

## LaboStar® PRO TWF Ultra Pure Water System

### FROM TAP WATER TO ULTRA PURE WATER – ONLY ONE INNOVATIVE STEP

The LaboStar® PRO TWF systems produce ultrapure water straight from your drinking water supply. This equipment incorporates a pre-filtration unit and a reverse osmosis membrane. The pure water collects in an integrated tank and is finally circulated through the polishing module by a circulation pump. The user can extract either Type III water from the built-in 7 l storage tank or Type I water from the dispenser with a quality of 0.055 µS/cm, equivalent to 18.2 MΩ-cm, and TOC of between 1 and 10 ppb, depending on the system type.

The RO water quality is displayed as well. The LaboStar PRO TWF equipment can cost-effectively produce small amounts of analytical-grade water. The water produced exceeds current quality standards. System can be upgraded with 30 or 60 l storage tank.

A conductivity sensor constantly measures the product water purity in the recirculation loop. A positively charged 0.2 µm sterile filter at the dispenser removes bacteria and endotoxins, eliminating the need for an expensive ultra-filter. An uncharged 0.2 µm sterile filter is also available. LaboStar PRO TWF systems are delivered with the first set of modules and filters.



### BENEFITS

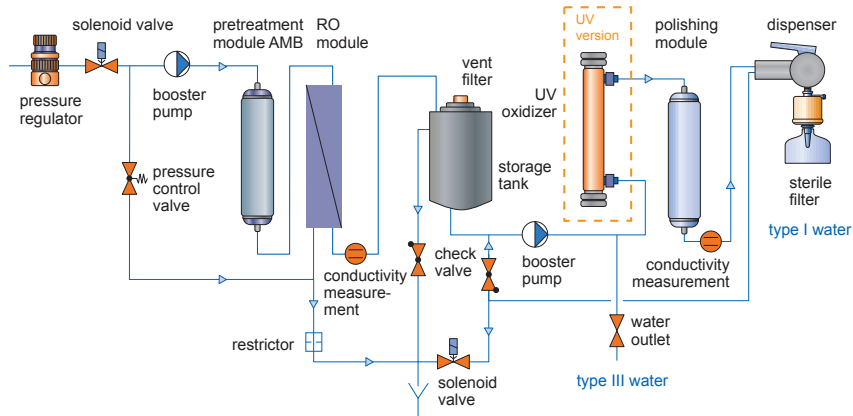
- Upgrade with 30 or 60 l storage tank possible, manual dispense via tap
- Delivers two types of water: type III from the tank and type I from the dispenser
- Two different sterile filters available (with and without endotoxin retention)
- Easy module change due to quick-fit couplers
- Low acquisition costs
- Scope of supply includes consumables
- Made in Germany

### TYPICAL APPLICATIONS

- General analysis
- Standard buffer
- AAS, GC, IC, ICP
- Type III water
- QC Food Industry
- Pyrogen sensitive applications
- Cell and tissue culture

### TYPICAL APPLICATIONS LABOSTAR PRO TWF UV

- Micro- und molecular biology
- PCR, HPLC
- TOC analysis
- Type III water



## SPECIFICATIONS

Pure water specifications	LaboStar PRO TWF	LaboStar PRO TWF UV
Delivery flow rate (l/h)	10	10
Ion retention rate (%)	96 max.	96 max.
Bacteria retention rate (%)	> 99	> 99
Particle retention rate (%)	> 99	> 99
<b>Ultra pure water specifications</b>		
Delivery flow rate (l/min)	1.2	1.2
Conductivity ( $\mu\text{S}/\text{cm}$ )	0.055	0.055
Resistivity ( $\text{M}\Omega\text{-cm}$ )	18.2	18.2
TOC (ppb)	< 10	< 5
Bacteria (cfu/ml)	< 0.1*	< 0.1*
Endotoxins (EU/ml)	< 0.001* <sup>2</sup>	< 0.001* <sup>2</sup>
Particles > 0.2 $\mu\text{m}$ (per ml)	< 1	< 1
<b>Feed water specifications</b>		
Feed water pressure (bar)	3 - 5	3 - 5
Conductivity ( $\mu\text{S}/\text{cm}$ )	< 1400	< 1400
Silt density index (SDI)	< 12* <sup>3</sup>	< 12* <sup>3</sup>
TOC (ppb)	< 1000	< 1000
Free chlorine (mg/l)	< 0.1	< 0.1
CO <sub>2</sub> (mg/l)	< 20	< 20
Water temperature (°C)	5 - 30	5 - 30
Ambient temperature (°C)	5 - 35	5 - 35
<b>Power requirements</b>		
Power consumption (W)	270	270
Power supply (V/Hz)	100-240 V/ 50 - 60 Hz	100-240 V/ 50 - 60 Hz
Dimensions (H x W x D) (mm)	535 x 400 x 410	535 x 400 x 410
Weight, net (kg)	20.0	21.2
Weight, with packaging (kg)	24.0	25.0
<b>Item Number</b>	W3T324337	W3T324338

## CONSUMABLES & ACCESSORIES

Item No.	Description	Change frequency*
W3T197613	Pre-treatment module AMB	6 - 12 months
W2T558521	UV replacement bulb	12 months
W3T197694	Polishing Module MFIII D	6 - 12 months
W3T199853	Polishing Module ILT	6 - 12 months
W3T199279	Sterile filter 0.2 $\mu\text{m}$ with endotoxin retention (pack of 3)	6 months
W3T199209	Sterile filter 0.2 $\mu\text{m}$ without endotoxin retention (pack of 3)	6 months
W3T199768	Disinfection kit (pack of 3)	-
W3T197620	RO Replacement module 10 l/h	2 - 3 years
W3T199880	Vent Filter for the tank	
W3T199556	Wall bracket for LaboStar Pro TWF	
W3T324494	30 l Storage tank for LaboStar Pro TWF	
W3T324495	60 l Storage tank for LaboStar Pro TWF	
W3T314413	Degassing unit up to 150 l/h	
W2T897953	AQUASTOP 230 VAC/50 - 60 Hz	water guard
W3T197588	Solenoid valve 230 V/50 Hz DN 10	

\* : Change intervals possibly shorter, depending on feed water and consumption.

\* when sterile filter W3T199279 or W3T199209 is used (see accessories) with bubble point test: pressure > 50 psi/3.45 bar (with water) resp. 16 psi/1.10 bar (with 50% IPA)  
<sup>2</sup> incl. charged sterile filter (the water was free of any detectable RNase or DNase)  
<sup>3</sup> with a pre-filter

RNase and DNase free water with the use of filter W3T199279 (RNase < 0.05 pg/ml; DNase < 10 pg/ml)