

# Tempus600®

Reliability and  
maintenance cost





# HIGH RELIABILITY & EASY MAINTENANCE



Many areas need to be evaluated when assessing the investment of new technology and its potential impact on daily operations. This is why we have thoroughly tested Tempus600® to ensure maximum availability, minimal maintenance and the cost of preventive maintenance is as low as possible.

The reliability of Tempus600® is well documented and based on collected data. The values are calculated for the average Mean Time Between Failures (MTBF) and the Uptime time for Tempus600®. When it comes to achieving optimal reliability, preventive maintenance is central and is included in the calculated Uptime.

## MTBF 412 days

MTBF describes the average time between reported errors in the Tempus600® system during normal operation, when maintenance is carried out according to defined maintenance intervals. User errors are discarded.

## UPTIME 99.93 %

Uptime is the percentage of time which the Tempus600® system is operational, with the proviso that power, air and networks are constantly available.

**The calculations are based on data for the Tempus600® Vita, Quantit and Necto, for which a service contract has been signed with SARSTEDT ApS.**

**The calculations are valid from 1 January 2019.**

Samples sent:	3,446,802 samples
Uptime:	99.93 %
Total available time:	130,062 days

# TEMPUS600®



Tempus600® is an innovative patented invention for the transport of small clinical samples in or between hospitals and laboratories.

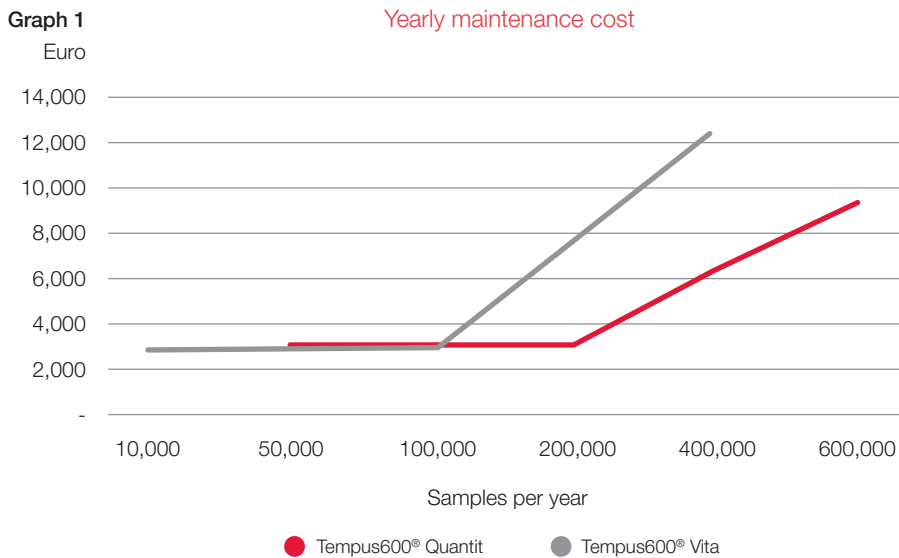
Using a transport pipe of only 25 mm in diameter, Tempus600® is easily installed in any hospital and can be directly connected to automation systems in the laboratory making Tempus600® a central element in the preanalytical process.

Tempus600® solutions are extremely reliable in operation with an uptime of 99.93 % and reduce operating costs considerably. Most troubleshooting can even be done remotely by our support team.

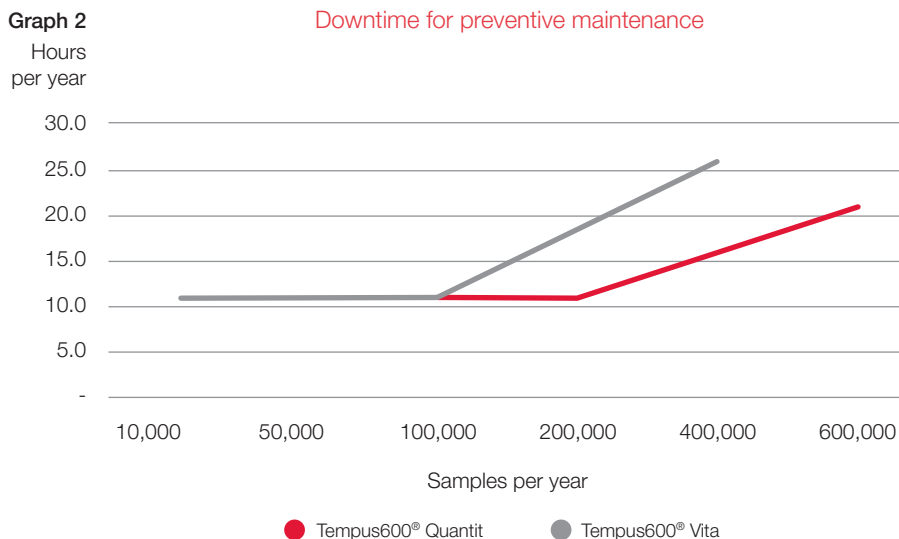
# DOWNTIME OF TEMPUS600® VITA & QUANTIT

## Minimal downtime

Minimal downtime is a significant contributor to ensuring a short and stable response time for laboratory results. The average yearly downtime for Tempus600® Quantit and Vita is calculated on basis of the average downtime for preventive maintenance, including cleaning, and also based on data using reported errors from operating Tempus600® systems in hospitals and laboratories. The total expected downtime for preventive maintenance depends on the number of samples sent per year.



Graph 1 shows the cost of the annual maintenance of the Tempus600® Vita and Quantit. The graph shows that the number of samples sent per year with the Tempus600® Vita and Quantit affect the annual maintenance cost. From a maintenance point of view, when sending more than 100,000 samples a year, the hospital or laboratory must assess whether the Tempus600® Quantit or Vita is best suited for the purpose.



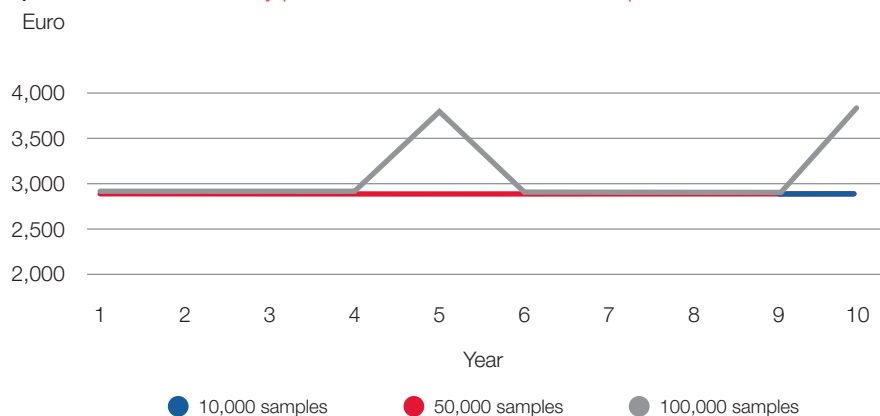
Graph 2 shows the expected downtime per year for Tempus600® Vita and Quantit in connection with the preventive maintenance/service in relation to the number of samples sent per year.

# MAINTENANCE OF TEMPUS600® VITA & QUANTIT

## Predictable preventive maintenance costs

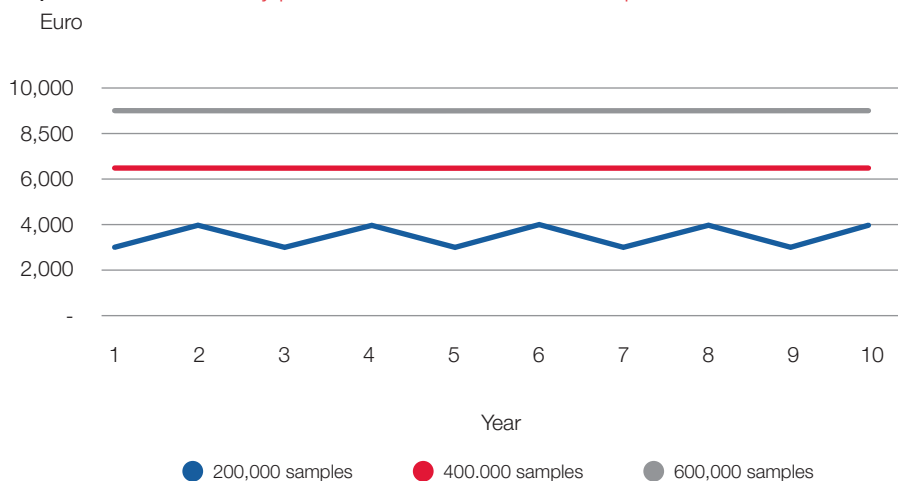
The cost of preventive maintenance on Tempus600® systems is related to the number of samples sent per year. The annual cost of preventive maintenance, including cleaning costs, on Tempus600® systems can be predicted and calculated as it does not increase over time.

**Graph 3** Yearly preventive maintenance cost Tempus600® Vita



Graph 3 shows the cost of annual preventive maintenance of the Tempus600® Vita as a function of the number of samples sent per year over a 10-year period.

**Graph 4** Yearly preventive maintenance cost Tempus600® Quantit



Graph 4 shows the cost of annual preventive maintenance of the Tempus600® Quantit as a function of the number of samples sent per year over a 10-year period.

# CASE STUDY

- ✓ Tempus600® Vita
- ✓ Tempus600® Quantit
- ✓ Tempus600® Necto



Bispebjerg Hospital in Denmark has one of the largest fully automated laboratories in Europe. The laboratory facility ensures higher quality for the hospital, with faster response times for analyses of the 1 million blood samples that the hospital's clinical biochemistry department currently needs to be able to process every year. As an important element in optimising response time, the hospital has installed Tempus600® systems for the transport of small clinical samples.

Naturally, reliability and uptime are of utmost importance for maintaining a smooth flow and steady production of blood samples. From a maintenance point of view, it is optimal that the systems require minimal maintenance, and the cost of the ongoing maintenance is as low as possible.

**The calculations are based on data for the Tempus600® Vita, Quantit and Necto, installed at Bispebjerg Hospital, Denmark. Service contracts have been signed with SARSTEDT ApS for all the systems. The data are valid from 1 January 2019.**

Samples sent: **3,446,802 samples**  
 Uptime: **99.92 %**

Bispebjerg Hospital	MTBF	UPTIME
7 Tempus600® Vita	249 days	99.97 %
1 Tempus600® Quantit	90 days	99.94 %
3 Tempus600® Necto	143 days	99.80 %

Available time	
Tempus600® Vita	14,437 days
Tempus600® Quantit	1,075 days
Tempus600® Necto	9,582 days



## Cool facts

Countries

28

Hospitals

232

Installations

688



**TEMPUS600**<sup>®</sup>

*One-touch for better treatment*

See latest updates on [tempus600.com](http://tempus600.com)

### Easy installation and maintenance

Tempus600<sup>®</sup> is a compact system designed to function optimally. It can be installed in just two weeks without disturbing the hospital's daily routines. Should it become necessary to relocate, systems and tubes can be reused and moved without difficulty to a new place in a different building or another part of the hospital.

### Uptimes and reliability

Tempus600<sup>®</sup> solutions are extremely reliable to run. With an impressive uptime of 99.93 %, operating costs are considerably reduced. In addition, our support team is capable of performing the vast majority of troubleshooting externally – with Tempus600<sup>®</sup>, you are in the best hands!

### Modular, scalable solutions

The modular design makes it easy to integrate and expand the Tempus600<sup>®</sup> solutions. Regardless of whether you need a single system or a comprehensive hospital-wide concept, you can integrate Tempus600<sup>®</sup> and expand it later to fulfil new needs. The flexible and scalable systems make it possible to combine complete logistics solutions for every setup, so the entire sample flow is streamlined and optimised.

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