

## PRODUCT PROFILE

# FC100-5114-2

## Swimming Pool Heat Exchanger

### Introduction

The Bowman FC100-5114-2 is an efficient shell and tube heat exchanger which is suitable for heating swimming pools up to 180 m<sup>3</sup>, via a boiler heat source. It is easily installed into the pool pipework, has an integral thermostat pocket and is available with either a titanium, cupro-nickel, or stainless steel tube core.

### Typical Heat Transfer

Boiler heating – 100kW



### Product Benefits

**Proven** – heats pools fast, reducing energy costs

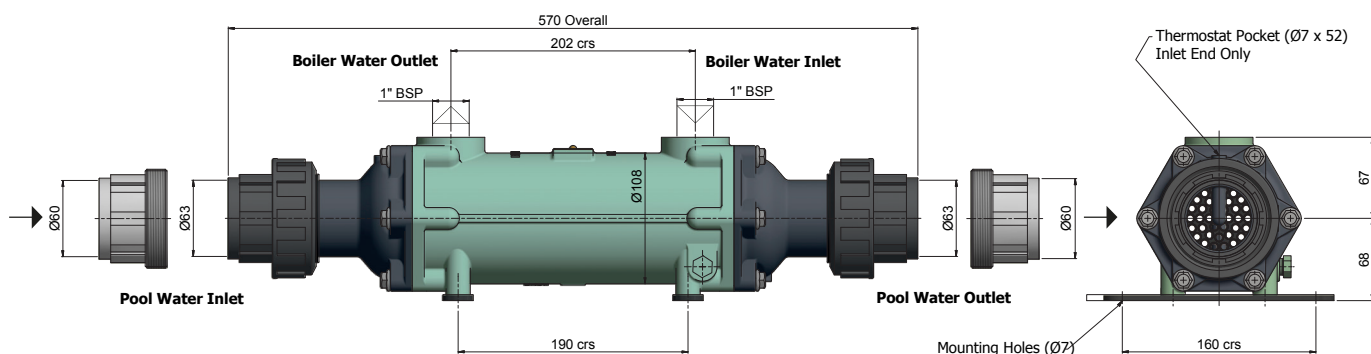
**Easy to install** – solvent weld end covers with thermostat pocket

**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 mm (except threaded connectors)

| 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 |
|----------------|-----------------|-----------------------|--------|-------------------------|-------|------------------------|-----|------------------------------------|-----|-----------------------------------|-----|--------|
|                |                 | m <sup>3</sup>        | gal    | m <sup>3</sup> /h       | l/min | °C                     | °F  | bar                                | psi | bar                               | psi |        |
| FC100-5114-2C  | Cupro-nickel    | 170                   | 37,000 | 21.0                    | 350   | 110                    | 230 | 6                                  | 87  | 6                                 | 87  | 8.8    |
| FC100-5114-2S* | Stainless Steel | 180                   | 39,500 | 22.8                    | 380   | 110                    | 230 | 6                                  | 87  | 6                                 | 87  | 8.8    |
| FC100-5114-2T  | Titanium        | 180                   | 39,500 | 22.8                    | 380   | 110                    | 230 | 6                                  | 87  | 6                                 | 87  | 7.8    |

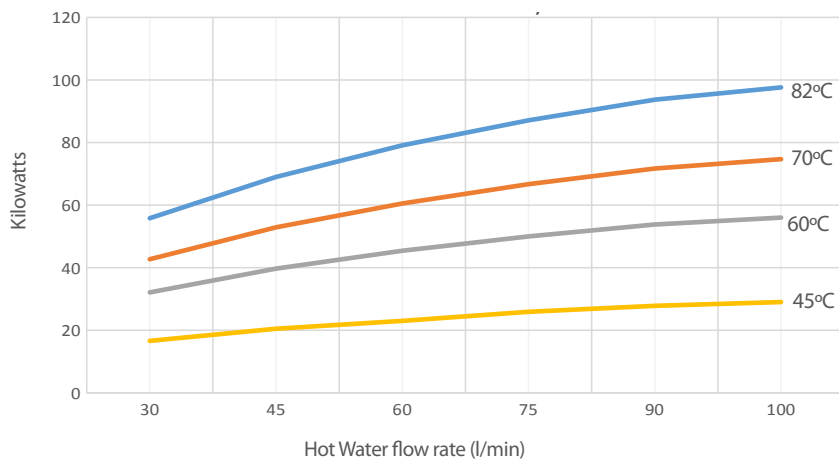
\*Not suitable for use on pools fitted with salt water chlorinators or salt water pools.

## 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/>

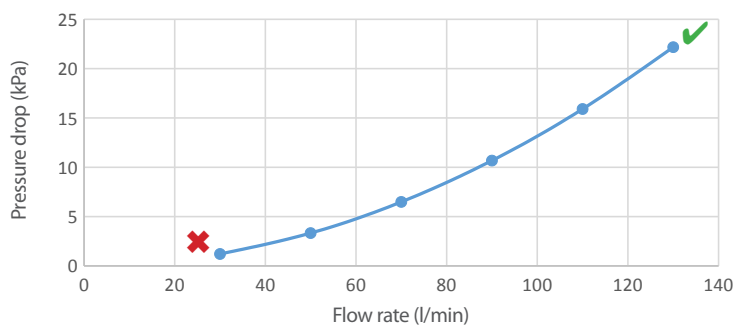
## Heat Transfer



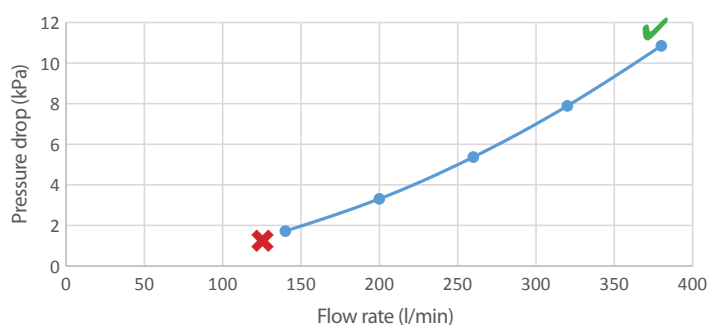
kW Heat Transfer - FC100-5114-2  
Pool water flow 350 l/min at 28°C

| Hot Water | Temperature & Heat Transfer |      |      |      |
|-----------|-----------------------------|------|------|------|
| Flow rate | 82°C                        | 70°C | 60°C | 45°C |
| l/min     | kW                          | kW   | kW   | kW   |
| 30        | 56                          | 43   | 32   | 17   |
| 45        | 69                          | 53   | 40   | 21   |
| 60        | 79                          | 61   | 45   | 23   |
| 75        | 87                          | 67   | 50   | 26   |
| 90        | 94                          | 72   | 54   | 28   |
| 100       | 98                          | 75   | 56   | 29   |

## Pressure Drop Hot Water (Shell Side)



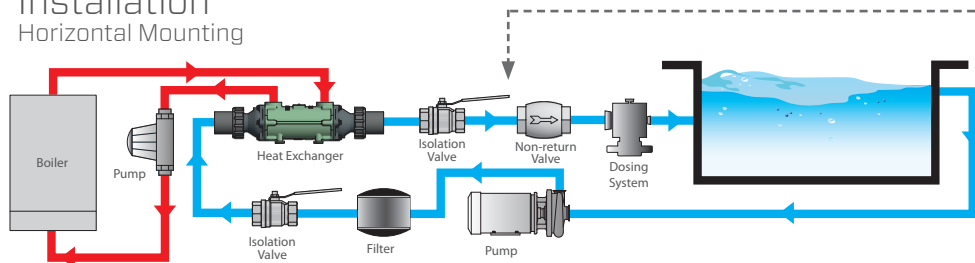
## Pressure Drop Pool Water (Tube Side)



✓ Optimum heat transfer performance ✗ Reduced heat transfer performance

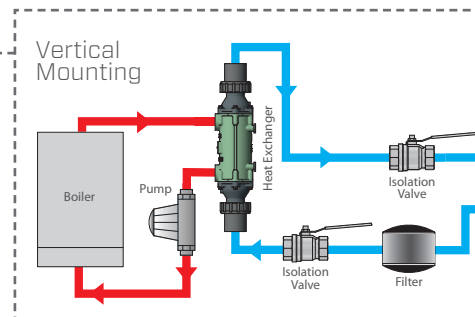
## Installation

### 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



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