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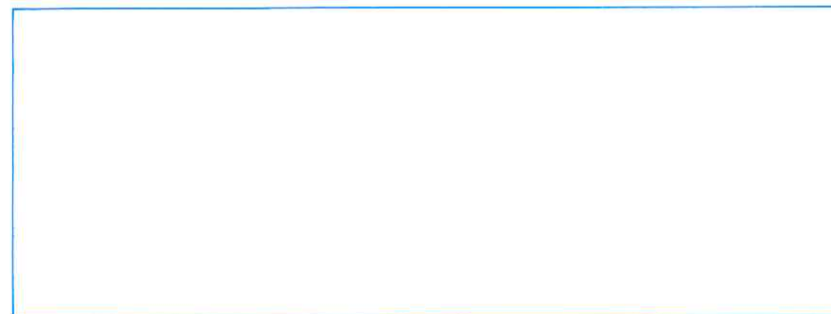
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5.2 Technical Data

Power Requirements

Command module	150VA
Reaction module	1200VA

Cassette Capacity (Approx)	Random	Organised
Random Cassette Basket and Lid	165	215
Organiser Cassette Basket and Lid (2 layer)	-	200
Organiser Cassette Basket and Lid (3 layer) - labels not visible	-	205

Instrument Dimensions (cm) Approximately	depth	width	height	net weight kg
Command module	31(12")	45(18")	26(10")	9(20 lb)
Reaction module	62(24")	45(18")	33(13")	47(103 lb)
Storage module	62(24")	45(18")	58(23")	43(95 lb)
Total Height Freestanding (including castors)			117(46")	
Total Net Weight				99(218 lb)

Note

For instrument "supply voltage ranges"
and "supply frequencies" please refer
to PARTS LIST Section 5.3

5.1 Translations of screen directions - Svensk

26	TA BORT VAXTOEMNINGSTANKEN UR KAMMAREN	REMOVE THE WAX COLLECTION TANK AND DISCARD THE WAX
27	REAKTIONSKAMMAREN FLUSHAS NU	THE REACTION CHAMBER IS NOW BEING FLUSHED OUT
28	DETTA TAR 5 MINUTER	THIS TAKES 5 MINUTES
29	TOEMNINGSPROCESSEN AER STOPPAD. FOER ATERSTART - TRYCK "START"	THE WAX DISCARD CYCLE IS ON HOLD PRESS "START" TO RESTART
30	FOER ATT AVBRYTA TOEMNINGSPROCESSEN - TRYCK "ABORT", SEDAN "START"	TO ABORT THE WAX DISCARD CYCLE - PRESS "0" (ABORT), THEN "START"
31	FOER ATT AENDRA ETT PROGRAM - TRYCK PA "PROG" NR	TO ALTER AN EXISTING PROGRAM - PRESS "PROG" NUMBER
32	STAENG LOCKET PA REAKTIONSKAMMAREN	CLOSE REACTION CHAMBER LID
33	FOER ATT KVITTERA (TYSTA) ALARM - TRYCK PA "CANCEL ALARM"	TO SILENCE ALARM PRESS "CANCEL ALARM"
66	MATA IN PROGRAMMETS TITEL, TRYCK SEDAN "ENTER"	KEY IN PROGRAM TITLE THEN PRESS "ENTER"
67	TRYCK PA "ENTER" OM PROGR AER KLART PROG - NYCKEL TILL "OFF"	PRESS "ENTER" OR IF PROGRAM COMPLETE TURN PROGRAMMING KEY "OFF"
68	MATA IN REAGENS OCH KONCENTRATION %. TRYCK SEDAN PA "ENTER"	KEY IN REAGENT/CONC % THEN PRESS "ENTER"
69	MATA IN REAGENSTEMP, "A" ELLER "35-45" TRYCK SEDAN PA "ENTER"	KEY IN REAGENT TEMPERATURE "A" (AMBIENT), OR "35-45", AND "ENTER"
70	MATA IN PARAFFINTEMP "45-65". TRYCK SEDAN PA "ENTER"	KEY IN WAX TEMPERATURE, "45-65", AND "ENTER"
71	VAKUUM? TRYCK "J" FOER JA "N" FOER NEJ. TRYCK SEDAN "ENTER"	IS VACUUM REQUIRED PRESS "Y" (YES), OR "N" (NO), AND "ENTER"
72	MATA IN PROCESSTIDEN I TIM MIN OCH SEK. TRYCK SEDAN PA "ENTER"	KEY IN REAGENT/WAX IMMERSION TIME "HRS MINS SECS", AND "ENTER"
73	TRYCK UPPREPAT PA "DRAIN" TILL OENSKAD TID. TRYCK PA "ENTER"	PRESS "DRAIN" KEY REPEATEDLY TO DISPLAY DESIRED TIME, AND "ENTER"
74	NAER PROGRAMMET INMATATS - TRYCK "E" (END) OCH "ENTER"	IF LAST STEP OF PROGRAM PRESS "E" (END), AND "ENTER"
61	OEVERFYLLNAD	OVERFILL
62	VALVENTILFEL	INDEX FAULT
63	OEVERTEMP	OVERTEMP
64	LOCK OPPET	LID OPEN
65	UNDER NIVA	UNDERFILL

5.1 Translations of screen directions - Español

1	PARA MIRAR O INICIAR UN PROGRAMA ACCIONAR EL NO DEL "PROG"	TO LOOK AT OR START A PROGRAM - PRESS "PROG" NUMBER
2	PARA MIRAR PROGRAMAS PARA OTROS MODULOS ACCIONAR EL NO "MOD"	TO LOOK AT PROGRAMS FOR OTHER MODULES - PRESS "MOD" NUMBER
3	PARA ENTRAR O CORREGIR UN PROGRAMA PONER LA TECLA PROG EN "ON"	TO ENTER OR AMEND A PROGRAM - TURN PROGRAMMING KEY TO "ON"
4	PARA ENTRAR UN PROG NUEVO TECLEAR NO DE "PROG" LIBRE/INCOMPLETO	TO ENTER A NEW PROGRAM - PRESS VACANT/INCOMPLETE "PROG" NUMBER
5	PARA INFORMACION ESPECIFICA CONSULTAR LA GUIA DEL OPERADOR	REFER TO OPERATOR GUIDE FOR SPECIFIC INFORMATION
6	PARA EJECUTAR PROG ACCIONAR "START", PARA OPCIONES "MOD"/"PROG"	TO RUN PROG PRESS "START". PRESS "MOD"/"PROG" FOR OTHER OPTIONS
7	SE PUEDE ACCIONAR "START" O "ABORT", "STEP", "FLUSH" PUES "START"	YOU MAY PRESS "START", OR "ABORT", "STEP", "FLUSH", THEN "START"
8	QUITAR TEJIDO, CERRAR TAPA LA CAMARA DE REACCION, ACCIONAR "FLUSH"	REMOVE TISSUE, CLOSE REACTION CHAMBER LID, PRESS "FLUSH"
9	AHORA SE PUEDE ACCIONAR "STOP" PARA RETENER CUENTA ATRAS DE PROG	YOU MAY NOW PRESS "STOP" TO HOLD THE PROGRAM COUNTDOWN
10	REGISTRO CICLOS ACLARADO - ** CICLOS DESDE LA ULT PUESTO A CERO	FLUSH CYCLE LOG - ** FLUSH CYCLES SINCE LAST RESET
11	CAMBIAR REACTIVOS ACLARADO SI REGISTRO CICLOS MAYOR QUE "05"	CHANGE FLUSH REAGENTS NOW IF FLUSH CYCLE LOG HIGHER THAN "05"
12	SI CAMBIAN REACTIVOS ACLARADO ACCIONAR "R" QUE PONE REG A "00"	IF FLUSH REAGENTS ARE CHANGED - PRESS "R" TO RESET LOG TO "00"
13	ACABADO CICLO ACLARADO LIMPIAR CAMARA DE REACCION TAPA Y FILTRO	WHEN FLUSH CYCLE ENDED WIPE REACTION CHAMBER, LID AND FILTER
14	QUITAR DE TEJIDO DE LA CAMARA E REACCION; CERRAR LA TAPA	REMOVE TISSUE FROM REACTION CHAMBER; CLOSE LID
15	PARA ACLARAR LA CAMARA DE REACCION - ACCIONAR "START"	TO FLUSH REACTION CHAMBER - PRESS "START"
16	BIENVENIDO AL HYPERCENTER XP, SISTEMA DE PROCESADO DE TEJIDOS	WELCOME TO THE HYPERCENTER XP TISSUE PROCESSING SYSTEM
17	PARA SELECCIONAR MENU DE PROG DE MODULO ACCIONAR EL NO DEL "MOD"	TO SELECT A MODULE PROGRAM MENU - PRESS "MOD" NUMBER
18	PARA ELIMINAR LA CERA DE LA ETAPA 11 - ACCIONAR "START"	TO DISCARD WAX FROM STEP 11 - PRESS "START"
19	LE CERA ALREDEDOR DE LA ENTRADA SE ESAT FUNDIENDO	THE WAX AROUND THE INLET IS BEING MELTED
20	ESTO TARDA 10 MINUTOS	THIS TAKES 10 MINUTES
21	SI SE DESEA PARAR EL CICLO DE ECHAR CERA ACCIONAR "STOP"	IF YOU WISH TO STOP THE WAX DISCARD CYCLE PRESS "STOP" NOW
22	AL FUNDIRSE LA CERA NO SE PUEDE INTERRUMPIR CICLO ECHARA CERA	ONCE THE WAX HAS MELTED YOU CANNOT ABORT THE WAX DISCARD CYCLE
23	SE ESTA ASPIRANDO LA CERA AL TANQUE COLECTOR	THE WAX IS NOW BEING SUCKED INTO THE WAX COLLECTION TANK
24	TODA LA CERA ESTA AHORA EN EL TANQUE COLECTOR	ALL THE WAX IS NOW IN THE WAX COLLECTION TANK
25	ABRIR LA TAPA DE LA CAMARA DE REACCION	OPEN THE REACTION CHAMBER LID

5.1 Translations of screen directions - Italiano

26	RIMOUVERE LA VASCA DI RACCOLTA PARAFFINA E SCARICARE PARAFFINA	REMOVE THE WAX COLLECTION TANK AND DISCARD THE WAX
27	LA CAMERA DI REAZIONE SI STA ORA LAVANDO	THE REACTION CHAMBER IS NOW BEING FLUSHED OUT
28	QUESTA OPERAZIONE RICHIEDE 5 MINUTI	THIS TAKES 5 MINUTES
29	IL CICLO DI SCARICO PARAFFINA E' SOSPESO	THE WAX DISCARD CYCLE IS ON HOLD PRESS "START" TO RESTART
30	PER ANULLARE SCARICO PARAFFINA - PREMERE "O" (ABORT), E POI "START"	TO ABORT THE WAX DISCARD CYCLE - PRESS "O" (ABORT), THEN "START"
31	PER MODIFICARE UN PROGRAMMA ESISTENTE - PREMERE IL NO DEL "PROG"	TO ALTER AN EXISTING PROGRAM - PRESS "PROG" NUMBER
32	CHIUDERE IL COPERCHIO DELLA CAMERA DI REAZIONE	CLOSE REACTION CHAMBER LID
33	PER INTERROMPERE L'ALLARME PREMERE "CANCEL ALARM"	TO SILENCE ALARM PRESS "CANCEL ALARM"
66	SCRIVERE IL NOME DEL PROGRAMMA E QUINDI PREMERE IL TASTO "ENTER"	KEY IN PROGRAM TITLE THEN PRESS "ENTER"
67	PREMERE "ENTER" O, SE PROG, TERMINATO, RIMUOVERE CHIAVE PROG	PRESS "ENTER" OR IF PROGRAM COMPLETE TURN PROGRAMMING KEY "OFF"
68	SCRIVERE NOME REAGENTE CONC % E QUINDI PREMERE IL TASTO "ENTER"	KEY IN REAGENT/CONC % THEN PRESS "ENTER"
69	SCRIVERE TEMP REAGENTE, "A" (AMBIENTE), O "35-45", QUINDI "ENTER"	KEY IN REAGENT TEMPERATURE "A" (AMBIENT), OR "35-45", AND "ENTER"
70	IMPOSTARE TEMPERATURA PARAFFINA "45-65" QUINDI PREMERE "ENTER"	KEY IN WAX TEMPERATURE, "45-65", AND "ENTER"
71	IL VUOTO E NECESSARIO? PREMERE: "S" O "N" (NON) E POI "ENTER"	IS VACUUM REQUIRED PRESS "Y" (YES), OR "N" (NO), AND "ENTER"
72	IMPOSTARE TEMPO IMMERSIONE REAGPARAF HRS MINS SECS E "ENTER"	KEY IN REAGENT/WAX IMMERSION TIME "HRS MINS SECS", AND "ENTER"
73	PREMERE RIPETUTAMENTE DRAIN FINO AL TEMPO DESIDERATO E "ENTER"	PRESS "DRAIN" KEY REPEATEDLY TO DISPLAY DESIRED TIME, AND "ENTER"
74	SE E L'ULTIMO PASSO DEL PROGRAMME PREMERE "E" (FINE) POI "ENTER"	IF LAST STEP OF PROGRAM PRESS "E" (END), AND "ENTER"
61	TROPPO-PIENO	OVERFILL
62	POSIZ VALVOLA	INDEX FAULT
63	SOVRA-TEMP	OVERTEMP
64	COPERCH APERTO	LID OPEN
65	RABBOCCARE CIRA	UNDERFILL

5.1 Translations of screen directions - Français

93	LA BATTERIE DE L'HORLOGE EST VIDE R.A.Z.	CLOCK BATTERY IS LOW, RESET TIME:
94	UTILISER LE CURSEUR HAUT/BAS POUR MODIFIER	USE CURSOR UP/DOWN TO ALTER
95	UTILISER GAUCHE/DROITE POUR CHANGER DE COLONNE	USE CURSOR LEFT/RIGHT TO SELECT FIELDS
103	A CHAQUE INSTANT VOUS POUVEZ PRESSER "Q" POUR SORTIR	ANY TIME PRESS "Q" TO QUIT
125	HEURE ET JOUR DE DEPART DU PROGRAMME	TIME AND DAY TO START THE PROGRAM
126	HEURE ET JOUR DE FIN DU PROGRAMME	TIME AND DAY TO FINISH THE PROGRAM
129	ERREUR SYSTEME	INTERNAL SYSTEM ERROR
130	IMPRESSION EN COURS	PRINTING
131	IMPRIMANTE HORS FONCTION	PRINTER IS NOT ON LINE
132	ETES-VOUS SUR (O/N)	ARE YOU SURE (Y/N)
133	PRESSER "P" POUR IMPRIMER LE PROGRAMME	PRESS "P" TO PRINT PROGRAM DETAILS
134	PRESSER "S" POUR IMPRIMER LE SEQUENCE	PRESS "E" TO PRINT EVENT LOG
135	PRESSER "A" POUR ARRETER L'IMPRESSION	PRESS "S" TO STOP ALL PRINTING

5.1 Translations of screen directions - Français

1	POUR VISUALISER OU DEMARRER UN PROGRAMME APPUYER SUR "PROG" NUMERO	TO LOOK AT OR START A PROGRAM - PRESS "PROG" NUMBER
2	POUR VOIR LES PROGRAMMES DES AUTRES MODULES - PRESSER "MOD" NUMERO	TO LOOK AT PROGRAMS FOR OTHER MODULES - PRESS "MOD" NUMBER
3	POUR PROGRAMMER - TOURNER LA CLEF DE PROGRAMMATION SUR "ON"	TO ENTER OR AMEND A PROGRAM - TURN PROGRAMMING KEY TO "ON"
4	POUR ENTRER UN NOUVEAU PROGRAMME APPUYER SUR NUMERO DE PROGRAMME	TO ENTER A NEW PROGRAM - PRESS VACANT OR INCOMPLETE "PROG" NUMBER
5	SE RAPPORTER AU MANUEL POUR DES INFORMATIONS SPECIFIQUES	REFER TO OPERATOR GUIDE FOR SPECIFIC INFORMATION
6	POUR DEMARRER AFFICHER LE PROGRAMME PUIS APPUYER SUR "START"	TO RUN PROGRAM PRESS "START" PRESS "MOD" "PROG" FOR OTHER OPTIONS
7	VOUS POUVEZ APPUYER SUR "START" OU "STEP" "FLUSH" "ABORT" PUIS "START"	YOU MAY PRESS "START" OR "ABORT" "STEP" "FLUSH" THEN "START"
8	RETIRER LES ENCHANTILLONS FERMER LE COUVERCLE APPUYER SUR "FLUSH"	REMOVE TISSUE CLOSE REACTION CHAMBER LID PRESS "FLUSH"
9	VOUS POUVEZ APPUYER SUR "STOP" POUR ARRETER LE DECOMPTAGE	YOU MAY NOW PRESS "STOP" TO HOLD THE PROGRAM COUNTDOWN
10	COMPTEUR DE CYCLES DE LAVAGE DEPUIS LE DERNIER R A Z = &&	FLUSH CYCLE LOG - && FLUSH CYCLES SINCE LAST RESET
11	CHANGER LES REACTIFS DE LAVAGE SI LE COMPTEUR EST SUPERIEUR A "05"	CHANGE FLUSH REAGENTS NOW IF FLUSH CYCLE LOG HIGHER THAN "05"
12	PUIS APPUYER SUR "R" POUR REMETTRE LE COMPTEUR A "00"	IF FLUSH REAGENTS ARE CHANGED - PRESS "R" TO RESET LOG TO "00"
13	LE LAVAGE TERMINE ESSUYER LA CHAMBRE A REACTION ET LE FILTRE	WHEN FLUSH CYCLE ENDED WIPE REACTION CHAMBER LID AND FILTER
14	OTER LES PIECES DE LA CHAMBRE A REACTION FERMER LE COUVERCLE	REMOVE TISSUE FROM REACTION CHAMBER, CLOSE LID
15	POUR NETTOYER LA CHAMBRE A REACTION APPUYER SUR "START"	TO FLUSH REACTION CHAMBER - PRESS "START"
16	HYPERCENTER XP VOUS SOUHAITE LA BIENVENUE	WELCOME TO THE HYPERCENTER XP TISSUE PROCESSING SYSTEM
17	POUR SELECTIONNER UN MODULE APPUYER LE NUMERO DU MODULE	TO SELECT A MODULE PROGRAM MENU - PRESS "MOD" NUMBER
18	POUR VIDANGER LA PARAFFINE EN POSITION 11 APPUYER SUR "START"	TO DISCARD WAX FROM STEP 11 - PRESS "START"
19	PRECHAUFFAGE DES CONDUITS DE PARAFFINE	THE WAX AROUND THE INLET IS BEING MELTED
20	PENDANT 10 MINUTES	THIS TAKES 10 MINUTES
21	POUR STOPPER LE CYCLE DE VIDANGE PARAFFINE APPUYER SUR "STOP"	IF YOU WISH TO STOP THE WAX DISCARD CYCLE PRESS "STOP" NOW
22	APRES WAX 1 ON NE PEUT ELIMINER LE CYCLE DE VIDANGE PARAFFINE	ONCE THE WAX HAS MELTED YOU CANNOT ABORT THE WAX DISCARD CYCLE
23	LA PARAFFINE EST TRANSFERE DANS LE RESERVOIR DE VIDANGE	THE WAX IS NOW BEING SUCKED INTO THE WAX COLLECTION TANK
24	TOUTE LA PARAFFINE EST MAINTENANT DANS LE RESERVOIR DE VIDANGE	ALL THE WAX IS NOW IN THE WAX COLLECTION TANK
25	OUVRIR LE COUVERCLE DE LA CHAMBRE A REACTION	OPEN THE REACTION CHAMBER LID

26	NEHMEN SIE DEN WACHSENTLEERUNGSBEHAELTER AUS DER REAKTIONSKAMMER	REMOVE THE WAX COLLECTION TANK AND DISCARD THE WAX
27	DIE REAKTIONSKAMMER WIRD NUN GEREINIGT (FLUSH)	THE REACTION CHAMBER IS NOW BEING FLUSHED OUT
28	DIESE REINIGUNG DAUERT ETWA 5 MINUTEN	THIS TAKES 5 MINUTES
29	DAS WACHSENTLEERUNGSPORGRAMM WURDE GESTOPPT	THE WAX DISCARD CYCLE IS ON HOLD - PRESS "START" TO RESTART
30	UM DIE WACHSENTLEERUNG ABZUBRECHEN DRUECKEN SIE "0" UND "START"	TO ABORT THE WAX DISCARD CYCLE - PRESS "0" (ABORT), THEN "START"
31	UM EIN PROGRAMM ZU AENDERN - DRUECKEN SIE DIE "PROG" NR	TO ALTER AN EXISTING PROGRAM - PRESS "PROG" NUMBER
32	SCHLIESSEN SIE DEN REAKTIONSKAMMERDECKEL	CLOSE REACTION CHAMBER LID
33	UM EINEN ALARM ZU LOESCHEN - DRUECKEN SIE "CANCEL ALARM"	TO SILENCE ALARM PRESS "CANCEL ALARM"
66	GEBEN SIE DEN PROGRAMMNAMEN EIN UND DRUECKEN SIE "ENTER"	KEY IN PROGRAM TITLE THEN PRESS "ENTER"
67	DRUECKEN SIE ENTER FALLS PROG, KOMPL ENTNEHMEN SIE SCHLUESSEL	PRESS "ENTER" OR IF PROGRAM COMPLETE TURN PROGRAMMING KEY "OFF"
68	GEBEN SIE REAG NAME UND KONZENTRATION EIN - DRUECKEN SIE "ENTER"	KEY IN REAGENT/CONC % THEN PRESS "ENTER"
69	GEBEN SIE DIE TEMPERATUR EIN "35-45" ODER "A" - "ENTER" DRUECKEN	KEY IN REAGENT TEMPERATURE "A" (AMBIENT), OR "35-45", AND "ENTER"
70	GEBEN SIE DIE WACHSTEMPERATUR EIN "45-65" - DRUECKEN SIE "ENTER"	KEY IN WAX TEMPERATURE, "45-65", AND "ENTER"
71	DRUECKEN SIE "J" (JA) = VACUUM ODER "N" (NEIN) UND "ENTER"	IS VACUUM REQUIRED? PRESS "Y" (YES), OR "N" (NO), AND "ENTER"
72	GEBEN SIE DIE VERWEILDAUER EIN HRS MIN SEC - "ENTER" DRUECKEN	KEY IN REAGENT/WAX IMMERSION TIME "HRS MINS SECS", AND "ENTER"
73	ABTROPFZEIT DURCH DRUECKEN DER "DRAIN" TASTE WAELHEN, DANN "ENTER"	PRESS "DRAIN" KEY REPEATEDLY TO DISPLAY DESIRED TIME, AND "ENTER"
74	NACH LETZTER EINGABE, DRUECKEN SIE "E" UND "ENTER"	IF LAST STEP OF PROGRAM PRESS "E" (END), AND "ENTER"
61	R-K UEBERLAUF	OVERFILL
62	VENTILFEHLER	INDEX FAULT
63	UEBERTEMP	OVERTEMP
64	DECKEL OFFEN	LID OPEN
65	ZU WENIG RETIG	UNDERFILL



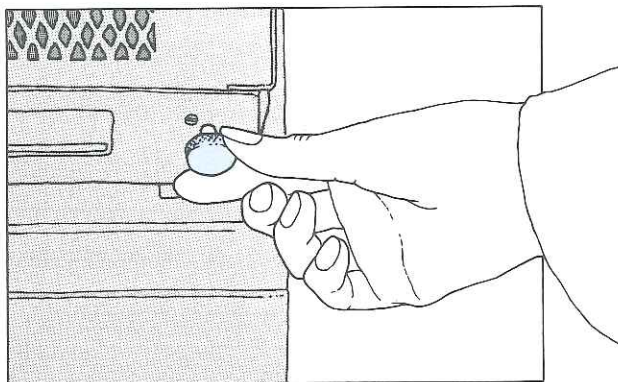
MODULE No. _____ PROGRAM No. _____
 PROGRAM TITLE: _____

STEP REAGENT/CONC. % TEMP. VAC. IMMERSION DRAIN

STEP	REAGENT/CONC. %	TEMP.	VAC.	IMMERSION DRAIN
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				

PROGRAM DURATION: _____
 ADDITIONAL PGM COMMENTS: _____

PROBLEM	CAUSE	SOLUTION
Alarm: OVERTEMPERATURE	Insufficient reagent in the reaction chamber to cover the temperature sensor.	<ol style="list-style-type: none"> 1 Wait for the reaction chamber to cool. 2 Empty the reaction chamber by pressing: <ul style="list-style-type: none"> - module number - program number which was running - ABORT - START 3 Remove the reagent bottle and fill it to the correct level (see section 1.8). 4 Fill reagent bottle.
	Reagent bottle empty	
Alarm: LID OPEN	Reaction chamber lid missing or not closed properly.	Close the lid firmly
	Reaction chamber seal damaged.	Replace the seal (See section 3.4).
	Emergency vacuum release valve is open.	<p>Close the valve. This is located at the rear of the reaction module in the lower right hand corner.</p> <p>If none of these causes are responsible for the alarm, call a Shandon Service Engineer.</p>



PROBLEM	CAUSE	SOLUTION
		7 Restart the program by pressing: <ul style="list-style-type: none"> - module number - program number - STEP (START) through the program until you reach the step at which it stopped (See section 2.10). - START
	Overfill sensor has been splashed with reagent or wax.	1 Dry off the sensor thoroughly with absorbent paper. 2 Restart program by pressing START.
	Sensitivity of overfill sensor is incorrectly adjusted.	Despite drying the sensor, the program will not start. Call Shandon Service Engineer to adjust sensitivity.
Alarm: INDEX FAULT (failure of selector valve location).	Connections between reaction module and storage module not connected properly.	Check connections for fitting and possible damage. If incorrectly fitted, disconnect and reconnect (See section 1.6). If damaged, call Shandon Service Engineer.
	Command cable not connected properly.	Check connections for fitting and possible damage. If incorrectly fitted, disconnect and reconnect (See section 1.6). If damaged, call Shandon Service Engineer. If none of these causes are responsible for the alarm, call a Shandon Service Engineer.

Internal System Safeguard

The Hypercenter incorporates an internal safeguard measure in the command module. If a fault is detected, the screen will display "Internal System Error" (language dependent) and the command module will automatically shut down all reaction vessels connected. Please consult your Shandon Service Engineer.

Power-On Self Tests

Each time the command module is switched on, the unit checks all memory through a "self-test procedure and then displays the "Welcome to the Hypercenter XP Tissue Processing System" screen. In the event of a fault, an error message is displayed and you should consult your Shandon Service Engineer.

FRANCAIS

Systeme de sécurité interne

Un système de mesure de sécurité est incorporé dans le module de commande de l'Hypercenter. Si une erreur est détectée, l'écran inscriva "Erreur Systeme". Le module de commande stoppera automatiquement les modules à réaction. Dans ce cas consulter le Service après-vente SHANDON.

Mise en marche de L'auto-test

A chaque fois que le module de commande est mis en fonction, l'appareil auto-teste toutes les mémoires par une procédure spéciale. Dans le cas ou une erreur serait détectée, et inscrite à l'écran, consulter le S.A.V. SHANDON.

DEUTSCH

Das Sicherheitssystem

Der Hypercenter hat ein Sicherheitssystem im

Steuermodul eingebaut.

Falls bei der Überprüfung der Funktionen ein Fehler gefunden wird erscheint der Alarm "System Fehler". Das Steuermodul schließt automatisch alle Reaktions - gefaße. Bitte rufen sie den SHANDON Kundendienst an.

Strom einschalten, Anzeige "Selbst-Test" erscheint

Immer wenn das Steuermodul eingeschaltet wird, überprüft es den speicher mit einem "Selbst-Test".

Im falle eines Defekts gibt er eine Fehlermeldung und Sie sollten sich mit dem SHANDON Kundendienst in Verbindung setzen.

ESPAÑOL

Salvaguarda Interna Del Sistema

El Hypercenter incorpora una medida interna de salvaguarda en el modulo de mando. Si se detecta un fallo aparece en la pantalla el mensaje "Internal System Error" y el modulo de mando para automaticamente todos los depositos de reaccion que esten conectados. Consultar con el ingeniero de servicio de SHANDON.

Auto-prueba al conectar

Cada vez que el modulo de mando se pone en marcha, el instrumento comprueba todas las memorias por medio de un procedimiento de "auto-prueba", en caso de que haya algun, fallo aparece un mensaje de error y se debe consultar al ingeniero de servicio de SHANDON.

ITALIANO

Protezioni Interne del Sistema

L'Hypercenter ha una sistema interno che pro-

tegge il modulo di comando se esso trova un guasto fa vedere sullo schermo il messaggio "GUAUSTO INTERNO DEL SISTEMA" e il modulo di comando chiude automaticamente tutti i vasi di reazione che sono connessi. Chiedete l'intervento di un tecnico della SHANDON.

Autodiagnosi alla accensione

Ogni volta che si accende il modulo di comando, si ha una sequenza di autodiagnosi della memoria da parte dello strumento. Si esso trova un guasto lo segnala con un messaggio sullo schermo e si deve chiedere l'intervento di un tecnico della SHANDON.

SVENSKA

Inre systemskydd

Hypercenter har en inre skyddsanordning i Kommandomodulen. Om ett fel upptäcks, visar skärmen "Internt systemfel", och Kommandomodulen kommer automatiskt att avställa alla anslutna reaktionskärl. Rådgör med närmasta SHANDON servicetekniker.

Självtest

Varje gång Kommandomodulen tillkoplas, kontrollerar instrumentet allt minne genom ett självtest-förfarande. I händelse av ett fel visas ett felmeddelande. Inhämta råd från SHANDON servicetekniker.

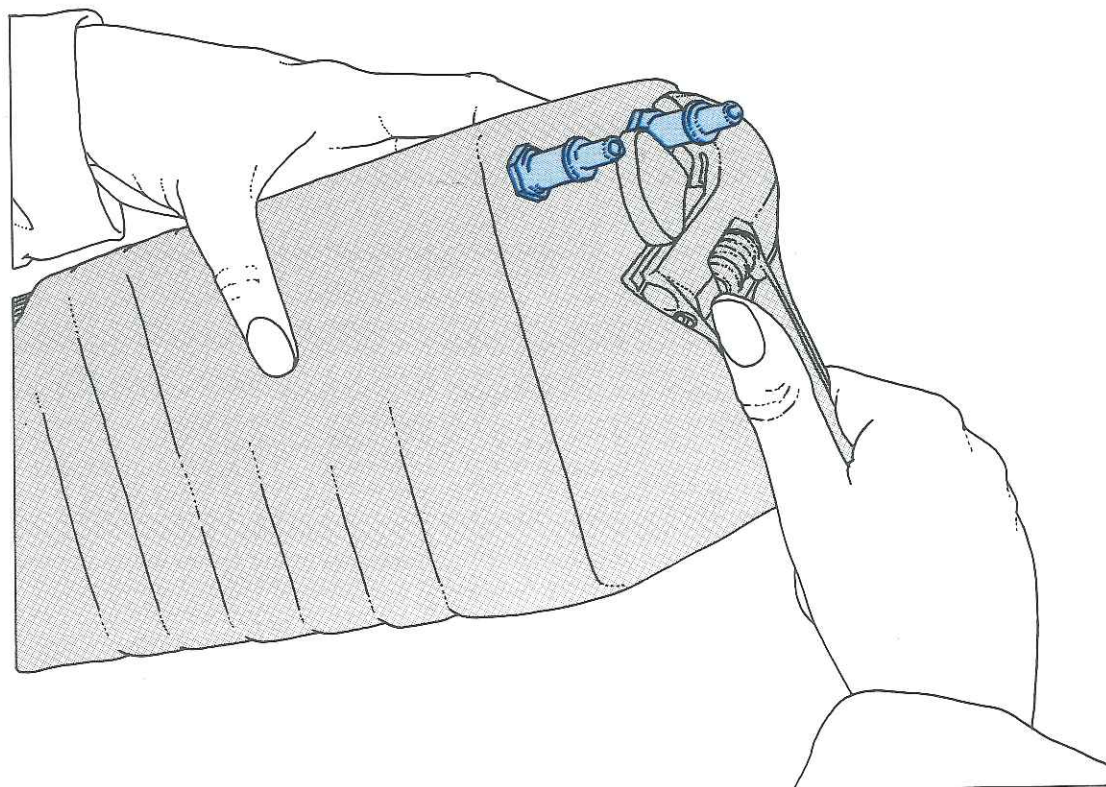
3.10 Replacing the reagent bottle connectors and seals

There are two types of seal in each reagent bottle:

- seals over the male connectors for the reagent tube and the air tube.
- a seal in the bottle cap.

1 Replace the damaged seal by unscrewing the connector and screwing in a new connector of the appropriate type.

2 Replace the bottle cap seal by removing the damaged seal and putting in the new seal. Make sure that the cork in the seal faces inside the cap and the teflon coating is visible.



3.6 Cleaning the keypads and visual display unit

From time to time the keypads and VDU screen become dirty. Use a damp cloth or furniture polish to clean the keypads and screen when there is no program running.

Do not use solvents or abrasive creams.

3.7 Replacing the airbag

The airbag which is located at the rear of the storage module acts as an expansion chamber when air is displaced from the reaction chamber and reagent bottles during the processing cycle.

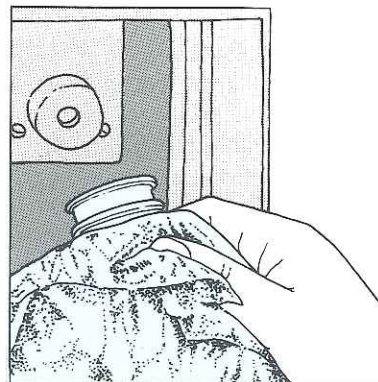
It is recommended that a new airbag is fitted every 3 months since the side welds of the bag may be weakened over time by the solvent vapours.

Spare airbags are supplied with the storage module accessories.

1 Carefully remove the lower panel by turning the fastening clips.

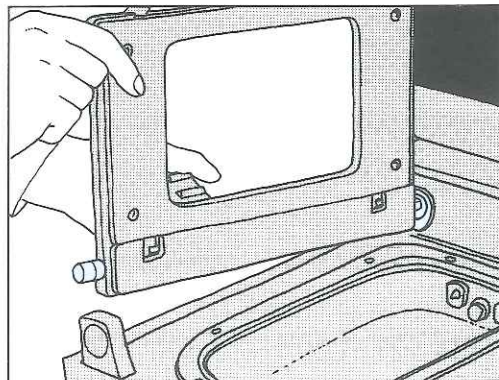
2 Disconnect the airbag by pulling it towards you.

3 Dispose of the bag safely. If a bag becomes damaged and a replacement is not available, remove the bag and close off the end of the tube. This will ensure that any contaminated air is passed through the emergency charcoal filter before entering the laboratory.



4 The reaction chamber should normally need no extra cleaning, but if this is felt to be necessary, use hot soapy water (60-70°C) or alcohol. Be careful that no water or alcohol enters the overflow sensor in the end of the reaction chamber. **Do not use abrasive or cream cleaners.**

5 The lid of the chamber may be **cleaned in hot soapy water**. Remove the lid by opening it and lift it out from the hinge blocks. (The wax bath lid may also be cleaned in hot soapy water).



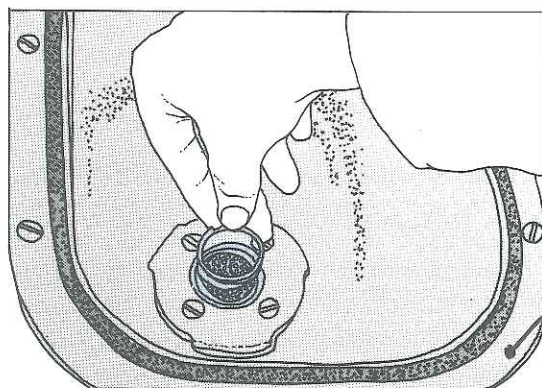
*Bottom Gasket
P09315 - \$33.00
ANS 66130390 - \$107.00
→ HOUSING SEAL HOUSING*

3.3 Cleaning the reaction chamber filter and inlet cover

The filter in the bottom of the reaction chamber prevents any particles entering and blocking the inlet.

The filter should be cleaned at the end of each flush cycle.

- 1 Unscrew and remove the inlet cover from the bottom of the reaction chamber.
- 2 Remove the filter with its spring from the inlet.



3 Wash the filter in hot soapy water (60-70°C) and dry it.

4 **Replace the filter in the inlet making sure that the spring is uppermost.**

5 Wash the inlet cover and screw it in place. If a filter is damaged, replace with a new one.

3.4 Replacing the reaction chamber seal

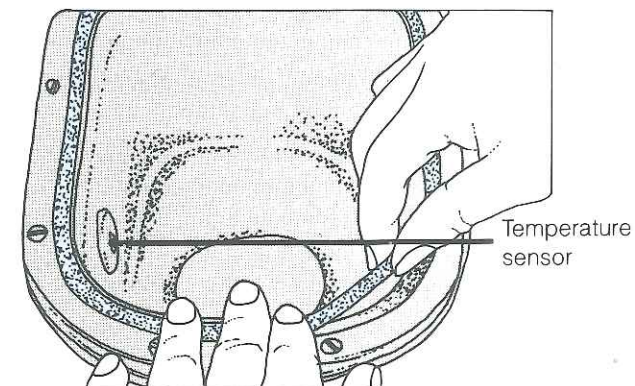
The seal around the reaction chamber ensures that when the reaction chamber lid is clamped down, the chamber can be evacuated or pressurised. If the seal becomes damaged, the vacuum or pressure may be reduced and the seal should therefore be replaced immediately.

1 Remove the damaged seal from around the reaction chamber.

2 Clean the empty groove with absorbent paper.

3 Place the new seal around the groove and press it into place. Do not stretch the seal.

After fitting a new seal, run a short test program to check that the reaction chamber is being filled and emptied properly before leaving the Hyper-center unattended.



2.15 Operating the Hypercenter XP alongside Hypercenter 2 Systems

Hypercenter XP has been carefully designed and developed to work alongside and with existing Hypercenter 2 systems, for your ease of use and convenience. Please observe the following instructions:

1 Using a Hypercenter 2 Command Module to “drive” a Hypercenter XP Extension System.

A Hypercenter 2 command module will “drive” up to five (5) Hypercenter reaction/storage modules irrespective of whether the systems are existing Hypercenter 2 or new Hypercenter XP units. A “2” command module will therefore “drive” an “XP” Extension System but without the full benefits of the new system becoming available to the user, eg underfill alarm conditions, delayed starts, printer facility, contained within the software of the new “XP” command module. The new independent wax drain facility may, however, be utilised.

2 Using a Hypercenter XP Command Module to “drive” a Hypercenter 2 System.

A Hypercenter XP command module will also drive up to 5 Hypercenter reaction/storage modules (“2”, “XP” or combinations thereof). Please consult your Shandon Service Engineer to initiate and set-up this facility.

However, the new “XP” command module will recognise whether it is linked with an “XP” or “2” system. Consequently the new “XP” command module when linked to a Hypercenter 2, incorporates the software facility to enable the operator to empty and clean the wax baths in accordance with traditional Hypercenter 2 procedures (refer to Hypercenter 2 Operator Handbook, section 3.5).

When used with a Hypercenter 2 system, the underfill alarm function will not operate as this depends upon new features contained within the Hypercenter XP reaction module.

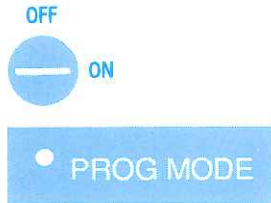
You may wish to clear a complete program from the command module's memory because it is no longer needed.

You should either overwrite and thereby amend the program or you may contact your local Shandon supplier for advice on how to clear a complete program in one operation.

2.12 Amending a program

If you wish to amend parts of a program you must be in the programming mode.

1 Insert the programming key into the lock in the command module and turn it to the ON position. The indicator light on the keypad should be illuminated.



2 Press the number of the module to be programmed.

If the display shows that the program you wish to amend is already running, you must wait until it is finished or abort it before you can amend it.



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

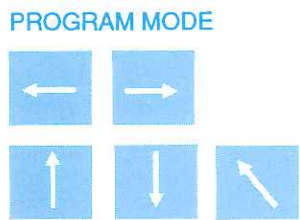
TO ALTER AN EXISTING PROGRAM - PRESS "PROG" NUMBER
TO ENTER A NEW PROGRAM - PRESS VACANT INCOMPLETE "PROG" NUMBER

31
4

3 Press the program number you wish to amend. Cursor appears over first letter of program title.



4 You must now move the cursor to the point at which you wish to change the information. You can do this using the five cursor movement keys. The  key returns the cursor to the top of the display page in one movement.



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

M1 OFF;
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

KEY IN PROGRAM TITLE THEN PRESS "ENTER"

66

3 Press START.

The display informs you that the flush cycle is on ("flush").
The reaction chamber will be emptied of the last reagent or wax, and returned to its wax bath.

Once the flush cycle has been started, it must be completed, and can not be aborted.

MODULE CONTROL



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

M1 FLUSH;
MOD 1; PROG 2; STEP 12; TEMP 60; VAC N; HRS 00:00:00; FLUSH;
STEP REAGENT/CONC % TEMP VAC IMMERSION DRAIN

12	WAX	60	Y	02:00:00	30	END
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

4 Once the reaction chamber is empty, press STOP to 'hold' the flush cycle.

You may press the STOP key on the command module or the STOP button on the reaction module (until the red light is illuminated).

Wipe the reaction chamber with absorbent paper.

Close the lid.

MODULE CONTROL



OR

STOP



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	END
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

5 Press START to restart the flush cycle. You may press the START key on the command module or the RESTART button on the reaction module.

The first flush reagent (step 13) will be selected and pumped in and out of the reaction chamber several times.

This continues for 16 minutes and is counted down on the clock in the status line.

MODULE CONTROL



OR

RESTART



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

M1 FLUSH;
MOD 1; PROG 2; STEP 13; TEMP 45; VAC N; HRS 00:15:59; FLUSH;
STEP REAGENT/CONC % TEMP VAC IMMERSION DRAIN

12	WAX	60	Y	02:00:00	30	END
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 If you wish to step further through the program, press STEP again once the original drain time is complete and the module is on 'hold'.

MODULE CONTROL

STEP

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	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"

8 Press START.

Repeat STEP and START until the program steps through to the point at which you wish to restart it. The display will momentarily indicate 'step' before again indicating 'hold'.

MODULE CONTROL

START

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

M1 HOLD;

MOD 1; PROG 2; STEP 05; TEMP A; VAC N; HRS 00:00:00; HOLD;

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	00:00:30	30
5	ABSOLUTE ALCOHOL	A	N	00:00:30	30

12 WAX 60 Y 02:00:00 30 END

YOU MAY PRESS "START" OR "ABORT" "STEP" "FLUSH" THEN "START"

9 Press START to restart the program.

MODULE CONTROL

START

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

M1 ON 2;

MOD 1; PROG 2; STEP 05; 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
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

2.10 Stepping through a program

At any time while a program is running, you may wish to shorten the program by advancing it to the next step or even by omitting steps.

1 If you are operating the reaction module from the command module, make sure the screen is displaying the module and program you wish to shorten. If this is not displayed, press the module and program numbers.

MODULE

1

PROGRAM

2

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

MOD	1;	PROG	2;	STEP	03;	TEMP	A;	VAC	N;	HRS	00:15:30;	RUN;
STEP		REAGENT	%	CONC	%						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

2 Press STOP to put the program on 'hold'.

You may press the STOP key on the command module or the STOP button on the reaction module (until the red light is illuminated).

*A Confirmatory question is then displayed asking the operator to select the Y (YES) "J" (Deutsch, Svensk) "O" (Francais), "S" (Italiano) "S" (Espanol) key to confirm the action required (or alternatively the No - "N" key), if the user has pressed STOP on the command module.

Note: language dependent.

MODULE CONTROL

STOP

OR

STOP

IST DER BEFEHL RICHTIG? (J/N) (DEUTSCH)
 ETES-VOUS SUR? (O/N) (FRANCAIS)
 SIETE SICURO? (O/N) (ITALIANO)
 AR DU SAKER? (J/N) (SVENSK)
 ESTA CIERTO? (S/N) (ESPAÑOL)

The processing cycle is interrupted and the display confirms that the program is on 'hold'.

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

MOD	1;	PROG	2;	STEP	03;	TEMP	A;	VAC	N;	HRS	00:15:29;	HOLD;
STEP		REAGENT	%	CONC	%						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 PRESS "START" OR "ABORT", "STEP", "FLUSH", THEN "START" END

2 Press STOP to put the program on 'hold'.

You may press the STOP key on the command module or the STOP button on the reaction module (until the red light is illuminated).

*A Confirmatory question is then displayed on the screen [ARE YOU SURE? Y/N] if the user has pressed STOP on the command module, asking the operator to select the "Y" (YES) "J" (Deutsch, Svensk, "O" (Francais), "S" (Italiano), "S" (Espanol), key to confirm the action required (or alternatively the NO - "N" key).

IST DER BEFEHL RICHTIG? (J/N) (DEUTSCH)
 ETES-VOUS SUR? (O/N) (FRANCAIS)
 SIETE SICURO? (O/N) (ITALIANO)
 AR DU SAKER? (J/N) (SVENSK)
 ESTA CIERTO? (S/N) (ESPANOL)

The processing cycle is interrupted and the display confirms that the program is on 'hold'.

MODULE CONTROL



OR

STOP



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

M1 HOLD;

MOD	1;	PROG	2;	STEP	01;	TEMP	A;	VAC	N;	HRS	02:19:59;	HOLD;
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

YOU MAY PRESS "START" OR "ABORT", "STEP", "FLUSH", THEN START

3 Press ABORT key.

PROGRAM



4 Press START

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



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

M1 ABORT;

MOD	1;	PROG	2;	STEP	01;	TEMP	A;	VAC	N;	HRS	00:00:00;	ABORT;
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

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

2.8 Stopping and restarting a program

Sections 2.8, 2.9 and 2.10 now incorporate a series of Confirmatory Steps (requiring the operator to select the “Y” (Yes), “J” (Deutsch, Svensk), “O” (Francais), “S” (Italiano, Espanol) or “N” (No) key depending on whether the step is actually required. This is a safeguard designed to help protect against the possibility of operator - induced errors.

At any time a program is running, you may wish to interrupt the processing cycle, perhaps to add or remove some cassettes which you need urgently.

If you are operating the reaction module from the command module, make sure the screen is displaying the module and program you wish to interrupt.

If this is 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	02;	TEMP	A;	VAC	N;	HRS	00:30:00;	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 END

1 Press STOP to 'hold' the program. You may press the STOP key on the command module or the STOP button on the reaction module. Press the reaction module STOP button until its red light is illuminated.

*A Confirmatory question is then displayed on the screen

- (ARE YOU SURE, Y/N)
- 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) (ESPAÑOL)

if the user has pressed STOP on the command module, asking the operator to select the “Y” (YES) key to confirm the action required. The processing cycle is interrupted and the display confirms that the program is on 'hold'. Add or remove cassettes as desired. Do not forget to close the lid of the reaction chamber before restarting the program.

MODULE CONTROL



OR

STOP



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

M1 HOLD;

MOD	1;	PROG	2;	STEP	02;	TEMP	A;	VAC	N;	HRS	00:29:59;	HOLD;
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 PRESS "START" OR "ABORT" "STEP", "FLUSH", THEN "START" END

2.7 Setting delayed starts (Set Start or Set Finish)

1 When you press SET START or SET FINISH a program screen will display. (This function is not accessible if a program is being entered, or printer set-up, editing program(s) or setting the time clock).

PROGRAM MODE



(a) Selecting "SET START" allows you to enter the time you wish the program to begin timing down. This may be any time within the next seven days.

(b) Selecting "SET FINISH" allows you to enter the time you wish the program to end. This end time may be any time within the next seven days.

(c) You may select **either** "SET START" or "SET FINISH", but not both.

2 Press the "MODULE NUMBER" you wish to delay.

MODULE



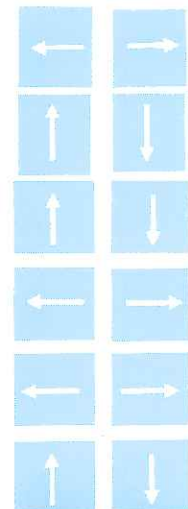
3 Press the "PROGRAM NUMBER" you wish to delay. This program must have AVAILABLE status.

PROGRAM



A new screen will appear.

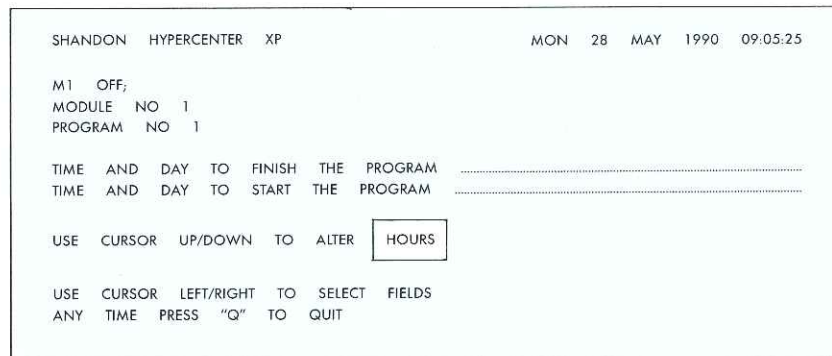
4 Set chosen start or end time. The cursor will move between various fields of time display. Press cursor ← and/or → to display hours, minutes or day. Then use ↑ and ↓ to alter the value displayed.



(a) HOURS: Press ↑ and ↓ until correct hour is displayed.

(b) Select MINUTES by pressing ← or →

(c) Press cursor key left/right, ← or → to display DAY field. Use cursor ↑ or ↓ until the day you have selected is correct.



94

95

4 Once the first reagent has been pumped into the reaction chamber and the vacuum released ('N'), the immersion time will begin to count down in the status line.

The screens will sequence through RUN, then DRAW.

```

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

M1 DRAW;
MOD 1; PROG 2; STEP 01; TEMP A; VAC N; HRS 02:29:59; DRAW;
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 END
YOU MAY NOW PRESS "STOP" TO HOLD THE PROGRAM COUNTDOWN
    
```

5 Once an immersion time 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 status line then informs you that the tissue and the reaction chamber are being additionally drained ('drain').

```

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

M1 BLOWOUT;
MOD 1; PROG 2; STEP 01; TEMP A; VAC N; HRS 00:00:00; BLOWOUT;
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 END
YOU MAY NOW PRESS "STOP" TO HOLD THE PROGRAM COUNTDOWN
    
```

6 Once the drain time is completed the next step in the program will be highlighted and this reagent will be selected and pumped into the reaction chamber.

```

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

M1 ON 2;
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 END
YOU MAY NOW PRESS "STOP" TO HOLD THE PROGRAM COUNTDOWN
    
```

2.5 Utilising the printer facility (if desired)

- 1 The new Hypercenter XP incorporates a facility for connecting and utilising a parallel-type printer (centronics interface) if desired.
- 2 Should you have such a printer, connect the printer lead to the labelled printer port at the rear of the command module. Printer functions may only be controlled from the printer screen.
- 3 Press the PRINTER key on the command module.
- 4 The printer screen enables you to choose between printing out a **program's contents** (ie the details of the program with title, duration etc ...) or a **continuous event log** (ie the chronological steps reached in a program with time, step #, reagent, concentration etc ...), or **stopping printing**.

Press "P" to print program details or

Press "E" to print event log

Press "S" to stop all printing

- 5 Once you have selected the type of printing you want and if for program details, the MODULE # and PROGRAM #, printing commences and the display returns to the appropriate module number. Printing takes place in the background and does not disturb processing.

- 6 Select "Q" to leave selection screen.

Guidance Notes

- a The printer screen will not display during setting time or programming. You can only print out an available program.
- b If the printer does **not** respond (either from a fault, out of paper etc), then the message PRINTER IS NOT ON LINE is displayed on the screen (131).
- c To cancel any form of printing: Press "S". Press Q to return to normal Hypercenter operation, or select another printing option (either "P" or "E").

(If you are setting the time/delay time or editing, you **cannot** abort printing until you leave those screens).

PROGRAM MODE

PRINTER

PROGRAM MODE

P

133

E

134

S

135

Q

131

10 The time given is appropriate, press ENTER.

If a longer drain time is required, press DRAIN repeatedly until the time you require is shown. The times available are 15, 30, 60, 90, and 120 seconds.

If you pass the desired time, continue pressing DRAIN until the time is again displayed.

Press ENTER.

Cursor moves to the end of program instruction.

PROGRAM MODE

DRAIN

ENTER

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

M1	OFF;	TITLE;	TEST	PROGRAM		
MOD	1; PROG 1;	TEMP	VAC	IMMERSION	DRAIN	
STEP	REAGENT/CONC %					
1	FORMAL SALINE 10%	40	Y	00:01:00	30	<input type="checkbox"/>
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	

IF LAST STEP OF PROGRAM PRESS "E" (END), AND "ENTER"

74

11 If this is the final line of the program go on to instruction 12.

If this is not the final line of the program press ENTER.

The cursor will move to the next step in the program.

Continue entering program details by following instructions 5-11 until all details and instructions have been entered.

PROGRAM MODE

ENTER

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

M1	OFF;	TITLE;	TEST	PROGRAM		
MOD	1; PROG 1;	TEMP	VAC	IMMERSION	DRAIN	
STEP	REAGENT/CONC %					
1	FORMAL SALINE 10%	40	Y	00:01:00	30	
2		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

12 When you have entered all the steps of the program and the cursor is at the end of the last line press E for end.

Press ENTER.

The program is no longer 'incomplete' but 'available'. The cursor will move to the step column.

Check that the information entered is correct.

PROGRAM MODE

E

ENTER

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

M1	OFF;	TITLE;	TEST	PROGRAM		
MOD	1; PROG 1;	TEMP	VAC	IMMERSION	DRAIN	
STEP	REAGENT/CONC %					
1	FORMAL SALINE 10%	40	Y	00:01:00	30	
2	ALCOHOL 70%	A	N	00:00:30	30	
11	WAX	60	Y	00:02:00	60	
12	WAX	60	Y	00:02:00	60	END

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

67

5 If you have entered all program details, or wish to exit from the programming mode, turn the key to OFF and remove it to prevent any unauthorized access to the Hypercenter program memory. Refer to instruction 14 of this section for further details.



If you wish to enter more details press ENTER. The cursor will appear over the first space of the reagent/conc. % column.

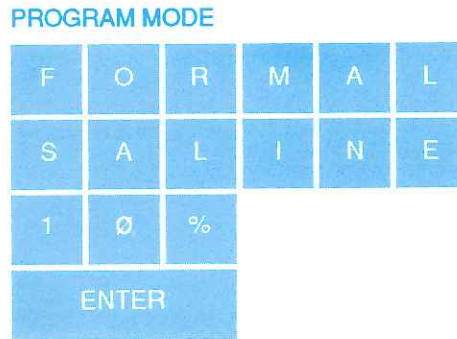
SHANDON HYPERCENTER XP MON 28 MAY 1990 09:05:25

M1	MOD	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
10			A	N		00:00:00	15
11			60	N		00:00:00	15
12			60	N		00:00:00	15

KEY IN REAGENT/CONC % THEN PRESS "ENTER"

68

6 Key in the name and concentration of the reagent (20 characters maximum). Characters are displayed as you key them in.



Press ENTER. Cursor moves to temperature at which tissue will be processed in the reagent. The first illustration shows a screen display as it would appear when programming step 1 of a program.

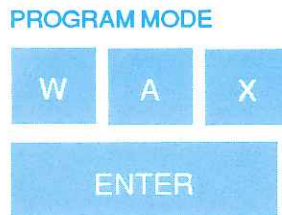
SHANDON HYPERCENTER XP MON 28 MAY 1990 09:05:25

M1	MOD	REAGENT/CONC %	TITLE	TEST	PROGRAM	IMMERSION	DRAIN
1		FORMAL SALINE 10%	A	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

KEY IN REAGENT TEMPERATURE, "A" (AMBIENT) OR "35-45", AND ENTER

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The second illustration shows a screen display as it would appear when step 11 is being programmed.



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

M1	MOD	REAGENT/CONC %	TITLE	TEST	PROGRAM	IMMERSION	DRAIN
1		FORMAL SALINE 10%	A	Y		00:01:00	30
2		ALCOHOL 70%	A	N		00:00:30	30
3		ALCOHOL 90%	A	N		00:00:30	30
10		XYLENE	A	N		00:10:00	30
11		WAX	60	N		00:00:00	15
12			60	N		00:00:00	15

KEY IN WAX TEMPERATURE, "45-65", AND "ENTER"

70

2.4 Entering a program

In order to be able to run any processing cycle, the cycle must first be entered into the command module's memory as a program.

For each reaction module you can enter nine programs.

It is recommended you should enter a test program with short immersion times to make sure that the Hypercenter is functioning properly and also to familiarise yourself with the procedure.

You may wish to use the form in the back of this guide to note the information for hardcopy.

1 Press the number of the module to be programmed.

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'.

MODULE



```

SHANDON  HYPERCENTER  XP                               MON  28  MAY  1990  09:05.25

  M1  OFF;
PROGRAM  MENU;    MOD  1;
PROG  TITLE                DURATION                AVAILABILITY
  1
  2
  3
  4
  5
  6
  7
  8
  9

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

2 You must be in the programming mode to do any programming.

Insert the programming key into the switch in the command module. Turn it to the ON position to put the module in the programming mode.

The indicator light on the keypad should be illuminated.



```

SHANDON  HYPERCENTER  XP                               MON  28  MAY  1990  09:05.25

  M1  OFF;
PROGRAM  MENU;    MOD  1;
PROG  TITLE                DURATION                AVAILABILITY
  1
  2
  3
  4
  5
  6
  7
  8
  9

TO ALTER AN EXISTING PROGRAM - PRESS "PROG" NUMBER
TO ENTER A NEW PROGRAM - PRESS VACANT/INCOMPLETE "PROG" NUMBER

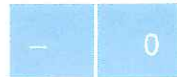
```

31
4

2.2 Switching on

1 Check that the switches at the wall socket connecting the command module and the reaction module to the mains supply are ON.

2. Press the switch at the rear of the reaction module to ON and listen for the fan.



Check that the power and stop indicator lights on the front of the module are illuminated.

If you are using wax pellets these will now begin to melt.

If the pellets have not melted after six hours, or if you are using a wax with a lower melting point, refer to section 4.2 for how to adjust the temperature of the wax bath.

3 Press the switch at the rear of the command module to ON.



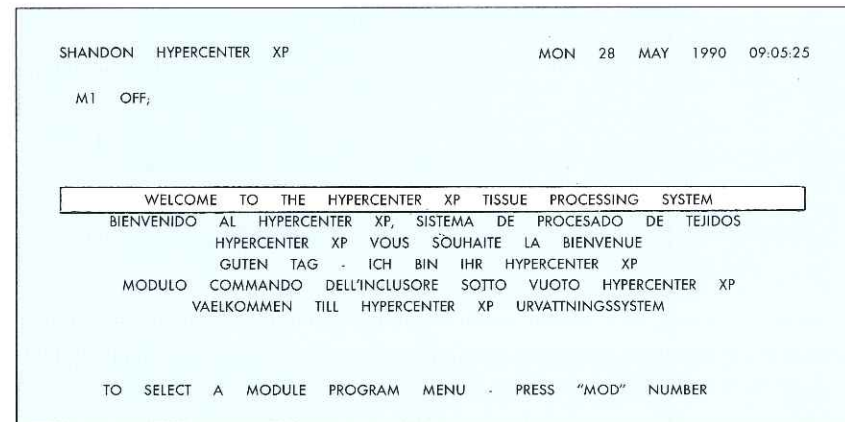
After a few seconds, the display should read 'Welcome to the Hypercenter XP Tissue Processing System'.

Should you wish to select one of the other languages displayed, please press the cursor key UP/DOWN accordingly to highlight the one desired.

The indicator light on the command module key pad should be illuminated. You should also hear the cooling fan running.



- UM EINE SPRACHE AUSZUWAHLEN, BEDIENEN SIE DEN CURSOR NACH OBEN/UNTEN (DEUTSCH)
- UTILISATION DU CURSEUR HAUT/BAS POUR SELECTIONNER LE FRANCAIS.
- USARE IL CURSORE SU/GIU PER SELEZIONARE LA LINGUA IN "ITALIANO"
- FLYTTA MARKOREN UPPAT/NEDAT FOR ATT VALJA "SVENSKA"
- SUBIR/BAJAR EL CURSOR PARA SELECCIONAR EL ESPANOL.



2 Press the number of the program you wish to run. All the steps of the program are shown on the screen. The reagents will be those which you have placed in the storage module. The display shows the set temperature of the reaction chamber and whether a vacuum will be applied at each step. It also shows the time for which the tissue will be immersed in each reagent and the time (in seconds) for which it will be additionally drained after immersion.

PROGRAM

2

SHANDON HYPERCENTER XP				MON 28 MAY 1990 09:05:25					
M1	OFF;	M2	OFF;	M3	OFF;	M4	OFF;	M5	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		

6

3 Press START to start the program. The third line down is a status line which tells you what is happening. It is currently telling you that Program 2 has been selected to run. It also shows the temperature of the reaction chamber and whether a vacuum is being applied. The 'Y' confirms that vacuum is applied to pull reagent into the reaction chamber. The first step of the program is highlighted.

MODULE CONTROL

START

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	01;	TEMP	A;	VAC	Y;
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			END
YOU	MAY	NOW	PRESS "STOP"	TO	HOLD	THE	PROGRAM	COUNTDOWN	

9

4 Once the first reagent is selected and pumped into the reaction chamber, the immersion period will begin to count down in hours, minutes and seconds. If an immersion period greater than 00:15:59 is programmed at any position, agitation will occur at regular intervals. The countdown will continue during each agitation stage and the word 'agitate' will replace the word 'run'.

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	01;	TEMP	A;	VAC	N;
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	

9

1.11 Setting up the Hypercenter Wax Station (optional accessory)

The Hypercenter Wax Station is used when you wish to process a new batch of tissue yet cannot immediately block out the batch of tissue you have just processed. It allows you to store the tissue in molten wax until you can attend to it.

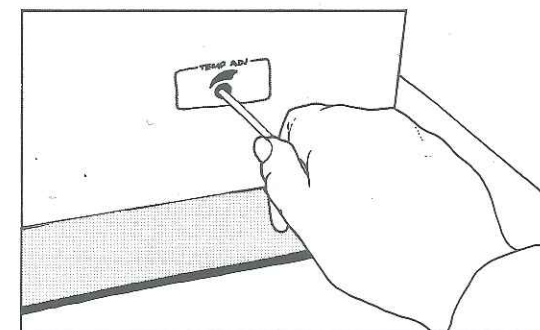
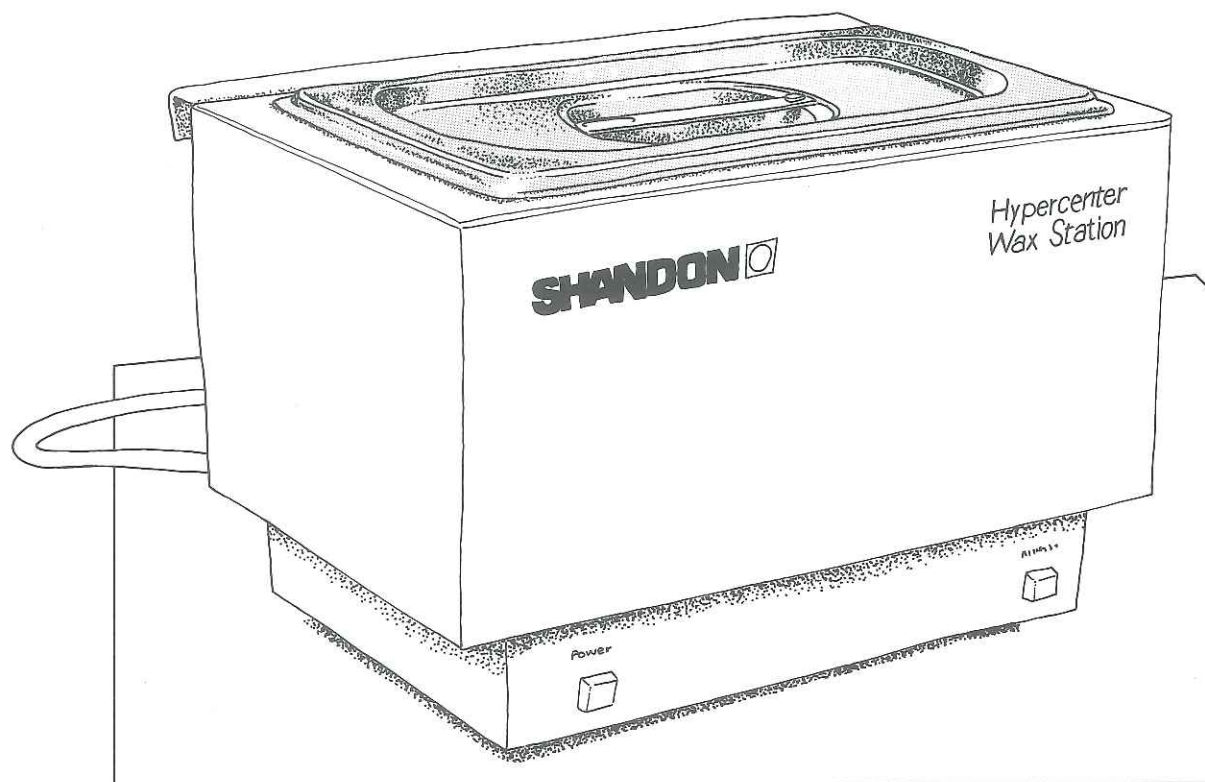
1 Fit a suitable plug to the mains lead.

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

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

2 Push the other end of the mains lead into the socket at the rear of the station.

3 Plug the mains lead into the mains socket and switch on the power. The green power light on the front of the wax station should be illuminated. If it is not, check you have made all the connections and if necessary, check the fuse in the plug.



4 Remove the lid of the wax station and fill the tank with molten wax or wax pellets.

If using molten wax, fill the tank with 2.25 litres. If using wax pellets, fill the tank with a rounded heap. Once these pellets have melted, add more pellets as necessary to bring the quantity up to 2.25 litres. Do not exceed this volume. If you do, remove any excess wax using a beaker.

5 Press the switch on the side of the wax station to switch on the heater for the tank. The amber light on the front of the station should be illuminated. Make sure the wax is thoroughly melted before using the station.

6 The temperature of the wax station tank is normally held at 60-62°C. If this is not high enough to melt the wax pellets, you may adjust the temperature at the rear of the wax station. Insert a screwdriver in the hole marked 'TEMP ADJUST' and turn it clockwise to raise the temperature (one quarter turn represents approximately 3°C).

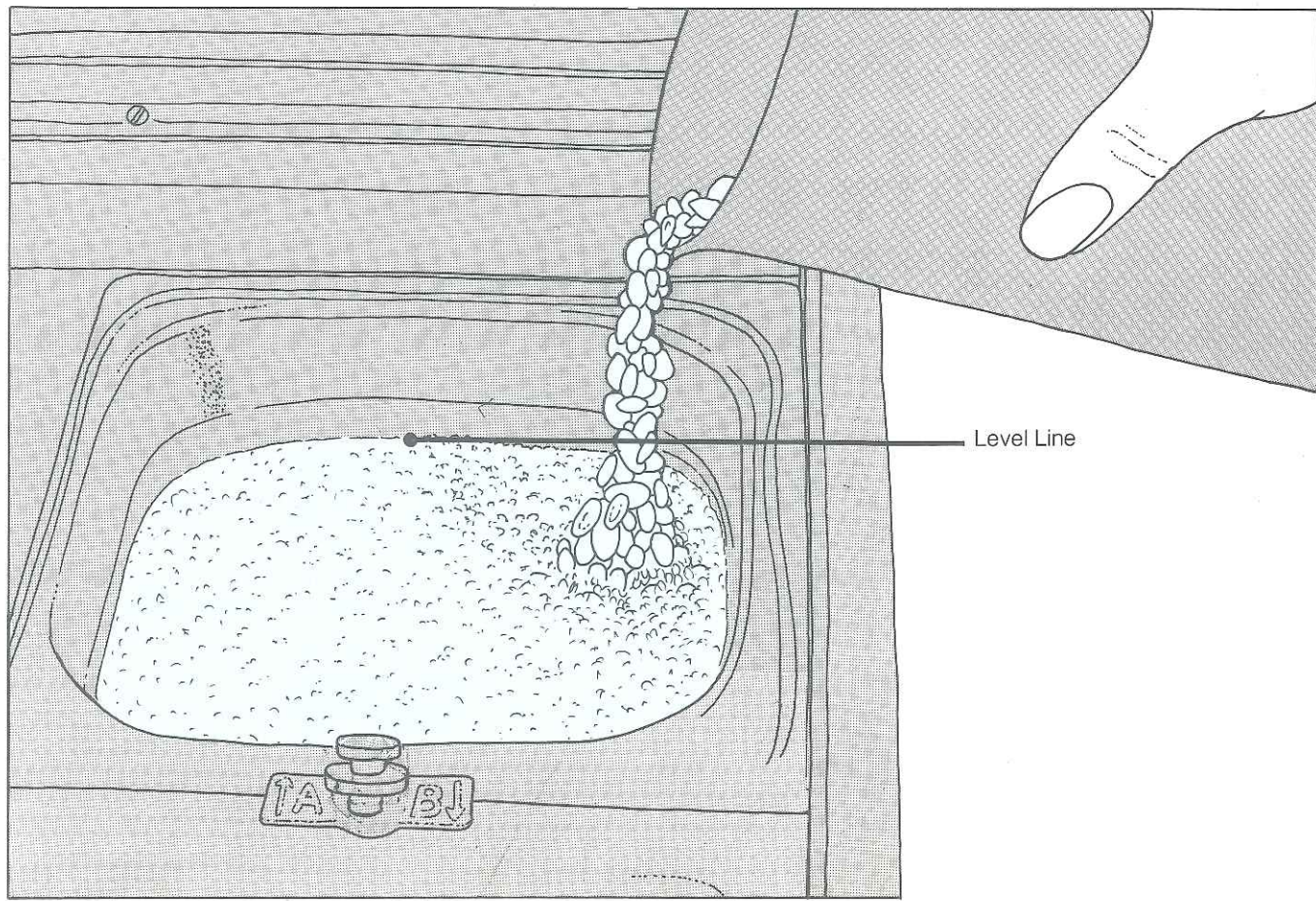
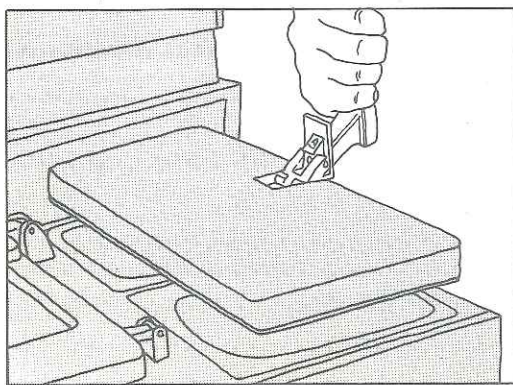
5 If excessive resistance is felt when inserting the bottle, do not force it but partially remove it and try again. If you still have problems, inspect the seals on the connectors and replace if

damaged (see section 3.10). If the female connectors inside the storage module are not free to move, try to discover why and remove any blockage.

1.9 Filling the wax baths

1 Remove the lid from the wax baths by first tilting the handle backwards and then carefully lifting the lid vertically upwards.

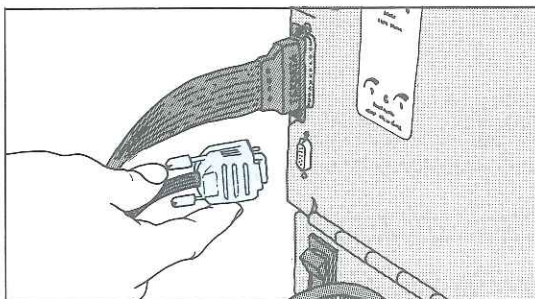
2 Fill each of the wax baths with molten wax or wax pellets. If you are using molten wax, fill the baths to the top of the level line, which is 1.80 litres of wax. If you are using wax pellets, fill the baths with a rounded heap. Once these pellets have melted, add more pellets as necessary to bring the quantity up to the level line (1.80 litres). The wax should not exceed this volume. If it does, remove any excess wax by using a beaker.



15 Lift the command module into position on top of the reaction module (or on a bench). Position the command module so that it overhangs at the rear of the reaction module with the rubber feet of the command module inserted in the reaction module slots.

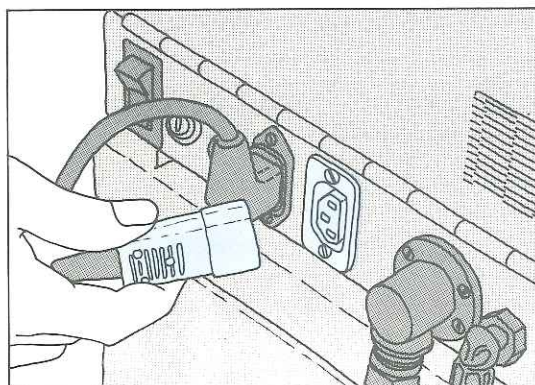
16 You are now ready to make the connections between the modules.

Fit the spare end of the Storage Module Data Cable (labelled No 1, Figure 1, Section 1.5) into its connection at the rear of the reaction module.

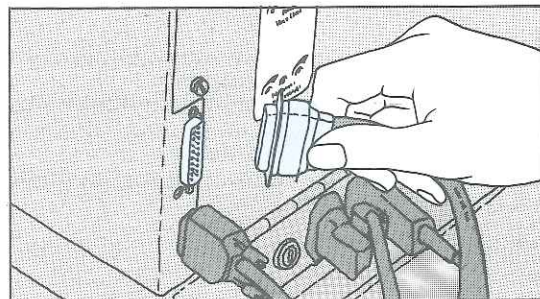


Turn the fixing screws on the connector to secure it firmly.

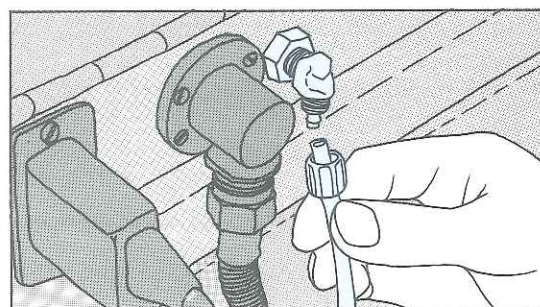
17 Push the vacant end of the Storage Module Drive Cable (labelled No 2, Figure 1) into its connection at the rear of the reaction module.



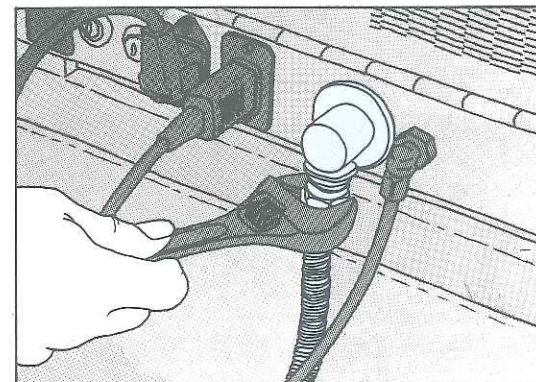
18 Push the male end of the Command Data Interface Cable (labelled No 3, figure 1) into the female socket at the rear of the reaction module. Turn the fixing screws on the connector to secure it firmly.



19 Fit the Storage Module Air Tube (clear plastic tube, labelled No 4, figure 1) to the plastic connector at the rear of the reaction module, and screw the overhanging polygonal nut securely in place.



20 For floor mounted, stacked systems, fit the Reagent Transfer Tube (labelled No 5, figure 1) to the connector projecting from the rear of the reaction module. Use the adjustable wrench provided to tighten the connection and make a good seal. With bench mounted, side-by-side systems, screw the male end of the Extension Reagent Transfer Tube (provided in the kit) into the female end of the Reagent Transfer Tube and connect as outlined above.



21 The reaction module can now be carefully pushed into its final position if on a bench. Do **not** trap any of the pipes or cables under the module.

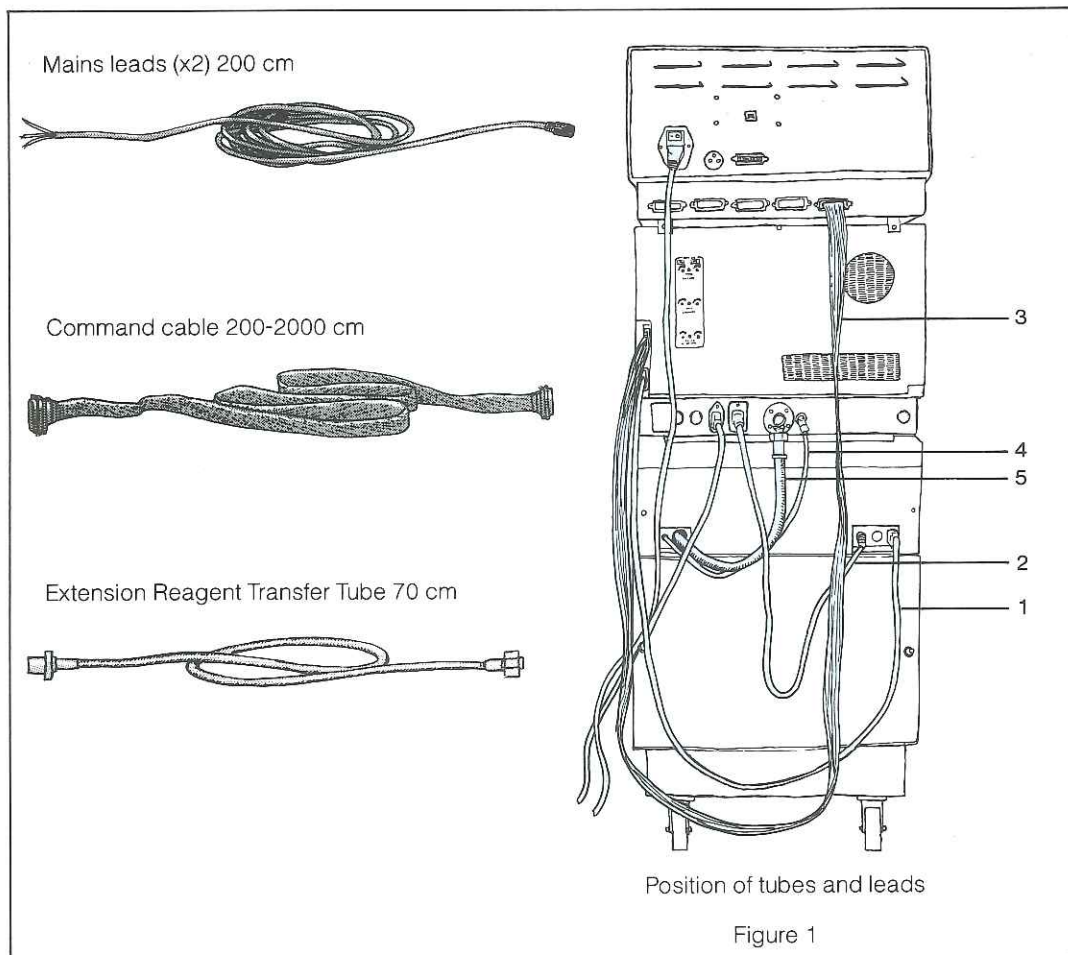
22 Connect the free end of the Command Data Interface Cable to the rear of the command module. If you have only one reaction module, insert the cable in socket number 1; if you have more than one reaction module, give each module a number and insert each cable in the corresponding numbered socket. Turn the screws to secure the connection. Push the module into position.

23 Connect command module and reaction module Mains Leads into place at the rear of their respective modules **BEFORE PLUGGING-IN TO THE MAINS SUPPLY. DO NOT SWITCH POWER ON YET.**

24 The visual display unit of the command module is read most easily when the user is standing, if the module is tilted slightly backwards. Swing out the metal bar from under the front of the module to tilt it.

25 You are now ready to set up your Hyper-center XP for operation.

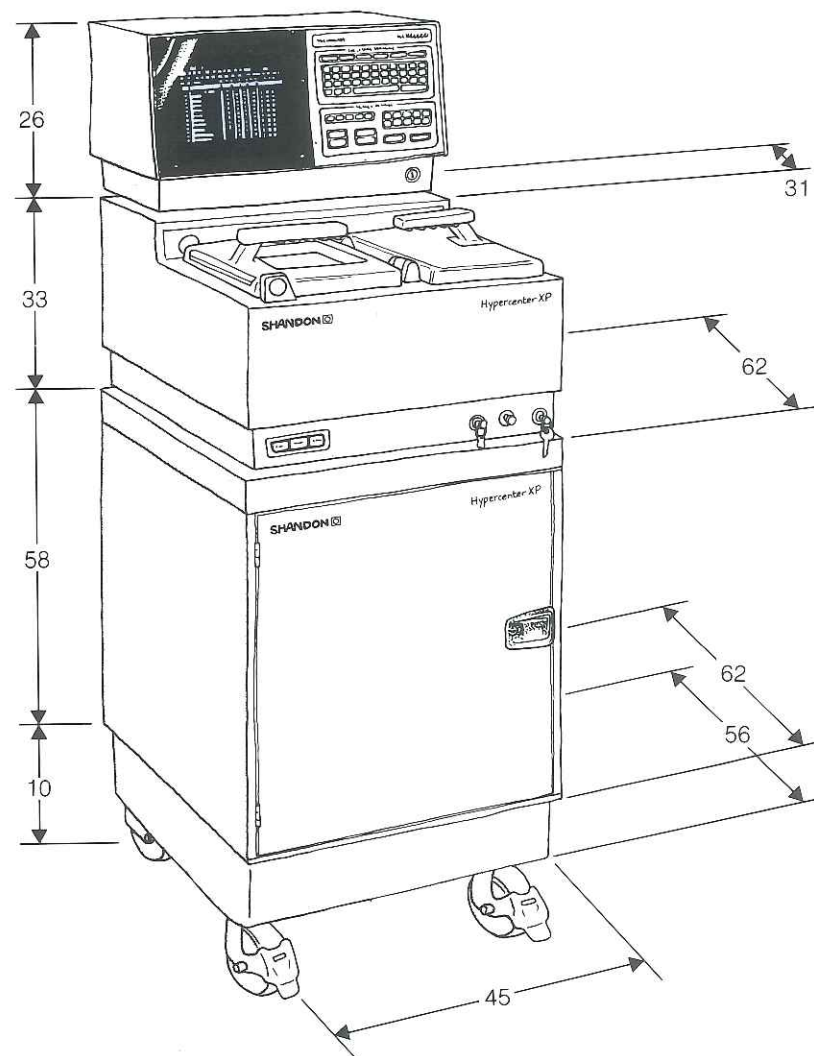
1.5 Dimensions of the Hypercenter XP and its tubes and leads



Maximum distance between the modules:
 Command module to the reaction module (via command cable) 2000 cm.

Reaction module to the storage module (via extension reagent transfer tube and storage module air tube) 70 cm.

Command module to mains 200 cm
 Reaction module to mains 200 cm

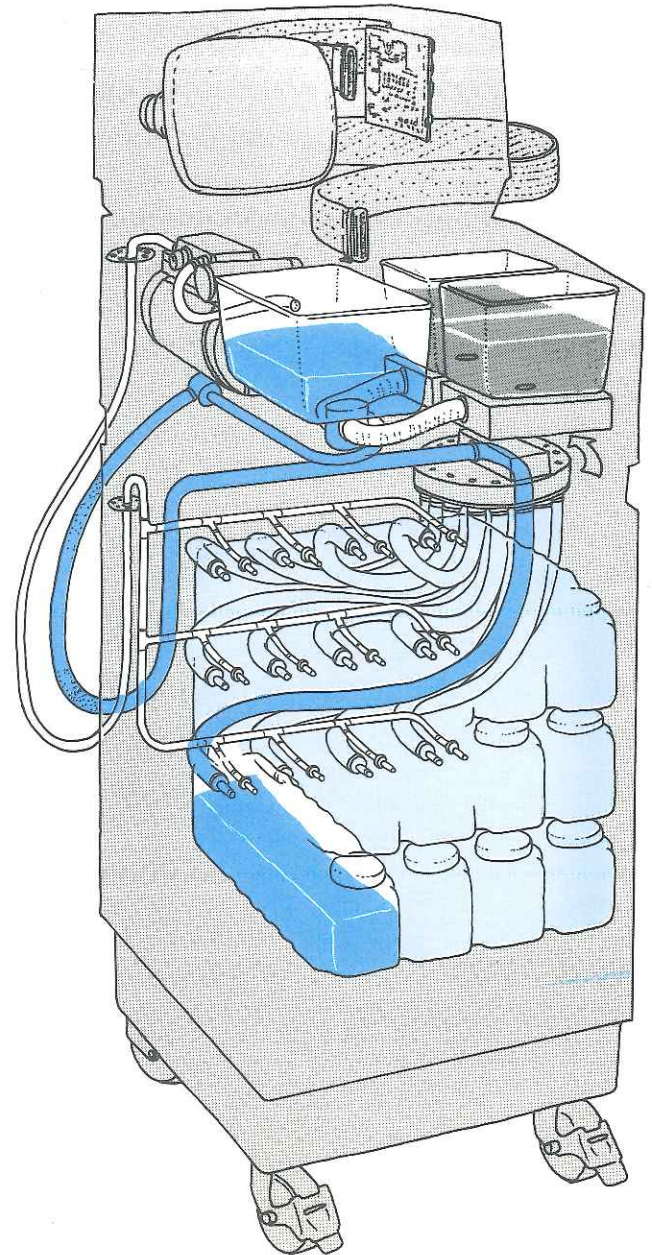


All measurements are in centimetres

When a processing cycle is started by the operator, electronic signals are sent from the command module to the reaction modules along a command cable. These signals are then interpreted by the reaction module and used to select the required reagents by the rotary valve mechanism.

A vacuum is automatically applied to the chamber and the reagent is sucked up from the bottle through a reagent tube. The air which is displaced from the chamber flows through a pneumatic tube into the reagent bottle, in this way ensuring that the system is kept enclosed. Once the immersion period is complete, the reagent is pumped out under pressure and the reagent bottle is refilled. The valve then rotates to select the next reagent.

While the tissue is immersed in each reagent the reagent is automatically 'agitated' to ensure that even tissue in tightly packed cassettes is processed consistently. The reagent is returned to its bottle and immediately pumped back into the chamber. The tissue remains in a saturated vapour atmosphere which protects it from drying out.



The wax is transferred to the reaction chamber at the eleventh and twelfth steps in the processing cycle. A second wax is used to ensure that the tissue is fully impregnated with uncontaminated wax. After the tissue has been immersed in both waxes, it is removed from the chamber and the chamber is flushed out with a further two reagents. The Hypercenter is then ready to run another program.

More programs can be entered in the command module while the Hypercenter is running. A processing cycle may also be stopped in the middle so that tissue can be removed or added and the cycle may then be restarted. A cycle may also be interrupted and 'aborted' if necessary. Communication between the command and reaction modules works in both directions so that you are always kept informed about what is happening in the reaction chamber via the command module's visual display unit.

The Shandon Hypercenter XP is an enclosed tissue processor, combining the ease of use of the conventional processor with the advantages that advanced technology can offer.

The Hypercenter XP combines extendible modular design, simple operation, versatile programming with safe and efficient processing.

The three-part modular system which makes up the Hypercenter XP means that you have maximum flexibility for positioning the equipment. It also means that you need only one command or microprocessor-based module to control up to five modules in which the tissue is processed (the reaction module).

Simple step by step programming and control function include a real time clock and a delay facility so that you can decide exactly in advance when you want your program to start or finish. For each reaction module you can enter nine processing cycle programs which can be as diverse as an overnight program, a rapid program for biopsies and an extended program for the processing of special tissue types. Hypercenter XP may be used for a combination of overnight processing and daytime short-processing cycles. Up to two hundred standard cassettes can be processed in each cycle.

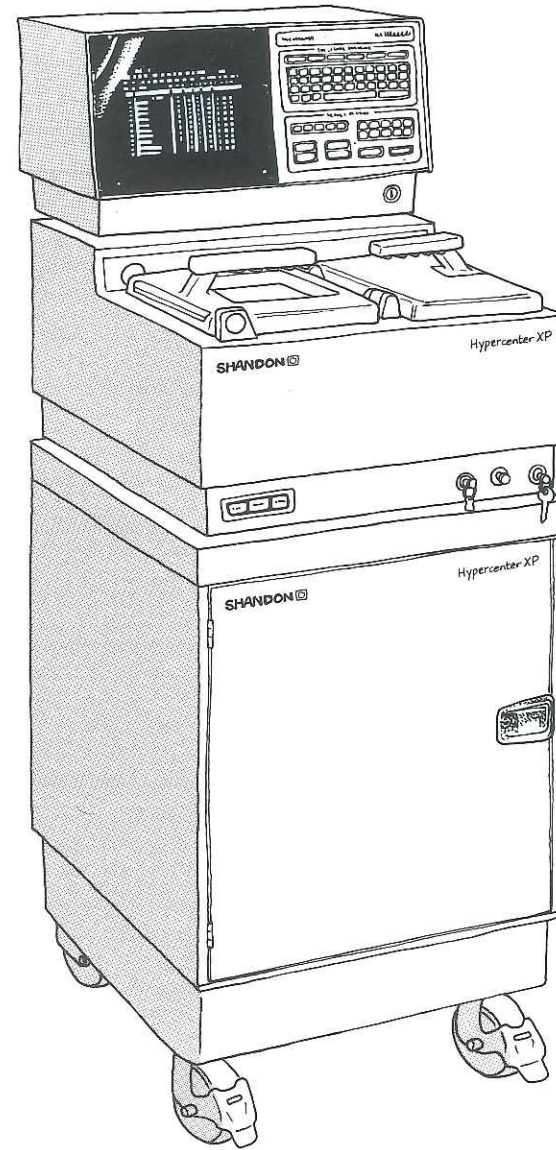
The Hypercenter XP is programmed and operated in a straightforward way from the touch-sensitive keypad on the command module. You need no special computing skills, just familiarise yourself with the sequence in this operator guide.

In addition, the visual display unit (VDU) on the command module will help you with prompting messages about what to do next. To assist users whose mother tongue is not English, the Hypercenter XP is also available with screen display directions in either French, German, Italian, Swedish or Spanish.

In the event of a power failure, a back-up battery prevents any programs which have been entered from being lost.

You will find that you can monitor what is happening at all times from the detailed information on the screen, and be able to follow each processing cycle as it "steps through" on the screen.

If anything causes a cycle to be stopped automatically, full information and directions for overcoming the problem will be displayed.



COMMAND MODULE

REACTION MODULE

STORAGE MODULE