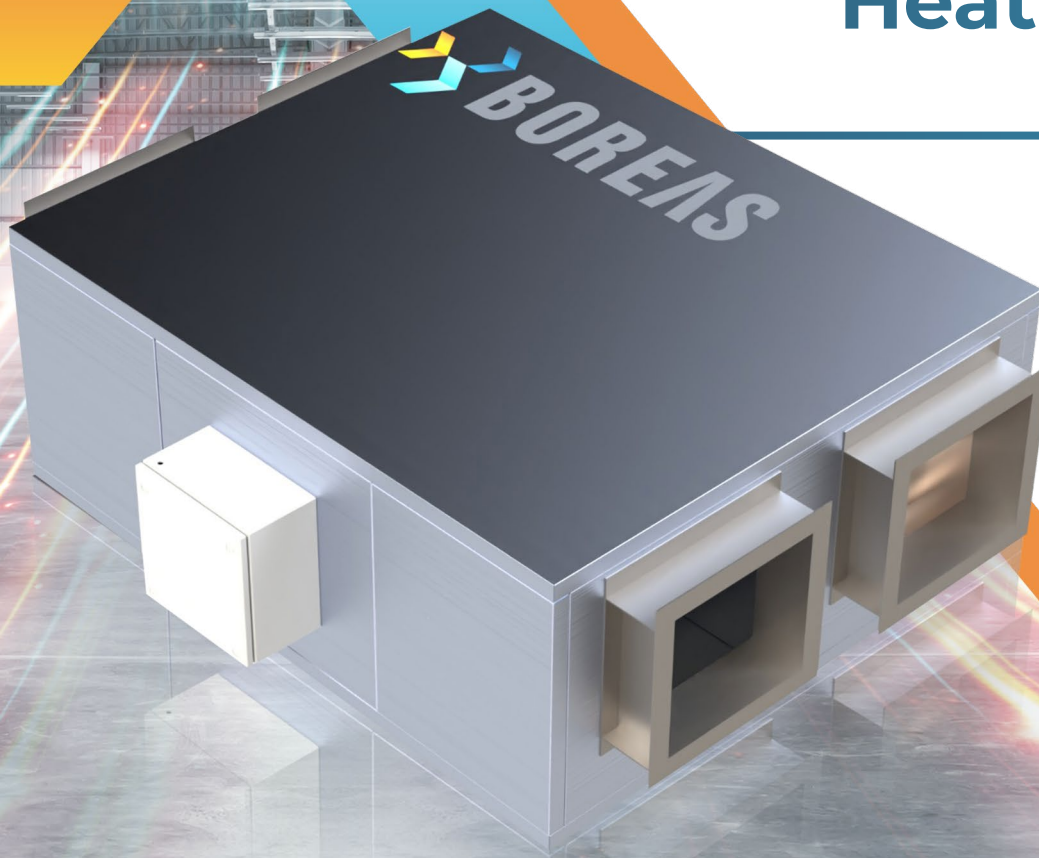




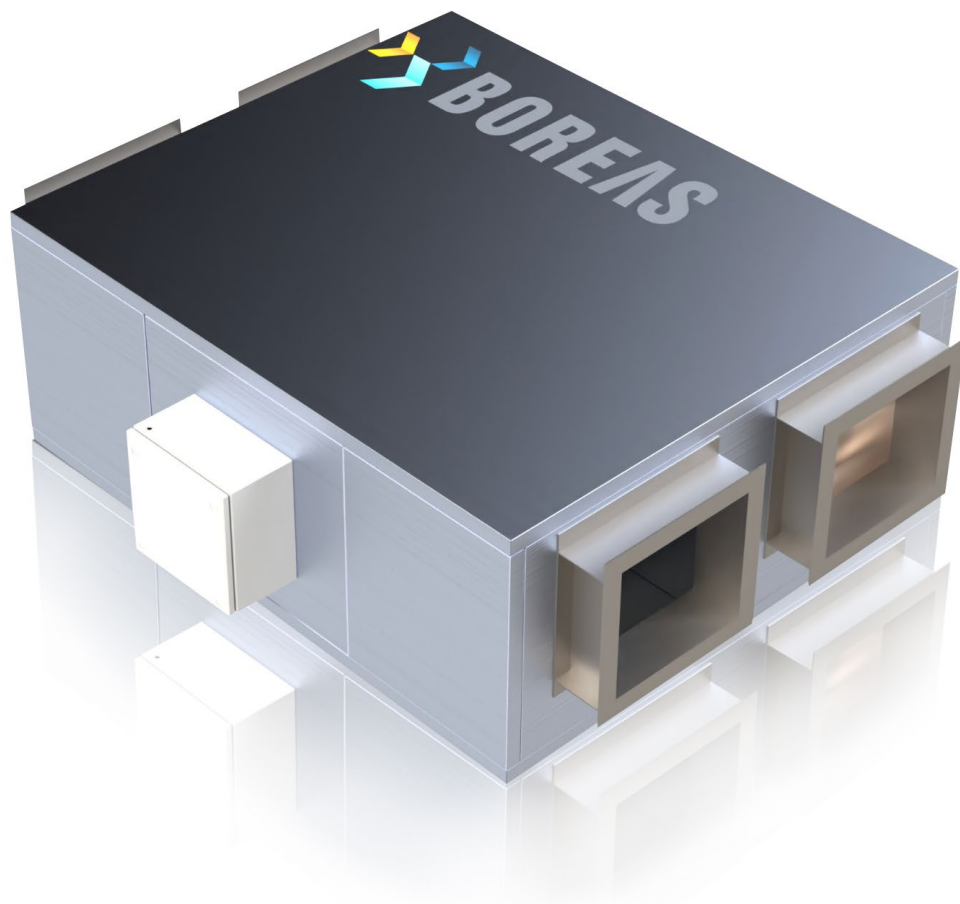
HRU Heat Recovery Fresh Air Unit







HRU
HEAT RECOVERY FRESH AIR UNIT



HRU

HEAT RECOVERY FRESH AIR UNIT



BOREAS Technology is an engineering and manufacturing company that provides end-to-end system solutions for specialized buildings such as hospitals and hotels, industrial structures and data centers. Since 2014, it has been manufacturing and selling devices specially designed for central air conditioning units and data centers in its factory with a production area of 10,000 square meters seated in Istanbul Hadımköy.

Açık Holding, of which it is a member, is a technology-centered group of companies operating with 22 companies and over 2000 colleagues in more than 20 countries, mainly in Turkey, USA, Germany, and England.



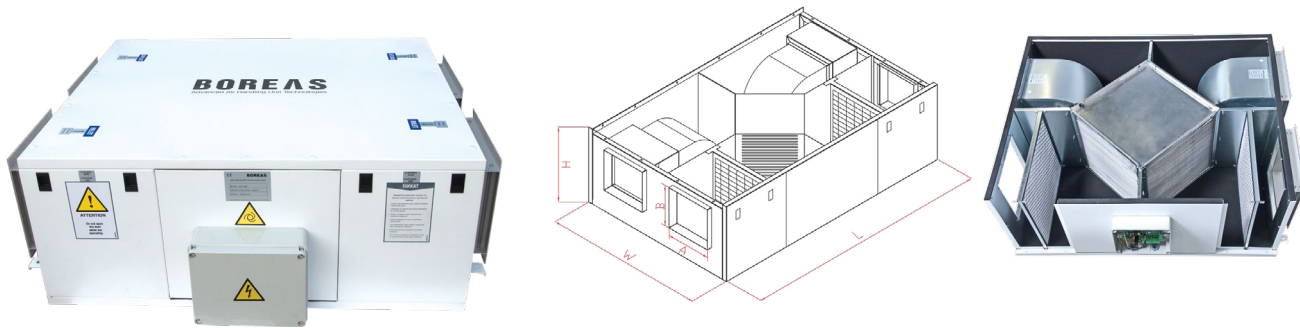
HRU

HEAT RECOVERY FRESH AIR UNIT

Boreas Heat Recovery Fresh Air Unit (HRU) is designed to achieve high indoor air quality and save energy in conditioned environments. The plate type heat recovery exchanger, which is the main component of BOREAS HRU, has been selected to provide maximum heat transfer performance in residential, office, school and industrial spaces. It is a user-friendly product with the practicality it provides in assembly, operation and control areas.

General specifications:

- Low-energy, low-noise motorized fans with 3-stage speed control.
- High efficiency, cross flow aluminum plate heat recovery exchanger.
- High indoor air quality with easy to access and cleanable filters.
- Insulation layer providing sound and heat insulation on interior surfaces.



Models			IGK 1000	IGK 2000	IGK 3000	IGK 4000	IGK 5000
Flow Rate	Q	m ³ /h	1000	2000	3000	4000	5000
Length	L	mm	1000	1300	1550	1600	2000
Width	W	mm	850	1100	1150	1300	1300
Height	H	mm	400	460	500	580	660
Duct Connection	AxB	mm	232x217	302x262	332x297	393x351	393x341
Service Space	S	mm	450	650	700	800	950
Electrical Information	220 V 50 Hz						
Maximum, Electrical Current	A		1,8	5,6	4,9	5,4	6
Maximum Power	W		2x200	2x450	2x550	2x750	2x1100
Static Pressure	Pa		245	380	350	290	325
Electric Heater	kW		3	6	9	12	15
Air Filter	G4 Filtre						



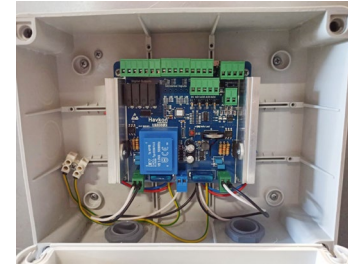
Boreas HRV Control Unit

- All inputs and outputs can be configured independently.
- 100 m between the standard modbus communication unit control card and the room unit.
- Reliable communication up to distance is ensured.
- On/off control from BMS system (dry contact)
- Temperature sensor integrated in the room control panel
- Control with duct type sensor
- Fresh air damper control
- Bypass air damper control
- External sensor connection (NTC10K)
- Aspirator and Fan 6-stage manual or automatic fan speed selection
- information output on running status of device
- Control with Carbon Dioxide/Air quality sensor (0-10V)
- Proportional valve control
- EC fan control
- 220V AC supply
- RS485 interface

FUNCTIONS	
Triac Output	2
Relay Output	4
0-10V Analog Output	2
0-10V Analog Input	1
Universal Input	4

DIGITAL INPUTS	
Fan malfunction present	✓
Safety Thermostat	✓
Boost mode	✓
Airflow Information	✓
The filter is dirty	✓
Remote On/Off	✓
Frost Thermostat	✓

CONTROL OUTPUTS	
Single speed fan control	✓
3-speed fan control	✓
EC fan control	✓
Final electric heater control	✓
Pre-electric heater control	✓
Proportional heating valve control	✓
Proportional cooling valve control	✓
Proportional heating/cooling valve control	✓
On/Off heating valve control	✓
On/Off cooling valve control	✓
On/Off ısıtma/söğütme vana kontrolü	✓
Fresh air damper control	✓
ByPass damper control	✓



TEMPERATURE SENSORS	
Return air temperature sensor	✓
Supply air temperature sensor	✓
Fresh air temperature sensor	✓
Humidity sensor	-
CO2 application	✓
Pressure control	-
Modbus RTU	✓

*The number of functions specified in the functions table can be performed from the control and information readings in the digital inputs, control outputs and temperature sensors tables.

Optional Components

Electric heater

It is used as an anti-freezing measure at the fresh air intake in very cold climates or to increase the air temperature after winter heat recovery in temperate climate conditions. It is produced from stainless steel material, and safety measures are taken with safety thermostat and differential pressure switch.

Water Heater

It is used as an anti-freezing measure at the fresh air intake in very cold climates or to increase the air temperature after winter heat recovery in temperate climate conditions.

Water Cooler

It is used to lower the air temperature after heat recovery in summer in hot climate conditions.

DX Cooler

It is used to lower the air temperature after heat recovery in summer in hot climate conditions. By connecting to the VRF outdoor unit, it works like an indoor unit.





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