

Instructions for Use

# ASP6025 – Advanced Smart Processor

Vacuum tissue processor



ASP6025 Tissue Processor V 2.9, English 07/2019

**Order No.:** 14 0495 80101 RevU

Always keep this manual with the instrument.

Read carefully before working with the instrument.



The information, numerical data, notes and value judgments contained in this manual represent the current state of scientific knowledge and state-of-the-art technology as we understand it following thorough investigation in this field.

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For the instrument serial number and year of manufacture, please refer to the nameplate on the back of the instrument.

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## 1.1 Symbols in the text and their meanings



Warnings appear in a gray box and are marked by a warning triangle .



Notes, i.e. important user information appears in a gray box and is marked by an information symbol .



Inflammable solvents and reagents are identified using this symbol.



Instrument surfaces which become hot during operation are marked with this symbol. Avoid direct contact with these surfaces – they may cause burns.



Warning – Dangerous electrical voltage.

(5)

Numbers in parentheses refer to item numbers in illustrations.

START

The instrument is controlled and operated using a touch-sensitive screen. Function keys to be pressed on the instrument touchscreen are written in bold-print capital letters.



Warning instructions on the dust cover of the instrument.



Indicates the need for the user to consult the instructions for use for important cautionary information such as warnings and precautions that cannot, for a variety of reasons, be presented on the medical device itself.

ON

**ON** position of a key with click stop



OFF

**OFF** position of a key with click stop



Manufacturer: Indicates the manufacturer of the medical product.



Date of Manufacture: Indicates the date when the medical device was manufactured.



Observe the Instructions for Use!



In vitro diagnostics (IVD) medical device.



This product fulfills the requirements of the Council's Directive 98/79/EC concerning in vitro diagnostics (IVD) medical devices.



Environmental protection symbol of the China RoHS directive. The number in the symbol indicates the "Environment-friendly Use Period" of the product in years. The symbol is used if a substance restricted in China is used in excess of the maximum permitted limit.

## 1. Important Information

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### Symbols in the text and their meanings



The CSA test mark means that a product has been tested and fulfills the applicable safety and/or performance standards, including the relevant standards defined or administered by the American National Standards Institute (ANSI), Underwriters Laboratories (UL), the Canadian Standards Association (CSA), the National Sanitation Foundation International (NSF) and others.



Symbol for labeling electrical and electronic equipment in accordance with Section 7 of the German Electrical and Electronic Equipment Act (ElektroG).  
ElektroG is the law regarding the sale, return and environmentally sound disposal of electrical and electronic equipment.



Symbol for alternating current

### REF

Order number for standard delivery or accessories.

### SN

Designates the serial number of the instrument.



The package contents are fragile and must be handled with care.



Indicates the correct upright position of the package.



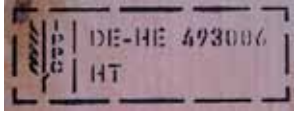
The package must be kept in a dry environment.



It is not permitted to stack packages, and no loads may be placed on top of the package.



## 1. Important Information



Example of labeling in accordance with IPPC

IPPC symbol

Country code in accordance with ISO 3166, e.g. DE for Germany

Regional identifier, e.g. HE for Hessen

Producer/treatment provider code, unique assigned number starting with 49

Treatment code, e.g. HT (heat treatment), MB (methyl bromide), and possibly DB (debarked)

Storage temperature range:

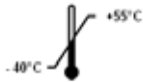


Indicates the temperature range permitted for storing and handling the package.

Minimum +5 °C

Maximum +50 °C

Transport temperature range



Indicates the temperature range permitted for transporting the package.

Minimum -40 °C

Maximum +55 °C



In the Shockwatch system, a precision glass tube shows shocks or impacts that are above a specified intensity through red coloration. Exceeding a defined acceleration (g value) destroys the surface tension of the liquid in the interior of the tube. This causes the indicator tube to change color.



The TILTWATCH checks in a simple, obvious and irreversible manner whether your product was transported upright and stored as prescribed.

The indicator field becomes red if your tipping-endangered product was tilted more than 83 °.

## **1. Important Information**

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### **1.2 Instrument type**

All information provided in these Instructions for Use applies only to the instrument type indicated on the cover page.

A nameplate indicating the instrument serial number is attached to the rear side of the instrument.

The ASP6025 Tissue Processor is available in two voltage variants, 120 V and 230 V.

### **1.3 Qualification of personnel**

- The ASP6025 Tissue Processor may be operated by trained laboratory personnel only.
- All laboratory personnel designated to operate this instrument must read these Instructions for Use carefully and must be familiar with all technical features of the instrument before attempting to operate it.

### 1.4 Intended use of instrument

The ASP6025 Tissue Processor is a modular tissue processor for the following laboratory applications:

- Fixation
- Dehydration
- Infiltration with intermedium
- Paraffin infiltration

of histological tissue specimens.

The ASP6025 can be used as medical IVD product.

The improved features of the ASP6025 are the combination of:

- Reduced processing time
- Easier reagent exchange
- Monitoring the ethanol quality by density measurement as well as the
- Ability to replace xylene, a substance that is hazardous (including to the health), with special process protocols.

The instrument has been designed so that it is safe to use by the operator as well as for processing specimens. However, the prerequisite for this is that it is operated according to these Instructions for Use.

The ASP6025 modular tissue processor can be operated only with the reagents listed in

[Chapter 3.3 - "Compatible reagents".](#)



**Any other use of the instrument is considered improper.**

**Failure to adhere to these instructions may lead to accidents causing personal injury and/or damage to the instrument or accessories or destroyed, unusable specimens.**

## 2. Safety

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**The safety and caution notes in this chapter must be observed at all times.  
Be sure to read these notes even if you are already familiar with the operation and use of other Leica products.**

### 2.1 Safety notes

These Instructions for Use include important instructions and information related to the operating safety and maintenance of the instrument.

The Instructions for Use are an important part of the product, and must be read carefully prior to startup and use and must always be kept near the instrument.

This instrument has been built and tested in accordance with the safety requirements for electrical equipment for measurement, control, and laboratory use.

To maintain this condition and ensure safe operation, the user must observe all notes and warnings contained in these Instructions for Use.



**These Instructions for Use must be appropriately supplemented as required by the existing regulations on accident prevention and environmental safety in the operator's country.**



**The protective devices located on the instrument and the accessories must not be removed or modified. Only service personnel qualified by Leica may repair the instrument and access the instrument's internal components.**

### 2.2 Warnings

The safety devices installed in this instrument by the manufacturer only constitute the basis for accident prevention. Operating the instrument safely is, above all, the responsibility of the owner, as well as the designated personnel who operate, service or repair the instrument.

To ensure trouble-free operation of the instrument, make sure to comply with the following instructions and warnings.

## Warnings – Markings on the instrument itself



Markings on the instrument itself showing the warning triangle indicate that the correct operating instructions (as defined in these Instructions for Use) must be followed when operating or replacing the item marked. Failure to adhere to these instructions may lead to accidents causing personal injury and/or damage to the instrument or accessories or destroyed, unusable specimens.



Some instrument surfaces become hot during operation. They are marked with this warning label. Touching these surfaces may cause burns.

## Transport and Installation



- Once unpacked, the instrument may be transported only in an upright position. Follow the unpacking instructions carefully to avoid damage to the instrument!
- Before each transport, the drawer must be secured (e.g. using adhesive tape) so that it cannot open by itself.
- Electromagnetic compatibility, emitted interference and immunity to interference are applicable, as are the requirements in accordance with IEC 61326-1. The requirements in accordance with IEC 61010-1, IEC 61010-2-101, IEC 61010-2-010 and ISO 14971 with regard to safety information are applicable. It is the user's responsibility to make sure that a compatible electromagnetic environment is maintained so that the instrument can work as intended.
- Only connect the instrument to a grounded power socket. Do not interfere with the grounding function by using an extension cord without a ground wire.

**Make sure to observe the voltage settings!**

**The set voltage CANNOT be changed by the user.**

**Severe damage may occur if the instrument is connected to a power supply voltage other than that to which it was originally set.**

- The installation location must be well ventilated, and must contain no sources of ignition of any kind. The chemicals to be used in the ASP6025 Tissue Processor are easily inflammable and hazardous to health.
- Do not operate the instrument in rooms with explosion hazard.
- Exposure to extreme temperature changes between storage and installation locations and high air humidity may cause condensation inside the instrument. If this is the case, wait at least two hours before switching on the instrument. Failure to comply with this may cause damage to the instrument.
- After the instrument has been put into service, a SMART cleaning must be carried out before each subsequent transport – otherwise, the interior of the instrument can be severely damaged (see [Chapter 6.1.4](#)).

## 2. Safety

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### Warnings – Operating the instrument



- The instrument may be operated by trained laboratory personnel only. It must only be operated for the purpose of its designated use and according to the instructions contained in these Instructions for Use.
- Antistatic protective clothing made from natural fibers (e.g. cotton) should be worn when working with the instrument.
- In an emergency, the instrument can be switched off via the ON/OFF switch located on the rear of the instrument.
- Before opening the retort when an infiltration process is in progress, always press the unlocking mechanism switch below the screen, so that the retort is ventilated or vented.
- The hose for remote filling/draining is cleaned with compressed air after the filling or draining process. Therefore, never remove the hose before a filling or draining process has been completed.
- After refilling/replacing system bottles, close the container covers again tightly. The system bottles must be properly pushed home into the connection manifolds at the back panel of the reagent cabinet. Failure to plug the system bottles into the manifold correctly will interrupt the infiltration process and may also result in spilling of reagents.
- Fixing solutions that contain mercury salts, acetic acid, or picric acid can cause corrosion on metal components and thus may never be used.
- After every filling with paraffin, the retort must be cleaned with a retort cleaning program.
- Never start a program without baskets in the retort. Otherwise, problems can occur in the air system, which lead to malfunctions in the instrument function.
- NEVER lean on the drawer when it is pulled out. The instrument could tilt forwards and lead to personal injury or damage to the instrument.
- When fully loaded, the drawer is very heavy. Therefore, always close it carefully.
- Always close the spigot on the drip tray in the drawer. Liquid that has spilled in the drawer could end up on the hot paraffin bath oven, evaporate, and produce hazardous vapors.
- Connection of an external alarm system is absolutely necessary for preventing damage to or loss of tissue samples in the event of a malfunction.

### Warnings – Operating the instrument (continued)



- In exceptional situations (e.g. accidental reagent spills), it may be necessary to wear a respirator. This depends on the specific local ambient temperature, room volume, additional load, ventilation rate etc. In case of doubt, the laboratory owner/operator must carry out a local measurement to prove that applicable maximum workplace concentrations are not exceeded. Measurements performed of maximum workplace concentrations that occur at an air change rate of 3.4 times per hour and a room temperature of 40 °C, room volume of 18 m<sup>3</sup> and reagent temperature of 45 °C have shown that limit values are exceeded for short periods during the step when specimens are reloaded in formalin. At lower ambient temperatures and/or larger room volumes in the laboratory or higher ventilation rates, the workplace concentration will be less. The exact concentration values can only be measured locally. The limits were complied with in all operating states.

### Warnings – Handling reagents



- Take care when handling solvents and reagents!
- To prevent damage to the instrument, only the reagents listed in [Chapter 3.3](#) may be used!
- Some of the reagents used in tissue infiltration are toxic, highly flammable and combustible and hazardous to health. Therefore, always wear rubber gloves and safety goggles when handling the chemicals used in this instrument. The gloves must be resistant to all reagents listed in the reagent list.
- Use caution when handling paraffin wax or removing baskets – molten paraffin is hot and may cause burns.



Also, avoid personal contact with paraffin containers and retort walls – they can be very hot as well.

Observe the warning symbols for hot surfaces!

- When disposing of spent reagents, observe the applicable local regulations and the waste disposal regulations of the company/institution in which the instrument is being operated.
- Never replace reagents or fill empty system bottles or RTU-bottles while a process is running.
- This can result in severe damage to the instrument.

## 2. Safety

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### Warnings – Maintenance and cleaning



- Do not use solvents that contain acetone for cleaning. Liquid must not get into the instrument while operating or cleaning it.
- When using cleaners, comply with the safety instructions of the manufacturer and the safety regulations of your laboratory!
- Check the condensate container at least once a week and, if necessary, drain it.
- System bottles and Leica RTU-bottles must not be cleaned in a dishwasher - the containers are NOT dishwasher-proof.



Material safety data sheets can be obtained from the supplier of the chemicals.

Alternatively, they can be downloaded from the following website:

<http://www.msdsonline.com>

### Problem solution for hazard warning



#### Warning!

Misuse of the emergency unlock function and improper opening of the retort

Injuries to hands, arms and head when opening the retort and/or injuries due to spraying reagents!

- Only use the mechanical emergency unlock function if the standard emergency unlock (see Chap. 7.4.1) did not work and you absolutely must get to the specimens.
- Wear special protective clothing, gloves and safety goggles.
- Grasp the bolt handle of the retort firmly in your hand.
- Ensure that no part of the body is located in the opening area of the retort lid.
- Since the retort may be under pressure, open the bolt handle very carefully and slowly.



### **2.3 Safety features on the instrument**

The ASP6025 tissue processor is equipped with numerous safety functions and with sophisticated software control mechanisms. These ensure that the specimens remain undamaged in the event of a power failure or other malfunction during the infiltration process and that the infiltration is completed successfully.

#### **Overpressure protection**

- When power is switched off the pressure air pump and valves default to a safe condition (retort vented, no pressure generation).
- If the pump is not stopped at the correct moment during the pressurization, the power supply is interrupted by a separate electronic circuit.
- In addition, there is a safety relief valve that vents all excess air pump output to atmosphere.

#### **Overcurrent protection**

- Overcurrent conditions are protected against by both the main fuse and the separate heating power fuses.

#### **Overheating protection**

An error is indicated and all heating is stopped by the microprocessor control if the instrument detects any of the following conditions:

- Abnormally high temperature ( $>75^{\circ}\text{C}$ ),
- Contradictory results of the temperature sensors.
- Failure of one or more heating power control components.
- If the microprocessor fails to interrupt heating power, independent temperature limiting hardware circuits limit the temperature rise to a safe level.
- If the temperature limiting circuits malfunction, an independent hardware thermal fuse circuit cuts power to the heating elements.

#### **Over vacuum protection**

- The vacuum system is not capable of generating a dangerous vacuum condition.

### 3. Instrument Components and Specifications

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#### 3.1 Standard delivery - packing list

The ASP6025 Tissue Processor is available in two voltage variants, each of which have a different scope of delivery. The country specific power cord needs to be ordered separately. Please find a list of all power cords available for your device on our website [www.LeicaBiosystems.com](http://www.LeicaBiosystems.com) within the product section.

Immediately after taking delivery, check the delivery against the packing list below to ensure that it is complete.

##### 230 V variant

##### Order No.

1	ASP6025 Tissue Processor Basic instrument	230 V	14 0495 43267
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##### 120 V variant

1	ASP6025 Tissue Processor Basic instrument	120 V	14 0495 43268
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**Both instrument variants of the ASP6025 Tissue Processor also come with the following accessories:**

##### Order No.

1	Basket handle	14 0476 34713
3	Cassette basket assemblies, with lid, handle, separating wall and spiral inserts	14 0476 34193
1	Filling and draining hose for remote filling and draining of reagents	14 0495 44794
1	Filling and draining hose for remote draining of paraffin	14 0495 46467
7	RTU-bottles with cover, plastic	14 0495 43542
10	System bottles, plastic	14 0495 43329
1	Condensate bottle, plastic	14 0495 43537
2	Active carbon filters (1 x already installed in the instrument)	14 0495 43860
3	Paraffin baths	14 0495 45423
1	Flange kit for connection to external ventilation	14 0495 43827
1	Molykote 111 lubricant, 100 g, for valves and O-rings	14 0336 35460
1	Stirrer	14 0495 46070

#### Standard delivery - packing list (continued)

	Order No.
1 Paraffin scraper, plastic	14 0476 35923
1 Drip tray for system bottle cabinet	14 0495 43593
1 Sieve holder for retort	14 0495 45243
1 Maintenance kit consisting of:	14 0495 48279
2 spare covers for system bottles	14 0476 39720
9 O-rings	14 0253 45880
2 Spare covers for RTU-bottles	14 0495 44976
1 Replacement seal for cover (set of 10)	14 0461 36136
1 Set of adhesive labels for system bottles consisting of differently colored adhesive labels	14 0495 45261
1 Set of adhesive labels for RTU-bottles consisting of differently colored adhesive labels with Min - Max	14 0495 45262
1 Stereo jack 6.3 mm	14 6844 01005
1 Paraffin station sieve	14 0495 43987
7 Spare covers for RTU-bottles	14 0495 44976
1 Paraffin station lid	14 0495 44021
3 Perforated trays for drawer	14 0495 43602
2 Compartment dividers for drawer	14 0495 43603
1 USB memory stick	14 6000 03467
1 Instructions for Use, printed (English, with language CD 14 0495 80200)	14 0495 80001
1 Allen key, size 3.0	14 0194 04764
1 Cleaning tool for prisms of the level sensors	14 0495 47955
1 Microfiber cloth	14 0495 47736
1 Shield for retort level sensors	14 0495 46048
1 Program DVD with training and demo software	1495.10253



**You will find these as well as other accessories you may have ordered packed in a separate carton. Carefully check the delivery against the packing list and the delivery note. Should you find any discrepancies, please contact your Leica sales office without delay.**

### 3. Instrument Components and Specifications

---

#### 3.2 Technical data

Nominal supply voltages:	Two factory-preset voltages (not user-adjustable): 120 V $\pm$ 10 %                      or 230 V $\pm$ 10 %
Nominal frequency:	50 to 60 Hz
Main fuses:	2 melting fuses, 32 x 6.3 mm, UL-approved <ul style="list-style-type: none"><li>• for 120 V; T 15 A 125 VAC</li><li>• for 230 V; T 10 A 250 VAC</li></ul>
Nominal power:	1700 VA for both versions
Dimensions, (L x W x H), in mm:	680 x 750 x 1500
Empty weight, unpacked:	Max. 210 kg
Weight, packed:	Max. 235 kg
Operating temperature range:	+15 °C to +40 °C
Storage temperature range:	+5 °C to +50 °C
Relative humidity:	10 % to max. 80 % non-condensing
IEC 61010-1 classification:	Protection class 1 Pollution degree 2 Overvoltage installation category II:
Ambient pressure:	740 to 1100 hPa
Operating elevation:	Up to a max. of 2000 m above sea level
A-weighted noise level:	$\leq$ 70 dB (A)
Local/remote alarm:	0-30 V DC/AC, 0-1 A 2 terminals for 6.3 mm stereo jack. Each with isolated switching contact (operable both as normally-open and normally-closed circuit)

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#### Paraffin containers

Paraffin melting station:	1
Number of paraffin baths:	3
Capacity:	4.9 l per paraffin bath / 5.0 l in paraffin melting station
Melting time:	In paraffin station: max. 6.0 h, in paraffin bath max. 12.0 h
Temperature:	50 to 65 °C (+6 K - 0 K)

### 3.2 Technical data (continued)

#### Retort

Capacity:	max. 300 cassettes
Reagent volume:	4.8 l (up to fill level of 3rd sensor, without specimen filling)
Temperature (paraffin):	50 °C to 65 °C (+6 K - -2 K)
Temperature (processing reagents):	Ambient temperatures or 35 °C to 60 °C (+4 K / -2 K)
Temperature (cleaning reagents):	50 °C to 67 °C (+4 K - -0 K)

#### General

System bottles:	9 (in reagent cabinet)
RTU-bottles:	6 (in drawer)
Condensate bottle:	1
Cleaning solution bottles:	3 (not additional)
Maximum bottle volume:	5.0 l
Pretest check:	ON/OFF

#### System setup

Password status:	Supervisor/Operator
Type of password:	alphanumeric, freely selectable
Reagent management system (RMS):	Toggle between RMS and concentration measurement
Software interlock:	ON/OFF

#### Network protocols used

Remote Care uses the TCP/IP network protocol and, at the user level, https (128-bit encrypted). No other network protocols are used.

## 3. Instrument Components and Specifications

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### 3.2 Technical data (continued)

#### Hardware and software

- Color LCD touchscreen.
- User-friendly, intelligent software
- Three USB ports
- Alarm system with two remote connections
- Password protection for instrument administrator
- Built-in multiple specimen protection system

#### Capacity

- 20 freely configurable programs, each consisting of up to 12 reagent and 3 paraffin processing steps
  - Time per program step: 0 to 23 hours, 59 minutes
  - Delay time: max. 6 days
- Up to 300 cassettes can be processed simultaneously
- Three cleaning programs for the retort
- 9 internal system bottles
- 6 RTU-bottles in the drawer
- 3 paraffin baths
- 1 paraffin station for melting paraffin
- 1 condensate bottle
- Reagent temperature selectable from 35 °C to 60 °C or room temperature, depending on the reagent
- Paraffin temperature selectable from 50 °C to 65 °C.
- Cleaning temperature of 62 °C (ethanol) to 67 °C (R-xylene)
- Up to 100 reagent names in memory

### 3.3 Compatible reagents

The following reagents can be used in the ASP6025:

#### **Fixation**

Formalin 3.7 % (buffered and unbuffered)

#### **Dehydration**

100 % ethanol

Ethanol diluted with water

99 % ethanol (denatured)

99 % isopropanol (also used as intermedium)

Isopropanol diluted with water

≤ 50 % methanol

#### **Intermedium**

Xylene (or xylene substitutes)

99 % isopropanol

Toluene

Rotihistol (based on limonene)

Roticlear (based on aliphatic, naphthenic hydrocarbons)

ST Ultra (based on hydrocarbons)

Neoclear (based on trimethylbenzoyl)

ParaLast™

#### **Paraffinizing**

Paraffin, approved for histological application

#### **Reagents for external cleaning**

Paraffin remover by Medite

1 % HCl-ethanol (based on 70 % ethanol)

Surface cleaners for plastic (Poliboy)

Paraguard by Polysciences

#### **Reagents for retort cleaning (extended cleaning)**

Disinfectants based on aqua dest. (e.g. Incidin, Dextran 31, Eodisin)



**Use of the ASP6025 is permitted with the reagents specified only. Reagents and protocols must be validated before use, i.e. tissue processing with patient tissue for diagnostics, by the laboratory itself according to the local or regional accreditation requirements. Reagents other than those listed here may cause severe damage to the components of the instrument.**

**Acetone, benzene, chloroform and trichlorethane must NOT be used!**

### 3. Instrument Components and Specifications

#### 3.4 Overview

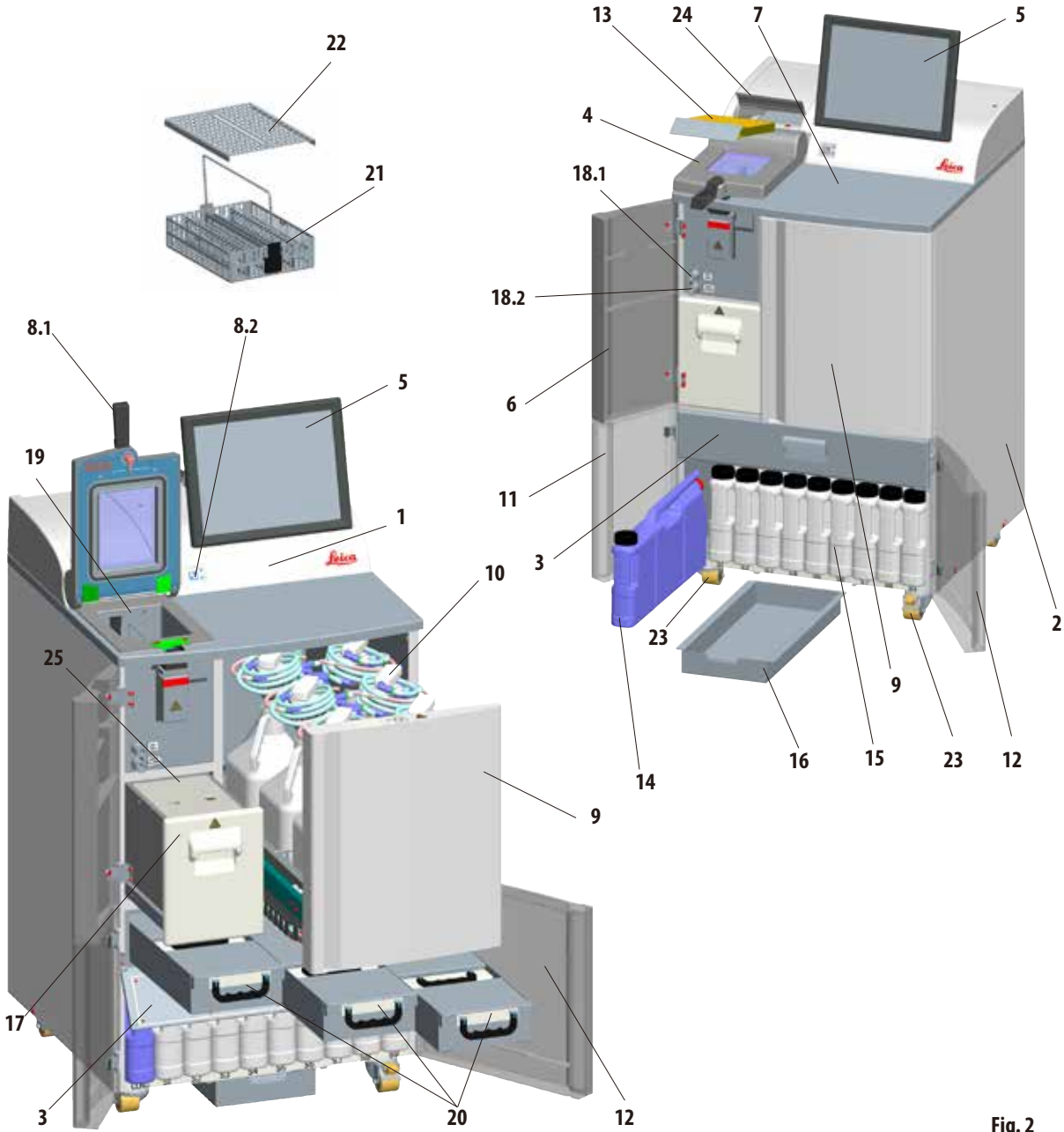


Fig. 2



#### Instrument components

- |                                                          |                                                     |
|----------------------------------------------------------|-----------------------------------------------------|
| <b>1</b> - Basic instrument - processor module           | <b>13</b> - Active carbon filter                    |
| <b>2</b> - Basic instrument - reagent cabinet            | <b>14</b> - Condensate bottle                       |
| <b>3</b> - Cover flap for the paraffin baths             | <b>15</b> - System bottles (pack of 9)              |
| <b>4</b> - Retort lid                                    | <b>16</b> - Drip tray                               |
| <b>5</b> - Monitor                                       | <b>17</b> - Paraffin melting station                |
| <b>6</b> - Left upper door                               | <b>18.1</b> - Spout for draining paraffin           |
| <b>7</b> - Counter area                                  | <b>18.2</b> - Spout for filling with reagents       |
| <b>8.1</b> - Bolt handle for retort                      | <b>19</b> - Retort                                  |
| <b>8.2</b> - Unlocking mechanism switch for retort       | <b>20</b> - Paraffin baths (3)                      |
| <b>9</b> - Drawer for RTU-bottles                        | <b>21</b> - Specimen basket                         |
| <b>10</b> - RTU-bottles with filler necks<br>(pack of 6) | <b>22</b> - Lid for specimen basket                 |
| <b>11</b> - Left lower door                              | <b>23</b> - Castors for moving the instrument       |
| <b>12</b> - Right lower door                             | <b>24</b> - Cover flap for the active carbon filter |
|                                                          | <b>25</b> - Paraffin station lid                    |

#### 3.4.1 Instrument components and accessories



**For the ASP6025, two different variants of the retort lid (4, Fig. 2) are available. The release of the retort lid differs between the older variant 1 and the newer variant 2. Regarding this, observe Chap. 4.4.1 – The Retort and Chap. 7.4 – Emergency Unlock.**

Three paraffin baths, the paraffin station, and the retort comprise the infiltration module.

Above it is the touchscreen with a USB port on the side and the electronic components.

All electrical ports and the electronic interfaces are located on the rear side of the instrument (Chapter 3.4.2, Fig. 3).

The cassettes to be processed are stored in three baskets (21), each of which can hold up to 100 cassettes. If the baskets are used with inserts (spirals), each basket can hold 80 cassettes.

The specimens are processed in the stainless steel retort (19) at the preselected pressure, vacuum, and temperature conditions.

There are nine system bottles (15) with a maximum filling volume of 5 l in the reagent cabinet.

Additionally there are six RTU-bottles (10) housed in a separate drawer (9) on the right side of the instrument.

(For additional information, refer to Chapter 4.4.7, Fig. 44).

### 3. Instrument Components and Specifications

#### 3.4.2 Instrument rear panel - terminals

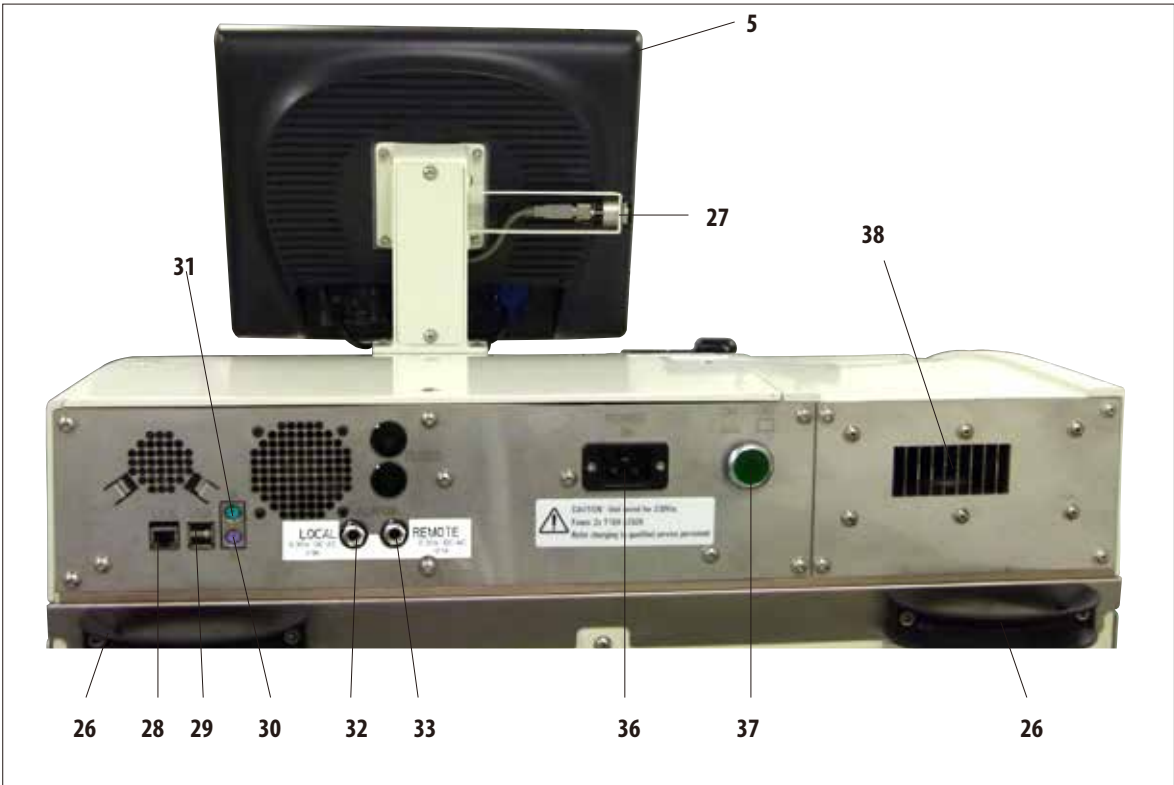


Fig. 3

- |                                       |                                 |
|---------------------------------------|---------------------------------|
| 5 - Monitor                           | 31 - Terminal for mouse (M)     |
| 26 - Handle for moving the instrument | 32 - Local alarm connection     |
| 27 - USB port (downloading/saving)    | 33 - Remote alarm connection    |
| 28 - Network connection (LAN)         | 36 - Power supply input         |
| 29 - USB port                         | 37 - Main power switch (ON/OFF) |
| 30 - Terminal for keyboard (K)        | 38 - Exhaust output             |



Connecting a keyboard/mouse is reserved SOLELY for trained Leica employees. This also applies to the network connection, which is to be used only together with RemoteCare (service diagnostics).

### 3.4.3 Instrument specifications

- The ASP6025 is a modular tissue processor with a Reagent Management System optimized by an integrated measurement sensor (ethanol concentration) that supports consistently high specimen quality and helps to reduce reagent consumption.

The concentrations of all ethanols and isopropanols located in the processor are measured and displayed in the **REAGENT STATUS** submenu.

- The ASP6025 can be operated using customer-specific or preinstalled, validated infiltration programs.
- For this purpose, there are 13 preinstalled, noneditable processing programs available to the user. These include 3 autorotation, 5 xylene and 5 xylene-free programs.
- 20 processing programs are freely configurable with up to 15 steps (temperature; time; reagent; three pressure/vacuum options).
- The quick start system enables you to start each infiltration program immediately from the **FAVORITES** window (max. 10).
- The "time-optimized" infiltration programs help to increase productivity in the lab by significantly shortening infiltration times. They either include xylene as the intermedium or they are xylene-free. In the latter case, hazardous xylene is replaced with isopropanol.
- With the preinstalled autorotation programs, the ethanol concentration is measured automatically and when the concentration falls below a threshold value a message is displayed indicating that it is time to change the used ethanol. When the used ethanol is replaced, the fresh ethanol added to the system is always undiluted (100 %) ethanol. This means that time-consuming dilution and the errors that can occur during that process, as well as contact (inhalation!) with the solvents are entirely avoided.

### 3. Instrument Components and Specifications

---

#### Instrument specifications (continued)

- Alternatively, the number of cassettes, number of protocols and days since the last change and the reagents to be replaced can be displayed according to standard laboratory replacement schedule.
- Reagents are changed by pulling out a drawer with six RTU-bottles. The bottles can then be replaced simply, quickly and without bending down, which is ergonomically more comfortable.
- A suitable funnel enables both RTU-bottles and compatible, commercially available bottles to be used.



**Only RTU-bottles from Leica are approved for this instrument. However, if different bottles are used, the customer must INDEPENDENTLY check that they are suitable for such use. (For information about temperature and dimension requirements, see page 51 Warning message.)**

- Alternatively, reagents can be exchanged via the infiltration chamber using a process controlled by the instrument for filling and draining from system and RTU-bottles, i.e. with a connected (reagent) hose.
- Five liters of melted paraffin can be kept in readiness in the integrated paraffin station.
- The paraffin station automatically fills a previously drained paraffin bath.
- In this process, the system detects if a paraffin bath is not filled to the correct level, and the paraffin station automatically compensates.
- Up to three paraffin baths are used for the tissue infiltration. These can be easily removed for cleaning simply by pulling them out.
- Used paraffin is pumped out via the infiltration chamber by instrument-controlled draining, i.e. with a connected (paraffin) hose.
- The internal, uninterruptible power supply of the ASP6025 prevents tissue specimens from drying out or suffering other possible damage, in the event of power failures for example, by automatically filling the retort with a safe reagent.
- When power is restored, the infiltration program is automatically resumed and completed.

#### Instrument specifications (continued)

- Harmful reagent vapors are continuously suctioned back from the infiltration chamber into the instrument and filtered even after the chamber is opened, e.g. to reload cassettes or baskets.
- All solvent vapors are transferred to the external vacuum extractor via a separate port on the rear of the instrument.
- Cover of the infiltration chamber with integral viewing window to allow visual check of the fill level and specimen baskets.
- The infiltration chamber is capable of holding up to 100, 200 or 300 standard cassettes depending on whether it is operated with one, two or three baskets.
- This function is assured by 4 optical level sensors inside the infiltration chamber, which has a maximum capacity of 4.8 liters.
- Optionally, the ASP6025 can also be operated with reagent volumes of 3.8 liters or 5 liters. In the first mode, the operator can choose between one and two-basket operation, and in 5 liter mode between one, two or three-basket operation.
- RemoteCare Internet connection between the ASP6025 and the Service Support Team enables optimized service through permanent monitoring of instrument functions.
- Infiltration chamber with single-hand safety catch and locking device with a switch, so that it can be opened (during a program sequence) when the ambient pressure has been reached.
- Multilingual user interface, graphic display of the program flow (= **SMART SCREEN**), and contextual online help are available for clarifying all menu steps.
- Access to the instrument can be limited via a multilevel password protection system.
- Two programs for cleaning the infiltration chamber can be supplemented with a water rinsing step.

## 4. Instrument Setup

### 4.1 Unpacking the instrument



- **Important!**
- At least **TWO** persons are required when lifting or carrying the instrument.
- The packaging has two indicators (83, 84, [Fig. 5](#)) that indicate improper transport. When the instrument is delivered, check this first. If one of the indicators is colored red, the package was not handled as prescribed.
- In this case, please mark the shipping documents accordingly and check the shipment for damage!

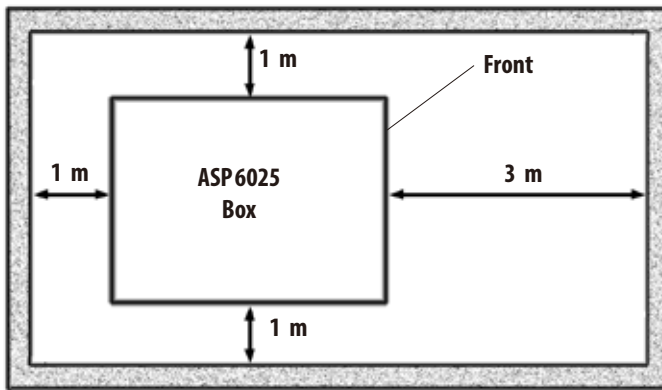


Fig. 4

Sufficient surface area is required for unpacking the instrument.

The distance to the nearest wall must be at least 1 m on the side and rear.

On the front, the distance must be at least 3 m, as the ASP6025 is rolled from the pallet in this direction.

The room height must be at least 2.5 m, as the packaging must be removed by pulling it upwards.



Fig. 5

#### Opening the package ([Fig. 5](#))

- Bring the transport crate (**80**) in which the instrument is packaged as close as possible to the final installation location.
- There, first remove the straps (**82**), then the cover (**81**).

### Unpacking the instrument (continued)

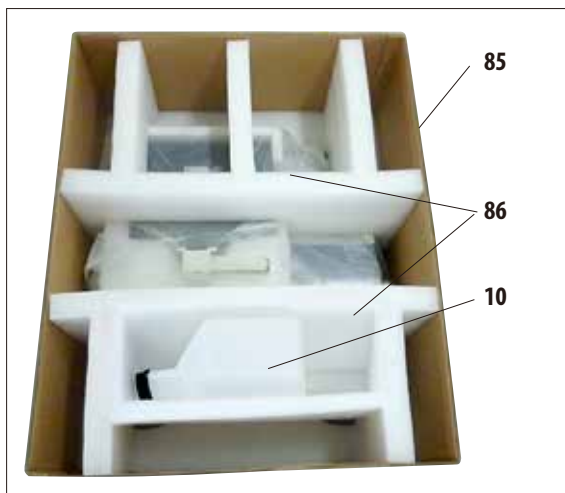


Fig. 6

#### Removing the transport anchors

- First, remove the additional RTU-bottle (10) out of the transport anchor.
- Take out the two transport anchors (86) made of foam (Fig. 6).
- Afterwards, the outer sleeve of the packaging (85) must be removed from the pallet (87) by pulling it upwards.



Fig. 7

#### Unpacking and removing the accessories

- The carton (89) contains the accessories that are not yet installed in the instrument. Carefully set the carton aside.
- Then remove the rest of the molded foam material (90) on the front side of the pallet (Fig. 7).
- Then, carefully remove the plastic dust cover (88) from the instrument.



**Before unpacking the instrument, be absolutely certain to read the unpacking instructions. They are attached to the outside of the transport packaging.**

## 4. Instrument Setup

### Unpacking the instrument (continued)

- Pull out the two rails (91) for the ramp beneath the instrument by pulling them forwards (Fig. 8).
- Hook these rails on the left and right with the panel (92) into the groove (93) of the pallet so that they are flush with the wooden board (94) that holds the instrument (Fig. 9).

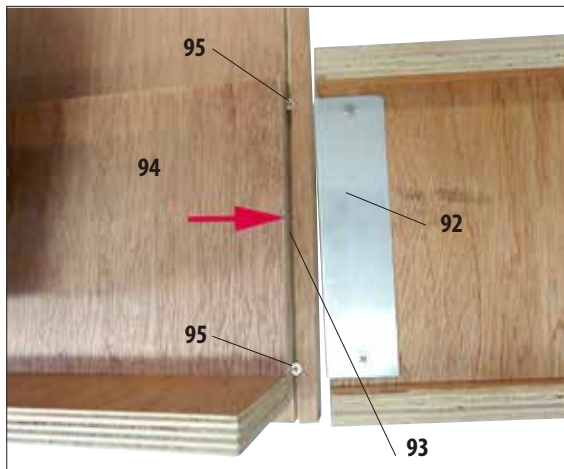


Fig. 9

### Setting up the ramp

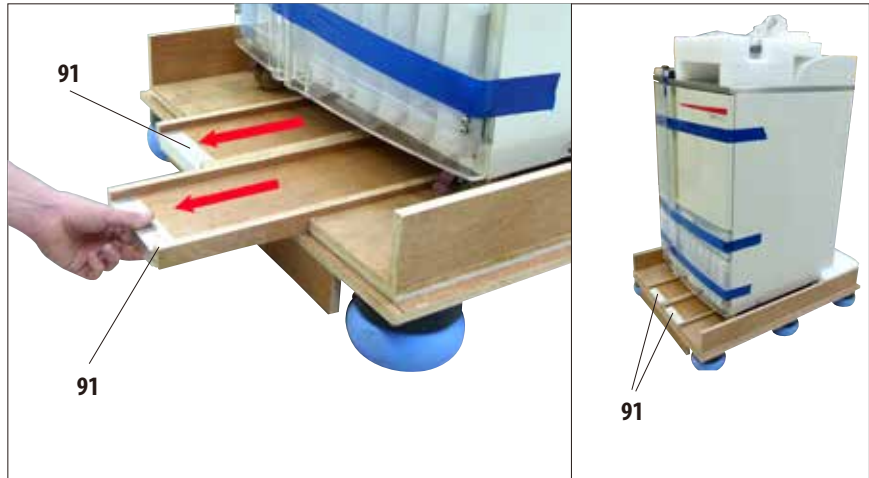


Fig. 8

- While doing so, make sure that the plate (92) is between the two screws (95) in the groove. These screws prevent the rail from being able to shift laterally.

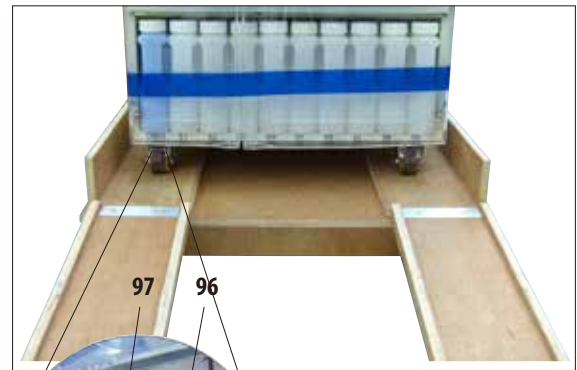


Fig. 10

- Now release the brake lever (97) on the two front transport casters (96) so that the instrument can be moved (Fig. 10).
- To do so, the lever must be folded upwards.



### Unpacking the instrument (continued)

### Push the instrument from the pallet (Fig. 11.3)



**Caution!**

The instrument castors move very easily. The empty weight of the ASP6025 is 210 kg!

Therefore, it is mandatory to have at least TWO persons hold the instrument when it is rolled off the pallet via the ramp.



**Fig. 11.1**

The left and right illustrations show how the instrument must be held when rolled off the pallet via the ramp.



**Fig. 11.2**

- When rolling the ASP6025 down from the pallet, support it by the outer top corners using both hands (Fig. 11.1).
- Hold the rear of the ASP6025 securely by both handles (26). (Fig. 11.2)



**Fig. 11.3**

- After the instrument has been rolled off the pallet, it can be brought to its final location.
- When the instrument is set up in its final location, the brakes on the instrument castors must be engaged once again.  
To do so, push the lever (97) (detail in Fig. 10) back downwards.

## 4. Instrument Setup

### Unpacking the instrument (continued)



Fig. 12

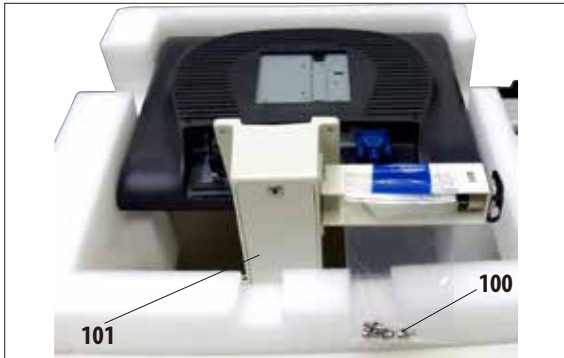


Fig. 13

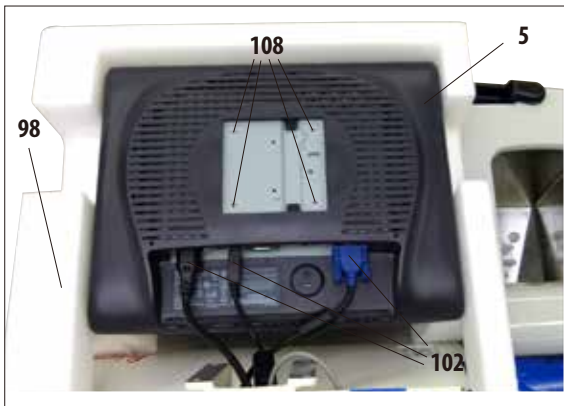


Fig. 14

### Installing the monitor

- The monitor (5) is wrapped in a plastic dust cover (109) and is placed with the screen facing downwards in a molded foam cushion (98) next to the retort (Fig. 12).
- First, take out the two foam parts (107) next to the bracket (Fig. 12). Then you remove the dust cover.
- A small plastic bag is fastened to the rear side of the bracket (101), which contains four screws with compatible washers (100) (Fig. 13). A compatible No. 3 Allen key (104, Fig. 16) is also included in the delivery package.
- Before the monitor is screwed onto the bracket, you should check that the three terminals (102) (power supply, USB port and monitor cable) on the bottom of the monitor are fastened correctly (Fig. 14).

### Unpacking the instrument (continued)



Fig. 15



Fig. 16

### Installing the monitor

- To do so, lift the monitor out of the foam cushion and insert it with the notch (**103**) on the rear side into the matching bracket (**101**) (Fig. 15) and hold it securely in this position.
- Now remove the screws (**100**) and washers from the plastic bag. These screws are used to fasten the monitor to the bracket (**101**).
- Now, fasten the monitor to the bracket by screwing the screws back into the original threaded bore holes (**108**) on the rear side.
- Tighten the screws (**100**) evenly but not too tightly using the No. 3 Allen key (**104**) supplied (Fig. 16).
- Finally, remove the molded foam cushion (**98**) by lifting it off the monitor.

## 4. Instrument Setup

### Unpacking the instrument (continued)



Fig. 17

- Remove the adhesive tape (105) from the lid of the retort (19) (Fig. 17).
- In the retort, you also have to remove the strip of adhesive tape (105) that secures the cover of the level sensors (Fig. 19).

### Removing the transport anchors

- After installing the monitor, you have to remove all transport anchors (adhesive tape and foam parts).
- First, carefully remove all blue strips of adhesive tape (105) that secure the doors and the drawer of the instrument.

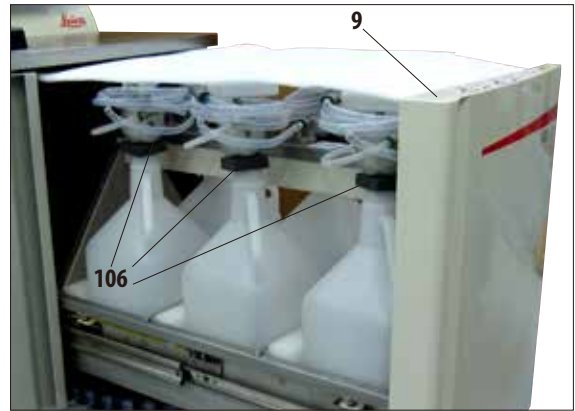


Fig. 18

- Then, open the drawer (9) and remove all foam parts there (Fig. 18). Also remove the six dark gray molded parts (106) from the necks of the RTU-bottles.



Fig. 19

## 4.2 Basic instrument/hardware

**CAUTION!**

The chemicals to be used in the ASP6025 are easily inflammable and hazardous to health.

Therefore the installation location must be well ventilated, and must contain no open flames. The room in which the instrument is located must not be used as a permanent station for people. Otherwise the room must be equipped with an exhaust device.

The installation location must be protected against electrostatic discharge.

The instrument must be set up so that the power switch on the rear side of the instrument (Fig. 3, position 37) and the power plug are easily accessible at all times.

Do not operate the instrument in rooms with explosion hazard.

To ensure proper functioning of the instrument, it must be set up while maintaining a minimum distance of 10 cm from walls and furniture.

## 4.2.1 Installation site requirements



Fig. 20

- It is the user's responsibility to make sure that a compatible electromagnetic environment is maintained so that the instrument can work as intended.
- The instrument requires an installation area of approx. 700 x 800 mm.
- The substrate must have a sufficient load capacity and rigidity with respect to the weight of the instrument.
- Relative humidity 80 % maximum - non-condensing.
- Room temperature consistently between +15 °C and +40 °C.
- Elevation: Up to a max. of 2000 m above sea level.
- Ambient pressure from 740 hPa to 1100 hPa.
- The instrument is designed for indoor use only.
- The power supply must be within the range of the length of the power cord. No extension cable may be connected.
- The instrument **MUST** be connected to a grounded power socket.
- Use only one of the provided power cords that is intended for the local power supply.
- Avoid vibrations, direct sunlight and heavy variation in temperature.



After unpacking the instrument, the instrument must be handled only by the handles (26) on the rear side (Fig. 3) to move it to its final location. Afterwards, the brakes must be applied to the instrument's castors.

## 4. Instrument Setup

### 4.3 Installing the tube for external exhaust air (optional)



Fig. 21

The instrument has been designed by the manufacturer so that it can be connected to an external exhaust device. The standard delivery includes the "Flange kit for external ventilation" for this purpose.

To do so, set up the instrument so that it is possible to connect the exhaust hose to the external exhaust device.



**Even if the instrument is connected to an external exhaust device, the active carbon filter provided must remain in use.**

The flange kit (Fig. 21) consists of the exhaust hose (74) ( $\varnothing = 50$  mm) and the exhaust flange (75).

First, install the exhaust flange. To do so, proceed as follows:

- Use a No. 3 Allen key (76) to loosen and unscrew the four hexagon socket screws (77) on the rear cover of the instrument (Fig. 22).



**Do not loosen ANY other screws! Otherwise the instrument may be damaged.**

- Make sure that you do not remove the fan plate (78); the plate **MUST** remain under the flange.

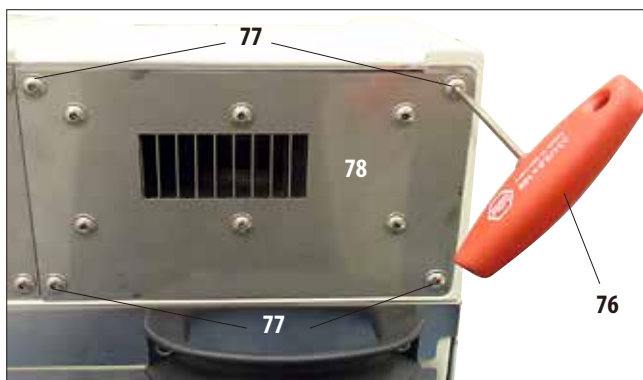


Fig. 22

### Installing the tube for external exhaust air (continued)

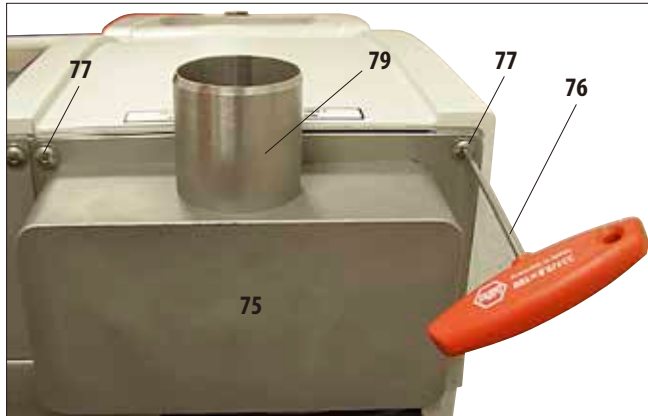


Fig. 23

- Attach the exhaust flange (75) to the fan plate (78 in Fig. 22) and fasten it using the screws that held the plate.
- First, screw in all four screws (77) loosely, then tighten them crosswise with the No. 3 Allen key (76) at a torque of 0.5 Nm (Figs. 22, 23). Make sure that the fan plate and the flange are flush against each other.

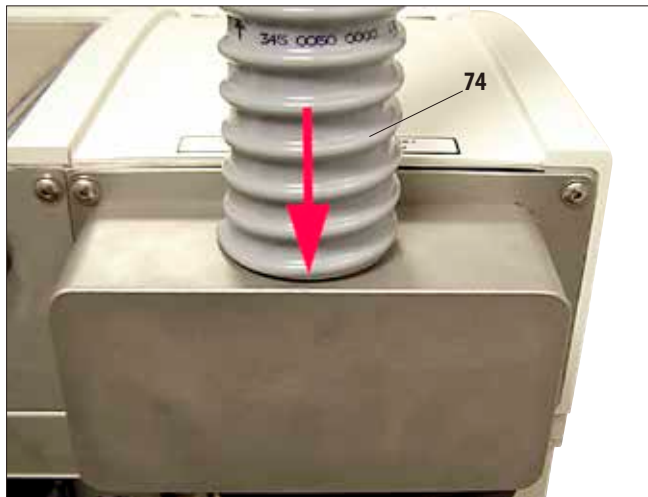


Fig. 24

- Now attach one end of the exhaust hose (74) to the upwards-pointing tube (79, Fig. 23) of the flange and push it down as far as it will go (Fig. 24).
- Finally, connect the other end of the exhaust hose with the external exhaust station.



## 4. Instrument Setup

### 4.4 Connecting the power supply



#### Caution!

Observe the following instructions carefully to prevent damage to the instrument:

The 120 V voltage version of the instrument (REF 14 0495 43268) requires an electrical power supply with fuse protection of at least 20 A.

The instrument **MUST** be connected to a grounded power socket. The power plug must be easily accessible so that it can be pulled out.

The instrument is supplied with a set of different power cords. Use only the power cord that matches the local power supply (outlet).

Do not use an extension cable!



Check the nameplate on the rear of the instrument to ensure that the instrument delivered is designed for the required voltage.

Severe damage may occur if the instrument is connected to a power supply voltage other than that to which it was originally set.

The power supply voltage for the instrument is factory preset and **CANNOT** be altered by the user.

Electrical ports on the back panel of the instrument.



Fig. 26

Adhesive label with fuse ratings



### 4.4.1 The retort



For the ASP6025, two different variants of the retort lid (4, [Fig. 2](#)) are available. The release of the retort lid differs between the older variant 1 and the newer variant 2.

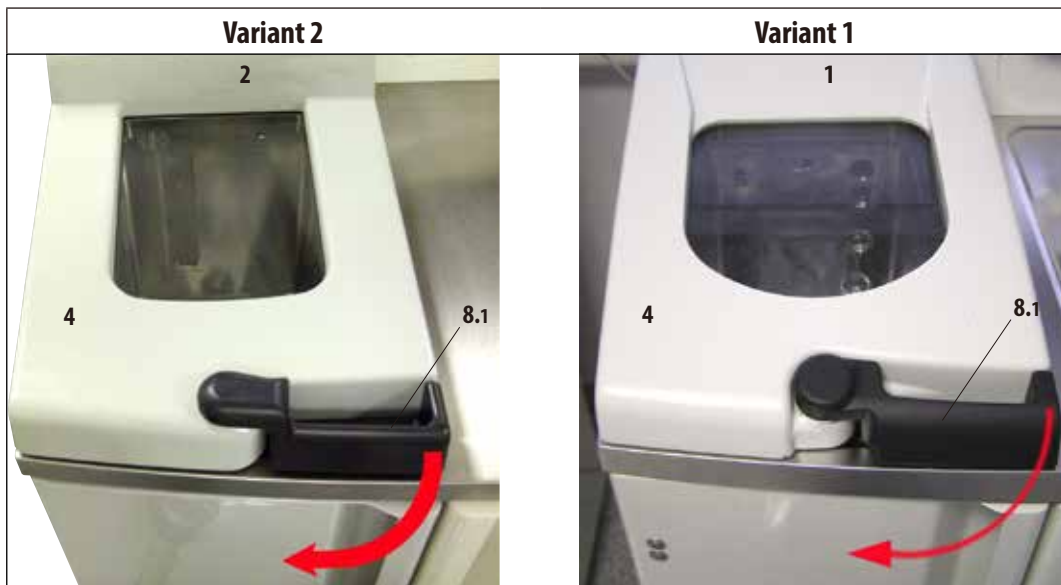


Fig. 27

- To open the retort, twist forward the black handle (8.1) on the retort lid (4) (arrow in [Fig. 27](#)). The lid opens upwards.



Keep your distance when opening the retort lid, particularly if the reagents are heated. Also avoid breathing in the vapors.

## 4. Instrument Setup

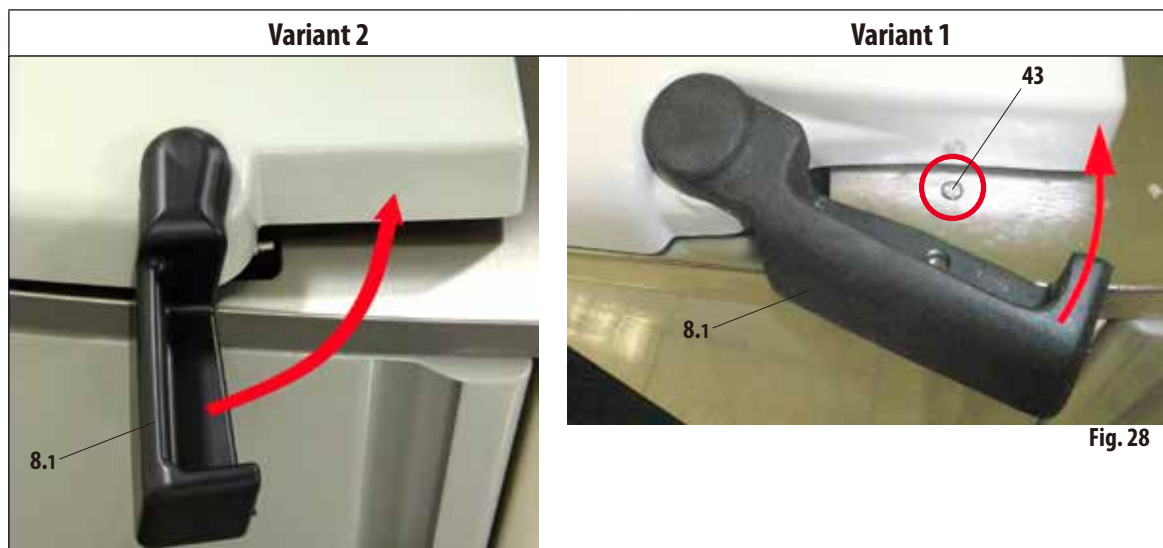
### Retort locking

- The retort locks automatically when a program is started.
- Unlock it by pressing on the unlocking mechanism switch (8.2) below the screen (Fig. 29).
- A message box appears on the screen; **YES** must be entered here to confirm unlocking of the retort while a process is in progress.
- When the **YES** button is pressed (Fig. 29), the reagent vapors are removed by suction, filtered and the fluid level in the retort is lowered.



In instruments with the retort lid variant 1, now the pin (43, Fig. 28) unlocks the handle, and the retort can be opened.

In instruments with the retort lid variant 2, the automatic release takes place within the instrument.



- Pressing **NO** continues the process.

- To continue the process after opening the retort, move the handle back into the locking position (Fig. 28). Then press the **CONTINUE** button on the screen.

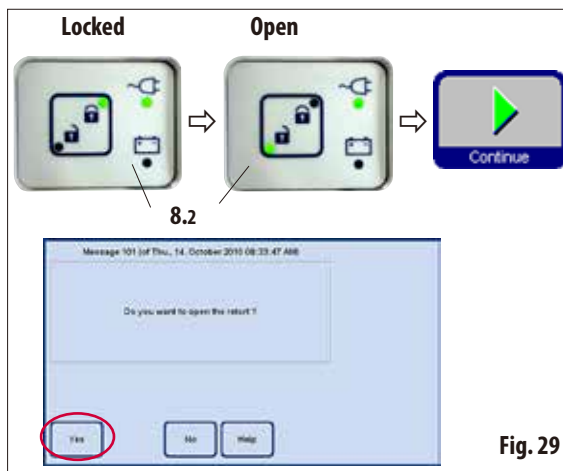


Fig. 29

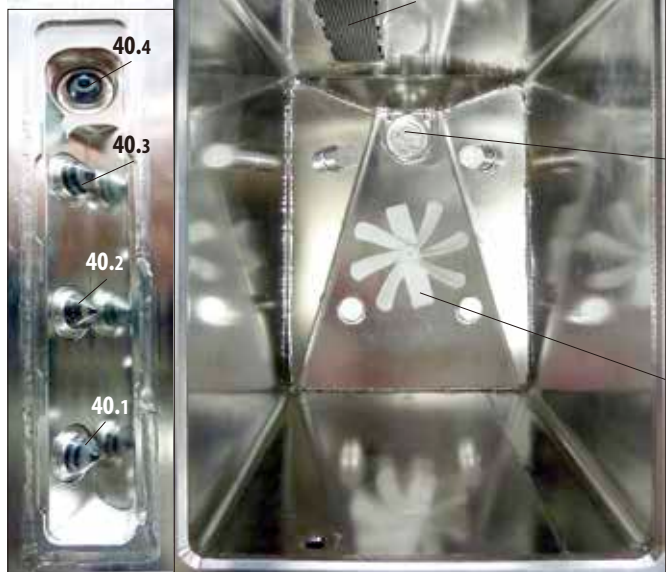


Both the emergency unlock function for instruments with the retort lid variant 1 and the procedure in case of a necessary emergency unlock for instruments with the retort lid variant 2 are described in [Chap. 7.4 – Emergency unlock](#).

## 4. Instrument Setup

### The retort (continued)

Fill level sensors



Insert the sieve (42) into the drain opening on the floor of the retort.



42



It is imperative to insert the magnetic stirrer before an infiltration program is started!

Attach the magnetic stirrer (41) to the axis on the floor of the retort with the little hole facing upwards.

41



Fig. 30

Level sensors (at left in Fig. 31)

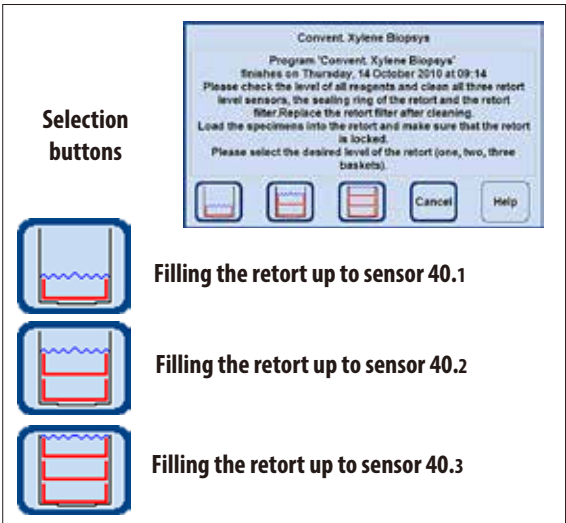


Fig. 31

Every time a program is started (except in **CONCENTRATION** mode, see [Chapter 5.1.2](#)), a message is first displayed in which the start must be confirmed.

Depending on how many baskets the retort is loaded with, the fill volume can be selected in the dialog box by pressing the corresponding button (Fig. 31).

- For this purpose, there are three level sensors (40.1 - 40.3) (Fig. 31) located behind the cover (40) in the rear cover of the retort.
- The uppermost sensor (40.4) prevents the retort from being overfilled or overflowing.

### Active carbon filter

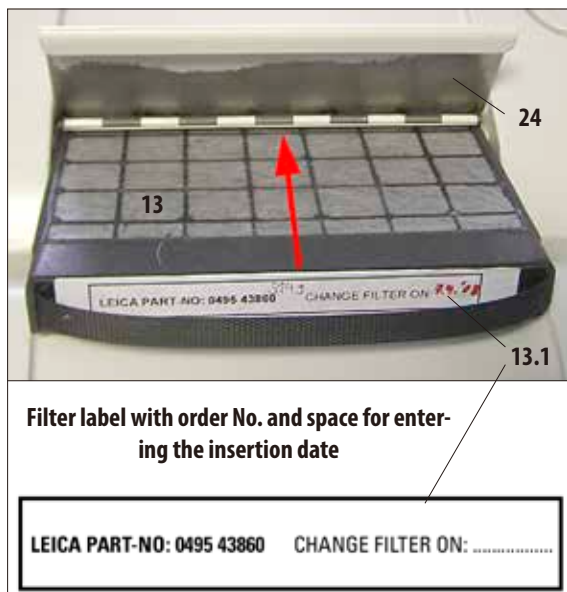


Fig. 32

- To insert/replace the active carbon filter (13), open the flap (24) behind the retort lid.



- Push the filter in as far as it will go with the handle facing forwards in the direction of the arrow, as shown in Fig. 32.
- The date on which the filter has been inserted can be marked on the label (13.1) on the front side.



The active carbon filter is only an additional measure to minimize harmful vapors in the area surrounding the instrument. Ventilation of the workroom is required in any case. The filter should be replaced every thirty days.

### 4.4.2 Counter area



Fig. 33

- To the right of the retort in front of the screen, there is a stainless steel counter area (45) for setting down the prepared specimens (Fig. 33). Baskets removed from the retort can also be set down there.
- It is recommended that you cover the counter area with cellulose.

## 4. Instrument Setup

### 4.4.3 Specimen baskets

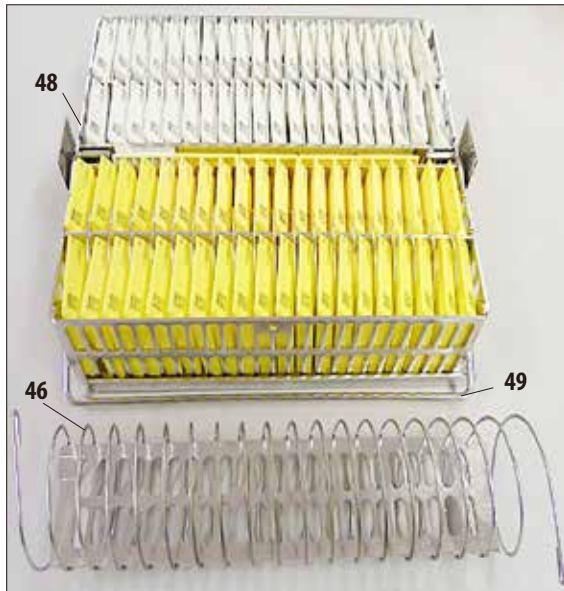


Fig. 34



Fig. 35

- Fig. 34 shows the standard stainless steel basket (48) filled with specimen cassettes.
- The dividing spiral (46) is used to align the cassettes in the basket accurately. The dividing spiral is shown in the bottom part of Fig. 34 with the bar for inserting it into the metal basket.
- As shown with the dividing spiral, the standard basket can be filled with up to 80 specimen cassettes. Without a dividing spiral, the cassettes can be packed in more tightly, so that a maximum of 100 cassettes can fit in the basket.
- Each metal basket has a movable (can be swung to the side) handle (49) for inserting and removing it from the retort.
- Up to three baskets can be inserted into the retort and processed simultaneously.
- There is also a large basket likewise made of stainless steel.
- It is shown in Fig. 35 with the lid attached (47). This lid is the same one that is also used for the standard basket. It is set onto the baskets after being filled, as shown in the figure.
- Up to 300 standard cassettes fit in the random basket.



**Only completely cleaned cassette baskets may be used for tissue processing!**

### 4.4.4 The monitor



Rear side of the monitor with fasteners and a USB port

Fig. 36

- The touchscreen is fastened to a stable base with four screws. All terminals are protected from contact with reagents. The touchscreen itself is resistant to all reagents used in the instrument. Despite this, avoid contact between the two. Immediately wipe up any reagent splashes!

- The ASP6025 is programmed and operated via a color LCD touchscreen.
- A screen saver will turn off the screen display if no key has been pressed for 30 minutes. Press any part of the touchscreen to restore the screen. After having been restored, the on-screen functions will be nonoperational for a few seconds to avoid accidental activation of any keys.

#### USB port



- On the left side of the touchscreen (as viewed from the front), there is a USB port (50) for saving or downloading data onto or from a USB stick.



**It is mandatory to carry out a virus check first before you insert a USB stick!**

- If the USB port is not being used, it should be closed with the plastic cover (51) to prevent reagents from entering it.



**A small plate (Detail, item 52) with the serial number of the instrument is attached to the console in which the USB port is located.**



## 4. Instrument Setup

### 4.4.5 The paraffin station

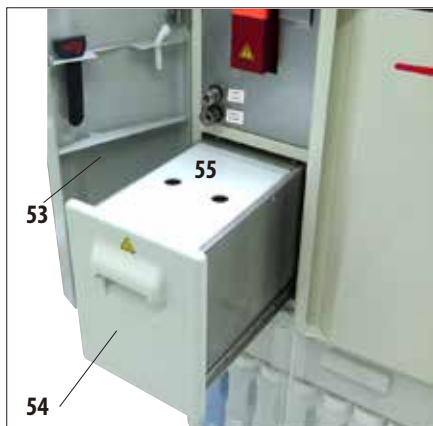


Fig. 37

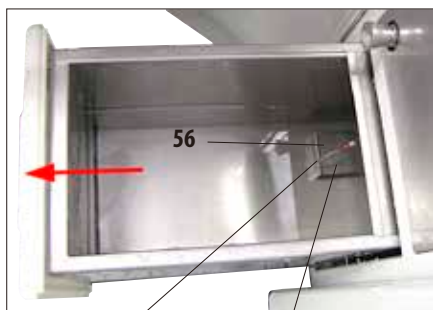


Fig. 39

Enlarged detail:  
Sieve in the  
Paraffin station



Fig. 40

- The paraffin station (54) is located behind the left door (53) of the instrument, below the retort (Fig. 37). It ensures that sufficient fresh, liquid paraffin is always available for the paraffin baths. The capacity is 5.0 l of liquid paraffin.
- There are two marks in the interior of the station that display the minimum fill level when filled with pellets or liquid paraffin (Fig. 38). The level must not fall below these marks.



Fig. 38

**Top mark:**  
Minimum fill level when filling  
with pellets for melting.

**Bottom mark:**  
Minimum fill level when filling  
with liquid paraffin.

- The paraffin station must be pulled out to be filled. It has a cover (55) for better thermal insulation and as splash protection. The cover has two holes in it to make it easier to remove.



If the paraffin station has been pulled out, this is indicated by a red border (Fig. 40) on the SMART screen.

The signal light on the lower right of the icon will also be red.

Proceed slowly and carefully when pulling out the station – never jerk it out. The paraffin inside it is fluid and hot – it can cause burns. The cover is also hot, therefore always wear gloves!

- The paraffin station can be filled with paraffin pellets or liquid paraffin. If filled with pellets, the melting time is approx. 6.0 h.
- Check and clean the strainer (56) weekly.



### 4.4.6 The paraffin baths

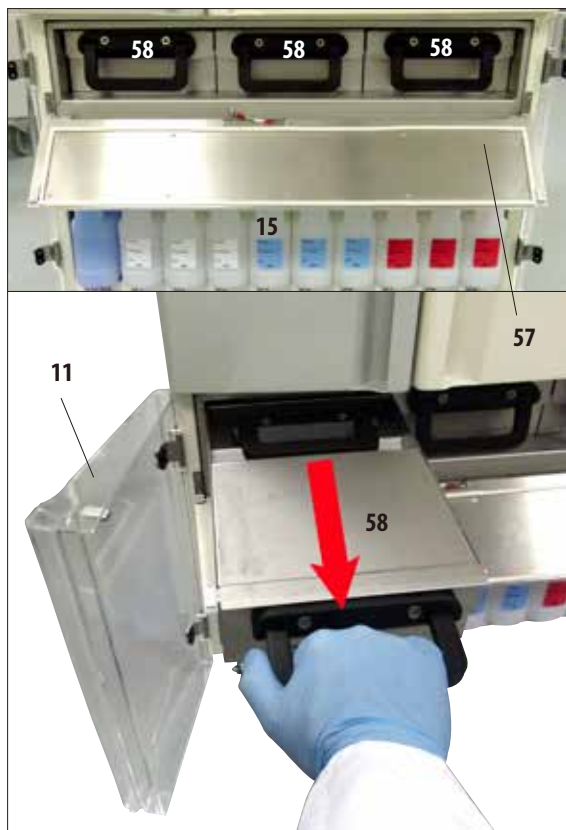


Fig. 41

- The instrument has three heated paraffin baths (58), each with a max. capacity of 4.9 l of liquid paraffin.
- They are located behind a flap (57) over the reagent compartment with the system bottles (15). To access the flap, open the two lower Plexiglas doors (11, 12).
- The individual paraffin baths can be pulled out for filling (Fig. 41) and can also be removed from the compartment for cleaning.



**Caution!**

Never attempt to forcefully remove the wax baths when the instrument is cold, because doing so can damage the instrument.



**Caution!**

Proceed slowly and carefully when pulling out a paraffin bath – never jerk it out. The paraffin inside it is fluid and hot – it can cause burns. The handles and covers are also hot, therefore always wear gloves and proceed carefully.



- The baths can be filled with liquid paraffin manually or from the paraffin station. It is also possible to fill with pellets – the melting time then is approx. 720 min.

## 4. Instrument Setup

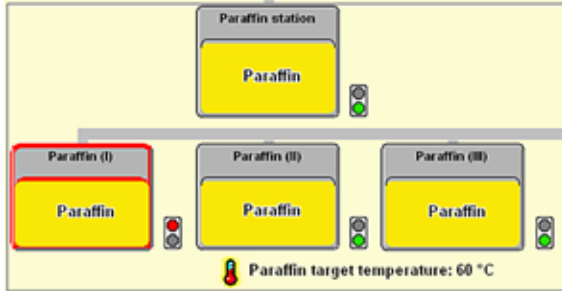


Fig. 42

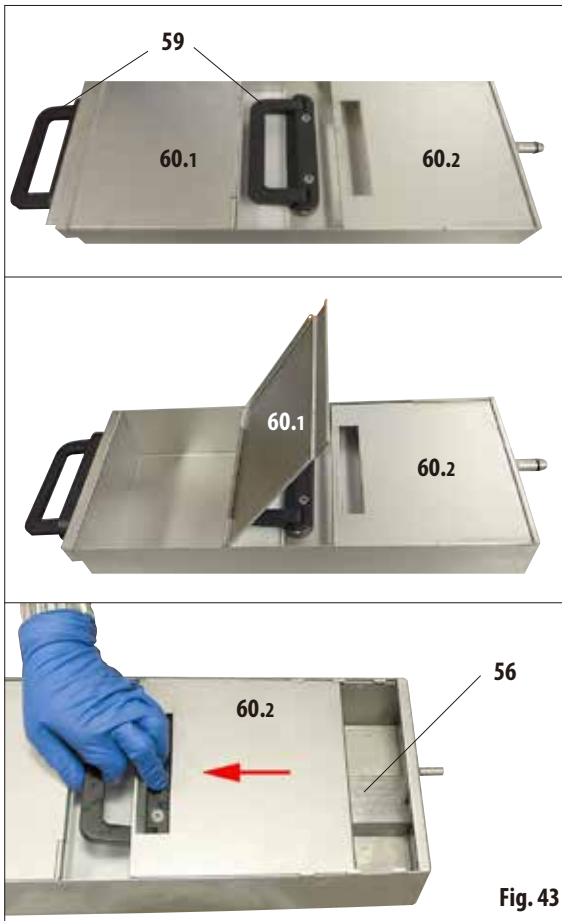


Fig. 43

- If a paraffin bath has been pulled out, this is indicated by a red border (Fig. 42) and the signal light next to the bath turns red. Each signal light also turns red if the configured temperature is not reached or the melting time has not yet ended.
- All paraffin baths have two handles (59) for pulling out and carrying. Two movable covers (60.1 and 60.2) provide for better thermal insulation and prevent the liquid paraffin from sloshing out when being pulled out (Fig. 43).



### Caution!

The paraffin in the bath is liquid and hot – it can cause burns. The handles and covers are also hot, therefore always wear gloves and proceed carefully.

- When pulling out a bath, the front (on the left in the image) cover (60.1) can be folded upwards (Fig. 43) to facilitate filling and cleaning.
- The other (in the image, right) cover (60.2) can also be moved and removed for cleaning (Fig. 43, below).
- In each paraffin bath there is a sieve (56) as in the paraffin station to protect the paraffin lines from contamination.

### 4.4.7 Drawer with RTU-bottles

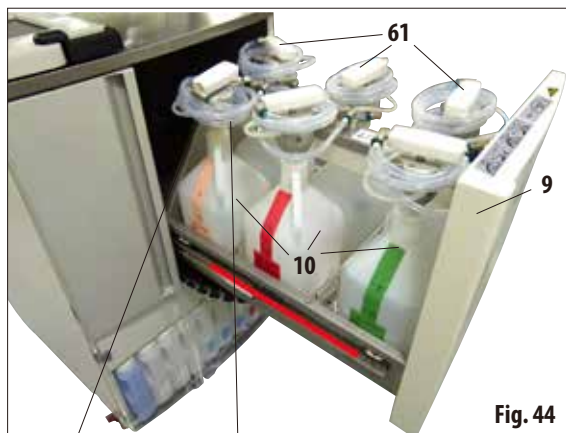
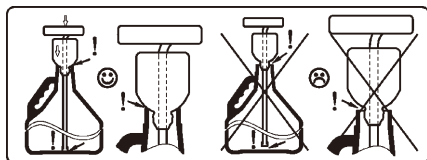


Fig. 44

**CORRECT**

**Detail,  
Fig. 44a**

**INCORRECT**



**Sticker on  
the drawer**

Fig. 44b

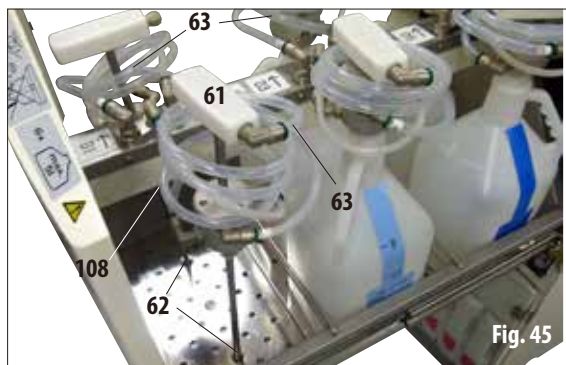


Fig. 45

- The drawer (9) with up to six RTU-bottles (10) must be pulled out **completely** by pulling it forwards, so that it does not slide back – otherwise there is a risk of injury!



**When fully loaded, the drawer is very heavy. Therefore, always open and close it carefully. NEVER lean on the drawer when it is pulled out. The instrument could tilt forwards and lead to personal injury or damage to the instrument.**

- Each of the six RTU-bottles has a filler neck (61) connected with the instrument via a spiral hose (63).

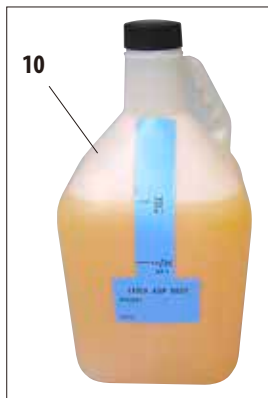


**Guide the filler neck vertically into the new bottles and ensure that it is pushed all the way down to the bottom of the bottle. The filler neck must lie flush with the bottle neck (see detail Fig. 44a left). Always position the air line above the fluid connection (63) so that the air line (108) is not kinked or creased.**

- To replace the RTU-bottle, pull the suction hose connecting piece on the handle (61) vertically out of the RTU-bottle while holding down the tapered pump head against the bottle neck. Remove the unwanted RTU-bottle and replace with a new one (in the drawer!)
- If you have removed an RTU-bottle, place the filler neck (61) in a hole (62) provided for this purpose in the grating on the floor of the drawer (Fig. 45).

## 4. Instrument Setup

### Pull-out drawer with RTU-bottles (continued)



- Seven RTU-bottles (10) are supplied for the drawer with the instrument (Fig. 46)
  - 6x for tissue infiltration,
  - 1x for the cleaning process (extended cleaning program by detergent).
- Each container has a screw plug.
- Each container has a max. capacity of 5 l.



Fig. 46

Only RTU-bottles from Leica are approved for this instrument. However, if different bottles are used, the customer must INDEPENDENTLY check that they are suitable for such use.  
(For information about temperature and dimension requirements see page 51-Warning message.)



- The bottom right of the drawer has a spigot (Fig. 47), for draining spilled or overflowing reagents neatly. Then, the drawer should be cleaned.



Fig. 47

**Important!**  
Always keep the spigot closed (Fig. 47a detail, item 64a).  
The spigot may be opened for cleaning purposes only (Fig. 47a detail, item 64b), as otherwise flammable reagents could end up on the heater of the paraffin baths and ignite.



Fig. 47a detail

Pull-out drawer with RTU-bottles (continued)



- The RTU-bottles are displayed in the **SMART SCREEN** in a separate area on the screen. They are designated "D1" to "D6" (Fig. 48).
- Additionally, the RTU-bottles can be emptied using the remote drain system.
- The hose for the Remote Fill & Drain system can also be stored in the drawer.

Fig. 48



If RTU-bottles other than those installed by Leica are used in the drawer, these must be resistant to the following reagents and temperatures and dimensionally stable.  
For cleaning solutions up to a temperature of 71 °C  
For processing reagents up to a temperature of 64 °C  
The dimensions must not fall below or exceed those listed below.

Permitted dimensions for RTU-bottles in the drawer:

Height (max.):	350 mm	Bottle neck diameter
Height (min.):	245 mm	Outer (max.): 54 mm
Width (max.):	200 mm	Outer (min.): 38 mm
Width (min.):	155 mm	Inner (max.): 44 mm
Depth (max.):	180 mm	Inner (min.): 27 mm
Depth (min.):	135 mm	

## 4. Instrument Setup

### 4.4.8 Reagent cabinet with system bottles



Fig. 49

- The nine white plastic system bottles (**15**) are located together with the blue condensate bottle (**14**) in the reagent cabinet under the three paraffin baths (Fig. 49).
- To access the system bottles, open the two lower Plexiglas doors (**11**, **12**).
- The system bottles are designated "S1" to "S9" and are combined in a separate area on the screen (Fig. 50). The condensate bottle, designated "C", is on the left.

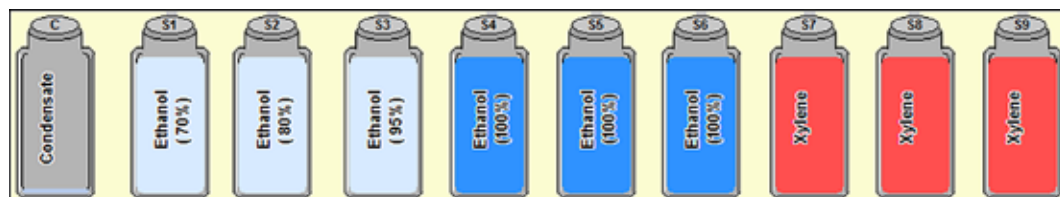


Fig. 50

- All system bottles (**15**) have a max. capacity of 5 l. The fill levels for filling with 3.8 l and 5.0 l are embossed on the front of each container.
- When inserting a system bottle, always ensure that the retaining ring (**35**) is tightened and the connection port (**65**) clicks into place correctly with the O-ring (**65.1**).

When a reagent has been assigned a system bottle, this is displayed on the screen.



**ONLY Leica system bottles can be used.**



**Once the pressure point is exceeded, you can clearly feel it click into place, thus ensuring an optimum fit in the reagent cabinet.**

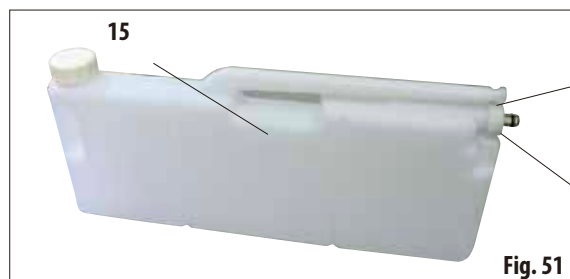


Fig. 51

**Enlarged detail:  
Connection of the system bottle**

Regularly grease the O-ring (**65.1**) with Molykote grease for sealing rings (included in the delivery package).

### Reagent cabinet with system bottles (continued)

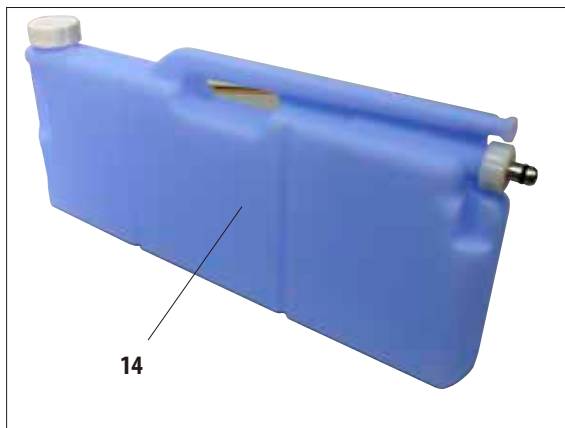


Fig. 52

#### Condensate bottle

- The condensate bottle (14, Fig. 52) has the exact same shape and connection design as the system bottle. The difference is that it is made of blue plastic.
- It captures and collects condensate that forms in the system. A mark for the maximum level is on the front side.
- Regularly check and empty the condensate bottle (once a week) (see Chapter 6.2.2).

### 4.4.9 The drip tray

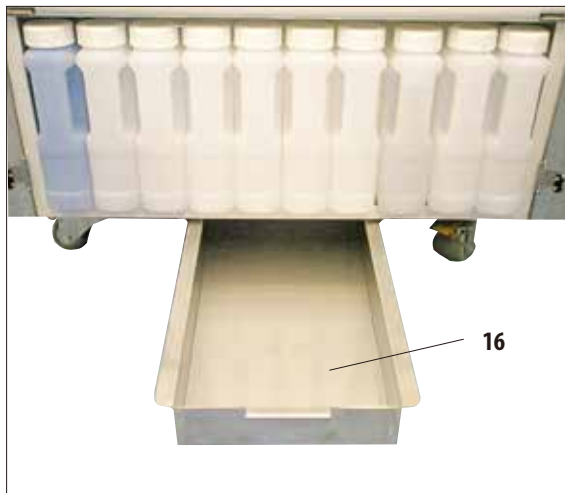


Fig. 53

- The drip tray (16) is located below the reagent cabinet. It collects reagents that have overflowed or spilled so that no pollution can form in or under the instrument. The volume is approx. 5 l.
- The drip tray (16) must be regularly checked for signs of reagents that have leaked. To do so, pull the tray out by the handle (Fig. 53) and empty it if necessary.



**Dispose of waste solvents with care according to local regulations and the waste management policy of the company or institution.**



## 4. Instrument Setup

### 4.4.10 Adhesive labels for system bottles and RTU-bottles

The standard delivery of the ASP6025 includes two sets of adhesive labels.

This includes:

- 20 x labels for the system bottles in the reagent cabinet.
- 10 x labels for the RTU-bottles in the drawer.



Fig. 54

#### Labels for system bottles (Fig. 54)

The labels for system bottles come in eight different colors.

The colors are adapted to the selectable color palette for the individual reagent groups in the instrument.

The labels (72) are applied to the front of the system bottles (15) as shown in Fig. 55.

The surface on the system bottles must be clean and dry; then apply the label and press on firmly – especially at the edges.

The labels are resistant to the reagents used in the instrument.

The station number can be noted on the label as well as the date when the reagent specified in the color table was commissioned (Fig. 55).

For more information, see Chapter 5.2.3.

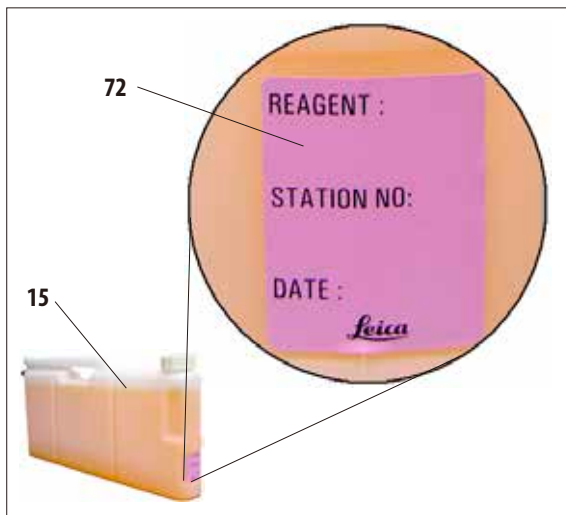


Fig. 55



Following manual filling of a system bottle, it is essential to manually adjust the SMART screen settings in the reagent status (see Chap. 5.2.1).



### Labels for RTU-bottles (Fig. 56)

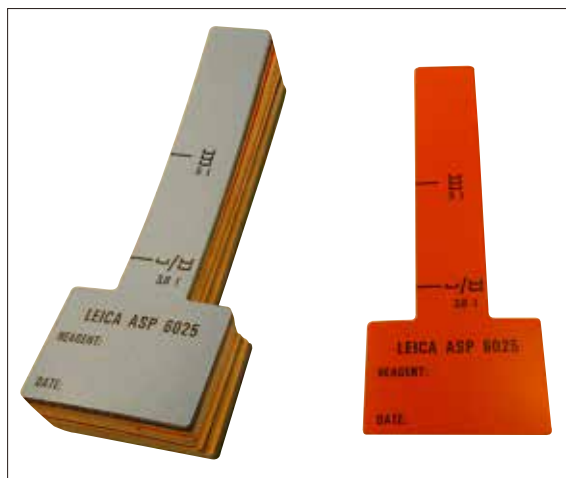


Fig. 56

The labels for the RTU-bottles in the drawer come in the same eight colors as for the system bottles.

The label has filling level marks for the RTU-bottles printed on it, therefore it must be applied with particular care.



#### Caution!

The specified filling level marks (5.0 l and 3.8 l) are valid only for the RTU-bottles included in the delivery package. If other containers are used, the specified fill volumes on the label will not agree.

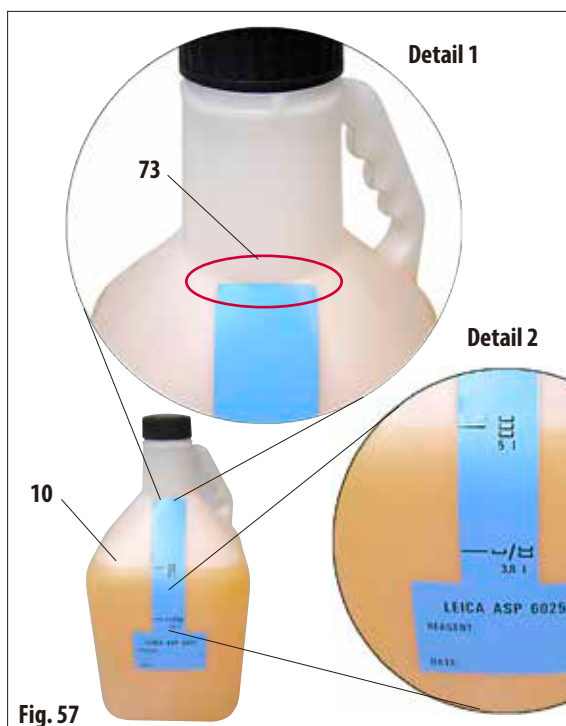


Fig. 57

To ensure that the filling level marks are valid, apply the narrow side of the label exactly at the point on the RTU-bottle (10) where the bottleneck ends (Detail 1 in Fig. 57), then press it on vertically from top to bottom.

The symbol at 5 l (Detail 2 in Fig. 57) means that the RTU-bottle must be filled up to that point if the retort is to be filled up to the third level sensor (corresponds to loading with three baskets).

Accordingly, the symbols at 3.8 l indicate the fill volume for filling the retort up to the second level sensor.

The station number can likewise be noted on the label as well as the date when the specified reagent was commissioned (Fig. 57).

This must also be adjusted in the reagent status for a newly filled RTU-bottle.

## 4. Instrument Setup

### 4.5 Switching the instrument on

- Plug the power cord (39, Fig. 26) into the '**POWER IN**' socket on the rear side of the instrument.
- Then, connect the cable to the power socket. If applicable, switch on the switch for the power socket.
- To switch on the instrument, press in the **ON/OFF** switch on the rear panel of the instrument (item 37 in Fig. 26).

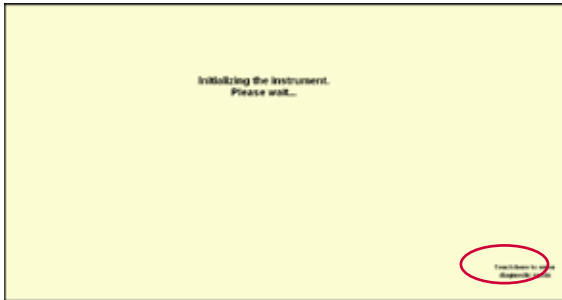


Fig. 58

- The instrument will take a few minutes to initialize after switching on.  
See opposite for corresponding touchscreen display (Fig. 58).
- The Start screen will then appear. This is the **PROGRAMS** menu while no programs have been defined in the **FAVORITES** menu (Fig. 59).



Fig. 59

### Screen saver

A screen saver will turn off the screen display if no key has been pressed for 30 minutes.

- Press any part of the touchscreen to restore the screen.  
After having been restored, the on-screen functions will be nonoperational for a few seconds to avoid accidental activation of any keys.

## The SYSTEM DIAGNOSTICS menu

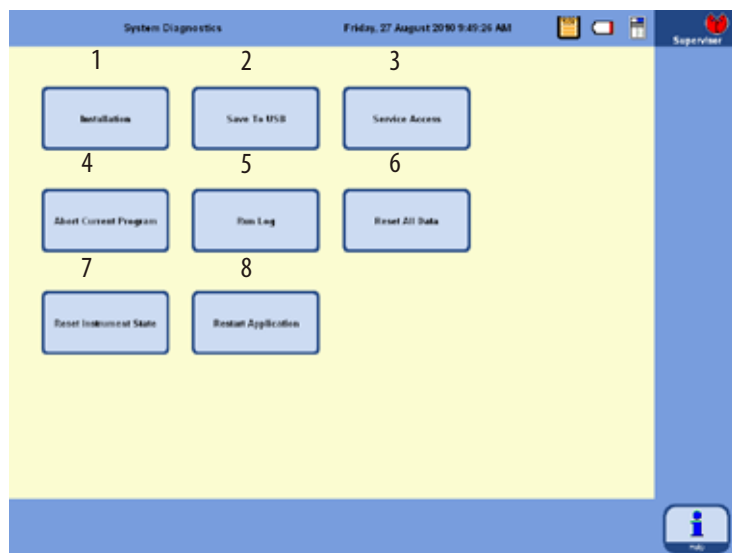


Fig. 60

Touch the button that reads

**TOUCH HERE TO ENTER . . .**

in the lower right hand corner during initialization (Fig. 58). This takes you to the **SYSTEM DIAGNOSTICS** menu (Fig. 60).

This menu provides access to basic instrument settings.

**Caution!**

Only experienced operators may adjust the settings in this menu, since incorrect use of the functions can result in serious malfunctions.

The following functions can be selected by touching the corresponding key:

- |                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                     |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>1</b> - Shows the <b>INSTALLATION</b> menu (see also <a href="#">Chapter 5.1.1</a>).</p> <p><b>2</b> - Saves the current instrument status to a USB stick.</p> <p><b>3</b> - Access for service technicians only, the corresponding password is required.</p> <p><b>4</b> - Aborts the current program.</p> <p><b>5</b> - Displays the <b>RUN LOG</b>.</p> | <p><b>6</b> - Aborts the current program and deletes the current allocation of reagents to bottles and retort.</p> <p><b>7</b> - Deletes all reagents and resets the programs and instrument status.<br/><b>Caution!</b> All lists are then deleted.</p> <p><b>8</b> - Restarts the instrument.</p> |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|



To exit this menu, the device must be restarted.

To do so, press the **RESTART APPLICATION** button (8 in [Fig. 60](#)) and confirm the following prompt with **YES**. The initialization restarts as shown in [Fig. 58](#) and [Fig. 59](#).

## 4. Instrument Setup

### 4.6 Alarm functions



In the ASP6025, states can occur that require the attention of, or a decision on the part of, the user. In the simplest case, these are confirmations for continuing in the infiltration program. In addition, however, during continuous monitoring of the hardware, errors can be identified that must be eliminated as soon as possible for a running infiltration program to be finished successfully. Correspondingly, all messages are classified according to their severity.

#### Informational messages

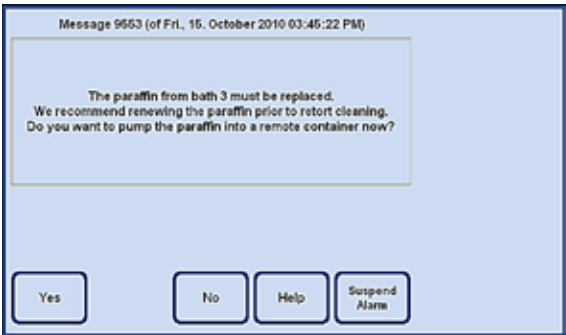


Fig. 61

If a user action on the instrument is required, an informational message is first displayed on the screen (Fig. 61) and an acoustic alarm is emitted. This message describes what must be done and provides further information about the situation.

When the user confirms this message by pressing the **YES** button, this message disappears from the screen. No other alarm is triggered.

The ASP6025 is equipped with 3 different acoustic alarm functions:

#### Instrument alarm



If the user does not confirm the message within the specified time by pressing the **YES** key, an instrument alarm is triggered. This instrument alarm is an acoustic signal (sound file) that can also be played back cyclically. This setting (the cyclic repetition of instrument alarms) is configured by the users and is valid for all messages. The user can also configure the repetition time.

When the instrument alarm is confirmed with the **YES** button, the alarm sound is switched off and the message disappears from the screen. No other alarm takes place (no local alarm and no remote alarm).



The alarm sound can also be disabled using the **SUSPEND ALARM** button. This disables the alarm sound, but the message remains displayed on the screen. If the user then does not confirm the message within a certain time by pressing the **YES** key, the alarm sound is output once again.

### Alarm functions (continued)

#### Local alarm

This alarm is external to the ASP6025, e.g. in the office of an instrument operator.

The local alarm is used when the instrument cannot continue with the current program or operation because of a problem.

If the instrument alarm is ignored for a programmed time (**YES** button not pressed), the ASP6025 also triggers a local alarm.

A blue rectangular button with rounded corners and a thin border, containing the word "Yes" in black text.

An output is wired for the local alarm. The polarity of the output wiring is configurable in the **SYSTEM SETUP** menu.

#### Remote alarm

This alarm is also external to the ASP6025.

If installed, it might typically be connected to a remote dialer that sends an automated phone message to the person responsible for after-hours problems.

The remote alarm is only triggered when the instrument cannot complete an infiltration program.

If, in such a case, all alarm notifications have remained unanswered (by pressing the **YES** button), the remote alarm is triggered.

A blue rectangular button with rounded corners and a thin border, containing the word "Yes" in black text.

Like the local alarm, this remote alarm is a hardware output to which an external alarm system can be connected.

Here, too, the polarity can be configured to adapt to various external alarm systems in the **SYSTEM SETUP** menu of the ASP6025.

In addition to switching the alarm output, the alarm sound is also continued.

A blue rectangular button with rounded corners and a thin border, containing the text "Suspend Alarm" in black text.

The local and remote alarms are also able to be shut off for a certain period of time using the **SUSPEND ALARM** button.

The alarm sound and the alarm output for the remote alarm are reset, and the message remains on the screen. If the message is then not confirmed within a programmed time by pressing the **YES** button, the alarm sound is output again and the alarm output for the remote alarm is switched again.

## 4. Instrument Setup

### Connecting the local and remote alarm system



Connection of an external alarm system (local or remote alarm) is absolutely necessary for preventing damage to or loss of tissue samples in the event of a malfunction.

The alarm systems for the local alarm and the remote alarm are connected via a 3-pole stereo jack.

The alarm relay is always energized by default in operating state; when the alarm is triggered, the relay drops out. This means that the alarm is triggered even if the ASP6025 is de-energized (e. g. in the event of a power supply failure).

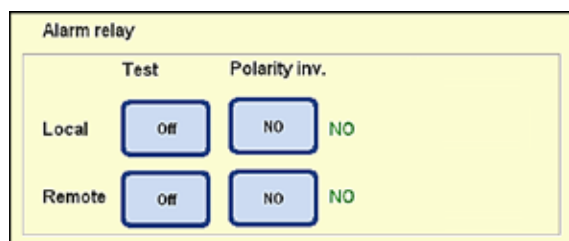


Fig. 62

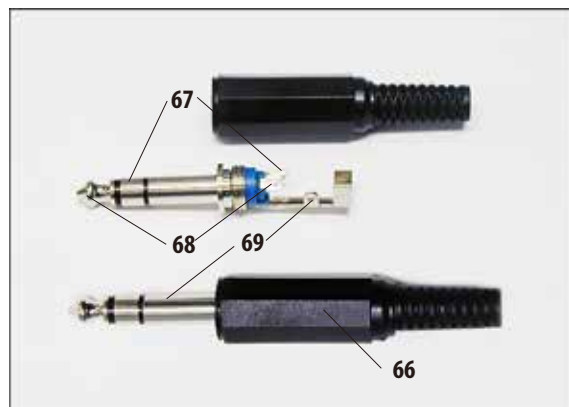


Fig. 63

Connect the local or remote alarm system to the appropriate sockets (**32, 33** in **Fig. 3**) using the 3-pole stereo jack provided (**66**) (Ø 6.3 mm).

The alarm pin of the connector is the center terminal (**68**) on the stereo jack. Depending on the configuration of the polarity, the inner or the outer terminal of the stereo jack is switched through to the center terminal in order to trigger an alarm.

In addition, the polarity can be configured (reversed) for these two outputs.

In the **Polarity inv.** field of the **SYSTEM SETUP** menu, you can configure the **NC** (normally closed) or **NO** (normally open) key so that the alarm is forwarded correctly. (For more information, refer to [Chap. 5.1.2](#))

The maximum values of the alarm system connected to the instrument must not exceed the following:  
30 V DC/AC, 1 A

Local alarm: socket (**32**)

Remote alarm: socket (**33**)

Each alarm is connected to the plug (**66**) as follows ([Fig. 63](#)):

Shared terminal: 2nd neck (**69**)

Opening contact (inner terminal): 1st neck (**67**)

Closing contact (outer terminal): Tip (**68**)

4.7 Touchscreen functions

34



Fig. 64

The ASP6025 is operated via a color LCD touchscreen.

This touchscreen is resistant to reagents and responds even if the operator is wearing laboratory gloves.

Activating critical functions usually triggers a prompt that must be confirmed before the function is carried out.

This allows the operator to undo changes caused by accidental key strokes.

Status Bar

The blue bar at the top of the screen is called the status bar (34). This indicates which menu is currently open, the current date and the current time. Various symbols can be displayed in the top right corner of the screen:



The supervisor is logged in. If the **SERVICE** button is visible in the bottom bar, supervisor mode has been disabled.



A user is logged in.



The program is currently running (the symbol shows a wheel that is turning).

Additional symbols



Touching the symbol calls up the system status.  
[For more information, refer to Chapter 5.1.6](#)



Battery status = **FULL**



Battery status = **EMPTY**



In the system settings, 2-basket mode is set and the retort is filled with a max. of 3.8 l of reagent.



In the system settings, 3-basket mode is set and the retort is filled with max. 5.0 l of reagent.

## 4. Instrument Setup

---

### Functions of the touchscreen (continued)

#### Button symbols

Examples:



Press the corresponding button symbol to enable functions on the touchscreen.

Button symbols may contain graphical icons or text labels.



Some button symbols change color from blue to orange to indicate that a certain function is active.

See example to the left.



Even if one of the four main menus is opened, the associated button also changes color from blue to orange to indicate which menu is open.

active



The graphic appearance of the button symbols in the ASP6025 changes depending on whether the allocated function is possible (enabled) or not possible (disabled).

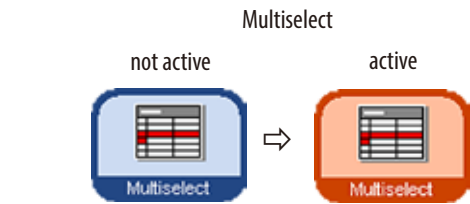
not active



Disabled button symbols differ from those that are enabled by their thinner border. If you touch a button symbol that is disabled, in many cases, a dialog window appears explaining the reason why the function is currently not possible.



Functions of the touchscreen (continued)



Selecting multiple items (Multiselect) in tables

In the following tables, it must be possible to select multiple table rows simultaneously.  
Here, the listed functions for the following selected rows are to be executed:



Fig. 65

Table	Function
View/ edit stations	Clear, Reagent name
Reagent status	0 %, 100 %, set to zero
View/ edit program	Duration, P/V Reagents

The keyboard

The keyboard (Fig. 66) is displayed any time text needs to be entered.

- The keyboard headline (1) tells you what kind of text to enter.
- 30 characters can be entered into each entry field, though sometimes not all characters entered can be displayed.



Fig. 66

Important keys for switching:

- Shift:** Switches to upper case letters and back.
- AltGr:** Permits the entry of special characters.
- <-- :** Deletes the previous character.
- Delete:** Deletes the entire line.
- OK:** Takes over the entered term.

## 4. Instrument Setup

### Functions of the touchscreen (continued)

#### The SMART FUNCTIONS menu

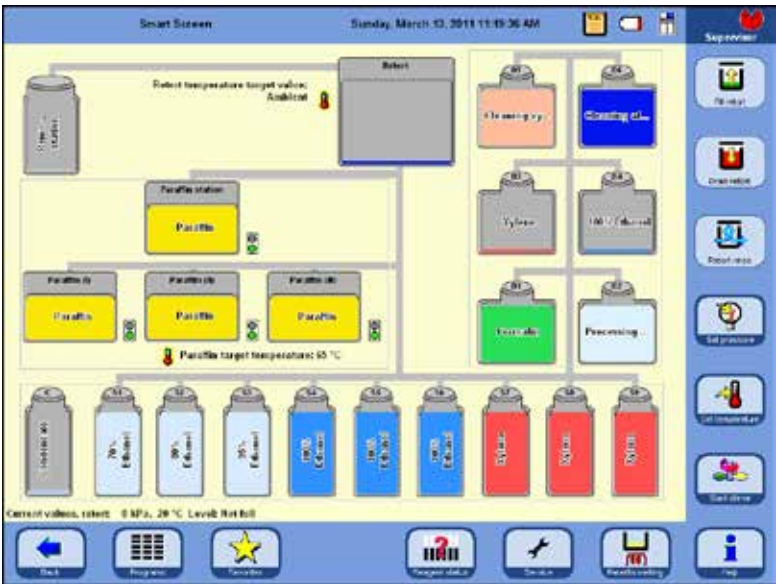
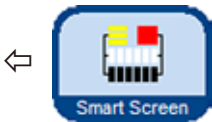


Fig. 67

To switch to the **SMART FUNCTIONS** window, press the **SMART SCREEN** button.



The stations (system bottles and RTU-bottles) are displayed in the order in which they are positioned in the reagent cabinet and in the drawer of the ASP6025.

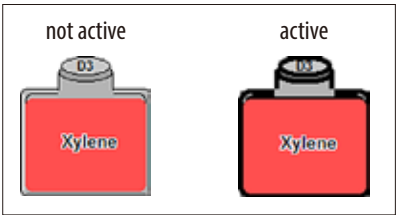


Fig. 68

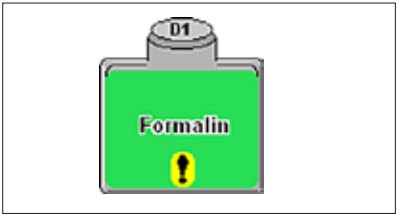


Fig. 69

Before starting an operation, you first have to select the stations (system bottles and RTU-bottles) to be used.

To select a station for a function, activate the corresponding symbol by touching it on the touchscreen (Fig. 68).

Activated symbols are surrounded by a dark border.

Touch the symbol a second time to disable the station.

If a station contains a reagent for which the threshold value has been exceeded in the RMS, this is flagged on the **SMART SCREEN** with an exclamation mark (Fig. 69)



If a station or container cannot be selected for activation, the reason for this is explained in a dialog window.

## 4.8 Switching off the instrument correctly

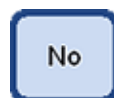
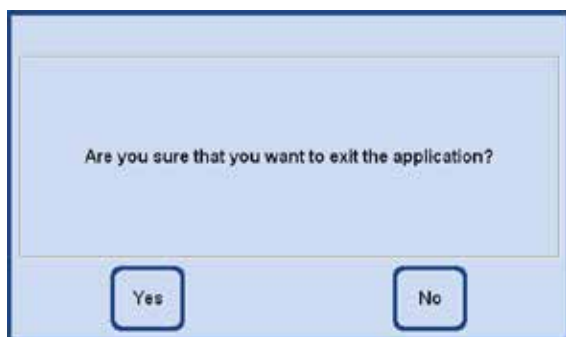
If the instrument must be completely switched off or disconnected from the power supply, please proceed as follows:



- Press the **BACK** button to switch to a window that contains the **EXIT** button.



- A prompt appears asking if you really want to shut down the system (exit) (Fig. 70).



Pressing the **NO** button leads back to the original program window.



Pressing **YES** saves all current data and shuts down the instrument.

Fig. 70



37

The instrument **must** then be switched off using the **ON/OFF** switch on the rear panel of the instrument (Item 37 in Fig. 3 / Fig. 26).

**Caution!**

The ASP6025 is allowed to be switched off completely in this way only. Otherwise, severe damage to the instrument's hardware and loss of data can occur.



After a complete shutdown, the paraffin cools down and becomes hard. You may no longer be able to remove the paraffin bath drawers from the instrument.

**Important!**

If the ASP6025 is to remain shut off for a long period or be transported, it is mandatory to carry out a SMART cleaning before it is switched off. (For more information, refer to [Chap. 6.1.4](#))

# 5. Operation

## 5.1 System configuration - configuring the instrument parameters

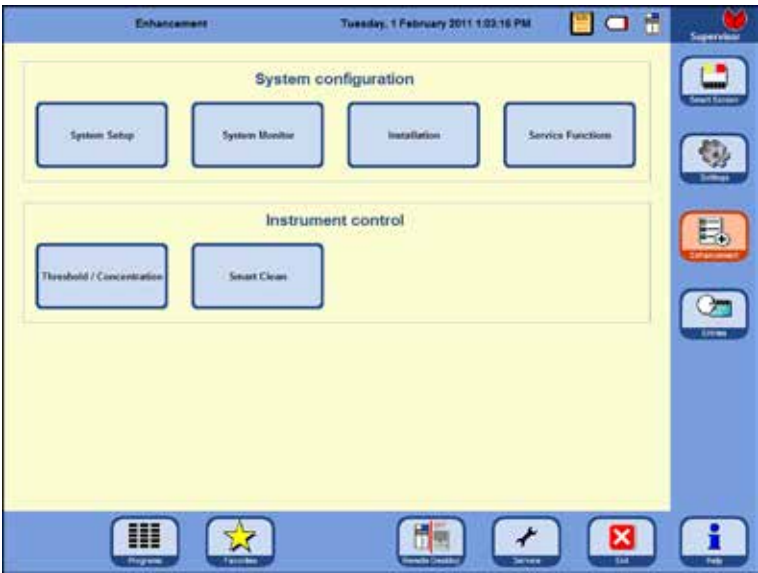


Fig. 71



From the start screen, press **ENHANCEMENT** on the right-hand side to go to the window of the same name.

In the **ENHANCEMENT** window (Fig. 71), first select the **INSTALLATION** button and move to the window of the same name. The **ENHANCEMENT** button is enabled in supervisor mode only.

This menu displays the parameters for the ASP6025 which are to be configured during installation.

### 5.1.1 The Installation menu

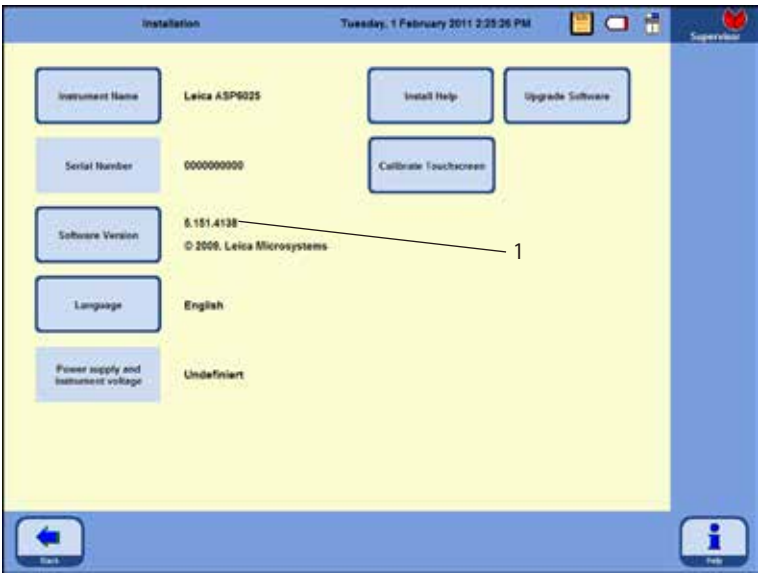


Fig. 72



The serial number of the instrument and the current software version are entered at the factory and cannot be edited. The information on Fig. 72 only serves as an example. The software version installed on your instrument can be identified as shown in Fig. 72, position 1.

The serial number can be found on the rating plate of the instrument and on the console for the USB connection. It is used on the printed logs in the same way as the instrument name.

## The INSTALLATION menu (continued)

### Assigning an instrument name

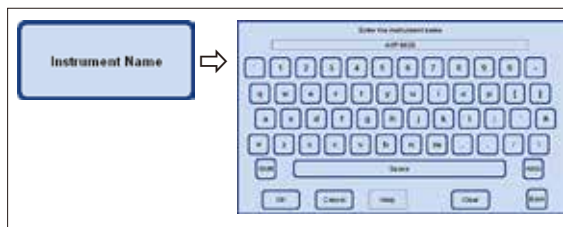


Fig. 73



- Touch the **INSTRUMENT NAME** button and enter an instrument name, which may not exceed 20 characters, using the keyboard.

The instrument name is also displayed on the start screen (**FAVORITES**).

The instrument name also appears on all logs so that the source of the log can always be clearly identified.

### Selecting or changing the language

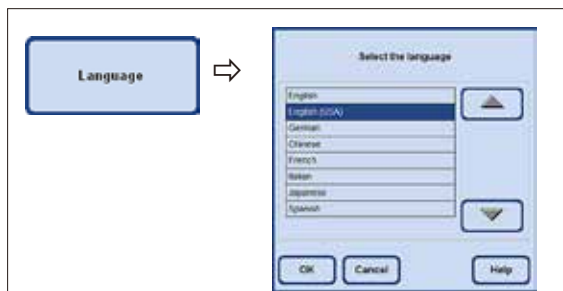


Fig. 74

- When the **LANGUAGE** button is pressed, the **SELECT THE LANGUAGE** window appears. This window contains the languages that are currently selectable for displaying text and help text.
- To change the language, highlight the corresponding row.
- Press **OK** and the selected language is set.

### Service functions

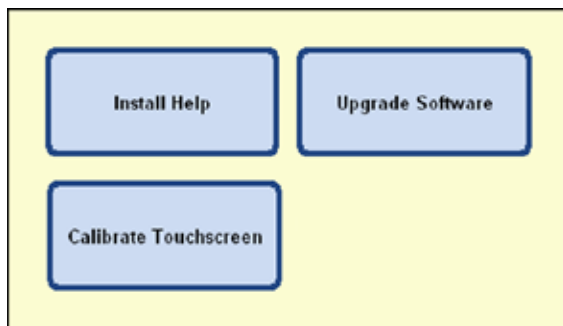


Fig. 75

Buttons located on the right side of the menu:

**INSTALL HELP**

**UPGRADE SOFTWARE**

**CALIBRATE TOUCHSCREEN**

are service functions and are only visible in Supervisor mode.

# 5. Operation

## The INSTALLATION menu (continued)

### Installing help

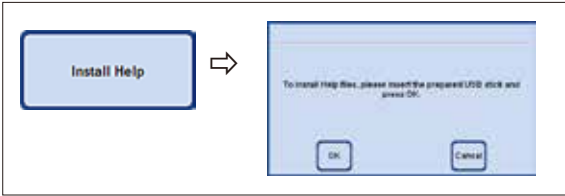


Fig. 76

In order to be able to install the help file, the associated file must be present as a ZIP file on a USB stick.

- Plug in the USB stick and press the **INSTALL HELP** button.
- Then, follow the instructions on the screen and confirm them as necessary. The system will automatically unpack and install the files.

### Upgrading software

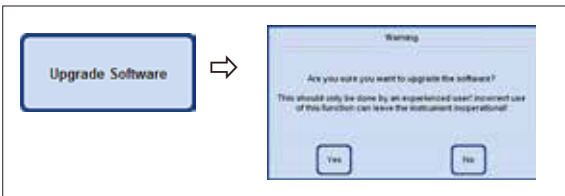


Fig. 77

There are two possible ways to update the software:

**1. Using the Remote Care function:**

In this case, a message appears indicating that a software update is available.

- Confirm this and follow the instructions on the screen.

**2. The software update is delivered on a USB stick:**

- Connect the USB stick and press the **UPGRADE SOFTWARE** button (Fig. 77).
- Then, follow the instructions on the screen and confirm them as necessary.

### Calibrating the touchscreen (Fig. 78)

This function is a guided calibration in which various items must be pressed on the screen. To call up the screen for this, press the **CALIBRATE TOUCHSCREEN** button (top figure).

- Touch the red circle in the middle of the screen (three times in total), starting in the upper-left corner (Fig. 78, top).
- Then touch any point on the screen and check that the cursor follows the movement (Fig 78, bottom).
- If the cursor moves to the position you have touched, end calibration by touching the green check mark. Otherwise, return to the first step of the calibration process and repeat the procedure.

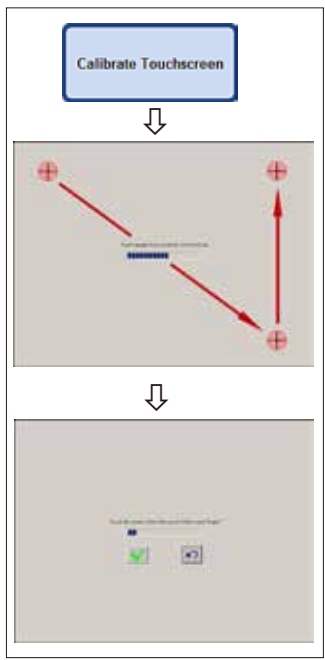


Fig. 78

## 5.1.2 System settings

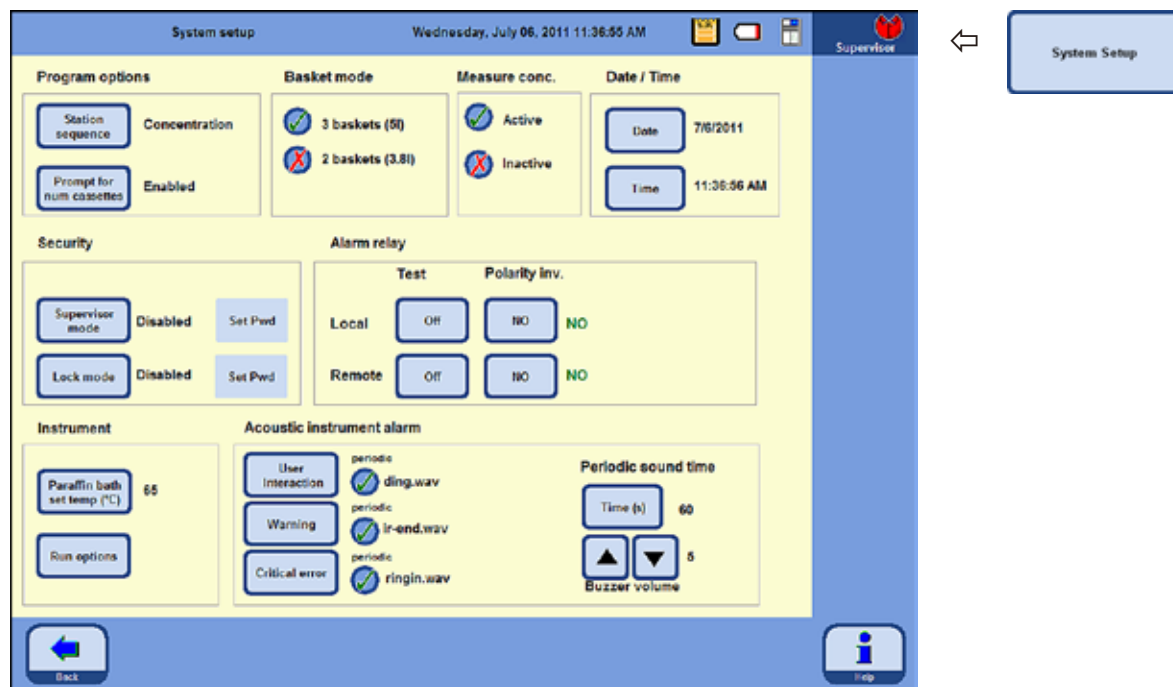


Fig. 79

To switch to the system settings, select the **SYSTEM SETUP** button in the **ENHANCEMENT** window (Fig. 71) and select the window with the same name.

The **SYSTEM SETUP** window is divided into eight areas:

- Program options
- Basket mode
- Measure concentration
- Date/Time
- Security
- Alarm relay
- Instrument
- Acoustic instrument alarm

## 5. Operation

### System settings (continued)

#### Program options

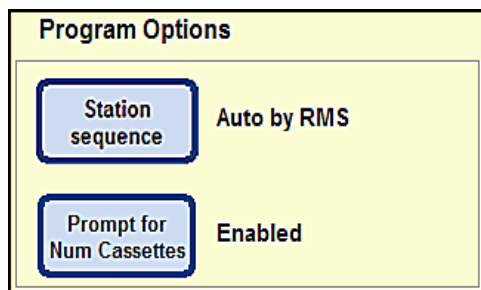


Fig. 80



Fig. 81

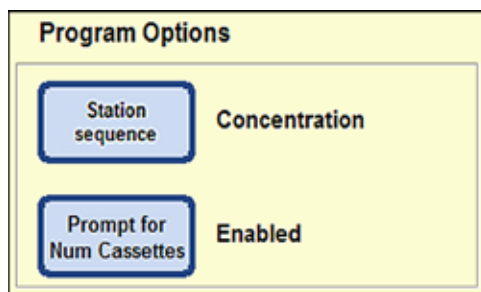


Fig. 82

The **PROGRAM OPTIONS** are used to define the settings with which programs are executed. By pressing a button you can modify the corresponding value; the current setting is displayed next to the button (Fig. 80).

#### STATION ALLOCATION:

Here you can choose between two modes:

#### Concentration and Auto by RMS

In **Auto by RMS** mode, the order is controlled by the current RMS values, i.e. the threshold values entered in the reagent status for cassettes, cycles or days are used.

Press **STATION ALLOCATION** to switch to another mode. An instruction message appears (Fig. 81), which lists the steps the user is required to carry out so that the instrument will operate without errors in the new mode. This message must be confirmed with **YES**; the system then switches into the newly selected mode. The active mode is then displayed next to the **STATION ALLOCATION** button.

In **CONCENTRATION** mode, ethanol rotation and automatic xylene replacement are used.

This means that the quantities with which the stations are to be filled with reagents have been precisely preset. If the RTU-bottles are not filled according to specification, it is not possible to start an infiltration program.

The measured ethanol value is compared to the set threshold value and initiates the exchange of ethanols (see also Chapter 5.2.5).



## System settings (continued)

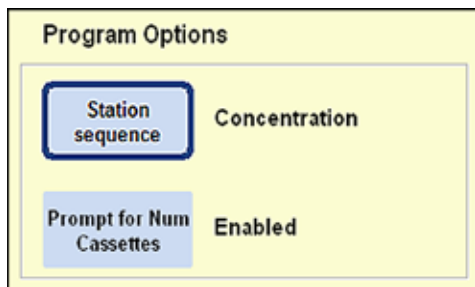


Fig. 83

- In order to disable the **PROMPT FOR NUM CASSETTES** function, press the button of the same name.

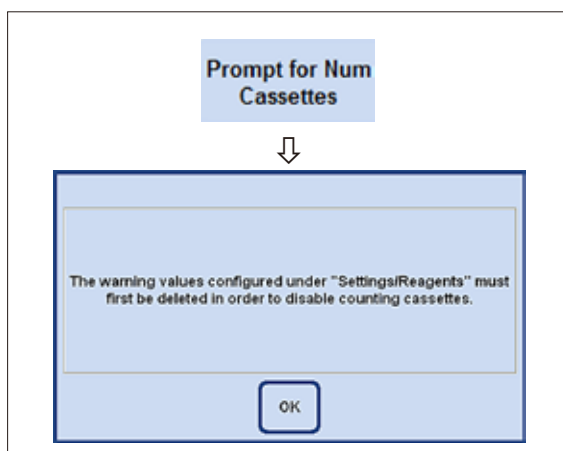


Fig. 84

**DISABLED mode**

The number of cassettes inserted into the retort is not queried prior to the program start.

**PROMPT FOR NUM CASSETTES:**

Here, too, there are two options:

**"Enabled"** or **"Disabled"**

The current setting is likewise displayed next to the button.

**ENABLED mode**

When a program is started, you must enter the number of cassettes that are inserted into the retort before an infiltration program can be started.

This is useful if warning threshold values have been set.



If values for a reagent that is used in a program are entered in the **CASSETTES UNTIL CHANGE** column in the **SET UP REAGENTS AND WARNING THRESHOLDS** menu, the mode is automatically set to **ENABLED**. This setting cannot be disabled afterwards. If values have been entered there, a warning message appears (Fig. 84).

**ENABLED** mode also means that the values specified in this table will be observed. If a warning threshold is reached or exceeded, a message to that effect is displayed before the program is started. A warning message is also output at the end of an infiltration program if the threshold values have been exceeded.

## 5. Operation

### System settings (continued)

#### Measuring the alcohol concentration

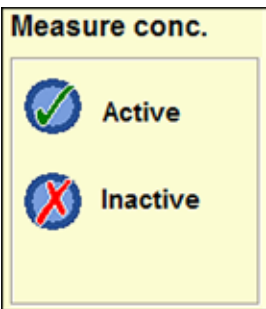


Fig. 85

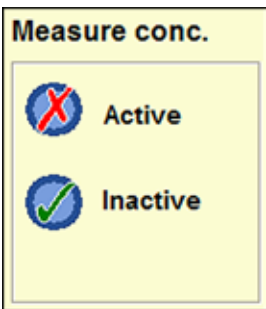


Fig. 86

The **MEASURE CONC.** field (Fig. 85) shows whether or not alcohol concentration measurement is enabled.

In concentration mode (Fig. 79), alcohol concentration measurement is ALWAYS enabled.

Alcohol concentration can also be measured in RMS mode. If this is not desired, it can be disabled.

Press the button for the setting desired in the **MEASURE CONC.** field (Fig. 85/86). A green check appears for the selected option.

Station	Reagent	Cassette Since Changed	Cycles Since Changed	exchanged	Status	Overdue cassette	Cycles Overdue	Days Overdue	Ready
31	70% Ethanol	0	0	Fr, Aug 27	Full	0	0	0	-
32	80% Ethanol	0	0	Fr, Aug 27	Full	0	0	0	-
33	90% Ethanol	0	0	Fr, Aug 27	Full	0	0	0	-
34	100% Ethanol	0	0	Fr, Aug 27	Full	0	0	0	-
35	100% Ethanol	0	0	Fr, Aug 27	Full	0	0	0	-
36	100% Ethanol	0	0	Fr, Aug 27	Full	0	0	0	-
37	Xylene	0	0	Fr, Aug 27	Full	0	0	0	-
38	Xylene	0	0	Fr, Aug 27	Full	0	0	0	-
39	Xylene	0	0	Fr, Aug 27	Full	0	0	0	-
41	Formalin	0	0	Fr, Aug 27	Full	0	0	0	-
42	Processing Water	0	0	Fr, Aug 27	Full	0	0	0	-
43	Xylene	0	0	Fr, Aug 27	Full	0	0	0	-
44	100% Ethanol	0	0	Fr, Aug 27	Full	0	0	0	-
45	I-Cleaning xylene	0	0	Fr, Aug 27	Full	0	0	0	-
46	I-Cleaning alcohol	0	0	Fr, Aug 27	Full	0	0	0	-
Paraffin1	Paraffin	0	0	Fr, Aug 27	Full	0	0	0	-
Paraffin2	Paraffin	0	0	Fr, Aug 27	Full	0	0	0	-
Paraffin3	Paraffin	0	0	Fr, Aug 27	Full	0	0	0	-
Paraffin Station	Paraffin	0	0	Fr, Aug 27	Full	0	0	0	-

When alcohol concentration measurement is enabled, it takes place within a cleaning program. This increases the time of the cleaning by a few minutes.

The measured concentrations appear in the **REAGENT STATUS** under **CONCENTRATION FOR ALCOHOL** (Fig. 87).

Fig. 87

**i** The value configured for **THRESHOLD VALUE/CONCENTRATION** has no influence on the Reagent Management System (RMS) – there is no warning value! In this case, the measured concentrations are only informative.

## System settings (continued)

## Select BASKET MODE

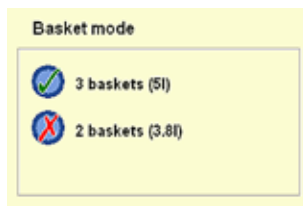


Fig. 88

Here you can select the maximum number of baskets with which the retort can be loaded. Depending on this selection, the retort is filled with the respective number of reagents during the program flow.

The load options that can be selected are:

- **2 baskets** (corresponds to 3.8 l filling) or
- **3 baskets** (corresponds to 5.0 l filling).



The corresponding symbol is displayed in the status bar.

The green check mark indicates the active level control.

## INSTRUMENT

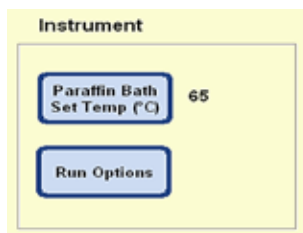
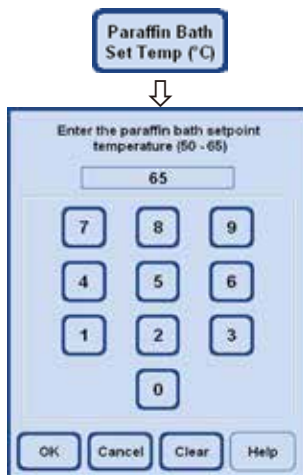


Fig. 89

The temperature of the three paraffin baths and the paraffin station can be defined in the **INSTRUMENT** field.

- Press **PARAFFIN BATH SET TEMP.** to open the entry window (Fig. 90) for the paraffin bath temperature.
- You can select a paraffin bath temperature between 50 °C and 65 °C. The input value is paraffin-specific and depends on the melting temperature of the selected paraffin type.
- Enter the desired paraffin bath temperature and then press **OK** to confirm.



**You should always set the value to the highest permitted temperature for the paraffin used since there is a small temperature drop when the retort is being filled.**

Fig. 90

# 5. Operation

## System settings (continued)

### Setting DATE and TIME

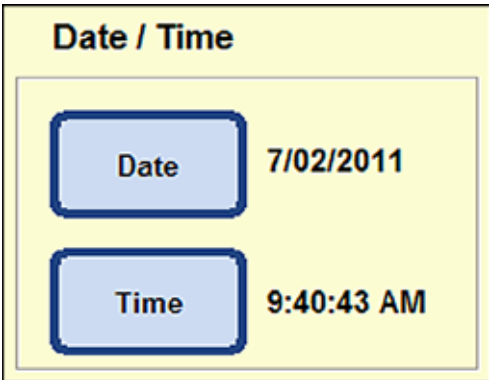


Fig. 91

You must ensure that the date and time are always current.  
Furthermore, it is important for the documentation that the parameters are always current.

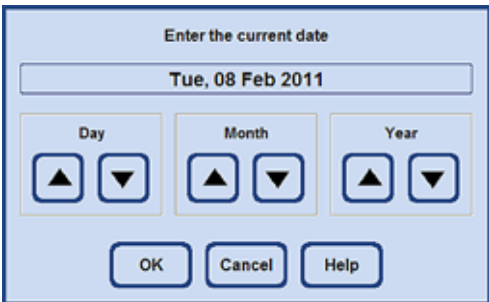
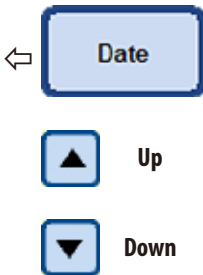


Fig. 92



#### Setting the date

- Pressing the **DATE** button opens the settings window (Fig. 92).
- Use the **MOVE UP** and **MOVE DOWN** buttons to make the necessary settings and adjustments.

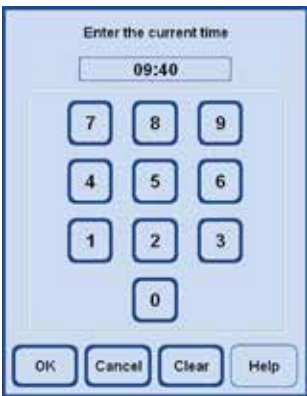
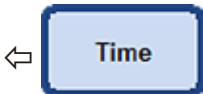


Fig. 93



#### Setting the time

- Pressing the **TIME** button opens a window in which the current time can be entered (Fig. 93).
- The time can only be set to the minute.



**No** automatic switchover between winter and summer time takes place. You have to adjust the time manually.

## System settings (continued)

## Select RUN OPTIONS

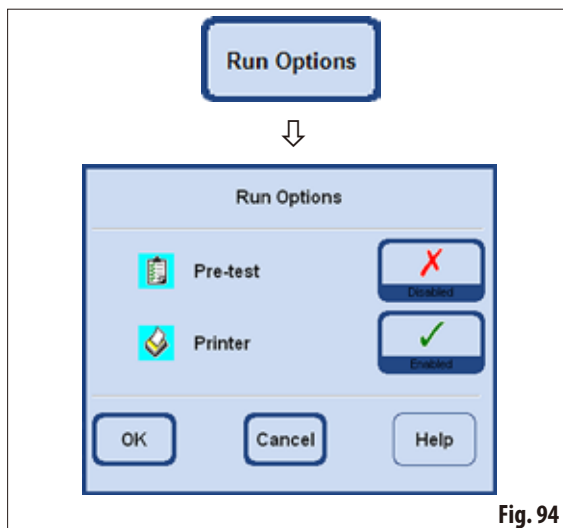


Fig. 94

Select RUN OPTIONS The **RUN OPTIONS** function displays the options with which a program is started.

The green check mark indicates that the function has been enabled.

**Pre-test:**

- If this option is enabled, a retort filling and draining test is carried out with the first reagent in the program before the program is started. This is to ensure that the system is functioning properly.

The configured option of a respective program always applies to **ALL** infiltration programs!



If a program has been selected or is already running, the run options can also be changed immediately at any time in operator mode by pressing the RUN OPTIONS button in the graphic program window. Make the change and confirm it with OK in the window that opens. This change applies to all subsequent programs.

**Printer:**

if this function is selected, a program report is generated after the infiltration is complete and can be saved as a PDF file. The report contains the following data on the program that has run:

- The program name
- The program number
- The infiltration program that was executed
- Run log events that occurred during the program execution.

The program reports can be saved to a USB stick using the **SAVE PDF PRINTOUTS** in the **ENTRIES** menu.

# 5. Operation

## System settings (continued)

### ACOUSTIC INSTRUMENT ALARM

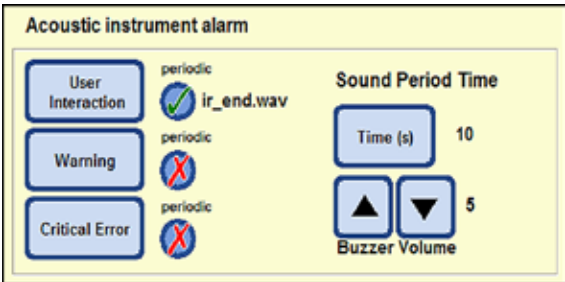


Fig. 95



The green check mark beside the button indicates that the alarm sound will be repeated.



If the red "X" is highlighted beside the button, the alarm sound will only be emitted once.

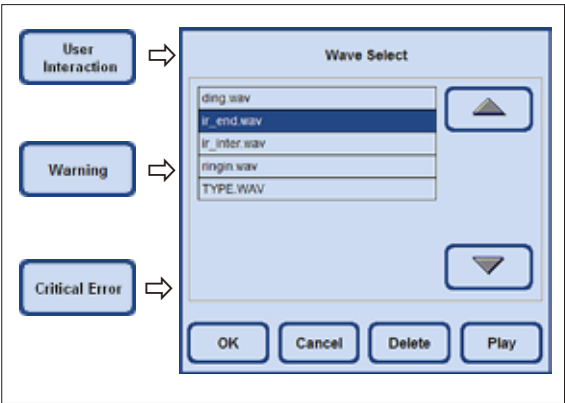


Fig. 96

In this field, you can make the following selections:

- Which alarm sound should be emitted.
- Whether the acoustic instrument alarm should be repeated.

Events to which this can be assigned:

**USER INTERACTION** (required)

**WARNING**

**CRITICAL ERROR**

If a sound has been selected for an event, its name is displayed beside the button (Fig. 95).

Touching the respective button opens a selection menu (Fig. 96) in which you can select the sound to be heard.

If **PLAY** is pressed in the menu, the sound selected from the table will be played.

Press **OK** to assign the selected sound to the event.

## System settings (continued)

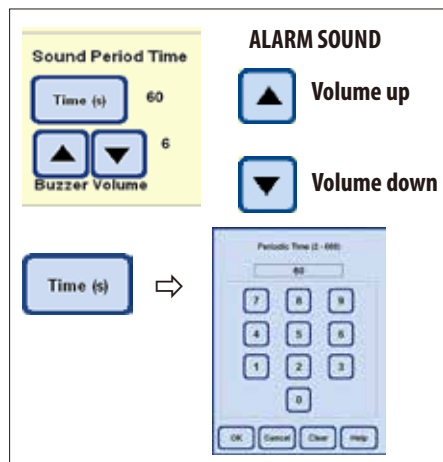


Fig. 97

## ALARM RELAY

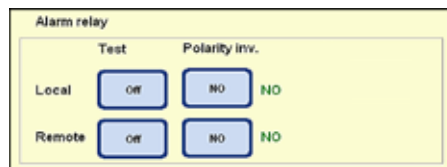


Fig. 98

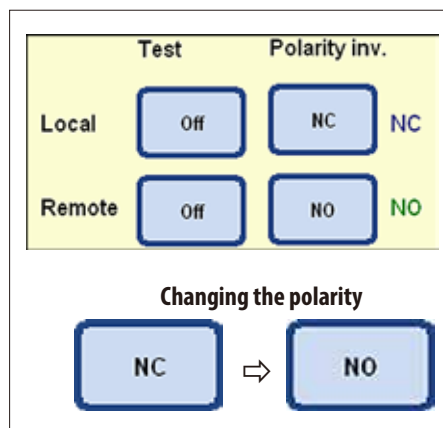


Fig. 99

## Periodic repetition of the alarm

Touching **TIME** under **SOUND PERIOD TIME** opens a window in which you can configure the cycles in which the selected alarm sound should be repeated for the event (Fig. 97).

The set time is shown to the right of the button.

## BUZZER VOLUME

You can adjust the volume of the alarm sound by touching the corresponding button.

"1" = quiet, "10" = loud

The set volume is the same for all alarms selected.

In this field, you can define the local alarm (**LOCAL**) and the remote alarm (**REMOTE**).

By default, the instrument switches one relay to trigger the local alarm and one to trigger the remote alarm. In addition, the polarity can be configured for these two outputs.

## Inverted polarity ("Polarity inv.):

The polarity for the two alarm outputs (local and remote alarm) can be configured (inverted).

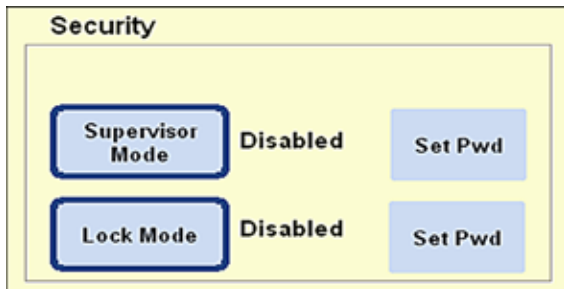
To do so, proceed as follows:

- Make sure that no alarm has been triggered.
- In the **POLARITY INV.** field, each touch of the button toggles between "OPENING CONTACT" and "CLOSING CONTACT". Configure the buttons such that there is NO alarm sounding.
- Set the associated **TEST** button to "ON". The alarm should now sound again.
- This setting is stored so that the alarm is actually forwarded as well.

## 5. Operation

### 5.1.3 User profiles

#### SECURITY



The access rights to the instrument are configured in this field in the form of **user profiles**.

There are three access levels:

- Operator mode
- Supervisor mode
- Service mode

Fig. 100

The **OPERATOR** and **SUPERVISOR** modes have different levels of access and are used to operate the instrument.

Service mode is intended for Leica service personnel only. A special password is required for this mode.

#### Operator access level

"Operator" symbol



The **OPERATOR** symbol is displayed in the top right corner of the screen.

A password entry is not necessary to switch to operator mode.

Operators can run the following functions:

- Start programs, enter the number of cassettes and change the run options.
- Interrupt and resume running programs.
- Confirm automatic ethanol and xylene replacement.
- Melt paraffin and confirm paraffin replacement functions.
- Run cleaning programs (except SMART cleaning).
- Fill and empty the retort as well as all stations.
- Mark stations as "**Full**" or "**Empty**" in reagent status.
- Edit the **REAGENT GROUPS** menu.
- Call up, sort and update the system status and the run log.
- Query results, print out PDF files, and save them on a USB stick (see [Chapter 5.1.9](#)).



## Access levels (continued)

## The supervisor mode

## Supervisor access level

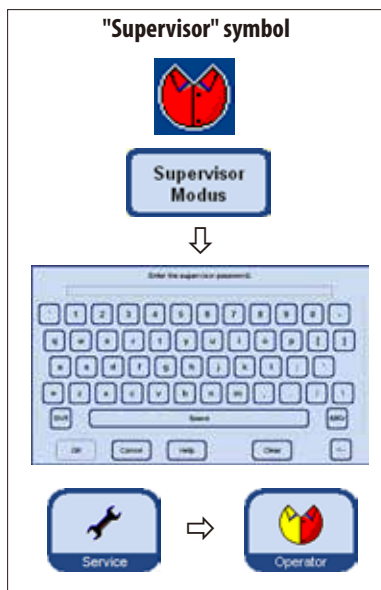


Fig. 101

## The lock mode

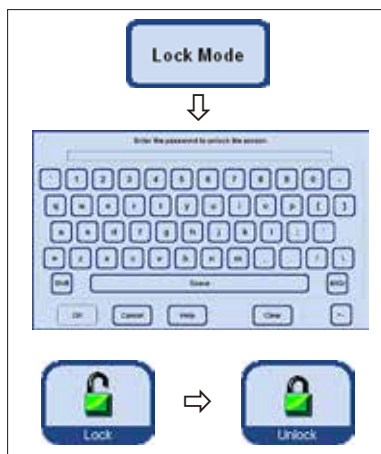


Fig. 102

For supervisor mode, there are two different settings: "**Enabled**" or "**Disabled**"



Supervisor mode is disabled in factory condition. Operator and Supervisor are distinguished by the fact that a password must be entered to activate Supervisor mode. When a password has been assigned, Operator mode will be activated when the instrument is started.

Supervisors may perform all operator functions, and additionally create programs and perform the instrument setup functions.

In order to enable supervisor mode, proceed as follows:

- In the Security field, press **SUPERVISOR MODE**.
- The keyboard appears; use it to enter the corresponding password and confirm with **OK**.
- The **SUPERVISOR** symbol is displayed in the top right corner of the screen.
- In all menus, the **SERVICE** button is replaced by the **OPERATOR** button.

If the Lock mode has been activated, the instrument cannot be used. Lock mode is disabled again by entering a password.

In order to enable lock mode, proceed as follows:

- In the Security field, press **LOCK MODE**.
- The keyboard appears. Use it to choose a password and confirm with **OK**.
- The **LOCK** button is displayed on the right in all the menus. If this button is touched, the instrument is locked and the **LOCK** button is replaced with the **UNLOCK** button.
- Press **UNLOCK** and use the keyboard to enter the password to unlock the instrument.



If Lock mode is activated while a program is running, the program will continue but an operator cannot intervene.

## 5. Operation

### 5.1.4 The System monitor menu

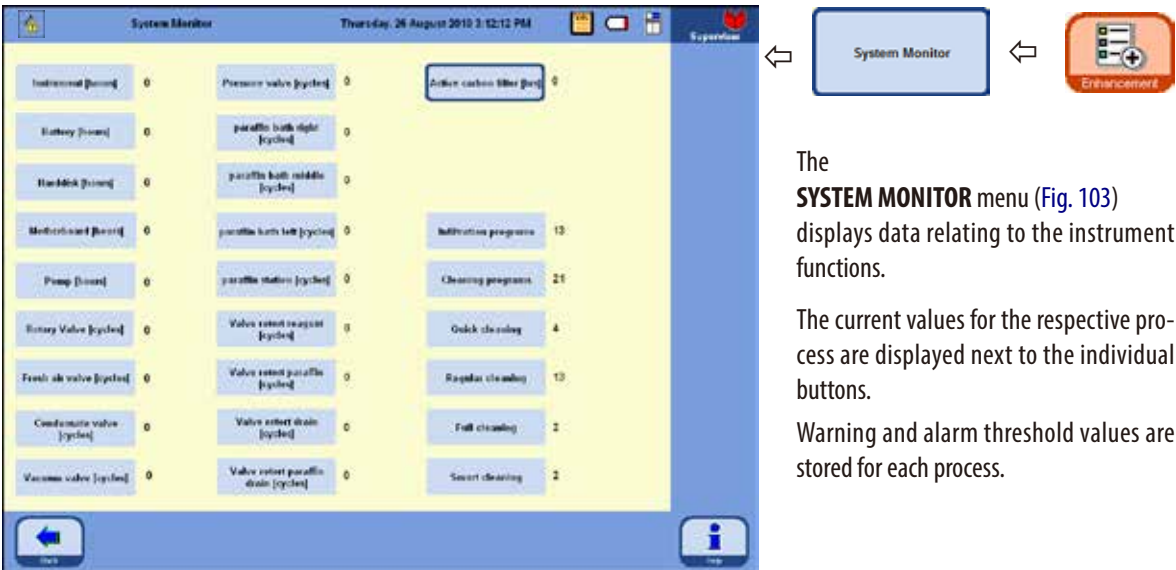



Fig. 103



The warning or alarm threshold values can only be reset by Leica Service technicians.  
The alarm and warning threshold values cannot be accessed in supervisor mode.

- If the stored warning value is exceeded, the current value is displayed in **RED** and a warning message informs the user that the warning value has been exceeded.  
This warning serves as a reminder to schedule maintenance via the Leica Technical Service. You can continue using the instrument without any limitations.
- If the set alarm threshold value is exceeded, a message is output on the screen to inform the user that the alarm value has been exceeded. The service maintenance symbol is displayed in the top left corner in all menus. Now, at the latest, maintenance by the Leica Technical Service is required in order to prevent any serious damage to the instrument.



## The System monitor menu (continued)

## Active carbon filter

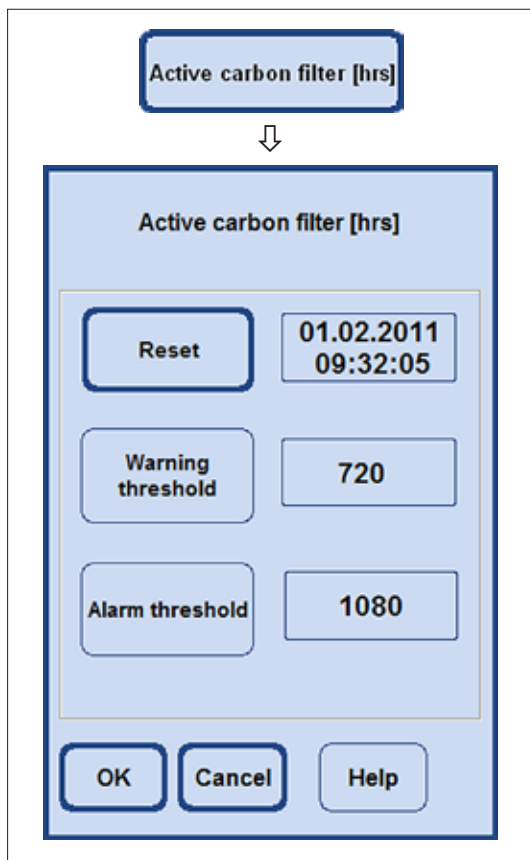


Fig. 104

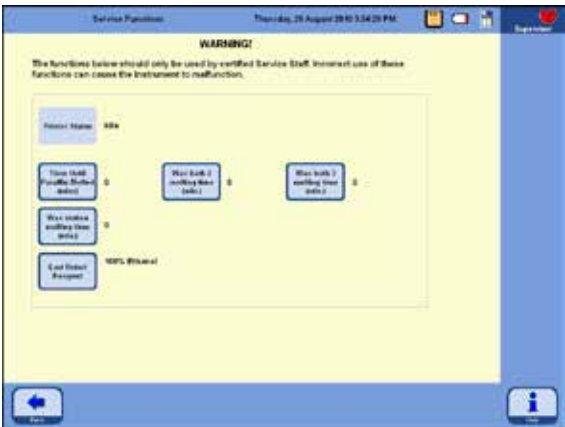
Also in Supervisor mode, only the runtime of the active carbon filter can be reset in the **SYSTEM MONITOR** menu (Figs. 103/104).

If the **ACTIVE CARBON FILTER** button is touched, a field appears which displays the programmed warning and alarm threshold values. Even in supervisor mode, neither of these values can be changed.

- If the stored warning value is exceeded, a warning message regarding the age of the carbon filter is output. This warning serves as a reminder to replace the carbon filter. You can continue using the instrument without any limitations.
- If the set alarm threshold value is exceeded, a message is output on the screen to inform the user that the carbon filter age has been exceeded.
- When this message appears, at the latest, the active carbon filter must be replaced in order to ensure that it functions and works efficiently.

## 5. Operation

### 5.1.5 The Service functions menu



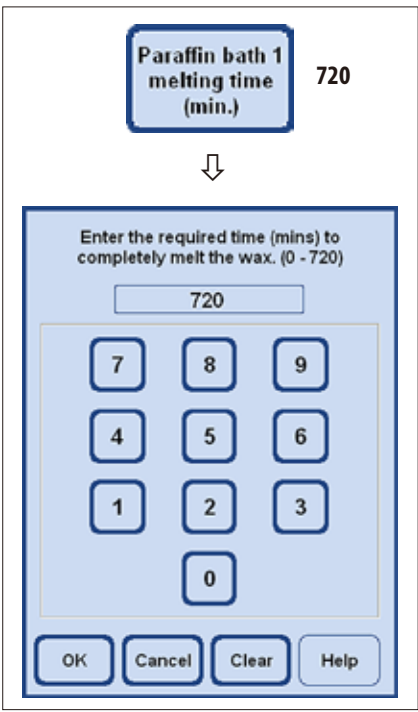
Certain settings and processes in the ASP6025 can be changed using the service functions.



**Caution!**  
The functions that can be accessed in this menu should only be used by experienced users since incorrect use of these options can lead to malfunctions or an impairment of the process in the instrument.

Fig. 105

#### Paraffin bath melting times



- There is a button for each paraffin bath and for the paraffin station. The time (in minutes) until the paraffin has melted enough so that it can be used in a program step is shown next to each button.
- A program can already be started before that time – the program then extends its delay step until the paraffin has melted enough to be used when the paraffin step is reached.
- The time until the paraffin is fully melted as determined by the instrument can be corrected by selecting the **PARAFFIN BATH MELTING TIME** button. This function should normally only be used to increase the melting time, e.g. if paraffin pellets have been added to a bath by hand.
- When the button is enabled, a window opens in which the value can be changed.

Fig. 106

## The Service functions menu (continued)

### Reagent status of the retort

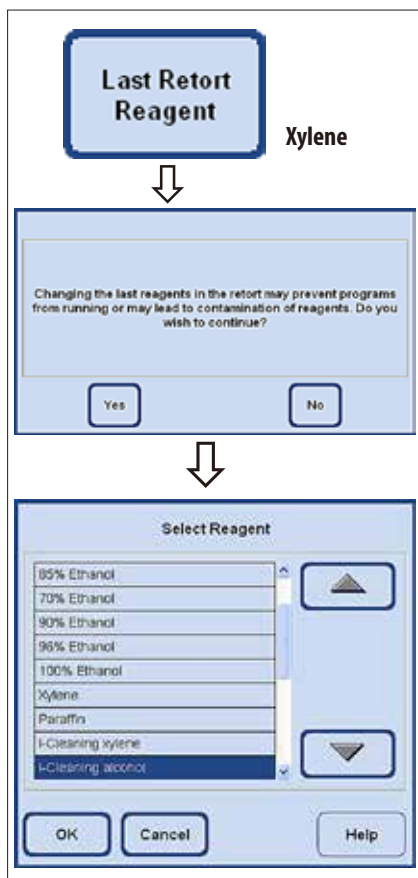


Fig. 107

- The ASP6025 software continuously records which reagent was the last reagent in the retort. The last reagent in the retort is displayed next to the button. This way, it is ensured that incompatible reagents do not come into contact with one another.
- If a filling process was canceled, it is possible that two reagents are displayed here.
- If the user knows that there actually was a different reagent in the retort than the one that is displayed, this can be corrected by selecting the **LAST RETORT REAGENT** button.
- After the button has been pressed, first a warning message appears which must be confirmed. Then, the current reagent list is displayed and it is thus possible to change the reagent status of the retort by selecting the correct reagent.



#### Caution!

The reagent status of the retort may not be changed unless it is known with certainty that the displayed reagent is not correct. If incompatible reagents come into contact with one another, this can result in a malfunction of the instrument or the impairment of a process.

### Display of printer status



Fig. 108

The status of the PDF printer is displayed here. It cannot be changed.

**"Printer ready"** means that a PDF file can be generated and saved after a program has run, if this was specified in the run options (see also [Chapter 5.1.2, Fig. 94](#)).

## 5. Operation

### 5.1.6 System status

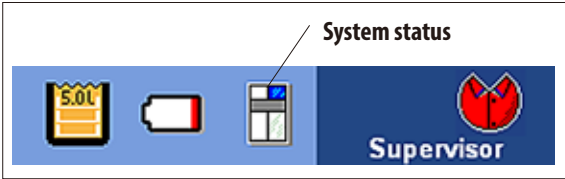


Fig. 109

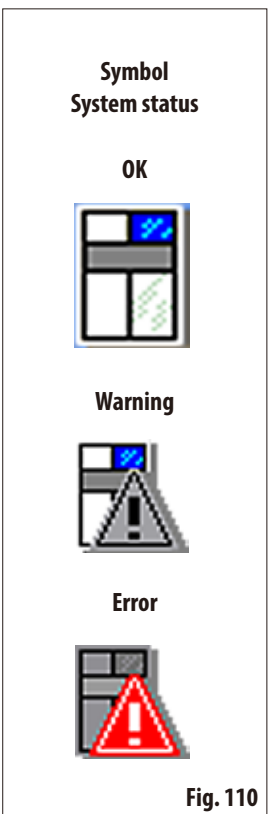
In the top right corner in the status bar, the general **SYSTEM STATUS** is displayed via a small symbol.

Touching this symbol will lead you into the menu window of the same name (Fig. 113).

The status of the instrument is continuously monitored while the ASP6025 is in operation. The messages of all sensors and active moving parts (pumps, valves, etc.) are evaluated and used to determine the system status.

For system status, there are three different levels. The different levels are displayed via a different symbol for each in the top right corner of the title bar.

The **SYSTEM STATUS** symbol appears in all menus of the ASP6025 software and is constantly being re-evaluated. If there is a system status change, then the corresponding new symbol is displayed.



#### Status OK:

The instrument works as expected and without any disruption.

#### Warning status:

There are some small problems, but none that would negatively affect infiltration. The existing problem was displayed in a message box on the screen and has been included in the table (Fig. 113). A reminder to this effect will appear again when the program is started.



In the case of a "WARNING" status, a screen message is output when an infiltration program is started. The user can decide whether the program should be started.  
However, it is possible to start an infiltration program.  
If the system status is "ERROR", it is not possible to start an infiltration program.

#### Error status:

Serious errors of the ASP6025 have been detected during operation. The detected error is displayed on the screen in a message. It must be confirmed by the user and has been included in the table (Fig. 113). The program cannot be started.

## The system status (continued)

### Type and output of messages



Fig. 111



Fig. 112

- Each message (warning or error) is output as a message on the screen as shown in the example on the left (Fig. 111).
  - This message must be confirmed with **OK**.
  - If an error occurs, it will remain present in the system status until the problem has been corrected.
- 
- Depending on the nature of the problem, another message box may appear informing the user of the measures the system has taken to correct it (Fig. 112). This message must also be confirmed with **OK**.

## 5. Operation

### The system status (continued)

Severity	Error No.	Description	Message	Date/time
Warning	142134	The valve test yielded too high of a current value for the condensate valve	The valve test yielded too high of a current value for the condensate valve	2011-02-17 11:27:21
Warning	142135	The valve test yielded too high of a current value for the pressure valve	The valve test yielded too high of a current value for the pressure valve	2011-02-17 11:27:24
Warning	142136	The valve test yielded too high of a current value for the vacuum valve	The valve test yielded too high of a current value for the vacuum valve	2011-02-17 11:27:26
Warning	142137	The valve test yielded too high of a current value for the fresh-air valve	The valve test yielded too high of a current value for the fresh-air valve	2011-02-17 11:27:29
Warning	142138	The valve test yielded too high of a current value for the left parallel both valve	The valve test yielded too high of a current value for the left parallel both valve	2011-02-17 11:27:31
Warning	142139	The valve test yielded too high of a current value for the middle parallel both valve	The valve test yielded too high of a current value for the middle parallel both valve	2011-02-17 11:27:34
Warning	142140	The valve test yielded too high of a current value for the right parallel both valve	The valve test yielded too high of a current value for the right parallel both valve	2011-02-17 11:27:36
Warning	142141	The valve test yielded too high of a current value for the parallel station valve	The valve test yielded too high of a current value for the parallel station valve	2011-02-17 11:27:39
Warning	142142	The valve test yielded too high of a current value for the parallel reset valve	The valve test yielded too high of a current value for the parallel reset valve	2011-02-17 11:27:42
Warning	142143	The valve test yielded too high of a current value for the reagent reset valve	The valve test yielded too high of a current value for the reagent reset valve	2011-02-17 11:27:44
Warning	142144	The valve test yielded too high of a current value for the reset drain valve	The valve test yielded too high of a current value for the reset drain valve	2011-02-17 11:27:47
Warning	142145	The valve test yielded too high of a current value for the reset parallel drain valve	The valve test yielded too high of a current value for the reset parallel drain valve	2011-02-17 11:27:49
Error	143067	The power supply for 24V failed. If this failure lasts longer than 10 seconds, the system is shut down.	The power supply for 24V failed. If this failure lasts longer than 10 seconds, the system is shut down.	2011-02-17 11:22:08

Fig. 113

### Display of the system status

When the symbol for the general status is touched, the **SYSTEM STATUS** window (Fig. 113), which contains the detailed list, is called up.

This list contains all of the messages that have been received and are not yet corrected.

If there is at least one entry in this list, the general status is **WARNING** or **ERROR** and the corresponding symbol is displayed.

The symbol displayed in the system status always reflects the most serious error in the list.

### Detailed overview of messages in SYSTEM STATUS

The list in the **SYSTEM STATUS** window has the following columns:

- **Severity**  
The severity indicates one of the two levels "**Warning**" or "**Error**" by displaying the respective symbol.
- **Error number**  
The error number specifies the unique message number.
- **Description and Message**  
The description and message columns give detailed information in text form about the cause of the malfunction.
- **Date/time**  
The date/time column specifies the time of occurrence.  
Touch the **DATE/TIME** button to sort the entries according to the time of their occurrence.

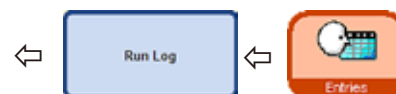




## 5.1.7 The Run log

Date	Time	Event ID	Description	Level
16/02/2011	11:17:23 PM	14048	The number of cassettes for reagent Remade was defined as 1	1
16/02/2011	11:17:12 PM	14073	The cassette query was disabled	2
16/02/2011	11:17:11 PM	14073	The cassette query was enabled	2
16/02/2011	11:17:08 PM	14073	The cassette query was disabled	2
16/02/2011	11:58:24 AM	14080	Finally, please carry out a series cleaning and reinsert the vials if it was removed	1
16/02/2011	11:58:24 AM	140757	The robot back was opened	1
16/02/2011	11:59:05 AM	14004	The program has successfully completed	1
16/02/2011	11:59:05 AM	140001	Draining the robot was completed successfully	3
16/02/2011	11:59:05 AM	19	The instrument detects a pressure decrease during draining. Current pressure is: 0 kPa	2
16/02/2011	11:59:05 AM	18	The robot contents will be drained into station Bottle C2 (reagent: Processing Water, current level of the robot: 3, required level of the robot: 2)	3
16/02/2011	11:59:04 AM	140005	Filling the robot was completed successfully	3
16/02/2011	11:59:04 AM	140002	The robot is being filled from station Bottle C2 (reagent: Processing Water, current fill level: 0, requested fill level of the robot: 2)	2
16/02/2011	11:59:04 AM	1038	Cleaning step 3 started (Bottle C2, Cleaning Water, 1 cycles, Temp 60)	1
16/02/2011	11:59:04 AM	140001	Draining the robot was completed successfully	3
16/02/2011	11:59:04 AM	19	The instrument detects a pressure decrease during draining. Current pressure is: 0 kPa	2
16/02/2011	11:59:04 AM	18	The robot contents will be drained into station Bottle C2 (reagent: Cleaning Ethanol, current level of the robot: 3, required level of the robot: 2)	3
16/02/2011	11:59:01 AM	140005	Filling the robot was completed successfully	3
16/02/2011	11:59:01 AM		The robot is being filled from station Bottle C2 (reagent: Cleaning Ethanol)	

Fig. 114



The **RUN LOG** (Fig. 114) displays all of the events that occurred while the program was running.

To display a desired area, use the **Up/Down** and/or **double arrow** (Fast Scroll) buttons.

After it has opened, you can view all of the entries that have been recorded in the run log during the entire application.

The entries are sorted by date, the most recent entry being shown at the top.

The following events are included in the **RUN LOG**:

- Start and end of each program that has run,
- Start and end of each program step,
- Events that may have had an effect on running a program, e.g. power failure, pause or opening a lid while the program is running.

The data can be sorted by:

- Date
- Event ID or
- Level



To do this, press the respective button in the table header.

# 5. Operation

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## The Run log (continued)

A priority level is assigned to each event.  
There are three different levels:

Level 1: High priority events

Level 2: Medium priority events

Level 3: Low priority events

When the **DETAIL LEVEL** button is pressed, the messages with the given detail level are displayed.  
If the button is pressed repeatedly, the display in the table can be filtered according to the individual levels.

The display on the button changes correspondingly.



Display of the three levels is carried out as follows:

Level 1 - 3: All event messages are displayed.



Level 1 - 2: The following are displayed:  
Events with the highest priority level.  
Events with the medium priority level.



Level 1: The following are displayed:  
Only events with the highest priority level.



**Level 1 is set by default. If the operator exits a log view, the detail level for this view is saved. When the view is opened again, the saved display level is used. This does not apply if the instrument is restarted. In this case, the Level 1 display set by default is used.**

## 5.1.8 The Long-term error log

Error Number	Error Description	Number of Occurrences	Last Reset Date and Time	First Occurrence	Most Recent Occurrence
967	SMART clean started	4	1/9/1979 1:00:00 AM	16/02/2011 4:50:31 PM	19/02/2011 5:03:55 PM
968	SMART clean completed successfully	4	1/9/1979 1:00:00 AM	16/02/2011 4:51:26 PM	19/02/2011 5:04:15 PM
970	[P]Please remove all reagent bottles from the instrument. Press OK when ready to continue.	4	1/9/1979 1:00:00 AM	16/02/2011 4:53:35 PM	19/02/2011 5:03:55 PM
971	[P]Please put an empty bottle into station %N. Press OK when ready to continue.	4	1/9/1979 1:00:00 AM	16/02/2011 4:50:52 PM	19/02/2011 5:04:01 PM
9815	Reloading software	1	1/9/1979 1:00:00 AM	16/02/2011 11:47:52 AM	16/02/2011 11:47:52 AM
9374	Not enough stations of a reagent type are available to execute the program.	2	1/9/1979 1:00:00 AM	12/02/2011 9:05:14 PM	13/02/2011 9:05:24 PM
101881	The RV was rotated as the instrument is off	17	1/9/1979 1:00:00 AM	19/02/2011 12:48:04 PM	13/02/2011 9:12:48 AM
101104	The pressure vent was successful	12	1/9/1979 1:00:00 AM	16/02/2011 4:50:52 PM	19/02/2011 5:04:01 PM
101112	The vacuum vent was successful	12	1/9/1979 1:00:00 AM	16/02/2011 4:50:35 PM	19/02/2011 5:04:15 PM
101118	The ventilation of the fluid system was successful	72	1/9/1979 1:00:00 AM	16/02/2011 4:50:34 PM	19/02/2011 5:04:15 PM
140184	Vacuum ventilation was started	12	1/9/1979 1:00:00 AM	16/02/2011 4:50:35 PM	19/02/2011 5:04:15 PM
140185	Pressure ventilation was started	12	1/9/1979 1:00:00 AM	16/02/2011 4:50:52 PM	19/02/2011 5:04:01 PM
140190	The target value for pressure adjustment is % kPa	184	1/9/1979 1:00:00 AM	16/02/2011 4:50:31 PM	19/02/2011 5:04:15 PM
140200	A preincubation is being started with a nominal pressure of % kPa	64	1/9/1979 1:00:00 AM	16/02/2011 4:50:34 PM	19/02/2011 5:04:15 PM

Fig. 115



While a program is running, its progress is monitored. Events that occurred during the program run are entered and counted in the **Long-term error log**. To display a desired area, use the **Up/Down** and/or **double arrow** (Fast Scroll) buttons.

After it is opened, all entries that have been recorded by the **Long-term error log** throughout the entire application can be viewed.

The entries are sorted by number – the most recent entry is shown at the top of the table and visually highlighted.

The following events are included in the **RUN LOG**:

The data can be sorted by:

- Error Number,
- Number of Occurrences,
- First Occurrence or
- Most Recent Occurrence.

To do this, press the respective button in the table header.

## 5. Operation

### 5.1.9 Saving or loading data



Fig. 116

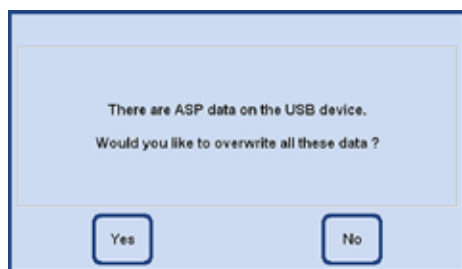


Fig. 117

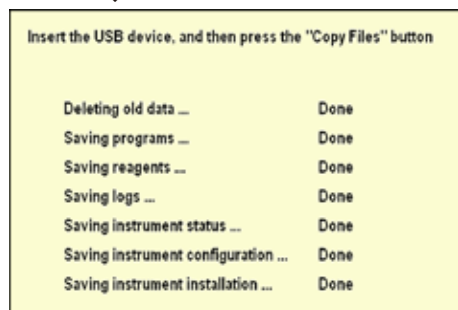


Fig. 118

#### Saving data to a USB stick



With this function, all data relating to the instrument can be transferred to a USB stick.

The following data is saved:

- all programs,
- the reagent list,
- the instrument status,
- the instrument configuration,
- all log files,
- the instrument installation.

To save the instrument data to a USB stick, proceed as follows:

- Press the **ENTRIES** and **SAVE TO USB** buttons to open the window of the same name.
- Insert a USB stick in one of the USB ports on the instrument and press the **COPY FILES** button.



**If instrument data has already been stored on the USB stick, it will be overwritten and thus deleted. This will be indicated in a warning message (Fig. 117) and must be confirmed TWICE with YES. Pressing the NO button terminates the process.**

- A display on the screen shows which data is currently being copied while the files are being transferred (Fig. 118).
- When all data has been successfully transferred, a completion message appears.

## Saving or loading data (continued)

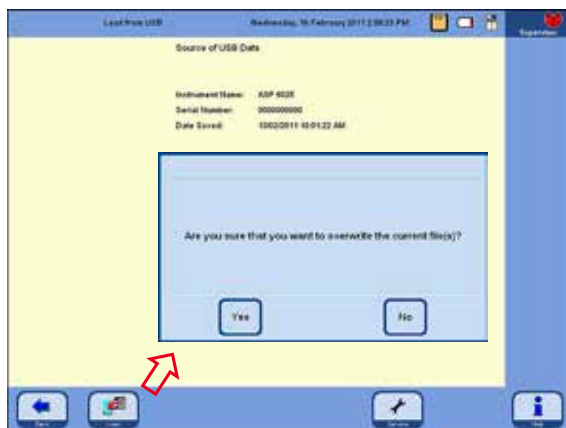


Fig. 119

To write the instrument data from USB stick back to the instrument, proceed as follows:

- Insert a USB stick in one of the USB ports on the instrument and press the **LOAD** button.
- Press the **ENTRIES** and **LOAD FROM USB** buttons to open the window of the same name.

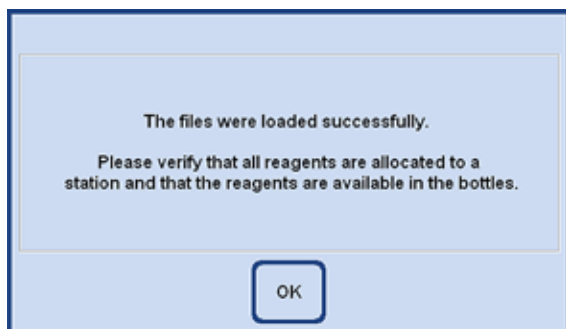


Fig. 120

## Loading data from a USB stick



This function is used to transfer instrument data from a USB stick into an ASP6025. The following data is saved:

- all programs,
- the reagent list,
- the instrument status,
- the instrument configuration,
- all log files,
- the instrument installation.

- The instrument software will check that the instrument data on the stick is actually complete. If it is not, the loading operation will be terminated.



Since there is already instrument data on the ASP6025, this will be overwritten and thus deleted. This will be indicated in a warning message (Fig. 119) and must be confirmed with YES. Pressing the NO button terminates the process.

- Once all data has been loaded successfully, a message confirming this appears on the screen and prompts the user to check that the reagents have been assigned correctly (Fig. 120).
- Finally, successful completion of the entire operation is also indicated in a message.

## 5. Operation

### Saving or loading data (continued)



Fig. 121



Fig. 122

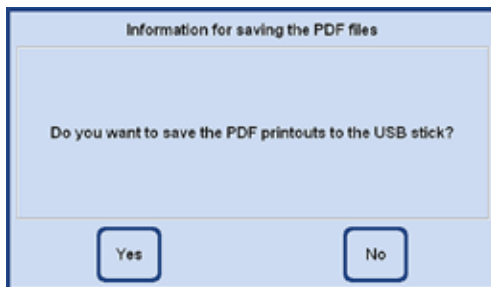
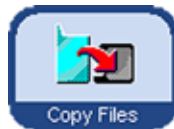


Fig. 123

### Save PDF printouts



With this function, the PDF files from programs that have been run or lists stored in the instrument can be transferred to a USB stick.

To save these PDF files to a USB stick, proceed as follows:

- Press the **ENTRIES** and **SAVE PDF PRINTOUTS** buttons to call up the **SAVING PDF PRINTOUTS** window (Fig. 121).
- Insert a USB stick in one of the USB ports on the instrument and press the **COPY FILES** button.
- The instrument software will check whether all PDF printouts stored on the instrument are also present on the stick. If this is true, the backup is not performed and a message to this effect is output (Fig. 122).
- If PDF printouts exist on the instrument and have not yet been backed up on the USB stick, a message appears on the screen requesting the user to confirm whether the backup is to be performed (Fig. 123).
- If this message is confirmed with **YES**, the PDF printouts are backed up to the Printouts folder on the stick.
- When all data has been successfully transferred, a completion message appears.

## Saving the incident report to a USB stick

To receive support from Leica when an instrument malfunction, decrease in specimen quality or destruction of a specimen occurs, the entire incident report must be saved and a routine save must be carried out (routine backup files, **SAVE TO USB STICK** button). In addition, please always provide the serial number of your device.

Information on how to carry out a routine save is described in [Chap. 5.1.9](#). To save the incident report to a USB stick, follow these steps:

1. Click **ENTRIES**.



Fig. 124

2. Check the USB stick to be used for viruses. Then, insert the USB stick according to [Chap. 4.4.4](#) into the provided socket on the instrument.
3. Click **INCIDENT REPORT**.
4. In the **DATE OF INCIDENT** section of the opened dialog, select either the day of the incident or the following day. If the incident is in the past anyway, we recommend that you select the following day because then subsequent faults that occurred after the incident can be documented.

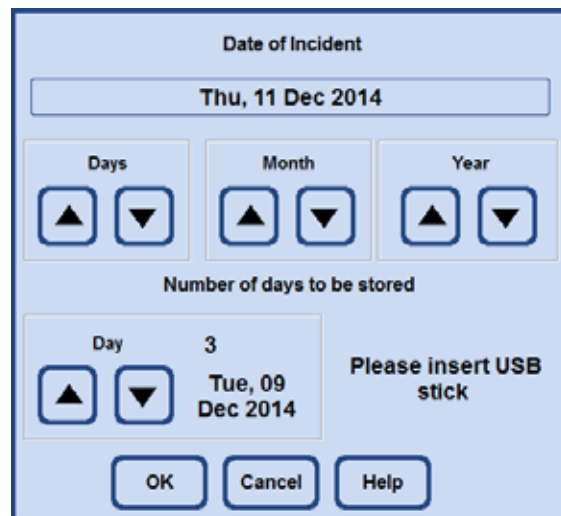


Fig. 125

5. In the **NUMBER OF DAYS TO BE STORED** section, please select a suitable time frame. Up to 10 days can be stored.
6. Confirm your entries by clicking the **OK** button.
7. After they have been saved successfully, the following message appears. Please acknowledge it with **OK**.



Fig. 126

8. After the previous message has been displayed, remove the USB stick and insert it into another computer. Check if a folder named "ASP6025Exlog" has been created. In this

## 5. Operation

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folder, you should find files with the extension "CAB" that are named according to the following pattern:

- IO-Levelextract\_xxx\_xx\_xx.cab
  - SummeryByErrorTimeLog1\_xxx\_xx\_xx.cab
  - Trace\_xxx\_xx\_xx.cab
9. If data from a previous save is on the USB stick, this data is overwritten when another save is carried out. If this happens, a corresponding message appears. Click **YES** to confirm the overwrite. If you want to change the USB stick, click **NO** and start from the beginning.

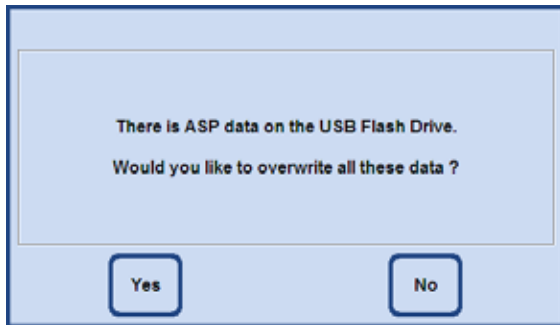


Fig. 127

10. If the save operation fails, the following error message appears. Confirm it and check the specified information. Please note that the message also appears if no incidents occurred within the specified time frame.

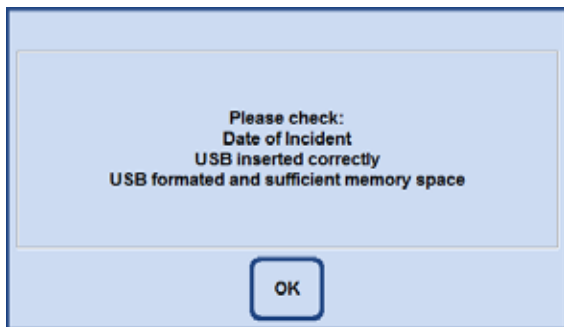


Fig. 128



## 5.1.10 The Smart Screen

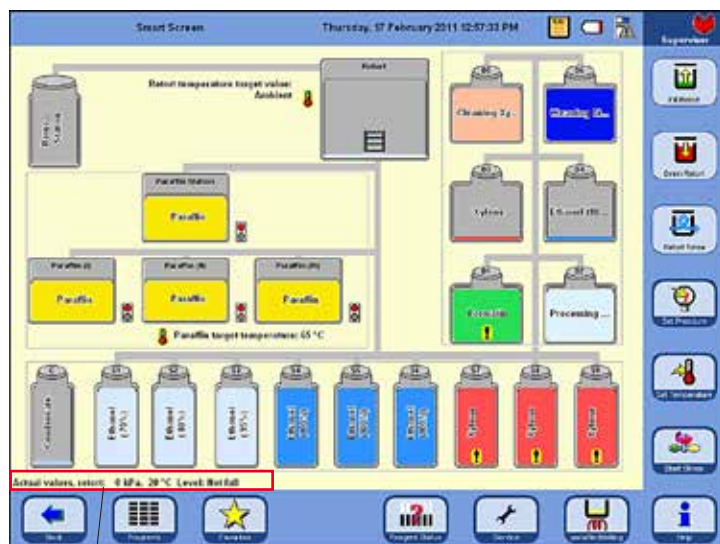


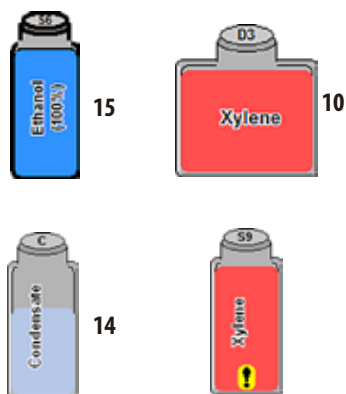
Fig. 130

**Retort status line**

The status line displays the actual temperature, the actual pressure, and the current fill level in the retort

**Temperature display**

The target temperature of the retort is displayed beside the retort and the target temperature of the paraffin appears below the paraffin baths.

**Bottle designs**

- System bottles (**15**) are designated S1-S9.
- RTU-bottles (**10**) are designated D1-D6.
- The reagent contained in the bottle is identified on the bottle symbol.
- The displayed levels in the bottles indicate the approximate level to which the bottles are filled.
- In the display, the level in the condensate bottle (**14**) is shown proportionally according to the number of cycles. When the maximum number of cycles is reached, a message indicating that it needs to be emptied appears.
- If a bottle contains a reagent that has exceeded a warning value, this is shown with an exclamation mark on a yellow background. For this function to take effect, threshold values must have been set.

## 5. Operation

### The smart screen (continued)

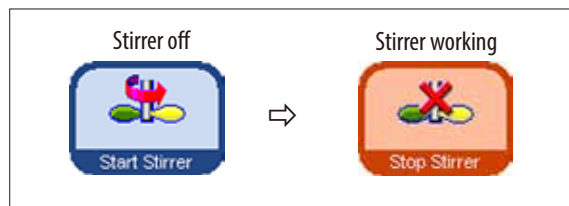


Fig. 131

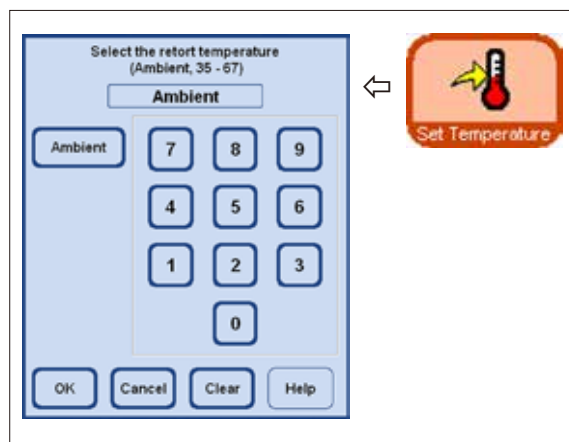


Fig. 132

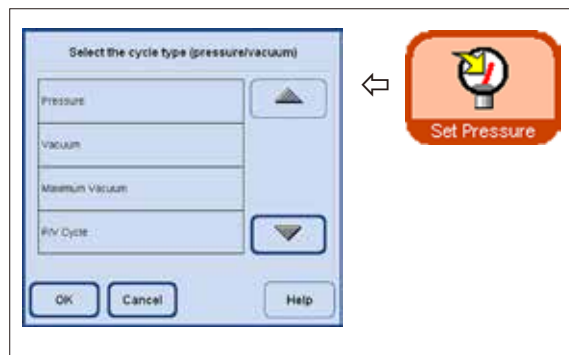


Fig. 133

### Additional functions on the SMART SCREEN

- The stirrer can be started and stopped again. When the button is colored orange, the stirrer is working (Fig. 131).

- The retort temperature can be set on the Smart Screen. To do this, press the **SET TEMPERATURE** button and call up the **SELECT THE RETORT TEMPERATURE** entry window (Fig. 132).

The temperature of the retort can be entered here.

The possible temperature range is from 35 - 65 °C. If **AMBIENT** is selected, the retort is set to room temperature.

- A pressure cycle type can be selected. To do this, press the **SET PRESSURE** button and call up the **SELECT THE CYCLE TYPE** entry window (Fig. 133).

Then highlight one of the four cycle types (Pressure/Vacuum) and press OK to confirm.

## The SMART SCREEN (continued)

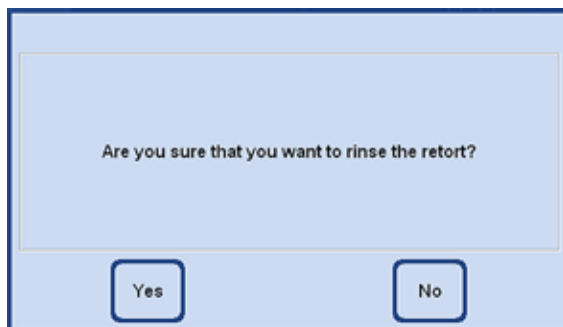


Fig. 134

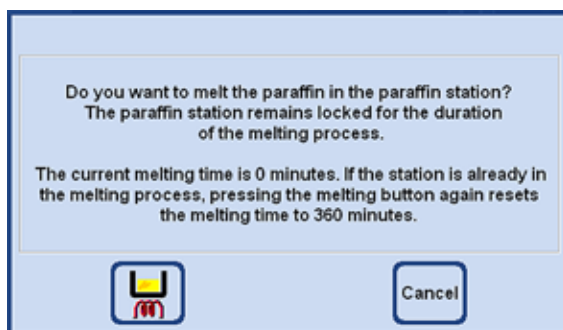


Fig. 135

## Additional functions on the SMART SCREEN



If the retort has been contaminated with xylene or ParaLast™, the retort can be flushed instead of running a cleaning program. When the **RETORT RINSE** button is pressed, a prompt will appear and must be confirmed with **YES** to start flushing (Fig. 134).



If the paraffin station has been refilled with solid paraffin, press the **PARAFFIN MELTING** button. A message will appear indicating the current melting time (Fig. 135). The paraffin station will remain locked while the melting process is taking place.

## The online help



The ASP6025 has an extensive help system that can be started from every main window.

This help system includes the entire Instructions for Use in the corresponding local language.

Pressing the **HELP** button opens the corresponding chapter of the Instructions for Use.

The **HELP** button within a dialog window takes the user to the table of contents of the Instructions for Use.

## 5. Operation

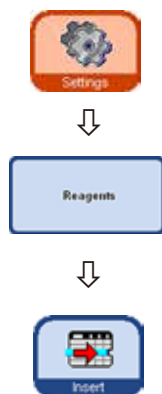
### 5.2 Reagents

#### 5.2.1 Editing the reagent list



The ASP6025 is shipped together with a standard reagent list and predefined infiltration programs. The reagent list is adapted to these programs. If the operator writes his own programs, new reagents may have to be entered.

#### Entering reagent names



This is done via the **REAGENTS** menu option in the **SETTINGS** menu. You must be logged on at supervisor access level to proceed.

- From the start screen, press **SETTINGS** to go to the window of the same name and press the **REAGENTS** button there.
- The **SET UP REAGENTS AND WARNING THRESHOLDS** window opens (Fig. 136).
- To add a reagent, proceed as follows:
  - Press **INSERT** to display the keyboard.
  - Enter the new reagent name.
  - Press **OK** to confirm.
  - You will automatically be prompted to select the reagent group for the new reagent (Fig. 137).
  - Allocate the new reagent to the appropriate group and press **OK** to confirm.



Fig. 136

#### Select the reagent group



Fig. 137

## Configuring the reagent list (continued)



Allocation of reagents to the correct reagent group is the basis for compatibility monitoring. Allocation to the wrong reagent group can lead to reagent cross contamination.

## Changeable parameters



Fig. 138

## Entering / modifying reagent thresholds

If warning thresholds are required for a certain reagent, enter them as follows:

- Highlight the reagent to be modified, either by pressing the reagent name or using the **UP/DOWN** buttons.
- In the header line, touch the parameter to be changed – the corresponding entry screen appears (Fig. 138).
- Enter a new threshold value or – if no warning is desired – press **CLEAR** to remove the threshold altogether.
- Press **OK** to confirm.



The respective threshold value applies for all reagent stations containing the same reagent.  
For additional information, refer to Chapter 5.2.2

## Changing reagent names or reagent groups



Fig. 139



If a reagent is already used in a program, it can neither be renamed nor can it be allocated to another reagent group!  
The corresponding symbols will be disabled (i.e. they will not be surrounded by a blue border).  
If a reagent is renamed, its allocation to a station will be deleted.

- Highlight the reagent the name or group of which you wish to change.
- Press the corresponding button symbol in the headline.
- In the entry window (or via the keyboard), enter the new reagent group allocation / the new reagent name.
- Press **OK** to save the new reagent group / reagent name.

## 5. Operation

### Configuring the reagent list (continued)



Fig. 140

#### Deleting reagents from the list

- Highlight the reagent to be deleted in the **SET UP REAGENTS AND WARNING THRESHOLDS** screen.
- Press **DELETE**.
- Press **YES** in the screen to confirm the reagent is deleted.



**Please remember that a reagent which is already used in a program cannot be deleted.**

### 5.2.2 The RMS system - adjusting warning threshold values

The ASP6025 has a **Reagent Management System (RMS)** that ensures optimized reagent consumption and the best possible tissue infiltration results.

The **Reagent Management System** is controlled via warning threshold values that display the reagent replacement.

For each reagent, a value of this type can be defined depending on the use.

#### The RMS has two areas:

The warning threshold values, which are entered for all reagents in the reagent list and displayed in the reagent status.

The reagent status also shows the values determined for the alcohols used (ethanol, isopropanol and their mixtures with water).

The warning threshold values can be defined in the reagent list as:

- Number of processed cassettes
- Number of cycles (1 program sequence = 1 cycle) or
- Days until changing the reagent

The RMS is enabled by entering warning threshold values for one of these parameters specified above in the reagent status.

## The RMS system – adjusting warning threshold values (continued)



Fig. 141

### Reagent warning messages

If the RMS is active, warning messages are output if reagents are used for too long.

The following indicates that the warning threshold values have been exceeded:

- Exclamation mark on the station system or RTU-bottle in the SMART screen (Fig. 141).
- A warning message when starting a protocol (Fig. 142).  
The operator is notified that the reagent has run out and can replace this reagent before the program starts. However, it is also possible to start the program despite this.



Fig. 142



Fig. 143

- When a warning threshold value is exceeded, a warning message is also displayed at the end of a program (after the cleaning) (Fig. 143).  
From there, you can press **YES** to go directly to the **REAGENT STATUS** window.

Status	Reagent	Quantity	Units	Reagent	Package #	Name	Reagent	Units	Reagent	Units	Priority
10	Formalin	1000	ml	Formalin	1000	Formalin	1000	ml	Formalin	1000	1
11	Formalin	1000	ml	Formalin	1000	Formalin	1000	ml	Formalin	1000	1
12	Formalin	1000	ml	Formalin	1000	Formalin	1000	ml	Formalin	1000	1
13	Formalin	1000	ml	Formalin	1000	Formalin	1000	ml	Formalin	1000	1
14	Formalin	1000	ml	Formalin	1000	Formalin	1000	ml	Formalin	1000	1
15	Formalin	1000	ml	Formalin	1000	Formalin	1000	ml	Formalin	1000	1
16	Formalin	1000	ml	Formalin	1000	Formalin	1000	ml	Formalin	1000	1
17	Formalin	1000	ml	Formalin	1000	Formalin	1000	ml	Formalin	1000	1
18	Formalin	1000	ml	Formalin	1000	Formalin	1000	ml	Formalin	1000	1
19	Formalin	1000	ml	Formalin	1000	Formalin	1000	ml	Formalin	1000	1
20	Formalin	1000	ml	Formalin	1000	Formalin	1000	ml	Formalin	1000	1
21	Formalin	1000	ml	Formalin	1000	Formalin	1000	ml	Formalin	1000	1
22	Formalin	1000	ml	Formalin	1000	Formalin	1000	ml	Formalin	1000	1
23	Formalin	1000	ml	Formalin	1000	Formalin	1000	ml	Formalin	1000	1
24	Formalin	1000	ml	Formalin	1000	Formalin	1000	ml	Formalin	1000	1
25	Formalin	1000	ml	Formalin	1000	Formalin	1000	ml	Formalin	1000	1
26	Formalin	1000	ml	Formalin	1000	Formalin	1000	ml	Formalin	1000	1
27	Formalin	1000	ml	Formalin	1000	Formalin	1000	ml	Formalin	1000	1
28	Formalin	1000	ml	Formalin	1000	Formalin	1000	ml	Formalin	1000	1
29	Formalin	1000	ml	Formalin	1000	Formalin	1000	ml	Formalin	1000	1
30	Formalin	1000	ml	Formalin	1000	Formalin	1000	ml	Formalin	1000	1
31	Formalin	1000	ml	Formalin	1000	Formalin	1000	ml	Formalin	1000	1
32	Formalin	1000	ml	Formalin	1000	Formalin	1000	ml	Formalin	1000	1
33	Formalin	1000	ml	Formalin	1000	Formalin	1000	ml	Formalin	1000	1
34	Formalin	1000	ml	Formalin	1000	Formalin	1000	ml	Formalin	1000	1
35	Formalin	1000	ml	Formalin	1000	Formalin	1000	ml	Formalin	1000	1
36	Formalin	1000	ml	Formalin	1000	Formalin	1000	ml	Formalin	1000	1
37	Formalin	1000	ml	Formalin	1000	Formalin	1000	ml	Formalin	1000	1
38	Formalin	1000	ml	Formalin	1000	Formalin	1000	ml	Formalin	1000	1
39	Formalin	1000	ml	Formalin	1000	Formalin	1000	ml	Formalin	1000	1
40	Formalin	1000	ml	Formalin	1000	Formalin	1000	ml	Formalin	1000	1
41	Formalin	1000	ml	Formalin	1000	Formalin	1000	ml	Formalin	1000	1
42	Formalin	1000	ml	Formalin	1000	Formalin	1000	ml	Formalin	1000	1
43	Formalin	1000	ml	Formalin	1000	Formalin	1000	ml	Formalin	1000	1
44	Formalin	1000	ml	Formalin	1000	Formalin	1000	ml	Formalin	1000	1
45	Formalin	1000	ml	Formalin	1000	Formalin	1000	ml	Formalin	1000	1
46	Formalin	1000	ml	Formalin	1000	Formalin	1000	ml	Formalin	1000	1
47	Formalin	1000	ml	Formalin	1000	Formalin	1000	ml	Formalin	1000	1
48	Formalin	1000	ml	Formalin	1000	Formalin	1000	ml	Formalin	1000	1
49	Formalin	1000	ml	Formalin	1000	Formalin	1000	ml	Formalin	1000	1
50	Formalin	1000	ml	Formalin	1000	Formalin	1000	ml	Formalin	1000	1

Fig. 144

- The reagent status highlights the exceeded values in red in the table (Fig. 144).  
Displayed if:
- The number of processed cassettes is exceeded.
- The number of specified cycles is exceeded.
- The days until changing the reagent are exceeded.

## 5. Operation

### The RMS system – adjusting warning threshold values (continued)

#### Tables with warning threshold values

The tables in this section list the recommended limits/warning threshold values for common reagents approved for the ASP6025.

The warning threshold values recommended here must be used only in combination with the preinstalled processing protocols. For other processing protocols created by the user, corresponding threshold values have to be determined by the lab itself.



**These warning threshold values are set to 55 % at the factory. However, the user can freely select between 50 % and 60 % as needed.**



**These warning threshold values must be validated before use, i.e. tissue processing with patient tissue for diagnostics, by the laboratory itself according to the local or regional accreditation requirements.**

The warning threshold values in the following tables can be used as initial values for instrument setup. These are to be used according to the preinstalled protocols by entering them into the **SET UP REAGENTS & WARNING VALUES** menu.

#### Autorotation protocols

Reagent	recommended replacement
Formalin	after 600 cassettes or 2 cycles <sup>1)</sup>
Water	after 1200 cassettes or 4 cycles <sup>1)</sup>
70 % ethanol	- threshold value 55 %
1 xylene	after 1500 cassettes or 5 cycles <sup>1)</sup>
1 paraffin	after 1800 cassettes or 6 cycles <sup>1)</sup>
Cleaning xylene	after 6 cycles
Cleaning alcohol	after 6 cycles

<sup>1)</sup> for a low throughput of approx. 100 cassettes daily



## The RMS system – adjusting warning threshold values (continued)

### Tables with warning threshold values

#### Xylene protocols

Reagent	recommended replacement
Formalin	after 600 cassettes or 2 cycles <sup>1)</sup>
70 % ethanol	after 600 cassettes or 2 cycles <sup>1)</sup>
85 %/90 % ethanol	after 1500 cassettes or 5 cycles <sup>1)</sup>
1 100 % ethanol	after 1500 cassettes or 5 cycles <sup>1)</sup>
1 xylene	after 1500 cassettes or 5 cycles <sup>1)</sup>
1 paraffin	after 1800 cassettes or 6 cycles <sup>1)</sup>
Cleaning xylene	after 6 cycles
Cleaning alcohol	after 6 cycles
Cleaning water	after 6 cycles

<sup>1)</sup> for a low throughput of approx. 100 cassettes daily

#### Xylene-free protocols

Reagent	recommended replacement
Formalin	after 600 cassettes or 2 cycles <sup>1)</sup>
70 % ethanol	after 600 cassettes or 2 cycles <sup>1)</sup>
85 % ethanol	after 1500 cassettes or 5 cycles <sup>1)</sup>
1 (ethanol/isopropanol) 80/20	after 1500 cassettes or 5 cycles <sup>1)</sup>
1 isopropanol 100 %	after 1500 cassettes or 5 cycles <sup>1)</sup>
ParaLast	after 2400 cassettes or 8 cycles <sup>1)</sup>
1 paraffin	after 2400 cassettes or 8 cycles <sup>1)</sup>
Cleaning xylene	after 6 cycles
Cleaning alcohol	after 6 cycles
Cleaning water	after 6 cycles

<sup>1)</sup> for a low throughput of approx. 100 cassettes daily

## 5. Operation

### 5.2.3 The reagent status



The **REAGENT STATUS** window (Fig. 145) is used to display and update the current reagent status of the individual stations. In addition, reagent stations can be marked as full or empty here.

Reagent Status Tuesday, 7 September 2010 1:57:38 PM

Station	Reagent	Cassettes Since Changed	Cycles Since Changed	exchanged	Status	Expiry cassettes	Cycles (Expiry)	Days (Expiry)	Density	Supervisor
01	10% Ethanol	2796	14	Thu, Aug 12	Full	0	0	0		Full
02	80% Ethanol	2488	03	Thu, Aug 12	Full	0	0	0		
03	50% Ethanol	2206	12	Thu, Aug 12	Full	0	0	0		
04	80% Ethanol	1820	10	Wed, Aug 18	Full	0	0	0		
05	80% Ethanol	1302	8	Wed, Aug 18	Full	0	0	0		
06	80% Ethanol	406	2	Mon, Sep 06	Full	0	0	0		
07	Ethanol	406	2	Mon, Sep 06	Full	0	0	0		
08	Ethanol	305	4	Mon, Sep 06	Full	0	0	0		
09	Ethanol	8	0	Mon, Sep 06	Full	0	0	0		
011	Formalin	150	0	Mon, Aug 16	Full	0	0	0		
02	Processing Water	150	0	Mon, Aug 16	Full	0	0	0		
03	Ethanol	1401	0	Wed, Aug 18	Full	0	0	0		
04	80% Ethanol	0	0	Mon, Sep 06	Full	0	0	0		
05	1-Cleaning ethanol			Thu, Aug 12	Full	0	0	0		
06	1-Cleaning alcohol			Thu, Aug 12	Full	0	0	0		
Processing	Paraffin	800	4	Mon, Sep 06	Full	0	0	0		
Processing	Paraffin	1000	6	Mon, Sep 06	Full	0	0	0		
Processing	Paraffin	800	5	Mon, Sep 06	Full	0	0	0		
Processing Station	Paraffin				Empty					

Buttons: Back, Test as empty, Collect Full, Reset Data, Update Info, Connect, Help

The following is displayed:

- The current age of each reagent
- The current status of each station (full or empty)
- Criteria that trigger warning messages. (Fields colored in red)

To change the status of a reagent, highlight the corresponding row and press the button for the respective action.

Fig. 145

#### The criteria for warning messages

For normal reagents, it is the number of the following since the last reagent change:

- Processed cassettes
- Run programs (cycles)
- Days passed



In addition, you can switch directly to the REAGENTS and STATIONS windows to make current changes. To do so, touch the corresponding button in the REAGENT STATUS window (Fig. 145).

## The reagent status (continued)

### Adding new reagents to stations



Station	Reagent	Current Status / Changed	Cycles Since Changed	Underage?	Status	Current Concentration	Cycles Between	From Overload	Priority
01	100% Ethanol	0	0	Fr. Aug 27	Full	0	0	0	0
02	80% Ethanol	0	0	Fr. Aug 27	Full	0	0	0	0
03	60% Ethanol	0	0	Fr. Aug 27	Full	0	0	0	0
04	100% Ethanol	0	0	Fr. Aug 27	Full	0	0	0	0
05	100% Ethanol	0	0	Fr. Aug 27	Full	0	0	0	0
06	100% Ethanol	0	0	Fr. Aug 27	Full	0	0	0	0
07	Uplink	0	0	Fr. Aug 27	Full	0	0	0	0
08	Uplink	0	0	Fr. Aug 27	Full	0	0	0	0
09	Uplink	0	0	Fr. Aug 27	Full	0	0	0	0
10	Transfer	0	0	Fr. Aug 27	Full	0	0	0	0
11	Recovery Water	0	0	Fr. Aug 27	Full	0	0	0	0
12	Uplink	0	0	Fr. Aug 27	Full	0	0	0	0
13	100% Ethanol	0	0	Fr. Aug 27	Full	0	0	0	0
14	100% Ethanol	0	0	Fr. Aug 27	Full	0	0	0	0
15	100% Ethanol	0	0	Fr. Aug 27	Full	0	0	0	0
16	100% Ethanol	0	0	Fr. Aug 27	Full	0	0	0	0
17	Transfer	0	0	Fr. Aug 27	Full	0	0	0	0
18	Transfer	0	0	Fr. Aug 27	Full	0	0	0	0
19	Transfer	0	0	Fr. Aug 27	Full	0	0	0	0
20	Transfer	0	0	Fr. Aug 27	Full	0	0	0	0

Fig. 146

Use the **SMART FUNCTIONS** menu to remote-fill the respective system bottle from an external station, or fill the system bottle manually. After filling a bottle manually the bottle must be defined as full.



- To do this, open the **REAGENT STATUS** window; this can be done directly by pressing the **REAGENT STATUS** button on the **SMART SCREEN**.



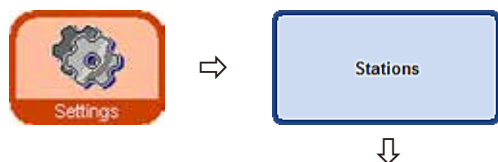
- Otherwise, switch to the **SETTINGS** menu and press the **REAGENT STATUS** button there.
- Highlight the newly added reagent in the table (Fig. 146).
- Press **SET AS FULL** to mark the station status as "full".



If the RMS has been activated, all warning threshold values for the newly filled reagent are automatically reset to "0".

## 5. Operation

### 5.2.4 Configuring the stations



The **VIEW/EDIT STATIONS** window (Fig. 147) shows a list of all stations with the assigned reagents that have been defined for the respective station.

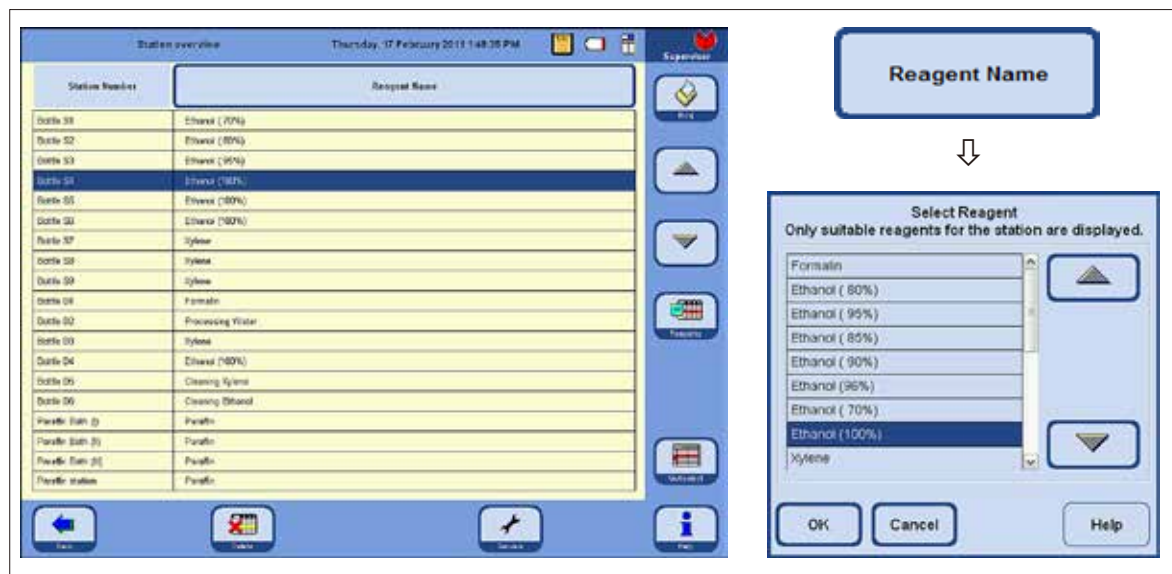


Fig. 147

The ASP6025 includes the following stations for reagents:

- 9 system bottles in the reagent cabinet,
- 6 RTU-bottles in the drawer,
- 3 paraffin baths,
- 1 paraffin station.



The three paraffin baths and the paraffin station must only be used for paraffin.

#### Adding/changing a reagent

- In the table, highlight the station that is to be filled with a reagent (Fig. 147).
- Touch the **REAGENT NAME** button.
- The **SELECT REAGENT** field appears.
- Highlight the reagent you want and confirm your selection with **OK**.
- The highlighted reagent is assigned to the station.

## 5.2.5 The Reagent groups menu



In the **EDIT REAGENT GROUPS** window (Fig. 148) you can select the colors to be used for each reagent group in the program display.

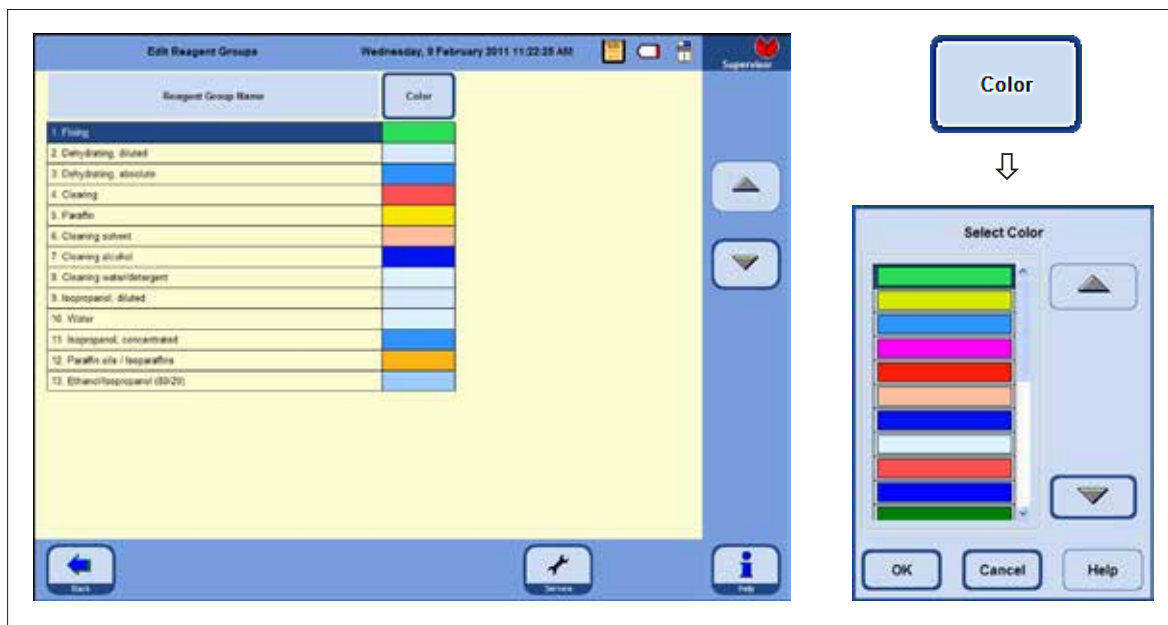


Fig. 148

## Changing the color of a reagent group

- In the table, highlight the row containing the reagent group whose color you want to change.
- Press the **COLOR** button in the table header; the **SELECT COLOR** window appears (Fig. 148).
- Select the color you want and confirm with **OK**.
- The newly selected color will now be used on all stations to represent the highlighted reagent group. The color will apply for all reagents in the group.
- To exit the display without changing any colors, select **CANCEL**.

## 5. Operation

### 5.2.6 Ethanol rotation

#### Functional description

Ethanol has to be replaced while a program is running.

For this to be carried out, **CONCENTRATION** mode must be turned on the **PROGRAM OPTIONS** field in the **SYSTEM SETUP** window, see [Chapter 5.1.2](#).

In this case, the system bottles for ethanol (S1-S6) must be filled according to the pattern shown in [Fig. 147](#). In addition, all six ethanol stations must be defined in the program. The program checks this when it is started. If there is a discrepancy, a warning message appears and the program cannot be started.

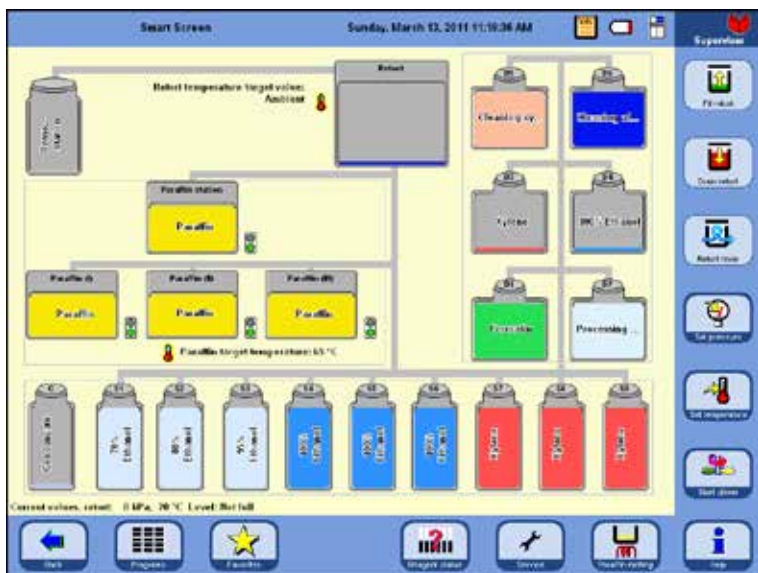


Fig. 149

In **CONCENTRATION** mode, the system bottles that are filled with ethanol in row S1-S6 are used.

Important!

Filling of all bottles (system bottles and RTU-bottles) with reagents must be carried out exactly as shown in [Fig. 149](#).

System bottle S1: 70 % ethanol  
System bottle S2: 80 % ethanol  
System bottle S3: 95 % ethanol  
System bottle S4-6: 100 % ethanol  
System bottle S7-9: Xylene

RTU-bottle D1: Formalin  
RTU-bottle D2: Process water  
RTU-bottle D3: Xylene  
RTU-bottle D4: 100 % ethanol  
RTU-bottle D5: Cleaning xylene  
RTU-bottle D6: Cleaning alcohol

## Functional description of ethanol rotation (continued)

Ethanol rotation is performed in two steps:

- In the first step, used ethanol is ejected and the position of the ethanol in the system bottles is changed.
- In the second step, fresh ethanol is added.



**The ASP6025 checks the level status of the reagent bottles being replaced in both steps during the process. In the event of incorrect operation due to incorrect filling or draining, the corresponding step cannot be carried out. The software notifies the customer of the situation.**

The ethanol value for replacement is determined with ethanol from system bottle S1. This is where the most frequently used ethanol is located.

The measurement of all alcohols (ethanol and isopropanol) is carried out automatically during retort cleaning. (In RMS and concentration mode).

The programmed threshold value initiates the rotation of the ethanol.

If an ethanol value is detected that is below the set threshold value, a screen message to this effect appears, and replacement is recommended (Fig. 150).

### 1st step

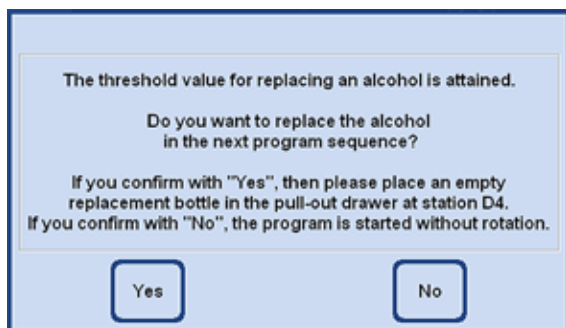


Fig. 150

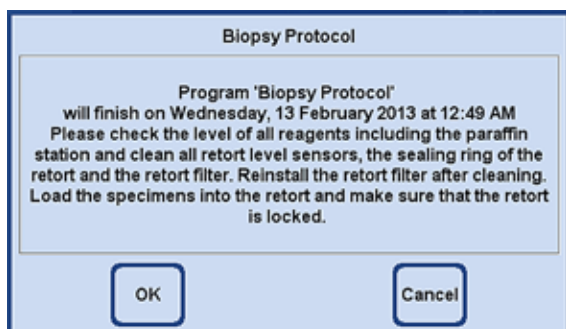


Fig. 151

If the operator confirms replacing the ethanol by pressing **YES**, in the first program cycle, the used ethanol is pumped out of system bottle S1 into RTU-bottle D4 and the system bottles S2 - S6 are rearranged.

This means that the ethanol in the S2 system bottle is repositioned into the S1 system bottle, from S3 into S2, etc.

If **NO** (Fig. 150) is pressed, the subsequent program starts **WITHOUT** alcohol rotation.

Pressing the **OK** button starts the program.

If **CANCEL** is pressed, the program is stopped or does not start.



## 5. Operation

### Functional description of ethanol rotation (continued)

#### 2nd step



Fig. 152

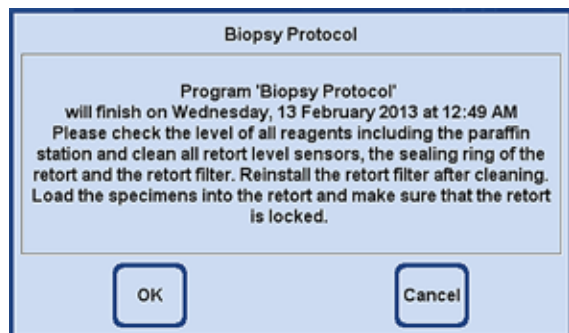


Fig. 153

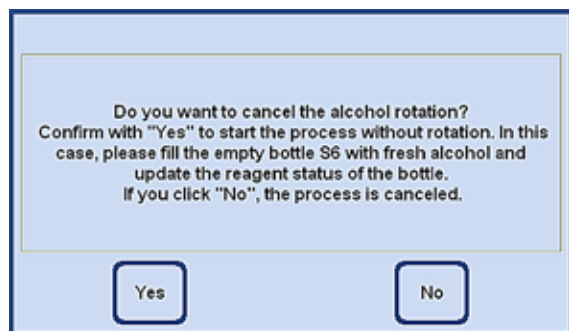


Fig. 154

In the following program (that is to say when another infiltration program is started in Concentration mode), the ethanol is replaced.

For this purpose, fresh ethanol must be added manually to RTU-bottle D4 in the drawer prior to the start of the program.

The operator is prompted to do this by a corresponding screen instruction (Fig. 152).

This must be confirmed with **YES** before the program is started. The ethanol is then transferred to system bottle S6 while the program is running.

Pressing **OK** (Fig. 153) starts the program – fresh ethanol is used.

If **CANCEL** is pressed, the program is stopped or does not start.

If **NO** (Fig. 152) is pressed, the adjacent message is displayed.

Pressing **YES** (Fig. 154) starts the program – WITHOUT ethanol rotation! – Refilling system bottle S6 is done manually and must be confirmed in the reagent status (Fig. 146, p. 105).

Pressing **NO** stops the program or does not start it.



## 5.2.7 Adjusting the threshold value for ethanol rotation

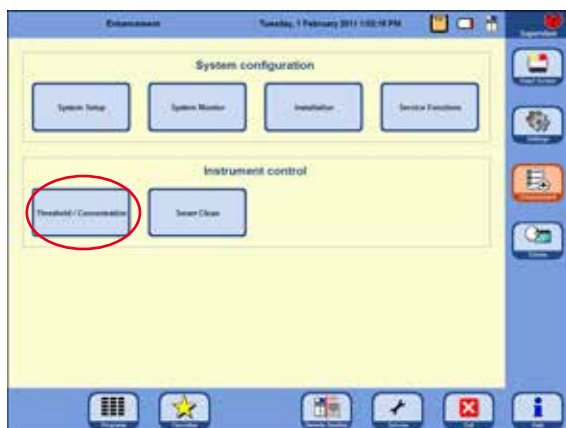


Fig. 155



From the start screen, press **ENHANCEMENT** on the right-hand side to go to the window of the same name.

In the **INSTRUMENT CONTROL** field (Fig. 155), touch the **THRESHOLD / CONCENTRATION** button – the input field for the threshold value (Fig. 156) appears.

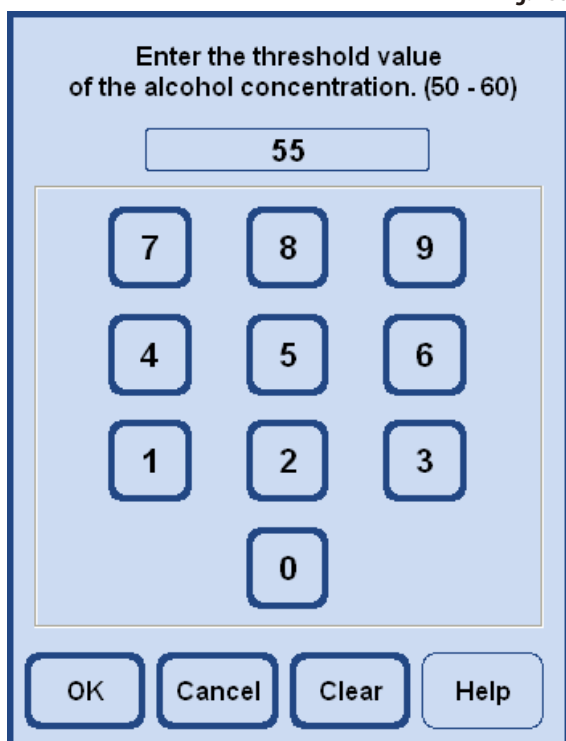
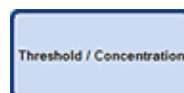


Fig. 156



Here, you can configure the threshold value for the ethanol concentration.

Possible ethanol values range between 50 % and 60 % in 1 % increments.

An ethanol threshold value of 55 % is set by default.

## 5. Operation

---

### 5.2.8 Replacing xylene

The order of xylene stations while the program is running is determined by the RMS system.

If the threshold value for xylene is exceeded, the operator is informed that xylene is due for replacement via a screen message (Fig. 157) the next time a program is started.

The operator must confirm the screen message with **YES** so that the replacement process described below can be carried out.

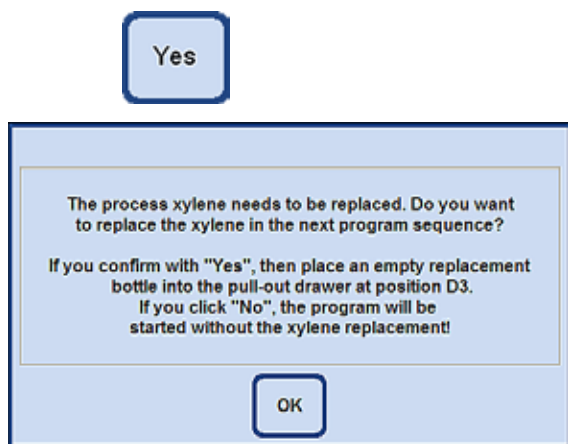


Fig. 157

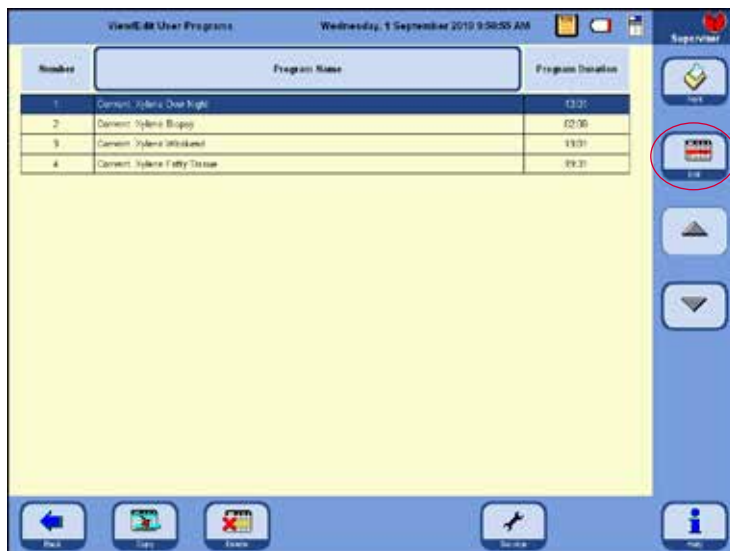
- Then the "exhausted" xylene will be transferred to RTU-bottle D3 during the program sequence.
- The remaining reagent from this station is pumped directly into RTU-bottle D3 via the retort.
- In the next program run, 5 l of fresh xylene is drawn into the retort from D3 and processed in this way.
- Afterwards, this xylene is transferred to the free system bottle.
- The remaining xylene from D3 is then transferred directly into the system bottle via the retort.

### 5.3 Infiltration programs

#### 5.3.1 Display of the program list



The **VIEW/EDIT USER PROGRAMS** window (Fig. 158) displays a list of all freely editable programs currently defined in the ASP6025.



A maximum of 20 programs, each with up to 12 reagent steps and three paraffin processing steps, can be defined.

At supervisor access level:

- The program names for the infiltration programs can be edited.
- New infiltration programs can be added and existing ones can be deleted.

Fig. 158



**New infiltration programs are created by copying an existing program and then modifying it accordingly. Therefore, the list must contain at least one program at all times.**

Program duration cannot be specified. It is determined by the total duration of all program steps, plus the estimated fill and drain times. To alter the duration of a program, the duration of one or more individual program steps has to be modified.



**The retort cleaning programs are also preset. They cannot be renamed, added, modified or deleted.**

## 5. Operation

### 5.3.2 Adding and modifying programs

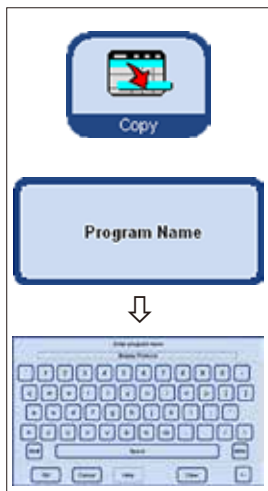
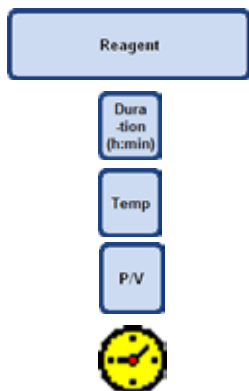


Fig. 159



#### Creating a new program

- Make sure you are logged on at supervisor level.
- In the **VIEW/EDIT USER PROGRAMS** menu (Fig. 158) highlight a program as similar as possible to the program you wish to create – this minimizes the number of steps that are then necessary to create it).
- Press **COPY** to copy the selected program. The new program will have the same name as the program copied, however, "(2)" will be added to indicate the change.
- Highlight the line containing the new program.
- Touch the **PROGRAM NAME** button at the top of the table, the keyboard will appear (Fig. 159).
- Enter the new program name.

#### Editing program steps

- Pressing the **EDIT** button (in Fig. 158) calls up the Program steps screen (Fig. 160).
- In the headline you will find the **PROGRAM NAME**.
- The colors on the left border of the table indicate the reagent groups to which the reagents belong.
- The program steps are displayed in the order in which they are carried out. For each program, up to 15 steps can be defined.

#### The following characteristics of each program step can be edited: (Fig. 160)

- The reagent that is used in the step
- Duration of step  
(not including the filling and emptying times)
- The retort temperature  
(if "Ambient" is selected, the display for the retort temperature remains empty)
- Type of pressure and/or vacuum cycle
- Set the delay step.

## Editing program steps (continued)

- To edit a step, highlight the corresponding line and press the respective headline.
- In the entry windows that pop up enter / select the program step settings.

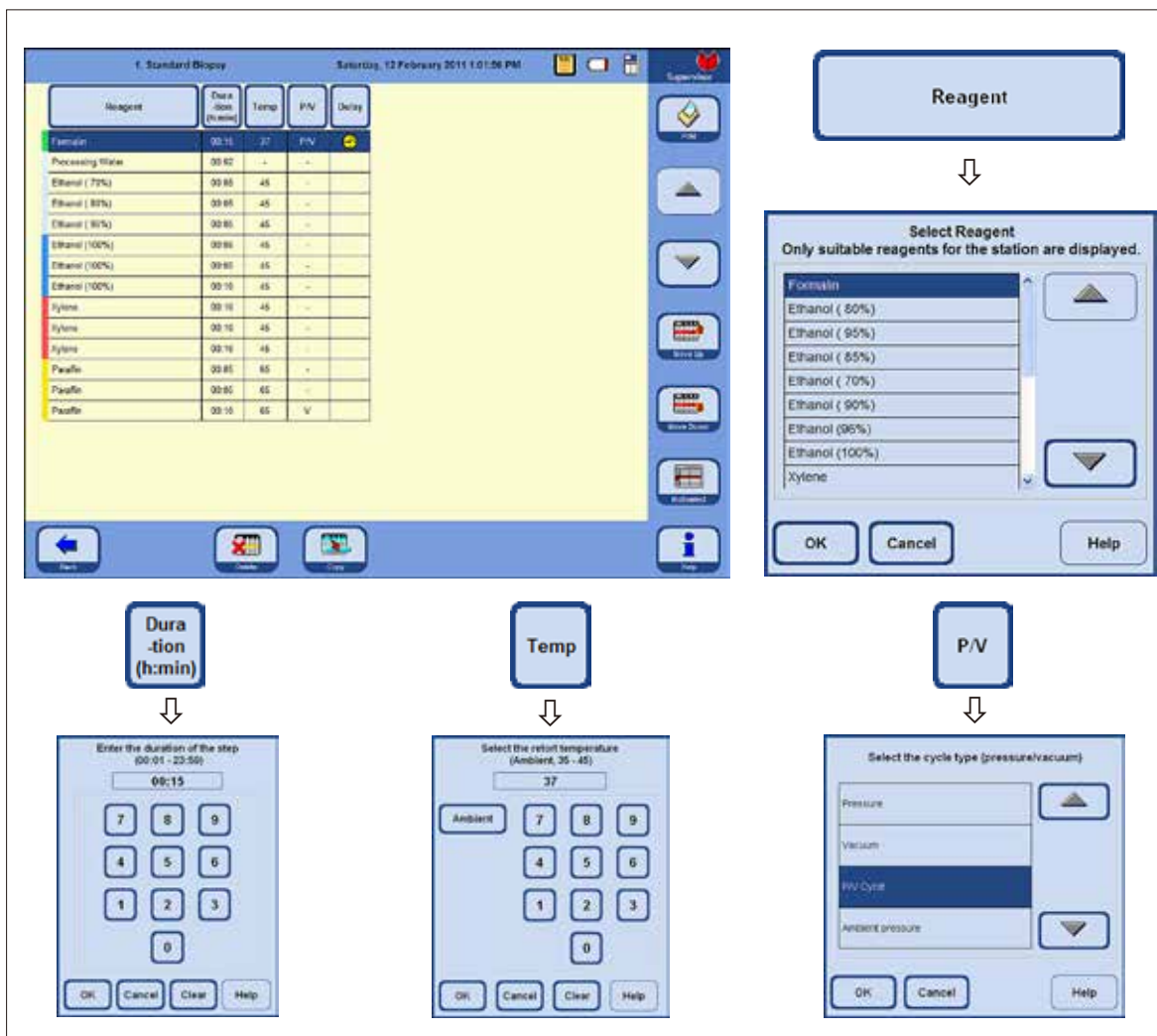


Fig. 160

## 5. Operation

### Editing program steps (continued)



#### Setting a delay step

The delay step is the step that is prolonged to ensure that a program will finish at a specified time.

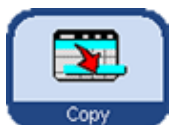
- Highlight the program step you wish to define as delay step.
- Touch the **DELAY** button.

The delay symbol is moved to the selected step, thus defining the step as delay step.



A delay step is permitted in fixing, intermedium or paraffin. The DELAY button is disabled for other reagents.

#### Copying program steps



- Highlight the step you wish to copy.
- Press the **COPY** button to copy the highlighted step.
- If required, modify properties of the step.



Remember that a program step cannot be copied if the program already contains the maximum number of 15 steps.



- Use the **MOVE UP** / **MOVE DOWN** buttons to move program steps up or down within an existing program without having to recreate those steps.



#### Deleting program steps

To delete a step from a program:

- Highlight the step you wish to delete.
- Press the **DELETE** button.



It is not possible to delete a step from a program consisting of only one step. Programs must consist of at least one step.

## 5.4 Reagent handling

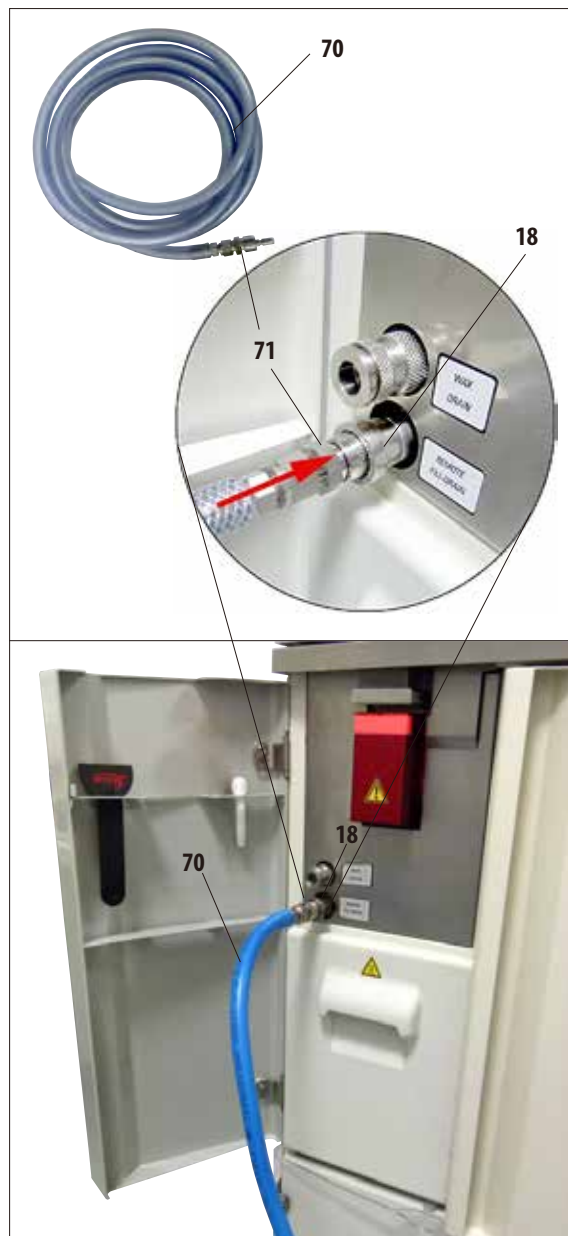


Fig. 161

## 5.4.1 Filling/draining reagents

## Remote replacement of reagents

- The non-contact draining or filling function is possible in 3.8 and 5 liter mode. – Both system bottles and RTU-bottles can be filled or drained.



The following steps should only be carried out by trained laboratory personnel, experienced in handling reagents.

Always wear rubber gloves and safety goggles when handling the reagents used in this instrument.

Reagents used for tissue infiltration can be both toxic and/or flammable.

## Hose for remote filling/draining of reagents

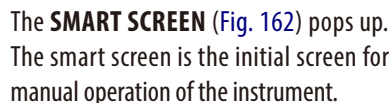
- Connect the hose for remote filling/draining (70) as shown in Fig. 161.
- When connecting the hose to the connection spout (item 18 in Fig. 161) for reagents, the connection piece (71) must engage with the spout with a clearly audible click.



When filling or draining a system bottle or RTU-bottle, ensure that the remote fill/drain hose is securely hooked into the external station and is not removed until the operation is fully completed. Finally, pressurized air is used to clear the hose after each fill / drain so that no dirt remains. The hose must therefore not be taken out of the external station until this cleaning step is complete.

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The retort cannot be filled in the meantime for this procedure. If necessary, the retort can be filled from the outside – afterwards the reagent has to be emptied TO THE OUTSIDE.



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## 5. Operation

### Draining/filling reagents (continued)

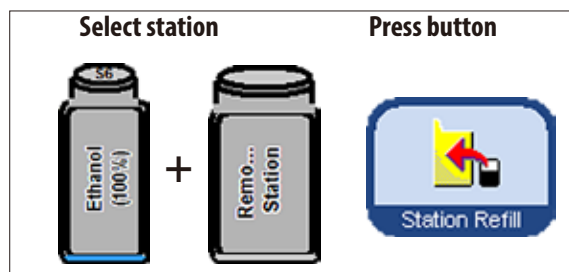


Fig. 168

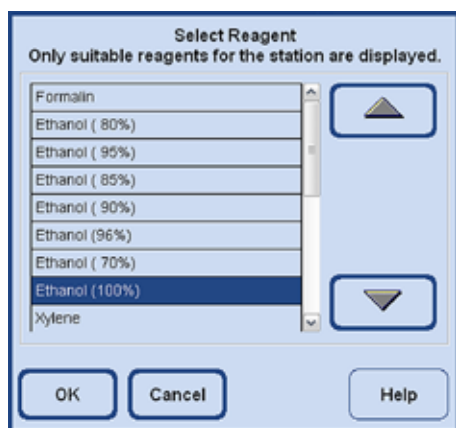


Fig. 169

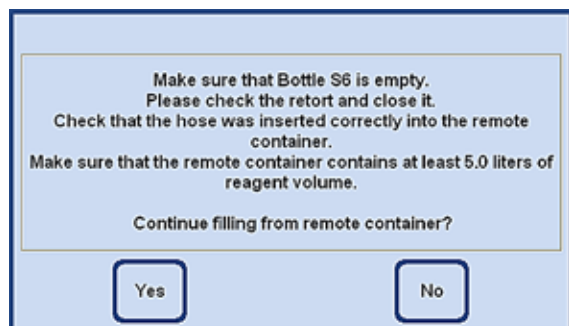


Fig. 170

### Remote filling

Remote filling of system bottles takes place in exactly the same way as remote draining of RTU-bottles, but in the reverse order of course.

- On the screen, select an empty system bottle (e.g. **S6**) and the external receptacle (**Remote Station**, [Fig. 168](#)).
- Then press the **STATION REFILL** button.
- Now the reagent with which the highlighted bottle is to be filled (of course, the reagent contained in the external station) must be selected ([Fig. 169](#)).
- After you have selected a reagent, a screen message appears prompting you to make the necessary preparations.
- When everything is finished, press **YES** to start filling ([Fig. 170](#)).

## Draining/filling reagents (continued)

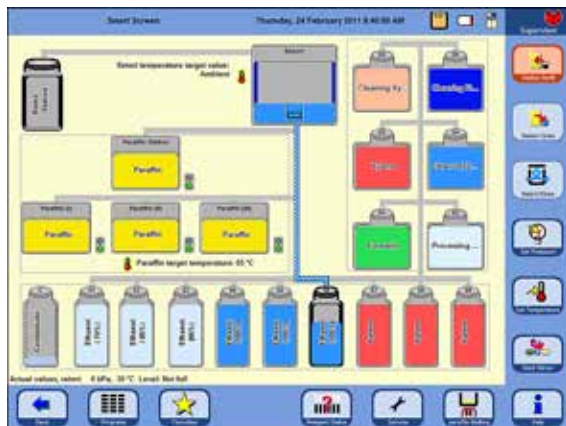


Fig. 171

- The reagent is pumped out of the external container and initially into the retort. Then, the selected system bottle is filled.
- The entire operation is displayed graphically on the screen (**SMART FUNCTIONS** view) (Fig. 171).



Fig. 172

- When the selected station is filled with reagent, a message window appears (Fig. 172), with a message to the effect that the hose for remote filling/draining is being blown out with air.
- Therefore leave the hose in the remote station until the process has ended, or insert it into another suitable container.

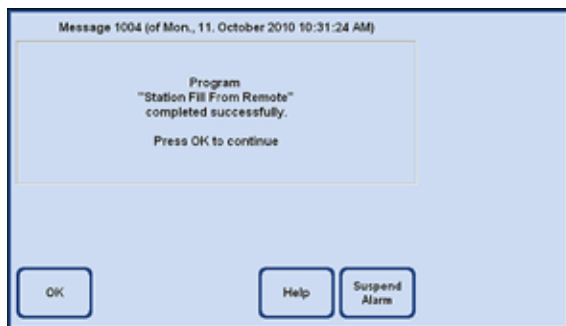
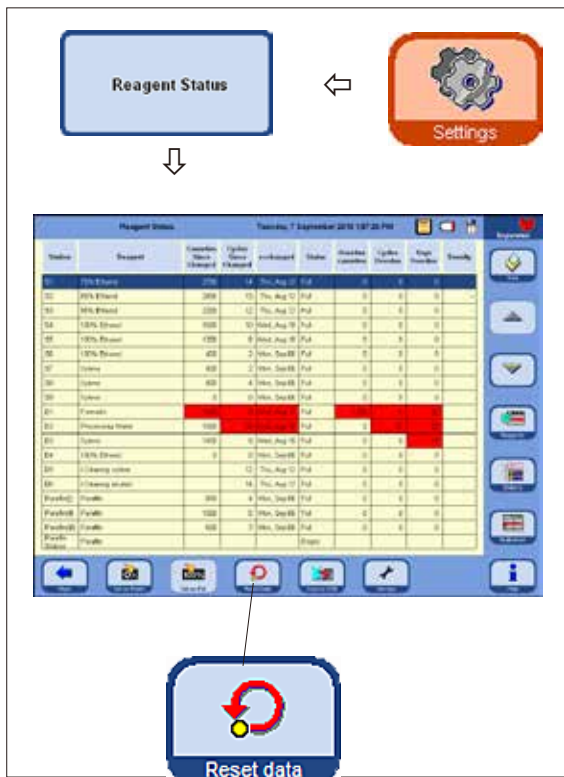
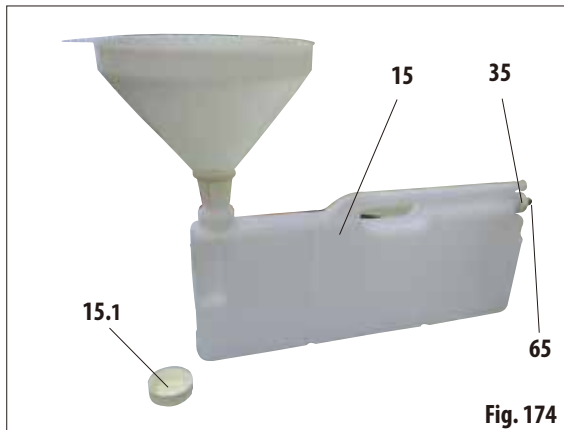


Fig. 173

- After the rinsing has been completed, a message appears (Fig. 173), informing you that remote filling has been completed. To end the process, press **OK**.

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## Manually changing the reagents



### Caution!

**Never replace reagents or fill empty system bottles or RTU-bottles while a process is running. This can result in severe damage to the instrument.**

- Remove the system bottle (**15**) from the reagent cabinet and unscrew the container cover (**15.1**).
- Drain the used reagent into a bulk container and then refill the system bottle.  
The fill levels for filling with 3.8 l and 5.0 l are embossed on the front of each container.  
Use a funnel for clean filling.
- Place the filled system bottle back in the reagent cabinet.
- When inserting the system bottle, always make sure that the retaining ring (**35**) is securely tightened and the connection spout (**65**) clicks into the back panel correctly.
- Then, in the **SETTINGS** window press the **REAGENT STATUS** button and call up the table of the same name (Fig. 175).
- Select the corresponding line in the table and set the data to zero using the **DATA TO ZERO** button (Fig. 175).

**Manual filling has been described previously with reference to the system bottles. Follow the exact same procedure for the RTU-bottles from the drawer.**

### 5.4.2 Refilling paraffin



The initial filling of all three paraffin baths should have used paraffin that has been melted earlier, e.g. using an external paraffin oven or other processor, so that the instrument can be started up as quickly as possible. Then, use the paraffin station for filling.

#### The paraffin station



Fig. 176

There are two marks in the interior of the station that display the minimum fill level when filled with pellets or liquid paraffin respectively (Fig. 176). The level must not fall below these marks.

The paraffin station can be filled with paraffin pellets, paraffin blocks or liquid paraffin.

If filled with pellets, the melting time is approx. 6.0 h.

#### Filling a paraffin bath

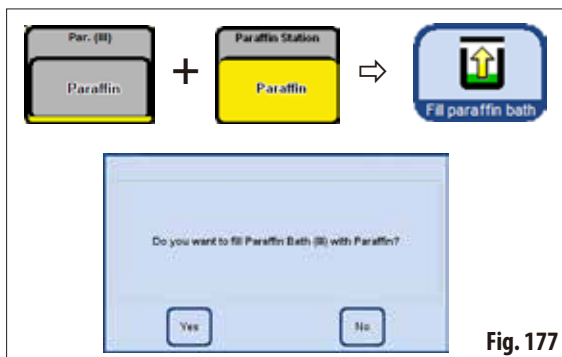


Fig. 177

#### Filling manually

If a paraffin bath is filled with pellets, the melting time will be approximately 720 min (12 h).

- Fill the paraffin bath to the brim with pellets, and after about 6 h top up with pellets again.
- Then set the melting time in the **SERVICE FUNCTIONS** menu (see also Chapter 5.1.5).

#### Filling from the paraffin station

- In the smart screen, select an empty paraffin bath and the full paraffin station. Then press the **STATION REFILL** button.
- Confirm the prompt (Fig. 177) with **YES**.



If the last reagent in the retort is not compatible with paraffin, the retort must first be cleaned using a cleaning program (without water step!).

- The liquid paraffin is then pumped from the paraffin station to the retort.
- Then, the selected paraffin bath is filled from the retort.
- Finally, the retort has to be cleaned.

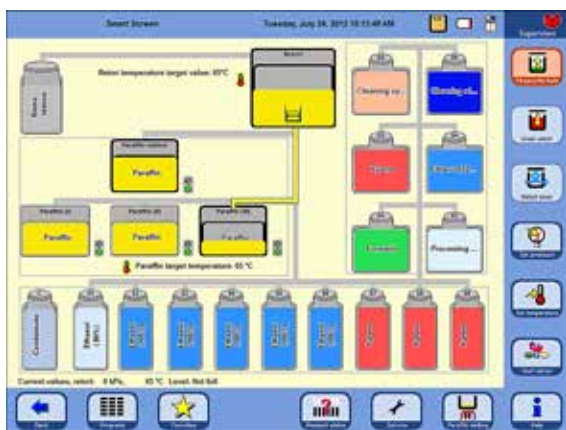


Fig. 178

## 5. Operation

### Filling a paraffin bath (continued)



Fig. 179



When the paraffin station is closed, a message appears explaining that the **MELT** button can be pressed to set the paraffin station to **FULL** in the reagent status and to recalculate the melting time.



#### Caution!

If the paraffin baths are set to "Empty" in the Reagent status (Fig. 179), heating is also deactivated at the same time. This means that any paraffin residues can solidify and the selected bath is thus not usable.

- If the paraffin has been transferred out of the paraffin station and into a paraffin bath using the **SMART SCREEN** menu, the paraffin station is automatically set to "**Empty**" in the Reagent Status.
- Therefore, the paraffin station must be set to "**Full**" in the Reagent status (Fig. 179) menu to activate heating and melting after being refilled with paraffin pellets.
- To do so, go to the reagent status, select the paraffin station and press the **SET AS FULL** button.





Fig. 180

## 5.4.3 Draining a paraffin bath



Always drain a paraffin bath using the Remote Drain function only. When doing so, you should use a suitable vessel with a capacity of at least 10 liters to drain a 5-liter paraffin bath to the outside (danger of splashing!).

- Connect the paraffin drain hose (36) to the spout (57) of the paraffin drain on the front of the instrument and guide it into a catch tank (Fig. 180).



When connecting the hose, be sure to press it onto the O-rings of the drain opening as far as it will go.

The paraffin drain hose must be securely hooked into the external receptacle and remain there through the entire drainage process.

When drainage is finished, the hose is cleaned automatically using air.

Do not remove the hose from the external receptacle until this cleaning step is complete.

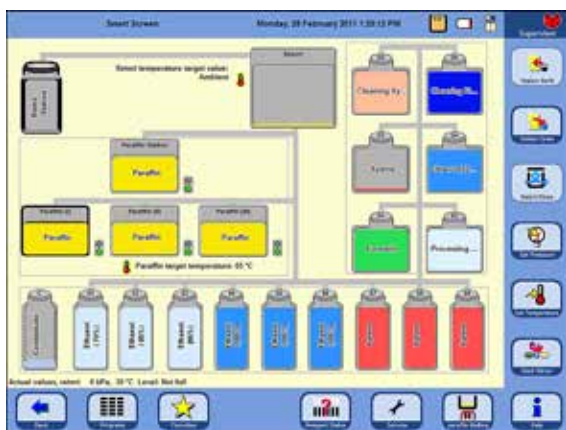
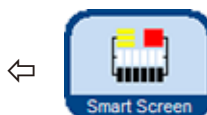


Fig. 181



- Using the **SMART SCREEN** button, call up the **SMART FUNCTIONS** screen (Fig. 181).

## 5. Operation

### Draining a paraffin bath (continued)



If the last reagent in the retort is not compatible with paraffin, the retort must first be cleaned using a cleaning program (without water step!).



Fig. 182

- Select the paraffin tank to be emptied and the receptacle for the used paraffin (external station) (Fig. 182).
- Then press **STATION DRAIN**.

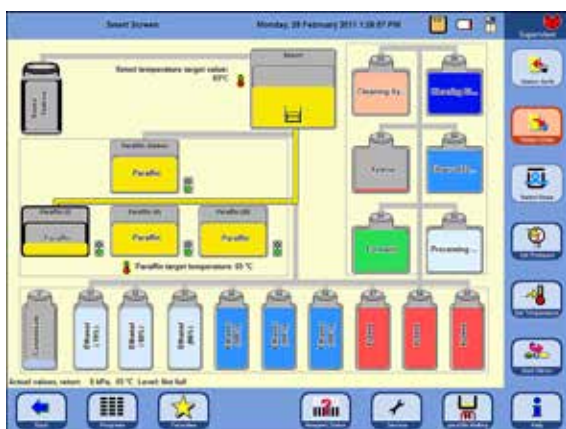


Fig. 183

- The following security prompt must be confirmed in order to continue (Fig. 184).

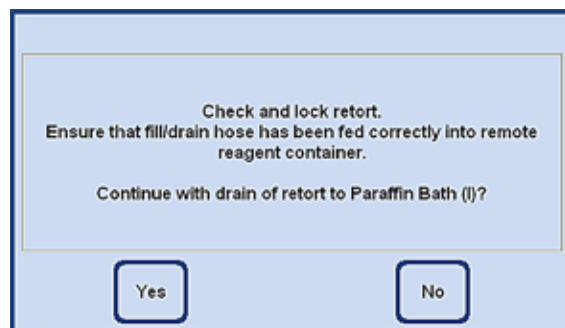


Fig. 184

- If necessary, the retort must be heated to the necessary temperature so that the paraffin remains fluid. Then, the paraffin is pumped from the selected paraffin bath into the retort.
- When the bath is emptied, the paraffin is automatically pumped from the retort into the external container.
- After this operation is complete, the paraffin residues are blown out of the external tube and the hose. The corresponding message must be confirmed with **OK**.



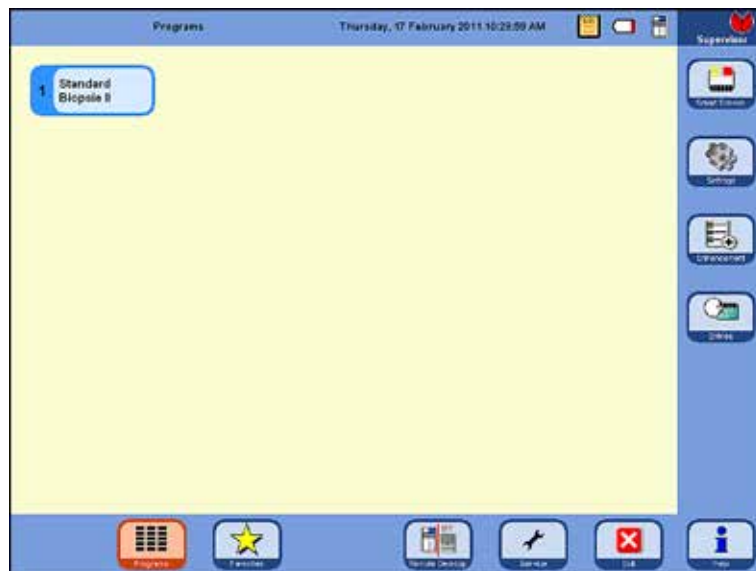
Fig. 185



## 5.5 Running programs

There are two different windows from which a program can be started: **PROGRAMS** and **FAVORITES**.

### 5.5.1 User-defined programs



In the Start screen, press the **PROGRAMS** button.

This window shows all the infiltration programs that have been created by the operator himself.

Fig. 186



- To call up a program, touch the button that is labeled with the program name.
- A screen with the graphic representation of the program appears (**SMART SCREEN**); in it, all of the stations are color coded according to reagent group. To run the program, press the **START** button, then select the level (number of baskets) in the retort.
- The user has the option of changing the program he has called before starting it. Steps can be deleted or added, or parameters can be changed. This can also be done after the program has started.
- In this case, the operator has to interrupt the program by pressing the **PAUSE** button. However, this action only affects the current program run and does not change the stored protocol. For more information, refer to [Chapter 5.5.4](#).

## 5. Operation

### 5.5.2 Favorites

#### FAVORITES

Up to 10 programs can be configured as **FAVORITES** in the ASP6025. A Favorite program is an infiltration program that is used frequently and has therefore been assigned to the **FAVORITES** list. All settings have already been programmed and only the number of cassettes needs to be entered, if this function has been activated.

Favorite programs can be set up so that they:

- run "as soon as possible" (ASAP),
- end at a predefined time, or
- they prompt for entry of a desired finish time when the program starts.



Fig. 187

#### Starting a Favorite program

To begin working with a Favorite program, press the corresponding symbol in the **FAVORITES** window.

After starting, the finish time or other program options can be changed in exactly the same way as for any other running program.



#### Important!

In order to be able to start one of the preinstalled programs, it must first be assigned to the Favorites.

The Start button for a Favorite program contains the name of the program, the finish time, and a symbol if one has been assigned.

Xylene programs are created in orange, all other programs are blue.

### 5.5.3 Defining Favorite programs

Before a program appears with a Start button in the **FAVORITES** window, it must be defined as a Favorite program. To do so, proceed as follows:

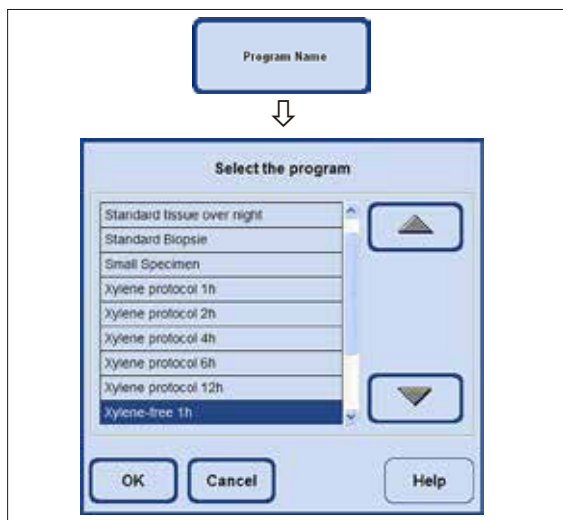


Press the **SETTINGS** button to switch to the window with that name. Press the **FAVORITE PROGRAMS** button there.

The **VIEW/EDIT FAVORITES** window opens (Fig. 188).

This shows all infiltration programs that have been defined as Favorites.

Fig. 188



#### Adding a program to Favorites

- Select an empty program line.
- Touch the **PROGRAM NAME** key and the **SELECT THE PROGRAM** selection window appears (Fig. 189).

This lists **ALL** programs that are stored in the instrument, including the user-defined programs.

- Select the program you want and press **OK** to confirm. The name of the program is transferred to the empty line.

Fig. 189

## 5. Operation

### Defining Favorite programs (continued)

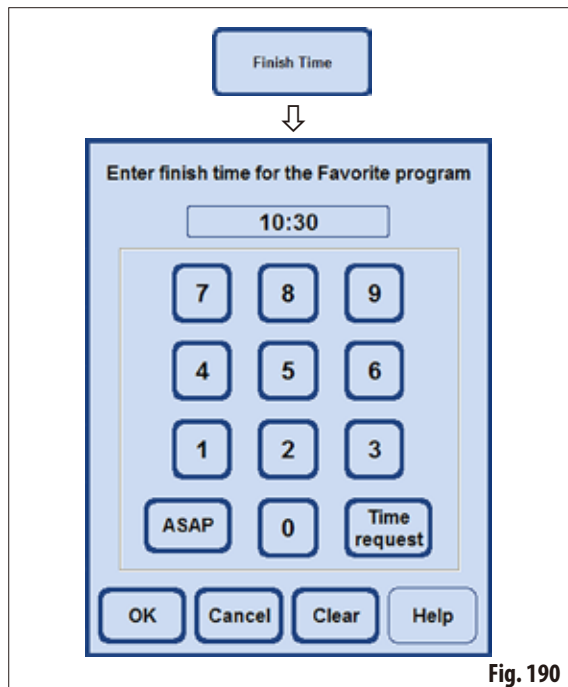


Fig. 190

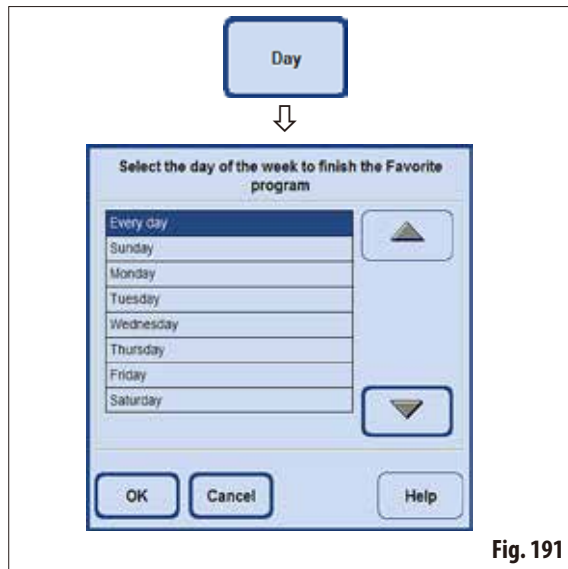


Fig. 191

#### Setting the finish time

- Press the **FINISH TIME** button to call up the entry window for the finish time (Fig. 190).

There are three options for setting the finish time:

- Enter the finish time at which the program is to terminate using 24-hour notation.
- Select **NOW** if the program is to be terminated without a waiting time.
- Select **TIME REQUEST** if the system is not to prompt for input of a desired finish time until the program is started.
- Press **OK** to confirm the finish time.



If a finish time is assigned to a Favorite program, the delay step is prolonged so that the program is terminated at exactly the preselected time.

#### Assigning a day for the finish time

If an finish time has been assigned to a Favorite program, a specific weekday can also be set on which the program is to end.

- Press the **DAY** button, the selection window for the days of the week will appear.
- Select the desired day from the list and confirm with **OK** (Fig. 191).

### Defining Favorite programs (continued)

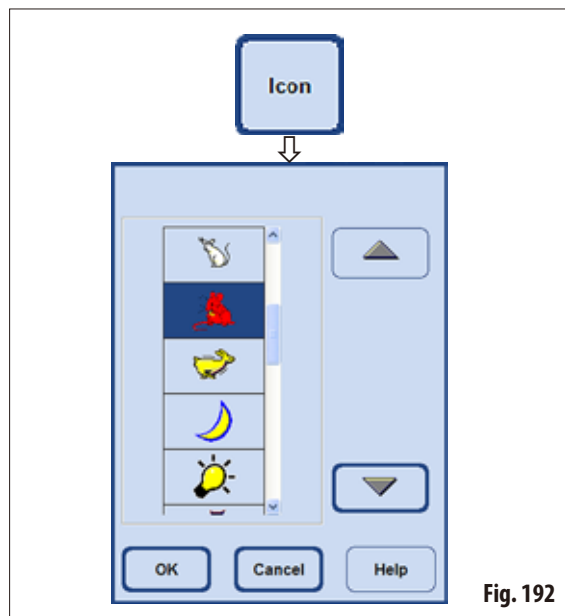


Fig. 192

### Assigning a symbol to the program

- Press the **ICON** button; a selection window showing various symbols will appear (Fig. 192).
- Highlight the symbol you want there and press **OK** to confirm. The selected symbol will be assigned to the program and will also appear on the Start button in the **FAVORITES** window (Fig. 187).



The first position in the list is empty. This option can be selected if you do not want a symbol any more.



Do the same if you want to replace a program that is already in the Favorites list with another program.

The line will be overwritten with the new name when the program name is assigned.

Then carry out the subsequent steps as described.

### Deleting a Favorite program



- Highlight the program you want to delete in the **VIEW/EDIT FAVORITES** window.
- Touch the **DELETE** button. The highlighted program will be deleted without a security prompt.



The Favorite program will only be removed from the FAVORITES list, the program itself will not be deleted.

## 5. Operation

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### 5.5.4 Starting a program

Before an infiltration program can be started, a number of conditions must be met. The following steps are essential in order to be able to start a program:



All infiltration programs have to be validated before use, i.e. tissue processing with patient tissue for diagnostics, by the laboratory itself according to the local or regional accreditation requirements.

1. Make sure that the correct mode for the program to be started has been set in the system settings (for more information, refer to [Chap. 5.1.2](#)).



For an Autorotation program, **CONCENTRATION MUST** have been set, and the specified filling scheme for system bottles and RTU-bottles must be present before the program can be started.

2. Then press the **PROGRAMS** or **FAVORITES** button to switch to the window in which the program is located ([Fig. 186](#) and [187](#)).
3. In that window, touch the corresponding program button to start the program.
4. The **SMART SCREEN** switches to the program interface where all of the steps for the program in question are displayed graphically.  
If some cases, you may have to confirm certain screen messages or enter values. If threshold values have been set, the number of cassettes to be processed must be entered.  
The instrument control checks the remaining melting time for the paraffin baths when the program starts. If the runtime is expected to be extended, the operator must confirm the existence of an finish time delay.
5. Put the baskets in the retort, lock the retort and press **START**.



**Only completely cleaned cassette baskets may be used for tissue processing!**



Fig. 193

6. When the program starts, a screen message (Fig. 193) shows when the program is expected to end and reminds the operator to check the levels of all reagents and close the retort.



If the program was called up from the FAVORITES window, it starts automatically when all prompts have been confirmed. If the program was called up from the PROGRAMS window, the START button must be pressed to start the program.

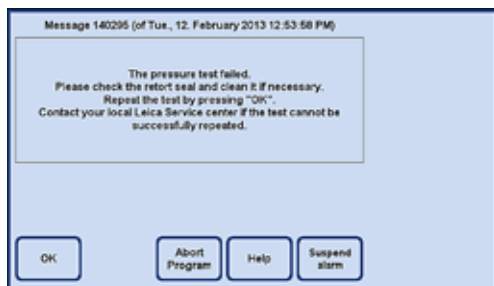


Fig. 194



If the ASP6025's automatic pressure test fails, a processing program CANNOT be started and the retort CANNOT be filled manually via the SMART screen. However, the software requests that the operator repeat this test after making the necessary corrections.





## Starting a program (continued)

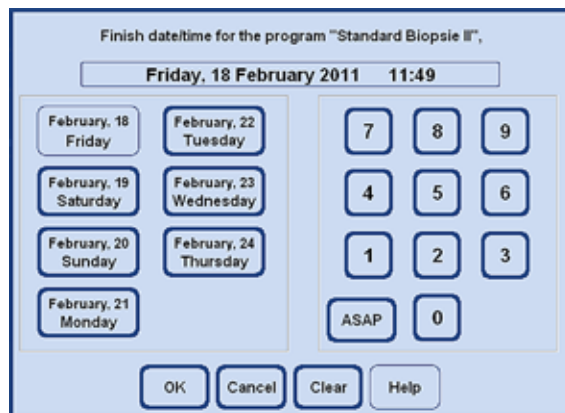
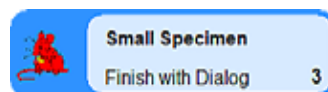


Fig. 197



If you start a program for which **TIME REQUEST** was selected as the finish time, an entry window (Fig. 197) opens in which you can select the finish time.



To ensure that the program ends on the specified date and time, the ASP6025 extends the duration of the programmed delay step correspondingly.

When working with fixed finish times, you should always check that the instrument time and date are current.

## RUN OPTIONS

This function (Fig. 198) shows the options with which the current program was started.

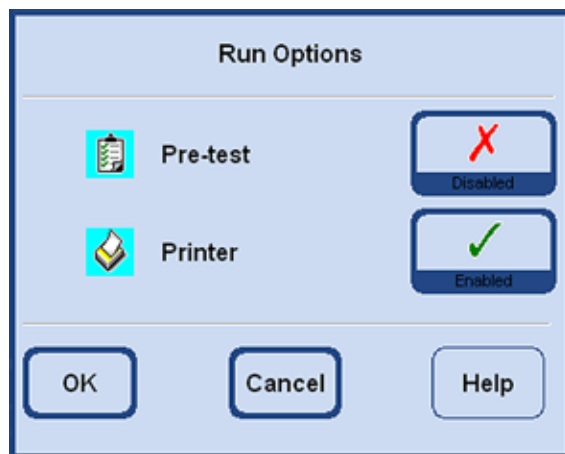


Fig. 198



Pressing the **RUN OPTIONS** button opens the window with the same name.

- **PRE-TEST** activated:  
After the program is started, the retort is filled and drained with the first reagent in the infiltration program to test whether all lines and valves are unobstructed.
- **PRINTER**, if activated:  
At the end of the program, a complete run log covering the entire program execution is stored in the form of a PDF file.



The options set apply for **ALL** programs!

All run options can be enabled or disabled according to requirements while the program is running.

## 5. Operation

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### 5.5.5 Ending a program

Once an infiltration program has ended, the retort can be drained basket by basket so that the cassette baskets can be removed without coming into contact with hot paraffin.

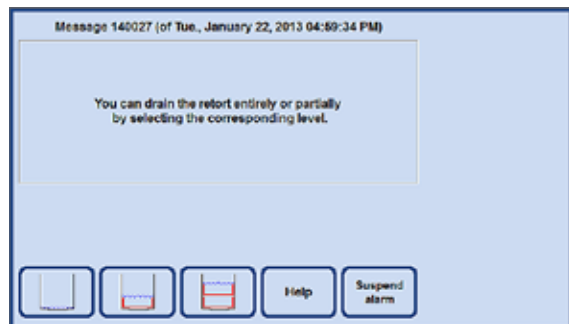


Fig. 199



**After fully draining the paraffin, an automatic dripping time of 2 minutes is implemented in order to optimize the use of cleaning reagents.**

## 5.6 Permanently installed infiltration programs



All of the permanently installed infiltration protocols described in this chapter have to be validated before use, i.e. tissue processing using patient tissue for diagnostics, by the laboratory itself based on tissues that are not intended for diagnostics and in accordance with local or regional accreditation requirements.

### 5.6.1 Programs with automatic ethanol rotation



Autorotation programs cannot be renamed, edited or deleted by the user.

To start an autorotation program, it must have been saved in the list of "FAVORITES". See also [Chapter 5.5.3](#)

#### Reagent positioning by autorotation programs

- The replacement cycle is defined by the ethanol concentration threshold value for the first ethanol measured by the density sensor.  
The ethanol threshold value has been set to 55 % by the manufacturer and can be adjusted in 1 % increments between 50 and 60 %.
- The ethanol concentrations shown are the initial concentrations that apply for installation of the tissue processor.

Bottle	Reagent
S1	70 % ethanol
S2	80 % ethanol
S3	95 % ethanol
S4	100 % ethanol
S5	100 % ethanol
S6	100 % ethanol
S7	Xylene
S8	Xylene
S9	Xylene
D1	Formalin
D2	Water
D3	Xylene exchange
D4	Ethanol exchange -> 100 %
D5	Cleaning xylene
D6	Cleaning alcohol

## 5. Operation

### Standard tissue over night

All specimen types that can fit into a standard cassette, tissue with a high fat content may require a longer protocol.


Reagent	Duration (h:min)	Temp	P/V	Delay
Formalin	01:00	37	P/V	
Processing Water	00:02	-	-	
Ethanol ( 70%)	00:40	45	-	
Ethanol ( 80%)	00:40	45	-	
Ethanol ( 95%)	00:40	45	-	
Ethanol (100%)	01:00	45	-	
Ethanol (100%)	01:00	45	-	
Ethanol (100%)	01:00	45	-	
Xylene	01:00	45	-	
Xylene	01:00	45	-	
Xylene	01:00	45	-	
Paraffin	01:00	65	V	
Paraffin	01:00	65	V	
Paraffin	01:30	65	V	

Fig. 200

**Standard biopsy**

All biopsies up to 3 mm diameter. Gastrointestinal biopsies, tissue cores from kidneys, prostate, liver and chest, punch biopsies from skin tissue, small intestinal polyps.


Reagent	Duration (h:min)	Temp	P/V	Delay
Formalin	00:15	37	P/V	
Processing Water	00:02	-	-	
Ethanol ( 70%)	00:05	45	-	
Ethanol ( 80%)	00:05	45	-	
Ethanol ( 95%)	00:05	45	-	
Ethanol (100%)	00:05	45	-	
Ethanol (100%)	00:05	45	-	
Ethanol (100%)	00:10	45	-	
Xylene	00:10	45	-	
Xylene	00:10	45	-	
Xylene	00:10	45	-	
Paraffin	00:05	65	-	
Paraffin	00:05	65	-	
Paraffin	00:10	65	V	

Fig. 201

## 5. Operation

### Small Specimen

All kind of small specimen to maximum dimensions of approx. 10 x 15 x 2.5 mm (w x d x h).


Reagent	Duration (h:min)	Temp	P/V	Delay
Formalin	00:15	37	P/V	
Processing Water	00:02	-	-	
Ethanol ( 70%)	00:15	45	-	
Ethanol ( 80%)	00:15	45	-	
Ethanol ( 95%)	00:15	45	-	
Ethanol (100%)	00:15	45	-	
Ethanol (100%)	00:15	45	-	
Ethanol (100%)	00:30	45	-	
Xylene	00:20	45	-	
Xylene	00:20	45	-	
Xylene	00:20	45	-	
Paraffin	00:15	65	V	
Paraffin	00:15	65	V	
Paraffin	00:30	65	V	

Fig. 202

### 5.6.2 Preinstalled xylene infiltration programs



Pre-installed xylene infiltration programs cannot be renamed, edited or deleted by the user.  
To start a xylene program, it must have been saved in the list of "FAVORITES". See also [Chapter 5.5.3](#).  
The ethanol concentrations shown are the initial concentrations that apply for installation of the tissue processor.

#### Reagent positioning for time-optimized xylene programs.

Bottle	Reagent
S1	Ethanol (70 %)
S2	Ethanol (85 %)
S3	Ethanol (100 %)
S4	Ethanol (100 %)
S5	Ethanol (100 %)
S6	Ethanol (100 %)
S7	Xylene
S8	Xylene
S9	Xylene
D1	Formalin
D2	Ethanol (90 %)
D3	-empty-
D4	-empty-
D5	Cleaning xylene
D6	Cleaning alcohol

## 5. Operation

### Xylene protocol 1 h

Endoscopic biopsies and needle biopsies from chest and prostate. Diameter up to 1.5 mm.


Reagent	Duration (h:min)	Temp	P/V	Delay
Formalin	00:01	-	-	
Ethanol ( 70%)	00:04	-	-	
Ethanol ( 85%)	00:01	-	-	
Ethanol (100%)	00:01	-	-	
Ethanol (100%)	00:01	-	-	
Ethanol (100%)	00:01	-	-	
Ethanol (100%)	00:18	45	-	
Xylene	00:01	-	-	
Xylene	00:01	-	-	
Xylene	00:14	45	-	
Paraffin	00:02	65	-	
Paraffin	00:01	65	-	
Paraffin	00:14	65	V	

Fig. 203



**Xylene protocol 2 h**

All biopsies up to 3 mm diameter. Gastrointestinal biopsies, tissue cores from kidneys, prostate, liver and chest, punch biopsies from skin tissue, small intestinal polyps.


Reagent	Duration (h:min)	Temp	P/V	Delay
Formalin	00:01	-	-	
Ethanol ( 70%)	00:04	-	-	
Ethanol ( 85%)	00:01	-	-	
Ethanol (100%)	00:01	-	-	
Ethanol (100%)	00:01	-	-	
Ethanol (100%)	00:11	45	-	
Ethanol (100%)	00:30	45	-	
Xylene	00:01	-	-	
Xylene	00:01	-	-	
Xylene	00:28	45	-	
Paraffin	00:05	65	-	
Paraffin	00:05	65	-	
Paraffin	00:20	65	V	

Fig. 204

## 5. Operation

### Xylene protocol 4 h

Small specimens from non-dense tissue (intestine, kidneys, liver etc.) with a thickness of up to 3 mm, excision and incision biopsies of the skin, ellipses.


Reagent	Dura -tion (h:min)	Temp	P/V	Delay
Formalin	00:10	37	P/V	
Ethanol ( 70%)	00:01	-	-	
Ethanol ( 90%)	00:01	-	-	
Ethanol (100%)	00:01	-	-	
Ethanol (100%)	00:20	45	-	
Ethanol (100%)	00:20	45	-	
Ethanol (100%)	00:45	45	-	
Xylene	00:01	-	-	
Xylene	00:10	45	-	
Xylene	00:45	45	-	
Paraffin	00:10	65	V	
Paraffin	00:10	65	V	
Paraffin	00:40	65	V	

Fig. 205

**Xylene protocol 6 h**

All routine tissues with maximum dimensions of 15 x 10 x 4 mm (except specimens of brain tissue and pure adipose tissue).


Reagent	Duration (h:min)	Temp	P/V	Delay
Formalin	00:15	37	P/V	
Ethanol ( 70%)	00:15	45	-	
Ethanol ( 90%)	00:15	45	-	
Ethanol (100%)	00:15	45	-	
Ethanol (100%)	00:15	45	-	
Ethanol (100%)	00:30	45	-	
Ethanol (100%)	00:45	45	-	
Xylene	00:20	45	-	
Xylene	00:20	45	-	
Xylene	00:45	45	-	
Paraffin	00:30	65	V	
Paraffin	00:30	65	V	
Paraffin	00:45	65	V	

Fig. 206

## 5. Operation

### Xylene protocol 12 h

All routine tissues with maximum dimensions of 20 x 10 x 5 mm (tissue with a high fat content may require a longer protocol).


Reagent	Duration (h:min)	Temp	P/V	Delay
Formalin	00:44	37	P/V	
Ethanol ( 70%)	00:30	45	-	
Ethanol ( 90%)	00:30	45	-	
Ethanol (100%)	00:30	45	-	
Ethanol (100%)	00:30	45	-	
Ethanol (100%)	01:00	45	-	
Ethanol (100%)	01:30	45	-	
Xylene	00:45	45	-	
Xylene	00:45	45	-	
Xylene	01:30	45	-	
Paraffin	01:00	65	V	
Paraffin	01:00	65	V	
Paraffin	01:00	65	V	

Fig. 207

### 5.6.3 Xylene-free infiltration programs



Xylene-free infiltration programs cannot be renamed, edited or deleted by the user.  
 To start a xylene-free program, it must have been saved in the list of "FAVORITES". See also [Chapter 5.5.3](#).  
 The isopropanol concentrations shown are the initial concentrations that apply for installation of the ASP6025 modular tissue processor.

#### Reagent positioning/Replacement cycle for time-optimized xylene-free programs:

System bottle S1 contains 70 % ethanol.

System bottle S2 contains 85 % ethanol.

Each program also requires an additional step with ParaLast to reduce reagent carry-over.

The pressure/vacuum cycle requires a minimum step duration of 6 minutes!

Bottle	Reagent
S1	70 % ethanol
S2	85 % ethanol
S3	-empty-
S4	80/20 ethanol/isopropanol
S5	80/20 ethanol/isopropanol
S6	100 % isopropanol
S7	100 % isopropanol
S8	100 % isopropanol
S9	- empty -
D1	Formalin
D2	-empty-
D3	ParaLast
D4	-empty-
D5	Cleaning xylene
D6	Cleaning alcohol

## 5. Operation

### Xylene-free 1 h

Endoscopic biopsies and needle biopsies from chest and prostate. Diameter up to 1.5 mm.


Reagent	Duration (h:min)	Temp	P/V	Delay
Formalin	00:01	-	-	
Ethanol ( 70%)	00:01	-	-	
Ethanol ( 85%)	00:06	45	-	
80/20 Ethanol/Isopropanol	00:01	-	-	
80/20 Ethanol/Isopropanol	00:06	55	-	
Isopropanol ( 100%)	00:01	-	-	
Isopropanol ( 100%)	00:01	-	-	
Isopropanol ( 100%)	00:12	55	-	
ParaLast	00:04	60	-	
Paraffin	00:20	65	V	
Paraffin	00:05	65	-	
Paraffin	00:01	65	-	

Fig. 208

**Xylene-free 2 h**

All biopsies up to 3 mm diameter. Gastrointestinal biopsies, tissue cores from kidneys, prostate, liver and chest, punch biopsies from skin tissue, small intestinal polyps.


Reagent	Duration (h:min)	Temp	P/V	Delay
Formalin	00:01	-	-	
Ethanol ( 70%)	00:01	-	-	
Ethanol ( 85%)	00:12	45	-	
80/20 Ethanol/Isopropanol	00:01	-	-	
80/20 Ethanol/Isopropanol	00:25	55	-	
Isopropanol ( 100%)	00:01	-	-	
Isopropanol ( 100%)	00:01	-	-	
Isopropanol ( 100%)	00:25	55	-	
ParaLast	00:04	60	-	
Paraffin	00:25	65	V	
Paraffin	00:10	65	V	
Paraffin	00:05	65	-	

Fig. 209

## 5. Operation

### Xylene-free 4 h

Small specimens from low-density tissue (intestine, kidneys, liver etc.) with a thickness of up to 3 mm, excision and incision biopsies of the skin, ellipses.


Reagent	Dura -tion (h:min)	Temp	P/V	Delay
Formalin	00:10	37	P/V	
Ethanol ( 70%)	00:03	-	-	
Ethanol ( 85%)	00:22	45	-	
80/20 Ethanol/Isopropanol	00:10	-	-	
80/20 Ethanol/Isopropanol	00:40	55	-	
Isopropanol ( 100%)	00:03	-	-	
Isopropanol ( 100%)	00:10	55	-	
Isopropanol ( 100%)	00:45	55	-	
ParaLast	00:04	60	-	
Paraffin	00:45	65	V	
Paraffin	00:20	65	V	
Paraffin	00:10	65	V	

Fig. 210



**Xylene-free 6 h**

All routine tissues with maximum dimensions of 15 x 10 x 4 mm (except specimens of brain tissue and pure adipose tissue).


Reagent	Duration (h:min)	Temp	P/V	Delay
Formalin	00:20	37	P/V	
Ethanol ( 70%)	00:15	45	-	
Ethanol ( 85%)	00:20	45	-	
80/20 Ethanol/Isopropanol	00:20	55	-	
80/20 Ethanol/Isopropanol	00:45	55	-	
Isopropanol ( 100%)	00:15	55	-	
Isopropanol ( 100%)	00:30	55	-	
Isopropanol ( 100%)	01:00	55	-	
ParaLast	00:04	60	-	
Paraffin	00:45	65	V	
Paraffin	00:40	65	V	
Paraffin	00:30	65	V	

Fig. 211

## 5. Operation

### Xylene-free 12 h

All routine tissues with maximum dimensions of 20 x 10 x 5 mm (tissue with a high fat content may require a longer protocol).


Reagent	Duration (h:min)	Temp	P/V	Delay
Formalin	01:08	37	P/V	
Ethanol ( 70%)	00:30	45	-	
Ethanol ( 85%)	00:40	45	-	
80/20 Ethanol/Isopropanol	00:50	55	-	
80/20 Ethanol/Isopropanol	01:30	55	-	
Isopropanol ( 100%)	00:30	55	-	
Isopropanol ( 100%)	01:00	55	-	
Isopropanol ( 100%)	02:00	55	-	
ParaLast	00:04	60	-	
Paraffin	01:20	65	V	
Paraffin	01:10	65	V	
Paraffin	01:00	65	V	

Fig. 212



It is mandatory to wear laboratory gloves for all cleaning tasks!

### 6.1 Cleaning programs



Three retort cleaning programs are defined in the ASP6025.  
Cleaning programs cannot be copied or deleted – but a water step can be added ([see below](#)).

#### 6.1.1 View cleaning programs

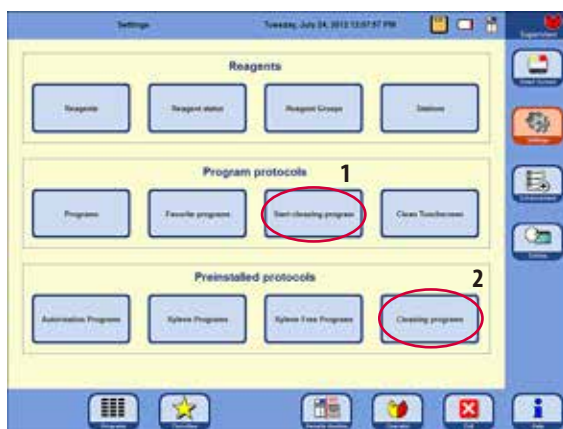


Fig. 213

To select a retort cleaning program, call up the **SETTINGS** menu.  
In this menu, you can view and start the defined cleaning programs (1 - Fig. 213).



In order to view a cleaning program, touch the **CLEANING PROGRAMS** button in the **RAPID PROTOCOLS** field to call up the corresponding window (2, Fig. 213).

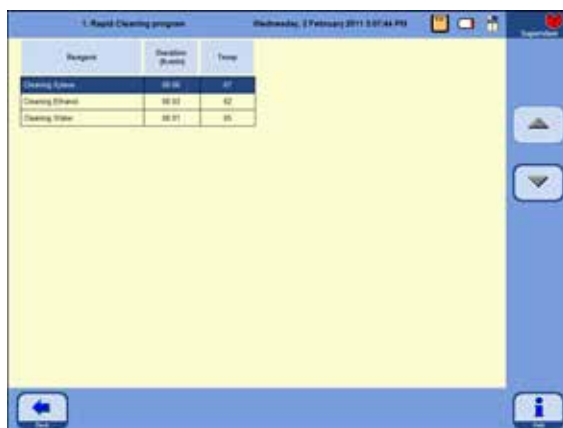


Fig. 214



In the **CLEANING PROGRAMS** menu, select the desired program and press **VIEW**.



In this window, cleaning programs can be viewed but not altered!

## 6. Cleaning and Maintenance

### 6.1.2 Running cleaning programs

The cleaning program skips any steps not required to complete the cleaning of the retort. Which steps are carried out depends on which reagent was last in the retort.



After a paraffin run, clean the cassette baskets using the standard cleaning program. Only clean cassette baskets may be used for a program run. After 6 cleaning cycles, both cleaning xylene and cleaning alcohol must be replaced.

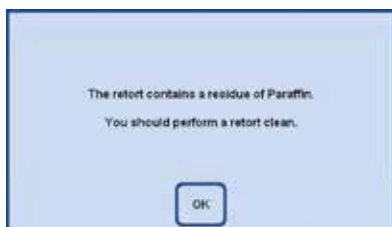


Fig. 215



Fig. 216

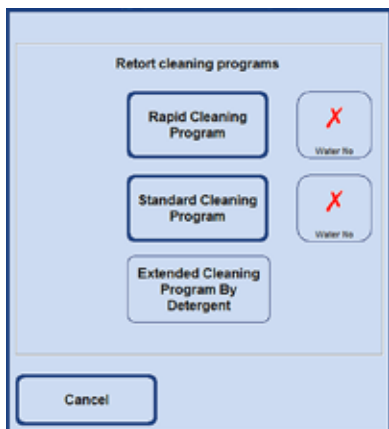


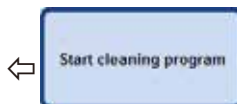
Fig. 217



Furthermore, neither molds or other objects may be cleaned using any ASP6025 cleaning program!

If the last reagent in the retort was either paraffin, ParaLast™ or Intermedium, the user is advised upon exiting the **SMART SCREEN** that a retort cleaning cycle should be carried out (Fig. 215). Confirm this with **OK**.

If a cleaning is not necessary, the system informs the user in a message window (Fig. 216).



To call up a cleaning program, press the **START CLEANING PROGRAM** button.

- The **RETORT CLEANING** window will appear and you can select the desired cleaning program there.
- You can select the following retort cleaning programs (Fig. 217):
- Quick cleaning
  - Regular cleaning
  - Extended cleaning program by detergent (water step is defined in the program)

Pressing the **CANCEL KEY** does not start cleaning – you are taken to the previous screen (however, this is **NOT** possible if an infiltration program was running prior to this!).

**Running cleaning programs (continued)****Cleaning after completion of an infiltration program**

If desired, you can select an additional water step for each retort cleaning program (EXCEPT the full cleaning with detergents). (See also [Chapter 6.1.3](#)).



Fig. 218



Fig. 219

- To select the water step, press the **WATER YES/NO** button so that a green check mark appears (Fig. 218/219). The water step is always carried out as the third step in the cleaning program, that is to say it is not run in addition to the cleaning program shown in [Fig. 220](#).

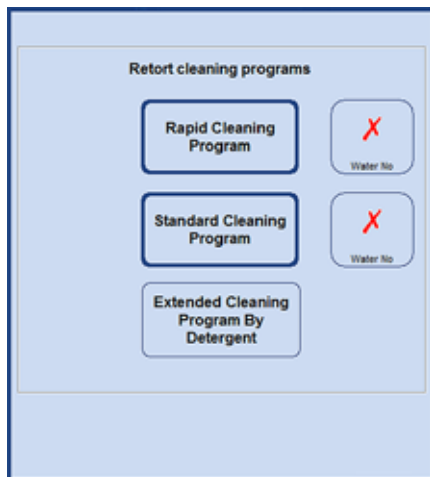


Fig. 220



The three cleaning programs are offered automatically when an infiltration program has been completed ([Fig. 217](#)). In this case, a retort cleaning cycle **MUST** be carried out; this function cannot be canceled.



The water step can only be selected if cleaning water is present in one of the bottles. In "Auto by RMS" mode, "Cleaning water" must be defined for one station. In "Concentration" mode, the process water is used as cleaning water automatically.



If the magnetic stirrer was removed from the retort, it must be reinserted before the start of cleaning. Otherwise, the cleaning reagents in the retort will not be heated effectively.

If cassettes/baskets are not removed immediately after a paraffin run, paraffin can drop into the previously emptied retort.



After an infiltration program, it is not possible to avoid cleaning – no CANCEL key is present. Cleaning **MUST** be carried out!



When cleaning with the water step, the retort is filled to the second level in the water step, regardless of whether 3-basket or 2-basket mode has been selected.

## 6. Cleaning and Maintenance

### Running cleaning programs (continued)



Fig. 221

- After you touch the corresponding button, a message appears indicating that before the cleaning is started the retort must be empty and all specimens have to be removed from it.
- When all necessary conditions have been satisfied, press the **YES** button to start the cleaning program.  
The procedure is displayed graphically on the **SMART SCREEN**.



Fig. 222

- After the cleaning program has been completed, a message appears on the screen indicating that the sensors in the retort have to be cleaned (Fig. 222).



**The magnetic stirrer and sieve in the retort must be removed and thoroughly cleaned regularly after an infiltration program. Then, the magnetic stirrer and sieve must be reinserted correctly.**

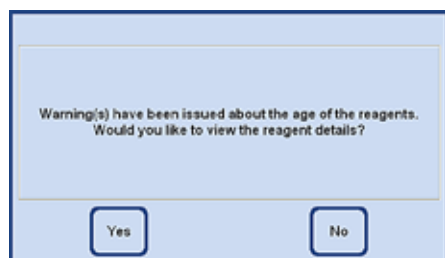


Fig. 223

- If threshold values in the reagent status have been exceeded, a warning message to this effect appears at the end of the cleaning program (Fig. 223).
- If this message is confirmed with **YES**, the **REAGENT STATUS** window opens in which you can check the threshold values.

## 6.1.3 Cleaning protocols

**I. Rapid cleaning program**

Step:	Reagent:	Time (min):	Temp. (°C):	Pressure/Vacuum:
1	Cleaning xylene	6	67	Ambient
2	Cleaning alcohol	3	62	Ambient
<u>Dry step:</u>	Empty retort			
3	Vacuum step	10	67	Vacuum
4	Ventilation step	2	Ambient	Ambient
Optional step instead of "Dry step":				
5	Cleaning water	1	65	Ambient

**II. Standard cleaning program**

Step:	Reagent:	Time (min):	Temp. (°C):	Pressure/Vacuum:
1	Cleaning xylene	12	67	Ambient
2	Cleaning alcohol	6	62	Ambient
<u>Dry step:</u>	Empty retort			
3	Vacuum step	10	67	Vacuum
4	Ventilation step	2	Ambient	Ambient
Optional step instead of "Dry step":				
5	Cleaning water	1	65	Ambient

**III. Extended cleaning program**

Step:	Reagent:	Time (min):	Temp. (°C):	Pressure/Vacuum:
1	Cleaning xylene	25	67	Ambient
2	Cleaning alcohol	10	62	Ambient
3	Cleaning agent	16	65	Ambient
4	Cleaning water	16	65	Ambient

## 6. Cleaning and Maintenance

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### 6.1.4 SMART cleaning

The objective of the **SMART** cleaning is to clear reagent residue from all lines.



**The prerequisite for the start of SMART cleaning is that the retort has been thoroughly cleaned using the extended cleaning mode and that there is no reagent in the retort.**

**Only in this way is it possible to ensure that no residue from other reagents gets into the newly defined stations.**

A **SMART** cleaning is necessary in the following cases:

- For cleaning the air system/fluid system and minimizing the deposits in the lines (approx. once a month and before inserting a new active carbon filter)
- For each change of the station configuration, e.g. when changing from xylene to isopropanol, ParaLast and if the operating mode (Concentration/Auto by RMS) is switched.
- If the instrument is to be moved or transported for long distances.
- If the instrument is to be shut off for longer than one week (e.g. before vacation periods, etc.).



**Before transporting the instrument, in addition to the SMART cleaning, ensure that no reagent residue is in the bottles.**

**Likewise, there must be no wax in the retort, the paraffin baths or the paraffin station.**

### The SMART cleaning process

The actual cleaning takes place in four steps, which are run automatically in sequence.



**Ensure that all system and RTU bottles (and the condensate bottle) have been completely emptied before starting. The reagents can be reused as long as the specified limits regarding contamination have not been exceeded.**



**Make sure that the retort has drained completely. This instrument function is inactive if the status of the retort is "full" or "partially full".**



### The SMART cleaning (continued)

The user is informed of the progress of cleaning at all times. If user actions are required, a corresponding message window appears on the screen in which the next step has to be confirmed before **SMART** cleaning can be continued.

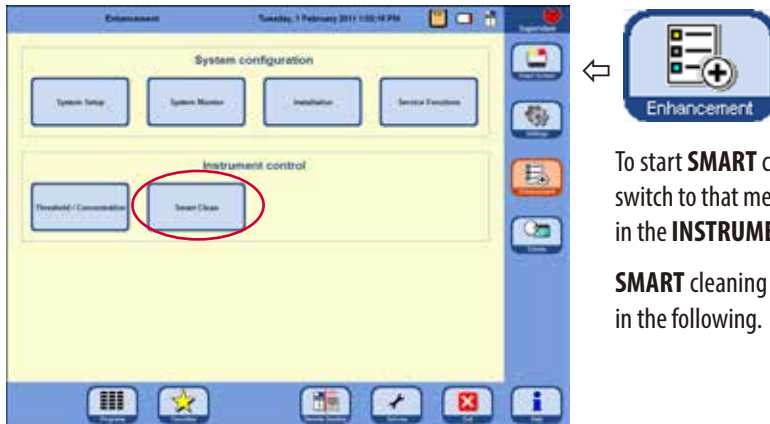


Fig. 224



To start **SMART** cleaning, press the **ENHANCEMENT** button to switch to that menu, and then press the **SMART CLEAN** button in the **INSTRUMENT CONTROL** field (Fig. 224).

**SMART** cleaning takes place in four steps. These are described in the following.

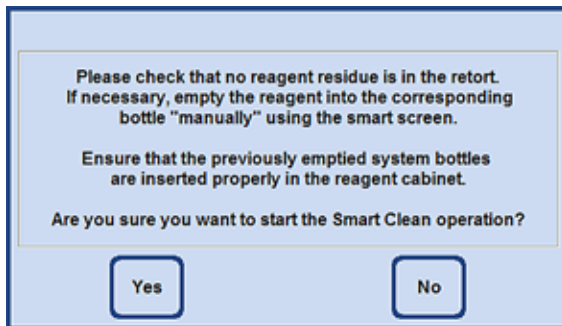


Fig. 225

#### Step 1

In the first phase, the fluid lines are all purged in sequence using a blast of compressed air.

For this purpose, **all** system and RTU-bottles (in the reagent cabinet and in the drawer) have to be in the instrument (Fig. 225).

## 6. Cleaning and Maintenance

### The SMART cleaning (continued)

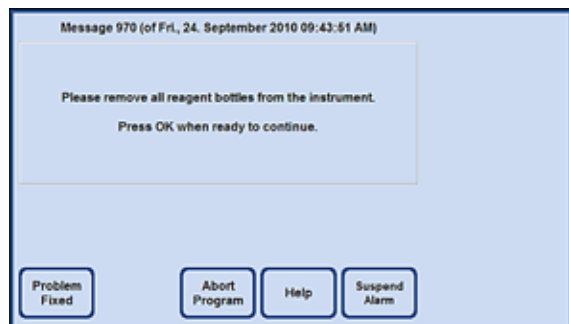


Fig. 226

#### Step 2

The user is prompted to remove **all** reagent bottles from the instrument (Fig. 226). When the prompt has been confirmed by the operator, a vacuum is generated at each reagent position and then any remaining reagent in the hose is drawn into the retort. During this process, a check is carried out of whether (a greater than negligible quantity) of reagent has ingressed into the retort and whether the vacuum is released quickly enough. This serves to detect whether the bottle has really been removed.

Finally, pressure is built up in the retort several times; then it is vented normally (pressure cycles).

#### Step 3

Before the third step, the operator is prompted to place an empty system bottle or RTU-bottle in the position in the drawer that was defined with cleaning xylene (in the example, Fig. 227, item D5).

This must be confirmed by touching the **OK** button in the message window.



Fig. 227

## The SMART cleaning (continued)

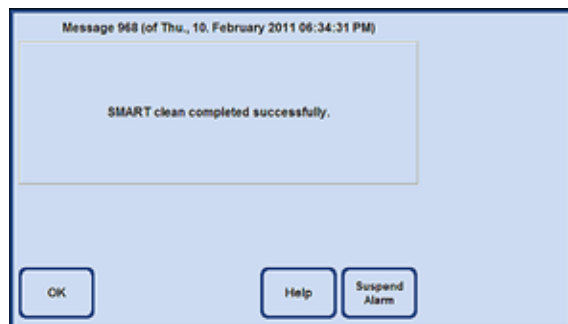


Fig. 228

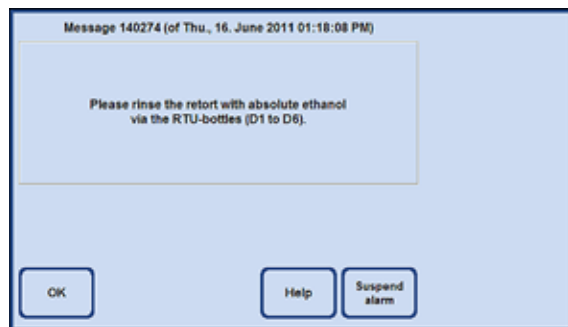


Fig. 229

## Step 3 (continued)

Afterwards, several pressure cycles are generated in the retort. When the target pressure is reached, it is released via the (cleaning xylene) RTU-bottle (in this example: D5).

Once the message that **SMART CLEANING** has been successfully completed is displayed on-screen, remove the bottle being used (in the example here: D5) and dispose of its contents.

## Step 4

The last step in the **SMART CLEANING** process is then to flush the retort with ethanol (100 %).

To do so, proceed as follows:

1. Fill an RTU-bottle with ethanol (100%) and place it in the position of the cleaning xylene in the drawer.
2. Set the RTU-bottle of cleaning xylene to full.
3. **Then switch to the SMART SCREEN** and fill the retort to the 2nd level from this bottle, then transfer the reagent back to the bottle.
4. Repeat this procedure (1 - 3) for all other RTU bottles D1 – D6 which are in use. For specific station sequences, please refer to the examples on following pages.

To be able to start a processing protocol afterwards the cleaning should end in the RTU bottle position which is compatible with the first step of the processing protocol.

5. Insert all of the bottles in a cleaned state at the correct position.

When changing the software configuration, adjust the arrangement of the bottles and reagents according to the new configuration. The reagents can be reused as long as the specified limits regarding contamination have not been exceeded.

## 6. Cleaning and Maintenance

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### Example for cleaning order of a protocol in concentration mode

RTU bottles	Station assignment
D1	Formalin
D2	Water
D3	Xylene exchange
D4	Ethanol exchange -> 100%
D5	Cleaning xylene
D6	Cleaning alcohol

#### Sequence for cleaning

1. D5 Cleaning xylene
2. D3 Xylene exchange
3. D6 Cleaning alcohol
4. D4 Ethanol exchange
5. D2 Water
6. D1 Formalin

Example for cleaning order of a protocol in Auto by RMS mode

RTU bottles	Station assignment
D1	Formalin
D2	Ethanol (90 %)
D3	(empty)
D4	(empty)
D5	Cleaning xylene
D6	Cleaning alcohol

Sequence for cleaning

1. D5 Cleaning xylene
2. D6 Cleaning alcohol
3. D2 Ethanol (90%)
4. D1 Formalin

## 6. Cleaning and Maintenance

### 6.2 General instrument maintenance

#### Paraffin containers



**Work carefully and wear gloves!**  
**Be careful as the walls of the paraffin baths are very hot and may cause burns!**

- Wipe the paraffin baths and lids clean.  
The lid can be removed for cleaning purposes.
- Wipe the paraffin station and lid clean.
- If they are very dirty, remove the wax sieves from the paraffin baths and the paraffin station.  
Clean, dry, and reinsert them.

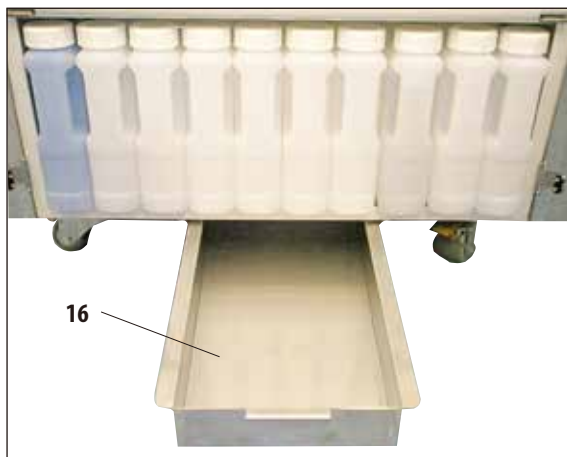
#### Instrument exterior

Clean the instrument exterior as necessary. Wipe with a damp cloth moistened with mild detergent and dry.



**Caution!**  
**Do not use solvents on painted surfaces, warning labels or the touchscreen.**

#### Checking the drip tray



**Fig. 230**



**CAUTION!**  
**Some of the reagents used in the ASP6025 are hazardous to health. Therefore always wear gloves and safety goggles when handling them.**

The collecting tray (16) must be inspected regularly for signs of leaking reagents (Fig. 230). **It is recommended** to do this after the infiltration and cleaning program has been completed, before any leaking reagent has a chance to evaporate.

- To do so, pull the tray out by the handle (Fig. 230) and empty it if necessary.

### Emptying the condensate bottle



Fig. 231

### Replacing the active carbon filter

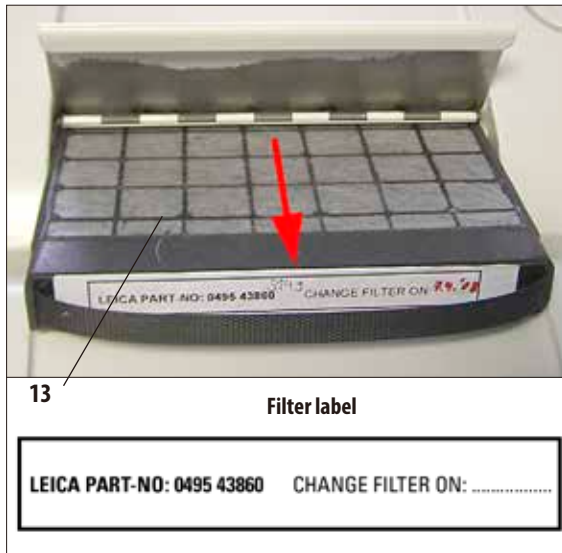


Fig. 233



When inserting the new filter, make sure that it is pushed all the way into the compartment and that the flap is closed.

- The blue condensate bottle must be taken out, emptied and reinserted at regular intervals (weekly). This should be done sooner if a prompt to that effect is issued by the software (Fig. 231).

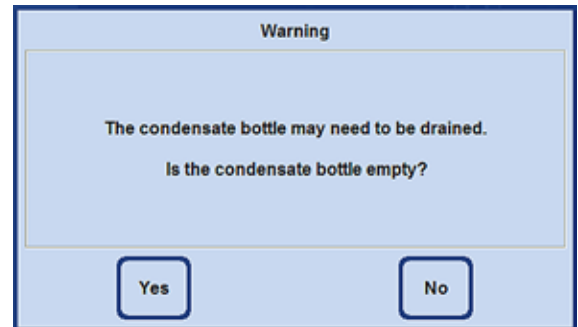


Fig. 232



Dispose of waste solvents with care according to local regulations and the waste management policy of the company or institution.

- The life of the active carbon filter will depend on the reagent types used and how frequently they are used in the instrument.
- The filter (13) should be replaced after 45 days at the latest (Fig. 233).
- We recommend a SMART clean prior to changing the active carbon filter.
- After replacing the filter, open the **SYSTEM MONITOR** menu to set the filter replacement date to the current date. See also Chapter 5.1.4.

## 6. Cleaning and Maintenance

### 6.3 Maintenance overview

Maintenance task	After each run	Daily	Weekly	Monthly
Right after each run, clean the basket with a cleaning program (prior to this, melt the paraffin residue in a provided oven)	X			
Remove the paraffin from the outer surface of the ASP6025 and wipe the instrument		X		
Clean the glass window of the retort		X		
Remove the paraffin from the retort lid and the seal, and clean the retort lid and seal carefully and only with the paraffin scraper provided to avoid damaging the seal and/or the PTFE coating on the retort lid.		X		
Clean the retort		X		
Clean the level sensors with the cleaning tool		X		
Check the filter in the retort and clean it if necessary		X		
Check the stirrer and clean it if necessary		X		
Clean the touchscreen		X		
Check the drip tray		X		
Check the condensate bottle and drain it if necessary		X		
Stations D (RTU-bottles) and S (system bottles): Level and visual inspection for deposits, refill/replenish if necessary		X		
Paraffin bath 1 (paraffin)		X		
Paraffin bath 2 (paraffin)		X		
Paraffin bath 3 (paraffin)		X		
Paraffin station (paraffin)		X		
Clean the system bottles			X	



## 6. Cleaning and Maintenance

Maintenance task	After each run	Daily	Weekly	Monthly
Clean the RTU-bottles			X	
Check to see if the system bottle connections are permanently screwed into place			X	
Clean the outer surface of the ASP6025			X	
Check the filter in the paraffin station and clean it if necessary			X	
Check and clean the lids of the paraffin baths			X	
Clean the paraffin drip tray (retort)			X	
Drain the condensate bottle			X	
Carry out a SMART clean				X
Replace the active carbon filter (every 30-45 days)				X
Carry out a full cleaning with detergents				X
Clean system bottles				X

## 6. Cleaning and Maintenance

---

### 6.3.1 Daily cleaning and maintenance

#### Clean the retort lid and seals

Use the provided paraffin scraper to scrape off the paraffin on the interior surfaces of the retort lid. Carefully remove the paraffin along the lid seal.

1. Open the retort lid
2. Scrape along the edges of the retort. Ensure that the lid is hermetically sealed.

Replace a damaged seal immediately (for details, see below)..



**Clean the retort lid and the seal carefully and only with the paraffin scraper provided to avoid damaging the seal and/or the PTFE coating on the retort lid. Do NOT damage the seal with the edges of the scraper.**



**Only completely cleaned cassette baskets may be used for tissue processing.**

#### Seal replacement

Replace worn out or damaged seals immediately.

1. Pull out the old seal from the groove.
2. If necessary, clean the groove with a paraffin scraper and a permitted reagent for external cleaning (refer to [Chapter 3.3](#))
3. Press the new seal into the groove uniformly.
4. Check to ensure that the seal is securely in place.
5. Compensate for the tension in the seal by moving your fingers along the seal to remove tight or loose areas.

#### Cleaning the retort

- The retort may be wiped clean using a cloth moistened either with a solvent (xylene or ethanol) or a mild detergent. In particular, make sure that the air vent holes at the top front of the retort are not dirty.

#### Cleaning the paraffin collecting basin

Open the retort locking mechanism by pulling the handle (**8**, [Fig. 234](#)) forwards. Open the top left door on the instrument (**6**) as well. Excess paraffin that drips when the specimen basket is removed is caught in the paraffin collecting bowl. This must be checked once a week and if necessary placed in the laboratory oven (on cellulose) or cleaned with xylene substitute.

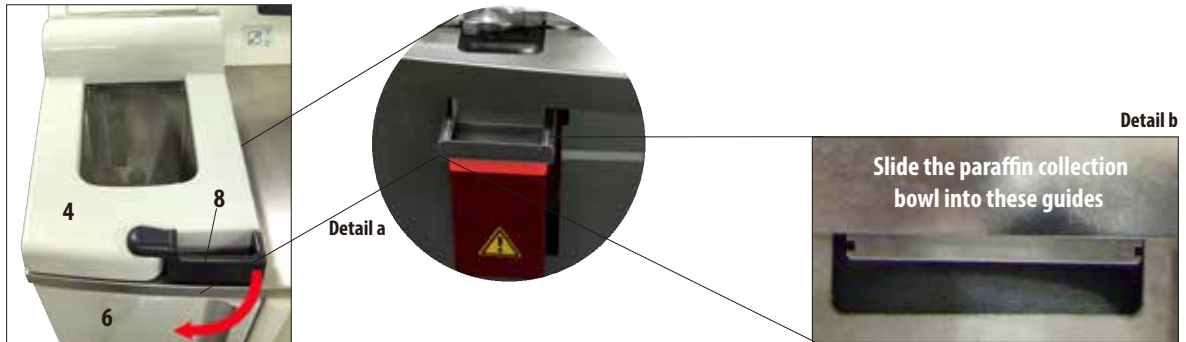


Fig. 234



Fig. 235

### Cleaning the retort filter screen

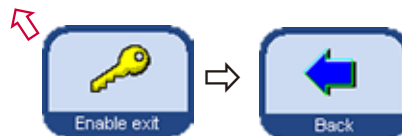
- The filter screen in the base of the retort (Fig. 235) must be cleaned with ethanol or xylene. For convenience, the sieve may be taken out to remove all solid dirt.

### Cleaning the touchscreen



Fig. 236

- Call up **CLEAN TOUCHSCREEN** under **PROGRAM PROTOCOLS** on the **SETTINGS MENU** screen.
- Clean the touchscreen.



- Press **ENABLE EXIT** to enable the **BACK** button (Fig. 236). This will enable you to return to the standard display.



This way, you will be able to touch and clean the screen without inadvertently enabling a function.

Only the following cleaners can be used to clean the screen:

- Surface cleaner for plastic (Poliboy)
- Paraguard by Polyscience
- PC monitor cleaner (spray)

## 6. Cleaning and Maintenance

### Cleaning the level sensors



Fig. 237



**The level sensors must be cleaned of all residue (reagents and paraffin) after every cleaning program.**

You will be prompted to clean the sensors by the instrument software at the end of each cleaning program (Fig. 237).

Proceed as follows:

- Remove the screen (40, Fig. 238) in front of the sensors.



Fig. 238



**NEVER use the cleaning tool WITHOUT the accompanying microfiber cloth, as otherwise the sensors will be scratched!**

- Use the cleaning tool together with the microfiber cloth as shown in Fig. 239 and 240.

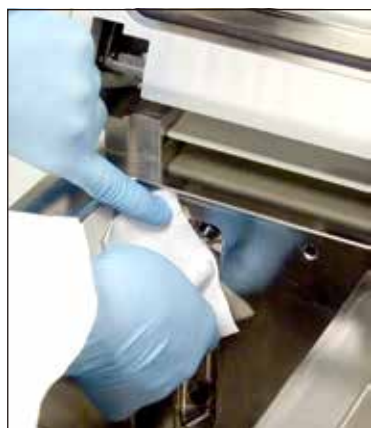


Fig. 239



Fig. 240

### 6.3.2 Periodic cleaning and maintenance

#### Cleaning the system bottles

- Empty and clean the system bottles.



The level can be identified by simply looking through the system bottles if these are cleaned regularly to remove clinging contamination.

Using a bottle brush and a laboratory detergent in warm water.



**Never clean system bottles in an automatic dishwasher.  
The reagent containers are NOT dishwasher-proof!**

#### Care of reagent and condensate bottle seals

- To ensure easy removal of the reagent and condensate bottles, lubricate the O-ring seals (65.1, Fig. 241 and 242) on the plug-in nozzles with the O-ring lubricant supplied.



**The connection manifolds must NEVER be mixed up. The connection manifold with the delivery hose must ALWAYS be inserted in the white system bottle. Tighten the retaining ring (35) so that the bottle is perfectly sealed.**

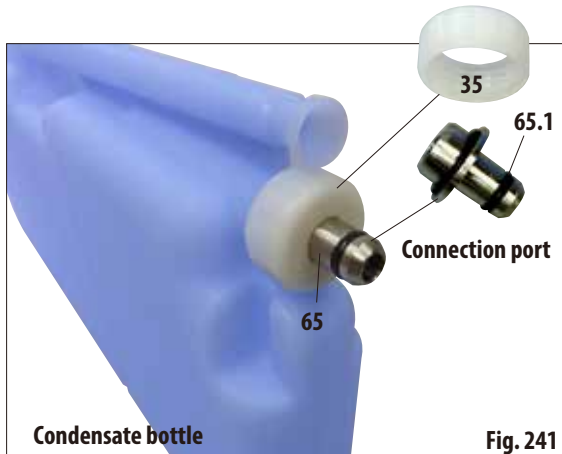


Fig. 241

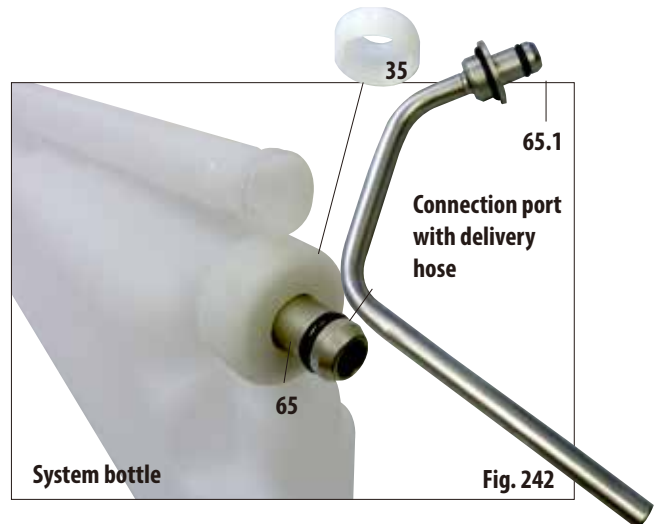


Fig. 242

## 6. Cleaning and Maintenance

- Refill and reconnect the bottles once cleaned.  
Make sure the bottle lids are tight and the bottles are properly seated in their home position at the rear of the reagent cabinet.



**The system bottles must be properly engaged in the home position in the connection manifolds at the rear inner wall of the reagent cabinet. Failure to correctly plug reagent containers into the manifold will cause an interruption to the processing run and may result in spilling of reagents.**

- While the system bottles are outside of the reagent cabinet, wipe the stainless steel inner walls of the reagent cabinet with a cloth moistened with a mild detergent.

### Cleaning the RTU-bottles

- Empty and clean the RTU-bottles (Fig. 243).



Fig. 243



**The level can be identified by simply looking through the RTU-bottles if these are cleaned regularly to remove clinging contamination.**

Using a bottle brush and a laboratory detergent in warm water.



**Leica RTU-bottles must never be cleaned in a dishwasher.  
The reagent containers are NOT dishwasher-proof!**

### 6.4 Taking the instrument out of service temporarily

To take the instrument out of service, follow this procedure:

1. Carry out a full cleaning of the retort (Chap. 6.1.2).
2. Empty all stations (incl. paraffin station), the wax baths and the retort.
3. Carry out a SMART cleaning (Chap. 6.1.4).
4. Switch off the instrument (Chap. 4.8).

After putting the instrument back into service and switching it on, it can take up to 48 h for the internal battery to fully charge and to be available in case of a potential power failure.

## 7.1 Troubleshooting

When a problem occurs in the ASP6025, take the following steps to diagnose the problem:

- Check for error messages indicating the nature of the problem.
- If an error message is displayed, press the Help button on the message for any information relating to the cause.
- Check the Run Log for any messages that indicate the nature of the failure. If the failure occurred during a program run, check the Run Log for an indication of whether the failure occurred during the fill, processing or drain cycles, and the station in use at the time.



**Use the functions in the SMART SCREEN menu to test operating steps individually, such as the fill, drain, pressure, and vacuum steps.**

### 7.1.1 Power failures

If there is evidence of power to the instrument:

- Verify that the power plug is plugged into the socket and that the socket is switched ON.
- Verify that the power switches on the back panel of the instrument (adjacent to the power lead), and on the side of the instrument are both switched ON.
- Error messages indicating that there has been a power failure mean that power has been lost to the heaters and the monitor, but **not** to the main control electronics. Perform test procedure as described in "Power failure" ([Chapter 7.1.2](#)).



**If you cannot identify the problem by carrying out the above listed steps, call Leica Technical Service.**

## 7. Troubleshooting

### 7.1.2 Instrument procedure in case of power failure



If the instrument detects a power failure, the heaters and the monitor are immediately switched off. If the power failure lasts longer than 10 s, the safety mechanism is initiated.

The objective in case of power failure is to secure the tissue samples in a currently running program so that they can continue to be processed without hesitation after the power supply is restored. The main emphasis is on the safety of the tissue samples, not the speed of processing.

In the event of a power failure, an alarm is **not** sounded immediately because the instrument is supported by an uninterruptible power supply (UPS). This means that if the power supply fails, the battery will begin supplying power to the instrument.

This is indicated by the green LED (**107**) in the unlocking button (**44**) illuminated under the retort (Fig. 244)

The specimen protection system is initiated. Once the specimens have been secured, a restart is performed. If power has been restored by that time, the instrument is restarted normally and processing resumes. An alarm is not sounded.

If the instrument remains without power for a prolonged period, and it is not restarted, an alarm is triggered!

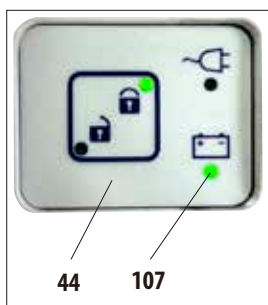


Fig. 244

The specimens are then safeguarded by filling the retort with a safe reagent.



The property of a safe reagent is that the specimen can stay in it for a long time without being damaged.  
A safe reagent is assigned to each program step/reagent group.



- If **no** infiltration program is running when a power failure is detected, no further actions / backup measures are taken – the instrument shuts down automatically.

When a program is running:

- The program that is running is stopped, regardless of the current status of processing.



To conserve the battery, all heaters, the agitator and the monitor are switched off directly.

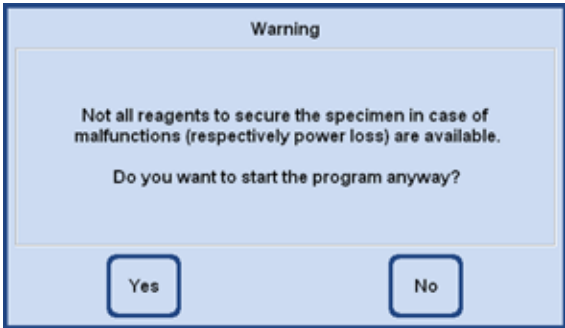


Fig. 245

- If a reagent is being used for which no safe reagent is in the instrument when the program starts, a warning message appears (Fig. 245). However, the program launch is **NOT** aborted.
- If a **safe reagent** is in the retort, the reagent can be kept in the event of power failure, though the retort may have to be filled to a high enough level so that no tissue sample is dry. This operation is automatically controlled by the instrument and cannot be influenced by the operator.
- If **no safe reagent** is in the retort, depending on the current status of processing the program that is in progress, a "decision" is made about how to proceed.

Current step for power failure	⇒ Protection in the safe reagent
Formalin (fastening)	Formalin
Ethanol (Dehydration, diluted)	Formalin
Ethanol (absolute)	Formalin
Xylene (intermedium)	Xylene (heating off)
Isopropanol (intermedium)	Formalin
Paraffin	Paraffin (heating off)
ParaLast	ParaLast

## 7. Troubleshooting

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### Instrument procedure in case of power failure (continued)

First, the current status of processing the running program is determined.

This includes:

- Determining the step number.
- Reagent of the step (reagent in the retort).
- Safe reagent for this step.
- Status of the step (filling, processing, draining).
- Whether the safe reagent has already been used in the program.
- Reagent of the next step.
- The system checks whether the last safe reagent used in the program is possible as a safe state (compatibility).
- This safe reagent is then filled into the retort and the program step counter is corrected. In doing so, a search is carried out from the current program step going backwards until a safe reagent program step.

(It is also possible to proceed to the next step if the current step was completed and a safe reagent is present in the next program step.)

After the actions described, the ASP6025 (and thus the specimens as well) is in a safe state.

The tissue samples are in a safe reagent and the currently running program is modified such that when the power supply is restored, the processing can be resumed.

The software now carries out a controlled shutdown of the system.

The instrument remains in this state until the power supply is restored. It then restarts automatically.

The finish time of the protocol is recalculated, the power failure entered into the Run Logs and the operator is notified of these using a display.

## 7.2 Malfunctions in the program sequence

Maintaining the specimen in a safe state is the primary concern during a malfunction.

A safe specimen state is initiated following any power outage or malfunction where the infiltration protocol cannot be automatically finished. An infiltration protocol that has been started cannot be finished automatically and leads to a safe specimen state being initiated.

Example: a reagent station is underfilled and no alternative reagent is available.

Likewise, defective instrument components such as valves or a pump may potentially result in a safe specimen state so that the diagnostics of the tissue is not endangered.



Fig. 246

The safe specimen state of the instrument is indicated on the **SMART** screen with an icon (109) immediately to the left of the retort (Fig. 246).

In addition, a corresponding entry in the Run Log is generated.

## 7. Troubleshooting

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### 7.3 Typical fill or drain problems

Fill and drain problems may be due to several causes:

#### 1. There is insufficient reagent

- Verify that the fill level in the system bottles, RTU-bottles and paraffin containers is sufficient.

#### 2. Insufficient pressure or vacuum

The instrument is unable to create sufficient vacuum (for a fill) or pressure (for a drain) in the retort.

- Check whether the system bottles and RTU-bottles concerned have been inserted correctly.
- Verify that all system bottles are fully pushed home into their sockets.
- Check whether dirt deposits have collected under the retort seal.

#### 3. There is a blockage in the air or reagent lines

Blockages in the reagent lines are typically caused by paraffin or tissue debris. If it is not possible to drain the reagent in the retort, try to remove the blockage as follows:

- Heat the retort to the maximum permitted temperature (consistent with the reagent currently in the retort, if any). Leave the retort at this temperature for at least 15 minutes.
- When the retort reaches maximum temperature, attempt to carry out a filling and draining cycle.
- If there is no reagent in the retort:  
Clean the retort in a cleaning program (see [Chapter 6.1](#)).



**If you cannot determine or eliminate the problem by carrying out the above listed steps, call Leica Technical Service before attempting to run any further programs.**

## 7.4 Emergency unlock



### Warning!

Misuse of the emergency unlock function and improper opening of the retort  
Injuries to hands, arms and head when opening the retort and/or injuries due to spraying reagents!

- Only use the mechanical emergency unlock function if the standard emergency unlock (see Chap. 7.4.1) did not work and you absolutely must get to the specimens.
- Wear special protective clothing, gloves and safety goggles.
- Grasp the bolt handle of the retort firmly in your hand.
- Ensure that no part of the body is located in the opening area of the retort lid.
- Since the retort may be under pressure, open the bolt handle very carefully and slowly.

### 7.4.1 Electrical standard emergency unlock

To trigger the electrical standard emergency unlock, follow these steps:

1. Disconnect the instrument from the power supply by removing the power plug.
  - The internal battery takes over the power supply.
  - If there is no safe reagent in the retort, then the reagent within is initially pumped from the retort. Then, the retort is filled with a safe reagent.
2. Wait until the unlock symbol (Fig. 247) lights up.



Fig. 247

If the unlock symbol does not light up after a maximum of 5 minutes, a mechanical emergency unlock is necessary (see the following section).

## 7. Troubleshooting

### 7.4.2 Mechanical emergency unlock

#### General Instructions

Only use the mechanical emergency unlock function if the standard emergency unlock (see Chap. 7.4.1) did not work and you absolutely must get to the specimens.



Before an emergency unlock, please observe Chap. 4.4.1 to identify the retort lid variant of your instrument.

#### Procedure for instruments with retort lid variant 2



After activating the mechanical emergency unlock, working with the instrument is no longer possible!



Fig. 248



Fig. 249

To trigger the mechanical emergency unlock, follow these steps:

1. Puncture the seal (2, Fig. 248) with the Allen key (1, Fig. 248, included in standard scope of delivery) and push the slider behind the seal downward.
  - Manual unlocking of the retort is triggered.
2. Grasp the bolt handle of the retort firmly in your hand (Fig. 249). Since the retort may be under pressure, open the bolt handle very carefully and slowly.
3. Contact an authorized Leica service technician immediately and notify this person of the mechanical emergency unlock activation. **If you fail to do this, any warranty becomes void.**
4. Do not put the instrument back into operation until the inspection is complete.

#### Procedure for instruments with retort lid variant 1

To trigger the mechanical emergency unlock, follow these steps:



Fig. 250

1. The black bolt handle is secured by a metal pin. In case of emergency, press the metal pin (43, Fig. 250) downwards to the very bottom using the Allen key included in the scope of delivery.
2. Then pull the lever carefully and slowly toward yourself. Since the retort may be under pressure, open the bolt handle very carefully and slowly.
3. Contact an authorized Leica service technician immediately and notify this person of the mechanical emergency unlock activation.
4. Do not put the instrument back into operation until the inspection is complete.

## 8. Optional Accessories

Basket handle .....	14 0476 34713
Cassette basket, complete .....	14 0476 34193
Cassette basket, complete, large .....	14 0476 34782
RTU-bottle with cover .....	14 0495 43542
System bottle, complete .....	14 0495 43329
Condensate bottle, blue .....	14 0495 43537
Flange kit for connection to external ventilation .....	14 0495 43827
Active carbon filter .....	14 0495 43860
Filling/draining hose .....	14 0495 44794
Paraffin drain hose .....	14 0495 46467
Paraffin bath .....	14 0495 45423
Paraffin scraper, plastic .....	14 0476 35923
Molykote 111, grease, 100 g .....	14 0336 35460
Spare covers for system bottles .....	14 0476 39720
O-rings, 9.5x2.5 FKM, 9 ct. ....	14 0253 45880
Spare covers for RTU-bottles .....	14 0495 44976
Cover seal, normal, 10 ct. ....	14 0461 36136
Stirrer .....	14 0495 46070
Set of adhesive labels for system bottles .....	14 0495 45261
Adhesive labels for RTU-bottles .....	14 0495 45262
Filter sieve, fine, complete for retort .....	14 0495 45243
Paraffin station lid .....	14 0495 44021
Paraffin station sieve .....	14 0495 43987
Drip tray for system bottle cabinet .....	14 0495 43593
Perforated tray for drawer .....	14 0495 43602
Compartment dividers for drawer, 2 ct. ....	14 0495 43603
Cleaning tools for prisms and level sensors .....	14 0495 47955
Microfiber cloth for prism .....	14 0495 47736
Maintenance kit .....	14 0495 48279

## 9. Warranty and Service

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### Warranty

Leica Biosystems Nussloch GmbH guarantees that the contractual product delivered has been subjected to a comprehensive quality control procedure based on the Leica in-house testing standards, and that the product is faultless and complies with all technical specifications and/or agreed characteristics warranted.

The scope of the warranty is based on the content of the concluded agreement. The warranty terms of your Leica sales organization or the organization from which you have purchased the contractual product shall apply exclusively.

### Service information

If you are in need of technical customer support or spare parts, please contact your Leica representative or the Leica dealer where you purchased the instrument.

Please provide the following information:

- Model name and serial number of the instrument.
- Location of the instrument and name of a contact person.
- Reason for the service call.
- The delivery date of the instrument.

### Decommissioning and disposal

The instrument or parts of the instrument must be disposed of according to existing applicable, local regulations.



Log for orientation to specifications and operation of the ASP6025 Tissue Processor

Installation, orientation and training for the ASP6025 vacuum tissue processor

with serial number: ..... ,

was carried out successfully in the following department / practice: Place, Date .....

Phone:	
Fax:	
E-mail:	
Institution and department (complete):	
Address (complete):	

The focal point of the installation, orientation and training was proper operation, with particular emphasis on risk prevention (laboratory personnel, tissue, instrument functions).

Installation, orientation and training were carried out on the ASP6025 vacuum tissue processor based on the instructions for use with version number ..... , by a (by more than one) trained Leica employee(s)/product specialist(s).

.....

.....

.....

Leica employee(s) / product specialist(s), place, date

Orientation and training were given to the person(s) responsible for the instrument and, where applicable, the following other persons of the practice/department specified above.

.....

Person(s) responsible for instrument, place, date

.....

.....

.....

Additional trained persons, place, date

After successful installation, orientation and training, the Leica employee who carried out the training sends the completed and signed original of this report to the corresponding product specialist, SU.

## 11. Decontamination Confirmation

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Every product that is returned to Leica Biosystems or that requires on-site maintenance must be properly cleaned and decontaminated. You can find the dedicated template of the decontamination confirmation on our website [www.LeicaBiosystems.com](http://www.LeicaBiosystems.com) within the product menu. This template has to be used for gathering all required data.

When returning a product, a copy of the filled and signed confirmation has to be enclosed or passed on to the service technician. The responsibility for products that are sent back without this confirmation or with an incomplete confirmation lies with the sender. Returned goods that are considered to be a potential source of danger by the company will be sent back at the expense and risk of the sender.



[www.LeicaBiosystems.com](http://www.LeicaBiosystems.com)



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