Research cryostats overview

Model 102 DENALI pulse tube driven ADR
- Cryomech PT407 pulse tube cooler
- Cool down from 300 K to 4 K in 12 h
- >150 h no load regulation at 100 mK
- Pulse tube stage temperatures of 50 K and 2.7 K
- ADR base temperature of 50 mK
- Vibration isolation bellows
- Kevlar low temperature suspension
- Rectangular cross section for close positioning to a scanning electron microscope.

Model 103 RAINIER pulse tube driven ADR Cryomech PT407 pulse tube cooler
- Cool down from 300 K to 4 K in 14 h
- >200 h no load regulation at 100 mK
- Pulse tube stage temperatures of 50 K and 2.7 K
- ADR base temperature of 30 mK
- Electronically controlled motorized heat switch
- Quick release vacuum jacket flanges
- Multiple standard feed-through ports
- Vibration isolation bellows
- Kevlar low temperature suspension

Model 104 OLYMPUS pulse tube driven ADR/Helium 3
- Cryomech PT410/PT415 cooler
- Cool down from 300 K to 4 K in 14 h
- >150 h no load regulation at 100 mK
- Pulse tube stage temperatures of 50 K and 2.7 K
- ADR base temperature of 50 mK
- Electronically controlled motorized heat switch
- Multiple standard feed-through ports
- Vibration isolation bellows
- Kevlar low temperature suspension
- Optional Simon Chase He4 backed He3 system

Model 105 ANNAPURNA pulse tube driven dilution refrigerator
- Cryomech PT415
- Pulse tube cooler 100 mW cooling @ .020 K
- DR stage temperatures of 1.2 K, 0.6 K, 0.1 K, 0.03 K
- Multiple standard feed-through ports
- Electronically controlled motorized heat switch
- Vibration isolation bellows

Model 106 SHASTA pulse tube driven ADR
- Cryomech PT407/PT410/PT415 cooler cool down from 300 K to 4 K in 17/14/11 h
- >150 h no load regulation at 100 mK
- Pulse tube stage temperatures of 50 K and 2.7 K
- ADR base temperature of 50 mK
- Electronically controlled motorized heat switch
- Quick release VJ; captive screw shield flanges
- Multiple standard feed-through ports and one large 6.5” x 3.5” rectangular port

Model 107 K2 pulse tube driven ADR with high cooling power
- 3He cooling capacity: 6 J @ 1 K
- ADR base temperature: 30 mK
- 300 hour no-load regulation at 100 mK
- Quick release vacuum jacket flanges
- Electronically controlled motorized heat switch
- Vibration minimizing design
- Kevlar low temperature suspension

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<table>
<thead>
<tr>
<th>Model number</th>
<th>Name</th>
<th>102</th>
<th>103</th>
<th>104</th>
<th>105</th>
<th>106</th>
<th>107</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vacuum-jacket size</td>
<td>DENALI</td>
<td>Ø 33 cm x 22 cm x 66 cm tall</td>
<td>Ø 35 cm x 69 cm tall</td>
<td>Ø 55 cm x 110 cm tall</td>
<td>Ø 55 cm x 110 cm tall</td>
<td>Ø 44 cm x 65 cm tall</td>
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<tr>
<td>Experimental volume</td>
<td>RAINIER</td>
<td>Ø 26 cm x 25 cm tall</td>
<td>Ø 44 cm x 60 cm tall</td>
<td>Ø 38 cm x 19 cm tall</td>
<td>Ø 34 cm x 21 cm tall</td>
<td>Ø 34 cm x 20 cm tall</td>
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<tr>
<td>1st stage pulse tube cooling power</td>
<td>OLYMPUS</td>
<td>25 W @ 55 K</td>
<td>25 W @ 55 K</td>
<td>35 W @ 45 K</td>
<td>40 W @45 K</td>
<td>25 W @ 55 K</td>
<td>25 W @ 55 K*</td>
</tr>
<tr>
<td>2nd stage pulse tube cooling power</td>
<td>ANNAPURNA</td>
<td>0.7 W @ 4.2 K</td>
<td>0.7 W @ 4.2 K</td>
<td>1 W @ 4.2 K</td>
<td>1.5 W @ 4.2 K</td>
<td>0.7 W @ 4.2 K</td>
<td>0.6 W @ 4.2 K*</td>
</tr>
<tr>
<td>2nd stage pulse tube cooling power</td>
<td>SHASTA</td>
<td>0.7 W @ 4.2 K</td>
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<td>0.6 W @ 4.2 K*</td>
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<tr>
<td>2nd stage pulse tube cooling power</td>
<td>K2</td>
<td>0.7 W @ 4.2 K</td>
<td>0.7 W @ 4.2 K</td>
<td>1 W @ 4.2 K</td>
<td>1.5 W @ 4.2 K</td>
<td>0.7 W @ 4.2 K</td>
<td>0.6 W @ 4.2 K*</td>
</tr>
</tbody>
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Model number: 102 DENALI, 103 RAINIER, 104 OLYMPUS, 105 ANNAPURNA, 106 SHASTA, 107 K2.