

Commodity Description

Item No.	HSK No.	Korean Government Commodity Classification Code(eight-digit)	Description	Unit	Q'ty
1	8419.89.9020	41103702	Low-vibration closed-cycle cryostat for NV Centers	System	1

I . 용도(End-user's Use and Feature)

1. A low-vibration closed-cycle cryostat is designed to provide a stable cryogenic environment for NV center measurements, where mechanical vibrations and thermal fluctuations must be minimized. This system enables long spin coherence times and high-sensitivity measurements by maintaining ultra-low temperatures while suppressing vibrational noise that can disturb optical alignment and degrade signal stability
2. Closed-cycle system for NV center measurements
3. No helium consumption and continuous operation >10,000 hours

II. 장비의 구성(Configurations of Goods)

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| 1. Closed cycle cryostat with water-cooled compressor | 1 set |
| 2. Upper outer vacuum chamber | 1 set |

III. 규격(Specification)

1. Closed cycle cryostat with water-cooled compressor: 1set

1) Low-vibration, high vacuum cryostat

- a. Base temperature (without options): < 3K or better
- b. Cooling power: 150mW @5K or better
- c. Table to cold plate vibration (without options) < 10nm peak-to-peak or better
- d. Vacuum chamber and cryogenic workspace rigidly attached to top of customer's existing optics bench.
- e. Cryocooler to be mounted to the floor to shunt vibrations away from optical table/sample, resulting in low vibrations at the sample stage.
- f. Cooldown time : ~3 hours or better

2) Water-cooled helium compressor

- a. Electrical power : 220VAC; 1 ph : 60Hz or better
- b. Power consumption 60Hz(Input Power) : 2.6 kW or better
- c. Requirement Cooling water : 1.9 ~ 3.8L/min. or better
- d. Helium Flexible lines and control cable : 20m or more

2. Upper outer vacuum chamber : 1set

- a. Cryogenic volume space : Ø65mm x 85mm Tall or wider
- b. Optical window : (2) Horizontal + (1) vertical or more
 - (x1) Ø50mm x 4mm VIS-NIR (400-1000nm) Fused Silica (vacuum window)
 - (x1) Ø25mm x 3mm VIS-NIR (400-1000nm) Fused Silica (40K rad shield window)
 - (x1) Ø50mm x 4mm Uncoated Fused Silica (vacuum window)
 - (x1) Ø25mm x 3mm Uncoated Fused Silica (40K rad shield window)
- c. Optical working distance : Vertical < 2mm or better

IV. 기타 조건(Remarks)

- 1. Installation, operating service of equipment should be performed by the qualified engineer at the end-user's site.
- 2. Warranty : 1year