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DATA SHEET

COL01369

Thermo Scientific DHX Heat Exchanger

Sterile, Efficient and Modular

The Thermo Scientific™ DHX™ is a modular heat exchanger that uses single-use a BioProcess Container (BPC) as the sterile fluid path. The BPCs fit tightly between five stainless steel plates, efficiently transferring heat in a counter-current flow path. The system provides efficient, sterile heat transfer that easily integrates into any new or existing process.

DHX BPCs

The BPCs in the heat transfer process ensure a closed and sterile fluid path, eliminate the risk of cross contamination and greatly reduce turnaround time between batches.

Each BPC fits tightly between the stainless steel plates and the process fluid, in the BPCs, flows counter-currently to the heating/cooling fluid in the plates. This method of heat transfer is superior to traditional jacketed systems and the modular footprint allows for use in multiple process locations.

Benefits

- Completely isolated flow paths for process fluid and heat transfer fluid
- Counter-current, serpentine flow patterns
- Dimpled jacketing on the plates to ensure turbulent flow
- Modular design and small footprint allows for changing process needs
- Reduced infrastructure requirements
- Reduced processing time
- Improved product consistency

Applications

- cGMP commercial and clinical bio-therapeutics, vaccines and other biologic processes.
- Upstream applications include: media hold, fermentation, cell separation / protein harvest, harvest cooling and harvest hold.
- Downstream applications include: harvest hold, buffers, protein purification, and bulk drug substance

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DHX BPCs

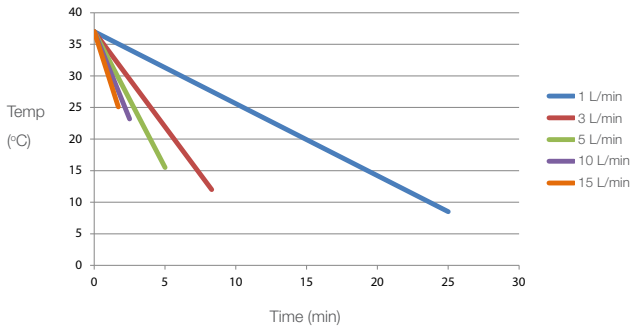
General Specifications

Material of construction	Thermo Scientific™ ASI™ 26/77 film
Interconnecting tubing	C-Flex
Connections	GE ReadyMate™ DAC 500 as standard – Custom tubing and connections upon request
Flow rate capacity	Up to 15 L/min
Pressure/temperature rating (Installed in DHX plates)	20 psig at 122°F (50°C)

Heat transfer efficiencies for typical applications

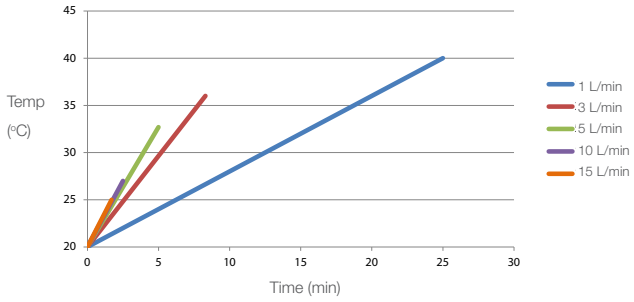
Cooling from 37°C – single pass

- Process fluid: water at 37°C
- Heat transfer fluid: 30% Propylene Glycol at 2°C
- Heat transfer flow rate: 15 L/min
- Number of BPCs: 4
- DHX cooling efficiencies measured by temp. vs. time:



Heating from ambient temperature – single pass

- Process fluid: Water at 20°C
- Heat transfer fluid: 30% Propylene Glycol at 42°C
- Heat transfer flow rate: 15 L/min
- Number of BPCs: 4
- DHX heating efficiencies measured by temp. vs. time:



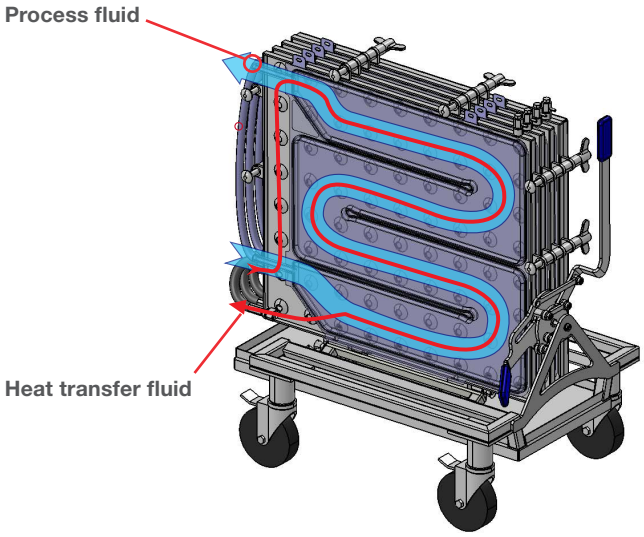
DHX bioprocess equipment - plate system

General Specifications

Material of construction	316L Stainless Steel
Effective heat transfer area	Up to 27 sq. ft.
Overall dimensions (W x D x H)	51 x 74 x 69 cm (20 x 29 x 27 in.)
Number of plates/BPCs	5 plates/up to 4 BPCs
Dry weight	150 kg (331 lbs.)
Full weight (includes 4 BPCs)	190 kg (419 lbs.)
Pressure/temperature rating	FV/140 psig @ 150°F
Pressure vessel code	ASME U-1
Connections	1/2 in. compression

Efficient Heat Transfer

Counter Current Flow Between the Heating / Cooling Fluid and the Process Fluid: The purple shading depicts the serpentine flow path of the process fluid in the BPCs. The dimpled plate behind the single-use BPC depicts where the heating / cooling fluid flows counter-currently to the process fluid in a completely isolated flow path.



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Ordering information

Product		Cat. No.
DHX Heat Exchanger	316L stainless steel bioprocessing equipment	DHX1001
DHX Single-Use BPCs		
One BPC	ASI 26/77 film, DAC connections on outlet ports	DX00006-I
Two BPC assembly	ASI 26/77 film, DAC connections on outlet ports	DX00007-I
Three BPC assembly	ASI 26/77 film, DAC connections on outlet ports	DX00008-I
Four BPC assembly	ASI 26/77 film, DAC connections on outlet ports	DX00009-I
One BPC	ASI 26/77 film, DAC connections and drain tubing	DX00010-I
Two BPC assembly	ASI 26/77 film, DAC connections and drain tubing	DX00011-I
Three BPC assembly	ASI 26/77 film, DAC connections and drain tubing	DX00012-I
Four BPC assembly	ASI 26/77 film, DAC connections and drain tubing	DX00013-I

Find out more at **thermofisher.com/sut**

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