## **Coolant Heating System**







HOTSTART's CLM heating system is a coolant preheater, developed to heat marine engines as well as diesel and gas engines for stationary land power, and mining equipment.



### CLEAN, FULL POWER STARTS

Marine heating systems allow large-displacement propulsion engines to start clean and deliver fullpower right away without a warm-up delay or idling. Engine heating in humid marine environments prevents condensation from forming in the cylinders during cool down periods - eliminating starting issues and reducing maintenance.

### COMPACT PACKAGED DESIGN

Designed with usability, reliability and safety in mind, the CLM's compact configuration features a remote automatic function, customer interface connections, pressure relief valve and two PT-100 sensors for accurate temperature monitoring and control.

### **BENEFITS & FEATURES**

#### **DESIGN FLEXIBILITY**

The CLM heater is available in a range of voltages up to 690 V, custom interfaces as needed and component configuration for 50 and 60 Hz allowing for easy integration into existing ship power.

#### SUPPORT & SERVICE

HOTSTART's offices in North America, Europe and Asia – combined with our partner and dealer network around the globe, decrease delivery times and provide localized service and support.

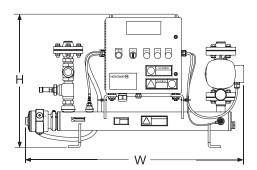
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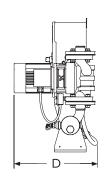
# **CLM**











Height (H)	Width (W)	Depth (D)	Weight
26"	42"	16"	171 lbs
660 mm	1067 mm	406 mm	77.6 kg

System		
Phase	three-phase (3 Ø)	
Voltage (50 Hz)	400 V (380-415 V) 690 V	
Voltage (60 Hz)	380 V   440 V   480V   600V   690 V	
Control Box Ingress	NEMA 4 / IP66	
Motor Ingress	IP55	
Min./Max. Ambient Temp.	-4°F/104°F (-20°C/40°C)	
Certification	CE conformance Marine Society certification available	

Coolant		
Fluid Type	Coolant mix (50% water/50% glycol)	
Heat Power	27 kW   30 kW   33 kW   36 kW	
Temp. Control	32-212°F (0-100°C), adjustable	
Control Set Point	122°F (50°C), factory set	
Temp. High-limit	195°F (90°C)	
Pump Power	0.75 hp (0.55 kW)	
Flow (50 Hz)	39 gpm @ 25 ft $H_2O$ (8.9 $m^3/hr$ @ 7.6 $m$ $H_2O$ )	
Flow (60 Hz)	39 gpm @ 33 ft $\rm H_2O$ (8.9 $\rm m^3/hr$ @ 10 $\rm m$ $\rm H_2O$ )	
Inlet/Outlet	1" NPT	
Pressure Relief	100 psi (690 kPa)	
Max. Pressure	100 psi (690 kPa)	

Options shown represent typical tested or certified configurations. Additional options or configurations may be available. For assistance with your heating system application, contact HOTSTART at  $\underline{europe@hotstart.com}.$ 

### MODEL INFORMATION

Proper heating system specification is dependent on multiple factors, including heated area dimensions, fluid volumes, ambient conditions, and other considerations. Additional heating system options not listed, including heat power, may be available. For assistance in selecting the heating system for your application, contact the HOTSTART Europe office at <a href="mailto:europe@hotstart.com">europe@hotstart.com</a>.

