

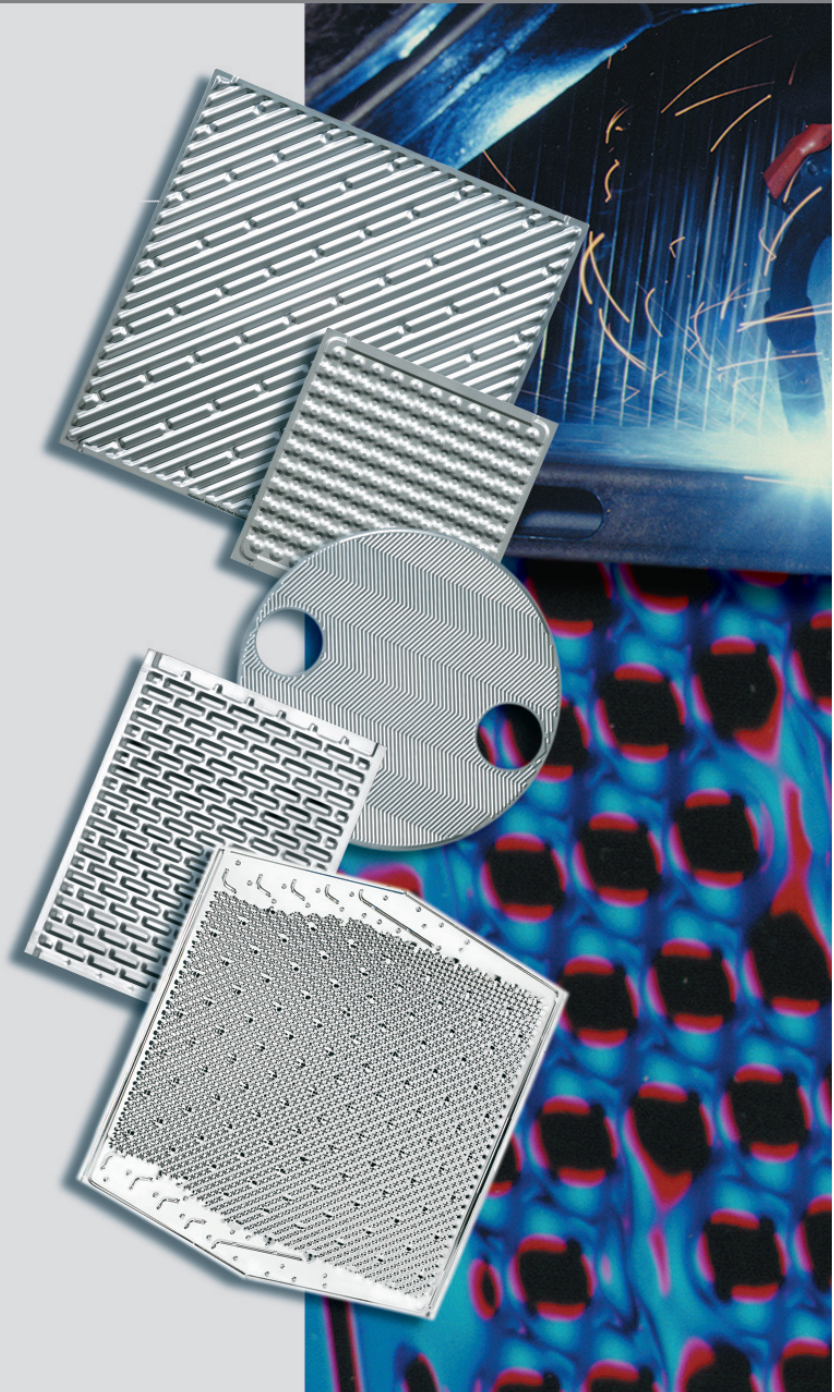
Fully Welded Plate Heat Exchangers

Top performance made to measure

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 Ecobraze and GEA PHE Systems NA with production locations in Germany, Sweden, the USA, Canada and India produce plate heat exchangers for worldwide distribution for use in almost all industrial applications. GEA EcoServe, the GEA PHE Systems service organization, offers quick and competent maintenance and spare parts service through service centers in many countries.

Alongside our gasketed and brazed product lines we now additionally offer you a complete range of individually configured fully welded plate heat exchangers of various types, which can be employed wherever critical media or extreme working temperatures and pressures make particularly high demands:

- **GEAShell**
- **GEAFlex**
- **GEABloc**
- **REKULUVO/REKUGAVO**



Fully Welded Plate Heat Exchangers

Powerful, compact, economical

Our fully welded plate heat exchangers' major selling points are their compact size, outstanding heat-transfer coefficients and comparatively low capital cost. They are particularly robust and easy to clean and maintain.

The advantages in structural design are therefore especially effective in fields where load capacity is called for as well as performance. Each model series has its own special advantages and fields of application.



Technical data

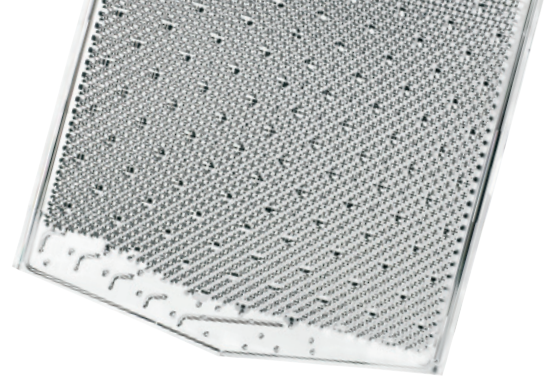
	GEAShell	GEAFlex	GEABloc	REKULUVO/ REKUGAVO
Opens	on one side	on one side	on both sides	on both sides
Max. temperature	950°C	900°C	315°C	550°C
Max. pressure	100 bar	60 bar	32 bar	1.4 bar (max. 0.4 Diff.)
Material	1.4404, SMO, titanium, etc.	1.4404, SMO, etc.	1.4404, SMO, titanium, etc.	high-grade steel, carbon steel
Area	1 – 400 m ²	6 – 8,000 m ²	1 – 320 m ²	500 – 250,000 m ²
Port diameter	DN25 – DN200	variable	DN50 – DN400	variable
Max. volumetric	550 m ³ /h	variable	3,860 m ³ /h	variable
Flow pattern	herring-bone	tube/free-flow	herring-bone, dimple	dimple
Wide gap	no	possible	possible	possible

Applications

	GEAShell	GEAFlex	GEABloc	REKULUVO/ REKUGAVO
General				
Liquid/liquid	x	x	x	
Vapour/liquid	x	x	x	
Gas/liquid	x	x	x	
Gas/gas	x	x	x	x
Evaporation	x	x	x	
Condensation	x	x	x	
Chemical industry				
Heaters/cooler	x	x	x	
Heat recovery	x	x	x	
Condensation	x	x	x	
Aggressive media	x	x	x	
Combustion-air preheating				x
Flue-gas reheating				x
Oil & gas industry				
TEG waste-heat recovery	x	x	x	
Crude-oil coolers	x	x	x	
Condensation	x	x	x	
Combustion-air preheating				x
Petrochemical industry				
Heat recovery		x		
Condensation	x			
Distillate heat recovery		x	x	
BTX condensation		x	x	
Combustion-air preheating				x
Mining/metal industry				
Aggressive media			x	
Steel industry				
Oil heaters	x	x	x	
Combustion-air preheating				x
Blast-furnace gas preheating				x
Power stations				
Heaters/coolers	x	x	x	
Feed-water preheaters		x		
Heat recovery	x	x	x	
Combustion-air preheating				x
Waste incineration plants				
Flue-gas reheating				x
Motor industry				
Heaters/coolers		x	x	
Priming preheaters		x	x	
Paper industry				
Chlorine-water cooling		x	x	
Condensate heat recovery		x	x	
Thermal-oil heaters	x	x	x	
Vegetable oil				
Heaters/coolers	x	x	x	
Heat recovery	x	x	x	
Pharmaceutical industry				
Column-top condensers	x	x	x	
Heaters/coolers	x	x	x	
Food industry				
CIP heaters	x			
Renewable Energy				
Heaters/coolers	x		x	
Condensers/evaporators	x	x	x	
Sugar industry				
Evaporators (EVAPplus)		x		
Juice preheaters		x		
District heating				
Steam-heated preheaters	x	x		
Economisers	x	x		
Refrigeration				
Evaporators	x	x		
Condensers	x	x		
Heaters	x		x	
Economisers	x		x	



REKULUVO/REKUGAVO



Top performance for air and gas

Wherever especially high-performance waste-air or waste-gas heat exchangers are needed REKULUVO/ REKUGAVO are employed, e.g. to preheat inducted combustion air or to heat flue gases to a catalyst's reaction temperature.

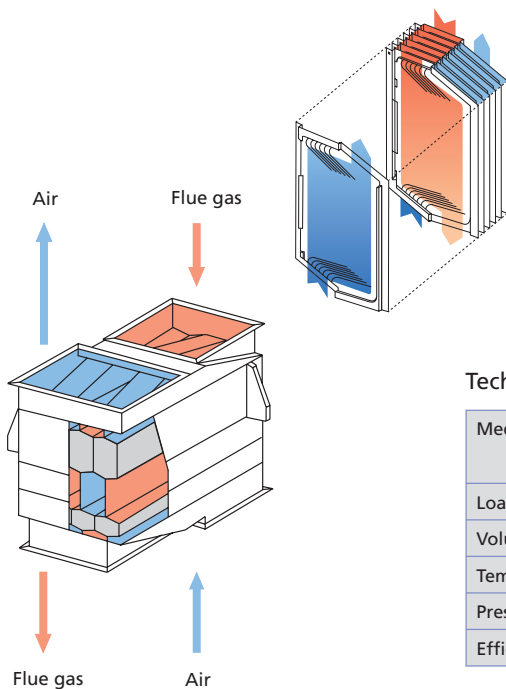
By applying the counterflow principle REKULUVO/REKUGAVO attains an exceptionally high efficiency factor of up to 97%. It is used for example in environmental technology, in ammonia and methanol plants and in thermal power plants.



REKULUVO including connection channels and steel structure for mounting in a methanol plant

A fully prefabricated REKULUVO is lifted by crane

REKULUVO in the background of a steam reformer



Technical parameters for REKULUVO/REKUGAVO

Media	Gaseous media such as air or waste gases with up to 100% moisture and up to ca. 100 g/m ³ dust
Load capacity	Harmful substances such as sulphur, chlorine and fluoride
Volumetric flow	Minimum 5,000 Nm ³ /h, up to ca. 2,000,000 Nm ³ /h
Temperature	Up to ca. 550 °C
Pressure	Up to ca. 400 mbar pressure difference
Efficiency	Up to 97%

Designed for a long life

Even more convincing as a team

Quality in plate heat exchanger service now has a new standard: GEA EcoServe. As an affiliated company of GEA Ecoflex, we are at your disposal with a comprehensive service network around the globe. Whether you use products from GEA Ecoflex or from other manufacturers – GEA EcoServe provides you

Assembly

Correct assembly is indispensable for problem-free operation. Our qualified staff perform this task for you on location, or we carry out the assembly in advance at our own facilities.

Service

As a preventative service we offer visual inspections. We advise you of any necessary cleaning and repair works and provide you with a cost estimate.

References

Satisfied customers are our best recommendation. Here are a few examples from our list of customers:

- Südzucker AG
- Suiker Unie
- Danisco Sugar GmbH
- Nordzucker AG
- Amalgamated Sugar
- Hellenic Sugar
- British Sugar
- Ferrostaal
- Casale
- KBR Haliberton
- Kvaerner
- Chiyoda
- Exxon
- KEU
- Haldor Topsøe and many more.

with all-round service from a single source, whenever and wherever you need us! For maintenance and repair we use only high-quality spare parts for all makes of equipment to guarantee a perfect fit, optimum performance and a long service life.

Maintenance

We carry out all necessary repairs at short notice to ensure the quick restart of your production operations. By prior agreement this can also be combined with the scheduled service.

Spare parts

Only original spare parts guarantee a reliable, optimum functioning and a long service life. As a manufacturer we keep all spare parts in stock for you or manufacture these at short notice where required.



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 Ecobraze, 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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