

# PRODUCT PROFILE

## EC120-5102-3 Swimming Pool Heat Exchanger

### Introduction

The Bowman EC120-5102-3 is an efficient shell and tube swimming pool heat exchanger, which is suitable for use with either boiler heated hot water, or renewable energy heating systems such as heat pumps or solar collectors. It features 'Universal Fit' composite end covers and a choice of either a titanium, cupro-nickel, or stainless steel tube core.

### Typical Heat Transfer

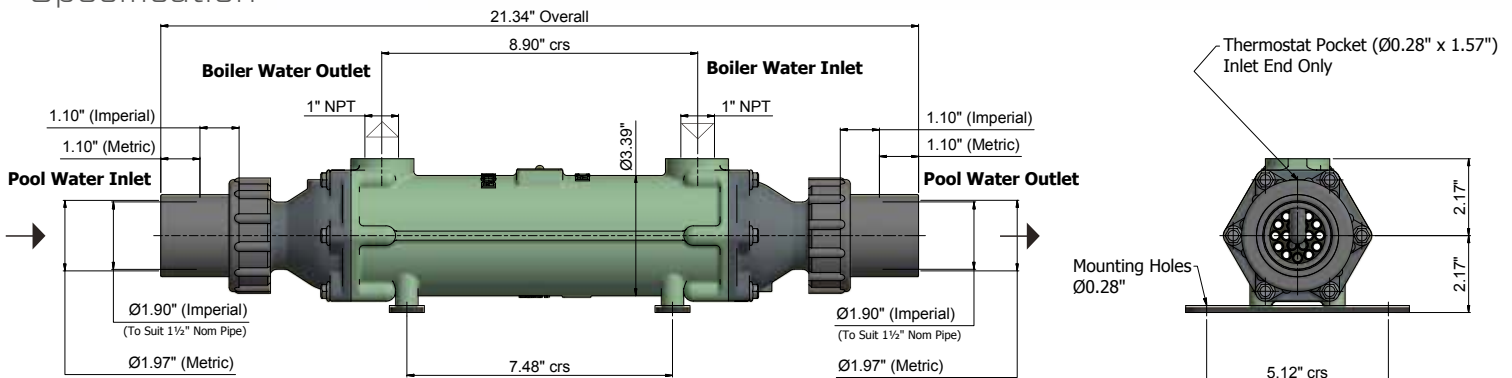
Boiler heating: 250,000 Btu/h  
Renewable energy: 68,000 Btu/h

### Product Benefits

- Proven** – heats pools faster, reducing energy costs
- Easy to install** – solvent weld end covers with thermostat pocket
- Durability** – salt water and mineral rich fresh water compatible
- Simple to maintain** – easy disassembly for routine maintenance
- Titanium models** – full 10 year warranty on titanium materials



### Specification



All dimensions in inches

Type	Tube Material	Typical Pool Capacity		Maximum Pool Water Flow	Maximum Hot Water Temp	Max. Operating Pressure Pool Water	Max. Operating Pressure Hot Water	Weight
		ft <sup>3</sup>	gal	USGPM	°F	psi	psi	lb
EC120-5102-3C	Cupro-nickel	4,250	32,000	60.0	230	87	87	12
EC120-5102-3S*	Stainless Steel	4,600	34,500	66.0	230	87	87	12
EC120-5102-3T	Titanium	4,600	34,000	66.0	230	87	87	11

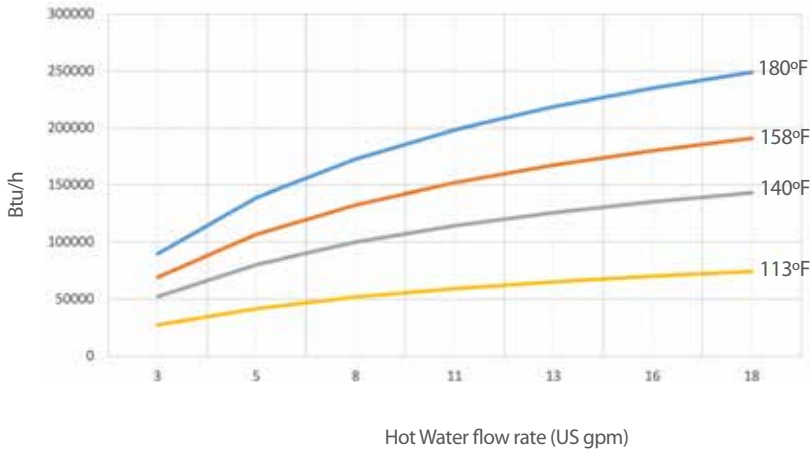
\*Not suitable for use on pools fitted with salt water chlorinators or salt water pools.

# Water Flow

As the graphs and table below illustrate, providing the right water flow volume is vital to the performance of the heat exchanger. If the flow rate of either the hot water supply, or the pool water circuit is too low, the heat exchanger will not perform at its designed efficiency and will be unable to transfer all the available heat energy in to the pool water.

For more information please visit; <https://ej-bowman.com/knowledge-centre/why-doesn't-my-pool-heat-up-faster/>

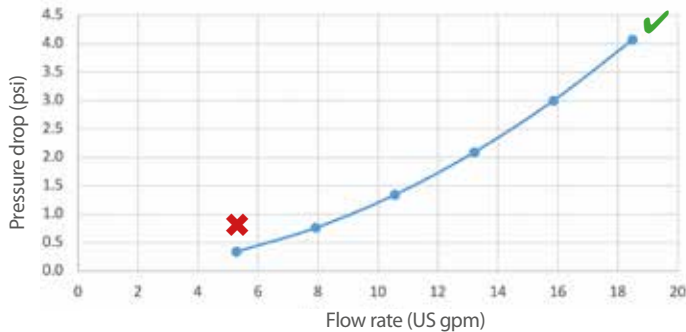
## Heat Transfer



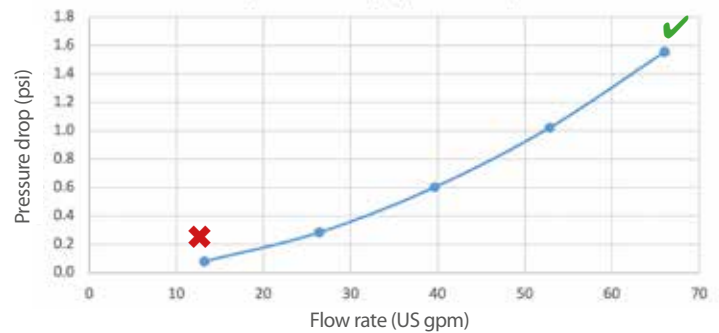
Btu/h Heat Transfer - EC120-5102-3  
Pool water flow 66 US gpm at 82°F

Hot Water Flow rate (US GPM)	Temperature & Heat Transfer			
	180°F Btu/h	158°F Btu/h	140°F Btu/h	113°F Btu/h
2.6	89700	69300	52200	27300
5.3	139200	106800	80500	41600
7.9	173000	132700	100000	51900
10.6	198600	152200	114300	59400
13.2	218700	167500	125900	65200
15.9	235100	180200	135500	70300
18.5	249100	191100	143300	74400

## Pressure Drop Hot Water (Shell Side)



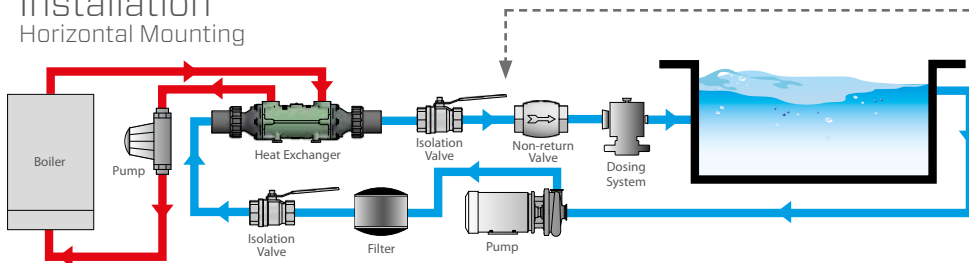
## Pressure Drop Pool Water (Tube Side)



✓ Optimum heat transfer performance    ✗ Reduced heat transfer performance

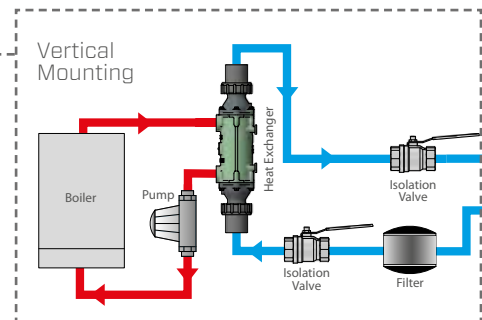
## Installation

### Horizontal Mounting



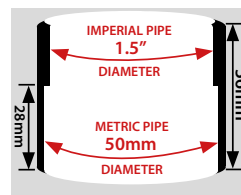
If an automatic dosing system is added, it must be installed after the heat exchanger on the return to the pool.

### Vertical Mounting



## Universal Fit End Covers

The EC120-5102-3 is supplied with 'Universal Fit' composite end covers, designed for use with either 1.5" nominal pipe size (48mm O/D) or metric 50mm O/D pool pipework. The 'socket union' component enables either diameter to be accommodated, as shown on the adjacent cross section illustration.



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