

## Pneumatic Tube Systems in Hospitals

Efficient material logistics is of high importance in a complex organisation such as a hospital. The following article provides the arguments for why the application of a pneumatic tube system in a hospital is the right choice.

Naturally, medicines, drugs, samples, reports and documents, etc., must be transported and distributed. This job, which does not always correspond to the staff's qualifications, takes up most of the disposable time.

A pneumatic tube system can take over most of the transport function as it is fast, reliable and economical. By connecting the central departments, for example, laboratory, pathology and pharmacy to the system, huge advantages in regard to the efficiency an internal logistics will be achieved.

A pneumatic tube system will improve the organisation of a hospital considerably. The system can be adapted without any problems occurring to any organisational changes required and can also be extended flexibly. Stations or user-numbers with up to five digits can be given, and even the internal telephone numbers, the numbers of the intercom system or the room numbers can be used. If one user or a group of users are moving to another area, they can take their valid numbers along with them easily.

If one of the users leaves earlier, a deputy number can be programmed, to which the carriers will then be redirected and sent automatically. Through this system it is basically guaranteed that all functions can always be reached at all times. All this will expedite and ease material communication as well as organisational matters.

A pneumatic tube system is never tired, has no vacation privilege and never goes on strike. It executes its service to the patients discreetly and efficiently. Measured on its very short amortisation time, its reliability and durability is high grade.

The following is an important argument for the installation of a pneumatic tube system. The inpatient is waiting for fast assistance and must be resigned to waiting times due to the fact that the hospital staff are busy most of the time.

A pneumatic tube system brings the discharge that is needed urgently and provides the necessary time that the hospital staff need for their primary duty, which is nursing the in-patients. The in-patients and the hospital staff both benefit from such a development.

Obviously this transport system includes all features with which to transport the contents carefully. Carriers with special inlays and cushioned carrier lids are also standard as well as there being a pneumatic soft deceleration at the receiving station.

The contents in a pneumatic tube system are transported with a speed of approximately 6 metres per second (m/s), which is approximately 22km/h. In addition, a transport carrier cannot be stopped once it has started and will reach its destination without delay. There are many reasons why people stop on their way, but this does not need to be explained.

Depending on the system type, the transport speed can be reduced to about 2 to 3m/s to enable the transport of very sensitive contents. In many hospitals blood samples are transported with pneumatic tube systems in order to reduce transportation time and save manual workload (labour costs).



During the planning of a new hospital in Trondheim, Norway, the hospital staff found it necessary to increase their knowledge concerning the transportation of blood samples in pneumatic tube systems. There was little literature describing whether transportation in pneumatic tube systems would create alterations of the concentration of specific components in the blood samples. Using this information, the hospital decided to perform their own testing by taking two samples from 10 different patients for every blood type. Both samples were tested and one was left on the shelf, while the other was transported a distance of 400m/1,200 feet in an aerocom pneumatic tube system, type AC 3000. After that the second sample was tested again. The conclusion is that transportation in an aerocom pneumatic tube system does not affect the test answers in any degree of clinical significance. aerocom may be contacted in order to obtain a complete test report.

In addition, from the point of view of hygiene there are no restrictions since the transport carriers can be sterilised easily. Contact addresses of users can be provided on request.

Today, personnel expenses are taking up a considerable part of each hospital's budget, particularly because it is not easy to find employees with the right qualifications. Employees are often occupied with functions that are in line with their education and disposition. Long and unproductive walks are not included in this. A pneumatic tube system solves this problem and is a low-cost investment when measured on its efficiency. The costs of installation will be recouped in a surprisingly short time.

It is not difficult to understand why the treatment areas of a hospital must be in line with the most up-to-date knowledge, but very often the infrastructure is not up to date. The experts at aerocom can be contacted if an organisation wishes to calculate the costs of a pneumatic tube system that will be suitable for its requirements. It may be necessary to install an extension to a pneumatic tube system, but the construction measures are minimal. If a new hospital is built, the costs in relation to the total investment are extremely low.

The company's pneumatic tube systems are manufactured according to the most modern standards. High-grade components and modern microprocessors are used, which guarantees high reliability. This also includes outstanding handling, together with a clear information output, which makes operation mistakes virtually impossible.

The company's experiences in co-operation with hospitals are not limited to Germany or Europe. As the highly reputed and worldwide leading manufacturer in the branch of pneumatic tube systems, the company has more than 200 employees in its headquarters in Germany and achieves its turnover with an export share of 70%. The company has general agencies in more than 65 countries and has been given outstanding references worldwide. The know-how and competence of the long-standing employees guarantees the absolute reliable solution for an organisation's transport problems.

It is advisable for an organisation to consider the arguments that have been presented and discuss these with its partners as, in conclusion, an inexpensive, fast and reliable system will be deemed necessary. Patients and staff will be grateful for the innovation.