

# HCS-3B

## Heat-Cool System for DMS 803 / 505 / 201

### Key features at a glance

- ▲ Extended temperature range -40 °C to 100 °C
- ▲ Internal DUT positioning stage (x, y, z)
- ▲ Extendable chamber height max. 150 mm
- ▲ Diffuse and reflective illumination available
- ▲ Fast and accurate temperature settling
- ▲ Purge air to avoid condensation and icing
- ▲ Absolute calibrated DUT temperature measurement with Pt100



The HCS-3B is an optional mechanical component for the DMS 803, DMS 505 and DMS 201 display measurement systems. This heat-cool system – available in different variants – enables temperature-dependent measurements of optical display properties and conformance testing. It is used to measure electro-optical and switching characteristics under arbitrary directions of observation as well as angular scans over the viewing cone.

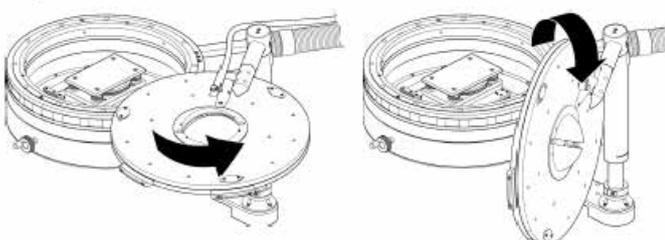
### || VARIABLE HEIGHTS & INTERNAL DUT POSITIONING

The HCS-3B can be complemented with extensive accessories such as extension rings allowing for many different DUT heights.

The heat-cool station features a manual x, y, z stage for DUT height and position adaption.



▲ Chamber with extension ring for increased DUT height (left).  
 Chamber with x, y, z positioning stage (right).



▲ Convenient open and close mechanism of the HCS-3B.

### || TURNKEY SOLUTION FOR DISPLAY MEASUREMENT

The combination of DMS system and HCS-3B heat-cool system results in a turnkey solution for temperature-dependent measurement of all types of displays. Since only the DUT is exposed to the airflow, the optics and mechanism remain constant at room temperature.



▲ Electronics rack, DMS system and ThermoStream forced-air temperature control unit.

## || TECHNICAL SPECIFICATIONS

HCS-3B Heat-Cool System							
Temperatures							
Temperature range <sup>1</sup>	-40 °C to +100 °C						
Temperature accuracy	± 1 °C						
Temperature resolution	0.1 °C						
Typical transition time dependent on DUT properties	30 min from room temperature to -40 °C 45 min from room temperature to +100 °C						
Dimensions							
Diameter of chamber	461 mm						
Internal diameter of chamber	370 mm						
Variants of chamber	Standard chamber	Standard chamber with 32 mm extension ring	Standard chamber with 105 mm extension ring	Chamber with xy sample	Chamber with z sample and 32 mm extension ring	Chamber with z sample stage and 105 mm extension ring	Chamber with xyz sample stages
Internal height	47.5 mm	79.3 mm	152.5 mm	87.5 mm	79.3 mm	152.5 mm	119.3 mm
Usable internal height	41 mm	72.8 mm	146 mm	28 mm	31.7 mm	104.9 mm	18.7 mm
Order number	DMS-3-30	DMS-3-30 DMS-3-35	DMS-3-30 DMS-3-36	DMS-3-32	DMS-3-30 DMS-3-35 DMS-3-37	DMS-3-30 DMS-3-36 DMS-3-37	DMS-3-32 DMS-3-35 DMS-3-37
Travel range							
Theta	0° to 60°						
Phi	0° to 360°						
X- and Y-axis of base mechanism	-5 mm to 5 mm						
x- and y-axis of internal stage <sup>2</sup>	-50 mm to 50 mm						
z-axis of internal stage	16 mm						

<sup>1</sup> Low temperatures down to -45°C are possible but will increase the DUT temp. transition time.

<sup>2</sup> Customized modifications on request.

## || ORDERING INFORMATION

Order number	Description
<b>DMS-3-30</b>	HCS-3B temperature chamber with ThermoStream forced-air temperature control unit; temperature range -40°C to +100°C; includes adjustable DUT fixture and integrated diffuse reflective illumination (DHS); compatible with DMS 201/505/803; available in different variants
<b>DMS-3-32</b>	HCS-3B temperature chamber with ThermoStream forced-air temperature control unit; temperature range -40°C to +100°C; includes adjustable x-y-DUT positioning stage and integrated diffuse reflective illumination (DHS); compatible with DMS 201/803; available in different variants
<b>DMS-3-35<sup>1,4</sup></b>	Extension ring 31.8 mm, extends the chamber height to 79.3 mm
<b>DMS-3-36<sup>2,4</sup></b>	Extension ring 105 mm, extends the chamber height to 152.5 mm
<b>DMS-3-37<sup>3,4</sup></b>	z-stage for convenient DUT positioning

<sup>1</sup> Compatible with DMS-3-30/32. Usable internal height 72.8 mm (DMS-3-30); 59.8 mm (DMS-3-32).

<sup>2</sup> Compatible with DMS-3-30. Usable internal height 146 mm.

<sup>3</sup> Compatible with DMS-3-30/32.

<sup>4</sup> Compatible with DMS3-20 HCS-3A (previous model).

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