

RJT-100 4K GM-JT CRYOCOOLER SERIES



The RJT-100 Gifford-McMahon/Joule-Thomson (GM-JT) Cryocooler is SHI's newest and highest-capacity 4 K Cryocooler, with a capacity of up to 9.0 W @ 4.2 K (50/60 Hz).

The RJT-100 is ideal for a number of applications, including superconducting radio frequency cavities, superconducting magnet applications, helium recondensation, low temperature systems and other applications requiring high cooling capacity at 4.2 K.

The complete cooler system features a Joule-Thomson Cryocooler, plus a Two-Stage Gifford-McMahon Cryocooler to pre-cool the helium gas. The system also includes water-cooled helium compressors for the GM and JT Cryocoolers and all related gas lines and power cables.

Like other cryocooler systems from SHI, the RJT-100 offers users high quality and proven reliability, along with a global sales, service and support network.

Features

The RJT-100 is a unique product offering from SHI, featuring:

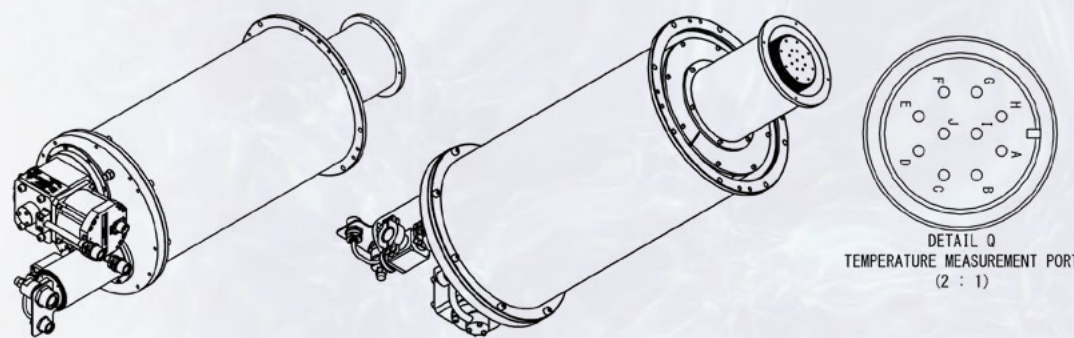
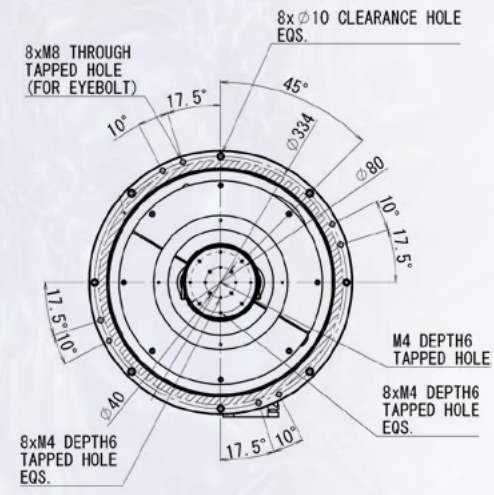
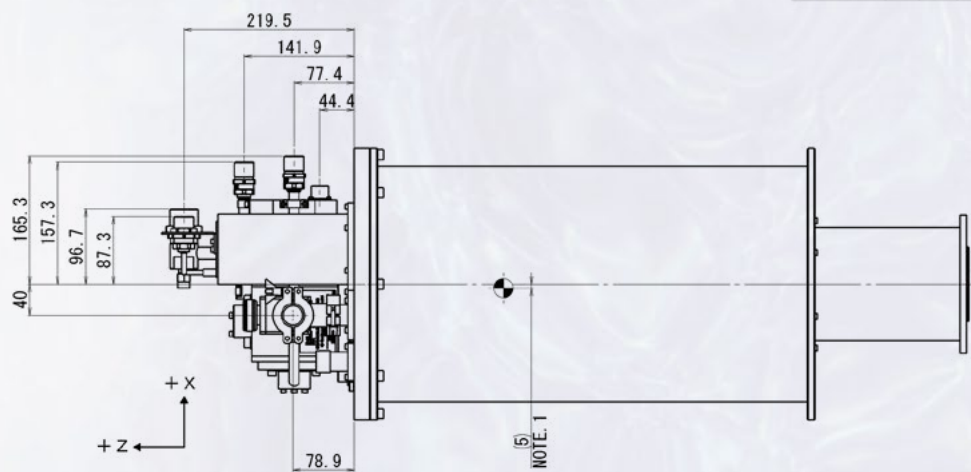
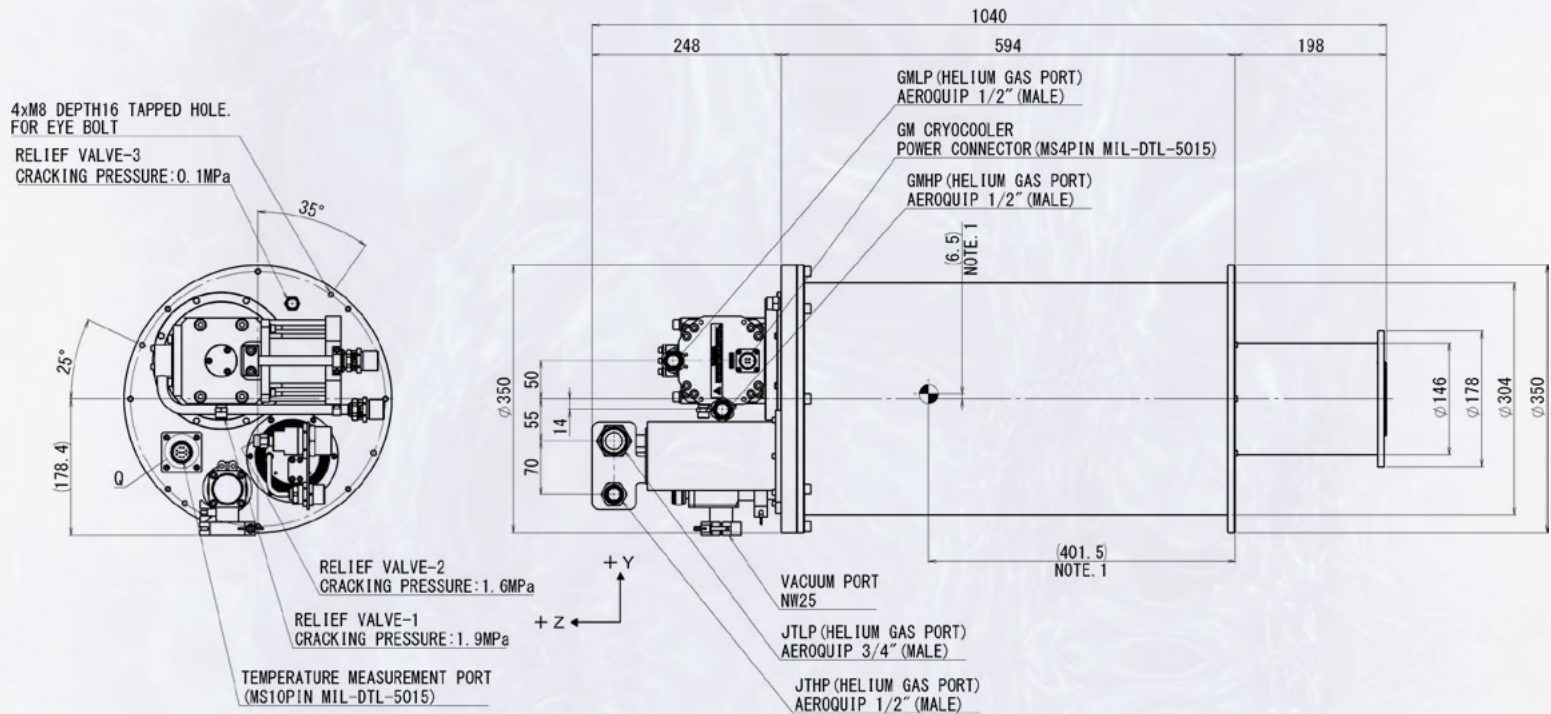
- World's highest cooling capacity and superior efficiency at 4.2K compared to standard 4K Gifford-McMahon and Pulse Tube Cryocoolers
- Reduced maintenance costs due to the reduced number of systems needed per customer's application
- Superior temperature-stabilizing performance due to no valve pressure pulsation
- Standard Stage configuration for SRF cavities and other high-capacity applications
- Optional Recondensing configuration for helium recondensation
- Inverter-driven compressors for manual control of cooling capacity and power consumption

Performance Specifications

| Power Supply | 50/60 Hz |
|-------------------------------------|---|
| 1st Stage Capacity ¹ | 9.0 W @ 4.2 K |
| Minimum Temperature ² | <4.2 K |
| Cooldown Time to 4.2 K ² | <13 Hours |
| Weight | 57 kg (125.7 lbs.) |
| Dimensions (HxD) | 1040 x ø350 mm (40.9 x ø13.8 in.) - Stage 1435 x ø350 mm (56.5 x ø13.8 in.) - Recondensing |
| Maintenance | 10,000 Hours |
| Regulatory Compliance | UL, CE, RoHS, UKCA |

¹ Reduced capacity when operated in a horizontal position. Capacity for optional recondensing configuration is 8.5 W @ 4.2 K.

² Lowest temperature and cooldown time are for reference only. Specifications subject to change without notice.



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|---|------|---|
| A | I(+) | AFTER FINAL STAGE TEMPERATURE (4K) Cernox CX-1050 |
| B | I(-) | |
| C | V(+) | |
| D | V(-) | |
| E | I(+) | 2nd. STAGE TEMPERATURE Cernox CX-1050 |
| F | I(-) | |
| G | V(+) | |
| H | V(-) | |

NOTE
1. ⦿ : CENTER OF GRAVITY