

DAZZLE™ series

Cassette Type Fan Coil Unit

FC-NHDU4 Cassette Type Fan Coil Unit
340~2380 m³/h



Cassette Type Fan Coil Unit



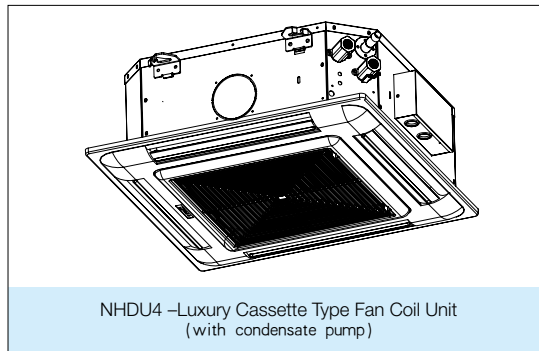
FC-NH DU4 series is the cassette type fan coil unit of Climaveneta. They are ideally designed with versatile configuration and adoption for all applications with 2-pipe system and 4-pipe system. The units shall guarantee lower pressure drop of air side and water side in accordance with different installation requirement.

The 2-pipe system units shall be constructed with one coil which can interchange the mode between heating and cooling in specific condition. And the 4-pipe system units are characterized by 2 coils, resulting in the independent operation of heating and cooling mode. The cooling and heating mode of 4-pipe system also can be exchanged upon different requests in different areas.

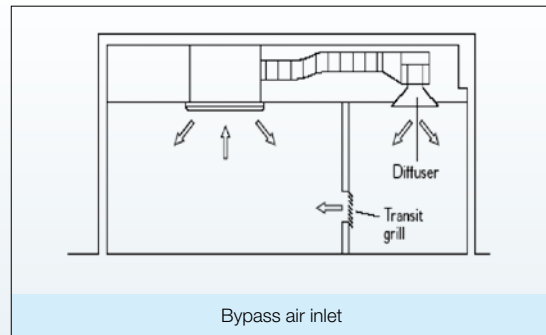
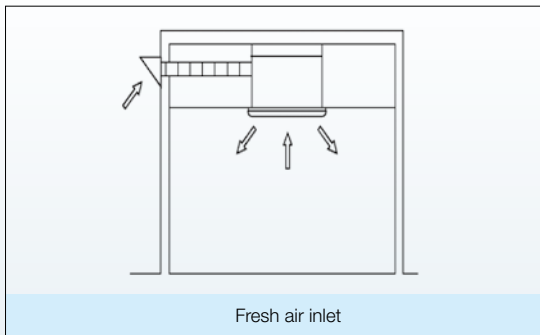
Unit Features

Casing

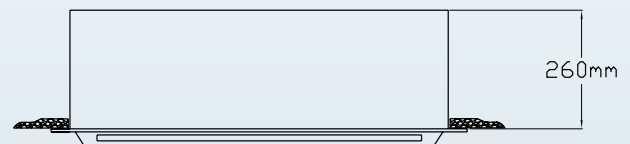
The casing shall be manufactured by Grand 1 galvanized steel sheet with extruded treated. The thermal resistance material shall be integrally attached to the exterior surface of the casing and installed with seamless connection method preventing the condensate occurs at the unit exterior surface.



The fresh air inlet and air inlet bypass are equipped in the standard configuration, and they shall be installed as an option depending on customer's requirement.

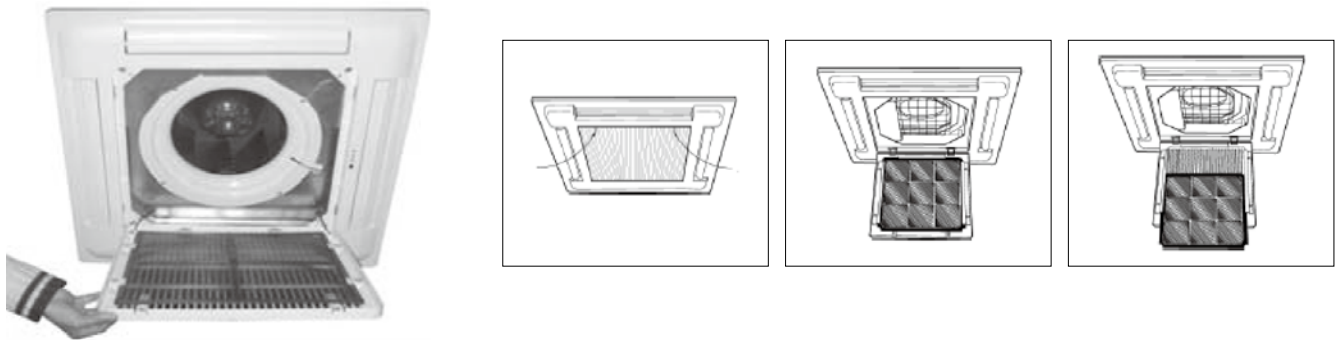


The minimal height of unit is 260mm ideally fitting for the installation of compact space in the ceiling.



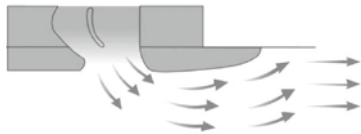
Front Panel

The front panels of Cassette Type Fan Coil Units are manufactured by ABS material, and the air return section shall be fixed with removable grills, resulting in the convenient replacement and cleaning of filters. The electric diffuser at the air outlet section shall adjust the airflow direction for specific requests



Optimized Air Diffusion Configuration

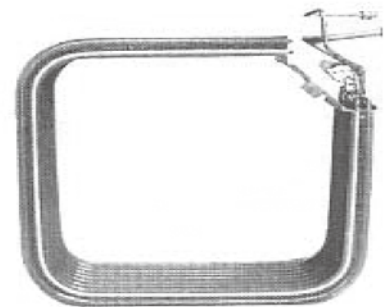
Preventing the condensation on the front panel of units and the dirt on the ceiling near the airflow outlet efficiently.



Typical air diffusion type
The airflow moving along the ceiling make the dirt occurs.



Optimized air diffusion type by Climaveneta
The upward airflow is limited



Coil

- The reasonable water flow configuration shall be designed to ensure the balance of cooling load between the water side and air side, as well as the matching of cooling load and airflow rate.
- The coils shall be made of hydrophilic aluminum fins which can prevent the film condensation efficiently and discharge the condensate fluently, resulting in the reduction of the thermal resistant and air resistant. The noncorrosive hydrophilic coat can expand the working life of drain pans also.
- The exclusive fins shall distribute the air adequately and maximize the heat transfer efficiency. Coils are annular type designed with the possibility to minimize the blind angle of heat transfer, finally guaranteeing the 4-way heat exchange ability.
- The headers shall be made of copper with ideal performance of water flow configuration.



Fan

- Non-direction, one-inlet centrifugal fan shall be fixed. And oversized fan wheel made of thermoplastic ABS material shall be factory dynamical balance tested to ensure the reliable operation.
- Motors shall be equipped with low-speed, total-hermetic, 3-speed, free-lubricated scroll bearing. Unit foundation shall be installed with rubber collars to insulate the vibration, finally reducing the noise level. Wire cables shall be protected with specific covers for the reliability of units.
- The motors, fans and heat exchangers shall be performance match tested strictly to guaranteeing the motors working at the highest efficient performance with low noise operation.

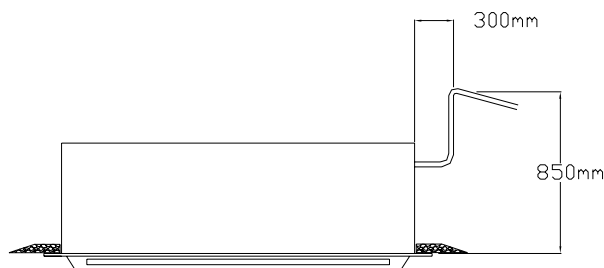
Cassette Type Fan Coil Unit

Condensate Pump

The condensate pumps shall be expected to lift the condensate for 850mm from the ceiling. And the units without condensate pumps shall be offered upon customer's requirement also.

Condensate Pump Performance Data :

Max head	850mm
Max water flow	95L/h
Supply power	9W
	220V 50Hz
Overheat protection	Impedance protection
Noise level(1m away)	28dBA
Protection level	IP20 or IP54
Dimension(mm)	LxWxH=88x75x93



Drain Pan

- The oversized drain pans shall be fixed with well thermal insulation protection on the exterior surface preventing the leakage and stagnant condensation.

Control system

- Both wireless remote controllers and wall-mounted thermostats shall be provided for customer as an option to regulate the operation of units accurately. And the control system could exchange the operation mode in different applications.

Operation Mode

Auto. Mode	Cooling Mode	Humidification Mode	Ventilation Mode	Heating Mode

24-Hour programmable timer shall be friendly designed keeping the excellent balance between comfort request and energy saving, which presenting the exclusive humanization care of Climaveneta.

Timer operation

Circulating Timer	Turn on at setting time	Turn off at setting time

Model Nomenclature

FC - 200 NHDU4 - 2 Y

$\frac{1}{1}$
 $\frac{2}{2}$
 $\frac{3}{3}$
 $\frac{4}{4}$ $\frac{5}{5}$

1—Fan Coil Unit

2—Airflow: x 1.7m³/h

3—Model
NHDU4—Luxury type (with condensate pump)

4—Pipe system

2: 2-pipe fan coil unit

4: 4-pipe fan coil unit

5—Controller

Y: wireless controller;

X: wall-mounted thermostat;

None: without controllers

FC-NH DU4-2 Cassette Type Fan Coil Unit (2-pipe,with condensate pump) Performance Data

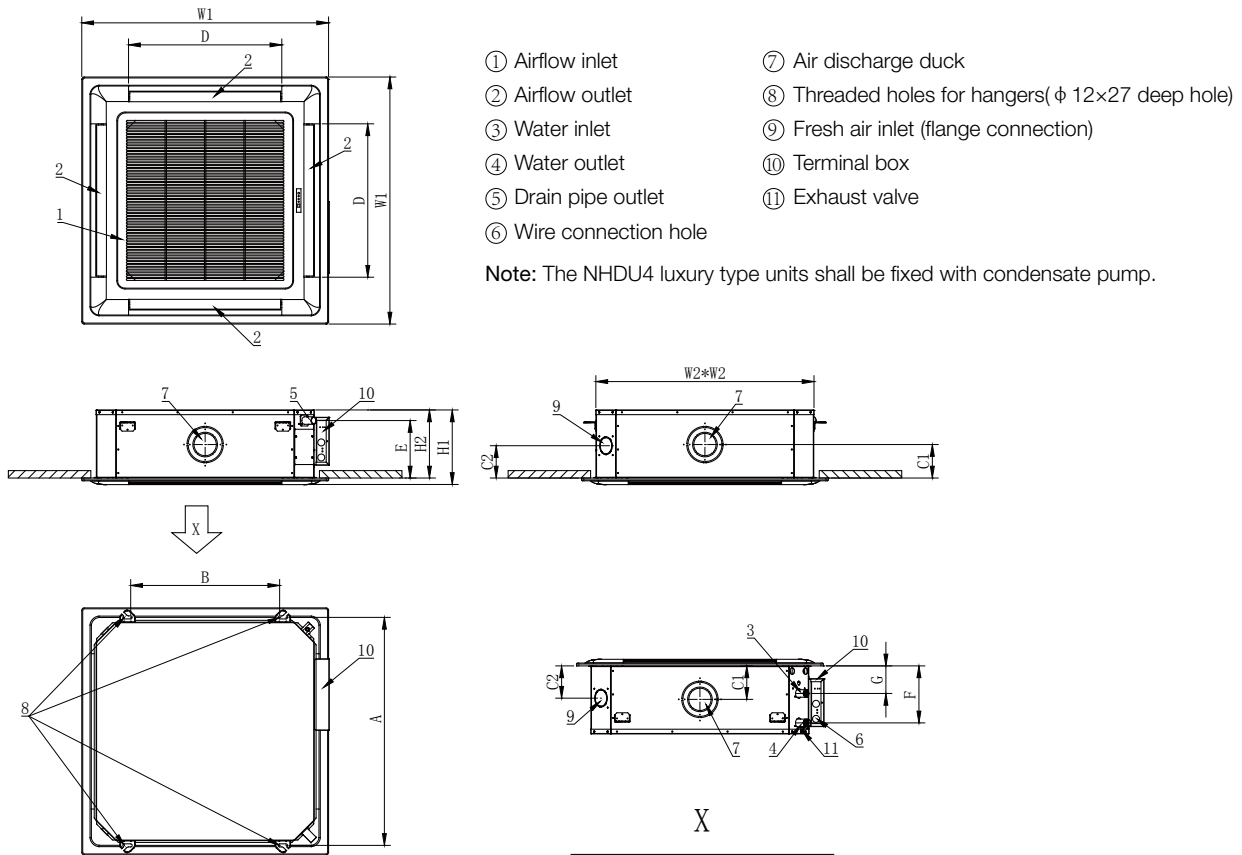
Model			200	300	400	500	600	800	1000	1200	1400
Airflow	H	m ³ /h	370	520	710	880	1020	1360	1700	2040	2380
	M		300	410	550	720	850	1110	1400	1670	1950
	L		220	290	400	550	680	860	1100	1300	1520
Cooling capacity	H	Kw	1.95	3.06	3.72	4.75	5.60	7.20	9.05	10.80	12.60
	M		1.65	2.45	2.90	3.91	4.70	6.00	7.50	9.10	10.50
	L		1.15	1.75	2.10	3.05	3.80	4.62	5.60	7.00	8.50
Heating capacity	H	m ³ /h	2.97	4.75	5.77	7.30	8.50	10.95	13.70	16.50	19.80
	M		2.40	3.75	4.47	5.98	7.10	8.95	11.35	13.50	16.20
	L		1.78	2.60	3.25	4.57	5.70	7.50	8.80	10.60	12.60
Water flow	LPM	6	8.8	10.7	12	13.7	16	21	26	31	
Noise level	dB(A)	37/34/30	39/36/33	41/38/35	40/35/31	43/40/37	46/39/33	48/41/38	50/43/39	52/46/39	
Supply voltage		220V-60Hz									
Supply power	W	37/32/23	42/36/25	59/48/35	67/51/38	85/67/46	132/115/87	147/125/114	182/165/124	215/179/159	
Motor current	Amp	0.17	0.19	0.27	0.31	0.39	0.62	0.68	0.84	0.98	
Controller		Wireless controller or wall-mounted thermostat									
Water pressure drop	kPa	11.8	12.9	22.1	17.6	18.5	28.4	33.2	35.9	38.4	
Drain pipe size	mm	∅ 26									
Weight	kg	24	24	26	33	34	34	40	41	42	
Connection type		Internal threaded on unit pipe									
Water pipe	inlet	Inch	ZG 3/4"								
	outlet	Inch	ZG 3/4"								

Note: The information in the table is based on the following testing condition

Rated testing condition	Temp. DB (°C)	Temp. WB (°C)	Temp. water inlet (°C)	Water temp. difference (°C)
Nominal cooling mode	27	19.5	7	5
Nominal heating mode	20		60	
Noise level	The measurement have been taken on surfaces positioned at d=1m distance from the unit in a standard anechoic chamber (<17dB (A)).			
Unit illustration	LPM means litre per minute, 1LPM=0.06m ³ /h			
Rated airflow	stands for the airflow while the exterior static pressure is 0Pa			

Cassette Type Fan Coil Unit

FC-NHDU4-2 Cassette Type Fan Coil Unit(2-pipe , with condensate pump)Dimension Data



Dimension Data

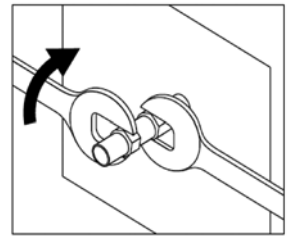
Model	FC-200	FC-300	FC-400	FC-500	FC-600	FC-800	FC-1000	FC-1200	FC-1400
W1		650			850			1050	
W2		574			730			930	
H1		318			318			318	
H2		289			289			289	
A		616			769			969	
B		253			433			633	
C1		142			142			142	
C2		137			137			137	
D		379			450			650	
E		243			243			243	
F		242			242			242	
G		117			117			117	

Installation, Operation and Maintenance

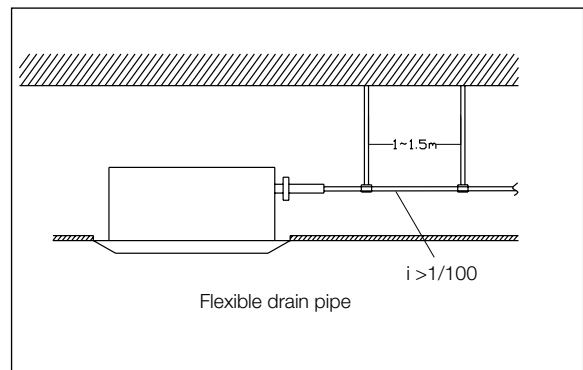
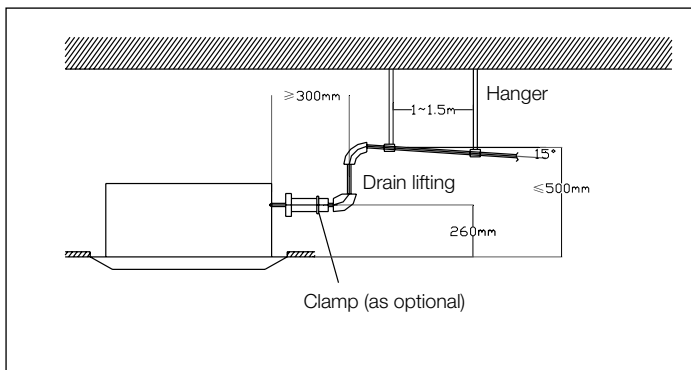
Installation---Make sure that the all components inside shall not collide with each other and no dirt shall drop into the fan, motor and heat exchanger. The unit shall be installed in the middle of the ceiling ensuring the optimal air diffusion.

Air Duck---The filter shall be installed at air inlet to prevent dust to block the fin and make sure good heat exchange efficiency.

Water Pipe Connection---Water connections are inlet from the bottom and outlet from the top; Flexible connectors are suggested for both inlet and outlet; The torque shall be less than $2.5\text{kg}\cdot\text{m}$ during installation; All water pipes shall be well insulated. And all bolt connections shall be insulated and sealed by material of PTFE belt. The drain pipe shall be mounted with proper gradient, no squash, no bending.



Union joint with 2 spanners shown in the drawing



Electrical Connection---The unit must be earthing, All electrical wires exposing to the air should well bonded to connectors before attach to unit (Wire connection shall comply with the wire diagram offered by the company).

Start-up Procedure---After proper installation, the drain pan, fan casing and coil must be clean; Then check all field connections of pipes and wires; And now the unit can be started. The 3-speed switch is recommended to be turned on from high speed.

Operation---The lowest water temperatures for unit inlet is $2\text{ }^{\circ}\text{C}$ for cooling and highest temperature is $80\text{ }^{\circ}\text{C}$ for heating. The manual vent valve shall be regularly opened to release the air in the pipe system. The system water shall be softened and meet the water quality requirements.

Maintenance---Fan coils and filters shall be cleaned regularly by blowing with compressed air in opposite direction of airflow. Clean water should be charged in the coils to reduce the rust while the unit stops working. And in winter, anti-freeze method shall be considered.

Filter Cleaning---The customer shall be suggested to clean the front panel and filters only! Before the cleaning, always turn off the main power! The filters shall be cleaned by soap water. The strong oxidant, strong acid or alkalis liquid are forbidden to use! The front panel shall be cleaned by wet rag with soap water. And the filters shall be treated with the proper method in the manual book.

The installation, operation and maintenance of units shall comply with the "Installation manual book of Cassette Type Fan Coil Unit".



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