



Jet Pumps

Vacuum Systems

Gas Scrubbing Plants

GEA Jet Pumps – Your Partner with Practical Experience



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Internationally sought expertise

Since 1999, GEA Jet Pumps GmbH has belonged to the handfull of companies on the world market which develops and manufactures vacuum systems for industry.

GEA Jet Pumps, which was created from GEA Wiegand's product division Jet Pumps and Jet Gas Scrubbers, concentrates wholly on its central area of competence, namely fluid dynamics. Around 50 engineers and technicians are involved in developing custom-made solutions for vacuum systems, jet gas scrubbing plants, single jet pumps or flash cooling plants.

Unquestionable quality

GEA Jet Pump's products are in successful operation in many leading industrial enterprises. Our customers value the unquestionable advantages and proven quality of our products and also the interest and involvement shown by our engineers who will provide the best solution to individual inquiries. Moreover, we are a company which makes high demands on itself in accordance with DIN EN ISO 9001 certification.

Operational world-wide

To its customers' great advantage, GEA Jet Pumps combines the process engineering expertise of a research and development centre with the professional logistics of a global company. We are in a position to fulfil your individual technical and cost demands world-wide in close collaboration with qualified manufacturers and licensees in more than 30 countries.



Traditionally strong in Research and Development

Since 1908: Research and Development for the future

Processes and equipment for jet pump technology are developed and perfected in GEA Jet Pump's R&D Centre in Karlsruhe. Numerous patents at home and abroad are the result of this intensive development. Our technical centre is well equipped with its own test benches and many fixed and mobile test plants, thus facilitating research in the areas of jet pump, vacuum and gas scrubbing technology.

We use the latest software and hardware to simulate the operating behaviour of the plants and adapt them to individual customer specifications. We provide you with the best conditions to be technically and economically equipped for the future.

- performance measurement of jet pumps
- servicing of jet vacuum pumps
- testing in the area of vacuum and gas scrubbing technology
- measurement of waste gas
- process studies
- consultation



Vacuum and jet pump technology

Vacuum generation – versatile, economic and safe

Water vapour or product vapour driven jet pumps are ideally suited to the compression, conveyance, heating and mixing of gases, solids and liquids. Since they operate with no moving parts, they require very little maintenance and are operationally secure. Their main area of application is in the generation of vacuum. Since individual jet pumps can only handle a limited compression ratio, multi-stage jet vacuum pumps are used for low suction pressure down to 0.01mbar and high suction capacities up to 2 million m³/h; if necessary they can be combined with other vacuum pumps.

Water vapour, which must always be readily available, remains the most important motive medium. However, product vapour is becoming an increasingly important alternative as it offers the possibility of changing over to completely closed systems which are environmentally friendly and cost-effective. This represents an important step towards increasing competitiveness.

Main industrial areas:

Chemical/pharmaceutical



Chemistry and pharmacy

Oleochemistry

Manufacture of man-made fibres

Manufacture of film in the plastics industry

Food industry



Deodorization of edible oil

Conditioning of food and drinks and tobacco

Desalination of sea water

Tobacco processing

Power supplies



Oil refineries

Steel manufacture

District heating

Turbine condenser aeration

A detailed technical line drawing of industrial machinery, likely a steam turbine or similar power generation equipment. It shows a complex arrangement of shafts, bearings, casings, and various mechanical components. The drawing is rendered in a light grey color, serving as a background for the text.

Areas of Application:

- chemical reactors
- blow down systems
- degassing
- aeration
- flash cooling
- fermentation processes
- gas conveyance plants
- heating and cooling systems
- heating gas networks
- hydrogenation processes in the food industry
- power stations
- storage tanks
- mixing tanks
- polymer plants
- drinking water supply
- drying processes
- vacuum plants
- water treatment plants

Advantages which pay for themselves:

- simple construction
- high operating safety, low maintenance requirement
- no turning parts so little wear and tear
- long operating times
- the right choice of material means high resistance to corrosion
- available in any material used in the equipment
- resistant to fouling
- for suction flows from 10 m³/h to 2,000,000 m³/h
- suitable for vacuum from 0.01 mbar (abs.)
- water vapour or product vapour driven
- no waste water as a result of condensate reprocessing

Gas scrubbing plants for process and environmental technology

Professional support from design through to commissioning

Everything from individual components through to turn-key plants – GEA Jet Pumps offers the suitable gas scrubber and the perfect process combination for your process and environmental technology. For gas throughputs from 0.05 to 100,000 m³/h and waste gas temperatures of up to 1,300°C.



Our range:

- laboratory and compact gas scrubbers
- jet gas scrubbers
- hot gas scrubbers (quenches)/ flue gas scrubbers
- packed columns
- Venturi scrubbers

Our focus:

cleaning flue gas

cleaning process gas

dust separation using jet and Venturi scrubbers

gas cooling

chloric gas absorption

scrubbers as emergency units

compact construction series for gas quantities up to 2,000 m³/h



GEA Jet Pumps – nine decades of experience

From its very beginnings right through to the present day, GEA Jet Pumps is able to look back on a continuous development which has concentrated both on technical innovation and also individual advice and service for customers. With a world-wide network of our own sales companies, and internationally recognised quality certification, we are perfectly poised for the demands of the future.

1908



Wilhelm Wiegand obtained the patent for a multi-stage circulation evaporator.

1920

establishment of Apparatbau GmbH Wilhelm Wiegand, Merseburg

1930

creation of the Jet Pumps and Jet Equipment department

1948

re-establishment of Wiegand Apparatenbau GmbH in Karlsruhe

1951

sale of the first steam jet vacuum pump made of porcelain

1957

building of own laboratory in Karlsruhe

1961

first jet scrubbing plant for suction and cleaning of waste gas

1975

delivery of the 10,000th Wiegand water jet air pump

1975

construction of the first product vapour driven jet pump

1979



30th patent registration since 1948 in the jet pump sector in 37 countries

1984

entry into the GEA group

1988

testing of the 30,000th jet pump in our R&D Centre

1994

DIN ISO 9001 certification

1996

modernisation of the R&D Centre

1999

establishment of GEA Jet Pumps GmbH

1999

GEA AG taken over by mg technologies AG

2001

delivery of vacuum plants for the largest polyester factory in the world



**GEA Jet Pumps
GmbH**

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