MOBILE COOLERS

ELD Series
DC Motor Drive

Description
These coolers use a combination of high performance cooling elements and long life DC electrical powered fans to give extended trouble-free operation in mobile hydraulic applications. The compact design allows the coolers to fit most equipment and provides the highest cooling performance in heat dissipation while minimizing space required.

Features
- Most coolers are designed with the inlet/outlet ports facing toward the back to help reduce fittings
- All coolers feature a built in thermostat port
- 12 and 24 volt DC fans
- Up to 47 HP cooling capacity
- Rated flows up to 47 gpm
- Motor lifetimes up to 10,000 hours
- Available with internal pressure or thermal bypass

Applications
- Agricultural
- Material Handling
- Construction
- Utility
- Railways
- Forestry

Specifications

<table>
<thead>
<tr>
<th>Size</th>
<th>Preferred Part Number</th>
<th>Motor Capacity (kW) 12v / 24v</th>
<th>Current Draw (Amps) 12v / 24v</th>
<th>In-Rush Current (@20ms)</th>
<th>Fan Dia. (mm) / (in)</th>
<th>Noise Level dBa* (1 Meter)</th>
<th>Weight (lbs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELD 1</td>
<td>2592772</td>
<td>0.10 / 0.11</td>
<td>8 / 4.5</td>
<td>45/34</td>
<td>190 / 7.5</td>
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<td>ELD 1.5</td>
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<td>0.10 / 0.11</td>
<td>8 / 4.5</td>
<td>45/34</td>
<td>190 / 7.5</td>
<td>73</td>
<td>9</td>
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<td>ELD 2</td>
<td>2592521</td>
<td>0.20 / 0.21</td>
<td>15 / 8</td>
<td>80 / 78</td>
<td>255 / 10</td>
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<td>ELD 3</td>
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<td>21 / 11</td>
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<td>305 / 12</td>
<td>79</td>
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<td>ELD 4</td>
<td>2592525</td>
<td>0.32 / 0.31</td>
<td>25 / 12</td>
<td>120 / 76</td>
<td>385 / 15.2</td>
<td>76</td>
<td>35</td>
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<tr>
<td>ELD 4.5</td>
<td>2592774</td>
<td>0.32 / 0.31</td>
<td>25 / 12</td>
<td>120 / 76</td>
<td>385 / 15.2</td>
<td>76</td>
<td>49</td>
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<td>ELD 5</td>
<td>2592776</td>
<td>0.54 / 0.56</td>
<td>42 / 22</td>
<td>160 / 140</td>
<td>305 / 12</td>
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<td>67</td>
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<tr>
<td>ELD 6</td>
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<td>0.64 / 0.62</td>
<td>50 / 24</td>
<td>240 / 152</td>
<td>385 / 15.2</td>
<td>77</td>
<td>81</td>
</tr>
</tbody>
</table>

*The noise levels are only a guide as acoustic properties vary and depend on the characteristics of the room, connections, viscosity, and resonance.

Hydraulic Symbol

Sizes 1 - 4.5

Sizes 5 - 6

General

| Materials                  | Housing: welded steel
|                            | Heat Exchanger: aluminum, brazed bar-and-plate
|                            | Fan: plastic
| Mounting Orientation       | Any orientation
| Maximum Pressure           | 230 psi (16 bar)
| Fluids                     | Mineral oil to DIN 51524 Part 1 and 2
|                            | (Contact factory for other fluid usages)
| Ambient Temperature        | 50º – 104ºF (10º – 40ºC)
| Max. Oil Temperature       | 266ºF (130ºC)
| Standard Airflow Direction | Air pulled across heat exchanger
| Filtration                 | ISO/DIS 4406 Code 19/16 - Filtration Grade B25>75
| Environmental Protection Class | IP68
| Standard Fan Connector     | AMP Code 180908

* The noise levels are only a guide as acoustic properties vary and depend on the characteristics of the room, connections, viscosity, and resonance.
### Model Code

**Model Code**

**Model**

ELD = Air Cooled Oil Cooler with DC-Powered Fan *(Brushless option available, contact factory)*

<table>
<thead>
<tr>
<th>Size</th>
<th>ELD 1.5H</th>
<th>3.5</th>
<th>12</th>
<th>S</th>
<th>X</th>
<th>X</th>
<th>X</th>
</tr>
</thead>
</table>

**Modification Number** *(latest version always supplied)*

**Fan Motor Voltage**

| 12   | 12 volt DC |
| 24   | 24 volt DC |

**Air Flow Direction**

| S    | Suction *(through heat exchanger, exhausting through fan)* |
| B    | Blowing *(through fan, exhausting through heat exchanger)* |

**Options** *(omit) = None*  
- IBT = Internal Thermostatic Bypass Valve  
- IBP = Internal Pressure Bypass Valve

**Opening Temperature** *(IBT Only)*

| 45   | 113°F *(45°C) (closes at 131°F)* |
| 50   | 130°F *(60°C) (closes at 150°F)* |
| 60   | 140°F *(60°C) (closes at 158°F)* |

**Opening Pressure Drop** *(IBT & IBP Only)*

| 2    | 2 bar *(29 psi)* |
| 3    | 3 bar *(45 psi)* |
| 4    | 4 bar *(58 psi)* |

- TS-120 = Inline Thermostat, Fixed 120°F  
- TS-140 = Inline Thermostat, Fixed 140°F  
- TS-160 = Inline Thermostat, Fixed 160°F  
- F = Foot Mount

*Model Codes containing RED are Options – Contact HYDAC Cooling Division for information and availability*

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### Heat Dissipation @ $\Delta T = 72^\circ F$

![Heat Dissipation Graph](image)

**Tolerance:** ±5%

Cooling capacity is dependent on the oil flow rate and the temperature difference $\Delta T$ between oil inlet and air temperature.

### Pressure Drop @ 30 cSt

![Pressure Drop Graph](image)

**Tolerance:** ±5%

Oil Flow (gpm) | Heat Dissipation (HP) | Pressure Drop (psi)
---|---|---
0 | 0 | 0
5 | 5 | 5
10 | 10 | 10
15 | 15 | 15
20 | 20 | 20
25 | 25 | 25
30 | 30 | 30
35 | 35 | 35
40 | 40 | 40
45 | 45 | 45
50 | 50 | 50

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MOBILE COOLERS

Dimensions
ELD Size 0

<table>
<thead>
<tr>
<th>Size</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
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<th>J</th>
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<th>V</th>
<th>W</th>
<th>U</th>
<th>X</th>
<th>Y</th>
<th>Z</th>
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<td>9.96</td>
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<td>SAE-8</td>
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Dimensions
ELD Size 1 & 1.5

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<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>H</th>
<th>J</th>
<th>K</th>
<th>L</th>
<th>V</th>
<th>W</th>
<th>U</th>
<th>X</th>
<th>Y</th>
<th>Z</th>
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<td>11.81</td>
<td>9.72</td>
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<td>1.97</td>
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<td>9.84</td>
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<td>1/2&quot; NPT ø0.35</td>
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<tr>
<td>1.5</td>
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Dimensions

**MOBILE COOLERS**

**ELD Size 2 - 4**

<table>
<thead>
<tr>
<th>Size</th>
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<th>B</th>
<th>C</th>
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<th>J</th>
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**ELD Size 4.5**

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<th>U</th>
<th>X</th>
<th>Y</th>
<th>Z</th>
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</thead>
</table>
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Dimensions
ELD Size 5 - 6

Dimensions
ELD Foot Bracket Size 2 - 4 / 5 - 6