AERZEN
BIOGAS SOLUTIONS

Compressors for biogas and biomethane

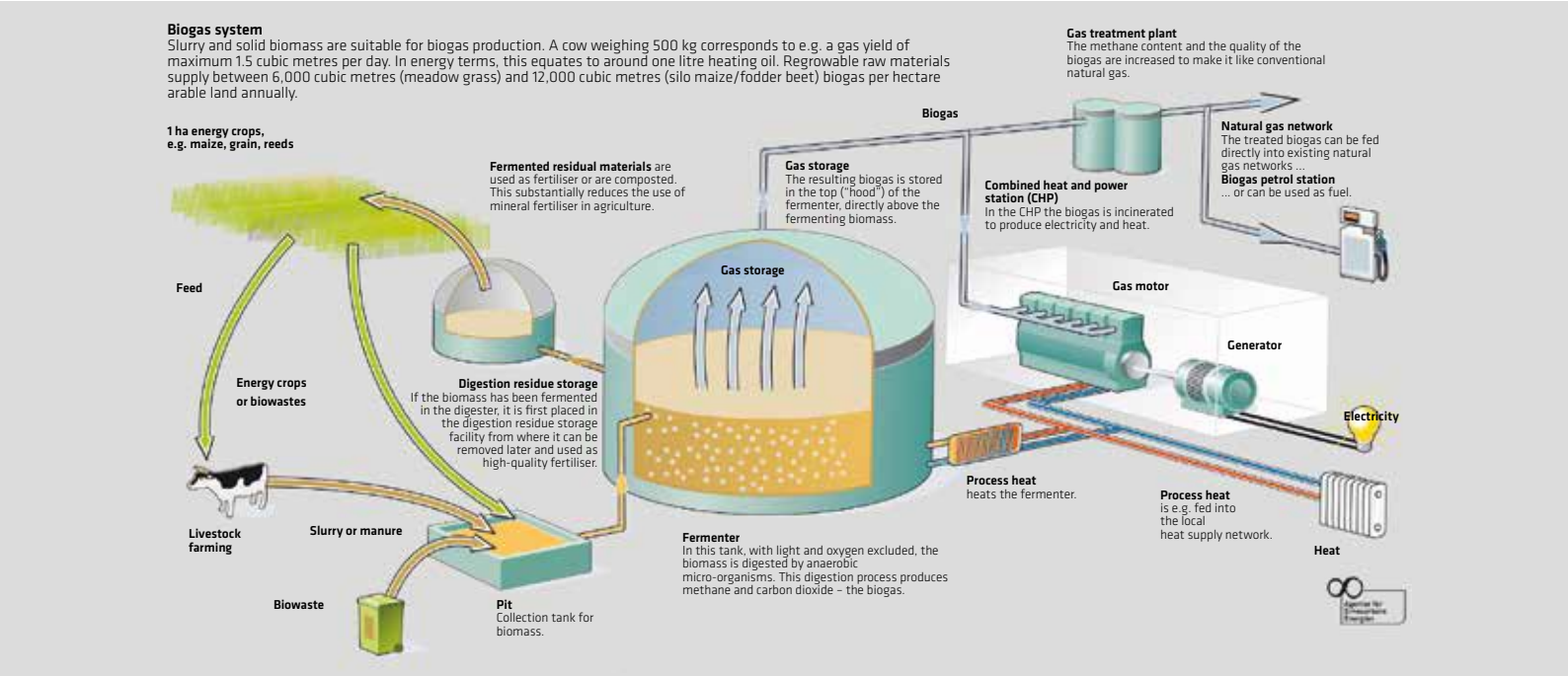
AERZEN

YOU CAN EXPECT A LOT FROM US.
PREMIUM TECHNOLOGIES FOR THE BIOGAS SECTOR BY AERZEN.

Benefit from AERZEN's extensive know-how in the chemical and petrochemical industry, gained over decades of experience. Whether it is a reduction in reliance on nuclear energy or CO_2 emissions, using biogas as an energy source will considerably help achieving national and international environmental objectives.

At AERZEN, we support these objectives through more than 45 agencies worldwide.
For many years, AERZEN blowers and compressors have conveyed and compressed all types of gas and gas mixtures in chemical and petrochemical plants. Our experience has shown that energy efficiency, plant safety and reliability are the decisive criteria. Based on our know-how and experience, AERZEN offers products developed specially for the biogas market. Whether it is boosting the intake pressure of combined heat and power (CHP), engines and treatment plants for biogas (BGTP), critical infrastructure for biogas injection plants (BGIP), or compressing biomethane to inject into gas grids, AERZEN has a suitable blower or compressor for every possible application.
We offer customers a wide array of machine sizes and design pressures. All blowers and compressors can be used in hazardous areas Zone 1 and in Zone 2 as defined under ATEX Directive 2014/34/EU, as well as the Machinery Directive, including the latest safety standard (EN 1012-3) and DVGW regulations in Germany.

DVGW: German Technical and Scientific Association for Gas and Water

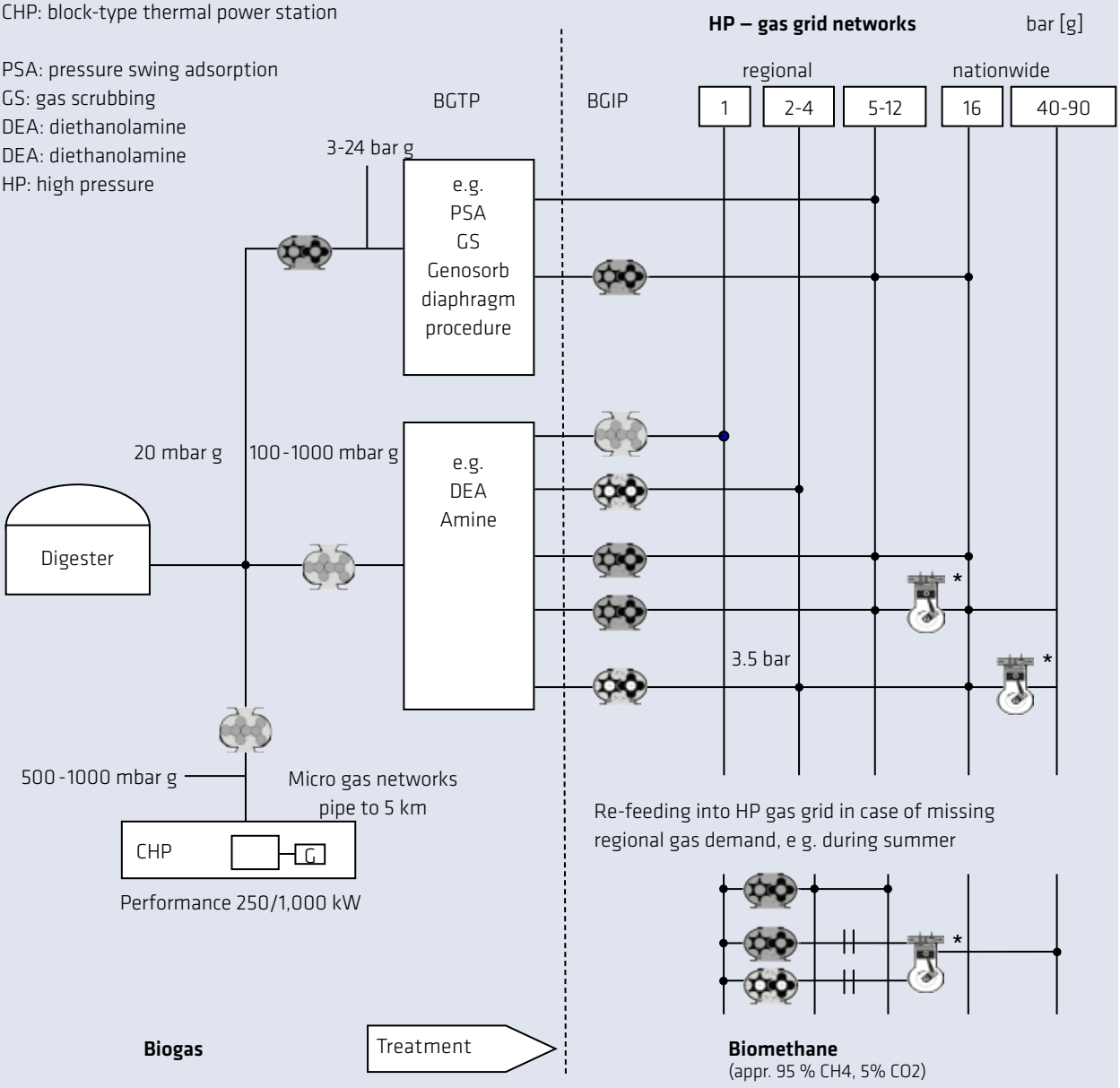


How a biogas plant functions

Applications in biogas plants

Terms:
BGTP: biogas treatment plant
BGIP: biogas injection plant
CHP: block-type thermal power station

PSA: pressure swing adsorption
GS: gas scrubbing
DEA: diethanolamine
DEA: diethanolamine
HP: high pressure



		Design	Elevated intake pressure [bar g]	Δp max [bar]
Series **C**		Screw compressors oil-free	to 0.5	3.5
Series **VMX/VMY**		Screw compressors oil-flooded	to 8 (VMX to 0.5)	24 (VMX to 13)
Series **GM**		Positive displacement blowers	to 0.5	1
Series **DGZ**		Rotary piston gas meters	up to 16	up to 16

** (reciprocating compressor not included in AERZEN's product line)*

BIOGAS BLOWERS

Designed specially for the biogas market, these blowers provide the ultimate in reliability and efficiency. Series GM biogas blowers by AERZEN are available in a variety of different sizes. Due to a TÜV-certified explosion pressure resistance of 12 bar, these blowers may also be applied in processes with internal ATEX zone 1.

AERZEN's positive displacement blowers are highly-developed standard products. Manufactured using modern CNC-driven specialist technology, they are designed for minimal tolerances between components – and exceptional efficiency levels. For nothing short of precision. Made by AERZEN.

Biogas blowers – GM series for oil-free compression

Fields of application
Compression of biomethane and biogas,
landfill gas, natural gas, CH-mixed gases etc.

9 sizes for volume flows between 30 m^3/h and 2,700 m^3/h.
Volume flow control by controlling rotating speed
and bypass. Control range 0 – 100 %

Elevated intake pressure: 0.5 bar g max.

Discharge pressure: 1.0 bar g max.

Design compressor stage

Casing material:	ductile iron (GGG 40.3 /EN-GJS-400 / ASTM A395)
Rotors:	forged steel (C45N / AISI type 1045)
Drive shaft seal:	gas-tight seal
Bearings:	rolling element bearings

Our line of blower packages
Starting strainer
Suction silencer
Base support including discharge silencer
Vibration isolating feet
Hinged motor mounting plate to ensure automatic belt tension
Belt drive and belt guard
Check valve
Axial expansion joints
Instrumentation

Range of options, e.g.
Special motor or customer supplied motor
Control and power supply panel incl. frequency converter
Acoustic hood
Gas cooler
Bypass – control valve

Series GM is also available as direct coupled version

Please find more information in leaflets G1-068 and G1-069

AERZEN stage GM positive displacement blower

AERZEN GM 15 L positive displacement blower
for the compression of biogas and biomethane

BIOGAS COMPRESSORS

AERZEN screw compressor packages are distinguished by their great variety and numerous modification options. Whether these compressors serve as part of the customer's plant concept or are applied as a complete system solution, AERZEN will adapt to individual customer requirements. AERZEN's steady evolution into a world market leader explains our flexibility; our company has constantly innovated, optimised and successfully provided compressors since 1943.

Special rotor profiles are characteristic of AERZEN's screw compressors; they ensure significantly better performance in negative and positive pressure operation.

Biogas compressor – Series C
Oil-free screw compressors

Fields of application
Compression of biomethane and biogas,
landfill gas, natural gas, CH-mixed gases etc.

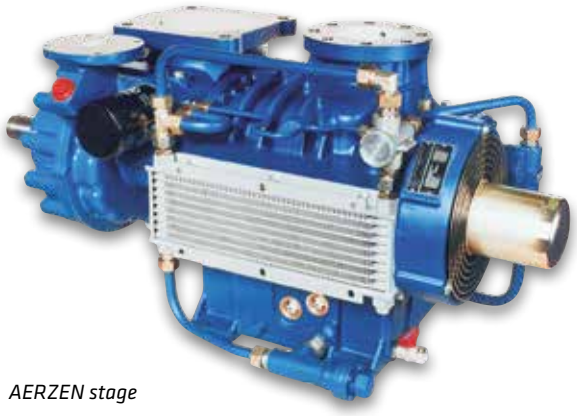
3 sizes for the following max. volume flows:

C 6 Z	C 13 Z	C 18 Z
610 m³/h	1290 m³/h	1900 m³/h

Volume flow control by controlling rotating speed and bypass. Control range 0 – 100 %

Elevated intake pressure: 0.5 bar g max.

Pressure difference: to 3.5 bar g



AERZEN stage
screw compressor VM

Design and scope of supply
Compressor stage
Casing material: ductile iron (GGG 40.3 / EN-GJS-400 / ASTM A395)
Rotors: forged steel C45N / AISI type 1045 (all gas-contacted components are coated for corrosion protection)
Drive shaft seal: gas-tight seal
Bearings: rolling element bearings

Scope of supply
Compressor package
Starting strainer
Suction and discharge silencers
Oil lubricating system integrated into the compressor stage
Check valve
Internal pipe work
Instrumentation

Range of options, e.g.
Acoustic hood
Controls
Modification for zones 1 and 2

Please find more information in our leaflet RKR*
* RKR = a member of the AERZEN Group

AERZEN compressor C 13 Z for the compression of biogas and biomethane

Biogas compressor – VMX Series
Oil-lubricated screw compressor packages

Fields of application
Compression of biomethane and biogas
Other process gases such as CH - mixed gases

5 sizes for the following max. volume flows:

VMX 45	VMX 75	VMX 110	VMX 160	VMX 250
300 m³/h	500 m³/h	900 m³/h	1400 m³/h	2600 m³/h

Volume flow control by controlling rotating speed and bypass. Control range 0 – 100%

Elevated intake pressure: 0.5 bar g max.

Discharge pressure: 13 bar g max.

AERZEN stage
VMX screw compressor

Design and scope of supply
Compressor stage
Casing material: ductile iron (GGG 40.3 / EN-GJS-400 / ASTM A395)
Rotors: forged steel (C45N / AISI type 1045)
Drive shaft seal: mechanical seal - oil-lubricated
Bearings: rolling element bearings

Scope of supply
Compressor package
Starting strainer
Oil system composed of:
- Oil reservoir
- Oil filter
- Oil cooler
- Oil pressure control valve
- Oil temperature control valve
- Oil separator

Gas cooler
Internal pipe work
Instrumentation and controls

Range of options, e.g.:
Acoustic hood or container-mounted package
Water chiller and more

Find out more in leaflet V1-020

AERZEN VMX 110 compressor for the compression of biomethane

Biogas compressor – VMY Series
Oil-lubricated screw compressor packages

Fields of application
Compression of biomethane and biogas
Other process gases such as CH - mixed gases

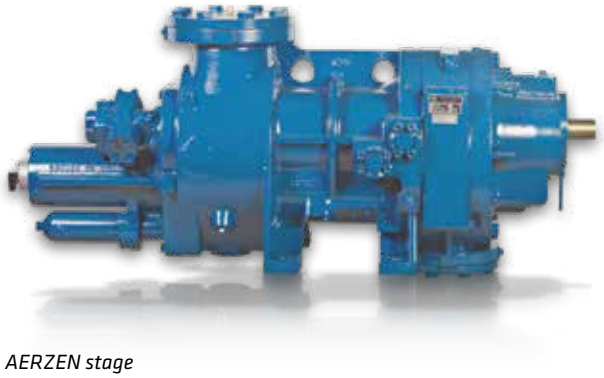
3 sizes for the following maximum volume flows:

VMY 156	VMY 256	VMY 356
600 m³/h	**1250 m³/h**	**2500 m³/h**

Volume flow control via integrated slide valve
and / or control of rotating speed and bypass.
Control range 0 – 100%

Elevated intake pressure: 8.0 bar g max.

Discharge pressure: 25 bar g max.



AERZEN stage
VMY screw compressor

Design and scope of supply
Compressor stage
Casing material: ductile iron
(GGG 40.3/EN-GJS-400/ASTM A395)
Rotors: forged steel (C45N / AISI type 1045)
Drive shaft seal: mechanical seal - oil-lubricated
Bearings: sleeve bearings - (radial)
angular contact ball bearings - (thrust)

Scope of supply
Compressor package
Starting strainer
Oil system composed of:
– Oil reservoir
– Oil filter
– Oil cooler
– Oil pressure control valve
– Oil temperature control valve
– Oil separator
Gas cooler
Check valves
Internal pipe work
Instrumentation and controls

Options, e. g.
Acoustic hood or container-mounted package
Water chiller and more

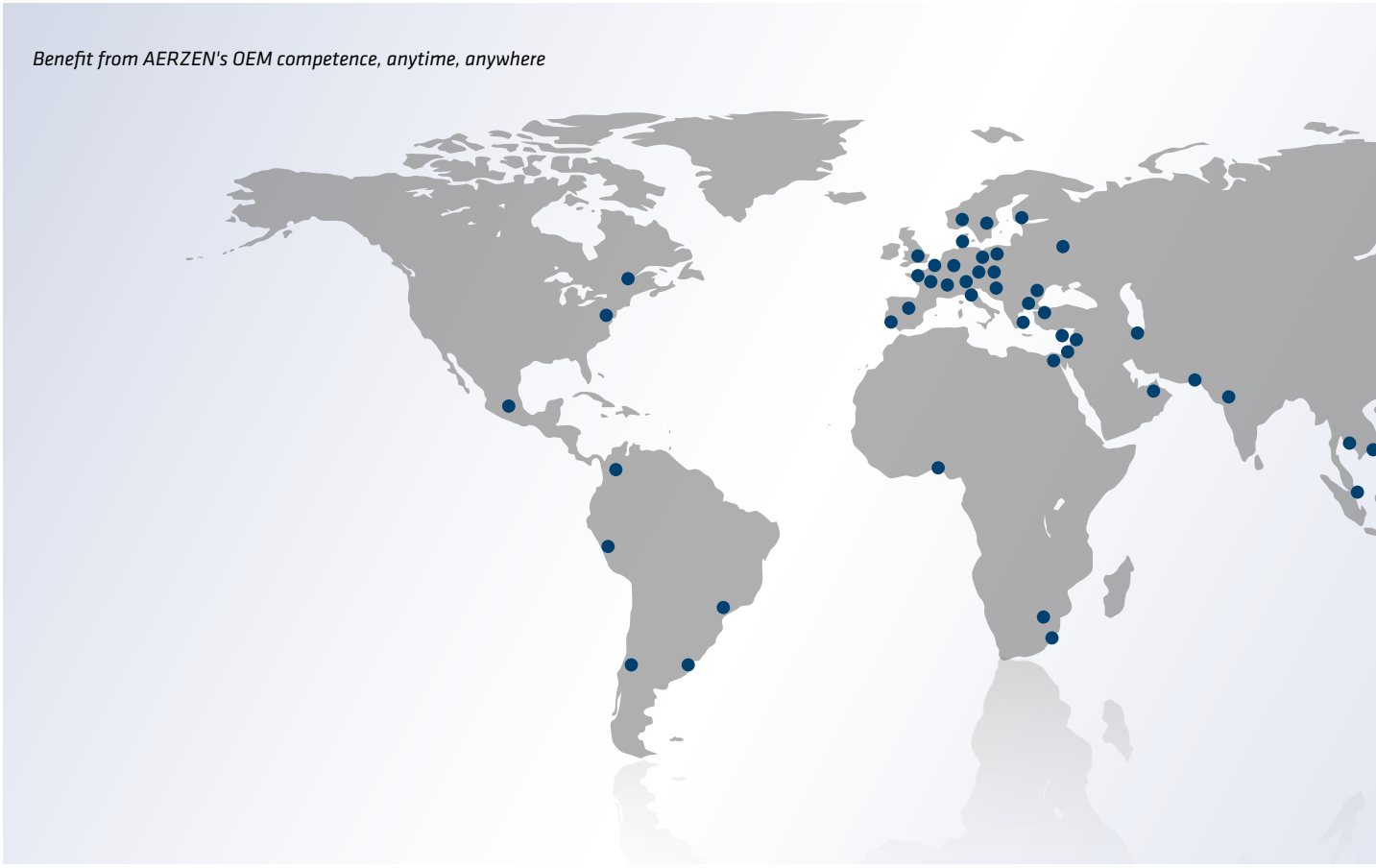
More information is available in brochures V1-035 and V1-038

AERZEN VMY 356 compressor
for the compression of biomethane

ANYTHING BUT ORDINARY.
THE WORLD OF AERZEN SERVICES.

AERZEN machines are legendary for their durability. Why is service necessary at all, then? For us, it's about more than availability and original OEM parts. AERZEN services safeguard your investments and productivity, and ensure that you stay ahead of the competition. From anywhere on earth.

Benefit from AERZEN's OEM competence, anytime, anywhere



AERZEN on-site service.
Our service teams work wherever our machines are, anywhere in the world, onshore or offshore, and frequently under extreme conditions. How do we manage? Because we are never far away. AERZEN has developed a wide network of service support centres and decentralised parts depots around the globe. At these centres, you will find over 200 well-trained service technicians ready to help, whenever and wherever you need them.

Equipment rental and other services.
The AERZEN service world has plenty to offer to its customers. For example, we offer custom designed service kits, including replacement stages, machine diagnosis, acoustic optimisation. One of our most important services is the AERZEN Rental Division, which has a large stock of rental machines: AERZEN blowers, turbos and compressors in a wide range of performance classes, for all standard pressure ranges, for immediate use and delivered on request – turnkey ready. What does that mean for our customers? Even in the event of an unanticipated need, you will be well equipped.

Contact worldwide
AERZEN's team of 2,000 employees is active on every continent. With six sales offices in Germany alone, we are always nearby. And with 50 subsidiary companies spread across 100 different countries, we are never far away should you need us. Call us at:
+49 5154 81-0

Service Hotline Germany
Our German service centre is available for customers, applications and the maritime industry in Germany. We look forward to your call:
0700 49318551

Customer Net
Looking to learn more about our company and about AERZEN's industry-leading compressor technology? It's easy: just visit our Customer Net or our home page. Everything you need to know in one location:
www.aerzen.com

AERZEN. Compression - the key to our success.

AERZEN was founded in 1864 as Aerzener Maschinenfabrik. In 1868, we built Europe's first positive displacement blower. The first Turbo blowers followed in 1911, the first screw compressors in 1943, and in 2010 the world's first rotary lobe compressor package. Innovations "made by AERZEN" keep driving forward the development of compressor technology. Today, AERZEN is among the world's longest established and most significant manufacturers of positive displacement blowers, rotary lobe compressors, screw compressors, and Turbo blowers. AERZEN is among the undisputed market leaders in many areas of application.

At our 50 subsidiaries around the world, over 2,000 experienced employees are working hard to shape the future of compression technology. Their technological expertise, our international network of experts, and the constant feedback we get from our customers provide the basis for our success. AERZEN products and services set the standard in terms of reliability, stability of value and efficiency. Go ahead - challenge us!

Aerzener Maschinenfabrik GmbH
Reherweg 28 – 31855 Aerzen / Germany
Telephone: +49 5154 81 0 – Fax: +49 5154 81 9191
info@aerzener.de – www.aerzen.com

AERZEN
EXPECT PERFORMANCE

B1-001 – 03 – EN – 1000 – 01.2019