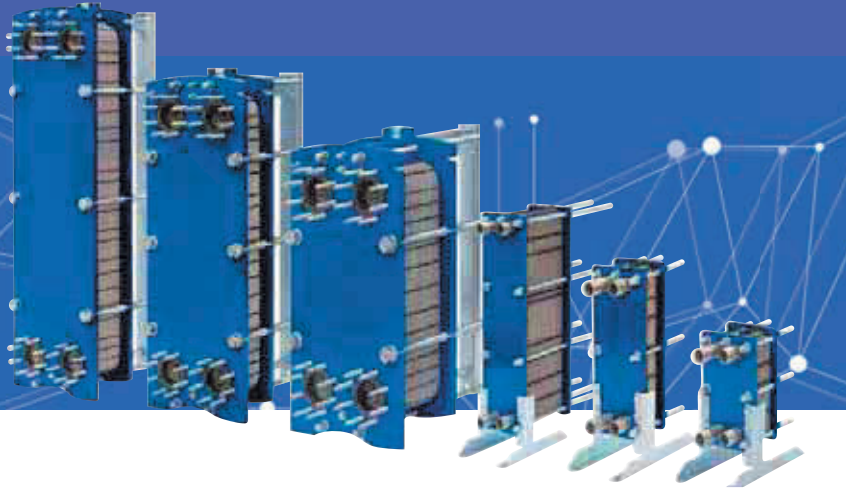


## GASKETED PLATE HEAT EXCHANGERS



Decoupling of the machines to  
the system

Cost efficient design

Qualified and reliable

High heat transfer coefficient

Close temperature approach

## 10TE

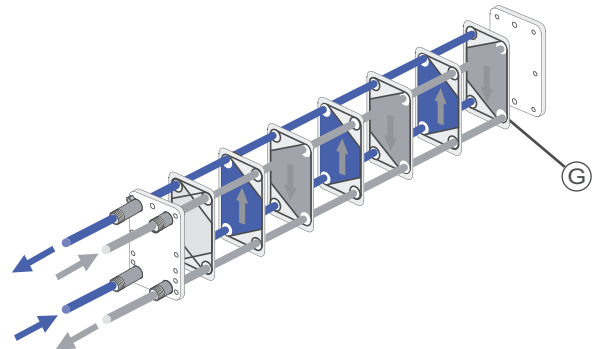
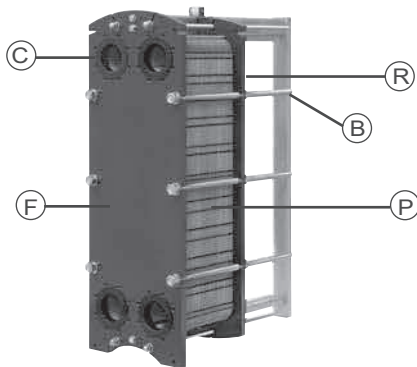
Large range capable to handle water flow rate up to 800m<sup>3</sup>/h

10TE gasketed plate heat exchangers are particularly well-suited for a wide range of applications:

- Water source heat pump and water cooled chillers
- Heat recovery
- Space heating
- Domestic hot water production
- Swimming pool heating
- Recovery on corrosive waste
- Geothermal energy recovery
- Industrial processes in general

## DESCRIPTION

Gasketed plate heat exchanger consists of a number of corrugated heat transfer plates (P) compressed by means of tightening bolts (B) between a front fixed frame plate (F) and a rear moveable frame plate (R). Specific rubber gaskets (G) fastened on each plates generates two alternating independent circuits where the heat transfer between the two fluids take place in parallel and countercurrent flow. The unit is connected with the pipe system by means of pipe or flanged connections (C).



## SELECTION

Due to the range's extreme modularity, the thermal selection must be optimised on the thermal requirements and the allowable pressure drops for the fluids utilised. The importance pressure drops must not be underestimated when selecting a heat exchanger, as it influences the choice and number of plates and thus the heat transfer area.

The heat transfer area is also influenced by other factors, such as the height to width ratio, the gap between the plates, and the angle and depth of the chevron patterns. The product and the configuration able to match individual duty's requirement in the most efficient way is selected with a dedicated and user-friendly selection software.

## ADVANTAGES

- Excellent heat transfer coefficient
- Very low pinch point temperatures possible
- High corrosion resistance
- Compact footprint
- Easy to install and to maintain
- Low-capacity circuits and fluid retention volume
- Possibility of heat transfer area extension
- Maximum differential pressure equal to maximum operating pressure

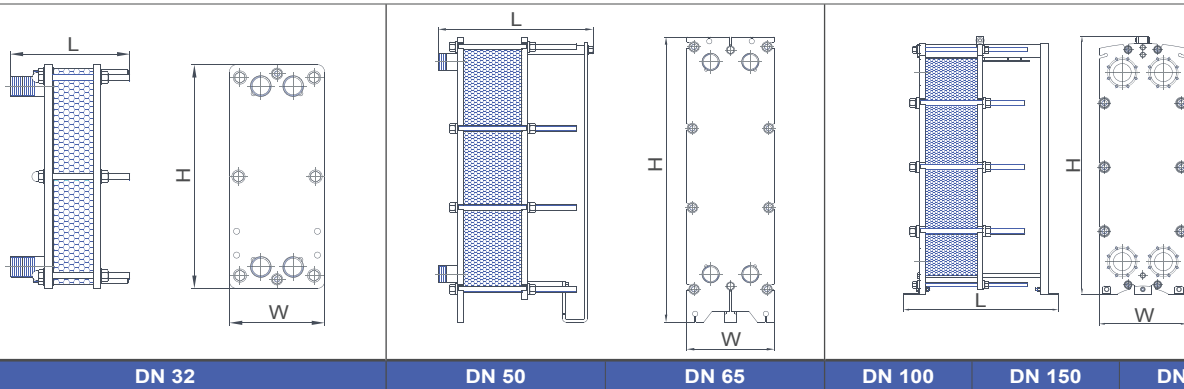
## PRECAUTIONS

- Ensure the exchanger gaskets are not damaged:
  - Avoid water hammering, pressure/temperature spikes, and limit on/off cycles.
  - Do not use  $\frac{1}{4}$ -turn valves.
  - Use with steam between 0 and 3 bar (effective).
  - Provide a control system adapted to the requirements and which takes the low capacity of the circuits into account.
- Ensure the plates are kept clean so they maintain their thermal efficiency:
  - Filter fluids containing suspended particles.
  - Ensure the fluids are constantly circulating in the exchanger to prevent any build-up or scale.

RANGE

	10TE020+	10TE040+	10TE030+	10TE070+	10TE160+	10TE260+	10TE125+	10TE180+	
<b>Connection size</b>	DN 32			DN 50			DN 65		
<b>Maximum flow rate (m³/h)</b>	19			63			80	83	
<b>Max. design pressure (bar)</b>	25			25			16	10	
<b>Dimensions (mm)</b>	W	200			310			310	392
	H	320	470	775	678	1008	1353	819	1030
	L (min-max)	248-557	248-557	248-671	408-918	408-1383	408-1383	438-948	401-871
<b>Plate patterns</b>	H	H	H	H / L	H / L	H / L	H / L	H / L	
<b>Max. number of plates</b>	75	75	101	151	251	251	151	151	
<b>Max. heat transfer area (m²)</b>	1.6	3.1	8.2	11.6	40.8	63.3	19	27	
<b>Plate materials and thickness</b>	304 stainless steel	0.4	0.4	0.4	0.4	0.4	0.4	-	-
	316L stainless steel	0.4/0.5/0.6	0.4/0.5/0.6	0.4/0.5/0.6	0.4/0.5/0.6	0.4/0.5/0.6	0.4/0.5/0.6	0.5	0.5
	254 SMO	0.6	0.6	0.6	0.6	0.6	0.6	0.6	-
	Titanium	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
<b>Gasket materials</b>	NBR	✓	✓	✓	✓	✓	✓	✓	✓
	EPDMprx	✓	✓	✓	✓	✓	✓	✓	✓
	FPM	✓	✓	✓	✓	✓	✓	✓	-

	10TE300+	10TE450+	10TE700+	10TE400+	10TE600+	10TE900+	10TE650+	10TE990+	
<b>Connection</b>	DN 100			DN 150			DN 200		
<b>Maximum flow rate (m³/h)</b>	240			380			800	730	
<b>Max. design pressure (bar)</b>	10			10			10	10	
<b>Dimensions (mm)</b>	W	530			609			810	790
	H	1124	1569	2014	1372	1819	2317	1707	2206
	L (min-max)	938-2453	941-2446	941-2446	946-3256	946-3256	946-4064	1366-3277	1357-3267
<b>Plate patterns</b>	H / L	H / L	H / L	H / L	H / L	H / L	H / L	H / L	
<b>Max. number of plates</b>	401	401	401	551	551	701	551	551	
<b>Max. heat transfer area (m²)</b>	107.5	193	279.5	215	355	631	334	534	
<b>Plate materials and thickness</b>	304 stainless steel	0.4/0.5/0.6	0.4/0.5/0.6	0.4/0.5/0.6	0.5/0.6	0.5/0.6	0.5/0.6	0.5/0.6	0.5/0.6
	316L stainless steel	0.4/0.5/0.6	0.4/0.5/0.6	0.4/0.5/0.6	0.5/0.6	0.5/0.6	0.5/0.6	0.5/0.6	0.5/0.6
	254 SMO	0.6	0.6	0.6	0.6	0.6	0.6	0.6	-
	Titanium	0.6	0.6	0.6	0.6	0.6	-	0.7	0.6
<b>Gasket materials</b>	NBR	✓	✓	✓	✓	✓	✓	✓	✓
	EPDMprx	✓	✓	✓	✓	✓	✓	✓	✓
	FPM	✓	✓	✓	✓	✓	✓	✓	-



DN 32	DN 50	DN 65	DN 100	DN 150	DN 200
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## OPTIONS AND ACCESSORIES

### TF insulation (DN 32, DN 50 and DN 65 models)

#### Description

TF is the thermal insulation specifically designed for HVAC applications of our small size plate heat exchangers.

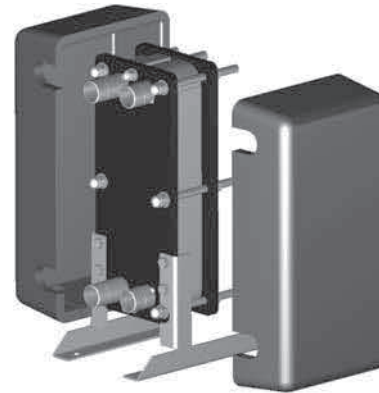
TF is a thermoformed and semi-rigid prefabricated case easy to install and to adjust to the specific configuration of the heat exchanger and to eventual particular customer needs.

The special "double-layered" structure, comprising two different expanded elastomers (thickness up to 30 mm), makes it suitable for heating and cooling applications.

Supplied as a kit, it can be easily and quickly assembled with no need for special tools (only a cutter is required) supported by the assembly instruction sheet and the templates pre-marked on each case.

#### Advantages

- Heat exchanger completely contained inside the insulation: minimized energy losses and condensation, higher level of safety and comfort for those who work around the heat exchanger.
- Easy to adapt on site to all product's configurations (single or multi-pass, with or without mounting brackets, with or without drip tray, etc.) and to adjust to different customer's needs (specific installation supports or devices, non-standard position of connections, etc.).
- Low installation costs.
- Available from stock.
- Lightweight and resilient.



#### Technical specifications

- Exterior finish: semi-rigid high density dark greys foam.
- Insulating materials: cross-linked, closed-cell, polyolefin (PO) foam with a density of 84 kg/m<sup>3</sup> (outer layer) and cross-linked, closed-cell, polyolefin (PO) foam with a density of 35 kg/m<sup>3</sup> (inner layer).
- Thermal conductivity coefficient ( $\lambda$ -value) of the insulating materials at 40°C: 0,0372 W/mk (outer layer) and 0,038 W/mk (inner layer).
- Operating temperature limits: -10°C / + 130°C.
- Classification of fire resistance of the insulating materials: conform to the FMVSS 302 standard of flame containment at less than 100 mm/min

### PB insulation (DN 100, DN 150 and DN 200 models)

#### Description

PB is the thermal insulation specifically designed for HVAC applications of our larger size plate heat exchangers.

PB is a self-supporting modular structure made with insulating panels (thickness 45 mm) anchored together by means of locking hooks and coupled in such a way as to minimize the thermal bridges.

The particular sandwich structure of the insulating panels, obtained by coupling two Aluminum foils to the polyurethane foam, ensures to the case high thermal insulation, good structural rigidity and appropriate surface finish.

Supplied as a kit, it is easily and quickly assembled without the use of special tools.

#### Advantages

- Heat exchanger completely contained inside the insulation: minimized energy losses and condensation, higher level of safety and comfort for those who work around the heat exchanger.
- Low installation costs.
- Available from stock.
- Quick and easy access to the heat exchanger for inspection.



#### Technical specifications

- Exterior finish of the panels: smooth sheet of pre-painted Aluminum RAL 2306 (thickness 0.5 mm).
- Insulating material: rigid foam of polyurethane with a high percentage of closed cells (above 95%) and a density of 48 kg/m<sup>3</sup>.
- Initial thermal conductivity coefficient ( $\lambda$ -value) of the insulating material: 0.024 W/m °C (measured at an average temperature of 10°C according to ISO 8302).
- Operating temperature: -10°C / + 130°C.
- Classification of fire resistance of the insulating material: B - 2s, d0 (according to EN 13501-1: 2007).

## OPTIONS AND ACCESSORIES

### Drip tray (all models)

#### Description

The drip tray is a safeguard device specifically designed to collect water or other fluids in case of unexpected fluid leakage or when the heat exchangers is open for maintenance.

Strongly recommended in case of hazardous media and when further protection for the outside environment is required, it is also used in cooling applications to collect condensate formed on the outside of the heat exchanger.

Designed to be positioned under the heat exchanger and fixed by fastening bolts on the anchor brackets, the drip tray is dimensioned to hold the entire plate pack and the two frame plates. In this way all eventual fluids coming from the heat exchanger can be collected in the drip tray and drained by mean of the apposite draining pipe.

#### Advantages

- Reduced risk of flooding in case of condensate, unexpected fluid leakage or when the heat exchangers is open for maintenance.
- Possibility to adjust tilt to facilitate drainage.
- Low installation costs.
- Available from stock

#### Technical specifications

Material of construction: Stainless steel AISI 304 (thickness 1mm).

Draining pipe: 3/4" sleeve internally threaded

#### Main dimensions

The drip trays are available in various sizes to be fitted to all models of the standard range of gasketed plate heat exchangers.

