

HPD

# Model 106

Mid-Sized, Cryogen-Free ADR Cryostat

000111100010

## ➤ Overview

The HPD Model 106 adiabatic demagnetization refrigerator (ADR) has been optimized for flexibility and versatility. This medium-size research cryostat features an experimental volume 34 cm in diameter and is offered in two sizes: a compact 21 cm tall and a larger version at 49 cm tall. HPD's quality engineering and attention to detail provide many unique features, such as cool down from 300 K to 3 K in 16.5 hours, a vibration minimizing design, and a wide range of port sizes to suit a variety of scientific applications. The Model 106 can also be reconfigured for your specific project.



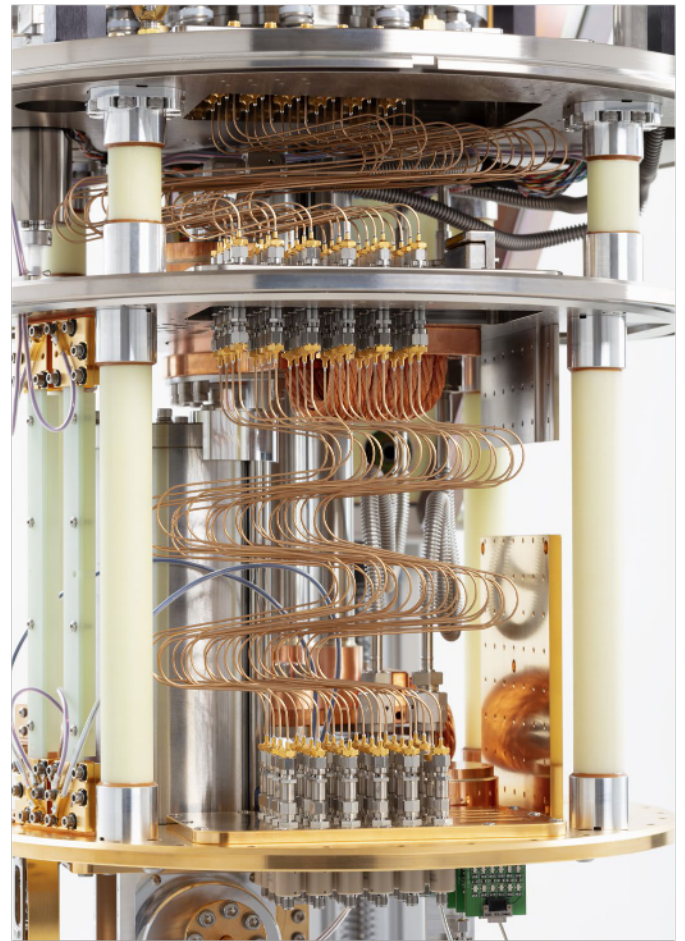
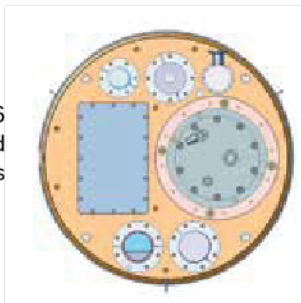
## Features

- HPD adiabatic demagnetization refrigerator (ADR)
  - Kevlar suspension
  - 1 K & 50 mK stages
- Optimized for versatility and flexibility
  - 3X NW ports on top flange
  - 1X NW40 port on top flange
  - 1X NW25 port on top flange
  - Large line-of-sight set of 165 mm x 89 mm rectangular ports
  - 1X Ø150 mm port on vacuum jacket bottom flange
- Nickel plated aluminum thermal shields (50 K, 4 K)
- Quick release vacuum jacket flanges
- Captive screws on shield flanges
- Electronically controlled motorized heat switch
- Vibration minimizing design
- Cryomech PT410 pulse-tube cryocooler
- Remote rotary valve motor
- Custom service stand (option)
  - Allows for transport & servicing
  - 76 cm of height adjustment

## Design Specifications

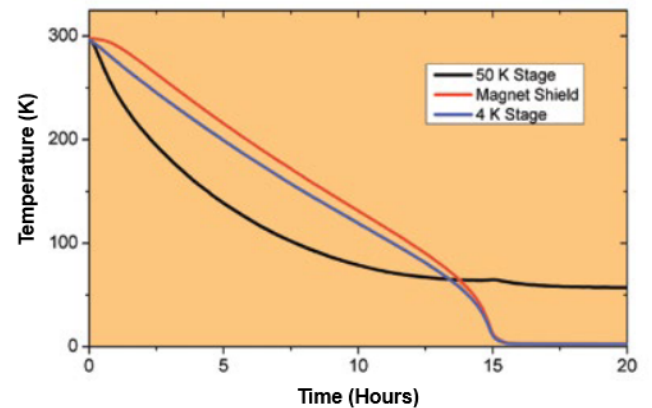
- Choose from two experimental volumes
  - Compact: 34 cm diameter x 21 cm tall
  - Large: 34 cm diameter x 49 cm tall
- Cool down from 300 K to 3 K in 16.5 hours
- Pulse-tube stage temperatures of 50 K and 2.7 K
- 0.9 W cooling power at 4.2 K
- ADR base temperature of 30 mK
- 200 hour no-load regulation at 100 mK (250 hours expected)

Top view of Model 106 showing pulse-tube cooler and feedthrough flanges



Close-up of HPD Model 106 ADR Cryostat

Typical Model 106 Cooldown Curve



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