Cased and uncased water terminal unit

AURA

CFF - CFFA 1-12 RANGE

TECHNICAL BULLETIN

SIZE	1	2	3	4	5	6	8	9	10	12
COOLING CAPACITY DC KW	1,50	1,95	2,35	2,85	3,50	3,90	4,85	5,60	6,35	8,25
COOLING CAPACITY AC KW	1,65	2,25	2,65	3,05	3,85	4,20	5,35	6,00	6,75	8,25

Page

Clivet participates in the ECP Programme for "Liquid Chillers and Hydronic Heat Pumps".
Check ongoing validity of certificate on www.eurovent-certification.com"

Features and benefits

AURA is the fan-coil for floor or ceiling installation for extreme comfort with an innovative design, in line with the standards of modern European environments, thanks to a meticulous study of the lines and materials.

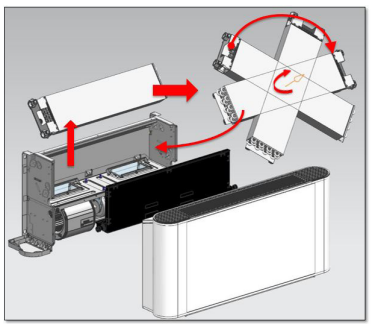
CFFC - CFFAC
cased

CFFU - CFFAU
uncased

Application flexibility

Thanks to the numerous configurations available, AURA flexibly and effectively is able to fulfill different application requirements. The fan coil is available in 2 and 4 pipes version. The unit can be selected with casing for exposed applications or uncased for built-in installation, and it is possible to install it vertically or horizontally. Air intake is available from the bottom of the unit (rear in case of horizontal installation) or from the front (bottom in case of horizontal instllation, oly for cased models).

To add further ease during the installation phase, AURA presents the installer with the possibility of moving the water pipes to the right side of the unit even on site, simply by removing the heat exchange coil and turning it over. Consequently, the control panel on the unit can be moved from one side to the other as well.



Reduced consumptions

The exclusive electric DC motor of AURA's (CFFC - CFFU models) fan ensures reduced consumption as the ventilation can be modulated.
The high efficiency levels of its innovative technological solution noticeably limits the energy required to operate it correctly, thereby reducing the power used and running costs compared with traditional fan-coils.
Compared with a traditional fan-coil, it is possible to achieve savings of about 40% in terms of electricity and 60% in terms of absolute power.

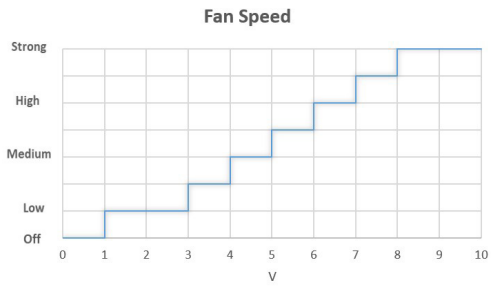
Silent

Thanks to the use of modulating fans and a careful study of the internal components, AURA is one of the best units on the market for silent operation.
When the fan is operating at minimum speed, AURA reaches a sound pressure of only 20 dB(A)*

*For the CFFC 3 version at minimum speed. The sound pressure level refers to a distance of 1m from the surface of the unit operating in an open field.

Gestione velocità ventilatore da segnale esterno

La predisposizione al comando della velocità del ventilatore da segnale esterno 0-10V è disponibile di standard per i modelli con motore DC.
La gestione da segnale esterno preclude la gestione dell'unità e relativi accessori attraverso i controlli standard e opzionali. In particolare, in questa modalità, le funzioni Auto-Restart, e anti-aria fredda non sono disponibili.



A single terminal for all seasons

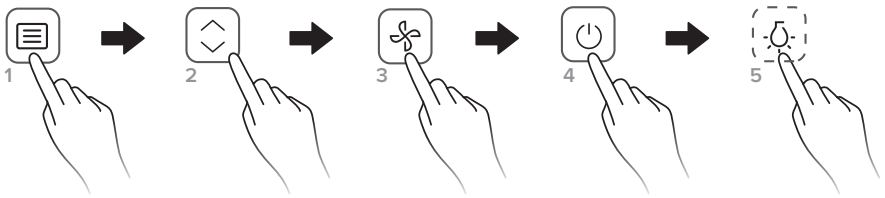
With a single terminal it is possible to heat up in winter, while in summer it allows you to cool down and dehumidify rooms.
AURA guarantees well-being all year round because it reaches the desired temperature quickly and does not take long to heat up the rooms.

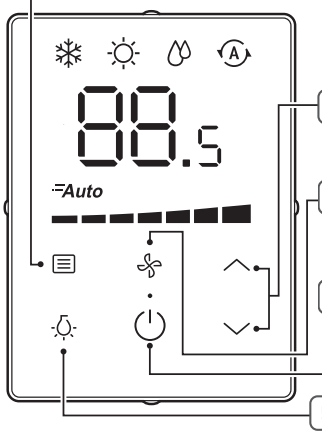
Functions and usability - DC Inverter AURA models: CFFC - CFFU

In the DC version, AURA fan coil is compatible with the optional KJRP-75 user interface.

KJRP-75

The controller is supplied installed on board (for cased versions) or supplied separately for application in a remote position on the wall.
The interface has a touch screen, backlight and 7-step + AUTO ventilation speed control.
The interface also has a temperature sensor, the room temperature reading can be moved from the unit's return channel to the interface itself with the Follow-me function.





1 MODE BUTTON
The operating mode changes in the following order

COOLING → HEATING → DRY → AUTO

2 TO CONTROL THE TEMPERATURE
Temperature range 17°C ~30°C

3 FAN SPEED
Seven manual + 1 Automatic speed

4 ON/OFF BUTTON

To start the unit and configure all of the parameters

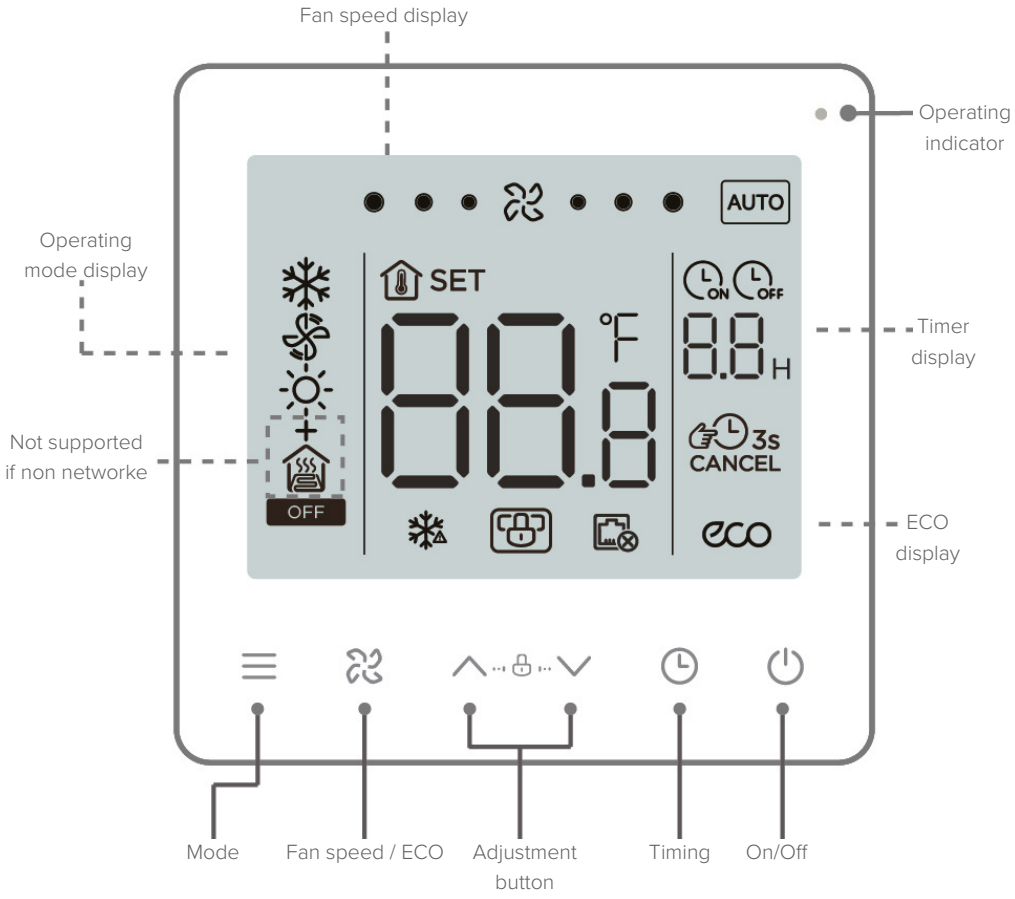
5 BACKLIGHT BUTTON
The backlight is by default. Press the button to turn it off.

Functions and usability - AURA AC models: CFFAC - CFFAU

In the AC version, the AURA fan coil is compatible with the optional KJRP-86R user interface.

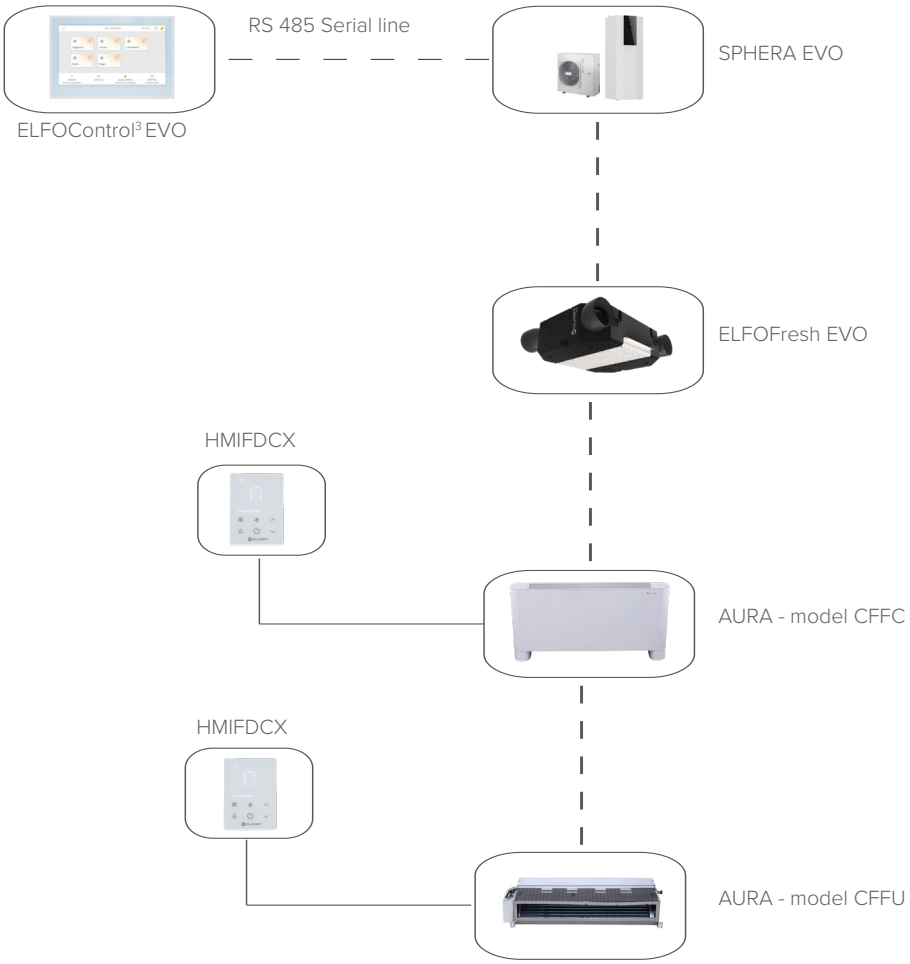
KJRP-86R

The controller is supplied installed on board (for cased versions) or supplied separately for application in a remote position on the wall. The interface has a touch screen, backlight and 3-step + AUTO ventilation speed control.



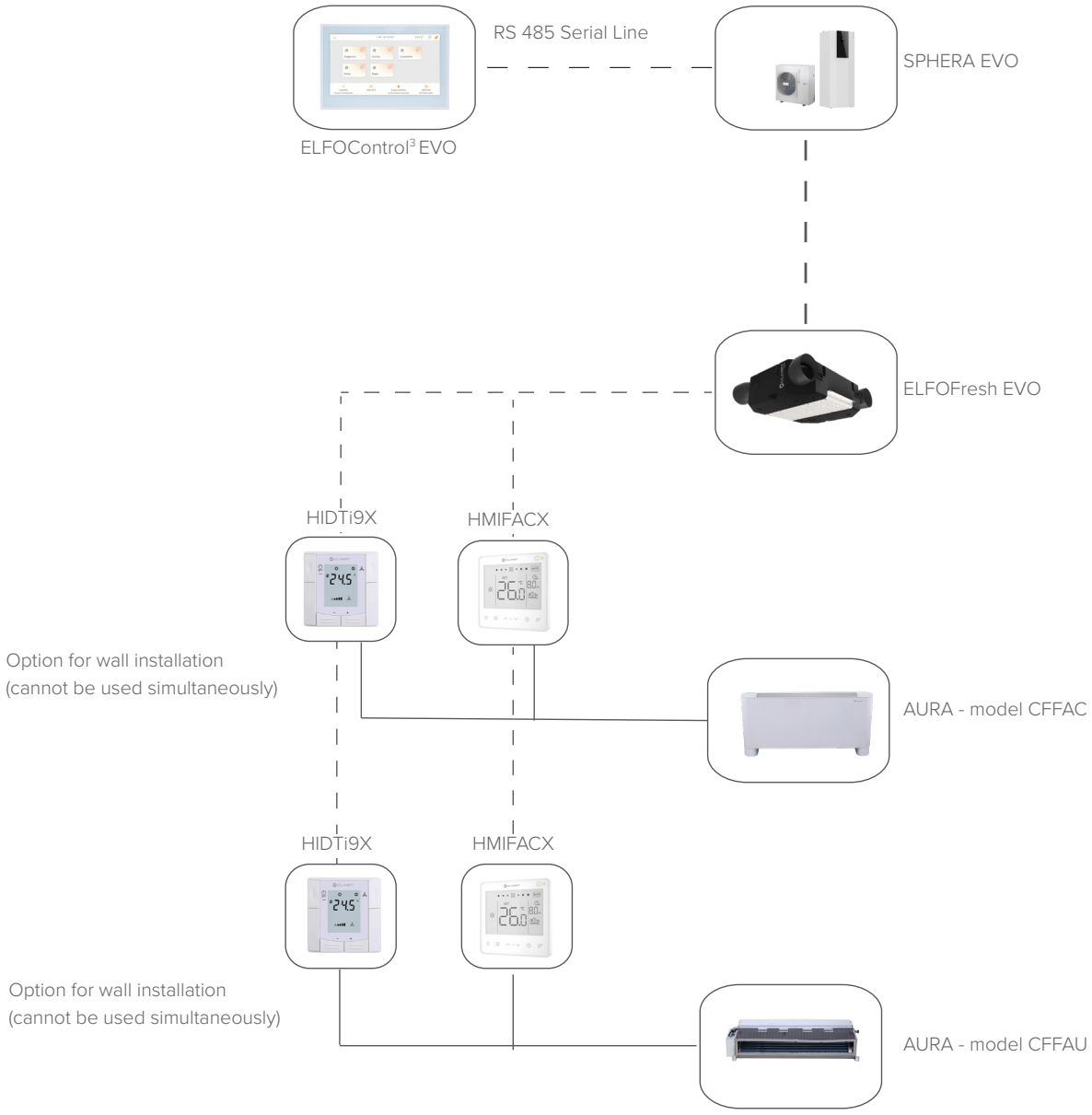
Connectivity

AURA, in the DC inverter models CFFC and CFFU, is compatible with ELFOControl[3] EVO, the centralised management system designed for 360° control of Clivet systems.
Furthermore, the unit has a Modbus port for control via an external home automation system, as well as an input for on/off potential-free contact and a 0-10V input for adjusting the ventilation speed.



Connectivity

The AC version of AURA (CFFAC and CFFAU) can be integrated with ELFOControl[3] EVO and third party supplied BMS as well, thanks to the Modbus port present on the optional controls.



Structure
The unit is made of galvanised steel with thermal insulation foam inside and an anti-condensation barrier on the outer casing.

Internal exchanger
It consists of copper pipes and aluminium fins, with hydrophilic coating, fixed to the pipes with mechanical expansion process and shaped accordingly. 2 and 4 pipes models have coils with 3 or 4 rows. The exchanger is not suitable for use in corrosive atmospheres or in environments where aluminium may corrode.

Fan
The motor-fan unit, hanging on antivibration mounts, is particularly silent. Modulating DC Inverter electric motor (CFFC - CFFU models), or 3 speed moro AC (CFFAC - CFFAU models).

Filtration
Washable renewable synthetic filter, G2/ISO Coarse, easily accessible.

Condensate drain
The unit is standard supplied with an L-shaped drain tray to ensure that condensate can be drained when the unit is installed horizontally or vertically.

Electrical panel
Electrical panel inside the unit on the right for full and easy accessibility. The wired controller supplied as standard can be installed either on the wall or assembled in the space provided on the unit.

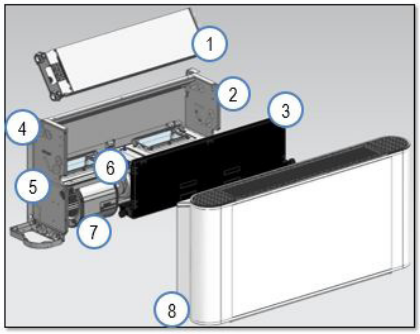
Common accessories:
BRVHX - Auxiliary condensate collection tray ausiliaria for vertical/ horizontal installatio
KPDX - Plinth kit
3V2SX - Three-way valve kit for 2-pipe type "on/off" system left fittings
3V4SX - Three-way valve kit for 4-pipe type "on/off" system left fittings

AC accessories models (CFFAC - CFFAU):
HMIFACX - KJRP-86R user interface, wire for models AC CFFAC - CFFAU
BOXX - Wall installation with concealed box KJRP-86R user interface
DCPRX – Power interface to manage 4 fan coils and valves for 2-4 systems (For AC models)

DC accessories models (CFFC - CFFU):
HMIFDCX - KJRP-75 user interface, wire for models DC inverter CFFC - CFFU
HIDTI9X - Flush-mounted Electromechanical Thermostat + Modbus
EXTENX - KJRP-75 wired control connection cable extension (2m)
KJR90X - KJR-90D electronic room control for wall installation
KJR150X - Indoor units group controller
CCM30-BX - Centralized controller with case
CCM-180A/WS - Central controller for wall mounting weekly timer 6.2'' (Refer to VRF price list)
CCM-270A/WS - Central controller for wall mounting weekly timer 10.1' (Refer to VRF price list)
KCMDX - Cables for motor connection for units with right fittings

Main components

1. Copper/aluminium exchanger, with hydrophilic coating
2. Electrical panel
3. L-Drain pan
4. 3/4'' Water fittings
5. Condensate drain (Φ18,5mm)
6. Centrifugal fan
7. Washable filter (class G2)
8. Galvanised sheet metal casing



Versions and configurations

Versions:
CFFC - Cased version for vertical and horizontal installation, DC inverter motor
CFFU - Uncased version for vertical and horizontal installation, DC inverter motor
CFFAC - Cased version for vertical and horizontal installation, AC motor
CFFAU - Uncased version for vertical and horizontal installation, AC motor

Fans type:
VEC - DC high efficiency fan (Standard for CFFC - CFFU models)
VENS - Three speed AC fan (Standard for CFFAC - AFFAU models)

Connection side:
SX - Pipes connection on the left (default)
DX - Pipes connection on the right

HMI on board:
HMIDM - KJRP-75 control mounted on board (only for versions DC CFFC)
HMIAM - KJRP-86R control mounted on board (only for versions AC CFFAC)

Valves kit:
3V2 - Three-way valve kit for 2-pipe "on/off" system (mounted on board)
3V4 - Three-way valve kit for 4-pipe "on/off" system (mounted on board)

Air intake:
R3 - Bottom air intake
RF - Front air intake (only for cased versions CFFC, CFFAC)

Coil configuration:
CC2 - Coil configuration for 2-pipe system
CC4 - Coil configuration for 4-pipe system

Electronic Version:
CTMP1 - Electronics with serial port RS485 Modbus, external control input 0/10V, 3-speed input (Standard for CFFC-CFFU models)
TRB - Terminal for motor connection (Standard for CFFAC-CFFAU models)

Attention, the following models are available on order only, please contact the sales network:
- DC, 2-pipe, front intake, cased
- DC, 4-pipe, bottom intake, cased and uncased
- DC, 4-pipe, Front intake, cased
- AC, 4-pipe, Front intake, cased
- AC, 4-pipe, bottom intake, cased

Accessories separately supplied

HMIFDCX

User interface for DC inverter models

User interface KJRP-75 DC inverter models for wall or on-board installation

Functions:

- Backlit
- Basic functions
- 7 fan speeds + AUTO
- Follow-me (temperature reading from interface)

Cable length 85mm. Bidirectional control.

HMIFACX

User interface for AC models

User interface KJRP-86R AC models for wall or on-board installation three-speed

Functions:

- Backlit
- Basic functions
- 3 fan speeds + AUTO
- Timer
- Modbus Port
- Minimum water temperature probe

For wall installation refer to the BOXX accessory

⚠ Anti-cold/hot air function available only for CC2 configuration

⚠ When you want to use the KJRP-86R or any 3-speed control with DC inverter models, you must physically disconnect the KJRP-75A when the unit is OFF. If both inputs are maintained, the unit will still follow the KJRP-75A.

DCPRX

Power interface to manage 4 fan coils and valves for 2-4 systems (For AC models)

Accessory that can be combined with a 3-speed thermostat to manage assemblies with up to 4 terminal units with a 3-speed motor and ON/OFF valves. It is possible to combine several devices to create larger assemblies with up to 16 units.

The device must be fitted on a DIN bar and is compatible with a KJRP-86R thermostat: it can be used for the centralised management of individual fan speeds.

EXTENX

KJRP-75 Wired Control Connection Cable Extension (2m)

2 m long extension cable for remote installation of the KJRP-75 (HMIDCX) user interface.

Refer to the user interface manual.

3V2X
3V4X

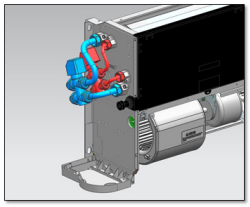
Three-way valve kit for 2-pipe type "on/off" system
Three-way valve kit for 4-pipe type "on/off" system

Kit consisting of 3-way on/off valves and fittings for connection to the unit.

Compatible with BRVHX auxiliary condensate drain pan if the water pipes come out of the wall (vertical installation) or ceiling (horizontal installation).

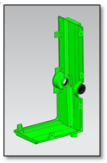
Not compatible with BRVHX auxiliary condensate drain pan if the water pipes come out of the floor (vertical installation) or from behind the unit (horizontal installation) or from the side of the unit. In this case, the installer shall supply and install the thermal insulation of the valve kit.

3V2SX - 3V4SX: kit for pipes on the left



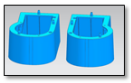
BRVHX

Auxiliary condensate collection tray ausiliaria for vertical/horizontal installation



KPDX

Plinth kit



BOXX

Box for wall installation of KJRP-86R user interface

Wall built-it electrical box measuring LxHxD (mm) 86x86x33 suitable for wall installation of the KJRP-86R (HMIACX) user interface.

Once installed, the interface protrudes 9 mm from the flush wall.

Refer to the user interface manual.

KCMDX

Cavi per collegamento motore per unità con attacchi a destra

(Per rotazione connessioni in cantiere)

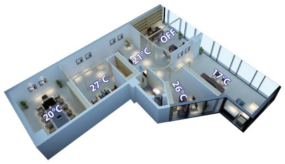
Qualora la batteria dovesse essere ruotata in cantiere da sinistra a destra, sarà necessario utilizzare un cavo più lungo (accessorio KCMDX) per di collegamento tra motore e quadro elettrico.

⚠ Accessorio disponibile solo per versione SX

⚠ Accessorio disponibile solo modelli DC nelle taglie 9-10-11-12

CCM30-BX Centralized controller with case for DC inverter models

The centralized controllers are multifunctional devices that can control up to 64 indoor units within a maximum connection length of 1.200m. These controls give the user the opportunity to control multiple units as a single group, or alternatively to assign an individual temperature for each on

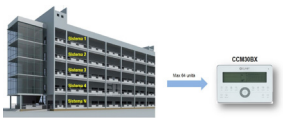


Single/unified control mode

Controllers can be toggled between unified and single control modes, to enable either unified control of all units or control of a specific unit. Operating mode feedback is used to ensure that all units are operating in the mode specified by the user.

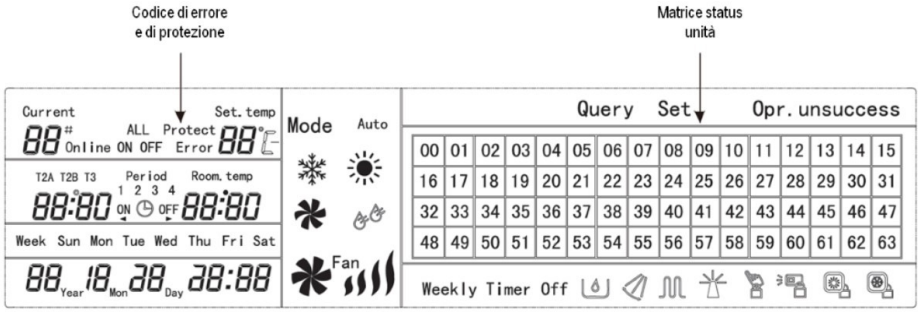
Multi-system control

Controlled units can be from different VRF/Mini VRF systems, totally up to 64 indoor units: this allows a centralized control that facilitates the building management. Ensure that the address is not repeated for more units.



Fancoil units operating status display

Error and protection codes are shown directly on centralized controllers' displays, avoiding the need to access outdoor units' PCBs to obtain codes during a system event. A wide range of error and protection codes provide system status information to building management professionals before contacting a service engineer.

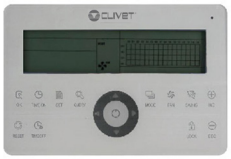


Multiple lock modes

In addition to locking the centralized controller's own keyboard, the centralized controller may also be used to lock each unit's operating mode or remote controller.

Clean filter reminder

The CCM30BX record the total running time of each indoor unit. When the accumulated running time reaches the value pre-set by the user, the system reminds the user to clean the indoor unit's filter, ensuring that the airflow does not become obstructed.



Model	CCM30BX
Dimensions LxAxP (mm)	180x122x78
Power supply	198-242V (50/60Hz)

Accessories separately supplied

CCM30-BX **Centralized controller with case for DC inverter models**

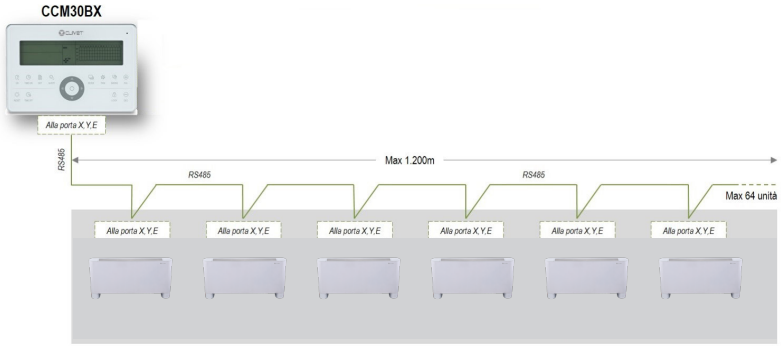
Main features

- Setting On/Off
- Setting mode Cool/Heat/Auto/Dry/Fan
- Setting temperature
- Fan speed selection High/Medium/Low/Auto
- Air swing function
- 24h On/Off timer
- Locking the controller buttons
- Air filter cleaning reminder

Turn On/Off the LCD backlight

Installation schematic

The centralized controller can connect up to 64 indoor units on the network monitoring and building management systems.



KJR90X **KJR-90D electronic room control for wall installation for DC inverter models**

KJR90 LCD “touch-key”wall-mounted control.

Functions:

- On/Off
- Operation selection: Auto, Heating, Cooling, Dehumidification, Ventilation
- Temperature setting (temperature range selectable: 17~30°C)
- Set the fan speed (MIN - MED - MAX or AUTO)
- Timer setting
- Setting of deflectors position (swing)

Many additional functions such as:

- ECO mode
- Controller keypad lock
- Timed remainder air filter cleaning

The controller can be easily connected to the internal unit display by means of a connecting cable.

The control can be installed up to a max. distance of 15mt.

The controller combined with this unit does not provide an auto-restart function.

KJR150X **Indoor units group controller for DC inverter models**

Allows the group control of up to 16 fancoil units from a single wall control KJR90X.

Each unit’s operating parameters can also be individually controlled using its own remote controller R05.

⚠ The controller does not guarantee the follow-me function.

HIDTi9X **Flush-mounted Electromechanical Thermostat + Modbus (for AC motors)**

User interface with backlit LCD display for wall installation..
Equipped with a temperature probe and built-in Modbus port (RS485), for:

- Heat/Cool/Auto/Manual mode selection
- Comfort and Economy mode selection
- Room temperature measurement and display via built-in sensors or external signal
- Automatic or manual selection of the 3 fan speeds (MIN – MED – MAX)
- Control of On/Off valves, 3-point servo controls, heaters, heat pumps
- Management of set points and main control parameters
- Dirty filter warning
- Keypad lock (automatic, manual or via bus)
- Parametric start-up and control on the keypad or via bus.

Furthermore, there are 2 multifunctional inputs available for:

- Keycard, display contact or presence management
- Automatic Heat/Cool changeover sensor input
- Outdoor temperature sensor input with screen display
- Outdoor humidity sensor input (Dew point)
- Alarm input
- Mode change or temperature probe

CCM-180 **CCM180X - Central controller for wall mounting weekly timer 6.2" (Riferirsi al listino VRF)**
CCM-270 **CCM270X - Central controller for wall mounting weekly timer 10.1' (Riferirsi al listino VRF).**

Advanced Centralized Controllers.
The colorful touch screen and lively display make the interface more convenient and simple.
The controller recognizes the model of indoor and outdoor units and different models are represented by different icons.
Units can be viewed according to group, system or location, making unit management clearer and more convenient.
Daily, weekly or annual schedules can be used to set unit settings such as on/off, operating mode, set temperature, fan speed and swing.

User can set limits or locks on an indoor unit, such as minimum cooling temperature, maximum heating temperature, fan speed lock, operation mode lock, swing lock, remote controller lock and wired controller lock.
By importing floor **plans** and then dragging and dropping the indoor units to their actual positions on the floor plan, users can create a tailored system schematic which enables monitoring and control of the indoor units through a clear visual representation of the system layout.
A desktop or laptop PC can be used for browser-based access via a LAN connection.

⚠ For a list of functions compatible with AURA, refer to the centralised control manual.
⚠ For the selection, price and discount of these accessories refer to the VRP price list, please contact the sales network.

DC Version - CFFC - CFFU, Downward air return (Vertical installation) / intake (horizontal installation) 2-pipe

SIZE			1	2	3	4	6	8	10	12
High speed										
Airflow		m³/h	255	255	400	425	595	800	1190	1300
Cooling capacity	(1)	kW	1,50	1,95	2,35	2,85	3,90	4,85	6,35	8,25
Sensible capacity	(1)	kW	1,14	1,42	1,79	2,06	2,90	3,63	4,98	6,12
Water flow-rate	(1)	l/h	260	330	400	490	670	830	1090	1430
Water pressure drop	(1)	kPa	13,9	27,2	13,3	26	37,4	54,3	32,8	71,4
Heating capacity	(2)	kW	1,57	2,05	2,60	2,95	4,00	5,25	7,05	8,70
Water flow-rate	(2)	l/h	270	350	450	510	700	910	1220	1510
Water pressure drop	(2)	kPa	15,1	25,3	14,3	24,4	36,5	53,4	37,6	62,6
Total power input		W	15	19	16	18	28	47	87	106
Medium speed										
Airflow		m³/h	170	210	315	300	450	600	875	980
Cooling capacity	(1)	kW	1,06	1,66	1,94	2,13	3,20	3,92	5,19	6,65
Sensible capacity	(1)	kW	0,77	1,19	1,44	1,51	2,35	2,85	3,98	4,82
Water flow-rate	(1)	l/h	180	280	340	370	550	670	900	1140
Water pressure drop	(1)	kPa	8,21	20,88	9,98	15,06	25,91	36,81	21,75	46,17
Heating capacity	(2)	kW	1,07	1,75	2,11	2,15	3,22	4,09	5,61	6,81
Water flow-rate	(2)	l/h	190	300	370	370	560	710	980	1180
Water pressure drop	(2)	kPa	7,63	19,65	10,33	13,65	25,34	36,54	25,47	41,06
Total power input		W	9	14	11	11	17	25	44	51
Low speed										
Airflow		m³/h	150	150	190	190	310	420	530	680
Cooling capacity	(1)	kW	0,92	1,21	1,19	1,41	2,43	2,93	3,62	4,84
Sensible capacity	(1)	kW	0,66	0,85	0,86	0,96	1,72	2,08	2,68	3,42
Water flow-rate	(1)	l/h	160	210	210	240	420	510	630	830
Water pressure drop	(1)	kPa	6,16	12,2	4,59	7,41	15,37	21,77	11,43	25,39
Heating capacity	(2)	kW	0,92	1,25	1,34	1,42	2,39	3,04	3,83	4,85
Water flow-rate	(2)	l/h	160	220	230	240	410	530	670	830
Water pressure drop	(2)	kPa	5,84	10,25	4,5	6,64	14,22	20,47	12,5	21,68
Total power input		W	8	9	7	8	10	13	18	22
Standard power supply		V	220-240/1/50							
Type of supply fan	(3)	-	CFG							
No. of supply fans		-	1	1	2	2	2	2	3	3

The Product is compliant with the Erp (Energy Related Products) European Directive. It includes the Commission delegated Regulation (EU) No 2016/2281, also known as Ecodesign Lot21.
Airflow with free outlet (0 Pa static pressure)

(1) Entering exchanger water 7°C (temperature differential 5°C) - Ambient air 27°C D.B. / 19°C W.B.
(2) Entering exchanger water 45°C (temperature differential 5°C) - Ambient air 20°C
(3) CFG = centrifugal fan

Performance in heating and cooling mode when the environment and system conditions change
Refer to the selection software or to the "CFF AURA DC and AC performance tables" which can be downloaded at https://world.clivet.it/

DC Version CFFC, front intake, (vertical installation) / bottom intake (horizontal installation), 2-pipe (only on order)

SIZE			2	4	6
High speed					
Airflow		m³/h	245	380	580
Cooling capacity	(1)	kW	1,87	2,55	3,80
Sensible capacity	(1)	kW	1,36	1,84	2,83
Water flow-rate	(1)	l/h	320	440	650
Water pressure drop	(1)	kPa	26,10	23,20	36,50
Heating capacity	(2)	kW	1,97	2,63	3,90
Water flow-rate	(2)	l/h	340	450	670
Water pressure drop	(2)	kPa	24,00	21,80	35,60
Total power input		W	20	21	30
Medium speed					
Airflow		m³/h	180	240	430
Cooling capacity	(1)	kW	1,59	1,90	3,11
Sensible capacity	(1)	kW	1,14	1,35	2,29
Water flow-rate	(1)	l/h	270	330	530
Water pressure drop	(1)	kPa	20,10	13,50	25,30
Heating capacity	(2)	kW	1,68	1,92	3,13
Water flow-rate	(2)	l/h	290	330	540
Water pressure drop	(2)	kPa	18,80	12,20	24,70
Total power input		W	16	12	18
Low speed					
Airflow		m³/h	130	110	300
Cooling capacity	(1)	kW	1,16	1,26	2,36
Sensible capacity	(1)	kW	0,81	0,85	1,67
Water flow-rate	(1)	l/h	200	220	400
Water pressure drop	(1)	kPa	11,80	6,60	15,00
Heating capacity	(2)	kW	1,20	1,27	2,43
Water flow-rate	(2)	l/h	210	220	400
Water pressure drop	(2)	kPa	9,90	5,90	13,90
Total power input		W	11	8	12
Standard power supply		V		220-240/1/50	
Type of supply fan	(3)	-		Centrifugo DC	
No. of supply fans		-	1	2	2
Numero ventilatore mandata		-			

The Product is compliant with the Erp (Energy Related Products) European Directive. It includes the Commission delegated Regulation (EU) No 2016/2281, also known as Ecodesign Lot21.
Airflow with free outlet (0 Pa static pressure)

(1) Entering exchanger water 7°C (temperature differential 5°C) - Ambient air 27°C D.B. / 19°C W.B.
(2) Entering exchanger water 45°C (temperature differential 5°C) - Ambient air 20°C
(3) CFG = centrifugal fan

Performance in heating and cooling mode when the environment and system conditions change
Refer to the selection software or to the “CFF AURA DC and AC performance tables” which can be downloaded at https://world.clivet.it/

AC Version CFFAC - CFFAU, Downward air return (Vertical installation) / intake (horizontal installation) 2-pipe

SIZE – CFF			1	2	3	4	6	8	10	12
High speed										
Airflow		m³/h	255	255	400	425	595	800	1150	1300
Cooling capacity	(1)	kW	1,65	2,25	2,65	3,05	4,2	5,35	6,75	8,25
Sensible capacity	(1)	kW	1,25	1,65	2,05	2,23	3,05	3,96	5,09	6,08
Water flow-rate	(1)	l/h	283	386	454	523	720	917	1157	1414
Water pressure drop	(1)	kPa	15,75	33,19	18,03	26,71	41,15	61,48	40,26	64,72
Heating capacity	(2)	kW	1,85	2,35	3,05	3,15	4,3	5,7	7,15	8,5
Water flow-rate	(2)	l/h	317	403	523	540	740	977	1226	1457
Water pressure drop	(2)	kPa	15,13	33,19	17,56	23,31	37,2	60,89	42,16	61,96
Total power input		W	35	40	47	47	51	91	110	118
Medium speed										
Airflow		m³/h	165	192	273	284	450	574	885	1132
Cooling capacity	(1)	kW	1,22	1,85	2,02	2,26	3,38	4,25	5,8	7,52
Sensible capacity	(1)	kW	0,88	1,35	1,5	1,61	2,43	3,08	4,36	5,53
Water flow-rate	(1)	l/h	209	317	346	387	580	729	995	1289
Water pressure drop	(1)	kPa	9,33	22,37	11,18	15,66	27,07	41,44	29,2	55,03
Heating capacity	(2)	kW	1,29	1,87	2,24	2,28	3,43	4,36	5,81	7,6
Water flow-rate	(2)	l/h	222	320	384	392	590	747	996	1302
Water pressure drop	(2)	kPa	8,22	22,37	10,28	12,57	24,5	37,73	28,68	47,46
Total power input		W	17	24	26	26	32	54	89	104
Low speed										
Airflow		m³/h	142	139	180	184	319	404	591	836
Cooling capacity	(1)	kW	1,09	1,4	1,4	1,58	2,48	3,31	4,24	5,87
Sensible capacity	(1)	kW	0,78	1	1,02	1,08	1,73	2,34	3,12	4,21
Water flow-rate	(1)	l/h	186	241	240	272	425	567	727	1007
Water pressure drop	(1)	kPa	7,37	4,64	5,48	8,42	15,71	26,62	16,15	34,88
Heating capacity	(2)	kW	1,13	1,42	1,52	1,6	2,52	3,31	4,3	5,9
Water flow-rate	(2)	l/h	194	244	260	275	433	569	740	1015
Water pressure drop	(2)	kPa	6,64	4,64	5,43	6,11	13,75	21,79	14,66	28,84
Total power input		W	14	15	14	14	19	35	64	82
Standard power supply		V	220-240/1/50							
Type of supply fan	(3)	-	CFG							
No. of supply fans		-	1	1	2	2	2	2	3	3

The Product is compliant with the Erp (Energy Related Products) European Directive. It includes the Commission delegated Regulation (EU) No 2016/2281, also known as Ecodesign Lot21.
Airflow with free outlet (0 Pa static pressure)

(1) Entering exchanger water 7°C (temperature differential 5°C) - Ambient air 27°C D.B. / 19°C W.B.
(2) Entering exchanger water 45°C (temperature differential 5°C) - Ambient air 20°C
(3) CFG = centrifugal fan

Performance in heating and cooling mode when the environment and system conditions change
Refer to the selection software or to the "CFF AURA DC and AC performance tables" which can be downloaded at https://world.clivet.it/

AC Version CFFAC, front intake (vertical installation) / bottom intake, (horizontal installation), 2-pipe

SIZE – CFF			2	4	6
High speed					
Airflow		m³/h	245	380	580
Cooling capacity	(1)	kW	2,16	2,72	4,09
Sensible capacity	(1)	kW	1,58	2,00	2,97
Water flow-rate	(1)	l/h	370	470	700
Water pressure drop	(1)	kPa	31,90	23,90	40,10
Heating capacity	(2)	kW	2,26	2,81	4,19
Water flow-rate	(2)	l/h	390	480	720
Water pressure drop	(2)	kPa	31,90	22,50	36,30
Total power input		W	40	47	51
Medium speed					
Airflow		m³/h	180	250	430
Cooling capacity	(1)	kW	1,78	2,02	3,29
Sensible capacity	(1)	kW	1,29	1,44	2,37
Water flow-rate	(1)	l/h	310	350	560
Water pressure drop	(1)	kPa	23,20	14,00	26,40
Heating capacity	(2)	kW	1,79	2,04	3,34
Water flow-rate	(2)	l/h	310	350	570
Water pressure drop	(2)	kPa	21,50	12,60	25,40
Total power input		W	24	26	32
Low speed					
Airflow		m³/h	130	160	310
Cooling capacity	(1)	kW	1,35	1,41	2,41
Sensible capacity	(1)	kW	0,96	1,02	1,68
Water flow-rate	(1)	l/h	230	240	410
Water pressure drop	(1)	kPa	14,10	7,50	15,30
Heating capacity	(2)	kW	1,36	1,43	2,45
Water flow-rate	(2)	l/h	230	250	420
Water pressure drop	(2)	kPa	14,10	6,10	14,50
Total power input		W	15	15	19
Standard power supply		V		220-240/1/50	
Type of supply fan	(3)	-		Centrifugo AC	
No. of supply fans		-	1	2	2

The Product is compliant with the Erp (Energy Related Products) European Directive. It includes the Commission delegated Regulation (EU) No 2016/2281, also known as Ecodesign Lot21.
Airflow with free outlet (0 Pa static pressure)

(1) Entering exchanger water 7°C (temperature differential 5°C) - Ambient air 27°C D.B. / 19°C W.B.
(2) Entering exchanger water 45°C (temperature differential 5°C) - Ambient air 20°C
(3) CFG = centrifugal fan

Performance in heating and cooling mode when the environment and system conditions change
Refer to the selection software or to the "CFF AURA DC and AC performance tables" which can be downloaded at https://world.clivet.it/

DC Version CFFC - CFFU, bottom intake, (vertical installation) /intake (horizontal installation)4-pipe (only on order)

SIZE			3	5	9
High speed					
Airflow		m³/h	425	595	1190
Cooling capacity	(1)	kW	2,70	3,80	6,05
Sensible capacity	(1)	kW	1,90	2,80	4,80
Water flow-rate	(1)	l/h	460	650	1040
Water pressure drop	(1)	kPa	16,97	39,17	53,66
Heating capacity	(2)	kW	2,30	2,88	4,60
Water flow-rate	(2)	l/h	200	250	390
Water pressure drop	(2)	kPa	28,16	55,37	132,32
Total power input		W	20	29	92
Medium speed					
Airflow		m³/h	280	461	887
Cooling capacity	(1)	kW	1,94	3,18	5,00
Sensible capacity	(1)	kW	1,30	2,30	3,88
Water flow-rate	(1)	l/h	330	550	860
Water pressure drop	(1)	kPa	9,73	28,35	36,96
Heating capacity	(2)	kW	1,78	2,49	6,95
Water flow-rate	(2)	l/h	150	210	340
Water pressure drop	(2)	kPa	18,45	43,00	104,19
Total power input		W	11	17	46
Low speed					
Airflow		m³/h	158	324	564
Cooling capacity	(1)	kW	1,10	2,32	3,43
Sensible capacity	(1)	kW	0,70	1,61	2,53
Water flow-rate	(1)	l/h	190	400	590
Water pressure drop	(1)	kPa	3,51	16,91	19,07
Heating capacity	(2)	kW	1,22	2,00	3,02
Water flow-rate	(2)	l/h	100	170	260
Water pressure drop	(2)	kPa	10,08	29,20	63,73
Total power input		W	8	11	19
Standard power supply		V		220-240/1/50	
Type of supply fan	(3)	-		Centrifugo DC	
No. of supply fans		-		2	3

The Product is compliant with the Erp (Energy Related Products) European Directive. It includes the Commission delegated Regulation (EU) No 2016/2281, also known as Ecodesign Lot21.
Airflow with free outlet (0 Pa static pressure)

(1) Entering exchanger water 7°C (temperature differential 5°C) - Ambient air 27°C D.B. / 19°C W.B.
(2) Entering exchanger water 65°C (temperature differential 10°C) - Ambient air 20°C
(3) CFG = centrifugal fan

Performance in heating and cooling mode when the environment and system conditions change
Refer to the selection software or to the "CFF AURA DC and AC performance tables" which can be downloaded at https://world.clivet.it/

AC Version CFFAC - CFFAU, bottom intake, (vertical installation) /rear intake (horizontal installation), 4-pipe (cased only on order)

SIZE – CFF			3	5	9
High speed					
Airflow		m3/h	425	595	1150
Cooling capacity	(1)	kW	2,89	4,09	6,40
Sensible capacity	(1)	kW	2,05	2,94	4,90
Water flow-rate	(1)	l/h	500	700	1100
Water pressure drop	(1)	kPa	21,38	47,70	63,05
Heating capacity	(2)	kW	2,45	2,95	4,65
Water flow-rate	(2)	l/h	210	250	400
Water pressure drop	(2)	kPa	32	58,2	135,2
Total power input		W	47	51	110
Medium speed					
Airflow		m3/h	284	430	885
Cooling capacity	(1)	kW	2,05	3,35	5,59
Sensible capacity	(1)	kW	1,39	2,38	4,25
Water flow-rate	(1)	l/h	350	570	960
Water pressure drop	(1)	kPa	11,95	33,04	48,47
Heating capacity	(2)	kW	1,7	2,5	4,09
Water flow-rate	(2)	l/h	150	210	350
Water pressure drop	(2)	kPa	16,8	43,4	111,8
Total power input		W	26	32	89
Low speed					
Airflow		m3/h	184	319	591
Cooling capacity	(1)	kW	1,25	2,35	4,00
Sensible capacity	(1)	kW	0,84	1,60	2,95
Water flow-rate	(1)	l/h	210	400	690
Water pressure drop	(1)	kPa	4,99	18,22	27,23
Heating capacity	(2)	kW	1,19	2	3,19
Water flow-rate	(2)	l/h	100	170	270
Water pressure drop	(2)	kPa	9,5	29,2	70,9
Total power input		W	14	19	64
Standard power supply	(3)	V	220-240/1/50		
Type of supply fan		-	Centrifugo		
No. of supply fans		-	2		3

The Product is compliant with the Erp (Energy Related Products) European Directive. It includes the Commission delegated Regulation (EU) No 2016/2281, also known as Ecodesign Lot21.
Airflow with free outlet (0 Pa static pressure)

(1) Entering exchanger water 7°C (temperature differential 5°C) - Ambient air 27°C D.B. / 19°C W.B.
(2) Entering exchanger water 65°C (temperature differential 10°C) - Ambient air 20°C
(3) CFG = centrifugal fan

Performance in heating and cooling mode when the environment and system conditions change
Refer to the selection software or to the "CFF AURA DC and AC performance tables" which can be downloaded at https://world.clivet.it/

Electrical data

					IFM	
Version	**Powerv supply**	**Size**	**MCA**	**MFA**	**KW**	**FLA**
AC (CFFAC & CFFAU)	220-240V~50Hz	1-2	0,21	15	0,005	0,17
	220-240V~50Hz	3-4	0,30	15	0,008	0,24
	220-240V~50Hz	5-6	0,33	15	0,015	0,26
	220-240V~50Hz	8	0,55	15	0,037	0,44
	220-240V~50Hz	9-10	0,68	15	0,053	0,54
	220-240V~50Hz	12	0,68	15	0,053	0,54

MCA = Minimum circuit amps [A]
MFA = Maximum fuse amps [A]
IFM = Indoor fan motor
kW = Rated motor output [kW]
FLA = Full load current at max admissible conditions [A]
Maximum allowable voltage range variation between phases is 2%

					IFM	
Version	**Powerv supply**	**Size**	**MCA**	**MFA**	**KW**	**FLA**
DC (CFFC & CFFU)	220-240V~50Hz	1-2	0,48	15	0,03	0,38
	220-240V~50Hz	3-4	0,73	15	0,03	0,58
	220-240V~50Hz	5-6	0,73	15	0,03	0,58
	220-240V~50Hz	8	0,73	15	0,03	0,58
	220-240V~50Hz	9-10	1,56	15	0,06	1,25
	220-240V~50Hz	12	1,56	15	0,06	1,25

MCA = Minimum circuit amps [A]
MFA = Maximum fuse amps [A]
IFM = Indoor fan motor
kW = Rated motor output [kW]
FLA = Full load current at max admissible conditions [A]
Maximum allowable voltage range variation between phases is 2%

Sound pressure levels

DC Version CFFC - CFFU, bottom intake, 2-pipe

SIZE		1	2	3	4	6	8	9	10	12
High speed	dB(A)	34	39	29	32	40	45	50	50	50
Medium speed	dB(A)	24	33	24	23	34	39	42	43	43
Low speed	dB(A)	21	25	18	19	30	30	31	31	33

DC Version CFFC, front intake, 2-pipe

SIZE		2	4	6
High speed	dB(A)	39	33	39
Medium speed	dB(A)	33	26	32
Low speed	dB(A)	26	17	24

AC Version CFFAC - CFFAU, bottom intake, 2-pipe

SIZE		1	2	3	4	6	8	9	10	12
High speed	dB(A)	35	42	34	34	40	47	50	50	50
Medium speed	dB(A)	24	35	24	25	35	40	43	44	45
Low speed	dB(A)	21	27	18	19	31	31	33	33	37

AC Version CFFAC, front intake, 2-pipe

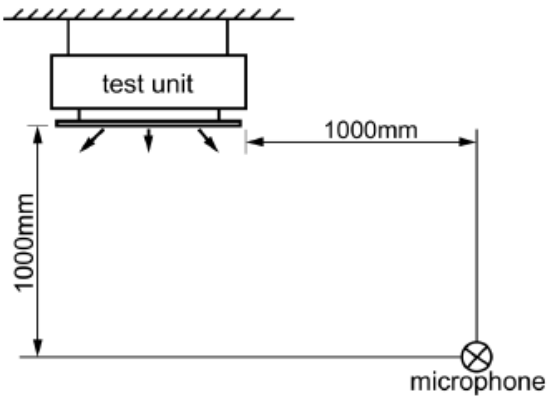
SIZE		2	4	6
High speed	dB(A)	39	35	39
Medium speed	dB(A)	34	26	32
Low speed	dB(A)	26	20	24

DC Version CFFC - CFFU, bottom intake, 4-pipe

SIZE		3	5	9
High speed	dB(A)	32	40	50
Medium speed	dB(A)	23	34	43
Low speed	dB(A)	19	30	31

AC Version CFFAC - CFFAU, bottom intake, 4-pipe

SIZE		3	5	9
High speed	dB(A)	34	40	50
Medium speed	dB(A)	25	33	44
Low speed	dB(A)	19	24	33



Sound power levels

DC Version CFFC - CFFU, bottom intake, 2-pipe

SIZE		1	2	3	4	6	7	8	10	12
High speed	dB(A)	47	52	43	46	52	59	29	62	63
Medium speed	dB(A)	36	46	37	37	45	51	51	56	57
Low speed	dB(A)	34	38	29	29	36	43	43	46	47

DC Version CFFC, front intake, 2-pipe

SIZE		2	4	6
High speed	dB(A)	52	46	52
Medium speed	dB(A)	46	38	45
Low speed	dB(A)	39	30	37

AC Version CFFAC - CFFAU, bottom intake, 2-pipe

SIZE		1	2	3	4	6	8	9	10	12
High speed	dB(A)	47	53	46	47	52	59	64	62	63
Medium speed	dB(A)	35	47	37	38	45	51	56	56	58
Low speed	dB(A)	34	39	31	32	37	43	45	46	50

AC Version CFFAC, front intake, 2-pipe

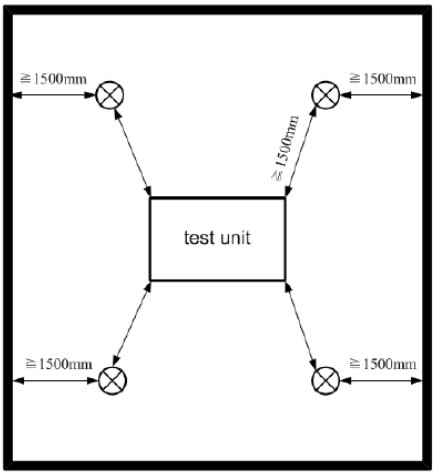
SIZE		2	4	6
High speed	dB(A)	52	48	52
Medium speed	dB(A)	47	39	45
Low speed	dB(A)	39	33	37

DC Version CFFC - CFFU, bottom intake, 4-pipe

SIZE		3	5	9
High speed	dB(A)	46	52	62
Medium speed	dB(A)	37	45	56
Low speed	dB(A)	29	36	46

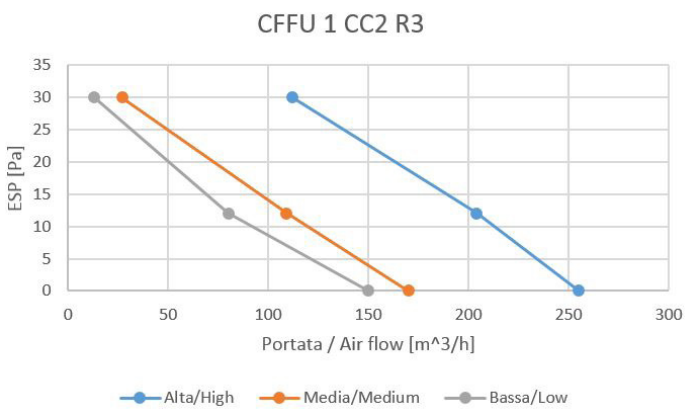
AC Version CFFAC - CFFAU, bottom intake, 4-pipe

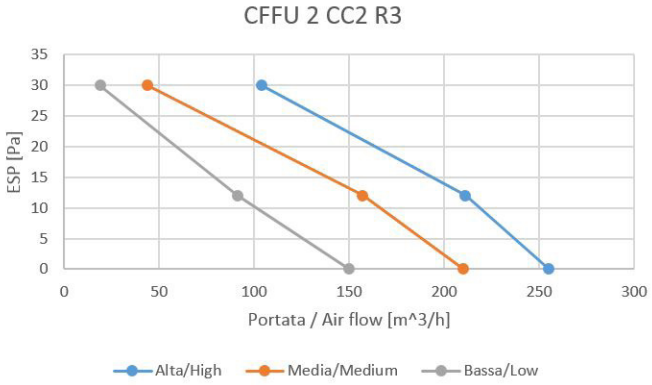
SIZE		3	5	9
High speed	dB(A)	47	52	62
Medium speed	dB(A)	38	45	56
Low speed	dB(A)	32	37	46

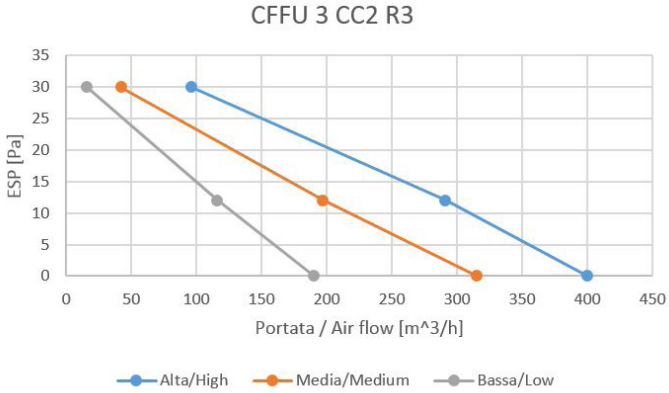


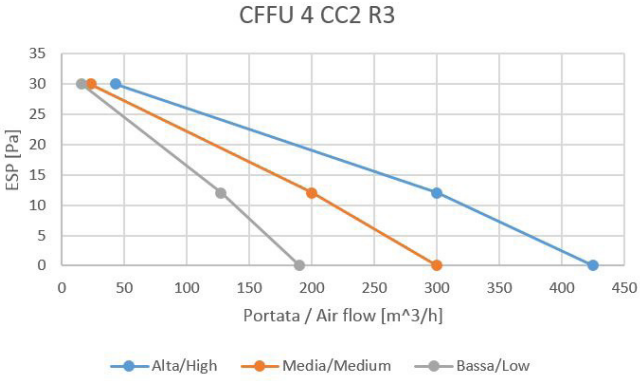
Fan curves for uncased models

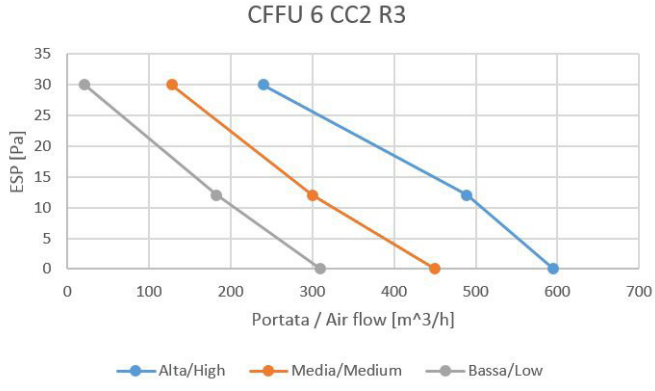
DC CFFU Models

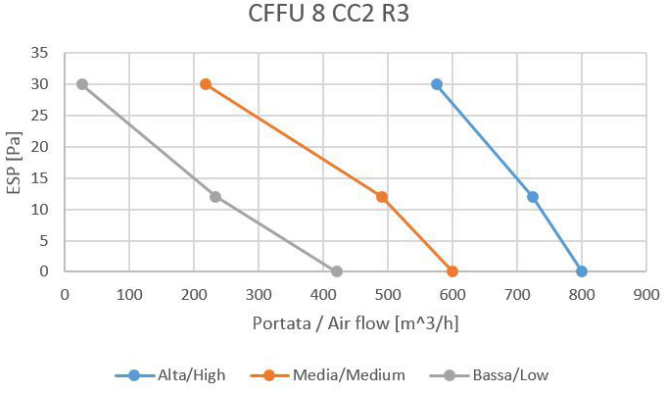






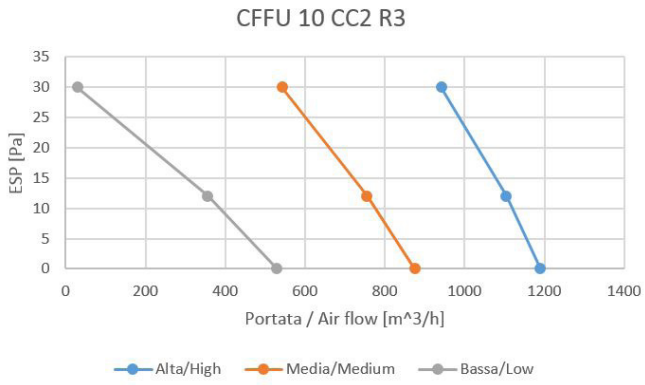


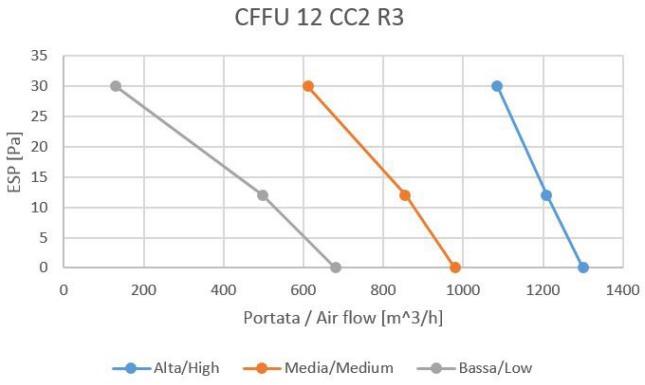




Fan curves for uncased models

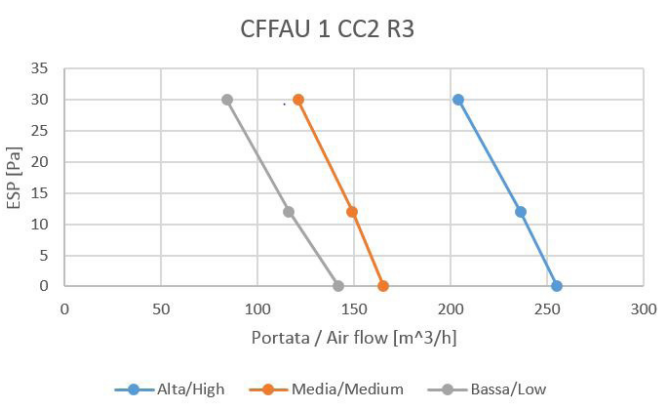
DC CFFU Models

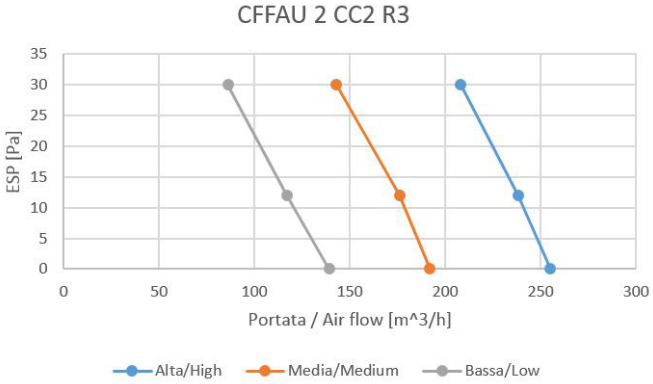


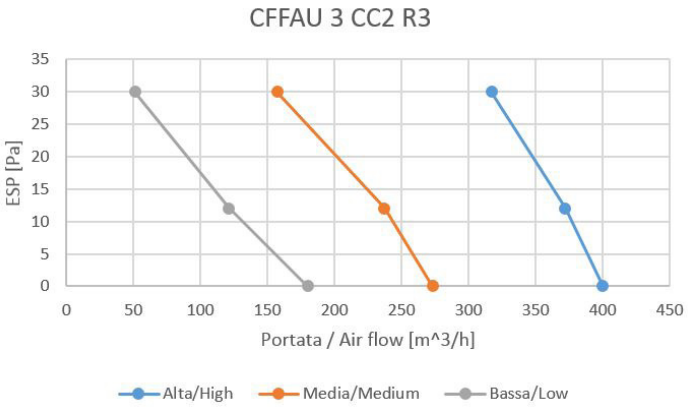


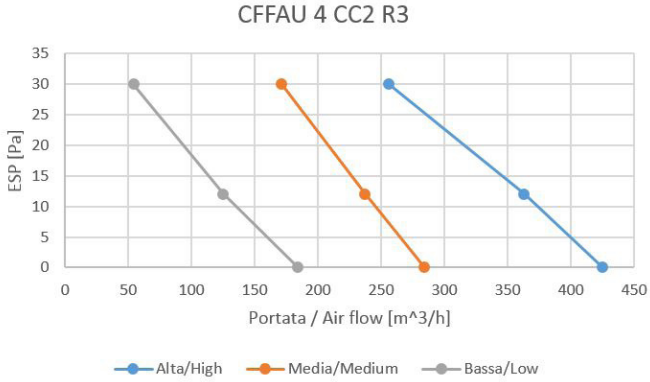
Fan curves for uncased models

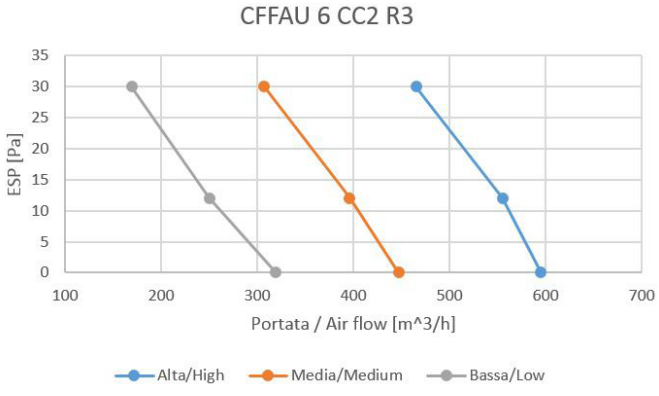
AC CFFAU Models

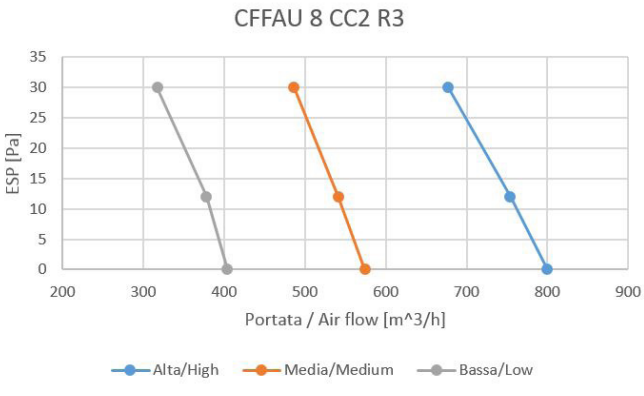






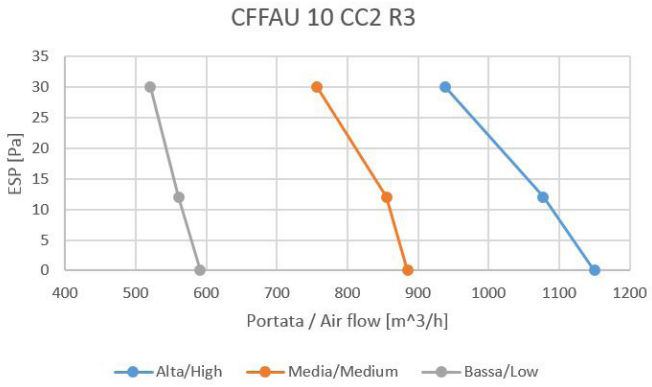


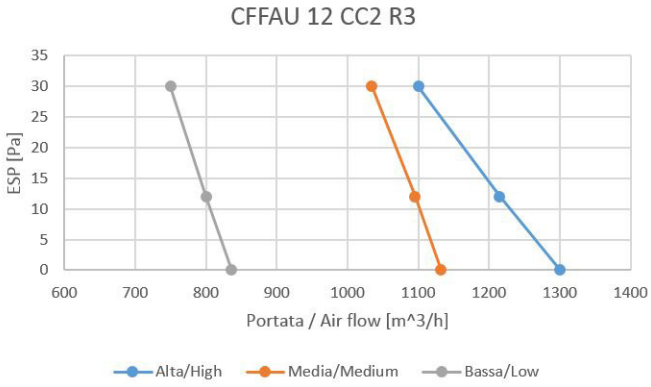




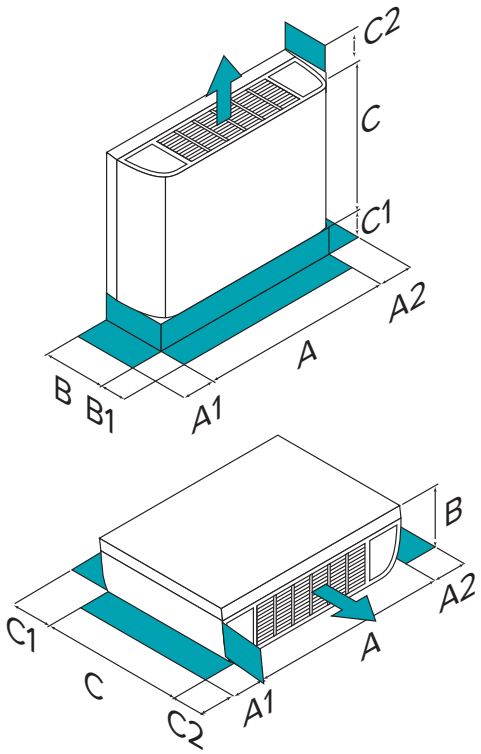
Fan curves for uncased models

AC CFFAU Models





CFFC - Cased version



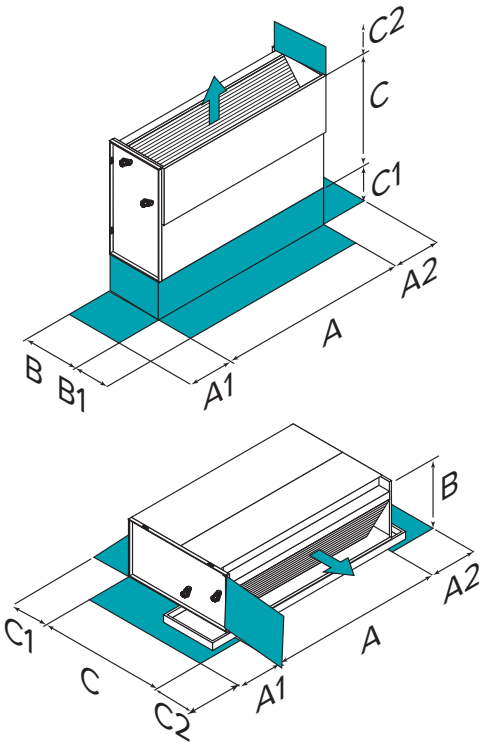
SIZE			1	2	3	4	5	6	8	9	10	12
CASED DIM.	A	mm	790	790	1020	1020	1240	1240	1240	1360	1360	1360
	B	mm	200	200	200	200	200	200	200	200	200	200
	C -	mm	495	495	495	495	495	495	495	495	495	591
VERTICAL INST.	A1	mm	150	150	150	150	150	150	150	150	150	150
	A2	mm	150	150	150	150	150	150	150	150	150	150
	B1	mm	-	-	-	-	-	-	-	-	-	-
	C2	mm	150	150	150	150	150	150	150	150	150	150
	C1 (only for R3 configurations)	mm	90	90	90	90	90	90	90	90	90	90
HORIZONTAL INST.	A1	mm	150	150	150	150	150	150	150	150	150	150
	A2	mm	150	150	150	150	150	150	150	150	150	150
	B1 (only for R3 configurations)	mm	90	90	90	90	90	90	90	90	90	90
	B2	mm	150	150	150	150	150	150	150	150	150	150

⚠ Check that there is no condensation on the wall or object above the unit.

⚠ The presence of cluttering above the unit can reduce performance.

Dimensions

CFFU - Uncased version



GRANDEZZE			1	2	3	4	5	6	8	9	10	12
UNCASED DIM.	A	mm	628	628	858	858	1078	1078	1078	1198	1198	1198
	B	mm	200	200	200	200	200	200	200	200	200	200
	C	mm	455	455	455	455	455	455	455	455	455	551
VERTICAL INST.	A1	mm	150	150	150	150	150	150	150	150	150	150
	A2	mm	150	150	150	150	150	150	150	150	150	150
	B1	mm	-	-	-	-	-	-	-	-	-	-
	C2	mm	150	150	150	150	150	150	150	150	150	150
	C1	mm	90	90	90	90	90	90	90	90	90	90
HORIZONTAL INST.	A1	mm	150	150	150	150	150	150	150	150	150	150
	A2	mm	150	150	150	150	150	150	150	150	150	150
	C1	mm	90	90	90	90	90	90	90	90	90	90
	C2	mm	150	150	150	150	150	150	150	150	150	150

⚠ Check that there is no condensation on the wall or object above the unit.

⚠ The presence of cluttering above the unit can reduce performance.

Weight table (net weight in Kg)

Size						1	2	3	4	5	6	8	9	10	12
2-pipe	Cased	AC	Bottom intake	CFFAC CC2 R3	Kg	16,3	16,7	20	20,8	-	25,4	26,3	-	28,5	34
			Front intake	CFFAC CC2 RF	Kg	-	16,7	-	20,8	-	25,4	-	-	28,5	-
		DC	Bottom intake	CFFC CC2 R3	Kg	18	18,5	21,5	22	-	26,5	26,5	-	29,5	34,5
			Front intake	CFFC CC2 RF	Kg	-	18,5	21,5	22	-	-	26,5	-	-	-
	Uncased	AC	Bottom intake	CFFAU CC2 R3	Kg	11,6	12	13,9	14,8	17,3	18,2	18,8	20,5	21,7	25,2
		DC	Bottom intake	CFFU CC2 R3	Kg	11,8	12,1	13,9	14,8	-	18,2	18,2	-	20,8	24,3
4-pipe	Cased	AC	Bottom intake	CFFAC CC4 R3	Kg	-	-	21,3	-	25,9	-	-	29	-	-
			Front intake	CFFAC CC4 RF	Kg	-	-	-	-	-	-	-	-	-	-
		DC	Bottom intake	CFFC CC4 R3	Kg	-	-	22,5	-	27	-	-	30	-	-
			Front intake	CFFC CC4 RF	Kg	-	-	-	-	-	-	-	-	-	-
	Uncased	AC	Bottom intake	CFFAC CC4 R3	Kg	-	-	15,3	-	18,7	-	-	22,2	-	-
		DC	Bottom intake	CFFC CC4 R3	Kg	-	-	15,3	-	18,7	-	-	21,3	-	-

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