



Valve Solutions for Medical Technology



>> Medical Technology – Special Requirements

Whether intensive care, prosthetics or blood pressure measurement – reliability is the most important characteristic of a product in the Medical Industry as human life may depend on it.

The devices and components in use have to operate reliably and precisely, especially if drugs or gases are dosed, e.g. in narcotic or respiration devices.

Low-noise products prevent patients from being disturbed.





>> And Runs and Runs...

To reach high performance it requires premium products.

In prosthetics, comfort and durability play an important role for the patient. The aim is achieved when the course of motion with prosthesis is indistinguishable from a natural one and when the same performance can be reached.

...and Runs and Runs...

High comfort under extreme conditions

The valve plays a key role in hydraulically damped leg prosthesis. It opens and closes on demand and controls therefore the stiffness of the suspension of the artificial leg.

The valve controls the damping characteristics of the prosthesis and adapts it to the respective situation – while standing, walking or climbing stairs. It has to withstand static pressures of up to 200 bar.

A small rechargeable battery, integrated into the prosthesis, supplies the required energy.



>> Take a Breath –

Respiration Systems

Whether oxygen therapy or artificial ventilation during a surgery – the correct dosage of oxygen and air can be vitally important and crucial for the patient.

In addition to the high precision of dosage and the reliability, the low power consumption is essential for a mobile device that is battery driven.

High level of integration, complex solution

Reliable, safe, easy-to-use, robust, small and light are the requirements in emergency medicine. A high level of integration is also a key feature of the valve.

The valves are integrated into tight space requirements and are equipped with various sensors and controllers to perform several functions: support the patient's respiration or perform pressure-controlled ventilation, both with a continuous adjustable rate of oxygen.



>> Manometer!

Blood Pressure Measurement

Electronic devices for blood pressure measurement determine the values for systolic and diastolic pressure automatically. The use of a stethoscope is no more necessary during the measurement.

The stationary and mobile devices are used for the continuous monitoring of patients.

Pressure Without Overpressure

The valves control the pressure in the blood pressure cuff by controlling the air release. An integrated pressure sensor measures the pressure indirectly.

Switchable jet nozzles allow the use of different blood pressure cuffs – for adults as well as for infants. Additionally a valve controls the fast air release function which adds more comfort to the patient.



>> Safety Above All

Applications in Operating Theatre

The emergency supply of oxygen plays an important role in operating theatres: If the blood oxygen saturation of a patient drops dangerously, an intensive blow of oxygen can avoid an even worse situation.

In this situation the valve has to switch safely.

Reliable in Every Situation

Most important is an absolutely reliable and safe mechanism: In every position and under every pushing-angle the emergency supply has to work.

Even if a doctor hits the button just on the boarder, the press button must never cant, because human life might depend on it.

Staiger Valve Technology



For more than 40 years Staiger is coining the evolution of valve technology and valve electronics essentially. More than 200 patents and utility patents result from innovativeness and technical creativity.

Our focus is on the development of customized products that are adapted to specific technical and economical requirements.



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