WITT GROUP
MEIDINGER AG

The gas-tight and explosion-proof products in the HA and GRN series have become particularly well established in the biogas industry. References proven thousands of times, more than 10’000 GAS PRESSURE BOOSTER FANS... for BIOGAS. Reliable, energy-efficient, quiet, easy to maintain and much more...

MEIDINGER AG

Landstrasse 71
CH-4303 Kaiseraugst

Tel.: +41 (0)61 / 487 44 11
Fax: +41 (0)61 / 487 44 00

info@meidinger.ch
service@meidinger.ch

GAS PRESSURE BOOSTER FANS

for BIOGAS and technical gases

WWW.MEIDINGER.CH

125 YEARS OF MEIDINGER AG, EXPERTS THROUGH EXPERIENCE !

Meidinger AG is an independent company within the Witt Group. We are a manufacturer of high-performance industrial fans based in Switzerland. Within our group, we specialize in the development and production of centrifugal fans for special requirements. We offer safe solutions for our global customers in a wide variety of markets. These include the pharmaceutical and chemical industries, energy and plant engineering, the food industry, waste incineration, biogas and many more.

Our tailor-made fans convey air and gases for a wide range of applications. Explosive, corrosive, toxic, abrasive, or extremely hot or cold are typical characteristics of the media to be conveyed. The gas-tight and explosion-proof products in the HA and GRN series have become particularly well established in the biogas industry. Hereinafter we present you a few models.

The multiple products of our customer

- Biogas
- Electricity and heat (CHP)
- Biomethane CH4 (gas to grid)
- Food-grade carbon dioxide CO2
- Fertilizer for agriculture

Typical applications of our customers in the biogas industry

- Compensation for pressure losses in pipelines and various plant components
- Gas pressure supply to a combined heat and power unit (CHP)
- CO2 capture
- Gas supply to the flares
- Support air for double membrane gas holders

ADVANTAGES AND BENEFITS IN PLANNING AND OPERATION

Safety first

- ATEX and CE marking, in accordance with Directive 2014/34/EU
- Technical design according to EN 14986
- Our main goal is to prevent damage to people and equipment. The experience gained from several thousand ATEX fans in operation confirms our commitment.

Easy to integrate in the system due to the flat charasterstic curve

- The nearly constant pressure rise at changing delivery volumes simplifies measuring and control effort. Bypass, overpressure valve, sensors etc. are not required.

Reliable and not prone to failure

- Our customers benefit from GAS PRESSURE BOOSTER FANS with long life time and no unexpected interruptions in operation.

Easy start-up and economical

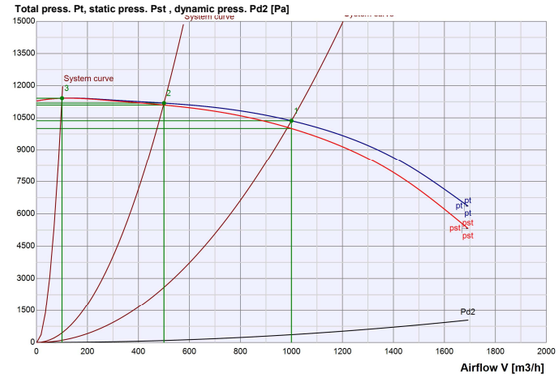
- Due to the very low moment of inertia of the impeller, the electrical components and power consumption can be minimized (motors, cables, frequency converters, etc. do not need to be oversized).

Low noise

- Approximately 8 dB quieter than conventional fans. Costly measuresfor noise reduction in fans and ductwork are avoided or reduced.

Low maintenance and sustainable

- After 3 years or 20,000 operating hours (whichever comes first), an overhaul is recommended.



Example of flat characteristic curve with 3 operating points between 100 m3/h to 1000 m3/h

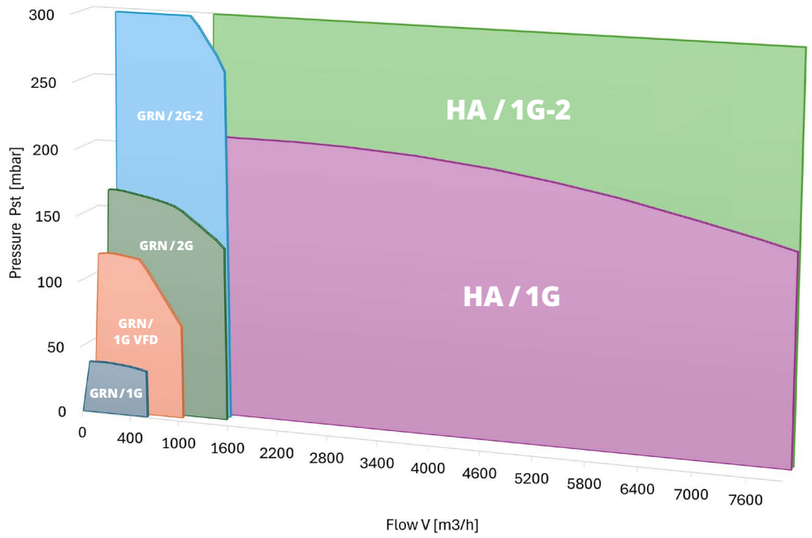
PRODUCT RANGE FOR GAS PRESSURE BOOSTER FANS

Our ex-protected and gastight fan types cover a range from approx. 10 mbar to max. 300 mbar at a volume flow of approx. 50 to 8000 m3/h. Available for ATEX Zone 1 and 2, gastight acc. ISO EN 13349 cat. H1

According the ATEX rules and guidelines the general frame conditions are applicable:

- Inlet pressure from 0.8 bara to 1.1 bara
- Outlet pressure from 0.8 bara to 1.3 bara
- Inlet temperature from -20°C to +60 °C

Working areas of gastight and Ex-protected fans – GRN and HA series



GRN	Fan type with cast iron casing and impeller from aluminum	1G	direct drive, gastight
HA	Fan type with welded steel casing and impeller from aluminum	1G-2	two direct driven fans in series
1G VFD	direct drive, operated by frequency converter up to 87 Hz	2G	belt drive, gastight
		2G-2	two belt driven fans in series

HA TYPES
(HA / 1G & HA / 1G-2)

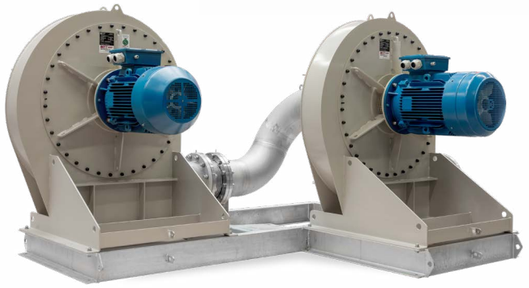
In order to meet our customers' growing demand in volume flow, the HA series significantly expands our product range.

This enables us to cover flow rates to more than 8000 m^3/h. Pressures of up to 200 mbar are reached. As double stage with two fans in series up to 300 mbar.

Of course, the proven advantages remain. You benefit from the flat characteristic curve, which is characterized by constant pressure at different flow rates. This simplifies integration into your system and often eliminates the need for complicated control technology and safety measures such as pressure relief valves.

Technical Information

- Direct drive: Impeller direct mounted on motor shaft (Compact and low-maintenance)
- Material: Impeller from aluminum. The housing in welded design is available in carbon steel and stainless steel.
- Inlet diameter from DN125 to DN400
- Outer diameter of the impeller from 600 mm to 1080 mm
- Motor size from 7.5 kW to 55 kW
- ATEX II2G or II3G (for zone 1 and 2)
- Gastight ISO EN 13349 cat. H1
- Standard colour RAL 7032 (others on request)



GRN SERIES

GRN types are characterized by their high flexibility. The housing position and direction of rotation can be adapted to your system. Flange sizes from DN80 to DN200 upon customer request. For moist and corrosive gases and/or environments, the fan housing is also available in stainless steel. In this case, the type designation changes to SRN.

GRN Direct drive (GRN/1G)

Direct drive fans are characterized by their compact design. In order to achieve a wide range of operating points even at fixed speeds, there are various models with different impeller diameters available.

Example fan type: EX-S-GRN48/120/500/1G

- Impeller direct mounted on motor shaft
- Standard flange size DN125 PN10 (others on request)
- Flow rate up to 500 m3/h
- Pressure up to 40 mbar
- Motor size 1.1 kW (400V/50Hz)
- Housing material GGG40 / Impeller from aluminum
- ATEX II2G or II3G (for zone 1 and 2)
- Gastight ISO EN 13349 cat. H1
- Standard colour RAL 7032 (others on request)

GRN Direct drive operated with frequency converter (GRN/1G VFD)

With a frequency converter, the impeller speed can be increased up to 5080 rpm (87 Hz). This allows significantly higher pressures and volume flows to be achieved.

Example fan type: EX-S-GRN48/120/500/1G for VFD operation

- Impeller direct mounted on motor shaft
- Standard flange size DN125 PN10 (others on request)
- Pressure up to 120 mbar
- Motor size 4 kW (400V/50Hz)
- Drive by VFD 20-87 Hz
- Housing material GGG40 / Impeller from aluminum
- ATEX II2G or II3G (for zone 1 and 2)
- Flow rate up to 500 with max. speed (with lower speed up to 1000 m3/h)
- Gastight ISO EN 13349 cat. H1
- Standard colour RAL 7032 (others on request)

BELT DRIVE

Belt Drive (GRN/2G)

With belt-driven GRN fans, a wide range of operating points can be achieved even without a VFD. Various belt ratios allow the impeller speed and thus the characteristic curve to be adjusted. With a maximum speed of 5800 rpm, a pressure of up to 160 mbar is achieved.

Example fan type: EX-S-GRN48/120/500/2G

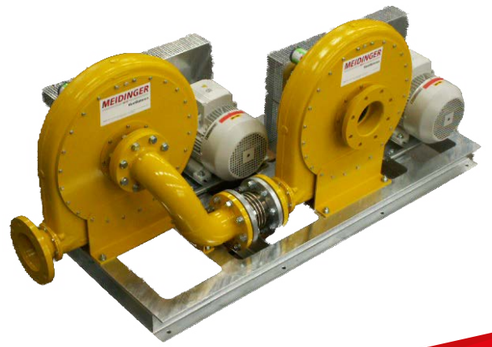
- Impeller mounted on flanged bearing
- Standard flange size DN125 PN10 (others on request)
- Flow rate up to 1500 m3/h
- Pressure up to 140-160 mbar (depending on the flow rate)
- Motor power from 2.2 kW up to 11 kW (400V/50Hz)
- Belt drive
- Housing material GGG40 / Impeller from aluminum
- ATEX II2G or II3G (for zone 1 and 2)
- Gastight ISO EN 13349 cat. H1
- Standard colour RAL 7032 (others on request)

Belt drive – double stage (GRN/2G-2)

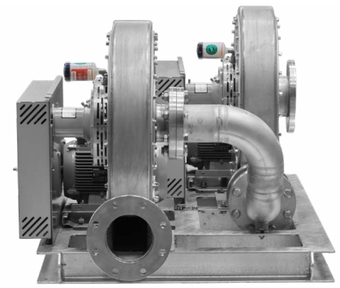
With two fans connected in series and mounted on a common base frame, the pressure can be doubled. This allows the maximum permissible pressure of 300 mbar to be reached.

Example fan type: EX-S-GRN48/120/500/2G-2

- Impeller mounted on flanged bearing
- Standard flange size DN125 PN10 (others on request)
- Flow rate up to 1500 m3/h / Pressure up to 300 mbar
- Motor power from 2 x 2.2 kW up to 2 x 11 kW (400V/50Hz)
- Belt drive
- Housing material GGG40 Impeller from aluminum
- ATEX II2G or II3G (for zone 1 and 2)
- Gastight ISO EN 13349 cat. H1
- Standard colour RAL 7032 (others on request)



SRN-SERIES



For moist and corrosive gases and/or environments, the fan housing is also available in stainless steel. In this case, the type designation changes to SRN. Pressures up to 300 mbar with double stage.

STANDARIZED GRZ TYPE

(Assemblies in stock)

The standardized fan type GRZ is a cost optimized direct drive gas pressure booster fan. Economical and reduced to the essentials. Available only in one design. Simply simple!

Fan type: EX-S-GRZ48/120/500/1G

- Impeller direct mounted on motor shaft
- Flange size DN125 PN10
- Flow rate up to 500 m3/h
- Pressure up to 40 mbar
- Motor power 1.1 kW (400V/50Hz)
- Housing material GGG40 Impeller from aluminum
- ATEX II2G or II3G (for zone 1 and 2)
- Gastight ISO EN 13349 cat. H1
- Colour RAL 1023

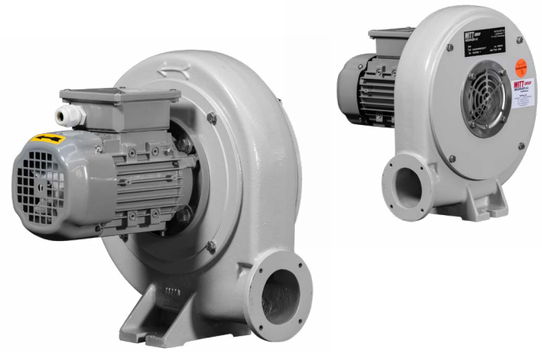
SUPPORT AIR FANS

...for double membrane gas holders

Support air fans are in varies fan types and design available.
The purpose is to blow air into the space between the membranes of a foil roof to maintain constant internal pressure.
They compensate for pressure fluctuations and keep the roof stable.

Technical data

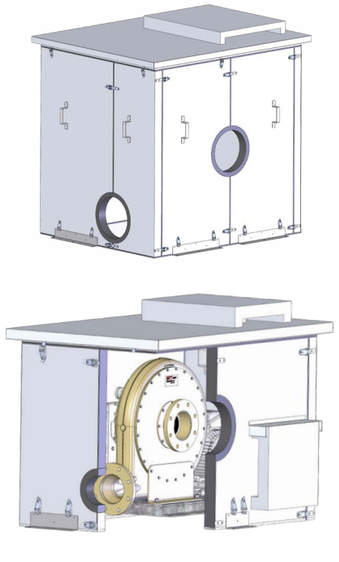
- Fans are as direct and belt drive available
- Medium: Ambient air (EX)
- Volume flows and pressure according to the customer's demand
- Free inlet and ducted outlet



ACCESSORIES

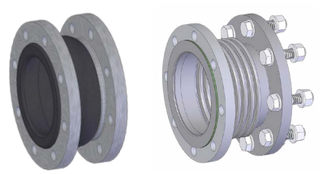
Sound insulation hood

- For increased noise requirements on the plant, we reccomend active noise protection
- Tailor-made sound insulation hoods are available for all designs
- Sound reduction up to 15 dB
- The hoods consist of individual sound panels connected with quick-release fasteners
- Explosion-proof forced ventilation
- Material available in aluminium and stainless steel
- Suitable for indoor and outdoor installation



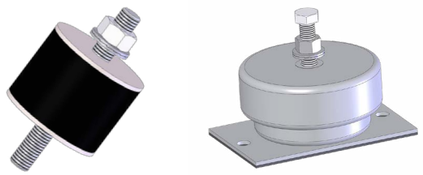
Flexible connections (gastight and EX)

- External forces on the ATEX fan are not permitted. Flexible connections prevent forces from being transmitted via the pipeline
- Flanges according EN 1092-1 with size DN80 to DN400 PN10/PN16
- Bellows made of stainless steel or rubber.
  Flanges available in galvanized carbon steel or stainless steel.



Vibration dampers

- to prevent that vibrations of the fan are transferred to steel construction or the building we recommend the use of vibration dampers.
- Rubber and steel spring types are available.



SERVICE AND MAINTENANCE

Service

After 20,000 hours of operation or 3 years (whichever comes first), an overhaul is required. Service work and tests on gastight ATEX ventilator such as resealing and balancing take a couple of days and cannot be made on site on your system. Therefore, we have the following options to keep your device in good shape and safe condition.

Revisions

- The regular overhauls can be carried out either directly at our factory in Switzerland or by one of our trained and certified service stations.
- To find your nearest service point, please visit our website or contact us.

Exchange Units

- To minimize downtime, we've established an exchange pool for standard GRN fans. This means we'll supply you with a refurbished fan that has the same functionality as your existing unit. You replace it in your system, and we buy back your old equipment.
- We take care of all of the handling: That means we organize transport to and from your destination and take care of all customs formalities and paperwork.
  You can't get it easier.

Spare Part Assembly

- For belt driven GRN-types we offer also a so-called "Bare Shaft Fan" consists of the complete sealed housing including an impeller with flange bearing and shaft. Without base frame, belt drive, and motor.

Direct connection to our service department

If you have any questions about our services, please contact our service department.

Tel.: +41 (0)61 / 487 44 88
E-Mail: service@meidinger.ch