on the command module or the RESTART button on the reaction module  
The program will restart at the new step.

### MODULE CONTROL

START

OR

### RESTART

SHANDON HYPERCENTER XP MON 28 MAY 1990 09:05:25

M1	ON 2;
MOD	1; PROG 2; STEP 04; TEMP A; VAC Y; HRS 00:00:00; RUN;
STEP	REAGENT/CONC % TEMP TEMP VAC IMMERSION DRAIN
1	FORMAL SALINE 10% A N 02:30:00 15
2	ALCOHOL 70% A N 01:00:00 15
3	ALCOHOL 90% A N 01:00:00 15
4	ABSOLUTE ALCOHOL A N 01:00:00 15
5	ABSOLUTE ALCOHOL A N 01:00:00 15

12 WAX 60 Y 02:00:00 30 END  
YOU MAY NOW PRESS "STOP" TO HOLD THE PROGRAM COUNTDOWN

## 2.11 Flushing out the reaction chamber

After every processing cycle, it is essential to flush out the reaction chamber in order to make it clean before new tissue samples are processed. This is particularly important if wax has been

used. The flush cycle may also be used at other times. The flushing is carried out most efficiently if excess wax is removed from the reaction chamber and its lid first, using

the plastic spatula supplied. Never use metal scrapers or instruments - they will damage the reaction chamber seal.

1 When the display shows that a processing cycle is ended ('end'), remove the tissue samples from the reaction chamber.

If you cannot attend to them immediately it may be useful to transfer them to the Hypercenter Wax Station. (See section 2.14).

SHANDON HYPERCENTER XP			MON 28 MAY 1990 09:05:25		
M1	END;				
MOD	1;	PROG 2;	STEP 12;	TEMP 60;	VAC N;
HRS	00:00:00;	END;			
STEP	REAGENT/CONC %	TEMP	VAC	IMMERSION	DRAIN
1	FORMAL SALINE 10%	A	N	02:30:00	15
2	ALCOHOL 70%	A	N	01:00:00	15
3	ALCOHOL 90%	A	N	01:00:00	15
4	ABSOLUTE ALCOHOL	A	N	01:00:00	15
5	ABSOLUTE ALCOHOL	A	N	01:00:00	15
6	ABSOLUTE ALCOHOL	A	N	01:30:00	15
7	ABSOLUTE ALCOHOL	A	N	01:30:00	15
8	XYLENE	A	N	00:30:00	15
9	XYLENE	A	N	01:00:00	15
10	XYLENE	A	N	01:00:00	15
11	WAX	60	Y	02:00:00	30
12	WAX	60	Y	02:00:00	30
REMOVE TISSUE, CLOSE REACTION CHAMBER LID PRESS "FLUSH"					

2 A log is kept of the number of flush cycles which may have been run since it was last reset.

Press FLUSH to display the log and the steps of the flush cycle

\*A Confirmatory question is then displayed asking the operator to select the "Y" (YES) or "J" (Deutsch Svensk), "O" (Francais), "S" (Italiano), "S" (Espagnol), key for flush (or alternatively the NO -"N" key).

Note: Language dependent

IST DER BEFEHL RICHTIG? (J/N) (DEUTSCH)

ETES-VOUS SUR? (O/N) (FRANCAIS)

SIETE SICURO? (S/N) (ITALIANO)

AR DU SAKER? (J/N) (SVENSK)

ESTA CIERTO? (S/N) (ESPANOL)

You may use the log to regulate the changing of the flush reagents. It is recommended that the flush reagents are changed when the flush cycle log indicates '05'. Note: '&&' indicates the current flush cycle log. When you change the reagents and wish to reset the log press R on the keyboard.

### MODULE CONTROL

FLUSH

### PROGRAM MODE

R

SHANDON HYPERCENTER XP			MON 28 MAY 1990 09:05:25		
M1	END;				
MOD	1;	PROG 2;	STEP 12;	TEMP 60;	VAC N;
HRS	00:00:00;	END;			
STEP	REAGENT/CONC %	TEMP	VAC	IMMERSION	DRAIN
12	WAX	60	Y	02:00:00	30
13		45	N	00:16:00	30
14		A	N	00:05:00	30
FLUSH CYCLE LOG - && FLUSH CYCLES SINCE LAST RESET					
CHANGE FLUSH REAGENTS NOW IF FLUSH CYCLE LOG HIGHER THAN "05"					
IF FLUSH REAGENTS ARE CHANGED - PRESS "R" TO RESET LOG TO "00"					
REMOVE TISSUE FROM REACTION CHAMBER, CLOSE LID					
TO FLUSH REACTION CHAMBER - PRESS "START"					
WHEN FLUSH CYCLE ENDED WIPE REACTION CHAMBER, LID AND FILTER					

6 Once the 16 minutes is completed and the reaction chamber is empty, the second flush reagent (step 14) is then selected and pumped in and out of the chamber. This stage takes 5 minutes and is again counted down on the clock.

SHANDON HYPERCENTER XP MON 28 MAY 1990 09:05:25

MOD	1;	PROG	2;	STEP	14;	TEMP	A;	VAC	N;	HRS	00:04:59;	FLUSH;
STEP	REAGENT/CONC	%			TEMP		VAC		IMMERSION		DRAIN	END
12	WAX				60		Y		02:00:00		30	
13					45		N		00:16:00		30	
14					A		N		00:05:00		30	

FLUSH CYCLE LOG - && FLUSH CYCLES SINCE LAST RESET

CHANGE FLUSH REAGENTS NOW IF FLUSH CYCLE LOG HIGHER THAN "05"  
 IF FLUSH REAGENTS ARE CHANGED - PRESS "R" TO RESET LOG TO "00"  
 REMOVE TISSUE FROM REACTION CHAMBER, CLOSE LID  
 TO FLUSH REACTION CHAMBER - PRESS "START"  
 WHEN FLUSH CYCLE ENDED WIPE REACTION CHAMBER, LID AND FILTER

7 When the 5 minutes is completed, the last reagent is pumped back into its bottle and the flush cycle is complete.

The flush cycle may be repeated using the same procedure if you wish to ensure the reaction chamber is thoroughly clean.

Alternatively, you may remove flush reagents 13 and 14 and replace them with new alcohol and water and then run the flush cycle again.

When the flush cycle is complete, wipe the reaction chamber with absorbent paper.

Remove the inlet cover and filter, and clean the filter if required. (See section 3.3.)

SHANDON HYPERCENTER XP MON 28 MAY 1990 09:05:25

MOD	1;	PROG	2;	STEP	REAGENT/CONC	%	TEMP	A;	VAC	N;	HRS	IMMERSION	DRAIN	END
1	FORMAL	SALINE	10%		A		N		02:30:00		15			
2	ALCOHOL	70%			A		N		01:00:00		15			
3	ALCOHOL	90%			A		N		01:00:00		15			
4	ABSOLUTE	ALCOHOL			A		N		01:00:00		15			
5	ABSOLUTE	ALCOHOL			A		N		01:00:00		15			
6	ABSOLUTE	ALCOHOL			A		N		01:30:00		15			
7	ABSOLUTE	ALCOHOL			A		N		01:30:00		15			
8	XYLENE				A		N		00:30:00		15			
9	XYLENE				A		N		01:00:00		15			
10	XYLENE				A		N		01:00:00		15			
11	WAX				60		Y		02:00:00		30			
12	WAX				60		Y		02:00:00		30			END

TO RUN PROG PRESS "START" PRESS "MOD"/"PROG" FOR OTHER OPTIONS

5 When the cursor is located over the item of information to be amended, key in the correct characters over the old.

If the new information does not completely cover the old, press SPACE to remove unwanted characters.

If there are characters of a program title, reagent name or concentration you do not wish to change, use the → key to move the cursor to the end of the word.

If you wish to change the point at which a program ends, press E for end and ENTER when the cursor is at the new end point.

**Remember always to press ENTER to enter the new item of information in the module's memory.**

PROGRAM MODE



PROGRAM MODE



PROGRAM MODE



PROGRAM CONTROL



6 When you have made the final amendment, press ENTER, turn the programming key OFF and remove it.

The program menu details will automatically change and if any changes have been made to the immersion time, a new total duration time will be calculated.

PROGRAM MODE



SHANDON HYPERCENTER XP MON 28 MAY 1990 09:05:25

M1	OFF;			TITLE; T;ST	PROGRAM			
MOD	1; PROG 1;							
STEP	REAGENT/CONC	%	TEMP	VAC	IMMERSION	DRAIN		
1	FORMAL SALINE	10%	40	Y	00:01:00	30		
2	ALCOHOL	70%	A	N	00:00:30	30		
3	ALCOHOL	90%	A	N	00:00:30	30		
4	ABSOLUTE	ALCOHOL	A	N	00:00:30	30		
5	ABSOLUTE	ALCOHOL	A	N	00:00:30	30		
6	ABSOLUTE	ALCOHOL	A	N	00:00:30	30		
7	ABSOLUTE	ALCOHOL	A	N	00:00:30	30		
8	XYLENE		A	N	00:00:30	30		
9	XYLENE		A	N	00:00:30	30		
10	XYLENE		A	N	00:10:00	30		
11	WAX		60	Y	00:02:00	60		
12	WAX		60	Y	00:02:00	60		END

KEY IN PROGRAM TITLE THEN PRESS "ENTER"

66

SHANDON HYPERCENTER XP MON 28 MAY 1990 09:05:25

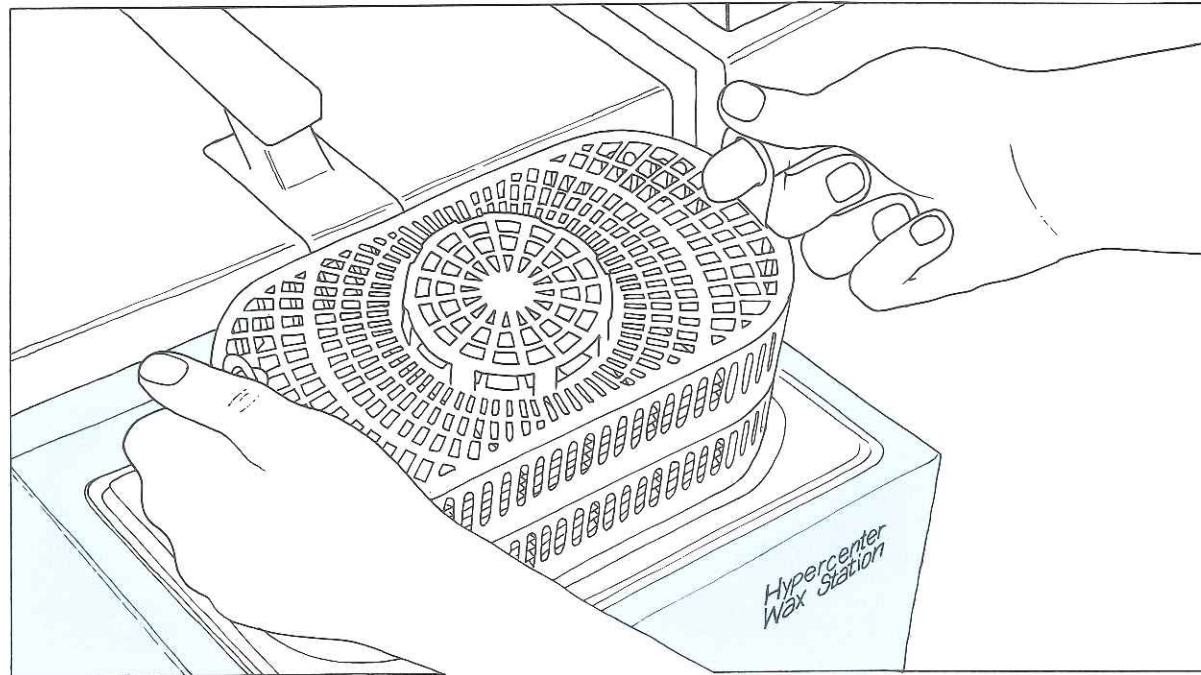
M1	OFF;			TITLE; TEST	PROGRAM			
MOD	1; PROG 1;							
STEP	REAGENT/CONC	%	TEMP	VAC	IMMERSION	DRAIN		
1	FORMAL SALINE	10%	40	Y	00:01:00	30		
2	ALCOHOL	70%	A	N	00:00:30	30		
3	ALCOHOL	90%	A	N	00:00:30	30		
4	ABSOLUTE	ALCOHOL	A	N	00:00:30	30		
5	ABSOLUTE	ALCOHOL	A	N	00:00:30	30		
6	ABSOLUTE	ALCOHOL	A	N	00:00:30	30		
7	ABSOLUTE	ALCOHOL	A	N	00:00:30	30		
8	XYLENE		A	N	00:00:30	30		
9	XYLENE		A	N	00:00:30	30		
10	XYLENE		A	N	00:10:00	30		
11	WAX		60	Y	00:02:00	60		
12	WAX		60	Y	00:02:00	60		END

KEY IN PROGRAM TITLE THEN PRESS "ENTER"

66

## 2.14 Using the Hypercenter Wax Station

- 1 At the end of a program, when you would normally remove the tissue, unplug the Hypercenter Wax Station and carry it over to the reaction module.
- 2 Place the Hypercenter Wax Station on the bench.
- 3 Remove the lid of the wax station.
- 4 Open the lid of the reaction chamber, remove the tissue basket and transfer to the wax station.
- 5 Close the lid of the wax station and reaction chamber.
- 6 Carry the wax station to the embedding area. Plug it in again to keep the wax molten.
- 7 You may now flush out the reaction chamber and are now ready to process a new batch of tissue.



### 3.1 Changing the reagents and cleaning the reagent bottles

It is recommended to change the reagents when no program is running.

**PROCESSING REAGENTS:** The frequency with which reagents should be changed depends on the amount of tissue processed but all reagents should be renewed at least once per week.

A useful strategy is to discard the first wax, clearing agent, alcohol and fixative reagents at regular intervals. The bottles are then filled with fresh reagent which is then replaced in the last wax, clearing, dehydrant or fixative steps. The

other bottles are then rotated forwards. **FLUSH REAGENTS:** Before each flush cycle, the display reminds you of how many flush cycles have been run since the log was reset.

1 Grip end of bottle and pull firmly. Remove from module. Support with both hands, tipping the bottle to prevent fluid from spilling from the male connectors.

2 Open bottle in a fume cabinet and pour reagent into a waste solvent bottle.

3 Clean the bottle using a long handled brush of the type used to clean laboratory glassware. The cleaning solution will depend on the reagent but a laboratory cleaning agent such as Decon 90 should normally be effective. The maximum recommended washing temperature is 60°C.

**Do not wash bottles in automatic laboratory washing/drying machines.**

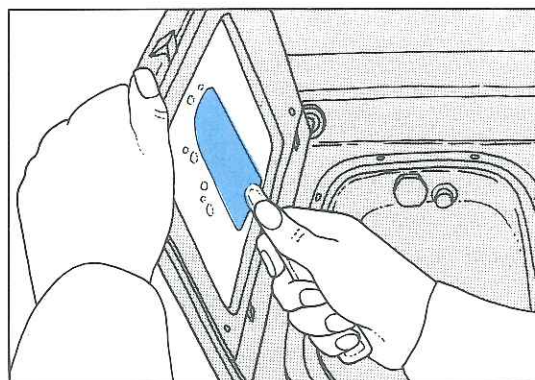
4 Rinse bottle with distilled water, and drain dry or place in a warm air oven to dry at a maximum temperature of 60°C.

### 3.2 Cleaning the reaction chamber

The reaction chamber, including its lid and seal, should be kept clean at all times.

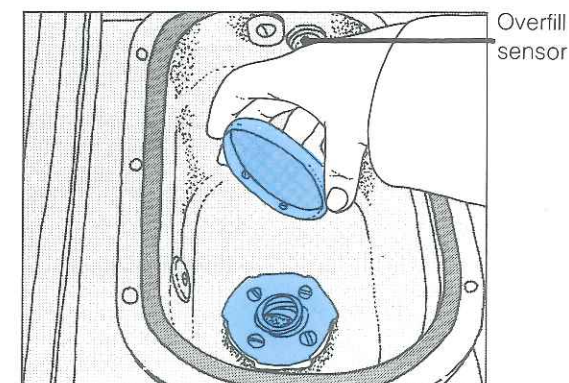
1 Before starting a flush cycle, after removing the tissue from the reaction chamber, wipe any wax from around the reaction chamber and scrape any wax off the reaction chamber lid using the plastic spatula. **Do not use metal implements.**

2 Once the wax is removed from the reaction chamber at the beginning of the flush cycle, press STOP to hold up the cycle.



Wipe the reaction chamber with absorbent paper. This helps to prolong the life of the flush reagents. Remember to press START to continue the flush cycle.

3 At the end of the flush cycle similarly wipe the reaction chamber with absorbent paper. Remove the inlet cover and filter and clean the filter.



### 3.5 Emptying and cleaning the wax baths

Hypercenter XP incorporates a new independent wax drain procedure. The frequency with which the wax is changed will depend on the number and size of tissue samples processed.

**It should usually be changed at least once a week.**

It is common practice to change one wax bath at a time in rotation. Ensure that the wax changed is the one which has been used as the first wax (step 11). Where the key is aligned, either position A or B, is step 11 (the most contaminated wax). To ensure that in the next processing cycle, the new clean wax is step 12, it is important that the wax bath key is turned to its new position. When a wax bath is next emptied, it will be the most contaminated wax which is changed, ie when the key has been aligned with wax bath B, the wax in the bath to the rear of the reaction module will be used at step 11. When the key is aligned with wax bath A, the wax in the bath at the front will be used at step 11

Key Positions

Rear wax bath



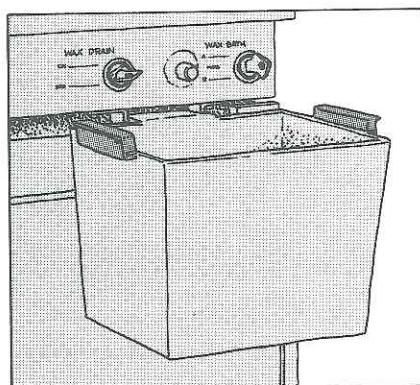
Front wax bath



Both wax baths may be changed however, if required. Repeat the instructions given below to change the other wax.

To drain the wax:-

- 1 Attach wax collection tank to front of reaction module by slotting in place.
- 2 Unscrew and remove wax drain end cap.
- 3 Select wax bath to be drained, either A or B, with right hand key.
- 4 Activate left-hand key (clockwise) to drain wax.
- 5 When wax has been completely drained replace wax drain end cap.
- 6 De-activate (anti-clockwise) left-hand key, back to original position.
- 7 Remove wax collection tank and discard wax.



To clean the wax bath:-

1 **Please be careful in cleaning the walls of the wax bath as they will be hot. A plastic spatula is provided to carefully scrape off any excess wax.**

2 If it is necessary to clean the wax baths more thoroughly with a clearing agent such as Shandon Histosol or Xylene, first switch the power OFF and allow the tank to cool down. Wear gloves and use the reagent on a cloth.

**Be careful not to inhale the fumes.**

**Never pour clearing agent (or any solvent) into a heated wax bath.**

3 Fresh molten wax or wax pellets may be placed in the empty clean wax bath (see section 1.9).



### 3.8 Emptying the vapour trap bottle

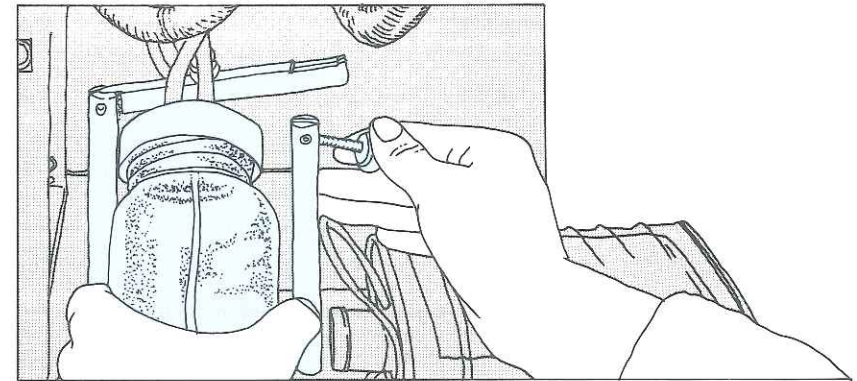
All air passing into the airbag is first passed through a vapour trap bottle in order to condense and collect vapours.

*Note: The vapour trap bottle is automatically drained into the first flush position (Step 13) during normal operation.*

**The vapour trap bottle should be inspected at monthly intervals.**

If any moisture has collected in the bottle, it should be emptied.

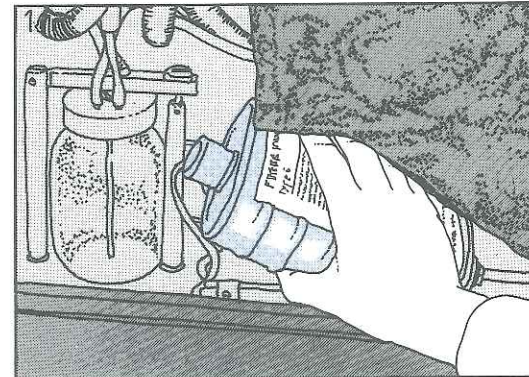
- 1 Unscrew the metal bar holding the bottle in position and lift the bar to one side.
- 2 Pull the bottle from its lid.
- 3 Empty the bottle.
- 4 Replace the bottle and secure the metal bar firmly in position.



### 3.9 Replacing the emergency charcoal filter

The emergency charcoal filter is another safety feature to ensure that no contaminated air is released into the laboratory. In the event of a leak in the air system, a pressure relief valve will be opened and the air will be expelled via the charcoal filter. **The filter should be replaced annually.**

- 1 Remove the old charcoal filter by pulling it firmly out of the retaining clip and lifting it out from the base of the storage module.
- 2 Remove the seals from each end of the new filter cartridge.
- 3 Push the filter against the connector and push it into the retaining clip.



## 4.1 What to do in the event of a power failure

Once the power has been re-established after a failure in the electricity supply, the Hypercenter visual display unit will show 'Welcome to the Hypercenter XP Tissue Processing System'.

The module(s) will immediately begin operating again at the same point at which it was interrupted. If a program was running, for example, it will start running again from the same point at which it stopped.

### MODULE



```

SHANDON  HYPERCENTER  XP                               MON  28  MAY  1990- 09:05:25

M1  OFF;

WELCOME TO THE HYPERCENTER XP TISSUE PROCESSING SYSTEM
BIENVENIDO AL HYPERCENTER XP, SISTEMA DE PROCESADO DE TEJIDOS
HYPERCENTER XP VOUS SOUHAITE LA BIENVENUE
GUTEN TAG - ICH BIN IHR HYPERCENTER XP
MODULO  COMMANDO DELL'INCLUSORE SOTTO VUOTO HYPERCENTER XP
VAELKOMMEN TILL HYPERCENTER XP URVATTNINGSSYSTEM

TO  SELECT  A  MODULE  PROGRAM  MENU  PRESS  "MOD"  NUMBER
    
```

16  
17

In order to display the full program on the screen again, press the module number(s) and program number(s).

The Hypercenter back-up battery ensures that none of the programs entered in the memory are lost if a power failure occurs.

### PROGRAM



```

SHANDON  HYPERCENTER  XP                               MON  28  MAY  1990 09:05:25

M1  ON  1;  M2  HOLD;  M3  END;  M4  ON  4;  M5  OFF;
MOD  1;  PROG  1;  STEP  03;  TEMP  A;  VAC  N;  HRS  00:00:14;  RUN;
STEP  REAGENT  %  CONC  %  TEMP  VAC  IMMERSION  DRAIN
1  FORMAL  SALINE  10%  40  Y  00:01:00  30
2  ALCOHOL  70%  A  N  00:00:30  30
3  ALCOHOL  90%  A  N  00:00:30  30
4  ABSOLUTE  ALCOHOL  A  N  00:00:30  30
5  ABSOLUTE  ALCOHOL  A  N  00:00:30  30
6  ABSOLUTE  ALCOHOL  A  N  00:00:30  30
7  ABSOLUTE  ALCOHOL  A  N  00:00:30  30
8  XYLENE  A  N  00:00:30  30
9  XYLENE  A  N  00:00:30  30
10 XYLENE  A  N  00:10:00  30
11 WAX  60  Y  00:02:00  60
12 WAX  60  Y  00:02:00  60  END
YOU  MAY  NOW  PRESS  "STOP"  TO  HOLD  THE  PROGRAM  COUNTDOWN
    
```

9

## 4.2 What to do if the wax pellets do not melt

If, after six hours, the wax pellets in the wax bath(s) have not melted completely, it may be necessary to raise the temperature of the wax bath(s) and the reaction chamber inlet.

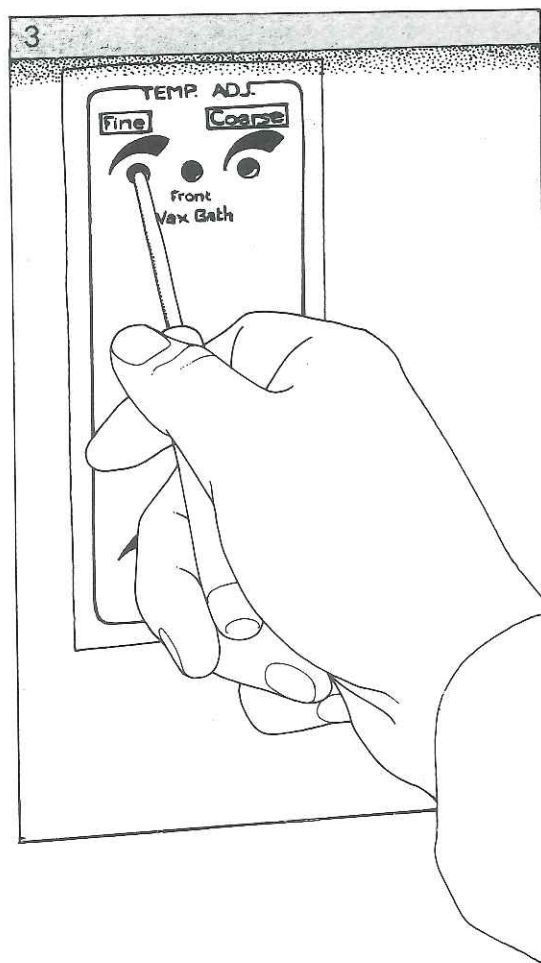
You may also reduce the temperature if you are using wax with a lower melting point.

If you cannot achieve the temperature you require for the wax bath(s) or the reaction chamber inlet, call a Shandon Service Engineer.

1 Before making any adjustments, make sure that the wax bath has reached its normal temperature of 60-62°C by holding a thermometer in the wax for a minute or so. If the temperature is above this range, call a Shandon Service Engineer.

2 The controls for temperature adjustments are located at the rear of the reaction module. The light indicates when the wax bath heater is on. Each wax bath is adjusted individually.

3 Always begin by making fine adjustments to the temperature by inserting a screwdriver in the hole marked FINE and turning it clockwise to raise the temperature (anti-clockwise to reduce it). Do not make further adjustments until you see if these have the necessary effect. You may then make COARSE adjustments if required.

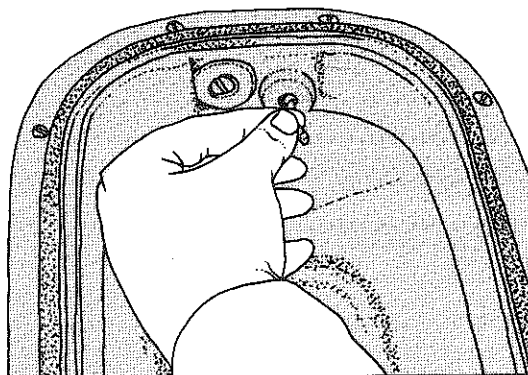


## PROBLEM

Alarm: OVERFILL

## CAUSE

Overfill sensor in reaction chamber is covered with reagent or wax



## SOLUTION

1 Remove excess reagent or wax from reaction chamber wearing gloves and using a beaker. The level should be at least 1 cm below the overfill sensor.

2 Dry off the sensor with a small piece of absorbent paper. Roll up the paper to insert it inside the sensor housing. Repeat this two or three times to ensure it is thoroughly dry.

3 If the reaction chamber is filled with reagent, remove the relevant bottle from the storage module and replace it with an empty bottle. If the chamber is filled with wax make sure the relevant wax tank is empty.

4 Empty the reaction chamber by pressing  
– module number  
– program number which was running  
– ABORT  
– START

The chamber should be emptied and the module will turn to OFF.

5 If possible, rectify the cause of the alarm. If a reagent bottle has been overfilled, empty some of the reagent.

If there is too much tissue, remove some of the samples.

If the filter in the bottom of the reaction chamber is blocked, clean it. (See section 3.3).

If none of these causes are responsible for the alarm, call a Shandon Service Engineer.

6 Replace the reagent or wax (see Section 3.1 or 3.5).

**Note** It is important that the Overfill Sensor Cap is in place before processing commences (see Section 3.2 illustration).

PROBLEM	CAUSE	SOLUTION
Alarm: UNDERFILL	Reagent tube not properly connected	Check connection for fitting and possible damage.  If incorrectly fitted disconnect and reconnect. (See section 1.6). If damaged, call Shandon Service Engineer
	Reagent bottle not inserted properly.	Remove and replace bottle properly. (See section 1.8).
	Reagent bottle seal damaged.	Replace bottle seal (See section 3.10).
	Reagent bottle connector blocked.	Remove bottle connector and clean it.  If none of these causes are responsible for the alarm, call a Shandon Service Engineer.
	Reagent bottle empty.	Fill reagent bottle

**Note** To protect tissue samples from drying out, in the event of an "underfill condition", the previous reagent will be drawn into the reaction chamber. Only when this has happened will the alarm sound.

After locating and rectifying the source of the underfill condition, press STEP, then START (See section 2.10) to recommence processing on the step that caused the error. (If just START is pressed, then the tissues will be "processed" twice in the same reagent).

If the underfill occurs on Step 1, the process **cannot** be "backed-up" one stage; the alarm sounds immediately. If it occurs on Step 11 (first wax), the alarm again sounds immediately.

"Backing-up" one stage occurs on Steps 2-10 and 12 only.



## 5.1 Translations of screen directions - Deutsch

1	UM EIN PROGRAMM ANZUSEHEN ZU STARTEN - DRUECKEN SIE DIE "PROG" NR	TO LOOK AT OR START A PROGRAM - PRESS "PROG" NUMBER
2	UM PROGRAMME FUER WEITERE MOD ANZUSEHEN - DRUECKEN SIE D "MOD" NR	TO LOOK AT PROGRAMS FOR OTHER MODULES - PRESS "MOD" NUMBER
3	UM EIN PROGRAMM EINZUGEBEN - DREHEN SIE DEN SCHLUESSEL NACH "ON"	TO ENTER OR AMEND A PROGRAM - TURN PROGRAMMING KEY TO "ON"
4	UM EIN PROGRAMM EINZUGEBEN - DRUECKEN SIE EINE FREIE PROG "NR"	TO ENTER A NEW PROGRAM - PRESS VACANT OR INCOMPLETE "PROG" NUMBER
5	ZUR BESSEREN ERKLAERUNG IN DER BEDIENUNGSANLEITUNG NACHSCHAUEN	REFER TO OPERATOR GUIDE FOR SPECIFIC INFORMATION
6	DRUECKEN SIE "START" ODER WAEHLN SIE ANDERE MOD ODER PROG "NR"	TO RUN PROGRAM PRESS "START" PRESS "MOD" "PROG" FOR OTHER OPTIONS
7	DRUECKEN SIE "START" ODER "ABORT" "STEP" "FLUSH" UND "START"	YOU MAY PRESS "START" OR "ABORT" "STEP" "FLUSH" THEN "START"
8	KORB ENTNEHMEN, DECKEL SCHLIESSEN UND "FLUSH" DRUECKEN	REMOVE TISSUE CLOSE REACTION CHAMBER LID PRESS "FLUSH"
9	SIE KOENNEN "STOP" DRUECKEN UM DAS PROGRAM ANZUHALTEN	YOU MAY NOW PRESS "STOP" TO HOLD THE PROGRAM COUNTDOWN
10	ANZAHL DER FLUSHPROGRAMME SEIT LETZTER ZAEHLERRUECKSTELLUNG = &&	FLUSH CYCLE LOG - && FLUSH CYCLES SINCE LAST RESET
11	FLASCHE NR 13 + 14 ERNEUERN WENN FLUSH ANZEIGE HOEHER ALS "05"	CHANGE FLUSH REAGENTS NOW IF FLUSH CYCLE LOG HIGHER THAN "05"
12	FALLS NR 13 + 14 NEU "R" DRUECKEN UM ANZEIGE AUF "00" ZU STELLEN	IF FLUSH REAGENTS ARE CHANGED - PRESS "R" TO RESET LOG TO "00"
13	NACH FLUSHPROGRAMM KAMMER AUSWISCHEN UND SIEB REINIGEN	WHEN FLUSH CYCLE ENDED WIPE REACTION CHAMBER LID AND FILTER
14	NEHMEN SIE DEN KORB AUS DER KAMMER UND SCHLIESSEN DEN DECKEL	REMOVE TISSUE FROM REACTION CHAMBER, CLOSE LID
15	UM DIE REAKTIONSKAMMER ZU REINIGEN (FLUSH) - DRUECKEN SIE "START"	TO FLUSH REACTION CHAMBER - PRESS "START"
16	GUTEN TAG - ICH BIN IHR HYPERCENTER XP	WELCOME TO THE HYPERCENTER XP TISSUE PROCESSING SYSTEM
17	UM PROG UEBERSICHT ANDERER MODULE ANZUSEHEN - "MOD" NR DRUECKEN	TO SELECT A MODULE PROGRAM MENU - PRESS "MOD" NUMBER
18	UM WACHS AUS POSITION 11 ZU ENTLIEREN - DRUECKEN SIE "START"	TO DISCARD WAX FROM STEP 11 - PRESS "START"
19	DIE WACHS VERBINDUNGSROHRE WERDEN GEHEIZT	THE WAX AROUND THE INLET IS BEING MELTED
20	NACH 10 MINUTEN IST DIE RICHTIGE TEMPERATUR ERREICHT	THIS TAKES 10 MINUTES
21	UM DIE WACHSENTLEERUNG ZU STOPPEN - DRUECKEN SIE "STOP"	IF YOU WISH TO STOP THE WAX DISCARD CYCLE PRESS "STOP" NOW
22	DIE ENTLIERUNG IST NUR WAEHREND DER ERSTEN 10 MIN ZU STOPPEN	ONCE THE WAX HAS MELTED YOU CANNOT ABORT THE WAX DISCARD CYCLE
23	DAS WACHS WIRD NUN IN DEN WACHSENTLEERUNGSBEHALTER GEPUMPT	THE WAX IS NOW BEING SUCKED INTO THE WAX COLLECTION TANK
24	DAS WACHS BEFINDET SICH NUN IN WACHSENTLEERUNGSBEHALTER	ALL THE WAX IS NOW IN THE WAX COLLECTION TANK
25	OEFFNEN SIE DEN REAKTIONSKAMMERDECKEL	OPEN THE REACTION CHAMBER LID

## Translations of screen directions - Deutsch

93	UHRBATTERIE LEER ZEIT NEU EINGEBEN	CLOCK BATTERY IS LOW, RESET TIME
94	CURSOR HOCH/RUNTER DRUECKEN ZUM AENDERN VON	USE CURSOR UP/DOWN TO ALTER
95	CURSOR L/R DRUECKEN ZUR ANZEIGE VON DATENAUSWAHL	USE CURSOR LEFT/RIGHT TO SELECT FIELDS
103	MOECHTEN SIE ZUR ANFANGZANZEIGE ZURUECK - DRUECKEN SIE "Q" (ABRUCH)	ANY TIME PRESS "Q" TO QUIT
125	ZEIT UND TAG ZUM START DES PROGRAMMES	TIME AND DAY TO START THE PROGRAM
126	ZEIT UND TAG DES PROGRAMMENDES	TIME AND DAY TO FINISH THE PROGRAM
129	SYSTEM FEHLER	INTERNAL SYSTEM ERROR
130	AUSDRUCK LAEUFT	PRINTING
131	DRUCKER DRUCK NICHT	PRINTER IS NOT ON LINE
132	IST DER BEFEHL RICHTIG (J/N)	ARE YOU SURE (Y/N)
133	MOECHTEN SIE DAS PROGRAMM AUSGEDRUCKT HABEN-DRUECKEN SIE "P"	PRESS "P" TO PRINT PROGRAM DETAILS
134	MOECHTEN SIE DAS PROTOKOLL AUSGEDRUCKT HABEN-DRUECKEN SIE "E"	PRESS "E" TO PRINT EVENT LOG
135	MOECHTEN SIE DAS DRUCKEN BEENDEN, DRUECKEN SIE "S"	PRESS "S" TO STOP ALL PRINTING



## 5.1 Translations of screen directions - Français

26	ENLEVER LE RESERVOIR ET OTER LA PARAFFINE	REMOVE THE WAX COLLECTION TANK AND DISCARD THE WAX
27	LA CHAMBRE A REACTION EST PRETE POUR LE LAVAGE	THE REACTION CHAMBER IS NOW BEING FLUSHED OUT
28	CELUI-CI DURE 5 MINUTES	THIS TAKES 5 MINUTES
29	LE CYCLE DE VIDANGE EST EN ATTENTE POUR CONTINUER PRESSER "START"	THE WAX DISCARD CYCLE IS ON HOLD PRESS "START" TO RESTART
30	POUR ANNULER LE CYCLE DE VIDANGE APPUYER SUR "O" PUIS "START"	TO ABORT THE WAX DISCARD CYCLE - PRESS "O" (ABORT), THEN "START"
31	POUR MODIFIER UN PROGRAMME APPUYER SUR LE NUMERO DU PROGRAMME	TO ALTER AN EXISTING PROGRAM - PRESS "PROG" NUMBER
32	FERMER LE COUVERCLE DE LA CHAMBRE A REACTION	CLOSE REACTION CHAMBER LID
33	POUR SUPPRIMER L'ALARME PRESSER "CANCEL ALARM"	TO SILENCE ALARM PRESS "CANCEL ALARM"
66	TAPER LE TITRE DU PROGRAMME PUIS APPUYER SUR "ENTER"	KEY IN PROGRAM TITLE THEN PRESS "ENTER"
67	PRESSER "ENTER" OU SI LE PROGRAMME EST TERMINE TOURNER LA CLEF	PRESS "ENTER" OR IF PROGRAM COMPLETE TURN PROGRAMMING KEY "OFF"
68	TAPER REACTIFCONCENTRATION PUIS APPUYER SUR "ENTER"	KEY IN REAGENT/CONC % THEN PRESS "ENTER"
69	TAPER LA TEMPERATURE DEMANDEE "A" AMBIENTE OU "35-45" PUIS "ENTER"	KEY IN REAGENT TEMPERATURE "A" (AMBIENT), OR "35-45", AND "ENTER"
70	TAPER LA TEMPERATURE DE PARAFFINE "45-65" PUIS "ENTER"	KEY IN WAX TEMPERATURE, "45-65", AND "ENTER"
71	SI LE VIDE EST SOUHAITE APPUYER SUR "O" UI OU "N" ON PUIS "ENTER"	IS VACUUM REQUIRED PRESS "Y" (YES), OR "N" (NO), AND "ENTER"
72	TAPER LA DUREE D'IMMERSION HRS MINS SECS PUIS "ENTER"	KEY IN REAGENT/WAX IMMERSION TIME "HRS MINS SECS", AND "ENTER"
73	PRESSER DRAIN POUR CHOISIR LE TEMPS DEGOUTTAGE PUIS "ENTER"	PRESS "DRAIN" KEY REPEATEDLY TO DISPLAY DESIRED TIME, AND "ENTER"
74	A LA FIN DU PROGRAMME APPUYER SUR "E" (FIN) PUIS "ENTER"	IF LAST STEP OF PROGRAM PRESS "E" (END), AND "ENTER"
61	TROP PLEIN	OVERFILL
62	FAUTE D'INDEX	INDEX FAULT
63	DEFAULT DE TEMP	OVERTEMP
64	PORTE OUVERTE	LID OPEN
65	SOUS REMPLISSAGE	UNDERFILL

## 5.1 Translations of screen directions - Italiano

1	PER VISIONARE O ATTIVARE UN PROGRAMMA - PREMERE IL NO DEL "PROG"	TO LOOK AT OR START A PROGRAM - PRESS "PROG" NUMBER
2	PER LEGGERE O PROGRAMMI DI ALTRI MODULI - PREMERE IL NO DEL "MOD"	TO LOOK AT PROGRAMS FOR OTHER MODULES - PRESS "MOD" NUMBER
3	PER INSERIRE O COMBIARE UN PROGRAMMA - PORRE CHIAVE PROG SU "ON"	TO ENTER OR AMEND A PROGRAM - TURN PROGRAMMING KEY TO "ON"
4	PER PROGRAMMARE - PREMERE NO DI "PROG" DISPONIBILE O INCOMPLETO	TO ENTER A NEW PROGRAM - PRESS VACANT OR INCOMPLETE "PROG" NUMBER
5	CONSULTARE IL MANUALE PER ULTERIORI SPECIFICHE INFORMAZIONI	REFER TO OPERATOR GUIDE FOR SPECIFIC INFORMATION
6	PER ATTIVARE PROG PREMERE "START" PER ALTRI MODULI MOD "0" PROG	TO RUN PROGRAM PRESS "START" PRESS "MOD" "PROG" FOR OTHER OPTIONS
7	POTETE PREMERE "START" O 'ABORT" "STEP" "FLUSH" POI "START"	YOU MAY PRESS "START" OR "ABORT" "STEP" "FLUSH" THEN "START"
8	PRELAVARE TESSUTI CHIUDERE COPERCHIO PREMARE "FLUSH" (LAVAGGIO)	REMOVE TISSUE CLOSE REACTION CHAMBER LID PRESS "FLUSH"
9	ORA POTETE PREMERE "STOP" PER SOSPENDERE IL CONTEGGIO DEL PROG	YOU MAY NOW PRESS "STOP" TO HOLD THE PROGRAM COUNTDOWN
10	REGISTRO CICLI LAVAGGIO && CICLI LAVA DOPO ULTIMO AZZERAMENTO	FLUSH CYCLE LOG - && FLUSH CYCLES SINCE LAST RESET
11	RINNOUARE SOLV LAVAGGIO SE REGISTRO CICLI SUPERA "05"	CHANGE FLUSH REAGENTS NOW IF FLUSH CYCLE LOG HIGHER THAN "05"
12	SE SOLV LAV APPENA RINNOVATI - PREMERE "A" AZZERANDO REGISTRO	IF FLUSH REAGENTS ARE CHANGED - PRESS "R" TO RESET LOG TO "00"
13	TERMINATO IL LAVAGGIO ASCIUGARE CAMERA REAZIONE, COPERCHIO FILTRO	WHEN FLUSH CYCLE ENDED WIPE REACTION CHAMBER LID AND FILTER
14	RIMUOVERE I TESSUTI DALLA CAMERA REAZIONE, CHIUDERE COPERCHIO	REMOVE TISSUE FROM REACTION CHAMBER, CLOSE LID
15	PER LAVARE CAMERA REAZIONE - PREMERE "START"	TO FLUSH REACTION CHAMBER - PRESS "START"
16	MODULO COMANDO DELL'INCLUSORE SOTTO VUOTO HYPERCENTER XP	WELCOME TO THE HYPERCENTER XP TISSUE PROCESSING SYSTEM
17	PER ESAMINARE LISTA PROGRAMMI ALTERO MODULO - PREMERE NO "MOD"	TO SELECT A MODULE PROGRAM MENU - PRESS "MOD" NUMBER
18	PER SCARICARE PARAFFINA DA POSIZIONE 11 - PREMERE "START"	TO DISCARD WAX FROM STEP 11 - PRESS "START"
19	LA PARAFFINA ATTORNO AL FORO D'INGRESSO STA FONDENDO	THE WAX AROUND THE INLET IS BEING MELTED
20	CIO RICHIEDERAI 10 MINUTI	THIS TAKES 10 MINUTES
21	PER INTERROMPERE LO SCARICO PARAFFINA PREMERE ORA TASTO "STOP"	IF YOU WISH TO STOP THE WAX DISCARD CYCLE PRESS "STOP" NOW
22	NON SI PUO TERMARE LO SCARICO PARAFFINA DOPO CHE QUESTA G'FUSA	ONCE THE WAX HAS MELTED YOU CANNOT ABORT THE WAX DISCARD CYCLE
23	LA PARAFFINA SI STA TRANSFERENDO NELLA VASCA DI RACCOLTA	THE WAX IS NOW BEING SUCKED INTO THE WAX COLLECTION TANK
24	IN QUESTO MOMENTO TUTTA LA PARAFFINA EL NELLA VASCA DI RACCOLTA	ALL THE WAX IS NOW IN THE WAX COLLECTION TANK
25	APRIRE IL COPERCHIO DELLA CAMERA DI REAZIONE	OPEN THE REACTION CHAMBER LID

## 5.1 Translations of screen directions - Italiano

93	BATTERIA OROLOGIO SCARICA, CORREGGERE L'ORA	CLOCK BATTERY IS LOW, RESET TIME.
94	PER CAMBIARE USARE IL CURSORE SU E GIU	USE CURSOR UP/DOWN TO ALTER
95	SELEZIONARE CAMPI CON CURSORE DESTRA/SINISTRA	USE CURSOR LEFT/RIGHT TO SELECT FIELDS
103	PER INTERROMPERE PREMERE "Q" IN QUALUNQUE MOMENTO	ANY TIME PRESS "Q" TO QUIT
125	GIORNO E ORA PER INIZIARE PROGRAMMA	TIME AND DAY TO START THE PROGRAM
126	GIORNO E ORA PER TERMINARE PROGRAMMA	TIME AND DAY TO FINISH THE PROGRAM
129	GUASTO INTERNO DEL SISTEMA	INTERNAL SYSTEM ERROR
130	STAMPA	PRINTING
131	LA STAMPA NON RISPONDE	PRINTER IS NOT ON LINE
132	SIETE SICURO? (S/N)	ARE YOU SURE (Y/N)
133	PREMERE "P" PER STAMPARE I DETTAGLI DEL PROGRAMMA	PRESS "P" TO PRINT PROGRAM DETAILS
134	PREMERE "E" PER STAMPARE GLI EVENTI REGISTRATI	PRESS "E" TO PRINT EVENT LOG
135	PREMERE "S" PER INTERROMPERE LA STAMPA	PRESS "S" TO STOP ALL PRINTING

## 5.1 Translations of screen directions - Español

26	QUITAR EL TANQUE COLECTOR DE CERA Y TIRAR LA CERA	REMOVE THE WAX COLLECTION TANK AND DISCARD THE WAX
27	AHORA SE ESTA ACLARANDO LA CAMARA DE REACCION	THE REACTION CHAMBER IS NOW BEING FLUSHED OUT
28	ESTO TARDA 5 MINUTOS	THIS TAKES 5 MINUTES
29	CICLO ELIMINACION CERA RETENIDO ACCIONAR "START" PARA REINICIAR	THE WAX DISCARD CYCLE IS ON HOLD, PRESS "START" TO RESTART
30	PARA INTERRUMPIR CICLO ECHAR CERA ACCIONAR "ABORT" Y "START"	TO ABORT THE WAX DISCARD CYCLE - PRESS "ABORT", THEN "START"
31	PARA CAMBIAR UN PROGRAMA EXISTENTE - ACCIONAR EL NO DEL "PROG"	TO ALTER AN EXISTING PROGRAM - PRESS "PROG" NUMBER
32	CERRAR LA TAPA DE LA CAMARA DE REACCION	CLOSE REACTION CHAMBER LID
33	PARA PARAR LA ALARMA ACCIONAR "CANCEL ALARM"	TO SILENCE ALARM PRESS "CANCEL ALARM"
66	TECLEAR EL TITULO DEL PROGRAMA Y ACCIONAR "ENTER"	KEY IN PROGRAM TITLE THEN PRESS "ENTER"
67	ACCIONAR "ENTER" O SI PROG COMPLETO GIRAR TECLA DE PROG A "OFF"	PRESS "ENTER" OR IF PROGRAM COMPLETE TURN PROGRAMMING KEY "OFF"
68	TELCLEAR EL REACTIVO/CONCENTRACION % Y ACCIONAR "ENTER"	KEY IN REAGENT/CONC % THEN PRESS "ENTER"
69	TECLEAR LA TEMPERATURA, "A" (AMBIENTE) O "35-45" Y "ENTER"	KEY IN REAGENT TEMPERATURE: "A" (AMBIENT), OR "35-45", AND "ENTER"
70	TECLEAR LA TEMPERATURA DE LA CERA, "45-65" Y "ENTER"	KEY IN WAX TEMPERATURE, "45-65", AND "ENTER"
71	SE NECESITA VACIO? ACCIONAR "S" (SI) O "N" (NO) Y "ENTER"	IS VACUUM REQUIRED? PRESS "Y" (YES), OR "N" (NO), AND "ENTER"
72	TECLEAR REACTIVO/TIEMPO IMMERISION EN CERA "HR:MIN:SG" Y "ENTER"	KEY IN REAGENT/WAX IMMERSION TIME "HRS:MIN:SECS", AND "ENTER"
73	ACCIONAR "DRAIN" PARA MOSTRAR TIEMPO DESEADO "ENTER"	PRESS "DRAIN" KEY REPEATEDLY TO DISPLAY DESIRED TIME, AND "ENTER"
74	SI ES LA ULTIMA ETAPA DEL PROGRAMA ACCIONAR "E" (FIN) Y "ENTER"	IF LAST STEP OF PROGRAM PRESS "E" (END), AND "ENTER"
61	DEMASIADO LLENO	OVERFILL
62	FALLO EN EL INDICE	INDEX FAULT
63	TEMPERATURA DEMASIADO ALTA	OVERTEMP
64	TAPA ABIERTA	LID OPEN
65	POCO LLENO	UNDERFILL

## 5.1 Translations of screen directions - Svensk

1	FOER ATT SE PA ELLER STARTA ETT PROGRAM - TRYCK PA "PROG" NR	TO LOOK AT OR START A PROGRAM - PRESS "PROG" NUMBER
2	FOER ATT SE PA PROGRAM FOER ANDRA MODULER - TRYCK PA "MOD" NR	TO LOOK AT PROGRAMS FOR OTHER MODULES - PRESS "MOD" NUMBER
3	FOER ATT LAEGGA IN PROGR - VRID PROGR - NYCKEL TILL "ON"	TO ENTER OR AMEND A PROGRAM - TURN PROGRAMMING KEY TO "ON"
4	FOER ATT LAEGGA IN ETT NYTT PROGR - TRYCK PA LEDIGT (VACANT) NR	TO ENTER A NEW PROGRAM - PRESS VACANT OR INCOMPLETE "PROG" NUMBER
5	SE BRUKSANVISNINGEN FOER NAERMARE INFORMATION	REFER TO OPERATOR GUIDE FOR SPECIFIC INFORMATION
6	TRYCK PA "START" ELLER VAEJ ANNAN MODUL ELLER PROGRAMNUMMER	TO RUN PROGRAM PRESS "START" PRESS "MOD" "PROG" FOR OTHER OPTIONS
7	TRYCK PA ENDERA PROGR, "STEP" ELLER "FLUSH", SEDAN "START"	YOU MAY PRESS "START" OR "ABORT" "STEP" "FLUSH" THEN "START"
8	TA UR PREPARATEN. STAENG KAMMARLOCKET. TRYCK SEDAN PA "FLUSH"	REMOVE TISSUE CLOSE REACTION CHAMBER LID PRESS "FLUSH"
9	NI KAN NU TYCKA PA "STOP" FOER ATT STOPPA NEDRAEKNINGEN AV PROGR	YOU MAY NOW PRESS "STOP" TO HOLD NTHE PROGRAM COUNTDOWN
10	FLUSH - LOGG - ANTAL FLUSH PROGRAM SEDAN SENASTE ATERSTAELLNING	FLUSH CYCLE LOG - && FLUSH CYCLES SINCE LAST RESET
11	BYT FLUSHVAETSKOR NU OM FLUSHLOGGEN VISAR MERA AEN "05"	CHANGE FLUSH REAGENTS NOW IF FLUSH CYCLE LOG HIGHER THAN "05"
12	OM FLUSHVAETSKOR HAR BYTTS - TRYCK PA "R" FOER O-STAELLNING LOGG	IF FLUSH REAGENTS ARE CHANGED - PRESS "R" TO RESET LOG TO "00"
13	NAER FLUSHPROGRAMMET AER KLART - RENGOER KAMMARE OCH FILTER	WHEN FLUSH CYCLE ENDED WIPE REACTION CHAMBER LID AND FILTER
14	TA UR PREPARATEN UR KAMMAREN. STAENG LOCKET	REMOVE TISSUE FROM REACTION CHAMBER, CLOSE LID
15	FOER ATT FLUSHA REAKTIONSKAMMAREN - TRYCK PA "START"	TO FLUSH REACTION CHAMBER - PRESS "START"
16	VAEKOMMEN TILL HYPERCENTER XP URVATTNINGSSYSTEM	WELCOME TO THE HYPERCENTER XP TISSUE PROCESSING SYSTEM
17	FOER ATT VAEJJA PROGRAMFOERTECKNING - TRYCK PA "MOD" NR	TO SELECT A MODULE PROGRAM MENU - PRESS "MOD" NUMBER
18	FOER ATT TOEMMA PARAFFIN UR POS 11 - TRYCK PA "START"	TO DISCARD WAX FROM STEP 11 - PRESS "START"
19	PARAFFININLOPPSROEREN VAERMES	THE WAX AROUND THE INLET IS BEING MELTED
20	DETTA TAR 10 MINUTER	THIS TAKES 10 MINUTES
21	OM NI OENSKAR AVBRYTA TOEMNINGSPROCESSEN - TRYCK PA "STOP" NU	IF YOU WISH TO STOP THE WAX DISCARD CYCLE PRESS "STOP" NOW
22	NAER PARAFFINROERET AER VART (10 MIN) KAN PROCESSEN EJ AVBRYTAS	ONCE THE WAX HAS MELTED YOU CANNOT ABORT THE WAX DISCARD CYCLE
23	PARAFFINET SUGS NU IN I TOEMNINGSTANKEN	THE WAX IS NOW BEING SUCKED INTO THE WAX COLLECTION TANK
24	ALLT PARAFFIN AER NU I TOEMNINGSTANKEN	ALL THE WAX IS NOW IN THE WAX COLLECTION TANK
25	OEPPNA REAKTIONSKAMMA RLOCKET	OPEN THE REACTION CHAMBER LID

## 5.1 Translations of screen directions - Svensk

93	KLOCKBATTERI URLADDAT, ASTERSTALL TID	CLOCK BATTERY IS LOW, RESET TIME.
94	ANVAND MARKOR UPP/NED FOR ANDRING	USE CURSOR UP/DOWN TO ALTER
95	ANVAND MARKOR VANSTER/NOGER FOR FALTVAL	USE CURSOR LEFT/RIGHT TO SELECT FIELDS
103	"Q" INTRYCKS FOR SLUT SOM HELST	ANY TIME PRESS "Q" TO QUIT
125	TID OCH DAG FOR PROGRAMSTART	TIME AND DAY TO START THE PROGRAM
126	TID OCH DAG FOR PROGRAMSLUT	TIME AND DAY TO FINISH THE PROGRAM
129	INTERNT SYSTEMFEL	INTERNAL SYSTEM ERROR
130	UTSKRIVNING	PRINTING
131	SKRIVAREN GER INGET GENSVAR	PRINTER IS NOT ON LINE
132	AR DU SAKER (J/N)	ARE YOU SURE (Y/N)
133	TRYCK IN "P" FOR UTSKRIVNING AV PROGRAMDETALJER	PRESS "P" TO PRINT PROGRAM DETAILS
134	TRYCK IN "E" FOR UTSKRIVNING AV TRANSAKTIONSLOGG	PRESS "E" TO PRINT EVENT LOG
135	TRYCK IN "S" FOR ATT AVBRYTA ALL UTSKRIVNING	PRESS "S" TO STOP ALL PRINTING

## 5.3 Parts List

### Hypercenter XP Enclosed Tissue Processing System

Description	Catalogue No
200-250V 50/60Hz	73900001
100-120V 50/60Hz	73900003
100-120V 50/60Hz (USA)	73900002
200-250V 50/60Hz (France)	73900005
200-250V 50/60Hz (West Germany)	73900004

Each instrument now incorporates the facility for the operator to select the screen language display in either English, French, German, Italian, Swedish or Spanish, by switch operation.

#### Complete with (basic kit)

Description
1 x Command Module
1 x Reaction Module
1 x Storage Module
1 x Command Cable (2 metre)
1 x Extension Fluid Tube
1 x Random Cassette Basket and Lid
1 x Organiser Cassette Basket and Lid (2 layer)
1 x Wax Collection Tank
1 x Reaction Chamber Seal
5 x Reagent Storage Bottles (pack of 3)
3 x Airbags
1 x Emergency Charcoal Filter
3 x Overfill Sensor Caps
1 x Operator Handbook
Bottle Connectors and Seals (pack of 4)
Reagent Bottle Cap and Seal (pack of 3)
Tissue Basket Handle
Various Spares and Tools

### Hypercenter XP Extension System

Description	Catalogue No
200-250V 50/60Hz	73900051

100-120V 50/60Hz	73900053
100-120V 50/60Hz (USA)	73900052
200-250V 50/60Hz (France)	73900055
200-250V 50/60Hz (West Germany)	73900054

**Note:** Extension :Systems incorporate standard basic kits as listed opposite, featuring Reaction Modules plus Storage Modules - without Command Modules.

### Hypercenter XP Accessories

Storage Module	73910201
Command Cable (2 metre)	66110030
Extension Fluid Tube	73910250
Reaction Vessel Drain Filter (pack of 2)	66110039
Wax Collection Tank	73910251
Reagent Storage Bottle Complete (pack of 3)	66110045
Bottle Connectors and Seals (pack of 4)	66110046
Airbag (pack of 4)	66110048
Emergency Charcoal Filter Cartridge	66110056
Reagent Bottle Cap and Seal (pack of 3)	66110052
Reaction Chamber Seal	66110053
Overfill Sensor Cap	66130103
Random Cassette Basket and Lid	66110210
Organiser Cassette Basket and Lid (2 layer)	66110211
Organiser Cassette Basket and Lid (3 layer) - labels not visible	66110212
Loose Tissue Basket (4 layer) with removable dividers. To hold specimens up to maximum size 21cm (length) x 11 cm (width) x 1cm (depth)	66110213
Tissue Basket Handle	66120567

### Portable Wax Stations ("free-standing", for bench top use)

200-250V 50/60Hz	73910401
100-120V 50/60Hz	73910403
100-120V 50/60Hz (USA)	73910402
200-250V 50/60Hz (France)	73910405
200-250V 50/60Hz (West Germany)	73910404

## 5.5 Service Record

Date engineer notified	Reason	Date serviced	Module serviced	Engineer's findings and actions	Engineer's signature



- A**
- Abort
    - program ..... 33
    - delayed start ..... 35
  - Accessories ..... 78
  - Acetone ..... 11
  - Agitation ..... 15
  - Airbag, replacement ..... 50
  - Alarm
    - cancel ..... 56
    - overflow ..... 57
    - index fault ..... 58
    - overtemperature ..... 60
    - lid open ..... 60
    - underfill ..... 59
  - Alcohol ..... 11
  - Amending a program ..... 42
- B**
- Basket
    - holder ..... 13
    - tissue ..... 13
  - Bouin's fluid ..... 11
  - Brake levers ..... 9
  - Buffered formalin ..... 11
- C**
- Cassettes ..... 13
  - Chloroform ..... 11
  - Cleaning
    - reagent bottles ..... 47
    - reaction chamber ..... 47
    - wax bath(s) ..... 49
    - key pads and VDU ..... 50
    - inlet cover ..... 48
  - Clearing, a program ..... 44
  - Clearing agents ..... 11
  - Clock, setting time ..... 19
  - Command cable ..... 8
  - Command module
    - power requirements ..... 7
    - tilting ..... 9
  - Configuration modules ..... 7
  - Connections
    - Hypercenter to mains ..... 8
    - Command-Reaction modules ..... 10
    - Reaction-Storage modules ..... 10
  - Cooling fan ..... 18
- D**
- Dehydrants ..... 11
  - Delayed starts
    - set start ..... 30
    - set finish ..... 30
  - Dimensions
    - leads, tubes ..... 8
    - modules ..... 8
  - Draining wax ..... 49
- E**
- Earth connection ..... 9
  - Embedding agents ..... 11
  - Emergency charcoal filter
    - replacement ..... 51
  - Emptying
    - wax bath(s) ..... 49
    - vapour trap bottle ..... 51
  - End ..... 24
  - Enter ..... 20
  - Entering a program ..... 20
  - Error, correction of ..... 33
  - Ethanol ..... 11
- F**
- Female connectors ..... 8
  - Filling
    - wax baths ..... 12
    - reagent bottles ..... 11
- Filter**
- emergency charcoal ..... 51
  - reaction chamber ..... 48
- Fixatives** ..... 11
- Flush** ..... 39
- Formalin** ..... 11
- Formal saline** ..... 11
- G**
- Ground connection ..... 9
- H**
- Health and safety ..... 85
  - Hold ..... 34
  - Hydrocarbons ..... 11
  - Hypercenter
    - wax station ..... 14
    - Hypercenter XP and 2 systems ..... 46
  - Accessories ..... 79
- I**
- Index fault alarm ..... 58
  - Installation
    - Hypercenter ..... 9
    - options ..... 7
    - wax station ..... 14
    - record ..... 80
  - Instrument self test ..... 54
  - Internal system error ..... 54
  - Isopropyl alcohol ..... 11
- J**
- K**
- Key
    - programming mode ..... 20
    - wax bath selection ..... 49
    - wax drain ..... 49
  - Keypad, cleaning ..... 50

## HEALTH AND SAFETY AT WORK ACT (1974)

In common with all suppliers of instruments for use at work, we are obliged under the terms of the above act to advise our customers on the safe installation, operation and maintenance of our equipment

Our instrumentation has been designed to accepted standards of safety and its use does not entail any hazard if used according to our instructions. However the following safety precautions should be observed.

- (i) All personnel using the instrumentation should have read and understood the handbook and should operate the equipment in accordance with the instructions
- (ii) Voltages above 110V A.C. are present in the instruments and access covers should only be removed by trained Shandon service engineers, except where otherwise stated.
- (iii) It is very important that normal laboratory standards of safety and good housekeeping are carried out and common sense rules applied.
- (iv) All queries should be referred to our Service Department.
- (v) Correct maintenance procedures are essential if the equipment is to be maintained in a safe working condition and it is recommended that a maintenance contract be taken out with our Service Department.