



User Manual

SDS 200 - SDS 350



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We manufacture and sell water purification systems designed to produce pure or ultrapure water with specific characteristics ($\mu\text{S/cm}$, T, TOC, CFU/ml, Eu/ml) when it leaves the water purification system provided that the systems are fed with water quality within specifications, and properly maintained as required by the supplier.

We do not warrant these systems for any specific applications. It is up to the end user to determine if the quality of the water produced by our systems matches his expectations, fits with norms/legal requirements and to bear responsibility resulting from the usage of the water.

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PF08837 - V3.0 - 12/2012

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Recycling



Directive 2002/96 EC: For European users only

The symbol "crossed bin" on a product or its packaging indicates that the product should not be treated like household waste when discarded. Instead the product should be disposed of at a location that handles discarded electric or electronic equipment.

Proper disposal of equipment containing electric or electronic components will help to reduce pollution effects to the environment or to human health. Proper recycling of these products helps in environmental preservation and helps to protect natural resources. For more information about recycling of products containing electric or electronic components, please contact your local recycling representative or organization.

Use appropriate means for lifting and carrying.

Pay special attention to how you handle the system in order not to damage your back.

Lift by straightening your legs. Let your leg muscles, not your back muscles, do the work.



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Chapter 1 INTRODUCTION

1-1 USING THIS MANUAL

MATCHING THIS MANUAL WITH YOUR WATER SYSTEM

This manual is intended for use with a Millipore SAS SDS 200 or SDS 350.

This User Manual is a guide for use during the normal operation and maintenance of a SDS 200 or SDS 350 Water Storage and Distribution System. It is highly recommended to completely read this manual and to fully comprehend its contents before attempting normal operation or maintenance of the SDS.

If this manual is not the correct one for your SDS 200 or SDS 350, then please contact Millipore SAS.

INSTALLATION INFORMATION



IMPORTANT! INSTALLATION INSTRUCTIONS ARE NOT INCLUDED. INSTALLATION OF THIS PRODUCT IS MEANT TO BE PERFORMED BY A QUALIFIED MILLIPORE SAS SERVICE REPRESENTATIVE.



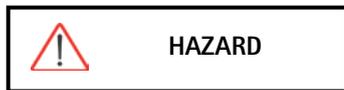
The Pre-Installation and Installation Documentation for the Water Systems mentioned above are not found in this Manual. Contact Millipore SAS if you would like to have this information.

Appendix 2 contains a Pre Installation Checklist. These can be used to confirm that you received the necessary items for installation and also that the system was installed according to specifications.

1-2 SAFETY INFORMATION

SAFETY STATEMENT

Your Water System should be operated according to the instructions in this manual. In particular, the hydraulic and electrical specifications should be followed and met. It is important to use this equipment as specified in this manual; using this equipment in a different manner may impair the safety precautions of the Water System.



Do not open the system cabinet at any time. Electrical and mechanical components inside the Water System could pose a hazard. A qualified Millipore SAS Service Representative should perform any work that needs to be done while the system cabinet is opened.

SAFETY SYMBOLS



This ATTENTION symbol is used to refer to instructions in this manual that need to be done carefully.



These symbols are used to indicate that proper safety equipment has to be used.



Protective glasses and gloves must be worn.



This UV RADIATION sticker is used to refer to a position on the water system Cabinet or inside of it where exposure to UV light is possible.



This DANGER sticker is used to refer to a position on the water system Cabinet or inside of it that could be hazardous.



This ELECTRICAL GROUND sticker is used to refer to a position on the water system Cabinet or inside where an electrical ground connection is made.



This ELECTRICAL DANGER sticker is used to refer to a position on the water system Cabinet or inside where an electrical danger could exist.

1-3 CONTACT MILLIPORE SAS

For any questions or requests, please use the contact information provided below.

BY INTERNET

The Internet Site can be used to find addresses, telephone/fax numbers and other information.

Internet Site Address:

www.millipore.com
www.millipore.com/techservice
www.millipore.com/lab_water

MANUFACTURING SITE

Millipore SAS
67120 Molsheim
France

Chapter 2 PRODUCT INFORMATION

2-1 GENERAL DESCRIPTION

The SDS (Storage and Distribution System) has been developed for the purpose of storing purified water, and distributing it, under pressure around a distribution loop. The purified water is generally produced by reverse osmosis or by continuous deionisation.

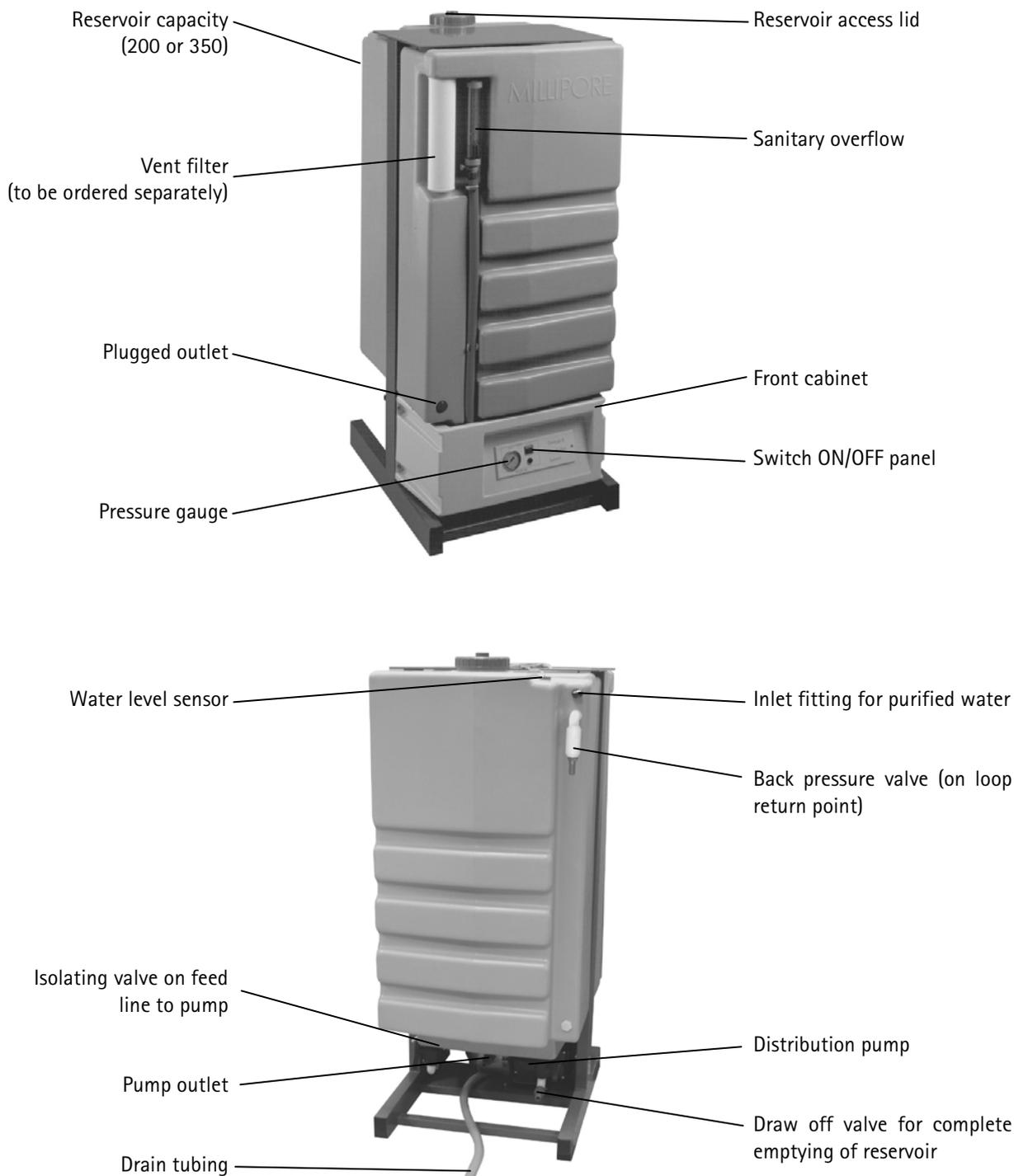
DIFFERENT VERSIONS OF SDS

The table below shows the main components which come with the SDS.

COMPONENTS	SDS TANK ALONE	SDS WITH RELAY (no pump)	SDS WITH PUMP
Distribution Pump	No	No	Yes
Power relay for pump/motor	No	Yes	Yes
Back-pressure valve	No	No	Yes
SDS level sensor	No	Yes	Yes
Level Sensor Jack connector	Mono	Stereo	Stereo
Pressure Gauge	No	No	Yes

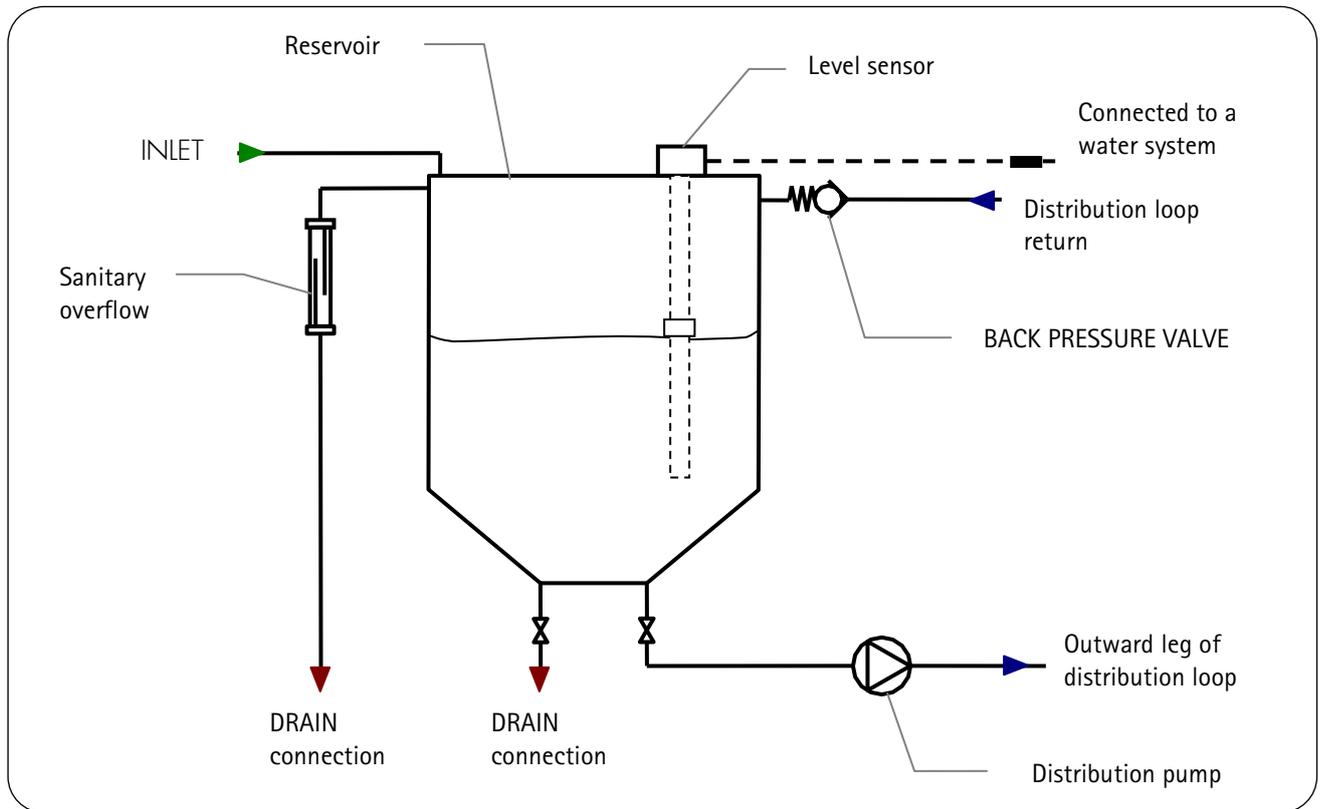
STANDARD SDS

The SDS with pump is shown below (front/back views):



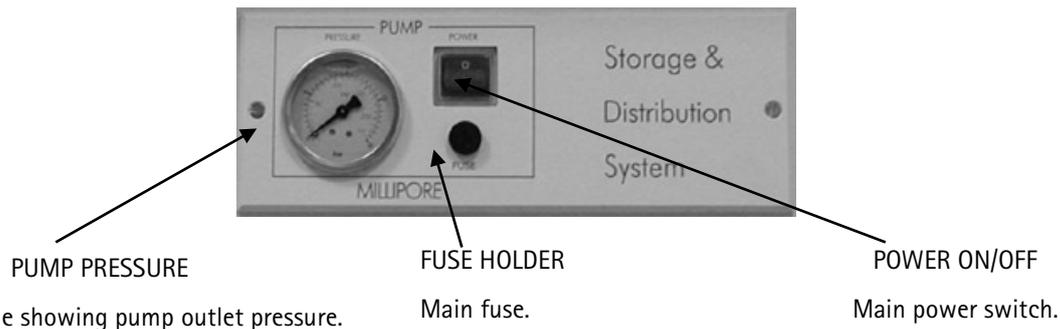
2-2 SCHEMATIC OF MAIN COMPONENTS

The water flow through the SDS is shown here in a flow diagram. A description of each item is below.



ITEM	FUNCTION
Inlet	Where purified water enters into the SDS.
Level sensor	A device that measures the water level in the reservoir in % full, liters or gallons.
Sanitary overflow	Where water goes if the SDS is filled beyond its capacity. The water is sent to drain.
Back pressure valve	A valve that opens at a specific pressure thus creating a constant pressure in a distribution loop.
Distribution pump	Used to pump water from the SDS to a distribution loop (standard version).

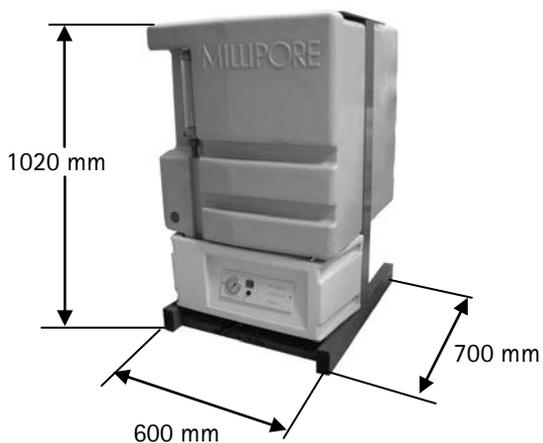
2-3 THE FRONT PANEL



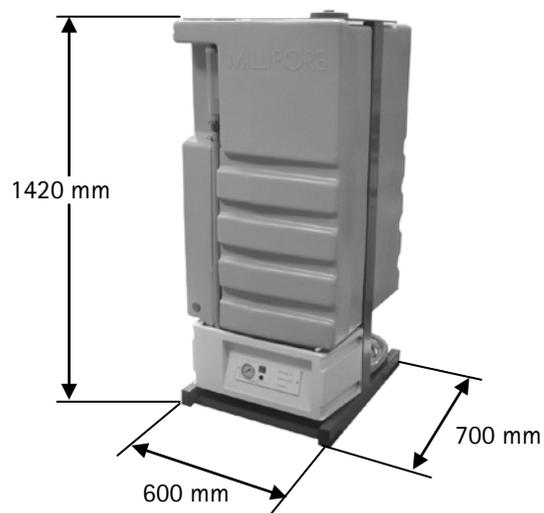
2-4 TECHNICAL SPECIFICATIONS

DIMENSIONS AND WEIGHT

SDS 200



SDS 350



	SDS 200	SDS 350
Operating weight	260 Kg	430 Kg
Dry weight	60 Kg	80 Kg
Shipping weight	72 Kg	95 Kg

ELECTRICAL SPECIFICATIONS

Voltage / Frequency / Power	Cat. Number	Main Fuse
100V \pm 10%/50-60 Hz/800 VA with pump	TANK7P200 TANK7P350	10 A T fuse Millipore SAS Spare Part FTPF04803
100V \pm 10%/50-60 Hz/10 VA without pump	TANK70200 TANK70350	1 A F fuse Millipore SAS Spare Part FTPF00756
120V \pm 10%/60Hz/800 VA with pump	TANK6P200 TANK6P350	10 A T fuse Millipore SAS Spare Part FTPF04803
120V \pm 10%/60Hz/10 VA without pump	TANK60200 TANK60350	1 A F fuse Millipore SAS Spare Part FTPF00756
230V \pm 10%/50Hz/800 VA with pump	TANK5P200 TANK5P350	3.15 A T fuse Millipore SAS Spare Part FTPF03213
230V \pm 10%/50Hz/10 VA without pump	TANK50200 TANK50350	0.5 A T fuse Millipore SAS Spare Part FTPF00306



The source of electrical power must be earth grounded.

ENVIRONMENTAL SPECIFICATIONS

Indoor use only.

Ambient storage temperature: $5^{\circ}\text{C} < T < 40^{\circ}\text{C}$

Altitude: $< 3000 \text{ m}$

Installation Category: II

Pollution Degree: 2

HYDRAULIC SPECIFICATIONS

Purified water inlet to reservoir: 8 mm OD tubing

Distribution loop: inlet and return $\frac{3}{4}$ inch NPT Male

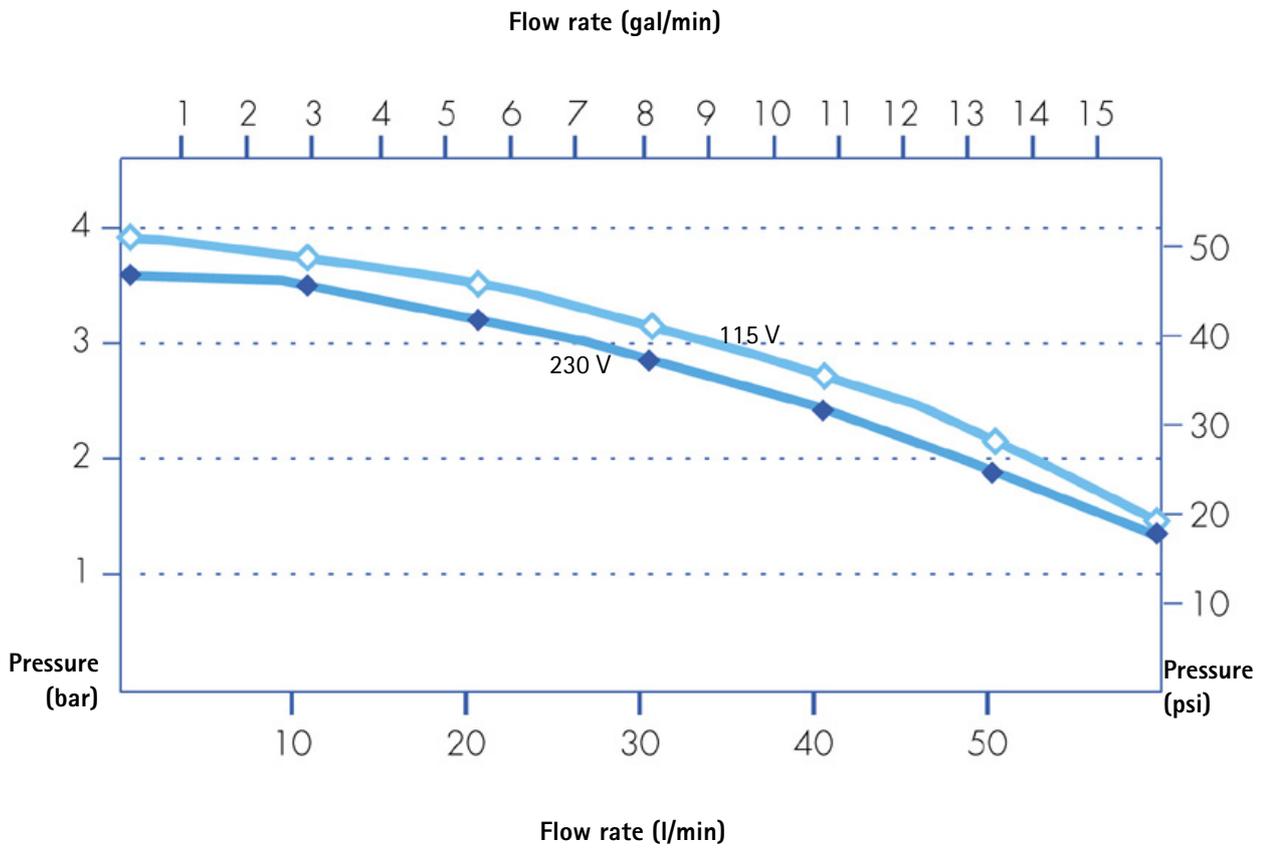
Drain capacity (overflow): 220 LPH at a maximum height of 200 mm from floor level

Maximum length of drain tubing: 3 m

Product Information

PUMP PERFORMANCE

30 liters/min at 3 bar pressure.



Chapter 3 USING THE SDS

3-1 DEFAULT SETTING

When using a SDS 200 or SDS 350 without pump, the default program setting is in the Water Purification System. It allows you to run the SDS without any pre-settings during the Installation procedures. The SDS is a "plug and play" system device.

For a SDS with a pump, please read the procedures below for programming the pump running times.

3-2 PROGRAMMING THE SDS

HOW TO GET IN THE DIST SETUP MODE

The DIST SETUP Menu shows you all the SDS functions.



Press on SETUP.

You are in SETUP Menu.



Press on "→".



Press on "→".

DIST SETUP Menu.

Using the SDS

WHAT IS THE DIST MODE?

The DIST MODE allows you to activate, deactivate or program the recirculation.



Press on DIST MODE.

The three functions in the DIST MODE are:

- [OFF]: the DIST MODE is stopped (the pump is stopped).
- [ON]: the DIST MODE is running permanently (the pump is running continuously).
- [PROGRAM]: the DIST MODE is programmable for personal settings (see next section).

NOTE: the active mode can be visualized at the bottom of the LCD. For example, on the right display above, the [PROGRAM] function is active.

WHAT IS THE DIST PROG?

You have put the DIST MODE into PROGRAM in the previous section. Now set the DIST PROG by choosing the DAY, the START time, the STOP time and the duration of the RECIRC (recirculation).

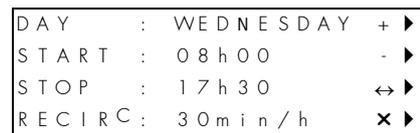


Press on DIST PROG.

DAY	Choose a specific day of a week (Monday, Tuesday, etc.) you want the DIST MODE to be effective. Or choose All Days for all days of the week.
START	Adjust the start hour and minutes.
STOP	Adjust the stop hour and minutes.
RECIRC	Set the recirculation duration to be executed automatically once in every hour (maximum 30 min every hour). If the value is 0, there is no recirculation.

NOTE: the recirculation is used to maintain water quality in the distribution loop when the pump is not running.

Example: every Wednesday, the SDS pump is running continuously from 08h00 to 17h30. When the pump stops operating continuously, it will then be powered for 30 minutes every hour between 17:30 and 08:00 the next day. This is what happens during Recirculation Mode.



NOTE: the SDS pump stops running automatically when the SDS is empty (below 0%) and does not restart until it is 10% full.

Chapter 4 MAINTENANCE AND ALARMS

4-1 MAINTENANCE

MAINTENANCE SCHEDULE

What?	When?
Replace Vent Filter (to be ordered separately)	At the same time than the Progard Pak.
Fill the overflow with acid + pH indicator	When the level of acid drops.
Sanitization of reservoir	Contact Millipore SAS for an adapted sanitization protocol.

SANITARY OVERFLOW DEVICE

The SDS Overflow Device should be filled with water plus a germicidal agent. This prevents bacteria from growing in the Overflow Device. One way to do this is to fill up the Overflow Device with an acidic solution. The instructions below provide information on how to do this.

1. Make a Sulphuric Acid solution of pH 2 (equivalent to Normality 0.01 N). Add some pH indicator so a colour change can be seen if the pH rises to a value such as 4. This will indicate that it is time to renew the acidic solution in the Overflow Device. An indicator such as Methyl Orange can be used.
2. Locate the overflow device. Locate the red plug near the top of the Overflow Device.
3. Remove the red plug.
4. Inject some of the acidic solution into the Overflow Device. Replace the red plug



Acidic solutions can be dangerous if spilled on your skin or if it gets into your eyes. Wear eye protection and wear gloves and other appropriate safety equipment while handling acid

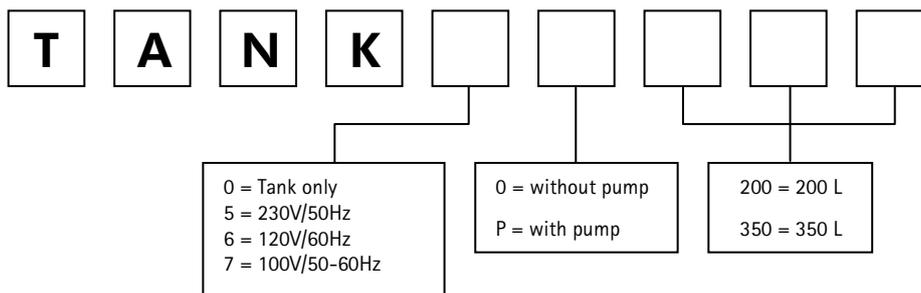
SANITIZATION OF RESERVOIR

Contact Millipore SAS for an adapted sanitization protocol.

4-2 TROUBLESHOOTING GUIDE

All the displayed messages for the Maintenance and Alarms are described in the Water System User Manual.

Chapter 5 ORDERING INFORMATION



CATALOGUE NUMBERS FOR CONSUMABLES

ACCESSORIES	DESCRIPTION	CAT NUMBER
SDS-200 Tank	200L Tank only	TANK00200
SDS-350 Tank	350L Tank only	TANK00350
SDS tank RiOs vent filter	0.22 Aervent	TANKVNT01
SDS tank Elix vent filter	0.22 Aervent, carbon and soda lime	TANKVNT02
ASM	Automatic Sanitization Module	TANKASMUV

Chapter 6 APPENDIXES

APPENDIX 1 MAIN FUSE REPLACEMENT

1. Switch off power to the system. Switch main power ON/OFF switch OFF.
2. Unplug the power cord from the power supply.
3. Unscrew the cap on the fuse holder "FUZE" on the front panel.
4. Pull out the faulty fuse and replace it with a new one.

Voltage	Cat. Number	Main Fuse
100V \pm 10% with pump	TANK7P200 TANK7P350	10 A T fuse Millipore SAS Spare Part FTPF04803
100V \pm 10% without pump	TANK7O200 TANK7O350	1 A F fuse Millipore SAS Spare Part FTPF00756
115V \pm 10% with pump	TANK6P200 TANK6P350	10 A T fuse Millipore SAS Spare Part FTPF04803
115V \pm 10% without pump	TANK6O200 TANK6O350	1 A F fuse Millipore SAS Spare Part FTPF00756
230V \pm 10% with pump	TANK5P200 TANK5P350	3.15 A T fuse Millipore SAS Spare Part FTPF03213
230V \pm 10% without pump	TANK5O200 TANK5O350	0.5 A T fuse Millipore SAS Spare Part FTPF00306



CONTACT MILLIPORE SAS IF THE MAIN POWER FUSE BLOWS AGAIN.

APPENDIX 2 CHECKLIST – WHAT'S INSIDE THE SHIPPING BOX

Please use this Appendix to confirm that all items were shipped to you and are accounted for. Use the checklist below and account for each item prior to having a Millipore SAS Representative install your system.

Check the box if the item is present.

Contact Millipore SAS if an item is missing.

Do you have?

- Reservoir capacity 200L or 350L (see chapter Ordering Information)
- Accessories bag including:
 - 2 fittings $\frac{3}{4}$ "F-20M hose barb.
 - 1 elbow fitting $\frac{3}{4}$ "F-20M hose barb.
 - 5 m long tube 19x27.5 mm.
- Vent filter: this accessory is not delivered with the systems and should be **ordered separately**.
- CD-Rom
- SDS 200-350 User Manual

Observed by

Name: _____

Signature: _____

Date: _____

Verified by

Name: _____

Signature: _____

Date: _____