

# marine heat exchangers & oil coolers

in association with

**BOWMAN**<sup>®</sup>  
100 YEARS OF HEAT TRANSFER TECHNOLOGY



for charge air, jacket water & oil cooling

**mdt**

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marine heat exchangers & oil coolers

# Marine cooling

## Engines & Transmission, Electric & Hybrid

Bowman has been manufacturing marine heat exchangers and oil coolers for over 80 years. During that time, the company has built up a wealth of knowledge and experience, providing efficient cooling solutions for a range of propulsion and hydraulic system applications. Many Bowman heat exchangers are still operating efficiently after 20 years plus service, proving the quality of the products and the commitment of the company to support them.

Bowman heat exchangers and oil coolers can be found in a wide range of marine applications, including propulsion and power transmission systems; hydraulically controlled stabilisers, thrusters, power packs, winches, deck equipment and power steering equipment; plus generating sets and compressors.

With the rapid development of marine electric and electric/hybrid propulsion systems, Bowman can also provide heat exchangers for cooling battery packs, converters, electric motors, plus generators and hybrid control units.



### Efficiency & durability

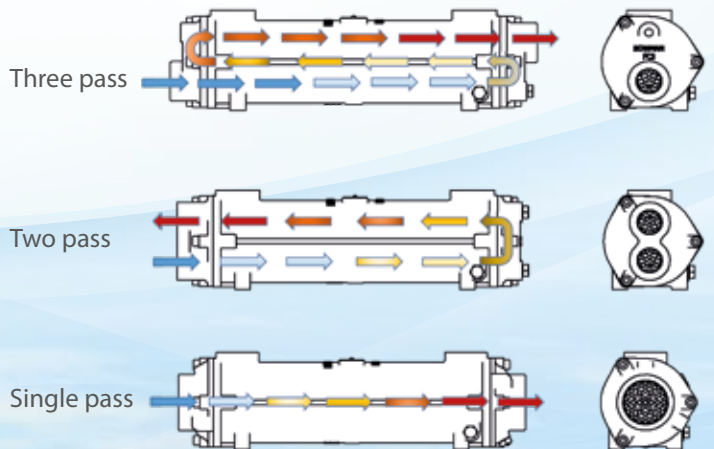
Bowman heat exchangers are renowned for their quality, performance and durability, in the harshest conditions.

### Fully floating tube stack

Precision engineered, to minimise thermal stress and designed to provide efficient heat transfer with low pressure drop.

### Single, 2 & 3 pass versions

Whilst 3 pass is the standard arrangement, with many units available ex-stock, most units are also available in single and 2 pass versions\*



\*These units are available at extra cost and slightly longer lead times. Please contact our sales team for details.



# solutions for

## Propulsion, plus Hydraulic Systems



### Compact design

With a wide choice of sizes and material specifications, the compact design of Bowman heat exchangers enables them to be easily integrated in to propulsion or hydraulic systems.

### Premium quality

Bowman heat exchangers and oil coolers are UK manufactured using quality materials and proven construction methods.

### Simple to maintain

The end covers and tube stack are removable making cleaning and maintenance easy.

### Wide range

A wide choice of sizes and materials, including titanium tube stacks, is available to suit any marine application.

### Easy product selection

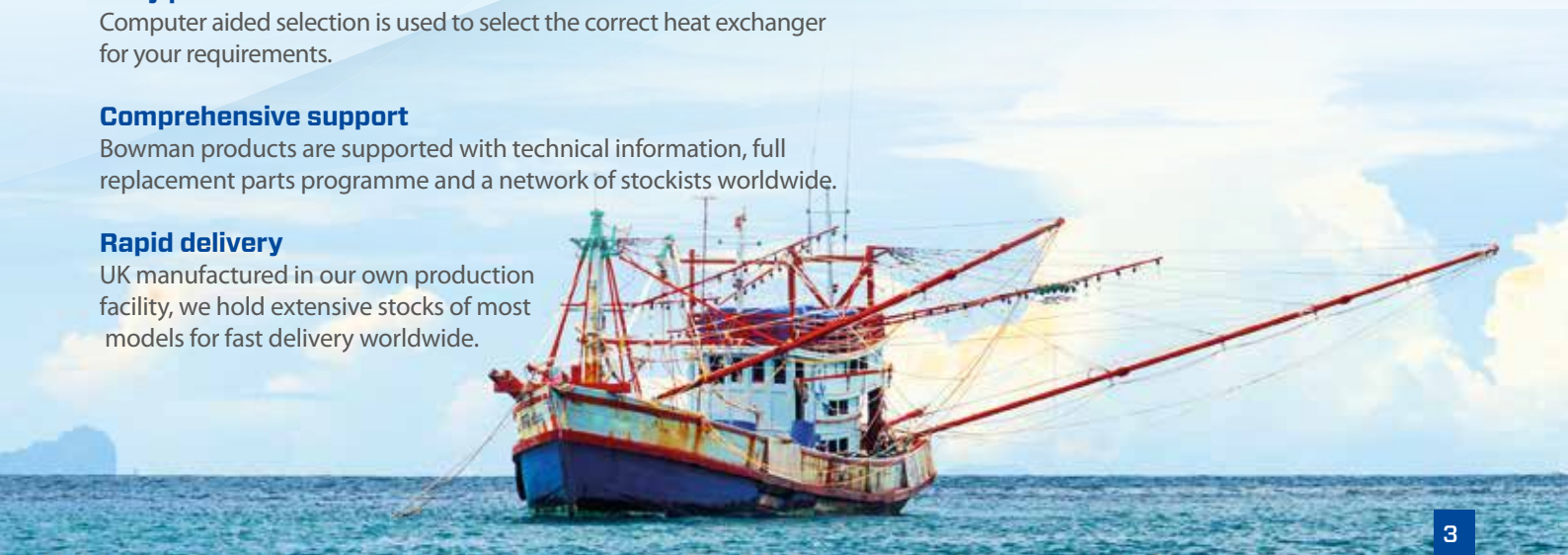
Computer aided selection is used to select the correct heat exchanger for your requirements.

### Comprehensive support

Bowman products are supported with technical information, full replacement parts programme and a network of stockists worldwide.

### Rapid delivery

UK manufactured in our own production facility, we hold extensive stocks of most models for fast delivery worldwide.



# Engine Jacket Water Cooling Solutions

## Header Tank Heat Exchangers

Bowman marine grade header tank heat exchangers are designed for use with aggressive cooling media such as seawater. The specification includes cupro-nickel or titanium tube stacks and a choice of corrosion resistant end covers for long life reliability.

### Product Benefits

- Compact design - Easily integrated with the engine
- Easy product selection - Provided quickly by our technical experts
- Extensive range - Designed for engines up to 1800kW
- Rapid delivery - Extensive stockholding for fast response



### De-aeration system

The unique 'quiet zone' design has a de-aeration feature which eliminates the problem of entrained air.



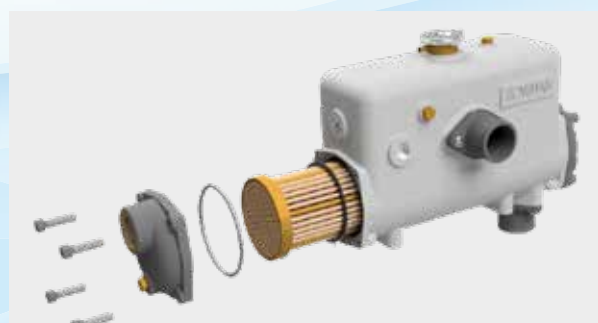
### Comprehensive range

Bowman provide one of the widest range of engine jacket water heat exchangers available.



### Jacket water connection

Hose connectors are provided on the most popular models for easy connection to the engine's jacket water inlet and outlet. On other models, counter flanges are provided.

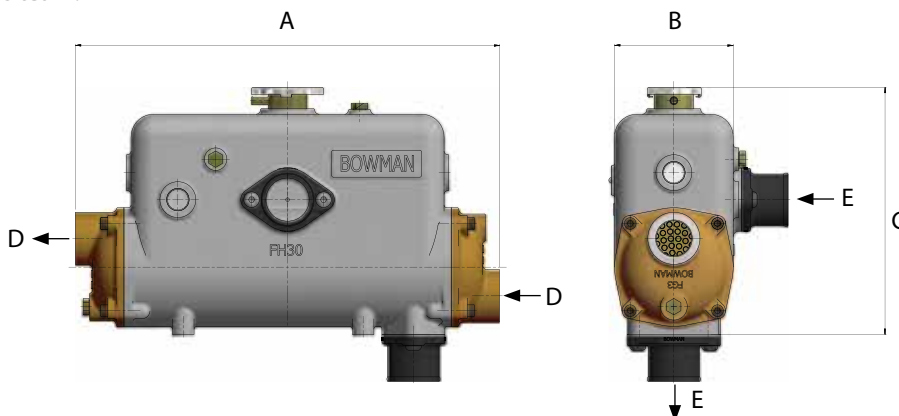


### Easy to maintain

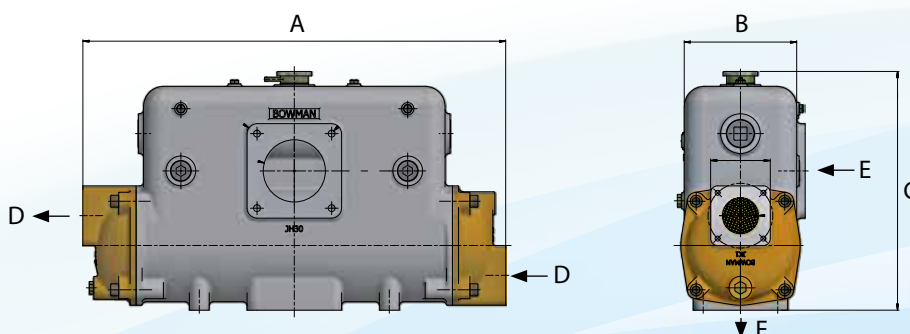
By removing the end covers, the tube stack can be easily withdrawn from the body housing for routine cleaning and maintenance.

## Typical Performance & Dimensions

The drawings and dimensions below give general information on the product range. The drawings shown are of FH and JH products but can be used as a reference for alternative sizes in the table of dimensions. For more detailed information please contact us our sales team.



Type	Typical Engine	Max Sea Water Flow	Dim A	Dim B	Dim C	Dim D	Dim E	Weight
	<b>kW</b>	<b>l/m</b>	<b>mm</b>	<b>mm</b>	<b>mm</b>	<b>BSP</b>	<b>mm</b>	<b>kg</b>
EH100	40	54	260	150	240	3/4"	35	5
EH200	52	54	346	150	240	3/4"	35	6
FH100	82	95	358	182	260	1"	46	8
FH200	115	95	454	182	260	1"	46	11
FH300	150	125	472	208	327	1 1/4"	57	14
FH400	200	125	600	208	327	1 1/4"	57	17
GH200	240	225	502	257	405	1 1/2"	70	24
GH300	320	225	630	257	405	1 1/2"	70	29
GH400	400	225	776	257	405	1 1/2"	70	34



Type	Typical Engine	Max Sea Water Flow	Dim A	Dim B	Dim C	Dim D	Dim E	Weight
	<b>kW</b>	<b>l/m</b>	<b>mm</b>	<b>mm</b>	<b>mm</b>	<b>BSP</b>	<b>mm</b>	<b>kg</b>
KH200	450	325	674	221	410	2"	100	51
KH300	600	325	820	221	410	2"	100	59
KH400	750	325	998	221	410	2"	100	67
JH200	620	460	704	257	480	2 1/2"	125	82
JH300	820	460	850	257	480	2 1/2"	125	93
JH400	1000	460	1028	257	480	2 1/2"	125	106
PH200	1200	700	890	305	593	3"	150	136
PH300	1500	700	1078	305	593	3"	150	156
PH400	1800	700	1280	305	593	3"	150	190

## Easy Product Selection

Computer aided selection can be used to select the correct heat exchanger for your application. Please contact Bowman or your nearest stockist with the following information.

- Heat to be dissipated in kW
- Engine water flow rate in l/min
- Maximum engine coolant temperature in °C
- Sea water temperature in °C

For more information, see our separate Header Tank Heat Exchanger brochure.



# BOWMAN®

100 YEARS OF HEAT TRANSFER TECHNOLOGY

# Engine Jacket Water Cooling Solutions

## Tubular Heat Exchangers

For marine engine cooling applications where an integral expansion tank is not required, this range of tubular heat exchangers is available, which would be used with a remote header tank.

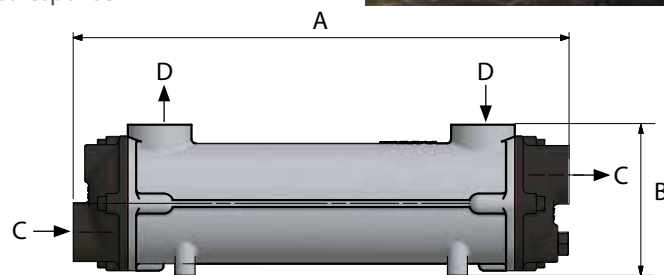
### Product Benefits

**Wide range** – Suitable for engines up to 2500kW

**Compact design** – Easy to install and integrate with the engine

**Premium quality** – UK manufactured using quality components

**Rapid delivery** – Large stocks held for fast response



Type	Typical Engine	Max Seawater Flow	Dim A	Dim B	Dim C	Dim D	Weight
	kW	l/m	mm	mm	BSP		kg
EC100-4276-2	40	54	260	105	3/4"	1" BSP	3.2
EC120-4276-3	52	54	346	105	3/4"	1" BSP	3.8
FC100-3891-2	82	95	358	130	1"	1 1/4" BSP	6.3
FC120-3891-3	115	95	456	130	1"	1 1/4" BSP	7.3
FG100-3910-2	150	125	472	150	1 1/4"	1 1/2" BSP	10.0
FG120-3910-3	200	125	600	150	1 1/4"	1 1/2" BSP	12.0
GL140-3167-2	240	225	502	190	1 1/2"	SAE DN51*	18.0
GL180-3167-3	320	225	630	190	1 1/2"	SAE DN51*	21.0
GL240-3167-4	400	225	776	190	1 1/2"	SAE DN51*	25.0
GK190-3168-3	450	325	674	230	2"	SAE DN64*	34.0
GK250-3168-4	600	325	820	230	2"	SAE DN64*	39.0
GK320-3168-5	750	325	998	230	2"	SAE DN64*	46.0
JK190-3932-3	620	460	704	270	2 1/2"	SAE DN76*	58.0
JK250-3932-4	820	460	850	270	2 1/2"	SAE DN76*	66.0
JK320-3932-5	1000	460	1028	270	2 1/2"	SAE DN76*	78.0
PK250-3170-4	1200	700	900	275	3"	PN6 DN100**	94.0
PK320-3170-5	1500	700	1078	275	3"	PN6 DN100**	110.0
PK400-3170-6	1800	700	1280	275	3"	PN6 DN100**	125.0
RK400-5883-6	2500	1000	1392	405	PN16 DN100	SAE DN125*	186.0

\*ISO6162-1 \*\*BS EN 1092-1

### Easy Product Selection

Computer aided selection is available to select the correct heat exchanger for your application. Please contact Bowman, or your nearest stockist with the information opposite.

- Heat to be dissipated in kW
- Engine coolant flow in l/min
- Maximum engine coolant temperature in °C
- Sea water temperature in °C

# Bespoke Engine Cooling Solutions

## Engine Specific Cooling Solutions

Whilst most marine cooling applications can be satisfied from our standard range, we do have a number of heat exchangers designed for specific engines, including Cummins, Ford, Mitsubishi and Perkins.

The range includes heat exchangers and charge air coolers providing a replacement for a failed OEM part, or an easy way to convert an engine for marine use.

### Current Range

The information below gives a general guide to the current range of bespoke engine heat exchangers. If the part you require isn't listed below, please contact our sales team



### Cummins Engines

Model	Bowman Type	Application
4B/BT/BTA Series	CB120-4109-3	Heat Exchanger
4BT/BTA Series	FG100-4075-2	Charge Air Cooler
6B/BT Series	CB140-4216-4	Heat Exchanger
6BT Series	FG100-4075-2	Charge Air Cooler
6BTA Series	GL140-4076-2	Charge Air Cooler
6C/CT/CTA Series	CC120-4173	Heat Exchanger

### Ford Engines

Model	Bowman Type	Application
Type 2722/3/5	FH440-3404	Header Tank Heat Exchanger

### Mitsubishi Engines

Model	Bowman Type	Application
L series: L2	ML120-3992	Combined Heat Exchanger and Exhaust Manifold
L series: L3	ML130-3993	Combined Heat Exchanger and Exhaust Manifold
K series: K3B/D/E	MK130-3996	Combined Heat Exchanger and Exhaust Manifold
K series: K4C/D/E	MK140-3997	Combined Heat Exchanger and Exhaust Manifold
S series: S3/L2	MS130-4295	Combined Heat Exchanger and Exhaust Manifold
S series: S4/L2	MS140-4296	Combined Heat Exchanger and Exhaust Manifold

### Perkins Engines

Model	Bowman Type	Application
4-99/107/108	PE180-3483	Combined Heat Exchanger and Exhaust Manifold
4-236	PE390-3674	Combined Heat Exchanger and Exhaust Manifold
6-354	PE580-3676	Combined Heat Exchanger and Exhaust Manifold

# Engine, Gearbox Oil and Fuel Cooling Solutions

## Oil Coolers

Bowman offers a range of marine oil coolers for engines rated from 20kW to 8900kW.

### Product Benefits

- Compact design** - Easily installed and integrated with the engine
- Premium quality** - UK manufactured, using quality components
- Easy product selection** - Available quickly for our technical experts
- Rapid delivery** - Extensive stockholding for fast response



### Oil Coolers for 20 bar oil pressure



These single pass oil coolers have brass end covers with hose connections for easy installation in to the sea water pipework.



Available in three pass configuration with marine specification end covers and threaded connections, they are available in a wide range of sizes from EC to PK.

### Oil Coolers for 30 bar oil pressure



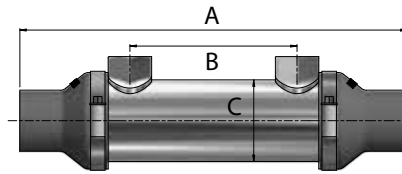
The DC is a compact, efficient single pass oil cooler suitable for engines up to 180kW, with durable cupro-nickel tubes and a choice of neoprene seawater connections. Models are also available for fuel cooling.



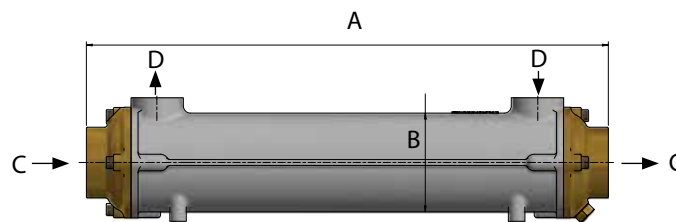
Available with single pass threaded connections, these oil coolers are suitable for higher sea water pressures.

## Typical Performance & Dimensions for cooling marine transmissions

The following information offers a general guide to the performance and dimensions of our single pass marine oil cooler range. For more detailed information on additional configurations and engine oil coolers, please refer to our DC Oil Cooler brochure or contact our sales team.



Type	Typical Engine Rating	Typical Oil Flow	Max Seawater Flow	Dimensions			Weight
	kW	l/m	l/m	A mm	B mm	C mm	kg
DC060	80	10	60	240	104	51	0.9
DC090	140	15	60	314	178	51	1.1
DC120	180	15	60	396	260	51	1.4



Type	Typical Engine Rating	Typical Oil Flow	Max Seawater Flow	Dimensions				Weight
				A mm	B mm	C	D	
EC080-4097-1	120	20	180	174	84	1 1/2" BSP	1/2" BSP	2.4
EC100-4097-2	180	30	180	260	84	1 1/2" BSP	3/4" BSP	3.2
EC120-4097-3	240	30	180	346	84	1 1/2" BSP	3/4" BSP	3.8
EC140-4097-4	300	30	180	444	84	1 1/2" BSP	3/4" BSP	4.8
EC160-4097-5	360	30	180	572	84	1 1/2" BSP	3/4" BSP	5.7
FC100-1806-2	380	40	260	358	108	2" BSP	1" BSP	6.3
FC120-1806-3	520	40	260	456	108	2" BSP	1" BSP	7.3
FC140-1806-4	640	40	260	584	108	2" BSP	1" BSP	9.4
FC160-1806-5	760	40	260	730	108	2" BSP	1" BSP	11
FG100-1807-2	660	50	375	470	128	2 1/2" BSP	1 1/4" BSP	11
FG120-1807-3	840	50	375	598	128	2 1/2" BSP	1 1/4" BSP	13
FG140-1807-4	960	50	375	744	128	2 1/2" BSP	1 1/4" BSP	15
FG160-1807-5	1100	50	375	922	128	2 1/2" BSP	1 1/4" BSP	18
GL140-3188-2	1000	80	640	532	162	3" BSP	1 1/2" BSP / SAE - DN51	20
GL180-3188-3	1240	80	640	660	162	3" BSP	1 1/2" BSP / SAE - DN51	23
GL240-3188-4	1440	80	640	806	162	3" BSP	1 1/2" BSP / SAE - DN51	27
GL320-3188-5	1640	80	640	984	162	3" BSP	1 1/2" BSP / SAE - DN51	32
GL400-3188-6	1880	80	640	1186	162	3" BSP	1 1/2" BSP / SAE - DN51	38
GK190-3189-3	1640	100	975	704	198	PN6 - DN100 / PN10/16 - DN100	2" BSP / SAE - DN64	39
GK250-3189-4	1940	100	975	850	198	PN6 - DN100 / PN10/16 - DN100	2" BSP / SAE - DN64	44
GK320-3189-5	2220	100	975	1028	198	PN6 - DN100 / PN10/16 - DN100	2" BSP / SAE - DN64	50
GK400-3189-6	2460	100	975	1230	198	PN6 - DN100 / PN10/16 - DN100	2" BSP / SAE - DN64	58
GK480-3189-7	2640	100	975	1434	198	PN6 - DN100 / PN10/16 - DN100	2" BSP / SAE - DN64	66

The above figures are for single pass. For three pass, contact our sales team.

### Easy Product Selection

Computer aided selection is available to select the correct oil cooler for your application. Please contact Bowman or your nearest stockist with the information opposite.

- Oil type or viscosity at a specific temperature
- Oil flow in l/min
- Required oil outlet temperature in °C
- Heat to be dissipated in kW
- Sea water temperature in °C

# Turbocharger Induction Air Cooling Solutions

## Charge Air Coolers

Bowman charge air coolers, also known as 'intercoolers', are an efficient solution for cooling engine combustion air. Designed for use with sea water, they are extremely durable, save space and are available in a range of sizes to suit marine engines up to 800kW.

### Product Benefits

**Compact design** - Saves space. Simplifies installation

**Thermal calculations** - Provided quickly by our technical experts

**Premium quality** - UK manufactured. Robust and reliable

**Comprehensive range** - Suitable for heat loads up to 100kW

**Rapid delivery** - Extensive stockholding for fast response



### High efficiency

Bowman charge air coolers provide high levels of heat transfer due to the innovative design of the tube stack.



### Easy maintenance

The fully floating tube stack can be easily removed from the body of the heat exchanger for simple maintenance and cleaning.



### Outstanding reliability

Designed and built to the highest standards, Bowman units provide outstanding levels of reliability and durability.

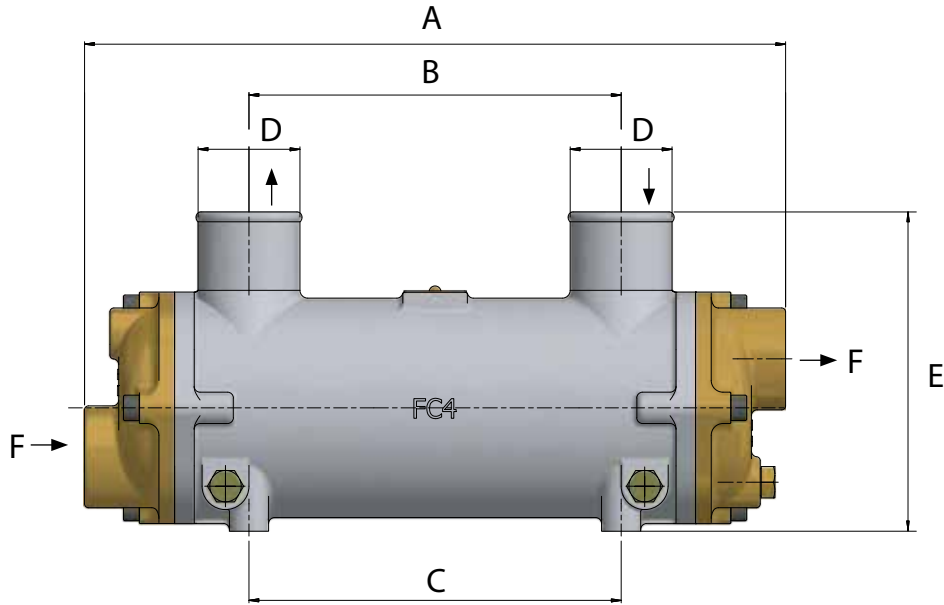


### Titanium tube stacks

Titanium is the ultimate 'fit and forget' material for aggressive water conditions. Bowman now offer titanium tube stacks on many of our charge air coolers.

## Typical Performance & Dimensions

The information below gives a general guide to the performance and dimensions of the standard range of charge air coolers. For more detailed information please download the Charge Air Cooler product brochure or contact our sales team.



Type	Engine Power	Charge Air Flow	Heat Rejection	Pressure Drop	Dimensions mm						Weight kg
	kW	kg/min	kW	kpa	A	B	C	D	E	F	
EC120-4073-3	50	2.5	6.5	2.2	346	212	94	52	145	¾" BSP	3.8
FC100-4074-2	90	4.3	9.2	2.9	358	190	112	52	163	1" BSP	6.7
FG100-4075-2	120	9.8	20.6	5.1	472	272	132	76	180	1 ¼" BSP	10
GL140-4076-2	175	15.4	34.2	8.3	502	272	170	76	260	1 ½" BSP	17
GK190-4877-3	280	20.3	48.1	7.2	674	370	206	89	310	2" BSP	36
JK190-4078-3	365	30.1	71.8	9.2	704	350	240	102	360	2 ½" BSP	53
PK250-4979-4	570	40.3	95	3.9	900	446	286	108	370	3" BSP	97

The above typical performance figures are based on an air inlet temperature of 180°C at 1.75 bar g and cooling water at 30°C. Max. air inlet temperature is 250°C. For higher temperatures please contact the technical sales team. Max. air inlet pressure is 5.5 bar g (EC120 – GK190) and 4 bar g (JK190 - PK250). Bowman charge air coolers must not be operated without adequate water flow and must be mounted so the water outlet is uppermost.

## Easy Product Selection

Computer aided selection can be used to select the correct heat exchanger for your application. Please contact Bowman or your nearest stockist with the following information.

- Charge air mass flow in kg/min
- Charge air pressure in bar g
- Charge air maximum allowable pressure drop in bar g
- Charge air inlet and desired outlet temperature in °C
- Cooling water temperature in °C and flow in l/min

For more information, see our separate Charge Air Cooler brochure



# Electric & Hybrid Marine Propulsion Cooling Solutions

Bowman now provide a range of high performance heat exchangers for cooling electric and hybrid power systems, enabling OE manufacturers, system integrators and boat builders to ensure the heat generated from the power unit is adequately cooled and kept within the desired operating temperature range.

## Product Benefits

**Proven products** – already used by some of the world's leading manufacturers

**Compact design** – easily installed where space is limited

**Easy product selection** – provided quickly from our technical experts

**Premium quality** – UK manufactured. Designed for marine conditions



## Electric marine propulsion systems

EC and FG heat exchanger ranges are already proved for cooling electric marine propulsion systems for applications including:

- Battery pack
- On board charger
- AC-DC and DC-DC converter
- Electric drive motor

The combination of excellent heat transfer, durability and ease of installation, has provided leading OE manufacturers with an efficient solution for their system cooling requirements.



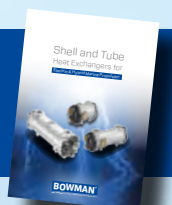
## Hybrid marine propulsion systems

Cooling demands for hybrid systems can vary from their pure electric counterparts, with additional cooling required for:

- Hybrid control unit
- Electric motor/generator
- Engine powered generators

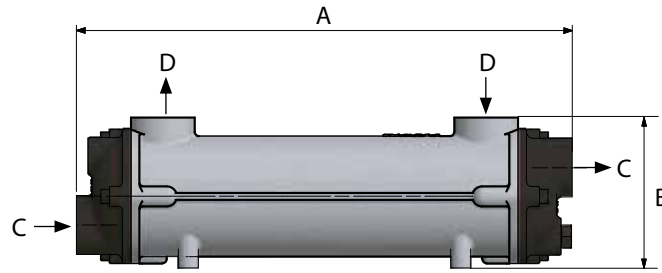
Additionally, for hybrid systems using both electric and engine power for propulsion, Bowman can also provide heat exchangers for the engines jacket water, turbo charged induction air, plus transmission and fuel systems. See pages 4-9 for details.

**For more information, see our separate Electric & Hybrid Marine Cooling brochure**



## Typical Performance & Dimensions

The following figures are based on 50/50 glycol coolant with an outlet temperature of 40°C and a sea water temperature of 30°C. for more information please contact our sales team.



Type	Heat Dissipated	Coolant Flow l/min	Sea Water Flow l/min	Dimensions				Weight kg
	kW			A mm	B mm	C BSP except*	D BSP except**	
EC80-3875-1	4	80	50	174	105	3/4"	1/2"	2.4
EC100-3875-2	8	92	50	260	105	3/4"	3/4"	3.2
EC120-3875-3	12	77	50	346	105	3/4"	3/4"	3.8
EC140-3875-4	16	68	50	444	105	3/4"	3/4"	4.8
EC160-3875-5	20	64	50	572	105	3/4"	3/4"	5.7
FC80-3876-1	12	140	50	272	130	1"	1"	5.5
FC100-3876-2	17	145	80	358	130	1"	1"	6.3
FC120-3876-3	23	116	80	456	130	1"	1"	7.3
FC140-3876-4	31	105	80	584	130	1"	1"	9.4
FC160-3876-5	40	96	80	730	130	1"	1"	11.0
FG80-3877-1	25	192	110	374	150	1 1/4"	1 1/4"	8.5
FG100-3877-2	33	190	110	472	150	1 1/4"	1 1/4"	10.0
FG120-3877-3	44	160	110	600	150	1 1/4"	1 1/4"	12.0
FG140-3877-4	56	160	110	746	150	1 1/4"	1 1/4"	14.5
FG160-3877-5	72	145	110	924	150	1 1/4"	1 1/4"	17.5
FG200-3877-7	123	130	110	1330	150	1 1/4"	1 1/4"	24.0
GL140-3878-2	51	300	200	502	190	1 1/2"	1 1/2"	18.0
GL180-3878-3	67	285	200	630	190	1 1/2"	1 1/2"	21.0
GL240-3878-4	86	280	200	776	190	1 1/2"	1 1/2"	25.0
GL320-3878-5	107	270	200	954	190	1 1/2"	1 1/2"	30.0
GL400-3878-6	139	240	200	1156	190	1 1/2"	1 1/2"	36.0
GL480-3878-7	167	235	200	1360	190	1 1/2"	1 1/2"	42.0
GK190-3879-3	102	460	300	674	230	2"	2"	34.0
GK250-3879-4	133	445	300	820	230	2"	2"	39.0
GK320-3879-5	171	430	300	998	230	2"	2"	46.0
GK400-3879-6	211	420	300	1200	230	2"	2"	54.0
GK480-3879-7	256	400	300	1404	230	2"	2"	62.0
GK600-3879-8	343	365	300	1708	230	2"	2"	74.0
JK190-3881-3	132	830	400	704	270	2 1/2"	2 1/2"	58.0
JK250-3881-4	169	740	400	850	270	2 1/2"	2 1/2"	66.0
JK320-3881-5	211	690	400	1028	270	2 1/2"	2 1/2"	78.0
JK400-3881-6	265	650	400	1230	270	2 1/2"	2 1/2"	92.0
JK480-3881-7	320	620	400	1434	270	2 1/2"	2 1/2"	105.0
JK600-3881-8	395	600	400	1738	270	2 1/2"	2 1/2"	126.0
PK190-3880-3	196	1600	650	754	275	3"	3"	81.0
PK250-3880-4	252	1240	650	900	275	3"	3"	94.0
PK320-3880-5	319	1060	650	1078	275	3"	3"	110.0
PK400-3880-6	399	950	650	1280	275	3"	3"	125.0
PK480-3880-7	491	890	650	1484	275	3"	3"	140.0
PK600-3880-8	682	750	650	1788	275	3"	3"	158.0
RK400-5882-6	570	1450	900	1392	405	PN16-DN 100*	SAE - DN102**	186.0
RK600-5882-8	900	1240	900	1900	405	PN16-DN 100*	SAE - DN102**	246.0

## Easy Product Selection

Computer aided selection is available to accurately select the correct heat exchanger for your application. Please contact Bowman, or your nearest stockist with the following information.

- Coolant type and concentration
- Heat to be dissipated kW
- Required coolant outlet temperature °C
- Coolant flow l/min
- Seawater temperature °C



# Hydraulic Equipment Cooling Solutions

## Hydraulic Oil Coolers

Bowman marine specification hydraulic oil coolers are designed to provide efficient cooling for a wide range of applications, including: air compressors, cranes and lifting equipment, deck machinery, power packs, power steering, thruster and stabiliser control systems, plus hydraulic winches.

### Product Benefits

**Compact design** - Saves space. Simplifies installation

**Thermal calculations** - Provided quickly by our technical experts

**Premium quality** - UK manufactured, using quality components

**Comprehensive range** - Suitable for heat loads from 4kW to 900kW

**Rapid delivery** - Extensive stockholding for fast response



### High temperature versions

Standard units are suitable for cooling oil up to 120°C, but for applications where higher temperatures are required, oil coolers are available for temperatures up to 200°C.



### Tube stack options

Whilst Cupro-nickel is the standard tube material on all units, titanium tube stacks are also available as an option, on all models, offering even greater durability and backed with a 10 year guarantee\*.



### SAE flanges

On Bowman GL size Hydraulic Oil Coolers and larger, SAE oil flange connections are provided, whilst the smaller EC, FC & FG models feature BSP connections.



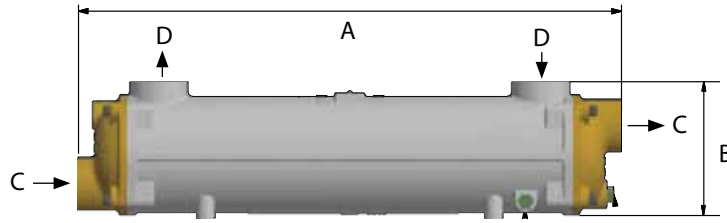
### Specification options

Double seal retaining flanges are available on GL140 to PK600 units, allowing the cooling circuit to be cleaned without draining the hydraulic system.

\* 10 year guarantee on all titanium material in contact with cooling water.

## Typical Performance & Dimensions

The following information offers a general guide to the performance and dimensions of our standard marine hydraulic oil cooler range. For more detailed information please contact our sales team.



Type	Heat Dissipated	Max Oil Flow	Max. Sea Water Flow	Dimensions				Weight
	kW	l/min	l/min	A mm	B mm	C BSP except*	D BSP except**	kg
EC80-3875-1	4	80	50	174	105	3/4"	1/2"	2.4
EC100-3875-2	9	92	50	260	105	3/4"	3/4"	3.2
EC120-3875-3	13	77	50	346	105	3/4"	3/4"	3.8
EC140-3875-4	17	68	50	444	105	3/4"	3/4"	4.8
EC160-3875-5	22	64	50	572	105	3/4"	3/4"	5.7
FC80-3876-1	13	140	80	272	130	1"	1"	5.5
FC100-3876-2	19	145	80	358	130	1"	1"	6.3
FC120-3876-3	26	116	80	456	130	1"	1"	7.3
FC140-3876-4	35	105	80	584	130	1"	1"	9.4
FC160-3876-5	45	96	80	730	130	1"	1"	11.0
FG80-3877-1	28	192	110	374	150	1 1/4"	1 1/4"	8.5
FG100-3877-2	37	190	110	472	150	1 1/4"	1 1/4"	10.0
FG120-3877-3	50	160	110	600	150	1 1/4"	1 1/4"	12.0
FG140-3877-4	62	160	110	746	150	1 1/4"	1 1/4"	14.5
FG160-3877-5	79	145	110	924	150	1 1/4"	1 1/4"	17.5
FG200-3877-7	123	130	110	1330	150	1 1/4"	1 1/4"	24.0
GL140-3878-2	56	300	200	502	190	1 1/2"	1 1/2"	18.0
GL180-3878-3	73	285	200	630	190	1 1/2"	1 1/2"	21.0
GL240-3878-4	93	280	200	776	190	1 1/2"	1 1/2"	25.0
GL320-3878-5	114	270	200	954	190	1 1/2"	1 1/2"	30.0
GL400-3878-6	146	240	200	1156	190	1 1/2"	1 1/2"	36.0
GL480-3878-7	172	235	200	1360	190	1 1/2"	1 1/2"	42.0
GK190-3879-3	112	460	300	674	230	2"	2"	34.0
GK250-3879-4	144	445	300	820	230	2"	2"	39.0
GK320-3879-5	181	430	300	998	230	2"	2"	46.0
GK400-3879-6	221	420	300	1200	230	2"	2"	54.0
GK480-3879-7	259	400	300	1404	230	2"	2"	62.0
GK600-3879-8	329	365	300	1708	230	2"	2"	74.0
JK190-3881-3	145	830	400	704	270	2 1/2"	2 1/2"	58.0
JK250-3881-4	186	740	400	850	270	2 1/2"	2 1/2"	66.0
JK320-3881-5	232	690	400	1028	270	2 1/2"	2 1/2"	78.0
JK400-3881-6	283	650	400	1230	270	2 1/2"	2 1/2"	92.0
JK480-3881-7	335	620	400	1434	270	2 1/2"	2 1/2"	105.0
JK600-3881-8	401	600	400	1738	270	2 1/2"	2 1/2"	126.0
PK190-3880-3	212	1600	650	754	275	3"	3"	81.0
PK250-3880-4	270	1240	650	900	275	3"	3"	94.0
PK320-3880-5	336	1060	650	1078	275	3"	3"	110.0
PK400-3880-6	414	950	650	1280	275	3"	3"	125.0
PK480-3880-7	497	890	650	1484	275	3"	3"	140.0
PK600-3880-8	660	750	650	1788	275	3"	3"	158.0
RK400-5882-6	570	1450	900	1392	405	PN16-DN 100*	SAE-DN102**	186.0
RK600-5882-8	900	1240	900	1900	405	PN16-DN 100*	SAE-DN102**	246.0

Typical examples of oil cooler performance with,

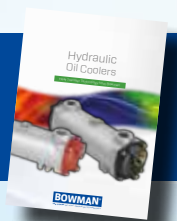
Oil type	ISO VG 37
Oil outlet temperature	50°C
Oil pressure drop	100 kPa
Water inlet temperature	25°C
Water pressure drop	50 kPa

## Easy Product Selection

Computer aided selection is available to select the correct heat exchanger for your application. Please contact Bowman or your nearest stockist with the following information.

- Oil type (or Viscosity at a specific temperature)
- Oil flow in l/min
- Required oil outlet temperature in °C
- Heat to be dissipated in kW
- Sea water temperature in °C

For more information, see our separate Hydraulic Oil Cooler brochure.



# A world of applications

Bowman heat exchangers and oil coolers can be found cooling marine propulsion systems and hydraulic control systems throughout the world. Renowned for their excellent heat transfer performance and durability, in the most difficult conditions, here are just a few examples of Bowman applications in action:



## Engine Cooling

In Portugal, Bowman header tank heat exchangers and charge air coolers have been used to convert two John Deere engines for marine operation. The installation on the catamaran 'Independencia' reduced temperatures in the engine room from over 50°C, to just 25°C.



## Transmission Cooling

Throughout the world, thousands of work boats and leisure craft rely on Bowman gearbox oil coolers for safe, reliable operation of the vessels power transmission. Bowman oil coolers deliver highly efficient cooling for the lubrication and transmission systems, ensuring the oil is kept within its optimum temperature range.



## Roll Reduction Systems

This manufacturer of advanced marine stabiliser and vessel roll reduction systems, uses Bowman oil coolers in their hydraulic power packs, to ensure the fluid power required to articulate the immense forces on the stabiliser fins is always kept at the correct operating temperature.



## Electric & Hybrid Cooling

This 'leading edge' manufacturer, who specifies Bowman heat exchangers for cooling its larger (100kW plus) propulsion products, is just one of a number of companies at the forefront of electric and hybrid marine development, that rely on Bowman cooling solutions for their propulsion systems.

# BOWMAN®

group  
**mdt**



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