

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%



Intake volumes streams from
30 m³/h to 11,000 m³/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 m³/min
Differential pressure: 165 mbar
Conveyed medium: biogas





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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