



sera

Our core competence ...

Dosing
Feeding
Compressing

...for more than
60 years



Seybert & Rahier GmbH + Co. Betriebs-KG

More than 60 years expertise in dosing, feeding and compressing

sera as a third-generation **family-owned** and proprietor-managed business is now headed by Dipl.-Wirtsch.-Ing. Carsten Rahier. Backed by best tradition **sera** is developing innovative products which are exactly tailored to market requirements for a variety of industries. As leading manufacturer of dosing pumps, dosing systems and diaphragm compressors **sera** runs representative offices all over the world and a subsidiary in Great Britain.



▲ Chairman and Managing Director
C. Rahier

Customer and quality focussed, innovative, flexible and reliable

... these are compliments **sera** gets from customers.

sera sets great store by **customer orientation**. We consider the customer with his special demands and requirements as the center of our activities.

Excellent **product quality** is the basis for lasting success in business. Therefore, **sera** trusts in motivated and qualified expert staff, latest production technologies, high quality standards and the use of high-quality materials. This is backed by a continuous company improvement programme combined with the quality management according to DIN EN ISO 9001:2000, which has already been applied since 1994.

Present and future demands as well as visions of our customers are incentive and the driving force to our product management and R&D to create **innovations** and to **refine our products continually**.

Flexibility, dependability and soundness – these are attributes our business partners appreciate. We won this esteem for application-oriented product solutions, flexible and sound customer relation management and not least by reliable products and services.

From the start, **sera** has trained apprentice for commercial and technical occupations, and also professional academy students for some years.

sera's well-aimed knowledge management ensures a continual further qualification of their 180 employees.

Our **world-wide sales and service network** comprising more than 30 foreign representatives in 80+ countries on all continents ensures an optimal local customer care.

▼ A part of our **sera** - family!



What we are known for as well

System provider with decades of experience and Know-how

sera see themselves as a **world-wide system provider** for compressing and dosing equipment and look back on many years of experience for impurity-free and oil-free compressing gases of any kind as well as in solving customer-specific requirements for dosing and feeding free-flowing mediums.

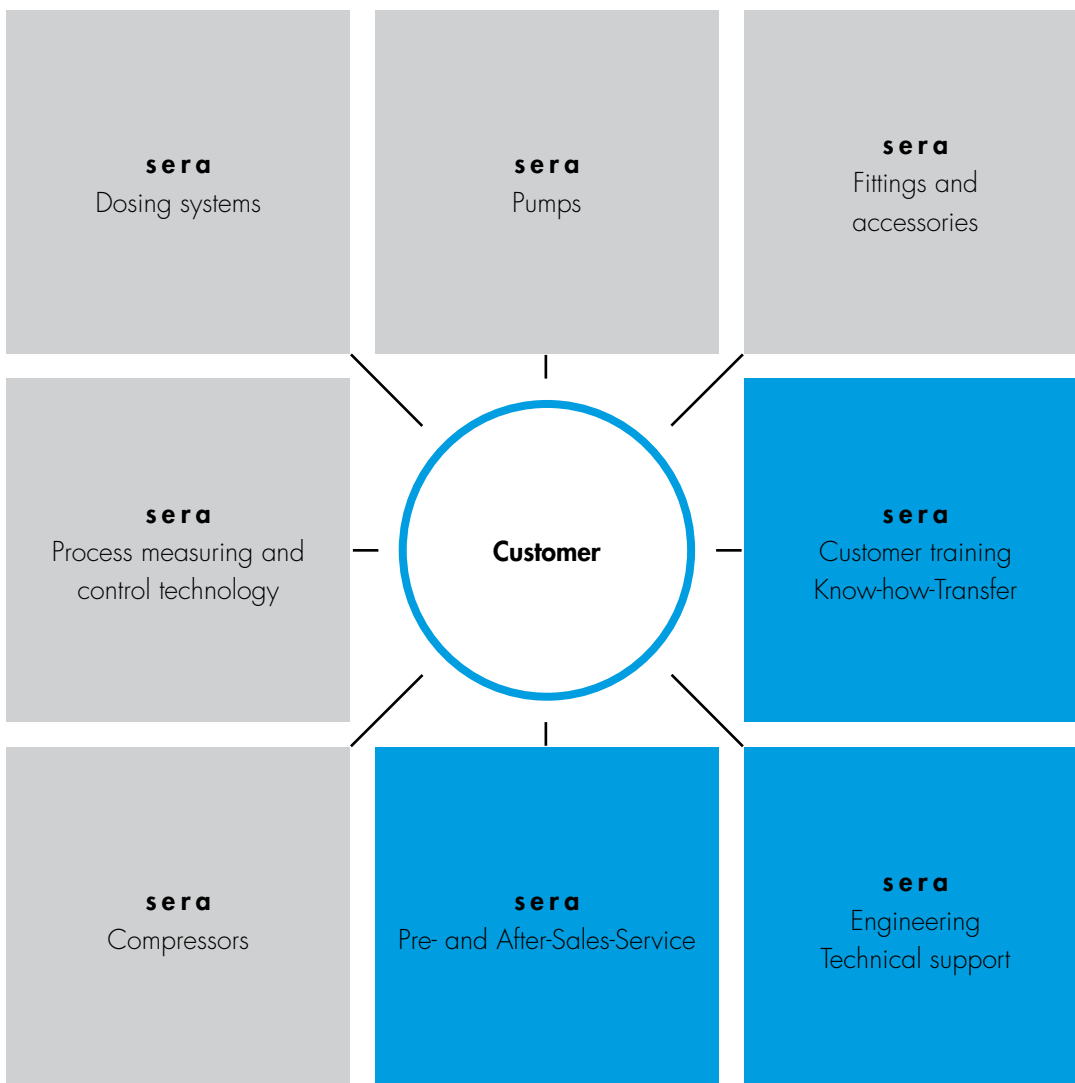
For decades, the name **sera** has stood for:

- Product quality
- Robust and long-lived products
- Optimal customer-oriented engineering
- Flexibility
- Short delivery periods
- Faithfulness to deadlines
- Very good value for money
- World-wide sales and service network

Our expertise

One-stop offering – optimally coordinated.

The customer is in the focus of our activities. Therefore, we provide an extensive range of products and services, from individual components up to large complex automated systems.
One-stop offering – optimally coordinated.



Gas pumps

for oil-free and impurity-free delivery and dosing of gases in lower pressure and performance ranges



Gas pump type series R 409.2 eG ▲



Controllable gas pump type series C 409.2 eG ▲

Application range

Delivery and dosing of flammable, corrosive, inert and toxic gases

Product features

- High-quality materials
- Sturdy
- Chemical-resistant
- Long-life
- Suitable for continuous operation
- Low-maintenance
- Integrates in fully automatic processes
- Controllable delivery (manual and automatic)
- Intelligent (can be directly selected /C range)
- Leakage-free ($< 10^{-3}$ mbar l/s)
- Compression free from oil and solid particles
- ATEX designs



Gas pumps

for laboratories, analysis and industrial applications

Performance range

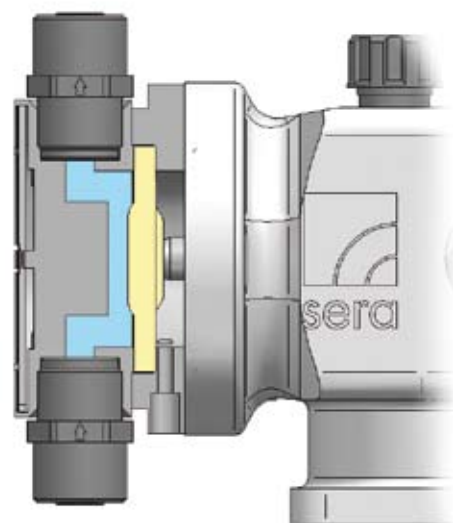
Delivery rate at atmospheric pressure:	up to 4000 NI/h*
Pressure:	up to 21 bar (abs)
Vacuum:	up to 400 mbar (abs)
Gas temperatures:	up to 150°C

*per pump head

Gas pumps in single diaphragm design

Specific product features

- Long diaphragm service life
- Adjustable stroke volume
- Materials tailored to specific applications
- Suitable for dry and moist gases

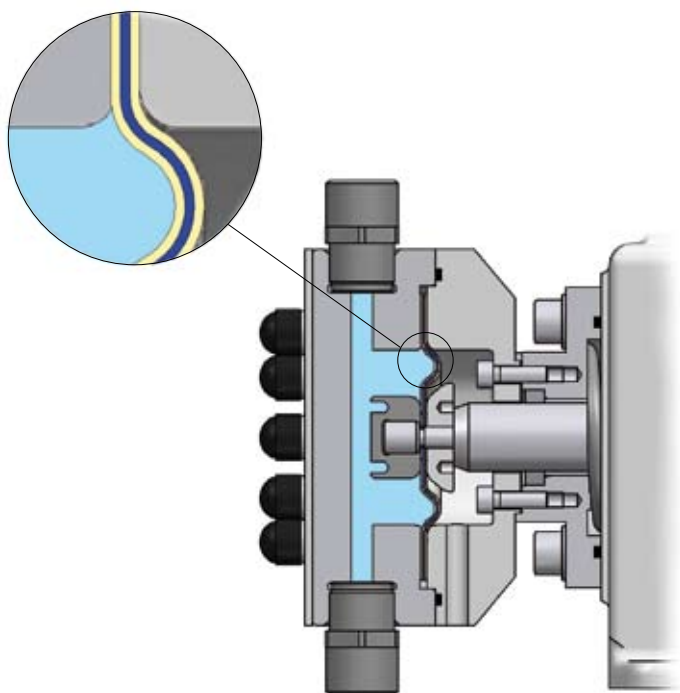


▲ Single diaphragm gas pump

Gas pumps in multi-layer diaphragm design

Specific product features

- PTFE diaphragm, 3-layer
- Extremely long service life
- Diaphragm rupture signalling
- Adjustable stroke volume
- Materials tailored to specific applications
- Suitable for dry and moist gases



▲ Multi-layer diaphragm gas pump

Gas pumps

for laboratories, analysis and industrial applications

Controllable gas pumps in single diaphragm design

Specific features of the electronic control

- Manual operation
- Manual stroke frequency adjustment
- External ON/STOP
- Pulse operation
- Pulse - stepping down/up
- Pulse memory
- Analog operation 0/4 - 20 mA
- Speed control/Slow Mode
- 3 LEDs for status indication
- Multi-line illuminated display
- Plain text operating messages
- Plain text fault messages
- Lifting frequency indication
- Operating hours counter
- Password protection
- 4-key operating
- 2 digital outputs (PLC)
- 1 digital input (PLC or contact signal)
- 2 analog/digital inputs (switchable)
- Programmable input/output functions
- Operating module for wall mounting (option)



▲ Controllable gas pump type series C 409.2 eG

Multi-head gas pumps with single or multi-layer diaphragms

Specific product features

- Large number of combinable pump heads and sizes
- Stroke volumes can be set independent of each other
- Variable mixing of different gases



▲ Combination gas pump RK 409.2 eG/R 409.2 eG/RK 409.2 eG

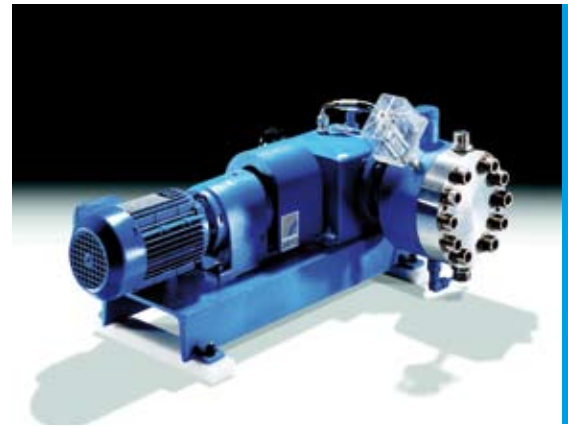
Metal diaphragm pumps for liquefied petroleum gases (LPG)

Application range

Delivery and dosing of flammable, corrosive, inert and toxic liquefied gases

Product features

- High-quality materials
- Long-life
- Suitable for continuous operation
- Low-maintenance
- Integrates in fully automatic processes
- Controllable delivery (manual and automatic)
- Leakage-free ($< 10^{-3}$ mbar l/s)
- ATEX designs
- Multi-layer metal diaphragm
- Diaphragm rupture signalling



▲ Metal diaphragm pump type series RK 411.1-WM

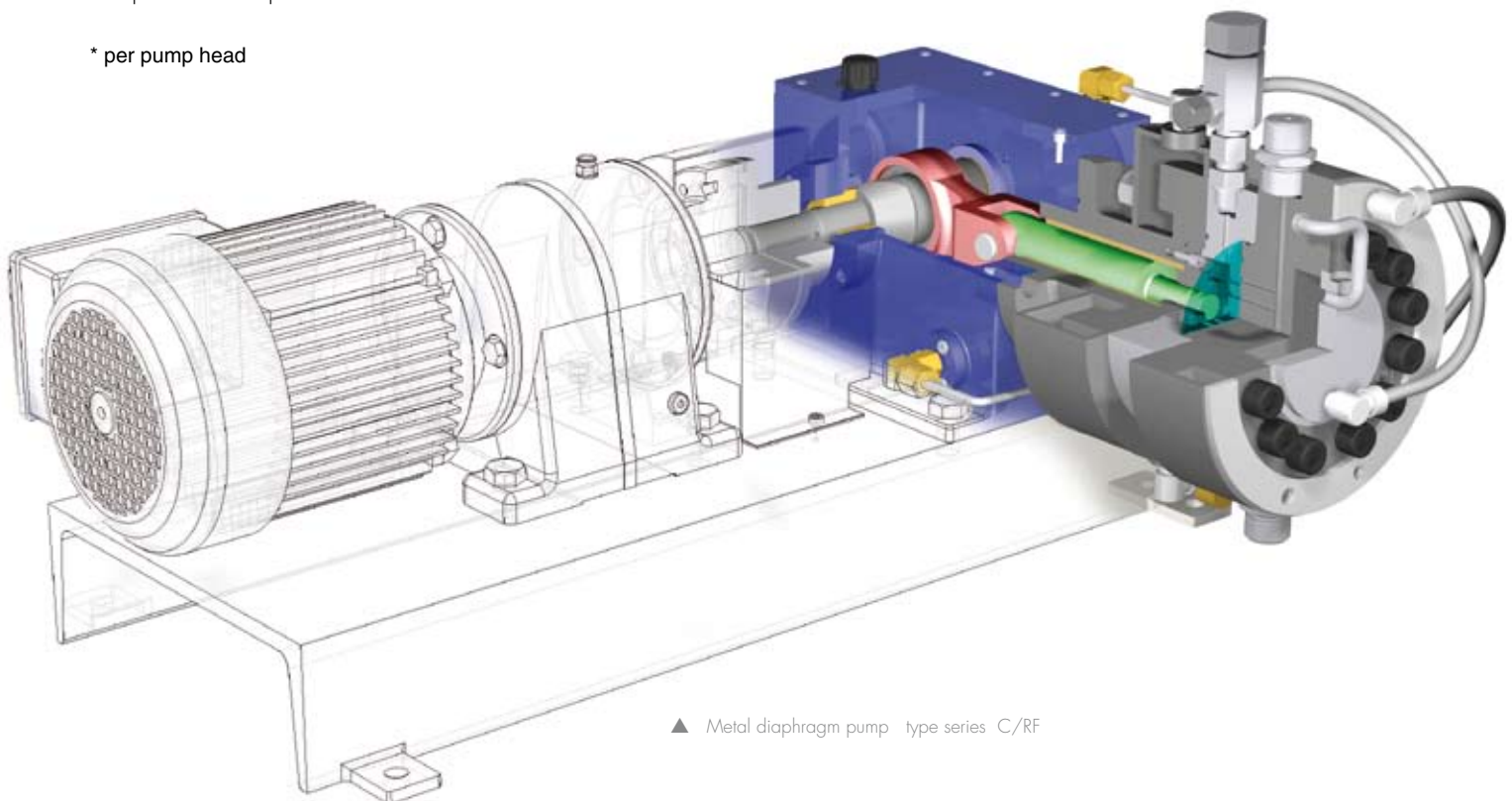
Application range

Delivery rate: up to 150 l/h *

Pressure: up to 500 bar

Temperatures: up to 150°C

* per pump head



▲ Metal diaphragm pump type series C/RF

Metal diaphragm compressor

for oil-free and impurity-free compression of gases in all research and industry applications



Metal diaphragm compressor type series MV4 ▲



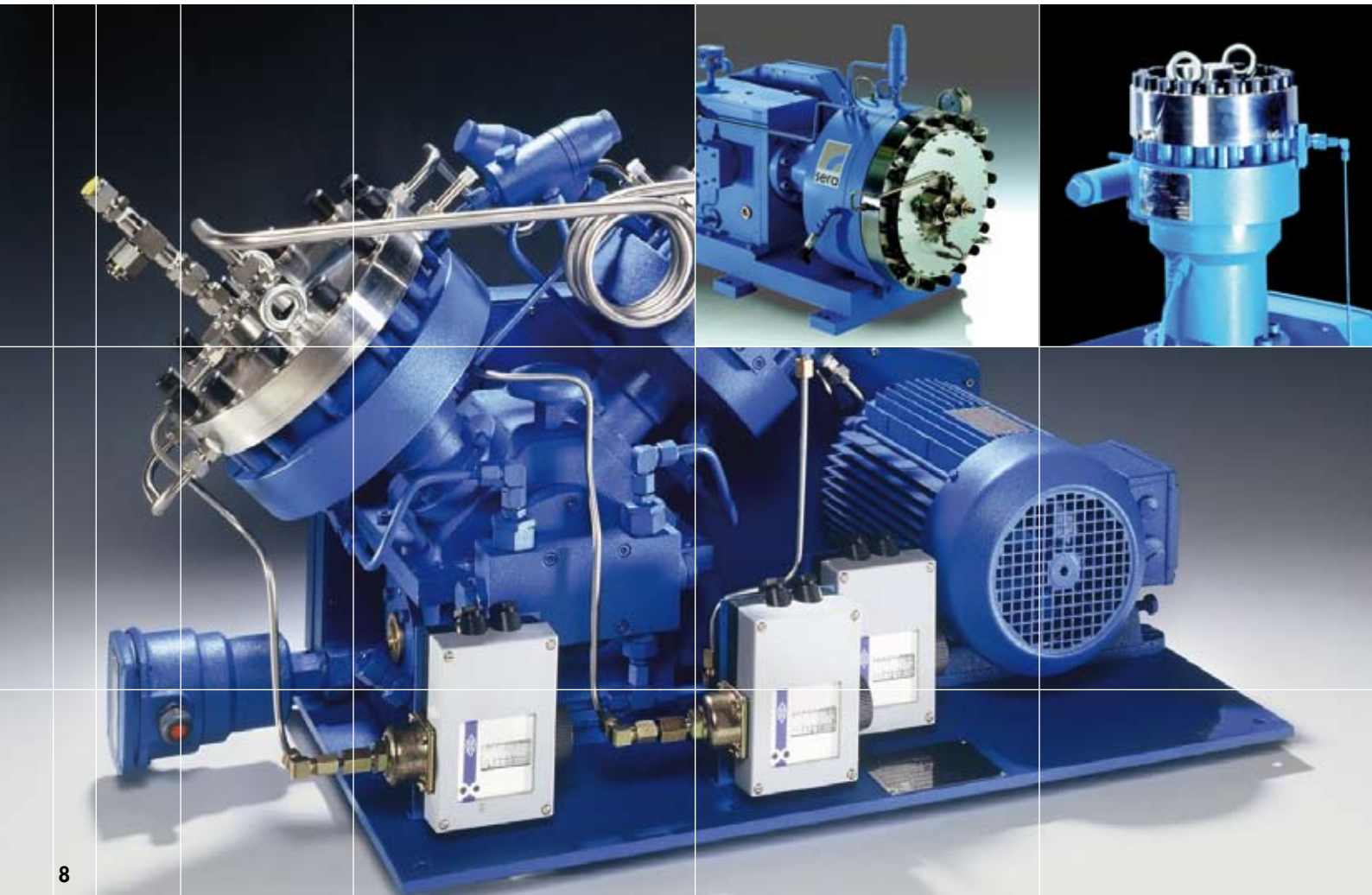
Metal diaphragm compressor system
incl. control system type series MV3 II K ▲

Application range

Compression of flammable, corrosive, inert, toxic and radioactive gases

Product features

- Oil-free and impurity-free compression
- Low noise level
- Long-life
- All gas-contacting parts from stainless steel
- Controllable flow rate
- Easy maintenance
- Space-saving design
- Type tested acc. to ATEX
- No need to relieve the pressure for starting



Metal diaphragm compressor

Performance and application range

Performance range

Delivery rate: up to 1000 Nm³/h^{*}
Final pressure: up to 500 bar (abs)
Suction pressure: from 0.5^{**} bar (abs) up to 500 bar (abs)
Gas temperatures: up to 200°C

^{*} depends on the suction and final pressure and on the gas type.

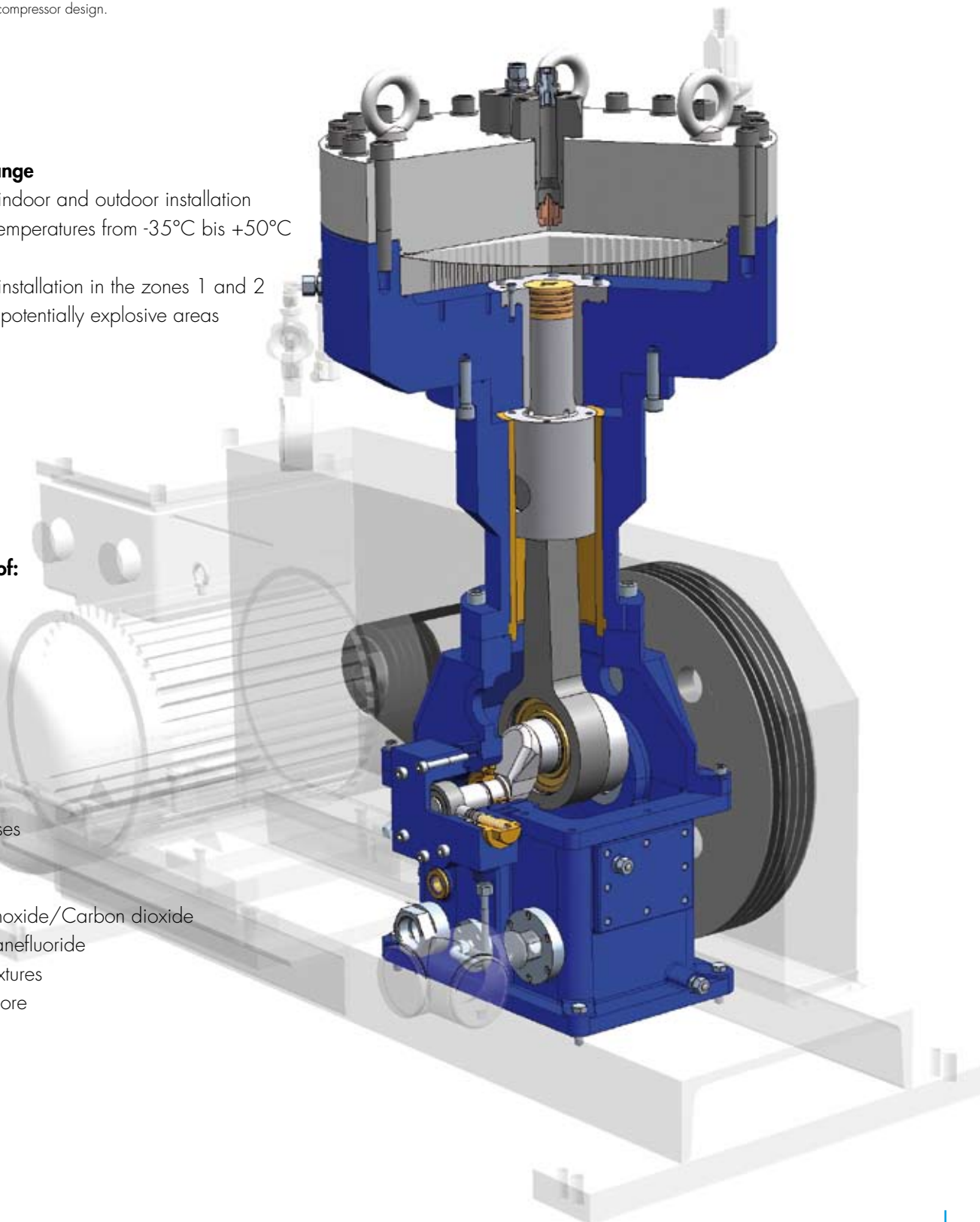
^{**} depends on the compressor design.

Application range

- Suitable for indoor and outdoor installation at ambient temperatures from -35°C bis +50°C
- Suitable for installation in the zones 1 and 2 and outside potentially explosive areas

Compression of:

- Hydrogen
- Oxygen
- Nitrogen
- Ethylene
- Propylene
- Methane
- Butane
- Noble gas
- Medical gases
- Fluor
- Chlorine
- Carbon monoxide/Carbon dioxide
- Sulphur hexafluoride
- Gaseous mixtures
- and much more



Metal diaphragm compressor

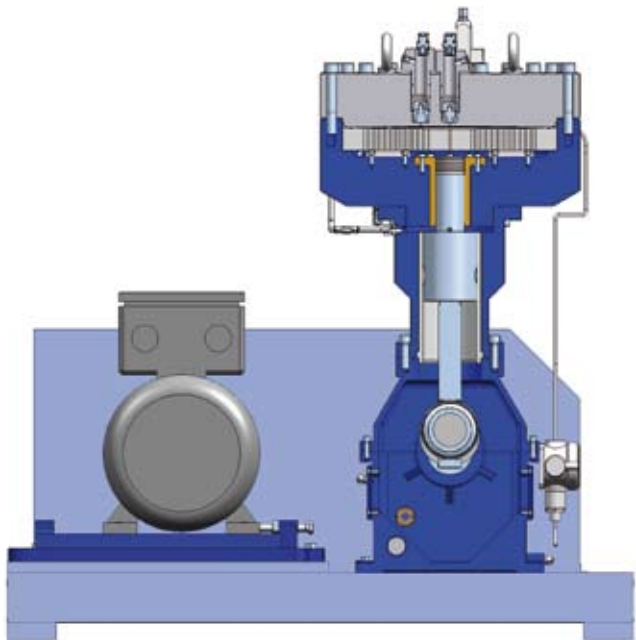
Types



Metal diaphragm compressor, vertical type series MV3 ▲

Single-stage compressors / vertical configuration

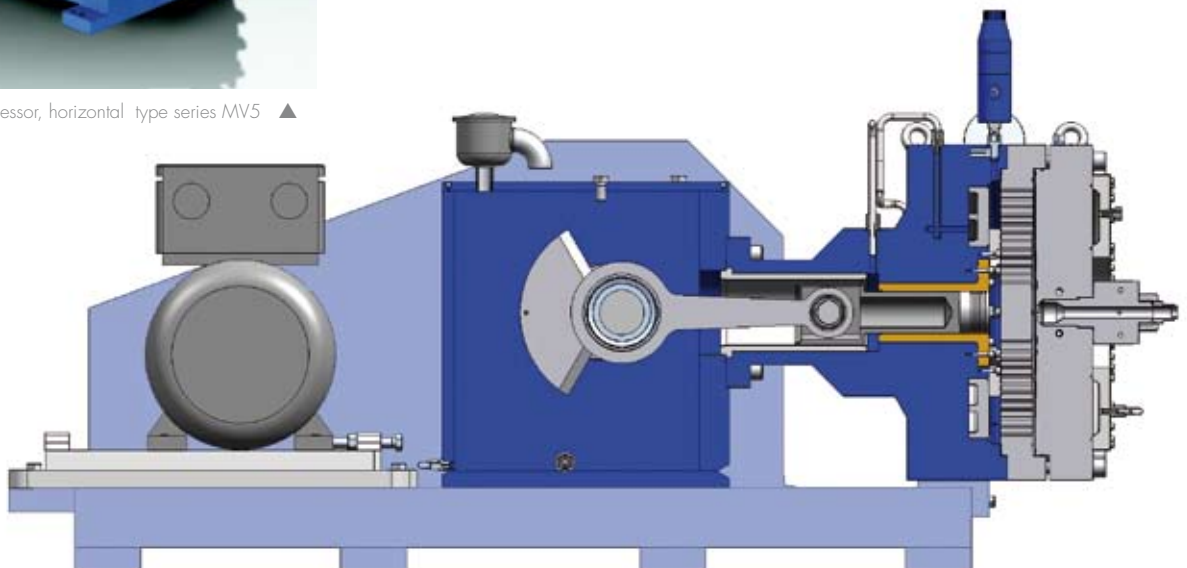
Type series: MV1 through MV4
Suction pressure: min. 1 bar (abs)
Final pressure: max. 500 bar (abs)
Compression ratio: up to 15



Metal diaphragm compressor, horizontal type series MV5 ▲

Single-stage compressors / horizontal configuration Suction from vacuum

Type series: MV5 through MV6
Suction pressure: min. 0,35 bar (abs)
Final pressure: max. 15 bar (abs)
Compression ratio: up to 15

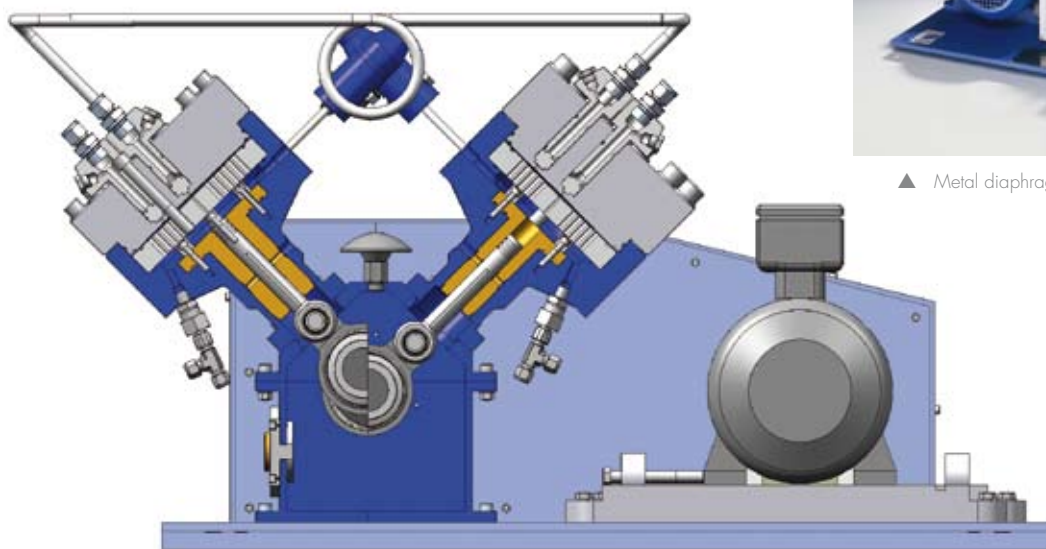


Metal diaphragm compressor

Types

2-stage compressors / V-configuration

Type series: MV5 II
Suction pressure: min. 1 bar (abs)
Final pressure: max. 200 bar (abs)
Compression ratio: up to 10/stage



▲ Metal diaphragm compressor, V-configuration type series MV5 II

2-stage compressors / vertical configuration

Type series: MV 2 IIK through MV 4 IIK
Suction pressure: min. 1 bar (abs)
Final pressure: max. 500 bar (abs)
Compression ratio: up to 1.5/stage



▼ Metal diaphragm compressor system type series MV3 II K

3-stage compressors / vertical configuration

Type series: MV 2 IIK through MV 4 IIK
Suction pressure: min. 1 bar (abs)
Final pressure: max. 500 bar (abs)
Compression ratio: up to 1.5/stage



▼ Metal diaphragm compressor system type series MV4 III K

Metal diaphragm compressor

Accessories



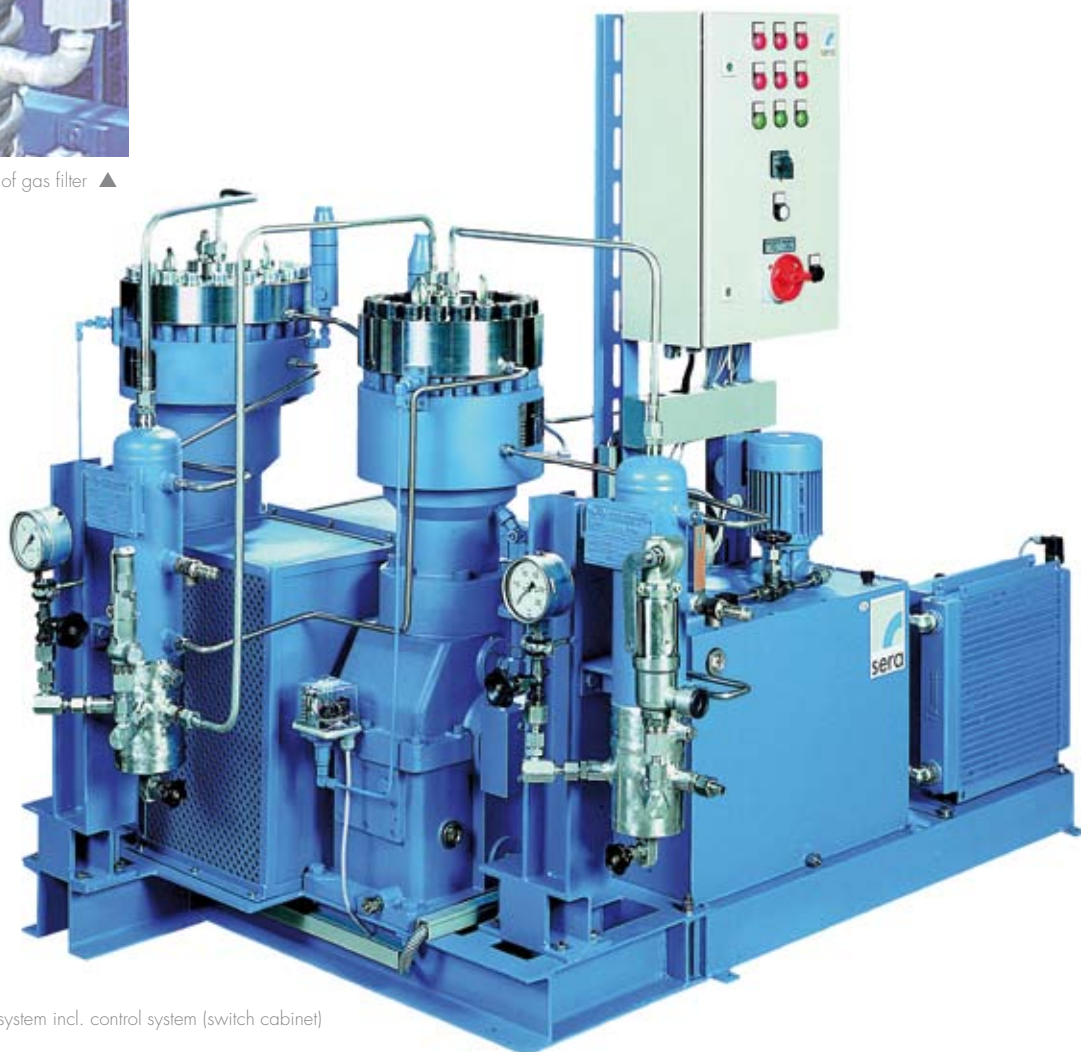
Integration of safety valve ▲



Integration of gas filter ▲

An extensive range of accessories is available for safe and economic operation of **sera** compressor systems:

- Gas coolers
- Complete cooling units
- Pulsation dampers
- Gas filters
- Separators
- Shut-off fittings
- Safety valves
- Diaphragm rupture indicators
- Oil and gas pressure gauges
- Temperature sensors
- Flow meters
- Frequency converters
- Complete control systems
- and much more



Compressor system incl. control system (switch cabinet)

Metal diaphragm compressor

Custom-made measurement, process and control technology
Tailored to customer applications



sera switch cabinet assembly ▲

- Complete one-stop engineering
- PLC programming
- Individual circuit diagram design using CAE
- Expert installation of electronic and instrumentation components as well as switch cabinet assembly

Our core competence Dosing equipment

sera - dosing equipment (pumps, fittings, systems and volumetric dosing screws)
for dosing and delivery of free-flowing and powdery mediums



Please inform about our extensive
Know-how on the dosing
equipment

Please ask for our image brochure
„Image 03“



Service

Engineering, installation, startup, inspection, maintenance and repair

At **sera**, service is understood as comprehensive customer advice and care from the first product idea through the whole long service life of our products up to replacement or new product design. Service exactly tailored to the specific demand of our customers – always on the latest state of the art.

sera - service is convincing by

- Dependability
- Quick response
- Flexibility
- Quality by expertise
- Decades of experience
- Environmental awareness



Our objectives

- Always provide high-quality services
- Meet the specific requirements through flexibility
- Solve dosing and feeding tasks of our customers in a problem-oriented and cost-effective manner
- Custom engineering
- Implement optimal system solutions

Our services

- On-site installation
- Repair service
- Quick spare part service
- Startup
- Pump and system inspection with condition report
- Maintenance of individual pumps up to complete systems
- Service hotline
- Technical support
- Customer training

“We will only be satisfied if you do so too.”

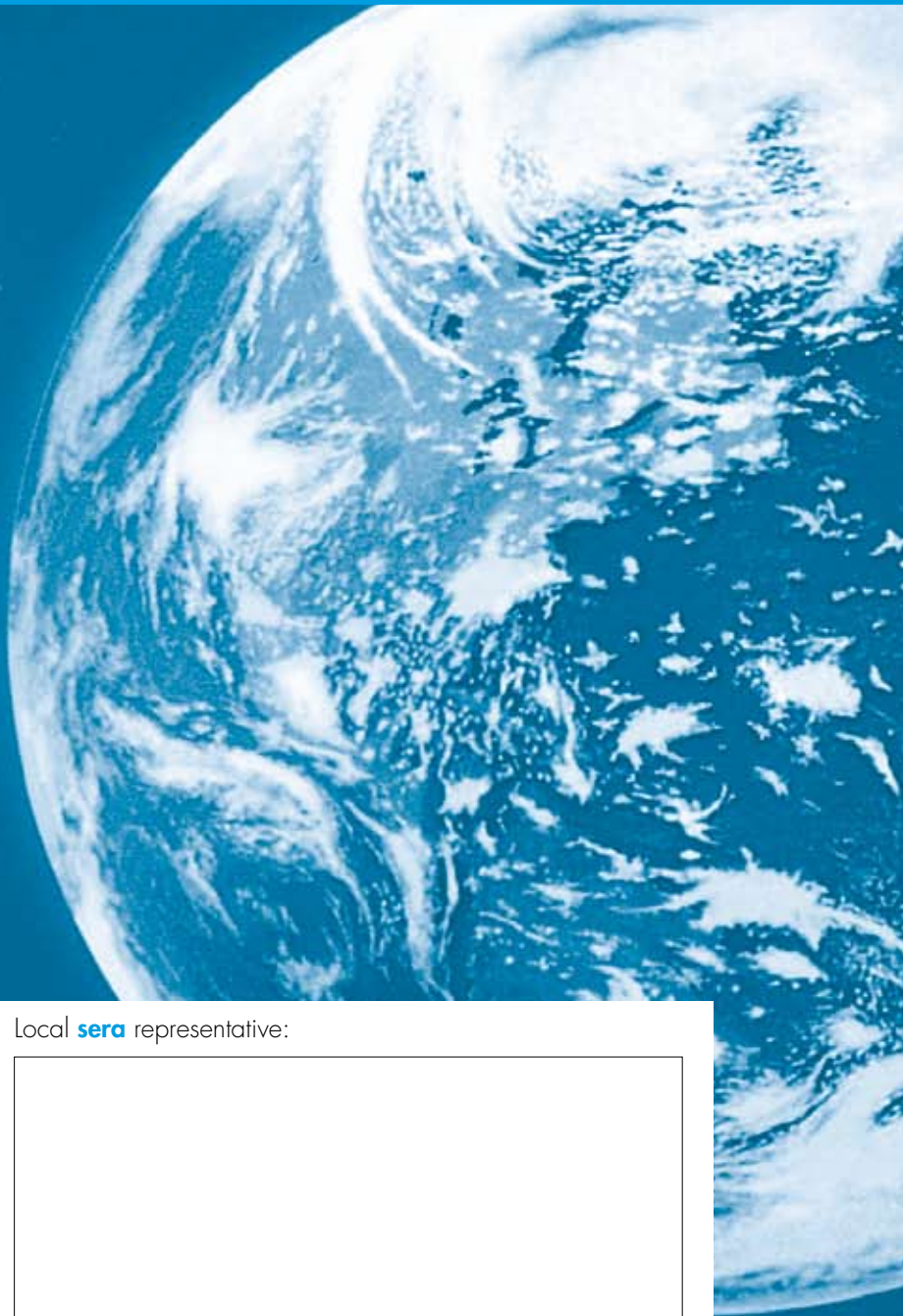
sera – a powerful partner,
„imPRESSing“ – that’s it!

ABB Limited
African Products (Pty) Limited
Air Liquide Deutschland GmbH
Air Products PLC
BASF AG
Bayer AG
Caloric Anlagenbau GmbH
Celpat Ingenieurgesellschaft mbH
Chemieanlagenbau Chemnitz GmbH
Clariant AG
Degussa AG
Dt. Zentrum f. Luft- und Raumfahrt e.V.
Eni S.p.A.
Federal Mogul GmbH
Forschungszentrum Jülich GmbH
Harald Schäfer GmbH
Kraiss & Friz KG
Laser Gas Ltd.
Linde AG
Lurgi Öl-Gas-Chemie GmbH
M. Braun GmbH
Mahler AGS GmbH
Osram GmbH
Probis GmbH
Roche Diagnostics GmbH
Shell plc.
F. Stephan GmbH
Sunny Limited
Wacker-Chemie GmbH
Zentrum f. Sonnenenergie



sera

Our representatives...



Local **sera** representative:

Egypt	Laos
Argentina	Lithuania
Australia	Malaysia
Bahamas	Myanmar
Barbados	Nicaragua
Belgium	Netherlands
Bolivia	Dutch Antilles
Brasil	Norway
Brunei	Austria
Bulgaria	Pakistan
Chile	Panama
China	Paraguay
Denmark	Peru
Germany	Philippines
Dominica	Poland
Dominican	Romania
Republic	Russia
Ecuador	Saint Kitts
El Salvador	Saint Lucia
Finland	Saint Vincent
France	Saudi Arabia
French Guyana	Sweden
Grenada	Switzerland
Greece	Singapore
Great Britain	Slovakia
Guatemala	Slovenia
Guyana	Spain
Honduras	South Africa
Indonesia	Surinam
Iran	Taiwan
Ireland	Thailand
Italy	Tobago
Jamaica	Trinidad
Japan	Czechia
Jordan	Turkey
Cambodia	Ukraine
Kazakhstan	Hungary
Kenya	Uruguay
Columbia	Venezuela
Korea	Vietnam
Croatia	West Indian Islands
Cuba	

**Seybert & Rahier
GmbH + Co. Betriebs-KG**

sera-Straße 1
34376 Immenhausen
Germany

Phone +49 (0) 56 73 / 99 90
Fax +49 (0) 56 73 / 99 91 55
info@sera-web.de
www.sera-web.de