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Product Guide

HEAT EXCHANGER SOLUTIONS

APK GASKETED PLATE HEAT EXCHANGERS

Inventive Engineering

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Plate Heat Exchangers

Arbe Integrated Engineering offer a range of heat exchangers for various applications in various forms. Our APK range of plate heat exchangers offer the perfect heat transfer solution giving optimum performance and high quality products. High performance plate heat exchangers consist of a number of formed, sealable heat exchanger plates. The alternating pressed plate sequence cause highly turbulent flow behaviour, optimal self-cleaning effect and high heat transfer. We have many years experience in the design and supply of heat exchangers, as stand-alone items or as a packaged unit supplied with integral equipment and controls, such as pumps, control valves and factory wired control panels.

Our complete expertise in the industry guarantees that our products will fulfill your requirements with our design excellence and high quality products.

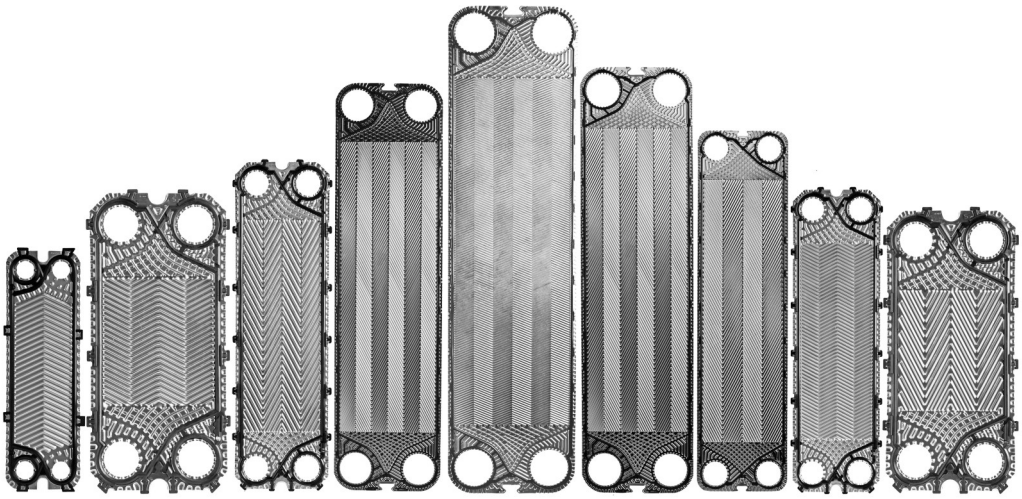

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Plate Heat Exchangers

Primary Heat Sources

We have products to suit every primary heating medium including:
LTHW / LPHW – Primary circuits with a maximum temperature of 85-90°C
MTHW – Primary circuits with a maximum temperature of 120°C
HTHW – Primary circuits with a water temperature above 150°C
Steam – To suit steam pressures up to 20 BarG (requiring specialised controls by Arbe)
Condensate – Condensate drains from other steam equipment can be used to preheat water and also can cool condensate down to workable levels
Waste Heat – Heat from processes such as CHP or flue gases can be utilised to heat domestic water, either as a preheat or if the heat load and temperatures are sufficient, as the primary heat source
Solar – Heat from solar thermal panels, from either secondary or primary fed circuits - see our solar brochure for further details

Secondary Heat Sources

DHW – Secondary circuits with a maximum temperature of 65°C, suitable for potable water systems. Higher temperatures would not be recommended in potable water systems unless for process applications such as wash down
LTHW / LPHW – Primary circuits with a maximum temperature of 85-90°C
MTHW – Primary circuits with a maximum temperature of 120°C

Insulation

Our plate heat exchangers can be supplied with either insulation boxes or bags.

Standard Characteristics of the APK range of plate heat exchangers:

Technical Characteristics	Standard	Optional
Plates Material	Stainless Steel AISI 304 Stainless Steel AISI 316L	Titanium
Gasket Material	EPDM (Maximum 150°C) NBR (Maximum 130°C)	Viton (Maximum 180°C)
Frame Material	Epoxy Coated Carbon Steel	Stainless Steel 304/316L
Tie Bars Material	Zinc Plated Steel	Stainless Steel
Screwed Connection Material	Stainless Steel 304	Stainless Steel 316L
Flanged Connection Material	Carbon Steel	-

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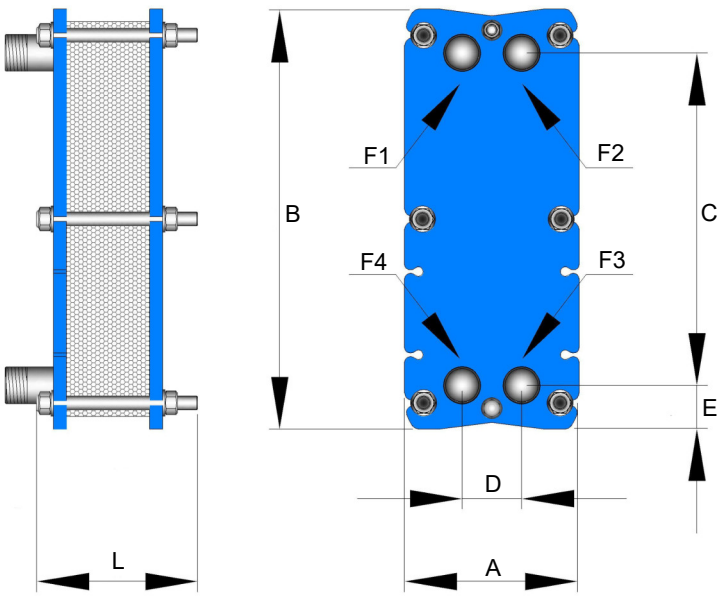
Plate Heat Exchangers

The Arbe APK plate heat exchanger plate packs are made up a set of stainless steel plates. The number and type of plates is defined during the sizing phase according the to the heat exchanger requirements requested by the customer. The plates have gaskets attached which are clipped on (no glue required in our heat exchangers, with the exception of the first plate). Gaskets are available from 3 different types of materials, EPDM (Standard), Nitrile NBR or Viton and each is selected dependant on the application. The heat exchanger plates can be from stainless steel AISI 304, stainless steel AISI 316L or Titanium, dependant on the application. The frames are manufactured from epoxy coated steel with bolts and tie bars lengths to suit the frame size.

Dimensional details of the range of APK heat exchangers



Model	Dimensions (mm)					Maximum Pressure (BarG)	Connection Size
	A	B	C	D	L		
APK032-480	200	480	380	68	240, 340 or 420	16	1¼" BSP
APK032-756	200	756	656	70	240, 340 or 420	16	1¼" BSP
APK050-605	303	605	394	126	400 or 700	16	2" BSP
APK050-906	303	906	694	126	400 or 700	16	2" BSP
APK050-1193	303	1193	894	126	400 or 700	16	2" BSP
APK065-982	395	982	700	192	400, 700 or 1100	16	DN65
APK065-1332	395	1332	1050	192	400, 700 or 1100	16	DN65
APK100A-1082	460	1082	719	225	400 or 700	16	DN100
APK100B-1082	460	1082	719	225	400, 700, 1100 or 1400	16	DN100
APK100-1727	460	1727	1365	296	700, 1100 or 1400	16	DN100
APK150-1545	608	1545	890	296	635, 1115, 1645 or 2145	16	DN150
APK150-1947	608	1947	1292	296	635, 1115, 1645 or 2145	16	DN150
APK150-2350	608	2350	1694	296	635, 1115, 1645 or 2145	16	DN150

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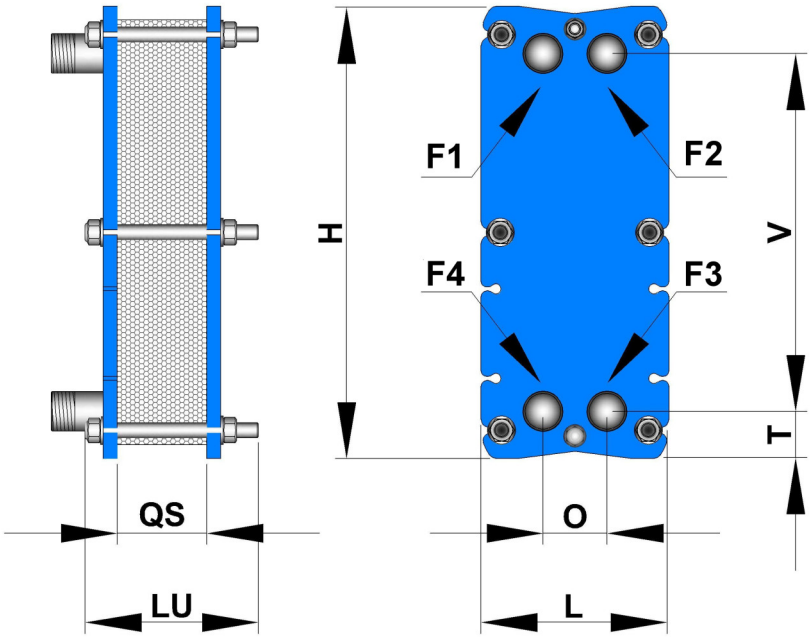
APK032-480 Plate Heat Exchangers



Dimensions (mm)						
H	V	T	L	O	LU	QS
480	380	50	200	68	240 (For 7 to 25 Plate Models)	3.1 x Number of Plates
					340 (For 26 to 51 Plate Models)	
					420 (For 52 to 61 Plate Models)	

Technical Details		
Connection Size	BSP	1¼"
Maximum Working Pressure	BarG	16
Plate Surface Area	m²	0.043
Volume Litres/Channel	Litres	0.2
Single Plate Weight	kg	0.3
Frame Weight	kg	23

Connections			
Hot Side		Cold Side	
Inlet	Outlet	Inlet	Outlet
F1	F4	F3	F2

All our plate heat exchangers can be supplied with spare gaskets as required, generally from stock

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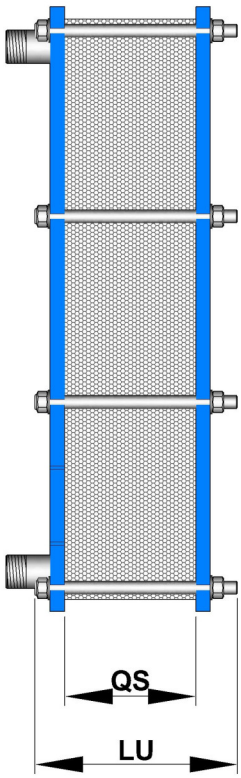
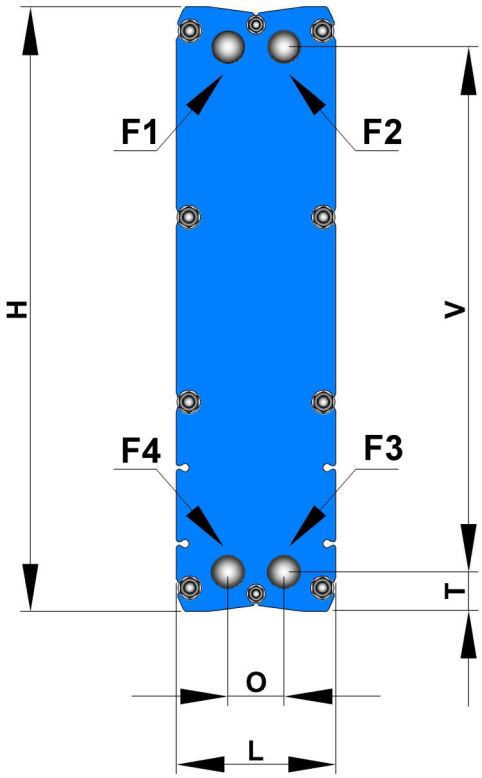
APK032-756 Plate Heat Exchangers





Dimensions (mm)						
H	V	T	L	O	LU	QS
756	656	50	200	70	250 (For 7 to 25 Plate Models)	2.8 x Number of Plates
					350 (For 26 to 51 Plate Models)	
					430 (For 52 to 61 Plate Models)	

Technical Details		
Connection Size	BSP	1¼"
Maximum Working Pressure	BarG	16
Plate Surface Area	m²	0.08
Volume Litres/Channel	Litres	0.25
Single Plate Weight	kg	0.5
Frame Weight	kg	50

Connections			
Hot Side		Cold Side	
Inlet	Outlet	Inlet	Outlet
F1	F4	F3	F2

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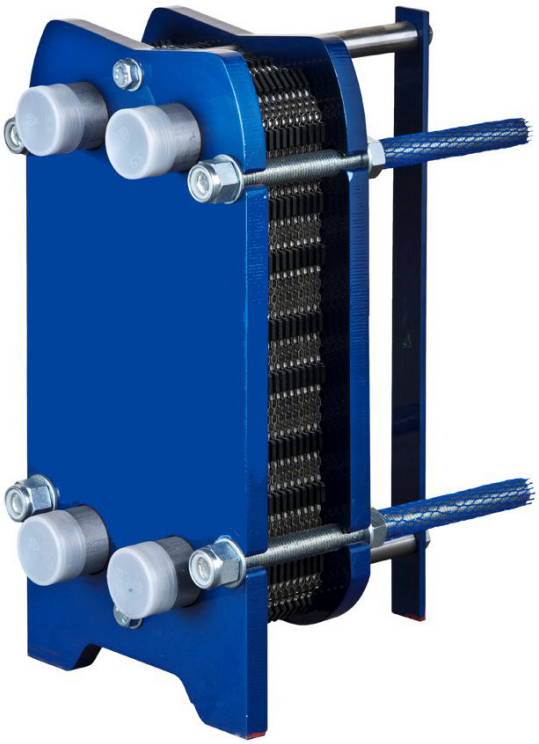
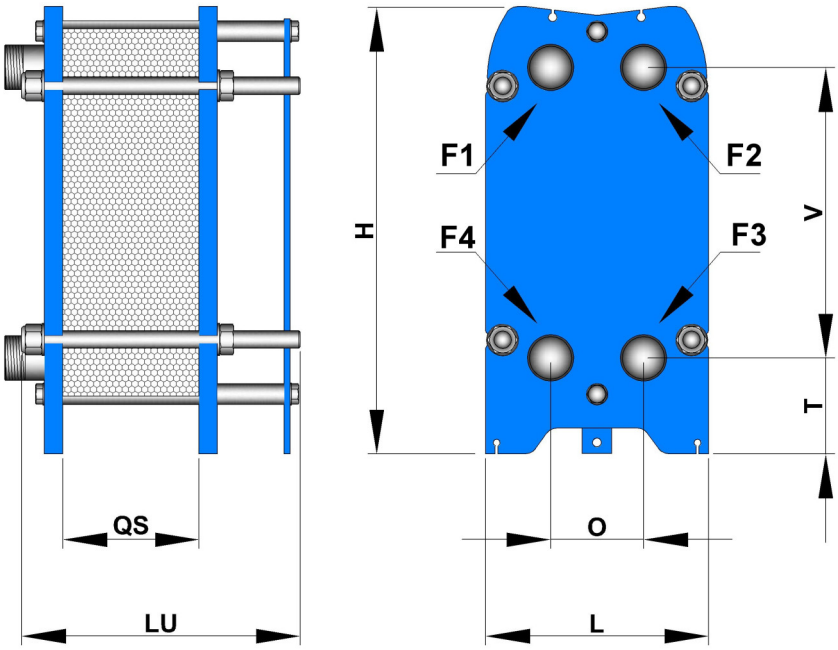
APK050-605 Plate Heat Exchangers





Dimensions (mm)						
H	V	T	L	O	LU	QS
605	394	130	303	126	400 (For 7 to 45 Plate Models)	2.8 x Number of Plates (PN10)
					700 (For 46 to 101 Plate Models)	2.9 x Number of Plates (PN16)

Technical Details		
Connection Size	BSP	2" Male
Maximum Working Pressure	BarG	10 (PN10)
	BarG	16 (PN16)
Plate Surface Area	m^2	0.07
Volume Litres/Channel	Litres	0.2
Single Plate Weight	kg	0.4 (PN10)
	kg	0.5 (PN16)
Frame Weight	kg	90

Connections			
Hot Side		Cold Side	
Inlet	Outlet	Inlet	Outlet
F1	F4	F3	F2

All our plate heat exchangers can be supplied with spare gaskets as required, generally from stock

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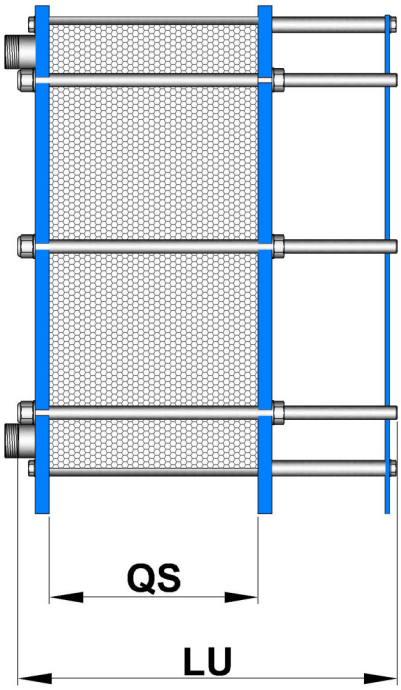
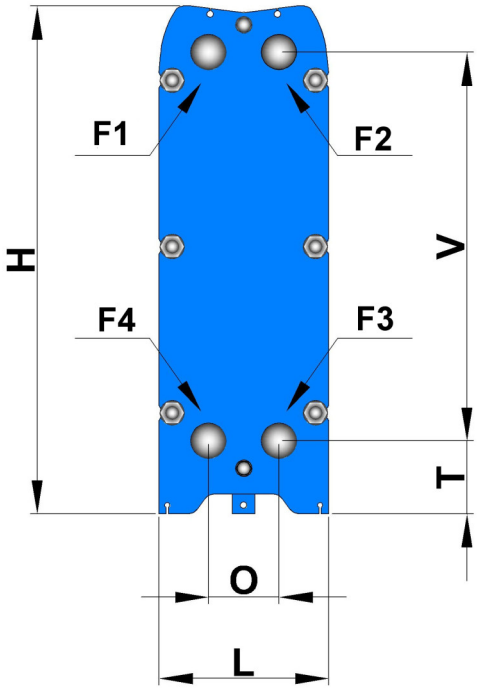
APK050-906 Plate Heat Exchangers





Dimensions (mm)						
H	V	T	L	O	LU	QS
906	694	130	303	126	400 (For 7 to 45 Plate Models)	2.8 x Number of Plates (PN10)
					700 (For 46 to 101 Plate Models)	2.9 x Number of Plates (PN16)

Technical Details		
Connection Size	BSP	2" Male
Maximum Working Pressure	BarG	10 (PN10)
	BarG	16 (PN16)
Plate Surface Area	m^2	0.15
Volume Litres/Channel	Litres	0.35
Single Plate Weight	kg	0.72 (PN10)
	kg	0.9 (PN16)
Frame Weight	kg	128

Connections			
Hot Side		Cold Side	
Inlet	Outlet	Inlet	Outlet
F1	F4	F3	F2

All our plate heat exchangers can be supplied with spare gaskets as required, generally from stock

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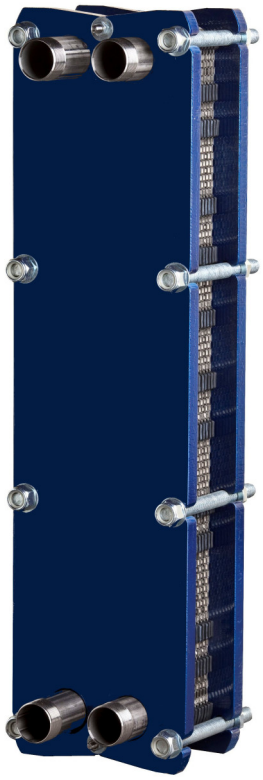
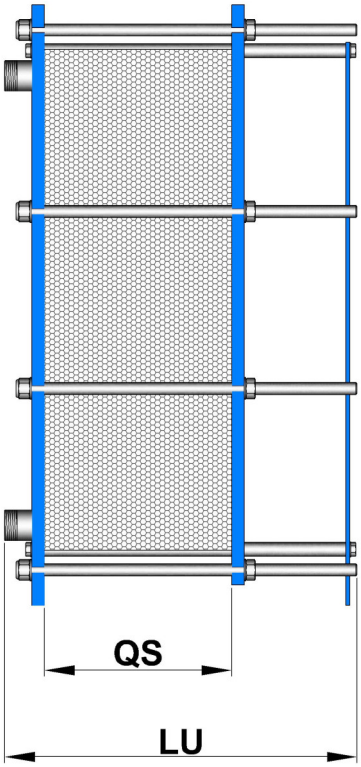
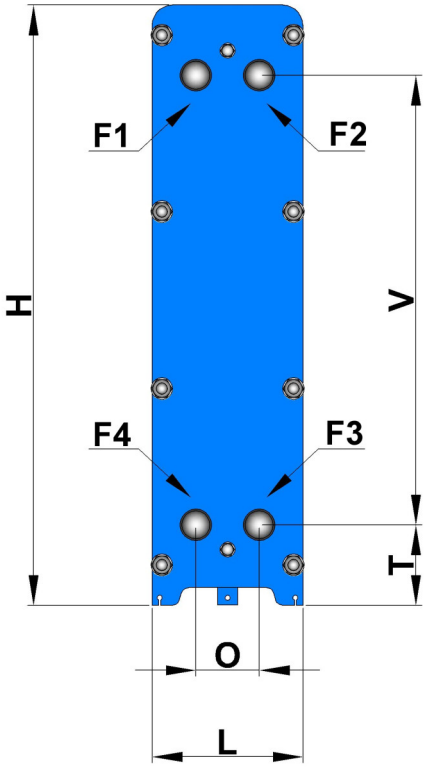
APK050-1193 Plate Heat Exchangers







Dimensions (mm)						
H	V	T	L	O	LU	QS
1193	894	160	300	126	400 (For 7 to 45 Plate Models) 700 (For 46 to 101 Plate Models)	2.8 x Number of Plates (PN10) 2.9 x Number of Plates (PN16)

Technical Details		
Connection Size	BSP	2" Male
Maximum Working Pressure	BarG	10 (PN10)
	BarG	16 (PN16)
Plate Surface Area	m²	0.2
Volume Litres/Channel	Litres	0.44
Single Plate Weight	kg	0.8 (PN10)
	kg	1.0 (PN16)
Frame Weight	kg	160

Connections			
Hot Side		Cold Side	
Inlet	Outlet	Inlet	Outlet
F1	F4	F3	F2

All our plate heat exchangers can be supplied with spare gaskets as required, generally from stock

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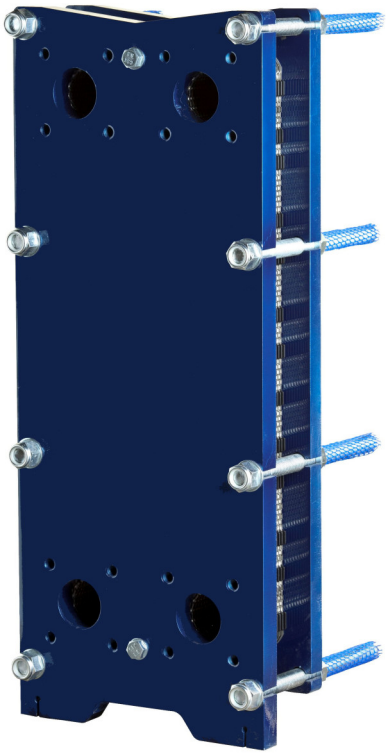
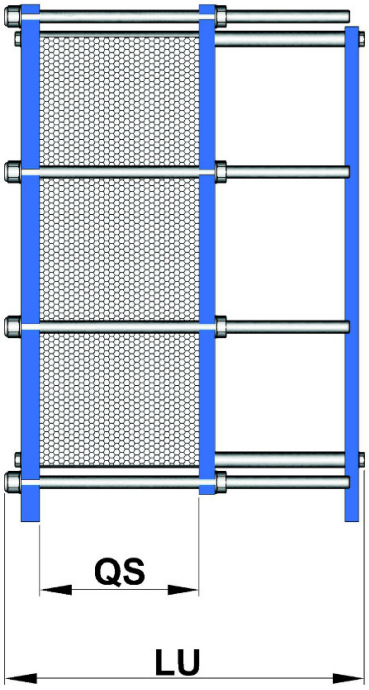
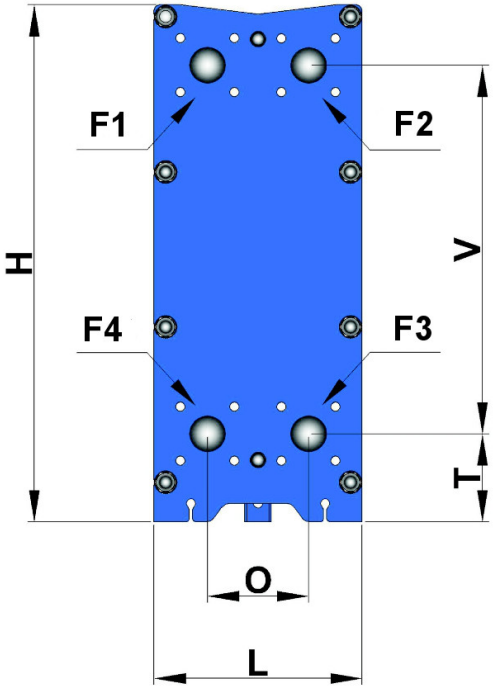
APK065-982 Plate Heat Exchangers







Dimensions (mm)						
H	V	T	L	O	LU	QS
982	700	167	395	192	400 (For 7 to 45 Plate Models)	2.6 x Number of Plates (PN10) 2.7 x Number of Plates (PN16)
					700 (For 46 to 95 Plate Models)	
					1100 (For 96 to 151 Plate Models)	

Technical Details		
Connection Size	DN	DN65 PN16
Maximum Working Pressure	BarG	10 (PN10)
	BarG	16 (PN16)
Plate Surface Area	m²	0.21
Volume Litres/Channel	Litres	0.6
Single Plate Weight	kg	0.8 (PN10)
	kg	1.0 (PN16)
Frame Weight	kg	200

Connections			
Hot Side		Cold Side	
Inlet	Outlet	Inlet	Outlet
F1	F4	F3	F2

All our plate heat exchangers can be supplied with spare gaskets as required, generally from stock

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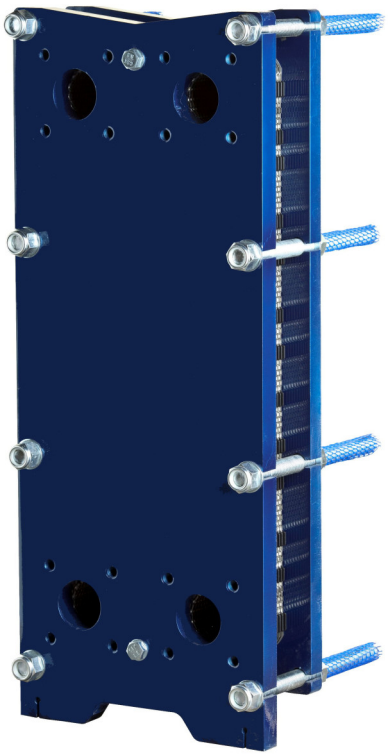
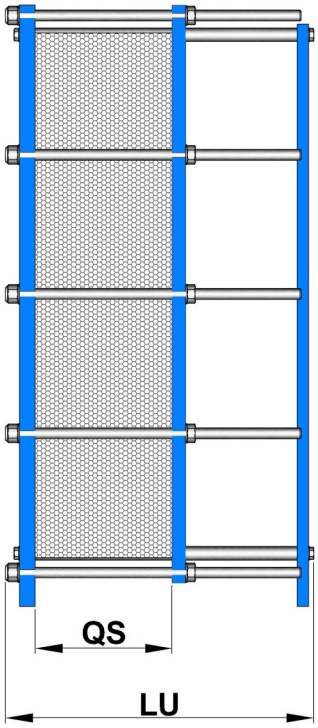
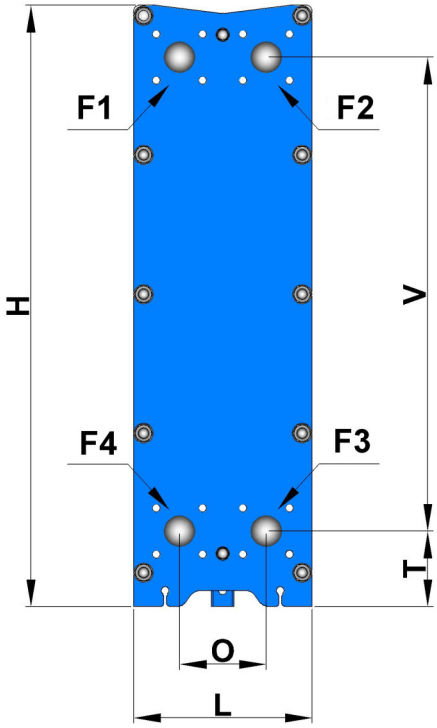
APK065-1332 Plate Heat Exchangers







Dimensions (mm)						
H	V	T	L	O	LU	QS
1332	1050	167	395	192	400 (For 7 to 45 Plate Models)	2.6 x Number of Plates (PN10) 2.7 x Number of Plates (PN16)
					700 (For 46 to 95 Plate Models)	
					1100 (For 96 to 151 Plate Models)	

Technical Details		
Connection Size	DN	DN65 PN16
Maximum Working Pressure	BarG	10 (PN10)
	BarG	16 (PN16)
Plate Surface Area	m²	0.31
Volume Litres/Channel	Litres	1.15
Single Plate Weight	kg	1.0 (PN10)
	kg	1.3 (PN16)
Frame Weight	kg	285

Connections			
Hot Side		Cold Side	
Inlet	Outlet	Inlet	Outlet
F1	F4	F3	F2

All our plate heat exchangers can be supplied with spare gaskets as required, generally from stock

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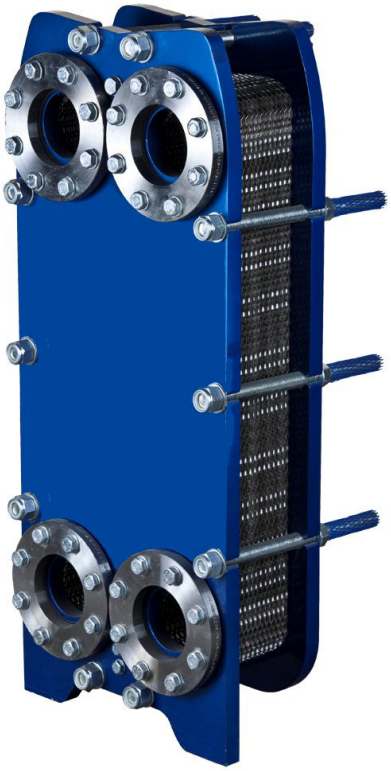
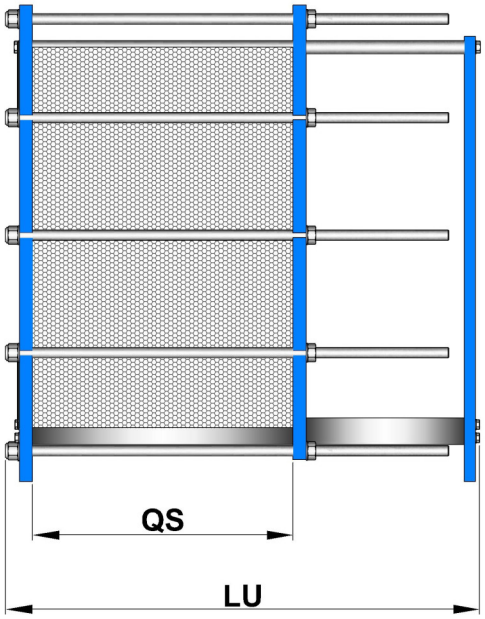
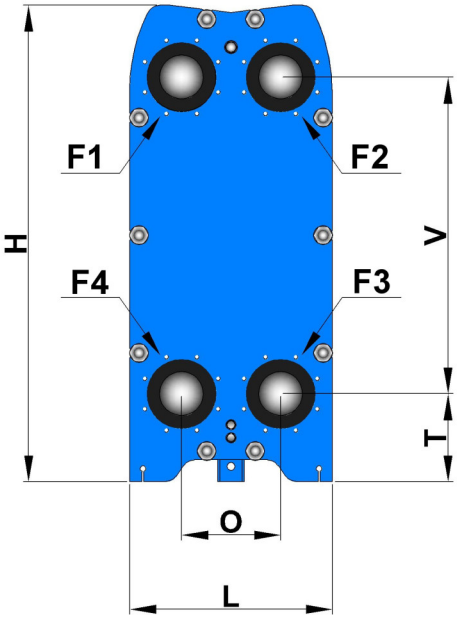
APK100A-1082 Plate Heat Exchangers







Dimensions (mm)						
H	V	T	L	O	LU	QS
1082	719	200	395	192	400 (For 7 to 45 Plate Models)	2.8 x Number of Plates (PN10) 2.9 x Number of Plates (PN16)
					700 (For 46 to 95 Plate Models)	
					1100 (For 96 to 151 Plate Models)	
					1400 (For 152 to 194 Plate Models)	

Technical Details		
Connection Size	DN	DN100 PN16
Maximum Working Pressure	BarG	10 (PN10)
	BarG	16 (PN16)
Plate Surface Area	m²	0.21
Volume Litres/Channel	Litres	0.6
Single Plate Weight	kg	1.25 (PN10)
	kg	1.56 (PN16)
Frame Weight	kg	240

Connections			
Hot Side		Cold Side	
Inlet	Outlet	Inlet	Outlet
F1	F4	F3	F2

All our plate heat exchangers can be supplied with spare gaskets as required, generally from stock

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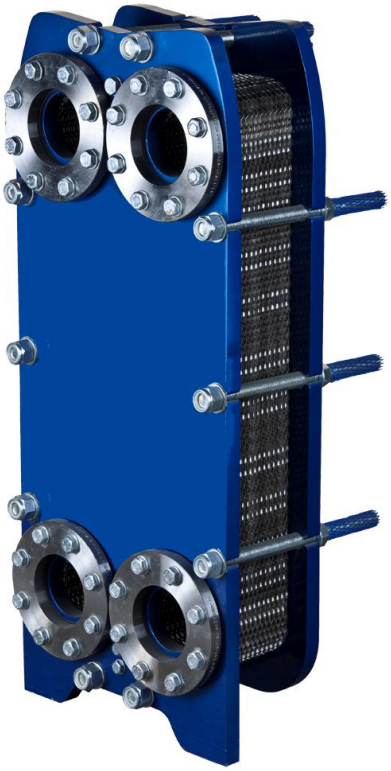
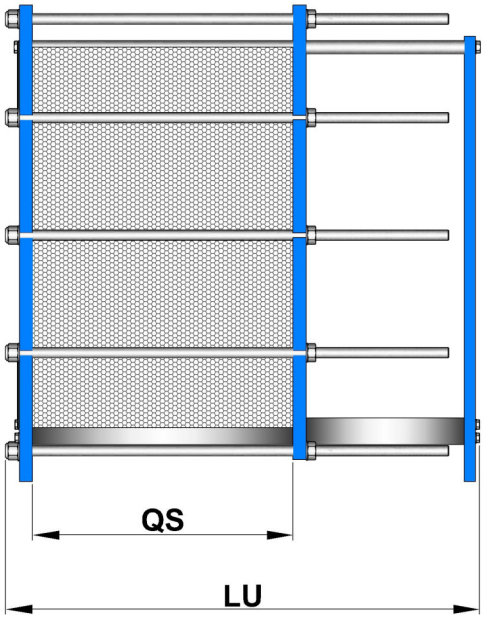
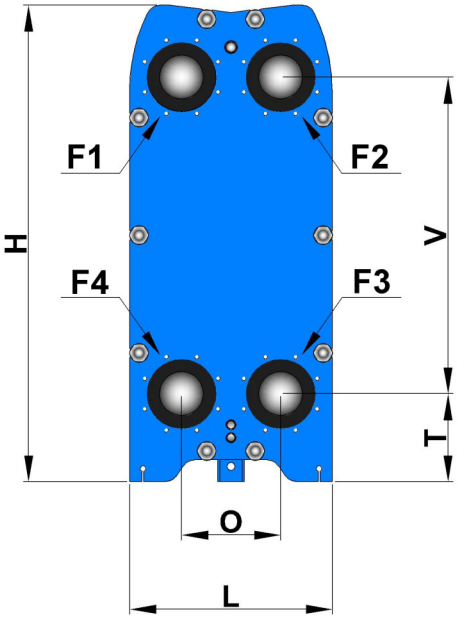
APK100B-1082 Plate Heat Exchangers







Dimensions (mm)						
H	V	T	L	O	LU	QS
1082	719	200	395	192	400 (For 7 to 31 Plate Models)	4.3 x Number of Plates (PN10) 4.4 x Number of Plates (PN16)
					700 (For 32 to 65 Plate Models)	
					1100 (For 66 to 99 Plate Models)	
					1400 (For 100 to 146 Plate Models)	

Technical Details		
Connection Size	DN	DN100 PN16
Maximum Working Pressure	BarG	10 (PN10)
	BarG	16 (PN16)
Plate Surface Area	m^2	0.24
Volume Litres/Channel	Litres	0.75
Single Plate Weight	kg	1.25 (PN10)
	kg	1.56 (PN16)
Frame Weight	kg	240

Connections			
Hot Side		Cold Side	
Inlet	Outlet	Inlet	Outlet
F1	F4	F3	F2

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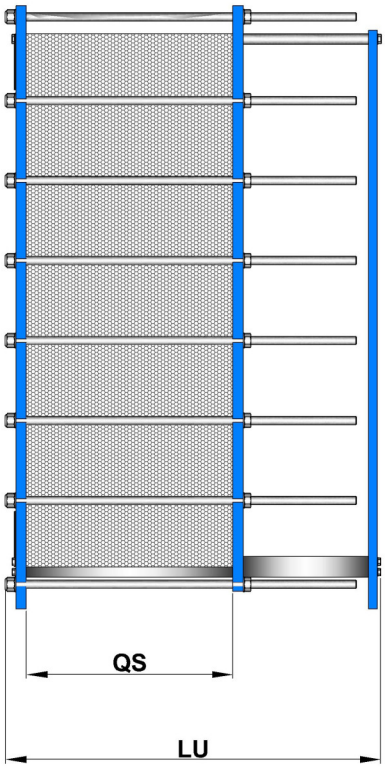
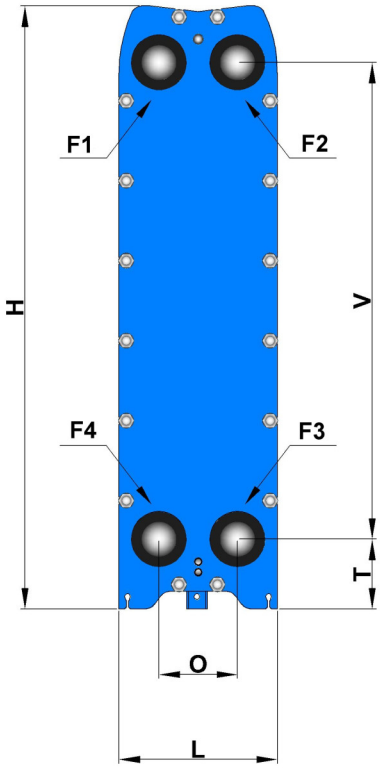
APK100-1727 Plate Heat Exchangers





Dimensions (mm)						
H	V	T	L	O	LU	QS
1727	1365	200	460	225	700 (For 7 to 95 Plate Models)	2.9 x Number of Plates (PN10) 3.0 x Number of Plates (PN16)
					1100 (For 96 to 151 Plate Models)	
					1400 (For 152 to 194 Plate Models)	

Technical Details		
Connection Size	DN	DN100 PN16
Maximum Working Pressure	BarG	10 (PN10)
	BarG	16 (PN16)
Plate Surface Area	m²	0.47
Volume Litres/Channel	Litres	1.15
Single Plate Weight	kg	2.0 (PN10)
	kg	2.5 (PN16)
Frame Weight	kg	600

Connections			
Hot Side		Cold Side	
Inlet	Outlet	Inlet	Outlet
F1	F4	F3	F2

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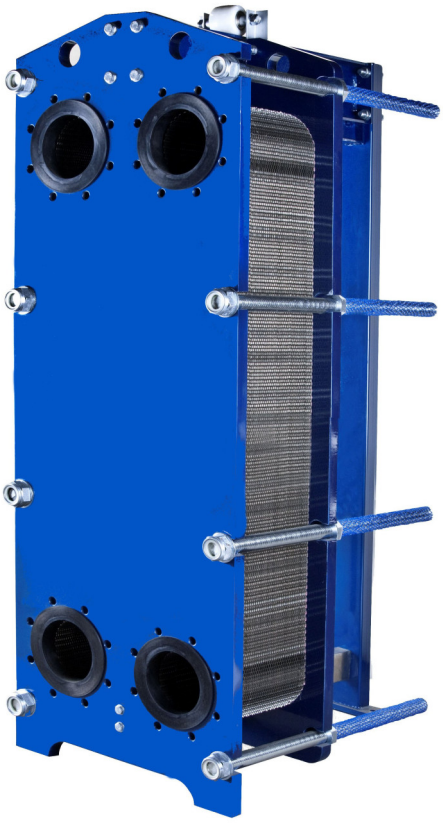
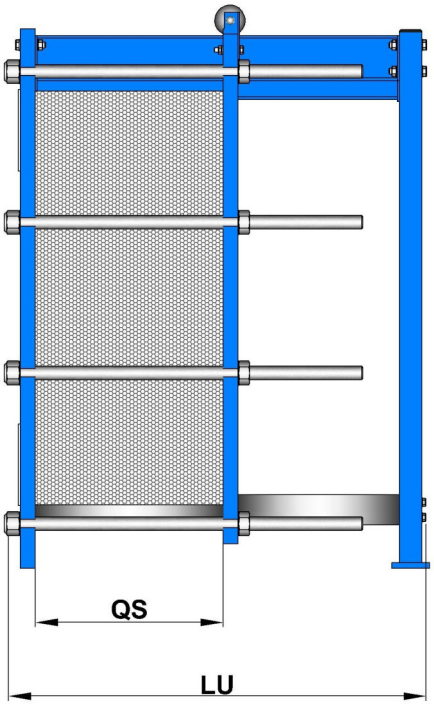
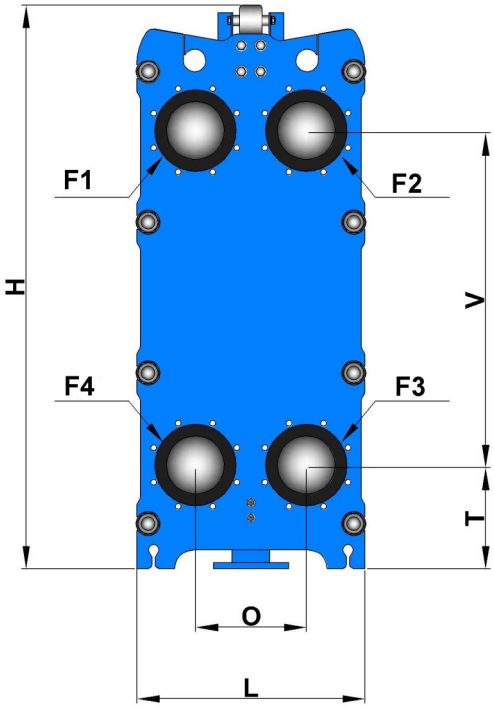
APK150-1545 Plate Heat Exchangers







Dimensions (mm)						
H	V	T	L	O	LU	QS
1545	890	277	608	296	635 (For 31 to 71 Plate Models)	2.9 x Number of Plates (PN10) 3.0 x Number of Plates (PN16)
					1115 (For 72 to 151 Plate Models)	
					1645 (For 152 to 201 Plate Models)	
					2145 (For 202 to 265 Plate Models)	

Technical Details		
Connection Size	DN	DN150 PN16
Maximum Working Pressure	BarG	10 (PN10)
	BarG	16 (PN16)
Plate Surface Area	m^2	0.41
Volume Litres/Channel	Litres	1.25
Single Plate Weight	kg	1.8 (PN10)
	kg	2.25 (PN16)
Frame Weight	kg	640

Connections			
Hot Side		Cold Side	
Inlet	Outlet	Inlet	Outlet
F1	F4	F3	F2

All our plate heat exchangers can be supplied with spare gaskets as required, generally from stock

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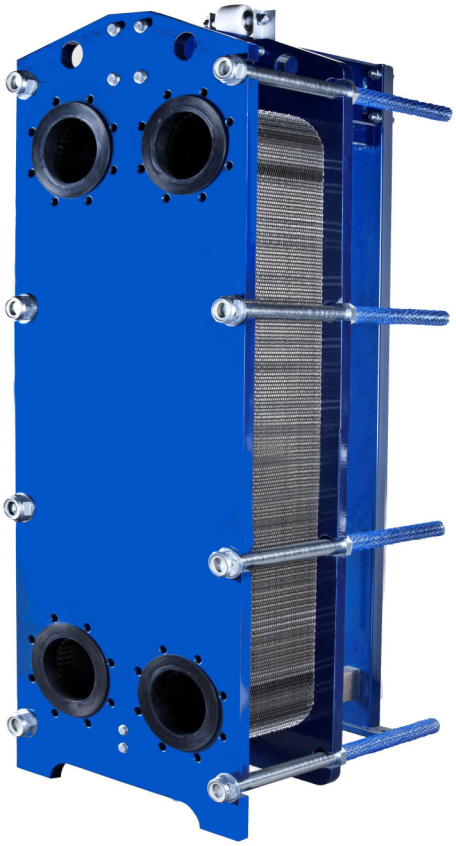
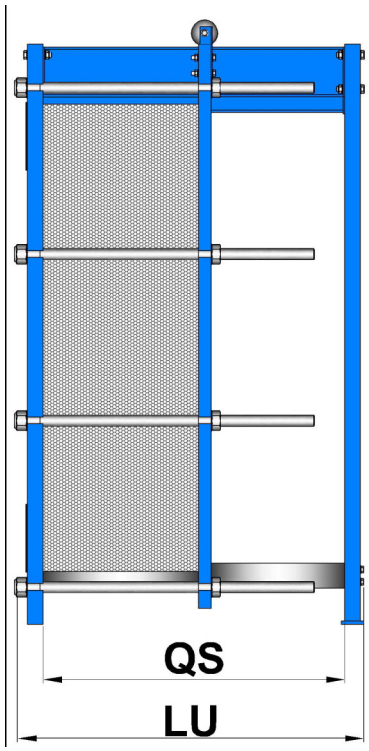
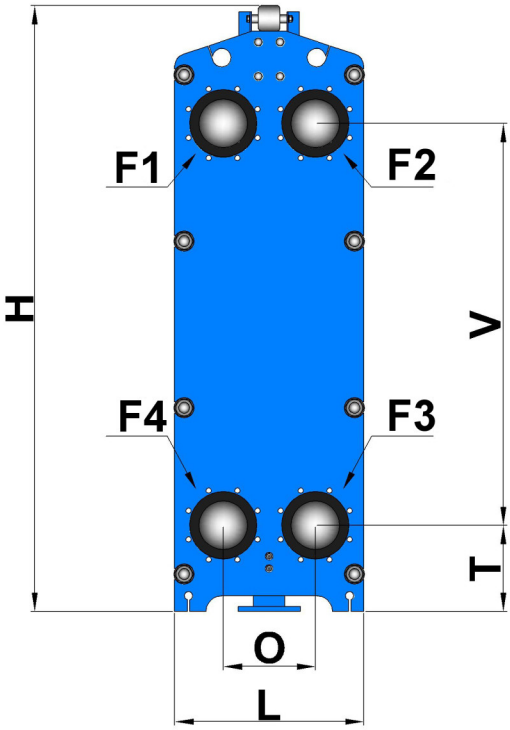
APK150-1947 Plate Heat Exchangers







Dimensions (mm)						
H	V	T	L	O	LU	QS
1947	1292	277	608	296	635 (For 31 to 71 Plate Models)	2.9 x Number of Plates (PN10) 3.0 x Number of Plates (PN16)
					1115 (For 72 to 151 Plate Models)	
					1645 (For 152 to 201 Plate Models)	
					2145 (For 202 to 265 Plate Models)	

Technical Details		
Connection Size	DN	DN150 PN16
Maximum Working Pressure	BarG	10 (PN10)
	BarG	16 (PN16)
Plate Surface Area	m²	0.62
Volume Litres/Channel	Litres	2.1
Single Plate Weight	kg	2.4 (PN10)
	kg	3.0 (PN16)
Frame Weight	kg	900

Connections			
Hot Side		Cold Side	
Inlet	Outlet	Inlet	Outlet
F1	F4	F3	F2

All our plate heat exchangers can be supplied with spare gaskets as required, generally from stock

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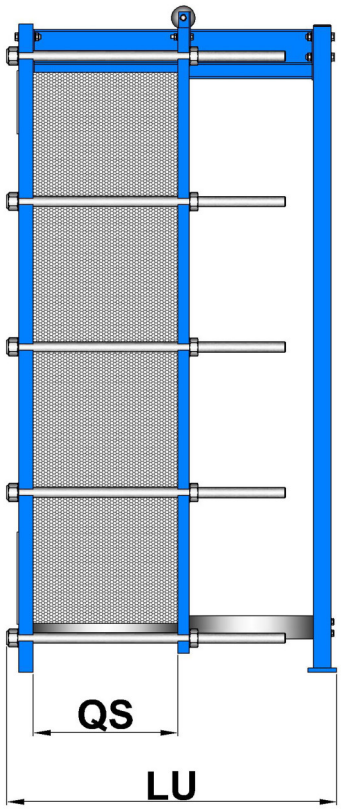
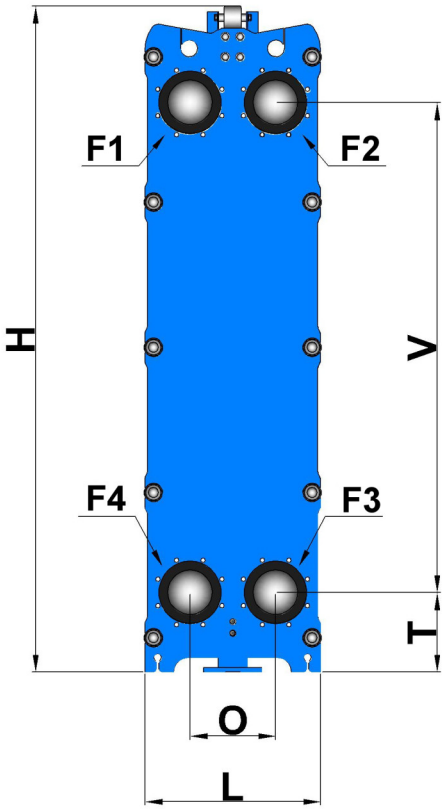
APK150-2350 Plate Heat Exchangers





Dimensions (mm)						
H	V	T	L	O	LU	QS
2350	1694	277	608	296	635 (For 31 to 71 Plate Models)	3.0 x Number of Plates
					1115 (For 72 to 151 Plate Models)	
					1645 (For 152 to 201 Plate Models)	
					2145 (For 202 to 265 Plate Models)	

Technical Details		
Connection Size	NB	DN150 PN16
Maximum Working Pressure	BarG	16
Plate Surface Area	m^2	0.86
Volume Litres/Channel	Litres	3
Single Plate Weight	kg	4
Frame Weight	kg	1100

Connections			
Hot Side		Cold Side	
Inlet	Outlet	Inlet	Outlet
F1	F4	F3	F2

All our plate heat exchangers can be supplied with spare gaskets as required, generally from stock

Welcome to Arbe Integrated Engineering

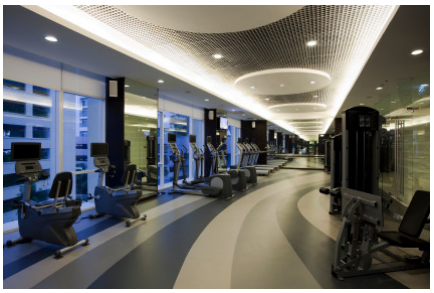
Arbe Integrated Engineering offer a range of products and services for the HVAC building services industry, ranging from bare heat exchangers and storage cylinders to fully packaged plantrooms and associated equipment. With over 20 years of design experience, our design and technical team can offer a complete solution for a wide range of project requirements.

Seamless Integration:
With our next generation range of equipment, our products offer complete integration with renewable and future energies, ensuring all available energy is utilised, reducing fossil fuel usage. In addition, our HevaSys products offers a unique next generation range of equipment with integral BMS style controls that can be adapted to any installation and can provide a standalone management system for buildings where the heating and hot water generation is relatively small, such as a leisure centre or a school.

Inventive Engineering:
In addition to our standard equipment, including heat exchangers, storage calorifiers and packaged solutions, we also design and manufacture bespoke equipment to end user or consultant specifications and we carry out extensive research and development to invent new products and enhance current designs.

Application Solutions:
With our complete range of products, we have solutions to cover most applications. With our ability to carry out complete bespoke design, we have a solution for each and every project requirement. Our end users include:

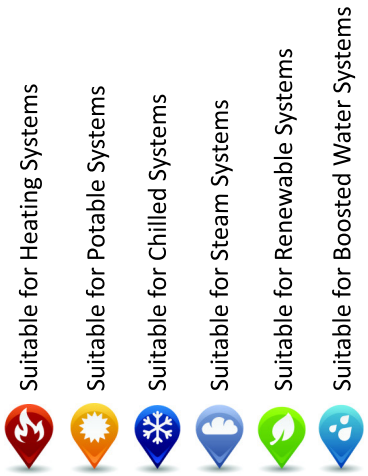
- Hotels
- Schools
- Universities
- Leisure Centres & Gyms
- Hospitals



Products Include:

Calorifiers
Indirect Cylinders
Direct Cylinders
Thermal Stores
Pressure Vessels
Plate Heat Exchangers
Brazed Heat Exchangers
Shell & Tube Exchangers
Heat Exchanger Packages

TwinHeat DHW/LTHW Systems
Gas Fired Calorifiers
Boilers & Associated Equipment
Packaged Boiler Houses
Packaged Plant Rooms
Solar Energy Packages
Heat Pumps
Booster Sets & Pressurisation
Bespoke Engineering Packages



Key to product Suitability

arbe Integrated Engineering

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