

# Hyper N2 Dry System

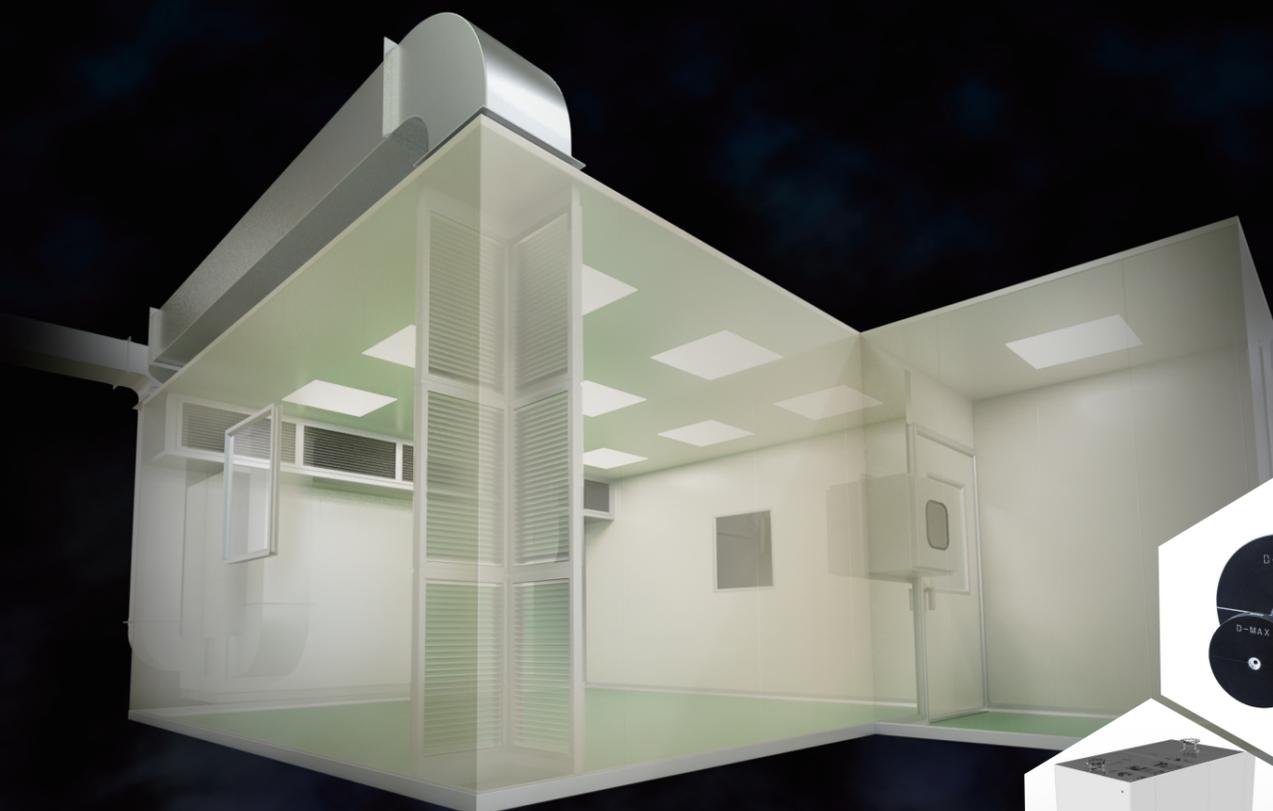
**Low Oxygen, Low moisture and Clean Environment**

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Building an efficient environment  
by combining a purifier and dehumidifier

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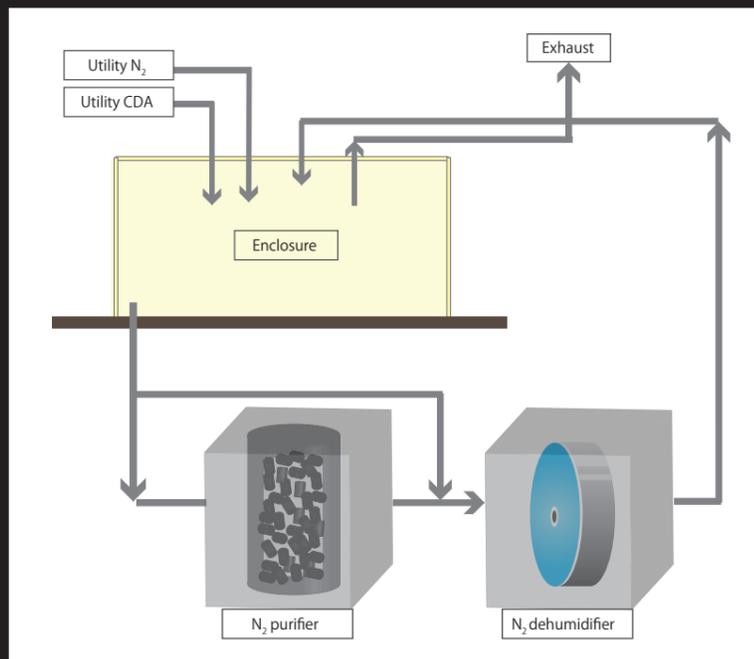
for achieving low oxygen

concentration, low water content, and cleanliness

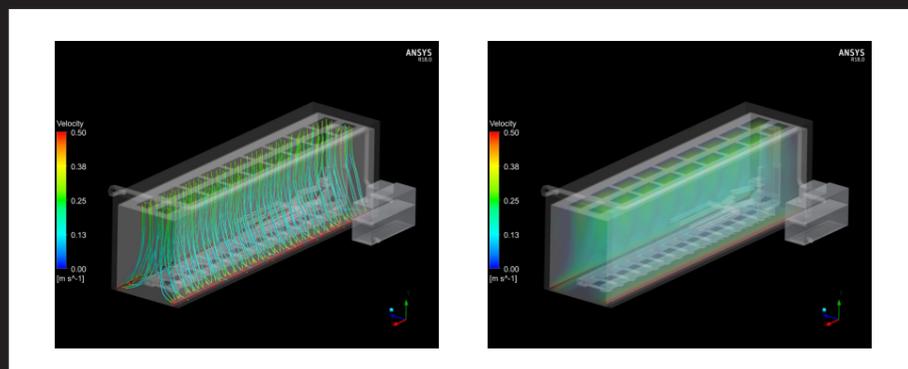
Efficiently creating an environment of 1ppm oxygen concentration and 1ppm water content, Hyper N2 Dry System achieves excellent results in fields needing a sophisticated production environment such as in manufacturing OLEDs and Li-ion batteries.

## System overview

Desiccant dehumidifier is applied to the water removal process where the column type is conventionally used. Concurrent rapid removal of oxygen and water content has successfully been achieved by curtailing the water content reduction period with high-powered dehumidifying performance. We precisely design the system according to the production equipment properties to efficiently create an environment with low oxygen and water content.



System flow



Simulation

## Feature 01

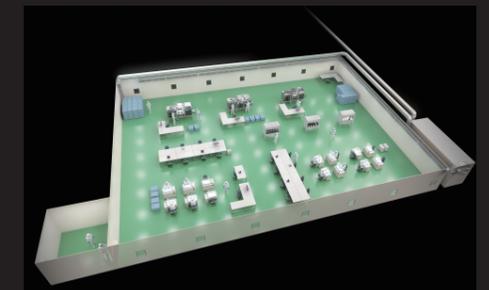
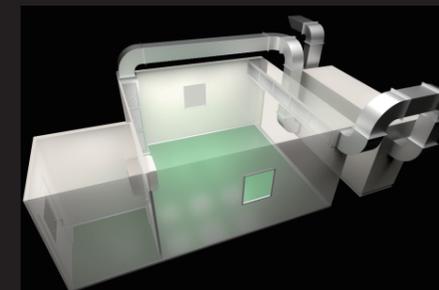
### Flexibility

A dry or inert gas environment can flexibly be changed by using different equipment for removing oxygen and water content. It is possible to smoothly shift to a dry environment if needed later.

## Feature 02

### Extendibility

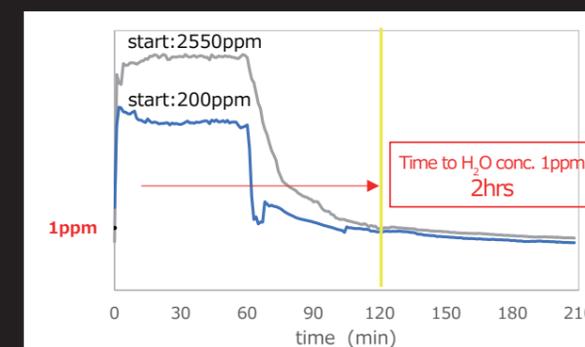
We propose optimal combination of purifier and dehumidifier according to the required conditions and scale of production lines. A wide variety of device lineups allows application for a wide variety of environments, from small to wide scale. Lots of flexibility to easily scale up.



## Feature 03

### Cost effectiveness

Combined use of purifier and dehumidifier achieves efficient purification. Unnecessary operation costs can be omitted because the target values can be achieved faster. Localizing with a combined-use enclosure system can further enhance cost effectiveness.

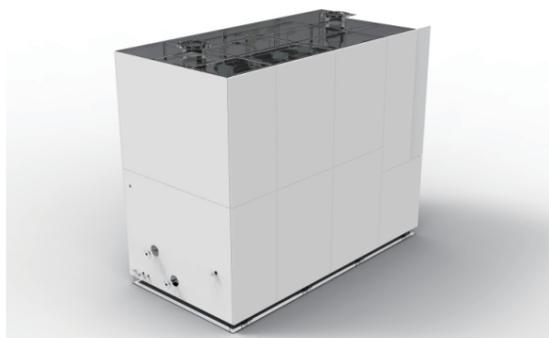


Optimal air flow balance achieved by the purifier (oxygen removal) and desiccant dehumidifier (water content removal) allows efficient short-term water removal, once a time-consuming process using a general column type.

# Purifier × Dehumidifier Specifications

## Equipment Model Selection

Processing volume	Purifier	Dehumidifier
15 m <sup>3</sup>	GPU-0200IG	SZP-0250H40-2F
30 m <sup>3</sup>	GPU-0400IG	SZP-0350H40-2F
50 m <sup>3</sup>	GPU-0600IG	SZP-0450H40-2F
80 m <sup>3</sup>	GPU-0800IG	SZP-0550H40-2F
115 m <sup>3</sup>	GPU-1500IG	SZP-0660H40-2F



GPU-0800IG



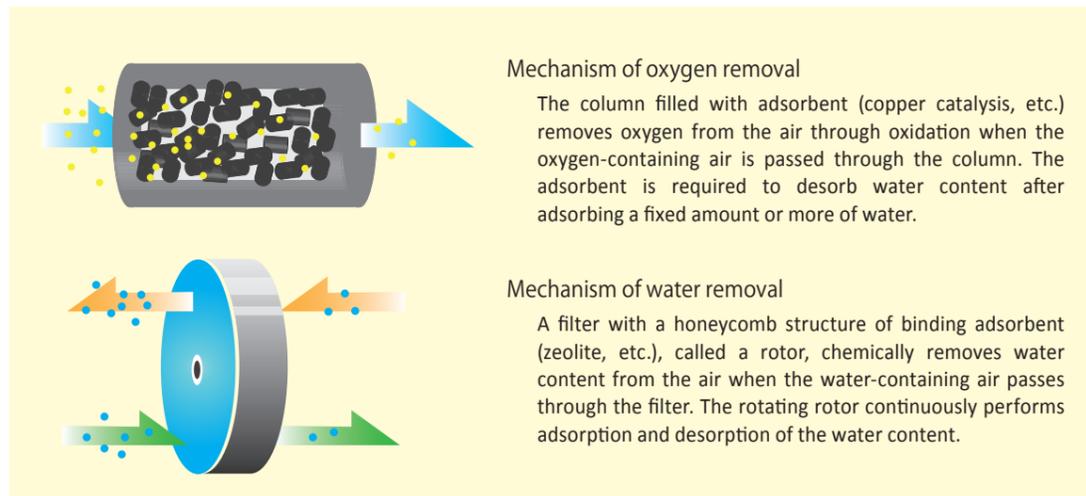
SZP-0550H40-2F

## Purifier Specification

Model	GPU-0075IG	GPU-0200IG	GPU-0400IG	GPU-0600IG	GPU-0800IG	GPU-1500IG
Flow rate (m <sup>3</sup> /h)	75	200	400	600	800	1500
Approximate dimensions (mm)	850W 1100D 1800H	1060W 1250D 2300H	1950W 1250D 2300H	2800W 1500D 2500H	3600W 1600D 2600H	3600W 3000D 2600H
Approximate weight (kg)	600	1000	1900	2800	3600	7200
Occupied area (m <sup>2</sup> )	1.0	1.4	2.5	4.2	5.8	10.8
Max. processing volume (m <sup>3</sup> )	7.5	20	40	60	80	150
Number of columns	2	2	4	6	8	16

## Dehumidifier Specification

Model	SZP-0250H40-2F	SZP-0350H40-2F	SZP-0450H40-2F	SZP-0550H40-2F	SZP-0660H40-2F
Air flow (m <sup>3</sup> /h)	300	600	1000	1600	2300
Approximate dimensions (mm)	2400W 1200D 1800H	2600W 1400D 2600H	2900W 1500D 2600H	3300W 1600D 2600H	3800W 1800D 2600H
Approximate weight (kg)	1400	2300	2400	2500	2950
Occupied area (m <sup>2</sup> )	2.9	3.7	4.4	5.3	6.9
Max. processing volume (m <sup>3</sup> )	15	30	50	80	115



※Product specifications are subject to change without notice.



## Glove Box standard model specifications

Item	Dry air type			Inert gas type
	Desi-Cube	Desi-Cube Lite	Desi-Cube mini	N-Cube
Glove box material	SUS304	SS+painting	Acrylic	SUS304
Oxygen concentration inside box	Atmosphere	Atmosphere	Atmosphere	1ppm or less
Dew Point inside box	-76°C DP or less -60°C DP or less (When VOC occurs inside box)	-60°C DP or less	-40°C DP or less	-76°C DP or less
Glove material	Butyl rubber	Natural rubber	Natural rubber	Butyl rubber
Dew Point Sensor	2 sensors	2 sensors	1 sensor	1 sensor
Oxygen concentration sensor	-	-	-	1 sensor
Regeneration gas	-	-	-	H <sub>2</sub> (3-5%)
Purified gas	-	-	-	N <sub>2</sub> , Ar, He
Special function	CO <sub>2</sub> control: 100ppm or less H <sub>2</sub> O control ~1ppm	H <sub>2</sub> O control ~10ppm	H <sub>2</sub> O control ~127ppm	Vacuum displacement type pass box
Control system	SmarTrol(R)	-	-	SmarTrol(R)
Utility	Electrical (200V)	Electrical (200V)	Electrical (100V)	Electrical (100V)
Option	Solvent removal	Chemical filter	-	Solvent removal trap
	Glove	Neoprene rubber	Neoprene rubber	Neoprene rubber / Gloveless

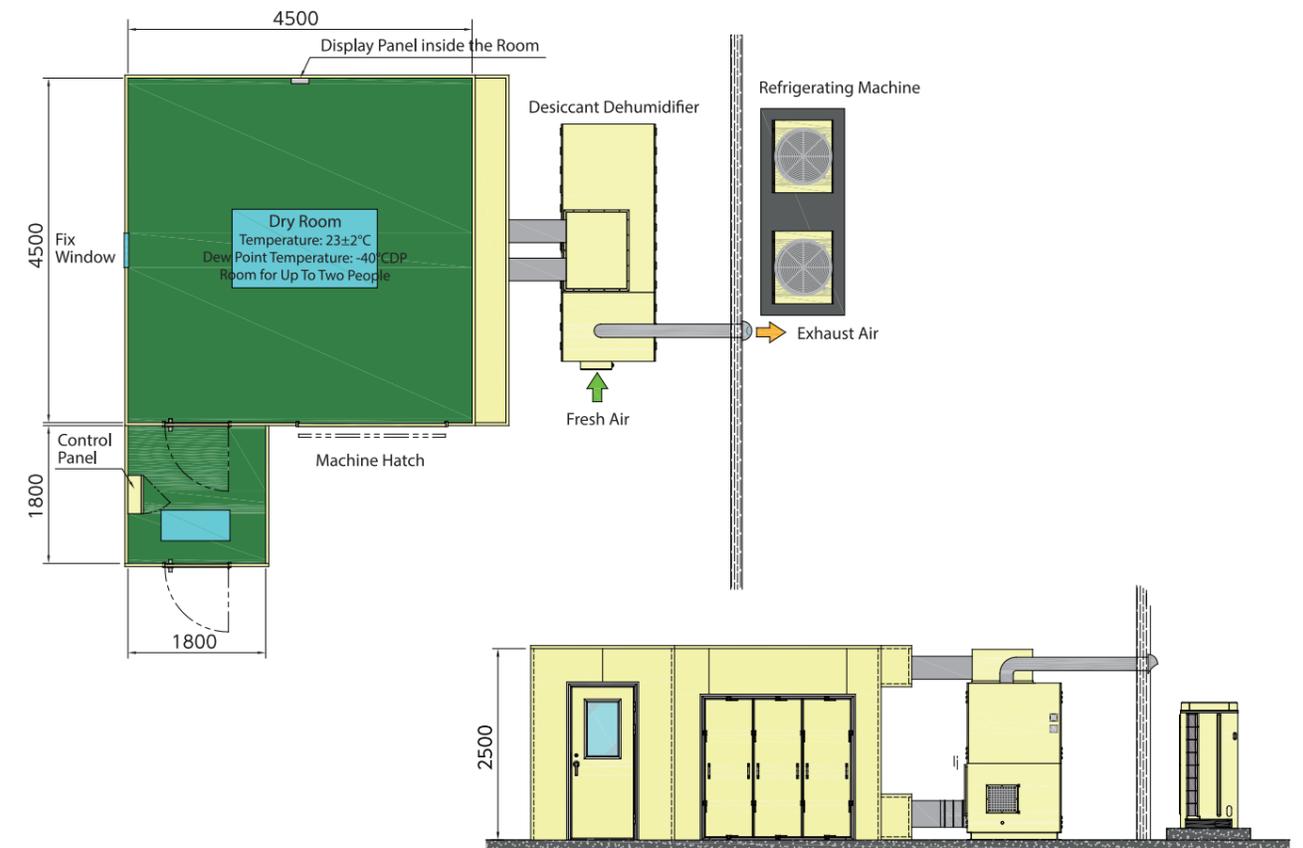
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## Dry Room standard model specifications

※Specifications as well as a large room and construction of non-standard machines are also available.

Dehumidifier specification	Item	SZP-0550H40-2F	SZP-0660H40-2F
	Capacity	For 1 person	For 2 people
	Air Flow Rate	Supply Air: 1,750m <sup>3</sup> /h Return Air: 1,500m <sup>3</sup> /h	Supply Air: 2,400m <sup>3</sup> /h Return Air: 2,150m <sup>3</sup> /h
	Power Supply	3φ AC200V 50/60Hz	
	Power Consumption	Maximum 26kW	Maximum 42kW
	External Dimension	2,900L × 1,030W × 2,000H (mm)	3,100L × 1,230W × 2,100H (mm)
	Weight	1,500kg	1,600kg

Dry Room specification	Item	Specification	Item	Specification
	Dew Point Temperature	Supply Air : -60°C DP Room Inside : -40°C DP	Machine Hatch	Usable Dimension : 3 doors
	Temperature inside Room	23±3°C	Window	One Single Transparent Glass
	Front Room Dimension	1,800L × 1,800W × 2,500H (mm)	Lighting	800mm from the floor, luminance 500 lucas or more
	Main Room Dimension	4,500L × 4,500W × 2,500H (mm)	Receptacle	2 × 1φ AC100V 15A (Main Room : 4, Front Room : 1)
	Panel Material	40mm Urethane Foam, Anti-static Steel Sheet(face bar)	Control Panel	10.4 Color Touch Panel Alarm Buzzer
	Flooring Material	Anti-static Sheet	Display Panel	3.8 Monochrome Touch Panel Alarm Buzzer
Door	Single Swing Door with Window	Dew Point Sensor	For a Dew Point Temperature inside Room : +20~-80°C DP	



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