# Single Fluid Heating System











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



Modular CLV model not shown.

Contact HOTSTART for more information.

# **BENEFITS & FEATURES**

#### IDLE REDUCTION - MADE SIMPLE

The CLV is a complete heating system, circulating heated coolant throughout the engine's water jacket, eliminating unnecessary idling, saving fuel and reducing wear and tear from cold starts.

#### **POWERFUL & RELIABLE**

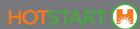
The CLV heating system is capable of heating engines up to 300 L displacement and features accurate PT-100 temperature sensors, allowing users to easily adjust the desired temperature.

## EASY INSTALLATION AND OPERATION

The CLV control box is equipped with a convenient side-mounted controls and a removable lid to maximize possible installation locations in locomotives where equipment space is at a premium.

#### PLATE-MOUNTED OR MODULAR

To further minimize overall footprint, modular CLV systems are available, allowing the pump and tank to be installed near the engine plumbing ports while the control box may placed in a location convenient for system operator access and monitoring.



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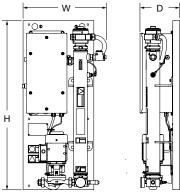
# **CLV**





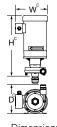






See part drawings for additional model dimensions.

|--|--|



Dimensions may vary. Not to scale. See part drawings for additional model dimensions

| Height ( <b>H</b> ) | Width (W) | Depth (D) | Weight  |
|---------------------|-----------|-----------|---------|
| 43"                 | 21.4"     | 10.1"     | 175 lbs |
| 1092 mm             | 544 mm    | 256 mm    | 79.5 kg |

| System                  |                                 |           |                   |       |  |  |
|-------------------------|---------------------------------|-----------|-------------------|-------|--|--|
| Phase                   | single-ph                       | ase (1 Ø) | three-phase (3 Ø) |       |  |  |
| Voltage (60 Hz)         | 208 V                           | 240 V     | 480 V             | 575 V |  |  |
| Voltage (50 Hz)         | 220 V                           | 380 V     | 400 V             | 415V  |  |  |
| Control Box Ingress     | NEMA 4/IP66                     |           |                   |       |  |  |
| Coolant Motor Ingress   | IP54<br>-4°F/104°F (-20°C/40°C) |           |                   |       |  |  |
| Min./Max. Ambient Temp. |                                 |           |                   |       |  |  |
| Vibration Specification | Meets IEC 60068-2-64            |           |                   |       |  |  |
| Shock Specification     | Meets IEC 60068-2-27            |           |                   |       |  |  |
| Certification           | CE-compliant models available   |           |                   |       |  |  |

| Coolant          |  |      |  |  |  |  |
|------------------|--|------|--|--|--|--|
| Fluid Type       | Water Coolant mix (50% water/50% glycol) |      |  |  |  |  |
| Heat Power       | 11 kW                                    | 1 kW |  |  |  |  |
| Temp. Control    | Adjustable, 32–212°F (0–100°C)           |      |  |  |  |  |
| Temp. High-limit | 194°F (90°C)<br>0.75 hp (0.55 kW)        |      |  |  |  |  |
| Pump Power       |  |      |  |  |  |  |
| Flow (60 Hz)     | 49 gpm @ 23 ft (11 m³/hr @ 7 m)          |      |  |  |  |  |
| Flow (50 Hz)     | 41 gpm @ 20 ft (9.3 m³/hr @ 6 m)         |      |  |  |  |  |
| Inlet/Outlet     | 1" NPT 1" NPT                            |      |  |  |  |  |

| Box<br>Height <b>(H<sup>B</sup>)</b> | Box<br>Width <b>(W<sup>B</sup>)</b> | Box<br>Depth ( <b>D</b> <sup>B</sup> ) |         |        | Tank<br>Width ( <b>W</b> <sup>T</sup> ) |  |
|--------------------------------------|-------------------------------------|--|---------|--------|---|--|
| 21.5"                                | 10.3"                               | 8″                                     | 41"     | 8.1"   | 6.7"                                    |  |
| 546 mm                               | 262 mm                              | 203 mm                                 | 1041 mm | 206 mm | 171 mm                                  |  |

| Coolant Assy.<br>Height (H <sup>c</sup> ) | Coolant Assy.<br>Width <b>(W</b> <sup>c</sup> ) | Coolant Assy.<br>Depth <b>(D</b> <sup>c</sup> ) |
|---|---|---|
| 18.9"                                     | 9.3"  | 8.8"  |
| 479 mm                                    | 237 mm  | 225 mm  |

# ORDERING INFORMATION

## **CLV Plate-Mounted**

| Engine                 | Engine | Power Supply |    | kW    | <b>^</b> | Model Number |              |
|------------------------|--------|--------------|----|-------|----------|--------------|--------------|
| Displaceme             | nt     | V            | Hz | Phase | KVV      | Amps         | Woder Number |
| 2000-3000 (<br>38-49 L | CID    | 240          | 60 | 1     | 11       | 56           | CLV11102-00  |
| 3000-1000<br>CID       | 0      | 240          | 60 | 3     | 18       | 47           | CLV31802-00  |
| 49-164L                |        | 480          | 60 | 3     | 24       | 24           | CLV32404-00  |
| 10000-1500<br>CID      | 00     | 480          | 60 | 3     | 30       | 40           | CLV33004-00  |
| 164-250L               |        | 480          | 60 | 3     | 36       | 45           | CLV33604-00  |

## CLV Modular (-M00)

|  | Engine                   | Power Supply |    |       | kW  | Amps | Model Number |
|--|--------------------------|--------------|----|-------|-----|------|--------------|
|  | Displacement             | <b>V</b>     | Hz | Phase | KVV | Amps | Woder Number |
|  | 2000-3000 CID<br>38-49 L | 240          | 60 | 1     | 11  | 56   | CLV11102-M00 |
|  | 3000-10000<br>CID        | 240          | 60 | 3     | 18  | 47   | CLV31802-M00 |
|  | 49-164L                  | 480          | 60 | 3     | 24  | 24   | CLV32404-M00 |
|  | 10000-15000<br>CID       | 480          | 60 | 3     | 30  | 40   | CLV33004-M00 |
|  | 164-250L                 | 480          | 60 | 3     | 36  | 45   | CLV33604-M00 |

Other wattages available. Consult the factory..

