

product brochure



ennox biogas technology

Manufacturer of gas technical components for bio, sewage and landfill gas plants.

ennox biogas technology was founded in 2011. With an international team of experienced biogas professionals and technicians, we are a leading supplier of biogas technology and equipment in Europe. At ennox we specialize in gas flare technology, servicing all aspects of biogas, sewage gas and landfill gas technologies.

Philosophie

Wherever gas is produced from biogas plants, landfills and sewage plants, cleaned or used, we stand ready to service our customers and build long term partnerships by delivering:

- professional consulting services
- high-quality and ecological products
- rapid delivery
- comprehensive customer service and support

Our corporate headquarters is located on Lake Constance in the heart of Europe - the hub of our worldwide activities.

Do you have a general question or need a quote for a product? Please contact us using the contact form provided and we look forward to working with you to develop a solution that is customized to your requirements.



Service

ennox biogas technology embraces its roll, not only as an international component manufacturer and supplier, but also as a competent partner during the design, construction and support of gas systems in the agriculture, environment and energy industries.

Our engineers draw upon years of experience in the building of biogas systems and make their knowledge and abilities available for all design and problem solving tasks.

We offer maintenance and customer support agreements for all the products and solutions we deliver, in order to ensure the long-term support of our customers as well as the ongoing availability of our components.

As a special we can provide a gas flare and gas sack system on a contractual basis at short notice.

Advantages:

- Use of quality materials
- Customer care and handling by competent contact partners
- Products are factory pre-assembled
- Compliance with applicable regulations such as ATEX, DVGW, TA-Air and EN-Norms
- Modular designs with professional standard solutions
- We plan and also produce customized special solutions
- Quality management system according to EN ISO 9001:2008
- According to manufacturer AD2000 leaflet HP0 and EN ISO 3834-2

We provide you with the following services

- Maintenance and service agreements either for one or more years
- One-time maintenance or service upon request
- Checking/inspection of gas technic system components on bio or sewage gas systems
- Consultation on safety in the operation of gas systems
- Check of explosion proofing
- Gas flare or gas sack system available for rent

Our service technicians are fully authorised and certified according to TRBS. They bring many years' experience and are constantly kept up-todate with regular further training.

We offer:

- A dynamic team and flexible approach that is able to respond to your needs
- Project maintenance and servicing by experts in the field
- Years of experience in developing large-scale international projects
- Practical solutions
- Stainless steel processing by certified Austrian specialists
- Best quality, guaranteed
- Top price / performance ratio

If you have any questions or requests, please do not hesitate to contact us.

Products / overview

Extract



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Extract Digester equpiment

The digester, also known as the biogas reactor, is very often mistaken as a simple concrete tank – this component requires quick and easy handling, roof and wall openings/closures, observation window, foam trap, excess and low pressure relief protection device, connecting systems and flanging for apparatus and sensor. We are able to develop customized solutions to meet your requirements in our purpose-built stainless steel fabrication facility.



Gas dome GAD

The gas dome or gas cover is used first and foremost as the basis for various attachments for digesters, i.e., foam traps, gas extraction units, safety devices, mixers, measurement units etc., and secondly as an access point into the digester. For both applications the gas dome should be adequately dimensioned in order to meet all requirements.

ennox gas domes comprise of a base unit with a single or multiple sealing collar joint, which is mounted hermetically tight into the concrete digester roof. The cover is then mounted to the base unit along with all required accessories.

Every gas dome can be configured according to the customer's unique application requirements. We guarantee a thorough and professional consultation – from the technical specification through to the final design.

ennox gas domes are manufactured almost entirely from 1.4571 stainless steel; some add-on components may be manufactured from alternative materials such as gunmetal (red bronze) or black steel (generally aluminium or magnesium is forbidden).

Highlights

- Best possible design according to customer requirements
- Diameter and sealing collar customisable
- Robust and maintenance free
- Manufactured from stainless steel
- Made in Austria

Gas dome GAD technical data

Model	Diameter in mm	Height in mm	
GAD 640	640	1,000	
GAD 796	796	1,000	
GAD 955	955	1,000	
GAD 1274	1,274	1,000	

- Height, diameter and design customisable
- Assembled components can be supplied
- Mixer flange upon request



Manholes in digesters, Biogas reactors or other concrete containers serve to allow unrestricted and safe access as also an entry point for materials and other components. They also serve as an inspection point which can be quickly opened and closed.

Manholes can be fitted with sensor openings or other additional fixtures for measurement components.

ennox manholes can be supplied in a variety of sizes and designs. ennox manholes are manufactured entirely from 1.4571 stainless steel. ennox provides you with the most modern designs for either lateral or top assembly:

Roof manhole MHR*

Manholes with a screwed cover and handle. The base unit is installed hermetically tight in the top of the digester, either directly cast (concrete reactor) or welded (steel digester). An air tight seal between the lower part and the cover is achieved with an NBR o-ring seal.

Inside opening laterally installed manhole MHL** with swing cover

With a special quick connector and swing mechanism, the ennox manholes can be easily opened and closed to the inside of the digester. After closing the manhole the digester is hermetically sealed up to a pressure of 4 bar. The accumulation of dirt and contamination on the inside surface is prevented by the convex form, which, in turn will guarantee problem-free operation.

Outside opening laterally installed manhole MHL*** with screwed cover

This manhole is equipped with a strong handle. It opens to the outside of the digester and is fastened with screws. This manhole cover also boasts a convex form on the inside, preventing the build-up of dirt and contamination.





Highlights

- Simple, maintenance free design
- Simple operation with special connectors
- Operation using little effort with swing arm
- No dirt and contamination build-up due to convex form
- Digester pressure up to 4 bar, max. Temperature 100 °C
- Completely manufactured from 1.4571 stainless steel
- Made in Austria

- Additional sleeves for the connection of sensors etc.
- Freely selectable frame size
- Frame matched to digester wall curvature



Roof manhole MHR* technical data

Model	Diameter	Height	
	in mm	in mm	
MHR 640	640	1,000	
MHR 796	796	1,000	
MHR 955	955	1,000	
MHR 1273	1,273	1,000	

Lateral manhole MHL** technical data

Model	Diameter	Opening size	Frame size	
	in mm	in mm	in mm	
MHL 600	754	604	235	
MHL 700	854	704	250	
MHL 800	954	804	250	
MHL 900	1,080	904	250	
MHL 1000	1,200	1,060	258	

Lateral manhole MHL 2*** technical data

Model	Diameter	Opening size	Frame size	
	in mm	in mm	in mm	
MHL 2 600	780	700	600	
MHL 2 700	880	800	600	
MHL 2 900	1,035	955	600	
MHL 2 1000	1,353	1,273	600	



Foam traps on digesters serve for the visual recognition of foam build-up on the sludge surface.

Should foam be detected a spray film is generated through a spraying unit, which eliminates the foam on the surface of the sludge, thus, preventing the ingress of foam into the pipework.

ennox foam traps can be delivered either as a manual or fully automatic unit, as well as with an under/over pressure safety valve.

Manufactured entirely from 1.4571 stainless steel.



Highlights

- Simple, maintenance free construction
- Reliable and safe foam recognition with inspection windows and light curtain (ATEX suitable)
- Including cleaning nozzles for the inspection windows
- Connection for under/over pressure valve available
- Manufactured entirely from 1.4571 stainless steel
- Made in Austria

Foam trap FDS technical data

- Semi or full automatic
- Dust cover for sensors available upon request

Model	Flowrate in Nm ³ /h	Diameter in mm	Height in mm	Connections DN
FDS 200	max. 200	300	800	80
FDS 300	200-400	480	1,000	125
FDS 500	400-750	640	1,200	200
FDS 1000	750–1,200	955	1,400	250



Inspection window IW

Inspection windows are used for the monitoring of the processes inside the digester without the need for opening.

ennox inspection windows can be installed laterally in the digester wall, on the roof, or built into the top face.

Accessories available upon request include covers, spraying units, lamps or cameras.

The windows are shatter-proof and extremely stable. The frame is manufactured from 1.4571 stainless steel.

Highlights

- Flexible implimentation due to multiple installation possibilities
- Robust and maintenance free
- Windows are shatter-proof and stable
- Manufactured entirely from 1.4571 stainless steel
- Made in Austria/Germany

Inspection window IW technical data

Model	Diameter	Open diameter	
	in mm	in mm	
IW 150	285	175	
IW 200	340	225	
IW 400	470	400	

Options

• Wide range of accessories including lamps, wipers, cameras and spray units

SIDIAGE



Spraying unit PSD

The spraying unit serves to combat the accumulation of surface contaminants and buildups without opening the digester.

With a special nozzle in combination with the correct water pressure, a powerful water jet is generated, which, either completely destroys floating sludge or directs it towards a floating sludge door.

Manufactured from stainless steel, the ball joint from plastic.

Highlights

- Can be freely rotated or angled
- Including stainless steel nozzle and ball valve
- Robust and maintenance free
- Manufactured entirely from stainless steel
- Made in Austria

Options

- Screwed or welded construction as required
- Selectable swing-arm
- Water connection as required

Spraying unit PSD technical data

Model	Diameter	Length	
	in inches	in mm	
PSD 1	1	variable until 3,500	





The sludge / water heat exchanger HE-sw has been specially developed for use with waste water, sludge treatment systems and biogas installations. An effective heat exchange in parallel with high quantities, low differential pressure as well as low risk of blockage is of primary importance when processing sewage sludge.

The heat exchanger is of a modular construction with circular sludge pipes and can be modified to suit the actual process parameters. A turbulent sludge circulation is generated by an innovative turning chamber construction. The temperature profile is balanced ensuring an effective heat exchange in a compact construction. This results in reduced space requirements and helps to reduce our ecological footprint.

The modular construction enables the heat exchanger to be individually suited to the application parameters and therefore increase the capacity.

The special construction, which generates the turbulent sludge flow, enables low differential pressure during high capacities within the system and therefore reduces the risk of clogging. The diversion chamber can be easily disassembled for maintenance and cleaning.

The heat exchanger is completely manufactured, insulated and encased in stainless steel. All parts in contact with the medium are manufactured from stainless steel 1.4436. The outside casing and supports are manufactured from stainless steel 1.4301.



Highlights

- · Compact innovative design
- High heat exchange
- High capacity with low pressure differential
- Turbulent flow = low risk of blockage
- Low pressure drop
- Easy installation and maintenance
- Completely manufactured from stainless steel

- Modular construction suited to application
- Extendable construction
- Heat exchanger sludge / sludge or air / water upon request

Purify Gas treatment

The Biogas produced by the reactor does not come out clean! Condensate water, small particles, hydrogen sulfide and other substances all have to be processed!

Please ask our engineers – we procure and implement only the best in purification technologies!



Condensate pot COP

The condensate pot serves for the removal of condensate vapour or water occurring in the gas system.

The gas flows through the condensate pot where it is channelled within the pot through a separation chamber. The reduction in gas flow velocity and the influence of temperature fluctuations cause the water vapour in the gas to condense and collect at the bottom of the pot.

The condensate pot can be delivered in various sizes according to the capacity of the system.



Highlights

- Simple, maintenance free design
- Low pressure loss
- Easy access through screwed cover
- Removal of condensate through siphon
- Manufactured entirely from 1.4571 stainless steel
- Made in Austria

Additional bushings for sensors etc.

Options

- Use of an automatic condensate removal system
- Inspection windows or level indicators possible

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Condensate pot COP technical data

Model	Flowrate in Nm ³ /h	Diameter in mm	Height in mm	Connections DN
COP 200	max. 200	300	1,200	80
COP 300	200-400	480	1,400	125
COP 500	400-750	640	1,600	200
COP 1000	750–1,200	955	1,800	250

Gravel filter GRF

The gravel filter enables the coarse filtration of the biogas by passing through a gravel layer. Foreign particles, foam and condensate are removed and channelled to a drainage point.

The filter can be easily accessed through a screwed cover for cleaning. Contamination can be easily removed without the need for opening the cover by rinsing with water.

The gravel filter is available for various volume flow rates and pressures.

As an option we provide accessories i.e., gravel removal flange or differential pressure gauge.

Highlights

- Simple, maintenance free design
- Low pressure loss
- Easy access through screwed cover
- Automatic removal from condensate water
- Inlet and outlet connections for pressure gauges
- Manufactured entirely from 1.4571 stainless steel
- Made in Austria

Gravel filter GRF technical data



- Gravel removal opening through screwed flange
- Equipped with pressure gauges for differential pressure indication
- Rinse system with ball valve and spray nozzle

Model	Flowrate	Diameter	Height	Connections
	in Nm ³/h	in mm	in mm	DN
GRF 80	80	480	1,460	50
GRF 150	150	480	1,460	65
GRF 250	250	480	1,460	80
GRF 350	350	640	1,460	100
GRF 500	500	800	1,460	125
GRF 750	750	955	1,500	150
GRF 1000	1,000	1,270	1,500	200
GRF 1400	1,400	1,270	1,600	250

Ceramic fine filter CFP

Before the coarse filtered bio or sewage gas can be fed to the gas consumer it is normally passed through a ceramic fine filter. Here the gas is passed through a ceramic or fire-clay unit with a pre-determined pore diameter.

Fine particles $< 150 - 210 \,\mu\text{m}$ and condensate vapour are effectively removed. This eliminates any possible damage to components further on in the gas processing line.

A variety of filter materials and filter sizes can be provided to meet the exact requirements of the application.



Highlights

- Simple, maintenance free design
- Low pressure loss
- Differential pressure indication with u-pipe gauge
- Easy access through screwed cover
- Removal of condensate water via siphon
- Manufactured entirely from 1.4571 stainless steel
- Made in Austria

Options

- Various filter materials according to the application
- Inlet and outlet connections for pressure gauges
- Use of an automatic condensate removal system

Ceramic fine filter CFP technical data

Model	Flowrate	Diameter	Height	Connections
	in Nm ³/h	in mm	in mm	DN
CFP 50	50	170	1,280	50
CFP 75	75	170	1,280	65
CFP 100	100	273	1,280	80
CFP 150	150	273	1,350	100
CFP 250	250	355	1,350	125
CFP 500	500	480	1,450	150
CFP 750	750	640	1,450	200
CFP 1000	1,000	640	1,600	250

Gas chill dryer GCD

Biogas, sewage gas and landfill gas contains not only water vapour but also a whole host of additional impurities such as hydrogen sulphide, NH3 and siloxane, which, when processed in the utilization system can not only lead to a reduction in efficiency, but also result in damage of the system.

The dehumidification of the gas before processing is a basic preliminary requirement in order to permit an efficient usage of the biogas and an investment in the sustainability of the utilization system. The gas engines are effectively protected and maintenance requirements considerably reduced.

With the ennox gas chill dryer the gas to be processed is passed through a heat exchanger where the cooled gas can expel any moisture which is then collected as condensate. The condensate can be removed either with a siphon or condensate pump.

According to the technical requirements of the installation a post-warming or an economical and ecological energy recovery system can be implemented into the system.

The gas chill dryer is available in various sizes and power ratings according to the requirements of the system.

Gas chill dryer GCD technical data

Specified and manufactured according to the actual application parameters.



Highlights

- Optimal preparation of the biogas for processing
- Increase in efficiency of the biogas system
- Reduction of maintenance costs for the consumer
- Cost saving and environmental use
- Modular and compact design
- Low pressure drop, optimal specification for the operating conditions

- Condensate removal with pump
- Installation of a post-heater, which uses the heat generated by the engine to heat the cooled gas sinking the relative humidity
- Heat recovery with the use of an integrated heat exchanger energy saving
- Installation of a pre-cooling for reduction of the energy requirements and operating costs

Active carbon filter carboNOX

Biogas can contain large quantities of poisonous hydrogen sulphide depending upon the fermentation process and which input materials are used. This gas can cause permanent damage to gas engines or other consumers of the biogas.

Depending on concentration, the majority of the hydrogen sulphide gas can be effectively removed by using an ennox active carbon filter.

We provide you with active carbon filters either as single or double units, according to the size of the system. The filters can be easily installed between the biogas reactor and the consumer. They are maintenance free and user friendly.

Depending upon the sulphur content, the content of hydrogen sulphide in the biogas can be removed to the detection threshold.

Highlights

- Optimal removal of hydrogen sulphide and siloxane from the biogas
- Increase in efficiency of the biogas system
- Reduction of maintenanca costs of the consumer
- TÜV certificate
- Cost saving and environmental use
- Low pressure drop, optimal suiting to actual operating conditions
- Simple design, maintenance free and user friendly

Active carbon filter carboNOX technical data

Specified and manufactured according to the actual application parameters.

Options

• Used for the removal of unpleasant odours in emmissions

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ENNOX

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- Retrofit of existing systems
- EEG Bonus for Formaldehyde removal

Condensate accumulator COA

The condensate accumulator is used for both the collection of condensate water within the gas system and for drainage.

Normally the condensate accumulator is integrated directly into the lowest point of the pipework by means of a flange connection. The condensate water flows into the collection container and is drained either through a ball valve, or automatically with a condensate drainage unit.

The condensate accumulator is available in two sizes, according to the requirements of the system.



Highlights

- Simple, maintenance free design
- No pressure loss
- Drainage of condensate water either manual or automatic
- Manufactured entirely from 1.4571 stainless steel
- Made in Austria

Condensate accumulator COA technical data

Model	Flowrate	Diameter	Height	Connections
	in liter	in mm	in mm	DN
COA 25	25	250	520	65
COA 50	50	300	720	65

- Use of a condensate automatic drainage unit
- Inspection window or level indicator

Sediment trap SET

The sediment trap removes sediment particles or condensate water which may accumulate in the gas system.

The contaminated and/or saturated gas is set into a spiral motion within the container by a special inlet nozzle.

The heavier particles and water collect on the side walls of the unit, where they then accumulate at the bottom of the container. Drainage can be achieved either manually or automatically.

The units are available in various sizes with accessories.



Highlights

- Simple, maintenance free design
- Low pressure loss
- Easy access through screwed cover
- Removal of particles or condensate water with ball valve tap
- Manufactured entirely from 1.4571 stainless steel
- Made in Austria

Options

- Additional connections for sensors
- Siphon for drainage
- Assembly of rinse systems
- Inspection window or level indicator

Sediment trap SET technical data

Model	Flowrate in Nm ³ /h	Diameter	Height in mm	Connections
SET 200	max. 200	300	1.200	80
SET 300	200-400	480	1.400	125
SET 500	400 – 750	640	1,600	200
SET 1000	750 – 1,200	955	1,800	250

Store Gas storage

In case of buffering of fluctuations during gas production, in other words gas energy recovery, different gas storage systems are used. For different usages we offer NOXstore – the depressurized gas storage system (gas storage in the form of a covered gas balloon) or a double membrane gas storage system.

Ask us for a customized solution!



Low pressure gas holder NOXstore

For the temporary storage of bio or sewage gas in a zero pressure environment conforming to the technical norms (DVGW, ÖWAV, SUVA, safety regulations for agricultural biogas systems SWA...). The gas holders are available in various storage capacities ranging from 10 – 7,500m³.

The storage of the biogas/sewage gas is made in a cylindrical gas bag which is freely hung in a building or silo. The silo serves in this case as an effective supporting and protective construction. The outside surface of the silo can be powder coated in any colour specified by the customer.

The gas bag is manufactured from a high quality polyester membrane (non-flammable, fungus repellent and methane/UV resistant) utilizing the most modern frequency welding techniques.

We can provide, according to the most stringent safety requirements, various additional systems for level indication, hydraulic and mechanical pressure regulation, explosion proof measuring systems as well as pressure boosting stations.

ennox offers not only the design, construction and installation of the gas storage system, but also the subsequent on-going inspection and maintenance of the system by fully qualified and authorized personnel.

Low pressure gas holder NOXstore technical data

Specified and manufactured according to the actual application parameters.



Highlights

- Robust design with long lifetime
- Gas balloon can be replaced
- Short assembly time, low maintenance
- Equipped with hydraulic under/over pressure safety system as standard
- Existing buildings (concrete silos...) can be utilised
- Available in various sizes

- Colour as per customer specification
- Various level emasurement systems, ATEX if required
- Blower station EX Zone 1 available
- Additional mechanical over pressure device as an option
- Extensive range of accessories (condensate drain, gravel pot, measuring systems...)
- Maintenance and periodic service by fully trained and authorised personnel if required

Double membrane gas holder NOXstore DM

For temporary buffering due to fluctuations in gas production or inoperable production systems or consumers a storage of the produced biogas is required.

The holder is made up of two spherical shaped polymer membranes (other forms are also possible), lying one inside the other. The external membrane is maintained in a stable form with the use of an air blower. The external membrane then serves as protector for the inner membrane against the influence of environmental factors such as wind or snow.

The gas is stored within the inner membrane. The pressure generated by the blower is applied to the outside surface of the inner membrane, thus, maintaining the system pressure from the biogas reactor. The movement of the inner membrane during inflation and deflation is recorded either with a cabled sensor or radar. The information is then converted into a level indication signal and sent to a central control system.

The regulation of the supporting air resulting in the stability of the external membrane is controlled by a standard pressure maintaining valve. A special over pressure valve is responsible for the safety within the inner membrane.

Double membrane gasholders are available in various sizes, pressure classes and construction types. The design and specification of such systems is carried out according to the individual application requirements.

Double membrane gas holder NOXstore DM technical data

Specified and manufactured according to the actual application parameters.



Highlights

- Robust design with long lifetime
- Various storage forms and sizes up to approximately 5000 m³
- External membrane with inspection window
- Strong and resistant membrane material
- · Short assembly time
- Supplied with hydraulic pressure maintaining valve as standard

- · Colour according to customer requirements
- External membrane can be customised (i.e., with Logo)
- Technical calculations and specification of the storage supporting construction
- Can suit various system pressures
- Various systems for level measurement, ATEX upon request

Gas blower RAV

Digesters and biogas reactors are normally designed and built to cover relatively low system pressures due to cost implications. In order to carry out effective cleaning of the system, operation of a consumer or transfer of the biogas, it is necessary to increase the operating pressure in the pipework.

We supply our customers with radial ventilators for the increase in system pressure in biogas operations, either as an individual unit or as a complete blower station with all internal pipework and instrumentation.

The ventilators can be either directly driven or with equipped with a belt drive. They are suitable for ATEX zone 1. The flowrate can be infinitely adjusted by using an optional frequency inverter.

The radial ventilators are suitable for flowrates up to 2000 m³/h and a pressure increase up to 160 mbar (or 320 mbar with a multi-phase system).

Highlights

- Suitable for ATEX Ex- Zone 1
- Flat characteristic curves guarantee defined operating levels
- Robust design with long lifetime
- Low maintenance
- Available for various pressures and flowrates



- Complete blower station with pipwork available
- Blower with direct or belt drive
- Multi-phase upon request
- Flowrate regulation with frequency inverter
- Weather and acoustic protection covers

Utilize Gas flare

If a power plant failure occurs, the boiler gets broken or the upgrading plant does not bring the parameter – the excess biogas needs to be burned by the biogas flare 100 % certainly – best burnt by a fullautomatic NOXmatic by ennox!

We also have the solutions for applications of high temperature combustion, pyrolysis torches or simple manual gas flares.

For short-term or repair operations, we offer our portable gas flare NOXmobil or are able to lease gas flares temporarily as required.



manuel gas flare ECO

The low-price solution for the price-conscious farmer!

Robust and compact manual gas flare for burning off biogas at agricultural biogas plants. Perfect for smaller new plants and for retrofitting to existing biogas plants.

The operation of the eco gas flare with a fermenter pressure of 3 mbar is possible although a minimum operating pressure of 10 mbar is always recommended. The eco gas flare ignites at the press of a button plus simultaneous actuation of the manual flap. To end the firing cycle, the manual flap is closed again. Eco 100-400 is supplied as a complete kit and can be quickly assembled on site according to the assembly instructions and installed. With appropriate preparation (foundations), the flare is ready for use after 1-2h of construction. Expansion to automatic operation is possible – appropriate retrofitting kits are available at short notice.

Highlights

- Outstanding price/performance ratio
- Robust construction and simple assembly on site
- Parts in contact with the gas are made of stainless steel 1.4571
- All other components are made of stainless steel 1.4301
- Incl. ignition transformer and electrode ignition battery ignition on request
- Incl. flame arrester. anchoring

manuel gas flare ECO technical data

manuel gas nai						
Model from 4-80 mbar	Flowrate in Nm ³ /h	Thermal power in kW	Gas pipe in DN	Flame pipe Ø in mm	Flare height in mm	Weight in kg
ECO 100	15 – 100	100-650	65	273	4,000	120
ECO 200	40-200	260-1,300	80	323	4,000	140
ECO 250	50-250	325 – 1,630	80	400	4,000	150
ECO 300	60-300	390–1,950	100	480	4,000	180
ECO 400	80-400	520-2,600	125	640	4,000	200



Automatic gas flare NOXmatic / NOXmatic NANO

The NOXmatic comprises the most up-to-date quality gas flare technology ensuring the safe, efficient and environmentally friendly combustion of gases from landfill, bio and sewage gas systems.

Depending on the application parameters and the required combustion characteristics, the flares are supplied as either low or medium temperature units supplied with the required additional burner technology. For special requirements i.e., landfill gas application, the customer can implement our innovative and low emission NOXtor burner.

The NOXmatic flare is equipped with its own programmable controller, resulting in all ignitions, monitoring and safety functions are carried out independently by the flare. The complete control / monitoring system is housed in its own cabinet.

We deliver these systems worldwide with capacities ranging from 100 kW to 20 MW.

Highlights

- Exceptional price/performance ratio
- Low acoustic and emissions according to TA-Luft 5.4.8.1a2
- Partially contained or contained combustion
- Fully automatic control, flame monitoring and ignition
- Certified armatures
- Incl. ATEX- deflagration security
- Operating range 1:3
- Manufactured entirely from stainless steel
- Made in Austria

- Equipment for CDM applications
- Winter packet (frost protection for armatures)
- Multi level burner = wider operating range
- NOXtor for environmentally friendlier combustion
- Flame temperature monitoring
- Pressure control
- Large combustion chamber and flare cap
- Own gas blower and accessories
- Spare parts set

Automatic gas flare NOXmatic technical data

Model from 10 – 60 mbar	Flowrate in Nm ³ /h	Thermal power in kW	Gas pipe in DN	Flame pipe Ø in mm	Flare height in mm	Weight in kg
NOYmatic 50	20 20	120 520	50	400	1 150	00 150
NOXINALIC 50	20-60	520 075	50	400	4,100	ca. 100
NOXINALIC 100	150 250	075 1 625	00	400	4,410	ca. 100
NOXITALIC 200	150-250	975-1,025	100	700	4,010	ca. 220
NOXmatic 300	250-350	1,020-2,270	100	700	5,158	ca. 280
NOXmatic 450	350-480	2,275-3,120	125	800	5,658	ca. 320
NOXmatic 600	480-600	3,120-3,900	150	955	5,658	ca. 390
NOXmatic 750	600 – 750	3,900-4,875	200	955	7,158	ca. 650
NOXmatic 1000	750 – 1,100	4,875 – 7,150	250	1.273	10,658	ca. 950
NOXmatic 1500	750–1,500*	4,875-9,750	250	1.430	7,000	ca. 1,400
NOXmatic 2000	1,000-2,000*	6,500 – 13,000	250	1.590	8,000	ca. 1,800
NOXmatic 3000	1,500-3,000*	9,750 – 19,500	300	1.910	9,000	ca. 3,000

* Operating range from 1:10 possible

Automatic gas flare NOXmatic technical data

NOXmatic 50 20-80 130-520 40 400 4,158 ca	. 150
NOXmatic 100 80-150 520-975 50 480 4,418 ca	. 180
NOXmatic 200 150-250 975-1,625 65 640 4,618 ca	. 220
NOXmatic 300 250-350 1,625-2,275 80 700 5,158 ca	. 280
NOXmatic 450 350-480 2,275-3,120 100 800 5,658 ca	. 320
NOXmatic 600 480-600 3,120-3,900 100 955 5,658 ca	390
NOXmatic 750 600-750 3,900-4,875 125 955 7,158 ca	650
NOXmatic 1000 750-1,100 4,875-7,150 150 1.273 10,658 ca	. 950
NOXmatic 1500 750-1,500* 4,875-9,750 200 1.430 7,000 ca.	,300
NOXmatic 2000 1,000-2,000* 6,500-13,000 200 1.590 8,000 ca.	,700
NOXmatic 3000 1,500-3,000* 9,750-19,500 250 1.910 9,000 ca.	,900

* Operating range from 1:10 possible

Automatic gas flare NOXmatic NANO technical data

Model von 40 – 80 mbar	Flowrate in Nm ³ /h	Thermal power in kW	Gas pipe in DN	Flame pipe Ø in mm	Flare height in mm	Weight in kg
NOXmatic NANO 15	5 – 15	33–100	25	168.3	2,000	45
NOXmatic NANO 40	10-40	65-206	25	273	2,000	50

High temperature flare NOXtreme

The high temperature flare is the further developed NOX matic flare for the safe and low-emission combustion of landfill, bio or other special gases within a temperature range from 1000 - 1200 °C.

In this temperature range the oxidising gas components are fully processed, thus greatly reducing the formation of nitrogen oxides.

With a special burner technology and combustion chamber according to mass, the necessary "hot" zone is generated inside the combustion chamber, guaranteeing a high temperature combustion.

In addition, the NOXtreme and all components used from the NOXmatic are manufactured entirely from stainless steel. The air feed for combustion as well as the temperature control can be achieved fully automatically upon request.

NOXtreme gas flares are configured according to the individual requirements of the customer.

High temperature flare NOXtreme technical data

Specified and manufactured according to the actual application parameters.



Highlights

- High temperature combustion in the required temperature range for the complete processing of all oxidising components in the gas reducing the formation of nitrogen oxides (NOx)
- Combustion chamber outer lining fromceramic
- Fully customisable burner configuration
- Combustion chamber technology from specialists
- Fully automatic control, flame monitoring and ignition
- Made in Austria

- Manual or automatic regulation of the combustion temperature
- Equipment for CDM applications
- Winter packet (frost protection for armatures)
- Multi-level burner = wider operating range
- Pressure control
- Own gas blower incl. accessories
- Spare parts set

CDM gas flare NOXmatic / NOXtreme CDM

Since the implementation of the Kyoto treaty the industry has seen a widespread development and tightening of regulations governing greenhouse emissions for the reduction of CO₂ emissions.

The issuing of the so called CO_2 certificate not only calls for the Methane gas to be to be burnt in gas flares according to the UNFCC regulations, but also requires the logging and forwarding of the gas quantity and combustion data.

In addition to flow rate and combustion measurement sensors with signal output, ennox delivers the required gas flare systems, condensate drainage systems, gas cleaning components and compressor for CDM projects.

We can fully customise the equipment for you to each and every project.

CDM gas flare NOXmatic / NOXtreme CDM technical data

Specified and manufactured according to the actual application parameters.

Highlights

- Fully automatic and monitored gas flare according to TA Luft
- CDM equipment temperature, flowrate measurement with signal output
- Customer specific solutions
- Global experience in an international team
- Made in Austria

- Gas cleaning technology (condensate drain, various filters)
- Gas pressure boost blower, complete station upon request
- System specification and planning, supervision



Biomethane flare NOXmatic BM

The modern preparation of biogas to more efficient, use and transport friendlier Biomethane is become more and more popular.

During preparation of the biogas, removal of CO_2 and other basic components of the gas results in a dramatic change of the gas specific Wobbe Index and therefore new requirements for specification of the flare burner.

ennox gas flares can be specially configured for the burning of biogas and biomethane. The fully customised burner technology and combustion chamber design guarantees an efficient and environmentally friendly combustion of the gas.

The complete ennox range of accessories i.e., compressor station, temperature monitoring and winter packet can of course also be used with the biomethane gas flare.

Biomethane flare NOXmatic BM technical data

Specified and manufactured according to the actual application parameters.



Highlights

- Fully automatic, monitored gas flare according to TA Luft
- Burner configuration for the combustion of biomethane and biogas
- Customer specific solutions
- Global experience with an international team
- Made in Austria

- Gas cleaning equipment (condensate drain, various filters)
- Gas pressure boost blower, complete station upon request
- System specification and planning, supervision

Digester equipment Gas treatment Gas storage Gas flare



You didn't find what you are looking for?

Challenge us – we take on any challenge!

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ennox biogas technology GmbH

Austria, 6971 Hard, Neulandstr. 36 T +43 55 74/66 4 88 F +43 55 74/66 4 88 - 100 welcome@ennox.at www.ennox.at