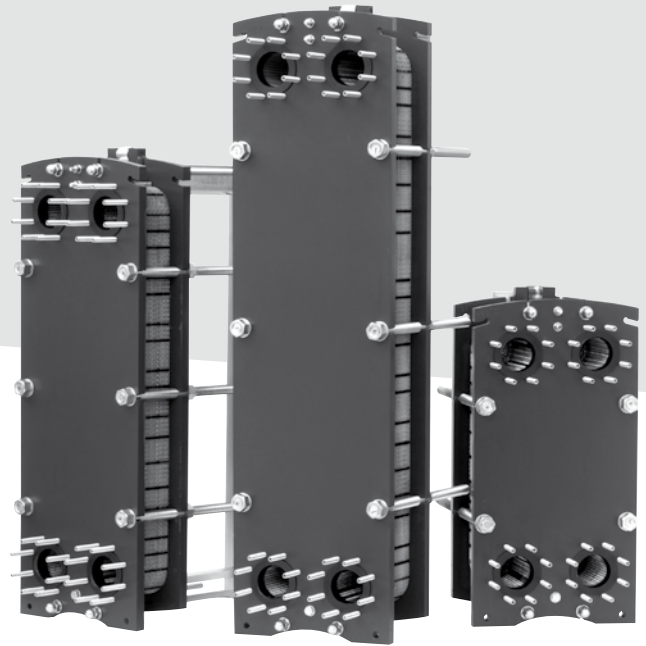


ITEX

Gasketed plate heat exchanger



*Offers high
heat
transfer capacity
Particularly suited
to small temperature
differences between the two fluids*

USE

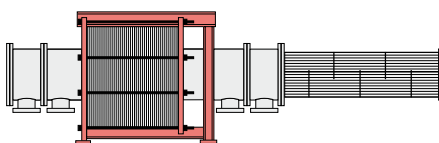
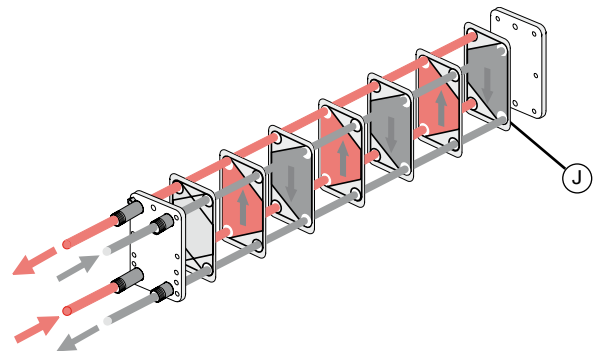
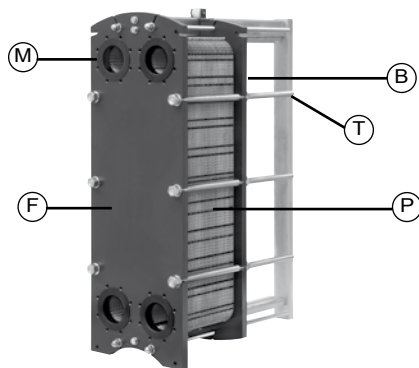
ITEX gasketed plate heat exchangers are particularly well suited to exchanges between two fluids, and therefore to a wide range of applications:

- Heating sub-stations
- Domestic water heating
- Swimming pool heating
- Buffer on heat pump
- Recovery from corrosive discharge
- Geothermal energy
- Oil refrigeration
- Industrial processes

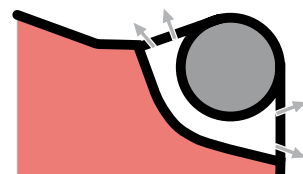
DESCRIPTION

The unit is formed of a set of stamped plates (**P**) and gaskets tightened between 2 plates, one fixed (**F**) and one movable (**B**), using compression bolts (**T**). The gaskets (**J**) create flow channels between the plates and prevent venting to the atmosphere. The fluid connection is provided by four pipes (**M**) either integrated in the plate(s) or separate.

Note: the 1 pass/1 pass selection is the only case in which the four pipes are on the same plate.



Compact footprint



Double gasket between fluids

HEATING SELECTION

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

The 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.

ADVANTAGES

- Excellent transfer coefficient, giving a reduced surface area.
- Very low pinch point temperatures possible.
- High corrosion durability.
- Compact footprint.
- Easy to install and maintain.
- Low-capacity circuits and fluid retention volume.
- Option of surface area extension.
- Unit can be cleaned in-place using a circulation system (NEP or CIP).
- Max. differential pressure = max. operating pressure.

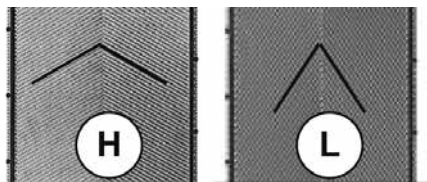
PRECAUTIONS

Do not damage the exchanger gaskets (one per plate):

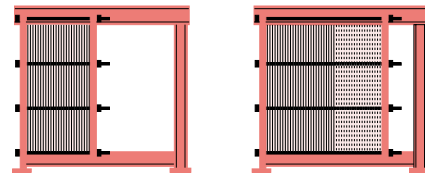
- Prevent overheating, water hammer and overpressure, and limits on-off cycles.
- Do not use 1/4-turn valves.
- Use with steam between 0 and 3 bar (eff).
- Provide a control system adapted to the requirements and which takes the low capacity of the circuits into account.

Keep the plates clean to guarantee thermal efficiency:

- Filter fluids containing suspended particles.
- Ensure the fluids are constantly circulating in the exchanger to prevent any build-up or scale.
- Install nozzles on the pipes for cleaning in place.



Different patterns



Plates can be added and removed easily

RANGE

	PWB 2+	PWB 4+	PWB 8+	PWB 7	PWB 16	PWB 26	PWB 11	PWB 18	PWB 30	PWB 45	PWB 70	PWB 40	PWB 60	PWB 90	PWB 65	PWB 99
Connection	DN 32	DN 32	DN 32	DN 50	DN 50	DN 50	DN 65	DN 65	DN 100	DN 100	DN 100	DN 150	DN 150	DN 150	DN 200	DN 200
Maximum flow rate (m³/h)	19	19	19	63	63	63	80	83	240	240	240	380	380	380	800	730
Pressure	Standard															
Max. pressure	Stainless steel	25	25	25	25	25	16	10	25	25	25	16	16	16	16	16
	254 SMO	16	16	16	16	16	16	10	16	16	16	16	16	16	10	10
	Titanium	10	10	10	16	16	16	16	10	16	16	16	16	16	10	10
Plate patterns	H	H	H	H/L	H/L	H/L	H/L	H/L	H/L	H/L	H/L	H/L	H/L	H/L	H/L	H/L
Max. number of plates	75	75	101	151	251	251	151	151	401	401	401	551	551	701	551	551
Max. transfer area (m²)	1,6	3,1	8,2	11,6	40,8	63,3	19	27	107,5	193	279,5	215	355	631	334	534
Plate thickness	304 stainless steel	0,4	0,4	0,4	0,4	0,4	-	-	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	0,4/0,5 /0,6	0,4/0,5 /0,6	0,5	0,5	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	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	0,6	0,6	0,6	0,6	0,6	-	0,7
Plate patterns	H	H	H	H/L	H/L	H/L	H/L	H/L	H/L	H/L	H/L	H/L	H/L	H/L	H/L	H/L
Gasket materials	NBR (NITRILE)	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
	EPDM prx	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
	FPM	YES	YES	YES	YES	YES	YES	YES	-	YES	YES	YES	YES	YES	YES	YES

- The ITEX range is built with plug-in gaskets and lateral circulation.

THERMOFORMED INSULATION

Option DN 32 - DN50 - DN65

■ Description

The thermoformed insulation is flexible, semi-rigid prefabricated insulation that is easy to install and adjust to the exchanger's configuration and to customer requirements.

Supplied as a kit, it can be assembled quickly and easily, with no need for special tools (cutters or similar), using the assembly instruction sheet and the pre-punched templates.

Particularly well adapted to HVAC applications, its special "double-layered" structure, comprising two different closed cell expanded elastomers (max. thickness 30 mm) makes it suitable for HEATING and REFRIGERATION applications.

■ Range

DN 32: PWB 2+, PWB 4+ and PWB 8+ models.

DN 50: PWB 7, PWB 16 and PWB 26 models

DN 65: PWB 11, PWB 18 models.

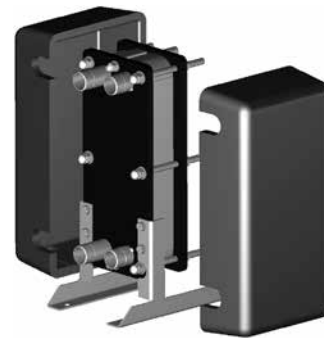
■ Advantages

- Reduction in energy losses.
- Easy to adapt on site to the manufacturing configuration (single or multi-pass, with or without a mounting bracket kit, with or without condensate pan, etc.).

- Easy to adapt to customer requirements (for example: specific mounting brackets provided by the customer, specific circulation of fluids, etc.).
- Low installation cost.
- Lightweight and resilient.

■ Technical specifications

- Operating temperature limits: -10 °C / +130 °C.
- Thermal conductivity λ : 0.0376 W/mK (average value at 40 °C).
- Classification of fire rating of the insulating materials: compliant with the FMVSS 302 standard of flame containment at less than 100 mm/min.



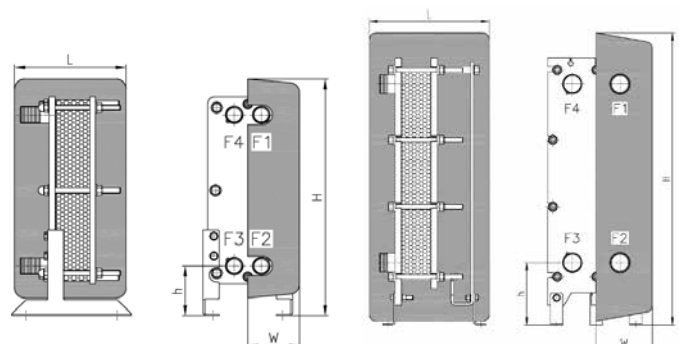
■ Dimensions

DN 32				
PWB 2+	L	H	W	H
Max. 29 plates	280	450	130	125
Max. 49 plates	380	450	130	125
Max. 75 plates	580	450	130	125
PWB45	L	H	W	H
Max. 29 plates	280	595	130	125
Max. 49 plates	380	595	130	125
Max. 75 plates	580	595	130	125
PWB 8+	L	H	W	H
Max. 29 plates	280	865	130	125
Max. 49 plates	380	865	130	125
Max. 75 plates	580	865	130	125
Max. 101 plates	580	865	130	125

DN 65				
PWB 11	L	H	W	H
Max. 41 plates	472	958	185	208
Max. 71 plates	612	958	185	208
Max. 101 plates	752	958	185	208
Max. 151 plates	982	958	185	208
PWB 18	L	H	W	H
Max. 41 plates	481	1177	226	251,5
Max. 71 plates	611	1177	226	251,5
Max. 101 plates	741	1177	226	251,5
Max. 151 plates	951	1177	226	251,5

DN 50				
PWB 7	L	H	W	H
Max. 41 plates	472	858	185	250
Max. 71 plates	612	858	185	250
Max. 101 plates	752	858	185 <td 250	
Max. 151 plates	982	858	185	250
PWB 16	L	H	W	H
Max. 41 plates	472	1188	185	250
Max. 71 plates	612	1188	185	250
Max. 101 plates	752	1188	185	250
Max. 151 plates	982	1188	185	250
Max. 251 plates	1442	1188	185	250
PWB 26	L	H	W	H
Max. 41 plates	472	1533	185	250
Max. 71 plates	612	1533	185	250
Max. 101 plates	752	1533	185	250
Max. 151 plates	982	1533	185	250
Max. 251 plates	1442	1533	185	250

All dimensions are given in mm. The dimensional tolerance is compatible with the accuracy permitted by the thermoforming process.



PANEL INSULATION

Option DN 100 - DN 150 - DN 200

■ Description

This insulation is specially designed for the HVAC applications performed by our jointed plate heat exchangers.

It has a modular, self-supporting structure created from insulating panels (45 mm thick) anchored together using hook fasteners and coupled so as to minimise thermal bridges.

The distinctive sandwich structure of the insulating panels, obtained by combining polyurethane foam with sheet aluminium, offers the assembly a high degree of thermal insulation, good structural rigidity and a usable surface finish. Provided as a kit, it is quick and easy to assemble with no special tools needed.

■ Advantages

- The exchanger is completely contained within the insulation: this not only minimises condensation and heat loss, but also provides a high level of safety and comfort to operators working around the exchanger.
- Quick and easy access to the heat exchanger for inspection.
- Low installation costs.

■ Dimensions

DN 100				
PWB30	L	H	W	H
Max. 101 plates	1074	1180	678	198
Max. 201 plates	1574	1180	678	198
Max. 301 plates	2074	1180	678	198
Max. 401 plates	2574	1180	678	198
PWB45	L	H	W	H
Max. 101 plates	1074	1625	678	198
Max. 201 plates	1574	1625	678	198
Max. 301 plates	2074	1625	678	198
Max. 401 plates	2574	1625	678	198
PWB70	L	H	W	H
Max. 101 plates	1074	2070	678	198
Max. 201 plates	1574	2070	678	198
Max. 301 plates	2074	2070	678	198
Max. 401 plates	2574	2070	678	198

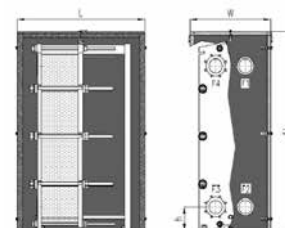
DN200				
PWB65	L	H	W	H
Max. 151 plates	1504	1764	957	285
Max. 251 plates	2104	1764	957	285
Max. 351 plates	2504	1764	957	285
Max. 551 plates	3404	1764	957	285
PWB99	L	H	W	H
Max. 151 plates	1504	2263	957	285
Max. 251 plates	2104	2263	957	285
Max. 351 plates	2504	2263	957	285
Max. 551 plates	3404	2263	957	285

■ Technical specifications

- External finish of the panels: smooth sheet aluminium, pre-painted in RAL 2306 (0.5 mm thick).
- Insulating material: rigid polyurethane foam with a high percentage of closed cells (more than 95 %) and a density of 48 kg/m³.
- Initial thermal conductivity (λ) of the insulating material: 0.024 W/m°C (value measured at an average temperature of 10 °C as per ISO standard 8302).
- Operating temperature range: -10 ° / +130 °C.
- Material fire rating: B – 2 s, d 0 (in accordance with UNI EN 13501-1 :2007).



DN 150				
PWB40	L	H	W	H
Max. 101 plates	1074	1433	757	256
Max. 201 plates	1574	1433	757	256
Max. 301 plates	2074	1433	757	256
Max. 401 plates	2574	1433	757	256
Max. 551 plates	3374	1433	757	256
PWB60	L	H	W	H
Max. 101 plates	1074	1881	757	256
Max. 201 plates	1574	1881	757	256
Max. 301 plates	2074	1881	757	256
Max. 401 plates	2574	1881	757	256
Max. 551 plates	3374	1881	757	256
PWB90	L	H	W	H
Max. 101 plates	1074	2374	757	256
Max. 201 plates	1574	2374	757	256
Max. 301 plates	2074	2374	757	256
Max. 401 plates	2574	2374	757	256
Max. 551 plates	3374	2374	757	256
Max. 701 plates	4204	2374	757	256



All dimensions are given in mm. The dimensional tolerance is compatible with the accuracy permitted by the thermoforming process.

The dimensions of the hooks on the closure panels are not included. Add 30 mm to sides W and L, 15 mm to side H.

CONDENSATE DRAIN PAN

Option for all sizes

■ Description

The recovery pan is designed to drain not just the water forming condensation on the exchanger, but also any fluid which could come from an accidental leak around the exchanger, or during opening for maintenance.

Its use is recommended in all applications which carry a risk of condensation and those which carry a risk of environmental pollution.

The pan is made from stainless steel and is designed to be installed underneath the exchanger.

It is positioned and secured to the exchanger using a system of screws, nuts and washers.

■ Advantages

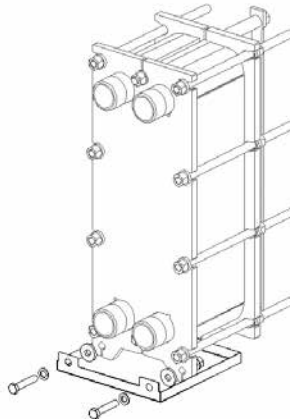
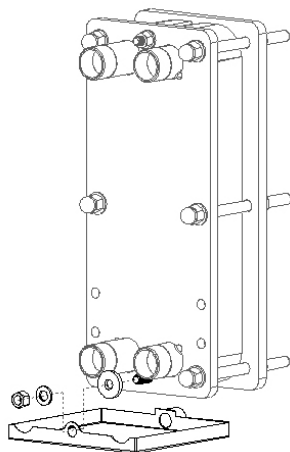
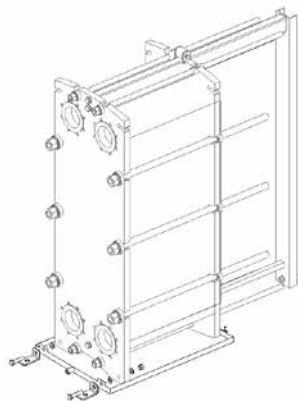
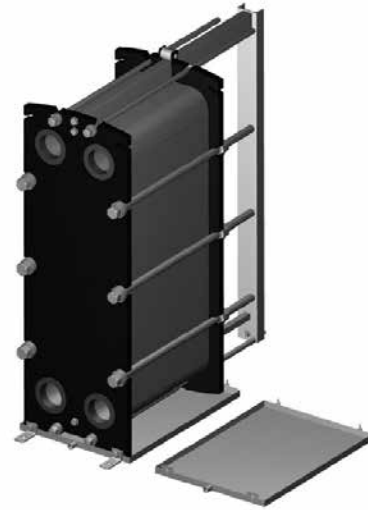
- Recovery and drainage of all traces of condensation which could form on the external surface of the exchanger.
- Recovery and drainage of any fluids which could accidentally escape from the exchanger: ensuring the safety of personnel and of the environment.

■ Technical specifications

- Stainless steel panels (AISI 304).
- 3/4" sleeve (internal tapping) for drainage of the collected fluids.

■ Precaution

Connect the 3/4" sleeve to a suitable discharge system.



This document is not legally binding. As part of its continuous drive to improve its equipment, CIAT reserves the right to make any technical modifications without prior notice.
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