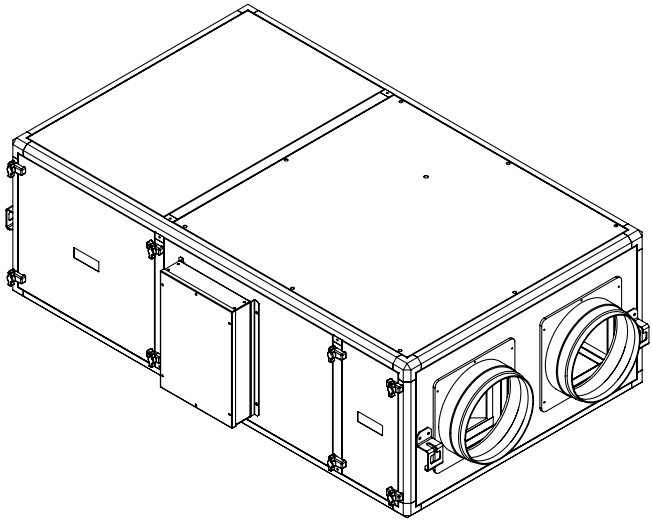
User's Manual

HRF



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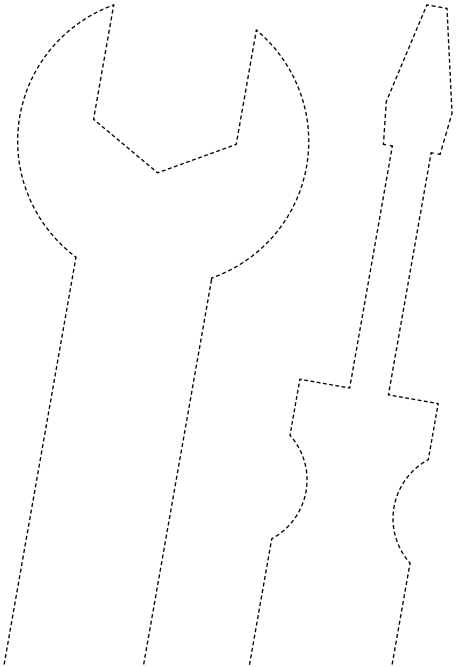
Contents



- This product must not be disassembled under any circumstances. Only authorized repair technicians are qualified to conduct disassembly and repairs.
- Failure to heed this warning may result in fire, electrical shock or injury.

- Do not install this product in a refrigerated warehouse, heated swimming pool or other location where temperature and humidity are significantly different. (Failure to heed this warning may result in electrical shock or malfunctioning.)
- Do not install this product where it will be directly exposed to rain. (Failure to heed this warning may result in electrical shock or malfunctioning.)
- Do not install this product in a location where acid, alkali or organic solvent vapors, paints or other toxic gases, gases containing corrosive components or high concentrations of oily smoke are present. (Failure to heed this warning may result not only in malfunctioning but also fire, power leakage and electrical shock.)
- Do not use this product outside the range of its rated voltage and control capacity. HRF; Single phase, 220-240V, 50 Hz. (Failure to heed this warning may result in fire or electrical shock.)

- Install this product in an environment where the temperature ranges from -10 °C to +40 °C and the relative humidity is less than 80%. If condensation is expected to form, heat up the fresh outside air by a duct heater etc.
- Select a position for introducing the outside air where no exhaust or combustion gases will be sucked into the fresh air duct and where it will not be covered by snow (Failure to ensure a supply of air can result in producing a state of Oxygen deficiency inside the room.)
- Select an adequately sturdy position for installing the product and install it properly and securely. (Injury may result if the product should fall.)
- Use the designated electrical wires for the terminal board connections and connect the wires securely so that they will not be disconnected. (Failure to ensure proper connections may result in fire.)
- When passing metal ducts through wooden buildings clad with metal laths, wire laths or metal, these ducts must be installed in such a way that they will not make electrical contact with metal laths, wire laths or metal sheets. (Power leakage can cause ignition.)
- The outside ducts must be tilted at a gradient(1/30 or more) downwards toward the outdoor area from the main unit, and properly insulated. (The entry of rain water may cause power leaks, fire or damage to household property.)
- Gloves should be worn during installation. (Failure to heed this warning may result in injury.)
- A dedicated circuit breaker must be installed at the origin of mains power supply. This circuit breaker must be provided with a means for locking (lock and key).

- Connect the product properly to the ground. (Malfunctioning or power leaks can cause electrical shock.)

- An isolator switch having a minimum contact gap of 3 mm in all poles must be provided as a means of disconnecting the power supply.

Control List

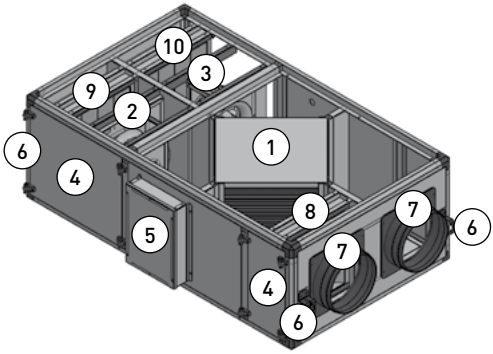
NOTE

▶ Control procedures required after commissioning and in case of a malfunction are listed below. In the event of further malfunction after initial controls, consult to our company.

CONTROL LIST

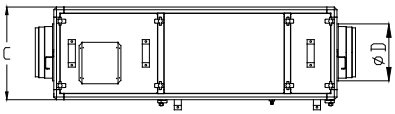
		✓
01	Make sure the unit receives power and grounding is done!	☐
02	Make sure the length of electric cables is correct! (Check for overheating on cables!)	☐
03	Check if the cables heading to the electrical box are shielded (protected against magnetic field) and shield is grounded. If not, replace!	☐
04	Check if the exhaust and supply filters are clean and make sure they do not prevent air flow!	☐
05	Make sure the drain hose is connected and check for any blockages through the drain line! If needed, clean it!	☐
06	Please check that the duct dimensions used in the duct system are correct and of the same dimension of the units duct connection. If wrong correct it with appropriate one.	☐
07	Make sure electrical connections are done as it is described in this manual. Make necessary corrections if there is any faulty connection.	☐
08	Make sure there is enough service space for installation. If not, repeat installation.	☐
09	In extremely cold climates in which freezing may occur on the heat recovery unit, use electric pre-heater at the fresh air suction to raise the air temperature to -8 °C or above.	☐
10	Check for unusual noise or vibration after the installation. If there is, control if anti-vibration pads are used.	☐

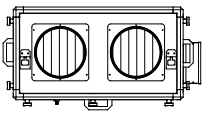
Components

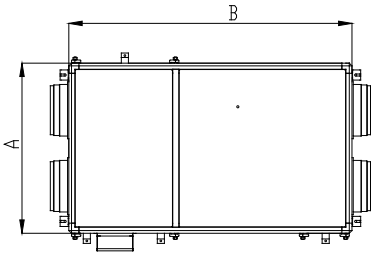


1 Heat Recovery Exchanger
2 Exhaust Air Fan
3 Fresh Air Fan
4 Filter and Fan Service Cover
5 Electrical Box
6 Sub Hangers
7 Duct Connectors
8 Fresh Air Filter
9 Exhaust Air Filter
10 Optional Fresh Air Filter

Dimensions

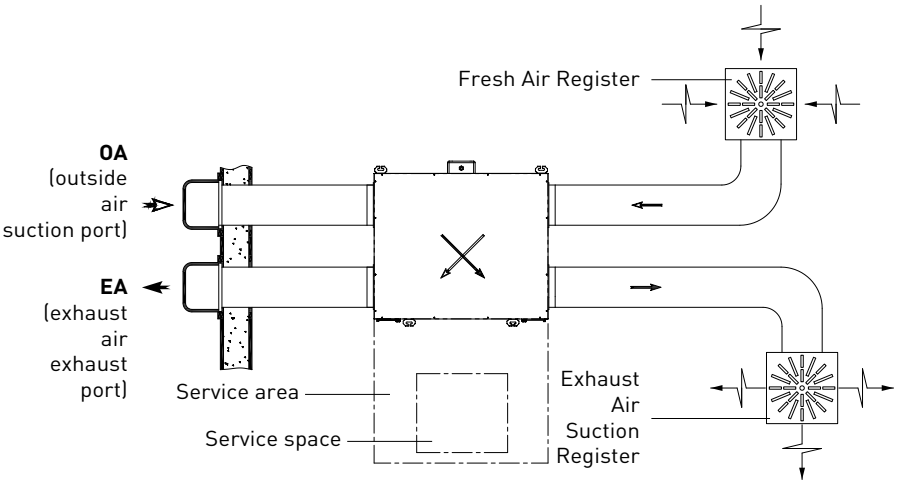






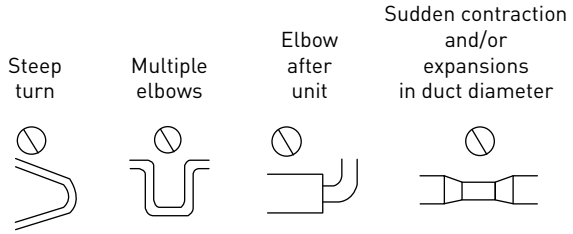
Model		Dimensions			
		A	B	C	D
HRF	1200	840	1400	470	Ø 250
	1800	1260	1750	570	Ø 300
	3000	1260	1900	620	Ø 355
	4500	1360	2150	690	450 x 450

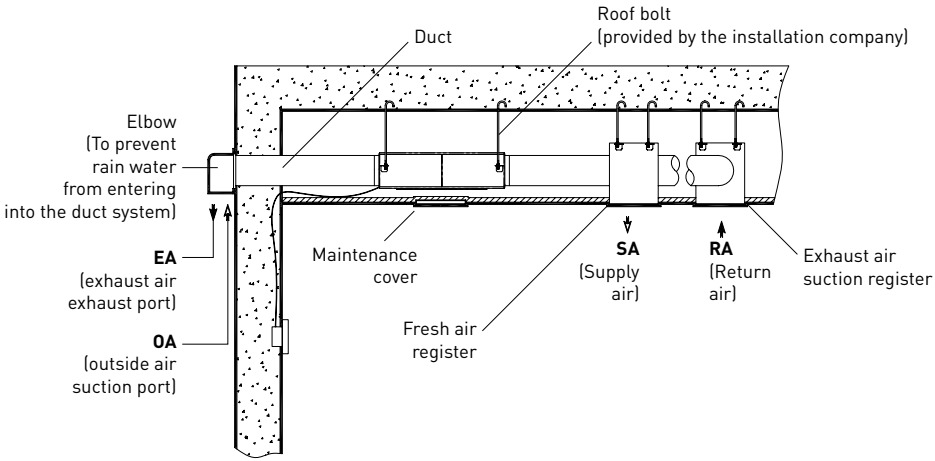
Installation



CAUTION

- Make sure service doors open easily and fan/ filter can be pulled out.
- Pay attention to the warnings before connecting the units to ducts.



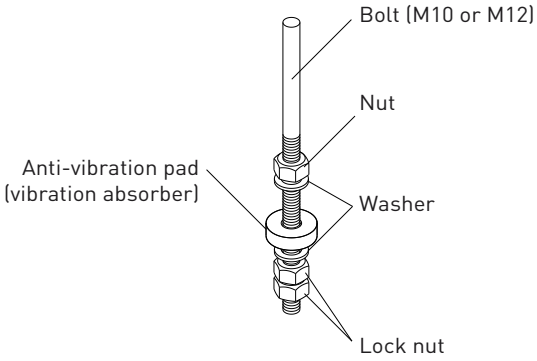


Preparation of roof bolts

Hang the rubber anti-vibration pad to the bolt and balance the unit so that it remains horizontally. Make sure the unit is attached securely with a lock nut.

CAUTION

▶ Control the strength of the bolts before installation.

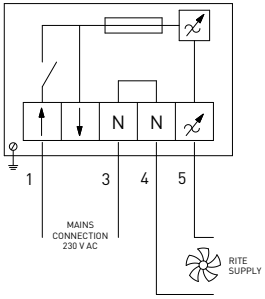


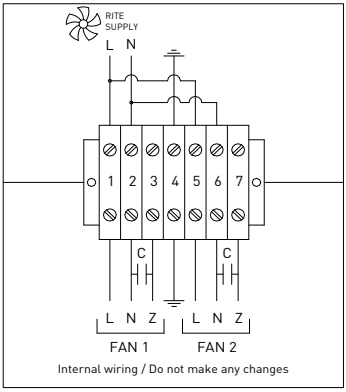
NOTE

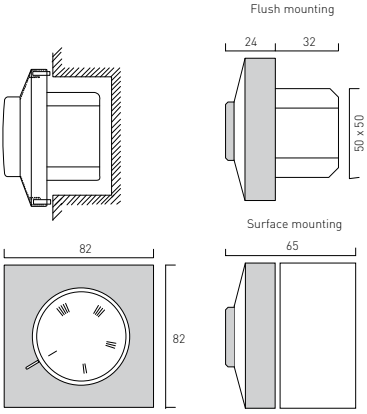
▶ Nuts, washers and anti-vibration pads are included in the montage kit supplied with the unit.

Electrical Connection

Fan Speed Regulator Wiring Diagram
(Standard* HRF Units Wiring Diagram)







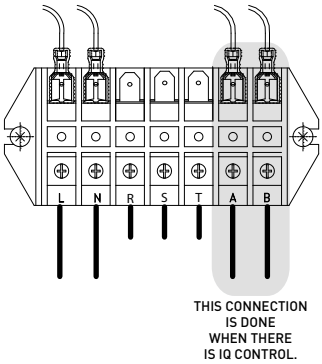
All dimensions are in mm.

Perform the electrical connection as shown for fan speed regulators given with the HRF models.

CAUTION

▶ Mains connection is done to the fan speed regulator. HRF units are connected to the fan speed regulators.

HRF Electronic Control Panel Terminal Wiring



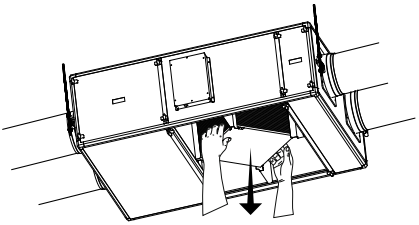
In case IQ control panels are used in models between HRF 1200 - 4500, perform the wiring to the terminal in the electrical box as shown on the scheme (L and N ends). The unit can be commanded with the room control panel when its A and B ends are connected as shown. In case there is an electric heater, terminals referred to as R, S and T must be supplied with 3-phase energy.

CAUTION

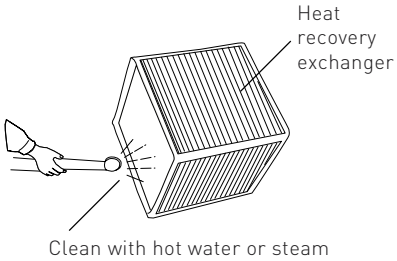
▶ Mains connection is done to the L,N (and R,S,T if need be) ends. A and B ends are reserved for room control panel connection.

- Turn off all power switches before maintenance.
- Do not turn on the unit without the air filter mounted otherwise blockages may ocur.
- Clean the air filters at least once a year.
- Clean the heat recovery exchanger at least once in every two years.

Cleaning of The Heat Recovery Exchanger



1. STEP
Remove the screws that secure the heat recovery exchanger service cover to the unit's bottom cover. While performing this operation make sure heat recovery exchanger does not fall down.

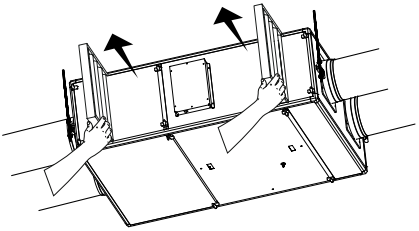


2. STEP
Clean the heat recovery exchanger with hot water or steam. Use natural detergent or soap powder if need be. Leave it to dry after cleaning and mount it to the unit after it is completely dry. Tighten the service cover screws thoroughly and make sure the heat recovery exchanger does not fall down.

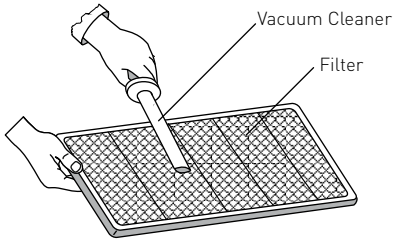
NOTE

▶ Maximum mass of the exchanger is 22 kg.

Cleaning of The Air Filter



1. STEP
Open the filter service covers and remove the filters.

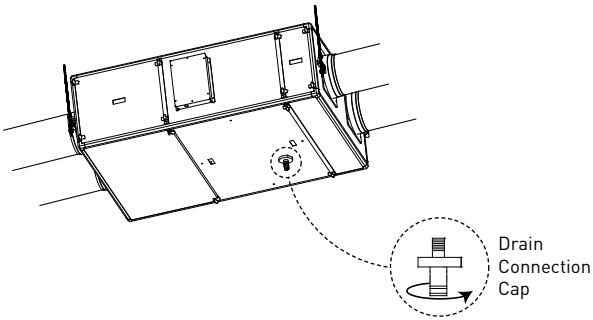


2. STEP
Clean the filter with a vacuum cleaner. To remove dense dust build-ups, prepare a solution with cold water and natural detergent or soap powder and submerge the filter in the solution. Later pull out the filter from the solution and leave it to dry. In any case, do not scrub or apply force on the filter material. After it is completely dry, mount the filter to the unit, close the service door and tighten the screws thoroughly. When using fine filters (F6, F7, F8, F9 grade) replace with a new one incase it is clogged.

Drain Connection

The drain connection cap is delivered separately in the montage kit. The drain cap is designed to be screwed on one side to the units drain pan. Please use sealant material in the screw side and also in the cap side to prevent leakage. Also take attention not to block the drain flow by means of incorrect sealant application. Connect to the drain hose properly. Once the sealant is dry pour some water to the drain pan and make sure that the drain water discharges from the unit without any leakage or blockage.

Drain Cap Connection

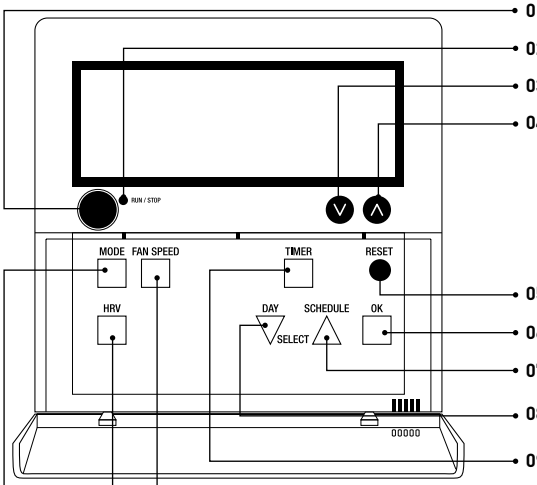


Optional IQ Control

NOTE

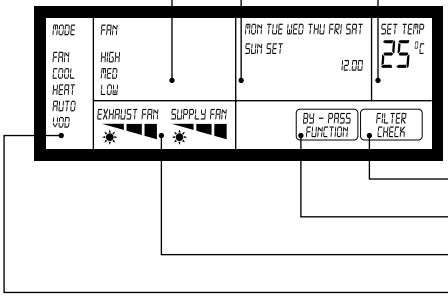
▶ IQ control is optionally available as an accessory for HRF 1200, 1800 and 3000.

▶ **Button Functions**



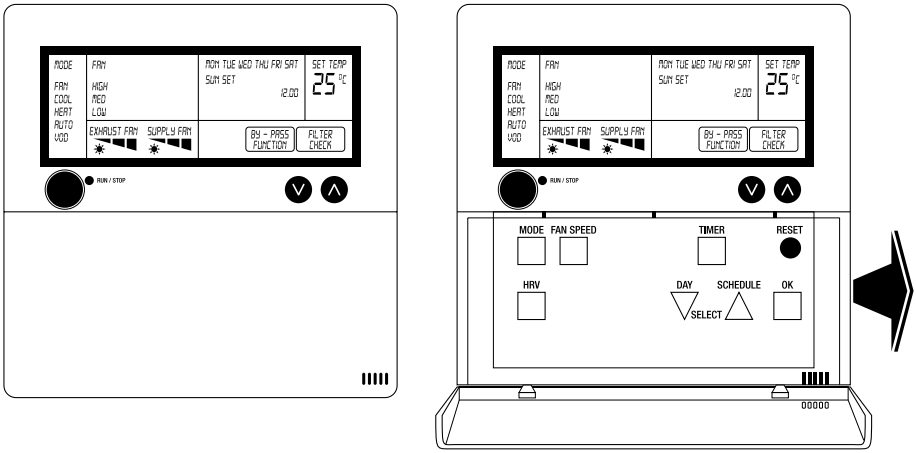
- **01** RUN / STOP BUTTON
- **02** OPERATION INDICATOR
- **03** SELECTION TEMPERATURE INCREASE
- **04** SELECTION TEMPERATURE DECREASE
- **05** RESET
- **06** CONFIRM // OK
- **07** TIME SELECTION INCREASE
- **08** TIME SELECTION DECREASE
- **09** TIMER SELECTION
- **10** FAN SPEED SELECTION
- **11** HRV CHECK BUTTON
- **12** MODE SELECTION

▶ **LCD Functions**



- **01** FAN SPEED SELECTION
- **02** TIMER / HOUR INDICATOR
- **03** TEMPERATURE INDICATOR
- **05** FILTER CHECK ALARM
- **06** BY-PASS INDICATOR
- **07** FAN SPEED INDICATOR
- **08** MODE INDICATOR

Remote Control Functions



RUN / STOP
When the backlight and led is off, press the button once to turn the unit on. When the unit is "on" press on/off 2 seconds to switch it off

▲ ▼
Increase/decrease set point room temperature (SET TEMP is on)

MODE
Press to select the listed modes of operation (FAN, COOL, HEAT, AUTO, VOD). Every time a button is pressed a next mode lights up. After a 5 seconds delay the mode will be activated. The text MODE on display is always visible.

FAN
With this button the fan speed of the
- Pressing once: text FAN lights up. "EXHAUST FAN" and current fan speed (text) starts blinking
- Use ▲ ▼ buttons to select fan speed (high, med, low)
- Press OK to confirm
- "SUPPLY FAN" and current fan speed (text) starts blinking
- ▲ ▼ Use buttons to select fan speed (high, med, low)
- Press OK to confirm
- Text FAN and HIGH, MED, LOW lights up

TIMER
Press to set timer function on/off. When "on" the display shows SET

RESET
Press to reset filter check. When "on" the display shows FILTER CHECK. Default Filter Check the value in use in parameter list 2.3.3.

Optional IQ Control

LCD Functions

CHANGE TIME

- Press OK button for 3 seconds, time starts blinking.
- Change time with ▲ ▼ buttons. Time starts to change faster are pressed for a while.
- Press OK to confirm, current day starts blinking.
- Change day with ▲ ▼ buttons.
- Press OK to confirm

Press RUN / STOP to stop immediately and go back to normal operation

TIMER FUNCTION

The timer function can be used to program block times in which the unit is operating. Outside the blocks the unit is off. The timer function makes it possible to program 2 on/off times per day.

- Press TIMER button for 3 seconds, day MON starts blinking, all other LCD segments are off
- Press DAY button (one or more times) to select the day to be set
- Press OK to confirm, the selected day is permanent on
- The temp display shows 88 which means timer block 1 "on" time can be programmed
- Adjust the "on" time with the DAY and SCHEDULE buttons, press OK to confirm
- Next the timer block 1 "off" time can be programmed, the temp display shows 88
- Again adjust the "off" time with the DAY and SCHEDULE buttons, press OK to confirm
- Next the timer block 2 "on" time can be programmed, the temp display shows 88
- Adjust the "on" time with the DAY and SCHEDULE buttons, press OK to confirm
- The temp display shows 88 which means timer block 2 "off" time can be programmed
- Again adjust the "off" time with the DAY and SCHEDULE buttons, press OK to confirm
- Now the next day starts blinking and can be programmed accordingly as described above.
- To exit the programming mode press OK for 3 second or wait 1 minute

ADDITIONAL FEATURES

- A specific "on" or "off" time can be deleted by pressing RESET when programming the time block. If deleted the time display shows: 8888 and the time is not used.
- When for example the unit is "on" on Monday and no "off" time is programmed that day anymore, the unit remains "on" until the first "off" time is reached the next day(s).The same sequence is used when the unit would be "off"

Example 1 – Normal Blocks

MON

Time display	Temp Display	
08.00	1	1st "on" time - unit starts on Monday at 8:00
12.00	1	1st "off" time - unit starts on Monday at 12:00
14.00	2	2nd "on" time - unit starts on Monday at 14:00
18.00	2	2nd "off" time - unit stops on Monday at 18:00

Example 2 – Overlapping Blocks

MON

Time display	Temp Display	
08.00	1	1. 1st "on" time - unit starts on Monday at 8:00
12.00	1	1. 1st "off" time - unit stops on Monday at 12:00
14.00	2	2nd "on" time – No action Time programmed before 1st stop time, unit remains off
18.00	2	2nd "off" time - unit stops on Monday at 18:00 Time programmed before 1st stop time, unit remains off

Example 2 – Overlapping Blocks

MON

Time display	Temp Display	
08.00	1	1. 1st "on" time - unit starts on Monday at 8:00
12.00	1	1. 1st "off" time - unit stops on Monday at 12:00
14.00	2	2nd "on" time – No action
18.00	2	2nd "off" time - unit stops on Monday at 18:00

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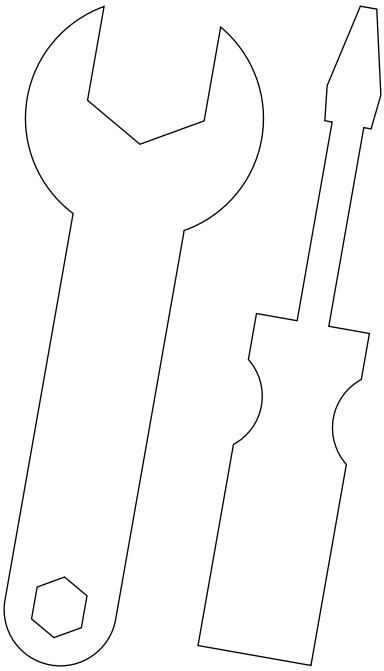

▶ For Troubleshouting **Please Contact**