

# DENIOS.

## Cleaning Table

### bio.X T700



## USERS MANUAL

Mat.-Nr. 162518\_BA\_EN\_005

12/2008



# **Contents**

<b>1. General Instructions</b> .....	<b>4</b>
<b>2. Safety instructions</b> .....	<b>4</b>
<b>3. Technical data</b> .....	<b>4</b>
<b>4. Product description</b> .....	<b>5</b>
4.1 Intended use.....	5
4.2 Layout.....	5
<b>5. Initial Operation</b> .....	<b>7</b>
5.1 Electrical connection .....	7
5.2 Filling with the cleaning fluid .....	7
<b>6. Bedienfeld</b> .....	<b>8</b>
6.1 Function indicators on the display .....	8
<b>7. Operation</b> .....	<b>8</b>
<b>8. Maintenance</b> .....	<b>9</b>
8.1 Filter.....	9
8.2 Fill level.....	9
8.3 Additive.....	9
8.4 Suction filter (6) .....	9
8.5 Cleaning fluid.....	10
8.6 Fine filter.....	10
8.7 Cleaning the hood .....	10
8.8 Refill items .....	10
8.9 Replacement parts (see also product description page 5).....	10
<b>9. Optional Accessories</b> .....	<b>11</b>
<b>10. Notes regarding disposal</b> .....	<b>11</b>
<b>11. Faults</b> .....	<b>12</b>
<b>12. Connection Diagram</b> .....	<b>13</b>
<b>13. EC Declaration of Conformity</b> .....	<b>14</b>

## 1. General Instructions

This user manual is for the bio.x parts cleaning unit T700. It contains all the information needed regarding correct startup, trouble-free operation, maintenance, removal from service and disposal. The information and instructions in this user manual have to be observed and adhered to.

If the instructions are strictly followed in accordance with the user manual, we accept liability within the scope of our conditions for guarantees.

**Without approval from the manufacturer no changes, extensions or modifications may be made to the product. For changes made without approval from the manufacturer no liability is assumed and the guarantee expires.**

**National regulations and safety regulations have to be adhered to.**

## 2. Safety instructions



This unit can only be used safely if you read this user manual carefully and strictly follow the instructions it contains. This user manual is an integral part of this unit and must be available to the personnel who operate the unit at all times.

Such staff must be familiarised with the user manual with particular attention being paid to prohibitions and hazard warnings.

The mains supply connection has to be in accordance with the corresponding regulations (VDE 01000 - Association of German Electricians). For safety reasons the equipment must be only operated, if a Residual Current protective Device (RCD) with a release current of 30 mA is connected upstream.



**This must be checked by a qualified electrician.**

**In accordance with the German BGV A3 electrical equipment has to be examined in regular intervals.**



The equipment must be set up on a suitable stable, level surface.

Detergents which contain highly flammable substances must not be used. Use only detergents approved by DENIOS for this unit.

## 3. Technical data

Dimensions (WxDxH)	1100 mm x 910 mm x 1725 mm
Total height with open hood	2400 mm
Net weight	approx. 80 kg
Power consumption	1.1 kW (when heating turned on)
Electrical connection	1/N/PE 230V~
Pre-fusing on site	min 10 A
Work surface height	950 mm
Load capacity	200 kg
Tank	LDPE
Maximum fill capacity	120l
Minimum fill capacity	60l
Usable work surface	750-900 mm x 550 mm
Heater	Stainless steel (1.4541) heating element output 1 kW
Level switch	Minimum fill level (approx. 55l l)
Temperature sensor	Set at 41°C in the factory
Pump	approx. 240l/h approx. 6 bar



For the operation of the demister a compressed air supply is essential:

- Input pressure 6-8,5 bar
- Output 350 l/min

## 4. Product description

### 4.1 Intended use

The bio.x parts cleaning unit is used to clean oil and grease from work pieces in an efficient, environmentally sustainable way using exclusively cleaning fluids authorised by DENIOS.

-  Other detergents such as degreasers or alkali cleaning agents must **not** be used!
-  Solvents, disinfectants, alkali or acidic fluids, carburettor and diesel fuels or turpentine must not be poured into the appliance.

### 4.2 Layout

#### Lower part

- Material PE
- Maximum fill capacity 120l
- Minimum fill capacity 60l

Item	Description	Function or description	Mat. No.
1	Electrical compact control	With on/off switch and 2-digit 7-segment display	169682
1a	Seal		184522
2	Heating element, output 1kW	Version with central connection and firmly sealed cable 3x1.5mm <sup>2</sup>	178986
3	PT 100 temperature sensor	Temperature control (41°C)	135266
4	Level switch	Recording the minimum fill level, plastic version with firmly sealed PVC cable 3x0.34mm <sup>2</sup>	135274
5	Electrical aerator (5W)	Oxygen supply for the bacteria in the cleaning device	138281
6	Suction filter (350µm)	Protection against contamination in the feed pump inlet	168159
7	Feed pump, temperature monitored *	Three-compartment membrane pump which can run dry safely, operating pressure approx. 6bar, flow rate 4 l/min	160253
8	Foot switch/button (optional)	For turning the cleaning function and the demister on and off	150097
9	On/off button	For turning the internal light on/off (optional)	162245
10	Feed cable with plug		160517
11	Drain tap	To drain the used cleaning fluid	162221

\* When replacing the connections of the hose feed, seal with a Teflon band

#### Upper part

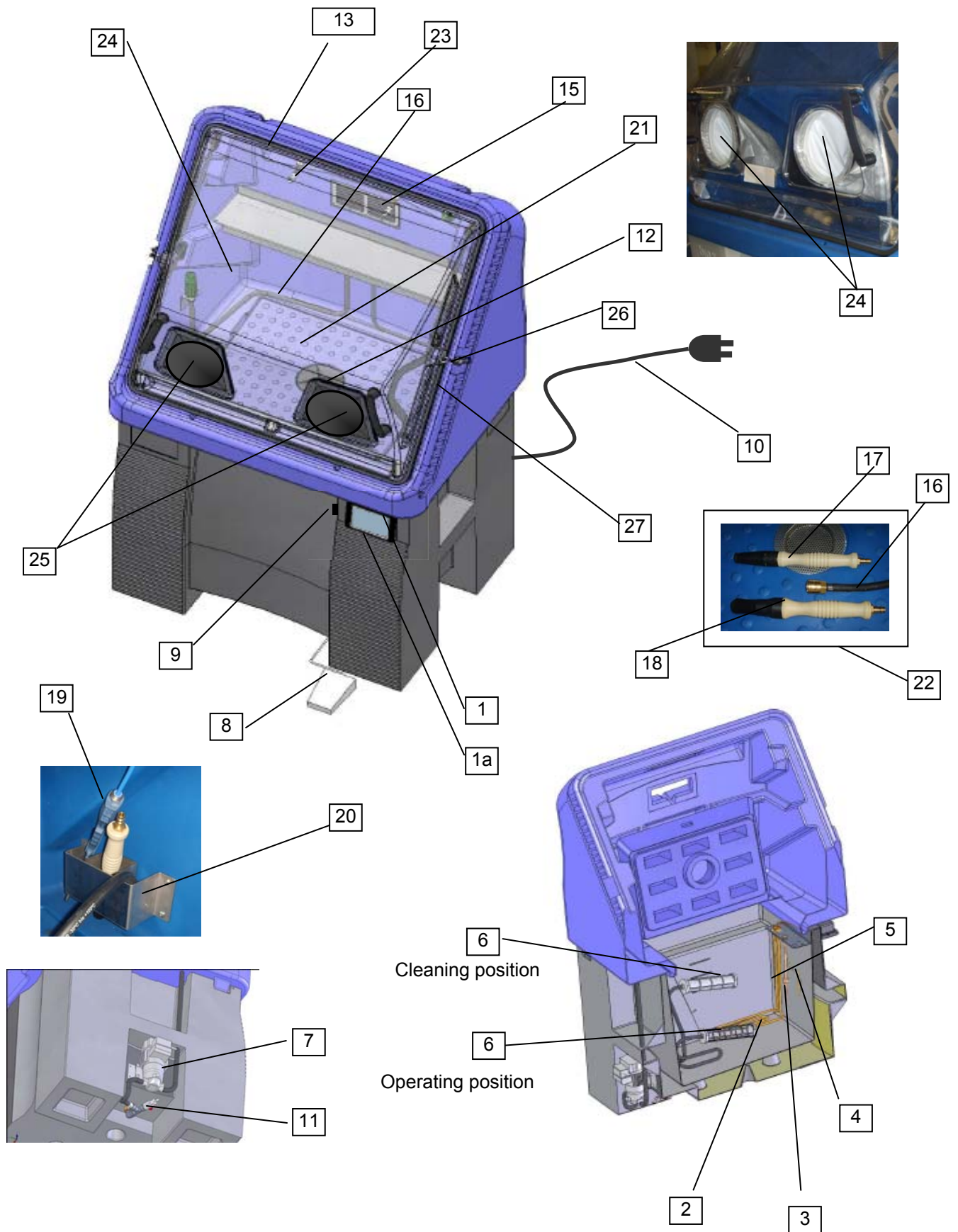
- Material PE
- to be placed on the lower part of the appliance
- with back and side walls and a removable work surface
- Load capacity: 200 kg
- Usable work surface: 750x900x550 mm

Item	Description	Function or description	Mat. No.
12	Filter screen (600µm)	For filtering out coarse particles	135256
13	Interior lighting (optional)	Protective tube light IP67, 1x24W	172777
15	Lamella protective plate	Stainless steel, to cover the ventilation opening	162335
16	Pressure hose	Feed to the Vario nozzle, cut 1100 mm	162495
17	Vario nozzle	Can be adjusted from point to surface jet and unpressurised	168143
18	Wash brush	For manual cleaning	168024
19	Compressed-air nozzle (optional)	For fast drying of the cleaned workpieces	168250
20	Holder	To hold the nozzles and the brush	168767
21	Work surface (fold-away shelf)	In blue	161846
22	SET: Vario nozzle and wash brush with hose system		162496
23	Nozzle for demister	To blow clean the hood	163366

#### Hood

- Material: transparent thermoplastic
- surrounding seal, lock and reach-through gauntlets

Item	Description	Mat. No.
24	Hood	162349
25	Reach-through gauntlet	168036
26	Lock	160262
27	Seal	162482



## 5. Initial Operation

After removing the packaging, check the unit casing and operating components for any possible damage caused in transit. If such damage is found, do not connect the unit to the mains. Report damage immediately to the carrier who delivered the unit and to DENIOS AG at the service number indicated above. The original packaging should be kept.

Place the unit in a dry, stable location as required. The floor must be level. If necessary, level out any uneven surfaces with suitable shimming material.

### 5.1 Electrical connection

The unit is connected to the customer's mains supply via the power cable and plug.

**Mains voltage:** The voltage of the power source has to comply with the details on the identification plate of the appliance

**Warning: The mains supply must be fitted with a residual current protective device in accordance with DIN VDE (Association of German Electricians) 0100! (See section 2)**

### 5.2 Filling with the cleaning fluid

Open the hood (24) and take out the shelf (21) from the unit.

Two different cleaning fluids can be used in the Part Cleaning Unit T700.

#### a) Bio-Power cleaning fluid

- Pour 100 l (5 canisters) of Bio-Power cleaning fluid into the tank.
- Connect the unit to the mains. "On" will be shown on the display for 3 seconds. The heating system switches on automatically. The warming-up process can take up to 2.5 hours, depending on the initial temperature. The operating temperature is set at 41° C in the factory and cannot be changed. When the operating temperature is reached, "41" will appear on the display.

The aerator will work continuously after the unit is switched on.

- Once the operating temperature is reached add the additive with the micro-organisms (1 can x 100 g) to the fluid. The micro-organisms take 24 hours to become active. It is therefore recommended to set up the unit for operation just before the weekend, for instance.

The parts cleaning unit is then ready for operation.

#### b) Cleaning fluid bio.x (ready-for-use solution incl. micro-organisms)

- Pour 100 l (5 canisters) of Cleaning fluid bio.x into the tank.
- Connect the unit to the mains. "On" will be shown on the display for 3 seconds. The heating system switches on automatically. The warming-up process can take up to 2.5 hours, depending on the initial temperature. The operating temperature is set at 41° C in the factory and cannot be changed. When the operating temperature is reached, "41" will appear on the display.

The parts cleaning unit is then ready for operation.

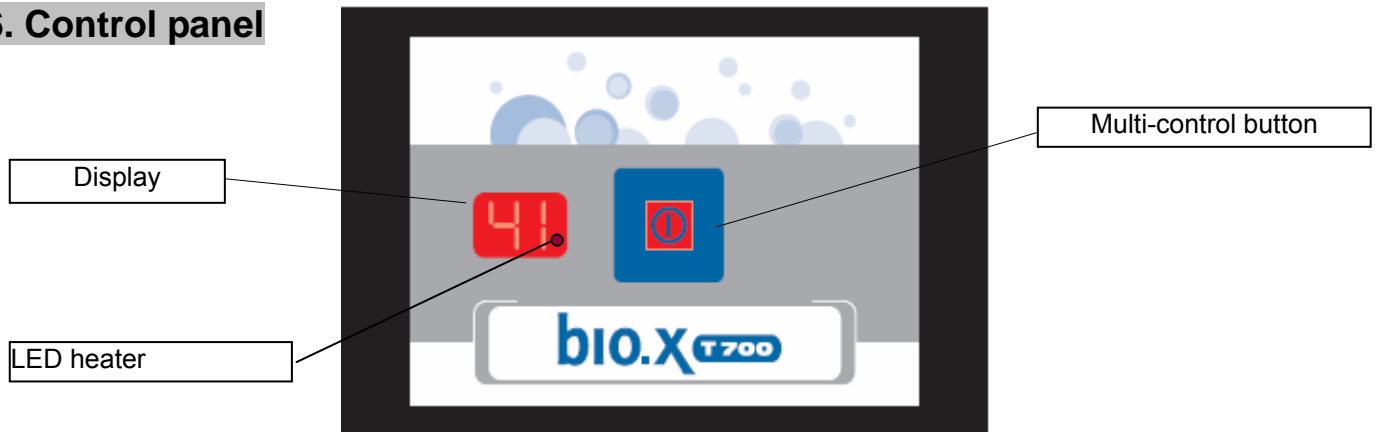
The aerator will work continuously after the unit is switched on.



The two detergents should not be mixed together as far as this is possible.

Other detergents such as degreasers or alkali cleaning agents must not be used.

## 6. Control panel



### 6.1 Function indicators on the display.

Function	Indicator
Warming-up process	Display '41' flashing, LED heater on Rising horizontal bars
Operating temperature reached, heater off	Display '41' flashing, LED heater off
Operating temperature reached, heater on	Display '41' flashing, LED heater on
Excess temperature	Temperature indicator flashing when $T > 41^{\circ}\text{C}$
Energy-saving mode	Display ',30'
Fault messages, see section 6.2 (fault messages)	Display ',LO'; F1 bis F8

## 7. Operation



### - When cleaning the hood should be closed

- If you are working with a brush, you may also clean with the hood open.



- Place the parts to be cleaned in the Parts Cleaning Unit.

- Do not exceed the maximum load of 200 kg!

- Connect the Vario nozzle or the cleaning brush with the high-speed coupling to the cleaning hose.
- Close the cover.
- If necessary turn on the light with the on/off switch (9).
- Reach for the cleaning equipment through the gauntlets. Depending on the type of dirt the Vario nozzle can be adjusted from point to surface jet and by moving forward or back to low density.
- By pressing the foot switch you turn on the feed pump and the demister and you can start cleaning.
- After you have finished cleaning press the foot switch again to turn off the demister and the feed pump. The demister is turned off after a time delay of 30 seconds. The water pump automatically switches off after about 60 minutes.
- The Parts Cleaning Unit can also be switched on and off by pressing the multi-control button on the control panel.
- Take out the cleaned parts.

### Note:

When interrupting work, switch off the water pump only and do not disconnect the unit from the mains, so the detergent remains warm. The micro-organisms in the detergent require heat and oxygen to degrade the oil and grease. For this reason, the heating system maintains the temperature of the detergent at  $41^{\circ}\text{C}$  and an aerator ensures oxygen is permanently fed to the micro-organisms. If the unit is switched off, or it breaks down for a long period of time, the micro-organisms become inactive.



## Energy-saving mode

The unit can be switched to energy-saving mode during downtimes such as night-time, weekends, or company holidays.

The temperature is maintained at 30° C in energy-saving mode. The micro-organisms remain active at this temperature and optimum oil and grease degradation is guaranteed.

Setting:

- 1) Press the multi control button for >3 s → In the display appears a number with two digits (period for the energy savings mode, last adjusted value). The first number is flashing.
- 2) Short pressing of the multi control button → The flashing number counts up (0 follows 9)
- 3) Press the multi control button for >2 s → The second number is flashing.
- 4) Short pressing of the multi control button → The flashing number counts up (0 follows 9)
- 5) Press the multi control button for >2 s → The adjusted time is indicated flashing in change with the „30“ for the energy saving mode. The indication of the hours corresponds the still remaining time up to reswitching on (started hours).

If the operator doesn't make any setting, after 10 S. the indicated value is taken over automatically.

The time switch function is not used by adjusting of the value "00" and the energy savings mode must be finished by short pressing of the multi control button.

After finishing the energy-saving mode the unit will heat the detergent to 41° C again. The warm-up stage takes about an hour, depending on the ambient temperature. Once this temperature is reached and "41" is shown continuously on the display, the unit is ready for operation with optimum cleaning assured.

## 8. Maintenance



**Warning!** Before starting work on the cleaning table fixtures, switch off the electrics and unplug from the mains! Test the equipment to ensure the power is off!

### 8.1 Filter

The washstand is equipped with two filters as standard. A stainless steel perforated filter on the washstand surface and a synthetic filter for impurities underneath. It is recommended to clean these filters on a **daily** basis. To do so, remove the filters from the unit and rinse with water.

**For maintenance purposes the work surface can be lifted inside the tank and lent against the back wall of the upper part..**



Perforated filter

### 8.2 Fill level

Check the fill level against the markings on the tank wall regularly so you can refill to make up for any losses through evaporation and removal. If the fill level falls under a minimum of 60 litres (lowest marker line), the pump and the heating system switch off automatically for safety reasons. In such a case, "LO" is shown on the display. Re-fill the detergent until the top marker line is reached. The message will disappear once there is enough detergent in the tank.

### 8.3 Additive

**More additive should be put in every 6 months to replenish the micro-organisms.**

**After refilling, the detergent must be left to stand for 24 hours so that the micro-organisms can become active. It is therefore recommended to refill with the additive before a weekend.**

### 8.4 Suction filter (6)

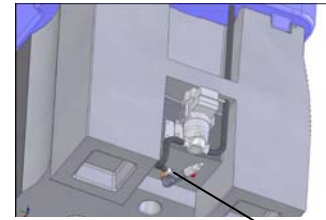
In order to prevent the pump from losing pressure, the suction filter inside the tank should be cleaned at regular intervals. For this purpose the suction filter can be moved to an elevated position and with the help of the cleaning nozzle (set to surface jet) freed from deposits.

If the suction filter is so dirty that it can no longer be cleaned in this way, it has to be replaced.

## 8.5 Cleaning fluid

The cleaning fluid has to be replaced if

- there is a significant fall in the cleaning performance
- when checking the fill level there are notable sediment deposits on the floor of the tank
- or the suction filter is frequently blocked



Drain tap

The drain tap can be used to drain the fluid.

When there is only a small amount of residual fluid left in the container, the suction filter hose on the container floor can be released (brass screw connection) and it is possible to practically empty it completely.

Please follow the same process when inserting the new fluid as for the initial operation.

## 8.6 Fine filter

The optional fine filter, which can be fitted on the left-hand side of the unit, should be checked weekly and cleaned if necessary. Release the filter cover by turning it anti-clockwise. Remove the filter cartridge and rinse it thoroughly under running water, or replace it with a new cartridge. Reinsert the cartridge and screw the casing firmly back into place. Ensure the seal is in the correct position.



## 8.7 Cleaning the hood



**Avoid scratching the hood.**

**If the hood is dusty, it must under no circumstances be rubbed dry.**

For cleaning use a mild washing-up liquid in luke-warm water, a soft cloth, sponge or wash leather – also for drying.  
**Never use:** scouring agents, caustic cleaning agents, (degreasing) rinsing agents, spray cleaners for glass windows;

**Never use:** solvents such as acetone, paint thinner  
 alcohol compounds with more than 5% alcohol

**Never use:** scouring cleaning cloths or brushes

## 8.8 Refill items

Accessories	Description	Item number
Bio-Power cleaning fluid	20-litre canister	175715
Bio-Power cleaning fluid	200-litre drum	169787
Additive for oil and grease degradation	100g can for 100 l detergent	168625
Set (cleaner and additive) for initial filling and refills	5 x 20-litre canisters of Bio-Power cleaning fluid 100 g can of additives	169789
Cleaning fluid bio.x	20-litre canister	130032
Cleaning fluid bio.x	200-litre drum	161524
Set for initial filling and refills	5 x 20-litre canisters	130030

## 8.9 Replacement parts (see also product description page 5)

Accessories	Description	Item number
Set hood		162350
Filter housing	Fine filter (161718)	160703
Replaceable filter set (200 µm)		162522

## 9. Optional Accessories

Accessories	Description	Item number
Residual current device adapter	Adapter for fuse protection for the appliance Release current: 30 mA, Protection category: IP44	177335
Protective gloves (1 pair)	with extra long gauntlet, internally padded with cotton fabric Length: 640mm Size: 10 EN388: 4121 Resistance: good protection against detergents, alkali, oils and greases	163613
Gauntlet glove (1 pair)	Chemical protection glove in accordance with EN 420 (4 1 2, 1) and EN 374 Material: PVC Colour: red brown Length: approx. 70 cm Size: 9 / 10	176234
Filter	The additional fine filter can be installed between the pump and runback.	161718
Filter screen type 454 Fineness 80 µm	Can be used as an alternative for filter screen (12)	161047
Compressed-air pistol	With a hose and connector assembly installed in the upper part of the parts cleaning unit it speeds up the drying of the cleaned parts	160419
Stainless steel storage	An additional storage area on the back wall of the upper part, can be connected without tools	161640
Perforated metal insert	To protect the work surface of the cleaning table Makes it possible to work without tilting	169227
Interior lighting	Protective tube light IP67, 1x24W	160425
Dolly	For portable use of the parts cleaning unit	154288
Curved wash brush	For cleaning curved edges, prevents signs of fatigue when working for a long time.	172560
Stainless steel brush	To remove heavily crusted dirt from insensitive parts	173926
Wet vacuum cleaner Type SV 6.16	To completely empty the tank, also suitable for sludge	123224

## 10. Notes regarding disposal

### Detergent

The relevant waste code number for a contaminated substance depends on the type of dirt removed and not on the type of detergent. The applicable waste code number can be found in the European Waste Catalogue. Contaminated substances can often be disposed of as a water and oil mixture in other hydrous systems. Unused fluids can be fed into waste water treatment plant while taking into account local regulations regarding wastewater disposal.

### Appliance



According to the electronic and electrical appliance regulations, owners of disused appliances are legally required to dispose of such items separately. Please help to protect the environment by not disposing of disused appliances with household waste.

## 11. Faults

**Warning!** Before starting work on the cleaning table fixtures, switch off the electrics and unplug from the mains Test the equipment to ensure the power is off

Display screen	Fault	Cause	Solution
	Detergent cold, heating system not working	Heating system plug contacts are loose	Check plug contacts to ensure connected properly.
F 1	Detergent cold, heating system not working	1. The pump is not connected or is faulty; 2. Fuse faulty 3. Temperature limiter has been triggered	1. Connect heating system; replace if necessary 2. Replace fuse. 3. Have unit checked, temperature limiter must be activated
F 2	Wash pump not working	1. The pump is not connected or is faulty; 2. Fuse faulty	1. Connect wash pump; replace if necessary 2. Replace fuse.
F 3	Aerator not working	1. Aerator is not connected, or is faulty; 2. Fuse faulty	1. Connect aerator; replace if necessary 2. Replace fuse.
F 4	Level switch not working	Level switch not connected	Connect level switch
F 5	Short-circuit in level switch	Level switch faulty	Replace level switch
F 6	Detergent cold, temperature sensor not working	Temperature sensor not connected	Connect temperature sensor
F 7	Short circuit in temperature sensor	Temperature sensor faulty	Replace temperature sensor
F 8	Demister not working	Magnetic valve not connected or faulty	Check connection. Replace valve if necessary
LO	Heating system and wash pump not working	1. Fill level fallen below minimum level 2. Float switch dirty and in the wrong position	1. Refill with detergent 2. Clean the float-switch mechanism

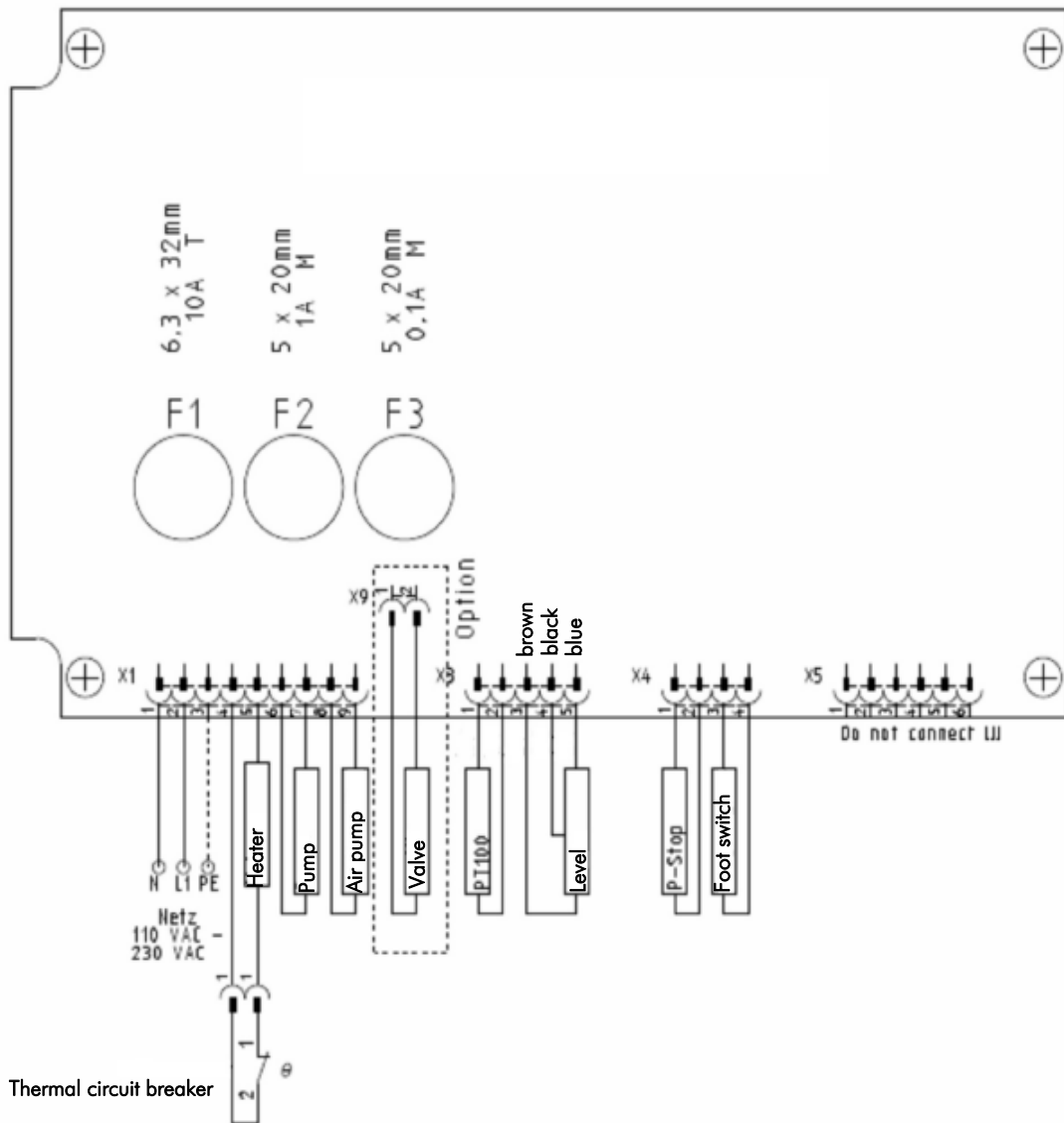
### Overheating

If the maximum permitted temperature (41°C) is exceeded, the current temperature will be shown as a flashing warning message on the display. If such a case arises, switch off the parts cleaner immediately. Then check the temperature sensor PT 100 is in the correct position (3).

The equipment is fitted with a temperature limiter to prevent damage from overheating. This switches the heating system off if the maximum temperature is exceeded.

If overheating is not caused by the temperature sensor being in the wrong position, a service technician must be called in to find the cause and make necessary repairs.

**12. Connection Diagram**



**13. EC Declaration of Conformity**

# EC Declaration of Conformity

For the purpose of the EC Machinery Directive 98/37/EC, Annex II A

Herewith we, the DENIOS AG, Dehmer Straße 58-66, 32549 Bad Oeynhausen, declare that the design of our product:

## Cleaning Table bio.x



complies with the following relevant provisions:

- EC Machinery Directive 98/37/EC**
- EC Low Voltage Directive 73/23/EC**
- EC Electromagnetic Compatibility Directive 93/68/EC**

Applied harmonised standards:

- EN 349**
- EN 60 204-1**
- EN 12100, -1, -2**

to which our declaration refers.

This declaration becomes invalid in the case of incorrect use and product modifications which were not agreed with the manufacturer.

Bad Oeynhausen 11.09.2007

  
.....  
**Theodor Breucker**  
-- Board of Directors --





**DENIOS AG**

Dehmer Straße 58-66

32549 Bad Oeynhausen

Tel.: +49 (0)5731 7 53 – 0

Fax: +49 (0)5731 7 53 – 197

E-Mail: [info@denios.com](mailto:info@denios.com)

You`ll find your local partner on our InterNet side [www.denios.com](http://www.denios.com)