

Design

Plate Heat Exchanger with fully welded Plate Pack

Fully welded Plate Pack

- Without any Gaskets between the Heat Transfer Plates
- Plate pack is within a Pressure Vessel

Other wordings in the market

- Fully welded PHE
- Welded PHE without Gaskets between the HE-Plates
- Bloc Type Heat Exchanger

Pressure Vessel

- 4 Columns, 2 Heads (Top Head, Bottom Head)
- 4 Panels sealed with 4 Gaskets, with highest resistance against almost any fluid
- tightened with bolts/nuts and washers
- all four sides of Plate Pack accessible
- two different kind of Heat Transfer Plates

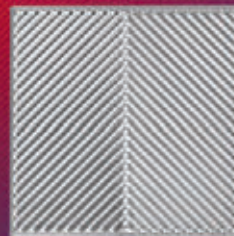
Type of Plates

FunkeDuoClean



- free flow gap
- 100% cleanable
- low pressure loss
- good for high viscous media, steam
- good for 2-phase applications

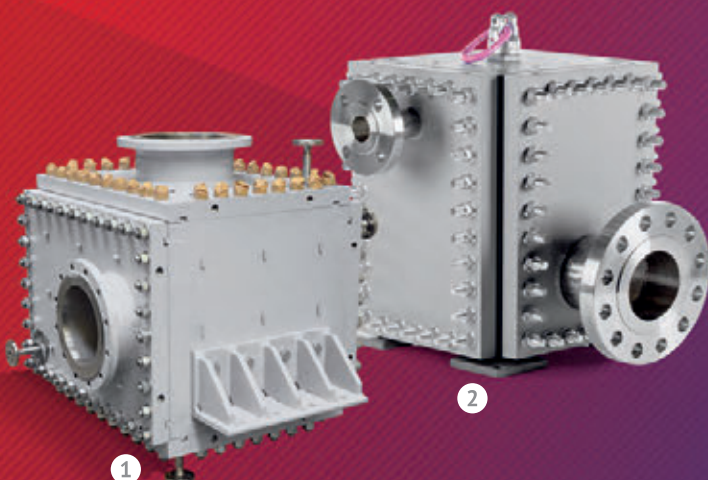
FunkeEco



- “Energy saving“, Chevron Plate
- cleanable
- higher pressure loss and heat transfer
- good for clean media
- good for 2-phase applications

Model Types

Model types	max. surface (m ²)	Plate size (mm)	max. pressure (barg)	max. connections
FPB006	1-14	250 x 250	40	DN 150
FPB014	8-63	375 x 375	40	DN 200
FPB025	27-145	500 x 500	40	DN 250
FPB056	61-290	750 x 750	40	DN 400
FPB113	125-580	750 x 1.500	32	DN 800
FPB188	306-967	1.250 x 1.500	32	DN 800



FunkeBloc

Factsheet

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Gasket Materials

Type	Temperature/Pressure range	Remark
ePTFE	-50°C to +150°C, FV-25 bar	Polytetrafluorethylene
Graphite	-50°C to +400°C, FV-40 bar	Graphite with camprofile
Klingsil	-50°C to +150°C, FV-25 bar	Aramid fibres with NBR binder

Operating Limits

Codes & Standards	max. Design Temperature	max. Design Pressure	Burst Pressure
ASME / EN 13445, API662 / NACE-MR1075/MR103	-50°C to +400°C	40 bar	approx. 300 bar

Examples of Application

Oil & Gas	Chemical	Refinery	Petrochemical	Oleo Chemical
Gas Dehydration	Chlor-Alkali Plants	Desalter	Ethylen Oxide/Ethylen-Glycol	Vegetable Oil Process
Gas Sweetening	Caustics Plants	Product Coolers	Phenol	Oil Extraction
Crude Treatment	Urea Plants	Alcylation	Bis-Phenol	Hexane Recovery
Crude Oil	Ammonia	Heat Recovery	Caprolactam	Refining

Unit Application

- Interchanger
- Process Cooler/Heater
- Steam Condenser
- Process Condensator
- Process Evaporator

Your Advantages at a Glance



FunkeBloc - Advantages

All welds on Plate Pack set in one facility

- Saves production time

Nearly all welds made by a robot

- Precise welding of all welds
- Comb welded also by a robot
- FUNKE is currently the only provider on the market

Plate-to-plate weld is a root weld

- No gaps between plates
- No risk of crevice corrosion

Optimised Comb Design

- No dead corners
- Same flow width on both sides

Strong Design

- All Liners are 3mm thick

Compression of modul Plate Pack

- 100% metal to metal contact
- More efficiency

Fully welded Plate Pack

- Increased temperature and pressure resistance in comparison to conventional Plate Heat Exchangers

Completely accessible from all four sides

- Better possibilities of cleaning and service

Different plate corrugation

- More flexibility for designing the optimal Plate Heat Exchanger for your heat duty