

Milli-Q®
Lab Water

SDS 500

Storage,
Protection
& Distribution
System



The life science business of Merck operates as
MilliporeSigma in the U.S. and Canada.

MERCK

YOUR STANDARD TURNKEY SOLUTION

Integrated, all-in-one solution including:

- A range of main water distribution loop options
- Consumables
- Sanitary sampling valves located anywhere in the loop

Flexible and adaptable installation

- Distribution designs cover a wide range of installation needs, from a single lab to an entire building

Merck-certified equipment

- Stringent product development, manufacturing and quality systems ensure robust and reliable products



SDS 500 sanitary sampling port

GIVING YOU CONSTANT WATER QUALITY

State-of-the-art tank design

- Cylindrical shape and conical bottom for full drainage
- Tri-clamp (TC) connectors ensure perfect, secure closure and a continual flow of water
- No overflow to the drain prevents bacterial contamination

Protects your pure water quality

- Vent filter protects against airborne contaminants
- Spray ball cleans the tank cover with high pressure
- Optional Automatic Sanitization Module (ASM) with integrated 254 nm UV lamp prevents bacterial and biofilm growth on tank inner surfaces
- Optional Opticap® XLT20 Durapore® 0.22 µm loop filter removes bacteria
- Optional 254 nm UV lamp limits bacterial growth in the loop

Controlled distribution loop

- Constant velocity in the loop limits bacterial proliferation or biofilm buildup

Fresh water on demand

- Fresh water may be automatically* produced and stored over weekends or periods of non-use

*Programmable in the interface of the Milli-Q® HX or HR 7000 series of systems.



Milli-Q® HX 7000 series system and SDS 500 with Opticap® XLT20 Durapore® 0.22 µm loop filter, UV lamp (loop) and TC connectors.

EASE OF USE FOR YOUR PEACE OF MIND

Preventive maintenance

- Alerts and alarms management provided by the Milli-Q® HX or HR 7000 purification systems
- The communication interface of the Milli-Q® HX or HR 7000 system manages the lifetime of SDS 500 consumables

Ergonomic design

- Provides easy access to consumables and accessories (vent filters, Opticap® filter, UV lamps)
- Fast, effortless replacement of consumables in just minutes



Lab technician changing SDS 500 vent filters

ACCESSIBLE & CONNECTED TO YOU

Easy remote control access to SDS 500 operations via Milli-Q® HX or HR 7000 series systems

- Control via Milli-Q® HX or HR 7000 series display panel or via PC, tablet, or smartphone
- Accurate tank level measures, pressure readings, alerts & alarms, and consumables status

Real-time data online facilitates record keeping and data management

Connectable to LIMS (Laboratory Information Management System) or BMS (Building Management System) via Milli-Q® HX or HR 7000 series system



Lab technician checking SDS 500 parameters via an authorized iPad connection

Technical Appendix

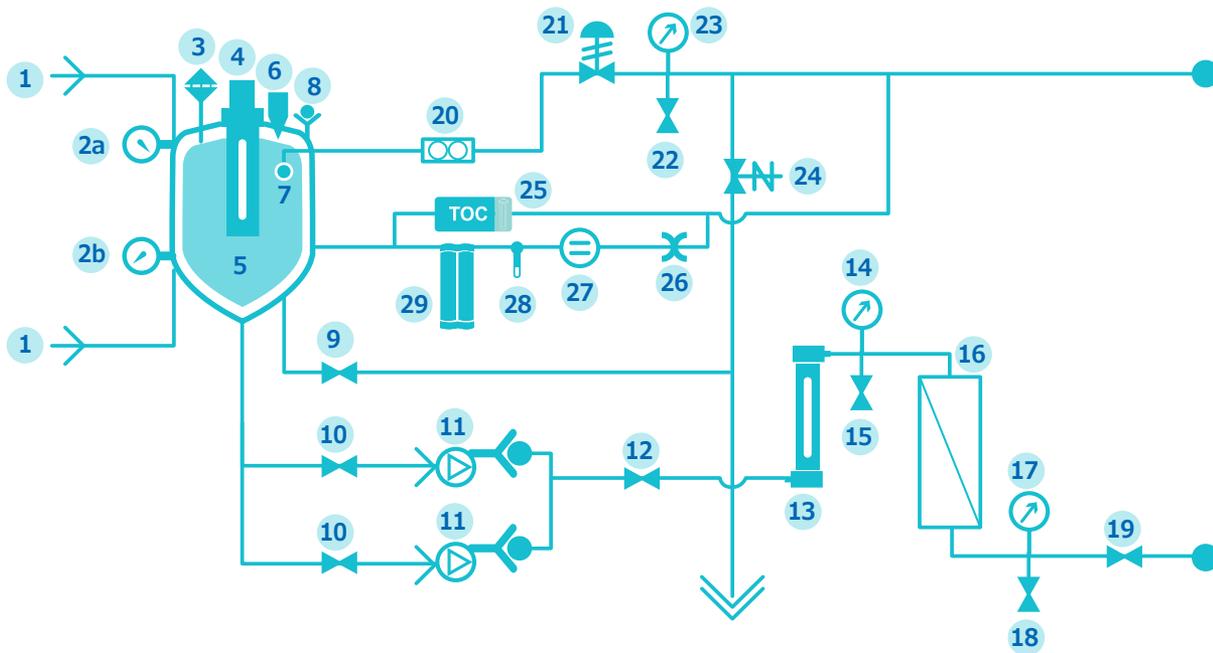


Milli-Q® HX 7000 series system paired with the SDS 500

SDS 500

Storage, Protection & Distribution System

Flow Schematic

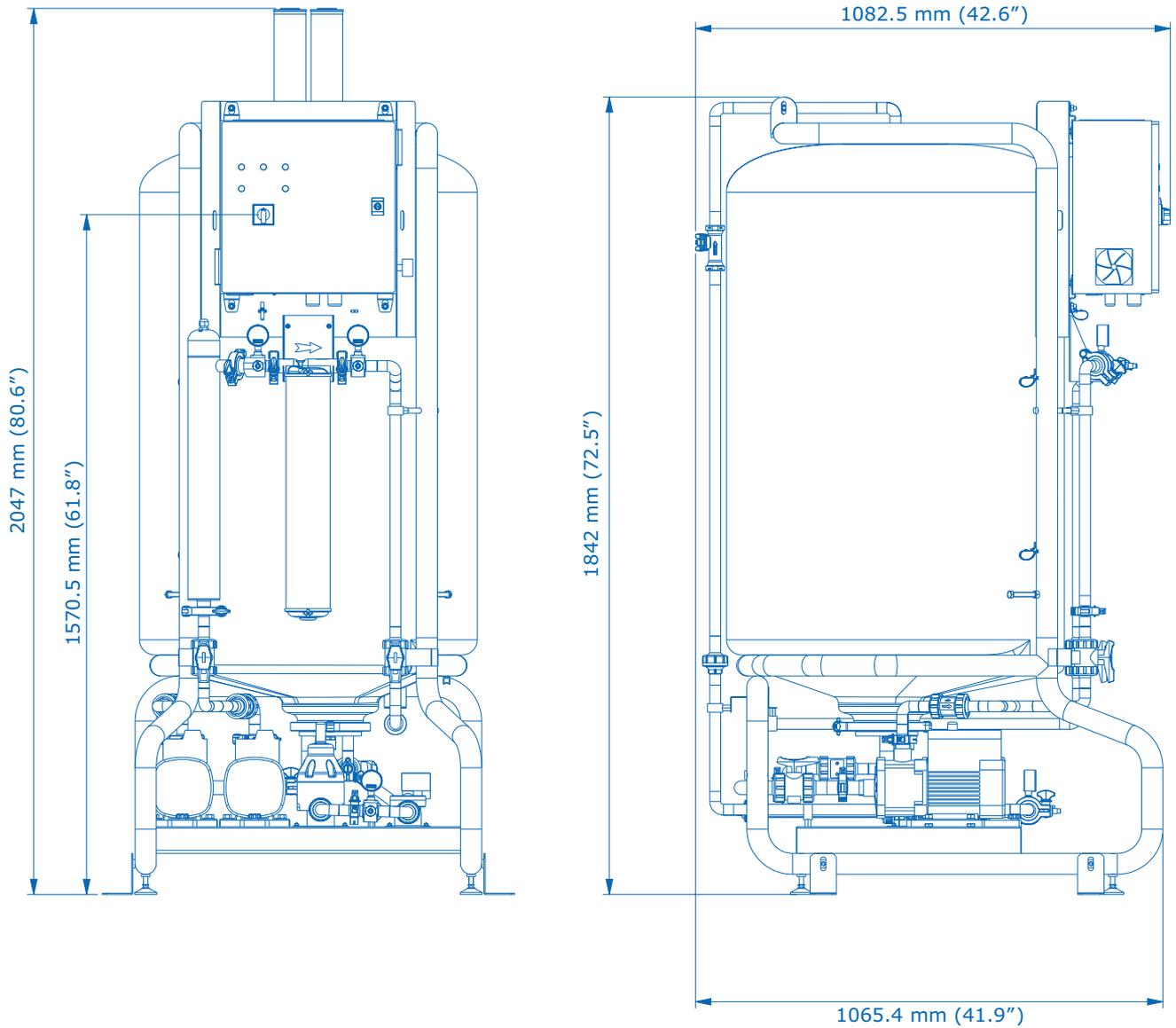


1. Feed from top or bottom
- 2a. Tank level high pressure sensor
- 2b. Tank level low pressure sensor
3. Vent filter
4. Automatic Sanitization Module (ASM) UV (254 nm; option instead of spray ball)
5. Tank
6. Overflow
7. Spray ball
8. Check valve
9. Tank drain valve
10. Pump isolation valve
11. Distribution pump(s)
12. Pump outlet isolating valve
13. UV lamp (254 nm; option)
14. Filter in pressure gauge
15. Opticap® inlet sampling valve
16. Opticap® filter (0.22 µm)
17. Filter out pressure gauge
18. Sampling valve loop out
19. Loop inlet valve
20. Flowmeter
21. Back pressure regulator
22. Sampling valve loop back
23. Pressure gauge
24. Automatic loop rinsing valve
25. TOC monitor (option)
26. 4 LPM flow controller (option with Resistivity booster)
27. Resistivity cell (option)
28. Temperature cell (option)
29. Resistivity booster (option)

SDS 500

Storage, Protection & Distribution System

System Dimensions



SDS 500 Specifications

Tank volume	500 L (132 Gallons)
Usable water volume	400 L (105 Gallons), <i>an additional volume of 100 L is reserved for low and high level security</i>
Weight (filled with water)	660 kg (1455 lb)
Weight (empty)	Up to 140 kg (308 lb)
Dimensions H x W x D	2047 x 790 x 1082 mm (80.6 x 31.1 x 42.6 in)
Floor space required	0.85 m ² (9.15 ft ²)
Noise level	E.g. 45.5 dB @ 1m (BPR = 1.5b / flow rate 20 L/min) E.g. 54.7 dB @ 1m (BPR = 4b / flow rate 40 L/min)

Pump Performances (Variable speed pumps)

Voltage / Frequency	Pump Performances
220-240 V, 50/60 Hz	Nominal: 16-40 LPM @ 1-4 bar
110-127 V, 50/60 Hz	4-9 GPM @ 14-58 psi
200 V, 50/60 Hz	Nominal: 16-40 LPM @ 1-3.5 bar*
100 V, 50/60 Hz	4-9 GPM @ 14-50 psi*

* At 90V, performance is reduced to 16-40 LPM @ 1-3 bar (4-9 GPM @ 14-43 psi)

Electrical Specifications

Voltage / Frequency	Maximum Power Consumption	Maximum Intensity
220-240 V, 50/60 Hz	2100 VA	< 9A
100-127 V, 50/60 Hz	2000 VA (120 V)	< 16A
	2000 VA (100 V)	< 20A

Materials

Tank	Medium density polyethylene (MDPE)
Frame	Epoxy painted passivated steel
Valves and fittings	Polypropylene, polyamides, EPDM
Piping	Beta Polypropylene Homopolymer (Beta PP-H)
Pump wetted parts	316 SST and tungsten carbide / carbon and EPDM seals
BPR wetted parts	Polypropylene, EPDM, PTFE
Pressure gauge	Inox 316 L
Other mechanical parts	Polyethylene terephthalate (PETP)

Plumbing Connections

Pure water inlet to tank	3/4" Sanitary TC
Tank drain	1 1/2" Sanitary TC
Tank loop inlet/return	1 1/2" Sanitary TC

Ordering Information

SDS 500 System

Item Description	Electrical (VAC / Hz)	Catalog Number
SDS 500 Duplex pump	220V-240V 50/60Hz	TANK5DP500
SDS 500 Single pump	220V-240V 50/60Hz	TANK5SP500
SDS 500 Duplex pump	100V-127V 50/60Hz	TANK6DP500
SDS 500 Single pump	100V-127V 50/60Hz	TANK6SP500
SDS 500 Duplex pump (US & Canada)	120V - 60Hz	TANK6DP500C
SDS 500 Single pump (US & Canada)	120V - 60Hz	TANK6SP500C

SDS 500 Options, Consumables & Accessories

Item Description	Catalog Number
Automatic Sanitization Module (ASM)	TANKSDS2ASM
ASM UV lamp	ZLXUVL2L2
Loop UV Lamp Assembly 254 nm	TANKSDS2UV
UV Lamp 254 nm for SDS 500 Loop	TANKSDS2UVL1
Vent Filter for type 3 water (2/Pack)	TANKVNT21
Vent Filter for type 2 water (2/Pack)	TANKVNT22
Opticap® XLT20 Durapore® 0.22 µm TC/TC	KVGLA2TTT1
Sanitary Sampling Valve (Stainless Steel)	MXPESP18N



For more information on the SDS 500, including options and accessories, please visit our website:
merckmillipore.com/labwater