imbat

imbat.com

CLOSE CONTROL
AIR CONDITIONING SYSTEMS

IN-ROOM

IN-ROW

IN-RACK

REAR DOOR HEAT EXCHANGER

CLOSE CONTROL SYSTEMS

CLOSE CONTROL AIR CONDITIONING SYSTEMS

Imbat's Close Control portfolio includes In-Room, In-Rack, In-Row and Rear-Door Heat Exchangers, delivering precise temperature and humidity control for critical environments. These units are specially designed for data centers, laboratories and other applications where sensitive climate conditions must be maintained without compromise.

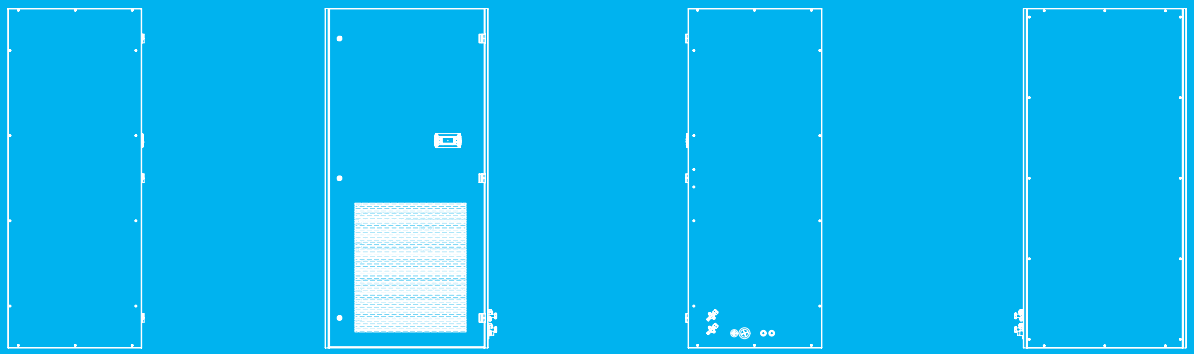
With advanced automation, high efficiency and flexible configurations, Imbat Close Control systems ensure stable performance, protect valuable equipment and create the perfect indoor environment for mission-critical spaces.

IN-ROOM CLOSE CONTROL UNIT

Imbat In-Room Close Contol series deliver reliable, energy-efficient climate control with capacities ranging from 6 kW to 150 kW. Using eco-friendly refrigerants R-454B and R-410A, together with advanced scroll compressor technology, these units provide high performance while ensuring significant energy savings.

Standard features include EC plug fans, electronic expansion valves and a fully automatic control system. Offering precise temperature control (±2 °C) and humidity regulation (±5%), the units provide cooling, heating, humidification and dehumidification, making them ideal for sensitive environments such as test laboratories, telecommunication systems and data rooms.

Engineered with a high sensible heat ratio of 0.85–1, the series is designed to prevent overheating, data loss, oxidation and premature wear, ensuring optimal performance in high sensible heat applications while reducing operational costs. With flexible options such as wired remote control, the Imbat In-Room Air Conditioner series offers customizable, efficient solutions for diverse project requirements.



IN-ROOM CLOSE CONTROL UNIT

kW Capacity Range 6-150

Scroll Compressor

R-454B Refrigerant Fluid R-454 B

Full Automatic

R-410A Refrigerant Fluid R-410 A

Asymmetric Cooling

7/12 °C Chilled Water 7/12°C

Wired Remote Control

Heating

Electronic Expansion Valve

Cooling

EC Supply Fan

Humidiry Control

STANDARD FEATURES

- Precise Temperature and Humidity Control
- High Sensible Heat Ratio (SHR) Control
- EC Fan
- Electronic Expansion Valve (EEV)

WHAT MAKES IMBAT DIFFERENT

- Uninterrupted Cooling for Data Centers
- F-Gas Regulation Compliance
- High Efficiency
- IoT and Automation Options

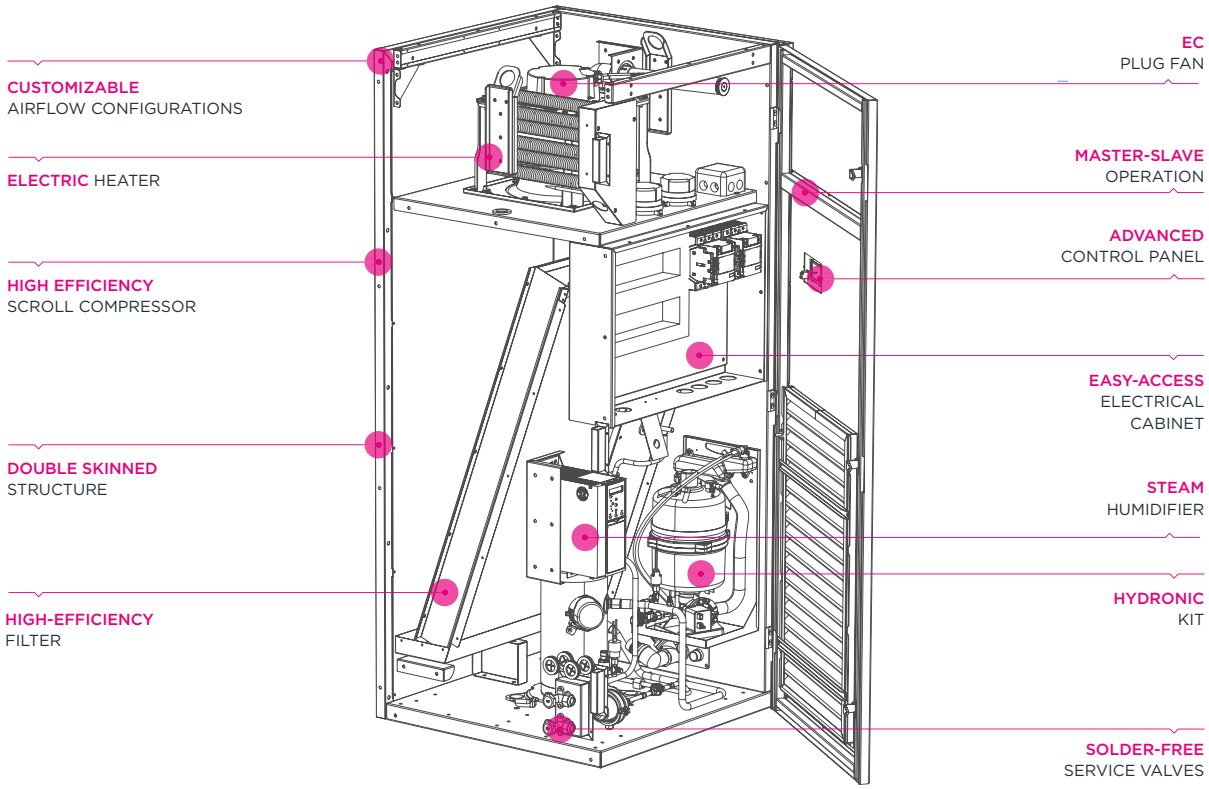
OPTIONAL FEATURES

- Chilled Water System
- Inverter Compressor
- Condenser Fan Speed Control
- Hydrophilic or Epoxy Coated Components
- Microchannel Condenser
- Remote Control & Automation
- Staged Electrical Heater
- Supply Air Humidity Sensor & Smoke Detector
- Water Leak Sensor
- Winter Kit

IN-ROOM CLOSE CONTROL UNIT

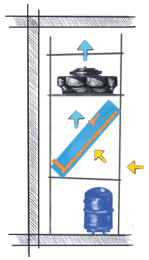
MAIN SPESIFICATIONS

ENGINEERING
IS IN THE DETAILS



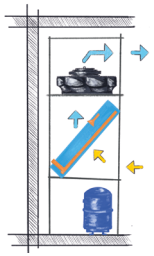
IN-ROOM CLOSE CONTROL UNIT

AIRFLOW DIAGRAMS / 1



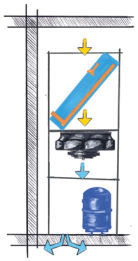
UPFLOW

Air taken in from the front of the unit is filtered to remove dust and particles. It is then cooled and conditioned through the evaporator, before being efficiently discharged into the space by the top-mounted fan.



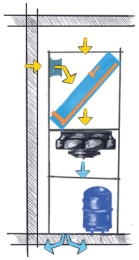
UPFLOW PLENUM BOX

Air taken in from the front of the unit is filtered to remove dust and particles. It is then cooled and conditioned through the evaporator and finally directed and discharged into the space via the plenum box and fan located at the top.



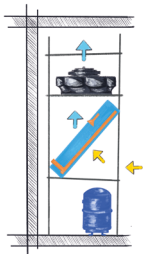
DOWNFLOW

Air is taken in from the top of the unit, filtered to remove dust and particles, cooled and conditioned through the evaporator and finally discharged into the space by the fan at the bottom.



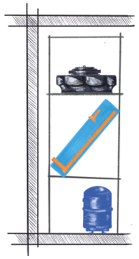
FREE COOLING DOWNFLOW

When suitable outdoor conditions are met, fresh air from outside is filtered and supplied into the space through the bottom of the unit by the fan. In this way, the space is conditioned without activating the cooling system, ensuring energy savings.



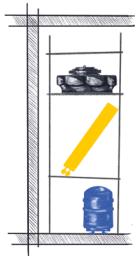
FREE COOLING UPFLOW

When suitable outdoor conditions are met, fresh air from outside is filtered and supplied into the space through the top of the unit by the fan. In this way, the space is conditioned with lower energy consumption, without activating the cooling system.



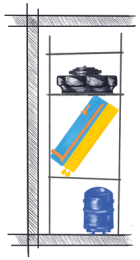
DIRECT EXPANSION

Air taken from the space is filtered, cooled through the evaporator and then supplied back to the space, providing proper conditioning.



WATER COIL

Water cooled by chiller or dry cooler is delivered to the chilled water coil. The unit uses this chilled water to perform the cooling of the space.

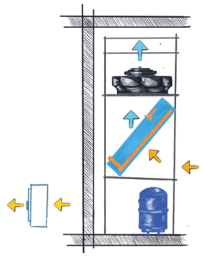


DUAL REFRIGERENT

Dual refrigerant system allows the unit to operate with both a DX coil and a chilled water coil, ensuring flexibility and high operational reliability.

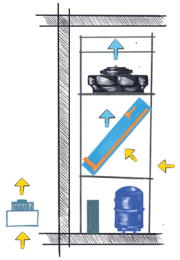
IN-ROOM CLOSE CONTROL UNIT

AIRFLOW DIAGRAMS / 2



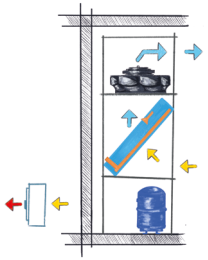
AIR COOLED

Energy of the air extracted from the space is transferred to the outdoor environment through the air-cooled outdoor unit, thereby providing cooling for the space.



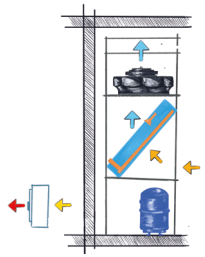
WATER COOLED

DX system transfers heat to water through a heat exchanger. The heated water is cooled by an external system such as a dry cooler or cooling tower before returning to the circuit.



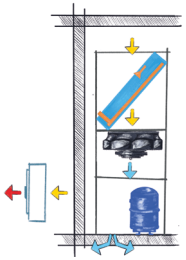
DX AIR COOLED PLANUM BOX

System is direct expansion type with an air-cooled condenser. Air is taken in from the front, conditioned and then supplied to the space through the plenum box at the top.



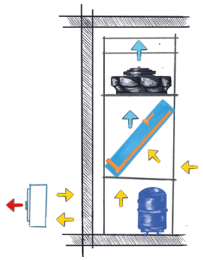
DX AIR COOLED UPFLOW

System is direct expansion with an air-cooled condenser. Air is taken from the front, conditioned and then supplied to the space from the top.



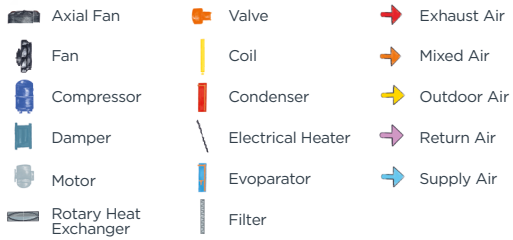
DX AIR COOLED DOWNFLOW

System is direct expansion with an air-cooled condenser. Air is drawn from the top, conditioned and then supplied to the space from the bottom.



DX AIR COOLED FREE COOLING

System is direct expansion with an air-cooled condenser. Under suitable outdoor conditions, the free cooling function provides cooling by using fresh air. This ensures energy savings and reduces compressor operating hours.



IN-ROOM CLOSE CONTROL UNIT

PERFORMANCE DATA / 1

TECHNICAL SPECIFICATIONS		21	31	41	61	71	81	91	101	121	131	151	162	182	202	222	242	262	302	364	404	444
DX COOLING (1)																						
Cooling Capacity	kW	6,05	10,68	14,63	19,76	24,26	27,22	30,84	35,06	40,49	46,15	51,32	52,18	62,08	68,38	75,16	80,78	92,87	103,1	122,61	132,00	148,16
Sensible Cooling Capacity	kW	6,05	10,68	14,63	19,76	24,26	27,22	30,84	35,06	40,49	46,15	51,32	52,18	62,08	68,38	74,41	79,97	91,94	101,04	121,38	130,68	143,72
SHR		1	1	1	1	1	1	1	1	1	1	1	1	1	1	0,99	0,99	0,99	0,98	0,99	0,99	0,97
Compressor Absorbed Power	kW	1,60	2,34	3,31	4,45	5,39	6,03	7,12	7,94	9,07	10,27	11,53	12,13	13,98	15,09	17,02	18,15	20,52	23,04	28,00	30,30	34,10
EER		3,12	3,65	3,81	3,91	3,98	3,96	3,83	3,76	3,76	3,82	3,81	3,64	3,66	4,0	3,92	3,74	3,80	3,78	3,81	3,76	3,72
CHILLED WATER (2)																						
Cooling Capacity	kW	-	-	23,60	29,49	37,88	-	44,32	-	-	70,61	-	86,19	-	102,22	-	117,70	-	147,70	-	-	-
Sensible Cooling Capacity	kW	-	-	20,82	26,03	31,72	-	37,65	-	-	59,23	-	73,51	-	88,11	-	101,70	-	125,27	-	-	-
SHR		-	-	0,88	0,88	0,84	-	0,85	-	-	0,84	-	0,85	-	0,86	-	0,86	-	0,85	-	-	-
Water Flow	m^3/h	-	-	4,05	5,06	6,50	-	7,60	-	-	12,12	-	14,79	-	17,54	-	20,20	-	25,34	-	-	-
Pressure Loss	kPa	-	-	30,29	28,69	34,71	-	35,15	-	-	37,76	-	41,56	-	51,93	-	45,62	-	71,07	-	-	-
COMPRESSOR																						
Compressor Type		Rotary	Scroll																			
Number of Compressor	pcs	1										1	2	2	2	2	2	2	2	4	4	4
Cooling Circuit		1										1								2		
Capacity Control	step	1										1	3	3	3	3	3	3	3	7	7	7
Refrigerant Type		R-410A																				

(1) Cooling conditions: 27°C DB, 50% RH indoor, 35°C outdoor temperature. Heat pump heating conditions: 20°C DB indoor temperature and 7°C DB outdoor temperature.
(2). Cooling capacity for the Chilled Water Cooling type (HK.0N0...) is based on 35 °C DB, 30% RH indoor air and 7/12 °C water conditions.

IN-ROOM CLOSE CONTROL UNIT

PERFORMANCE DATA / 2

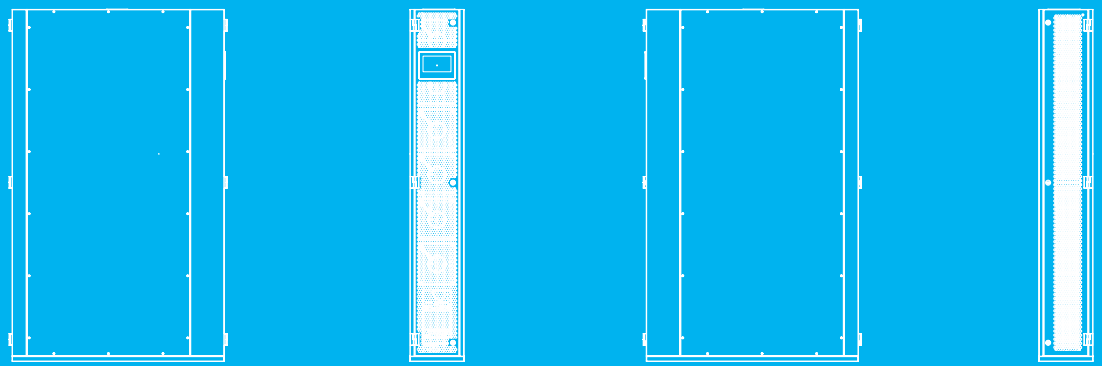
TECHNICAL SPECIFICATIONS			21	31	41	61	71	81	91	101	121	131	151	162	182	202	222	242	262	302	364	404	444
VANTILATOR																							
STND	Fan Type		EC Plug																				
	Airflow Rate	m^3/h	111	3.400	3.600	4.500	5.000	5.800	6.200	8.400	9.200	9.400	11.400	12.300	14.200	15.000	15.800	18.600	19.700	22.800	25.200	27.400	30.000
	Static Pressure	Pa	30	30	30	30	30	30	30	50	50	50	50	50	50	50	50	50	50	50	50	50	50
	Number of Fan	pcs	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	3	4	4	4
	Fan Motor Power	kW	0,34	0,59	0,53	0,60	0,70	0,84	0,93	1,36	1,70	1,82	1,94	2,22	2,98	2	2,14	3,46	3,9	4,2	4,18	4,77	5,56
DEHUMIDIFIER *																							
Dehumidifier Type			Cooling + Electric Reheater																				
Capacity (Stnd/Max)		kW	3	3	3	3/6	6/12	6/12	6/12	9/15	9/15	9/15	9/15	12/18	12/18	12/18	12/18	18/24	18/24	18/24	18/30	18/30	18/30
HUMIDIFIER*																							
Humidifier Type			Steam																				
Capacity		kg/h	3	3	3	3	3/8	3/8	3/8	3/8	3/8	3/8	3/8/15	3/8/15	3/8/15	3/8/15	3/8/15	3/8/15	3/8/15	3/8/15	3/8/15/30	3/8/15/30	3/8/15/30
Power Input (Max,)		kW	2,25	2,25	2,25	2,25	6,00	6,00	6,00	6,00	6,00	6,00	11,50	11,50	11,50	11,50	11,50	11,50	11,50	11,50	22,50	22,50	22,50
SOUND LEVEL																							
Sound Power Level		dB(A)	66	71	65	60	63	66	67	72	74	74	76	77	79	67	68	77	78	77	75	76	78
Sound Pressure Level (3m)		dB(A)	49	53	48	43	45	48	49	54	56	57	59	60	62	50	51	59	61	60	57	59	61
DIMENSIONS																							
Width		mm	700	700	700	700	780	780	780	930	930	930	930	930	930	930	930	930	930	930	930	930	930
Length		mm	700	700	780	780	950	950	950	1300	1300	1300	1600	1600	1950	1950	1950	2450	2450	2750	3050	3200	3350
Height		mm	1600	1600	1980	1980	1980	1980	1980	1980	1980	1980	1980	1980	1980	1980	1980	1980	1980	1980	1980	1980	1980
Weight		kg	180	200	235	255	360	370	420	510	525	535	640	685	780	790	810	965	975	985	1125	1140	1160

Cooling capacity at 35°C DB, 30% RH indoor temperature and 47°C condensation temperature,
*Optional

Imbat reserves the right to make changes in model, capacity, dimensions and specifications without prior notice.

IN-ROW CLOSE CONTROL UNIT

Imbat In-Row Air Conditioner series delivers precise and reliable climate control from 10 kW to 40 kW. Equipped with eco-friendly refrigerants, inverter compressor technology and EC plug fans, these units combine high efficiency with sustainability. Offering cooling, heating and dehumidification with ±2 °C temperature and ±5% humidity precision, they are ideal for sensitive environments such as data centers, server rooms and telecom systems. High sensible heat performance ensures data protection and long-term reliability, all with low operating costs.



IN-ROW CLOSE CONTROL UNIT

R-454B Refrigerant Fluid

Direct Expansion Evaporator

R-410A Refrigerant Fluid

Full Automatic

Inverter Scroll Compressor

Humidiry Control

7/12 °C Chilled Water

Filter Alarm

Cooling

Electric Heater

EC Plug Fan

Easy Service & Maintenance

Electronic Expansion

STANDARD FEATURES

- High Efficiency Tailored for Close Controls
- Chilled Water Operation
- EC Fan
- Electronic Expansion Valve (EEV)
- Direct Expansion (DX) Evaporator
- Fully Automatic Control System
- Humidity Control
- Filter Alarm
- Inverter Compressor
- Ease of Service and Maintenance
- Low and High-Pressure Switches

WHAT MAKES IMBAT DIFFERENT

- Compact and Modular Design Tailored for Data Centers
- High Efficiency Tailored for Close Controls
- Uninterrupted Cooling for Data Centers

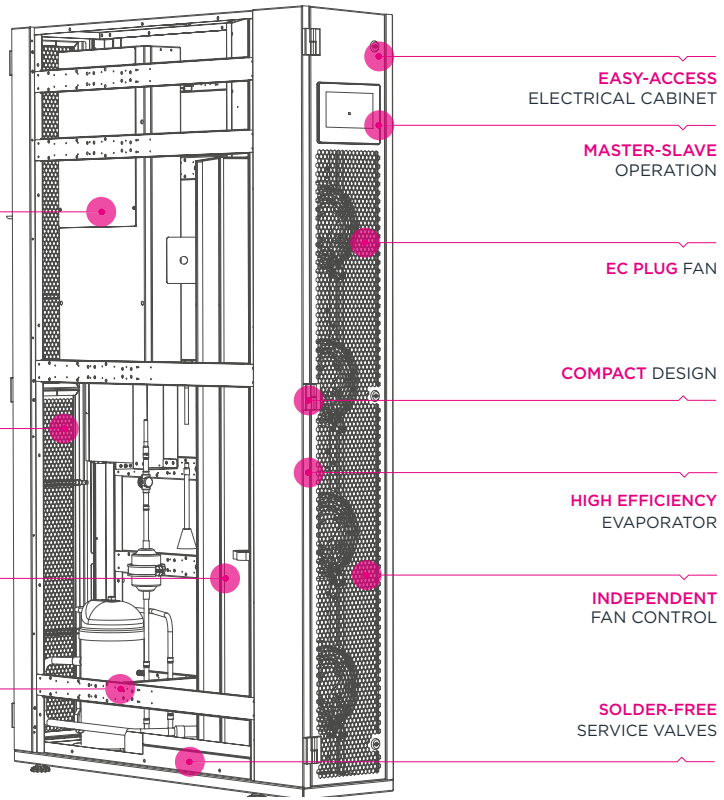
OPTIONAL FEATURES

- Check Valve In Liquid Line
- Hydrophilic or Epoxy Coated Components
- Low Noise Level
- Copper Tube and Copper Fin Condenser
- Microchannel Condenser
- Staged Electrical Heater
- Supply Air Humidity Sensor
- Remote Control & Automation
- Control Panel with Graphical Interface Tailored for Close Controls
- Building Management System (BMS) Integration Options
- Condenser Fan Speed Control
- Water Leak Sensor
- Chilled Water Operation
- Indoor Compatibility
- High Outdoor Temperature Capability
- Winter Kit

IN-ROW CLOSE CONTROL UNIT

MAIN SPESIFICATIONS

ENGINEERING
IS IN THE DETAILS



IN-ROW CLOSE CONTROL UNIT

PERFORMANCE DATA

TECHNICAL SPECIFICATIONS			COLM 012	COLM 017	COLM 025	COLM 037
COOLING						
Cooling Capacity		kW	13,40	17,70	25,80	37,90
Sensible Heat Capacity		kW	13,40	17,70	25,80	37,90
Compressor Power		kW	2,80	3,70	5,30	7,80
Sensible Heat Ratio			1	1	1	1
EER			4,04	4,30	4,39	4,28
COMPRESSOR						
Refrigerant Type			R-410A			
Number of Compressor		pcs	1	1	1	1
Compressor Type			Inverter Scroll Compressor			
VANTILATOR						
STND	Fan Type		EC Plug			
	Airflow Rate	m^3/h	3650	4050	5000	8300
	Static Pressure	Pa	50	50	50	50
	Number of Fan	pcs	3	4	5	3
	Fan Motor Power	kW	0,47	0,44	0,57	1,07
SOUND LEVEL						
Sound Power Level		dB(A)	85	82	83	89
Sound Pressure Level (10m)		dB(A)	67	64	65	71
DIMENSIONS						
Widht		mm	300	300	300	600
Lenght		mm	1200	1200	1200	1200
Height		mm	1950	1950	1950	1950
Weight		kg	249	258	276	348

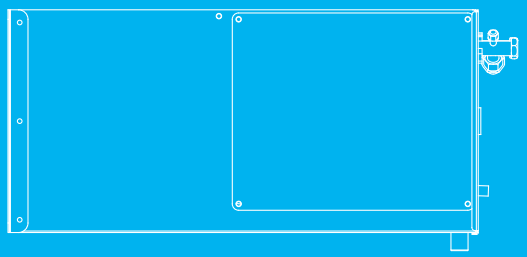
Imbat reserves the right to make changes in model, capacity, dimensions and specifications without prior notice.

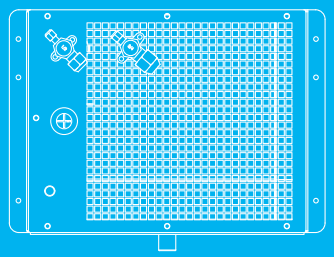
IN-RACK CLOSE CONTROL UNIT

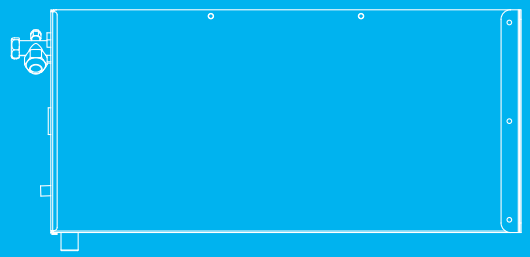
Imbat's In-Rack Units are, designed for single server cabinets and they provide a reliable and energy-efficient cooling solution. By targeting only the server cabinet, it avoids unnecessary energy consumption while delivering high-performance cooling. Equipped with features such as an inverter scroll compressor, EC fan and electronic expansion valve (EEV), the system ensures precise temperature control and optimal efficiency.

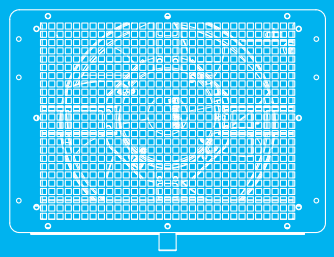
The compact design, with an internal evaporator unit placed inside the server cabinet and an external condenser unit, allows for quick installation and effective cooling of critical spaces. Using R-410A or R-454B refrigerants, the system complies with European F-gas regulations.

Inverter technology enables flexible operation and reduced energy costs, while the fully automatic control system and easy maintenance make it user-friendly. Imbat's In-Rack air conditioners are the ideal choice for modern data centers, delivering localized, uninterrupted cooling with minimal operating costs.









IN-RACK CLOSE CONTROL UNIT

R-454B Refrigerant Fluid

Electronic Expansion

R-410A Refrigerant Fluid

Direct Expansion Evaporator

Inverter Scroll Compressor

Full Automatic

7/12 °C Chilled Water

Humidiry Control

Cooling

Inverter

EC Plug Fan

Easy Service & Maintenance

STANDARD FEATURES

- High-Efficiency Scroll Compressor
- EC Fan
- Ease of Service and Maintenance
- Electronic Expansion Valve (EEV)
- Direct Expansion (DX) Evaporator
- Fully Automatic Control System

WHAT MAKES IMBAT DIFFERENT

- Targeted Cooling for Maximum Efficiency
- Eco-Friendly Design
- Flexible Design Tailored for Data Centers

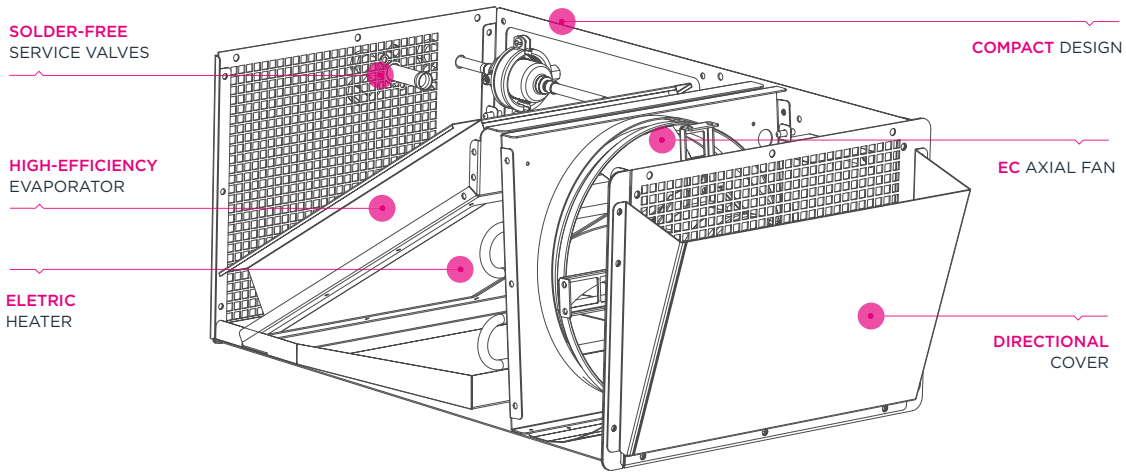
OPTIONAL FEATURES

- Remote Control & Automation
- Hydrophilic or Epoxy Coated Components
- Condenser Surface Protection Mesh
- Models for High Ambient Temperatures
- Low Noise Level
- Microchannel Condenser
- Flexible Design for Special Projects
- Winter Kit
- Rail Kit

IN-RACK CLOSE CONTROL UNIT

MAIN SPESIFICATIONS

ENGINEERING
IS IN THE DETAILS



PERFORMANCE DATA

TECHNICAL SPECIFICATIONS			GRUS 010
COOLING			
Cooling Capacity		kW	10,64
Sensible Heat Ratio Capacity		kW	10,64
Compressor Power		kW	3,13
EER			3,18
Sensible Heat Ratio			1
COMPRESSOR			
Refrigerant Type			R-410A
Number of Compressor		pcs	1
Compressor Type			Inverter Scroll
VANTILATOR			
STND.	Fan Type	-	EC Axial
	Air Flow Rate	m^3/h	1.600
	Static Pressure	Pa	50
	Number of Fan	pcs	1
	Fan Motor Power	kW	0,21
SOUND LEVEL			
Sound Power Level		dBA	85
Sound Pressure Level (3m)		dBA	67
DIMENSIONS			
Width		mm	496
Length		mm	740
Height		mm	355
Weight		kg	47

Cooling capacity at 40°C DB, 20% RH indoor temperature and 35°C outdoor temperature.

Imbat reserves the right to make changes in model, capacity, dimensions and specifications without prior notice.

REAR DOOR HEAT EXCHANGER

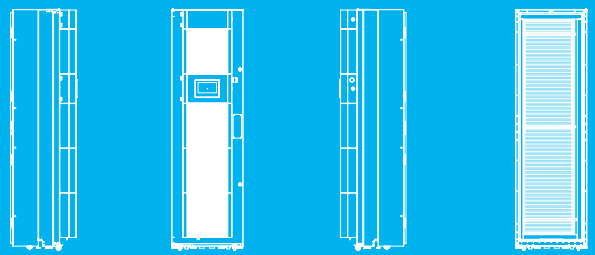
Imbat Rear-Door Heat Exchangers provide high-efficiency cooling for data centers, designed to operate with chilled water (7 °C/12 °C). Positioned directly at the rear door of the server cabinet, close to the heat source, they maximize cooling efficiency while significantly reducing energy costs.

These units deliver both cooling and heat recovery functions simultaneously. They transfer waste heat from server systems to the unit's water circuit, returning it back to the system. This process not only reduces the overall heat load of the data center but also lowers cooling demand and energy consumption.

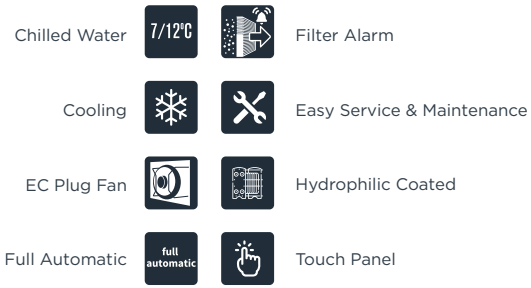
Equipped with a high-efficiency EC axial fan and proportional valve control, the system ensures precise capacity regulation, optimized airflow and reduced turbulence, improving both performance and energy efficiency. A hydrophilic-coated heat exchanger prevents water accumulation and contamination, extending service life and ensuring long-term reliability.

To maintain system hygiene, the integrated filtration system provides clean, high-quality air, protecting equipment and contributing to longer unit lifespan.

Standard features include a 7-inch customizable touch panel for easy operation, filter pollution alarms to indicate maintenance needs and Modbus RTU communication for seamless integration with industrial automation systems. With its plug-and-operate design and easy installation and servicing, the Imbat Rear-Door Air Conditioner is a practical, energy-efficient solution tailored to the demanding requirements of modern data centers.



REAR DOOR HEAT EXCHANGER



STANDARD FEATURES

- High-Efficiency EC Axial Fan
- Hydrophilic Heat Exchanger Coating
- Filter Alarm
- Proportional Valve Control
- 7 Inch Touch Panel
- Ease Of Service and Maintenance

WHAT MAKES IMBAT DIFFERENT

High Efficiency

A Product of Extensive R&D

Wide Range of Customizable Options

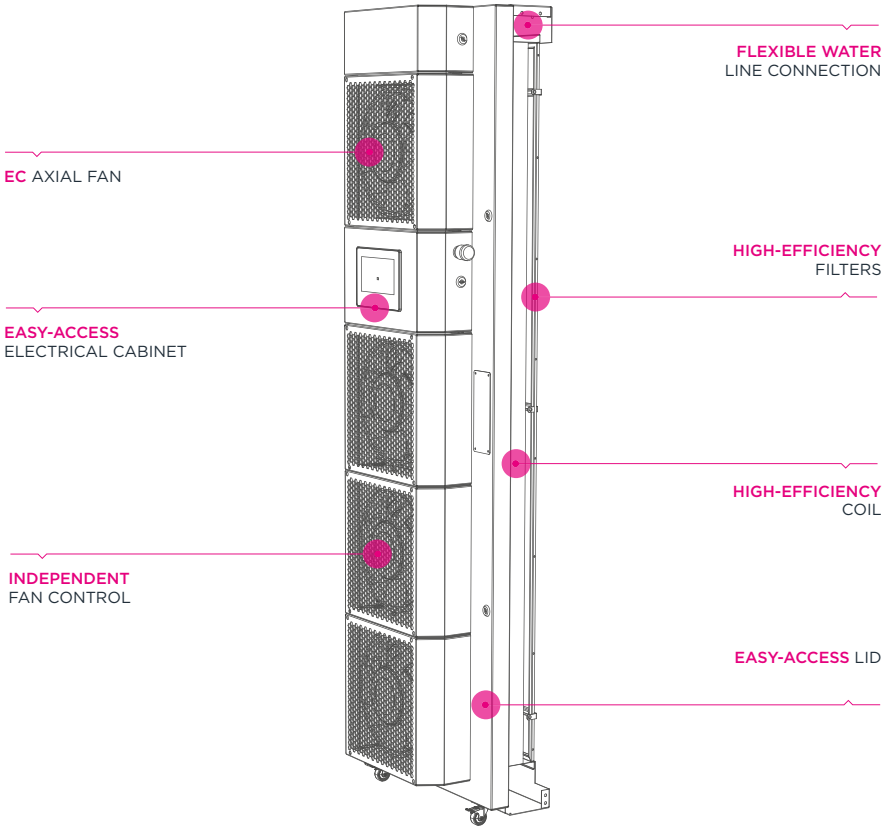
OPTIONAL FEATURES

- Heat Recovery
- Independent Fan Control
- Water Leak Sensor
- Three-Way Valve
- Modbus RTU Communication Protocol
- Communication Protocol
- Fire Alarm
- 4.3” Touch Panel
- Airflow Sensor

REAR DOOR HEAT EXCHANGER

MAIN SPESIFICATIONS

ENGINEERING
IS IN THE DETAILS



REAR DOOR HEAT EXCHANGER

PERFORMANCE DATA

TECHNICAL SPECIFICATIONS		CORV 055	CORV 055	CORV 055	CORV 048	CORV 048	CORV 048
Total Cooling Capacity	kW	52,62	47,85	29,77	47,05	42,99	26,76
Sensible Heat Ratio		1	1	1	1	1	1
Power Supply	V/ph/Hz	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50
Airflow Rate	m^3/h	7500	7500	7500	7500	7500	7500
Fan Type		24 VDC Axial Fan	24 VDC Axial Fan	24 VDC Axial Fan	24 VDC Axial Fan	24 VDC Axial Fan	24 VDC Axial Fan
Fan Quantity	kW	4			4		
Fan Absorbed Power	kg/h	0,96			0,99		
Water Flow	-	7530	10300	10300	6740	9240	9240
Connections	-	DN25 (1" BSP)					
Rack Unit		42U					
DIMENSIONS							
Lenght	mm	1996	1996	1996	1996	1996	1996
Widht	mm	600	600	600	600	600	600
Height	mm	324	324	324	305	305	305
Parameters		Return Air Temperature 40 °C DB / RH 20%					
		Inlet water temperature: 10 °C Outlet water temperature: 16 °C	Inlet water temperature: 14 °C Outlet water temperature: 18 °C	Inlet water temperature: 24 °C Water flow rate: 10300 kg/h	Inlet water temperature: 10 °C Outlet water temperature: 16 °C	Inlet water temperature: 14 °C Outlet water temperature: 18 °C	Inlet water temperature: 24 °C Water flow rate: 9240 kg/h