

THE DUMONT

ALBERT EMBANKMENT

HEATING & COOLING USER MANUAL

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0. INTRODUCTION

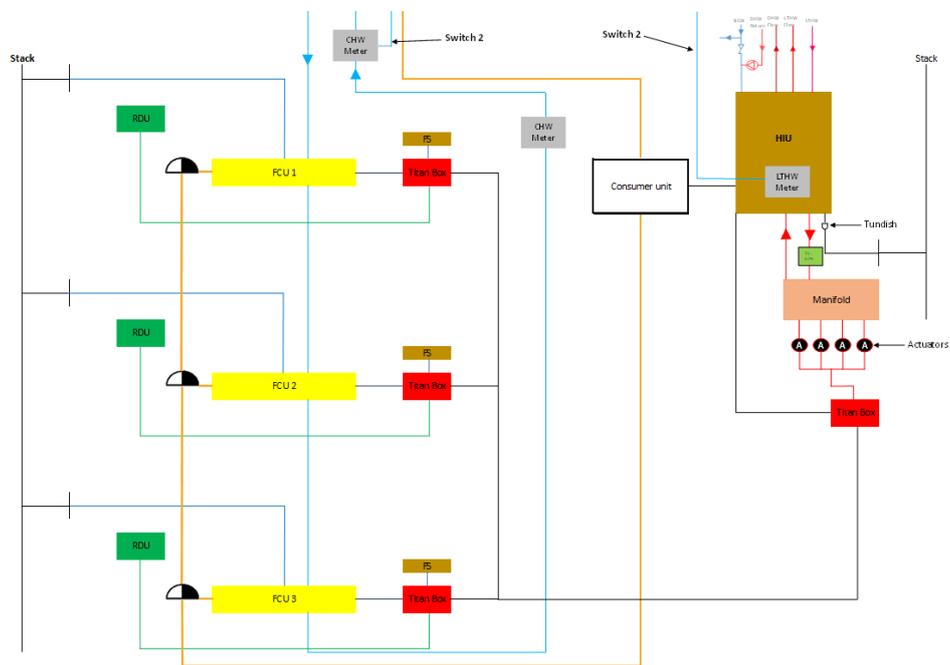


Figure 1. APARTMENT HEATING AND COOLING INTERFACE

THE HEATING AND COOLING ENVIRONMENTAL CONTROL SYSTEM IS EQUIPED WITHIN THE APARTMENT TO PROVIDE YOU WITH A COMFORTABLE ENVIRONMENT ONCE ADJUSTED AND SET TO YOUR DESIRED COMFORT LEVEL. BELOW ARE SYSTEMS INSTALLED TO ACHIEVE THIS:

- HEAT INTERFACE UNIT (HIU) WHICH ACTS AS A BOILER WITHIN YOUR APARTMENT TO PROVIDE HOT WATER FOR DOMESTIC USE AND HEATING.
- FAN COIL UNIT (FCU) WHICH PROVIDE COOLING BY USING CHILLED WATER FROM PLANT OUTSIDE THE APARTMENT.
- UNDERFLOOR HEATING & TOWEL RAIL HEATERS ARE ALSO LOCATED IN BATHROOMS WHICH ARE ELECTRICALLY POWERED AND CONTROLLED THROUGH THE CONTROLLERS LOCATED IN THE UTILITY CUPBOARD.

1. HEATING AND COOLING CONTROLS (RDU)



HEATING AND COOLING CONTROLS WITHIN THE APARTMENT IS ACHIEVED BY THE ROOM DISPLAY UNIT. THIS WILL ACTIVATE AUTOMATICALLY (OR MANUALLY IF REQUIRED) THE SYSTEM NEEDED TO REACH THE TEMPERATURE DESIRED.

The HVAC system within the apartment has been commissioned to the required specification provided. FCU (Fan Coil Unit) and UFH (Underfloor heating) are interface within the one system and can be controlled using the RDU (Remote display unit) which are pre-programmed for your comfort.

There are three mode of environment to select from Auto, cooling and Heating.



1. Auto Temperature mode (Pre-set to 00°)
2. Heat option will control the Underflooring within the plot
3. Cool function will control the comfort cooling (FCU) within the plot.
4. To turn off the HVAC system.
5. Temperature control to increase and decrease temperature.
6. Fan speed control to increase speed from Manual Low Speed Fan/ Manual Med Speed Fan/Manual High-Speed Fan.

1.1 Controlling the HVAC system:

- Manual and Auto Control by the occupant to select the control via the Fan Speed Buttons on the RDU. Auto/Off/Manual Low Speed Fan/ Manual Med Speed Fan/Manual High-Speed Fan. Setpoint controlled via the Temperature adjust buttons on the RDU
- In both Heating and Cooling mode, the temperature setpoint can be adjusted.
- From a Timed off condition to a Timed-On condition the controller defaults to Auto Mode and its selected Temperature for that Timed Period
- From a Timed off condition to an Override On condition the controller defaults to Auto Mode and default Temperature.
- On a Power cycle the controller picks up its last occupancy condition (On or off) and in an on-condition defaults to the last known Mode and its selected Temperature for that timed period.

NOTE: IT IS RECOMMENDED TO SELECT A HEATING AND COOLING SET TO DESIRED SEASONAL TEMPRATURES SO THE SYSTEM CAN MAINTAIN THOSE TEMPRATURES RATHER THAN TURNING THE COOLING AND HEATNG OFF FROM THE CONTROL AS IT LESS EFFICIENT FOR SYSTEM TO BRING TEMPRATURES UP/DOWN.

2. Heating, Cooling Units and Maintenance

2.1 HEATING SYSTEM

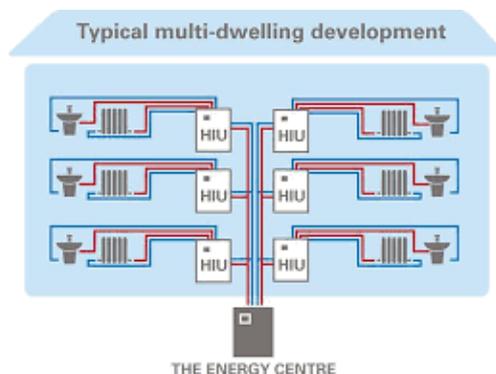


Figure 4. District Heating Schematic

Heating in The Dumont is achieved through a District Heating Installation. The Boilers are in the Basement of the Building and supply Heating flow and return to the different apartments.

Within each apartment, Cilantro has installed a Heat Interface Unit (HIU) that will interchange heat with that Primary system and provide this heat to the Heating and Hot Water within the Apartment.

The apartments are equipped with Underfloor heating, making the floor surface into a big radiator. Underfloor heating is more energy efficient and capable of maintaining the temperature more efficiently than conventional systems.

The Cooling and Heating within the Apartment is done through a Control Panel located within the Living areas.

Note: It is strongly recommended to read section 4.6 on how to operate the Cooling and Heating through the control panel.

Model: VVX-1-FI-4-2-UFH

Location: Utility Cupboard



Figure 5 HIU Unit

HIUS PROVIDE HEATING, AND DOMESTIC HOT WATER, TO INDIVIDUAL PROPERTIES WITHIN A MULTI DWELLING DEVELOPMENT (SUCH AS A BLOCK OF FLATS OR APARTMENTS, OR A LARGER DISTRICT HEATING SCHEME) SERVED BY CENTRALISED HEATING PLANT. HEAT INTERFACE UNITS ALLOW CONNECTION TO A CENTRALISED HEAT NETWORK WHILST STILL GIVING INDIVIDUAL OCCUPANTS CONTROL OVER THE TEMPERATURE IN THEIR PROPERTY AND ALLOWS INDIVIDUAL METERING AND BILLING.

2.2 COOLING SYSTEM

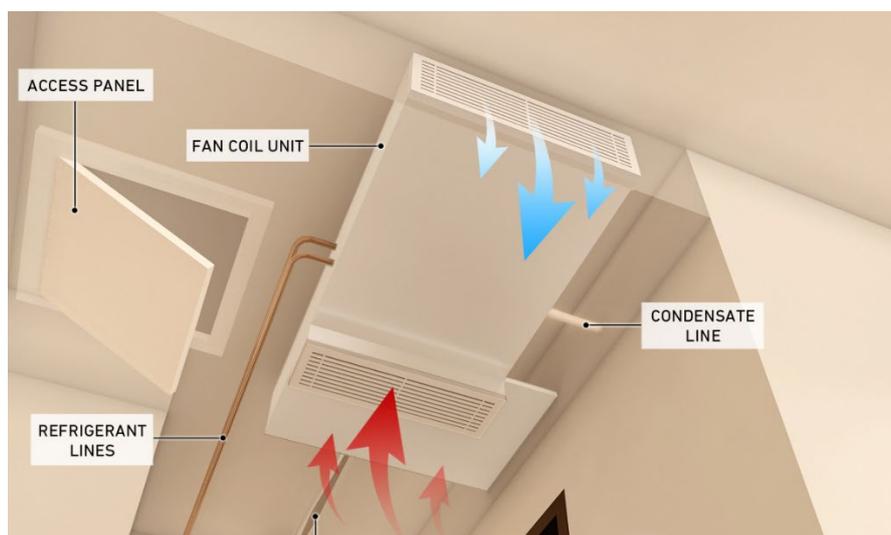


Figure 6 Cooling Schematic

The Cooling System in The Dumont works similarly to the Heating system. The Chillers are in the Plantrooms within the Building and Chilled water flow and return pipework goes from these plantrooms to each Fan Coil Unit in the Apartment.

The Fan Coil Units (FCU) will blow air through an internal radiator to reduce the temperature in the ambient.

The Cooling and Heating within the Apartment is done through a Control Panel located within the Living areas.

Note: It is strongly recommended to read section 4.6 on how to operate the Cooling and Heating through the control panel.

Note: Cooling system in Dumont is Comfort Cooling, not Air Conditioning. Avoiding the disadvantages of low temperatures associated with Air Conditioning Units.

MODEL: EVO235

LOCATION: CEILING VOID



Figure 7 FCU Unit

A FAN COIL UNIT (FCU) IS A SIMPLE DEVICE CONSISTING OF A HEATING AND/OR COOLING HEAT EXCHANGER OR 'COIL' AND FAN. IT IS PART OF AN HVAC SYSTEM FOUND IN RESIDENTIAL, COMMERCIAL, AND INDUSTRIAL BUILDINGS. A FAN COIL UNIT IS A DIVERSE DEVICE SOMETIMES USING DUCTWORK AND IS USED TO CONTROL THE TEMPERATURE IN THE SPACE WHERE IT IS INSTALLED OR SERVE MULTIPLE SPACES. IT IS CONTROLLED EITHER BY A MANUAL ON/OFF SWITCH OR BY A THERMOSTAT, WHICH CONTROLS THE THROUGHPUT OF WATER TO THE HEAT EXCHANGER USING A CONTROL VALVE AND/OR THE FAN SPEED.

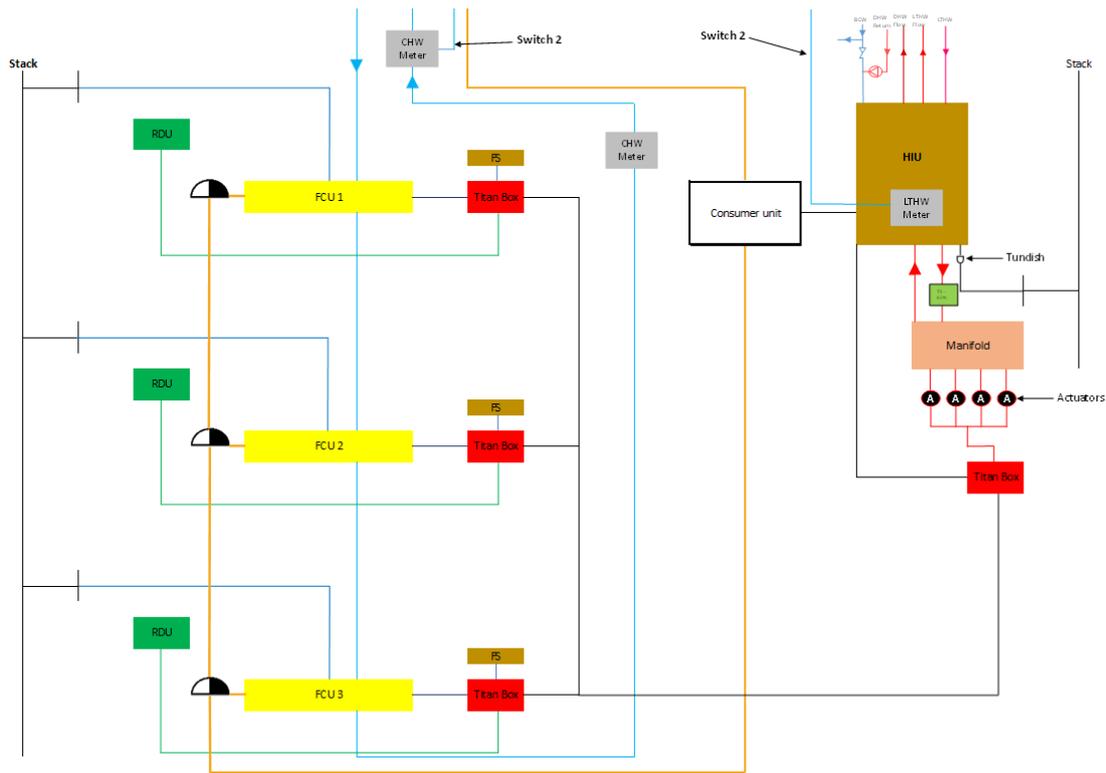


Figure 8 APARTMENT HEATING AND COOLING INTERFACE

2.3 ELECTRICAL UNDERFLOOR HEATING



Figure 9 Bathroom Electrical UFH

Dumont Apartments are provided with Electrical Underfloor Heating or Electrical Matt for the Bathroom areas (Installed by Others).

The Electrical Underfloor Heating is controlled by a Small Controller located in the Utility Cupboard.



Electrical Underfloor heating is provided in bathrooms within the apartment the underfloor mat is provided by others along with sensors that are connected to the Devi control. Cilantro engineering is providing power and control (Devireg touch).

Devireg Touch is an electronic thermostat specially designed for floor heating systems. Among others, the thermostat has the following features:

- A touchscreen display with backlight.
- An easy-to-follow menu-driven operation.
- Energy-saving schedule: A standard or customized timer program including fully flexible day and time pattern that lets you pre-set the temperature to energy-saving levels, e.g. while you are at work or asleep and with optimum heating start/stop to reach the desired temperature at the right time.
- Open window detection that prevents excessive heating at sudden drop of temperature.
- Vacation setting: Suspension of normal program schedule for specified periods of time.
- Consumption meter.
- Quick-access button to features such as frost protection and away function.

See link below for quick setup guide:

<https://www.youtube.com/watch?v=4sluKwwRhEQ>

2.4 Towel Rail & Return pump Time guard (WHERE applicable)

Towel rail time guard is for feeding and controlling the towel rail in the apartments. it has easy viewing display, optional 1 or 2-hour boost facility and automatic summer/winter time changeover. you have up to 4 on and off programmes available (5 day plus 2- or 7-day programmes) giving up to 28 on and off programmes per week.



Figure 2- Time guard and Towel rail respectively

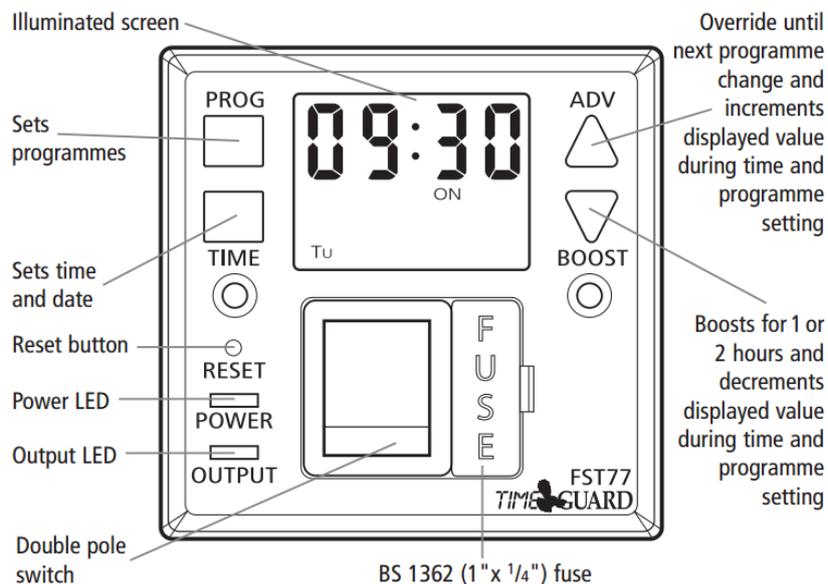


Figure 3- Towel rail operational drawing

2.4.1 BATTERY

THE UNIT HAS AN IN BUILT NON-REPLACEABLE, RECHARGEABLE BATTERY, WHICH WILL KEEP THE PROGRAMMED TIMES DURING POWER IS RESTORED, AND 4 HOURS HAVE ELAPSED (TO GIVE A WORKING BATTERY CHARGE), RESET MUST BE PRESSED, AND TIMES/PROGRAMMES RE – ENTERED. BEFORE PROGRAMMING FOR THE FIRST TIME, CONNECT THE UNIT TO THE MAINS FOR AT LEAST 15 MINUTES’ PRIOR PRESSING THE RESET BUTTON AND PROGRAMMING THE UNIT. IF THE DISPLAY IS NOT VISIBLE OR VERY FAINT, CHARGE FOR 4 HOURS PRIOR TO PRESSING RESET AND PROGRAMMING.

2.4.2 SETTING THE CLOCK

PRESS AND HOLD DOWN THE TIME BUTTON FOR 3 SECONDS. THE WORD HOLD WILL SHOW ON THE SCREEN.

AFTER 3 SECONDS, THE SCREEN WILL SHOW A YEAR.



USE THE ADV OR BOOST BUTTONS TO CHANGE THE YEAR TO THE CORRECT YEAR. PRESS TIME TO SET THE YEAR, AND THEN THE MONTH WILL SHOW.



USE THE ADV OR BOOST BUTTON TO ADJUST THE DAY TO THE CORRECT DAY. PRESS TIME TO SET THE DAY, AND THEN THE TIME WILL SHOW, HOURS FIRST.



USE THE ADV OR BOOST BUTTON TO ADJUST THE HOUR TO THE CORRECT HOUR. PRESS TIME TO SET THE HOUR, AND THEN THE TIME WILL SHOW THE MINUTES. THE HOUR IS A 24-HOUR CLOCK.

USE THE ADV OR BOOST BUTTON TO ADJUST THE MINUTES TO THE CORRECT MINUTES. PRESS TIME TO EXIT THE TIME/DATE ENTRY MODE. THE DISPLAY SHOULD NOW SHOW THE CORRECT TIME/DAY OF THE WEEK.



NOTE: DURING TIME/DATE SETTING, WHEN ADV OR BOOST BUTTONS ARE HELD DOWN, THE SETTING UNDER ADJUSTMENT WILL ADVANCE OR DECREASE MORE RAPIDLY.

2.4.3 MODIFYING THE TIME & DATE OF DAY

NORMALLY THE ONLY CHANGE REQUIRED WILL BE TO THE TIME OF DAY MINUTES, IN WHICH CASE PRESS AND HOLD TIME FOR 3 SECONDS, DURING WHICH HOLD WILL SHOW ON THE DISPLAY. AFTER 3 SECONDS THE DISPLAY WILL SHOW YEAR:



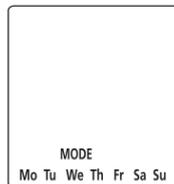
PRESS TIME REPEATEDLY UNTIL THE MINUTES ARE SHOWN. USE ADV OR BOOST TO CHANGE THE MINUTES TO THE CORRECT VALUE. PRESS TIME TO RETURN TO OPERATING MODE. OTHER CHANGES CAN BE MADE THE SAME WAY, BUT THE TIME BUTTON MUST BE PRESSED TO RETURN TO OPERATING MODE AFTER ANY CHANGES, THERE IS NO AUTOMATIC EXIT FROM TIME/DATE ENTRY MODE.

2.4.4 PROGRAMMING ON/OFF TIMES

THE FST77 HAS 4 INDEPENDENTS ON/OFF PERIODS AVAILABLE FOR PROGRAMMING EACH DAY. THERE IS A CHOICE OF PROGRAMMING OPTIONS, INCLUDING 7 DAYS THE SAME (24 HOURS), 5+2 DAYS (WHERE THE WEEKDAYS ARE THE SAME, AND THE TWO WEEKEND DAYS ARE THE SAME), AND 7 INDIVIDUAL DAYS.

PRESS AND HOLD THE PROG BUTTON FOR 3 SECONDS. WHILST HOLDING, THE WORLD HOLD SHOULD SHOW ON THE DISPLAY.

AFTER 3 SECONDS, THE MODE SCREEN WILL SHOW.



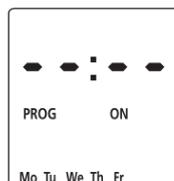
USE ADV OR BOOST TO CHANGE THE DAY GROUPING MODE. THIS WILL STEP THROUGH THE FOLLOWING OPTIONS:

24HR – MO TU WE TH FR SA SU

5DAY - MO TU WE TH FR FOLLOWED AUTOMATICALLY IN PROGRAMMING BY 2 DAY – SA SU

INDIVIDUAL DAY – MO FOLLOWED AUTOMATICALLY IN PROGRAMMING BY EACH OF THE OTHER DAYS

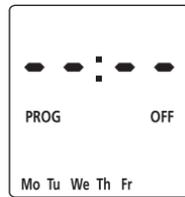
ONCE THE DESIRED DAY GROUPING IS SELECTED, PRESS PROG TO MOVE ONTO PROGRAMMING ON/OFF TIMES. THE DISPLAY WILL SHOW PROG 1, WITH DASHES FOR THE HOURS AND MINUTES.



EXAMPLE SHOWN IS FOR 5+2 PROGRAMME.

USE ADV OR BOOST TO SET THE HOUR FOR THE FIRST ON PERIOD. PRESS PROG TO CHANGE TO SETTING THE MINUTES.

PRESS PROG TO CHANGE TO PROGRAMME 1 OFF TIME.



PRESS PROG TO SCROLL THROUGH PROGRAMME 2 ON, PROGRAMME 2 OFF, PROGRAMME 3 ON, PROGRAMME 3 OFF, PROGRAMME 4 ON AND PROGRAMME 4 OFF, ADDING IN TIMES AS REQUIRED. IF TIMES ARE NOT REQUIRED, JUST LEAVE THE DASHES IN PLACE, AND SCROLL PAST THAT PROGRAMME.

AFTER PROGRAMME 4 HAS BEEN ENTERED, THE DAY WILL INDEX TO THE NEXT DAY TO BE PROGRAMMED, OR IN THE CASE OF 5+2 IT WILL CHANGE TO SA SU. PROGRAMME THE ON/OFF TIMES AS BEFORE.

AFTER THE LAST OFF TIME FOR PROGRAMME 4 HAS BEEN SET, PRESS PROG TO EXIT PROGRAMME MODE.

AT ANY STAGE IN PROGRAMMING, IF THE PROG BUTTON IS PRESSED AND HELD FOR 3 SECONDS, THE TIMES WILL RETURN TO OPERATING MODE.

THE DISPLAY WILL NOW SHOW:



WHERE THE DAY AND TIME ARE CORRECT, BUT THE ON/OFF INDICATOR MAY NOT REFLECT THE CURRENT PROGRAMME ACCURATELY, IN WHICH CASE PRESS THE ADV BUTTON TO CORRECT THE INDICATOR.

IN THE SAME WAY, AS FOR INDIVIDUAL PROGRAMMES, DAYS OR GROUPS OF DAYS CAN BE OMITTED EITHER BY LEAVING DASHES IN ALL THE LOCATIONS FOR ON/OFF TIMES FOR THAT DAY OR GROUP OF DAYS. ALTERNATIVELY, LEAVING THE PROGRAMME ENTRY MODE BEFORE FILLING IN ALL THE ON/OFF TIMES WILL LEAVE THE REMAINING TIMES BLANK.

THE ONLY WAY TO RE – ENTER A BLANK TIME IS TO RESET THE UNIT.

2.4.5 PROGRAMMING ACROSS MIDNIGHT

1. ENTER THE PROGRAMME ON TIME AS ABOVE
2. ENTER THE PROGRAMME OFF TIME AS 00:00
3. ENTER THE FIRST PROGRAMME ON TIME FOR THE NEXT DAY AS 00:00
4. ENTER THE REQUIRED PROGRAMME OFF TIME

NOTE: FOR 24 HOURS, THE ON PERIOD FOR PROGRAMME 1 MUST START 00:00.

2.4.6 MODIFYING OR ADDING PROGRAMMES

1. PRESS PROG AND HOLD FOR 3 SECONDS. WHILST HOLDING, THE WORD HOLD WILL APPEAR ON THE DISPLAY.
2. AFTER 3 SECONDS THE DISPLAY WILL SHOW THE PROGRAMMING MODE SCREEN.
3. THIS WILL BE IN THE MODE IN WHICH IT WAS LAST PROGRAMMED. FOR INSTANCE, IF IT WAS PROGRAMMED 5+2, THEN IT WILL SHOW MO TU WE TH FR. EITHER ACCEPT THIS, PRESS PROG, AND REVIEW THE TIMES PROGRAMMED FOR THIS MODE BY PRESSING PROG, OR PRESS ADV OR BOOST TO CHANGE THE MODE, AND THEN PRESS PROG TO REVIEW THE TIMES. IN THIS CASE, EITHER TO SA SU, OR TO 7 DAY OR TO INDIVIDUAL DAYS.

NOTE: IF THE UNIT WAS PROGRAMMED AS A 5+2 THEN CHANGING THE MODE TO ANY OTHER MODE THAN SA SU MAY BLANK ANY PREVIOUS PROGRAMMING. THE SAME APPLIES FOR CHANGING FROM ANY OTHER MODE, CHANGING FROM THE MODE IT WAS LAST PROGRAMMED IN MAY BLANK THE PREVIOUS PROGRAMME.

2.4.7 BOOST

1. ONE PRESS OF THE BOOST BUTTON WILL PROVIDE A 1-HOUR BOOST, AFTER WHICH OUTPUT WILL TURN OFF.
2. TWO PRESSES WILL GIVE 2 HOURS' BOOST.
3. A THIRD PRESS OF THE BOOST BUTTON WILL CANCEL ANY BOOST PERIOD.

2.5 MAINTENANCE

2.5.1 FCU Maintenance

Your new Ability fan coils will operate for many years affording a comfortable, controlled working environment. This sheet provides useful installation guidelines, a trouble shooting table and a list of routine maintenance procedures.

Service and Routine Maintenance	
Every 3 Months	<ul style="list-style-type: none"> • Clean filters
Every 6 months	<ol style="list-style-type: none"> 1. Clean filters 2. Brush or vacuum coil surface
Every 12 months	<ul style="list-style-type: none"> • Clean or replace filters • Brush or vacuum coil surface • Wipe out condensate tray and chemically clean if required • Vacuum fan and motor sets if required. • Visually inspect for any failures or failing components

ROBLEMS AND POSSIBLE CAUSES	
Air Volumes are lower than expected or the noise level is higher than expected	<ul style="list-style-type: none"> • Signal voltages above 7.5V will never be selected by Ability. If you • have an installation defect or measurement error, turning the fan • speed ever higher will not solve the problem but will, generate noise. • Is the filter dirty • If VCD's are fitted, have they been left closed. • Are the flexible ducts installed correctly there should be no tight bends, no restrictions and no excess material in the lengths of duct?
Condensate does not drain or the unit leaks	<ul style="list-style-type: none"> • Is the air filter dirty — Dirty filters impede condensate flow • Is the fan coil installed out of level
Controls do not work	<ul style="list-style-type: none"> • Have the commissioning valve caps or pegs been removed? • Has the set point temperature been reset correctly after commissioning? • Is the sensor being "fooled" by an external temperature influence • Have the controls not yet finished their start-up diagnostics routine.
Unit becomes noisier over time	<ul style="list-style-type: none"> • Is the filter dirty

2.5.2 Filter and Routine Maintenance

- Locate the Filter at the back of the unit.
- Gently apply force in the direction you want slide the filter out on (see figure 23). This will ease the filter out of its location slot on the fan coil unit.
- When the filter is clear of the flange on the fan coil unit, the filter can be slide clear of its location slot.

Note: Larger fan coil units have 2 filters to ease removal/refitting.

- Carefully remove the filter from the ceiling void for cleaning. Avoid snagging the filter media on suspended ceiling wires for example. Also avoid twisting the filter to clear obstacles. This may deform the filter and make it more difficult to refit.

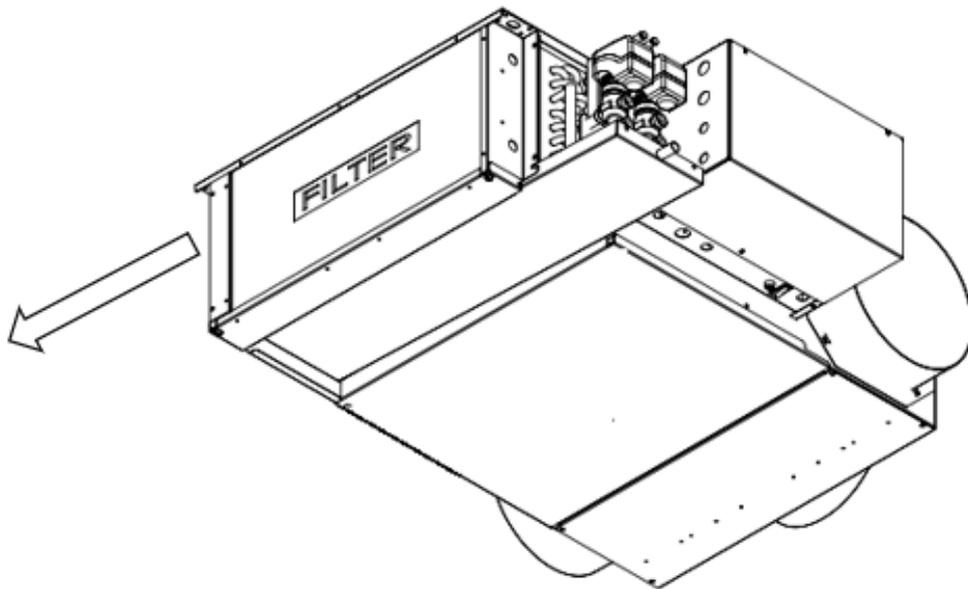


Figure 4- Filter removal

- Clean the filter using a vacuum cleaner. The filter can also be cleaned using warm water and a mild detergent, if required.
- Installation of the filter is the reverse of removal.
- Check the filter is correctly located. If the filter is damaged or too dirty to clean satisfactorily, it must be replaced. Contact Ability Projects for any replacement parts.

2.5.3 HIU MAINTENANCE

WORKS WITHIN THE HIU TO BE CARRIED OUT BY QUALIFIED AND COMPETENT PERSON RECOMMENDED.

2.5.4 UNDERFLOOR / Towel RAIL HEATER MAINTAINANCE

WORKS TO BE CARRIED OUT BY QUALIFIED AND COMPETENT PERSON RECOMMENDED.

2.5.5 RDU MAINTAINANCE

WORKS TO BE CARRIED OUT BY QUALIFIED AND COMPETENT PERSON RECOMMENDED.

3 Manufacturer Contact Details

Room Display Unit Manufacturer: Titan

Model: Titan RDU Touch

<https://www.titanproducts.com/>

0161 406 6480

sales@titanproducts.com

HEAT INTERFACE UNIT

Model: Danfoss Flat Station

SAV (UK) LIMITED, SCANDIA HOUSE,

BOUNDARY ROAD,

WOKING,

SURREY

GU21 5BX

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