



INSTALLATION & MAINTENANCE MANUAL

FAN COIL UNIT

VFL, VFC, VFU, VFY, VFZ Model

Please read this installation manual completely before installing the product. Installation work must be performed in accordance with the national wiring standards by authorized personnel only. Please retain this installation manual for future reference after reading it thoroughly. Please read this manual carefully before operating your set and retain it for future reference.



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LG FAN COIL UNIT



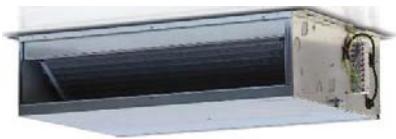
L model



C model



U model



Y model



Z model

Fan coil units with or without cabinet, wall mounted. Wide range of choices for floor, wall, high wall, ceiling and recess mounting

Medium head ductable units, ceiling recessed installation

High head ductable units, ceiling recessed

VFL, VFC, VFU models

DECLARATION OF CONFORMITY

LG Electronics whose main office is LG Electronics European Shared Service Center B.V. Krijgsman 1, 1186 DM Amstelveen, The Netherlands by declares, under its sole responsibility, that the VF fan coil, models VFL, VFU, VFC, VFY and VFX are produced in accordance to: 2006/42/EC, 2014/30/UE, 2014/35/UE.

Compliance has been verified with reference to the following standards:
EUROPEAN STANDARDS FOR LOW VOLTAGE DIRECTIVE (safety)

- EN60335-1:2012
- EN60335-2-40:2003+ A11:2004+ A12:2005+ A1:2006+ A2:2009 (Remark: 60335-2-40 Annex ZE for Machine Directive)
- EN60335-1:2002+ A1:2004+ A11:2004+ A12:2006+ A2:2006 + A13:2008+ A14:2010 +A15:2011
- EN50366:2003+A1:2006

EUROPEAN STANDARDS FOR ELECTROMAGNETIC COMPATIBILITY (EMC)

- EN55014-1:2006+ A1:2009+ A2:2011
- EN55014-2:1997+A1:2001+ A2:2008
- EN61000-3-2:2006+A1:2009+A2:2009
- EN61000-3-3:2008

This declaration covers also all the available accessories and options only if installed in accordance to their own mounting instructions

11, November. 2021
Jeong Won Lee
Director



Carefully read this handbook



ATTENTION



DANGER VOLTAGE

1 BEFORE THE INSTALLATION

i Carefully read this handbook.

Installation and maintenance should be carried out by technical personnel qualified for this type of machine, in compliance with current safety regulations.

! This appliance is not intended to be used by children or persons with physical, sensorial or mental problems, inexperienced or unprepared, without supervision.

Be careful that children do not approach the appliance.

When receiving the unit please check its state verifying if any damage occurred during the transport.

For installation and use of possible accessories please refer to the pertinent technical sheets.

Identify model and version of the VF fan coil from the indications stated on the carton package.

2 USE AND OPERATING LIMITS

LG Electronics shall not be held liable where the unit has been installed by non-qualified personnel, it has been used improperly or under conditions that are not permitted, the maintenance operations specified in this manual have not been carried out or where non original spare parts have been used.

Operating limits are shown here below; all other uses are considered improper:

- thermal fluid: water
- water temperature: from 5°C to 95°C
- maximum operating temperature: 10 bar
- air temperature: from 5°C to 43 °C
- Nominal power supply voltage: 230V - 50 Hz
- Ambient air humidity limit: RH<85% non-condensing

In choosing where to install the unit, comply with the following points:

- The heating unit should not be placed immediately under a socket.
- do not install the unit in rooms where inflammable gases are present - do not let water is sprayed directly on the unit;
- install the unit on ceilings or walls that bear its weight. Leave enough space all around for proper operation and maintenance of the unit.

Keep the unit in its packaging until it is ready to be installed, to prevent dust getting inside it.

Equipment designed for ambient air conditioning and intended for use in civil comfort applications.

3 DESCRIPTION OF THE UNIT (figure 1, page 5)

1-VFL model : wall installation, with cabinet, vertical air outlet

1-VFU model : floor-ceiling installation, with cabinet

1-VFC model : vertical/horizontal flush mounting

4 DIMENSIONS (figure 2, pages 9-11)

- | | |
|---|---|
| 1 | Clear space for hydraulic connections * |
| 2 | Slots for wall/ceiling mounting 9 x 20 mm |
| 3 | Clear space for electric connections * |
| 4 | Hydraulic connections |
| 5 | Condensate drainage for vertical installation |
| 6 | Air outlet for flush-mounted VFC models |
| 7 | Air intake for flush-mounted VFC models |
| 8 | Condensate drainage for horizontal installation |

* = indications applicable to fan coils with hydraulic connections on the left side; in case of right side connections the indications for "clear space" are reversed.

5 INSTALLATION

! **WARNING: Before installing the fan coil, ensure that:**

1. The place of installation has sufficient space for containing the device and for performing installation and maintenance (respect spaces fig. point 2)
2. The air inlet and delivery are not obstructed.
3. The hydraulic connections are positioned and dimensioned as requested by the device (fig. 2_VFL , 2_VFU and 2_VFC
4. The electric power supply line has the features requested on the fan coil's data plate.

! **WARNING: On the fan-coil install a switch (IL) and/or all remote controls in a position out of the reach of persons who are in a bathtub or shower.**

Remove the cabinet, where existing, by unscrewing the 4 fastening screws reachable through the lifted side doors (figure 3, page 12). In case of U models, unscrew the 2 screws on the front panel.

Install the unit at distances from the walls shown in Figure 9 (page 16).

Fix the bearing unit to the wall using the 4 mounting slots and the anchor screws suitable for the wall/ceiling, keeping the unit at least 100 mm above the floor for a proper air intake and an easy removal of the filter for the L and C models. In case of ceiling-mountable models and , check that the installation height does not exceed the maximum height shown in figure 4 page 12, in order to avoid excessive hot air stratification in the upper part of the room; in case of greater installation heights we suggest to proceed with the back suction from the lower part of the room. The installation heights shown in the figure refer to the maximum running speed.

Carry out the hydraulic connections to the heat exchanger and in case of cooling operation, to the water drainage system.

We suggest to provide for the water inlet from the bottom side of the heat exchanger and the outlet on the upper side.

Bleed the air from the heat exchanger operating on the air-vent valves (10 hexagon wrench) located beside the water connections of the heat exchanger.

For a better water drainage lean the drain pipe downwards at least 3 cm/m avoiding loops or narrowing on its way.

! **WARNING: The openable side doors must be fixed with screw, due to lack of controls onboard the fan coil.**

! **WARNING: For fan coils equipped with auxiliary electric heating element, ensure that any combustible material is at least 30 cm away from the electric heating element.**

In case of ceiling mounting, in particular when the BH accessory is present, install the unit with a slight slope, in order to facilitate the condensate drainage. Before switching the unit on, check that it is installed in such a way as to guarantee the required inclination for proper condensate drainage.

! **WARNING: Do not use thick pipes or pipes whose characteristics (i.e. corrugated conduits) may impede the condensate flow.**

! **WARNING**

In normal operation, particularly with the fan at minimum speed and ambient air with high relative humidity, condensation may form on the air outlet and on some external parts of the unit.

To avoid such issues while always remaining within the operating limits

envisaged for the unit, it is necessary to limit the temperature of the water inlet inside the heat exchanger. In particular, the difference between the air dew point (TA,DP) and inlet water temperature (TW) must NOT exceed 14 °C, according to the following relationship: $TW > TA, DP - 14$ °C

Example: in the case of ambient air at 25 °C with 75% relative humidity, the dew point temperature is about 20 °C and therefore the average temperature of the water in the battery must be greater then:

-20-14 = 6 °C in order to avoid condensation on a fancoil equipped with a valve.

- 20-12 = 8 °C If the valve kit accessory can not be installed.

In the event the indoor unit is stopped for a prolonged period, with the fan stopped and circulation of cold water in the heat exchanger, condensation may also form on the unit's exterior. In this case it is advisable to install the 3-way (or 2-way) valve accessory in order to stop the flow of water in the coil when the fan is stopped.

5.1 ROTATION OF THE HEAT EXCHANGER

It is possible to orient the attachments of the heat exchanger on the opposite side operating as follows:

- remove the front panel of the bearing unit (4 screws), in case of model VFL, or the main drip tray in case of models VFU and VFC;
- remove the sheet of the heat exchanger cover (2 screws);
- remove the heat exchanger (4 screws) fixed on the side panels of the bearing unit;
- remove the lower baffle;
- disconnect the motor cables from the terminal strip
- remove the terminal strips and reassemble it on the opposite side
- take out the motor cable and place it on the opposite side; remove the rubber raceway;
- remove the drain pipe and place it on the opposite side; set the drop breaker pipe in the place of the closing cap of the drip tray;
- turn the heat exchanger 180°
- reassemble the baffle on the bottom side
- insert the attachments into the specific openings by removing the pre-cut slots and then fix it to the unit using the screws supplied;
- reassemble the sheet of the heat exchanger cover;
- insert the rubber raceway into the hole previously used for the drain pipe, reassemble the cable fastener on the side panel, insert the cables connecting them to the terminal strip;
- reassemble the unit's front panel (4 screws) in case of model L, or the main drip tray for the models VFU and VFC;
- close the holes previously used with drip proof material.

5.2 INSTALLATION FOR THE C,U MODEL

⚠ WARNING: The VFC built-in models must not be accessible to the public

The air outlets should not be placed immediately under a socket. For the VFC flush-mounted model, perform the connection between the fan coil and the ducts, and place damping material between the duct and the unit. The ducts, in particular the outlet ones, must be insulated. In order to avoid air back suction on the fan coil, keep a minimum distance between the air outlet and recovered air flow as shown in figure 5 page 12.

The minimum installation height should not be lower than 1.8 metres from floor level. Provide for an inspection port to the unit.

5.3 ELECTRICAL CONNECTIONS

Carry out the electrical wiring after having turned the power off in compliance with the current safety regulations following the diagram of the figure 6 (page 13) and its caption.

Check that the power supply corresponds to the rated power reported on the unit nameplate.

Electric connections in dotted lines should be carried out by the installer. An omnipolar mains isolator in overvoltage category III must be present for every fan coil in the power supply line.

On the wiring diagram the following abbreviations are used:

BK	Black = max. speed
BU	Blue = medium speed
CN	Fast-on connector
F	Fuse, not supplied
GNYE	Yellow/Green = earth
IL	Line switch, not supplied
M	Motor
RD	Red = min. speed
WH	White = common

MODELS WITH 6-SPEED MOTORS (FIGURE 7, page 14)

The connections indicated must be made by the installer.

Make the electrical connections with the power supply disconnected, in accordance with current safety regulations. Check that the mains electricity supply is compatible with the voltage shown on the unit rating plate.

Each fan coil requires an individual electric socket and a switch with a suitable safety fuse.

BK	Black, speed 6
BU	Blue, speed 5
GY	Grey, speed 4
BN	Brown, speed 3
VT	Purple, speed 2
RD	Red, speed 1
CN	Fast-on connector
F	Safety fuse (not supplied)
IL	Circuit breaker (not supplied)
M	Fan motor
WH	White = common

6. TEST RUN

Check that the unit is perfectly levelled and that the drain pipe is not obstructed (rubble deposits, etc.).

Check that the water connections (to the heat exchanger and water drainage) are sealed.

Check that the electrical wiring is perfectly tight.

Be sure that the air purge of the heat exchanger has been carried out.

Replace the cabinet (where existing).

Turn on the power supply and check the unit running.

7. USE

To use the fan coil unit, refer to the instructions of the control panel, available as accessory. Air outlet grids on the cover cabinet (VFL and VFU) can be turned 180° to direct the flow into the room or towards the wall on which the unit is mounted. The grids and the side doors are snapped onto the cabinet. Before removing them in order to change their position, cut the power off and wear protective gloves.

8. MAINTENANCE

⚠ WARNING: Maintenance must only be carried out by an assistance centre authorised by the manufacturer or by qualified personnel. For safety reasons before carrying out any maintenance or cleaning operation, switch off the unit turning the selection switch to "Stop" and the power supply switch on position 0 (OFF).

Be careful during any maintenance operation; you could get injured by some metal parts; use protective work gloves.

The fan coils do not require any particular maintenance operation: only the periodical cleaning of the air filter should be carried out. It is necessary to carry out a running in period of 100 hours in order to eliminate all mechanical friction.

The starting up must be carried out at the maximum speed.

For good operation of the VF fan coils follow the instructions below:

- keep the air filter clean;
- do not pour liquids into the unit;
- do not introduce metal parts through the air outlet grid.
- keep the air inlet and outlet free at all times.

Each time the machine is turned on after being idle for a long period, ensure there is no air in the heat exchanger.

Before using the unit for air conditions, check that:

- condensate drainage is performed correctly;
- the heat exchanger fins are not obstructed by deposits of dirt.

If necessary clean the fins with low pressure compressed air or steam without damaging them.

9 CLEANING

⚠ WARNING: The filter must only be cleaned by an assistance centre authorised by the manufacturer or by qualified personnel. For safety reasons before carrying out any maintenance or cleaning operation switch off the unit turning the selection switch to "Stop" and the power supply switch on 0 (OFF).

Clean the filter at least once a month and in any case before using the unit (before the heating or the air conditioning season).

For cleaning the air filter proceed as follows (figure 8, page 15):

- model VFL: turn the screws 90°, which secure the filter to the cover cabinet, to 1/4 turn and remove the filter;

- flush-mounted model VFC: reach the fan coil through the inspection panel and remove the filter, turning the locking brackets 90°;
- model VFU: remove the air filters that are inside the intake grids located on the front panel of the cover cabinet;
- clean the filter with lukewarm water, or in case of dry dust, with compressed air;
- reassemble the filter after having dried it up.

It is recommended to replace the air filter yearly, and to use original spare parts.; the fan coil model is reported on the nameplate located on the internal part of the side panel of the unit.

To clean the unit cabinet proceed as follows:

- use a soft cloth;
- do not pour any liquid on the unit, as this could cause electrical shocks or damage the components inside it;
- do not use any aggressive chemical solvents; do not use very hot water to clean the air outlet grid.

10 TROUBLESHOOTING

If the unit does not work properly first check the points reported in the table below before requesting service. If the problem cannot be solved contact your dealer or service centre.

Problems	Cause	Solution
The unit does not run at all	1 Power failure 2 Leakage breaker tripped 3 The switch is on STOP position	1 Restore power 2 Contact service centre 3 Turn on the unit selecting "I"
Poor cooling or heating performance	1 Dirty or clogged air filter 2 Obstacle near the air inlet or outlet 3 Air inside the heat exchanger 4 Doors and windows are open 5 The unit is running at low speed	1 Clean air filter 2 Remove the obstacle 3 Contact the installer 4 Close doors and windows 5 Select medium or high fan speed
The unit leaks	1 The unit is not levelled 2 Drip tray is clogged	1 Contact the installer 2 Contact the installer

11 RATED TECHNICAL DATA (PAGES 6-8)



The appliance is not to be used by children or person with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction Children being supervised not to play with appliance



Units are marked with the following symbol:

This means that electrical and electronic products may not be mixed with unsorted household waste.

Do NOT try to dismantle the system yourself: the dismantling of the system, treatment of the refrigerant, of oil and of other parts must be done by an authorized installer and must comply with applicable legislation. Units must be treated at a specialized treatment facility for reuse, recycling and recovery.

By ensuring this product is disposed of correctly, you will help to prevent potential negative consequences for the environment and human health.

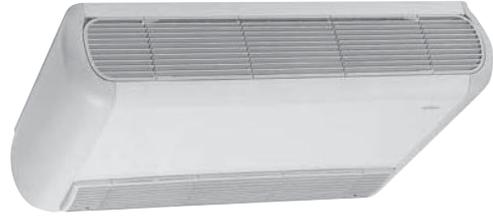
For more information, contact your installer or local authority.

WARNING: the unit hasn't dangerous components according to the classification of Regulation 1357/2014.

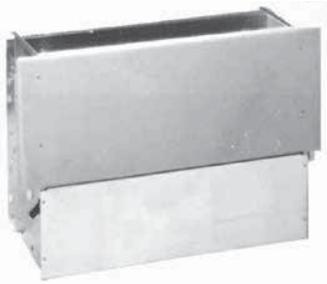
1_VFL model



1_VFU model



1_VFC model



Fan coil L,C,U Models

RATED TECHNICAL DATA

» 2 pipes

VFL, VFC, VFU Model			" %			" "			06		
Speeds			min	med	max	min	med	max	min	med	max
Total cooling capacity	(1)	kW	0,75	0,90	1,12	1,02	1,21	1,50	1,24	1,48	1,69
Sensible cooling capacity	(1)	kW	0,57	0,68	0,84	0,77	0,94	1,16	0,93	1,10	1,25
FCEER			E								
Water flow	(2)	l/h	129	155	193	176	208	258	214	255	291
Pressure drop	(2)	kPa	4	5	7	7	9	13	8	11	14
Heating capacity	(3)	kW	0,95	1,11	1,32	1,21	1,48	1,82	1,45	1,72	1,84
FCCOP			E								
Water flow	(3)	l/h	164	191	227	208	255	313	250	296	317
Pressure drop	(3)	kPa	5	6	8	8	11	15	9	12	14
Air flow rate		m ³ /h	127	189	231	167	233	319	210	271	344
Electrical input		W	18	21	32	21	28	37	25	36	53
Sound power level	(4)	dB(A)	30	32	40	37	42	47	38	44	49
Sound pressure level	(5)	dB(A)	25	27	35	32	37	42	33	39	44
Number of fans			1			1			1		
Water connections		"				1/2					
Water content		dm ³	0,46			0,46			0,46		

VFL, VFC, VFU Model			08			12		
Speeds			min	med	max	min	med	max
Total cooling capacity	(1)	kW	1,57	1,99	2,36	1,94	2,58	3,45
Sensible cooling capacity	(1)	kW	1,15	1,53	1,82	1,41	1,99	2,69
FCEER			E			E		
Water flow	(2)	l/h	270	343	406	334	444	594
Pressure drop	(2)	kPa	8	12	16	4	7	12
Heating capacity	(3)	kW	1,74	2,26	2,70	2,39	3,13	4,05
FCCOP			E					
Water flow	(3)	l/h	300	389	465	412	539	697
Pressure drop	(3)	kPa	8	12	17	5	8	13
Air flow rate		m ³ /h	267	341	442	331	450	640
Electrical input		W	29	44	57	40	50	65
Sound power level	(4)	dB(A)	35	43	48	35	43	52
Sound pressure level	(5)	dB(A)	30	38	43	30	38	47
Number of fans			2			2		
Water connections		"	1/2			1/2		
Water content		dm ³	0,71			0,95		

(1) Water temperature 7-12°C, air temp. 27°C D.B., 19°C W.B. (47% R.H.) EN1397:2015

(2) Water temperature 7-12°C, air temp. 27°C D.B., 19°C W.B. (47% R.H.)

(3) Water temp. 45/40°C, air temp. 20°C

(4) Sound power measured according to standards ISO3741 and ISO3742

(5) Sound pressure level measured at a distance of 4 m with a directivity factor of 1

Power supply 230-1-50 (V-ph-Hz)

Fan coil L,C,U Models

RATED TECHNICAL DATA

VFL, VFC, VFU Model			15			18			21			26		
Speeds			min	med	max									
Total cooling capacity	(1)(E)	kW	2,95	3,59	4,41	3,37	4,12	5,15	3,88	5,14	6,53	4,00	6,07	7,78
Sensible cooling capacity	(1)(E)	kW	2,27	2,85	3,55	2,29	2,93	3,72	2,75	3,70	4,73	2,94	4,46	5,72
FCEER	(E)		D						E					
Water flow	(2)	l/h	508	618	759	580	709	887	668	885	1124	689	1045	1340
Pressure drop	(2)(E)	kPa	7	10	14	10	14	21	5	9	12	6	13	20
Heating capacity	(3)(E)	kW	3,31	4,08	4,98	3,52	4,32	5,49	3,97	5,17	6,49	4,39	6,53	8,37
FCCOP	(E)		E						E					
Water flow	(3)	l/h	570	703	858	606	744	945	684	890	1118	756	1124	1441
Pressure drop	(3)(E)	kPa	7	10	14	8	12	18	4	7	10	6	12	18
Air flow rate		m ³ /h	527	605	785	601	615	814	661	771	1011	682	1022	1393
Electrical input	(E)	W	47	68	98	52	73	107	86	127	182	109	169	244
Sound power level	(4)(E)	dB(A)	43	49	56	44	51	58	47	54	61	49	60	67
Sound pressure level	(5)(E)	dB(A)	38	44	51	39	46	53	42	49	56	44	55	62
Number of fans			2			2			2			2		
Water connections		"	1/2			3/4			3/4			3/4		
Water content		dm ³	1,43			1,72			2,15			2,15		

» 4 pipes

VFL, VFC, VFU Model			03			05			06			08		
Speeds			min	med	max									
Total cooling capacity	(1)(E)	kW	0,74	0,88	1,10	0,97	1,11	1,42	1,22	1,44	1,64	1,55	1,96	2,32
Sensible cooling capacity	(1)(E)	kW	0,56	0,67	0,83	0,73	0,87	1,10	0,91	1,07	1,22	1,14	1,50	1,79
FCEER	(E)		E						E					
Water flow	(2)	l/h	127	152	189	167	191	245	210	248	282	267	338	400
Pressure drop	(2)(E)	kPa	4	5	7	6	8	12	8	11	14	8	12	16
Heating capacity	(3)(E)	kW	1,18	1,31	1,49	1,31	1,49	1,66	1,36	1,56	1,76	1,78	2,18	2,53
FCCOP	(E)		E						E					
Water flow	(3)	l/h	102	113	128	113	128	143	117	134	152	153	188	218
Pressure drop	(3)(E)	kPa	2	3	4	3	4	4	4	5	7	2	3	3
Air flow rate		m ³ /h	146	184	226	174	225	307	205	261	330	238	334	432
Electrical input	(E)	W	18	21	32	21	28	37	25	36	53	29	44	57
Sound power level			1			1			1			2		
Sound pressure level	(4)(E)	dB(A)	30	32	40	33	39	45	40	44	49	34	43	48
Number of fans	(5)(E)	dB(A)	25	27	35	28	34	40	35	39	44	29	38	43
Water connections		"	1/2			1/2			1/2			1/2		
Water content		dm ³	0,18			0,18			0,18			0,29		

- (1) Water temperature 7-12°C, air temp. 27°C D.B., 19°C W.B. (47% R.H.) EN1397:2015
 (2) Water temperature 7-12°C, air temp. 27°C D.B., 19°C W.B. (47% R.H.)
 (3) Water temp. 45/40°C, air temp. 20°C
 (4) Sound power measured according to standards ISO3741 and ISO3742
 (5) Sound pressure level measured at a distance of 4 m with a directivity factor of 1
 Power supply 230-1-50 (V-ph-Hz)

Fan coil L,C,U Models

RATED TECHNICAL DATA

VFL, VFC, VFU Model		12			15			18			21			26		
Speeds		min	med	max												
Total cooling capacity	(1)(E) kW	1,92	2,54	3,36	3,06	3,74	4,57	3,49	4,27	5,31	3,84	5,10	6,46	3,96	5,99	7,64
Sensible cooling capacity	(1)(E) kW	1,40	1,96	2,61	2,23	2,80	3,47	2,38	3,01	3,78	2,73	3,67	4,67	2,91	4,40	5,61
FCEER	(E)	E			D			D			E			E		
Water flow	(2) l/h	331	437	579	527	644	787	601	735	914	661	878	1112	682	1031	1316
Pressure drop	(2)(E) kPa	4	7	12	7	10	14	10	14	20	5	8	12	5	10	16
Heating capacity	(3)(E) kW	2,82	3,47	4,20	3,55	4,07	4,64	3,70	4,20	4,84	5,02	6,02	6,97	4,85	6,29	7,35
FCCOP	(E)	E			E			E			E			E		
Water flow	(3) l/h	243	299	362	306	350	400	319	362	417	432	518	600	418	542	633
Pressure drop	(3)(E) kPa	8	12	16	5	6	8	7	9	12	14	19	24	14	22	29
Air flow rate	m ³ /h	316	444	628	460	593	763	478	603	792	565	765	998	636	1007	1362
Electrical input	(E) W	37	61	98	47	68	98	52	73	107	86	127	182	109	169	244
Sound power level		2			2			2			2			2		
Sound pressure level	(4)(E) dB(A)	36	45	53	48	53	58	46	52	59	46	54	60	48	58	66
Number of fans	(5)(E) dB(A)	31	40	48	43	48	53	41	47	54	41	49	55	43	53	61
Water connections	"	1/2			1/2			1/2			1/2			1/2		
Water content	dm ³	0,40			0,40			0,51			0,53			0,53		

- (1) Water temperature 7-12°C, air temp. 27°C D.B., 19°C W.B. (47% R.H.) EN1397:2015
 (2) Water temperature 7-12°C, air temp. 27°C D.B., 19°C W.B. (47% R.H.)
 (3) Water temp. 45/40°C, air temp. 20°C
 (4) Sound power measured according to standards ISO3741 and ISO3742
 (5) Sound pressure level measured at a distance of 4 m with a directivity factor of 1
 Power supply 230-1-50 (V-ph-Hz)

10. WEIGHTS

VFC Model		03	05	06	08	12	15	18	21
Weight - standard version	kg	16,5	16,5	16,5	21,4	26,3	26,6	27,0	35,4

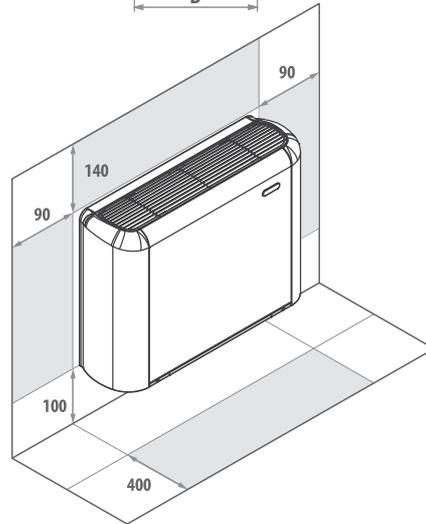
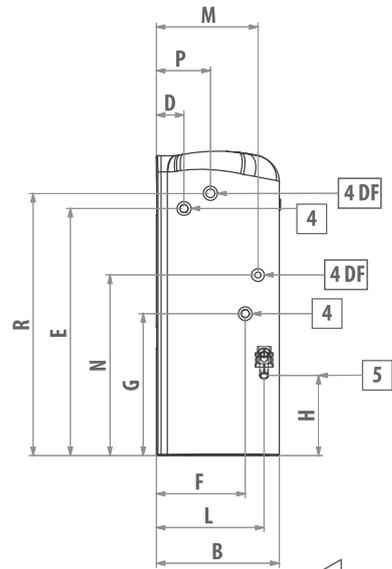
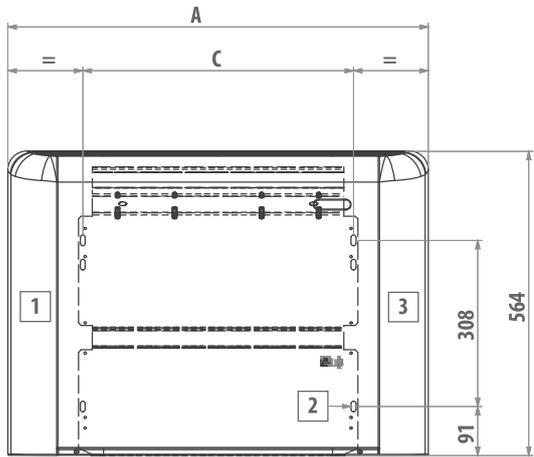
VFL Model		05	06	08	12	15	18	21
Weight - standard version	kg	19,7	19,7	25,5	31,0	32,3	33,8	41,4

VFU Model		12	15	18	21	26
Weight - standard version	kg	32,5	33,6	35,8	43,1	43,1

DIMENSIONAL DRAWINGS

VFL Model

2



LEGEND

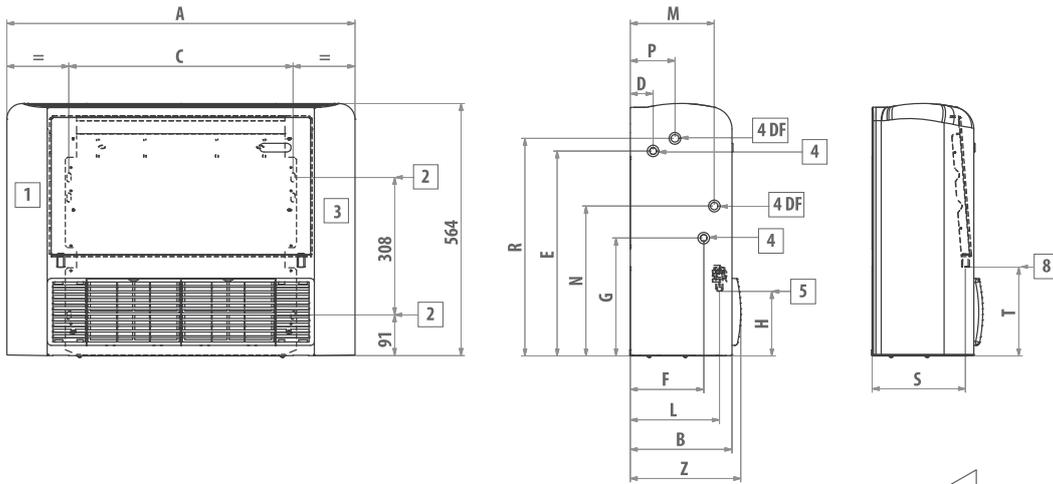
1	Usable space for plumbing connections
2	Slots for installation on the wall
3	Usable space for electrical connections
4	Standard heat exchanger water connections
4DF	DF 1-row DF additional heat exchanger water connections
5	Condensate drainage

VFL Model	A	B	C	D	E	F	G	H	L	M	N	P	R	4	4DF	5	
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	"	"	mm	kg
05, 06	774	226	498	51	458	163	263	149	198	187	335	99	486	1/2	1/2	16	21
08	984	226	708	51	458	163	263	149	198	187	335	99	486	1/2	1/2	16	27
12, 15	1194	226	918	51	458	163	263	149	198	187	335	99	486	1/2	1/2	16	33
18	1194	251	918	48	497	185	259	155	220	195	348	120	478	3/4	1/2	16	34
21	1404	251	1128	48	497	185	259	155	220	195	348	120	478	3/4	1/2	16	43

DIMENSIONAL DRAWINGS

VFU Model

2



LEGEND

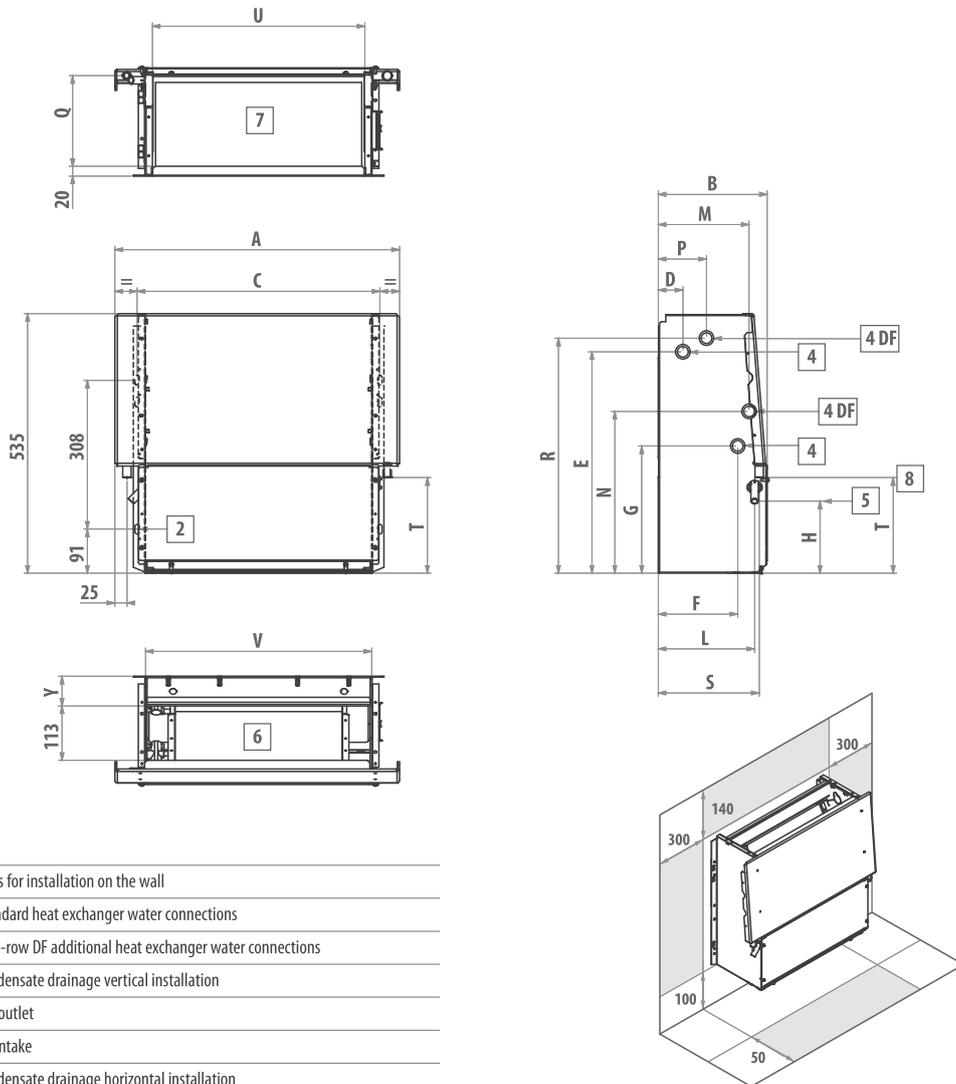
1	Usable space for plumbing connections
2	Slots for installation on the wall
3	Usable space for electrical connections
4	Standard heat exchanger water connections
4DF	DF 1-row DF additional heat exchanger water connections
5	Condensate drainage vertical installation
8	Condensate drainage horizontal installation

VFU Model	A	B	C	D	E	F	G	H	L	M	N	P	R	S	T	Z	4	kg
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	"	
12	1194	226	918	51	458	163	263	149	198	187	335	99	486	208	198	246	1/2	35
18	1194	251	918	48	497	185	259	155	220	195	348	120	478	234	208	271	3/4	36
21, 26	1404	251	1128	48	497	185	259	155	220	195	348	120	478	234	208	271	3/4	45

DIMENSIONAL DRAWINGS

VFC Model

2

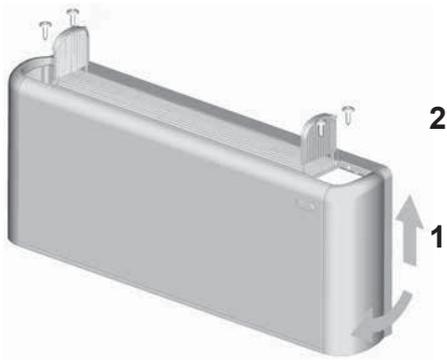


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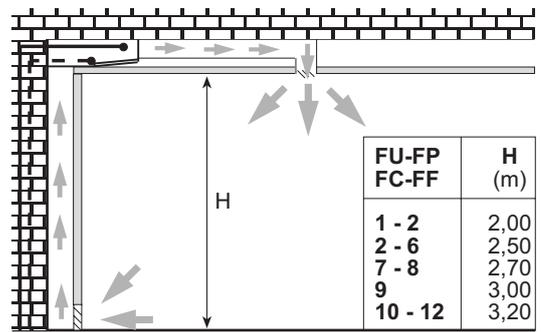
2	Slots for installation on the wall
4	Standard heat exchanger water connections
4DF	DF 1-row DF additional heat exchanger water connections
5	Condensate drainage vertical installation
6	Air outlet
7	Air intake
8	Condensate drainage horizontal installation

VFC Model	A	B	C	D	E	F	G	H	L	M	N	P	Q	R	S	T	U	V	Y	4	kg
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	"	
03, 05, 06	584	224	498	51	458	163	263	149	198	187	335	99	189	486	208	198	436	464	61	1/2	18
08	794	224	708	51	458	163	263	149	198	187	335	99	189	486	208	198	646	674	61	1/2	23
12, 15	1004	224	918	51	458	163	263	149	198	187	335	99	189	486	208	198	856	884	61	1/2	27
18	1004	249	918	48	497	185	259	155	220	195	348	120	215	478	234	208	856	884	67	3/4	27
21	1214	249	1128	48	497	185	259	155	220	195	348	120	215	478	234	208	1066	1094	67	3/4	37

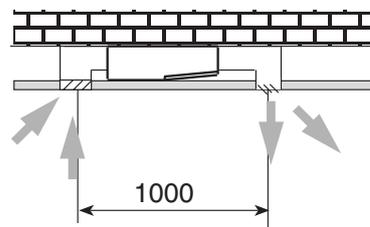
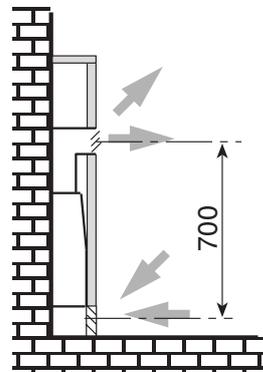
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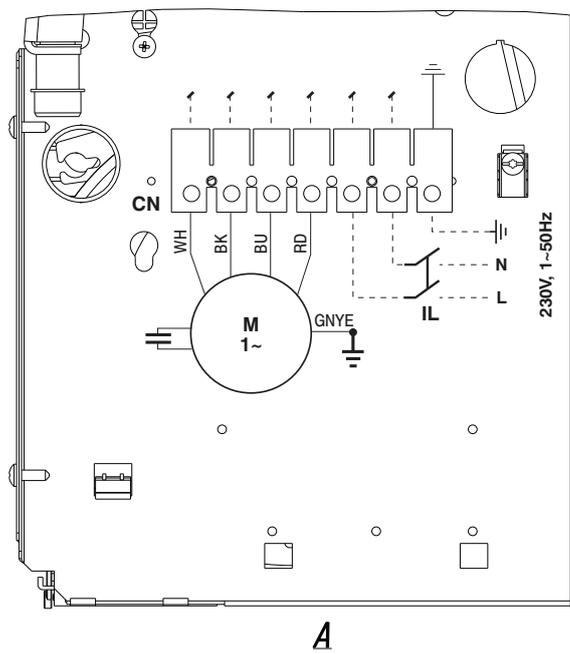
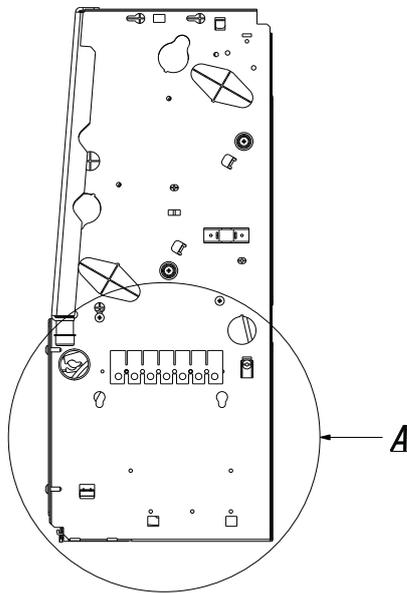
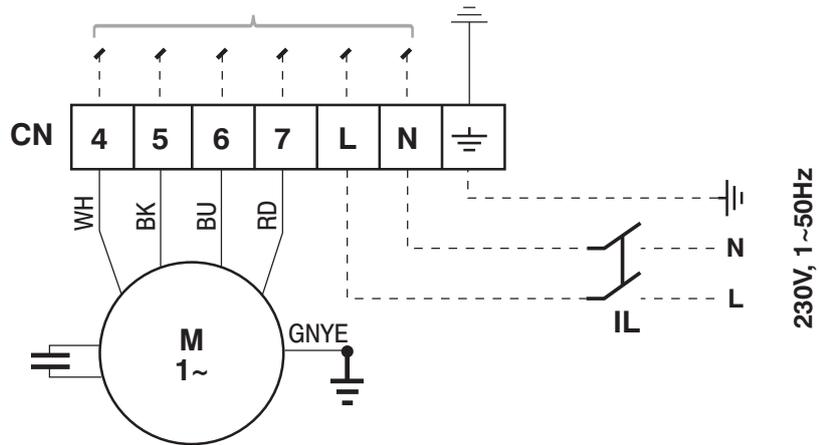


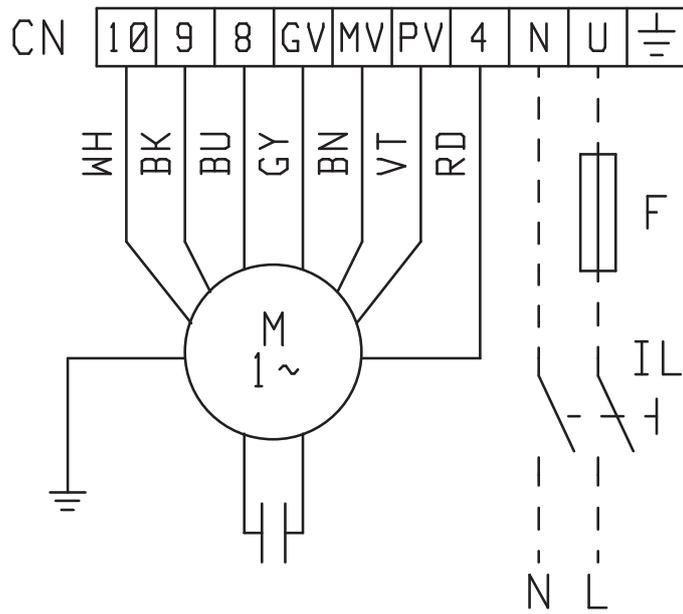
4



5







230V 1~ 50Hz

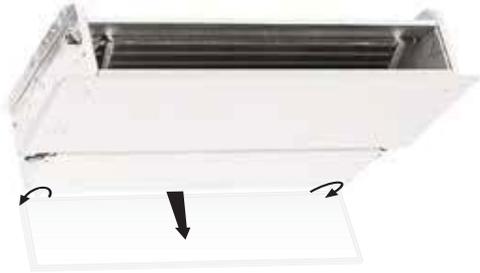
8_VFU model



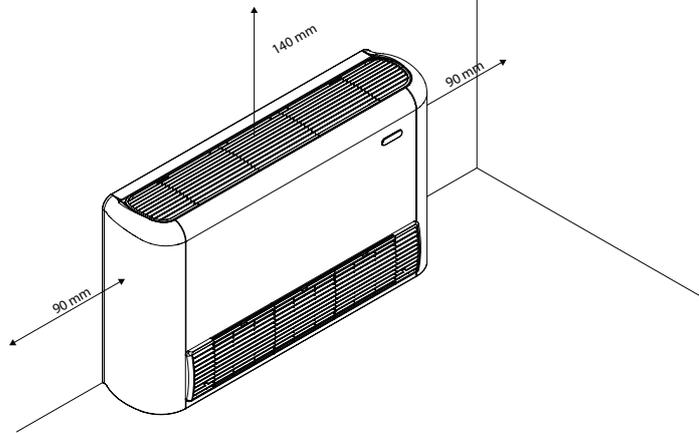
8_VFL model



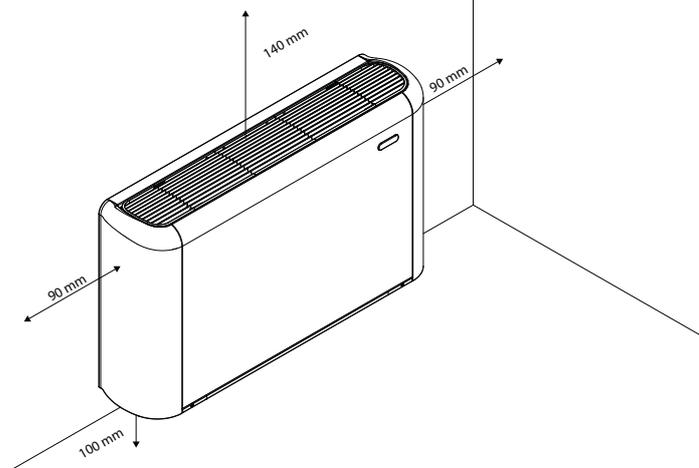
8_VFC model



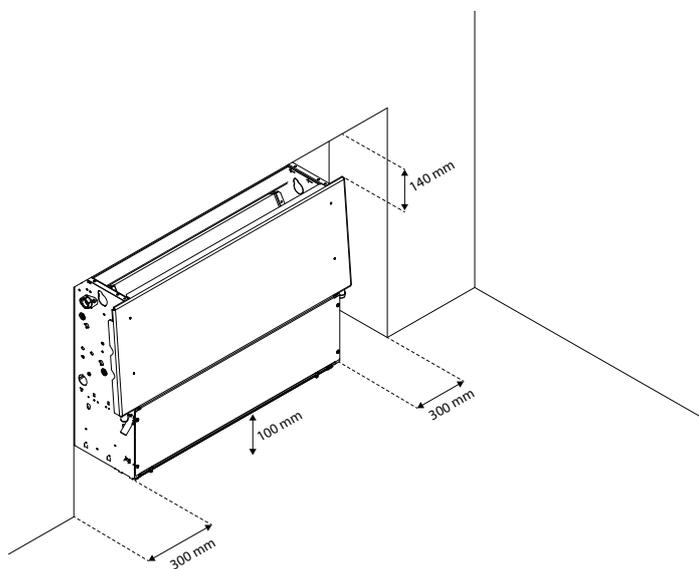
9_VFU model



9_VFL9model

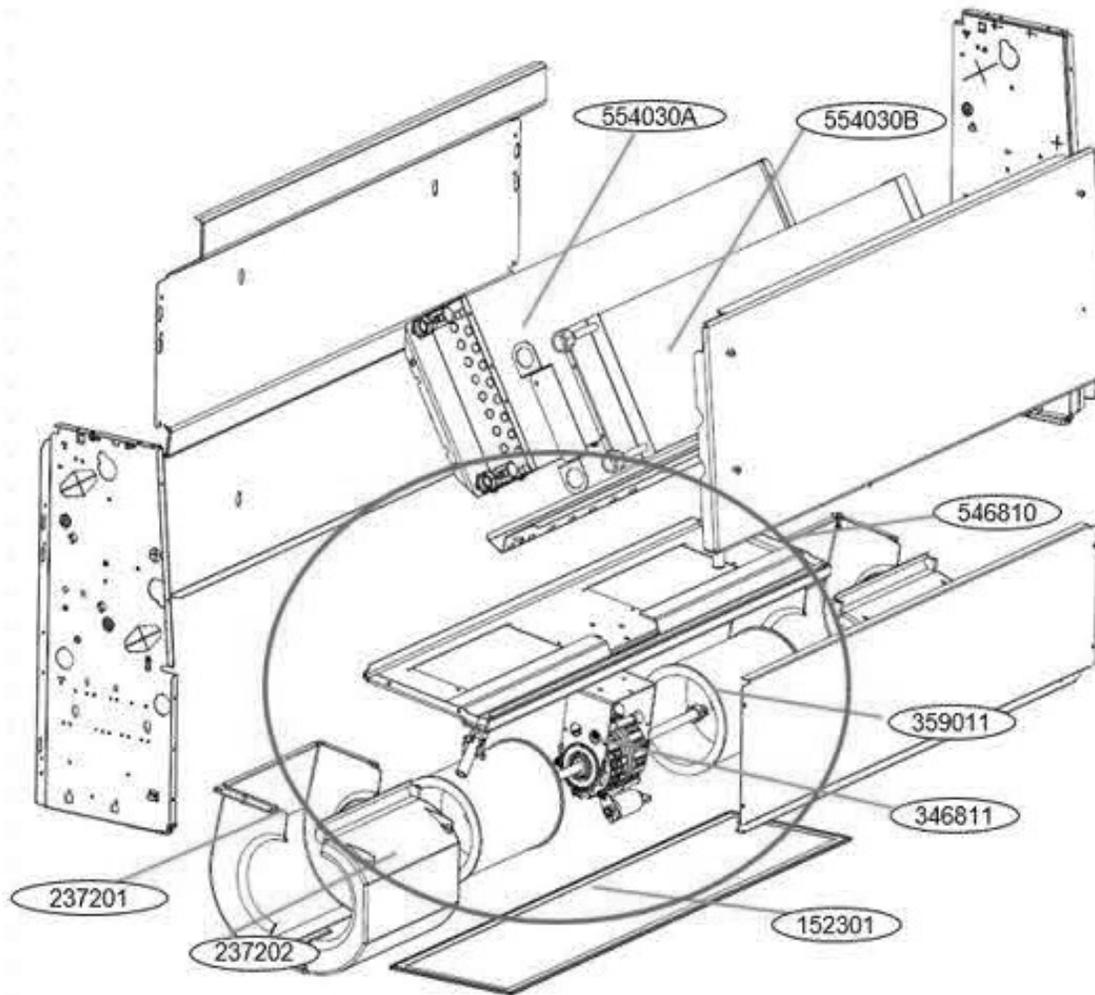


9_VFC model



12 EXPLODED VIEW AND REPLACEMENT PARTS LIST

Fan coil VFC Models



Location NO	Legenda
346811	Fan motor
359011	Fan propeller
554030A	Main heat exchanger (Cold Coil)
237201	Volute Back
237202	Volute front
152301	Air Filter
546810	Fan assembly
554030B	4 pipe exchanger(heat coil)

12 EXPLODED VIEW AND REPLACEMENT PARTS LIST

Fan coil VFC Models

- 2 pipe

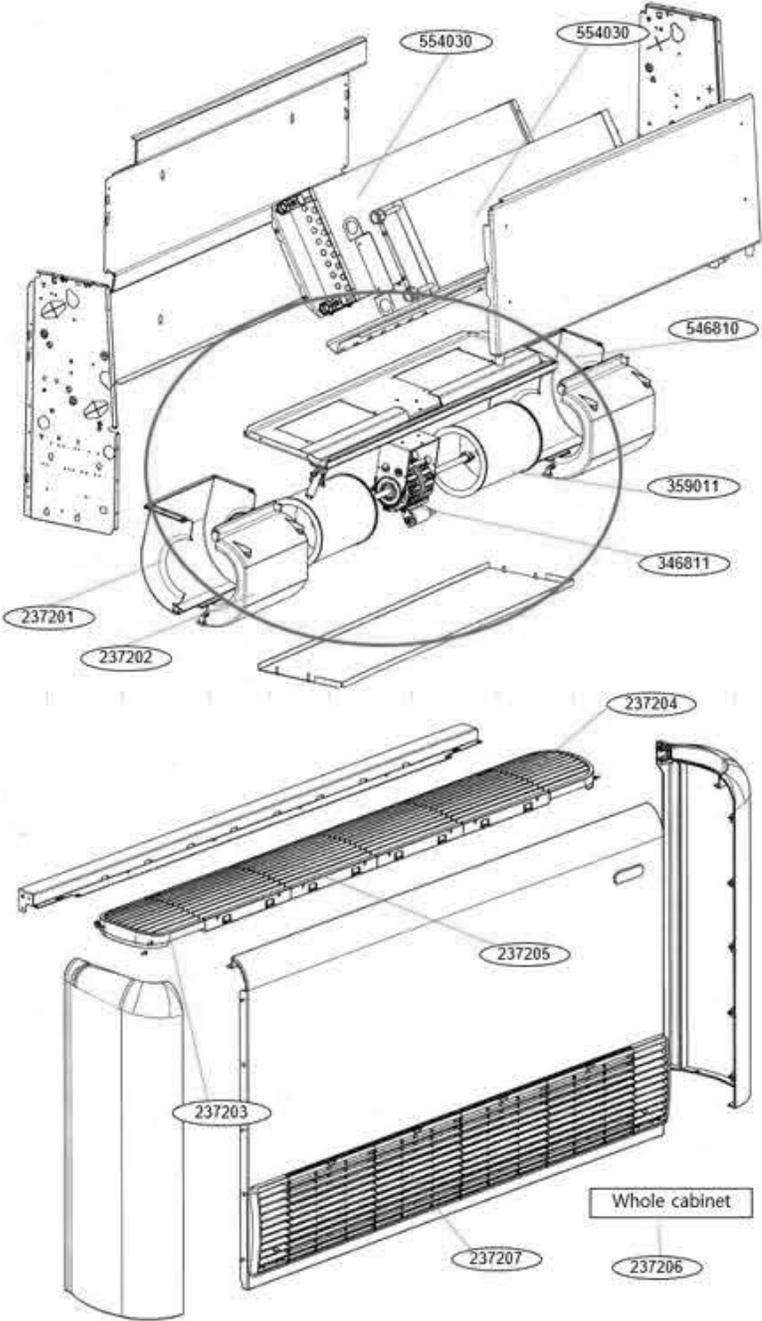
Location No.	346811	359011	554030A	237201	237202	152301	546810	554030B
Model Name	P/No	P/No						
VF03COL	COV36927082	COV36927029	COV36927030	COV36927031	COV36927032	COV36927033	COV36927083	N/A
VF05COL	COV36927028	COV36927029	COV36927030	COV36927031	COV36927032	COV36927033	COV36927034	
VF06COL	COV36927039	COV36927029	COV36927030	COV36927031	COV36927032	COV36927040	COV36927041	
VF08COL	COV36927042	COV36927002	COV36927043	COV36927004	COV36927005	COV36927040	COV36927044	
VF12COL	COV36927046	COV36927029	COV36927047	COV36927031	COV36927032	COV36927048	COV36927049	
VF15COL	COV36927051	COV36927029	COV36927052	COV36927031	COV36927032	COV36927048	COV36927053	
VF18COL	COV36927054	COV36927029	COV36927055	COV36927031	COV36927032	COV36927056	COV36927057	
VF21COL	COV36927058	COV36927009	COV36927023	COV36927010	COV36927011	COV36927059	COV36927060	
VF03COR	COV36927082	COV36927029	COV36927030	COV36927031	COV36927032	COV36927033	COV36927083	
VF05COR	COV36927028	COV36927029	COV36927030	COV36927031	COV36927032	COV36927033	COV36927034	
VF06COR	COV36927039	COV36927029	COV36927030	COV36927031	COV36927032	COV36927040	COV36927041	
VF08COR	COV36927042	COV36927002	COV36927043	COV36927004	COV36927005	COV36927040	COV36927044	
VF12COR	COV36927046	COV36927029	COV36927047	COV36927031	COV36927032	COV36927048	COV36927049	
VF15COR	COV36927051	COV36927029	COV36927052	COV36927031	COV36927032	COV36927048	COV36927053	
VF18COR	COV36927054	COV36927029	COV36927055	COV36927031	COV36927032	COV36927056	COV36927057	
VF21COR	COV36927058	COV36927009	COV36927023	COV36927010	COV36927011	COV36927059	COV36927060	

- 4 pipe

Location No.	346811	359011	554030A	237201	237202	152301	546810	554030B
Model Name	P/No							
VF03COL	COV36927082	COV36927029	COV36927030	COV36927031	COV36927032	COV36927033	COV36927083	COV36927062
VF05COL	COV36927028	COV36927029	COV36927030	COV36927031	COV36927032	COV36927033	COV36927034	COV36927062
VF06COL	COV36927039	COV36927029	COV36927030	COV36927031	COV36927032	COV36927040	COV36927041	COV36927062
VF08COL	COV36927042	COV36927002	COV36927043	COV36927004	COV36927005	COV36927040	COV36927044	COV36927025
VF12COL	COV36927046	COV36927029	COV36927047	COV36927031	COV36927032	COV36927048	COV36927049	COV36927026
VF15COL	COV36927051	COV36927029	COV36927052	COV36927031	COV36927032	COV36927048	COV36927053	COV36927026
VF18COL	COV36927054	COV36927029	COV36927055	COV36927031	COV36927032	COV36927056	COV36927057	COV36927063
VF21COL	COV36927058	COV36927009	COV36927023	COV36927010	COV36927011	COV36927059	COV36927060	COV36927027
VF03COR	COV36927082	COV36927029	COV36927030	COV36927031	COV36927032	COV36927033	COV36927083	COV36927062
VF05COR	COV36927028	COV36927029	COV36927030	COV36927031	COV36927032	COV36927033	COV36927034	COV36927062
VF06COR	COV36927039	COV36927029	COV36927030	COV36927031	COV36927032	COV36927040	COV36927041	COV36927062
VF08COR	COV36927042	COV36927002	COV36927043	COV36927004	COV36927005	COV36927040	COV36927044	COV36927025
VF12COR	COV36927046	COV36927029	COV36927047	COV36927031	COV36927032	COV36927048	COV36927049	COV36927026
VF15COR	COV36927051	COV36927029	COV36927052	COV36927031	COV36927032	COV36927048	COV36927053	COV36927026
VF18COR	COV36927054	COV36927029	COV36927055	COV36927031	COV36927032	COV36927056	COV36927057	COV36927063
VF21COR	COV36927058	COV36927009	COV36927023	COV36927010	COV36927011	COV36927059	COV36927060	COV36927027

12 EXPLODED VIEW AND REPLACEMENT PARTS LIST

Fan coil VFU Models



Location NO	Legenda
346811	Fan motor
359011	Fan propeller
554030A	Main heat exchanger (Cold Coil)
237201	Volute Back
237202	Volute front
152301	Air Filter
546810	Fan assembly
554030B	4 pipe exchanger(heat coil)
237203	Left Grill
237204	Right Grill
237205	Middle Grill
237206	Whole cabinet
237207	Middle grill air suction

12 EXPLODED VIEW AND REPLACEMENT PARTS LIST

Fan coil VFU Models

- 2pipe

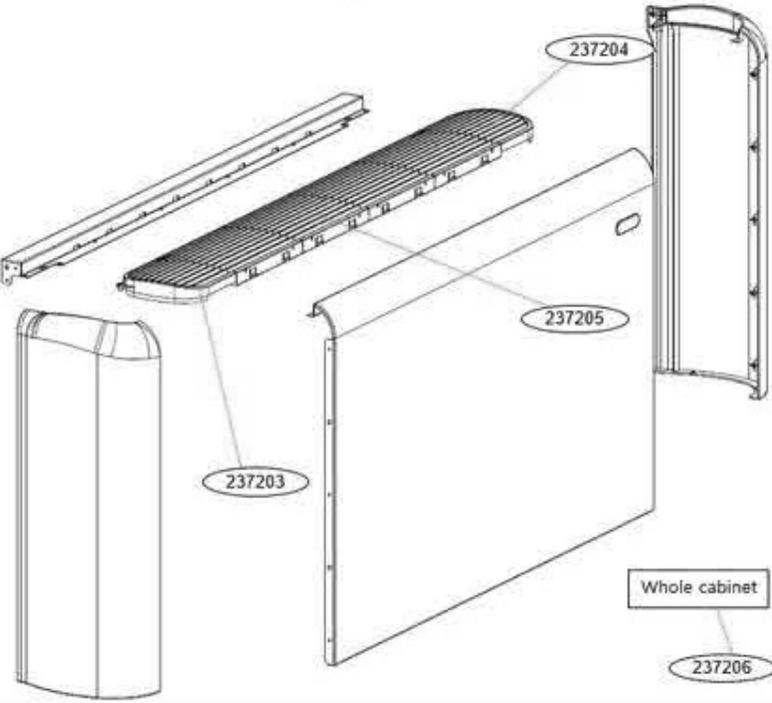
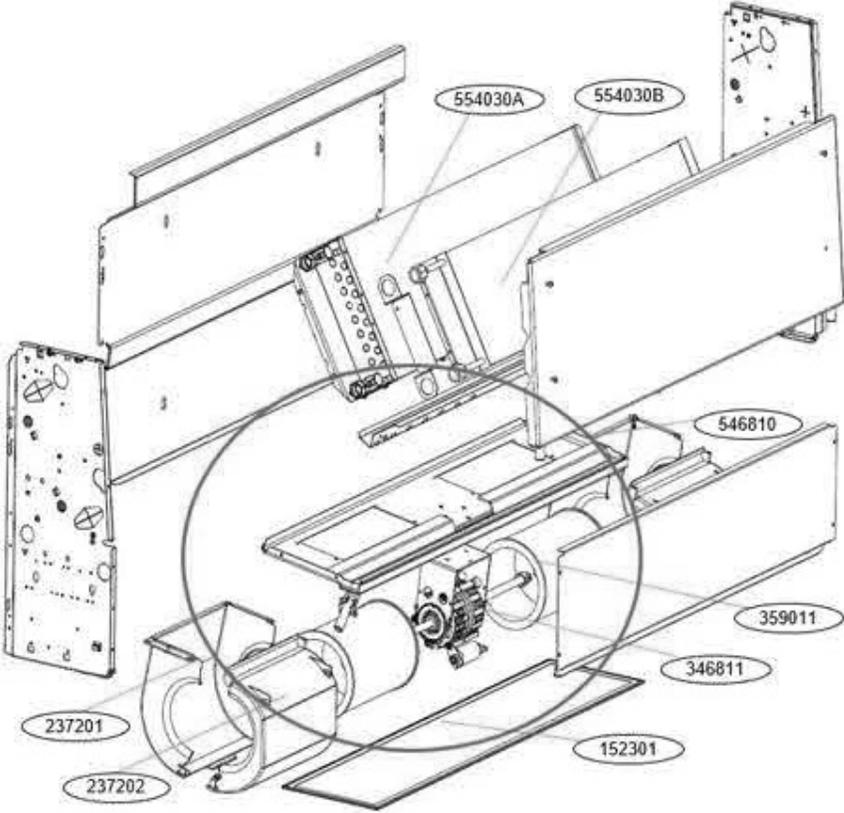
Location No.	346811	359011	554030A	237201	237202	152301	546810	554030B	237203	237204	237205	237206	237207
Model Name	P/No	P/No	P/No	P/No	P/No	P/No	P/No	P/No	P/No	P/No	P/No	P/No	P/No
VF12UOL	COV36927046	COV36927029	COV36927047	COV36927031	COV36927032	N/A	COV36927049	N/A	COV36927035	COV36927036	COV36927037	COV36927086	COV36927089
VF15UOL	COV36927051	COV36927029	COV36927052	COV36927031	COV36927032		COV36927053		COV36927035	COV36927036	COV36927037	COV36927086	COV36927089
VF18UOL	COV36927054	COV36927029	COV36927055	COV36927031	COV36927032		COV36927057		COV36927035	COV36927036	COV36927037	COV36927087	COV36927089
VF21UOL	COV36927058	COV36927009	COV36927023	COV36927010	COV36927011		COV36927060		COV36927035	COV36927036	COV36927037	COV36927088	COV36927089
VF26UOL	COV36927084	COV36927009	COV36927023	COV36927010	COV36927011		COV36927085		COV36927035	COV36927036	COV36927037	COV36927088	COV36927089
VF12UOR	COV36927046	COV36927029	COV36927047	COV36927031	COV36927032		COV36927049		COV36927035	COV36927036	COV36927037	COV36927086	COV36927089
VF15UOR	COV36927051	COV36927029	COV36927052	COV36927031	COV36927032		COV36927053		COV36927035	COV36927036	COV36927037	COV36927086	COV36927089
VF18UOR	COV36927054	COV36927029	COV36927055	COV36927031	COV36927032		COV36927057		COV36927035	COV36927036	COV36927037	COV36927087	COV36927089
VF21UOR	COV36927058	COV36927009	COV36927023	COV36927010	COV36927011		COV36927060		COV36927035	COV36927036	COV36927037	COV36927088	COV36927089
VF26UOR	COV36927084	COV36927009	COV36927023	COV36927010	COV36927011		COV36927085		COV36927035	COV36927036	COV36927037	COV36927088	COV36927089

- 4 pipe

Location No.	346811	359011	554030A	237201	237202	152301	546810	554030B	237203	237204	237205	237206	237207
Model Name	P/No	P/No	P/No	P/No	P/No	P/No	P/No	P/No	P/No	P/No	P/No	P/No	P/No
VF12UOL	COV36927046	COV36927029	COV36927047	COV36927031	COV36927032	N/A	COV36927049	COV36927026	COV36927035	COV36927036	COV36927037	COV36927086	COV36927089
VF15UOL	COV36927051	COV36927029	COV36927052	COV36927031	COV36927032		COV36927053	COV36927026	COV36927035	COV36927036	COV36927037	COV36927086	COV36927089
VF18UOL	COV36927054	COV36927029	COV36927055	COV36927031	COV36927032		COV36927057	COV36927063	COV36927035	COV36927036	COV36927037	COV36927087	COV36927089
VF21UOL	COV36927058	COV36927009	COV36927023	COV36927010	COV36927011		COV36927060	COV36927027	COV36927035	COV36927036	COV36927037	COV36927088	COV36927089
VF26UOL	COV36927084	COV36927009	COV36927023	COV36927010	COV36927011		COV36927085	COV36927027	COV36927035	COV36927036	COV36927037	COV36927088	COV36927089
VF12UOR	COV36927046	COV36927029	COV36927047	COV36927031	COV36927032		COV36927049	COV36927026	COV36927035	COV36927036	COV36927037	COV36927086	COV36927089
VF15UOR	COV36927051	COV36927029	COV36927052	COV36927031	COV36927032		COV36927053	COV36927026	COV36927035	COV36927036	COV36927037	COV36927086	COV36927089
VF18UOR	COV36927054	COV36927029	COV36927055	COV36927031	COV36927032		COV36927057	COV36927063	COV36927035	COV36927036	COV36927037	COV36927087	COV36927089
VF21UOR	COV36927058	COV36927009	COV36927023	COV36927010	COV36927011		COV36927060	COV36927027	COV36927035	COV36927036	COV36927037	COV36927088	COV36927089
VF26UOR	COV36927084	COV36927009	COV36927023	COV36927010	COV36927011		COV36927085	COV36927027	COV36927035	COV36927036	COV36927037	COV36927088	COV36927089

12 EXPLODED VIEW AND REPLACEMENT PARTS LIST

Fan coil VFL Models



Location NO	Legenda
346811	Fan motor
359011	Fan propeller
554030A	Main heat exchanger (Cold Coil)
237201	Volute Back
237202	Volute front
152301	Air Filter
546810	Fan assembly
554030B	4 pipe exchanger(heat coil)
237203	Left Grille
237204	Right Grille
237205	Middle Grille
237206	Whole cabinet

VFY models

1. BEFORE STARTING THE INSTALLATION PROCEDURE

Carefully read this manual.

Installation and maintenance should be carried out by technical personnel qualified for this type of machine, in compliance with current safety regulations.

When receiving the unit please check its state verifying if any damage occurred during the transport.



⚠ WARNING: Electrical and electronic products may not be mixed with unsorted household waste. Do NOT try to dismantle the system yourself: the dismantling of the system, treatment of oil and of other parts must be done by an authorized installer and must comply with applicable legislation. Units must be treated at a specialized treatment facility for reuse, recycling and recovery. By ensuring this product is disposed of correctly, you will help to prevent potential negative consequences for the environment and human health. For more information, contact your installer or local authority.

2. INTENDED USE

LG Electronics will not accept any liability for damage or injury caused as a result of installation by non-qualified personnel; im-proper use or use in conditions not allowed by the manufacturer; failure to perform the maintenance prescribed in this manual;

INSTALLATION SITE

When choosing an installation site, you should observe the following rules:

- install the unit indoor only.
- Do not install the unit in a room containing flammable, alkaline, acidic, oily, or very humid air, nor in one where water may be projected (e.g. laundry room). The components would be irreparably damaged,
- The air conditioning unit should not be placed immediately under a socket,
- do not install the unit where excessively high heat-generating equipment is located,
- make sure that in the chosen location nothing will obstruct the system and its maintenance (ex. difficult access for main-

tenance, etc.),

— it is the customer's responsibility to provide safe access to the base unit, on the sides where there is an electrical box and water connections, to ensure the proper execution of

routine and extraordinary maintenance operations,

— Store the unit in its packing container until you are ready to install it to prevent dust from infiltrating inside it.

— it is necessary to comply with the minimum installation clearance requirements shown in figure p. 33 and p. 34

— install only on the wall, in closed ceilings, for physical protection for unit parts in electrical voltage.

For installation and use of accessories, please refer to the relative technical sheets.

The manual are subject to changes, in any times, without prior notice aimed at improving the product.

Identify the model of the VFY model fan coil following the indications on the packing container.

SAFETY SYMBOLS

i Carefully read this manual.

⚠ Warning

🧤 Use personal protective equipment

USE APPROPRIATE PPE (GLOVES, PROTECTIVE GOGGLES)

⚠ DANGER: The unit may be used by children of at least 8 years of age and by persons with reduced physical, sensory, or mental capabilities, or who lack experience or the necessary knowledge, provided that they are supervised or after they have received instructions relating to the safe use of the unit and understand the inherent dangers. Children must not play with the unit. Cleaning and maintenance to be carried out by the user must not be performed by unsupervised children.

⚠ ATTENTION: the unit hasn't dangerous components according to the classification of Regulation 1357/2014.

⚠ WARNING: unit installation and start-up must be entrusted to competent personnel and performed in a workmanlike manner, in accordance with current regulations.

3. UNIT DESCRIPTION

PERFORMANCE AND COMPACTNESS IN RECESSED CEILING INSTALLATIONS

The ducted units VFY model was designed for conditioning environments where it is required the installation of units in medium head performance and reduced overall dimensions. The range covers an air flow rate from 300 to 1200 m³/h distributed over models. The heat exchanger allows the use of VFY model in the most different conditions. The bearing structure in fact accommodates a heat exchanger of 3 or 4 rows to which it is possible to combine an additional heat exchanger of 1 or 2 rows for exceptional performance even at low temperature differentials. Heat exchanger can be optimized for centralized applications such as district cooling. VFY model was designed to ceiling horizontal installation.

The main condensate drip tray is situated inside the structure of the unit and is at a positive pressure relative to the drain outlet to facilitate condensate drainage. A wide range of wall-mounted controllers is available, including controllers of an electromechanical type and microprocessor controllers with display. The action of the G3 air filter can be combined with an air ionisation system.

MAIN COMPONENTS

Structure

Realized in galvanized steel sheet, thermally and acoustically insulated by self-extinguishing panels class 1. Height reduced to facilitate installation in a horizontal position, in false ceilings. The bearing structure contains the tank for collecting and discharging condensate.

Heat exchanger

High efficiency 3 or 4 rows heat exchanger made of copper tube and aluminium fins secured to the tubes by mechanical expansion. It is fitted with brass manifold and an air valve. The heat exchanger, usually with left hand water connections can be turned by 180°. Available on request high efficiency heat exchanger optimized for district cooling application.

Fans

Double suction centrifugal fans made with ABS or aluminium, with statically and dynamically balanced forward-curved

blades, directly coupled to the electric motor.

Electric motor

Single-phase asynchronous multi-speed electric motor with permanently connected capacitor and thermal protector, mounted on vibration-damping supports.

Air filter

Washable air filter, made of acrylic fibre, filtration class G2 or G3, applied on the air intake; may be pulled out from below.

Air intake

Air intake from the front or bottom of the unit, according to system requirements. See figure 12.32 MAFO - standard air intake p. 60 and 12.33 Air intake MAF90-MAFO90 p. 61.

Installation example

See figure: 12.3 Installation example p. 35. The bearing structure allows to combine a large range of accessories in suction and air delivery in order to obtain the optimized unit configuration.

ACCESSORIES

Electromechanical control panels

CD	Recess wall-mounted speed switch
CDE	Wall mounted speed selector
TC	Thermostat for minimum water temperature in heating mode (42 °C)

Electronic microprocessor control panels with display

COB	Finishing plate for LED 503 controller, RAL9005 black
COG	Finishing plate for LED 503 controller, RAL7031 grey
COW	Finishing plate for LED 503 controller, RAL9003 white
DIST	MY COMFORT controller spacer for wall mounting
EVO-2-TOUCH	2.8" touch screen user interface for EVO control
EVOBOARD	Circuit board for EVO control
EVO DISP	User interface with display for EVO controller
EYNAVEL	Device for Wi-Fi or Bluetooth communication between EVOBOARD and smartphone
LED503	Recessed wall-mounted electronic display controller LED 503
MCBE	MYCOMFORT BASE electronic controller with display
MCLE	Microprocessor control with display MY COMFORT LARGE

MCME	MYCOMFORT MEDIUM electronic controller with display
MCSUE	Humidity sensor for MY COMFORT (medium e large), EVO
MCSWE	Water sensor for MYCOMFORT and EVO controllers

Electronic microprocessor control panels

TED 2T	Electronic controller for AC fan control and one ON/OFF 230 V valve
TED 4T	Electronic controller for AC fan control and two ON/OFF 230 V valves
TED SWA	Water temperature sensor for TED controls

Power interface and regulating louver controllers

KP	Power interface for connecting in parallel up to 4 fan coil units to the one controller
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Electrical heating elements

RE	Heating element with installation kit, relay box and safety devices
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Air inlet and outlet grilles

GA	Aluminium air intake grille, with frame
GM	Aluminium air outlet grille with 2-row fins and subframe

Valves

V2VDF+STD	2-way valves, ON/OFF or MODULATING actuator, 230 V or 24 V power supply, hydraulic kit, for main and additional heat exchanger
V2VSTD	2-way valve, ON/OFF or MODULATING actuator, 230 V or 24 V power supply, hydraulic kit, for main heat exchanger
V3VDF	3-way valves, ON/OFF or MODULATING actuator, 230 V or 24 V power supply, hydraulic kit, for additional heat exchanger
V3VSTD	2-way valves, ON/OFF or MODULATING actuator, 230 V or 24 V power supply, hydraulic kit, for main heat exchanger
VPIC	2-way valves pressure independent, ON/OFF or MODULATING actuator, 230 V or 24 V power supply, hydraulic kit, for main heat exchanger
Plenum, air intake modules, air inlet and outlet connectors and cabinets	
MAF90	Air intake module with G3 air filter
MAFO	Air intake module with G4 air filter
MAFO90	Air intake module with G4 air filter
PAF	Intake and delivery plenum, not insulated, with spigot Ø 200 mm
PMA	Intake and delivery plenum, not insulated, with spigot Ø 200 mm
PMAC	Intake and delivery plenum, insulated, with spigot Ø 200 mm
R90	90° uninsulated air inlet/outlet connector
R90C	90° uninsulated air inlet/outlet connector
RD	Straight uninsulated air inlet/outlet connector
RDC	Straight insulated air inlet/outlet connector
Flexible ducts - caps	
TFA	Not insulated flexible ducts, Ø 200 mm (6 m length undivisible)
TFM	Insulated flexible ducts, Ø 200 mm (6 m length undivisible)
TP	Plastic cap Ø 200 mm
Air inlet and outlet plenum box	
CA	Air Inlet plenum box with double row grille
CAF	Air Inlet plenum box with double row grille 300 x 600 mm and filter G2
CM	Insulated air outlet plenum box with grille
Accessories	
KSC	Condensate drainage pump kit
VRC	Auxiliary water drip tray
Sanitisation system	
JONIX - mic	Sanitizing module JONIX™ (ducted installation)
JONIX - pln	Sanitizing module JONIX™ (installation on plenum)

OPERATING LIMITS

Thermal carrier fluid: **water**

Water temperature: **5 °C to 90 °C**

Air temperature: **-20 °C to 40 °C**

Control voltage: **230 V**

Maximum operating pressure: **16 bar**

DECLARATION OF CONFORMITY

LG Electronics whose main office is LG Electronics European Shared Service Center B.V. Krijgsman 1, 1186 DM Amstelveen, The Netherlands by declares, under its sole responsibility, that the VF fan coil, models VFL, VFU, VFC, VFY and VFX are produced in accordance to: 2006/42/EC, 2014/30/UE, 2014/35/UE.

Compliance has been verified with reference to the following standards: EUROPEAN STANDARDS FOR LOW VOLTAGE DIRECTIVE (safety)

- EN60335-1:2012
- EN60335-2-40:2003+ A11:2004+ A12:2005+ A1:2006+ A2:2009 (Remark: 60335-2-40 Annex ZE for Machine Directive)
- EN60335-1:2002+ A1:2004+ A11:2004+ A12:2006+ A2:2006 + A13:2008+ A14:2010 +A15:2011
- EN50366:2003+A1:2006

EUROPEAN STANDARDS FOR ELECTROMAGNETIC COMPATIBILITY (EMC)

- EN55014-1:2006+ A1:2009+ A2:2011
- EN55014-2:1997+A1:2001+ A2:2008
- EN61000-3-2:2006+A1:2009+A2:2009
- EN61000-3-3:2008

This declaration covers also all the available accessories and options only if installed in accordance to their own mounting instructions

11, November. 2021
Jeong Won Lee
Director



4. DIMENSIONS

In figures 12.1 VFY model 06-10 (values expressed in mm) p.33 and 12.2 VFY model 15,17,24 (values expressed in mm) p.34 shows the dimensions of VFK_aVW and shows the position of water connections.

5. INSTALLATION

⚠ WARNING: unit installation and start-up must be entrusted to competent personnel and performed in a workmanlike manner, in accordance with current regulations.

⚠ WARNING: Install the ducted unit, the line switch (IL) and/or all remote controls in a position out of the reach of persons who are in the bathroom or in the shower.

⚠ ATTENZIONE: For safety reason, do not introduce your fingers or other pointed objects in the air outlet grilles.

🔧 WARNING: It is advisable to install any accessories on the standard unit prior to positioning the latter, making reference to the technical sheets. The air intake and outlet have a rectangular cross-section, with pre-cut holes for fastening the available accessories. To make connection using rectangular ducts it is recommended to use accessories RD or RDC, which can be fitted respectively on the intake or outlet section.

NOTE: to install ducts on both the inlet and outlet sides, you will need 1 RD accessory (intake) and 1 RDC accessory (outlet).

🔧 WARNING: If you wish to make the connections using

flexible circular ducts (ø 200), it will be necessary to use accessories PMA or PMAC, which can be fitted respectively on the intake or outlet section.

NOTE: to install flexible ducts (Ø 200), on both the inlet and outlet sides, you will need 1 PMA accessory (intake) and 1 PMAC accessory (outlet). See figure 12.3 Installation example p.35.

🔧 WARNING: with MAF90 or MAFO90 is possible to have frontal air intake to better adapt it to system requirements. For the installation see figure 12.33 Air intake MAF90-MAFO90 p.38.

The exchanger connections can be switched over to the opposite side by carrying out the following steps (12.6 Exchanger connections p.36):

- remove the upper closing panel.
- remove the collecting condensate tray.
- remove the heat exchanger module by taking out the fastening screws (2 per side).
- turn the heat exchanger by 180° (on the vertical axis) and screw it back into the unit again.
- reassemble the tray and the upper closing panel.

INSTALLATION REQUIREMENTS

Some rules to follow

- Vent air from the exchanger while the pumps are off. For this purpose use the air vent valves situated next to the exchanger connections.
- All ducts, especially the outlet ducts, must be insulated with anti-condensation material.
- An inspection panel must be provided in proximity to the unit to enable maintenance and cleaning operations.
- The unit must be installed on the basis of design and technical considerations, carrying out an aerualic assessment and considering the BACK PRESSURE offered by the PIPING applied to the outlet to avoid the problem of failure to change speed: this responsibility cannot fall on the product but on the installation;
- Install the unit with the appropriate inspection hatches for routine and special maintenance of the fan coils: for mechanical, electrical and hydraulic replacement;
- Install the control panel on the wall; choose an accessible position from where functions may be easily set and which is suitable for taking temperature readings, where applicable. Avoid positions directly exposed to sunlight or direct currents of hot or cold air and make sure there are no obstacles which may preclude a correct temperature reading.

⚠ WARNING:

In normal operation, particularly with the fan at minimum speed and ambient air with high relative humidity, condensation may form on the air outlet and on some external parts of the unit.

To avoid such issues while always remaining within the operating limits envisaged for the unit, it is necessary to limit the inlet temperature of the water inside the heat exchanger. In

particular, the difference between the air dew point ($T_{A,DP}$) and the inlet water temperature (T_W) must NOT exceed 14 °C, according to the following relationship: $T_W > T_{A,DP} - 14$ °C

Example: in the case of ambient air at 25 °C with 75% relative humidity, the dew point temperature is about 20 °C and therefore the inlet temperature of the water in the battery must be greater then:

- 20-14 = 6 °C in order to avoid condensation on a fancoil equipped with a valve.
- 20-12 = 8 °C If the valve kit accessory can not be installed.

		Fan coil with valve						
		Air temperature dry bulb (°C)						
Relative humidity %		21	23	25	27	29	31	33
		40	5	5	5	5	5	5
50	5	5	5	5	5	5	6	8
60	5	5	5	5	7	9	11	13
70	5	5	6	8	9	11	13	15
80	5	6	8	10	12	14	16	18
90	6	8	10	12	14	16	18	20

		Fan coil without valve						
		Air temperature dry bulb (°C)						
Relative humidity %		21	23	25	27	29	31	33
		40	6	6	6	6	6	6
50	6	6	6	6	6	8	10	12
60	6	6	6	7	9	11	13	15
70	6	6	8	10	11	13	15	17
80	6	8	10	12	12	16	18	20
90	8	10	12	14	14	18	20	22

In the event the indoor unit is stopped for a prolonged period, with the fan stopped and circulation of cold water in the heat exchanger, condensation may also form on the unit's exterior. In this case it is advisable to install the 3-way (or 2-way) valve accessory in order to stop the flow of water in the coil when the fan is stopped.

During wintertime periods of quiescence, drain water from the system, to prevent ice from forming. If anti-freeze solutions are used, check for their freezing point using the table below.

% Glycol by weight	Freezing temperature (°C)	Capacity adjustment	Pressure drop adjustment
0	0	1,00	1,00
10	-4	0,97	1,05
20	-10	0,92	1,10
30	-16	0,87	1,15
40	-24	0,82	1,20

Electrical connections

Make the electrical connections with the power supply disconnected, in accordance with current safety regulations.

5.1 ASSEMBLY OF UNITS

Mounting the unit

Insert the vibration dampers provided in the 4 slots indicated for ceiling installation

Fasten the base unit to the ceiling or wall using the 4 slots provided.

- It is recommended to use 8MA threaded bars plus screw anchors of adequate capacity to bear the weight of the unit, and to prepare the positioning of the unit using 3 8MA nuts (2 in the lower part, 1 in the upper part as shown in figure 12.7 Ceiling installation unit p. 37) and two M8 oversized washers with a diameter of 24 mm for each bar, so that the rubber anti-vibration mounts cannot deform or come out of the slot. Before tightening the lock nut, adjust the main nut

All the wiring must be done by qualified personnel.

If the power cable is damaged must be replaced by the manufacturer or its technical assistance service or in any case by a person with a similar qualification, in order to prevent any risk.

For each thermal ventilating unit provide a main circuit breaker (IL), with opening contacts separated by at least 3 mm and an adequate protection fuse (F).

Electrical intakes are shown on the rating labels on the units.

During installation, strictly abide by the indications on the wiring diagram for the unit-control panel combination.

See electrical wirings from page p. 38.

VFY model 06 6-speed motor (+ EVO/ MYCOMFORT / TED)

VFY model 06-18 7-speed motor (+ EVO/ MYCOMFORT / TED)

VFY model 24 Motor 4 speed (+ EVO/ MYCOMFORT / TED)

NOTE: The electric wires (power and control circuits) must be pulled in through the gland on the side of the electric box where the plumbing connections are located and then connected to the terminals.

⚠ WARNING: COMMON motor wire = WHITE, wrong connection may cause serious damages to the motor.

so as to assure that the unit is properly inclined so as to facilitate condensate drainage (figure 12.8 Condensate discharge proper inclination p. 37). To obtain the proper inclination, tilt the unit so that the intake side is slightly lower (approximately 10 mm) than the outlet side. Make the plumbing connections to the heat exchanger and, where the cooling function is to be used, to the condensate drainage outlet. Use one of the two tray drain outlets, which can be seen on the outside of the unit side panels.

- To connect the unit to the drainage line, use a flexible rubber hose and secure it to the pre-selected drain pipe (ø 3/8") using a metal clamp (use the drain outlet situated on the plumbing connection side).

6. CHECKS BEFORE STARTUP

- Check that the unit is installed in such a way as to guarantee the required inclination.
- Check that the drainage outlet is not clogged (by masonry debris etc.).
- Check the tightness of the plumbing connections.
- Make sure the electric wires are tightly connected (carry out this check with the power supply OFF).
- Make sure that air has been eliminated from the heat exchanger.
- Power the fan coil and check its performance

7. USE

To use the fan coil refer to the instructions on the control panel available as accessory.

This unit is intended for the air conditioning of rooms for the

maximum well-being of people. Designed for room air conditioning and intended for residential comfort applications.

7.1 MAINTENANCE

For safety reasons, before carrying out any maintenance or cleaning jobs, turn off the unit by moving the fan speed selector to “Off” and putting off the main switch (0 position).

⚠ DANGER! Due caution must be taken while carrying out maintenance: some metal parts may cause injuries; wear protective gloves.

The maintenance requirements of VFY model ducted units are limited to periodic cleaning of the air filter and heat exchanger and checks on the efficiency of condensate drainage.

⚠ WARNING: Maintenance may be performed only by specialised personnel.

Whenever starting up the unit after it has not been used for a long time, check that there is no air in the heat exchanger.

The motor requires no maintenance since it has self-lubricating bearings.

Cleaning the air filter

Disconnect the unit from the power supply by setting the main switch on 0 (OFF).

To clean the air filter proceed as follows:

1. Access the unit via the inspection panel and take out the air filter as shown in (12.31 Cleaning the air filter p. 60):
2. If the filter is on the inside of the intake grille, remove the latter and then proceed to carry out the steps described below.
3. Clean the filter with warm water or, in the event of dry dust build-up, using compressed air.
4. Allow the filter to dry and then fit it back in place.

Air filter dimensions, see figure: 12.5 Air filter overall dimensions p. 36.

Cleaning the heat exchanger

It is advisable to check the condition of the exchanger before the start of every summer season to make sure that the fins are not obstructed by dirt.

To access the heat exchanger, remove the outlet panel (whether of the type with collars or a rectangular flange) and the drip tray. On reaching the exchanger, clean it with compressed air or low-pressure steam taking care not to damage the fins.

Before the start of every summer season, check the efficiency of condensate drainage.

Adequate periodic maintenance will ensure save both energy and cost savings.

8. TROUBLESHOOTING

If the unit is not working properly, before calling a service engineer carry out the checks indicated in the table below.

If the problem cannot be solved, contact your dealer or the nearest service centre.

PROBLEM	CAUSE	SOLUTION
The unit fails to work	No power supply	Restore the power supply
	The automatic safety cutout has tripped	Call a service centre for assistance
	The on/off switch is on	Start the unit by moving the switch to ON
The unit provides insufficient cooling or heating	The air filter is dirty or clogged	Clean the air filter
	An obstacle is obstructing the air intake or outlet	Remove the obstacle
	Air is trapped inside the heat exchanger	Call the installer for assistance
	There are open windows and/or doors	Close windows and/or doors
The unit "leaks" water	The minimum speed has been selected	Select medium or maximum speed
	The unit has not been installed with the correct inclination	Call the installer for assistance
	The drainage outlet is clogged	Call the installer for assistance

Duct unit VFY Models

RATED TECHNICAL DATA

» 2 pipes

VFY Model			06			07			08			10		
Speed			min	med	max	min	med	max	min	med	max	min	med	max
Declared speed			2,5,7			1,5,7			1,5,7			1,6,7		
Rated air flow		m³/h	109	246	276	171	275	341	171	275	341	195	360	402
Available static pressure		Pa	10	50	63	19	50	77	19	50	77	19	50	63
Power input		W	24	57	82	34	69	106	34	69	106	34	85	106
Maximum current absorption		A	0,40			0,56			0,56			0,56		
Total cooling capacity	(1)	kW	0,92	1,72	1,90	1,27	1,90	2,27	1,36	2,11	2,53	1,57	2,69	2,96
Sensible cooling capacity	(1)	kW	0,61	1,21	1,34	0,89	1,34	1,59	0,93	1,44	1,72	1,07	1,86	2,03
FCEER class			D									D		
Water flow	(2)	l/h	160	306	340	222	339	408	239	374	453	274	476	527
Water pressure drop	(2)	kPa	2	5	6	3	6	8	4	8	12	3	7	9
Heating capacity	(3)	kW	0,88	1,81	1,99	1,33	1,98	2,35	1,40	2,20	2,68	1,59	2,80	3,10
FCCOP class			D											
Water flow	(3)	l/h	153	315	346	231	345	408	244	382	466	276	488	538
Water pressure drop	(3)	kPa	1	4	5	2	5	7	3	7	10	2	6	8
Standard coil - number of rows			3			3			4			4		
Total sound power level	(4)	dB(A)	28	49	52	39	50	54	39	50	54	39	50	54
Inlet + radiated sound power level	(4)	dB(A)	26	47	50	37	48	52	37	48	52	37	48	52
Outlet sound power level	(4)	dB(A)	25	46	49	36	47	51	36	47	51	36	47	51
Water content - standard coil		dm³	1,20			1,20			1,60			2,20		
Power supply cable type			N07V-K											
Cross-section area of power cables	(5)	mm²	1,00			1,00			1,00			1,00		
Safety fuse F		A	1			1			1			1		
Fuses type			gG											

VFY Model			15			18			24		
Speed			min	med	max	min	med	max	min	med	max
Declared speed			1,6,7			1,6,7			5,6,7		
Rated air flow		m³/h	333	687	760	333	687	760	1050	1163	1289
Available static pressure		Pa	12	50	61	12	50	61	40	50	60
Power input		W	76	167	192	76	167	192	235	280	332
Maximum current absorption		A	1,10			1,10			2,10		
Total cooling capacity	(1)	kW	2,22	4,22	4,63	2,44	4,79	5,23	6,15	6,66	7,21
Sensible cooling capacity	(1)	kW	1,60	3,09	3,39	1,70	3,33	3,64	4,51	4,88	5,29
FCEER class			D								
Water flow	(2)	l/h	394	753	828	432	850	930	1095	1191	1295
Water pressure drop	(2)	kPa	2	7	8	3	10	12	13	16	18
Heating capacity	(3)	kW	2,54	4,76	5,17	2,63	5,03	5,49	6,68	7,22	7,80
FCCOP class			D								
Water flow	(3)	l/h	442	827	898	457	875	955	1162	1256	1357
Water pressure drop	(3)	kPa	2	7	8	3	9	11	12	14	16
Standard coil - number of rows			3			4			3		
Total sound power level	(4)	dB(A)	38	55	58	38	55	58	61	63	69
Inlet + radiated sound power level	(4)	dB(A)	36	53	56	36	53	56	59	61	67
Outlet sound power level	(4)	dB(A)	35	52	55	35	52	55	58	60	66
Water content - standard coil		dm³	2,50			3,30			2,50		
Power supply cable type			N07V-K								
Cross-section area of power cables	(5)	mm²	1,50			1,50			1,50		
Safety fuse F		A	2			2			2		
Fuses type			gG								

- (1) Water temperature 7°C / 12°C, air temperature dry bulb 27°C, wet bulb 19°C (47% relative humidity) according to EN1397:2015
- (2) Water temperature 7°C / 12°C, air temperature dry bulb 27°C, wet bulb 19°C (47% relative humidity)
- (3) Water temperature 45°C / 40°C, air temperature 20°C
- (4) Sound power measured according to standards ISO 3741 and ISO 3742
- (5) The shown section is to be considered as the minimum recommended section. The cables must be chosen in compliance with CEI - UNEL 35024/1. standard.

Power supply 230-1-50 (V-ph-Hz)

RATED TECHNICAL DATA

» 4 pipes

Vfy Model			06			07			08			10		
Speed			min	med	max	min	med	max	min	med	max	min	med	max
Declared speed			2,5,7			1,5,7			1,5,7			1,6,7		
Rated air flow DF 1R	(E)	m ³ /h	109	243	270	170	272	336	170	272	336	195	357	398
Available static pressure DF 1R	(E)	Pa	10	50	63	19	50	77	19	50	77	19	50	63
Power input DF 1R	(E)	W	24	57	82	34	69	106	34	69	106	34	85	106
Maximum current absorption		A	0,40			0,56			0,56			0,56		
Total cooling capacity DF 1R	(1)(E)	kW	0,92	1,70	1,86	1,26	1,88	2,24	1,35	2,09	2,49	1,57	2,67	2,93
Sensible cooling capacity DF 1R	(1)(E)	kW	0,61	1,20	1,31	0,88	1,33	1,57	0,92	1,42	1,70	1,07	1,84	2,01
FCEER class DF 1R	(E)		D						D					
Water flow DF 1R	(2)	l/h	160	302	333	221	335	404	238	370	447	274	473	522
Water pressure drop DF 1R	(2)(E)	kPa	2	5	6	3	6	8	4	8	12	3	7	9
Heating capacity DF 1R	(3)(E)	kW	1,14	1,93	2,06	1,55	2,07	2,32	1,55	2,07	2,32	2,09	3,09	3,29
FCCOP class DF 1R	(E)		D			D			D			C		
Water flow DF 1R	(3)	l/h	100	169	180	136	181	204	136	181	204	183	271	288
Water pressure drop DF 1R	(3)(E)	kPa	1	2	3	2	3	3	2	3	3	2	3	4
Total sound power level DF 1R	(4)	dB(A)	28	49	52	39	50	54	39	50	54	36	47	51
Additional coil DF - number of rows			1			1			1			1		
Inlet + radiated sound power level DF 1R	(4)(E)	dB(A)	26	47	50	37	48	52	37	48	52	37	48	52
Outlet sound power level DF 1R	(4)(E)	dB(A)	25	46	49	36	47	51	36	47	51	36	47	51
Water content - additional coil DF 1R		dm ³	0,47			0,47			0,47			0,59		
Power supply cable type			N07V-K											
Cross-section area of power cables	(5)	mm ²	1,00			1,00			1,00			1,00		
Safety fuse F		A	1			1			1			1		
Fuses type			gG											

Vfy Model			15			18			24		
Speed			min	med	max	min	med	max	min	med	max
Declared speed			1,6,7			1,6,7			5,6,7		
Rated air flow DF 1R	(E)	m ³ /h	333	683	755	333	683	755	1050	1163	1289
Available static pressure DF 1R	(E)	Pa	12	50	61	12	50	61	40	50	60
Power input DF 1R	(E)	W	76	167	192	76	167	192	235	280	332
Maximum current absorption		A	1,10			1,10			2,10		
Total cooling capacity DF 1R	(1)(E)	kW	2,22	4,20	4,60	2,44	4,76	5,20	6,15	6,66	7,21
Sensible cooling capacity DF 1R	(1)(E)	kW	1,60	3,07	3,36	1,70	3,31	3,62	4,51	4,88	5,29
FCEER class DF 1R	(E)		D								
Water flow DF 1R	(2)	l/h	394	749	822	432	846	925	1095	1191	1295
Water pressure drop DF 1R	(2)(E)	kPa	2	7	8	3	10	12	13	16	18
Heating capacity DF 1R	(3)(E)	kW	3,40	5,17	5,45	3,40	5,17	5,45	6,42	6,73	7,06
FCCOP class DF 1R	(E)		D								
Water flow DF 1R	(3)	l/h	297	452	477	297	452	477	562	590	618
Water pressure drop DF 1R	(3)(E)	kPa	6	13	14	6	13	14	19	21	22
Total sound power level DF 1R	(4)	dB(A)	38	55	58	38	55	58	61	63	69
Additional coil DF - number of rows			1			1			1		
Inlet + radiated sound power level DF 1R	(4)(E)	dB(A)	36	53	56	36	53	56	59	61	67
Outlet sound power level DF 1R	(4)(E)	dB(A)	35	52	55	35	52	55	58	60	66
Water content - additional coil DF 1R		dm ³	0,97			0,97			0,97		
Power supply cable type			N07V-K								
Cross-section area of power cables	(5)	mm ²	1,50			1,50			1,50		
Safety fuse F		A	2			2			2		
Fuses type			gG								

- (1) Water temperature 7°C / 12°C, air temperature dry bulb 27°C, wet bulb 19°C (47% relative humidity) according to EN1397:2015
- (2) Water temperature 7°C / 12°C, air temperature dry bulb 27°C, wet bulb 19°C (47% relative humidity)
- (3) Water temperature 65°C / 55°C, air temperature 20°C
- (4) Sound power measured according to standards ISO 3741 and ISO 3742
- (5) The shown section is to be considered as the minimum recommended section. The cables must be chosen in compliance with CEI - UNEL 35024/1. standard.

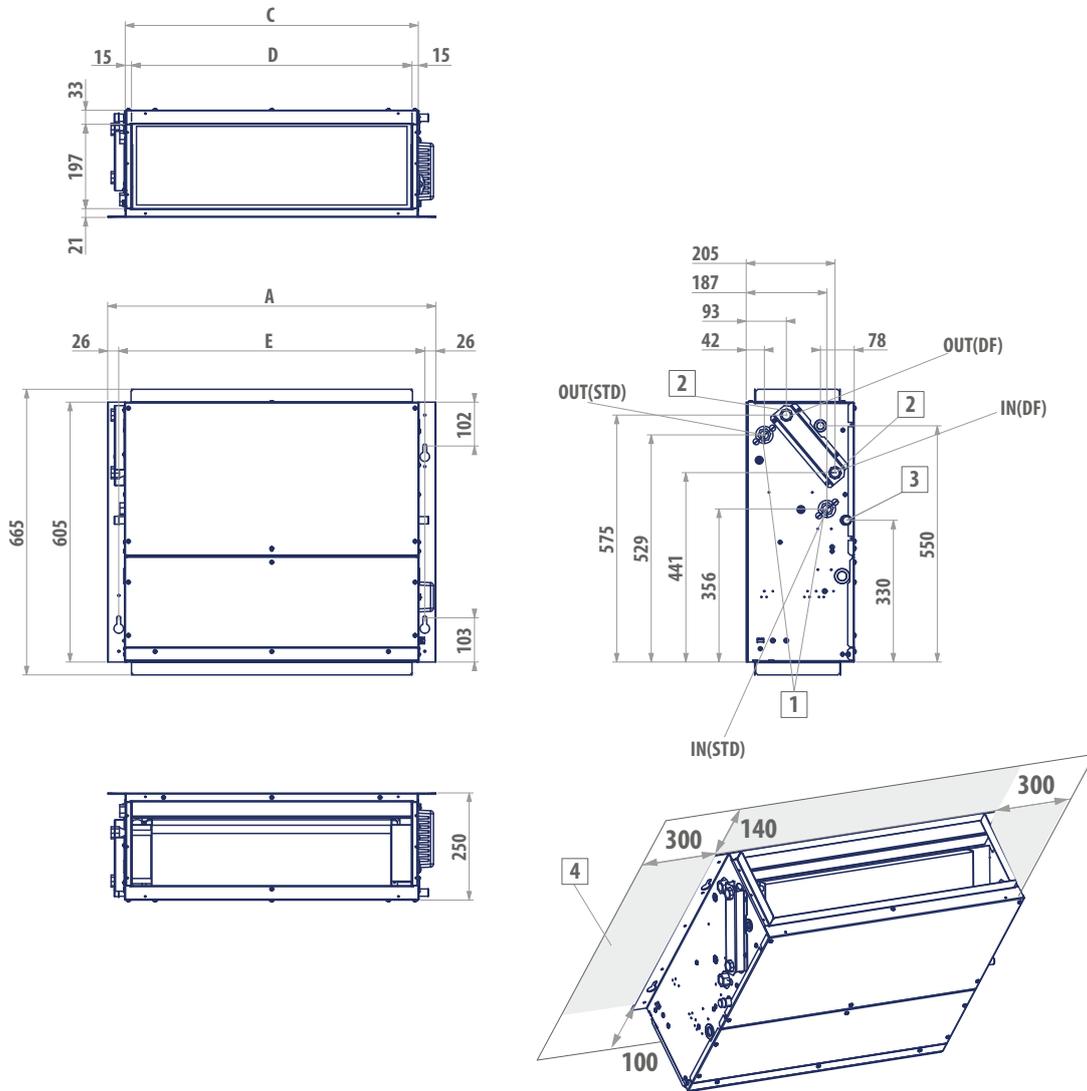
Power supply 230-1-50 (V-ph-Hz)

10. WEIGHTS

VFY Model		06	07	08	10	15	18	24
Weight - standard version	kg	24,4	25,4	25,4	33,0	45,0	45,0	51,0
Weight - DF 1R version	kg	25,8	26,8	26,8	34,6	47,5	47,5	53,5

DIMENSIONAL DRAWINGS

VFY Model



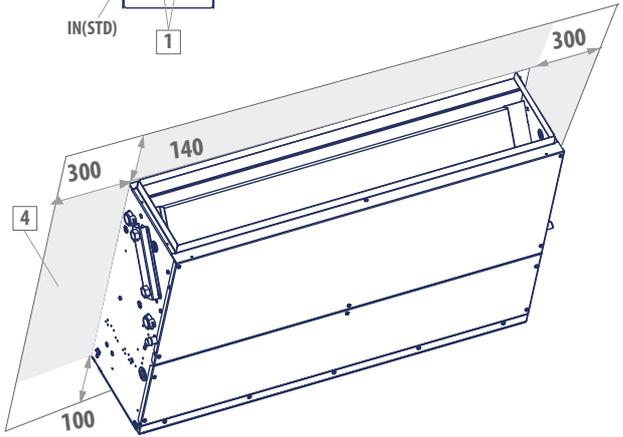
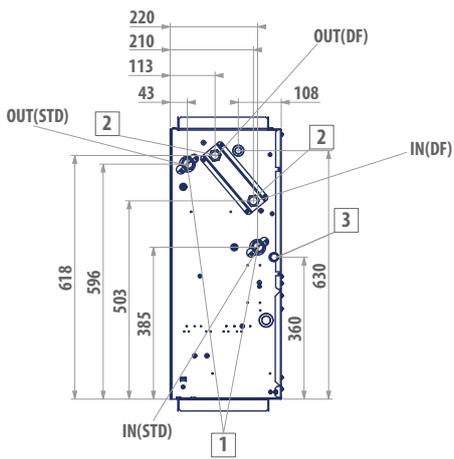
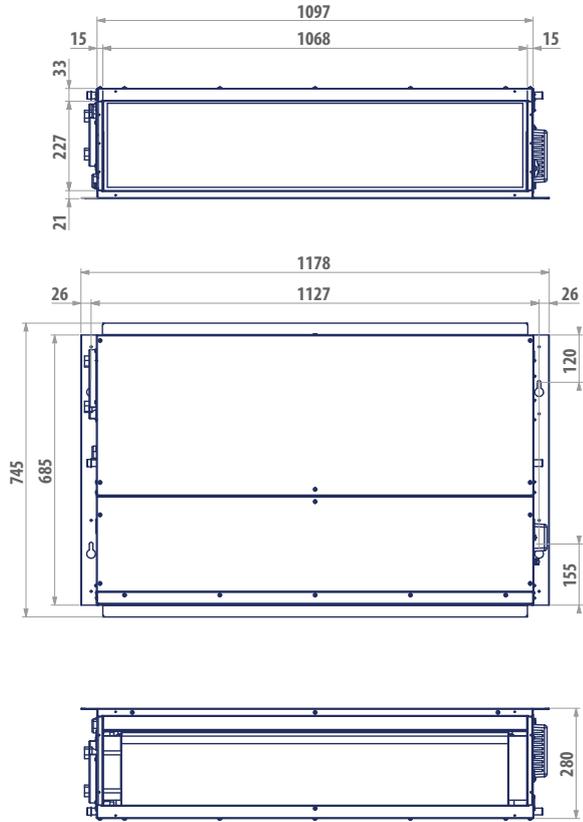
Legend

- 1) Water connections standard heat exchanger ø 1/2" female gas
- 2) Water connections additional heat exchanger ø 1/2" female gas
- 3) Condensate discharge
- 4) Minimum installation distance

VFY Model		06	07	08	10
A	mm	758	758	758	968
C	mm	677	677	677	887
D	mm	648	648	648	858
E	mm	707	707	707	917
1	"	1/2			
2	"	1/2			
3	mm	17	17	17	17

DIMENSIONAL DRAWINGS

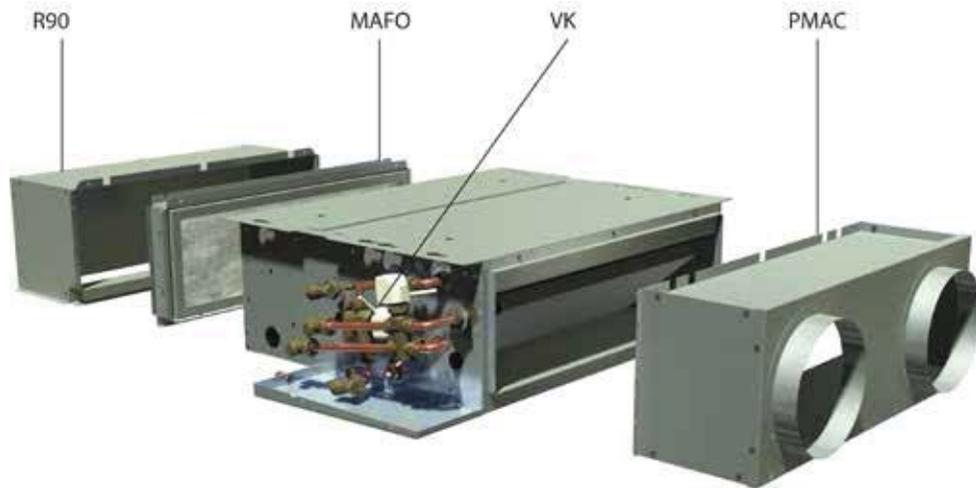
VFY Model



Legend

- 1) Water connections standard heat exchanger ø 3/4" female gas
- 2) Water connections additional heat exchanger ø 1/2" female gas
- 3) Condensate discharge
- 4) Minimum installation distance

VFY Model		15	18	24
1	"			3/4
2	"			1/2
3	mm	17	17	17



Legend

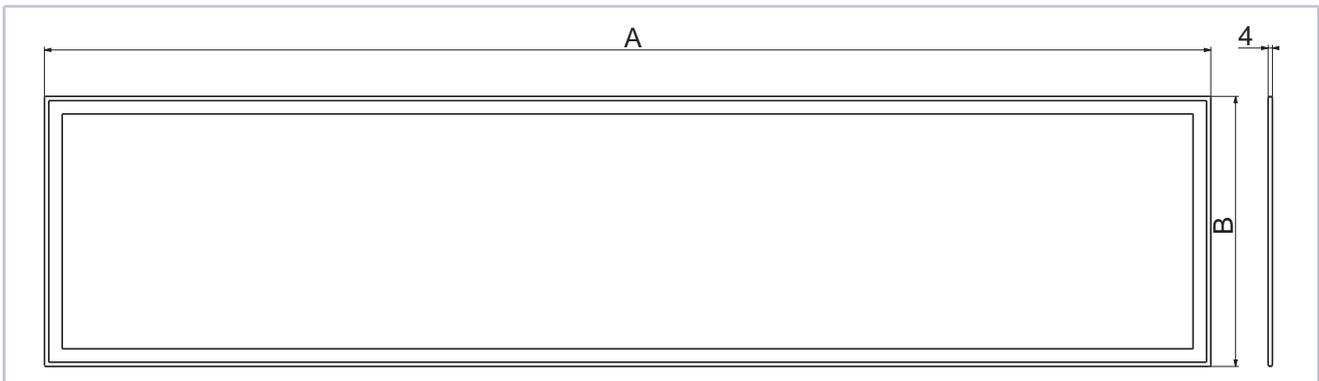
R90 90° uninsulated air inlet/outlet connector

MAFO Air intake module with G4 undulated filter

VK ON-OFF 3-way motor driven valve (24V actuator), with hydraulic kit for standard and DF heat exchanger

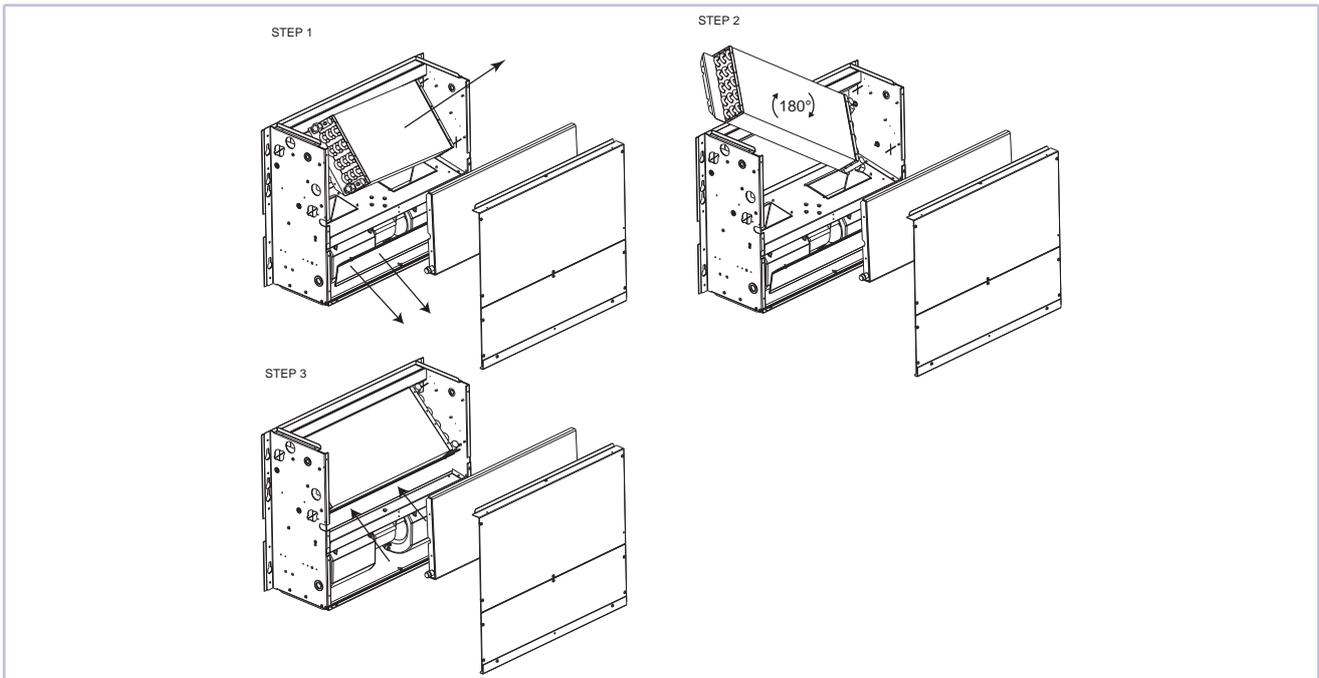
PMAC Intake and delivery plenum, not insulated, with spigot Ø 200 mm

» Air filter overall dimensions

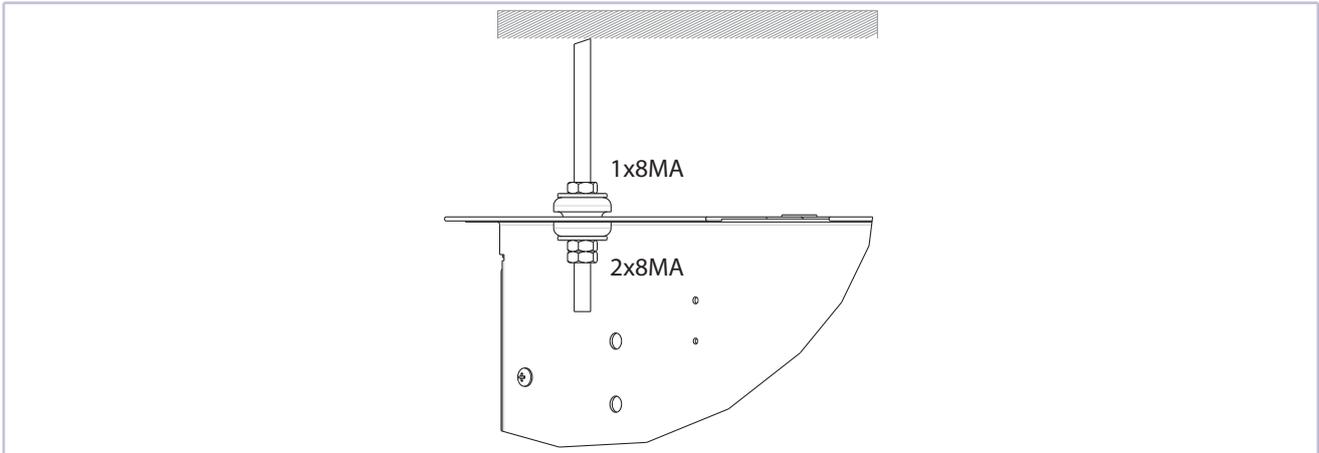


VFY model	A (mm)	B (mm)
06, 07, 08	658	216
10	868	216
15, 18, 24	1078	246

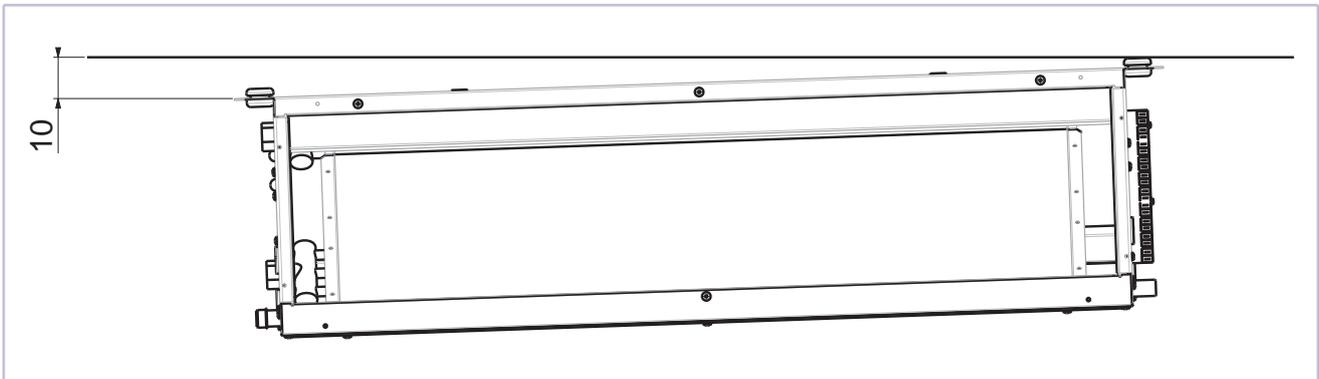
» Exchanger connections



» Ceiling installation unit



» Condensate discharge proper inclination



General electrical wiring diagram legend

M: Motor

CN: Fast-on connector

VC/H: Water valve (hot and cold)

F: Fuse (not provided)

IL: Circuit breaker (not supplied)

PE: Ground

SW: Water temperature sensor

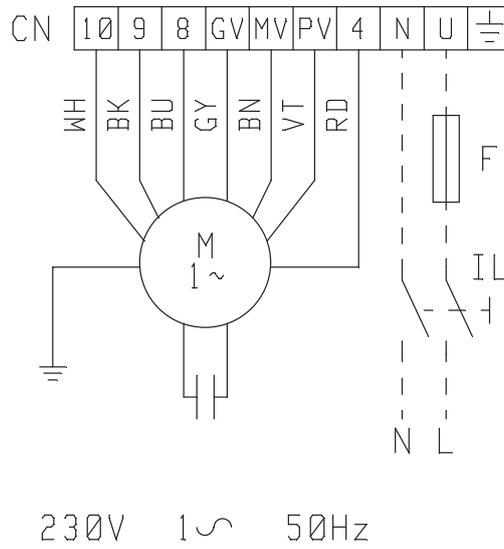
SA: Water temperature probe/

SU: Humidity probe

RE: Electrical heating elements

- - - : Connection on responsibility of the installer

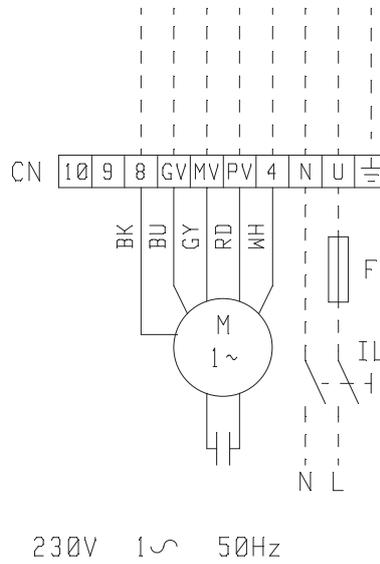
» 12.9



Electrical wiring diagram legend

- L** Phase
- N** Neutral
- CN** Fast-on connector
- F** Fuse (not provided)
- IL** Circuit breaker (not supplied)
- M** Motor
- Wirings made by supplier
- WH** White = common
- BK** Black = Speed 5
- BU** Blue = Speed 4
- GY** Grey = Speed 3
- BN** Brown = Speed 2
- VT** Purple = Speed 1
- RD** Red = Speed 0

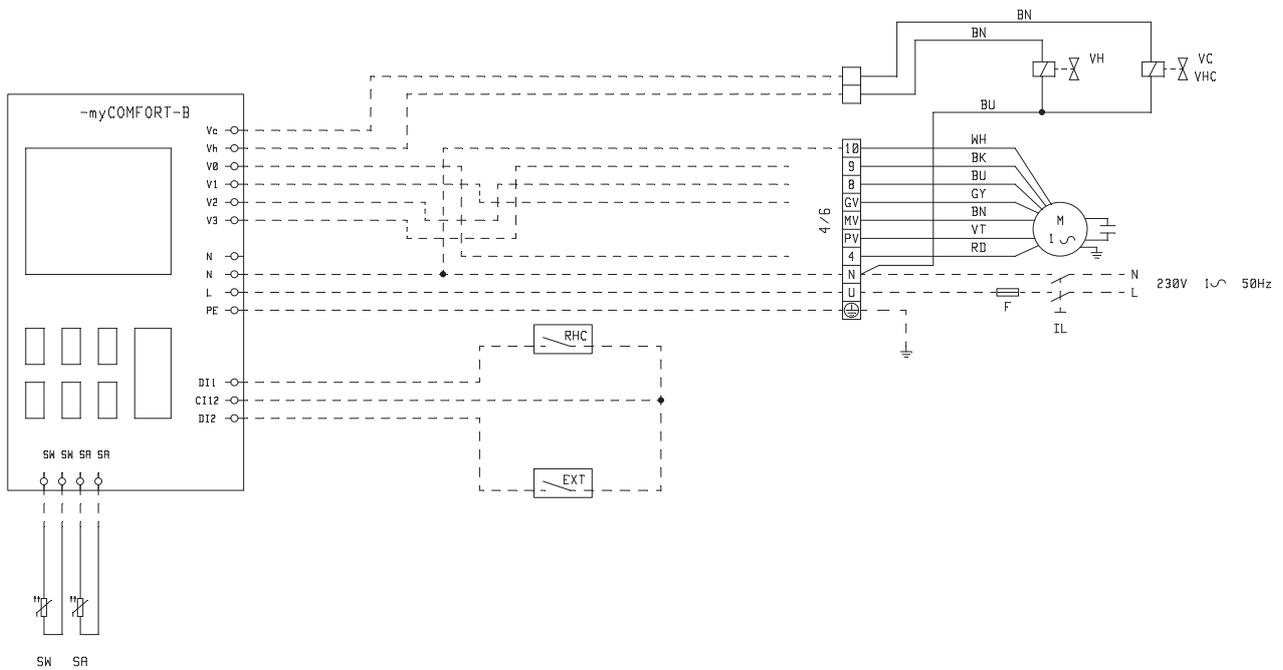
» 12.11



Electrical wiring diagram legend

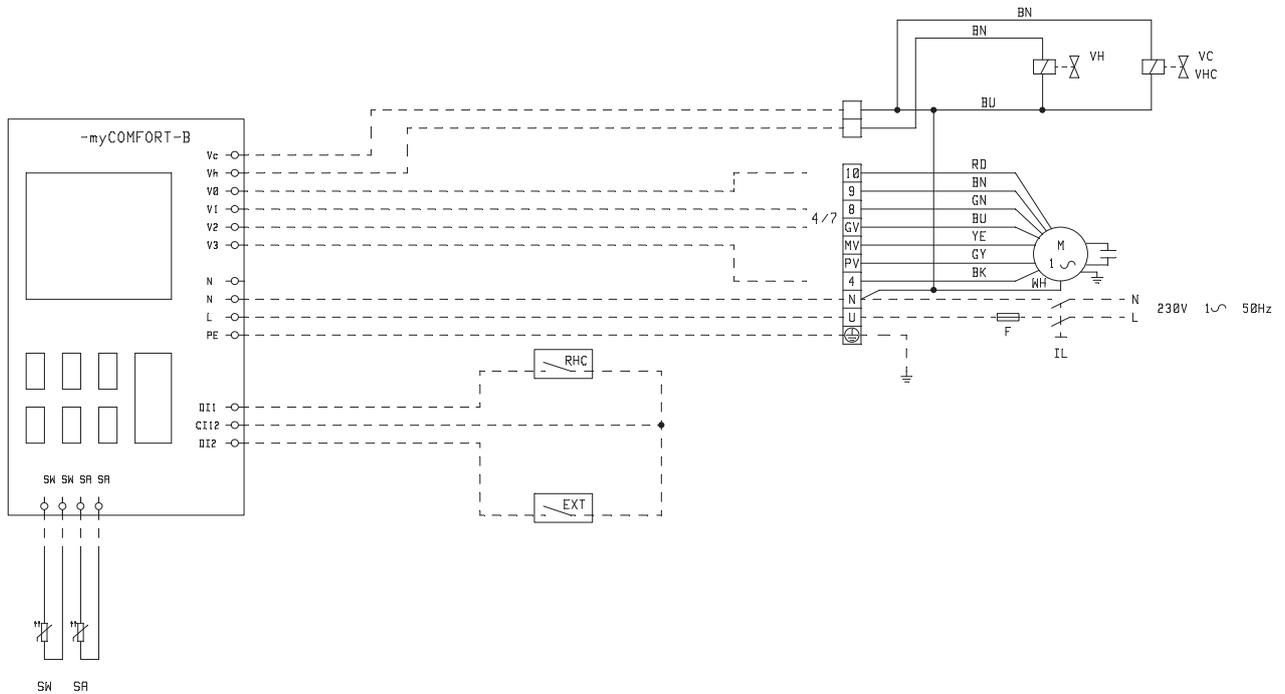
- L** Phase
- N** Neutral
- CN** Fast-on connector
- F** Fuse (not provided)
- IL** Circuit breaker (not supplied)
- M** Motor
- Wirings made by supplier
- WH** White = common
- BK** Black = Speed 5
- BU** Blue = Speed 4
- GY** Grey = Speed 3
- BN** Brown = Speed 2
- VT** Purple = Speed 1
- RD** Red = Speed 0

» 12.12



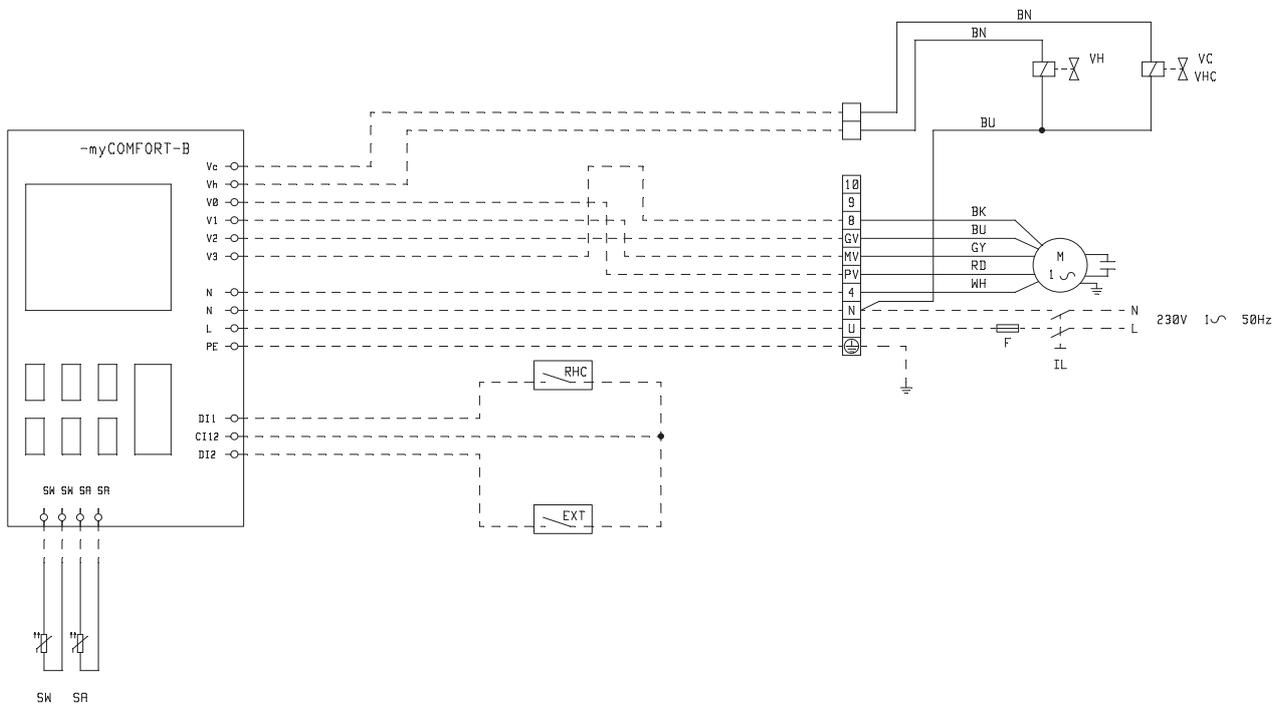
- WH(M):** White = Neutral
- BK(M):** Black
- BU(M):** Blue
- GY(M):** Grey
- BN(M):** Brown
- VT(M):** Purple
- RD:** Red
- BN (VC/H):** Brown = valve actuator linilinstellantrieb
- BU (VC/H):** Blue = valve actuator neutral

» 12.13



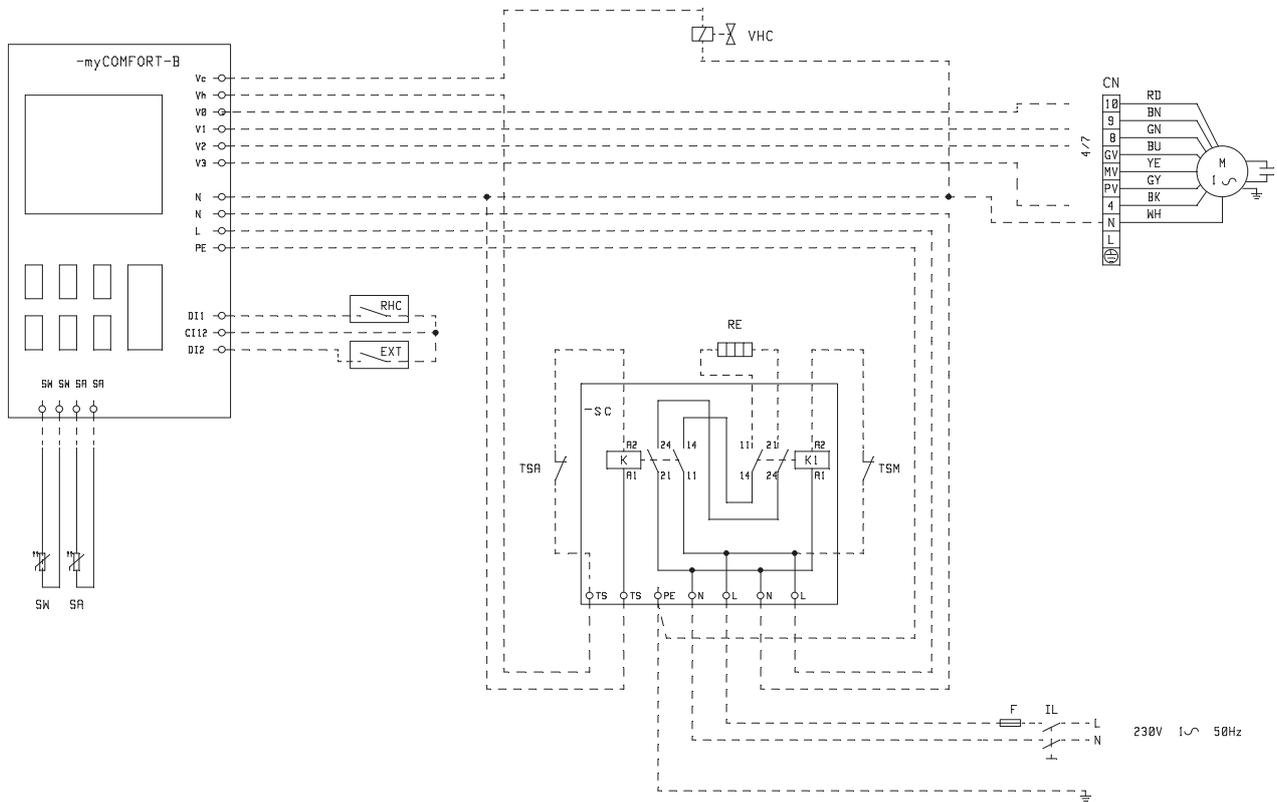
- WH(M):** White = Neutral
- BK(M):** Black
- BU(M):** Blue
- GY(M):** Grey
- BN(M):** Brown
- VT(M):** Purple
- RD:** Red
- BN (VC/H):** Brown = valve actuator linentilstellantrieb
- BU (VC/H):** Blue = valve actuator neutral

» 12.14



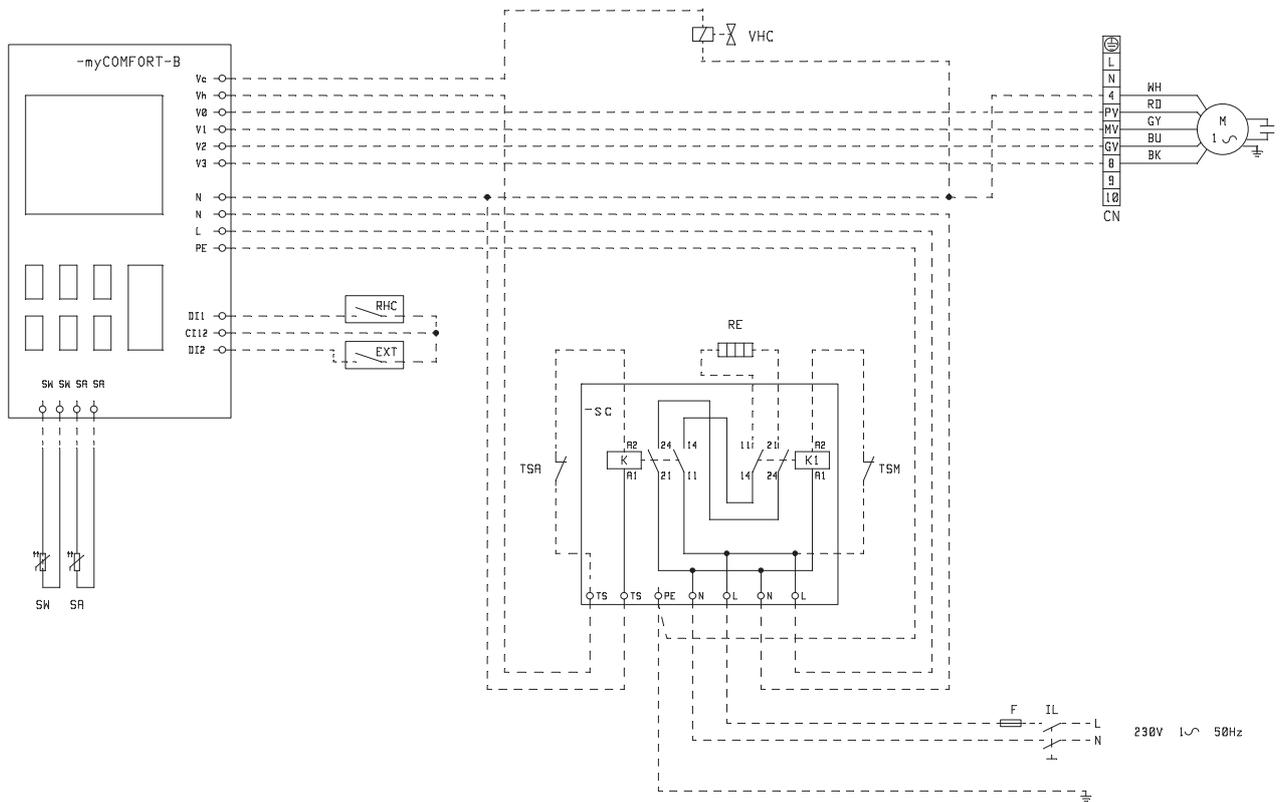
- WH(M):** White = Neutral
- BK(M):** Black
- BU(M):** Blue
- GY(M):** Grey
- BN(M):** Brown
- RD:** Red
- BN (VC/H):** Brown = valve actuator linienlftellantrieb
- BU (VC/H):** Blue = valve actuator neutral

» 12.16



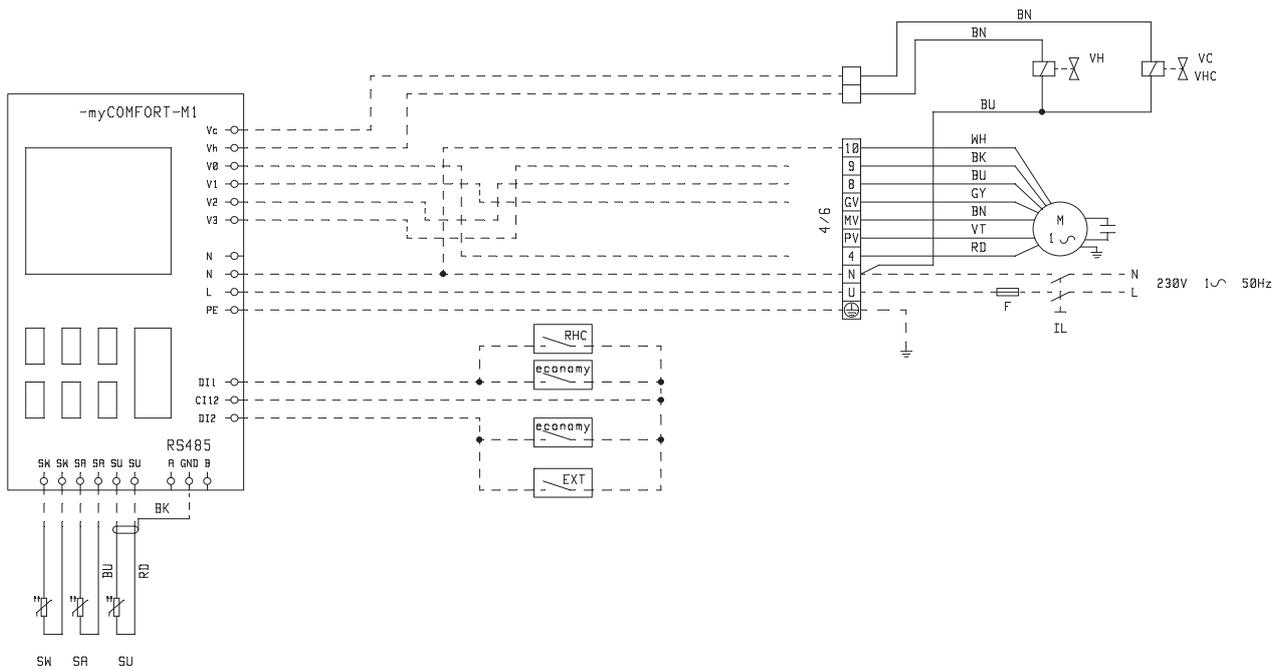
- WH(M):** White = Neutral
- BK(M):** Black
- GY(M):** Grey
- YE(M):** Yellow
- BU(M):** Blue
- GN(M):** Green
- BN(M):** Brown
- RD(M):** Red
- WH(VC/H):** White = valve actuator neutral

» 12.17



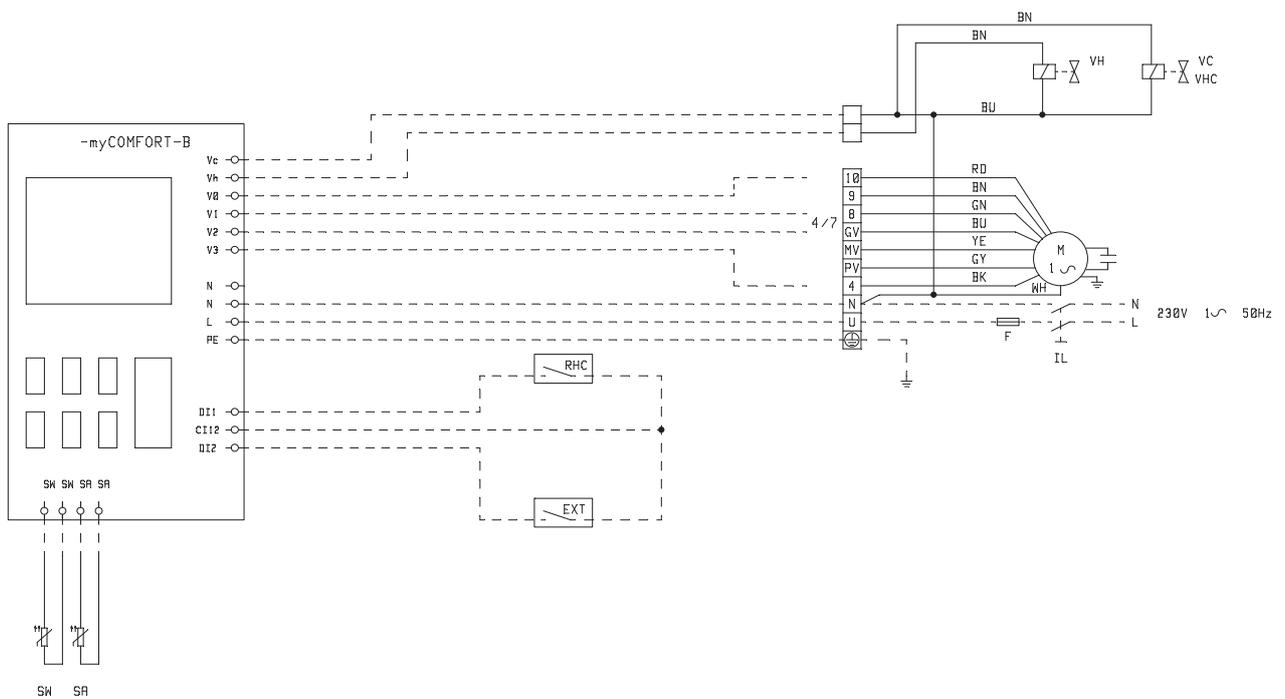
WH(M): White = Neutral
BK(M): Black
BU(M): Blue
GY(M): Grey
RD(M): Red Rojo
WH(VC/H): White = valve actuator neutral

» 12.18



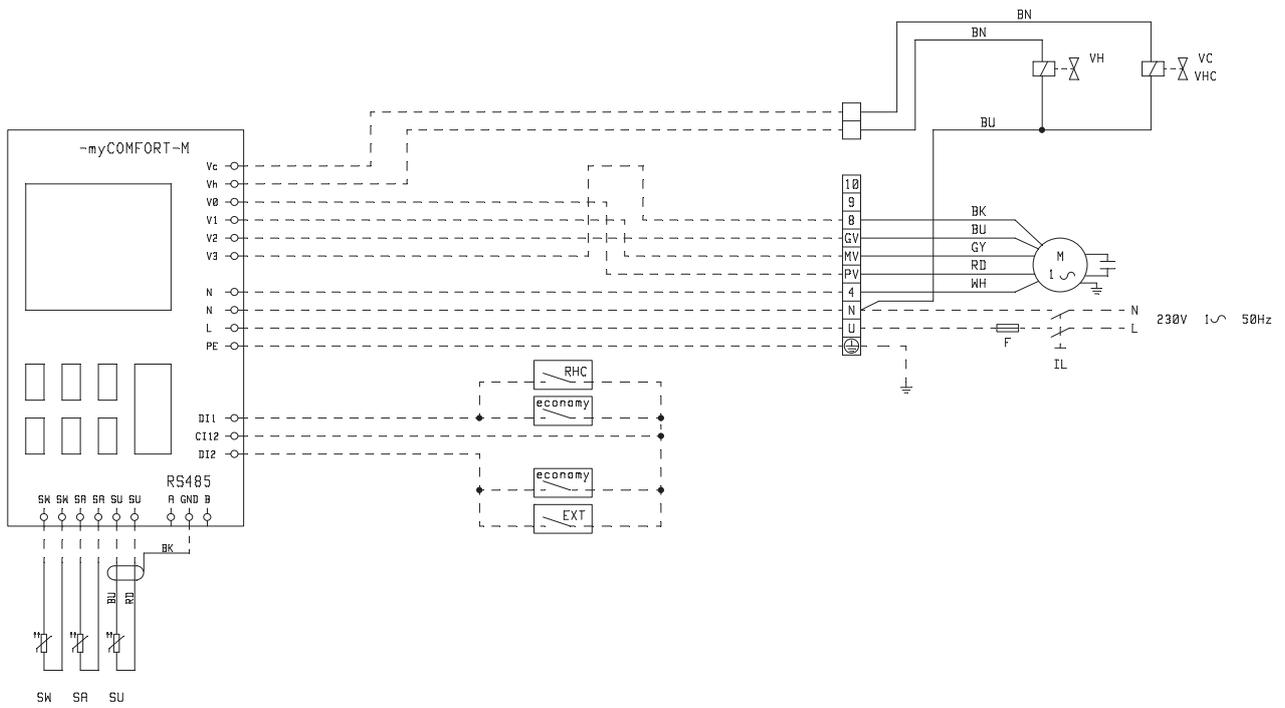
- WH(M):** White = Neutral
- BK(M):** Black
- BU(M):** Blue
- GY(M):** Grey
- BN(M):** Brown
- VT(M):** Purple
- RD(M):** Red
- BN (VC/H):** Brown = valve actuator line
- BU (VC/H):** Blue = valve actuator neutral

» 12.19



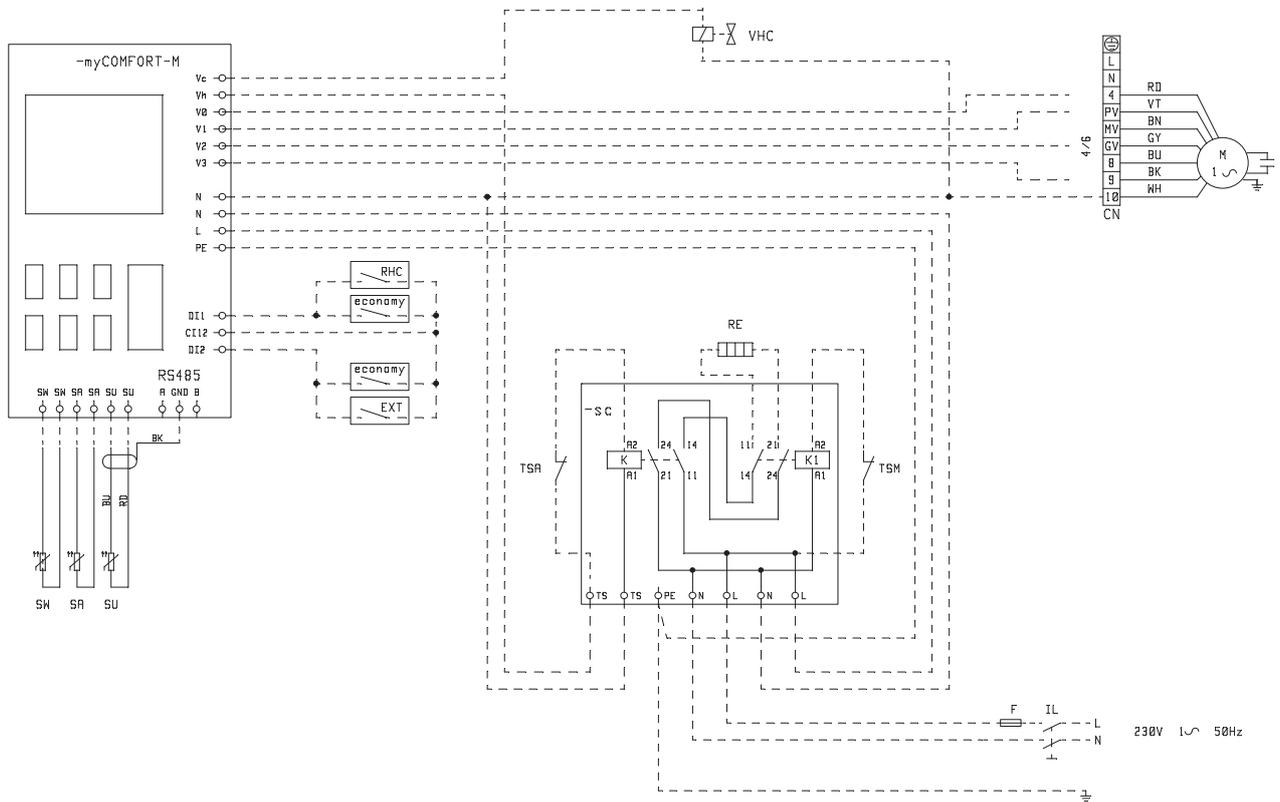
- WH(M):** White = Neutral
- BK(M):** Black
- GY(M):** Grey
- YE(M):** Yellow
- BU(M):** Blue
- GN(M):** Green
- BN(M):** Brown
- RD(M):** Red
- BN (Vc/H):** Brown = valve actuator line
- BU (Vc/H):** Blue = valve actuator neutral

» 12.20



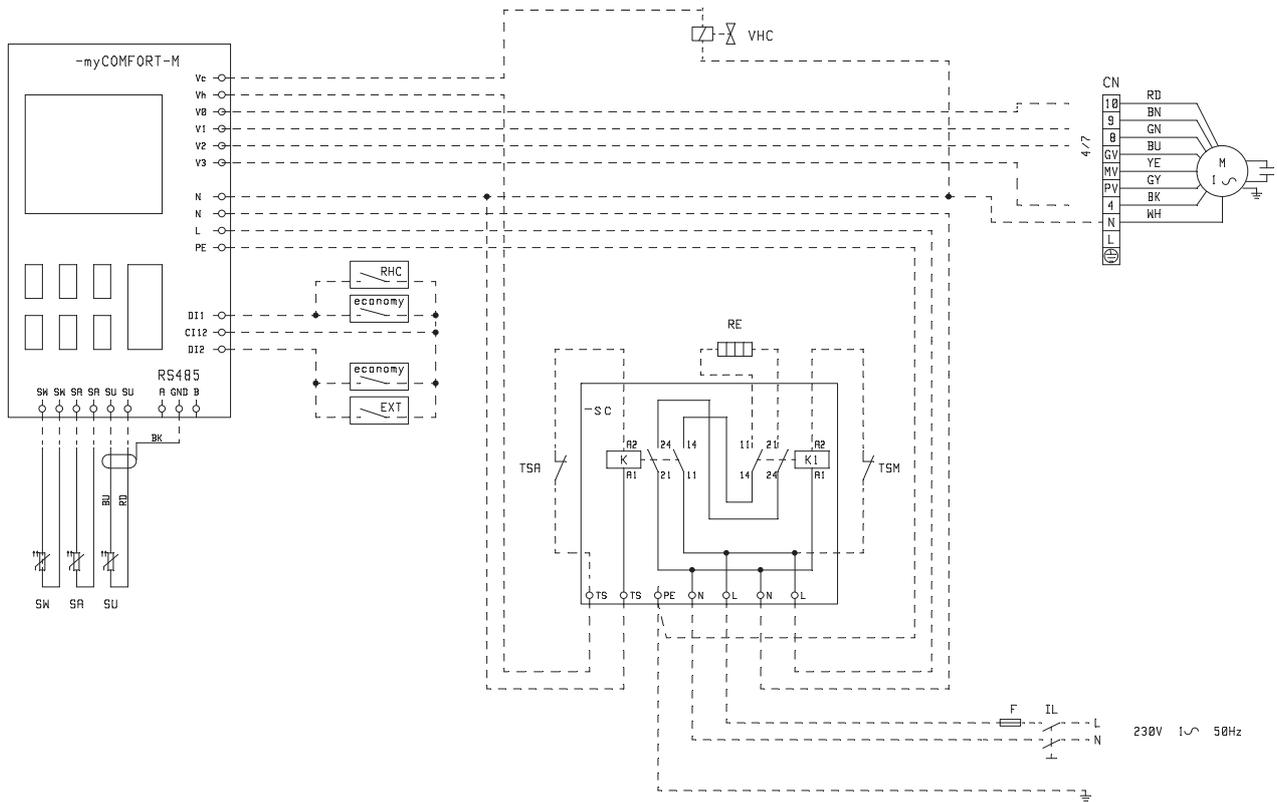
WH(M): White = Neutral
BK(M): Black
BU(M): Blue
GY(M): Grey
RD(M): Red
BN (VC/H): Brown = valve actuator line
BU (VC/H): Blue = valve actuator neutral

» 12.21



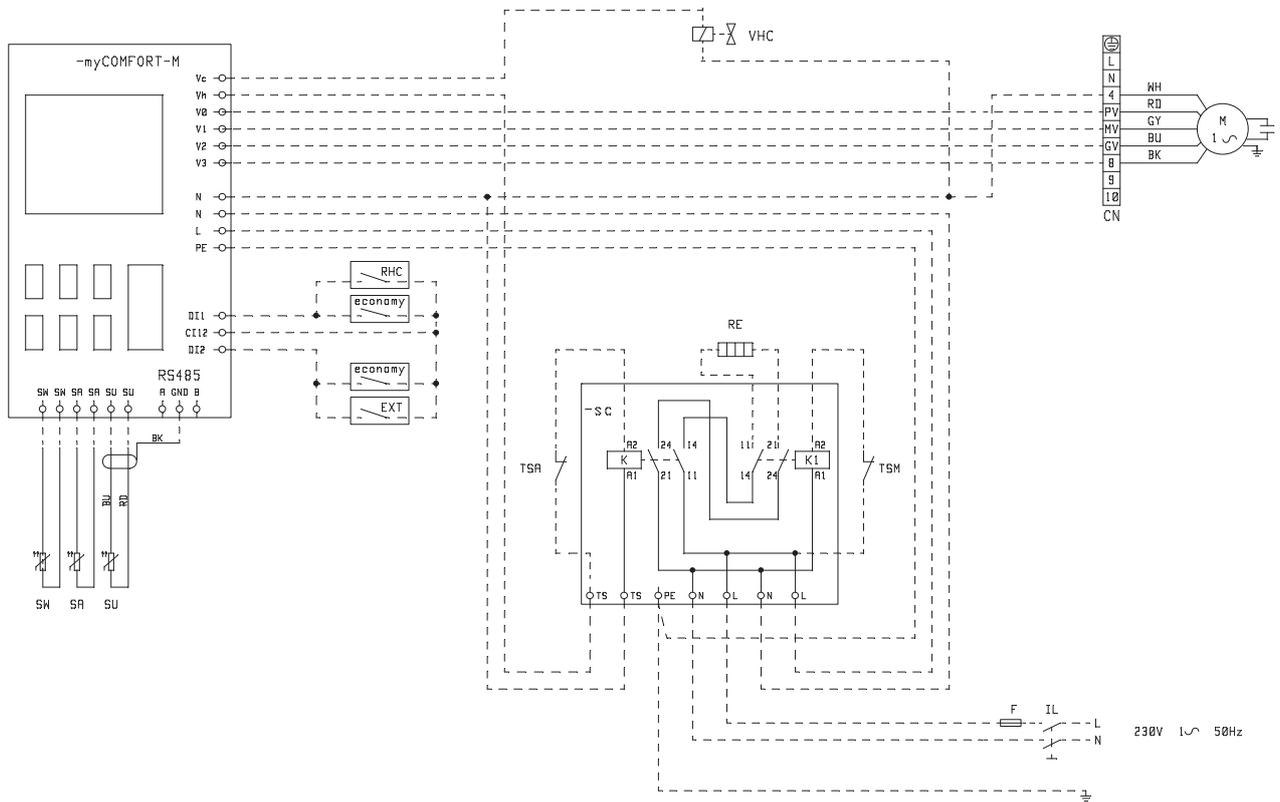
- WH(M):** White = Neutral
- BK(M):** Black
- BU(M):** Blue
- GY(M):** Grey
- BN(M):** Brown
- VT(M):** Purple
- RD(M):** Red
- BN (VC/H):** Brown = valve actuator line
- BU (VC/H):** Blue = valve actuator neutral

» 12.22

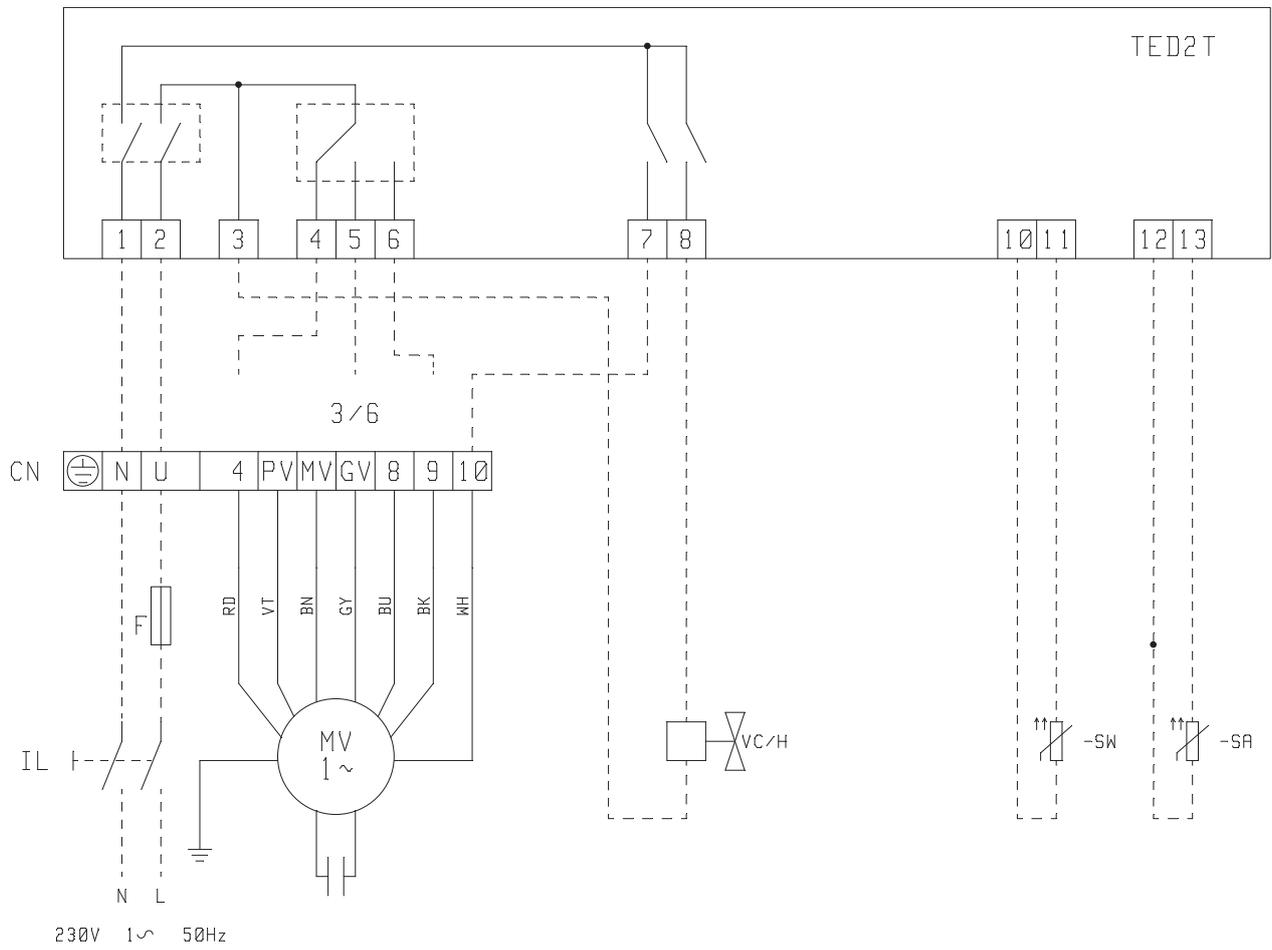


- WH(M)**: White = Neutral
- BK(M)**: Black
- GY(M)**: Grey
- YE(M)**: Yellow
- BU(M)**: Blue
- GN(M)**: Green
- BN(M)**: Brown
- RD(M)**: Red
- BN (VC/H)**: Brown = valve actuator line
- BU (VC/H)**: Blue = valve actuator neutral

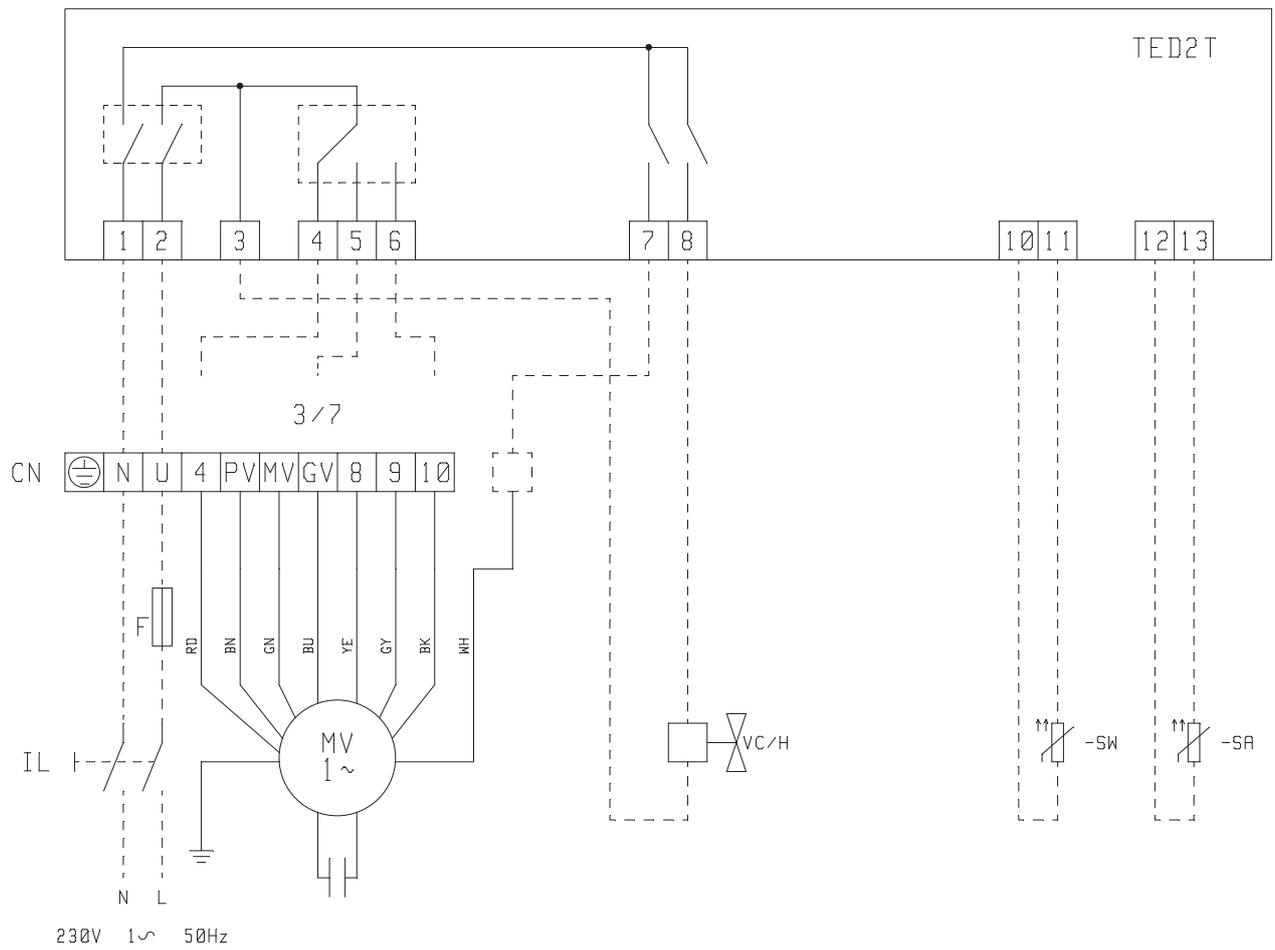
» 12.23



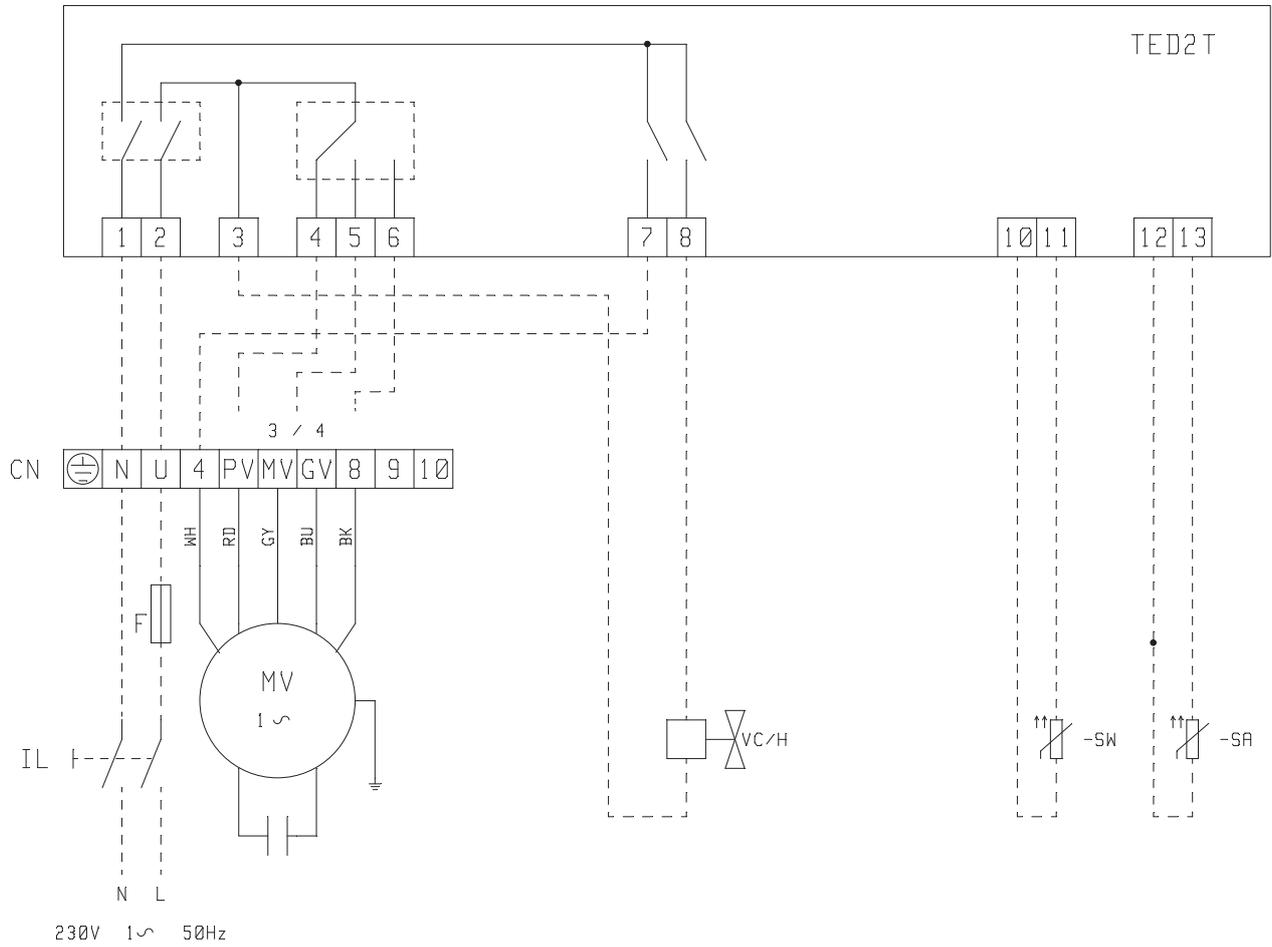
- WH(M):** White = Neutral
- BK(M):** Black
- BU(M):** Blue
- GY(M):** Grey
- RD(M):** Red
- BN (Vc/H):** Brown = valve actuator line
- BU (Vc/H):** Blue = valve actuator neutral



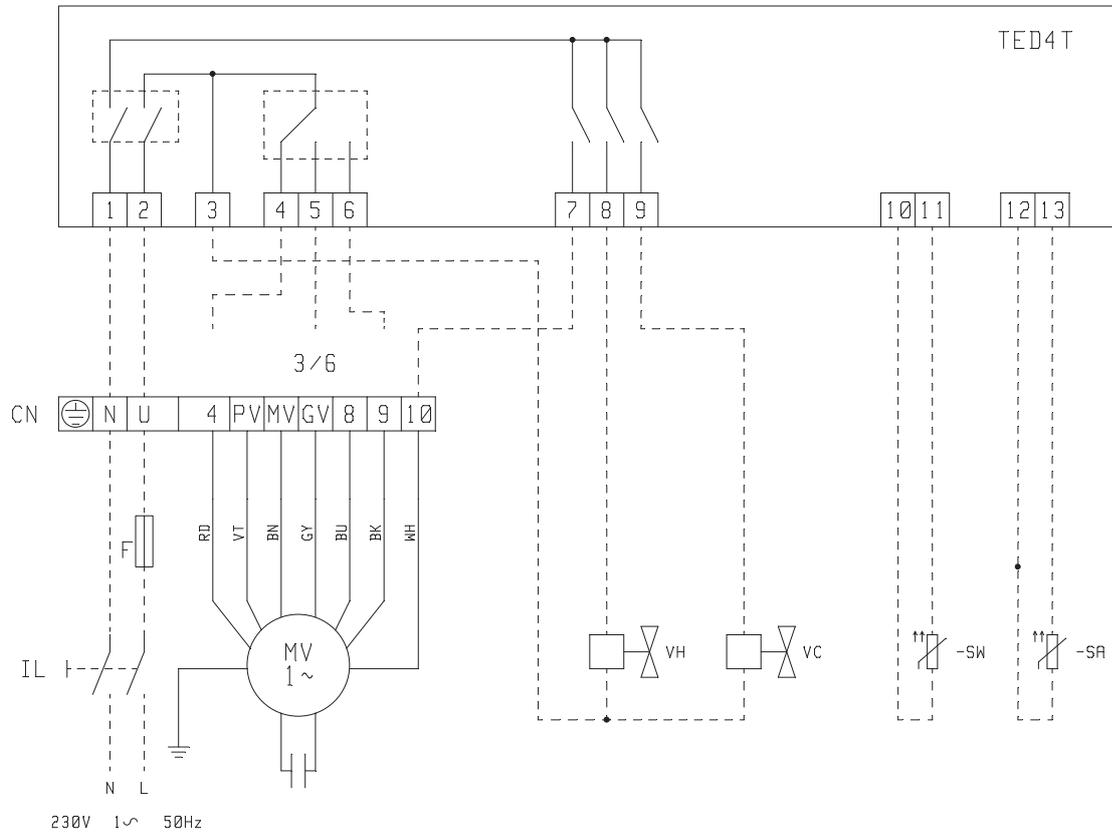
- WH(M):** White = Neutral
- BK(M):** Black
- BU(M):** Blue
- GY(M):** Grey
- BN(M):** Brown
- VT(M):** Purple
- RD(M):** Red
- BN (VC/H):** Brown = valve actuator line
- BU (VC/H):** Blue = valve actuator neutral

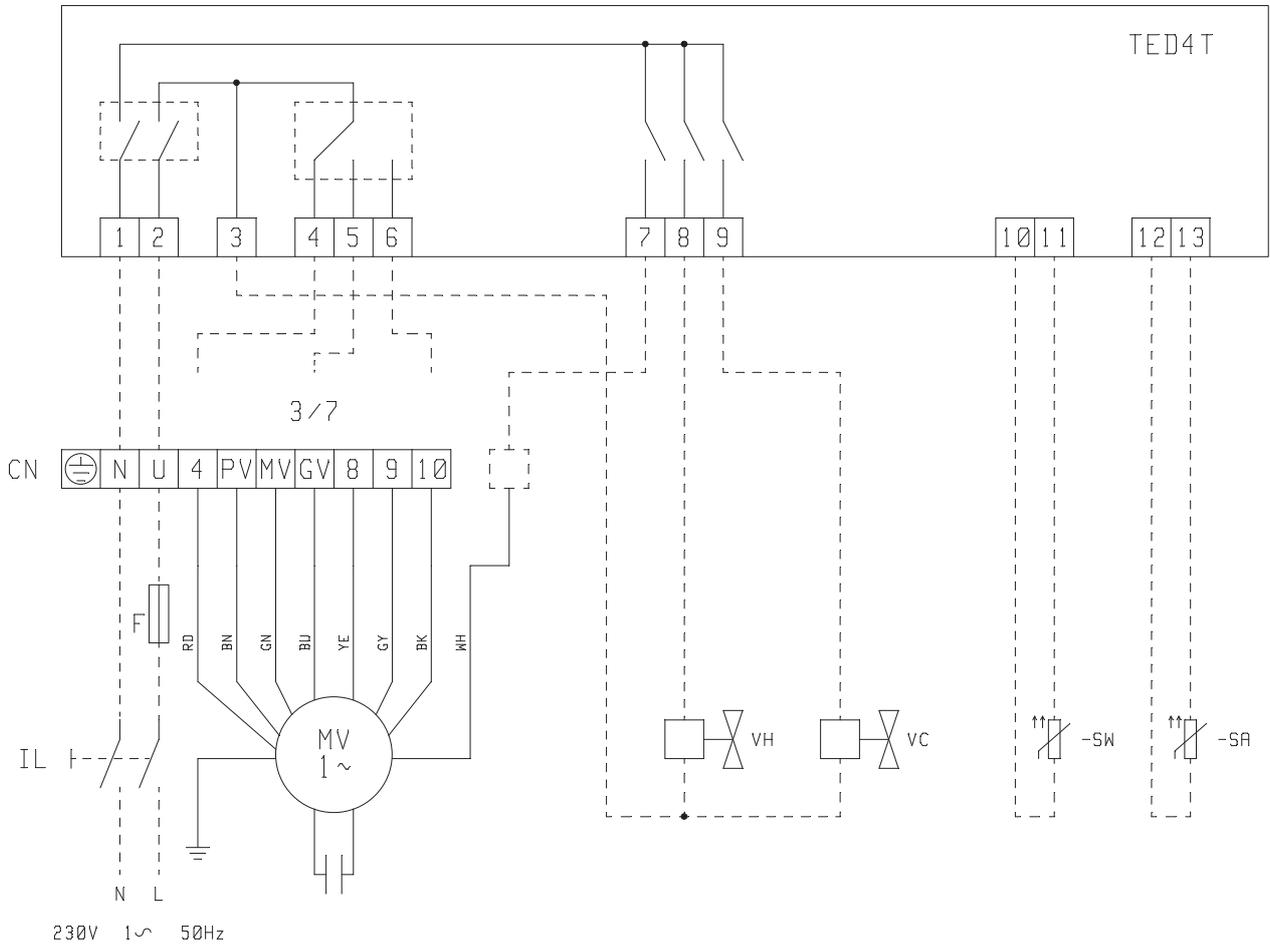


- WH(M):** White = Neutral
- BK(M):** Black
- GY(M):** Grey
- YE(M):** Yellow
- BU(M):** Blue
- GN(M):** Green
- BN(M):** Brown
- RD(M):** Red
- BN (VC/H):** Brown = valve actuator line
- BU (VC/H):** Blue = valve actuator neutral

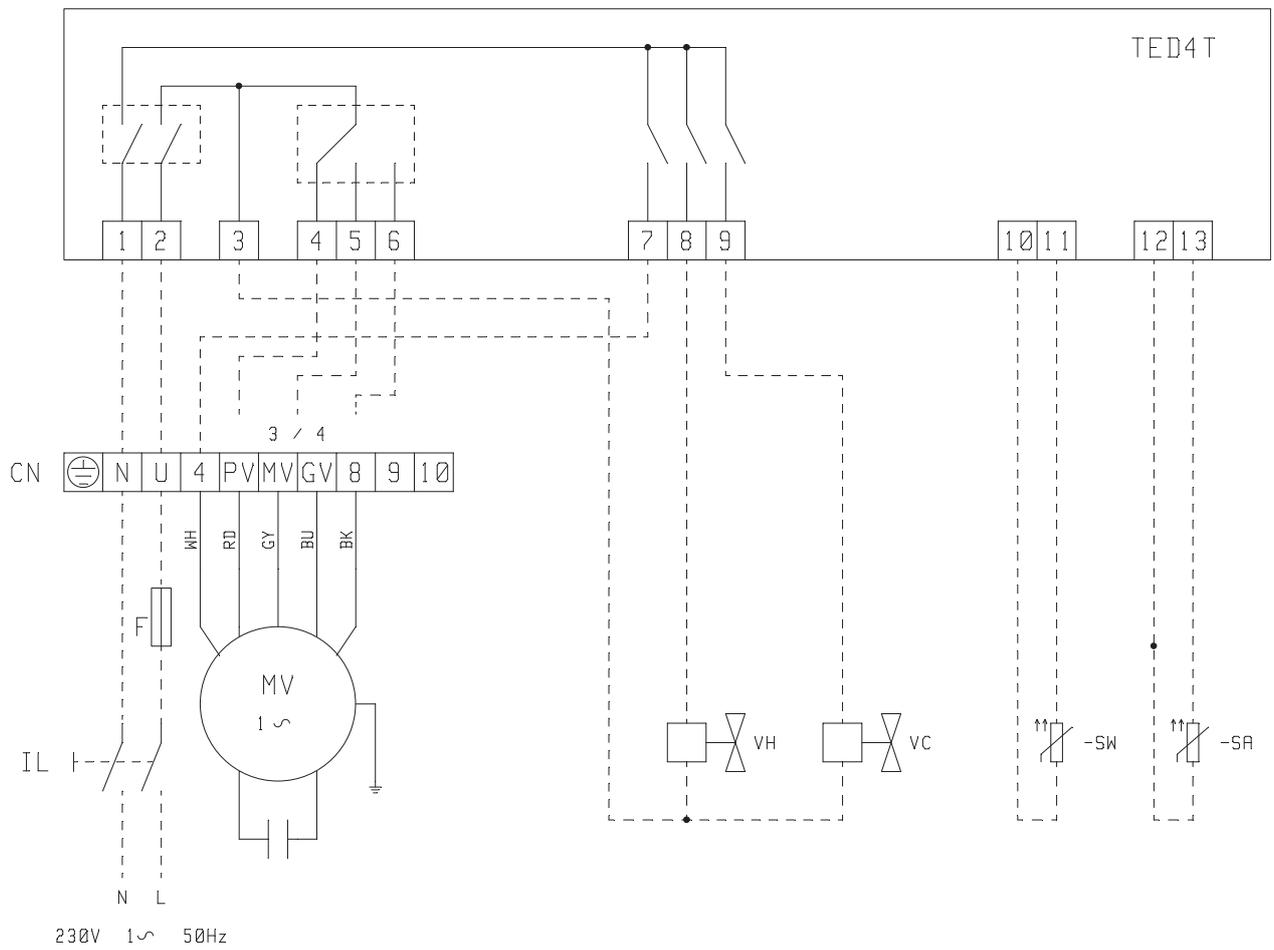


- WH(M):** White = Neutral
- BK(M):** Black
- GY(M):** Grey
- BU(M):** Blue
- RD(M):** Red
- BN (VC/H):** Brown = valve actuator line
- BU (VC/H):** Blue = valve actuator neutral



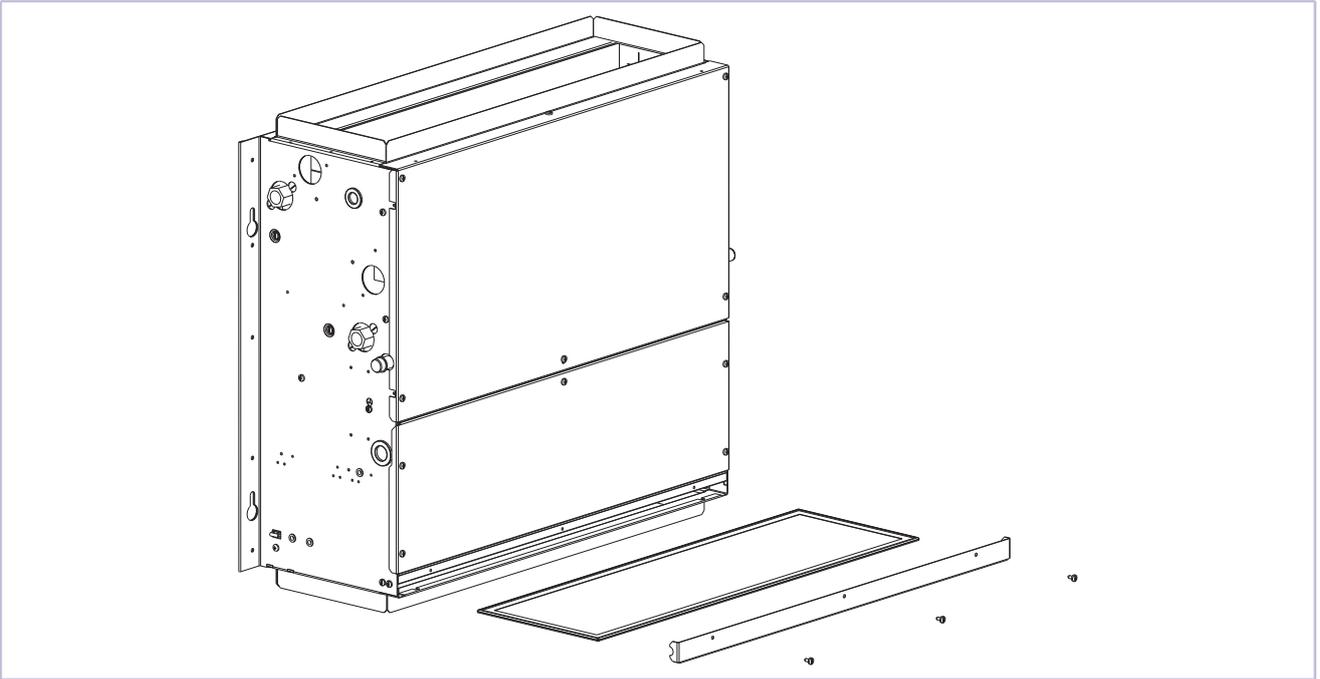


- WH(M):** White = Neutral
- BK(M):** Black
- GY(M):** Grey
- YE(M):** Yellow
- BU(M):** Blue
- GN(M):** Green
- BN(M):** Brown
- RD(M):** Red
- BN (VC/H):** Brown = valve actuator line
- BU (VC/H):** Blue = valve actuator neutral

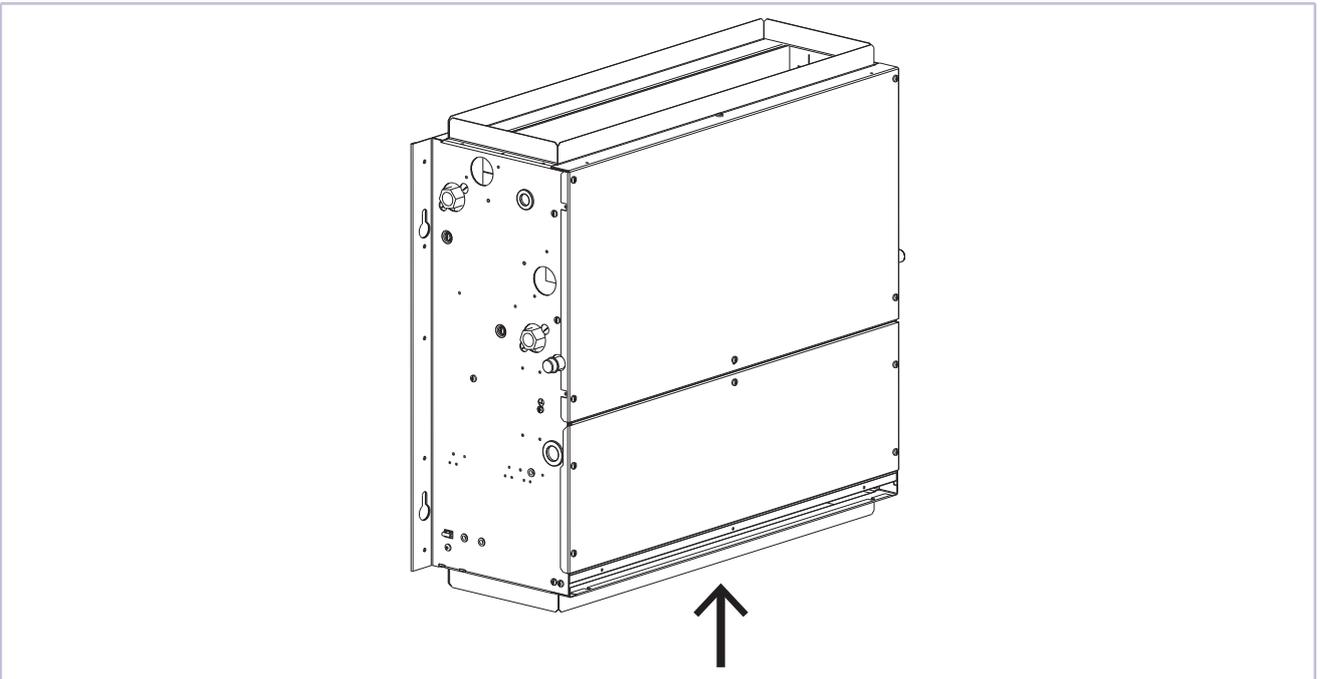


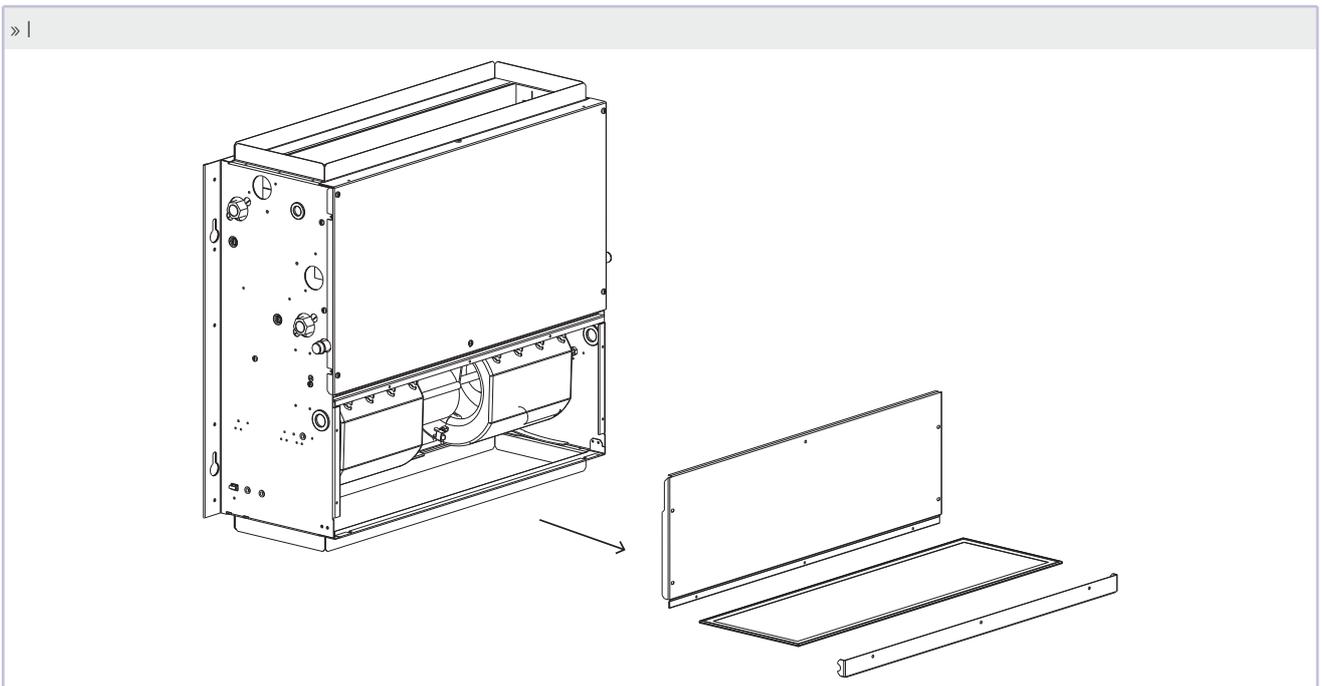
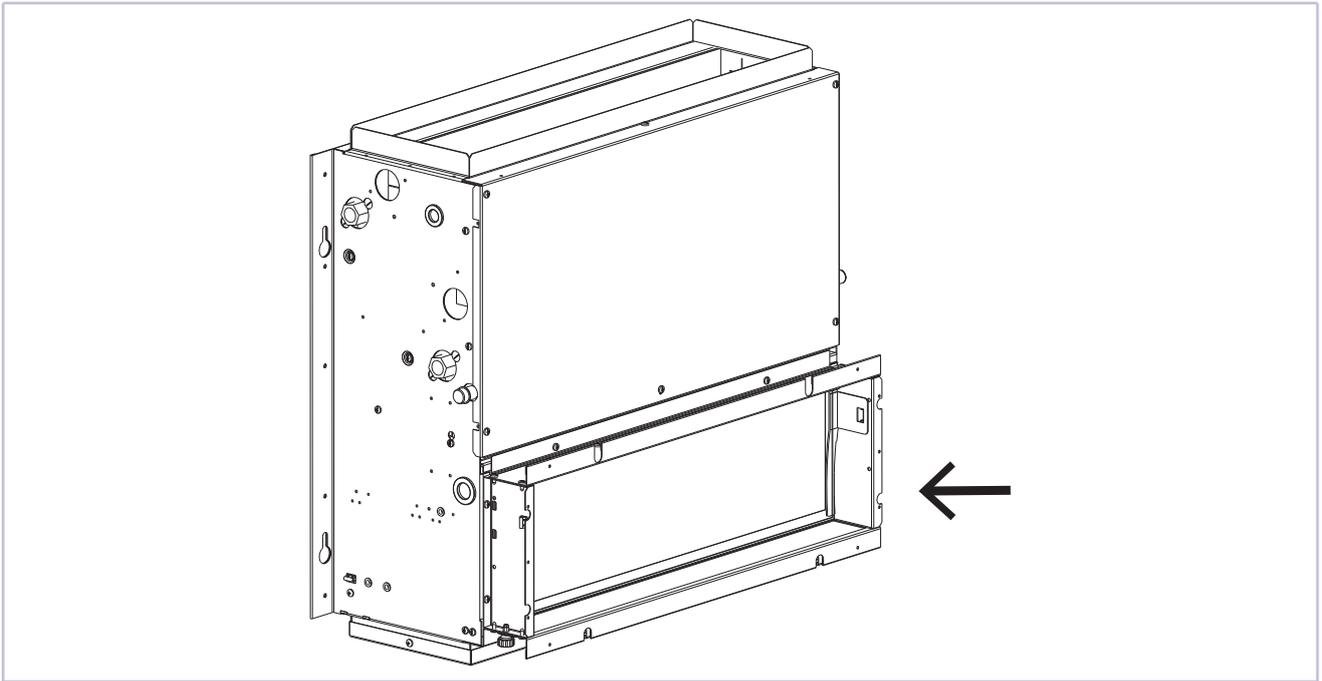
- WH(M):** White = Neutral
- BK(M):** Black
- GY(M):** Grey
- BU(M):** Blue
- RD(M):** Red
- BN (VC/H):** Brown = valve actuator line
- BU (VC/H):** Blue = valve actuator neutral

» Cleaning the air filter

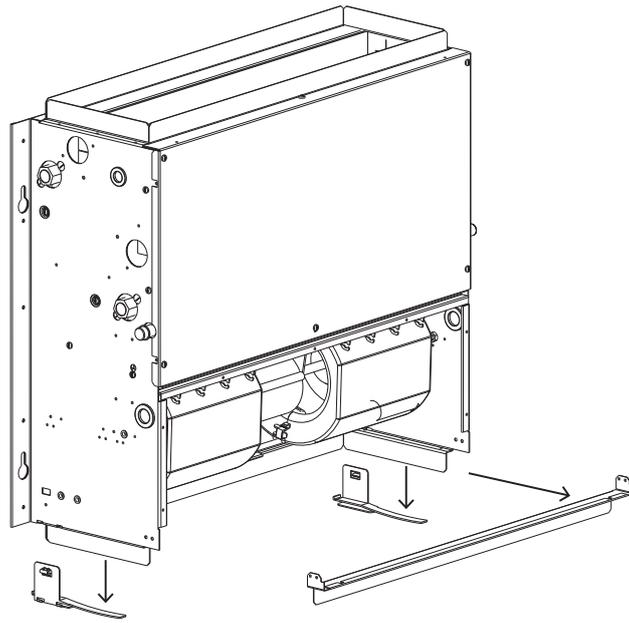


» MAFO standard air intake

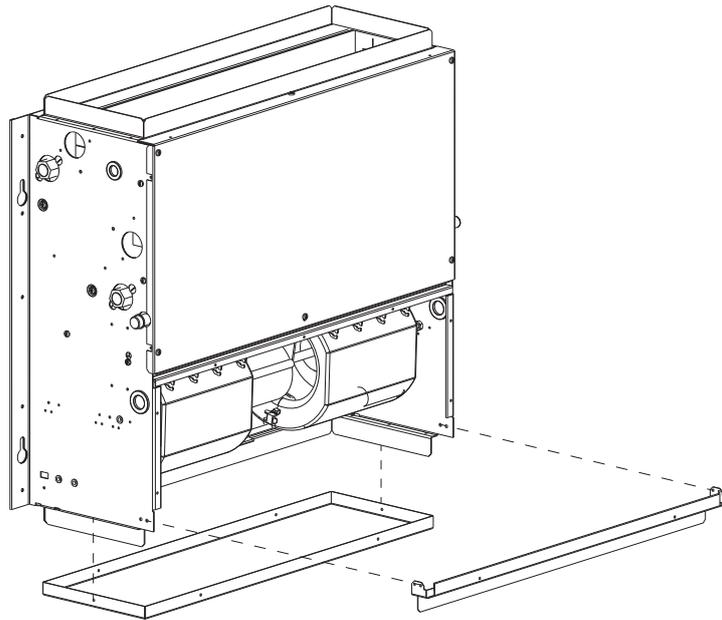




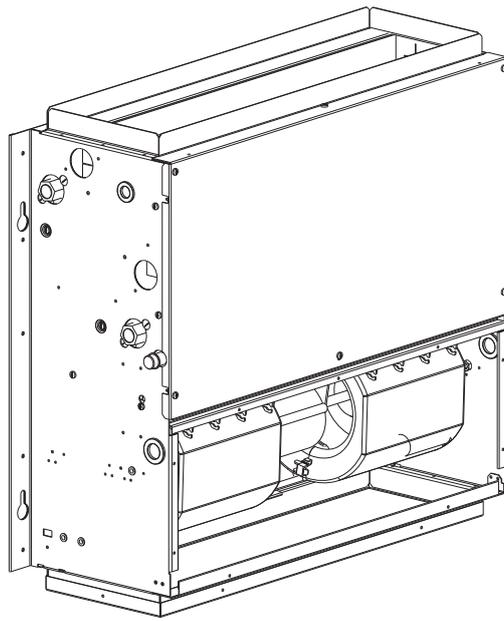
» II



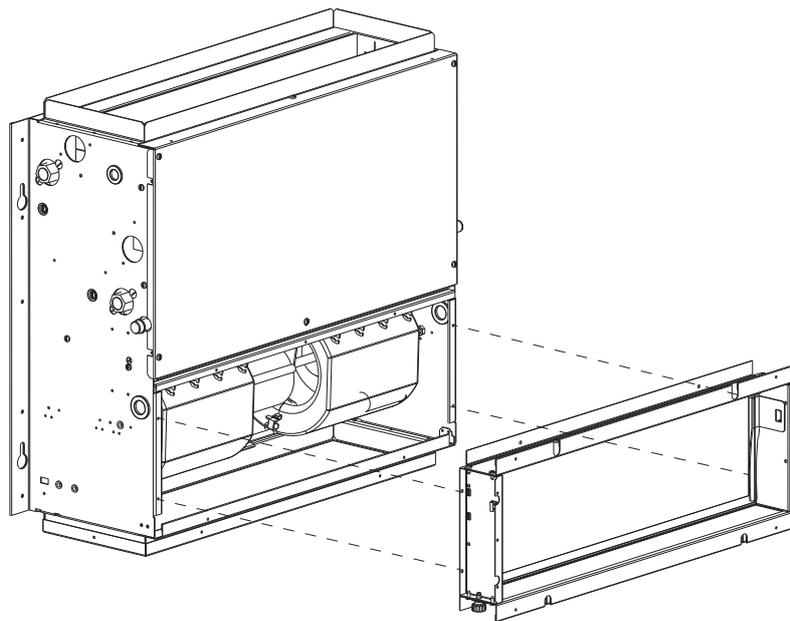
» III



» IV

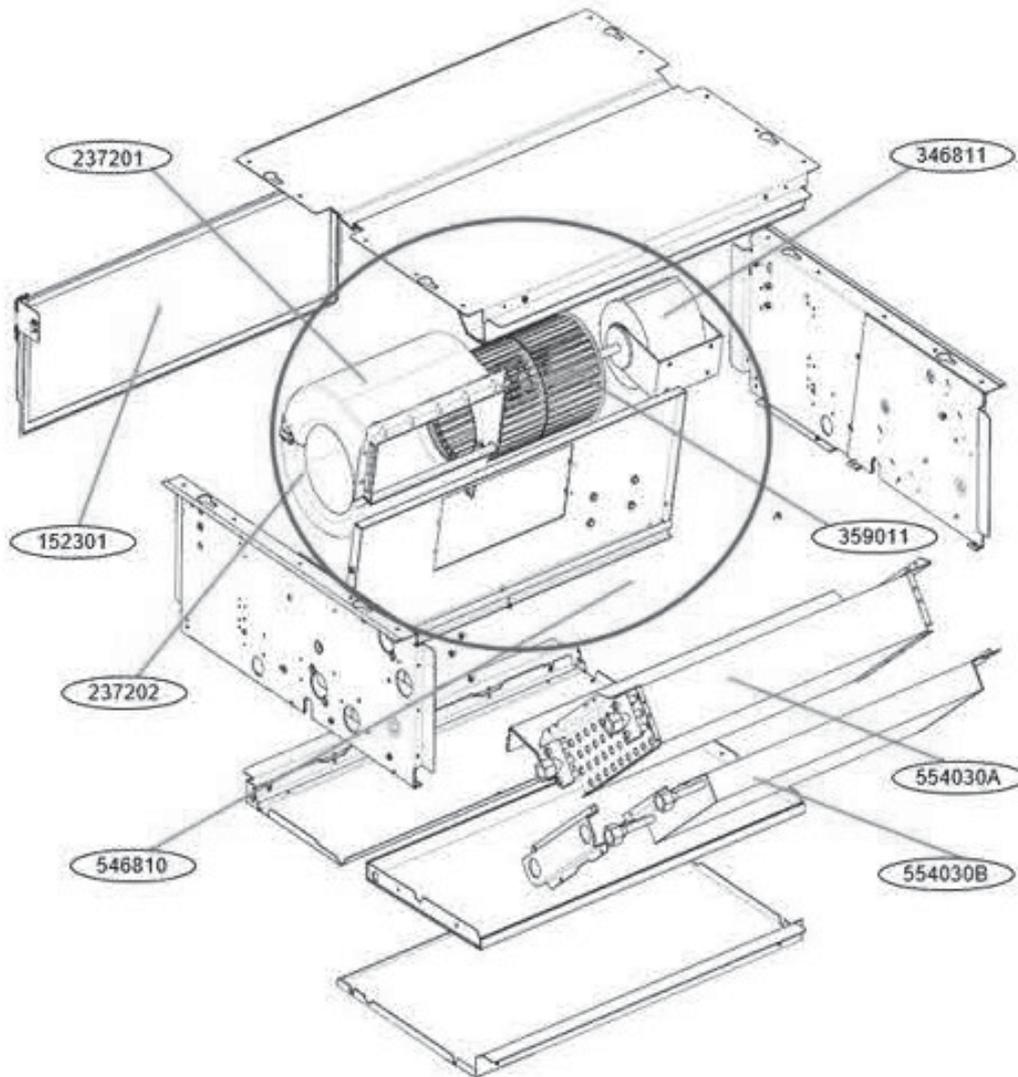


» V



11 EXPLODED VIEW AND REPLACEMENT PARTS LIST

Duct unit VFY Models



Location NO	Legenda
346811	Fan motor
359011	Fan propeller
554030A	Main heat exchanger (Cold Coil)
237201	Volute Back
237202	Volute front
152301	Air Filter
546810	Fan assembly
554030B	4 pipe exchanger(heat coil)

11 EXPLODED VIEW AND REPLACEMENT PARTS LIST

Duct unit VFY Models

- 2pipe

Location No.	346811	359011	554030A	237201	237202	152301	546810	554030B
Model Name	P/No	P/No						
VF06YPL	COV36927001	COV36927002	COV36927003	COV36927004	COV36927005	COV36927006	COV36927007	N/A
VF07Y1L	COV36927008	COV36927009	COV36927003	COV36927010	COV36927011	COV36927006	COV36927012	
VF08Y1L	COV36927008	COV36927009	COV36927013	COV36927010	COV36927011	COV36927006	COV36927012	
VF10Y1L	COV36927008	COV36927009	COV36927014	COV36927010	COV36927011	COV36927015	COV36927016	
VF15Y1L	COV36927017	COV36927009	COV36927023	COV36927010	COV36927011	COV36927019	COV36927020	
VF18Y1L	COV36927017	COV36927009	COV36927018	COV36927010	COV36927011	COV36927019	COV36927020	
VF24Y0L	COV36927021	COV36927022	COV36927023	N/A	N/A	COV36927019	COV36927024	
VF06YPR	COV36927001	COV36927002	COV36927003	COV36927004	COV36927005	COV36927006	COV36927007	
VF07Y1R	COV36927008	COV36927009	COV36927003	COV36927010	COV36927011	COV36927006	COV36927012	
VF08Y1R	COV36927008	COV36927009	COV36927013	COV36927010	COV36927011	COV36927006	COV36927012	
VF10Y1R	COV36927008	COV36927009	COV36927014	COV36927010	COV36927011	COV36927015	COV36927016	
VF15Y1R	COV36927017	COV36927009	COV36927023	COV36927010	COV36927011	COV36927019	COV36927020	
VF18Y1R	COV36927017	COV36927009	COV36927018	COV36927010	COV36927011	COV36927019	COV36927020	
VF24Y0R	COV36927021	COV36927022	COV36927023	N/A	N/A	COV36927019	COV36927024	

- 4 pipe

Location No.	346811	359011	554030A	237201	237202	152301	546810	554030B
Model Name	P/No							
VF06YPL	COV36927001	COV36927002	COV36927003	COV36927004	COV36927005	COV36927006	COV36927007	COV36927025
VF07Y1L	COV36927008	COV36927009	COV36927003	COV36927010	COV36927011	COV36927006	COV36927012	COV36927025
VF08Y1L	COV36927008	COV36927009	COV36927013	COV36927010	COV36927011	COV36927006	COV36927012	COV36927025
VF10Y1L	COV36927008	COV36927009	COV36927014	COV36927010	COV36927011	COV36927015	COV36927016	COV36927026
VF15Y1L	COV36927017	COV36927009	COV36927023	COV36927010	COV36927011	COV36927019	COV36927020	COV36927027
VF18Y1L	COV36927017	COV36927009	COV36927018	COV36927010	COV36927011	COV36927019	COV36927020	COV36927027
VF24Y0L	COV36927021	COV36927022	COV36927023	N/A	N/A	COV36927019	COV36927024	COV36927027
VF06YPR	COV36927001	COV36927002	COV36927003	COV36927004	COV36927005	COV36927006	COV36927007	COV36927025
VF07Y1R	COV36927008	COV36927009	COV36927003	COV36927010	COV36927011	COV36927006	COV36927012	COV36927025
VF08Y1R	COV36927008	COV36927009	COV36927013	COV36927010	COV36927011	COV36927006	COV36927012	COV36927025
VF10Y1R	COV36927008	COV36927009	COV36927014	COV36927010	COV36927011	COV36927015	COV36927016	COV36927026
VF15Y1R	COV36927017	COV36927009	COV36927023	COV36927010	COV36927011	COV36927019	COV36927020	COV36927027
VF18Y1R	COV36927017	COV36927009	COV36927018	COV36927010	COV36927011	COV36927019	COV36927020	COV36927027
VF24Y0R	COV36927021	COV36927022	COV36927023	N/A	N/A	COV36927019	COV36927024	COV36927027

VFZ models

DECLARATION OF CONFORMITY

LG Electronics whose main office is LG Electronics European Shared Service Center B.V. Krijgsman 1, 1186 DM Amstelveen, The Netherlands by declares, under its sole responsibility, that the VF fan coil, models VFL, VFU, VFC, VFY and VFX are produced in accordance to: 2006/42/EC, 2014/30/UE, 2014/35/UE.
Compliance has been verified with reference to the following standards: EUROPEAN STANDARDS FOR LOW VOLTAGE DIRECTIVE (safety)

- EN60335-1:2012
- EN60335-2-40:2003+ A11:2004+ A12:2005+ A1:2006+ A2:2009 (Remark: 60335-2-40 Annex ZE for Machine Directive)
- EN60335-1:2002+ A1:2004+ A11:2004+ A12:2006+ A2:2006 + A13:2008+ A14:2010 +A15:2011
- EN50366:2003+A1:2006

EUROPEAN STANDARDS FOR ELECTROMAGNETIC COMPATIBILITY (EMC)

- EN55014-1:2006+ A1:2009+ A2:2011
- EN55014-2:1997+A1:2001+ A2:2008
- EN61000-3-2:2006+A1:2009+A2:2009
- EN61000-3-3:2008

This declaration covers also all the available accessories and options only if installed in accordance to their own mounting instructions

11, November. 2021
Jeong Won Lee
Director



Carefully read this handbook



ATTENTION



DANGER VOLTAGE

1 BEFORE INSTALLING THE EQUIPMENT

Read this manual carefully.

The equipment is to be installed and serviced exclusively by technical personnel who are qualified for using this type of machine, conforming to the prevailing regulations. On receiving the equipment, check its state ensuring that it was not damaged during transport. Refer to the associated technical sheets for the installation and use instructions of any accessories.

2 INTENDED CONDITIONS OF USE AND OPERATING LIMITS

No responsibility is assumed by LG Electronics, if the equipment is installed by unqualified personnel, if it is used improperly or under inadmissible conditions, if maintenance is not performed as envisaged in this manual or if original spare parts are not used. The operating limits are outlined at the end of this chapter. Any other use is deemed improper.

Keep the equipment inside the packing until it is ready to be installed so that dust will not infiltrate.

Air sucked by the equipment must always be filtered. Use, when possible, the specific accessories (MA/F, MA/FO).

If not used during the winter, drain the water from the system to prevent damage caused by the formation of ice. If antifreeze solutions are used, check the freezing point.

Do not change the internal wiring or other parts of the equipment.

Equipment designed for ambient air conditioning and intended for use in civil comfort applications

ATTENTION: the unit hasn't dangerous components according to the classification of Regulation 1357/2014.

Thermal carrier: **water**

Water temperature: **+ 5°C to +95°C**

Air temperature: **-20°C to + 43°C**

Power supply voltage: **230 V +/-10 %**

Max. pressure of primary fluid: **10 bar**

Ambient air humidity limit: **RH < 85 % non-condensing**

3 DESCRIPTION OF THE EQUIPMENT

The VFZ model range of air conditioning and hot-air heating units has been implemented for conditioning rooms that require the installation of channeled units. The main components are as follows:

- ✓ **Load-bearing structure**
duly insulated with noise-proof/anticondensing material, self-extinguishing in Class 1. Complete with inspection panels, air delivery panel with round collars (Ø 200 mm), setup for external air inlet and fast-coupling slots.
- ✓ **Heating fan unit** with single or dual fan wheel, dual intake centrifugal type, with statically and dynamically balanced impellers, coupled directly to the **3-speed electric motor**, equipped with permanently fit condenser and thermal safety device.

- ✓ **Terminal strip** for fast-on electrical connection;
- ✓ **Heat exchanger:** high-efficiency, made of copper tube and aluminium fins secured to the tubes by mechanical expansion. They are fit with brass manifolds and air valves. The heat exchanger, normally supplied with left-hand attachments, may be turned 180°.
- ✓ System for collecting and **discharging condensate** setup either for ceiling or wall mounting. All VFZ model range models may be installed either in **horizontal** or **vertical** position.

FIGURE 1 (page. 71) – example for installation by means of channels

1. VFZ model Unit
2. Intake module with air filter (accessory)
3. Anti-vibrating joint (accessory)
4. 90° air recycle elbow (accessory)
5. Channel connection panel (accessory)
6. Air intake grid (accessory)
7. Air delivery grid (accessory)
8. False ceiling

FIGURE 2 (page. 71) - example for installation by means of flexible tube

1. VFZ model Unit
2. Intake module with air filter (accessory)
3. Non-insulated flexible intake tube (accessory)
4. Intake box with beehive grid (accessory)
5. Connection panel with flexible tubes (accessory)
6. Insulated delivery flexible tube (accessory)
7. Delivery box with 2-way orientable grid (accessory)
8. False ceiling

4 SIZE DATA

Refer to the drawings shown at the end of this manual

Figure	Description
3-4	Standard unit (page. 72,73)
5	MA/F: intake module with flat filter class G2 (page. 74)
	MA/FO: intake module with corrugated filter class G4 (page. 74)
6	PCO/C: channel connection panel (rectangular section flange) (page. 74)
7	PCO/F: flexible tube connection panel (round collars Ø 200 mm)(page. 75)

*: R-H = sizes related to right-hand hydraulic attachments
L-H = sizes related to left-hand hydraulic attachments

5 INSTALLATION

⚠ WARNING: On the thermal-ventilating unit install a switch (IL) and/or all remote controls in a position out of the reach of persons who are in a bathtub or shower. The Z model air conditioning and hot-air heating units may be installed either in horizontal or vertical position. Check that the desired installation complies with one of the diagrams shown in FIGURE 8(page.75), in which both possible configurations, AA or AB, are suitable to work for heating and cooling.

⚠ WARNING: In normal operation, particularly with the fan at minimum speed and ambient air with high relative humidity, condensation may form on the air outlet and on some external parts of the unit. To avoid such issues while always remaining within the operating limits envisaged for the unit, it is necessary to limit the inlet temperature of the water inside the heat exchanger. In particular, the difference between the air dew point (TA,DP) and the inlet water temperature (TW) must NOT exceed 14 °C, according to the following relationship: $TW > TA, DP - 14 \text{ } ^\circ\text{C}$

Example: in the case of ambient air at 25 °C with 75 % relative humidity, the dew point value is about 20 °C and, therefore, the average temperature of the water in the coil must be greater than $20 - 14 = 6 \text{ } ^\circ\text{C}$ in order to avoid condensation issues.

In the event the indoor unit is stopped for a prolonged period, with the fan stopped and circulation of cold water in the heat exchanger, condensation may also form on the unit's exterior. In this case it is advisable to install the 3-way (or 2-way) valve accessory in order to stop the flow of water in the coil when the fan is stopped.

Fig. 8(page. 75): HORIZONTAL or VERTICAL INSTALLATION

AA (INTAKE IN LINE – DELIVERY IN LINE):

AB (AIR SUCTION AT 90° - AIR OUTLET IN LINE):

- CONFIGURATION of the unit

The units are always supplied in AA configuration, but the air intake position may be changed during the installation.

If the installation differs from the supply terms, the layout must be changed by dismantling the unit as shown in FIG. 9(page. 76);

Note: Regardless of the part, the following is understood:

A= supply terms,

B= changeable during installation

It is advisable to install any accessories on the standard equipment, before positioning it, referring to the technical sheets. The sections of the intake and delivery pipes are rectangular, drilled with holes for fixing the available accessories. A round pre-sheared element (\varnothing 100 mm) is present on both side panels of the unit for the direct inlet of the external air.

- ✓ To implement the rectangular-section **channel-type connection** use accessory **PCO/C**, which may be fit either at intake or at delivery.
NOTE: 2 PCO/C accessory panels are required for implementing the intake and delivery with channels.
- ✓ To implement the **flexible tube-type connection**, use accessory **PCO/F**, which is fitted directly on the machine's intake inlets, by means of drilling.
NOTE: 2 PCO/F accessory panels are required for implementing the intake and delivery with flexible tubes.

It is possible to **orient the exchanger's attachments** on the opposite side as follows (FIGURE 9, page. 76)):

- remove the upper and lower closing panels.
- remove the condensate tank for the horizontal installation.
- loosen the 4 fixing screws of the motor support, **without unscrewing them all the way**.
- remove the heat exchanger by unscrewing the 4 fastening screws, pull it out and turn it; eliminate the pre-sheared elements on the opposite side panel, reinsert the heat exchanger and tighten the screws.
- reassemble the previously listed components.
- stop the outlet holes of the previously used manifolds with **anticondensing insulating material**.

- FIXING the unit

Fix the standard unit to the ceiling or wall using at least 4 of the 6 slots;

- ✓ For **horizontal installations** (ceiling-mounting) it is advisable to use 8MA threaded bars, screw anchors suitable for the machine's weight, and to arrange for the positioning of the machine using 2 8MA bolts and a washer the diameter of which is suitable for inserting the slot and for then fixing the unit.
Before tightening the check nut, adjust the closing of the main nut so that the equipment will slant correctly, i.e. for facilitating the discharging of the condensate (FIGURE 10). (page. 75)
The correct slant is achieved by tilting the intake downwards as compared to the delivery, until a difference in level of about 10 mm is obtained from one end to the other. Make the hydraulic connections with the heat exchanger and, for cooling operations, with the condensate discharge.
Use one of the two drains of the auxiliary tank, visible on the outside of the unit's side panels. Fig. 3-4: horizontal (tank) and vertical condensate discharge. (page. 72,73)
- ✓ For **vertical installations** (wall-mounting), fix the unit so that water may flow out toward the condensate discharge used. A slant equivalent to a difference in level of about 5 mm is enough between the two side panels.
The two condensate discharge tubes of the main tank are located inside the side panels and may be accessed through a membrane type raceway that should be etched for passing the discharge tube through it.
It is advisable not to remove the aforesaid raceway because it prevents the sharp edge of the hole on the side panel from damaging the condensate discharge tube over time.
- ✓ To connect the unit to the condensate discharge line, use a flexible rubber tube and fix it to the chosen discharge tube (\varnothing 3/8") by means of a metal clamp (use the discharge that is located on the hydraulic attachments side).
To assist the draining of the condensate, slant the discharge tube downwards by at least 30 mm/m making sure that its entire route is clear and free from bends or blockages.

- A few rules to follow

- ✓ Carry out the heat exchanger's air exhaust, with pumps stopped, by means of the air valves located adjacent to the attachments of the heat exchanger itself.
- ✓ When implementing a channel-type system, it is advisable to place the vibration-damping joints (available as accessory GA) between the channeling and the

unit.

- ✓ If you wish to install an electrical resistance module (KER) as accessory, the delivery vibration-damping joint should be heat-resistant (accessory GA-T).
- ✓ The channeling, especially the delivery one, should be insulated with anticondensing material.
- ✓ Envisage an inspection panel adjacent to the equipment for the maintenance and cleaning operations.
- ✓ The unit must be installed on the basis of design and technical considerations, carrying out an aeraulic assessment and considering the BACK PRESSURE offered by the PIPING applied to the outlet to avoid the problem of failure to change speed: this responsibility cannot fall on the product but on the installation;
- ✓ Install the unit with the appropriate inspection hatches for routine and special maintenance of the fan coils: for mechanical, electrical and hydraulic replacement;
- ✓ Install the control panel on the wall. Choose a position that is easy to access for the setting of the functions and, if contemplated, for the reading of the temperature. Try to avoid positions that are directly exposed to sun rays, or positions subject to direct hot or cold air currents, and do not place obstacles in the way that would prevent the correct reading of the temperature.

6 ELECTRICAL CONNECTIONS

Make the electrical connections with voltage OFF, conforming to the prevailing safety regulations.

Exclusively qualified personnel should carry out the wiring operations. **Each fan-coil thermal-ventilating unit requires a switch (IL) on the feeder line with a distance of at least 3 mm between the opening contacts, and a suitable safety fuse (F).** Power consumption is shown on the data plate fixed to the unit.

During the installation procedure, closely adhere to the wiring diagram associated with the unit-control panel combination. The diagrams are in the technical sheets supplied with every accessory.

In order to make the electrical connections you must remove the lower closing panel (figure 9, page. 76) to access the fast-on terminal strip.

The power cables (power supply and control) must be routed to the terminal strip through the membrane raceway that is on the side panel of the machine on the side opposite the hydraulic attachments.

- FIG. 11 (page. 75): VFZ model wiring diagram without control panel.

The hatched connections are at the care of the installer.

The motors of the units run at 3 speeds.

⚠ WARNING: The COMMON wire of the motor is the WHITE one: if connected incorrectly the motor would be damaged irreparably.

The key is as follows with reference to Figure 11 (page. 75):

IL Line switch (not supplied)
F Safety fuse (not supplied)
1/3 1 speed among the 3 available ones
CN Fast-on connector
M Motor
WH White = common wire
BK Black = max. speed
BU-GY Blue(gray) = average speed
RD Red = min. speed
GNYE GreenYellow = earth

7 FUNCTIONAL CHECKS

Check that the equipment has been installed so that it guarantees the required slant.

Check that the condensate discharge is not clogged (by rubble deposits, etc.).

Check the seal of the hydraulic connections.

Check that all the wirings are tight (perform the check with voltage OFF).

Make sure air has been eliminated from the heat exchanger.

Power the equipment and check its working efficiency.

8 MAINTENANCE

The maintenance operations for the VFZ model air conditioning and hot-air heating units are limited to the periodic cleaning of the air filter (provided on MA/F and MA/FO accessories) and the heat exchanger, and the checking of the working efficiency of the condensate discharge.

Only skilled personnel may perform the aforesaid maintenance.

Pay utmost attention during the maintenance operations: accidentally coming into touch with some of the metallic parts might cause injuries therefore wear safety work gloves.

Every time the units are started after long dwell times, make sure that air is NOT present inside the heat exchanger.

The motor is maintenance-free since it is equipped with self-lubricating bearings.

For safety reasons, before performing any maintenance or cleaning operations, turn off the equipment and cut voltage by turning the line switch.

9 CLEANING OF THE AIR FILTER

Cut voltage to the unit by turning the line switch to 0 (OFF).

- When using one of the MA/F or MA/FO filtering modules, access the equipment through the inspection panel and remove the air filter as shown in FIGURE 12.
- Otherwise if the filter is inside the intake grid, remove the grid and carry out the operations described below.

FIGURE 12(page. 75):

- 1- MA/F - MA/FO = Intake modules with filter
- 2- The air filter, secured to the intake module by means of screws, is pulled out like a drawer.

Clean the filter with lukewarm water or, for dry powders, with compressed air. Reinsert the filter after having let it dry.

CLEANING OF THE HEAT EXCHANGER

It is advisable to check the condition of the heat exchanger before the onset of the summer season, checking that the fins are not clogged by impurities. To access the heat exchanger, remove the delivery panel (whether it is the collar or rectangular flange type) and the condensate tank. Upon having accessed the heat exchanger, clean with compressed air or low pressure steam, without damaging the fins of the heat exchanger.

Before operating it in the summer, check that the condensate discharges regularly.

Adequate and regular maintenance means energy conservation and cost saving.

10 TROUBLESHOOTING

If the equipment does not work efficiently, perform the following checks, outlined in the table below, before requesting technical service.

If the problem cannot be solved, contact your nearest dealer or servicing center.

Problem	Cause	Solution
The unit does not work	1 No current 2 The automatic circuit breaker tripped 3 The start switch is set to 0.	1 Supply current 2 Request technical service 3 Start the machine by setting the switch to I
The unit does not heat or cool enough	1 The air filter is dirty or clogged 2 There is an obstacle near the air intake or outlet 3 Air is present inside the heat exchanger 4 Windows and/or doors are open 5 The minimum operating speed has been selected	1 Clean the air filter 2 Remove the obstacle 3 Request installer intervention 4 Shut doors and/or windows 5 Select the average or maximum speed
Water is 'leaking' from the unit	1 The equipment is not installed with the correct inclination 2 The condensate discharge is clogged	1 Request installer intervention 2 Request installer intervention



The appliance is not to be used by children or person with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction. Children being supervised not to play with appliance

Duct unit VFZ Models

RATED TECHNICAL DATA

» 2 pipes

VFZ Model			24			40			54		
Speed			min	med	max	min	med	max	min	med	max
Rated air flow		m ³ /h	1207	1384	1606	1483	1898	2376	2092	2641	3207
Available static pressure		Pa	38	50	67	30	50	78	31	50	74
Total cooling capacity	(1)	kW	6,03	6,63	7,32	8,41	10,1	11,8	11,6	13,8	15,9
Sensible cooling capacity	(1)	kW	4,84	5,39	6,04	6,35	7,75	9,22	8,61	10,4	12,2
Water flow	(2)	l/h	1038	1142	1261	1448	1743	2039	2003	2382	2741
Water pressure drop	(2)	kPa	17	20	24	15	21	29	21	29	37
FCCOOP class			E								
Heating capacity	(3)	kW	7,74	8,52	9,46	10,8	13,0	15,3	15,2	18,0	20,8
Water pressure drop	(3)	kPa	13	16	20	12	17	23	17	23	30
Heating capacity	(4)	kW	6,47	7,11	7,88	9,06	10,8	12,7	12,7	15,0	17,3
Water flow	(4)	l/h	1114	1224	1357	1560	1867	2190	2183	2592	2977
Water pressure drop	(4)	kPa	15	17	21	14	19	25	18	25	31
FCCOOP class			E								
Standard coil - number of rows			3			3			4		
Water connections - standard coil		"				0,80			1,00		
Water content - standard coil		dm ³	2,16			2,99			4,51		
Maximum current absorption		A	2,50			3,50			5,60		
Power input		W	290	380	505	370	535	750	870	1090	1300
Total sound power level	(5)	dB(A)	62	67	72	60	67	74	69	73	78
Inlet + radiated sound power level	(5)	dB(A)	60	64	70	58	65	72	67	71	76
Outlet sound power level	(5)	dB(A)	58	63	69	57	64	71	66	70	75

VFZ Model			76		
Speed			min	med	max
Rated air flow		m ³ /h	3067	3622	4287
Available static pressure		Pa	36	50	71
Total cooling capacity	(1)	kW	17,3	19,6	22,0
Sensible cooling capacity	(1)	kW	13,3	15,3	17,5
Water flow	(2)	l/h	3082	3505	3979
Water pressure drop	(2)	kPa	16	20	25
FCCOOP class			D		
Heating capacity	(3)	kW	22,4	25,4	28,7
Water pressure drop	(3)	kPa	16	20	25
Heating capacity	(4)	kW	18,8	21,2	24,0
Water flow	(4)	l/h	3263	3693	4177
Water pressure drop	(4)	kPa	18	22	28
FCCOOP class			D		
Standard coil - number of rows			5		
Water connections - standard coil		"	1,00		
Water content - standard coil		dm ³	6,38		
Maximum current absorption		A	5,56		
Power input		W	650	820	1150
Total sound power level	(5)	dB(A)	70	74	79
Inlet + radiated sound power level	(5)	dB(A)	68	72	77
Outlet sound power level	(5)	dB(A)	67	71	76

- (1) Water temperature 7°C / 12°C, air temperature dry bulb 27°C, wet bulb 19°C (47% relative humidity) according to EN1397:2015
 (2) Water temperature 7°C / 12°C, air temperature dry bulb 27°C, wet bulb 19°C (47% relative humidity)
 (3) Inlet water temperature 50°C, water flow rate same as in cooling mode, air temperature 20°C
 (4) Water temperature 45°C / 40°C, air temperature 20°C
 (5) Sound power measured according to standards ISO 3741 and ISO 3742

Power supply 230-1-50 (V-ph-Hz)

RATED TECHNICAL DATA

» 4 pipes

VFZ Model			24			40			54		
Speed			min	med	max	min	med	max	min	med	max
Rated air flow DF		m ³ /h	1192	1362	1576	1468	1871	2332	2083	2626	3187
Available static pressure			38	50	66	30	50	78	31	50	74
Total cooling capacity DF	(1)	kW	6,26	6,92	7,70	8,70	10,5	12,4	12,5	14,9	17,1
Sensible cooling capacity DF	(1)	kW	5,09	5,69	6,43	6,66	8,19	9,81	9,45	11,5	13,4
Water flow DF	(1)	l/h	1028	1126	1242	1436	1722	2010	1996	2371	2728
Water pressure drop DF	(1)	kPa	16	19	23	15	21	28	24	32	41
FCEER class DF			E								
Heating capacity DF	(2)	kW	7,02	7,47	7,99	10,9	12,6	14,4	14,9	17,2	19,3
Water flow DF	(2)	l/h	604	643	688	935	1087	1242	1281	1478	1662
Water pressure drop DF	(2)	kPa	8	9	10	6	8	10	13	17	21
FCCOP class DF			E			D			E		
Additional coil DF - number of rows			1			2			2		
Water connections - additional coil DF		"	0,75			1,00			1,00		
Water content - additional coil DF		dm ³	1,17			2,10			2,39		
Maximum current absorption		A	2,50			3,50			5,60		
Power input DF		W	290	380	505	370	535	750	870	1090	1300
Total sound power level DF	(3)	dB(A)	62	67	72	60	67	74	69	73	78
Inlet + radiated sound power level DF	(3)	dB(A)	60	64	70	58	65	72	67	71	76
Outlet sound power level DF	(3)	dB(A)	58	63	69	57	64	71	66	70	75

Z Model			76		
Speed			min	med	max
Rated air flow DF		m ³ /h	3345	4002	4837
Beschikbare statische opvoerhoogte		Pa	36	50	71
Total cooling capacity DF	(1)	kW	19,2	22,0	25,3
Sensible cooling capacity DF	(1)	kW	15,1	17,6	20,6
Water flow DF	(1)	l/h	3297	3779	4347
Water pressure drop DF	(1)	kPa	16	21	26
FCEER class DF			D		
Heating capacity DF	(2)	kW	18,3	20,2	22,2
Water flow DF	(2)	l/h	1601	1766	1948
Water pressure drop DF	(2)	kPa	9	11	13
FCCOP class DF			D		
Additional coil DF - number of rows			2		
Water connections - additional coil DF		"	1,00		
Water content - additional coil DF		dm ³	2,68		
Maximum current absorption		A	5,56		
Power input DF		W	650	820	1150
Total sound power level DF	(3)	dB(A)	70	74	79
Inlet + radiated sound power level DF	(3)	dB(A)	68	72	77
Outlet sound power level DF	(3)	dB(A)	67	71	76

(1) Water temperature 7°C / 12°C, air temperature dry bulb 27°C, wet bulb 19°C (47% relative humidity)

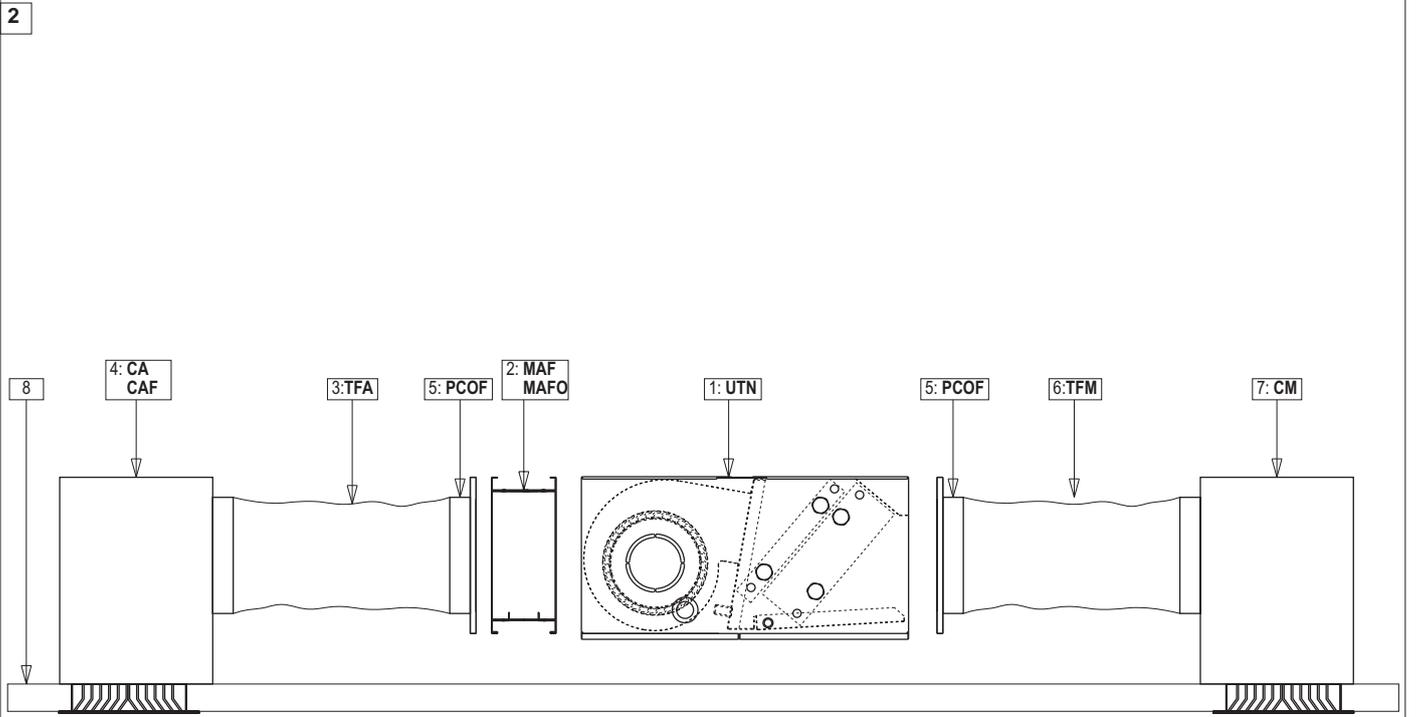
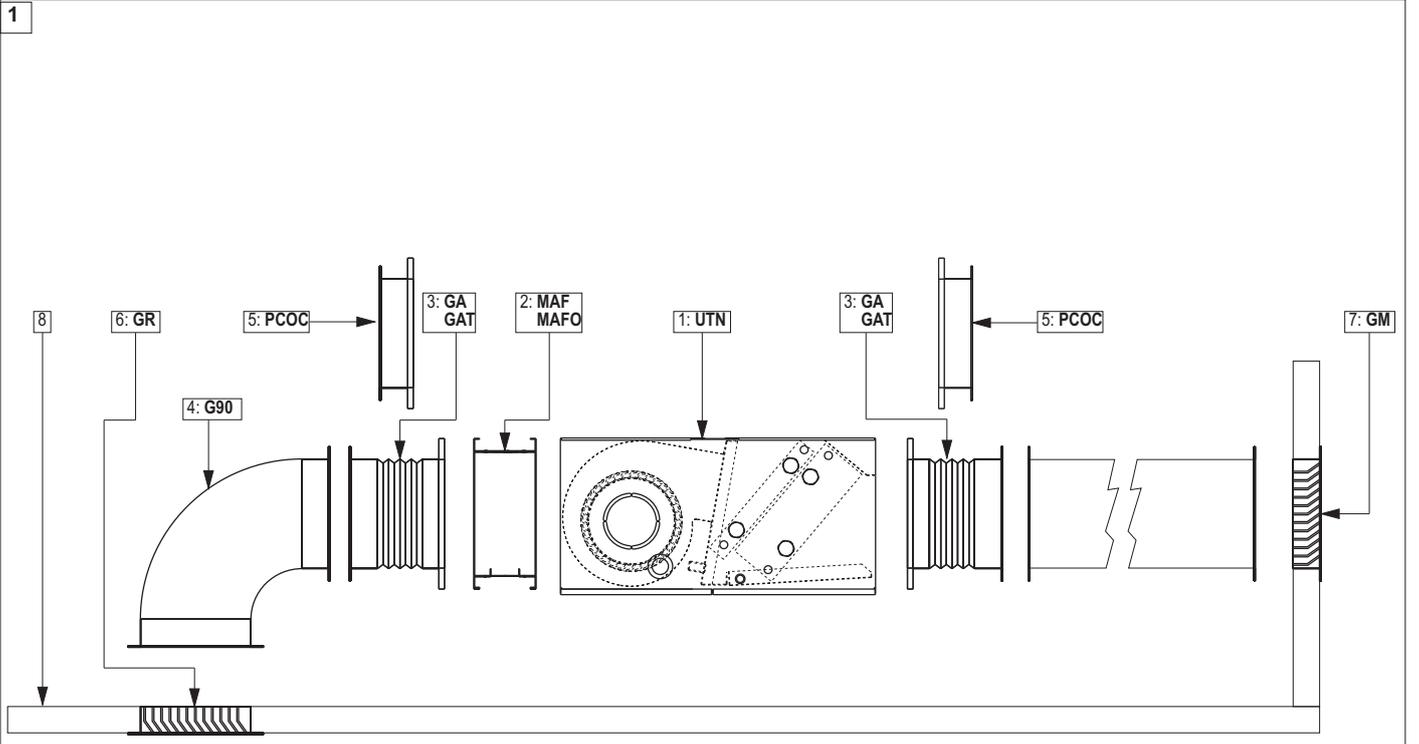
(2) Water temperature 65°C / 55°C, air temperature 20°C

(3) Sound power measured according to standards ISO 3741 and ISO 3742

Power supply 230-1-50 (V-ph-Hz)

Weights

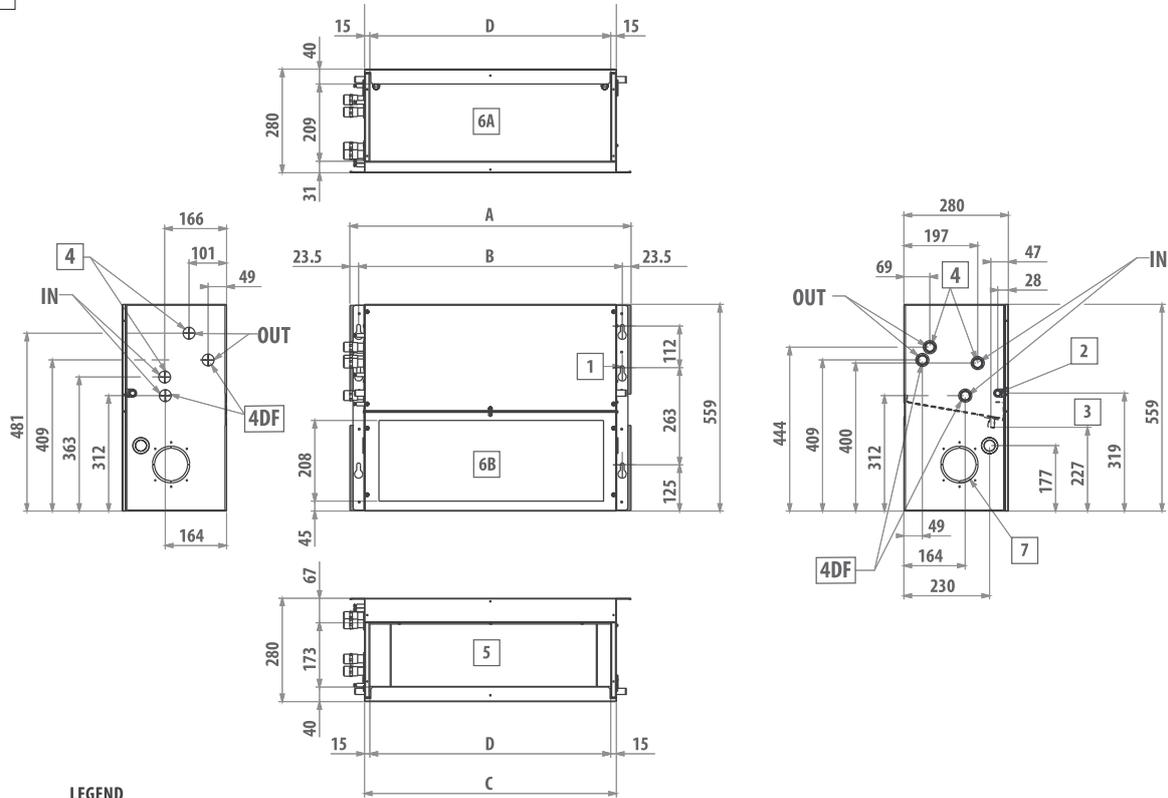
VFZ Model		24	40	54	76
Weight - standard version	kg	47,3	65,3	77,0	90,0
Weight - DF version	kg	50	71	83	97



DIMENSIONAL DRAWINGS

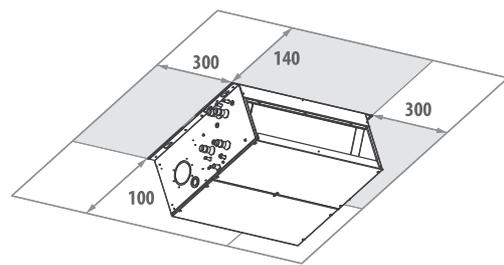
VFZ Model

3



LEGEND

- | | |
|-----|---|
| 1 | No. 6 quick-coupling slots |
| 2 | Condensate drainage horizontal installation |
| 3 | Condensate drainage vertical installation |
| 4 | Water connections on the right |
| 4DF | Water connections additional heat exchanger |
| 5 | Air outlet |
| 6 | Air intake |
| 6-A | supply condition |
| 6-B | modifiable during installation |
| 7 | Circular pre-cut slot (Ø 100 mm) for intake of external air |



VFZ Model	A	B	C	D	4	4DF	2	3	
	mm	mm	mm	mm	"	"	mm	mm	kg
24	1174	1127	1096	1066	3/4	3/4	17	17	49

DIMENSIONAL DRAWINGS

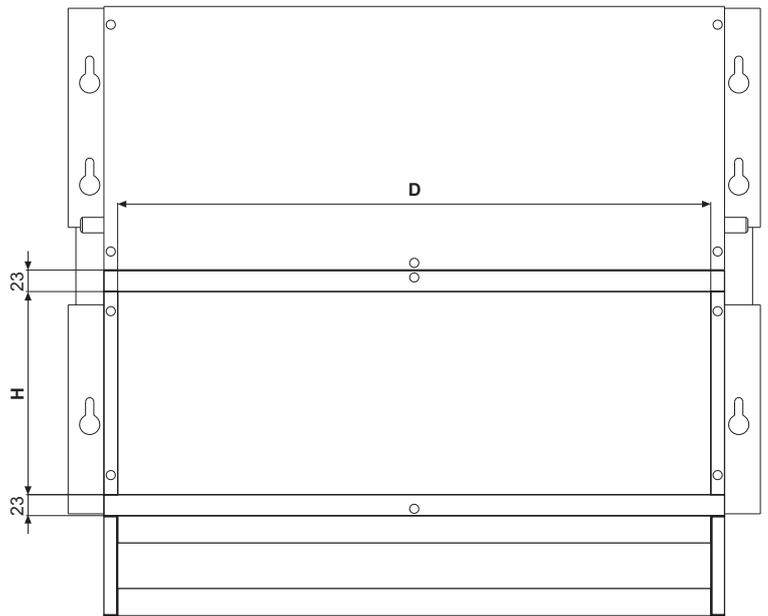
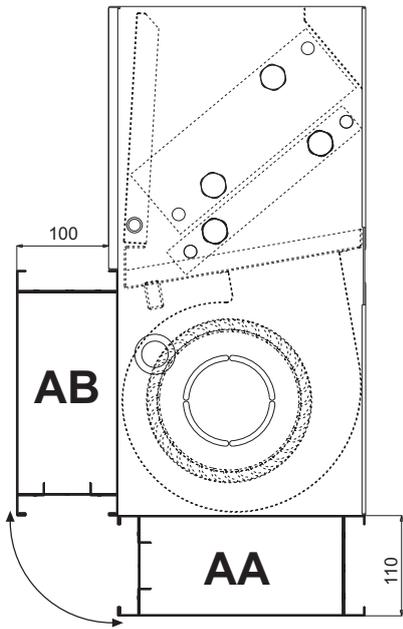
VFZ Model
4

LEGEND

1	No. 6 quick-coupling slots
2	Condensate drainage horizontal installation
3	Condensate drainage vertical installation
4	Water connections on the right
4DF	Water connections additional heat exchanger
5	Air outlet
6	Air intake
6-A	supply condition
6-B	modifiable during installation
7	Circular pre-cut slot (Ø 100 mm) for intake of external air

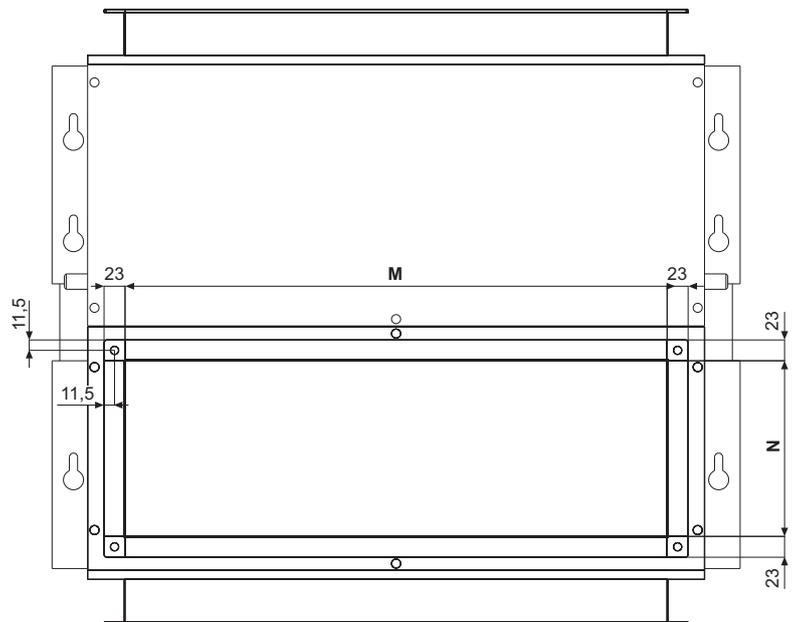
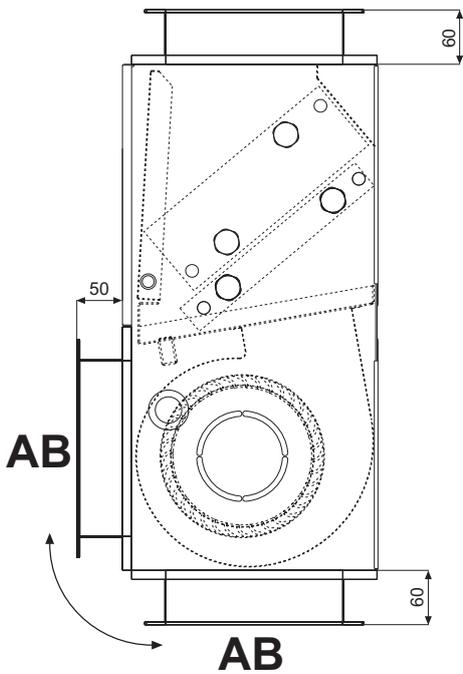
VFZ Model	A	B	C	D	4	4DF	2	3	kg
	mm	mm	mm	mm	"	"	mm	mm	
40	1174	1127	1096	1066	1	1	17	17	67
54	1384	1337	1306	1276	1	1	17	17	80
76	1594	1547	1516	1486	1	1	17	17	90

**5 MAF
MAFO**



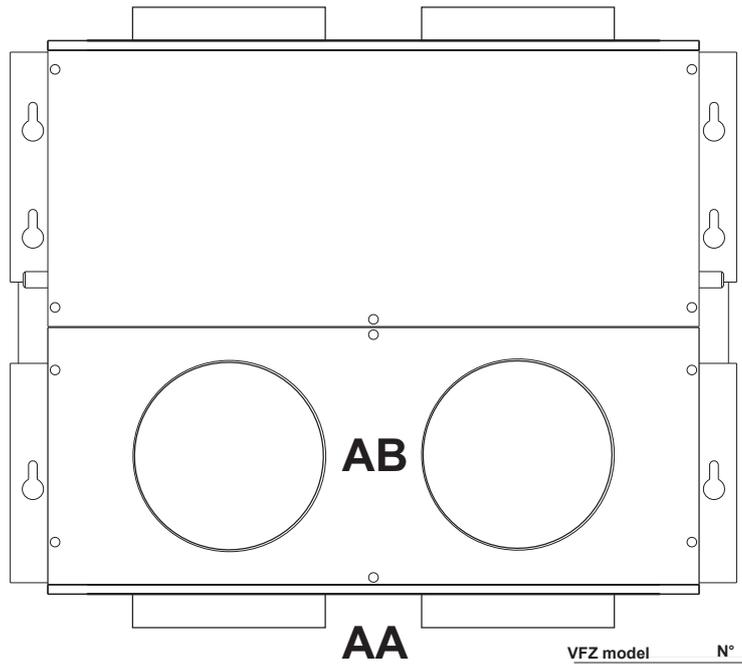
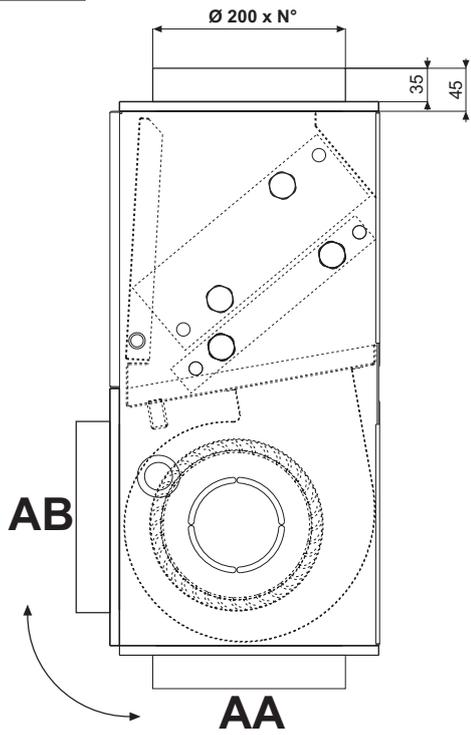
VFZ Model	D	H
24	1066	223
40	1066	296
54	1276	296
76	1486	296

6 PCOC



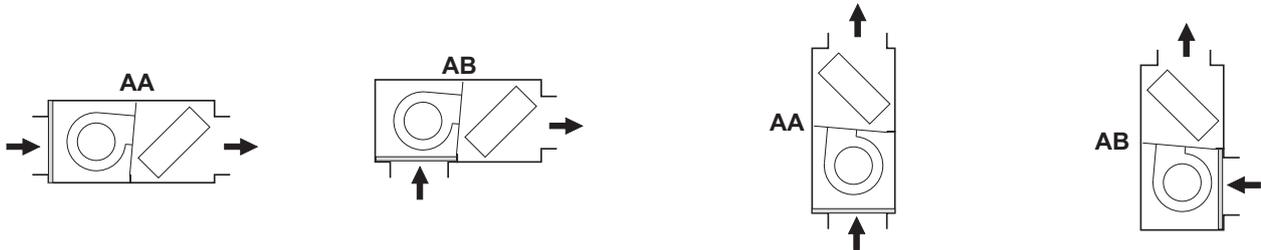
VFZ Model	M	N
24	1014	194
40	1014	267
54	1224	267
76	1434	267

7 PCOF

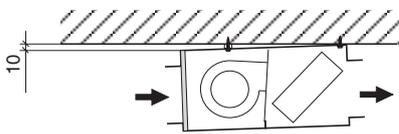


VFZ model	N°
24	4
40	4
54	5
76	6

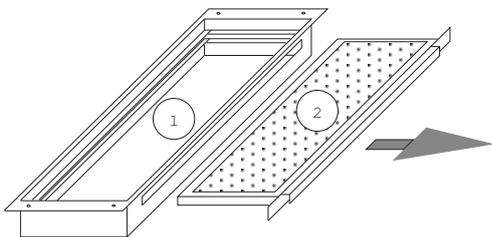
8



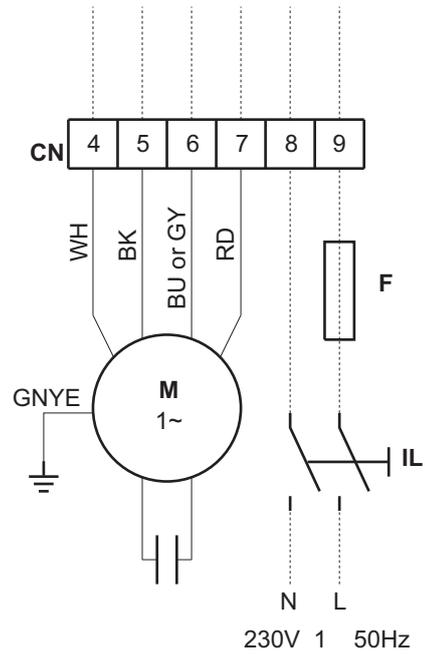
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12



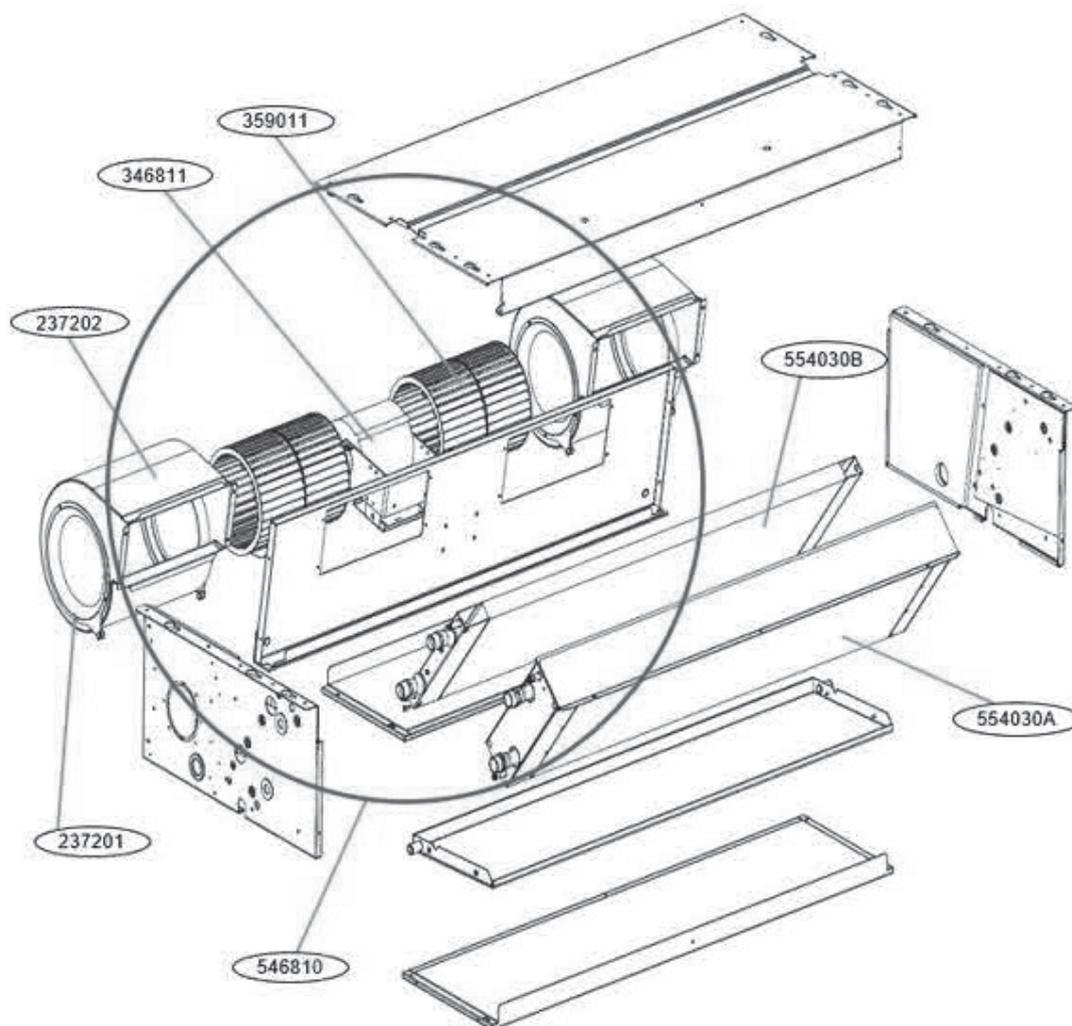
11



12 EXPLODED VIEW AND REPLACEMENT PARTS LIST

Duct unit VFZ Models

9



Location NO	Legenda
346811	Fan motor
359011	Fan propeller
554030A	Main heat exchanger (Cold Coil)
237201	Volute Back
237202	Volute front
152301	Air Filter
546810	Fan assembly
554030B	4 pipe exchanger(heat coil)

12 EXPLODED VIEW AND REPLACEMENT PARTS LIST

Duct unit VFZ Models

- 2pipe

Location No.	346811	359011	554030A	237201	237202	152301	546810	554030B
Model Name	P/No	P/No	P/No	P/No	P/No	P/No	P/No	P/No
VF24Z0L	COV36927021	COV36927022	COV36927064	COV36927065	COV36927066	N/A	COV36927067	N/A
VF40Z0L	N/A	N/A	COV36927068	N/A	N/A		COV36927069	
VF54Z0L			COV36927070				COV36927071	
VF76Z0L			COV36927072				COV36927073	
VF09Z0R			COV36927078				COV36927022	
VF24Z0R	COV36927021	COV36927022	COV36927064	COV36927065	COV36927066		COV36927067	
VF40Z0R	N/A	N/A	COV36927068	N/A	N/A		COV36927069	
VF54Z0R			COV36927070				COV36927071	
VF76Z0R			COV36927072				COV36927073	

- 4 pipe

Location No.	346811	359011	554030A	237201	237202	152301	546810	554030B
Model Name	P/No	P/No	P/No	P/No	P/No	P/No	P/No	P/No
VF24Z0L	COV36927021	COV36927022	COV36927064	COV36927065	COV36927066	N/A	COV36927067	COV36927074
VF40Z0L	N/A	N/A	COV36927068	N/A	N/A		COV36927069	COV36927075
VF54Z0L			COV36927070				COV36927071	COV36927076
VF76Z0L			COV36927072				COV36927073	COV36927077
VF09Z0R			COV36927078				COV36927022	COV36927079
VF24Z0R	COV36927021	COV36927022	COV36927064	COV36927065	COV36927066		COV36927067	COV36927074
VF40Z0R	N/A	N/A	COV36927068	N/A	N/A		COV36927069	COV36927075
VF54Z0R			COV36927070				COV36927071	COV36927076
VF76Z0R			COV36927072				COV36927073	COV36927077

