

Plate Heat Exchangers



Chemical Industry

Flexible use,
versatile application



Process Equipment Division
GEA PHE Systems

Concentrating on competence – for your benefit

Within the GEA Process Equipment Division of the international GEA Group, GEA PHE Systems is responsible for plate heat exchanger technology. Strong individual companies: GEA Ecoflex, GEA ViEX, GEA WTT, GEA Ecobrazo and GEA PHE Systems NA with production locations in Germany, Sweden, the USA, Canada and India produce gasketed, fully welded and brazed plate heat exchangers for worldwide distribution for use in almost all industrial applications.

GEA EcoServe – the GEA PHE Systems service organisation – operates customer service centres in many countries to provide a rapid and competent maintenance and spare parts service, all around the world.

... because the chemistry must be right

Despite the fact that many processing techniques in the chemical industry have undergone major changes, fundamental problems have remained. These include the targeted heating and cooling exchange during the production process. Increasing emphasis is placed on this area within the framework of technical and economical optimisation, requiring specific engineering advice and high performance components.

As one of the pioneers in the development of plate heat exchangers, GEA PHE Systems offers state of the art technology, irrespective of whether you are active in the manufacture or processing of chemical or petrochemical products. Being an important link of your production chain with regard to your productivity, profitability and competitiveness, we ensure reliable function and high performance.

Application for all products

- Basic chemical fluids
- Petrochemical products
- Special chemicals (adhesives, lacquers, etc.)
- Life science products (pharmaceutical, etc.)
- Consumer products (cosmetics, cleaning agents, etc.)



Titanium lined front attachment flanges
ASME B 16.5, 16" for sea water

Tailor-made – yet customised

Based on many years of experience, we are able to develop individual solutions for you in your particular field with a maximum of functional reliability. GEA PHE Systems understands itself as a system advisor and not exclusively as a supplier of products.

Whatever your chemical field may be: We will provide you with personal advice during your planning phase, which also includes start-up/commissioning and future maintenance. All-round consultation and service – you should not content yourself with less.

GEA PHE Systems equips sulphuric acid plants worldwide, e.g. in Spain, Bulgaria, Algeria and South America.

Furthermore our plate heat exchangers are installed in fertilizer production sites, e.g. in projects of Uhde Deutschland for:

- Sorfert (Algeria)
- EAgrum, MOPCO, HFC, EFC II, Alexfert (Egypt)
- QAFCO (Qatar)



Varitherm VT 180 – BASF, Schwarzheide, Germany

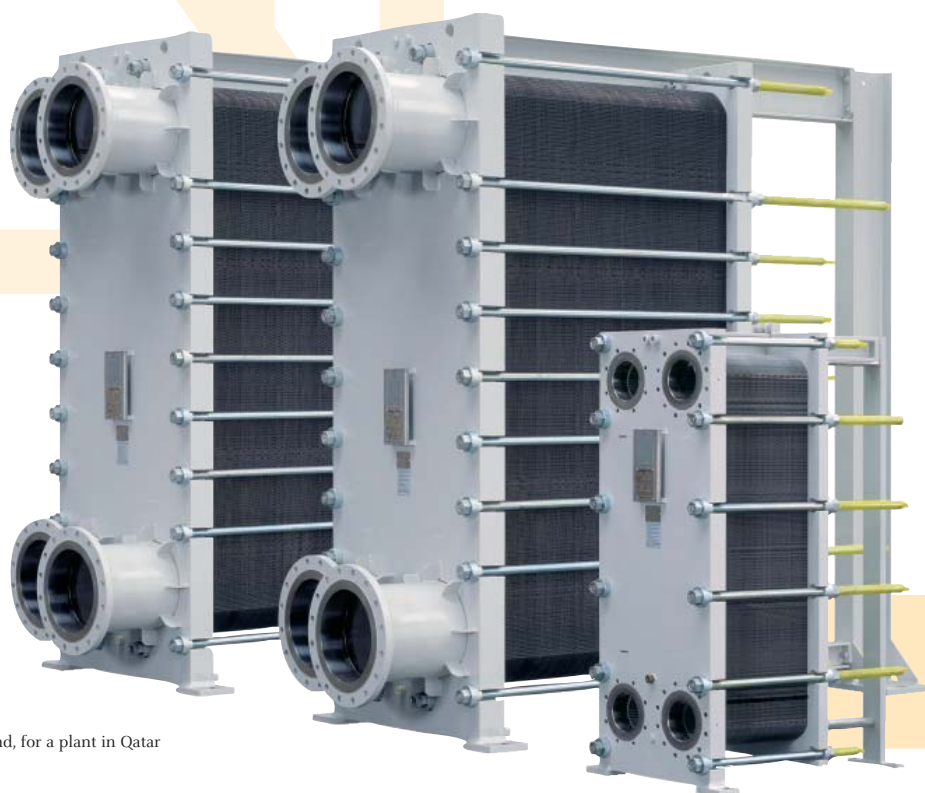


A solution implies multiplicity

Whatever medium is employed, GEA PHE Systems can offer the suitable plate heat exchanger for you. This means that the basic principle of EcoFlex (gasketed) and EcoWeld (fully welded) plate heat exchangers is varied by means of different materials and channel geometries and precisely matched to the media. Chill water, fabricated plastic products, lye, petrochemical products and acids count among the typical examples. This ensures optimum material selection of your product, entirely in the sense of function and durability.

Wear resistant plates

As between humans, the chemistry also has to be right for the media and the materials. The plates are, for instance, made of stainless steel according to different standards, or special metals, such as Alloy 59, 686, C 276, Incoloy, Nickel, Tantalum, Titanium, and Titanium/Palladium.



Solvent chiller
Uhde, Dortmund, for a plant in Qatar

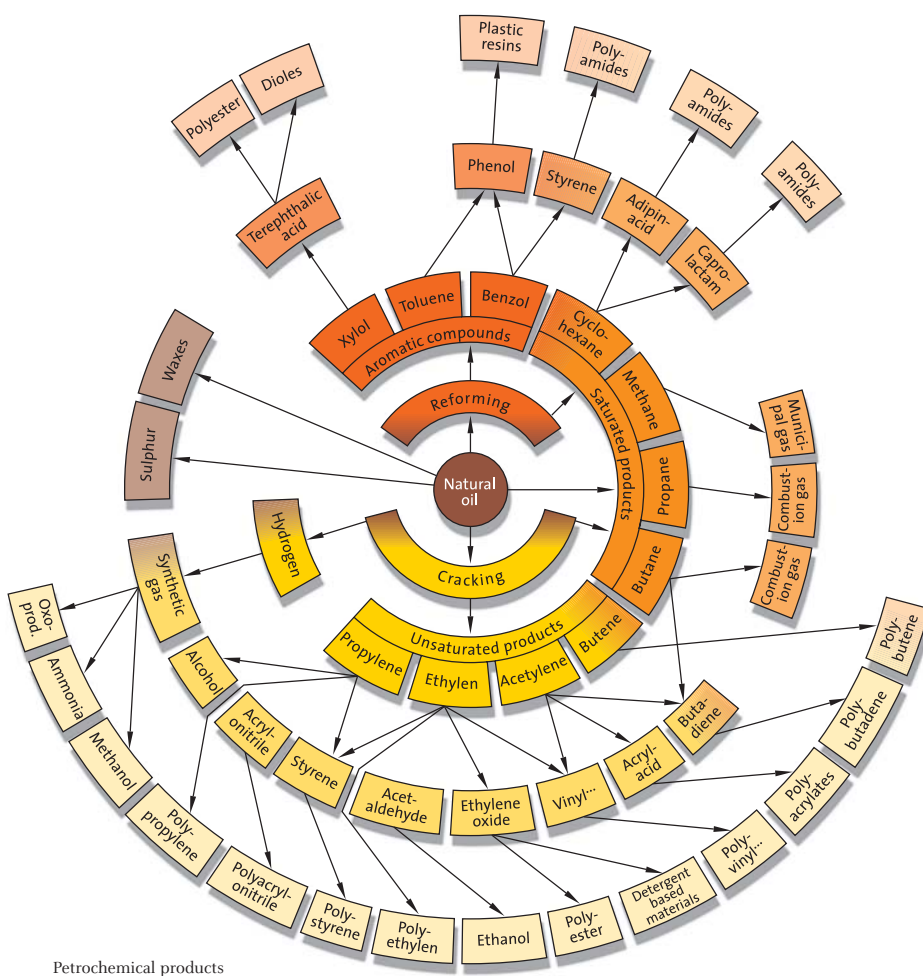


Durable gaskets

Materials such as NBR, EPDM or FPM have proven themselves in the same way as the sealing techniques. GEA PHE Systems offers two techniques: EcoLoc or LocIn, both without the use of adhesives to simplify maintenance, or with adhesive for special applications. A full length and secure seal holder prevents the media from intermixing – also in the leak collection compartment.

High resistant profiles

The viscosity and the portion of solid bodies in the medium as well as the required flow dynamics and heat transfer determine the channel geometry of the plate heat exchangers. Here, GEA PHE Systems meet precisely every technical production requirement with utmost care.



GEA EcoServe: for a long life

GEA EcoServe – the service organisation of GEA PHE Systems – offers you an extensive international service network. Whether you use products by GEA PHE Systems or by another manufacturer – at GEA EcoServe you receive complete service from a single source, whenever and wherever you need us. For maintenance and repair we use high-quality spare parts exclusively for all makes. This guarantees reliable seating, optimum function and a long service life.

Standardised quality

We are certified according to DIN EN ISO 9001, thereby meeting the requirements for the area of sealed plate heat exchangers.

Furthermore, we are certified according to module H/H1 of the European pressure unit directive 97/23 / EC, and apply the technical regulations AD-2000. Design tests of pressure units of category IV are successively performed, which means that the module B+D is implemented. This saves costs and reduces delivery times. Production according to ASME code, including U stamp, is possible upon request.

EcoFlex – Gasketed Plate Heat Exchangers

NT – offering maximum performance values

- Outstanding media distribution
- Maximum heat transfer
- Innovative design with simplified seal fixing
- Volume flows up to 2,000 m³/h

Free Flow – free flow for all media

- Ideal for high-viscous, fibrous or solid matter containing media
- Flow channels up to 12 mm plate spacing

Varitherm – for any size of application

- Extremely variable with regard to performance and profile
- Heat exchanger surfaces from 0.1 bis 2,000 m² per unit
- Flow quantities up to 3,600 m³/h per unit
- Nominal connection widths up to DN 500

Concitherm – for perfect evaporation

- Reduces fluids by evaporation
- Heating surface up to 1.5 m² per plate
- Nominal connection widths up to DN 600



EcoWeld – Fully Welded Plate Heat Exchangers

GEABloc – standard yet customized to your needs

- Temperatures up to 315°C
- Pressures up to 32 bar

GEAShell – extremely reliable

- Temperatures of -200°C to +950°C
- Pressures up to 100 bar

GEAFlex – solves many problems

- For gaseous, liquid and two-phase media
- Temperatures of -200°C to +900°C
- Pressure ranges up to 60 bar



EcoBraze – Brazed Plate Heat Exchangers

- Small, compact unit, low weight
- Operating temperature -160°C to +200°C
- Operating pressure up to 45 bar



GEA PHE Systems Competence in Heat Transfer

With emphasis on the highest quality standards and constant innovations, GEA PHE Systems continues to expand its market position: Within the GEA Process Equipment Division, GEA Ecoflex together with GEA ViEX, GEA WTT, GEA Ecobrazo, GEA PHE Systems NA and GEA EcoServe forms GEA PHE Systems, the Center of Competence and Service Center for gasketed, fully welded and brazed plate heat exchangers of GEA Group:



- HVAC
- Refrigeration
- Sugar
- Chemical
- Paper
- Food
- Power
- Marine
- General Industry
- Renewable Energy



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Your contact:



GEA Ecoflex GmbH

Karl-Schiller-Str. 1-3 · 31157 Sarstedt · Germany
Phone +49 5066 601-0 · Fax +49 5066 601-104
info@gea-ecoflex.com · www.gea-phe.com