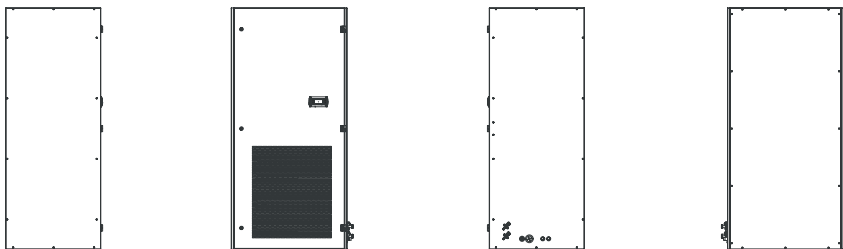


IN-ROOM AIR CONDITIONERS

The Imbat In-Room Air Conditioners series offers energy-efficient climate control with a capacity range of 6 kW to 150 kW. Utilizing eco-friendly R410-A and R454-B refrigerants, along with advanced scroll compressor technology, these units ensure high performance and energy savings. Standard features include EC fans, electronic expansion valves, and a fully automatic control system. The units provide cooling, heating, humidification, and dehumidification with precise temperature control (± 2 °C) and humidity regulation (± 5 %), making them ideal for sensitive environments like test rooms and telecommunication systems.

Designed to prevent overheating, data loss, oxidation, and early wear, the series features a high sensible heat ratio of 0.85-1, delivering optimal performance for high sensible heat applications while minimizing operational costs. With flexible options for wired remote control, these units offer customizable solutions for various project needs.



IN-ROOM AIR CONDITIONERS

- kW Capacity Range   Scroll Compressor
- Refrigerant Fluid   Full Automatic
- Refrigerant Fluid   Asymmetric Cooling System
- Chiller Water   Wired Remote Controller
- Heating   Electronic Expansion Valve
- Cooling   EC Supply Fan
- Humidity Control 

STANDARD FEATURES

PRECISE TEMPERATURE AND HUMIDITY CONTROL

The advanced control system ensures precise temperature regulation within a tolerance of ± 2 °C and humidity control within ± 5 %. This is essential for maintaining optimal conditions and avoiding issues such as overheating, data loss, or oxidation in sensitive environments.

HIGH SENSIBLE HEAT RATIO (SHR) CONTROL

With a high sensible heat ratio of 0.85 to 1, this unit delivers efficient climate control, especially in areas with high sensible heat loads. This feature ensures superior cooling performance while minimizing operational costs.

EC FAN

The electronically commutated (EC) fan provides variable airflow control, adjusting its speed according to demand. This ensures optimal airflow and energy savings while reducing noise levels and enhancing comfort.

ELECTRONIC EXPANSION VALVE (EEV)

The electronic expansion valve (EEV) precisely manages the refrigerant flow, optimizing the system's performance under varying conditions. This contributes to greater energy efficiency and superior control over temperature and humidity.



IN-ROOM AIR CONDITIONERS

OPTIONAL FEATURES

▶ WATER-COOLED SYSTEM

This unit uses water as the primary medium for heat exchange, significantly enhancing cooling efficiency, especially in high-temperature environments. By relying less on external air conditions, the system maintains high performance, even in demanding applications like telecom systems and test rooms.

▶ INVERTER COMPRESSOR

The inverter compressor allows for variable-speed operation, optimizing energy efficiency by adjusting the system's performance to match the cooling or heating demand.

▶ ULTRASONIC HUMIDIFIER

An ultrasonic humidifier can be integrated for precise humidity control, enhancing indoor comfort and maintaining ideal moisture levels in sensitive environments.

▶ HYDROPHILIC OR EPOXY COATED COMPONENTS

Evaporators, condensers, and chilled water coils can be coated with hydrophilic or epoxy materials, protecting against corrosion and improving heat transfer efficiency, especially in challenging environments.

▶ MICROCHANNEL CONDENSER

The microchannel condenser provides enhanced heat exchange capabilities with a more compact design, improving overall system performance and energy efficiency.

▶ STAGED ELECTRICAL HEATER

For precise temperature control, a staged electric heater can be added, allowing for gradual heating adjustments based on demand.

▶ SUPPLY AIR HUMIDITY SENSOR & SMOKE DETECTOR

Optional sensors for humidity in the supply air and smoke detection can be included to ensure optimal indoor conditions and safety.

▶ REMOTE CONTROL PANEL & GRAPHICAL INTERFACE

A remote control panel with a user-friendly graphical interface allows for easy monitoring and control of the system, providing flexibility in operation.

▶ CONDENSER FAN SPEED CONTROL

The system includes condenser fan speed control for efficient operation under varying load conditions, ensuring optimal performance in different environments.

▶ SYSTEM INTEGRATION & REMOTE ACCESS

With Lonwork or Bacnet protocols, the unit can be seamlessly integrated into Building Management Systems (BMS). Remote access is also available via Ethernet, modem, or Modbus for convenient monitoring and adjustments.

▶ WATER LEAK SENSOR & WATER LOW-FLOW PROTECTION

A water leak sensor and water low-flow protection for the chilled water coil are available to prevent damage and ensure safe, uninterrupted operation.

▶ WINTER KIT & HIGH OUTDOOR TEMPERATURE SUITABILITY PROTECTION

The winter kit enables reliable operation in low ambient temperatures, while the unit is also designed to handle high outdoor temperatures effectively.



IN-ROOM AIR CONDITIONERS

WHAT MAKES İMBAT DIFFERENT

▶ FREE COOLING

The İmbat In-Room Air Conditioners series offers both direct and indirect free cooling options to minimize energy consumption. In direct free cooling, outdoor air is used at rates between 0% and 100%, while in indirect free cooling, outdoor air cools water, further reducing energy use. This ensures efficient operation, especially in cooler climates or during night-time cooling periods.

▶ HIGH EFFICIENCY

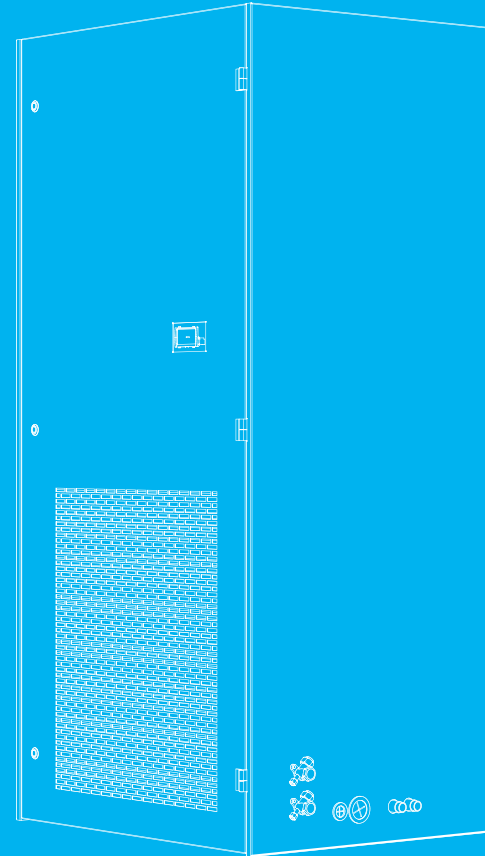
İmbat's precision-controlled air conditioners are engineered for maximum energy efficiency. Large heat transfer surfaces are applied as standard in both the evaporator and condenser, improving overall system performance and ensuring optimal heat exchange.

▶ F-GAS REGULATION COMPLIANCE

The In-Room Air Conditioners series complies with F-gas regulations, ensuring environmentally friendly operation. This adherence to standards helps reduce greenhouse gas emissions and supports sustainability goals, aligning with global environmental policies.

▶ IOT-INTEGRATED SYSTEMS

The IoT-integrated design allows for seamless remote control and monitoring of the air conditioning system. This feature enhances operational efficiency, enabling real-time data access and management to ensure optimal performance at all times.



IN-ROOM AIR CONDITIONERS

► PERFORMANCE DATA R410-A / 1

TECHNICAL SPECIFICATIONS	21	31	41	61	71	81	91	101	121	131	151	162	182	202	222	242	262	302	364	404	444
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COOLING																						
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	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	75,16	80,78	92,87	103,1	122,61	132	148,16
SHR		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Power Input	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	30,3	34,1
EER		3,12	3,65	3,81	3,91	3,98	3,96	3,83	3,77	3,76	3,82	3,81	3,64	3,66	4,00	3,92	3,74	3,80	3,78	3,81	3,76	3,74

COLD WATER COIL (7/12°C)																						
Total Cooling Capacity	kW			23,60	29,49	40,56	43,35	47,54	53,00	65,99	72,30	79,56	84,97	90,42	102,94	107,53	116,00	134,97	160,36	177,36	192,78	211,20
Sensible Cooling Capacity	kW			20,82	26,03	33,72	36,35	40,17	45,69	54,42	61,03	67,98	71,73	77,51	89,92	92,75	101,13	116,14	136,37	151,21	163,81	182,13
SHR				0,88	0,88	0,83	0,84	0,84	0,86	0,82	0,84	0,85	0,84	0,86	0,87	0,86	0,87	0,86	0,85	0,85	0,85	0,86
Water Flow	m /h			4,05	5,06	6,96	7,44	8,16	9,09	10,81	12,41	13,65	14,58	15,51	17,66	18,45	20,04	23,16	27,52	30,43	33,08	36,24
Pressure Loss	kPa			30,29	28,69	39,41	40,37	40,01	44,51	43,08	36,21	41,38	43,67	48,08	43,65	47,42	41,08	46,85	46,93	44,85	42,8	37,51

COMPRESSOR																				
Compressor Type			Rotary	Scroll								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.



IN-ROOM AIR CONDITIONERS

► PERFORMANCE DATA R410-A / 1

TECHNICAL SPECIFICATIONS	21	31	41	61	71	81	91	101	121	131	151	162	182	202	222	242	262	302	364	404	444
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VANTILATOR																							
STND	Fan Type		EC Plug																				
	Air Flow Rate	m /h	2500	3400	3600	4500	5000	5800	6200	8400	9200	9400	11400	12300	14200	15000	15800	18600	19700	22800	25200	27400	30000
	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	0,6	0,7	0,84	0,93	1,36	1,7	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										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	4,0	4,0	4,0	4,0	8,0	8,0	8,0	8,0	8,0	8,0	15,0	15,0	15,0	15,0	15,0	15,0	15,0	15,0	30,0	30,0	30,0
Power Input (Max.)	kW	3,00	3,00	3,00	3,00	6,00	6,00	6,00	6,00	6,00	6,00	11,30	11,30	11,30	11,30	11,30	11,30	11,30	11,30	22,50	22,50	22,50

SOUND PRESSURE LEVEL																						
Sound Power Level	dB(A)	79	68	68	65	68	71	73	74	75	75	78	78	80	81	74	78	79	79	79	85	80
Sound Pressure Level (3m)	dB(A)	46	50	49	47	51	53	55	56	58	58	60	61	63	64	56	61	62	62	61	67	63

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	430	510	520	535	640	765	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

