

# POSITIVE DISPLACEMENT BLOWERS

## DELTA BLOWER GENERATION 5

Applications for special gases



**AERZEN**

# A TASK FOR SPECIALISTS: THE COMPRESSION OF SPECIAL GASES.

The need and the consumption of various gases are steadily increasing. This applies to the transport in the decentralised power generation, the reducing of emissions of climate-relevant gases or the suction/compression of mixed gases. AERZEN positive displacement blowers are applied in all industrial branches where special gases are compressed or conveyed. Thanks to our modified unit design Generation 5, even the conveyance of hydrogen is possible. With the increasing demand of special gases, the world-wide requirements towards the plant users also increase.

Therefore, AERZEN products for gas applications fulfil the energy efficiency advantages as well as the ATEX Directive 2014/34/EU and are subject to constant adjustment.

## Standard scope of supply

- **Blower stage**  
with gastight sealing of the drive shaft, (explosion-proof up to 20 bar with TÜV certificate or strength test by hydrostatic pressure test with 31.5 bar) made of nodular cast iron (as per EN 13445-6). Depending on gas and pressure difference, the design may be with a return to suction side of the neutral chambers.
- **Base support with integrated discharge silencer**  
dimensioned for operating overpressure 1.1 bar (explosion-proof 20 bar)
- **Electrical ATEX acoustic hood fan** (no gas accumulation underneath the hood at machine standstill)
- **Flexible machinery mountings** with fixing bolts
- **Hinged motor mounting plate**  
as dynamic belt-tensioning system
- **Belt drive complete** (narrow V-belts antistatic)
- **Suction silencer** dimensioned for operating overpressure 1.1 bar g (explosion pressure resistance can be determined relevant to the order)
- **Non-return flap**  
for installation between two flanges
- **Axial compensators**, suction and discharge sided
- **Instrumentation and protection**
- **Acoustic hood**
- **Starting strainer** with intermediate ring
- **Driving motor**

Besides the described standard concept, the following components are available in addition for the adjustment to the requirements of your application:

- Bypass operation with overflow regulator for keeping the discharge pressure
- Pressure protection via safety relief valve
- Bypass with start-up unloading device
- Purge gas station (admission of the neutral chambers with purge gas)
- Shut-off device (e.g. ball valves)
- Suction and discharge silencers can be supplied also made of stainless steel
- Belt guard (spark-proof), in case of design with acoustic hood, hand guard is required power plant technology



Biogas applications



Chemical industry

## Versatility in Detail.



Control range from  
25% to 100%



Volumes flows\* from 30 m<sup>3</sup>/h  
to 11,000 m<sup>3</sup>/h



Positive pressure from  
-500 mbar up to +1000 mbar



Nominal widths from  
DN 50 to DN 400

## Options for the stage

- Combined conveying room sealing for humid landfill gas
- Special anti-corrosion coating of the rotary lobes and the conveying room

Special designs and modifications are possible in terms of design and material.

According to the ATEX Directive 2014/34/EU the packaged units can be applied within device group II with relevant equipment of category 2 - i.e. zone 1 internal and external (temperature class T3/ (T4)) .

Example applications	Example gases
Chemical industry	Landfill gas
Tank cleaning / extraction	Biogas
Block-type thermal power station	Inert gas
Gas pressure increase	Natural gas
Manufacture of rare earths	Town gas
	Carbon dioxide
	Mixed gases
	Hydrogen



AERZEN positive  
displacement blower GM 10 S  
Intake volume flow: 13.3 m<sup>3</sup>/min  
Differential pressure: 165 mbar  
Conveyed medium: biogas



\* Volume flow (corresponds to the delivery volume flow measured according to ISO 1217 and converted to the reference suction conditions according to the (informative) Annex F of ISO 1217 [inlet pressure = 1.0 bar / inlet temperature = 20°C, RH = 0%])



**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, rotary piston gas meters, screw compressors, and Turbo blowers. AERZEN is among the undisputed market leaders in many areas of application.

At our 45 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!!

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EXPECT PERFORMANCE