Gases and gas mixtures are being used for many different applications in industry, laboratory, medicine, environment and many others. In order to meet this large variety of demands, we have developed the relevant product ranges. This guarantees that we sufficiently meet the required process parameters and the safety standards in almost every case.

Spectron is a diverse product family, which contains all the appropriate components for a wide spectrum of gases and applications. This means we can cover your requirements from a simple valve for industrial gases up to fully automatic gas cabinets for semiconductor gases.

Spectron also includes alarm and control systems for gas applications, as well as gas purification systems to improve or secure the purity of the gases.

Spectron – components guarantee maximum quality by using high grade materials and a quality assurance program according to ISO 9001.

To meet the gas quality specification, all gas-wetted parts of our products are cleaned by special cleaning processes SPECTRO-CLEAN® and/or Mega-CLEAN® (CFC-free) Spectron – components undergo a 100% function and (Helium)-leak-test.

Our product development program continuously implements state-of-the-art technology. Our components are frequently adapted based on the latest know-how, requirements, expertise and standards.
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Product features
In this range, the materials used are brass and aluminium. Extremely high flows as well as precise low pressures can be controlled with the regulators, valves and manifolds. The products are used in various industries.

Applications
Spectrotec products can be used for a huge variety of industrial applications such as:

- Oxyfuel processes, such as cutting, welding, brazing, heating, metal spraying, etc
- Electrical welding processes such as MIG, MAG, TIG and Forming
- Melting
- Inertization, purging
- Water treatment
- Controlled atmospheres (Ovens, Furnaces)
- … and many other industrial applications
Technical data
- Inlet pressure: 10 bar - 300 bar
- Outlet pressure: 5 mbar - 200 bar.
- Max. flow: 2,000 Nm³/h.
- Leak rate: < 1 x 10⁻³ mbar.l/s

Products
(Cylinder) pressure regulators
Valves
Pressure control panels
Tapping points
Filter
Accessories
Product features
Spectrocom equipment is made from brass material. The pressure regulators are equipped with a stainless steel diaphragm. This range is limited to standardised and competitive products.

Applications
Spectrocom products can be used for a wide variety of pure gas applications in laboratories and for food gases as:

- Laboratory applications as e.g. GC, HPLC, GCMS, AAS, ICP
- Dosing of gases
- Laser applications
- ... and many other applications
Technical data

- Inlet pressure: max. 300 bar
- Outlet pressure: 1,5 bar - 20 bar.
- Max. flow: 25 Nm3/h.
- Leak rate: $1 \times 10^{-7}$ mbar.l/s

Products
Cylinder pressure regulators
Pressure control panels
Tapping points
Product features
The design and the performance of Spectrolab equipment is specially adapted to applications in laboratories as well as R&D with highest demands in terms of accuracy and reliability. The products are made of chrome plated brass. All pressure regulators and valves are with a stainless steel or Hastelloy diaphragm. The Spectrolab range is diverse and very flexible to meet almost all customer specific needs. Easy, quick and cost saving installation is an additional feature of these products.

Applications
Spectrolab products can be used for a huge variety of pure gas applications as:

- Laboratory applications as e.g. GC, HPLC, GCMS, AAS, ICP
- Regulating and dosing of high purity gases
- Laser applications
- … and many more applications in laboratories, industries, research and doctrine.
Technical data

- Inlet pressure: max. 300 bar
- Outlet pressure: 1.5 bar - 200 bar.
- Max. flow: 50 Nm³/h.
- Leak rate: $1 \times 10^{-8}$ mbar.l/s

Products

Pressure regulators
Valves
Pressure control panels
Tapping points for laboratory furniture (Spectrolab Plus)
Tapping points
Product features
Spectrocem equipment is specially adapted to applications in laboratories as well as R&D with highest demands in terms of accuracy and precision. The products are made from stainless steel. The pressure regulators and valves are built with Hastelloy diaphragms. The Spectrocem range has a huge variety of unique products for professional and safe handling of corrosive or toxic gases or gas mixtures. In this cases special purging devices are needed, can easily be combined with our alarm and control systems Spectrosys.

Applications
Spectrocem-products can be used for a huge variety of pure gas applications in laboratory, chemical and pharmaceutical industry, R&D for:

- Calibration gases
- Process gases
- Semiconductor doping
- Laser applications
- … and many more applications
Technical data

- Inlet pressure: max. 300 bar
- Outlet pressure: 1,5 bar - 200 bar.
- Max. flow: 50 Nm³/h.
- Leak rate: $1 \times 10^{-8}$ mbar.l/s

Products

- Pressure regulators
- Valves
- Purging devices
- Pressure control panels
- Tapping points for laboratory furniture (SpectroLAB Plus)
- Tapping points
Product features
The product range is specially adapted to applications in the semi conductor industry and ranges from components like pressure regulators and valves up to complete panels, VMP’s, VMB’s and gas cabinets. Spectropur products are made from remelted stainless steel with electro-polished surfaces. The pressure regulators and valves are built with Hastelloy diaphragms. The dead space optimised components are sealed metal to metal using the VCR technology. Patented purging devices secure the required gas purity.

Applications
Spectropur-products can be used for a huge variety of applications as:

- Semiconductor production
- Research (R&D)
- Optical fibre technology
- Laser applications
- … and many other applications with the highest demands in terms of purity, particles, automation and safety.
Technical data
- Inlet pressure: max. 200 bar
- Outlet pressure: 1.5 bar - 10 bar.
- Max. flow: 100 Nm³/h.
- Leak rate: $1 \times 10^{-9}$ mbar.l/s

Products
- Pressure regulator
- Valves
- Purging devices
- Vacuum venturi
- Pressure control panels and valve manifold boxes
- Gas cabinets
Product features
Spectromed equipment is made from brass. The product range for medical gases includes cylinder pressure regulators, integrated cylinder valves and components for central gas supply systems in hospitals, clinics and nursing homes.

Applications
Spectromed-products can be used for a huge variety of gas applications such as:

- Emergency medical services, emergency physicians, ambulances
- Home care
- Gas supply equipment in hospitals, clinics
- … and many more medical applications
Technical data
• according to ISO 10524 and ISO 7396-1
• differing technical data with special certification

Products
Pressure regulators
Integrated cylinder valves
Valves
Pressure control panels
Tapping points
**Product features**
Spectrosys includes alarm and control systems which are specific to gas supply systems. Spectrosys units monitor and control processes and applications with gases. Versions for EEX areas (flammable gases) can also be provided as standard units.

**Functions / Applications**
Spectrosys-products can be used for almost every gas supply system in industries, laboratories, research and hospitals.

- Low gas control
- Pressure and flow control
- Emergency shut off
- Automatic change over
- Automatic purging
- Automatic process control
Technical data
- Power supply: 230 V/50 Hz
- Signal: acoustic and visual
- Delay function
- Auto test function
- Potential free output
- Electric or pneumatic outputs
- Touchscreen option

Products
- Flo-Alarm for low gas or pressure control
- Flo-Stop for emergency shut off
- Flo-Switch for automatic change over or process control
- Flo-Purge for automatic purging
High purity gases are used in many different industrial and laboratory applications. Some of these applications have a very low tolerance of impurities such as oxygen, moisture, hydrocarbons, sulphur compounds and others. Even trace amounts of these impurities can interfere with certain analytical processes.

For this reason, Messer offer a range of gas purification systems which can specifically remove impurities down to 30 ppb and lower.

The purification system concept is modular and user-friendly. They are designed to be used universally, quickly and safely in laboratories and industry.

Various cartridge sizes are available, offering purification solutions for gas flows from ml/min up to even 100 m$^3$/h.

The removal processes involved are based on Chemisorption or Physisorption.

The size of the purification systems depends on the application parameters. Spectromol purification systems can be implemented as central gas purification or as point-of-use purification.
## Applications overview

<table>
<thead>
<tr>
<th>Type</th>
<th>Containments removed</th>
<th>Gases to be purified</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oxisorb®</td>
<td>oxygen, moisture</td>
<td>Rar gases, N², H², CO, CO², saturated HC</td>
</tr>
<tr>
<td>Hydrosorb®</td>
<td>moisture (carbon dioxide)</td>
<td>Rar gases, N², H², CO, CO², KW, Halogen-KW, N²O, O², compressed air</td>
</tr>
<tr>
<td>Accosorb®</td>
<td>Hydrocarbons, oil vapour</td>
<td>Rar gases, N², H², CO, CO², CH₄, compressed air</td>
</tr>
<tr>
<td>Sulfosorb®</td>
<td>Marcaptane, COS, SC, H²S, SO², NO</td>
<td>Rar gases, N², H², CO, CO², saturated HC, compressed air</td>
</tr>
<tr>
<td>Excisorb®-F</td>
<td>Fluoride</td>
<td>Gas mixtures with F2 (scrubbing)</td>
</tr>
</tbody>
</table>

**Products**

- Oxisorb®
- Hydrosorb®
- Accosorb®
- Sulfosorb®
- Excisorb®-F
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