HRU-1000
Heat rejection unit

Description
Improves electronics performance with a minimum 1000 watts of cooling power in a downsized package with Parker’s HRU-1000. This rugged, stand-alone 1/2 ATR short-sized unit is designed for the space-constrained environments where high-performance cooling is a must. Pump, motor, and an advanced motor-logic controller are combined with completely integrated dual high-performance fans and a high-performance heat exchanger to create a top cooling rate for its class and size.

Available for multiple cooling fluids, Parker’s HRU-1000 mates readily with components for wide-ranging versatility and comes standard with quick-disconnect hose assemblies. Works well in avionics, vetronics, telemetry, and navtronics applications where vibration, shock, acceleration, altitude, and environmental factors such as humidity, sand, salt, and dust can impact performance.

Specifications and Options

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details/Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Configuration</td>
<td>1/2 ATR short size with front “doghouse” per ARINC 404A</td>
</tr>
<tr>
<td>Dimensions</td>
<td>15.19”L x 4.88”W x 7.62”H</td>
</tr>
<tr>
<td>Working fluids</td>
<td>Polyalphaoletfin (PAO); Ethylene glycol/water (EGW) mixture; Propylene glycol/water (PGW) mixture; 3M Fluorinert™ fluids FC-77, FC-104, FC-75</td>
</tr>
<tr>
<td>Storage temperature</td>
<td>-55° to 105°C per MIL-STD-810F method 501.4, Procedure II and 502.4, Procedure II</td>
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<tr>
<td>Operating temperature</td>
<td>-40° to 70°C per MIL-STD-810F method 501.4, Procedure II and 502.4, Procedure II</td>
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<tr>
<td>Electrical connector</td>
<td>MIL-C-26482, Amphenol™ PT02E-16-99P</td>
</tr>
<tr>
<td>Input power</td>
<td>28VDC per MIL-STD-704E, 200W max.</td>
</tr>
<tr>
<td>Weight</td>
<td>23 lbs. (depending on configuration)</td>
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<tr>
<td>Water rating</td>
<td>Per MIL-STD-810F-506.4 Procedure II</td>
</tr>
<tr>
<td>Hose (supplied)</td>
<td>Low permeation</td>
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</tbody>
</table>
<pre><code>                                                                               | Tube: seamless, extruded, conductive Teflon™                                        |
                                                                               | Reinforcement: corrosion-resistant, steel wire braid                                   |
                                                                               | Cover: integral silicone                                                               |
                                                                               | Low two-inch minimum bend radius                                                     |
                                                                               | Fire-proof per AS4897 and AS150                                                       |
</code></pre>
<p>| EMI/EMC                       | When fitted with standard MIL-C-38999 style connectors, meets MIL-STD-461E conducted and radiated emissions and susceptibility requirements CE102, CS101, CS114, CS115, CS116, RE102, RS103 |
| Quick disconnect (supplied)   | Simple, one-hand push/pull operation; flush face, self-sealing valving; low attach/detach fluid volume loss (no drip); SAE AS1709 and MIL-C25427 qualified |
| Environmental                 | Exceeds vibration, shock, altitude, acceleration, humidity, salt fog, fungus, thermal shock, sand, and dust requirements |</p>

Product Highlights

- Meets demanding environmental applications for humidity, sand, salt, and dust
- Suitable for avionics, vetronics, telemetry, and navtronics applications
- Comes equipped with quick-disconnect assembly
- High-performance fans and heat exchanger create top cooling rate for its class and size
Optional

- Custom supply/return hose manifolding (e.g. one HRU-1000 connected to two ATR boxes)
- Custom hydraulic connectors
- Custom electrical connector (J1)
- Custom fan speed-control curve
- Custom pump speed-control surve
- Custom fluids
- Custom operating temperature
- Custom finishes
- Intermittent water submersion capability
- Fill and bleed kit
- ATR box quick-disconnect nipple kit (one nipple with pressure relief, one nipple without pressure relief)

Ordering Information (call for pricing, availability, and custom options)

HRU-1000

1. Handle
   Y Yes
   N No

2. Fluid
   E Polyolhexaol (POH)
   F Ethylene glycol/water mixture (EGW)
   G Propylene glycol/water mixture (PGW)
   H 3M Fluorinert™ liquids FC-77, FC-104, FC-75
   J Custom

3. Hose length
   XXX – Length in inches not including quickdisconnects (e.g. 185-19-20 inches)

4. Fitting angle
   0 Straight
   4 45 degrees
   9 90 degrees

5. Twist angle
   XXX – Specify (e.g. 045= 45 degree, etc.)
   Hold assembly so that the nearest fitting is pointing in the 6 o'clock position. Measure angle between fittings, counterclockwise. Both fittings pointing to 6 o'clock position to be specified as zero degrees (0°).

6. Quick-disconnect material
   S Stainless steel SAE 30304/30321
   C Custom

7. Quick-disconnect release lanyard
   L Lanyard
   N No lanyard

Order number example 1:
HRU-1000-VE194-00000-00000-C

Basic model number
Handle Operation with 19-49° = 19-1-0° hose length Straight fittings both ends on supply hose with 0° twist angle Quick disconnects with lanyard wires Quick disconnects, custom material with 180° twist angle

Order number example 2:
HRU-1000-VE194-00000-00000-C

Basic model number
No handle Operation with 34 6/8 = 34 3/4° hose length 1 x 90° and 1 x 0° fittings on return hose with 180° twist angle

Contact Information

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