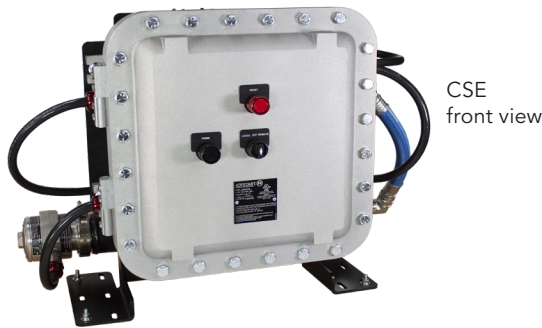


CSE



Hotstart's CSE is a compact coolant heating system for use in North American hazardous locations and is designed to maintain optimal engine starting temperatures for gas compression or offshore equipment applications.



ENGINE AVAILABILITY

To improve equipment startability and availability, the CSE maintains a consistent and uniform temperature by circulating heated coolant throughout the engine block – eliminating hot spots and preventing overheating at engine shutdown.



REDUCED MAINTENANCE & EMISSIONS

When compared to cold engine starts, maintaining optimal temperature during down time lowers NOx emissions at engine startup. Engine heating also eliminates the need for extended idling, reducing overall maintenance expenses.



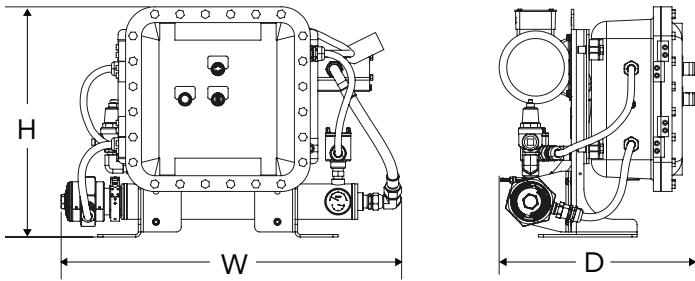
COMPLETE PACKAGED DESIGN

Designed as a user-friendly, pre-packaged system, the CSE includes all necessary components and features a compact configuration to reduce overall footprint. Its remote automatic function and customer interface connections enable the CSE to be easily integrated into any control system.



PREVENTS CONDENSATION

In warmer, humid climates, temperature variation can cause condensation to collect in the cylinders, resulting in starting issues and frequent maintenance. By maintaining temperatures above the dew point, the CSE eliminates the risk of condensation forming inside the heads during cool down periods.



Height (H)	Width (W)	Depth (D)	Weight
22.8"	34"	19.5"	380 lbs
578 mm	864 mm	496 mm	172 kg

System	
Phase	single-phase (1 Ø) three-phase (3 Ø)
Voltage	208V 240V 480V 575V
Control Box Ingress	NEMA 4, 7, 9
Min./Max. Ambient Temp	-4°F / 104°F (-20°C / 40°C)
Temperature Class	T3 Minimum
Altitude Rating (Motor)	3,300 ft (1,000 m)
Certification	UL-C/US Listed E471204 GPOB Class 1 DIV 2 Group D T3 Class 1 Zone 2 Group IIA T3

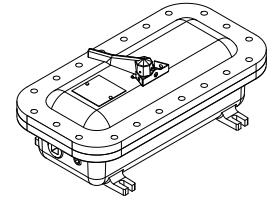
Coolant	
Fluid Type	Coolant mix (50% water / 50% glycol)
Heat Power	3kW 6kW 9kW 12kW
Temp. Control	32–176°F (0–80°C), adjustable
Control Set Point	122°F (50°C), factory set
Temp. High-limit	195°F (90°C)
Pump Power	1 hp (0.75 kW)
Flow	8.3–10 gpm (31.4–37.9 L/min)
Inlet/Outlet	0.75" NPT / 1" NPT
Pressure Relief	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 281.600.3700 or oil.gas@hotstart.com.

Optional Lockout/Tagout Breaker Box for Hazardous Locations

Breaker Box

Optional breaker box provides a lockout/tagout disconnection point and overcurrent protection for Class I, Div 1 and 2, Group D classified heating systems.



Height	Length	Width	Weight
7.78"	20.5"	10.5"	45 lbs
230 mm	152 mm	161 mm	20.4 kg

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. Certification level of system dependent on component configuration. For assistance in selecting the heating system for your application, contact the Hotstart Oil & Gas office at 281.600.3700 or oil.gas@hotstart.com.