

## PRODUCT PROFILE

# JK190-5110-3

## Swimming Pool Heat Exchanger

### Introduction

The Bowman JK190-5110-3 is a highly efficient shell and tube heat exchanger, which is designed for heating large sized swimming pools up to 43,500 ft<sup>3</sup> via a boiler heat source.

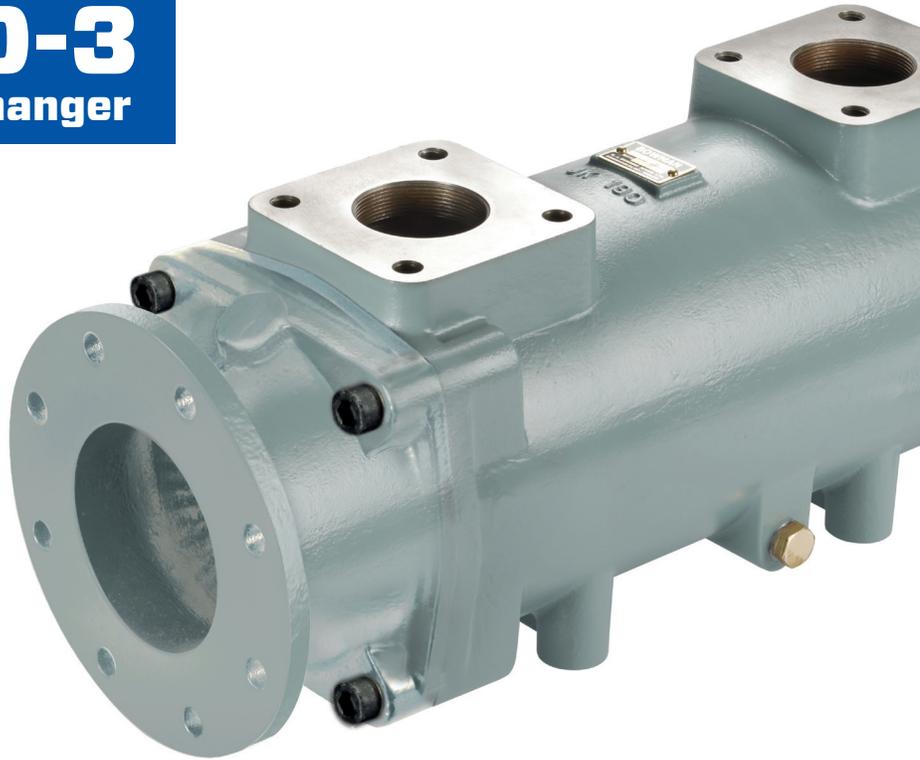
The cast gunmetal end covers are highly corrosion resistant for durability and the unit is available with either a titanium or cupro-nickel tube core.

### Typical Heat Transfer

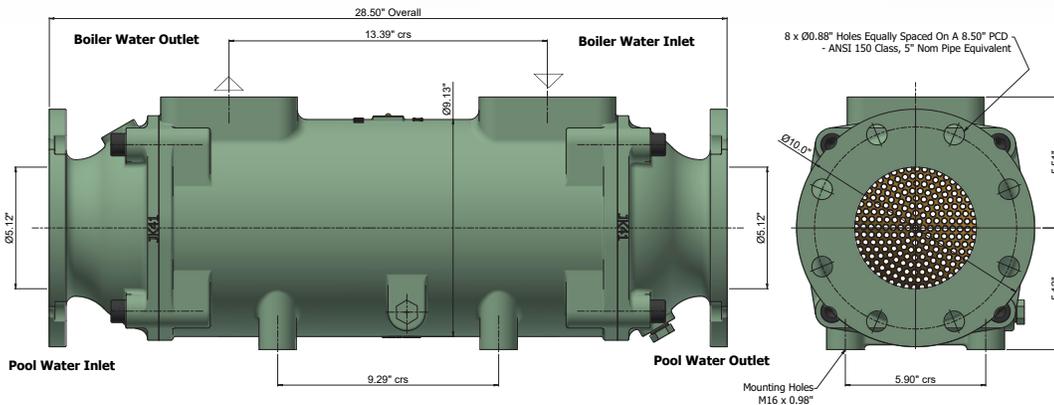
Boiler heating - up to 3,046,700 Btu/h

### Product Benefits

- Performance** – heats pools fast, reducing energy costs
- Proven** – designed for commercial leisure or sports pools
- Durability** – salt water and mineral rich fresh water compatible
- Simple to maintain** – easy disassembly for cleaning
- Titanium models** – full 10 year warranty on titanium models



### Specification



All dimensions in inches (except threaded connectors)

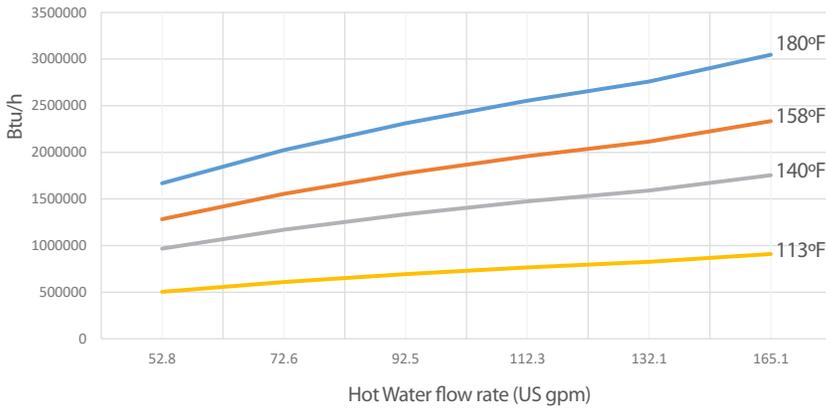
Type	Tube Material	Typical Pool Capacity		Maximum Pool Water Flow	Maximum Hot Water Temp	Max. Operating Pressure Pool Water	Max. Operating Pressure Hot Water	Weight
		ft <sup>3</sup>	US gal	USGPM	°F	psi	psi	
JK190-5110-3	Cupro-nickel	35,300	264,000	500.0	230	87	87	187
JK190-5110-3T	Titanium	43,500	325,000	660.0	230	87	87	167

# 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/>

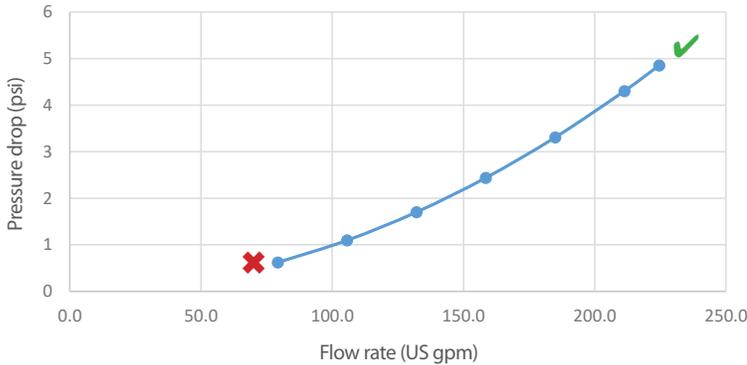
## Heat Transfer



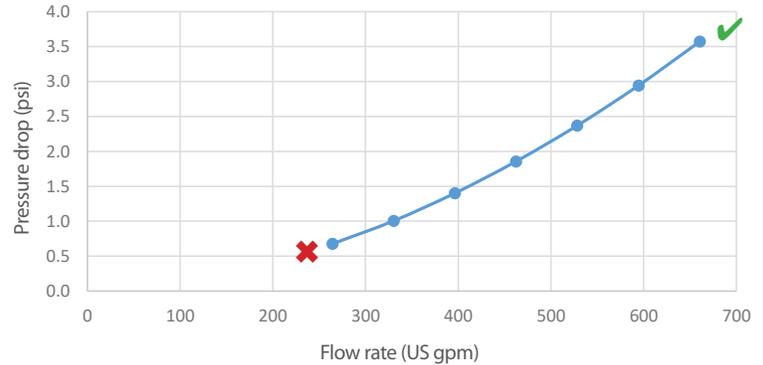
Btu/h Heat Transfer - JK190-5110-3  
Pool water flow 501.9 US gpm at 82°F

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
52.8	1667900	1283000	967000	504000
72.6	2023100	1554600	1170400	608700
92.5	2311700	1774700	1335200	693700
112.3	2553000	1958900	1473000	764700
132.1	2759400	2116200	1590700	825100
165.1	3046700	2334900	1754500	909300

## Pressure Drop Hot Water (Shell Side)



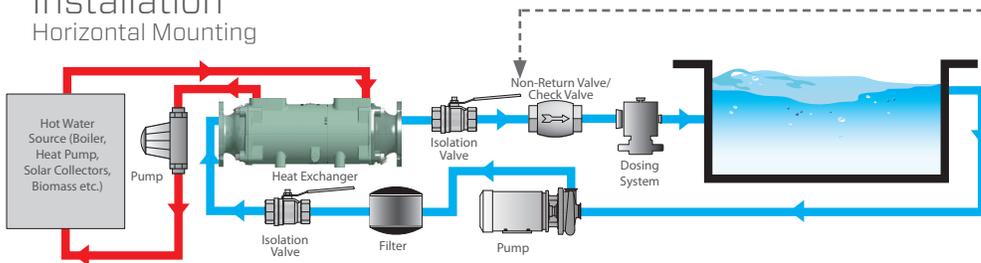
## Pressure Drop Pool Water (Tube Side)



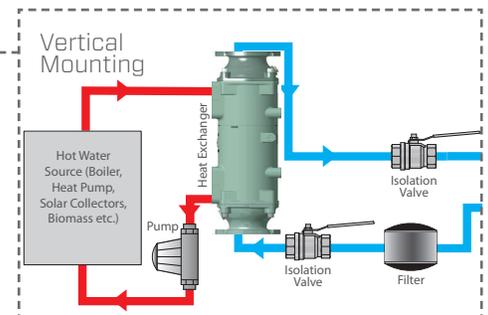
✓ Optimum heat transfer performance    ✗ Reduced heat transfer performance

## Installation

### Horizontal Mounting



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



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