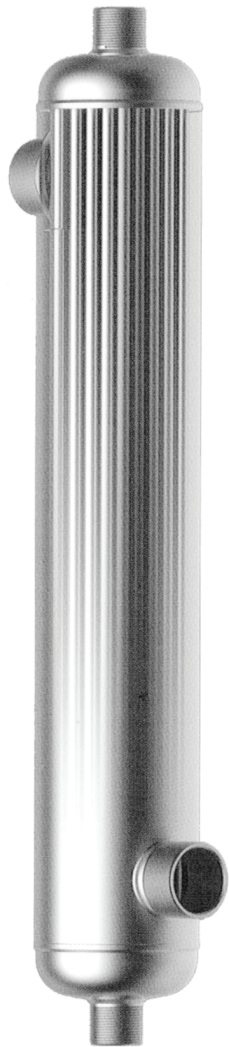


# MARINE ALLOY HEAT EXCHANGERS



## M-Line Marine Alloy Heat Exchangers Salt Water Pool Heaters

M-Line heat exchangers are a line of completely welded heat exchangers made entirely of a super austenitic marine alloy. Its compact structure is an integration of innovative material with detailed engineering for effective use with high fluid velocities and low pressure drops, designed specifically for salt water pool applications.

The versatility of this robust straight tube design covers a comprehensive range of capacities, suitable for all residential and commercial pool applications

### Applications

- Salt water pools, spas, hot tubs
- Transmission and engine coolers
- Marine Oil coolers
- Boiler sample coolers
- Waste water heat recovery

### Standard Materials:

- Nicrom 24
- Super austenitic (low carbon, high purity, nitrogen bearing) alloy

### Maximum Working Pressure:

Up to 150 PSI (1.03 MPa)

### Maximum Working Temperature:

Up to 406 °F (208°C)

Model	Nominal Capacity		Water Flow			
			Hot Water		Cold Water	
	kW	Btu/Hr	USGPM	PSIG	USPGM	PSIG
M 180	53	180,000	40	3.5	60	3.8
M 300	88	300,000	40	3.7	60	4.8
M 500	146	500,000	40	3.9	60	3.6

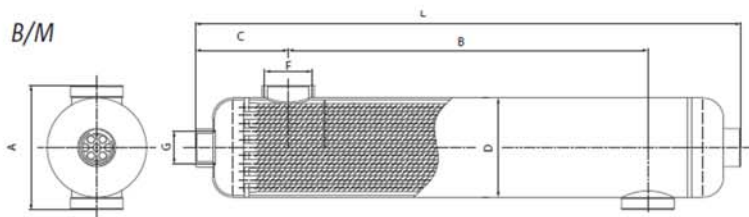
Nominal values are based on 60°C(40°F) temp. diff. between incoming heating and heated water

Model	Heat Transfer Area		Connection Shell	Connection Tubes
	m2	ft2	in	in
M 180	0.44	4.70	1-1/2"	1"
M 300	0.84	9.00	1-1/2"	1"
M 500	1.56	16.80	1-1/2"	1"

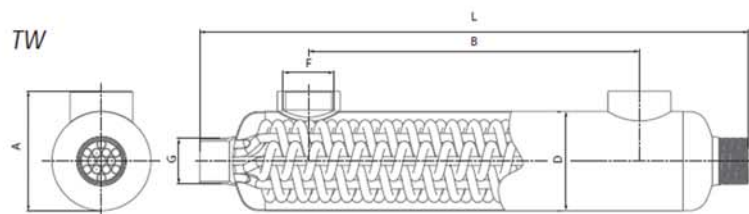


## Pool Heaters Technical Product Specifications

Heat Exchanger Model	Geometrical dimensions												Heat Transfer Area	
	L		A		B		C		Ø D		F	G	m <sup>2</sup>	sq ft
	mm	in	mm	in	mm	in	mm	in	mm	in				
<b>M 180</b>	402,1	15.8	160	6.3	193	7.6	104,6	4.1	103,6	4.1	1½"	1"	0,44	4.70
<b>M 300</b>	651,1	25.6	160	6.3	442	17.4	104,6	4.1	103,6	4.1	1½"	1"	0,84	9.00
<b>M 500</b>	1 104,1	43.5	160	6.3	859	33.8	104,6	4.1	103,6	4.1	1½"	1"	1,56	16.80
<b>TW 100</b>	332,6	13.1	108,9	4.3	134,6	5.3	-	-	90,4	3.6	1½"	1¼"	0,21	2.24
<b>TW 200</b>	530,6	20.9	108,9	4.3	332,6	13.1	-	-	90,4	3.6	1½"	1¼"	0,38	4.15
<b>TW 300</b>	758,6	29.9	108,9	4.3	560,6	22.1	-	-	90,4	3.6	1½"	1¼"	0,58	6.26
<b>TW 400</b>	910,6	35.9	108,9	4.3	712,6	28.1	-	-	90,4	3.6	1½"	1¼"	0,72	7.71



*Tube side hot/shell side cold*



*Tube side hot/shell side cold*

### Standard materials

**M LINE** Nicrom-24

**TW LINE** grade I titanium

### Maximum allowable working pressure

**M LINE** - shell/tube side 10 bar / 150 PSIG

**TW LINE** - shell/tube side 10 bar / 150 PSIG

### Maximum allowable working temperature

**M LINE** - shell/tube side 208°C / 406°F

**TW LINE** - shell/tube side 120°C / 248°F

## Nominal Performance

Heat Exchanger Model	Nominal Capacity		Hot Water Side				Cold Water Side			
			flow		pressure drop		flow		pressure drop	
			kW	BTU/h	l/min	USGPM	kPa	PSIG	l/min	USGPM
<b>M 180</b>	53	180,000	150	40	24,0	3.5	227	60	26,2	3.8
<b>M 300</b>	88	300,000	150	40	25,5	3.7	227	60	33,1	4.8
<b>M 500</b>	146	500,000	150	40	27,0	3.9	227	60	24,8	3.6
<b>TW 100</b>	29	100,000	75	20	22,3	3.2	227	60	37,2	5.4
<b>TW 200</b>	57	200,000	75	20	32,3	4.7	227	60	40,5	5.9
<b>TW 300</b>	87	300,000	75	20	44,3	6.4	227	60	44,1	6.4
<b>TW 400</b>	113	400,000	75	20	52,7	7.6	227	60	46,2	6.7

Nominal Capacity Values are based on heating water 180°F (82.2°C) and return pool water 80°F (26.7°C)