Protochill
A COOL NEW APPROACH TO SECONDARY

Providing reduced refrigerant charge, better energy efficiency and lower construction costs.
Protochill utilizes the Protocol HE platform in conjunction with an integrated pump and heat exchanger package for an innovative medium temperature secondary application. This compact distributed system when compared to central secondary systems offers reduced refrigerant charge, energy savings, lower construction costs, and installation flexibility for a wide range of applications – from new stores to remods. It’s also an excellent fit with low temperature Protocol HE systems.

**Protochill**

**An Energy Efficient, Lower Charge Distributed Secondary Solution.**

**Reduced refrigerant charge.**

A typical water-cooled Protochill can reduce charge up to 60% over a central secondary system, and an air-cooled application can reduce charge up to 35%.

<table>
<thead>
<tr>
<th>Method of Condensing</th>
<th>Distance from Condenser</th>
<th>Refrigerant Charge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water-Cooled</td>
<td>N/A</td>
<td>&lt; 60 lb.</td>
</tr>
<tr>
<td>Air-Cooled Microchannel</td>
<td>100 Feet</td>
<td>&lt; 140 lb.</td>
</tr>
<tr>
<td>Air-Cooled Microchannel</td>
<td>50 Feet</td>
<td>&lt; 120 lb.</td>
</tr>
</tbody>
</table>

**Better energy efficiency.**

Protochill offers up to 10% energy savings versus traditional secondary systems when properly applied. The savings are a result of proper load matching and pressure drop reduction due to the proximity of the units to the refrigerated cases.

**Lower construction costs.**

Building construction costs are reduced with Protochill, since it uses the flexibility of Hussmann’s Protocol system. No central machine room is required.

**Additional electrical capacity and flexibility.**

Protochill has a flexible electrical panel configuration, reducing the need for additional remote panels. Circuits can be easily added as your load requirements change.

**High efficiency scrolls.**

The scroll compressors used in Protochill systems have been specifically designed for energy-saving performance, allowing up to six compressors per system. The design has been optimized to provide improved efficiency at lower condensing temperatures while maintaining performance and capacity during typical conditions. In addition, scrolls provide much less vibration than other compressor technologies, leading to fewer leaks.

**Protochill environmental advantages vs. Traditional secondary systems.**

- Extremely small overall refrigerant charge (between 30-40 lbs per system for most water cooled applications).
- Significant reduction in greenhouse gas emissions.
- Very low refrigerant leak rate (2-5% based on method of condensing).
- Better energy efficiency in virtually all applications (up to 10%).
- Reduced chance of significant refrigerant loss due to smaller charge.

**Other advantages.**

- Eliminates need for machine room.
- Smaller pipe sizes than central secondary systems, simpler installation.
- Lower installation costs (mechanical and electrical).
- Design flexibility.
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**Vertical option.**

*Note: Receiver must be mounted under condenser for the vertical air cooled units.*

**Components.**

1. Electrical Panel
2. Control Panel
3. Control Panel
4. Pump
5. Fill Tank
6. Expansion Tank
7. Heat Exchanger
8. Suction Accumulator
9. Compressors

**Other features.**

- Multiple pump configuration.
- Standard 2 pumps sized at 50% each.
- Air or water-cooled condensing options.
- Sound attenuated cabinets for quieter operation.
- Standard spun end connections.
- Flanges optional.
- Factory installed drier and suction filter.
- Single point power connection for 208V units.
- Easy to service and maintain.

**Two-piece horizontal option.**

*Note: One-piece horizontal option is 202” with integral pump station on left.*

**Sustainable Solutions.**

Hussmann is committed to developing advanced technologies that reduce the use of HFCs and improve energy efficiency. Protochill is just one of many alternatives we offer to promote sustainable solutions.

NOTE: We reserve the right to change or revise specifications and product design in connection with any feature of our products. Such changes do not entitle the buyer to corresponding changes, improvements, additions, or replacements for equipment previously sold or shipped.

For additional resources, contact your representative or visit www.hussmann.com.

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