staiger
FLUID CONTROL EXCELLENCE

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 artifical 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.

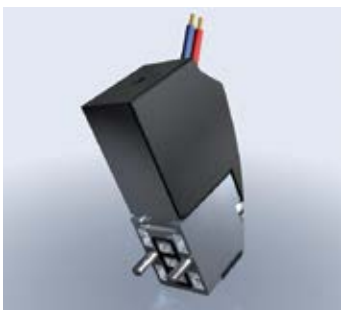
Staiger Valve Technology

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.

staiger
FLUID CONTROL EXCELLENCE

Staiger GmbH & Co. KG
Johannes-Bieg-Straße 8
74391 Erligheim
Phone: +49 (0) 7143 2707-0
www.staiger.de

Id.-Nr. 802 000 004 – 20151028

APPLICATIONS

Analysis and Medical Technology

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

staiger
FLUID CONTROL EXCELLENCE

Medical technology

Type MA 710-032

2-fold manifold with 2-way valves, direct actuated, NC

Orifice (DN): 0.8 mm

Pressure: 0...260 mbar

Medium: Compressed air

Valve body: Brass/POM

Medical technology

Type MA 804-502V

2-way, 3-way Spider®-Valve, size 15 mm, direct actuated, NC with pressure control

Orifice (DN): 1.5 – 2.0 mm

Pressure: 0...2 bar

Medium: Air, oxygen

Valve body: Aluminium/Stainless steel

APPLICATIONS
ANALYSIS & MEDICAL TECHNOLOGY

Medical technology

Type MX 009-003 S

Mixer and distributor for air and oxygen, including pressure regulators

Medical technology

Type MH 008-001 V

Manual switching function valve for oxygen including electrical signaling

Orifice (DN): 1 mm

Pressure: 0...2 bar

Medium: Oxygen

Valve body: Brass

Medical technology

Type MA 208-002 V

2-way Spider®-Valve, manual actuated, NC

Orifice (DN): 2 mm

Pressure: 0...8 bar

Medium: Oxygen

Valve body: Brass

Medical technology

Type MA 700-003

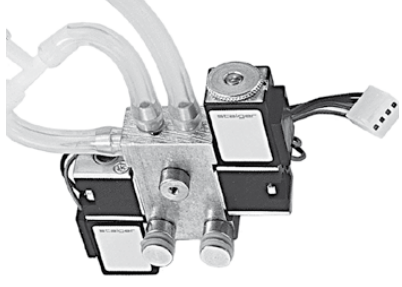
2-fold manifold with 2-way valves, NC and NO

Orifice (DN): 0.8/0.25 mm

Pressure: 0...0.5 bar

Medium: Compressed air

Valve body: Aluminium/POM



APPLICATIONS
ANALYSIS & MEDICAL TECHNOLOGY

Medical technology

Type VP 204-505

2-way proportional valve, direct actuated, NC

Orifice (DN): 2.2 mm

Pressure: -0.8...2 bar

Medium: Neutral gases

Valve body: Stainless steel

Medical technology

Type MH 228-002

Multiway valve block with adjustable restrictor, mechanically actuated

Orifice (DN): 3.5 mm

Pressure: 0...10 bar

Valve body: Aluminium

Dental technical equipment

Type MA 811-003

2-fold manifold with 2- and 3-way valves, direct actuated, NC

Orifice (DN) 1.6 and 2.2 mm
Pressure: -0.5...0 bar
Medium: Compressed air
Valve body: Brass

Analytical equipment

Type MI 800-001

2-fold valve with 3-way valves, direct actuated latching function

Orifice (DN) 1 mm
Pressure: 0...1 bar
Medium: Gases
Valve body: Aluminium

Analytical equipment

Type QE 233-001

2-way valve, diaphragm principle, direct actuated, NC

Orifice (DN) 4 mm
Pressure: 0...2 bar
Medium: Aggressive liquids
Valve body: Teflon PFA

Analytical equipment

Type PA 262-001

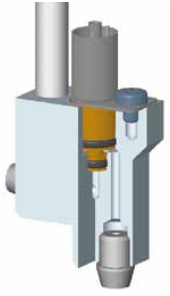
2-way solenoid valve, direct actuated, NC

Orifice (DN): 3.5 mm
Pressure: 0...7 bar
Medium: Aggressive liquids
Valve body: PVC

Dosing technology

3-way Spider®-Valve, size 7 mm, direct actuated, diverting function

Orifice (DN): 0.5 mm
Pressure: 0...2 bar
Medium: Compressed air
Valve body: PA12

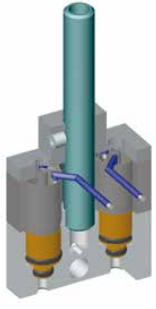


Analytical equipment

Type VA 704-718

2-fold manifold with 2-way Spider®-Valve, size 7 mm, parallel actuated, NC

Orifice (DN): 1 mm
Pressure: 0...0.5 bar
Medium: Inert gas (e. g. argon)
Valve body: Stainless steel



APPLICATIONS
ANALYSIS & MEDICAL TECHNOLOGY

Analytical equipment

Typ VA 301-006

3-way solenoid valve direct actuated, NC

Orifice (DN): 2.2 mm
Pressure: -0.7...0.1 bar
Medium: Aggressive gases and liquids
Valve body: Stainless steel

Analytical equipment

Typ VA 801-001

3-fold manifold, with 3-way solenoid valves, direct actuated, NC

Orifice (DN): 2.2 mm
Pressure: -0.7...0.1 bar
Medium: Aggressive gases
Valve body: Stainless steel