

# Heat recovery unit

## VX – Villavent heat recovery unit with cross flow heat exchanger

### Fans

The VX-units are equipped with radial fans with forward curved impellers and maintenance free outer rotor motors, protected with internal thermal cut-out. The VX-250 and -400 models are equipped with single inlet fans and the VX-500 and -700 with double inlet fans. The fans can easily be removed for cleaning, service or replacement.

### Filter

Lamp signal on the integrated or remote control panel will light when set operation time between filter change has expired. Operation time (6, 9 or 12 months) between filter change can be set from buttons on the control panel. The VX-250 TV/P is not fitted with lamp signal for filter change.

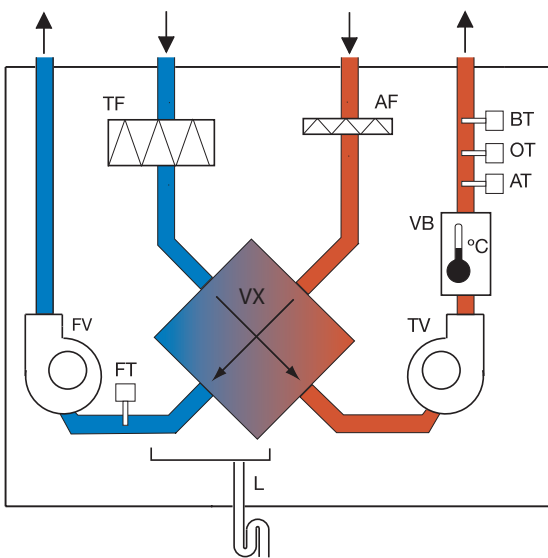
### Re-heater battery - inlet temperature

The VX units are fitted with a thermostat operated re-heater battery. When heat recovery from the extract air is insufficient to obtain the desired/set supply air temperature, the re-heater battery will come on automatically. Lamp signal on the control panel will light when the re-heater battery is in operation (not VX-250 TV/P).

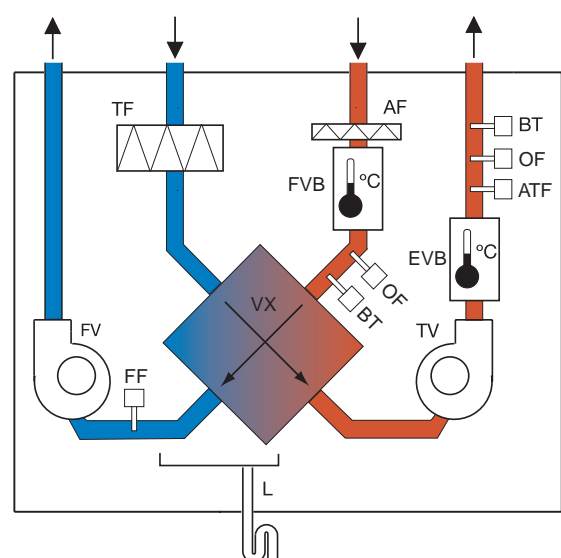
### Pre-heater battery

A thermostat operated pre-heater battery in the unit will melt rime or ice inside the exchanger block as necessary. Lamp signal on the control panel will flash when defrosting is in operation. A low power consumption is ensured by means of a switch-over contact, ensuring that the re- and pre-heater batteries are not in operation simultaneously.

VX-250 TV/P



VX-400/-500/-700 EV



- |    |                           |    |                      |
|----|---------------------------|----|----------------------|
| FV | Extract fan               | AT | Operation thermostat |
| TF | Inlet filter              | VB | Re-heater battery    |
| VX | Cross flow heat exchanger | TV | Inlet fan            |
| AF | Extract filter            | L  | Condensation drain   |
| BT | Fire thermostat           | FT | Frost thermostat     |
| OT | Overheat thermostat       |    |                      |

- |     |                    |     |                             |
|-----|--------------------|-----|-----------------------------|
| TF  | Inlet filter       | OF  | Overheat sensor             |
| AF  | Extract filter     | BT  | Fire thermostat             |
| TV  | Inlet fan          | ATF | Operation thermostat sensor |
| FV  | Extract fan        | FF  | Frost sensor                |
| FVB | Pre-heater battery | VX  | Cross flow heat exchanger   |
| EVB | Re-heater battery  | L   | Condensation drain          |

## Accessories

### VX-250 TV/P

### VX-400/500/700 EV

Separate control panel type CE		x
Week timer		x
Duct cover	x (height = 410 mm)	x (height = 295 mm)
Re-heater battery		
Summer block	x	x
Condensate tray with water lock	x	x

In the VX-250 TV/P the energy from the extract air is used to melt rime or ice inside the exchanger block as necessary. The defrost thermostat will stop the inlet fan for short periods of time for defrosting.

### Duct cover

A 3-piece white painted duct cover, to be mounted between the ceiling and the unit, can be provided as additional equipment for wall mounted units (-TV/P, -EV and -EV/B models).

### Condensate tray

Condensate tray for installation under wall mounted units (-TV/P, -EV and -EV/B models) can be provided as additional equipment, and as an alternative to installation of fixed condensate draining.

### Summer operation

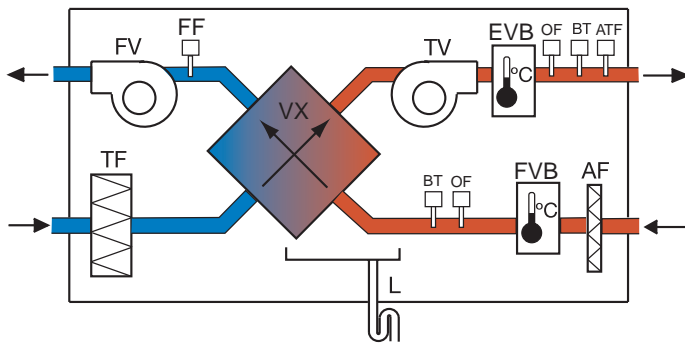
The exchanger block can be replaced by a summer-block when heat recovery is not required. There will be no transfer of heat between the extract and inlet air when summerblock is mounted.

VX-400 EV/B is equipped with a damper solution and will automatically alternate between winter operation with heat recovery and summer operation without heat recovery. This solution will also automatically recover chilled indoor air (cooling).

### Timer operation

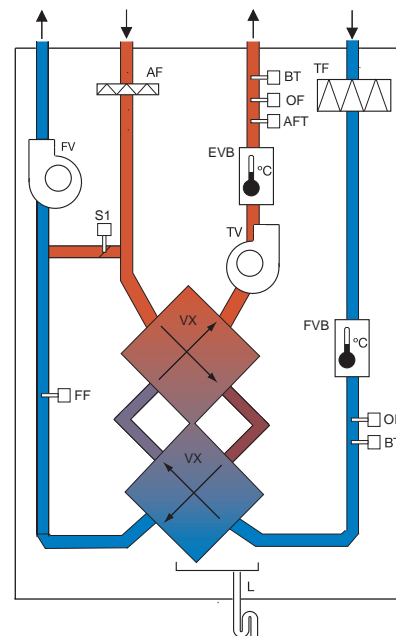
When the VX unit is installed for ventilation in commercial buildings, regulation from separate week timer is often required for automatic control of day and night (reduced airflow) operation. If the rooms are in use during night operation, override to day operation can be made from separate button on the control panel. This function will automatically switch back to night operation after 3 hours (not VX-250 TV/P).

VX-400/-500/-700 E



- |     |                    |     |                             |
|-----|--------------------|-----|-----------------------------|
| TF  | Inlet filter       | OF  | Overheat sensor             |
| AF  | Extract filter     | BT  | Fire thermostat             |
| TV  | Inlet fan          | ATF | Operation thermostat sensor |
| FV  | Extract fan        | FF  | Frost sensor                |
| FVB | Pre-heater battery | VX  | Cross flow heat exchanger   |
| EVB | Re-heater battery  | L   | Condensation drain          |

VX-400 EV/B



- |     |                    |     |                             |
|-----|--------------------|-----|-----------------------------|
| TF  | Inlet filter       | BT  | Fire thermostat             |
| AF  | Extract filter     | ATF | Operation thermostat sensor |
| TV  | Inlet fan          | FF  | Frost sensor                |
| FV  | Extract fan        | S1  | Motor bypass damper         |
| FVB | Pre-heater battery | VX  | Cross flow heat exchanger   |
| EVB | Re-heater battery  | L   | Condensation drain          |
| OF  | Overheat sensor    |     |                             |

## Accessories

VX-400/-500/-700 E

VX-400 EV/B

	VX-400/-500/-700 E	VX-400 EV/B
Separate control panel type CE	x	x
Week timer	x	x
Duct cover		x (height = 295 mm)
Re-heater battery		
Summer block	x	
Condensate tray with water lock		x

# Heat recovery unit

## VR – Villavent heat recovery unit with rotating heat exchanger

### Fans

The VR-units are equipped with radial fans with forward curved impellers and maintenance free outer rotor motors, protected with internal thermal cut-out. The VR-400 EV is equipped with single inlet fans and the VR-700 EV with double inlet fans. The fans can easily be removed for cleaning, service or replacement.

### Filter

Lamp signal on the integrated or remote control panel will light when set operation time between filter change has expired. Operation time (6, 9 or 12 months) between filter change can be set from buttons on the control panel.

### Re-heater battery - inlet temperature

High efficiency rotating heat exchangers will normally ensure that necessary inlet temperature is maintained, without use of re-heater battery. An electrical re-heater battery can be supplied as additional equipment for simple and integrated installation (plug & play) in areas with very low outdoor temperatures. When heat recovery from the extract air is insufficient to obtain set temperature on supply air, the re-heater battery will automatically come on. Lamp on the control panel will indicate that re-heater battery is operating.

### Duct cover

A 3-piece white painted duct cover, to be mounted between the ceiling and the unit, can be provided as additional equipment.

### Summer operation

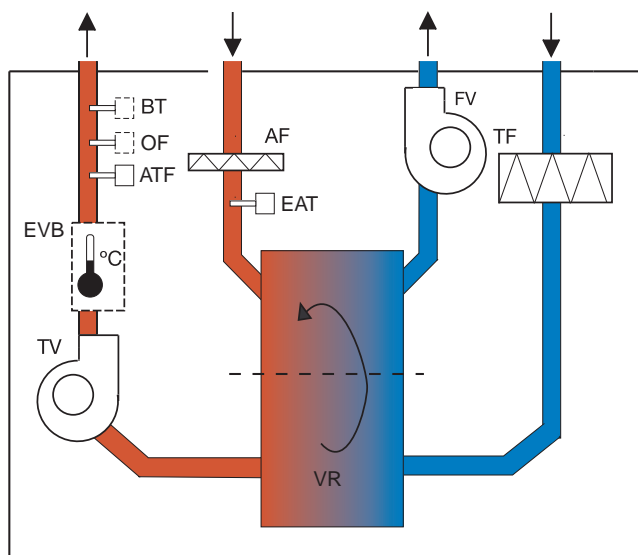
The unit will automatically switch between normal operation with heat recovery and summer operation without heat recovery. When supply air temperature is higher than set value, the rotating exchanger block will stop and there will be no heat recovery.

If cooling/air condition is installed in the building, and the extract air temperature is lower than the outdoor temperature, the unit will automatically change to heat recovery of the chilled indoor air. The incoming air will be cooled down before being supplied to the living areas.

### Timer operation

When the VR unit is installed for ventilation in commercial buildings, regulation from separate week timer is often required for automatic control of day and night (reduced airflow) operation. If the rooms are in use during night operation, override to day operation can be made from separate button on the control panel. This function will automatically switch back to night operation after 3 hours.

## VR-400/-700 EV



- TF Inlet filter
- AF Extract filter
- TV Inlet fan
- FV Extract fan
- EVB Re-heater battery (Accessory)
- OF Overheat sensor (Accessory)
- BT Fire thermostat (Accessory)
- ATF Operation thermostat sensor
- EAT Extract thermostat sensor
- VR Rotating heat exchanger

## Accessories

### VR-400/-700 EV

Separate control panel type CE	x
Week timer	x
Duct cover	x (height= 295 mm)
Re-heater battery	x
Summer block	
Condensate tray with water lock	

## VM – Villavent heat recovery unit with counter flow heat exchanger

### Fans

The VM-units are equipped with single inlet radial fans with forward curved impellers and maintenance free outer rotor motors, protected with internal thermal cut-out. The fans can easily be removed for cleaning, service or replacement.

### Filter

Lamp signal on the integrated or remote control panel will light when set operation time between filter change has expired. Operation time (6, 9 or 12 months) between filter change can be set from buttons on the control panel.

### Pre-heater battery - inlet temperature/defrosting

The VM-400 EV unit is equipped with a high efficiency counter flow heat exchanger, and will normally ensure that necessary temperature is maintained, without use of re-heater battery. A pre-heater battery inside the unit will melt ice/rime inside the exchanger block as necessary. The heater element will also ensure that the supply air temperature is not too low. When supply air temperature is lower than set value, the pre-heater will automatically come on. Lamp on the control panel will indicate that pre-heater battery is operating.

### Duct cover

A 3-piece white painted duct cover, to be mounted between the ceiling and the unit, can be provided as additional equipment.

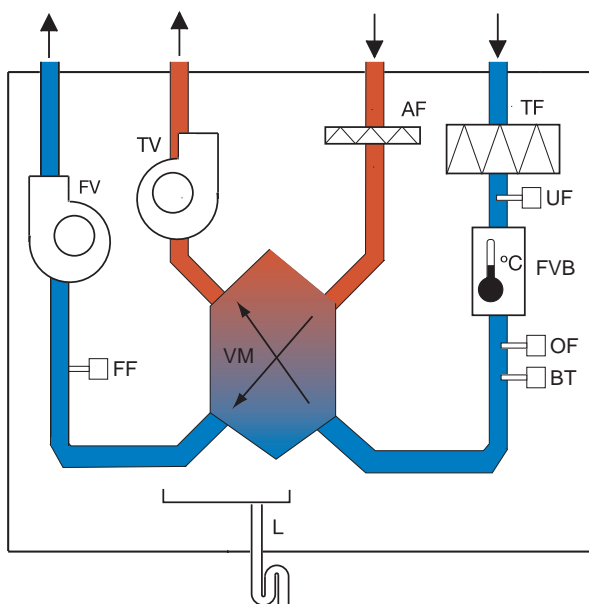
### Summer operation

The exchanger block can be replaced by a summer-block when heat recovery is not required. There will be no transfer of heat between the extract and inlet air when summerblock is mounted.

### Timer operation

When the VM unit is installed for ventilation in commercial buildings, regulation from separate week timer is often required for automatic control of day and night operation (reduced airflow). If the rooms are in use during night operation, override to day operation can be made from separate button on the control panel. This function will automatically switch back to night operation after 3 hours.

## VM-400 EV



TF	Inlet filter
AF	Extract filter
TV	Inlet fan
FV	Extract fan
UF	Outdoor temperature sensor
FVB	Pre-heater battery
OF	Overheat sensor
BT	Fire thermostat
FF	Frost sensor
VM	Cross flow heat exchanger (counter flow)
L	Condensation drain, 17,5 mm

## Accessories

### VM-400 EV

Separate control panel type CE	x
Week timer	x
Duct cover	x (height = 295 mm)
Re-heater battery	
Summer block	x
Condensate tray with water lock	