

**H₂O, nothing else.
Only the best
for your analyzer!**



**Superior water
purification is decisive
for the quality of the
lab's results.**

TKA WATER
PURIFICATION
SYSTEMS

**Only the best
for your analyzer!**



■ **Reliability right from the very start.**

TKA ultrapure water systems for supplying clinical analyzers in accordance with CLSI water standards, type 1.

Higher quality and higher quantity – this is the trend in clinical laboratories. Analysis systems are becoming more and more powerful: they combine several methods in one instrument on the one hand and are able to process more samples on the other hand.

The universal use of electronic data processing (EDP) virtually allows bidirectional operation. This practically excludes the possibility of mix-ups, as the request input and the result output are subject to EDP. Requirements are entered and findings are output via the IT system. This is how the new analysis systems ensure EDP-based, fast and reliable operation throughout, particularly in the main fields of clinical chemistry, haematology, immunology and coagulation.

■ **Ultrapure water is absolutely crucial!**

The ultrapure water circulation within the system is very similar to the system by which blood circulates in the body. Foreign substances are removed. All system components of the analyzer coming into contact with the samples and reagents are “refreshed”, so the pipettes must be cleaned with fully demineralised water for instance after withdrawal. The same applies to the reagent vessels. And ultrapure water is also required for diluting samples.

Consequently, the quality of the ultrapure water is crucial to the quality of the results. Even the slightest contamination, e.g. a very minimal calcium share, would falsify the sample results owing to a higher calcium content.

Inadequate or fluctuating ultrapure water quality or even a temporary interruption in supply would destroy entire batches with hundreds of samples. Apart from the financial losses, this could also result in potentially life-threatening situations for patients. Consequently, optimum certainty is an absolute must, both in respect of the quality of the ultrapure water itself and in respect of the quality of the technical supply system!

■ **100% reliability for a fraction of your investment.**

The ultrapure water supply is the “heart” of the system!

Opting for an ultrapure water supply system from TKA means that you opt for a particularly powerful, reliable and long-life system.

If you consider that the costs amount to only a fraction of the entire investment in an analyzer system, this is one reason more to opt uncompromisingly for TKA state-of-the-art purification technologies.

TKA systems comply with the required standards:

- Electrical safety in accordance with CE and VDE
- The pure water produced complies with the requirements of CLSI*, type 1 (former NCCLS)

- Resistivity	10.0 MΩxcm at 25 °C
- Bacteria	≤ 10 cfu/ml
- Silicate	≤ 0.05 mg/l

* Clinical and Laboratory Standards Institute

TKA ultrapure water supply.



The essence of technical advance!

Modular design

The right system for any size of analyzer can be assigned, as a modular system is compatible with any analyzer – optionally as an integrated unit in the control unit. Option for enhanced performance by installation of further RO membranes.

Easy connection

Tap water in accordance with the TKA feed water quality requirements. Each unit features an integrated water hardness stabilizing system and so no separate softener or citric-acid rinse is required.

Fully automatic operation

User-friendly and safe. Fully automatic monitoring and controlling due to digital microprocessor.

Constantly high ultrapure water quality

Highest quality and economy thanks to an intelligent combination of purification techniques pretreatment with

hardness stabilizing, reverse osmosis, ultrapure resin ion exchanger, organic absorber, UV disinfection and sterile filtration.

Economical

Low operating costs thanks to series connection and cartridge size designed for increased daily consumption. The TOC-tested resins can be regenerated on the RDS systems.

Dissolved oxygen

The TKA units can also be supplied with a degassing membrane for reducing the dissolved oxygen if required by certain analyzers.

Double security

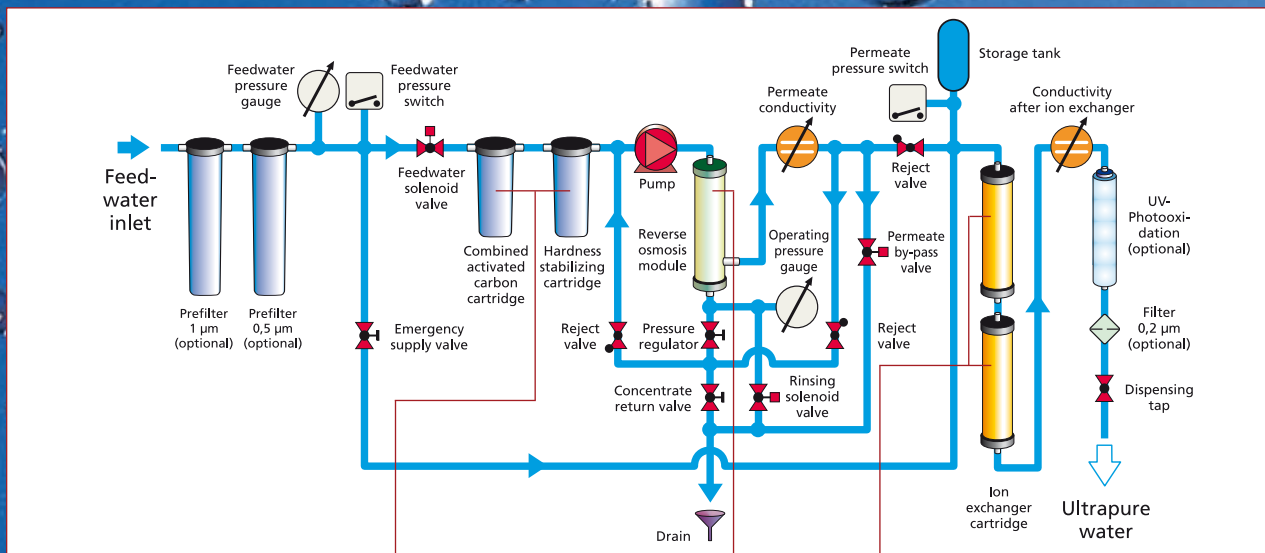
Maximum operating reliability thanks to integrated bypass system. If system faults occur, the system can be switched quickly to pure ion exchanger operation. Consequently, the ultrapure water quality is maintained without interruption regardless of the other purification steps. This is guaranteed until the service technician arrives. Leakage monitoring by freely positionable sensor. With automatic system shut-off and both visual and audible signal in case of an error message.



TKA MicroLab

Compact unit with 6 l flow rate per hour, integrated 6 liters storage tank with pressure pump

Flowchart MediTower 60



Pretreatment

The activated carbon/prefilter 5 µm combination protects the next purification steps against chlorine and particles. A downstream hardness stabilizing cartridge protects the reverse osmosis unit against hardness-causing substances.

The result: H₂O pure – nothing else! Ultrapure water in accordance with CLSI Standards.

Reverse osmosis

The pretreated water is pressed through a permeable reverse osmosis module. This removes 97–99% of all inorganic ions and 99% of all dissolved organic substances, besides micro-organisms and particles.

A constant quality of the purified water is guaranteed by a fully automatic rinsing cycle with permeate discard, which runs before and after use and also during standstill. This ensures a long lifecycle of the RO membranes amounting to several years.

Ion exchanger

The TKA reverse osmosis module removes up to 99% of impurities. Remaining ions, cations and anions, are removed by one or more ion exchangers filled with high purity and tested resin. The number of cartridges required depends on the size of the whole system. Ultraviolet oxidation and sterile filtration of the ultrapure water outlet complete this purification system which supplies water in its purest form capable of satisfying virtually all critical requirements.

The right system for any analyzer. For example...



TKA Pacific 3 – 40 AFT
Flow rate 3, 7, 12, 20 and 40 l/h.



TKA MediTower 60/120
Flow rate 60 and 120 l/h.



TKA RO 100 – 350 RDS
Flow rate 100 up to 350 l/h.



5000 analyzes every day and each one must be correct!

Reliable supply of the analyzer with ultrapure water is crucial in order to achieve pure results. For the cleaning of pipettes and reagent vessels a thousand times per day. After each sample, after each sample change.



Pure water system	MicroLab	Pacific 3 – 40 AFT	MediTower 60/120	RO 100 – 350 RDS
Typical conductivity (µS/cm)	0.1 – 1.0	0.1 – 1.0	0.1 – 1.0	0.1 – 1.0
Bacteria removal	99 %	99 %	99 %	99 %
Power consumption (kW)	0.06	0.10	0.30	0.80
Operating voltage (V/Hz)	Automatic supply 24 V	230/50 (115/60*)	230/50 (115/60*)	230/50 (115/60*)
Operating pressure, (bar) min./max.	1 – 6	2 – 6	2 – 6	2 – 6
Dimensions (W x D x H in mm)	283 x 385 x 544**	372 x 330 x 615	560 x 660 x 1380	900 x 705 x 2140
Weight (kg)	22 kg	24 – 26	150	200
	Cat. No.	Cat. No.	Cat. No.	Cat. No.
Flow rate at 15 °C	6 l/h 08.0060	3 l/h 08.4305	60 l/h 05.3061-AFT	100 l/h 05.3100-RDS
	6 l/h 08.0061***	7 l/h 08.4308	120 l/h 05.3121-AFT	180 l/h 05.3180-RDS
		12 l/h 08.4314		300 l/h 05.3300-RDS
		20 l/h 08.4322		350 l/h 05.3350-RDS
		40 l/h 08.4342		

* on request ** MicroLab with integrated 6 l storage tank *** incl. UV lamp

Accessories for TKA Pacific AFT

Cat. No. 09.4000 Complete pre-treatment, consisting of 2 x Filter housing 10" with activated carbon with prefilter 5 µm and hardness stabilizer to remove particles, free chlorine and hardness formers to protect the RO-membrane.

Cat. No. 06.5031 Storage tank 30 litre, with level control, pressure gauge, emergency supply and pressure pump

Cat. No. 06.5061 Storage tank 60 litre, with level control, pressure gauge, emergency supply and pressure pump

An impressive achievement you can count on:

Hundreds of TKA systems ensure reliable supply of ultrapure water to analyzers, worldwide.



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