



Hygienic

Shell and Tube Heat Exchanger

Material

Process wetted part	SUS316L
---------------------	---------

Finish

Product wetted part	#320 to 400 buffing (electrolytic polishing finish as an option)
Other parts	Pickling finish (#180 to 320 buffing as an option)

Specifications

- 1) Structure in which no cross-contamination occurs between process liquid and heating or cooling medium
- 2) Straight tube specifications with fully-sanitary structure that do not generate any liquid pools at all
- 3) Corrugated tube specifications increase heat-exchange efficiency and reduce adhesion of scale
- 4) U-tube specifications that do not require expansion pipes and whose shell pipes can be disassembled

Type

Straight tube type
 Tube ϕ 8: 1.5s, 2s, 2.5s, 125A, 150A, 200A
 Tube ϕ 12.7: 3s, 4s, 5s, 6s
 Tube ϕ 19: 150A

Corrugated tube type
 Tube ϕ 12.7: 3s, 4s, 5s, 6s

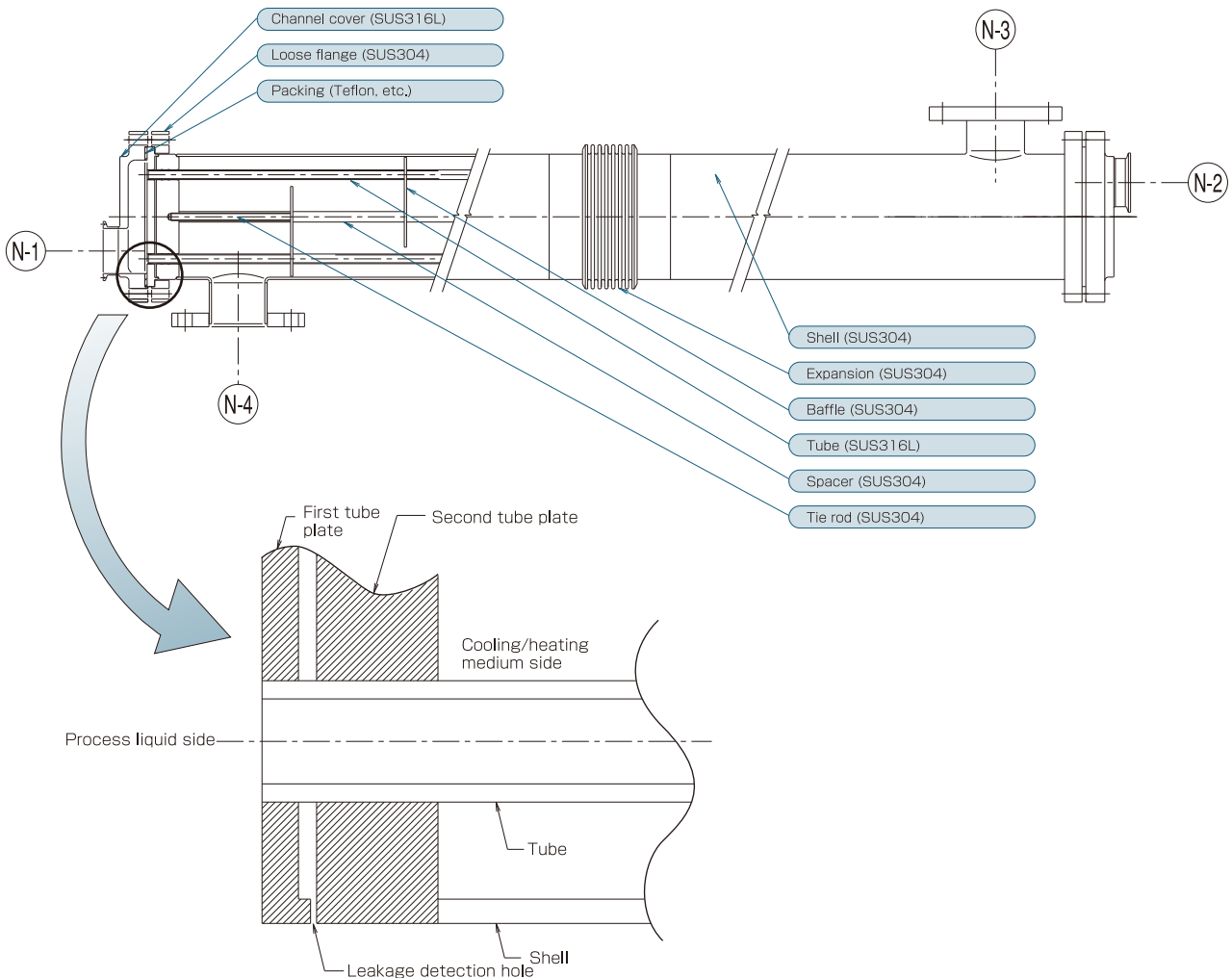
U tube type
 Tube ϕ 12.7: 125A, 150A, 200A

*1000L or 2000L for each size (Multipath type is also available as an option.)

Applications

Heating, cooling and condensing pure water, distilled water and other process fluids.

* We can also offer dimensions other than described above, pressure vessels, and multiple heat exchange units.



► Heat-exchanger size table

Table of double-tube-sheet heat-exchanger size (standard product)

Heat-exchanger size			Nominal length (m)	Heat transfer area (m ²)	Connection size (standard)			Dry weight (kg)
Type	Shell size	Tube size			Tube side	Shell side		
						Ferrule	Flange	
HEX06-15	1.5S	ø8/straight	2.0 (1.0)	0.18 (0.09)	8A, 10A, 15A	15A, 1S, 1.5S	15A, 20A, 25A	7 (5)
HEX06-20	2S	ø8/straight	2.0 (1.0)	0.40 (0.19)	10A, 15A, 1S	15A, 1S, 1.5S, 2S	15A, 20A, 25A, 40A	15 (10)
HEX06-25	2.5S	ø8/straight	2.0 (1.0)	0.61 (0.29)	15A, 1S, 1.5S	1S, 1.5S, 2S, 2.5S	20A, 25A, 40A	20 (13)
HEX10-30	3S	ø12.7/straight	2.0 (1.0)	0.62 (0.30)	1S, 1.5S, 2S	1S, 1.5S, 2S, 2.5S	20A, 25A, 40A, 50A	40 (25)
HEX10C-30		ø12.7/Corrugated						
HEX10-40	4S	ø12.7/straight	2.0 (1.0)	1.36 (0.65)	1S, 1.5S, 2S	1S, 1.5S, 2S, 2.5S	20A, 25A, 40A, 50A	80 (50)
HEX10C-40		ø12.7/Corrugated						
HEX10-50	5S	ø12.7/straight	2.0 (1.0)	3.14 (1.50)	1S, 1.5S, 2S, 2.5S, 3S	1S, 1.5S, 2S, 2.5S, 3S	25A, 40A, 50A, 65A	120 (80)
HEX10C-50		ø12.7/Corrugated						
HEX10-60	6S	ø12.7/straight	2.0 (1.0)	4.24 (2.03)	1S, 1.5S, 2S, 2.5S, 3S	1S, 1.5S, 2S, 2.5S, 3S	40A, 50A, 65A	150 (100)
HEX10C-60		ø12.7/Corrugated						
HEX06-5B	125A	ø8/straight	2.0 (1.0)	4.23 (2.02)	1.5S, 2S, 2.5S, 3S	—	50A, 65A, 80A, 100A	120 (80)
HEX06-6B	150A	ø8/straight	2.0 (1.0)	6.32 (3.02)	2S, 2.5S, 3S	—	65A, 80A, 100A, 125A	160 (110)
HEX06-8B	200A	ø8/straight	2.0 (1.0)	11.09 (5.30)	2.5S, 3S	—	80A, 100A, 125A, 150A	250 (170)
HEX17-6B	150A	ø19/straight	2.0 (1.0)	2.59 (1.24)	1S, 1.5S, 2S, 2.5S, 3S	—	40A, 50A, 65A, 80A, 100A, 125A	130 (95)
HEX10U-5B	125A	ø12.7/U tube	2.0	1.43	1S, 1.5S	1S, 1.5S	—	60
HEX10U-6B	150A	ø12.7/U tube	2.0	2.16	1S, 1.5S, 2S	1S, 1.5S, 2S	—	75
HEX10U-8B	200A	ø12.7/U tube	2.0	4.6	1.5S, 2S, 2.5S	1.5S, 2S, 2.5S	—	130

() The values in parentheses show data in the case where the length of heat exchanger is 1m.

► Recommended flow rate table

Table of recommended flow rate for cooling and heating

Unit: (L/h)

Heat-exchanger size		Recommended flow rate at tube side	Recommended flow rate at shell side
Type	Shell size		
HEX06-15	1.5S	260 ~ 760	540 ~ 1,600
HEX06-20	2S	550 ~ 1,600	900 ~ 2,600
HEX06-25	2.5S	850 ~ 2,500	1,400 ~ 4,100
HEX10-30, HEX10C-30	3S	1,500 ~ 4,500	2,000 ~ 6,000
HEX10-40, HEX10C-40	4S	3,300 ~ 9,700	3,350 ~ 10,000
HEX10-50, HEX10C-50	5S	7,530 ~ 22,000	5,500 ~ 16,500
HEX10-60, HEX10C-60	6S	10,200 ~ 30,000	8,000 ~ 24,000
HEX06-5B	125A	5,900 ~ 17,500	6,000 ~ 17,000
HEX06-6B	150A	8,800 ~ 26,400	8,000 ~ 23,200
HEX06-8B	200A	15,500 ~ 46,300	13,500 ~ 40,000
HEX17-6B	150A	10,000 ~ 33,500	9,000 ~ 30,000
HEX10U-5B	125A	1,800 ~ 7,000	1,800 ~ 10,000
HEX10U-6B	150A	2,700 ~ 10,500	2,700 ~ 15,000
HEX10U-8B	200A	5,600 ~ 22,200	5,600 ~ 30,000

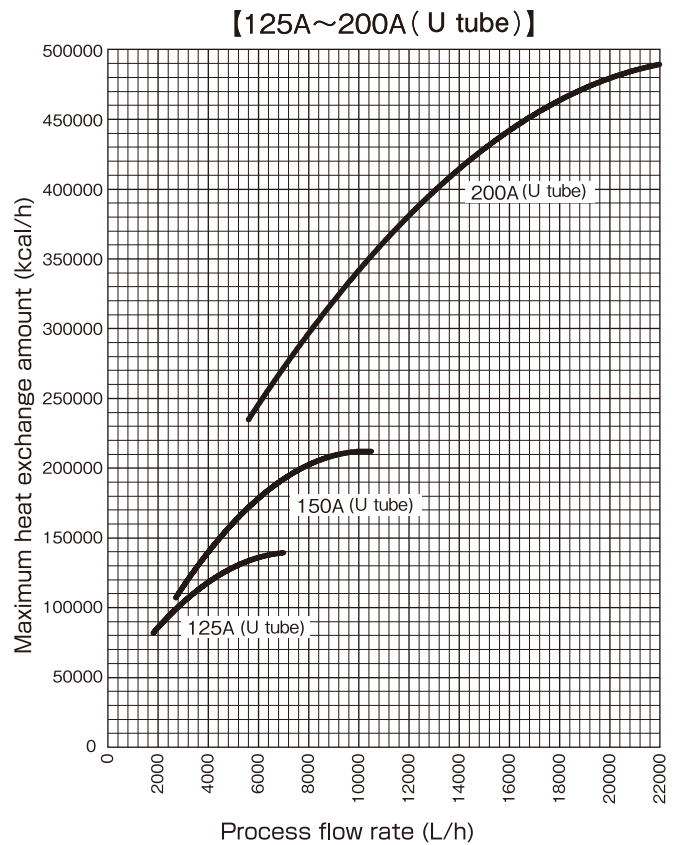
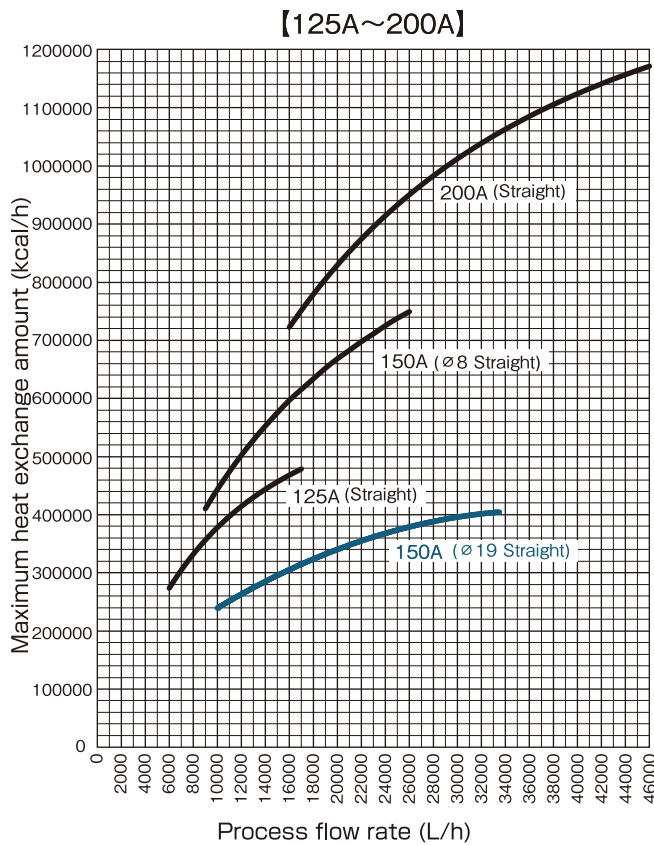
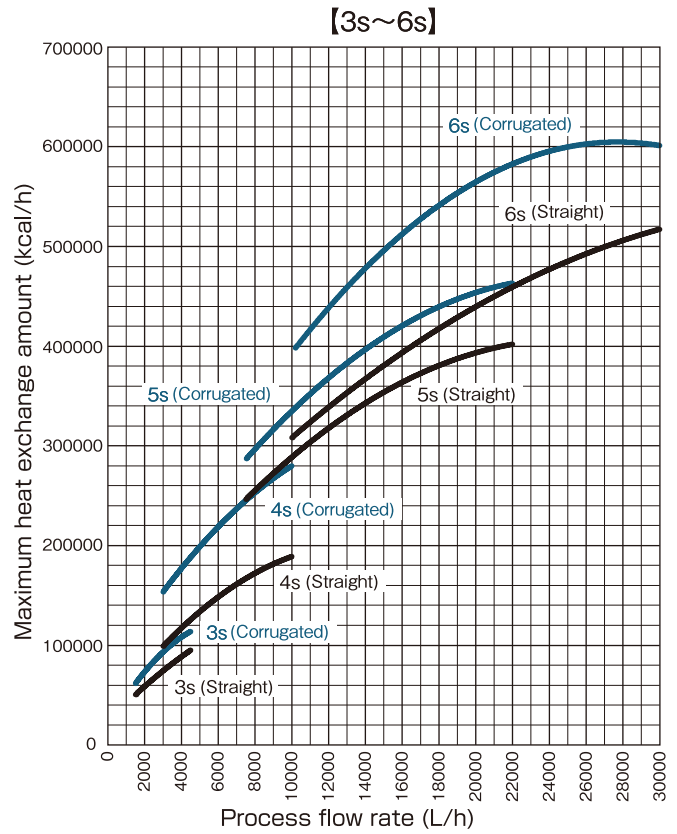
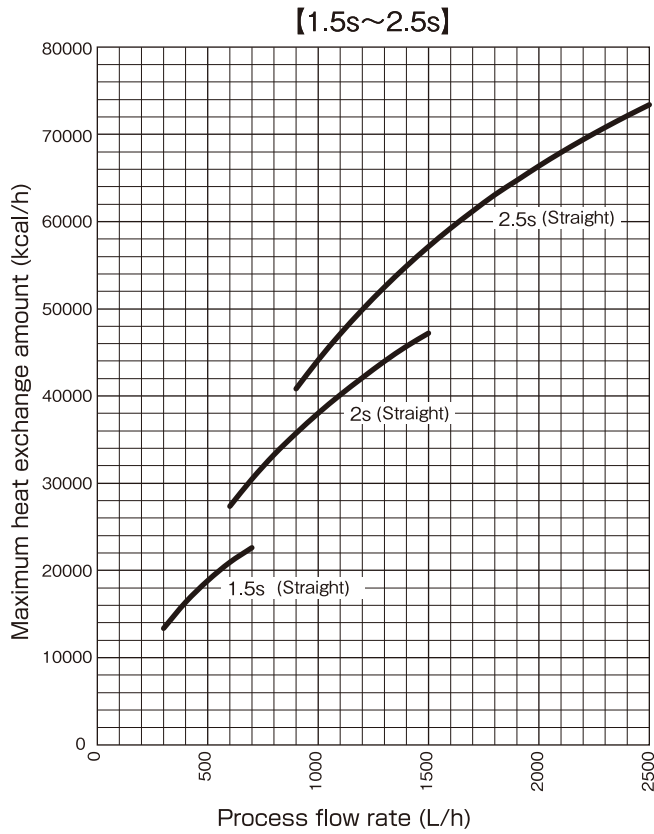
Table of recommended flow rate at shell side for steam heating (maximum value)

Unit: (kg/h)

Heat-exchanger size		0.1MPa/120°C	0.2MPa/132°C	0.3MPa/142°C	0.4MPa/151°C	0.5MPa/158°C
Type	Shell size					
HEX06-15	1.5S	65	90	110	130	150
HEX06-20	2S	118	160	200	235	270
HEX06-25	2.5S	180	240	300	370	420
HEX10-30, HEX10C-30	3S	270	360	450	540	630
HEX10-40, HEX10C-40	4S	450	600	750	900	1050
HEX10-50, HEX10C-50	5S	740	980	1220	1460	1700
HEX10-60, HEX10C-60	6S	1080	1440	1800	2160	2520
HEX06-5B	125A	740	980	1220	1460	1700
HEX06-6B	150A	1080	1440	1800	2160	2520
HEX06-8B	200A	1850	2450	3000	3700	4300
HEX17-6B	150A	1080	1440	1800	2160	2520
HEX10U-5B	125A	400	600	800	1000	1200
HEX10U-6B	150A	480	720	960	1200	1440
HEX10U-8B	200A	800	1200	1600	2000	2400

Note: Set steam temperature to 120°C or more.

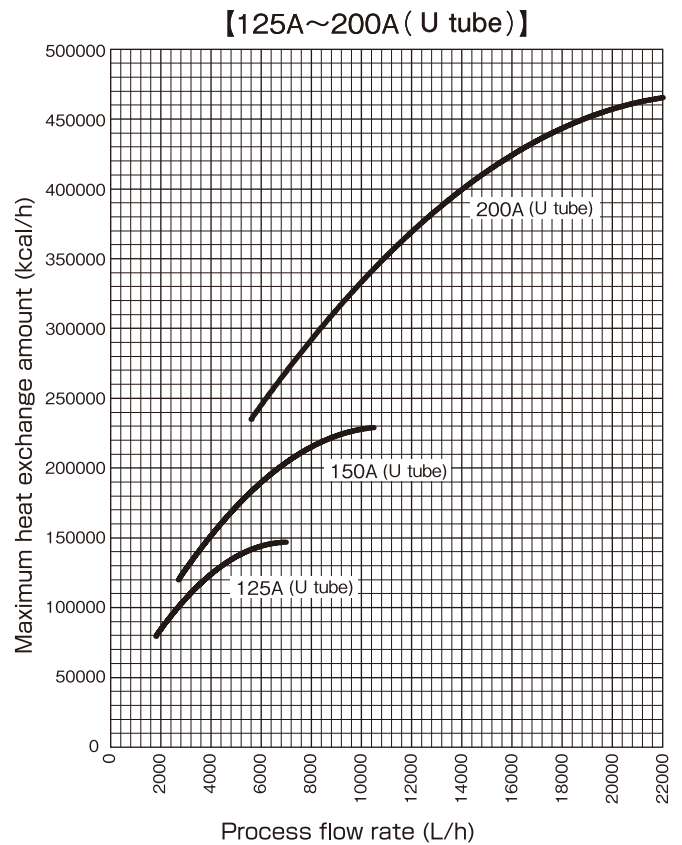
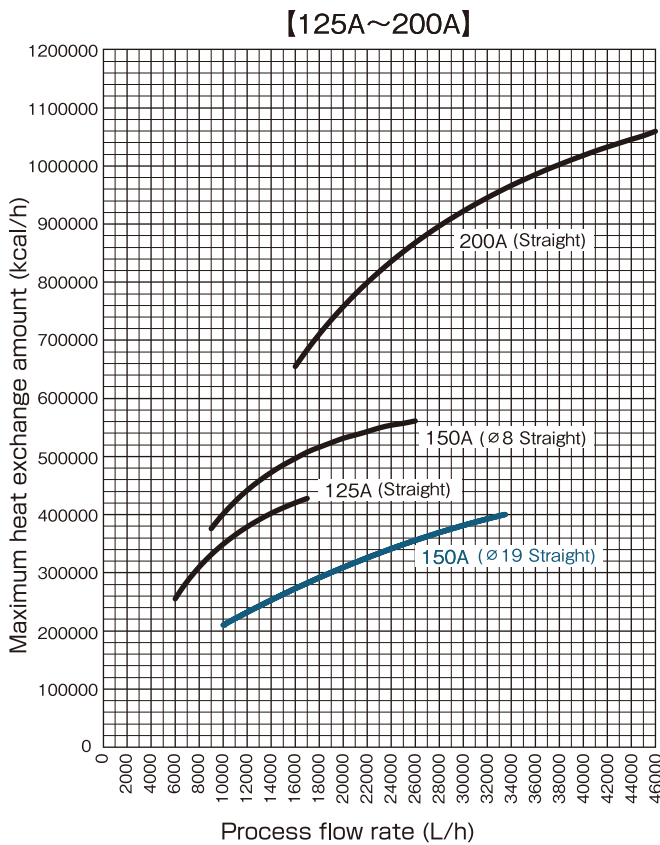
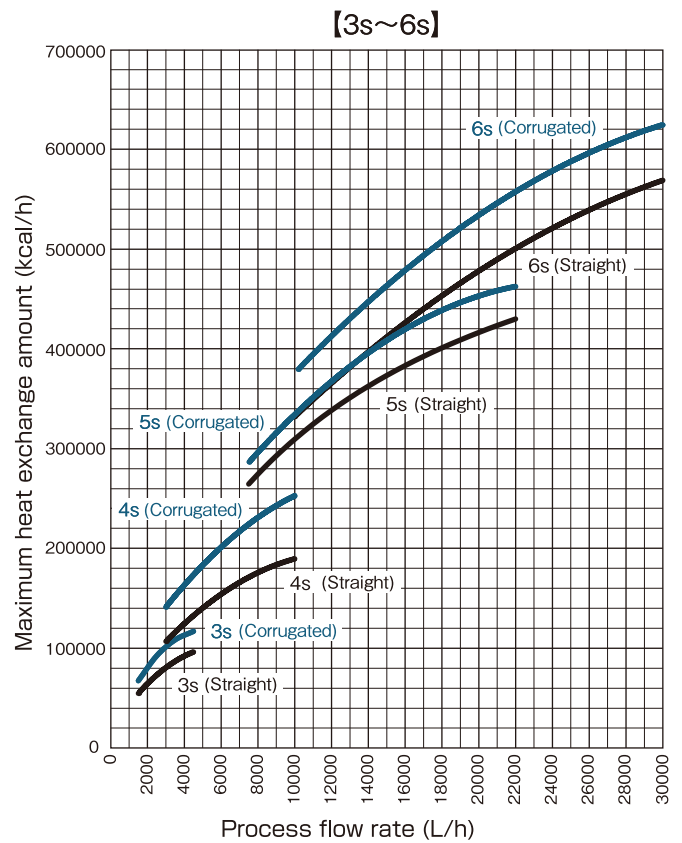
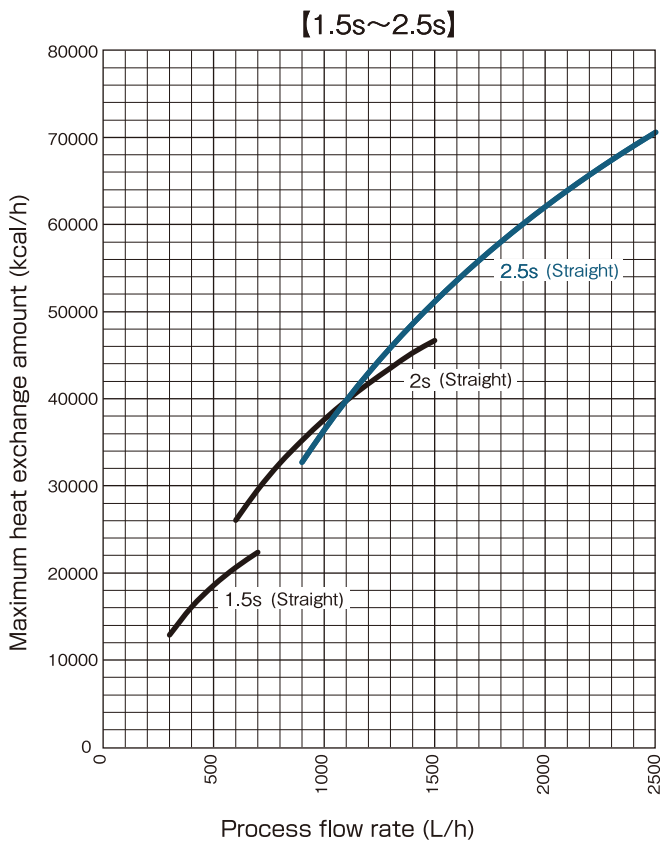
► Cooling capacity



Note)

- 1) The above graphs show the case where the tube-side inlet is 80°C and shell-side inlet is 7°C.
- 2) The above graphs show the maximum capacity per double-tube-sheet heat exchanger (2m) at the shell-side recommended maximum flow rate.

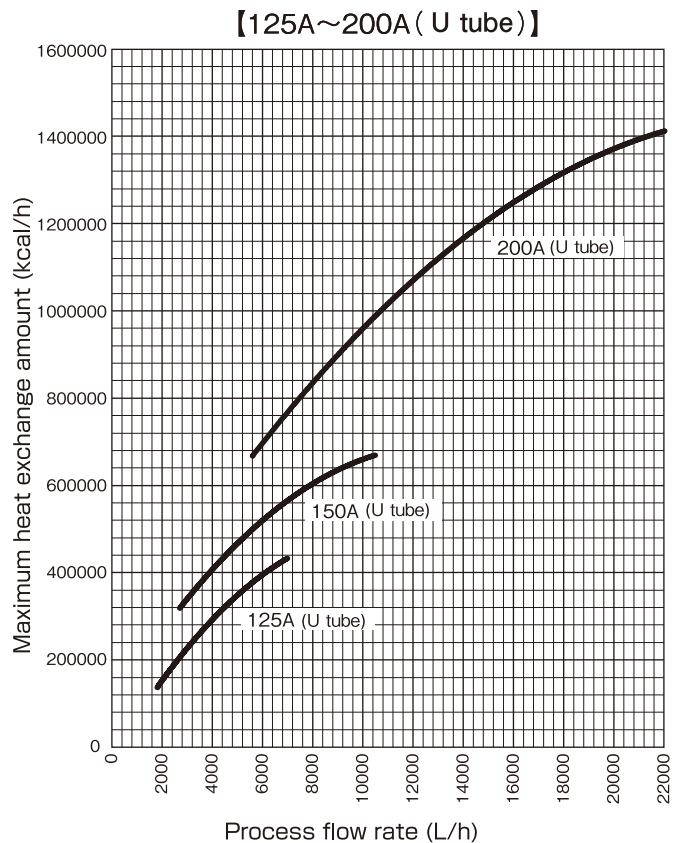
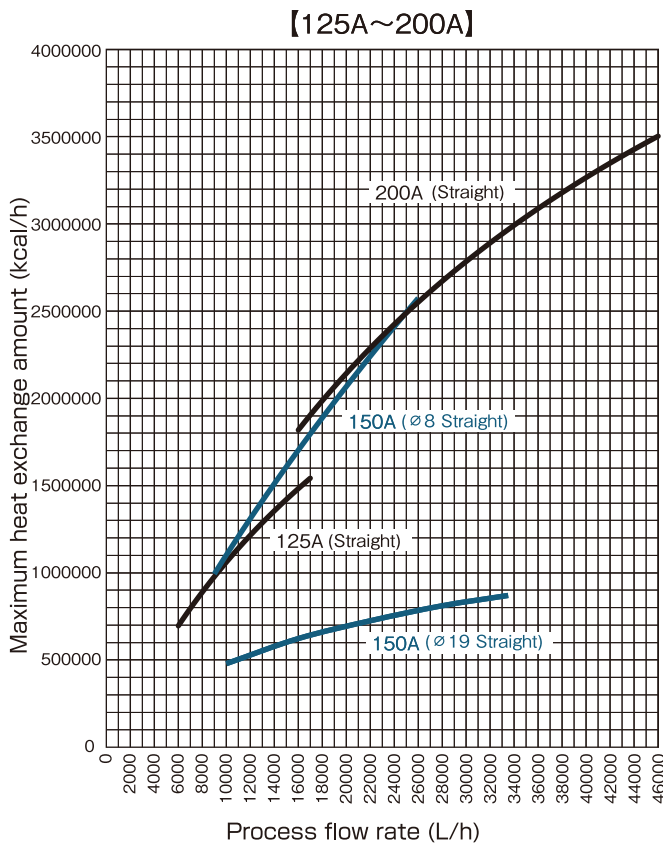
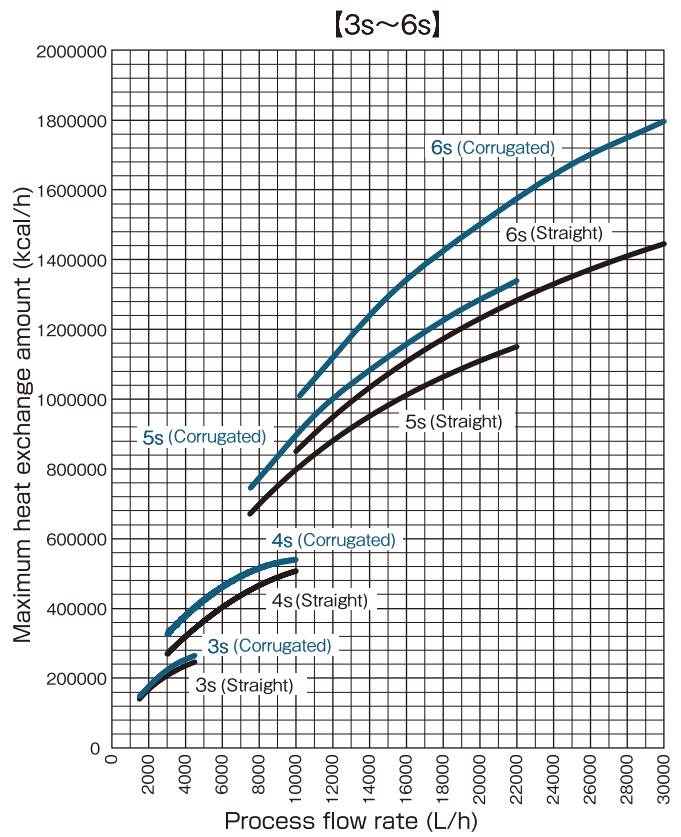
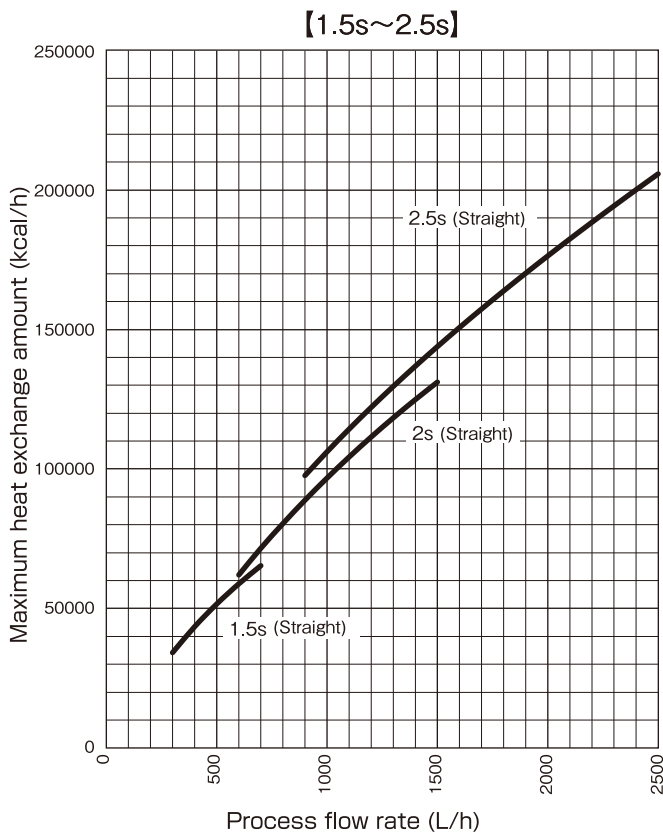
► Hot water heating capacity



Note)

- 1) The above graphs show the case where the tube-side inlet is 7°C and shell-side inlet is 80°C.
- 2) The above graphs show the maximum capacity per double-tube-sheet heat exchanger (2m) at the shell-side recommended maximum flow rate.

► Steam heating capacity



Note)

- 1) The above graphs show the case where the tube-side inlet is 7°C and shell-side inlet is 158°C.
- 2) The above graphs show the maximum capacity per double-tube-sheet heat exchanger (2m) when the shell-side steam pressure is 0.5MPa.

For quotation for double-tube-sheet heat exchangers, enter the required items in the following inquiry form and send it to us.

To TOSTE Co., Ltd.

DATE

FAX

Tokyo Branch: +81-3-5600-3226
 Osaka Branch: +81-6-6586-0505
 Hokkaido Sales Office: +81-11-863-8257
 Sendai Sales Office: +81-22-287-0915
 Shizuoka Sales Office: +81-54-398-0303

Hiroshima Sales Office: +81-82-292-1261
 Ube Sales Office: +81-836-41-3404
 Kyushu Sales Office: +81-92-504-1483
 Techno Center: +81-868-29-7126
 Kawasaki Branch Office: +81-44-589-8401
 R & D Center: +81-868-29-3639

Hygienic double-tube-sheet heat exchanger inquiry form

		Your inquiry number	
Your company name		TEL	—
		FAX	—
Contact person		Quotation deadline	Date
Installation location		Required delivery date	Date
Equipment name (TAG No.)		No. of units	units

Conditions	Shell side	Tube side
Fluid name		
Design pressure (MPa)		
Design temperature (°C)		
Hydraulic test (MPa)		
Finish	Internal	
	External	
Inlet temperature (°C)		
Outlet temperature (°C)		
Flow rate (kg/hr)		
Density (kg/m ³)		
Specific heat (kJ/kg·K) (kcal/kg·°C)		
Thermal conductivity (W/m·K) (kcal/m·hr·°C)		
Viscosity (mPa·s) (kg/m·hr)		
Connection standard		
Material		
Size		
Packing material		
Remarks	1. Frame <input type="checkbox"/> Necessary <input type="checkbox"/> Not necessary 2. Other ()	

TOSTE TOSTE Co.,Ltd.

Headquarters:

1-32, Honden 2-chome, Nishi-ku, Osaka 550-0022
TEL: +81-6-6585-0700 FAX: +81-6-6586-0708

Trade Department:

TEL: +81-6-6585-2277 FAX: +81-6-6586-0708

TOSTE VIETNAM CO.,LTD

Rental Factory 5-1, Road N3-2, Long Duc IP,
Long Duc Ward, Long Thanh district,
Dong Nai province, Vietnam
TEL: +84-251-368-1800 FAX: +84-251-368-1881

肇慶東洋新島不銹鋼工程有限公司

〒526072 肇慶市鼎湖区蓮花鎮7区蓮信路
TEL: +86-758-2619887
FAX: +86-758-261978