

## PRODUCT PROFILE

# EC80-5102-1

## Swimming Pool Heat Exchanger

### Introduction

The Bowman EC80-5102-1 is a compact, yet highly efficient heat exchanger, that is designed for heating spas, hot tubs and domestic swimming pools up to 1,750ft<sup>3</sup>, via a boiler heat source. It features 'Universal Fit' composite end covers, for easy installation into pool or spa pipework and a choice of either a titanium, cupro-nickel, or stainless steel tube core.

### Typical Heat Transfer

Boiler heating: 85,000 Btu/h



### Product Benefits

**Proven** – heats spas and hot tubs extremely fast, reducing energy costs

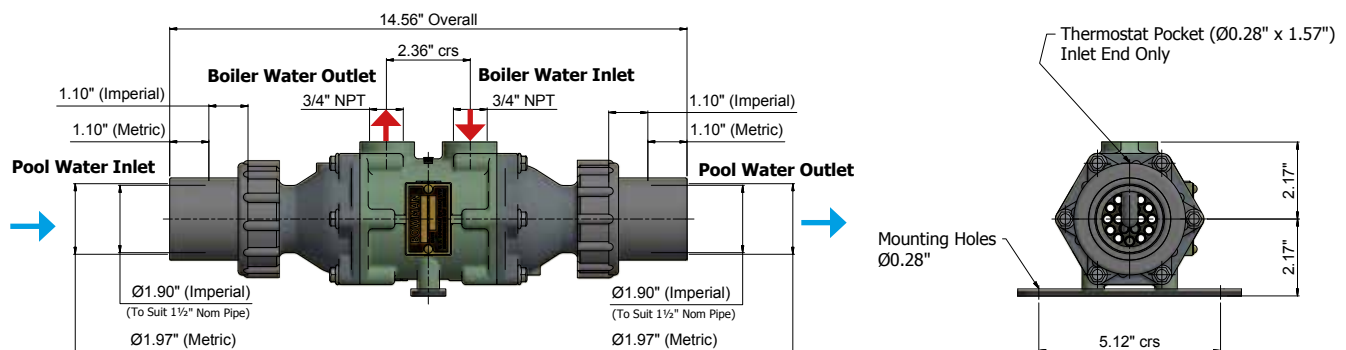
**Easy to install** – solvent weld end covers with thermostat pocket

**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
EC80-5102-1C	Cupro-nickel	1,400	10,500	40.0	230	87	87	6.6
EC80-5102-1S*	Stainless Steel	1,750	13,000	53.0	230	87	87	6.6
EC80-5102-1T	Titanium	1,750	13,000	53.0	230	87	87	6.0

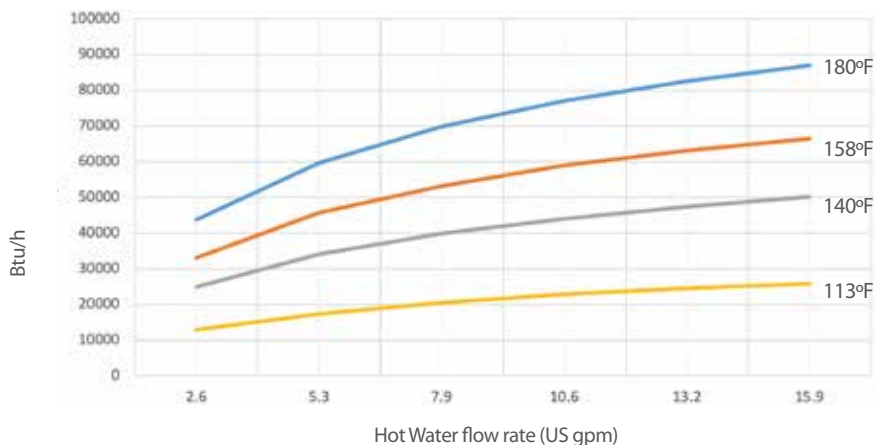
\*Not suitable for use on pools fitted with salt water chlorinators or salt water pools.

# 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/>

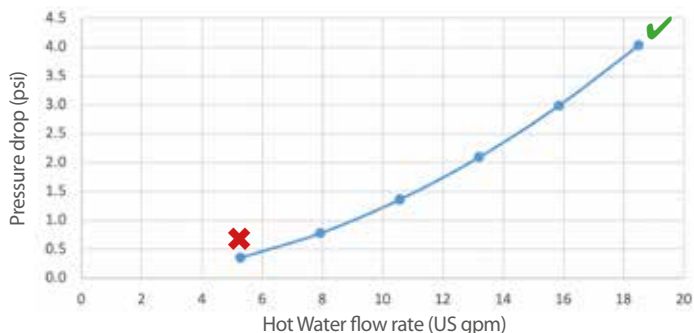
## Heat Transfer



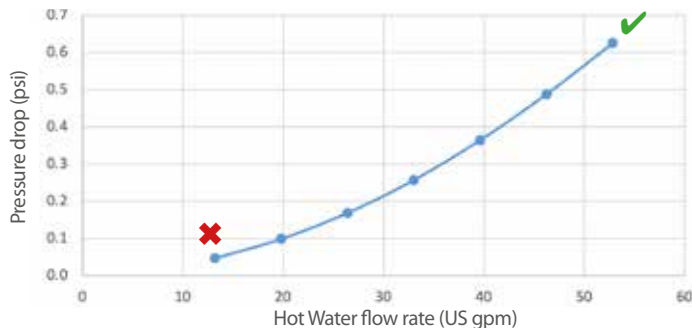
Btu/h Heat Transfer - EC80-5102-1  
Pool water flow 53 US gpm at 82°F

Hot Water	Temperature & Heat Transfer			
Flow rate (US GPM)	180°F Btu/h	158°F Btu/h	140°F Btu/h	113°F Btu/h
2.6	43700	33100	24900	13000
5.3	59700	45700	34100	17400
7.9	69900	53200	39900	20500
10.6	77100	59000	44000	22900
13.2	82600	63100	47400	24600
15.9	87000	66500	50200	25900

## Pressure Drop Hot Water (Shell Side)



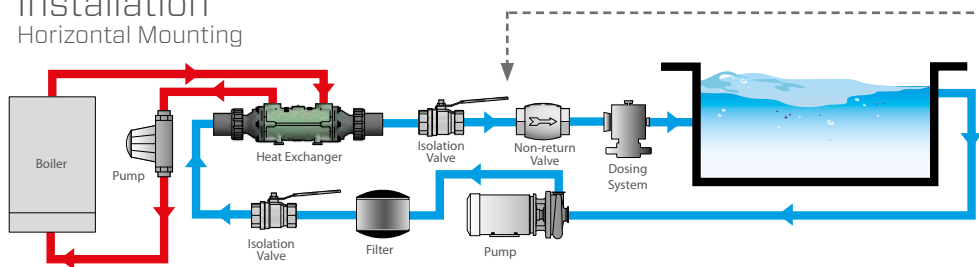
## Pressure Drop Pool Water (Tube Side)



✓ Optimum heat transfer performance    ✗ Reduced heat transfer performance

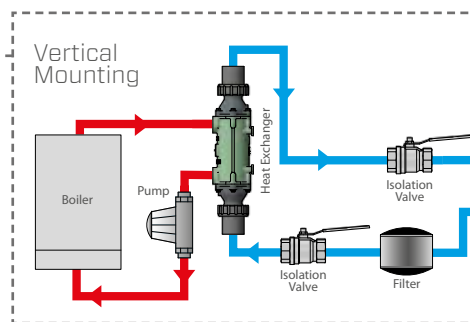
## Installation

### Horizontal Mounting



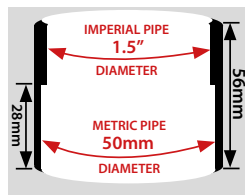
If an automatic dosing system is added, it must be installed after the heat exchanger on the return to the pool.

### Vertical Mounting



## Universal Fit End Covers

The EC80-5102-1 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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