

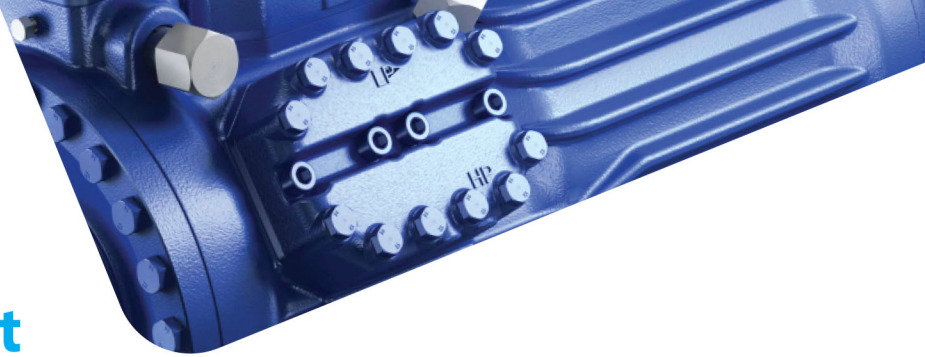
# AHU

## Air Handling Unit

DIRECT EXPANSION AND  
CHILLED WATER SYSTEM



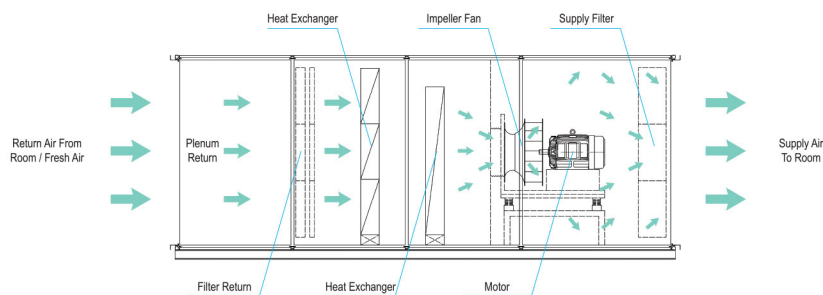
# Air Handling Unit



**Air Handling Unit, often abbreviated to AHU, is a system used to regulate and control air circulation as part of creating a constant air parameter, which includes room temperature, air change, room pressure and air cleanliness classification.**

## How Does AHU work?

An AHU is made of several basic components, that is impeller set, a heat exchanger set and a filter set. All of those components work together, beginning with the impeller set to handle the flow of the air, passing it through the filter to strain the air meeting the specific hygienic level, then converting the air to the required temperature and humidity, done by the heat exchanger set. At the end, the cooperation of all three components will result in the outflow of air suitable to the inquired air parameters.



## When is an AHU needed?

AHU is always needed to create an air quality, by controlling at least one of the air parameter (temperature, air change, pressure and air cleanliness classification)

## Who can build the customized AHU?

ATS products are the answer to build customized AHU. We support delivery throughout global market and do installation completely.

## 4<sup>th</sup> Generation Body Design

With the new 4<sup>th</sup> generation AHU body design, there will be no more non-thermal bridge. Everything is already isolated by polyurethane, resulting the inside cooling metal will totally be disconnected from the outside warm metal. NO CONDENSATION AT ALL.

The previous design, which is the 2<sup>nd</sup> generation AHU body insulation design, has non-thermal bridge (commonly called as " BT " ). The internal cooling metal will meet with the external warm body metal. Hence, condensation will happen as long as the unit is running, due to the constant built up of cold when the unit is running at long hours.

4<sup>th</sup> generation of AHU body



2<sup>th</sup> generation of AHU body

# Direct Expansion (DX)

Temperature Range 15 - 25°C

Relative Humidity Unconditioned

TYPE	DXD
Capacity	50.000 - 400.000 Btuh
Model	Duct Type
Air Cooled Efficiency	0,95 - 1,08 Kw / TR
Water Cooled Efficiency	0,60 - 0,69 Kw / TR
INDOOR UNIT	
Air Flow Rate	500 - 12.000 Cfm
Static Pressure	2 Inch H <sub>2</sub> O - 6 Inch H <sub>2</sub> O
Model Impeller	Backward Direct Driven
Material Impeller	Composite
Power Indoor	1 HP / 0,75 Kw - 15 HP / 11 Kw
Motor Type	AC / EC
Voltage / Frequency / Phase	380 Volts / 50 Hz / 3 Phase
Refrigerant	R22 / R407C / R410
Finishing Body	Powder Coating / Stainless Steel 304
Dimension	Customized*
Body Insulation	Polyurethane / Polyethylene / Rockwool
Model Body	Double Skinned
Cooling Coil:	
- Model	Fin & Tube Heat Exchanger
- Fin Material	Aluminium
- Tube Material	Copper
Filter Installation	Washable Filter Pre Filter Medium Filter HEPA Filter
REMOTE CONDENSING UNIT (RCU)	
Model	Air / Water Cooled
Compressor Model	Hermatic / Semi Hermatic
Compressor Type	Reciprocating / Scroll
Motor Fan Type	AC / EC
Finishing Body	Powder Coating
Power	5 HP / 3,5 Kw - 40 HP / 30 Kw

\*ATS can do customized unit if required

## NOTE:

1. Efficiency is the amount of power consumption needed in order to produce 1 ton refrigerant cooling power (12.000 Btuh)
2. Efficiency air cooled is, efficiency calculated based on a condition where the condensor temperature is 50°C by air.
3. Efficiency water cooled is, efficiency calculated based on a condition where the condensor temperature is 35°C by water.
4. Water cooling condition requires the temperature of water source to be at a maximum of 26°C, whether it comes from a cooling tower or other kind of sources.
5. EC motor is an electrically commutated motor, which has high precision for performance to support energy saving and to avoid noises by electromagnetic motors.

# Chilled Water (CW)

Temperature Range 15 - 25°C

Relative Humidity Unconditioned

TYPE	CWD
Capacity	50.000 - 400.000 Btuh
Model	Duct Type
Air Cooled Efficiency	0,95 - 1,08 Kw / TR
Water Cooled Efficiency	0,60 - 0,69 Kw / TR
INDOOR UNIT	
Air Flow Rate	500 - 12.000 Cfm
Static Pressure	2 Inch H <sub>2</sub> O - 6 Inch H <sub>2</sub> O
Model Impeller	Backward Direct Driven
Material Impeller	Composite
Power Indoor	1 HP / 0,75 Kw - 15 HP / 11 Kw
Motor Type	AC / EC
Voltage / Frequency / Phase	380 Volts / 50 Hz / 3 Phase
Refrigerant	Chilled Water
Finishing Body	Powder Coating / Stainless Steel 304
Dimension	Customized*
Body Insulation	Polyurethane / Polyethylene / Rockwool
Model Body	Double Skinned
Cooling Coil:	
- Model	Fin & Tube Heat Exchanger
- Fin Material	Aluminium
- Tube Material	Copper
Filter Installation	Washable Filter Pre Filter Medium Filter HEPA Filter
REMOTE CONDENSING UNIT (RCU)	
Model	Air / Water Cooled
Compressor Model	Hermatic / Semi Hermatic
Compressor Type	Reciprocating / Scroll
Motor Fan Type	AC / EC
Finishing Body	Powder Coating
Power	5 HP / 3,5 Kw - 40 HP / 30 Kw

\* ATS can do customized unit if required



# Low Temperature (LT)

Temperature Range 2 - 15°C

Relative Humidity Unconditioned

TYPE	LTD
Capacity	50.000 - 400.000 Btuh
Model	Duct Type
Air Cooled Efficiency	1,49 - 1,72 Kw / TR
Water Cooled Efficiency	1,00 - 1,20 Kw / TR

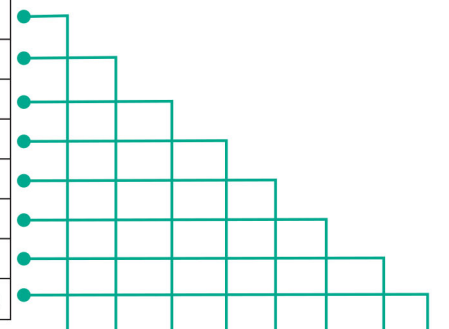
INDOOR UNIT	
Air Flow Rate	500 - 6.000 Cfm
Static Pressure	2 Inch H <sub>2</sub> O - 6 Inch H <sub>2</sub> O
Model Impeller	Backward Direct Driven
Material Impeller	Composite
Power Indoor	1 HP / 0,75 Kw - 10 HP / 7,5 Kw
Motor Type	AC / EC
Voltage / Frequency / Phase	380 Volts / 50 Hz / 3 Phase
Refrigerant	R22 / R407C / R410
Finishing Body	Powder Coating / Stainless Steel 304
Dimension	Customized*
Body Insulation	Polyurethane / Polyethylene / Rockwool
Model Body	Double Skinned
Cooling Coil:	
- Model	Fin & Tube Heat Exchanger
- Fin Material	Aluminium
- Tube Material	Copper
Filter Installation	Washable Filter Pre Filter Medium Filter HEPA Filter

REMOTE CONDENSING UNIT (RCU)	
Model	Air / Water Cooled
Compressor Model	Hermatic / Semi Hermatic
Compressor Type	Reciprocating
Motor Fan Type	AC / EC
Finishing Body	Powder Coating
Power	5 HP / 3,5 Kw - 40 HP / 30 Kw

\*ATS can do customized unit if required

## Model Nomenclature

Product	Jenis Unit	CW / DX / LHD / LTC
<b>BLOWER</b>	Diameter Blower	BL454, BL504, BL563, BL634...
<b>BODY</b>	Jenis Body Housing Unit	BK74, BK71, BK73, BK72
<b>HOUSING FILTER RETURN</b>	Filtrasi Return Unit	RF01, RF04, RF03, RF02
<b>HOUSING FILTER SUPPLY</b>	Filtrasi Supply Unit	SF01, SF04, SF03, SF02
<b>PLENUM BOX</b>	Jenis Plenum Box Unit	PBG12, PB4, PB1, PB2, PBS22, PB3
<b>HEATING COIL</b>	Kapasitas Heating(Btuh)	HW102, HW101, HW201, HW202
<b>COOLING COIL CW</b>	Kapasitas Cooling (Btuh)	CC202, CC201, CC401, CC421, CC2, CC1, CC100



Example: CW-BL453 BK74 RF04 SF04 PB4H W102 CC  
Initial Sparepart



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