



HITACHI
Air conditioning solutions

HITACHI

Expertise that delivers

TOUSHI SERIES Ductable Range of Air Conditioners

Cooling & Heating



Hitachi

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Our thoughts, your belief, together creating **Expertise that delivers**



VAST DEALER NETWORK
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TRAINING CENTRES
We train to serve you better.



PROJECT EXECUTION SUPPORT
We are around you all the time.



CUSTOMERS, OUR PRIORITY
We always put you first.



INNOVATIVE TECHNOLOGY
We make your life easier.



ADVANCE TESTING FACILITIES
We test, so you get the best.



CUSTOM-BUILT PRODUCTS
We design around you.



FAST DELIVERY
We manufacture our products in India.

We believe in your dreams and we are always eager to go the extra mile to turn them into reality. From sharing our knowledge, technology and expertise to creating customised solutions for your business, we do everything to help your business grow. We aim to set new benchmarks with our service standards and this drive to delight you defines who we are.



About Us

Johnson Controls-Hitachi Air Conditioning is a joint venture company of Johnson Controls U.S. and Hitachi Appliances, Japan. Through this joint venture, we have combined the rich heritage and innovative technology with the industry-leading expertise and global network of Johnson Controls.

Headquarters of its India unit, Johnson Controls-Hitachi Air Conditioning India Ltd. (JCH-IN) is situated in Ahmedabad, Gujarat with the manufacturing plant in Kadi, Gujarat. JCH-IN provides advanced air conditioning solutions to meet a wide variety of needs. Besides room air conditioners, we offer numerous models for commercial use including VRF air conditioning systems, packaged air conditioners, chillers and telecom air conditioners.

Drawing on our extensive experience and advanced air conditioning and refrigerating technology, we are able to offer end-to-end solutions that can make a lot of difference to your business.



State-of-the-art factory at Kadi, Gujarat

TOUSHI RANGE OF DUCTABLE ACs

The word Tousei is derived from a Japanese term that means 'Fighter'. It has been ingeniously engineered for maximum personal comfort and it offers smart solution to professionals like architects, HVAC consultants and more. Tousei range offers factory charged and tested refrigerant, ease of installation, ease of operations and safety features that are made according to the customer's needs. Need a cooling expert for any requirement, trust Tousei.



UNIQUE CHARACTERISTICS



Powerful
(More Efficient)
• Part Load Operation
• Phase Starting of Compressor



Comfort
(Ease of Operation)
• Wireless Remote



Proficient
(Enhanced Performance)
• Silent Operation
• Factory Charged Refrigerant



Reliable
(Higher Ambient Temperature)
• Up to 52°C

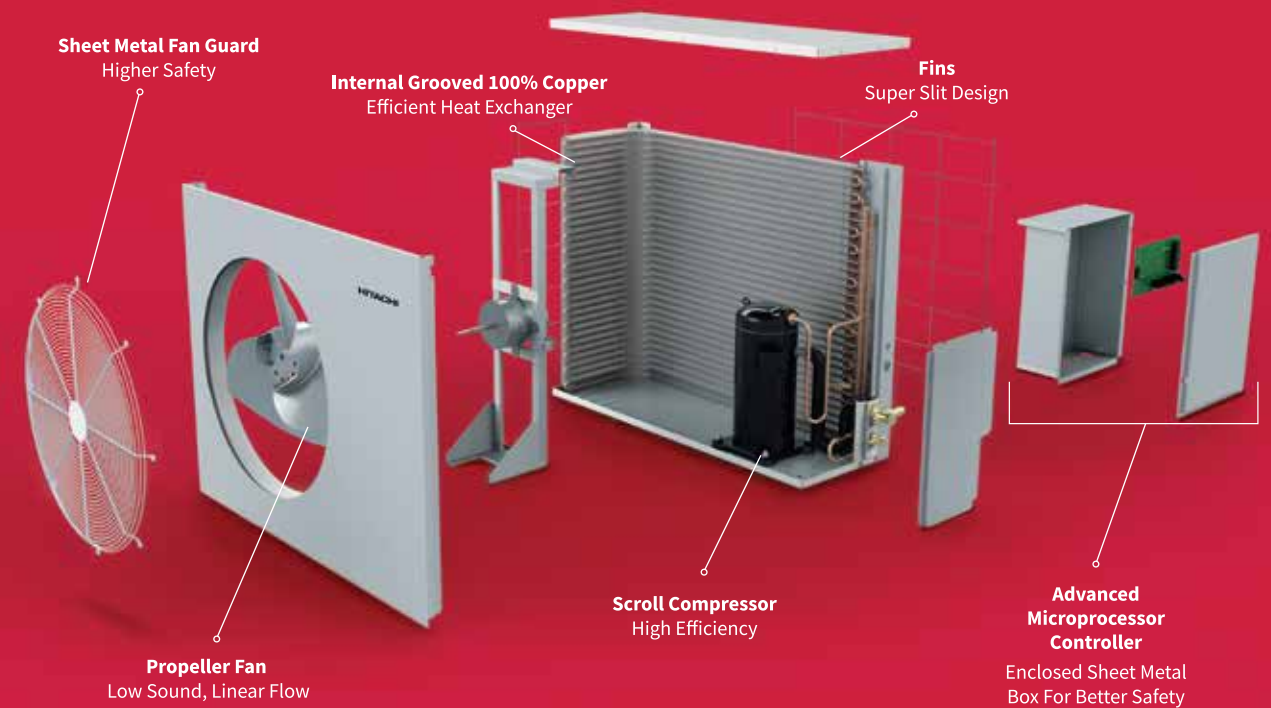


Safety
(Safer Units)
• Advanced Microprocessor Control



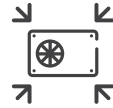
Flexibility
(Design Convenience)
• Flexibility in IDU Mounting
• Compact Design

Illustration of Ductable Outdoor Unit

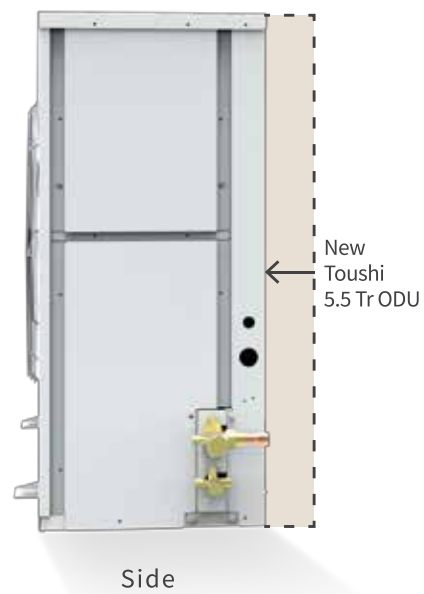
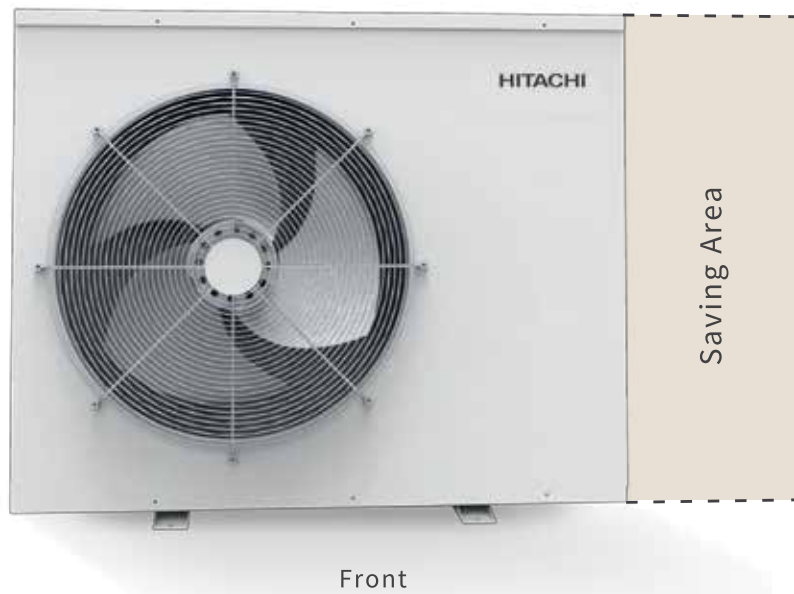


MORE ABOUT TOUSHI

COMPACT DESIGN



The new sleek chassis of ODU offers better aesthetics with 24% reduced floor space and 13% reduced volume. It occupies less area and leaves you with more space around it.



24% Saving Area

TROPICAL DESIGN



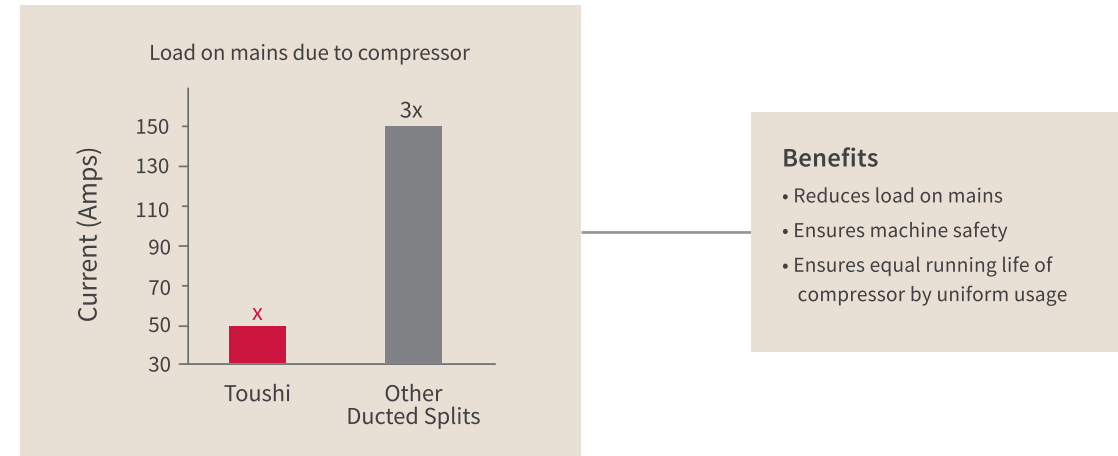
Designed for high ambient conditions, these units guarantee reliable operation even at 52°C outdoor air temperature. Apart from many other reliability tests, the units have been tested for 'maximum overload' condition at 52°C in our state-of-the-art test labs.

- Optimum cooling capacity
- Low deration
- High COP

PHASE STARTING OF COMPRESSOR



The microprocessor embedded in controller provides a delay between the start-up of compressors of the same machine.

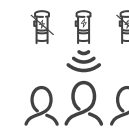


Benefits

- Reduces load on mains
- Ensures machine safety
- Ensures equal running life of compressor by uniform usage

Image for reference purpose only
Illustration of 7.5 Tr Ductable Unit

PART LOAD OPERATION OF MULTIPLE COMPRESSOR

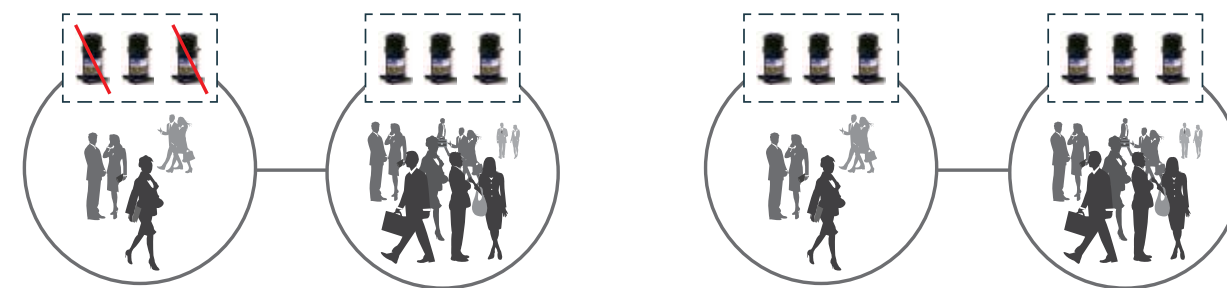


When the room temperature is close to the set temperature, the microprocessor shuts off the compressors automatically in a phased manner.

- Energy saver
- Prevents redundancy
- Reduces wear & tear of compressor
- Prevents overcooling

Benefits

Saves power to avoid overcooling which affects the operating cost.



Hitachi

Conventional

WHAT MAKES US DIFFERENT

ENGINEERED BLOWER HOUSING DESIGN



The blower housing design has been modified to reduce the sound level in the model. The suction area and discharge area are increased to achieve uniform airflow. The volute design has been changed to minimise the effect of turbulence in airflow. It is a two-piece design with FR grade ABS plastics.

- Benefits**
- Improved airflow efficiency with minimum pressure loss
 - Improved sound level



REMOTE CONTROLLER



Introducing New Wireless Remote Controller Along with Standard Wired Controller.

It's Key Features Are:

- Seven Segment Display
- Wireless Remote Sensing
- Modes : Cool & Fan
- Room Temperature Setting 16° C to 30° C
- Room & Set Temperature Display
- 24 Hour Timer
- Self-Diagnosis
- Manual Compressor Selection
- Auto Restart
- Compressor Run Time Indication

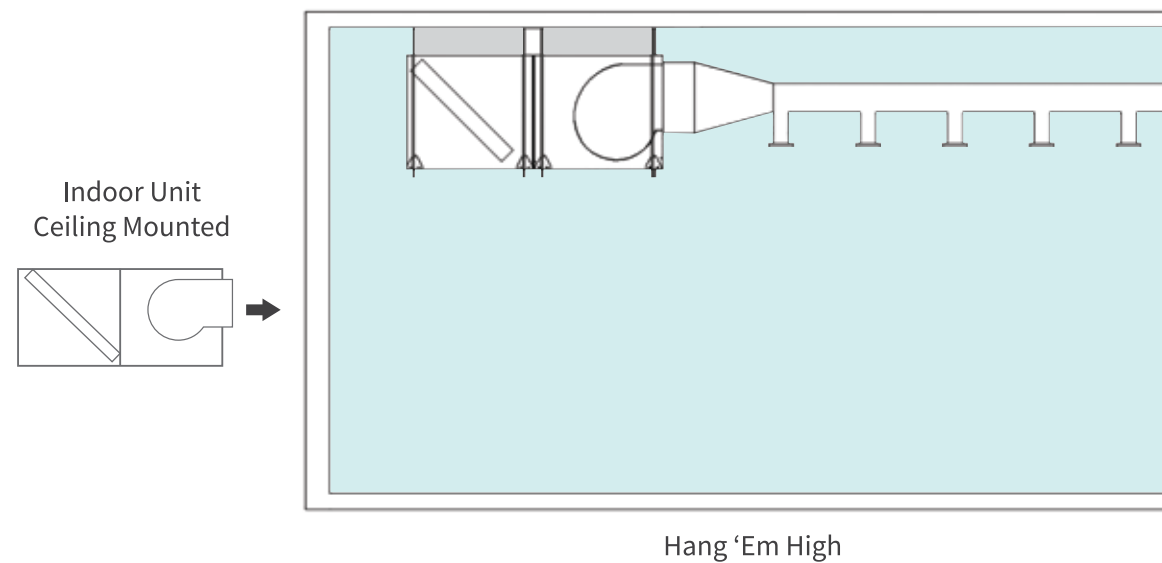
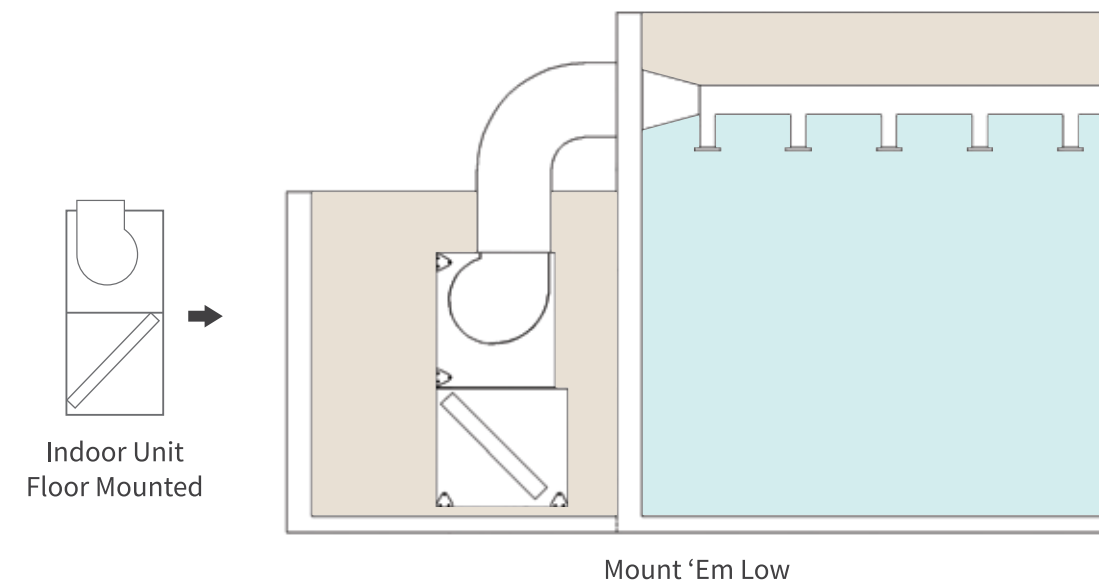


FLEXIBILITY IN CONVERTIBLE IDU



Looking at the space constraints, the new 16.5 TR unit of the Toushi series has been specially designed with a convertible fan compartment & coil compartment. The same indoor unit can thus, be used as floor mounted or ceiling suspended. This innovative design gives the flexibility of installation for better management of space.

- Benefits**
- Better space management
 - Flexibility of installation
 - Ease of service



SCROLL COMPRESSOR

Scroll Compressor is designed and engineered to deliver optimum cooling efficiency over the entire operating range. The simple internal suction and discharge valves enhances quieter operation and considerably less moving parts of the unit have less wear and tear, which increases reliability when compared to conventional compressor. The ability to start under any system load without start components and better liquid handling capability by scroll compressor, makes air conditioner more reliable.

Benefits

- High volumetric efficiency
- Unmatched durability or reliability
- Low sound level and low vibration
- Unloaded start and smooth operation
- Accurate temperature control
- Optimised operational cost



FACTORY CHARGED REFRIGERANT

Hitachi ductable unit has factory charged refrigerant. All units are tested in factory under standard quality parameters, which ensures best performance of the units when installed. All units are equipped with service valve, which provides pump down of refrigerant and hassle free relocation of the unit.

ADVANCED MICROPROCESSOR CONTROLLER

Advanced Microprocessor Controller safeguards compressor from the following:

Over Current/Overload

When a compressor is subjected to increased current, excessive heat is generated in the system, which causes insulation to break down, resulting in decreased life expectancy of the compressor.

Over/Under Voltage

During voltage fluctuation, protection circuit will shut down the supply or clamp the output, preventing any damage to the compressor.

Single Phase/Phase Loss

If any phase in the compressor stops working, then it draws full current in the circuit hence increasing the load on unit. The protection circuit will clamp the output and save the device from any further damage.

High/Low Pressure

When pressure level crosses the upper/lower limit of the safe region, the protection circuit will trip the compressor and save the device from further damage.

Reverse Phase

If the 3-phase circuit starts operating in reverse direction then compressor runs in an anticlockwise direction resulting in breakdown. A protection circuit is available with unit so that the 3-phase system works in proper condition and if default occurs then machine trips until the fault is rectified.

Benefits

- Low power consumption
- Safety of other home appliances
- Increased life expectancy of unit
- Lower maintenance cost

CONCEALED AIR CONDITIONERS

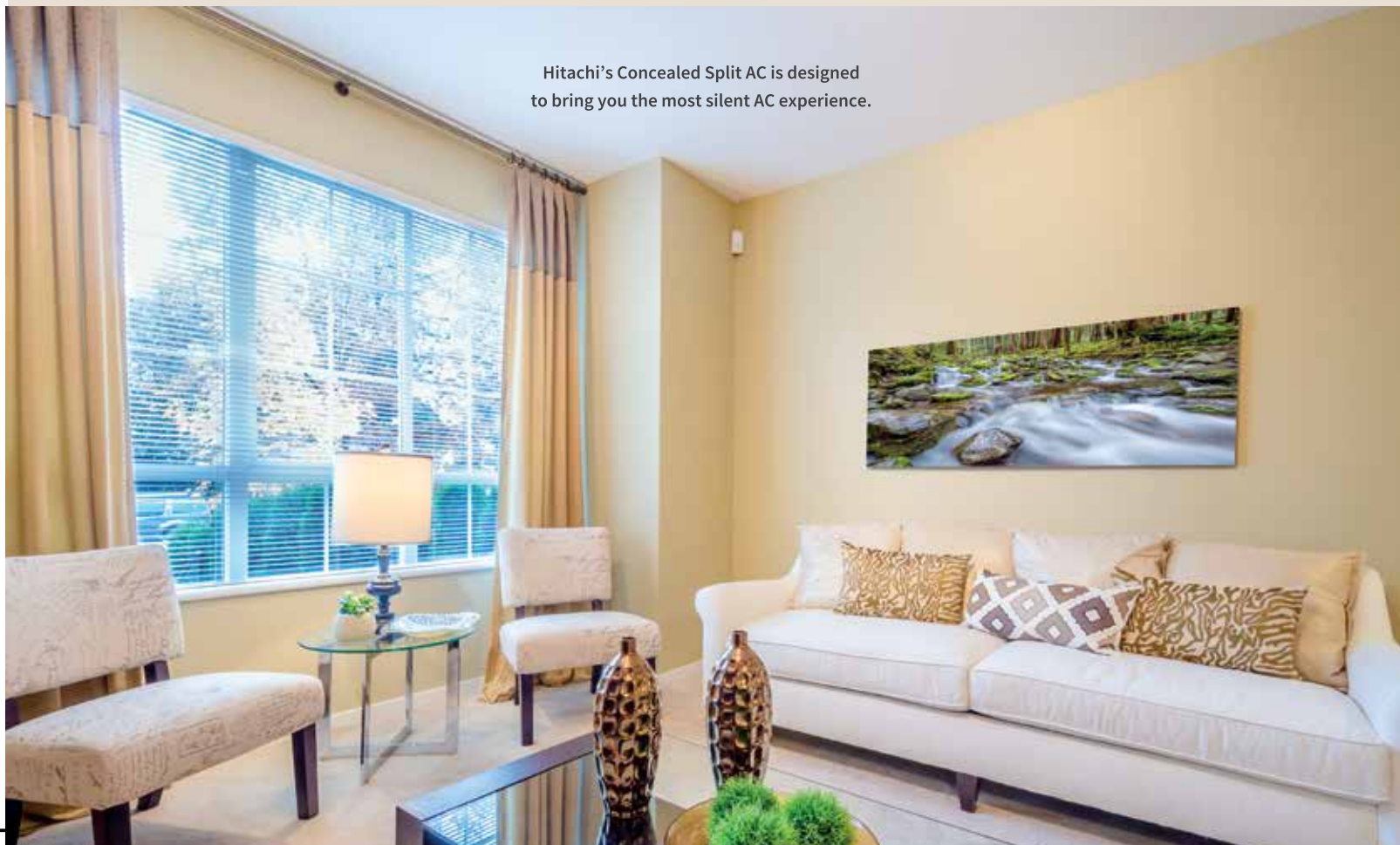
The indoor unit of Hitachi's Concealed Split AC is installed in the ceiling which blends with the interiors, thereby giving it an unobtrusive look. Its technological and aesthetical design makes it fit for large showrooms, hotels, shops, resorts, offices with cubicles and rooms with low ceiling. It is designed to produce horizontal airflow to combat the problems of large rooms having odd sized cabins or half portions. The Concealed Split AC is also equipped with high quality heat exchangers that maximise cooling and reduce power consumption.



Hitachi Wired Concealed Split AC
1.5/2.0/3.0/4.0/5.0/7.5 TR

Hitachi Wireless Concealed Split AC
1.5/2.0/3.0/4.0/5.0/7.5 TR

Hitachi's Concealed Split AC is designed to bring you the most silent AC experience.



DISTINCTIVE FEATURES



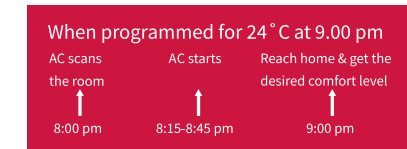
Kaimin Mode*

- Undisturbed sleep with power saving technology
- An intelligent feature that ensures you get sound sleep by raising 1°C per hour up to 4 hours
- Ensures you save energy during night operation
- No chills & shivers in the night - wake up feeling fresh & healthy



On/Off Timer with Advanced Start-Up

- Desired comfort at desired time



Operating Mode

5 modes of operation - Cool, Fan, Dry, Auto & Powerful for customised cooling, available in Hitachi Wireless Concealed unit and 2 Modes of operation - Cool & Fan for customised cooling are available in Hitachi Wire Concealed unit.



Auto Restart

In case of a power failure, a backup memory ensures that you don't need to memorise the settings. When the power is restored, the AC restarts with the previous settings.



Filter Clean Indicator

- Indicates when to clean the air filter
- Helps in maintaining air flow
- Helps in preventing choking of coil
- Helps in improving efficiency



Silent Cooling

- AC works silently without creating any noise
- Available in Auto, Cool and Fan mode



High Ambient Design for 52° C Outdoor Air Temperature

- Optimum cooling capacity
- Low deration
- High COP



Twin Rotary Compressor

- Low vibration & noise levels
- Better volumetric efficiency
- Low power consumption as compared to conventional compressors

*Kaimin Mode applicable only for Hitachi Wireless Concealed AC | **Sleep Mode available only for Hitachi Wire Concealed AC
#Twin Rotary Compressor available with Hitachi Wire and Wireless models in 5.0 & 7.5 Tr only

SPECIFICATIONS

DUCTABLE SPLIT AIR CONDITIONER (TOUSHI SERIES): R410a

Model	TR	5.5TR	8.5TR (Single circuit)	11.0TR (Single circuit)	8.5TR (Twin circuit)	11.0TR (Twin circuit)	16.5TR Ceiling suspended	16.5TR Convertible
Rated Cooling Capacity	BTU/hr	66000	102000	132000	102000	132000	198000	198000
	Watts	19338	29886	38676	29886	38676	58014	58014
Compressor	Type	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll
No. of Compressor	Nos.	1	1	1	2	2	3	3
Rated Power Supply (Volts/ Hz/ phase)	ODU	400/ 50/ 3	400/ 50/ 3	400/ 50/ 3	400/ 50/ 3	400/ 50/ 3	400/ 50/ 3	400/ 50/ 3
	IDU	230/ 50/ 1	230/ 50/ 1	230/ 50/ 1	230/ 50/ 1	230/ 50/ 1	230/ 50/ 1	400/ 50/ 3
Indoor Unit								
No. of IDUs	Nos.	1	1	1	1	1	1	1
No. of Blowers	Nos.	2	2	2	2	2	3	1
Air Flow	CFM	2200	3400	4400	3400	4400	6600	6600
IDU Dimension (mm)	W	1190	1550	1550	1550	1550	2040	1550
	H	385	440	440	440	440	550	725
	D	675	675	675	675	675	1085	1615
Net Weight	Kg	55	86	90	90	90	192	251
Outdoor Unit								
No. of ODU	Nos.	1	1	1	1	1	1	1
No. of Fans	Nos.	1	1	1	1	1	2	2
Dimension in mm	W x H x D	1100 x 905 x 395	1200 x 940 x 550	1200 x 940 x 550	1200 x 940 x 550	1200 x 940 x 550	1800 x 910 x 650	1800 x 910 x 650
Net Weight	Kgs	95	141	148	151	168	282	282
Suction Pipe	Inch	7/8"	9/8"	9/8"	7/8"	7/8"	7/8"	7/8"
Liquid Pipe	Inch	1/2"	5/8"	5/8"	1/2"	1/2"	1/2"	1/2"
Insulation Pipe	Inch	7/8"	9/8"	9/8"	7/8"	7/8"	7/8"	7/8"

CONCEALED SPLIT AIR CONDITIONER: R410a

Model	TR	1.5	2.0	3.0	4.0
Rated Cooling Capacity	BTU/Hr.	18000	24000	36000	48000
	Watts	5274	7032	10548	14064
Compressor	Type	Rotary	Rotary	Rotary	Rotary
No. of Compressors	Nos.	1	1	2	2
Rated Power Supply (volts/Hz/phase)	ODU	230/50/1	230/50/1	230/50/1	230/50/1
	IDU	230/50/1	230/50/1	230/50/1	230/50/1
Indoor Unit					
No. of IDU	Nos.	1	1	2	2
Air Flow	CFM	650	800	650	800
IDU Dimension (in mm)	W	1130	1130	1130	1130
	H	280	280	280	280
	D	532	532	532	532
Net Weight	kg	31	32	31	32
Outdoor Unit					
No. of ODU	Nos.	1	1	1	1
Dimension (in mm)	W x D x H	792 x 600 x 299	792 x 600 x 299	950 x 740 x 460	950 x 740 x 460
Net Weight	kg	45	48.1	87	93

DUCTABLE SPLIT AIR CONDITIONER (TOUSHI SERIES): R22

Model	TR	3.0	4.0	5.0	7.5	5.5	8.5	11.0	8.5	11.0	16.5 (Ceiling)	16.5 (Convertible)
Rated Cooling Capacity	BTU/Hr.	36000	48000	60000	90000	66000	102000	132000	102000	132000	198000	198000
	Watts	10548	14064	17580	19338	26370	29886	29886	38676	38676	58014	58014
Compressor	Type	Twin Rotary	Rotary	Twin Rotary	Twin Rotary	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll
No. of Compressors	Nos.	1	2	2	3	1	1	1	2	2	3	3
Rated Power Supply (volts/Hz/phase)	ODU	230 V/50 Hz /1 Ph	230 V/50 Hz /1 Ph	400 V/50 Hz /3 Ph	400 V/50 Hz /3 Ph	400 V/50 Hz /3 Ph	400 V/50 Hz /3 Ph	400 V/50 Hz /3 Ph	400 V/50 Hz /3 Ph	400 V/50 Hz /3 Ph	400 V/50 Hz /3 Ph	400 V/50 Hz /3 Ph
	IDU	230 V/50 Hz /1Ph	230 V/50 Hz /1Ph	230 V/50 Hz /1Ph	230 V/50 Hz /1Ph	230 V/50 Hz /1Ph	230 V/50 Hz /1Ph	230 V/50 Hz /1Ph	230 V/50 Hz /1Ph	230 V/50 Hz /1Ph	230 V/50 Hz /1Ph	400 V/50 Hz /3 Ph
Indoor Unit												
No. of IDU	Nos.	1	1	1	1	1	1	1	1	1	1	1
No. of Blowers	Nos.	2	2	2	2	2	2	2	2	2	3	1
Air Flow	CFM	1200	1600	2000	3000	2200	3400	4400	3400	4400	6600	6600
IDU Dimension (in mm)	W	1190	1190	1190	1550	1190	1550	1550	1550	1550	2040	1550
	H	385	385	385	440	385	440	440	440	440	550	725
	D	675	675	675	675	675	675	675	675	675	1085	1615
Net Weight	kg	53	53	54	80	55	71	73	73	75	192	251
Outdoor Unit												
No. of ODU	Nos.	1	1	1	1	1	1	1	1	1	1	1
No. of Fans	Nos.	1	1	1	2	1	1	1	1	1	1	2
Dimension (in mm)	W x H x D	997 x 740 x 460	950 x 740 x 460	1100 x 905 x 395	1350 x 840 x 610	1100 x 905 x 395	1200 x 940 x 550	1200 x 940 x 550	1200 x 940 x 550	1200 x 940 x 550	1800 x 910 x 650	1800 x 910 x 650
Net Weight	kg	64	93	100	165	95	141	148	151	168	282	282
Suction Pipe	inch	3/4"	5/8"	5/8"	5/8"	7/8"	9/8"	9/8"	7/8"	7/8"	7/8"	7/8"
Liquid Pipe	inch	3/8"	1/4"	3/8"	3/8"	1/2"	5/8"	5/8"	1/2"	1/2"	1/2"	1/2"
Insulation Pipe	inch	3/4" & 3/8"	5/8" & 3/8"	5/8"	5/8"	7/8"	9/8"	9/8"	7/8"	7/8"	7/8"	7/8"

CONCEALED SPLIT AIR CONDITIONER: R22

Model	TR	1.5	2.0	3.0	4.0	5.0	7.5
Rated Cooling Capacity	BTU/Hr.	18000	24000	36000	48000	60000	90000
	Watts	5274	7032	10548	14064	17580	26370
Compressor	Type	Rotary	Rotary	Rotary	Rotary	Twin Rotary	Twin Rotary
No. of Compressors	Nos.	1	1	2	2	2	3
Rated Power Supply (volts/Hz/phase)	ODU	230/50/1	230/50/1	230/50/1	230/50/1	400/50/3	400/50/3
	IDU	230/50/1	230/50/1	230/50/1	230/50/1	230/50/1	230/50/1
Indoor Unit							
No. of IDU	Nos.	1	1	2	2	2	3
Air Flow	CFM	650	800	650	800	1000	1000
IDU Dimension (in mm)	W	1130	1130	1130	1130	1130	1130
	H	280	280	280	280	280	280
	D	532	532	532	532	532	532
Net Weight	kg	31	32	31	32	32	32
Outdoor Unit							
No. of ODU	Nos.	1	1	1	1	1	1
Dimension (in mm)	W x D x H	750 x 548 x 288	792 x 600 x 299	950 x 740 x 460	950 x 740 x 460	1150 x 795 x 500	1350 x 840 x 600
Net Weight	kg	42.7	49.5	87	93	109	165