

TKA LabTower AFT



The high-tech
complete system for
clinical analyzers.

The integrated system. Purification and storage in one.



■ **Uncompromising high purity water quality (CLSI 1) and guaranteed service.**

The particular high purity water quality that clinical analyzers need

- TKA Lab Tower AFT Systems have been specifically designed to efficiently and reliably supply high purity water to analyzers.
- The high purity water quality they produce fulfills all specific requirements of the analyzer manufacturers and complies with the typical CLSI type I quality standards (formerly NCCLS).

Guaranteed reliability

- Authorized, highly qualified and committed TKA dealers and specially trained technicians back up the well-known and dependable TKA service guarantee.
- 100% Supply of high purity water at all times, ensured by the integrated emergency supply.

TKA LabTower AFT.



■ The benefits in a nutshell!

Optimized performance as a lab supplier!

- A high-performance reverse osmosis module combined with a long lasting life ion exchanger and UV flow-through sanitization
- Two systems, for 20 or 40 litres per hour of high purity water

Compact, well-styled design, mobile!

- Needs no bench space
- ¼ m² floor space suffices
- castors for easy moving

Dependable operation!

- 100% Certainty of supply given by the integrated emergency supply via a 20 l ion exchanger cartridge
- Pressure reducer with pressure display of pump functioning
- Microprocessor control for automatic operation and the monitoring of all important parameters
- Potential free contact for the evaluation of fault messages
- Leak monitoring via AQUASTOP water control with solenoid valve (optional)

■ Always fresh quality!

- Accurate water quality data are assured via the built-in RS 232 interface and printed out
- Purification and quality measurement immediately before high purity water is drawn off



Two in one!

- Reverse osmosis water purification and high purity water tank
- Two systems in just one compact unit

Two ways to dispense water!

- Directly from the dispensing valve of the system for calibration solution preparation, manual analyzes, filling of containers, general rinsing purposes etc.
- From the tank to directly feed analyzers

Built-in state-of-the-art technology!

- Water pretreatment with 5 µm prefilter + activated carbon and hardness stabilization
- Emergency valve for fault-independent analyzer operation
- Integrated 1 µm prefilter
- Pressure pump with pressure gauge and pressure reducer for direct supply to analyzers

Optionally with:

- Sterile filter unit, 0.2 µm
- Sterile vent filter/ overflow
- UV Immersion lamp for installation in the tank
- UV flow-through sanitization to avoid bacterial growth

■ Greater economy!

- Low running costs by virtue of the integrated 20 l ion exchange cartridge with regenerable and tested mixed bed resins.



■ Store high purity water safely and conveniently!

100 Litre tank module!

- Upto 100 litres of high purity water ready to take

Sterile vent filter/ tank overflow (optional)

- Thetwo protective filters prevent contamination by microorganisms in the surrounding air

Volume display / float chain

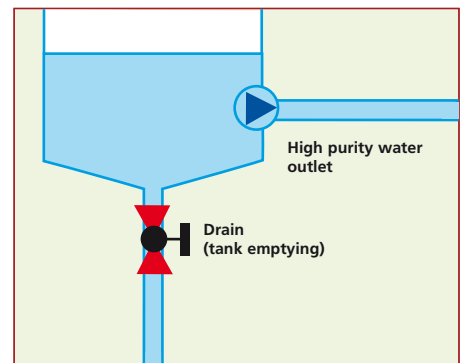
- Fullyautomatic level regulation with display of the currently stored water level in the tank
- Floatchain for adjustable tank volume allowing automatic operation

Polyethylene tank

- Highpurity water resistant, opaque to light and food-safe
- Comfortableaccess through the cleaning opening

Conical bottom outlet

- Allowscomplete emptying for efficient cleaning and sanitization



Documentation!

TKA LabTower AFT was developed to meet GLP (Good Laboratory Practice) requirements. Recorded and traceable documentation of data can be obtained via the RS 232 interface and a TKA printer. Highly qualified and precise measurement of the conductivity is ensured by the cell constant of 0.01 cm⁻¹ and is temperature compensated to an accuracy $\pm 0.1^{\circ}\text{C}$ (acc. to USP <645>) even on only minimal changes in temperature.

Easy to use!

Clear information!

The large 4-line display is code-protected and offers a choice of three languages, English, German or French. It is illuminated, can be easily read and provides information on:

- The temperature in °C
- The temperature compensated conductivity of the water subsequent to the reverse osmosis / high purity water module
- The status of operating processes such as production, stand-by, rinsing, sanitization
- The tank content in %
- The RS 232 interface
- The fault memory function

Simple operation!

A mere six keys allow rapid operational readiness:

- Start/stop of high purity water production
- Start/stop of other operating processes and routine maintenance
- Setting the limiting conductivity value for reverse osmosis water and high purity water
- On/off of the optional UV-lamp

Sterile high purity water whenever you need it!

Freshly produced high purity water can not only be taken from the tank but also directly from the system itself, protected from contamination by the optional sterile filter.



Tank level control indicator!

Continual monitoring of the tank volume in %.

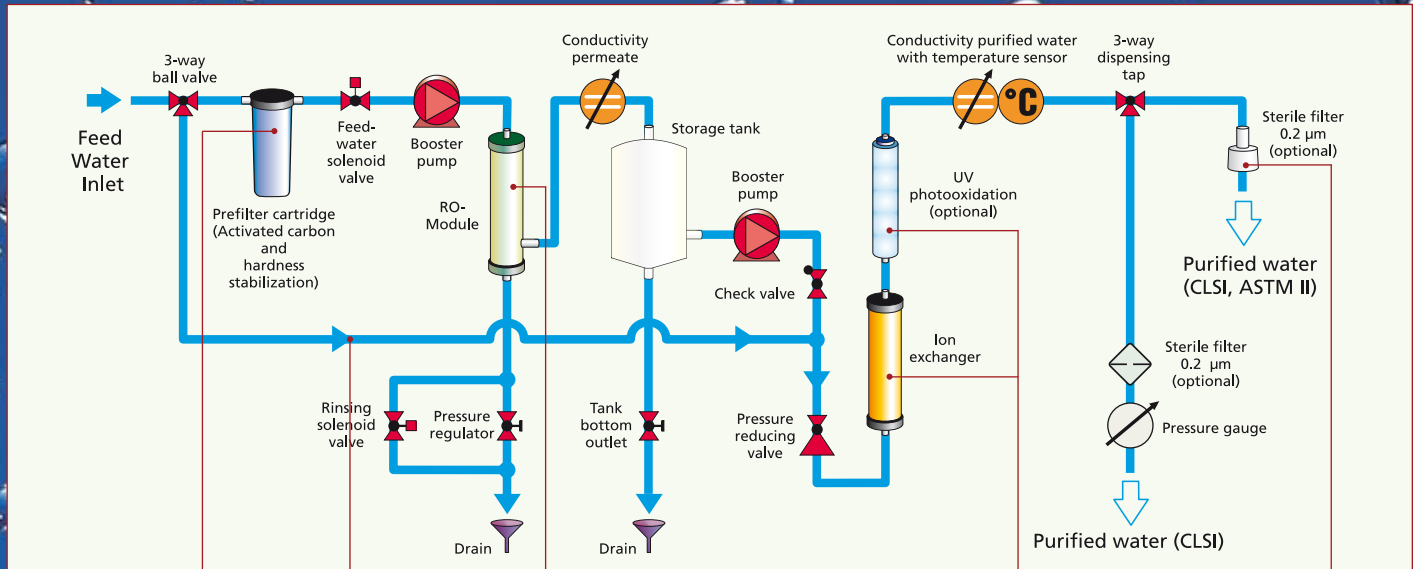


A good view!

Just set the tiltable display/keypad unit to the best viewing/operating position for you.



Flow chart for TKA LabTower AFT



LabTower AFT. High-tech purification for high purity water.

Pretreatment

The combi-filter cartridge, containing a 5 μm prefilter and activated carbon, protects downstream purification stages from chlorine and particles. The subsequent hardness stabilizing cartridge protects the reverse osmosis unit from hardness forming substances. On request, TKA can offer further pretreatment possibilities for critical feed-water conditions.

Reverse osmosis and tank

The pretreated water is forced through the permeable reverse osmosis module by pressure. This results in the removal of 97 – 99% of all inorganic ions and 99 % of all dissolved organic substances, microorganisms and particles.

The built-in 100 l tank has a conical bottom outlet and a suitable lidded opening for easy and efficient cleaning and sanitization.

Ion exchanger/UV

The permeate that emerges from the reverse osmosis module has been purified to 99 %. The very low amounts of cations and anions that are still in the water are now completely removed from it during passage through an ion exchanger cartridge with tested, ultrapure resins.

Optionally, UV-sanitization removes any bacteria and germs that are present. Further to this, 0.2 μm sterile filtration, also optional, brings the optimal result: Water in its purest form.

Dispensing from the front

An additional dispenser at the front of the system itself offers a very convenient dispensing possibility. Flow rate, 1.5 l/min.

Optionally with an 0.2 μm sterile filter

The result:
H₂O pure – nothing else!
CLSI Standard high purity water.

Double security!

Maximum operational reliability is given by the integrated "By-pass system". Should a system fault occur, then just a flick of the wrist suffices to switch it to purely ion exchanger operation. The supply of high purity water is then maintained without interruption, fault-free and independent of the other purification stages. Guaranteed until service comes. Optional monitoring for leaks with a sensor that can be freely-positioned. With automatic system shut-off as well as optical and acoustic signals in case of malfunction.



■ System components, LabTower AFT

Type LabTower	AFT 20	AFT 40
Flow rate at 15 °C, l/h:	20	40
Typical conductivity in $\mu\text{S}/\text{cm}$:	0.1 – 1	
Typical resistance in $\text{M}\Omega\text{xcm}$:	10 – 1	
Bacteria content in CFU/ml, with sterile filter:	< 1	
Particle content (0.2 μm) per ml, with sterile filter:	< 1	
Operating pressure in bar, min./max.:	2/6	
Supply voltage:	230 V/50Hz	
Power consumption, in kW:	0.25	
Connector size, male thread:	R 3/4"	
Ambient temperature:	+2 °C – +35 °C	
Dimensions, W x D x H in mm:	450 x 580 x 1500	
Weight in kg:	66	66
Cat. no.:	08.4422	08.4442

TKA feedwater requirements for LabTower AFT systems:

Type of water:	Tap water, max. 1500 ppb
Prefiltration:	5 μm + activated carbon
Free chlorine concentration:	< 0.1 mg/litre
Manganese content:	< 0.05 mg/litre
Iron content:	< 0.05 mg/litre
Colloid index:	< 3
pH-Range:	4 – 11

Accessories/Options

06.5001	Sterile overflow
06.5003	Sterile vent filter, 0.2 μm
06.5006	UV-Lamp for the tank
26.0017	UV-Lamp for flow-through sanitization
06.5101	Particle filter cartridge, 1 μm , for tank high purity water outlet
06.5555	Sterile filter cartridge, 10", 0.2 μm , for tank high purity water outlet
09.1003	Sterile filter capsule, 0.2 μm , for direct dispensing
16.0129	Leak monitoring with AQUASTOP control and solenoid valve
02.2850-RDS	Ion exchanger, 20 l, replacement cartridge

Replacement materials

06.5203	Activated carbon cartridge with prefilter 5 μm , for pretreatment
06.5453	Hardnes stabilizer
22.0046	Reverse osmosis membrane for LabTower
22.0095	Replacement UV immersion lamp for Tank
22.0095	Replacement UV lamp for AFT systems
09.2202	Sanitization kit, pack of 12



TKA Water purification systems

The clinical analyzer feed systems introduced in this brochure are only a part of the TKA water purification systems line.

Among others, TKA offers high-quality reverse osmosis systems with state-of-the-art spiral membranes, both alone and in combination with TKA ion exchangers and electro-deionization modules. For the smallest to the largest need of high purity water, for the daily supply of water for autoclaves up to the production of Aqua Purificata.

We will gladly provide you with further information, advise you on the right choice of pretreatment or recommend an optimal combination of various systems for the performance you require. Always with economy in mind and under consideration of the water quality or qualities that you need. As little as possible, as much as necessary!

It is our aim to offer you water purification systems that provide water of the various qualities as reliably, practically and cost-favourably as possible. Our standard systems are correspondingly designed. Should none of these exactly fit your special requirements, however, simply contact us! For us, each and every problem is a challenge. We will find a suitable and economic solution even when the given conditions are very critical, because we have high experience in the field of high purity water production.

Your authorized dealer:



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