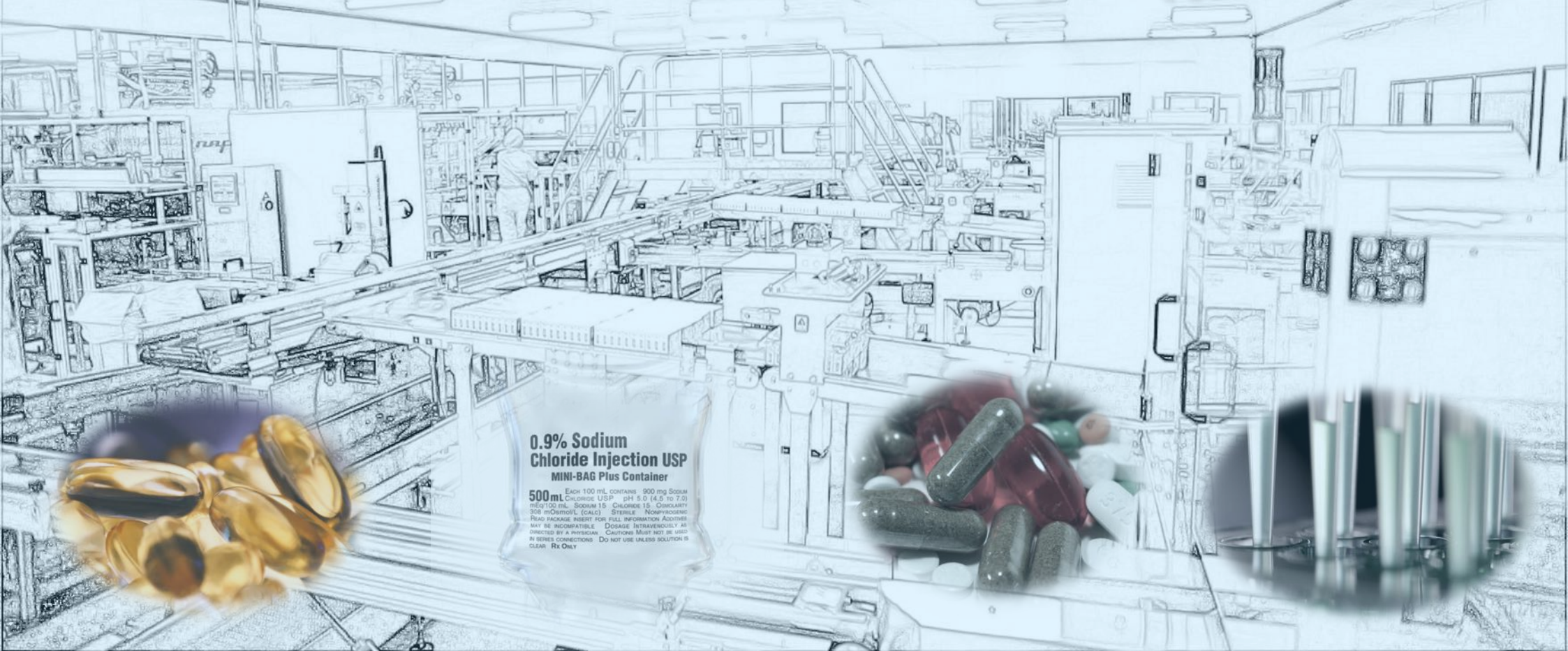


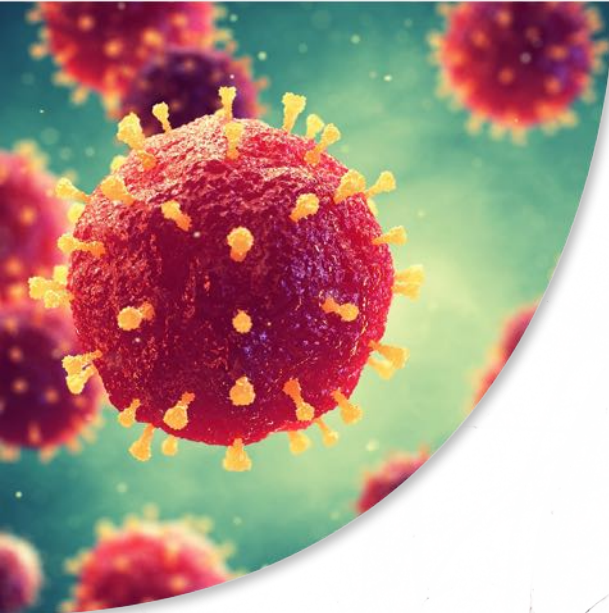
Pharmaceutical Industry

Plate heat exchanger application



Heat exchangers play roles in many aspects of industrial biotechnology, including feed preparation, sterilization and fermenter temperature control, and the plate heat exchanger is the key of accuracy on temperature control.

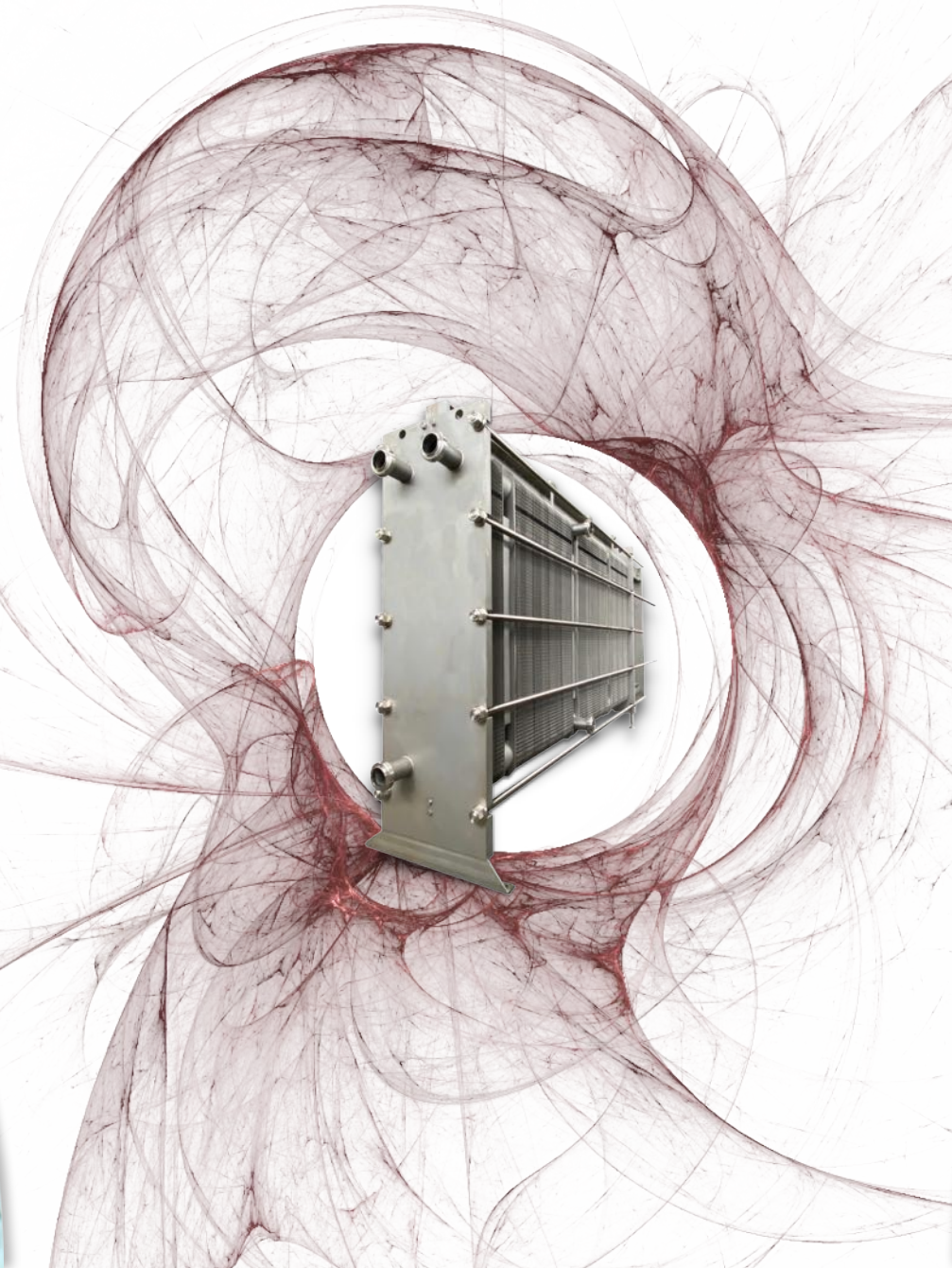




Medicine producing is chemical reaction, from medical lab to massive production in pharmaceutical factory. There are practically no differences in essence, but take more effort in precise controlling on temperature, and plate heat exchanger is really good at it.



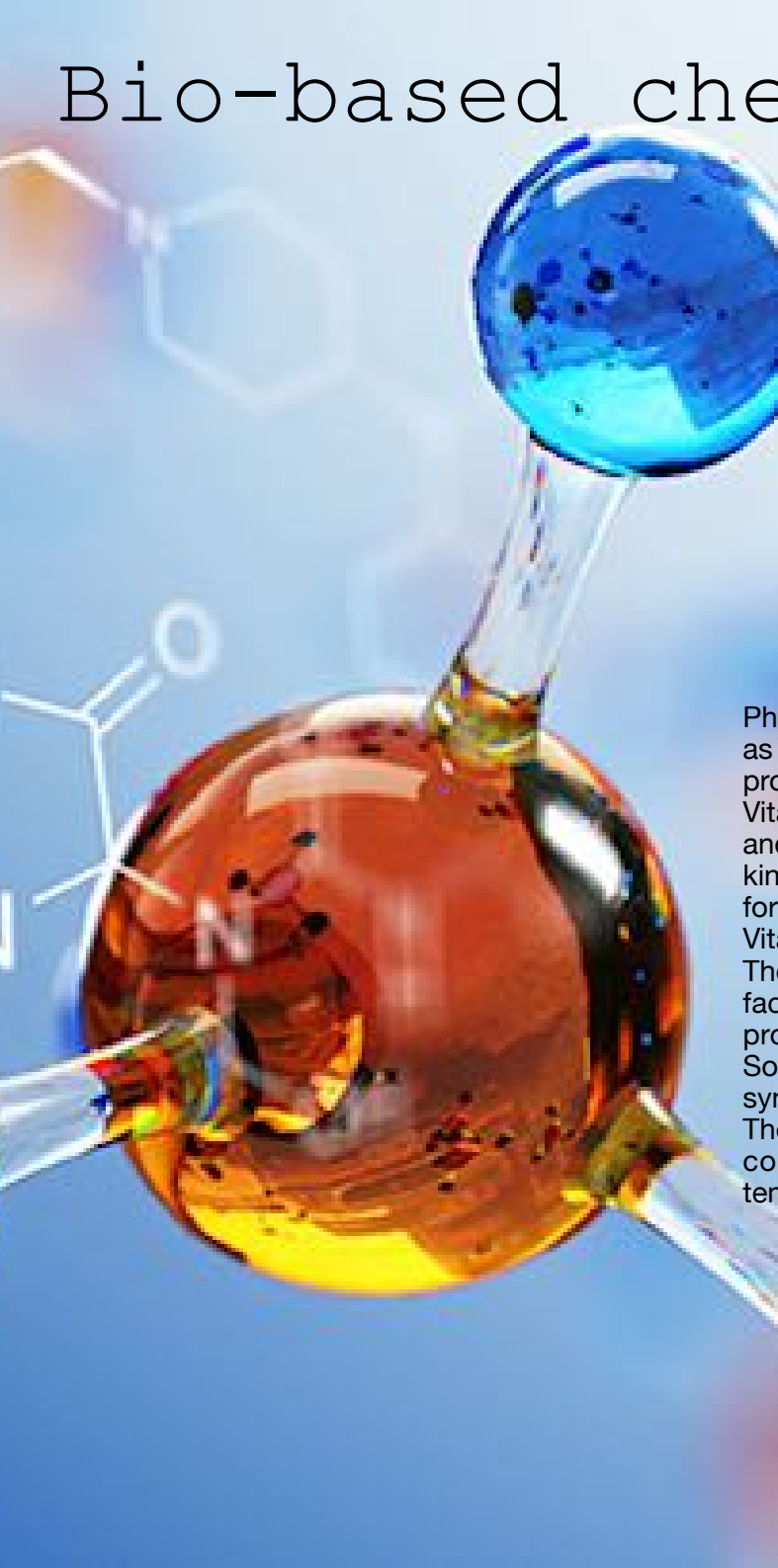
Heat exchanger investment accounts for about 20% ~ 40% of the pharmaceutical industry overall investment, energy consumption accounts for more than 1/3 of the whole enterprise, rational, professional selection of heat exchange equipment with the best operation is conducive to reducing investment costs, reducing operation costs and improving work efficiency.



Heat exchangers are indispensable in many aspects of industrial biotechnology, including feed preparation, sterilization and fermenter temperature control, etc. Most of the processes are using pure steam as the heat exchange medium, which has high requirements on hygienic feature and material.



Bio-based chemical massive production



Pharmaceutical manufacturing is not a mystery as long as we know the chemical formula and bio-culture process.

Vitamin C is common element in various kinds of fruits and vegetables, drug companies produce it in different kinds of form, such as tablet, capsule, moisturizer, etc. for the people who have trouble with absorption of Vitamin C or pursuing health.

The core of producing Vitamin C is purification, drug factories use starch as raw material, after multiple processing, it becomes glucose solution, then D-Sorbitol, L-Sorbose, after fermentation, esterification, synthesis, etc.

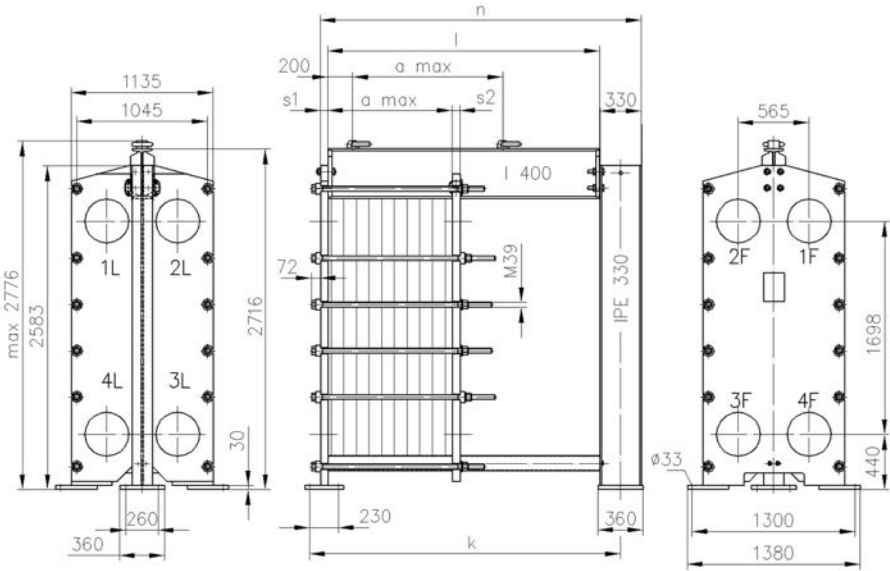
The whole process is like cooking with recipes but more complicated and high accuracy requirements of temperature control.



	Hot side	Cold side
Mass flow KG/h	3057	174500
Design pressure Bar(Min~Max)	-1~6	
Temperature inlet °C	59	25
Temperature outlet (Vapour/Liquid) °C	58 / 42	35
Pipe diameter DN	350	
Heat exchanger KW	2006	
Media	Vapour	Water



Hofmann plate heat exchangers for pharmaceutical use are all hygienic design, stainless frame, plates and gasket match the FDA regulation. We hope and expect our contribution toward human health with you.



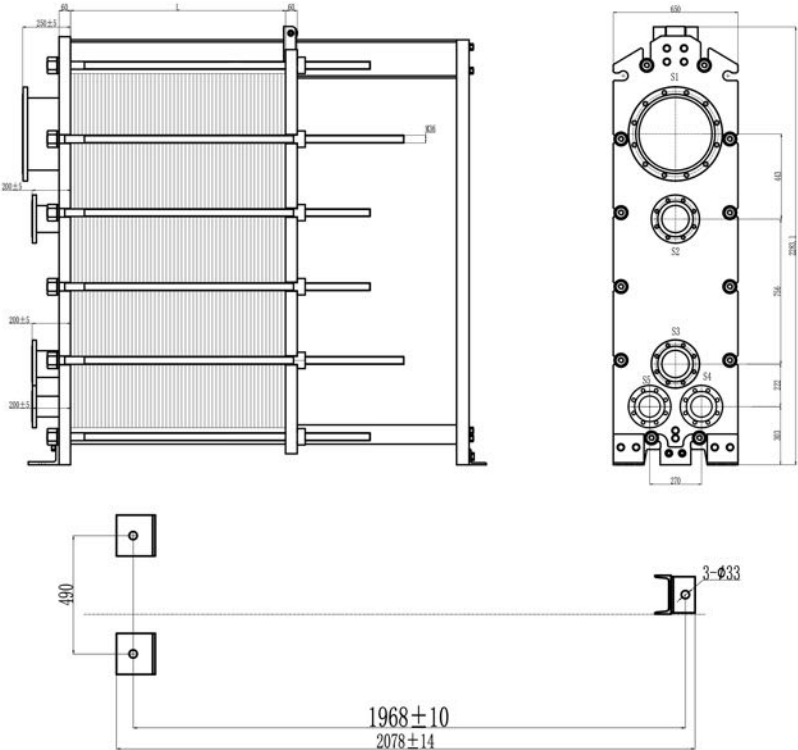
n:	1940 mm	s1:	70.00 mm	a-max frame:	657 mm	empty weight:	4237 kg
k:	1855 mm	s2:	70.00 mm	a-max actual:	447 mm	max. total weight:	4575 kg
l:	1540 mm						

Heat exchanger has been applied to serve pharmaceutical industry for many years. There are two common types, shell-and-tube and plate. Compared with plate heat exchanger, shell-and-tube heat exchanger is huge in size, due to its huge weight, the foundation has to be underpinned, how ever due to its simple structure, it could serve years as long as the corrosion dose not damage the cavity; shell-and-tube steam generator needs to consume a lot of heat for heat preservation, which does not meet the requirements of energy conservation and consumption reduction; the clean steam generation speed of shell-and-tube evaporator is slow, the thermal efficiency is low, and the pressure and flow are unstable.

Hofmann plate heat exchanger offer higher thermal efficiency, and easier cleaning than traditional shell-and-tube heat exchangers. The drawing on left is one heat exchanger model for steam cooling (condenser) in Vitamin C producing.

	Hot side	Cold side
Mass flow KG/h	3008	174500
Design pressure Bar(Min~Max)	-1~6	
Temperature inlet °C	59	25
Temperature outlet (Vapour/Liquid) °C	42/ 36	35
Pipe diameter DN	100&125&350	
Heat exchanger KW	2027	
Media	Vapour	Water

This model is designed specific for condenser, it allows large amount of gas going through the top inlet and condense into fluid going out from the two tiny outlet tube, which is more easy to control the gas flow rate.





Our **service** is better than you expected

HFM offers rich experience in pharmaceutical businesses. We have multiple global warehouses and service teams around the world, the delivery time and freight are reduced to the largest extent, and spare parts can be delivered at the fastest speed. Manufacturing is merely one part of our business, knowing our customers requirements and acknowledge various kinds of working conditions is our daily life.

1, Inventory management

In order to ensuring delivery effectiveness, based on the acknowledge of PHE market and supply chain management, HFM has distributed the warehouses around the world.

2, Spares replacement

HFM has the full range of plate heat exchanger spares, our service engineers could either travel to the scene or remote guid your team to replace.

3, Cleaning service

HFM can provide both CIP(cleaning in place) and disassembling cleaning services depending on your circumstances.





Professional design solution:

Our technical department dealt with various application year after year, the accumulative experience forged a special team with exploring spirit and critical spirit. The gasket plate heat exchanger is our core business, thousands of units have been in services for many years in different fields.

Service is our cornerstone:

We consider customer as our priority, understanding customers' real needs and rapid feedback are the basics.

We and customers are bound to each other for learning and developing, sharing knowledge keeps us growing, which makes accomplishing projects easier and faster.

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